



Environmental Impact Assessment (EIA) Screening Report

Redevelopment at Manor Road, North Sheen

November 2018

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Appendix I Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment

Prepared By: Patrick Duffy

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For and on behalf of GVA Grimley Limited

1. Purpose of this Report

1.1 This report accompanies a written request for an Environmental Impact Assessment (EIA) Screening Opinion from the London Borough of Richmond upon Thames (LBRuT) pursuant to Regulation 6 of the Town and Country Planning (Environmental Impact Assessment) Regulations, 2017¹ (the EIA Regulations). The purpose of this report is to inform the request for an EIA Screening Opinion in respect of Avanton Richmond Development Ltd's (the Applicant's) proposal (the Development) for the redevelopment of land at Manor Road, North Sheen (the Site).

1.2 This report has been prepared by GVA on behalf of the Applicant. In accordance with Regulation 6(2) of the EIA Regulations this report provides:

- A plan sufficient to identify the land subject to the Development (the Site) (refer to Section 2).
- A description of the Development (refer to Section 2).
- A description of the aspects of the environment likely to be significantly affected by the Development (refer to Section 5).
- To the extent that information is available, a description of any likely significant effects of the Development on the environment resulting from:
 - The expected residues and emissions and the production of waste, where relevant (refer to Section 5).
 - The use of natural resources, in particular soil, land, water and biodiversity (refer to Section 5).
- Other relevant information including features of the Development or any measures envisaged to avoid or prevent what might otherwise result in significant adverse effects on the environment (refer to Section 5).

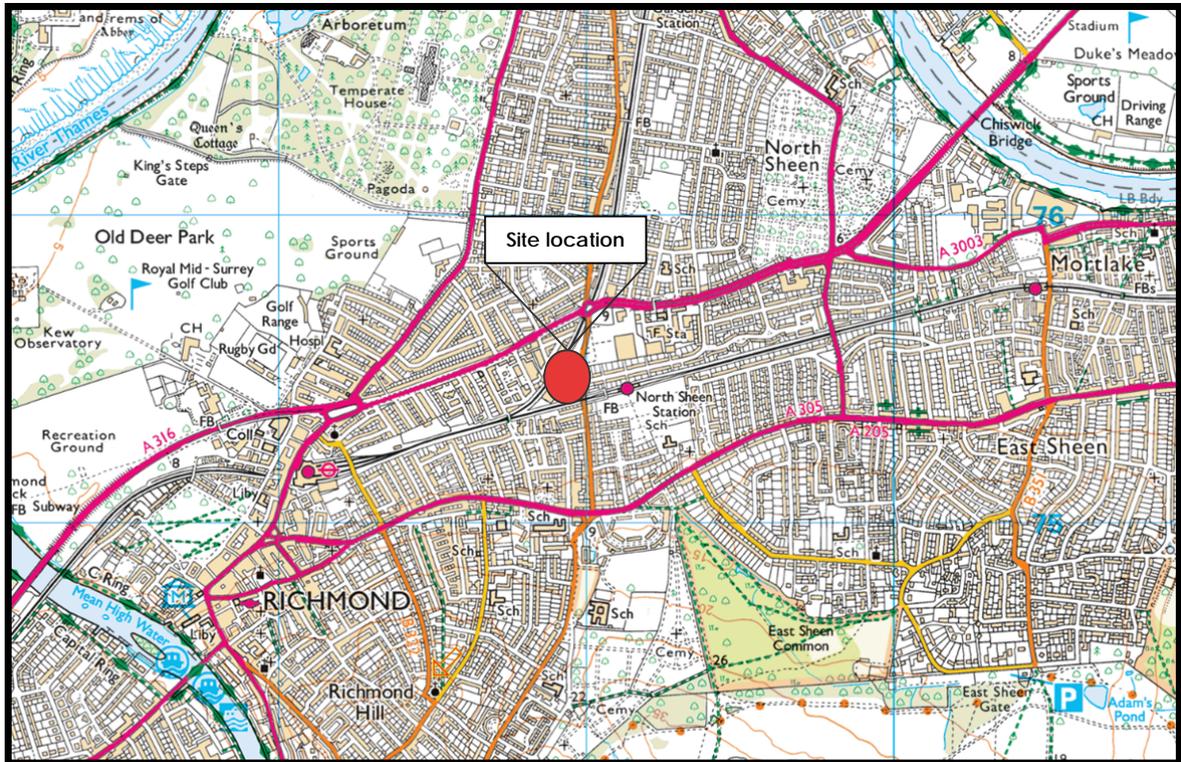
¹ The Town and Country Planning (Environmental Impact Assessment) Regulations, 2017.

2. Overview of the Site and the Development

Overview of the Site

2.1 As shown in Figure 1, the Site is located in North Sheen, south-west London within the administrative boundary of the LBRuT. The Site comprises an area of approximately 1.5 hectares (ha).

Figure 1: Site Location



2.2 Figure 2 illustrates the triangular shaped Site is bound by:

- The northern and easternmost extents of an access road which provided access to / from Manor Road (the B353) to the north.
- Manor Road (the B353) to the east.
- Overland rail lines to the south (serving the Southwest Trains route to / from London Waterloo).
- Overland rail lines (serving the Southwest Trains route to / from London Waterloo) and London Underground Limited (LUL) overland rail lines to the west (serving the District Line).

Figure 2: The Site



- 2.3 The existing Site currently comprises a low-rise retail store occupied by Homebase, Pets at Home and Pets4Vets. The retail store is located centrally of the Site. To the north-east, east, south and south-west of the retail store is hard-standing. The majority of this hard-standing comprises the access road which provides access to / from Manor Road (the B353), surface car-parking in the north-east of the Site and servicing areas within the south-west of the Site. In total, the existing Site provides parking for approximately 150 vehicles.
- 2.4 There are a number of trees planted within the surface car-parking area of the Site and at various locations around the Site's perimeter.

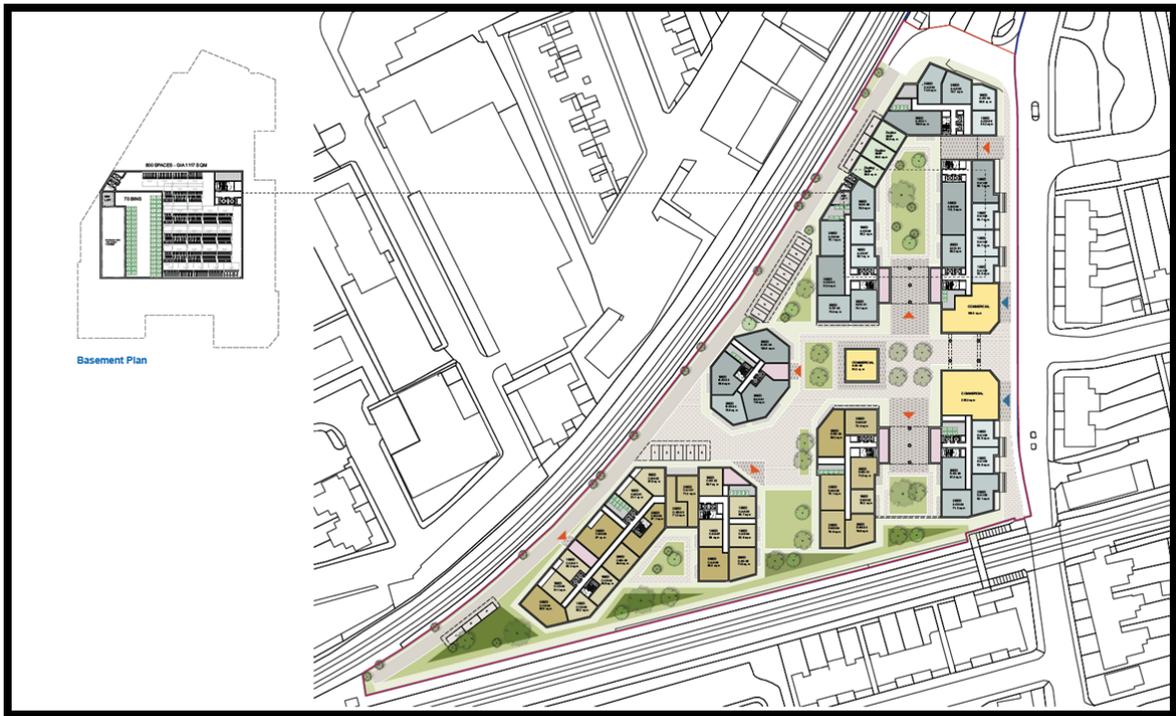
Overview of the Development

- 2.5 Whilst the design of the Development is not yet fixed for the purposes of the Applicant's forthcoming detailed planning application, the information provided to GVA by the Applicant in respect of the Development (and summarised here) is considered adequate to establish the likely environmental effects of the Development and to advise on EIA Screening matters.
- 2.6 The Development will necessitate the demolition of all existing buildings and structures on the Site.
- 2.7 Figure 3 shows an illustrative sketch of the Development. Figure 4 shows a current basement and ground floor plan of the Development. With reference to Figure 3 and Figure 4, it is envisaged that the Development will provide in the region of 400 residential units (1, 2 and 3-bed units with an appropriate provision of affordable housing) together with a small quantum of commercial floorspace.

Figure 3: An Illustrative Sketch of the Development (viewed from the south-west) (source: Assael)



Figure 4: An Illustrative Basement and Ground Floor Plan of the Development (source: Assael)



2.8 The new land uses will be provided within 4 buildings ranging from ground level plus 1-storey to ground level plus 8-storeys. Residential land uses will be present in all buildings. The proposed commercial floorspace is likely to be concentrated around the Manor Road frontage.

- 2.9 3 of the 4 buildings (those located in the north-east, south-east and south-west of the Site) will include various building components so that each building in totality will comprise a range of building heights and geometries. This will afford visual interest, avoid overly bulky building design and allow for other appropriate ground floor uses such as a well-defined public and private realm including new pedestrian routes, two new public squares, communal courtyards and communal gardens. The remaining building (within the east of the Site) will be of a uniform octagonal form. It is proposed that these buildings will be predominantly brick.
- 2.10 The siting and layout of buildings within the Site will define a new public and private realm. As previously noted, this will include for new pedestrian routes, two new public spaces within the centre of the Site and private residential amenity courtyards within the south and north of the site. Private (defensible) gardens / terraces will be provided for all ground floor level residential units. In addition, home-zones / shared spaces will be provided within the east of the Site, and an outdoor gym in the south-west of the Site. In addition, an appropriate quantum of children's play space will be provided.
- 2.11 The Development will provide a small single-level basement within the north of the Site. This will provide storage for refuse and in the region of 650 cycle parking spaces for residents of the Development.
- 2.12 Vehicular access and egress to / from the Site will be provided in the north-east of the Site via Manor Road. Vehicular circulation will be limited along an access road provided within the east of the Site, adjacent to the off-Site rail lines. Further vehicular circulation will be afforded within the centre of the Site, around the perimeter of the new central public space. Emergency vehicular access will be provided to all buildings.
- 2.13 Car-parking will be kept to a minimum, with an anticipated 12 spaces provided for the mobility impaired. It is envisaged such parking will be provided on-street within the west of the Site. Servicing will occur at street level, predominantly along the eastern boundary of the Site.
- 2.14 The proposed energy strategy will comprise an Air Source Heat Pump solution on a block-by-block basis.

3. Determining the Need for EIA

3.1 The need for EIA is determined by the definitions and criteria provided in Schedule 1 or Schedule 2 and Schedule 3 of the EIA Regulations. Where projects are classified as Schedule 1 development, EIA is mandatory. Where projects are classified as Schedule 2 development, EIA is only required if the project is likely to have significant environmental effects as referenced in Schedule 3 'Selection Criteria for Screening Schedule 2 Development'.

3.2 With reference to the information provided in Section 2 of this report, the Development does not fall within the definitions set out within Schedule 1 of the EIA Regulations. However, the Development has the potential to fall within Schedule 2 10(b) of the EIA Regulations. That is:

"10. Infrastructure projects...(b) Urban development projects, including the construction of shopping centres and car parks, sports stadiums, leisure centres and multiplex cinemas..."

3.3 Although the Site is not in a 'sensitive area' as defined by the EIA Regulations (refer to Section 4) the Development does meet the second of the three applicable thresholds for Schedule 2 10 (b) projects:

"...(i) The development includes more than 1 hectare of urban development which is not dwellinghouse development; or (ii) the development includes more than 150 dwellings; or (iii) the overall area of the development exceeds 5 hectares."

3.4 In view of the above, the Development does meet the Schedule 2 criteria. Accordingly, Schedule 3 of the EIA Regulations must be carefully considered to determine the need (or otherwise) for EIA. Particular emphasis must be placed upon:

- The characteristics of the Development (refer to Section 2).
- The location of the Development (refer to Section 4).
- The types and characteristics of the potential environmental effects (refer to Section 5).

4. The Site, its Environmental Context and Sensitivity

Predominant Existing Land Uses

4.1 As noted in Section 2 the existing 1.5 ha Site currently comprises a low-rise retail store with associated hard-standing comprising the majority of an access road which provides access to / from Manor Road (the B353), surface car-parking in the north-east of the Site and servicing areas within the south-west of the Site. In total, the existing Site provides car-parking for approximately 150 vehicles. A number of trees exist within the surface car-parking area of the Site. Access to the Site is currently afforded from the northeast, via Manor Road (the B353).

4.2 Adjacent to and beyond the Site (to a distance of approximately 1km from the centre of the Site) are a range of land uses predominantly comprising:

- **To the north** - A bus terminus, residential uses and transport infrastructure including Sandycombe Road and the LUL District Line.
- **To the north-east** - Residential land uses, transport infrastructure including the Lower Richmond Road (the A316)), North Sheen Recreation Ground, and the south-western extent of Fulham (North Sheen) Cemetery.
- **To the east** - a large Sainsbury's store and associated parking areas, residential land uses and transport infrastructure including North Sheen Station and its associated rail-lines, and the South Circular (the A205).
- **To the south-east** - Allotments, residential land uses, transport infrastructure including the Upper Richmond Road West (the A305), the northern extent of Sheen Common, and East Sheen Cemetery.
- **To the south** - Residential land uses and transport infrastructure including Sheen Road (the A305) and Queen's Road (the B353).
- **To the south-west** - Residential land uses, transport infrastructure including Sheen Road (the A305), the LUL District Line and Southwest Trains overland rail lines, and the north-eastern extent of Richmond town centre including Richmond Station.
- **To the west** - Light industrial, other commercial and residential land uses, transport infrastructure including Lower Mortlake Road, Kew Road and Twickenham Road, and the eastern extent of Richmond Athletic Ground.
- **To the north-west** - Light industrial, other commercial and residential land uses, transport infrastructure including Lower Mortlake Road (the A316) and Kew Road (the A307), Richmond Lawn Tennis Club, Richmond Cricket Club, the eastern extent of the Royal Mid-Surrey Golf Club, and the south-eastern extent of the Royal Botanic Gardens at Kew.

Transport and Connectivity

- 4.3 As noted within Section 2 existing vehicular access / egress to / from the Site is afforded by Manor Road (the A353). This provides direct access to Lower Richmond Road (the A316), Lower Mortlake Road (the A316), Upper Richmond Road West (the A305) and Sheen Road (the A305). As such, access to the wider strategic road network in all directions is possible.
- 4.4 Baseline traffic surveys have been undertaken by the Applicant's Transport Consultant (Sanderson Associates). Such surveys reveal 80 existing AM peak hour (08:30 - 09:30) two-way traffic movements to / from the Site and 108 PM peak hour (17:00 - 18:00) two-way traffic movements to / from the Site.
- 4.5 The majority of the Site has a Public Transport Accessibility Level (PTAL) rating of 5, with the south-west extent of the Site having a PTAL rating of 4² (with 0 being the lowest rating and 6b being the highest rating). As previously noted, 2 stations are located within approximately 1 km of the centre of the Site. These include:
- North Sheen station, approximately 200 m east of the centre of the Site.
 - Richmond station (served by Southwest Trains and the LUL District Line), approximately 900m south-west of the centre of the Site.
- 4.6 A number of bus stops are located within 200m of the Centre of the Site to the north, north-east and north-west of the Site. Such bus stops offer a range of bus routes to destinations including Richmond Town Centre, Kingston, Twickenham, Barnes, Chiswick and Kew.

Core Social Infrastructure

- 4.7 There are 8 open primary schools within approximately 1 mile of the centre of the Site (deemed to be an appropriate distance for primary school children to commute to school). These primary schools have surplus capacity of 567 primary places³.
- 4.8 There are 9 open secondary schools within approximately 2 miles of the centre of the Site (deemed to be an appropriate distance for secondary school children to commute to school). Together, these have a surplus capacity of 984 secondary places³. Of these places, 223 relate to all girls' secondary schools, 210 relate to a Convent secondary school, and 138 relate to a Church of England secondary school. As such, there are 413 existing mixed-gender and multi-faith secondary school places within 2 miles of the centre of the Site. This is likely to be a conservative under-estimate of existing capacity; capacity data is not available for the Green School for Boys which can accommodate up to 1,260 pupils.
- 4.9 There are 9 open GP surgeries within approximately 1 mile of the centre of the Site⁴. All 9 GP surgeries are currently accepting new patients⁴.
- 4.10 There are 9 public parks / significant public opens spaces and recreational grounds within 1 km of the centre Site:

² <https://tfl.gov.uk/info-for/urban-planning-and-construction/planning-with-webcat/webcat>

³ <https://get-information-schools.service.gov.uk>

⁴ <https://nhs.uk>

- North Sheen Recreational Ground, approximately 700 m north-east of the centre of the Site (at its nearest point).
- Green space surrounding Penfold Tennis Club, approximately 940 m north-east of the centre of the Site (at its nearest point).
- Fulham (North Sheen) Cemetery, approximately 760 m north-east of the centre of the Site (at its nearest point).
- Tangier Green, approximately 880 m east of the centre of the Site (at its nearest point).
- Pesthouse Common, approximately 480 m south of the centre of the Site (at its nearest point).
- East Sheen Common, approximately 570 m south-east of the centre of the Site (at its nearest point).
- East Sheen Cemetery, approximately 590 m south-east of the centre of the Site (at its nearest point).
- Richmond Athletic Ground, approximately 890 m west of the Site (at its nearest point).
- The north-eastern extent of the Royal Botanic Gardens at Kew, approximately 680 m north-west of the Site.

Townscape and Visual Matters

- 4.11 The Site and its immediate environs are characterised by built urban form which varies in scale, footprint and height, comprising residential, retail, light-industrial and transport infrastructure. Buildings and structures within and surrounding the Site are generally low - medium rise, ranging from 2 - 6-storeys. Exceptions to the low-rise building heights include a 1960s 12-storey block of flats located to the north-west of the Site and, to the south, a housing estate comprising 2 9-storey blocks. The spire of the Church of St Matthias (Grade II Listed) and the Pagoda (Grade I Listed) located within the Royal Botanic Gardens at Kew are local landmarks. However, following site visits undertaken by the Applicant's Townscape and Visual Consultants (Arc) it is confirmed that these landmarks are not visible from the Site.
- 4.12 The Site is not covered by any planning policy designations relating to townscape value. However, the LBRuT Richmond and Richmond Hill Village Planning Guidance Supplementary Planning Document (SPD)⁵ identifies the Site as being located in 'Character Area 6: Old Gas Works'. This character area is described as occupying "...the angle of 2 busy through routes: Lower Richmond Road and Manor Road. There is no coherent frontage to either road and the whole area has an irregular, adhoc character due to its industrial past".
- 4.13 The Applicant's Townscape and Visual Consultants (Arc) have undertaken a study to identify the likely Zone of Theoretical Visibility (ZTV) of the Site and the Townscape Character Areas relevant to the Site and its ZTV. The study concludes the ZTV to extend to a radius of 750 m from the centre of the Site. Figure 5 sets out the Townscape Character Areas within the ZTV.

⁵ LBRuT, Richmond and Richmond Hill Village Planning Guidance. SPD. June 2016.

Figure 5: Townscape Character Areas within the ZTV (source: Arc)



4.14 With reference to Figure 5, the Site is located within TCA 1: North Sheen Mixed Use. This is considered to be of 'medium to low' value. However, 4 of the 8 TCAs identified within the ZTV are considered to be of 'high to exceptional' value. These relate to:

- TCA 4: East Sheen Open Space.
- TCA 5: Richmond Hill and East Sheen Residential.
- TCA 6: Richmond Residential Fringe.
- TCA 7: Kew Gardens and Old Deer Park.
- TCA 8: Kew Gardens Residential Fringe.

4.15 Several non-statutorily designated Other Open Land of Townscape Importance (OOLTI) are located within approximately 750 m of the centre of the Site. All are separated from the Site by significant road or rail infrastructure. The closest OOLTI's to the Site are located approximately 130 m north-east and 130 m south-east of the centre of the Site, adjacent to the east of Manor Road (the A355) and adjacent to the south-east of North Sheen Station respectively.

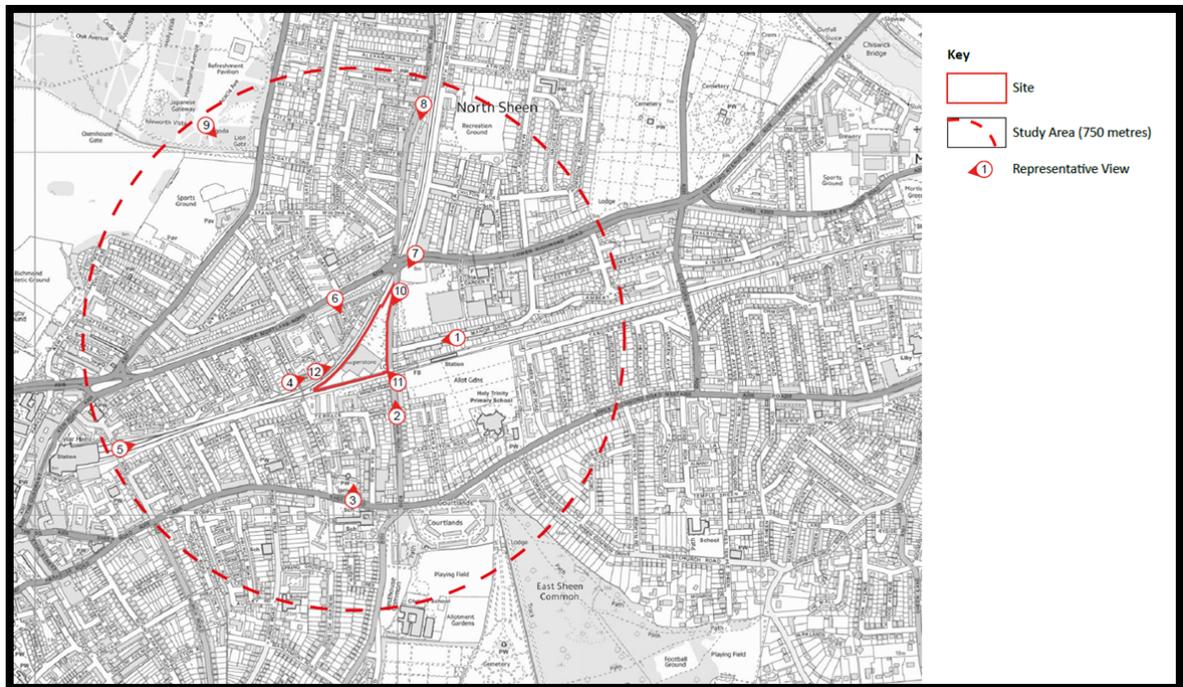
4.16 The Site is not subject to any statutorily protected view. Furthermore, none of the strategic and local views identified within the LBRuT's Proposals Map⁶ are orientated towards the Site.

4.17 In consultation with the LBRuT, 12 views of importance to the Site have been identified. These include the following which are shown on Figure 6:

⁶ London Borough of Richmond upon Thames. Proposal Map. 2009.

- View 1: View looking west along Manor Grove.
- View 2: View from Manor Road opposite Townsend Terrace.
- View 3: View looking north from Sheen Road, over Hickey's Almshouses.
- View 4: View looking east along Dee Road.
- View 5: View looking east on Church Road, over the railway line.
- View 6: View looking south on Trinity Road.
- View 7: View looking south from Lower Richmond Road / Manor Road roundabout.
- View 8: View looking south on Sandycombe Road, close to junction with Dudley Road.
- View 9: View looking south from viewing platform at the top of the Pagoda at Kew Gardens.
- View 10: View looking south-west across Manor Road at the entrance to Sainsbury's.
- View 11: View looking north-west across Manor Road at the west end of Manor Grove
- View 12: View looking east along Dee Road from the south end of Crown Terrace and Victoria Villages.

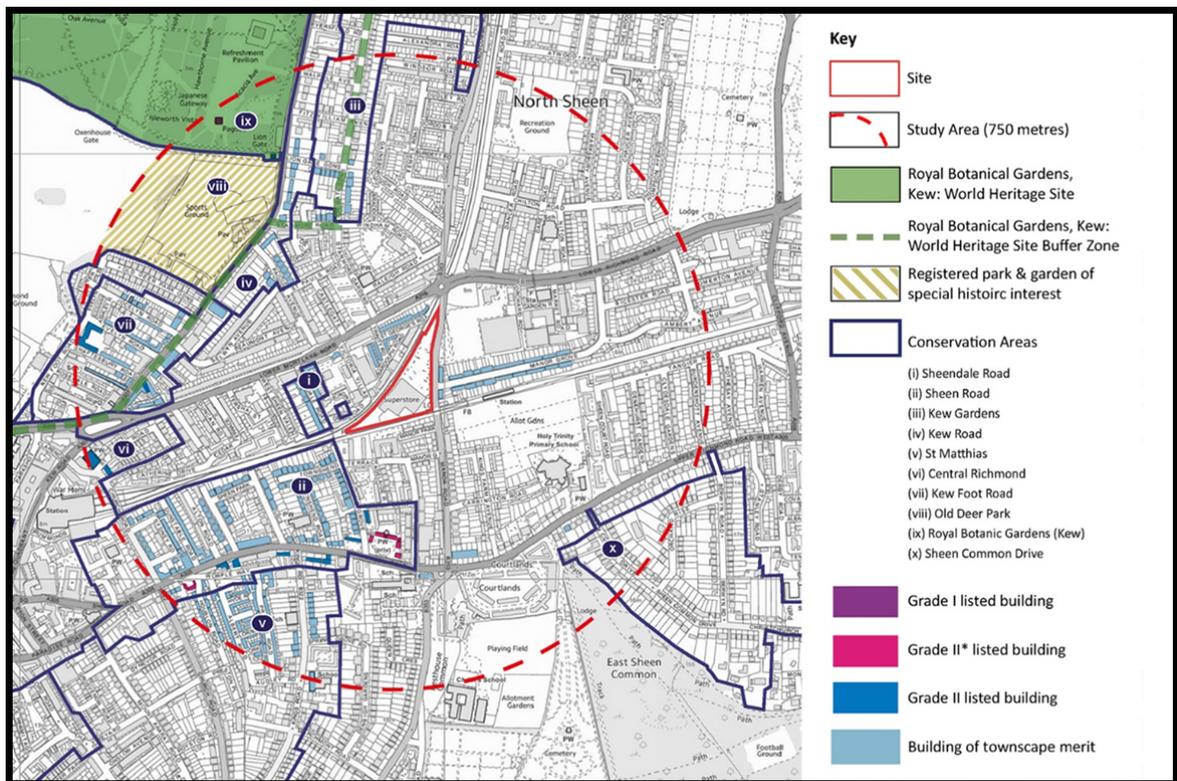
Figure 6: Views of Importance to the Site (source: Arc)



Statutory and Non-Statutory Heritage Designations

- 4.18 The Site is not subject to any statutory or non-statutory heritage designations. As such, the Site is not located in a World Heritage Site (WHS) or Conservation Area and does not contain any Scheduled Monuments (SMs), Listed Buildings, Registered Parks and Gardens or buildings and structures of local heritage value. Furthermore the Site is not within an Archaeological Priority Area (APA).
- 4.19 Above ground heritage assets within the ZTV are shown on Figure 7.

Figure 7: Above Ground Heritage Assets within the ZTV (source: Arc)



- 4.20 With reference to Figure 7, there are 10 Conservation Areas within the ZTV⁷, the closest being Sheendale Road Conservation Area (south-west of the Site) and Sheen Road Conservation Area (west of the Site)⁸. In addition, there are approximately 20 listed buildings within the ZTV⁹.
- 4.21 In respect of non-statutory heritage designations within the ZTV, there are various Buildings of Townscape Merit (BTM), predominantly located to the west of the Site.
- 4.22 The extensive transport infrastructure and density of built form within the ZTV means that with the exception of the Sheendale Road and Sheen Road Conservation Areas. There is little relationship between the above ground heritage assets and the Site.

⁷ https://www.richmond.gov.uk/services/planning/conservation_areas

⁸ https://www.richmond.gov.uk/services/planning/conservation_areas/conservation_area_statements

⁹ <https://historicengland.org.uk>

- 4.23 There are no APA's within approximately 750 m of the Site. The Applicant's Archaeologist (MoLA) has identified the Site as being of low archaeological potential for all pre-Modern periods of past human activity. Furthermore, any archaeological potential will have been severely compromised by past land uses and activities associated with the Site.

Biodiversity / Ecology

- 4.24 There are no statutory or non-statutory sites of nature conservation within the Site.
- 4.25 Owing to the built up context of the Site and the surrounding area, with little ecological connectivity to the wider environment, it is considered appropriate to consider designated nature conservation sites within approximately 500 m of the Site.
- 4.26 There are no statutory nature conservation designations within approximately 500 m of the Site.
- 4.27 With respect to non-statutory nature conservation designations, the northern-most tip of East Sheen and Richmond Cemeteries and Pesthouse Common (a non-statutory Site of Nature Importance) is located approximately 480 m south of the Site (at its closest point). The 1.18 ha narrow area of parkland, adjacent to Queen's Road (the B353) includes a man-made nature conservation meadow, mature lime trees and horse chestnut trees within the site's perimeter. The northern section of Richmond Park and Associated Areas Site of Nature Importance is also located 480 m to the south of the Site. It is designated for its ancient woodland, rare invertebrates, breeding bird assemblage and fungi community.
- 4.28 The Applicant's Ecologist (Tyler Grange) has undertaken a Preliminary Ecological Appraisal (PEA) and Preliminary Bat Roost Assessment (PBRA) for the Site (refer to Appendix 1). The PEA and PBRA confirms the Site comprises predominantly buildings and hard-standing, with areas of scrub, amenity grassland, trees and hedge / flower beds along the Site boundaries and within the parking areas. None of these habitats are considered to be habitats of principal importance. Indeed, such habitats are considered to be of limited ecological importance, although the trees may offer limited opportunities for nesting birds and one area of grass within the south-west corner of the Site has the potential to be used by hibernating hedgehogs. The Site yields negligible potential for roosting bats.
- 4.29 Trees and shrubs associated with the overland rail lines adjacent to the south and west of the Site comprises semi-mature vegetation. There is a potential for such habitat to be used by foraging and commuting bats. However, the level of importance of this habitat to any bat population is likely to be limited by the maturity of the vegetation.

Geology, Ground Conditions and Contamination

- 4.30 The Site is not designated for any geological importance or interest and does not yield any significant geological resource.

- 4.31 According to the British Geological Survey (BGS)¹⁰ the bedrock geology of the Site and the majority of its environs is that of the London Clay Formation. This comprises clay, silt and sand associated with sedimentary bedrock formed between 56 - 47.8 million years ago during the Palaeogene period. This is overlain by sand and gravel of the Kempton Park Gravel Member.
- 4.32 Historic maps for the area¹¹ show the Site to be farmland in the 1850s. However, today's major roads of the area are evidenced surrounding the Site, including the line of Manor Road and Queen's Road, Lower Richmond Road, Upper Richmond Road and Kew Road. The London and South-Western Railway is also present. By the mid-1860s a second rail line is present (that which currently borders the east of the Site).
- 4.33 An 1871 - 1874 map shows a Gas Works adjacent to the north-east of the Site. By 1874 an increase in residential development occurs within the areas surrounding the Site. This continues through to the early 1900s and beyond. However, a 1913 map shows the Site to contain a timber yard and other industrial uses. The Site's industrial uses appear to be a constant feature until the present-day retail accommodation was erected, circa the 1980s.
- 4.34 The area surrounding the Site experienced bombing in the 1940s¹². However, there is no evidence of the Site being subject to any direct bombing.
- 4.35 In view of the above historic land uses and activities, as is typical with many previously industrial sites, there may be the potential for sources of industrial related contamination beneath the Site.

Water Resources and Flood Risk

- 4.36 The Site is located in Flood Zone 1¹³ (land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%)) and does not contain any surface water features.
- 4.37 At its closest points, the River Thames is located approximately 1.5 km north-east, south-west and north-west of the Site.
- 4.38 A Secondary A Aquifer is known to exist beneath the Site.

Air Quality

- 4.39 The Site (and the entire LBRuT) is designated as an Air Quality Management Area (AQMA). This is due to the breach of the National Air Quality Objectives in relation to ambient annual mean Nitrogen Dioxide (NO₂) and 24-hour mean Particulate Matter (PM₁₀)¹⁴. The key sources of such pollutants in LBRuT are attributable to road traffic and associated emissions.

¹⁰ <https://bgs.ac.uk>

¹¹ <https://www.old-maps.co.uk/#/>

¹² <https://bombsight.org/>

¹³ <https://flood-map-for-planning.service.gov.uk>

¹⁴ <https://uk-air.defra.gov.uk>

Noise and Vibration

- 4.40 The main sources of noise at the Site are likely to arise from road traffic, servicing of the existing on-Site retail land uses, noise associated with the operation of the adjacent rail lines and noise from air traffic associated with Heathrow Airport.
- 4.41 There is a potential for vibration at the Site due to the operation of the adjacent rail lines.

Hazards

- 4.42 According to various on-line sources the Site and its immediate environs are not subject to any Control of Major Accidents and Hazards (COMAH) sites¹⁵, geological hazards¹⁶ or safeguarded aviation zones. Furthermore the Site and its environs are not in an area of significant Radon potential or risk¹⁷ and the Site is not underlain by any high pressure gas pipelines¹⁸.
- 4.43 As noted above, whilst the area surrounding the Site experienced bombing in the 1940s, there is no evidence of the Site being subject to any direct bombing.

Overall Sensitivity of the Site

- 4.44 With reference to all information provided above, it can be demonstrated that the Site is not located within a 'sensitive area' as defined by the EIA Regulations; that is, a site comprising one or more of the following:
- SSSI or any consultation area around an SSSI.
 - Land to which Nature Conservation Orders apply.
 - International conservation sites.
 - National Parks.
 - AONBs.
 - WHSs.
 - SMs.

¹⁵ <https://notifications.hse.gov.uk/COMAH2015/Search.aspx>

¹⁶ <https://bgs.ac.uk>

¹⁷ <https://ukradon.org/information/ukmaps>

¹⁸ <https://www.nationalgrid.com/uk/about-grid/our-networks-and-assets/gas-network-route-maps>

5. The Likelihood of Significant Environmental Effects

5.1 Giving due regard to Schedule 3 of the EIA Regulations together with the information provided within Section 2 and Section 4 of this report, the likelihood of significant environmental effects to result from the Development are considered as follows. For each environmental topic area considered, environmental effects are considered for:

- The Site preparation, demolition and construction works associated with the Development (the Works).
- The operation of the completed Development (the Completed Development).

5.2 With regard to the likelihood of significant environmental effects arising from the Development with other significant approved development (the Cumulative Scenario), as per the EIA Regulations, the potential for cumulative effects of the Development with other significant developments (Cumulative Schemes) has considered “...existing and / or approved development.” Given that existing development is already considered in the analysis of the existing environmental baseline conditions relevant to the Site and the Development (refer to Section 4) and a consideration of the likelihood of significant environmental effects of the Development are judged against this existing situation, the Cumulative Scenario need focus only on Cumulative Schemes with:

- A resolution to grant planning permission.
- A valid planning permission and yet to start on-site.
- A valid planning permission and under construction.

5.3 For the purposes of this report, given the fragmented urban nature of the Site’s environmental context, and the scale and nature of the Development, the potential for Cumulative Schemes (and therefore effects) need only be considered up to approximately 750 m from the centre of the Site. No Cumulative Schemes exist within this geographical area. As such, there can be no cumulative effects and the remainder of Section 5 does not deal with an assessment of the Cumulative Scenario.

Transport and Connectivity

The Works

5.4 Inevitably, the Works will give rise to some disruption to the normal operation and functioning of the local road network. However, the Works will be rigorously planned and programmed to minimise such disruption and allow for continued access to surrounding land uses. In this respect, a Construction Traffic Logistics Plan (CTLTP) will set out all traffic and transport related management methods and controls to ensure minimal disruption to the surrounding road network. For example, designated vehicular access and egress to the Site will be stipulated and vehicular traffic arising from construction site deliveries and pick-ups will follow pre-agreed designated routes and be timed to avoid peak traffic hours. Accordingly, while the Works may temporarily increase vehicular traffic generation associated with the Site, the traffic increase is not envisaged to be significant.

- 5.5 Similarly, the CTLP will also deal with the appropriate management of the pedestrian realm surrounding the Site. For example, should any public footway closures be required, these will be clearly advertised. Additional signposting will be erected to inform and guide pedestrians to nearby alternative routes. It therefore follows that temporary pedestrian realm disruptions and diversions will be managed so as to avoid significant effects.

The Completed Development

- 5.6 With reference to Section 2, with the exception of 12 car-parking spaces for the mobility impaired the Development will be car-free. The Development will, therefore, reduce the number of car-trips when compared to the existing situation. This is demonstrated by Table 1 which has been informed by work undertaken by the Applicant's Transport Consultant (Sanderson Associates).

Table 1: Existing and With-Development Two-Way Movements to / from the Site

Peak Period	Existing Two-Way Movements	With-Development Two-Way Movements	Change
AM 08:30 - 09:00	80	71	-9
PM 17:00 - 16:00	108	83	-25

- 5.7 Table 1 shows that with the Development in place, there will be a reduction on two-way traffic movements to / from the Site. When distributed to the wider road network, the overall traffic volumes and flows resulting from the Development are unlikely to be materially different to that of the existing situation. As such, the Development is unlikely to give rise to significant vehicular traffic effects. This will be further avoided by the implementation of a Travel Plan and Delivery Servicing Plan. The former will advocate and encourage occupiers of the Development to use non-car modes of transport. The latter will ensure effective, efficient and minimally disruptive delivery and servicing trips to and from the Development.
- 5.8 As noted in Section 2, the Development will provide a new pedestrian realm which will increase connectivity to the wider area and provide a direct pedestrian access to North Sheen station, located approximately 200 m east of the centre of the Site and the local bus network. Furthermore, the provision of approximately 650 cycle parking spaces for residents of the Development will further encourage the use of non-car modes of transport.

Recommendations

- 5.9 In line with planning policy and best-practice guidance, the detailed planning application will be accompanied by the following documents:
- A Draft CTLP.
 - A Transport Assessment (including for a Draft Travel Plan and a Draft Delivery and Servicing Plan).

Core Social Infrastructure

The Works

- 5.10 The works will have no direct or indirect effect upon core social infrastructure in the area including primary school, secondary school and healthcare provision.

The Completed Development

- 5.11 The Development will give rise to a new on-Site resident population which may place additional demand upon core social infrastructure. However, with reference to Section 4:
- A surplus capacity of 567 primary school places is reported within the 8 existing primary schools within 1 mile of the Site.
 - A surplus capacity of 984 secondary school places is reported within the 9 existing secondary schools within 2 miles of the Site. Of the 984 spaces, 413 are for mixed-gender, multi-faith secondary schools.
- 5.12 The Development (with an envisaged 400 new homes) is unlikely to generate a child yield in-excess of 567 primary school aged children and 413 secondary school aged children. Consequently, it is unlikely the Development will generate any significant demand and 'over-capacity' issues at local primary and secondary schools.
- 5.13 With regards to local healthcare, as noted in Section 4, all 9 GPs within 1 mile of the Site are accepting new patients. It is therefore reasonable to assume adequate GP services exist to serve the resident population of the Development.
- 5.14 As noted in Section 2, the Development will provide generous hard and soft landscaped areas for public and private use. In addition, with reference to Section 4, there are 9 public parks / significant public open spaces within 1 km of the Site. The new resident population will therefore have adequate access to public open and recreational space within reasonable walking distance from the Site. For those where it is unfeasible to walk such distances to open spaces (for example young children below the age of 12) an appropriate quantum of play space will be provided within the Site.

Recommendations

- 5.15 Not applicable.

Townscape and Visual Effects

The Works

- 5.16 The physical presence of a construction site will give rise to the visual appearance of hoardings, on-site plant and machinery and other activities associated with the Works. However, any townscape and visual effects associated with the Works are anticipated to be limited, localised and temporary. Furthermore, a Construction Environmental Management Plan (CEMP) for the Works will set out a range of good construction site housekeeping initiatives with the aim of reducing townscape and visual effects. These will include, but not be limited to:
- The maintenance of adequate construction site hoarding.
 - The orderly segregation of particular construction site activities, for example, the clear delineation of construction site offices and staff facilities, material storage areas, plant and machinery storage areas.
- 5.17 The implementation and monitoring of the CEMP will ensure any temporary townscape and visual effects are unlikely to be significant.
- 5.18 As the Works proceed and the Development emerges, the townscape and visual characteristic of the Site will adjust to those that will be generated by the presence of the completed and operational Development. However, for the reasons stated below, the physical presence of the completed and operational Development is unlikely to have significant adverse effects upon the prevailing townscape or views.

The Completed Development

- 5.19 The scale of the completed and operational Development will not be disproportionate to the surrounding townscape and has the potential to enhance the townscape character of the Site and its setting due to the replacement of an isolated retail 'island' with a well-design residential community with significant public realm and increased ground floor activity.
- 5.20 The Applicant's Townscape and Visual Consultant (Arc) are closely working with (and will continue to work with) the Applicant's Architects (Assael) to ensure potential significant adverse effects of the surrounding townscape and views arising as a result of the Development are avoided. In this respect, design principles will be devised which will aim to ensure the Development form, massing, materials, landscaping and other design features are complementary to the existing townscape whilst creating the potential to enhance the existing views of the Site. Such work will form part of an iterative design process, including detailed consultation with LBRuT.
- 5.21 Considering all of the above, the physical presence of the completed and operational Development is unlikely to have significant adverse effects upon townscape or views.

Recommendations

5.22 In line with planning policy and best-practice guidance, the detailed planning application will be accompanied by:

- A Draft CEMP (including for townscape and visual construction management).
- A Townscape and Visual Assessment, informed by Accurate Verified Representations (AVRs) of the Development within the 12 key views referenced in Section 4, Figure 6 and any other further views agreed in consultation with the LBRuT. However, it should be noted that in agreement with LBRuT view 9 (looking south from the viewing platform at the top of the Pagoda at Kew Gardens) will not be a verified view and will be provided for information only.

Heritage Effects

The Works

5.23 As identified in Section 4, the Site is not located in a Conservation Area and there are no above ground heritage assets within its boundary. As such, the Works will not result in any direct effects to above ground heritage assets.

5.24 The appearance of a construction Site could have the potential to give rise to indirect setting effects to Conservation Areas, Listed Buildings and BTMs. However, all Conservation Areas, Listed Buildings and BTMs within the ZTV are considered to be located at a sufficient distance from the Site, and separated from the Site by intervening built form (including significant rail and LUL infrastructure) that their localised settings will not be significantly affected. This being the case, the implementation of a CEMP to ensure good construction site housekeeping will further reduce the likelihood of significant effects.

5.25 Section 4 identifies that the Site is not located with an APA; neither are there any APAs within 500 m of the Site. As such, the Site and its surrounds are not recognised to be of any particular archaeological significance. Furthermore, as previously noted, the Applicant's Archaeologist (MoLA) has identified the Site as being of low archaeological potential for all pre-Modern periods of past human activity. Furthermore, any archaeological potential will have been severely compromised by past land uses and activities associated with the Site.

5.26 In view of the above, although the Works will include an element of intrusive ground works associated with construction of a small basement within the north of the Site, foundation works and the installation of piles, the lack of archaeological potential and significance at the Site mean that any archaeological effects are unlikely. MoLA therefore advise that no further archaeological study or mitigation is required.

The Completed Development

- 5.27 As noted previously, all above ground heritage assets within the ZTV are sufficiently geographically removed from the Site or are separated from the Site by intervening built form that their localised settings are unlikely to be affected by the presence of the completed and operational Development.
- 5.28 An appropriately qualified and experienced Heritage Consultant will closely collaborate with the Applicant's Architects (Asseal) to ensure the design of the Development will not result in significant adverse effects on any above ground heritage assets or on their setting.
- 5.29 In addition to the fact that the Site is not considered to be archaeologically sensitive, the completed and operational Development will not give rise to any activities that necessitate intrusive ground works. Consequently, there will therefore be no potential for any below ground heritage asset (archaeological) effects once the Development is completed and operational.

Recommendations

- 5.30 In line with planning policy and best-practice guidance, the detailed planning application will be accompanied by:
- A Draft CEMP (including for above ground heritage asset construction management).
 - A Heritage Statement.
 - An Archaeological Desk-Based Assessment.

Biodiversity / Ecological Effects

The Works

- 5.31 With reference to Section 4, the Site does not contain any statutory or non-statutory ecological sites and there are no statutory nature conservation designations within approximately 500 m of the Site. However, the northern-most tips of both East Sheen and Richmond Cemeteries and Pesthouse Common and Richmond Park and Associated Areas are located approximately 480 m south of the Site. Both sites are non-statutory Sites of Nature Conservation Importance.
- 5.32 The location of the above mentioned Sites of Nature Conservation Importance are considered to be adequately geographically removed from the Site so that they will not be directly or indirectly affected by the Works. Furthermore, there is no ecological connectivity between the Site and either of the non-statutory Sites of Nature Conservation. It is therefore concluded that even in the absence of any standard construction site mitigation, the Works will not lead to any effect upon them.

- 5.33 Owing to the limited ecological importance of existing habitats on the Site, their loss as a result of the Works will not give rise to significant ecological impacts. Any potential for conflict with bird nesting or hedgehog hibernation during the Works can be avoided by the removal of any vegetation outside of the bird nesting period (i.e. between the beginning of September and the end of February) or the hedgehog hibernation period (i.e. October - April inclusive). Alternatively, vegetation could be removed during the bird nesting and hedgehog hibernations seasons, but only following a survey by a suitable qualified ecologist to confirm that active nests and hibernating hedgehogs are not present.
- 5.34 In respect of impacts to surrounding habitats and species, particularly those which may be associated with the vegetated overland rail lines to the south and west of the Site, the aforementioned CEMP will include for best practice environmental management controls during the Works. These will include measures to reduce noise, dust emissions, night-time light emissions and avoid the incidence of contaminated run-off. As such, the CEMP will ensure the environmental protection of surrounding areas, including ecological resources. This will ensure that no ecological resource is significantly adversely affected by the Works.

The Completed Development

- 5.35 For the reasons previously stated, and considering the Development will not contain any contaminative or hazardous land uses, the completed Development will not affect non-statutory ecological sites.
- 5.36 The Development brings about the potential to increase the biodiversity / ecological value of the Site via the provision of a greater quantum of soft landscaping when compared to the existing situation. This has the potential to be realised via the landscaping strategy which may include tree planting, grassed areas, green roofs and other ecological enhancement measures, all to be informed by the Applicant's Ecologist (Tyler Grange).
- 5.37 With regard to foraging and commuting bats which may make use of the vegetation associated with the adjacent overland rail lines, it is considered that any bat species using these corridors are highly adapted to well-lit and noisy urban environments. Furthermore, and taking a precautionary approach, an appropriate lighting strategy can be devised with input from the Applicant's Ecologist (Tyler Grange) so as to ensure no additional lighting impacts to any foraging bats. As such, the presence of the completed and operational Development is unlikely to significantly affect this habitat or its associated bat population.

Recommendations

- 5.38 In line with planning policy and best-practice guidance, the detailed planning application will be accompanied by:
- A Draft CEMP (including for biodiversity / ecological construction management).
 - A PEA and PBRA (a re-submitted version of the PEA and PBRA included at Appendix 1 for completeness).
 - A Lighting Strategy.

Geology, Ground Conditions and Contamination

The Works

- 5.39 As noted in Section 4, the Site is not designated for any geological interest or importance and does not yield any significant geological resource. As such, the Works will not give rise to any effect upon geological resources.
- 5.40 Section 4 recognises that due to previous industrial land uses on and in proximity to the Site, the Site could yield potential sources of ground contamination. Furthermore, such contamination could be encountered and / or mobilised during the intrusive ground works required to facilitate the Development. It therefore follows that the Works could give rise to the the risk of contamination exposure to humans (for example construction site workers) and the wider environment.
- 5.41 Owing to the potential for contamination to be present beneath the Site, legislative requirements necessitate the Site must be investigated prior to implementation of the Works to accurately determine the actual potential for contamination, and if present, the type and quantum of contamination beneath the Site. Such legislation also dictates that a site must be suitable for its intended end-use and must not cause harm to human health or the environment. To this end, should the Site Investigation (SI) reveal contamination to be present, a suitable remediation strategy will be devised and implemented to ensure the Site does not give rise to significant ground contamination risks and associated effects.
- 5.42 In addition to the above, standard and best practice environmental management controls will be implemented during the Works to safeguard against the risks (and associated effects) of unforeseen and unexpected potential contamination events such as accidental spills of construction related materials brought to and stored on the Site during the Works. Such environmental management controls will include but not be exclusive to:
- The use of Personal Protective Equipment (PPE) by all construction site workers.
 - Procedures for the safe and contained storage of construction materials on-Site.
 - Procedures for dealing with accidental material spills (for example, the deployment of emergency containment, bunding and surface water drainage filtration equipment).
- 5.43 All such measures will be set out in the aforementioned CEMP.
- 5.44 With respect to the risk of UXO, all intrusive ground works will be subject to a UXO Watching Brief. This precautionary measure will ensure that should UXO be encountered, appropriate steps can be taken to immediately de-risk the situation. Again, it is envisaged that the CEMP will set out the correct process and procedures to follow should UXO be encountered.
- 5.45 The above legislative requirements and best practice measures mean that significant environmental effects as a result of Works are unlikely. The implementation of these measures is typically controlled through Environment Agency standard planning conditions.

The Completed Development

- 5.46 For the reasons previously stated, the completed Development will not affect any designated site of geological interest or importance; neither will the Development give rise to any effect upon geological resources.
- 5.47 The completed and operational Development will not give rise to any activities that necessitate intrusive ground works. In addition, the Development does not propose any land uses that will be of a contaminative nature. Consequently, there will be no potential for any contamination risks (and associated effects) or UXO risks once the Development is complete and operational.

Recommendations

- 5.48 In line with planning policy and best-practice guidance, the detailed planning application will be accompanied by:
- A Phase 1 Contamination Assessment (including for a UXO Risk Assessment).
 - Depending on the outcome of the Phase 1 Contamination Assessment, a Phase II Contamination Assessment and Remediation Strategy.
 - A Draft CEMP (including for contamination and UXO management).

Water Resources and Flood Risk

The Works

- 5.49 As identified within Section 4, the Site does not contain any surface water features. In addition, the closest water feature to the Site is that of the River Thames. This is located approximately 1.5 km north-east, south-west and north-west of the Site.
- 5.50 Section 4 notes that the Site is located in Flood Zone 1. Consequently, the Site is in an area of low flood risk with the probability of river or sea flooding being less than 0.1 % in any year. Furthermore, as per standard practice, the CEMP will ensure appropriate surface water drainage of the construction site, thereby ensuring no occurrence of significant localised surface water flooding.

The Completed Development

- 5.51 As the Site is in an area of low flood risk, the completed and operational Development will not be subject to any significant risk and effects associated with fluvial or tidal flood risk.
- 5.52 The Development intends to replace existing hard-standing and impermeable areas with a similar type of land cover. However, climate change considerations require that the completed and operational Development must be designed with the resilience to cope with increases in precipitation frequency and intensity which may give rise to increased incidences of surface water flooding events. Similarly, the

Development must be designed to ensure surface water flooding is not increased at the Site, or elsewhere, accounting for climate change.

- 5.53 In view of the above, the design of the Development is being informed by an appropriately qualified and experienced surface water drainage engineer. This will ensure inherent design measures of the Development will safeguard against surface water flooding risks and effects at the Site and elsewhere, even accounting for climate change. Similarly, the design of the Development is being informed by the Applicant's Services Engineer (Hoare Lea) so that any additional demand for foul water drainage associated with a new resident population at the Site will be provided, thereby avoiding incidences of fowls water flooding.

Recommendations

- 5.54 In line with planning policy and best-practice guidance, the detailed planning application will be accompanied by:
- A Draft CEMP (including for surface water drainage management).
 - A Flood Risk Assessment (FRA) (focussing on surface water drainage and foul water drainage only and including a Surface Water Drainage Strategy).

Air Quality

The Works

- 5.55 The Works have the potential to give rise to the following air quality effects:
- Dust emissions and associated nuisance generated by the physical components of the Works.
 - Additional emissions to the atmosphere from the operation of construction plant and machinery.
 - Additional emissions to the atmosphere from construction related traffic generation.
- 5.56 With regard to dust emissions and nuisance, this can be effectively managed by standard construction environmental management techniques, all to be included in the CEMP. These will include but not be exclusive to:
- Adherence to reasonable construction site working hours which will avoid early mornings, night-time and weekend working (unless required for an emergency situation).
 - Damping down of dusty surfaces and processes where dust may be generated.
 - Appropriate covering of potentially dust generating stockpiled materials on the construction site.
 - Avoiding the occurrence of dust generating activities during dry and windy weather conditions.
 - Dust monitoring to assess the effectiveness of dust management controls and to indicate if any when additional measures may be required.

- 5.57 With the above measures in place, dust generation and nuisance will be reduced as far as practically possible. In addition, dust tends to settle within 200 m of its source, thereby limiting the geographical extent of its potential effect.
- 5.58 Potential emissions arising from the operation of construction site plant and machinery will also be minimised via the CEMP which will specify the use of modern, low emission plant and machinery and that plant and machinery must be turned off when not in use.
- 5.59 With regard to emissions from construction related traffic, as noted in a previous sub-section of Section 5 (Transport and Connectivity) the temporary increase in traffic generation associated with the Works is not envisaged to be significant. It therefore follows that road traffic emissions will unlikely be significantly affected by this temporary addition of traffic to the local road network.
- 5.60 Considering all of the above, the Works are not anticipated to generate significant air quality effects.

The Completed Development

- 5.61 Potential air quality effects of the completed and operational Development could arise from:
- Additional emissions to the atmosphere from traffic generated by the completed and operational Development.
 - Additional emissions to the atmosphere from the operation of building plant, particularly any heating and power plant.
- 5.62 As noted in a previous sub-section of Section 5 (Transport and Connectivity) with the Development in place, the overall traffic volumes and flows on the local road network are unlikely to be materially different to that of the existing situation. As such, the Development is unlikely to give rise to significant changes to vehicular traffic emissions and associated effects to ambient air quality.
- 5.63 With regard to building heating and power plant, as noted in Section 3, the Development will incorporate an Air Source Heat Pump solution on a block-by-block basis. This all-electric solution will ensure no emissions to the atmosphere.
- 5.64 In view of the above, the operation of the completed Development is not anticipated to generate significant air quality effects.

Recommendations

- 5.65 In line with planning policy and best-practice guidance, the detailed planning application will be accompanied by:
- A Draft CEMP (including for dust and air quality management).
 - An Air Quality Assessment.

Noise and Vibration

The Works

5.66 In common with all active construction sites the Works have the potential to give rise to the following noise and vibration effects:

- Increased ambient noise and vibration and associated nuisance generated by the physical components of the Works.
- Increased ambient noise and vibration resulting from the operation of construction plant and machinery.
- Increased road traffic noise from construction related traffic generation.

5.67 Standard construction environmental management techniques, all to be included in the CEMP will be effective in reducing all above potential effects. These will include but not be exclusive to:

- Adherence to reasonable construction site working hours which will avoid early mornings, night-time and weekend working (unless required for an emergency situation).
- The use of construction techniques known to reduce the incidence of noise and vibration.
- The use of modern, low noise emission plant and machinery.
- Switching off plant and machinery when not in use.
- Noise and vibration monitoring to assess the effectiveness of the management controls and to indicate if any when additional measures may be required.

5.68 With regard to noise generated from construction related traffic, as noted in a previous sub-section of Section 5 (Transport and Connectivity) the temporary increase in traffic generation associated with the Works is not envisaged to be significant. In addition, it is well known that it take a 20 - 25% change in traffic flow to create an audible difference in road traffic noise^{19, 20}. It therefore follows that road traffic emissions will unlikely be significantly affected by this temporary addition of traffic to the local road network.

5.69 Considering all of the above, the Works are not anticipated to generate significant noise and vibration effects.

The Completed Development

5.70 Potential noise and vibration effects of the completed and operational Development could arise from:

- Additional noise from traffic generated by the completed and operational Development.
- Additional noise generated from the operation of building plant.

¹⁹ Highways Agency. The Design Manual for Roads and Bridges. Volume 10 - Environmental Design. 2008.

²⁰ Highways Agency. The Design Manual for Roads and Bridges. Volume 11 - Environmental Assessment. 2009.

- 5.71 As noted in a previous sub-section of Section 5 (Transport and Connectivity) the overall traffic volumes and flows on the local road network attributable for the Development are unlikely to be materially different to that of the existing situation and certainly no more than +/- 20 - 25% when compared to the existing situation. Furthermore vehicular servicing of the Development will be designed so as to minimise noise impact to existing and future residents both on and off the Site. In this respect, a Delivery and Servicing Plan will be implemented.
- 5.72 With regard to potential noise emanating from the operation of building plant, the design of such Development infrastructure is being informed by the Applicant's Services Engineer and Acoustician (Hoare Lea). This will ensure that in line with relevant stringent policy requirements and industry standard guidelines, the Development will incorporate low noise emission plant, with additional acoustic screening, as necessary. This will ensure the operation of plant will not breach existing ambient background noise levels. Similarly, the Development will also be designed to ensure future residents experience a suitable internal noise and vibration environment as required by planning policy and relevant industry standard guidelines. This will account for the consideration of acoustic design to mitigate any noise and vibration generated from the operational use of the rail lines adjacent to the Site.
- 5.73 In view of the above, the operation of the completed Development is not anticipated to generate significant noise and vibration effects.

Recommendations

- 5.74 In line with planning policy and best-practice guidance, the detailed planning application will be accompanied by:
- A Draft CEMP (including for noise and vibration management).
 - A Noise and Vibration Assessment.
 - A Transport Assessment (including for a Draft Travel Plan and a Draft Delivery and Servicing Plan).

Wind Microclimate

The Works

- 5.75 The Site is not located in a particularly exposed or windy area which, as previously noted in Section 4, contains a relatively uniform massing, generally comprising low - medium rise buildings and structures ranging from 2 - 6-storeys. Whilst 2 12-storey towers are located approximately 170 m east of the centre of the Site, these are not located up-wind of the Site to the prevailing south-westerly winds. As such, these towers are unlikely to create any wind tunnelling effect at the existing Site. In conclusion, the existing Site is unlikely to be subject to any uncomfortably windy and potentially unsafe wind conditions.
- 5.76 Due to the low-rise nature of the existing retail unit from the Site, its removal during the Works to create a clear Site is unlikely to give rise to any significant changes to the prevailing wind conditions either on or surrounding the Site.

- 5.77 As the Works proceed and the Development emerges, wind conditions in and around the Site will adjust to those that will be generated by the presence of the completed and operational Development. However, for the reasons stated below, these are unlikely to be significantly different to the existing prevailing wind conditions and / or give rise to uncomfortable or un-safe wind conditions.
- 5.78 It should be noted that the important factor for assessing wind microclimate effects is not whether there is a change in wind conditions, but whether the wind conditions are suitable (comfortable) and safe for the intended pedestrian or occupant use at a particular location.

The Completed Development

- 5.79 As noted previously, the Site is not located in a particularly exposed or windy area. Furthermore, the Development will be relatively modest in scale comprising 4 buildings ranging from ground level plus 1-storey to ground level plus 8-storeys. It is therefore judged that the completed and operational Development will not create significantly different wind conditions to those prevailing within and surrounding the Site.
- 5.80 Despite the above, the design of the Development is being informed by an appropriately qualified and experienced wind microclimate expert so that the physical presence of the completed and operational Development will not create any uncomfortable or un-safe wind conditions either within or surrounding the Site.

Recommendations

- 5.81 In line with planning policy and best-practice guidance, the detailed planning application will be accompanied by:
- A Desk-Based Wind Microclimate Assessment.

Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

The Works

- 5.82 The removal of the existing the low-rise built form of the Site is unlikely to give rise to significant changes (increases) to the availability of daylight and sunlight within surrounding residential units or decreases in the incidence of overshadowing to nearby amenity open spaces.
- 5.83 As the Works proceed and the Development emerges, daylight, sunlight and overshadowing conditions around the Site will adjust to those that will be generated by the presence of the completed and operational Development. However, for the reasons stated below, these are unlikely to be unacceptable.
- 5.84 Similar to the assessment of wind microclimate and given the dense urban setting of the Site, it should be noted that the important factor for assessing daylight, sunlight and overshadowing effects is not whether there is a change in daylight, sunlight and overshadowing conditions, but whether the daylight, sunlight and overshadowing conditions are acceptable for the use of a particular habitable room or amenity space.

5.85 With regard to light pollution, the Site is located in a well-lit area. However, the CEMP will set out measures to ensure the use of any dawn, dusk or night-time lighting required in the winter months is limited and directional so that artificial light is directed into and not out of the Site.

5.86 Incidences of solar glare are not anticipated to arise. Details are provided below.

The Completed Development

5.87 Although the Development is of a modest scale, it will bring about an increase to the physical massing to the Site. There is therefore a potential for surrounding existing habitable rooms to experience decreases in daylight and sunlight and surrounding amenity spaces to experience increases in the incidence of overshadowing.

5.88 In view of the above, the Applicant's Daylight, Sunlight and Overshadowing Consultant (Point 2 Surveyors) is informing the design of the Development to ensure any such changes to surrounding habitable rooms and amenity spaces are minimised and where changes do occur, are not unacceptable in the context of the dense urban setting of the Site. Furthermore, owing to the significant physical separation of existing surrounding residential receptors from the Site (a result of the Site being bound to the east by Manor Road and the south and west by overland rail lines) and the modest proposed massing of the Development, any daylight, sunlight and overshadowing effects to surrounding residential receptors are likely to be insignificant.

5.89 With regard to daylight, sunlight and overshadowing experienced by occupants, visitors and users of the Development itself, similar to the above, the Applicant's Daylight, Sunlight and Overshadowing Consultant (Point 2 Surveyors) is informing the design of the Development to ensure acceptable standards will be met. This can be achieved by appropriate building massing, siting and orientation, the arrangement of living spaces and amenity spaces, and fenestration design.

5.90 A lighting strategy for the Development will ensure that artificial light emanating from the Development does not exceed the existing ambient artificial light levels already existing in the area. Given the urban and well-lit nature of the Site and its surrounds, this is not considered to be an onerous task.

5.91 Although the Development will propose glazed areas, these will be broken up by brickwork, reconstituted stone and other non-reflective building materials. Owing to this and the overall likely proportion of glazed to non-glazed façade treatments associated with the Development, significant incidents of solar glare are not anticipated.

Recommendations

5.92 In line with planning policy and best-practice guidance, the detailed planning application will be accompanied by:

- A Draft CEMP (including for light pollution management).
- A Daylight, Sunlight and Overshadowing Assessment.
- A Lighting Strategy.

Waste

The Works

- 5.93 It is inevitable that waste will be generated from the Works. However, this is the case for any redevelopment project. As such, the emphasis should be placed upon how this waste is managed. For this reason, the CEMP will set out legal and best practice measures and protocols to ensure good construction site management practices lead to minimal waste creation and maximal re-use and recycling of waste materials arising from the Works.
- 5.94 In view of the above, the Works associated with the Development are unlikely to give rise to significant waste effects.

The Completed Development

- 5.95 The completed and operational Development will not include for any land uses or activities that will give rise to particularly hazardous waste materials. However, once operational, a quantity of domestic waste will arise from the Development. Again, the critical aspect is how this waste is managed. In this respect, and in line with policy requirements, the Development will be designed to ensure sufficient space and facilities are provided for the storage of segregated general and recyclable waste. In addition, it will be ensured that the servicing of the Development allows for adequate waste collection and disposal, as necessary.
- 5.96 Again, in view of the above, the operation of the completed Development is unlikely to give rise to significant waste effects.

Recommendations

- 5.97 In line with planning policy and best-practice guidance, the detailed planning application will be accompanied by:
- A Draft CEMP (including for construction site waste management).
 - An Operational Waste Management Plan.

Risk of Major Accidents and Disasters

The Works

- 5.98 As noted in Section 4, the Site and its environs are not subject to any COMAH sites, geological hazards or safeguarded aviation zones. Furthermore, with standard, tried and tested construction related environmental management controls in place (to be set out within the CEMP), previous sub-sections of Section 5 (Geology, Ground Conditions and Contamination and Water Resources and Flood Risk) demonstrate the Works are unlikely to give rise to significant risks associated with contamination, UXO and surface water flooding.

The Completed Development

- 5.99 As previously noted, the Site and its environs are not subject to any recognised risk or hazard zone(s). In addition, the completed and operational Development does not proposed any land uses that will increase the risk of major accidents and disasters. In this respect, the Development will be designed in accordance with all relevant health and safety requirements. Furthermore, previous sub-sections of Section 5 (Geology, Ground Conditions and Contamination and Water Resources and Flood Risk) justify that the completed and operational Development will unlikely give rise to any significant contamination or flood risk.

Recommendations

- 5.100 In line with planning policy and best-practice guidance, the detailed planning application will be accompanied by:
- A Draft CEMP (including for ground contamination, UXO and surface water drainage management).
 - A Phase 1 Contamination Assessment (including for a UXO Risk Assessment).
 - Depending on the outcome of the Phase 1 Contamination Assessment, a Phase II Contamination Assessment and Remediation Strategy.
 - An FRA (focussing on surface water drainage and foul water drainage only and including a Surface Water Drainage Strategy).

Health and Wellbeing

The Works

- 5.101 Previous sub-sections of Section 5 (Geology, Ground Conditions and Contamination, Air Quality and Noise and Vibration) demonstrate that the Works are not anticipated to give rise to any significant contamination, UXO, air quality and / or noise and vibration effects, all of which have the potential to affect human health and wellbeing. The likelihood of insignificant effects for all relevant topics is by virtue of the nature and location of the Development, together with the implementation of a broad range of standard, tried and tested construction related environmental management controls, all to be set out within the CEMP. Consequently, the health and wellbeing of construction site workers, local residents, local workers and visitors to the locality is unlikely to be significantly affected by the Works.

The Completed Development

- 5.102 Similar to the above, previous sub-sections of Section 5 (Geology, Ground Conditions and Contamination, Air Quality and Noise and Vibration, Wind Microclimate and Daylight, Sunlight, Overshadowing and Light Pollution) demonstrate that the Works are unlikely to give rise to significant contamination, air quality, noise and vibration, wind microclimate and / or daylight, sunlight, overshadowing, light pollution and solar glare effects. As such, with the Development in place, these environmental factors are unlikely to significantly

affect the health and wellbeing of residents, users and visitors of the Development and the surrounding locality.

- 5.103 With reference to Section 2, the Development will provide new and generously proportioned hard and soft landscaped areas throughout the Site and provide in the region of 650 cycle parking spaces for residents of the Development. This will improve pedestrian and cyclist connectivity throughout and to and from the Site. The landscaped areas will also provide dedicated children's play space and an outdoor gym.
- 5.104 In view of the above, the Development will improve pedestrian connectivity and provide opportunities for residents of the Development to walk and cycle. In addition the provision of amenity space (including children's play space and an outdoor gym) will allow for physical activity. Although these inherent design features are unlikely to affect human health and wellbeing on a significant scale, they will encourage direct access to opportunities which can contribute to a healthy lifestyle.

Recommendations

- 5.105 In line with planning policy and best-practice guidance, the detailed planning application will be accompanied by:
- A Draft CEMP (including for ground contamination, UXO, dust, air quality, noise and vibration and light pollution management).
 - A Phase 1 Contamination Assessment (including for a UXO Risk Assessment).
 - Depending on the outcome of the Phase 1 Contamination Assessment, a Phase II Contamination Assessment and Remediation Strategy.
 - An Air Quality Assessment.
 - A Daylight, Sunlight and Overshadowing Assessment.

Climate Change

The Works

- 5.106 Climate change is global in cause and effect. It therefore follows that by virtue of the scale of the construction site and the Development, the Works are unlikely to significantly contribute to global climate.
- 5.107 In relation to the emission of greenhouse gases, previous sub-sections of Section 5 (Transport and Connectivity and Air Quality) demonstrate that expected construction vehicular traffic volumes and flows (and therefore emissions which will include greenhouse gasses) are unlikely to be significant when considering the quanta of existing background traffic and associated emissions. It is also demonstrated that modern, efficient and low carbon emitting construction plant and machinery will be used throughout the Works.

The Completed Development

- 5.108 As previously noted, climate change is global in cause and effect. It therefore follows that by virtue of the scale and nature of the Development, its operation will not significantly contribute to global climate change. However, the Development will be designed to minimise greenhouse gas emissions and to ensure resilience to climate change.
- 5.109 With reference to previous sub-sections in Section 5 (Transport and Connectivity and Air Quality) the Development will be car free, with the exception of 12 car-parking spaces provided for the mobility impaired. When considering servicing of the Development the overall vehicular trip generation from the Development is unlikely to be materially different to that of the existing situation. As such, the Development is unlikely to give rise to significant vehicular traffic effects. It therefore follows that the Development is unlikely to give rise to significant changes to vehicular traffic emissions which will include for greenhouse gases.
- 5.110 The design of the Development is being informed by the Applicant's Sustainability and Building Services Engineer (Hoare Lea). This will ensure that in line with relevant policy requirements and industry standard guidelines, the Development will incorporate many inherent sustainability design features which will minimise the overall carbon footprint and greenhouse emissions arising from the Development. Such measures will include, but not be exclusive to:
- The selection and use of building materials from sustainable sources and with low embodied carbon.
 - The incorporation of appropriately designed façades to balance solar gain against daylight availability.
 - The use of good levels of insulation for wall, floor and roof elements, thereby reducing heat demand.
 - The use of thermally efficient windows to reduce heat demand.
 - The achievement of good levels of air tightness.
 - Mechanical ventilation with heat recovery.
 - The use of energy efficient lighting.
 - All electrical heating systems to take advantage of decreasing UK grid electricity carbon factor.
 - The use of photovoltaic panels mounted at roof level.
- 5.111 With regard to climate change resilience, as noted in a previous sub-section of Section 5 (Water Resources and Flood Risk) the Site is located in an area of low flood risk. However, the design of the Development is being informed by an appropriately qualified and experienced surface water drainage engineer. This will ensure inherent design measures of the Development will safeguard against surface water flooding risks and effects at the Site and elsewhere, even accounting for climate change.

Recommendations

5.112 In line with planning policy and best-practice guidance, the detailed planning application will be accompanied by the following documents:

- A Draft CEMP (including for dust, air quality and noise and vibration management).
- A Draft CTLP.
- A Transport Assessment (including for a Draft Travel Plan and a Draft Delivery and Servicing Plan).
- An FRA (focussing on surface water drainage and foul water drainage only and including a Surface Water Drainage Strategy).
- An Air Quality Assessment.
- A Sustainability Statement.

Cumulative Interactions of the Development

5.113 As previously explained, the Development will not give rise to cumulative effects resulting from the Development with other Cumulative Schemes. However, the consideration of cumulative effects should also consider the potential for the cumulative interactions of the Development in isolation upon a particular receptor or set of receptors. For example, the cumulative interaction of noise, air quality and townscape effects resulting from the Development only on a receptor or set of receptors.

5.114 Considering that it is unlikely significant environmental effects will result from the implementation of the Development, or from the operation of the completed Development, it is unlikely that there will be any potential for significant cumulative interactions to occur.

6. Conclusion and Recommendations

6.1 The Development is considered to be modest in scale and of a type that is consistent with other land in proximity to and further afield from the Site.

6.2 As noted within Section 4, the Site is not located in a 'sensitive area' as defined by the EIA Regulations. Accordingly, the absorption capacity of the natural environment in and surrounding the Site is judged to be high; the Site and its surrounds are resilient to change.

6.3 Any environmental effects associated with the Development are unlikely to be significant and can be adequately dealt with via the normal planning application process. As such, the Development is not considered to constitute EIA development.

6.4 Despite the above, it is acknowledged that to accord with various planning requirements (not the EIA Regulations), the Applicant's detailed planning application for the Development will need to be supported by the following suite of environmental technical studies:

- A Draft CEMP.
- A Draft CTLP.
- A Transport Assessment (including for a Draft Travel Plan and a Draft Delivery and Servicing Plan).
- A Townscape and Visual Assessment.
- A Heritage Statement.
- A PEA.
- A Phase 1 Contamination Assessment (including for a UXO Risk Assessment).
- Depending on the outcome of the Phase 1 Contamination Assessment, a Phase II Contamination Assessment and Remediation Strategy.
- An FRA (focussing on surface water drainage and foul water drainage only and including a Surface Water Drainage Strategy).
- An Air Quality Assessment.
- A Noise and Vibration Assessment.
- A Desk-Based Wind Microclimate Assessment.
- A Daylight, Sunlight and Overshadowing Assessment.
- A Lighting Strategy.
- An Operational Waste Management Plan.

- A Sustainability Statement.

Appendix I

Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment

16 October 2018

Homebase North Sheen

Preliminary Ecological
Appraisal and Preliminary
Bat Roost Assessment

Report Number: 11778_RO1a_CC_JW

Author: Christian Cairns

Checked: Hazel Murrells MCIEEM CEnv



Tyler Grange

Birmingham • Cotswolds • Exeter • London • Manchester



Homebase North Sheen
Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment

11778_R01a_16 October 2018_CC_JW

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11778_P01

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Summary

- S.1. This report has been prepared by Tyler Grange LLP on behalf of Avanton. It sets out the findings of a Preliminary Ecological Appraisal (PEA) and Preliminary Bat Roost Assessment (PBRA) at a retail park known as Homebase North Sheen, located along Manor Road, Richmond, London, Middlesex (OS Grid Reference TG 18904 75434), hereinafter referred to as the 'site'. The purpose of this report is to inform a planning application for the construction of 381 new residential units, retail and office species and above ground parking.
- S.2. The site is an active retail park, predominantly comprised of hardstanding with a central building actively used by members of the public and Homebase staff. The site is accessible directly from Manor Road. The site contains several young to semi-mature trees, along with small areas of amenity grassland, introduced scrub, scattered scrub and tall ruderal vegetation. The site is bordered by active railway lines to the west and south, a bus park to the north and a road; Manor Road to the east.
- S.3. The site is not covered by nor adjacent to any sites that are subject of statutory or non-statutory protection and no such sites are likely to be affected by the proposed development on the site. The majority of habitats within the site that may be lost as a result of a development (Buildings, hardstanding, amenity grassland and introduced scrub) are of negligible ecological importance and no specific mitigation is required.
- S.4. The building and trees within the site have been assessed as having negligible potential to support roosting bats.
- S.5. Precautionary checks for nesting breeding birds, reptiles and hedgehogs are recommended by an Ecological Clerk of Works (ECoW), if buildings or nesting bird habitat is removed in the nesting bird season (March – August, inclusive), Hedgehog hibernation season (October – April, inclusive), to prevent death or injury of individual by the proposed works. Should nesting birds be present with young or eggs, an appropriate buffer should be erected, and the nest checked periodically by an ECoW until it is clear the young have either failed or fledged. Should any hedgehogs be found they will be removed by an ECoW by hand and translocated to suitable off or onsite habitat that is suitable and similar to that in which they were found.
- S.6. Existing habitats should be retained and enhanced where possible, and new habitat created on-site in line with local planning policy and the borough of Richmond Upon Thames Biodiversity Action Plan (BAP). New flora planted should be native and of local stock. In addition, enhancements for specific species groups will be provided post-construction including bird and bat boxes to increase the number of nest and nesting sites across the site and hedgehog boxes and highways and bug hotels to provide a net biodiversity gain.



Section 1: Introduction, Context and Purpose

Introduction

- 1.1. This report has been prepared by Tyler Grange LLP on behalf of Avanton. It sets out the findings of a Preliminary Ecological Appraisal (PEA) and Preliminary Bat Roost Assessment (PBRA) of a retail space at 86 Manor Road, Richmond, London (OS Grid Reference TG 18904 75434), hereinafter referred to as the 'site'.
- 1.2. Plans are being drawn up to re-develop the site for housing, commercial and office spaces. A masterplan for the site is being produced, which will form the basis for a planning application in the near future.

Purpose

- 1.3. This report:
 - Uses available background data and results of field surveys, to describe and evaluate the ecological features present within the likely 'zone of influence' (Zoi)¹ of the proposed development;
 - Describes the actual or potential ecological issues and opportunities that might arise as a result of the site's future development for;
 - Where appropriate, makes recommendations for mitigation of adverse effects and ecological enhancement, to ensure conformity with policy and legislation listed in **Appendix 1**; and
- 1.4. This assessment and the terminology used are consistent with the 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (CIEEM, 2018).

¹ Defined as the area over which ecological features may be subject to significant effects as a result of activities associated with a project (CIEEM, 2018)



Section 2: Methodology

Data Search

- 2.1. The aim of the data search is to collate existing ecological records for the site and adjacent areas. Obtaining existing records is an important part of the assessment process as it provides information on issues that may not be apparent during a single survey, which by its nature provides only a 'snapshot' of the ecology of a given site.
- 2.2. The data search has been undertaken for a 10km radius around the site for European statutory sites, a 2km radius for national statutory and non-statutory sites and a 1km radius for protected and priority species² records. The search area was extended to 2km for bat records.
- 2.3. GiGL; Greenspace Information for Greater London Environmental Records Centre was contacted for details of protected and priority species and non-statutory sites. The information from GiGL was requested on 15th August 2018 and returned on 16th August 2018. Where relevant records were identified, the information provided has been incorporated into the report with due acknowledgement.
- 2.4. The Multi-Agency Geographic Information for the Countryside³ website was accessed for information on the location of statutory designated nature conservation sites within a 2km radius the site.
- 2.5. The London Borough of Richmond upon Thames website was consulted for details of relevant local planning policies and supplementary planning guidance.
- 2.6. The London Borough of Richmond upon Thames BAP (LBAP) was consulted for priority habitats and species subject to conservation action, to assist with the evaluation of ecological features and to inform site enhancement strategies.

Extended Phase I Habitat Survey

- 2.7. An 'extended' Phase I habitat survey was undertaken on 8th August 2018 by Sarah Richardson, an experienced field ecologist and graduate member of the Chartered Institute of Ecology and Environmental Management (CIEEM). The technique was based upon Phase I survey methodology (JNCC, 2010). This 'extended' Phase I technique provides an inventory of the habitat types present and dominant species.
- 2.8. The weather conditions for the survey were dry with 75% cloud cover, 24°C degrees and 2 on the Beaufort scale.
- 2.9. Using the above method, the site was classified into areas of similar botanical community types with a representative sample of those species present at the time of the survey being described.
- 2.10. Additionally, incidental records of fauna were also made during the survey and the habitats identified were evaluated for their potential to support legally protected and priority species.

² UK priority species and habitats are those subject to conservation action and referred to as Species of Principal Importance (SoPIs) or Habitats of Principal Importance (HoPIs). They are listed at Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the NERC Act states that local planning authorities must have regard for the conservation of both SoPIs and HoPIs.

³ <https://magic.defra.gov.uk/MagicMap.aspx>



Preliminary Bat Roost Assessment – Buildings & Trees

- 2.11. A preliminary assessment of the buildings and trees present within the site was undertaken to assess their potential to support roosting bats. This survey was undertaken alongside the 'extended' Phase 1 habitat survey. The surveys followed standard methodologies (Mitchell-Jones, A.J., 2004; Mitchell-Jones, A.J. and McLeish, A.P., 2004; Collins, 2016) which are described below.
- 2.12. The PBRA for buildings comprised an external and internal inspection of all buildings present on-site to assess their potential to support roosting bats. In summary, this required the following:
- A visual inspection of the exterior and interior of the buildings on site was undertaken on the 8th August 2018, examining features such as brickwork, lead flashing, and tiles for evidence of use by bats, including the presence of bat droppings and staining from fur-oil or urine; and
 - A number of factors were considered including the presence of features suitable for use by crevice dwelling bats, proximity to foraging habitats or cover, and potential for disturbance from lighting and other sources.
- 2.13. The PBRA for trees comprised a ground level inspection of all trees present on-site to determine the potential of each tree to support roosting bats. During this survey, Potential Roost Features (PRFs) that may be used by bats, as identified within the BCT Good Practice Guidelines (Collins, 2016), were sought. These included the following:
- Woodpecker holes, rot holes, knot holes arising from naturally shed branches and man-made holes;
 - Hazard beams and other vertical or horizontal cracks and splits (such as frost-cracks) in stems or branches;
 - Partially detached platey bark;
 - Cankers;
 - Other hollows or cavities, including butt-rots;
 - Partially detached ivy with stem diameters in excess of 50mm; and
 - Bird, bat or dormouse boxes.
- 2.14. Evidence of the presence of bat roosts was also sought. These signs include:
- Bat droppings in, around or below a PRF;
 - Odour emanating from a PRF;
 - Audible squeaking at dusk or in warm weather; and
 - Visible staining below a PRF.
- 2.15. The potential of each building or tree at the site and immediately adjacent to the site to support roosting bats has been categorised against the criteria described in Table 2.1.



Suitability	Description of Roosting Habitats
Negligible	Negligible habitat features on-site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.
High	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.

Table 2.1 – Roost Assessment Criteria (adapted from Collins 2016).

Evaluation

- 2.16. The evaluation of habitats and species is defined in accordance with published guidance (CIEEM, 2018). The level of importance of specific ecological features is assigned using a geographic frame of reference, with international being most important, then national, regional, county, borough, local and lastly, within the site boundary only.
- 2.17. Evaluation is based on various characteristics that can be used to identify ecological features likely to be important in terms of biodiversity. These include site designations (such as SSSIs), or for undesignated features, the size, conservation status (locally, nationally or internationally), and the quality of the ecological feature. In terms of the latter, quality can refer to habitats (for instance if they are particularly diverse, or a good example of a specific habitat type), other features (such as wildlife corridors or mosaics of habitats) or species populations or assemblages.

Quality Control

- 2.18. All ecologists at Tyler Grange LLP are members of CIEEM and abide by the Institute's Code of Professional Conduct.



Section 3: Ecological Features and Evaluation

Context

- 3.1. The site is an active retail site, comprised of a central building surrounded by hardstanding actively used by staff and members of the public. The site is accessible directly from Manor Road; B353 and contains several trees and areas of marginal vegetation, hedgerows, amenity grassland and introduced scrub.
- 3.2. The site is bordered by railway lines on the south and west boundary; Manor Road (the B353) on the east boundary and a bus bank on the north boundary.

Protected Sites

Statutory Sites

- 3.3. There are two sites of European designation within 10km of the site:
 - Richmond Park is located 1.1km south of the site and is designated as a Special Conservation Area (SAC), National Nature Reserve (NNR) and Site of Special Scientific Interest (SSSI). Richmond Park is 846.68Ha in size and is designated for supporting a population of an Annex II species the stag beetle *Lucanus cervus*. Given that the site is designated as a SAC due to the stag beetle population present, it is considered to be of **European importance**.
 - Wimbledon Common is located 4.2km south-east of the site and is designated as a SAC and SSSI. Wimbledon Common is 350Ha in size and is designated for Annex I Habitats; Northern Atlantic heaths and European heaths and supporting a population of stag beetles *Lucanus cervu*, which is listed as an Annex II species. Due to the presence of stag beetles and the presences of both wet and dry heathlands Wimbledon Common is considered a of **European importance**.
- 3.4. There are two sites of National designation within 2km of the site:
 - Svon Park is located 1.7km north-west of the site and is designated a SSSI. Svon Park is 21.5 Ha in size and is designated for its tall wet grassland, tall grass washland, semi-improved grassland and wet woodland. Additionally, the site is known to support populations of nationally and locally scarce invertebrate species. Given that this site is designated a SSSI it is considered to be of **national importance**.
 - Isleworth Ait is located 2km west of the site and is designated as a Local Nature Reserve (LNR). Isleworth Ait is 3.48 Ha in size and is designated for. This site is considered to be of **local importance**.
- 3.5. The site does fall within the SSSI Impact Risk Zones (IRZs) of several SSSI's located within and beyond the 2km radius.
- 3.6. LNRs are notified under Section 21 of the National Parks and Access to the Countryside Act 1949 by local authorities. They are not necessarily of great ecological importance and are intended for public appreciation and enjoyment of wildlife. The LNR designation does not afford special protection, although LNRs are protected under legislation and planning policy.



Non-Statutory (Local) Sites

3.7. Non-statutory sites are known as Sites of Importance for Nature Conservation (SINCs). SINC's are recognised by the Greater London Authority and London Borough councils as important wildlife sites. They designated into three tiers:

- Sites of Metropolitan Importance
- Sites of Borough Importance (borough grade 1 and borough grade 2)
- Sites of Local Importance.

Site Name	Designation	Distance and Direction from Site (km - N/S/W/E)	Description/Summary of Reason for Designation
Royal Botanic Gardens, Kew	Metropolitan	0.5km – North-west	Large area of various high-quality habitats, presence of two bat roosts, several nationally scarce plant species and populations of herpetofauna.
East Sheen and Richmond Cemeteries and Pesthouse Common	Local	0.5km - South	Site consist of a Cemetery and area of abandoned woody scrub with several nationally scarce and rare plant species
Richmond Park and associated areas	Metropolitan	0.5km-South	Designated due to the presence of ancient woodland and extensive populations of nationally rare invertebrates, fungi and hole-nesting birds.
North Sheen and Mortlake Cemeteries	Local	0.6km – North-east	Area of semi-natural grassland and woodland habitat designated for populations scarce and rare plant species
Royal Mid-Surrey Golf Course	Borough Grade I	0.7km - West	Large golf course with multiple habitat types used by a range of species group. Adjacent to Kew Gardens.
Pensford Field	Local	0.8km - North	Area of managed semi-natural grasslands with a created pond.
Kew Meadow Path	Borough Grade II	1.2km – North-east	Designated for the populations of rare invertebrates found on the site: two-lipped doorsnail <i>Balea biplicata</i> and stag beetle.
Terrace Field and Terrace Garden	Local	1.3km - South	Area of grassland and meadows with marginally trees. Noted for its views of the River Thames
Twickenham Road Meadow	Local	1.4km - West	Designated for scarce plant species present within the grassland habitats.
River Thames and tidal tributaries	Metropolitan	1.4km – North-east	Designated for wildfowl and waders such as the black red-start. Two rare plant species: <ul style="list-style-type: none"> - Marsh sow-thistle <i>Sonchus palustris</i> - Cut-grass <i>Leersia oryzoides</i>.



Site Name	Designation	Distance and Direction from Site (km - N/S/W/E)	Description/Summary of Reason for Designation
Occupation Lane, Kew Railway Bridge	Borough Grade II	1.6km - North	Habitat of the rare two-lipped doorsnail <i>Balea biplicata</i> only found in a handful of sites in the UK.
Petersham Meadows	Borough Grade II	1.6km - South	Meadow and wet grassland adjacent to Thames River.
Tide Meadow at Syon Park	Metropolitan	1.7km - West	Designated due to the presents of numerous scare plant species i.e. Sea club-rush <i>Bolboschoenus maritimus</i> and nationally rare invertebrates such as the, Thames/two-lipped door snail <i>Balia biplicata</i> .
Syon Park	Borough Grade I	1.8km - West	Area of meadow and woodland with two ponds, several scare plant species found at this site.
Kew Pond and Kew Green	Local	1.9km - North	Designated for rare or scarce plant species present on site.
Marble Hill Park and Orleans House Gardens	Local	1.9km – South-west	Designated for the veteran trees that can be found on site including a huge black walnut tree <i>Juglans nigra</i> .

Table 3.1 – Non-Statutory Protected Sites within 2km of the site.

Habitats and Flora

3.8. The site supports the following habitats:

- Amenity Grassland;
- Buildings and Hardstanding;
- Dense Scrub;
- Introduced Scrub
- Scattered Broad-leaved Trees
- Scattered Scrub;
- Tall Ruderal;

3.9. For ease of reference, habitat types have been described alphabetically, below. All the features described are shown on the 11778_P01 Habitat Features Plan.

Amenity Grassland

3.10. Several small areas of amenity grassland are present in the northern area of the site; along the north section of the eastern boundary, along the northern boundary and at the top of car parking areas (see Habitat Feature Plan 11778_P01). The amenity grassland found throughout the site contains



species typical of this habitat type including perennial rye grass *Lolium perenne*, geranium *Gernium sp.*, common ivy *Hedera helix*, common daisy *Bellis perennis*, dandelion *Taraxacum officinale* and thistle sp *Cirsium sp.* These areas are regularly mown producing a low sward. The amenity grassland is of low species diversity and comprises a heavily managed short sward and as such it is of **negligible ecological importance**.

Buildings and Hardstanding

- 3.11. Areas of hardstanding are present within the site in the form of tarmac roads and carparks in the north and south-west sections of the site (see Habitat Feature Plan 11778_P01), large areas of concrete with large shelving units south of B1, and brick paths (see photograph 3.1). One strip of pavement along the western wall of B1 is broken by emergent vegetation consisting of willow herb *Epilobium hirsutum*, buddleia *Buddleja davidii* and dandelion *Taraxacum officinale*. As hardstanding has no inherent ecological importance and the area in which there was emergent vegetation was so



small, this habitat is of **negligible ecological importance**.

Photograph 3.1: Hardstanding in the west of the sit (view south-west)

- 3.12. One building (B1) was identified during the site visit which is located in the centre of the site. The building is a red brick construction with a tiled pitch roof. The roof has an extended overhang with wooden cladding around the rim. The building is surrounded by hardstanding.
- 3.13. The building with the site is generally in good repair given their active use, and as the buildings offer little to the biodiversity resource to the site they are considered to be of **negligible ecological importance**. The potential of the building to support roosting bats, along with photos of the buildings

that were assessed for their potential to support roosting bats, are provided in Section 3; Fauna.

Dense Scrub

- 3.14. A small area of dense scrub is present in the south-west corner of the site between railway lines, comprising of bramble *Rubus fruticosus agg.*, common nettle *Urtica dioica*, buddleia, dandelion, common ivy and sycamore *Acer pseudoplatanus*. Given its small size, largely native species composition and position within the site, this area of habitat is considered to be of **ecological importance within the context of the site only**.

Introduced Scrub

- 3.15. Several small areas of introduced scrub were identified on the site along the eastern boundary of the site, and small patch surrounded by hardstanding in the car park area. These patches comprised of ornamental non-native species cotoneaster *Cotoneaster horizontalis*, buddleia and native Laurel *Laurus nobilis*. Given their small size and largely composed of non-native species, these habitat areas are considered to be of **negligible ecological importance**.

Scattered Broad-leaved Trees

- 3.16. Within the site there are several planted, young to semi-mature tree species present; along the east boundary surrounded by amenity grassland, within the car park area planted between bays, in an area of introduced scrub to the west of car park and along the east boundary (see Photograph 3.2). The tree species are composed of *Prunus sp.* common lime *Tilia × europaea*, sycamore, and silver birch *Betula pendula*. Due to their age, position within the site and native species composition this area of habitat is considered to be of **ecological importance within the context of the site only**.



Photograph 3.2: Scattered broadleaved trees in the north of the site (view east)



Scattered Scrub

- 3.17. Several small areas of scattered scrub are present throughout the site; on the east site boundary between amenity grassland and introduced scrub and running along the west boundary fence parallel to the railway track a largely composed of cotoneaster with common ivy, nettle, bramble, dandelion, sycamore saplings and ribwort plantain *Plantago lanceolata* (See photograph 3.3). Given the small area present within the site and the largely non-native composition of the habitat, area of habitat is considered to be of **ecological importance within the context of the site only**.



Photograph 3.3: Scattered scrub along the east boundary (view east).

Tall Ruderal

- 3.18. One small patch of tall ruderal vegetation is present on the southern boundary of the site, consisting of elder *Sambucus nigra*, common ivy, bramble, common nettle and cleavers *Galium aparine*. Given the small area present within the site this area of habitat is considered to be of **ecological importance within the context of the site only**.

Target Notes

Target Note 1

- 3.19. Area of bare ground with piles of turf and grass clipping (see Habitat Feature Plan 11778_P01). Potential refugia for reptiles and hedgehogs.

Target Note 2

- 3.20. Woody climbers along western fence boundary, parallel to the railway track (see Habitat Feature Plan 11778_P01). Composed of elder, cotoneaster and common ivy.



Protected and Priority Fauna

Amphibians

- 3.21. Three records of great crested newt *Triturus cristatus* (GCN) were returned within 2km of the site, the most recent of which was recorded in 2017.
- 3.22. A desk study of available aerial photography was conducted finding two ponds within a 500m radius of the site. As both waterbodies are on privately owned land a Habitat Suitability Assessment⁴ could not be conducted on these waterbodies at the time of this report.
- 3.23. Terrestrial habitats at the site are considered to be largely unsuitable for GCN (predominantly hardstanding ground with small areas of amenity grassland, scattered scrub and introduced scrub). The areas of suitable habitat (scrub) are small and exhibit little to no connectivity with the wider landscape.
- 3.24. Due to the lack of suitable terrestrial habitat for GCN, lack of ponds or suitable waterbodies on or adjacent to the site and the presence of numerous land barriers; main roads, fenced gardens, buildings and between the site and the closest ponds, GCN are not considered to be a feature of the site.

Bats

- 3.25. Within 2km of the site, records of Brandt's bat *Myotis brandtii*, brown long-eared bat *Plecotus auratus*, common pipistrelle *Pipistrellus pipistrellus*, Daubenton's bat *Myotis daubentoniid*, lesser noctule *Nyctalus leisleri*, Nathusius' pipistrelle *Pipistrellus nathusii*, Natterer's bat *Myotis nattereri*, noctule bat *Nyctalus noctule*, serotine *Eptesicus serotinus*, soprano pipistrelle *Pipistrellus pygmaeus* and whiskered bat *Myotis mystacinus* were identified. The most recent of these was of a brown long-eared bat in 2017.
- 3.26. The building and trees within the site boundary were assessed for their potential to support roosting bats. The only building found on site; B1 is constructed of red brick with a corrugated clay tile roof. The roof is pitched with an extended overhang from the wall, with a wooden soffit box running around the length of the overhang (See Photograph 3.4).

⁴ Habitat Index Assessment; HIS a quantitatively method of determining a waterbodies suitability to support Great Crested Newts, using a combination of factors.





Photograph 3.4: View of the building from the front, facing north (view east).

- 3.27. There is little cladding on the building itself, aside from the plastic 'Homebase' sign on the western wall, the building is well sealed and in good repair. No entry points or roost features were identified during the PBRA of the building. It is therefore considered to have **negligible potential** for roosting bats.
- 3.28. Bats are known to use railway corridors as commuting routes to and from feeding areas and roosts. While the site is well lit and does not offer suitable foraging habitat for bats, and therefore will only be used opportunistically. The vegetation along the southern boundary could act as a possible commuting corridor for access to site in the wider Borough area.

Badger

- 3.29. Within 2km of the site, 21 records of Badger *Meles meles* were returned the most recent from 2017.
- 3.30. No signs of badgers were identified on the site. The habitats on site are sub-optimal due to the large areas of hardstanding and only small areas of scattered scrub and tall ruderal vegetation. However, the optimal habitat within the wider area such as the railway corridor along the south and west boundaries, allotments and woodland that are much more likely to be used by badgers, making them

less likely to use the sub-optimal habitat found on site. Furthermore, the site is geographically isolated by railways running along the west and south site boundaries and roads to the north and east, making access to and use of the site by badgers unlikely. Therefore, badgers are not considered a feature of the site.

Birds

- 3.31. Records of birds within 2km of the site include species red listed species according to the Birds of Conservation Concern (BoCC) criteria⁵, including redwing *Turdus iliacus*, house sparrow *Passer domesticus*, tree sparrow *Passer montanus*, starling *Sturnus vulgaris*, yellow wagtail *Motacilla flava*.
- 3.32. The site has limited potential to support breeding bird populations with most of the site being large areas of hardstanding. The habitats areas within the site listed above; scattered trees, scattered scrub, introduced scrub and tall ruderal along the west, east and south boundaries have potential to support small populations of common and widespread bird species.
- 3.33. Therefore, any populations of birds utilising the site are considered to be of **site importance only**.

Invertebrates

- 3.34. The data search showed records of several species of invertebrate listed SoPI listed in the NERC Act (2006) as including the Stag Beetle *Lucanus cervus* with 16 records. The stag beetle is a London BAP species and protected under
- 3.35. There is limited suitable habitat with diversity therefore a significant population of rare or notable invertebrate species would not be expected. As such the any invertebrate populations are likely to be of **negligible ecological importance**.

West European Hedgehog

- 3.36. A total of 288 records of West European Hedgehog *Erinaceus europaeus* were identified within 2km of the site, the most recent of which was recorded in 2017.
- 3.37. The hedgehog is listed An SoPI and a priority species under the Richmond Biodiversity Action Plan (BAP).
- 3.38. One area (see habitat plan 11778_P01; Target note 1) of grass piles in the south- west corner of the site could potentially be used by hedgehogs as a hibernaculum during hibernation, however this is the only suitable area within and around the site. Therefore, any population of hedgehogs within the site; if present are likely to be a small population and only of **site importance**.

Reptiles

- 3.39. There are records for grass snake *Natrix natrix* and Viviparous lizard *Zootoca vivipara* within 2km of the site. The most recent of which was of a grass snake in 2012.
- 3.40. Given the large areas of continually used hardstanding and only small pockets of potentially suitable

⁵ The Bird Species of Conservation Concern (BoCC) categorises bird species into the following classifications:

* Red List species are bird species of high conservation concern, such as those whose population or range is rapidly declining, recently or historically, and those of global conservation concern.

* Amber List species are bird species of medium conservation concern, such as those whose population is in moderate decline, rare breeders, internationally important and localised species, and those of unfavourable conservation status in Europe.

* Green List species are bird species in the least critical group of conservation concern, such as those that occur regularly in the UK but do not qualify under any of the above criteria.

habits; marginal vegetation in the south of the site and one area with suitable hibernacula a grass piles in the south-west corner of the site (see habitat plan 11778_P01; Target note 1). Reptiles present on site are likely to be a small population of common species. Therefore, any population on site is deemed to only be of **site importance**. Given that there is more suitable habitat adjacent to the site; allotments and railway corridor along the south and west border, reptiles are less likely to use the less suitable habitats present on site/ Therefore the population present on site is deemed to be likely a small population of common species and are likely to be of **negligible ecological importance**.

Other species

- 3.41. No records of hazel dormouse *Muscardinus avellanarius* were returned from the data search. Hazel dormice are arboreal and generally require a well-connected and diverse habitat structure (Bright *et al.*, 2006), such as that found in deciduous woodland, species-rich hedgerows and scrub. Given that there are no areas of potentially suitable habitat for hazel dormouse, it is considered that hazel dormouse is highly likely to be absent from the site and as such are not considered further within this report.
- 3.42. No records of European otter *Lutra lutra*, water vole *Arvicola amphibius* and white-clawed crayfish *Austropotamobius pallipes* were returned by the data search from within 2km of the site. There is no suitable habitat on site to support these species therefore they are not considered features of the site.

Invasive species

- 3.43. Invasive species are those listed under Schedule 9 of the Wildlife and Countryside Act 1981. With regard to invasive plant species (listed under Part II of Schedule 9), it is an offence to plant or otherwise cause to grow in the wild any plant which is included in Part II of Schedule 9.
- 3.44. One invasive species; Cotoneaster was identified during the PEA of the site. Cotoneaster is an (INNS) Category 2 species; requiring concerted control management and eradication as it is a high impact or presents a concern in the London area.



Section 4: Considerations in Respect of Future Development

Proposed Development

- 4.1. The masterplan for the site is currently evolving and was not available at the time of writing. It will however comprise demolition of the existing buildings and construction of a mixed-use development comprising residential units, retail and office spaces and associated infrastructure and green space.
- 4.2. The potential consequences with respect to development of the site are set out below, with reference to relevant legislation and planning policy, which is summarised in **Appendix 1**.

Protected Sites

- 4.3. Within 10km of the site boundary there are two sites protected under European designation; these are as follows:
 - Richmond Park (SAC, NNR, SSSI), 0.5km south of the site, 846.6Ha in size; and
 - Wimbledon Common (SAC, SSSI), 4.2km south-east of the site, 350Ha in size.
- 4.4. These statutory designated sites are separated from the site by buildings; residential and businesses, roads, hardstanding and areas of green space, and as such no direct impacts are anticipated. Two potential indirect impacts of development on these protected sites have been identified; increase in air pollution and increased recreational pressure.
- 4.5. In terms of potential impacts through increased air pollution, the scheme involves the removal of 150 car parking spaces from the existing site. The masterplan includes for 20 car parking spaces for the mobility impaired, but will otherwise be car free. As such, traffic levels and associated air pollutants resulting from the development of the site are likely to decrease. Potential adverse effects on these sites through a reduction in air quality are therefore considered to be unlikely.
- 4.6. As urban green spaces, both SAC's are managed to accommodate heavy recreational use, as stated the management plans for both sites: a strategy for Wimbledon and Putney Common (2017) and Richmond Park Management Plan (2014). In addition, both sites are primarily designated for supporting populations of stag beetles, which require dead wood to subsist on a site which is largely unaffected by recreational pressure. Wimbledon Common is also designated for supporting several areas of heathland habitats which can be affected by recreational use. However, as Wimbledon common is 4.4km away from the site and it is managed to accommodate recreational use, adverse effects are considered unlikely.
- 4.7. Within 2km of the site boundary there are two sites of national designation they are as follows;
 - Svon Park (SSSI), 1.7km north-west of the site, 21.5Ha in size; and
 - Isleworth Ait (SSSI), 2km west of the site, 3.46Ha in size.
- 4.8. These sites are not directly adjacent to the site boundary and geographically isolated by buildings, greenspace, hardstanding and roads. Therefore, the proposed development is not considered to have any direct or indirect impacts on the site and no specific mitigation is required.



- 4.9. Within 2km of the site boundary there are 16 non-statutory sites as discussed in **Section 3**;
- 4.10. None of the non-statutory sites border the site, the closest of which; Kew Botanic Gardens is 0.5km north-west of the site boundary therefore it is highly unlikely that any direct impacts on any of the sites will occur. Indirect increased recreation pressure upon the sites can be mitigated by the incorporation of multi-functional green space within the site boundary, furthermore several of the sites close to the site boundary are already managed for recreational purposes and are readily publicly accessible, therefore it is highly unlikely any indirect effects will occur.

Habitats and Flora

- 4.11. As per the A3004 Manor Road GLA per-app document 1, it is likely that all existing habitats on site will be lost to the development. However, all habitats identified are of negligible or site ecological importance only, therefore the legislation is not triggered, and no specific mitigation is required. Consideration should be given to retaining and enhancing the boundary trees and scrub within the development if possible.
- 4.12. In addition, in line with the NPPF and the Borough of Richmond Local Plan there is a significant opportunity for biodiversity gain on the site, though the inclusion of new opportunities for specific species groups and the planting of native flora.

Invasive flora

- 4.13. The site contains one species of invasive non-native plant, Cotoneaster which is designated by the INNS as Category 2, this may require an invasive species specialist to be properly removed from the site to avoid spreading the species during site clearance.

Fauna

Birds

- 4.14. In England and Wales, birds and their nest are protected under the Wildlife and Countryside Act (1981) (as amended).
- 4.15. The site has the potential to support nesting and foraging birds within the scattered trees, tall ruderal vegetation present on site. As such any vegetation clearance occurring during breeding bird season between (March - August); a pre-works check of the proposed removed vegetation should be undertaken by an Ecological Clerk of Works (ECoW) to determine if any nesting birds are present. Should any active nests be discovered contain either eggs or chicks the nest must be retained and buffered until an ECoW has confirmed the chick have fledged.
- 4.16. Furthermore, the habitat on site provides an opportunity for a biodiversity gain by improving the habitats suitable for breeding birds; scattered scrub, scattered trees and tall ruderal. Bird boxes along tree lines could be provided to encourage species to the site and providing a net biodiversity gain.

Bats

- 4.17. In England and Wales, bats and their roost are fully protected under the Wildlife and Countryside Act (1981) (as amended).
- 4.18. While the site has limited potential to support roosting bats it may be used by commuting and opportunistic foraging bats. While the habitats present on site itself are not suitable for foraging bats,



the railway corridor along the west and south of the site boundary provides opportunity for commuting bats. Lighting at the site during the construction and operation phases of the development should be sympathetic to bats that may be utilising the trees boundaries of the site for commuting and foraging activity. Any lighting for the proposed development should be designed to minimise disturbance to bats (e.g. through the use of timers, provision of low-level bollard lighting, use of hoods or cowls on lights, and provision of warm-white LED lighting – Collins, 2016; Institute of Lighting Professionals and BCT, 2018).

West European Hedgehog

- 4.19. In England and Wales, hedgehogs are listed as a SoPI under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.
- 4.20. As the site has potential habitat to support hedgehogs and there are a large number of records from within 2km any potential habitat that might be used by hedgehogs should be retained where possible. However, if suitable habitat is removed it should be done so outside of the hibernation period (October to April). If removal is necessary within this period, a hand search should be undertaken by an ECoW before works take place. Should any hedgehogs be found during habitat removal or construction they should be removed by and from the site and place in suitable similar habitat to where they were found.
- 4.21. Within the area of the site habitats identified as suitable for hedgehogs should be retained and enhanced with native and local stock of plant species where possible. In regards, to hedgehogs the site can be enhanced to benefit them, by improving the scattered scrub and tall ruderal habitats. Features could also be provided to enhancing and improve hedgehog use of the site, the inclusion of a hedgehog highways; small holes in the site boundary fencing that would all for connectivity of on-site habitats to the wider landscape and hedgehog boxes, would do this.

Ecological Design Principles and Enhancement Opportunities

- 4.22. The National Planning Policy Framework (NPPF) encourages development to provide net gains in biodiversity where possible. Therefore, an effort should be made, through the development design, to provide ecological enhancement to deliver an overall increase in biodiversity of the site and opportunities to incorporate biodiversity in and around developments should be encouraged. This would also be in-line with the Policy LP 15 (Biodiversity) within the Local plan and Richmond BAP.
- 4.23. Considering the relevant policies, as summarised above, there is the opportunity to enhance the biodiversity of the site by adopting design principles informed by conservation strategies, notable the Biodiversity 2020: A strategy for England's wildlife and ecosystem services (hereafter referred to as Biodiversity 2020) and the NPPF. Such opportunities include:
 - Creation of green infrastructure within the development, which can be multi-functional, delivering biodiversity, and drainage benefits. This can include retained and newly created habitats, such as those listed below;
 - Sensitive lighting along south and west rail corridors to avoid disturbance of commuting bats along the south and west site boundaries;
 - Planting of native flora in retained or newly created habitats; including scattered scrub and trees, tall ruderal and marginal vegetation, particularly planting of native trees along rail corridors to the south and west of the site. Thus, providing new opportunities for fauna;
 - Green Infrastructure; Inclusion of brown; sedum roofs and terrace gardens as per A3004 Manor Road GLA per-app document 1, to increase areas of accessible green space and provide a net



biodiversity gain on site;

- Placement of bug hotels within terrace gardens, sedum roofs and newly created habitats across the site to encourage insects to the site;
- Integration of a hedgehog highway and boxes into suitable pre-existing or newly created habitat to facilitate and encourage hedgehog use of the site, and;
- Addition of bird and bat boxes across the site to improve nesting roosting opportunities; Swift boxes on high-rise buildings, bird boxes on lower buildings and on newly planted or retained buildings and box boxes on south facing walls of buildings facing the potential bat corridor on along the southern boundary of the site.

Further work

4.24. Although no further surveys are required to inform further planning applications, as is detailed by ODPM Circular 06/05 and BS 42020:2013 'Biodiversity – Code of practice for planning and development', it will be necessary to undertake precautionary checks to confirm whether legally protected and/or priority species would be affected by proposed development of the site. These surveys are summarised below.

- **Nesting Birds (pre-works check):** If building demolition or vegetation/tree removal is to occur between March-August, a pre-works check by an ECoW should be undertaken to determine whether active birds' nests are present. If nest(s) are present, no nests, eggs or young should be destroyed and an appropriate buffer must be instated until the chicks have been confirmed as fledged by an ECoW.
- **Hedgehogs (pre-works check):** If vegetation removal occurs on the site, a pre-works check by an ECoW should be undertaken to determine if any hedgehog are active on the site. If found, they will be removed by hand to a predetermined off-site location with similar and suitable habitat to that in which they were found.



Section 5: Conclusions

- 5.1. No ecological issues that could affect the principle of development of the site have been identified. Those important ecological features that exist, or could exist, at the site could be accommodated by the adoption of relatively simple design principles. The potential to improve the biodiversity of the site also exists, and recommendations are made that should contribute to local BAP targets.
- 5.2. In conclusion, there is every reason to suspect that future development of the site would accord with relevant planning policy that seeks to protect and enhance ecological features.



Reference

- Baillie, S.R., Crick, H.Q.P., Balmer, D.E., Beaven, L.P., Downie, I.S., Freeman, S.N., Leech, D.I., Marchant, J.H., Noble, D.G., Raven, M.J., Simpkin, A.P., Thewlis, R.M. and Wernham, C.V. (2002). *Breeding Birds in the Wider Countryside: their conservation status 2001*. BTO Research Report No. 278. BTO, Thetford.
- Bright, P., Morris, P. and Mitchell-Jones, A. (2006). *The Dormouse Conservation Handbook. Second Edition*. English Nature, Peterborough.
- Chartered Institute of Ecology and Environmental Management (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland, 2nd Edition*. <http://www.cieem.net/ecia-guidelines-terrestrial->. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition*. The Bat Conservation Trust, London.
- Institute of Lighting Professionals and Bat Conservation Trust (2018) *Guidance Note 08/18: Bats and artificial lighting in the UK; Bats and the Built Environment series*. ILP, Rugby, Warwickshire
- Cresswell, P., Harris, S. & Jefferies, D.J. (1990). *The history, distribution, status and habitat requirements of the badger in Britain*. Nature Conservancy Council, Peterborough.
- English Nature (2001). *Great crested newt mitigation guidelines*. English Nature, Peterborough.
- English Nature (2002) *Badgers and development*. English Nature, Peterborough
- English Nature (2004). *Reptiles: Guidelines for Developers*. English Nature, Peterborough.
- Gibbons, D.W., Reid, J.B. and Chapman, R.A. (1993). *The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991*. Poyser.
- Highways Agency (2013). *Design Manual for Road Bridges*. <http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/index.htm>. Highways Agency, Guildford
- Joint Nature Conservation Committee (2010). *Handbook for Phase 1 habitat survey - a technique for environmental audit*. JNCC, Peterborough.
- Langton, T., Beckett, C. And Foster, J. (2001) *Great Crested Newt Conservation Handbook*. Froglife, Halesworth.
- LUC. (2016). *London Borough of Richmond upon Thames Publication Local Plan Habitats Regulations Asset Report*. https://www.richmond.gov.uk/media/13322/local_plan_publication_habitats_regulations_assessment_report_2016.pdf. LUC, London.



Appendix 1: Legislation and Planning Policy



Appendix 1: Legislation and Planning Policy

Legislative Context

- A1.1. Specific habitats and species receive legal protection in the UK under various pieces of legislation, including:
- The Wildlife and Countryside Act (WCA) 1981 (as amended);
 - The Conservation of Habitats and Species Regulations 2010 (as amended);
 - The Countryside and Rights of Way (CRoW) Act 2000;
 - The Hedgerows Regulations 1997;
 - The Protection of Badgers Act 1992;
 - The Natural Environment and Rural Communities Act (NERC) 2006; and
 - The Wild Mammals (Protection) Act 1996.
- A1.2. The European Council Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, 1992, often referred to as the 'Habitats Directive', provides for the protection of key habitats and species considered of European importance. Annexes II and IV of the Directive list all species considered of community interest. The legal framework to protect the species covered by the Habitats Directive has been enacted under UK law through The Conservation of Habitats and Species Regulations 2010 (as amended).
- A1.3. In Britain, the WCA 1981 (as amended) is the primary legislation protecting habitats and species. SSSIs, representing the best examples of our natural heritage, are notified under the WCA 1981 (as amended) by reason of their flora, fauna, geology or other features. All breeding birds, their nests, eggs and young are protected under the Act, which makes it illegal to knowingly destroy or disturb the nest site during nesting season. Schedules 1, 5 and 8 afford protection to individual birds, other animals and plants.
- A1.4. The CRoW Act 2000 strengthens the species enforcement provisions of the WCA 1981 (as amended) and makes it an offence to 'recklessly' disturb a protected animal whilst it is using a place of rest or shelter or breeding/nest site.

Species and Habitats of Principal Importance and the UK Biodiversity Action Plan

- A1.5. The UK Post-2010 Biodiversity Framework succeeded the UK BAP partnership in 2011 and covers the period 2011 to 2020. However, the lists of Priority Species and Habitats agreed under the UKBAP still form the basis of much biodiversity work in the UK. The current strategy for England is 'Biodiversity 2020: A Strategy for England's wildlife and ecosystem services' published under the UK Post-2010 UK Biodiversity Framework. Although the UK BAP has been succeeded, Species Action Plans (SAPs) developed for the UK BAP remain valuable resources for background information on priority species under the UK Post-2010 Biodiversity Framework.
- A1.6. Priority Species and Habitats identified under the UKBAP are also referred to as Species and Habitats of Principal Importance (SoPI/HoPI) for the conservation of biodiversity in England and Wales within Sections 41 (England) and 42 (Wales) of the Natural Environment and Rural



Communities (NERC) Act 2006. The commitment to preserving, restoring or enhancing biodiversity is further emphasised for England and Wales in Section 40 of the NERC Act 2006.

National Planning Policy

National Planning Policy Framework (NPPF), July 2018

- A1.7. The National Planning Policy Framework (NPPF) was published in July 2018 and sets out the Government's planning policies for England and how these should be applied. It replaces the first National Planning Policy Framework published in March 2012.
- A1.8. Paragraph 11 states that:
- “Plans and decisions should apply a presumption in favour of sustainable development.”*
- A1.9. Section 15 of the NPPF (paragraphs 170 to 177) considers the conservation and enhancement of the natural environment.
- A1.10. Paragraph 170 states that planning and decisions should contribute to and enhance the natural and local environment by:
- a) *“protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
 - b) *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; and*
 - d) *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures”*
- A1.11. Paragraph 171 states that plans should distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.
- A1.12. Paragraph 174 states that in order to protect and enhance biodiversity and geodiversity, plans should:
- a) *“Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*
 - b) *promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”*
- A1.13. When determining planning applications, Paragraph 175 states that local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:
- a) *“if significant harm to biodiversity 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;*
 - b) *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*



- c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁵⁸ and a suitable compensation strategy exists; and*
- d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.”*

A1.14. As stated in paragraph 176 the following should be given the same protection as habitats sites:

- a) *“potential Special Protection Areas and possible Special Areas of Conservation;*
- b) *listed or proposed Ramsar sites; and*
- c) *sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.”*

A1.15. Paragraph 177 states that the presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site is being planned or determined.

Office of the Deputy Prime Minister (ODPM) Circular 06/2005: Biodiversity and Geological Conservation - Statutory Obligations and their Impact within the Planning System

A1.16. ODPM Circular 06/05 was prepared to accompany PPS9, however continues to be valid, and material in the consideration of planning applications since PPS9's replacement by the NPPF.

A1.17. ODPM Circular 06/05 provides guidance on applying legislation in relation to nature conservation and planning in England. Part I considers the legal protection and conservation of internationally designated sites (namely candidate Special Areas of Conservation (cSACs), SACs, potential Special Protection Areas (pSPAs), SPAs and Ramsar sites) and Part II considers the legal protection and conservation of nationally designated sites, namely Sites of Special Scientific Interest (SSSIs).

A1.18. Part III considers the protection of habitats and species outside of designated areas (particularly UK Biodiversity Action Plan species and habitats, which it states are capable of being a material consideration in the preparation of local development documents and the making of planning decisions.

A1.19. Part IV considers species protected by law and states that the presence of a protected species is a material consideration in the consideration of a development proposal that, if carried out, would be likely to result in harm to the species or its habitat and that it is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted.

Biodiversity Actions Plans

A1.20. The UK Post-2010 Biodiversity Framework succeeded the UK BAP partnership in 2011 and covers the period 2011 to 2020. However, the lists of Priority Species agreed under the UK BAP still form the basis of much biodiversity work in the UK. The current strategy for England is 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services' published under the UK Post-2010 UK Biodiversity Framework. Although the UK BAP has been superseded, Species Action Plans (SAPs) and Habitat Action Plans (HAPs) developed for the UK BAP remain valuable resources for background information on priority species under the UK Post-2010 Biodiversity Framework.

A1.21. Most areas now possess a Local BAP (LBAP) to complement the national strategy where priority habitats and species are identified, and targets set for their conservation. BAP's are the key nature conservation initiative in the UK, working at national, regional and local levels.



A1.22. The London Borough of Richmond Upon Thames Biodiversity Action Plan was updated and re-launched in 2017. It was prepared through the Richmond Biodiversity Partnership and sets out conservation targets and contains action plans for various priority habitats and species in Richmond Borough area.



Plans

Habitat Features Plan
11778_P01





- Site Boundary
- B1 Building
- Hardstanding
- Bare Ground
- A Amenity Grassland
- Tall Ruderal
- Dense Scrub
- Introduced Scrub
- Scattered Broad Leaved Trees
- Scattered Scrub
- Intact Species - Poor Hedge
- Wall
- Fence
- Target Note



Project Homebase North Sheen
 Drawing Title **Habitat Features Plan**
 Scale NTS
 Drawing No. 11778/P01
 Date September 2018
 Checked LB/CC



Trident House, 46 Webber Street, London, SE1 8QW
 T: 0207 620 2710 E: info@tylergrange.co.uk W: www.tylergrange.co.uk

Contact Details

Enquiries

Patrick Duffy
020 7911 2678
Patrick.Duffy@gva.co.uk

Visit us online

gva.co.uk

GVA

65 Gresham Street, London EC2V 7NQ
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