COTTEE Transport Planning

Fir Lodge
Threshelfords Business Park
Feering
Essex
CO5 9SE

Tel : 01376 573400
Fax : 01376 573480
email : info@cottee-tp.co.uk
www.cotteetransportplanning.co.uk

1 – 9 SANDYCOMBE ROAD RICHMOND

LONDON BOROUGH OF RICHMOND UPON THAMES

PROPOSED MIXED-USE DEVELOPMENT

TRANSPORT ASSESSMENT

14129/GJK

November 2016

Proprietor: COTTEE Highway & Transportation Consultants Ltd
Registered Address: 53 Victoria Road, Colchester, Essex CO3 3NU
Registered in England 3439700 VAT Registration No. 700 1478 80

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Status	Author	Date	Check	Date	Authorised	Date
Final	FPEC	22.11.2016	GJK	22.11.2016	GJK	22.11.2016

1. INTRODUCTION

1.1 COTTEE Transport Planning are instructed by Goldcrest Land Plc to prepare a Transport Assessment (TA) to accompany a planning application for a development including ground floor B1 space (**535 sqm**) and **20 residential units** over four floors on land at 1 – 9 Sandycombe Road, Richmond that currently consists of vacant retail and commercial space.

1.2 This report examines the existing transport network and reviews the transport impacts of the proposed development.

1.3 Parking surveys have been undertaken within the vicinity of the site in March 2015 when the site was fully occupied, and repeated in November 2015 once the site had been vacated to establish levels of existing on-street parking. Additional parking surveys were undertaken in March 2016 following discussion with the London Borough of Richmond (LBR), the results of these were agreed with the Council.

1.4 A planning application for this site was previously submitted in December 2015 under application reference 15/5376/FUL which included ground floor B1 office space (535 sqm) and 20 residential units. This was refused partly due to scale, mass, and height of the application. COTTEE Transport Planning provided specialist reports and surveys, all undertaken using the methodology deemed appropriate by LBR, and there was no reason for refusal in terms of parking or transport.

1.5 This TA accompanies a new application with visual design amendments. The number of residential units, level of proposed B1 space, car and cycle parking remains unchanged.

2. THE SITE AND EXISTING TRANSPORT NETWORK

The Site

2.1 The site is located in a mixed residential and commercial area in North Sheen, London Borough of Richmond upon Thames (LBR) to the north east of Richmond. It is on the eastern side of Sandycombe Road (B353) and is bound by Lower Richmond Road (A316) to the south, railway lines to the east and residential premises and commercial properties to the west and north respectively.

2.2 The site has vehicular access from Sandycombe Road at the north west corner of the site. The road markings along the site frontage from the north towards the south comprise of:

- Short length of single yellow;
- Double yellow;
- Bus cage;
- Double yellow; and
- Double red.

2.3 A site location plan is included at **Appendix A** and a site context plan at **Appendix B**.

Local Road Network

2.4 Sandycombe Road is street lit and is a north – south road providing access to Kew, the South Circular Road and the M4 Motorway around 3km to the north. However the majority of traffic travelling north – south from the M4 to Richmond will use the parallel Kew Road (A307) to the west of Sandycombe Road.

2.5 The results of an Automatic Traffic Count (ATC) survey undertaken in November 2015 indicates around 7,000 vehicles per day use Sandycombe Road, with 85th percentile speeds around 30mph.

2.6 At the southern end of the site, Sandycombe Road (B353) forms a roundabout junction with Lower Richmond Road (A316), Lower Mortlake Road (A316) and Manor Road (B353). There is a BP Petrol Filling Station accessed from the roundabout, and a large Sainsbury's superstore to the south east accessed from Manor Road and Lower Richmond Road.

2.7 The A316 is an east – west red route which is a main dual-carriageway arterial road for South West London providing connections with the M3 and M25 motorways to the south west and central London to the north east.

2.8 In the immediate vicinity of the site, all roads are subject to 30mph speed restrictions. Sandycombe Road has traffic calming measures in the form of enforcement cameras and raised table priority junctions with side roads, and is mainly fronted by residential properties.

Parking

2.9 The site is located within the LBR South Kew **(KB)** Controlled Parking Zone (CPZ) where parking restrictions are in operation between the hours of 1000 – 1200 Monday – Friday. The hours of operation suggest that the CPZ is in place to prevent commuter parking associated with rail stations in the vicinity of the site.

2.10 To the north, Sandycombe Road is within LBR Kew Ward **(KA)** CPZ where parking restrictions are the same as CPZ KB. To the west of the site, Raleigh Road and Windham Road form the north east boundary of LBR CPZ North East Richmond **(N)** where parking restrictions are in operation between the hours of 1000 – 1630 Monday – Saturday.

2.11 Loading at the site frontage on Sandycombe Road is permitted on the double yellow lines behind the bus cage for a maximum of 40 minutes.

Public Transport

2.12 There are 9 regular bus services in the vicinity of the site providing up to 64 bus services per hour Monday – Friday and 1 night service, namely:

SERVICES	ROUTE	FREQUENCY		
		Mon – Fri	Sat	Sun
190	George Street (Richmond) – West Brompton Station	15 mins	15 mins	20 mins
371	Kingston Hall Road (Kingston) – Manor Road (Richmond)	6 - 10 mins	8 - 12 mins	20 mins
391	George Street (Richmond) – Sands End	10-13 mins	10-12 mins	12-14 mins
419	George Street (Richmond) – Hammersmith Bus Station	15 mins	15 mins	30 mins
493	Manor Road (Richmond) – St George's Hospital	10-13 mins	11-12 mins	20 mins
H22	Manor Road (Richmond) – The Bell (Hounslow)	10-14 mins	10-13 mins	20 mins
H37	Manor Road (Richmond) – Hounslow	4-7 mins	5-8 mins	6-10 mins
R68	Kew Retail Park – Hampton Court Station	15 mins	15 mins	15 mins
R70	Manor Road (Richmond) – Nurserylands Shopping Centre	8-11 mins	9-11 mins	15 mins
N22	South Road (Twickenham) – Piccadilly Circus	30 mins	20 mins	30 mins

2.13 The nearest southbound bus stop is on Sandycombe Road immediately adjacent to the site, and the nearest northbound bus stop is around 30m to the north of the site on the opposite side of the road. Bus service (391) operates from these stops, whilst the majority of services use bus stops on Lower Mortlake Road within a 3 minute walk to the south west of the site. The bus services in the Richmond area are illustrated on the plan at **Appendix C**.

2.14 North Sheen rail station is within a 490m (6 minute) walk to the south of the site. The station is on the South West Trains network and provides services to London Waterloo and the south west with over 10 trains an hour available.

2.15 In addition, around a 970m (12 minute) walk to the north of the site is Kew Gardens rail station which is served by the London Underground District line and London Overground networks providing around 20 trains per hour Monday – Friday.

2.16 The TfL webptal service indicates the site has a Public Transport Accessibility Level (PTAL) 4, however as shown on the PTAL report at **Appendix D** the south of the site is on the boundary of a PTAL 5. This denotes that the site has good / very good public transport accessibility.

Pedestrian and Cycle Routes

2.17 There is currently a pedestrian access point at the north-west corner of the site. Sandycombe Road has a good standard of footways on both sides of the road with a zebra crossing facility on Sandycombe Road to the south of the site.

2.18 The Sandycombe Road junctions with Raleigh Road and Gainsborough Road opposite and to the north of the site have raised tables and tactile paving crossing points with an altered surface material providing good pedestrian crossing facilities particularly for the mobility / visibility impaired.

2.19 To the south of the site, there are zebra crossing facilities on all arms of the Sandycombe Road / Lower Richmond Road (A316) / Lower Mortlake Road (A316) and Manor Road (B353) roundabout junction providing access to the Sainsbury's superstore and North Sheen rail station to the south of the site.

2.20 Lower Mortlake Road / Lower Richmond Road (A316) is identified as a signed off-road cycle route within the London Cycle Guide (LCG) and provides access to Chiswick across the River Thames to the east and Richmond to the west. This cycle route also provides access to further signed and quiet routes recommended for cyclists. The wider cycle network is shown on the plan attached at **Appendix E**.

Car Club Spaces

2.21 There are 6 car club locations within a 10 minute walk distance of the site, providing access to 6 vehicles, and there are a further 7 vehicles located within a 15 minute walk of the site. The nearest vehicle is located around 30m to the north west of the site on Gainsborough Road and is operated by Zipcar London. There are three vehicles located within a 5 minute walk of the site on Lower Richmond Road and adjacent to North Sheen station. Additional vehicles are also available to hire in the area through the operator Hiya Car. A car club vehicle location plan is included at **Appendix F**.

2.22 Zipcar have been contacted to provide occupancy information for the vehicle opposite the site on Gainsborough Road and the correspondence included at **Appendix G** shows that the vehicle has sufficient capacity for new residents to utilise the car.

Parking Surveys

2.23 On-street parking surveys were undertaken on roads in the vicinity of the site in March 2015 whilst the site was fully occupied. The survey area plan is attached at **Appendix H** and the following maximum parking stress was observed:

- Sandycombe Road **72%** (2100 Thurs) 9 available spaces
- Raleigh Road **76%** (0030 – 0530 Weds) 16 available spaces
- Gainsborough Road **54%** (1300 Thurs) 25 available spaces
- Windham Road **80%** (1700 Thurs) 4 available spaces
- Temple Road **69%** (0030 – 0530 Weds) 15 available spaces
- North Road **61%** (0030 – 0530 Thurs) 25 available spaces

2.24 A parking stress of above 90% is considered to be at capacity. The results above show that in March 2015 all streets in the vicinity of the site operated well below 90% occupancy.

2.25 The surveys were repeated over two days in November 2015 once the site was vacant. The following maximum parking stress was observed:

- Sandycombe Road **75%** (0300 Weds) 8 available spaces
- Raleigh Road **79%** (0700 Thurs) 14 available spaces
- Gainsborough Road **58%** (2100 Thurs) 23 available spaces
- Windham Road **89%** (0800 Weds) 2 available spaces
- Temple Road **52%** (0700 & 2100 Thurs) 23 available spaces
- North Road **37%** (0800 & 1300 Weds) 43 available spaces

2.26 The results above show again that in November 2015 most streets in the vicinity of the site operated well below 90% occupancy.

2.27 The November 2015 results show the following average parking stress across the study area:

- Overnight (0300 / 0500) **55%** (Weds and Thurs combined) **140 available spaces**
- Daily (0700-2100) **48%** (Weds and Thurs combined) **161 available spaces**

2.28 There is no on-street parking available in the vicinity of the site on Lower Richmond Road, Lower Mortlake Road or Manor Road.

2.29 Following discussion with LBR, further overnight on – street parking surveys were undertaken in March 2016 under specific LBR survey specifications. The agreed parking survey area differed

slightly from the previous surveys and is attached at **Appendix H.** The number of parking spaces and kerb lengths identified in this survey also differ from the previous surveys due to the changes to the survey area and survey specifications. The results have been separated into three areas and the following maximum parking stress was observed:

- CPZ N (Raleigh Road / Windham Road) **74%** (0300 Thurs) 23 available spaces
- CPZ KB (Gainsborough Road / Temple Road / Sandycombe Road)

  81% (0500 Weds) 22 available spaces
- CPZ KB (North Road) **74%** (0500 Weds) 14 available spaces

2.30 The survey area as a whole operated with spare overnight capacity with maximum parking stresses observed as the following:

- **77%** (0500 Weds) 60 available spaces
- **76%** (0300 Thurs) 62 available spaces
- **70%** (0430 Sun) 76 available spaces

2.31 It is therefore demonstrated that the area surveyed operated at well below 90% capacity.

2.32 Observations of the site suggest that some southbound queues form from the roundabout junction to the site access for short periods of time during the AM and PM peak periods. However, for the majority of the day Sandycombe Road is generally free-flowing.

2.33 Although the 391 bus service operates every 10 - 13 minutes on Sandycombe Road, observations show that during the AM and PM peak periods the stop at the site frontage is only used by around 1 – 4 buses per hour. Furthermore, the buses stop for very short periods of time whilst passengers board or exit the bus.

Highway Improvements

2.34 Following a public consultation in May 2015 a series of traffic calming measures and streetscape improvements are due to be introduced on Sandycombe Road. These include a raised table crossing adjacent to the proposed site, immediately north of the bus stop, between Raleigh Road and Gainsborough Road. This is intended to slow vehicles accelerating away from the Sandycombe Road (B353) / Lower Richmond Road (A316) / Lower Mortlake Road (A316) / Manor Road (B353) roundabout junction.

2.35 Although these improvements have been approved, a timescale has not yet been arranged for the works.

3. DEVELOPMENT PROPOSALS

3.1 The proposed development consists of **20 residential units** and **535 sqm of ground floor B1 use**. The proposed site layout is attached at **Appendix I**.

3.2 The 20 residential units will consist of:

- Studio / One bedroom - **9 units**
- Two bedroom - **7 units**
- Three bedroom - **4 units**

3.3 The proposed development will provide **15 car parking spaces** on site, including 2 disabled spaces. These will be provided at the northern end of the site, with 7 spaces provided against the northern boundary and 8 spaces provided opposite using four double height vehicle stackers (pit style) under the soffit of the first floor.

3.4 A van bay is also provided at the north east corner of the site with a turning area provided opposite to allow large transit van style vehicles to service the site off-street.

3.5 The proposed development will provide **46 cycle parking spaces** for the residential and B1 use, located at the southern end of the site and a further **4 visitor cycle parking spaces** will be provided to the south of the vehicle access from Sandycombe Road.

4. DEVELOPMENT IMPACTS

4.1 In order to understand the impact of the development, the number of people movements during peak times and through the day has been assessed based on surveys of existing similar sites, and the proposed mode of travel has been derived from the latest Census data.

Mode of Travel - Residential

4.2 The Trip Rate Information Computer System (TRICS) database includes details of multi-modal surveys of residential (flats) sites in London and provides an indication of the number of trips associated with the residential use.

4.3 The TRICS output is attached at **Appendix J** and indicates the following total person trips per unit:

Time Period	Arrivals	Departures	Total
0800 – 0900	0.154	0.654	0.808
1700 – 1800	0.346	0.186	0.532
0700 - 1900	2.628	3.037	5.665

4.4 For 20 residential units the total number of person trips will be:

Time Period	Arrivals	Departures	Total
0800 – 0900	3	12	16
1700 – 1800	7	4	11
0700 - 1900	53	61	114

4.5 The mode of travel of a particular site is best represented using information from the 2011 Census regarding "Travel to Work". Details from the Output Area relating to the site are included at **Appendix K** and a summary of the information is set out below:

- Walk **5%**
- Cycle **7%**
- Motorcycle **3%**
- Bus **7%**
- Rail / Underground **39%**
- Car **37%**
- Other **2%**

4.6 The current level of car ownership is slightly lower than the Borough average with 29% of households having no car or van (**Appendix K**) compared with the whole of Richmond upon Thames (25% no car). This indicates that households in the area around the site already take advantage of the high standard of public transport services available.

4.7 Given that the development is well located to public transport and cycle links, the proportion using a car to travel will be lower than the Census information would suggest. The provision of cycle parking on-site will also encourage cycling, while the availability of good public transport facilities in the vicinity will encourage bus and rail travel. Furthermore, the development will implement a Travel Plan to encourage sustainable travel and there are several car club vehicles in the vicinity of the site which will minimise the need to own a car in this location.

4.8 Accordingly, the mode of travel proportions have been adjusted to provide a site specific modal split as follows:

- Walk **5%**
- Cycle **10%**
- Motorcycle **3%**
- Bus **11%**
- Rail / Underground **44%**
- Car **25%**
- Other **2%**

4.9 If residents require use of a car there are 6 car club locations within a 10 minute walk distance of the site, and a further 7 vehicles located within a 15 minute walk of the site.

4.10 Using the modal split data from the Census enables values for person trips by travel mode from the residential aspect of the development to be calculated.

4.11 The total person trips by various modes are as follows:

Mode	**0800 – 0900 Hours**	**1700 – 1800 Hours**	**0700 – 1900 Hours**
Walk	1	1	6
Cycle	2	1	11
Motorcycle	0	0	3
Bus	2	1	13
Rail / Underground	7	5	50
Car	4	3	29
Other	0	0	2
Total	**16**	**11**	**114**

4.12 As a result of the trip generation analysis undertaken above, it is anticipated that vehicle movements associated with the proposals will be low, with a high proportion of trips undertaken using sustainable modes, primarily cycling, bus, and rail / underground services. The impact of the proposals will therefore not be severe.

4.13 There will be a low level of vehicle movements during the peak hours.

4.14 Furthermore, implementation of a Travel Plan will encourage a shift in mode of travel which could result in a higher proportion of people using sustainable modes to access the site.

Mode of Travel – B1 Use

4.15 For the B1 space of up to 535sqm gfa it is anticipated that there will be a very low number of vehicle movements due to the location of the site, and there will be a very high proportion of sustainable trips.

4.16 As a result of the trip generation analysis undertaken above, it is anticipated that vehicle movements associated with the proposals will be negligible, with a high proportion of trips undertaken using sustainable modes, primarily Bus, Rail and Underground (Overground line) services. The impact of the proposals will therefore not be severe.

Existing Use

4.17 It should also be noted that the existing site generated a considerable number of vehicle movements with provision of more than 20 parking spaces which were associated with the commercial use.

Pedestrian and Cycle Movement

4.18 The site is well located for pedestrian and cycle access and Census data indicates that walking and cycling is a popular mode of travel to work (15%) in the area.

4.19 There are good pedestrian footways in the vicinity of the site. To the south there are zebra crossing facilities on all arms of the Sandycombe Road / Lower Richmond Road (A316) / Lower Mortlake Road (A316) and Manor Road (B353) roundabout junction providing access to the Sainsbury's superstore and North Sheen rail station.

4.20 Cycle parking standards are outlined within Appendix 4 of the London Borough of Richmond upon Thames Development Management Plan (DMP) Adopted November 2011; and indicate the following minimum cycle parking is required:

- 1 space per residential unit; and
- 1 space per 200 sqm for B1 use.

4.21 For the proposed development a minimum of 22 cycle parking spaces are required. The site will provide a total of 50 cycle parking spaces. The proposed cycle parking is in excess of London Borough of Richmond upon Thames standards and meets standards outlined within the London Plan March 2016 to encourage cycle use.

Public Transport

4.22 There are 9 regular bus services in the vicinity of the site providing up to 64 bus services per hour Monday – Friday. All services can be accessed from bus stops within a 3 minute walk of the site.

4.23 Within a 12 minute walk of the site there are two rail stations (North Sheen and Kew Gardens) which are served by South West Trains, London Underground District Line and the London Overground network providing access to around 30 trains per hour Monday – Friday.

4.24 The range of public transport services available will mean bus, rail and underground travel will be popular options for residents of the new development. The mode of travel analysis suggests 9 residents will use bus, rail and underground services in the morning peak hour. When this is spread across the high availability of services in each direction the impact is insignificant.

Parking

4.25 The proposed development will provide **15 car parking spaces** on site, including 2 disabled spaces. These will be provided at the northern end of the site, with 7 spaces provided against the northern boundary and 8 spaces provided opposite using four double height vehicle stackers (pit style) under the soffit of the first floor.

4.26 Census data indicates car ownership is lower compared to other parts of LBR and given the good public transport accessibility of the site (PTAL 4/5) residents will make use of the public transport services available in the vicinity of the site.

4.27 Car parking standards are outlined within Appendix 4 of the London Borough of Richmond upon Thames Development Management Plan (DMP) Adopted November 2011; and indicate the following parking standards:

- 1 space per 1-2 bedroom unit (required);
- 1.5 spaces per 3 bedroom unit (required); and
- 1 space per 300 sqm of B1 use (maximum).

4.28 Therefore, 22 car parking spaces are required for the residential development, and a maximum of 2 spaces are required for the proposed B1 use.

4.29 Appendix 4 also states:

> **"In CPZs occupiers of new residential developments may not be eligible for on street parking permits where existing levels of on street parking are very high. There are exceptions to this rule which are detailed in Policy DM TP 8."**

4.30 The site is located within the LBR South Kew **(KB)** Controlled Parking Zone (CPZ) where parking restrictions are in operation between the hours of 1000 – 1200 Monday – Friday. Extensive parking surveys have been undertaken in the area surrounding the site in March 2015, November 2015, and March 2016.

4.31 The survey results show that there is a substantial amount of available on-street parking within the vicinity of the site. The availability of on-street parking and car club vehicles therefore support the proposal for reduced parking on site.

4.32 Policy DM TP 8 'Off Street Parking – Retention and New Provision' states:

> **"Developments, redevelopments, conversions and extensions will have to demonstrate that the new scheme provides an appropriate level of off street parking to avoid an unacceptable impact on on-street parking conditions and local traffic conditions … These standards will be expected to be met, unless it can be shown**

that in proposing levels of parking applicants can demonstrate that there would be no adverse impact on the area in terms of street scene or on-street parking."

4.33 Paragraph 5.4.29 states:

"Developers may only provide fewer parking spaces, including car free schemes, if they can show that there would be no adverse impact on amenity, street scene, road safety or emergency access in the surrounding area … in higher PTAL areas (5-6), such as Richmond and Twickenham town centres, parking provision at a lower level than the standard or a car free development, perhaps with a car club, may be appropriate in exceptional circumstances."

4.34 As demonstrated above, there is significant on-street parking availability within the vicinity of the site to accommodate vehicles associated with any residential units which are not provided with a parking space on-site. It is therefore considered that the development will not adversely impact on-street parking conditions, or lead to an adverse impact on amenity, street scene, road safety or emergency access in accordance with Policy DM TP 8 of the DMP.

Car Club

4.35 There is substantial provision of car club vehicles in the vicinity of the site to ensure residents have easy access to a car but with reduced overall cost. A car club vehicle location plan is included at **Appendix F**.

4.36 The nearest vehicle is located around 30m to the north west of the site on Gainsborough Road and is operated by Zipcar London. Zipcar have been contacted to provide occupancy information for the vehicle and they have confirmed that there is sufficient capacity for new residents to utilise the car.

4.37 A car club involves membership with an organisation that loans the use of a vehicle as and when necessary following booking. It gives people the freedom of a vehicle when they need one without the cost of ownership.

4.38 London is the largest market in Europe for car clubs and has seen extensive growth over the last 10 years, in 2014 there were around 155,000 car club members in London with more than 2,300 vehicles.

4.39 The 2015/16 Carplus Annual Survey (April 2016) reports that each car club vehicle has removed 10.5 cars from the roads, and car clubs have proven to reduce car ownership, with 15% of those surveyed having sold / disposed of their car in the last 12 months.

4.40 There are 4 car club vehicles within a 5 minute walk of the site, and 6 vehicles within a 10 minute walk. There are a further 7 vehicles located within a 15 minute walk of the site. Car club membership is therefore a very realistic option for residents of the proposed development and it is considered that the excellent access to car club vehicles within the vicinity of the site supports the proposal for reduced parking provision on-site.

Servicing

4.41 Refuse stores are located on ground floor level to the rear of the car parking area. Bins will be collected on-street from Sandycombe Road on the appropriate days.

4.42 A van bay is provided at the north east corner of the site with a turning area provided opposite to allow large transit van style vehicles to service the site off-street, as demonstrated by the swept path analysis plans included at **Appendix L**. Any larger vehicles can service the site on-street at the site frontage on Sandycombe Road behind the bus cage.

4.43 It should be noted that the carriageway in this location is wider than standard (8.0m) and so a parked vehicle will not be obstructive to the main traffic flow.

4.44 The number of movements associated with loading vehicle activity for the proposed development is anticipated to be very low due to the small B1 use and refuse collection will remain as weekly.

5. TRAVEL PLAN

5.1 The development will implement a Travel Plan in order to encourage residents to use sustainable modes of travel and seek a reduction in car use.

5.2 A draft Travel Plan has been produced and is included as a separate document.

6. TRANSPORT POLICY

National Policy

6.1 National Transport Policy is contained in the National Planning Policy Framework (March 2012).

6.2 In paragraph 17 of section 1 the document sets out twelve principles that planning should follow. Bullet point 11 states planning should:

> **"actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable;"**

6.3 Section 4 deals with Promoting Sustainable Transport. Para 30 states;

> **"Encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. In preparing Local Plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport."**

6.4 The site is located within a PTAL 4/5 and the Method of Travel to work data from the 2011 Census shows that a large proportion of residents already make use of the sustainable modes of travel in the vicinity, primarily rail, underground, bus and cycling.

6.5 Paragraph 32 refers to the need for Transport Assessments:

> **"All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:**
>
> - **the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;**
> - **safe and suitable access to the site can be achieved for all people; and**
> - **improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."**

This TA demonstrates how sustainable transport modes are encouraged and how safe access is achieved for all modes. The transport impacts of the proposals are not considered severe.

6.6 Paragraph 35 requires consideration to be given to delivery of goods, sustainable travel modes, safe layouts, provision for low-emission vehicles and the needs of people with disabilities.

> **"Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people. Therefore, developments should be located and designed where practical to:**
>
> - **accommodate the efficient delivery of goods and supplies;**
> - **give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;**

- **create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones;**
- **incorporate facilities for charging plug-in and other ultra-low emission vehicles; and**
- **consider the needs of people with disabilities by all modes of transport."**

This TA demonstrates how the development incorporates all these factors.

6.7 Paragraph 36 refers to the need for a Travel Plan.

> **"A key tool to facilitate this will be a Travel Plan. All developments which generate significant amounts of movement should be required to provide a Travel Plan."**

A draft TP has been prepared and is included as a separate document.

Local Policy

6.8 Local Policy is contained within the London Plan (LP) March 2016, London Borough of Richmond upon Thames Development Management Plan (DMP) Adopted November 2011 and the Core Strategy (Adopted April 2009).

6.9 A new Local Plan is also currently being produced by LBR. The pre – publication consultation on the first draft of the plan took place in July and August 2016.

6.10 As discussed previously car parking standards are outlined within Appendix 4 of the DMP and require on-site provision of 22 spaces for the residential units and a maximum of 2 spaces for the B1 use. However, lower provisions may also be acceptable if it can be shown that the proposals will not have an adverse impact on-street parking conditions, amenity, street scene, road safety or emergency access.

6.11 Policy CP1 – Sustainable Development outlined within the Core Strategy requires:

> **"Higher density residential and mixed use developments to be in town centres, near to public transport to reduce the need to travel by car."**

6.12 As previously identified the development site is on the boundary of a PTAL 5 and has excellent bus, rail and underground / overground facilities within the vicinity of the site. In addition, there is a good provision of cycle routes surrounding the site.

6.13 The site is therefore well located to reduce the need to travel by car.

6.14 Policy LP 44 of the pre-publication first draft of the LBR Local Plan states the Council will:

> "**Ensure that new development does not have a severe impact on the operation, safety or accessibility to the local or strategic highway networks. Any impacts on the local or strategic highway networks, arising from the development itself or the cumulative effects of development, including in relation to on-street parking, should be mitigated through the provision of, or contributions towards, necessary and relevant transport improvements."**

6.15 It is anticipated that vehicle movements associated with the proposals will be low, with a high proportion of trips undertaken using sustainable modes, primarily cycling, bus, and rail /

underground services. The proposed development therefore conforms to policy because the impact of proposals will not be severe and it does not adversely impact on-street parking or street scene. Furthermore, the development is supported by Policy CP1 of the Core Strategy which seeks to locate developments which will encourage use of sustainable travel and reduce the need to travel by car. This is a requirement that is also outlined in the first draft of the new Local Plan.

7. SUMMARY AND CONCLUSIONS

7.1 This Transport Assessment supports a planning application for a mixed use development including ground floor B1 use and residential accommodation on land at 1-9 Sandycombe Road, Richmond. It reviews the transport provision and considers the impact of the scheme.

7.2 The proposals comprise of **20 residential units** and **535sqm of ground floor B1 use**.

7.3 The site is well located for pedestrian access to local facilities and there is a network of well-established cycle routes in the wider area.

7.4 There are 9 regular bus services in the vicinity of the site providing up to 64 bus services per hour Monday – Friday. Furthermore, within a 12 minute walk of the site there are two rail stations (North Sheen and Kew Gardens) which are served by South West Trains, London Underground District Line and the London Overground network providing access to around 30 trains per hour Monday – Friday.

7.5 The site falls on the boundary of a PTAL 4/5 according to the TfL webptal service, which indicates very good public transport accessibility.

7.6 The development is located within a Controlled Parking Zone (CPZ) and on-street parking surveys undertaken in March 2015, November 2015, and March 2016 show that the areas surveyed operated well below 90% occupancy.

7.7 The development provides on-site parking for 15 vehicles, including 2 disabled spaces. This is below the standard required by London Borough of Richmond upon Thames however the survey results indicate there is sufficient on-street parking available in the vicinity of the site.

7.8 There is substantial provision of car club vehicles locally to ensure residents who do not wish to own a car will have easy access to a vehicle if necessary. The nearest vehicle is located around 30m to the north west of the site on Gainsborough Road and is operated by Zipcar London. Zipcar have confirmed that there is sufficient capacity for new residents to utilise the car.

7.9 The availability of on-street parking and car club vehicles therefore supports the proposal for reduced parking on site.

7.10 The implementation of a Travel Plan will encourage a shift in mode of travel which could result in a higher proportion of residents using sustainable public transport to access the site.

7.11 Trip generation analysis indicates there will be a small number of people movements during the morning and evening peak hours, most of which will use the public transport services available in the vicinity of the site.

7.12 Refuse collection will be made from Sandycombe Road on the appropriate days. A van bay is provided at the north east corner of the site with a turning area provided opposite to allow large transit van style vehicles to service the site off-street. Any larger vehicles can service the site on-street at the site frontage on Sandycombe Road.

7.13 In terms of National Planning Policy Framework (NPPF) this Transport Assessment demonstrates that the development will not have a severe impact on the local highway network, including on-street parking. It is therefore considered that the scheme is acceptable in transport terms.

APPENDIX A

SITE LOCATION PLAN

Drawn	A FIRMIN	Checked	GJK
Scale	NTS	Date	OCT 2016
Drawing No.	14129/1A		

Project

GOLDCREST LAND PLC

1 - 9 SANDYCOMBE ROAD
RICHMOND

SITE LOCATION PLAN

COTTEE Transport Planning

Fir Lodge
Threshelfords Business Park
Feering
Essex
CO5 9SE

Tel : 01376 573400
Fax : 01376 573480
email : info@cottee-tp.co.uk
www.cotteetransportplanning.co.uk

APPENDIX B

SITE CONTEXT PLAN

Drawn	A FIRMIN
Checked	GJK
Scale	NTS
Date	OCT 2016
Drawing No.	14129/7B

Project

GOLDCREST LAND PLC

1-9 SANDYCOMBE ROAD
RICHMOND

SITE CONTEXT PLAN

COTTEE Transport Planning

Fir Lodge
Threshelfords Business Park
Feering
Essex
CO5 9SE

Tel : 01376 573400
Fax : 01376 573480
email : info@cottee-tp.co.uk
www.cotteetransportplanning.co.uk

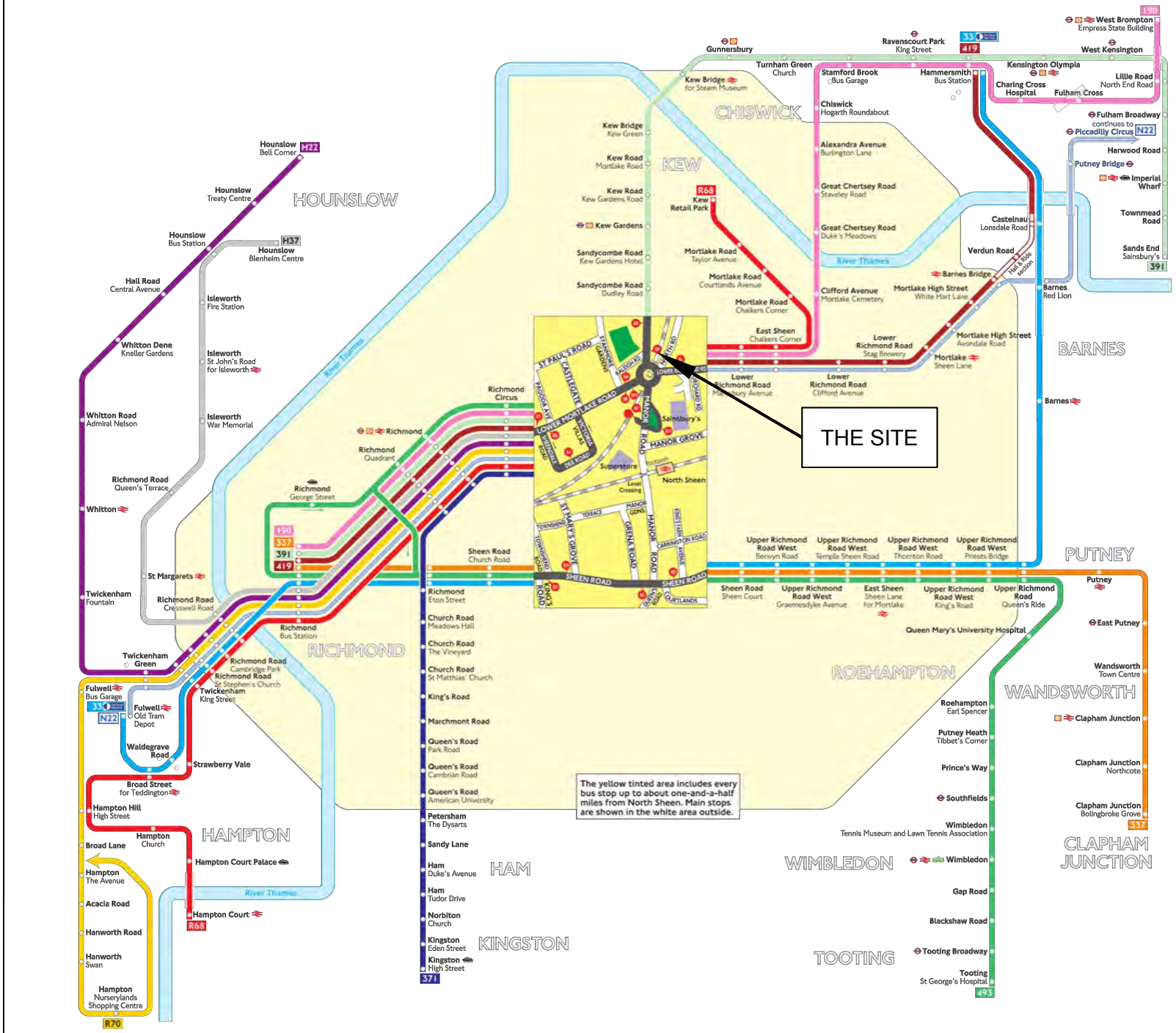
KEY:

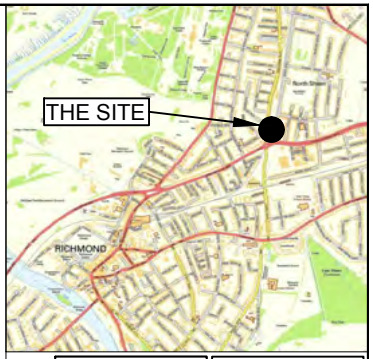
INDICATIVE SITE BOUNDARY

BUS STOP

APPENDIX C

BUS ROUTES PLAN





SERVICE FREQUENCY

Sandycombe Road

Service	Mon-Fri	Sat	Sun
391	10-13mins	10-12mins	12-14mins

Lower Mortlake Road

Service	Mon-Fri	Sat	Sun
190	15mins	15mins	20mins
371	6-10mins	8-12mins	20mins
419	15mins	15mins	30mins
493	10-13mins	11-12mins	20mins
H22	10-14mins	10-13mins	20mins
H37	4-7mins	5-8mins	6-10mins
R68	15mins	15mins	15mins
R70	8-11mins	9-11mins	15mins
N22	30mins	20mins	30mins

SOURCE: Transport for London

COTTEE Transport Planning

Fir Lodge
Thresheldfords Business Park
Feering
Essex
CO5 9SE

Tel : 01376 573400
Fax : 01376 573480
email : info@cottee-tp.co.uk
www.cotteetransportplanning.co.uk

Client
GOLDCREST LAND PLC

Project
1-9 SANDYCOMBE ROAD
RICHMOND

Title
BUS ROUTE PLAN

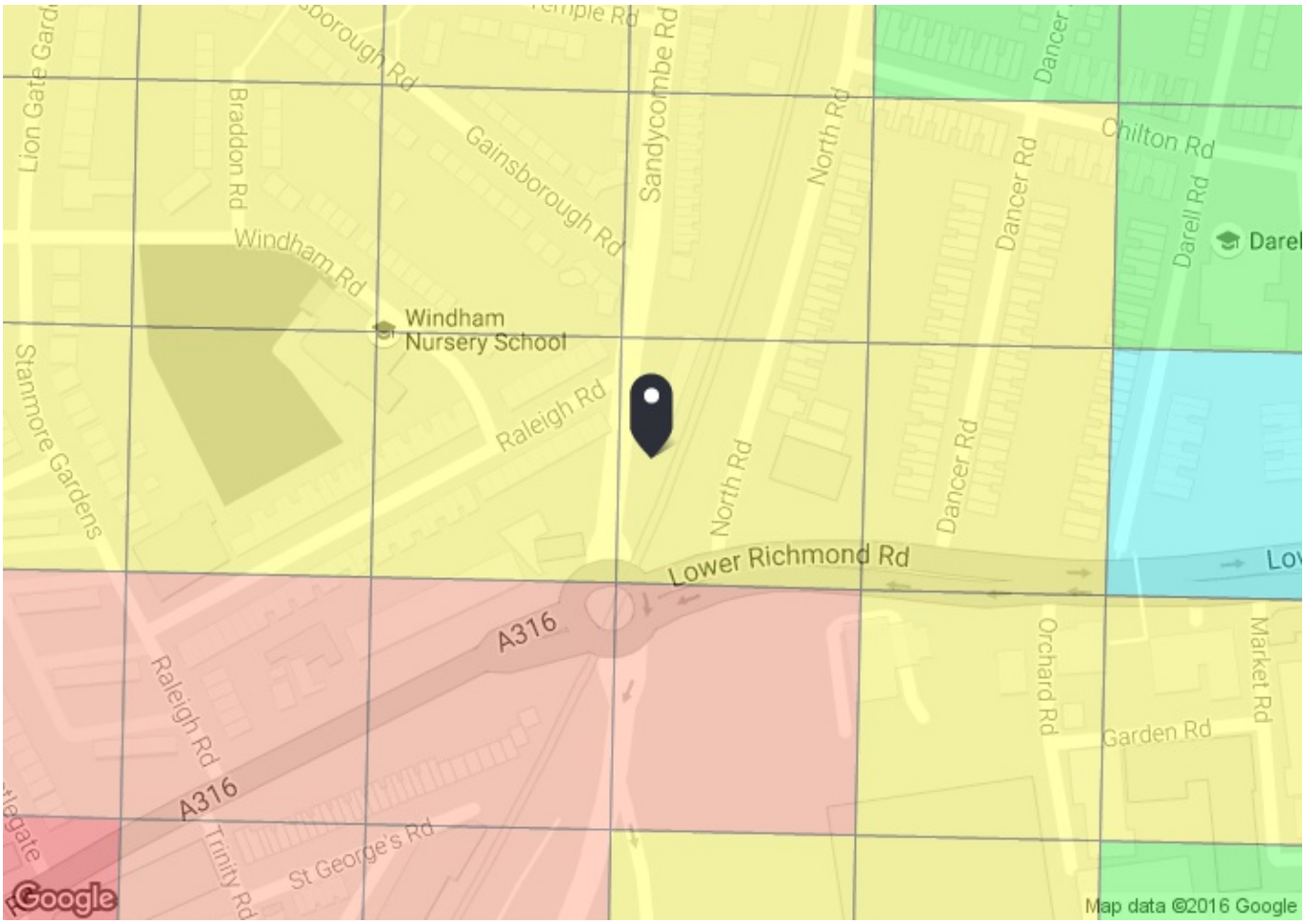
Drawn	Checked
A FIRMIN	GK
Scale	**Date**
NTS	OCT 2016

Drawing No.
14129/8A

APPENDIX D

PTAL REPORT

TRANSPORT
FOR LONDON



PTAL output for 2011 (Base year)
4

1 Sandycombe Rd, Richmond TW9 2EP, UK

Easting: 519010, Northing: 175745

Grid Cell: 57055

Report generated: 15/11/2016

Map key - PTAL

0 (Worst) 1a
1b 2
3 4
5 6a
6b (Best)

Map layers

PTAL (cell size: 100m)

Calculation Parameters

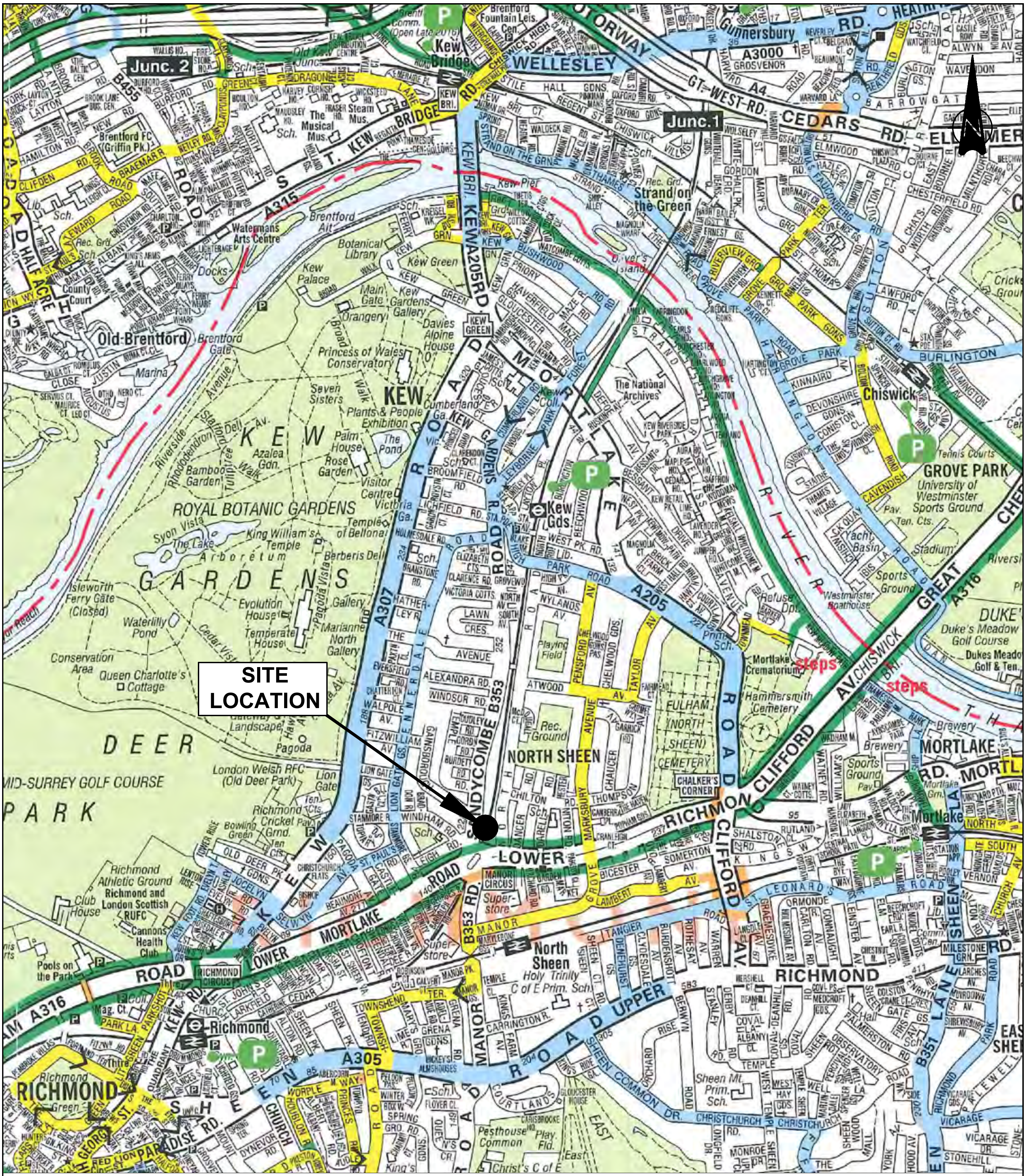
Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency(vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	RICHMOND MANOR CIRCUS	190	155.28	4	1.94	9.5	11.44	2.62	0.5	1.31
Bus	RICHMOND MANOR CIRCUS	419	155.28	4	1.94	9.5	11.44	2.62	0.5	1.31
Bus	RICHMOND MANOR CIRCUS	H37	155.28	10	1.94	5	6.94	4.32	1	4.32
Bus	RICHMOND MANOR CIRCUS	R68	155.28	4	1.94	9.5	11.44	2.62	0.5	1.31
Bus	RICHMOND MANOR CIRCUS	H22	155.28	5	1.94	8	9.94	3.02	0.5	1.51
Bus	SANDYCOMBE ROAD R/ABOUT	391	198.77	6	2.48	7	9.48	3.16	0.5	1.58
Bus	MANOR ROAD HOMEBASE	371	217.7	7	2.72	6.29	9.01	3.33	0.5	1.67
Bus	MANOR ROAD HOMEBASE	493	217.7	5	2.72	8	10.72	2.8	0.5	1.4
Bus	MANOR ROAD HOMEBASE	R70	217.7	6	2.72	7	9.72	3.09	0.5	1.54
Rail	North Sheen	'SHEPRTN-WATRLMN 2H92'	436.3	1	5.45	30.75	36.2	0.83	0.5	0.41
Rail	North Sheen	'WDON-WATRLMN 2K03 '	436.3	0.33	5.45	91.66	97.11	0.31	0.5	0.15
Rail	North Sheen	'WATRLMN-WATRLMN 2K09'	436.3	2	5.45	15.75	21.2	1.41	1	1.41
Rail	North Sheen	'WATRLMN-WATRLMN 2O09'	436.3	2	5.45	15.75	21.2	1.41	0.5	0.71
Rail	North Sheen	'WATRLMN-WATRLMN 2R09'	436.3	2	5.45	15.75	21.2	1.41	0.5	0.71
Rail	North Sheen	'HOUNSLW-WATRLMN 2V05'	436.3	0.33	5.45	91.66	97.11	0.31	0.5	0.15
									Total Grid Cell AI:	**19.49**

APPENDIX E

WIDER CYCLE NETWORK



KEY

Light blue	Routes signed for use by cyclists on a mixture of quiet and busier roads.
Green	Off-road routes.
Orange	Pedestrian only route that connects cycling sections.
Yellow	Quieter Roads that have been recommended by other cyclists.

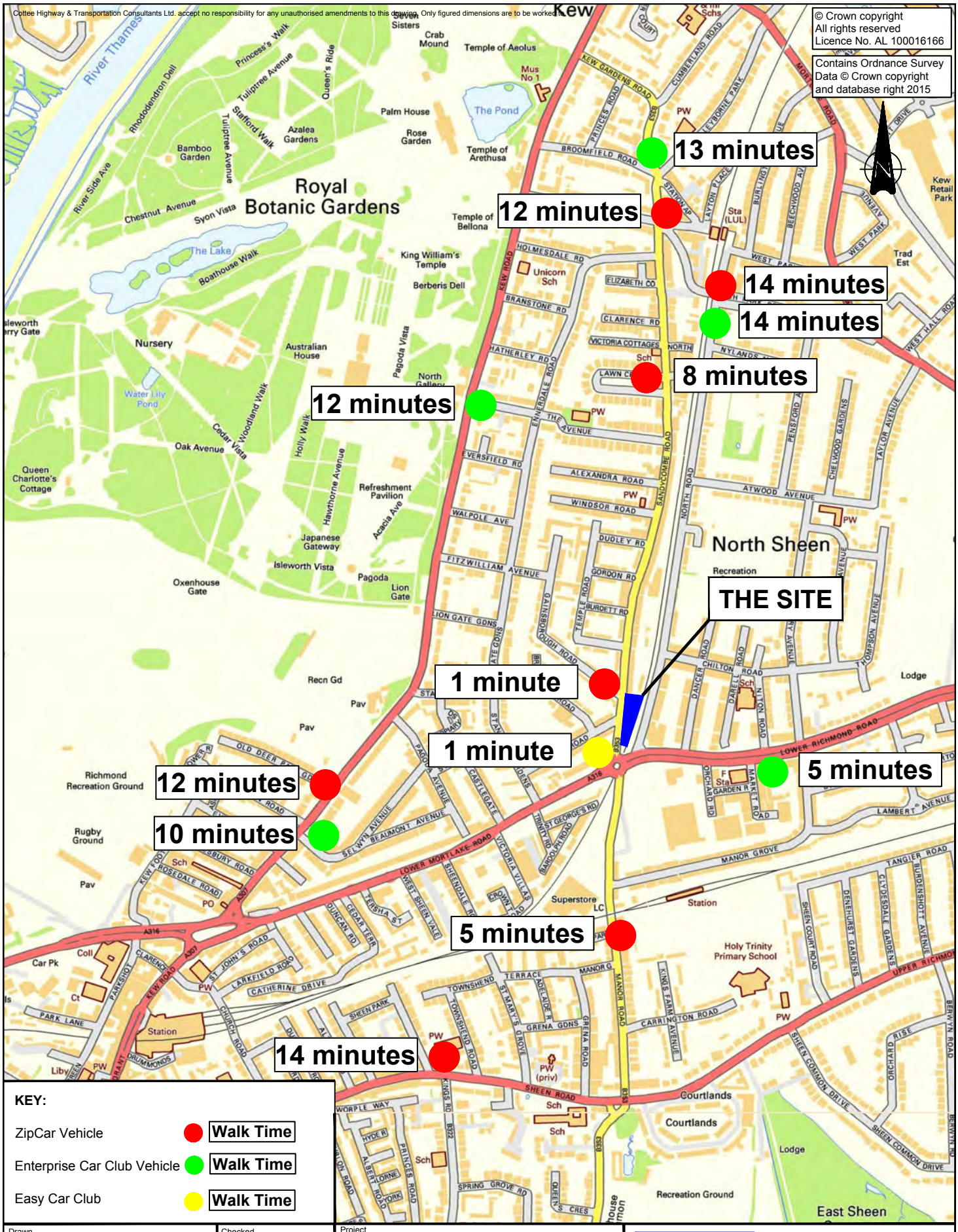
Source: London Cycle Guide booklet

Drawn: FPEC	Checked: GJK	Project: GOLDCREST LAND PLC 1 - 9 SANDYCOMBE ROAD RICHMOND **CYCLE NETWORK PLAN**	COTTEE Transport Planning
Scale: NTS	Date: OCT 2016		
Drawing No.: 14129/2A			

Fir Lodge
Threshelfords Business Park
Feering
Essex
CO5 9SE
Tel : 01376 573400
Fax : 01376 573480
email : info@cottee-tp.co.uk
www.cotteetransportplanning.co.uk

APPENDIX F

CAR CLUB LOCATION PLAN



KEY:

ZipCar Vehicle	Walk Time
Enterprise Car Club Vehicle	Walk Time
Easy Car Club	Walk Time

Drawn: FPEC	Checked: GJK
Scale: NTS	Date: OCT 2016
Drawing No.: 14129/9A	

Project

GOLDCREST LAND PLC

1 - 9 SANDYCOMBE ROAD
RICHMOND

CAR CLUB LOCATION PLAN

COTTEE Transport Planning

Fir Lodge
Threshelfords Business Park
Feering
Essex
CO5 9SE

Tel : 01376 573400
Fax : 01376 573480
email : info@cottee-tp.co.uk
www.cotteetransportplanning.co.uk

APPENDIX G

ZIPCAR CORRESPONDENCE

Francesca Cottee

From: Stuart Moore <SMoore@zipcar.co.uk>
Sent: 01 November 2016 14:54
To: Francesca Cottee
Cc: David Lang
Subject: RE: Car Club Space on Gainsborough Road, North Sheen, Richmond

Hi Francesca

Thanks so much for your e-mail and my apologies this was missed.

Having a look at the utilisation of the cars in the area they are performing below our Fleet average at the moment so there is definitely scope for the residents to use these local cars, specifically the car on Gainsborough Road.

I hope that helps, if you have any other questions then please do get in touch, my colleague Dave will be the best person to speak in regards to questions about this.

Kind regards

stuart moore locations associate
MELBURY HOUSE, 51 WIMBLEDON HILL ROAD, LONDON, SW19 7QW
T 020 3668 6237
E smoore@zipcar.co.uk // W zipcar.co.uk

From: Francesca Cottee [mailto:francesca@cottee-tp.co.uk]
Sent: Monday, October 31, 2016 10:16 AM
To: ZipcarUK Locations <uklocations@zipcar.co.uk>
Subject: Car Club Space on Gainsborough Road, North Sheen, Richmond

Stuart,

Thank you for confirming last week that there will continue to be a vehicle on Gainsborough Road following the defleeting of the previous vehicle.

We are advising a client in regard to a predominantly residential development proposal with around 18 residential units very close to this car club space, on the opposite side of Sandycombe Road.

Last year my colleague confirmed with Zipcar that there would be sufficient capacity for new residents to utilise the car. Please could you confirm that there remains plenty of opportunity for new residents to use this car?

Many thanks,

Francesca

Francesca Cottee

Assistant Transport Planner

COTTEE TRANSPORT PLANNING

Fir Lodge, Threshelfords Business Park, Feering, Essex CO5 9SE

Tel: 01376 573400 Fax: 01376 573480 Email: francesca@cottee-tp.co.uk

www.cotteetransportplanning.co.uk

APPENDIX H

SURVEY AREA LOCATION PLAN

Drawn: FPEC	Checked: GJK
Scale: NTS	Date: OCT 2016
Drawing No.: 14129/10A	

Project **GOLDCREST LAND PLC**

1-9 SANDYCOMBE ROAD
RICHMOND

SURVEY AREA LOCATION PLAN
MAR 2015 AND NOV 2015

COTTEE Transport Planning

Fir Lodge
Threshelfords Business Park
Feering
Essex
CO5 9SE

Tel : 01376 573400
Fax : 01376 573480
email : info@cottee-tp.co.uk
www.cotteetransportplanning.co.uk

KEY:
SURVEY AREA

Parking Survey, Richmond

LOCATION: SANDYCOUMBE ROAD

Parking Area	Wed 18th March 2015 0030 - 0530						Thurs 19th March 2015 0030 - 0530						07:00						08:00						09:00					
	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)
RALEIGH ROAD	429	346	31	68	52	76%	429	346	31	68	46	67%	429	376	0	68	39	57%	429	376	0	68	28	41%	429	376	0	68	22	32%
WINDHAM ROAD	193	98	26	22	7	31%	193	98	26	22	7	31%	193	124	0	22	7	31%	193	124	0	22	6	27%	193	124	0	22	5	22%
GAINSBOROUGH ROAD	388	295	10	55	22	40%	388	295	10	55	18	33%	388	305	0	55	17	31%	388	305	0	55	10	18%	388	305	0	55	15	27%
TEMPLE ROAD	345	239	23	48	33	69%	345	239	23	48	30	63%	345	262	0	48	24	50%	345	262	0	48	26	55%	345	262	0	48	24	50%
SANDYCOMBE ROAD	573	160	15	32	21	66%	573	160	15	32	20	63%	573	255	0	46	23	50%	573	255	0	46	24	52%	573	255	0	46	22	47%
NORTH ROAD	523	337	21	65	36	55%	523	337	21	65	40	61%	523	377	5	69	35	50%	523	377	5	69	28	40%	523	377	5	69	25	36%
LOWER RICHMOND ROAD	224	0	0	0	2	102%	224	0	0	0	1	101%	224	0	0	0	0	0%	224	0	0	0	0	0%	224	0	0	0	0	0%
LOWER MORTLAKE ROAD	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%
MANOR ROAD	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%
SITE	0	0	0	22	4	18%	0	0	0	22	5	23%	0	0	0	22	6	27%	0	0	0	22	6	27%	0	0	0	22	9	41%

Parking Area	Thurs 19th March 2015 13:00:00						17:00						18:00						21:00					
	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)
RALEIGH ROAD	429	376	0	68	42	61%	429	376	0	68	45	66%	429	376	0	68	44	64%	429	346	31	68	51	75%
WINDHAM ROAD	193	124	0	22	13	58%	193	124	0	22	18	80%	193	124	10	24	10	41%	193	98	26	22	11	49%
GAINSBOROUGH ROAD	388	305	0	55	30	54%	388	305	0	55	22	40%	388	305	0	55	21	38%	388	295	10	55	23	42%
TEMPLE ROAD	345	262	0	48	30	63%	345	262	0	48	28	59%	345	262	0	48	30	63%	345	239	23	48	24	50%
SANDYCOMBE ROAD	573	255	0	46	23	50%	573	255	0	46	23	50%	573	255	0	46	21	45%	573	160	15	32	23	72%
NORTH ROAD	523	377	5	69	37	53%	523	377	5	69	30	43%	523	377	5	69	31	45%	523	337	21	65	39	60%
LOWER RICHMOND ROAD	224	0	0	0	0	0%	224	0	0	0	0	0%	224	0	0	0	0	0%	224	0	0	0	1	101%
LOWER MORTLAKE ROAD	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%
MANOR ROAD	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%
SITE	0	0	0	22	10	45%	0	0	0	22	6	27%	0	0	0	22	4	18%	0	0	0	22	4	18%

Parking Survey, Richmond

LOCATION: SANDYCOUMBE ROAD

Parking Area	Wed 18th Nov 2015 0300						07:00						08:00						09:00						11:00					
	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)
RALEIGH ROAD	429	346	31	68	46	67%	429	376	0	68	53	77%	429	376	0	68	44	64%	429	376	0	68	34	50%	429	376	0	68	39	57%
WINDHAM ROAD	193	98	26	22	15	67%	193	124	0	22	14	62%	193	124	0	22	20	89%	193	124	0	22	13	58%	193	124	0	22	18	80%
GAINSBOROUGH ROAD	388	295	10	55	28	51%	388	305	0	55	26	47%	388	305	0	55	22	40%	388	305	0	55	21	38%	388	305	0	55	23	42%
TEMPLE ROAD	345	239	23	48	15	31%	345	262	0	48	24	50%	345	262	0	48	24	50%	345	262	0	48	14	29%	345	262	0	48	17	36%
SANDYCOMBE ROAD	573	160	15	32	24	75%	573	255	0	46	18	39%	573	255	0	46	21	45%	573	255	0	46	24	52%	573	255	0	46	20	43%
NORTH ROAD	523	337	21	65	20	31%	523	377	5	69	23	33%	523	377	5	69	26	37%	523	377	5	69	17	24%	523	377	5	69	24	35%
LOWER RICHMOND ROAD	224	0	0	0	0	0%	224	0	0	0	0	0%	224	0	0	0	0	0%	224	0	0	0	0	0%	224	0	0	0	0	0%
LOWER MORTLAKE ROAD	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%
MANOR ROAD	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%
SITE	0	0	0	22	0	0%	0	0	0	22	0	0%	0	0	0	22	0	0%	0	0	0	22	0	0%	0	0	0	22	0	0%

Parking Area	Wed 18th Nov 2015 13:00:00						17:00						18:00						21:00					
	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)
RALEIGH ROAD	429	376	0	68	37	54%	429	376	0	68	41	60%	429	376	0	68	41	60%	429	346	31	68	42	61%
WINDHAM ROAD	193	124	0	22	17	76%	193	124	0	22	15	67%	193	124	10	24	12	49%	193	98	26	22	12	53%
GAINSBOROUGH ROAD	388	305	0	55	20	36%	388	305	0	55	28	51%	388	305	0	55	26	47%	388	295	10	55	29	52%
TEMPLE ROAD	345	262	0	48	14	29%	345	262	0	48	15	31%	345	262	0	48	23	48%	345	239	23	48	18	38%
SANDYCOMBE ROAD	573	255	0	46	19	41%	573	255	0	46	22	47%	573	255	0	46	18	39%	573	160	15	32	23	72%
NORTH ROAD	523	377	5	69	26	37%	523	377	5	69	18	26%	523	377	5	69	16	23%	523	337	21	65	17	26%
LOWER RICHMOND ROAD	224	0	0	0	0	0%	224	0	0	0	0	0%	224	0	0	0	0	0%	224	0	0	0	0	0%
LOWER MORTLAKE ROAD	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%
MANOR ROAD	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%
SITE	0	0	0	22	0	0%	0	0	0	22	0	0%	0	0	0	22	0	0%	0	0	0	22	0	0%

Parking Area	Thurs 19th Nov 2015 0500						07:00						08:00						09:00						11:00					
	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)
RALEIGH ROAD	429	346	31	68	49	72%	429	376	0	68	54	79%	429	376	0	68	45	66%	429	376	0	68	37	54%	429	376	0	68	36	53%
WINDHAM ROAD	193	98	26	22	16	71%	193	124	0	22	10	44%	193	124	0	22	18	80%	193	124	0	22	17	76%	193	124	0	22	15	67%
GAINSBOROUGH ROAD	388	295	10	55	26	47%	388	305	0	55	26	47%	388	305	0	55	26	47%	388	305	0	55	22	40%	388	305	0	55	24	43%
TEMPLE ROAD	345	239	23	48	18	38%	345	262	0	48	25	52%	345	262	0	48	21	44%	345	262	0	48	18	38%	345	262	0	48	16	34%
SANDYCOMBE ROAD	573	160	15	32	22	69%	573	255	0	46	25	54%	573	255	0	46	20	43%	573	255	0	46	22	47%	573	255	0	46	17	37%
NORTH ROAD	523	337	21	65	23	35%	523	377	5	69	23	33%	523	377	5	69	21	30%	523	377	5	69	19	27%	523	377	5	69	21	30%
LOWER RICHMOND ROAD	224	0	0	0	0	0%	224	0	0	0	0	0%	224	0	0	0	0	0%	224	0	0	0	0	0%	224	0	0	0	0	0%
LOWER MORTLAKE ROAD	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%
MANOR ROAD	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%
SITE	0	0	0	22	0	0%	0	0	0	22	0	0%	0	0	0	22	0	0%	0	0	0	22	0	0%	0	0	0	22	0	0%

Parking Area	Thurs 19th Nov 2015 13:00:00						17:00						18:00						21:00					
	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)
RALEIGH ROAD	429	376	0	68	38	56%	429	376	0	68	43	63%	429	376	0	68	42	61%	429	346	31	68	46	67%
WINDHAM ROAD	193	124	0	22	12	53%	193	124	0	22	13	58%	193	124	10	24	8	33%	193	98	26	22	14	62%
GAINSBOROUGH ROAD	388	305	0	55	25	45%	388	305	0	55	30	54%	388	305	0	55	30	54%	388	295	10	55	32	58%
TEMPLE ROAD	345	262	0	48	15	31%	345	262	0	48	19	40%	345	262	0	48	19	40%	345	239	23	48	25	52%
SANDYCOMBE ROAD	573	255	0	46	19	41%	573	255	0	46	22	47%	573	255	0	46	24	52%	573	160	15	32	23	72%
NORTH ROAD	523	377	5	69	26	37%	523	377	5	69	21	30%	523	377	5	69	22	32%	523	337	21	65	15	23%
LOWER RICHMOND ROAD	224	0	0	0	0	0%	224	0	0	0	0	0%	224	0	0	0	0	0%	224	0	0	0	0	0%
LOWER MORTLAKE ROAD	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%	326	0	0	0	0	0%
MANOR ROAD	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%	316	0	0	0	0	0%
SITE	0	0	0	22	0	0%	0	0	0	22	0	0%	0	0	0	22	0	0%	0	0	0	22	0	0%

Drawn	FPEC
Checked	GJK
Scale	NTS
Date	OCT 2016
Drawing No.	14129/16

Project **GOLDCREST LAND PLC**

1-9 SANDYCOMBE ROAD
RICHMOND

SURVEY AREA LOCATION PLAN
MAR 2016

COTTEE Transport Planning

Fir Lodge
Threshelfords Business Park
Feering
Essex
CO5 9SE

Tel : 01376 573400
Fax : 01376 573480
email : info@cottee-tp.co.uk
www.cotteetransportplanning.co.uk

KEY:
SURVEY AREA

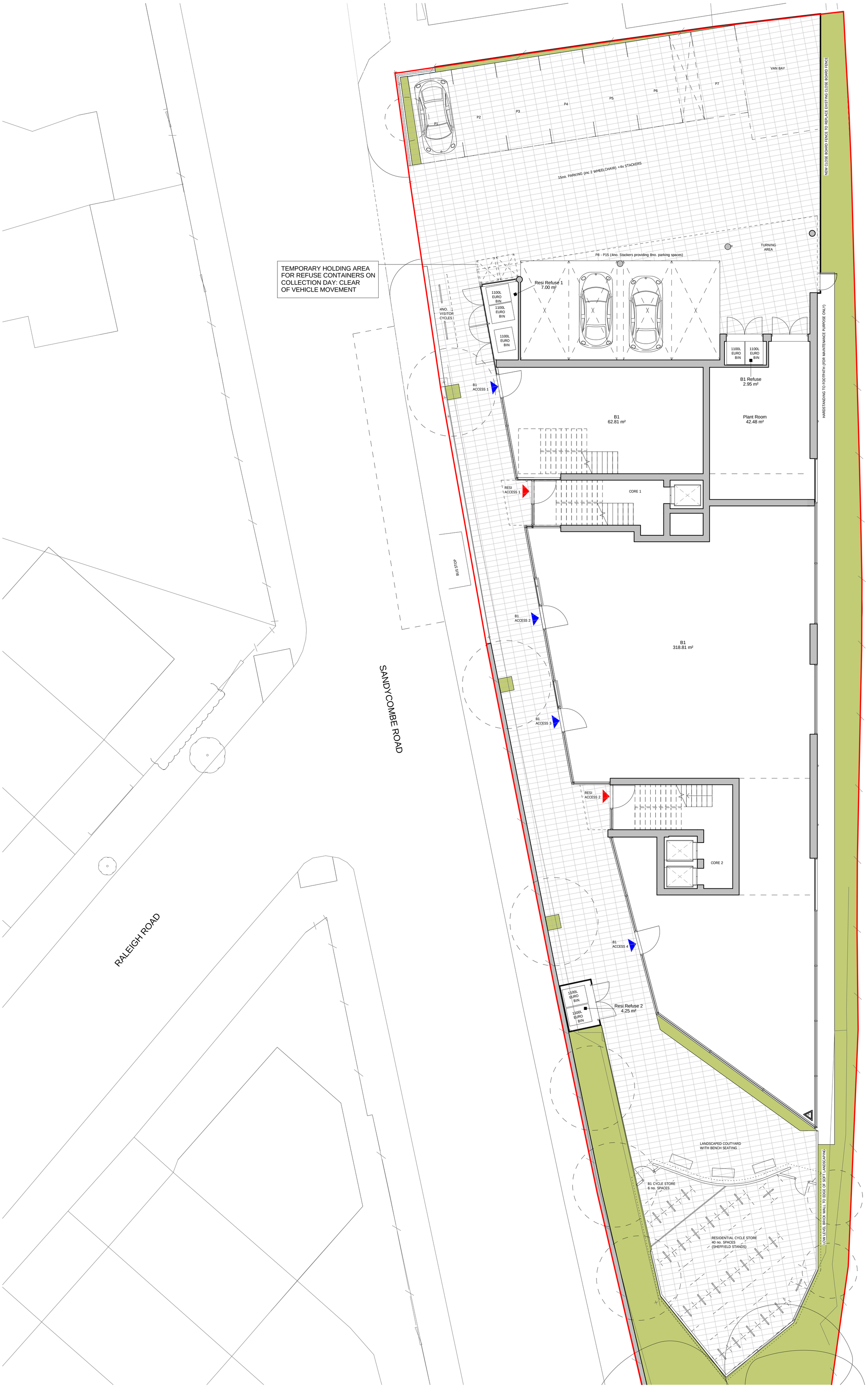
Parking Survey, Richmond

LOCATION: SANDYCOUMBE ROAD

Parking Area	Wendesday 16th March 2016 0500						Thursday 17th March 2016 0300						Sunday 20th March 2016 0430					
	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)	Length of kerb (m)	Length of restricted parking (m)	Length of unrestricted parking (m)	No. of parking spaces	No. of cars parked	Parking Stress (%)
CPZ N - NORTH EAST RICHMOND																		
RALEIGH ROAD	430	347	0	63	53	84%	430	347	0	63	52	82%	430	347	0	63	47	74%
WINDHAM ROAD	278	138	0	25	11	44%	278	138	0	25	13	52%	278	138	0	25	12	48%
TOTAL	708	485	0	88	64	**73%**	708	485	0	88	65	**74%**	708	485	0	88	59	**67%**
CPZ KB - SOUTH KEW (EXC NORTH ROAD)																		
GAINSBOROUGH ROAD	415	302	0	55	29	53%	415	302	0	55	30	55%	415	302	0	55	26	47%
TEMPLE ROAD	191	136	0	25	21	84%	191	136	0	25	23	93%	191	136	0	25	19	77%
SANDYCOMBE ROAD	693	189	0	34	42	124%	693	189	0	34	37	108%	693	189	0	34	42	122%
TOTAL	1298	627	0	114	92	**81%**	1298	627	0	114	90	**79%**	1298	627	0	114	87	**76%**
CPZ KB - SOUTH KEW (NORTH ROAD)																		
NORTH ROAD	438	304	0	55	41	74%	438	304	0	55	40	72%	438	304	0	55	35	63%

APPENDIX I

SITE LAYOUT PLAN



rev	date	description

Scale 1:100

0 2000 4000 6000 8000 10000

N

This line measures 100mm when this drawing is printed @ A1

07/11/2016 18:19:43

Project
1-9 Sandycombe Rd TW9 2EP

Status
Planning

Drawing Title
Ground Floor - Proposed

Date: NOV 2016

Scale: 1 : 100

Drawing #:
P03 100

GOLDCREST architects

3 Hurlingham Business Park
Sulivan Road SW6 3DU
T 0207 731 7111
F 0207 371 7782
E architects@goldcrestland.com

APPENDIX J

TRICS OUTPUT

Calculation Reference: AUDIT-719701-151204-1238

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

01	GREATER LONDON		
	CN	CAMDEN	1 days
	HG	HARINGEY	2 days
	IS	ISLINGTON	1 days
	KN	KENSINGTON AND CHELSEA	1 days
	RD	RICHMOND	1 days
	SK	SOUTHWARK	1 days
	TH	TOWER HAMLETS	1 days
	WH	WANDSWORTH	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 9 to 30 (units:)
Range Selected by User: 9 to 30 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/07 to 23/04/15

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	2 days
Wednesday	3 days
Thursday	3 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	9 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	3
Suburban Area (PPS6 Out of Centre)	6

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	7
Built-Up Zone	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

C1	1 days
C3	8 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

10,001 to 15,000	2 days
25,001 to 50,000	1 days
50,001 to 100,000	3 days
101,000 or More	3 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

250,001 to 500,000	1 days
500,001 or More	8 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	3 days
0.6 to 1.0	6 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	8 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 CN-03-C-01 BLOCK OF FLATS CAMDEN
OVAL ROAD

REGENTS PARK
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 12
Survey date: FRIDAY 07/11/08 Survey Type: MANUAL

2 HG-03-C-02 BLOCK OF FLATS HARINGEY
HIGH ROAD
WOODSIDE PARK
WOOD GREEN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 30
Survey date: WEDNESDAY 01/10/14 Survey Type: MANUAL

3 HG-03-C-03 BLOCK OF FLATS HARINGEY
GREEN LANES
MANOR HOUSE
FINSBURY PARK
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 10
Survey date: WEDNESDAY 24/09/14 Survey Type: MANUAL

4 IS-03-C-03 BLOCK OF FLATS ISLINGTON
FLORENCE STREET

ISLINGTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 9
Survey date: THURSDAY 21/11/13 Survey Type: MANUAL

5 KN-03-C-01 BLOCKS OF FLATS KENSINGTON AND CHELSEA
UXBRIDGE STREET

NOTTING HILL
Edge of Town Centre
Residential Zone
Total Number of dwellings: 16
Survey date: THURSDAY 15/10/09 Survey Type: MANUAL

6 RD-03-C-02 BLOCK OF FLATS RICHMOND
B306 QUEENS RIDE

BARNES
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 28
Survey date: MONDAY 29/01/07 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

7 SK-03-C-02 BLOCK OF FLATS SOUTHWARK
LAMB WALK

BERMONDSEY
Edge of Town Centre
Built-Up Zone
Total Number of dwellings: 29
Survey date: THURSDAY 23/04/15 Survey Type: MANUAL

8 TH-03-C-02 FLATS TOWER HAMLETS
BURNHAM STREET

BETHNAL GREEN
Suburban Area (PPS6 Out of Centre)
Built-Up Zone
Total Number of dwellings: 24
Survey date: MONDAY 10/11/08 Survey Type: MANUAL

9 WH-03-C-01 BLOCKS OF FLATS WANDSWORTH
AMIES STREET

CLAPHAM JUNCTION
Edge of Town Centre
Residential Zone
Total Number of dwellings: 30
Survey date: WEDNESDAY 09/05/12 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
HG-03-C-01	PTAL 2

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	21	0.096	9	21	0.426	9	21	0.522
08:00 - 09:00	9	21	0.154	9	21	0.654	9	21	0.808
09:00 - 10:00	9	21	0.149	9	21	0.287	9	21	0.436
10:00 - 11:00	9	21	0.165	9	21	0.261	9	21	0.426
11:00 - 12:00	9	21	0.170	9	21	0.170	9	21	0.340
12:00 - 13:00	9	21	0.202	9	21	0.191	9	21	0.393
13:00 - 14:00	9	21	0.165	9	21	0.202	9	21	0.367
14:00 - 15:00	9	21	0.186	9	21	0.176	9	21	0.362
15:00 - 16:00	9	21	0.346	9	21	0.133	9	21	0.479
16:00 - 17:00	9	21	0.277	9	21	0.197	9	21	0.474
17:00 - 18:00	9	21	0.346	9	21	0.186	9	21	0.532
18:00 - 19:00	9	21	0.372	9	21	0.154	9	21	0.526
19:00 - 20:00	1	29	0.379	1	29	0.069	1	29	0.448
20:00 - 21:00	1	29	0.103	1	29	0.138	1	29	0.241
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.110			3.244			6.354

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected:	9 - 30 (units:)
Survey date date range:	01/01/07 - 23/04/15
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

RANK ORDER for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE

Ranking Type: TOTALS Time Range: 08:00-09:00
WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.
15th Percentile = No. 8 SK-03-C-02 Tot: 0.517
85th Percentile = No. 2 HG-03-C-03 Tot: 1.400

Median Values		Mean Values	
Arrivals:	0.208	Arrivals:	0.177
Departures:	0.500	Departures:	0.706
Totals:	0.708	Totals:	0.883

Rank	Site-Ref	Description	Town/City	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Park Spaces
								Arrivals	Departures	Totals	Per Dwelling
1	CN-03-C-01	BLOCK OF FLATS	REGENTS PARK	CAMDEN	12	Fri	07/11/08	0.833	1.000	1.833	
2	HG-03-C-03	BLOCK OF FLATS	FINSBURY PARK	HARINGEY	10	Wed	24/09/14	0.000	1.400	1.400	1.20
3	WH-03-C-01	BLOCKS OF FLAT	CLAPHAM JUNCTION	WANDSWORTH	30	Wed	09/05/12	0.200	0.967	1.167	1.20
4	RD-03-C-02	BLOCK OF FLATS	BARNES	RICHMOND	28	Mon	29/01/07	0.036	0.679	0.715	1.18
5	TH-03-C-02	FLATS	BETHNAL GREEN	TOWER HAMLETS	24	Mon	10/11/08	0.208	0.500	0.708	1.00
6	IS-03-C-03	BLOCK OF FLATS	ISLINGTON	ISLINGTON	9	Thu	21/11/13	0.111	0.556	0.667	0.89
7	HG-03-C-02	BLOCK OF FLATS	WOOD GREEN	HARINGEY	30	Wed	01/10/14	0.100	0.467	0.567	0.83
8	SK-03-C-02	BLOCK OF FLATS	BERMONDSEY	SOUTHWARK	29	Thu	23/04/15	0.103	0.414	0.517	0.07
9	KN-03-C-01	BLOCKS OF FLAT	NOTTING HILL	KENSINGTON AND CHEL	16	Thu	15/10/09	0.000	0.375	0.375	1.13

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

RANK ORDER for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Ranking Type: TOTALS Time Range: 17:00-18:00

WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. 8 KN-03-C-01 Tot: 0.062

85th Percentile = No. 2 TH-03-C-02 Tot: 0.792

Median Values		Mean Values	
Arrivals:	0.400	Arrivals:	0.301
Departures:	0.100	Departures:	0.164
Totals:	0.500	Totals:	0.465

Rank	Site-Ref	Description	Town/City	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Park Spaces
								Arrivals	Departures	Totals	Per Dwelling
1	HG-03-C-02	BLOCK OF FLATS	WOOD GREEN	HARINGEY	30	Wed	01/10/14	0.467	0.433	0.900	0.83
2	TH-03-C-02	FLATS	BETHNAL GREEN	TOWER HAMLETS	24	Mon	10/11/08	0.375	0.417	0.792	1.00
3	CN-03-C-01	BLOCK OF FLATS	REGENTS PARK	CAMDEN	12	Fri	07/11/08	0.333	0.250	0.583	
4	RD-03-C-02	BLOCK OF FLATS	BARNES	RICHMOND	28	Mon	29/01/07	0.464	0.036	0.500	1.18
5	WH-03-C-01	BLOCKS OF FLAT	CLAPHAM JUNCTION	WANDSWORTH	30	Wed	09/05/12	0.400	0.100	0.500	1.20
6	SK-03-C-02	BLOCK OF FLATS	BERMONDSEY	SOUTHWARK	29	Thu	23/04/15	0.310	0.138	0.448	0.07
7	HG-03-C-03	BLOCK OF FLATS	FINSBURY PARK	HARINGEY	10	Wed	24/09/14	0.300	0.100	0.400	1.20
8	KN-03-C-01	BLOCKS OF FLAT	NOTTING HILL	KENSINGTON AND CHEL	16	Thu	15/10/09	0.063	0.000	0.062	1.13
9	IS-03-C-03	BLOCK OF FLATS	ISLINGTON	ISLINGTON	9	Thu	21/11/13	0.000	0.000	0.000	0.89

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

RANK ORDER for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Ranking Type: TOTALS Time Range: 07:00-19:00

WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. 8 SK-03-C-02 Tot: 2.827

85th Percentile = No. 2 TH-03-C-02 Tot: 8.750

Median Values		Mean Values	
Arrivals:	2.733	Arrivals:	2.766
Departures:	3.033	Departures:	3.171
Totals:	5.766	Totals:	5.937

Rank	Site-Ref	Description	Town/City	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Park Spaces
								Arrivals	Departures	Totals	Per Dwelling
1	CN-03-C-01	BLOCK OF FLATS	REGENTS PARK	CAMDEN	12	Fri	07/11/08	5.083	5.833	10.916	
2	TH-03-C-02	FLATS	BETHNAL GREEN	TOWER HAMLETS	24	Mon	10/11/08	4.292	4.458	8.750	1.00
3	HG-03-C-03	BLOCK OF FLATS	FINSBURY PARK	HARINGEY	10	Wed	24/09/14	4.200	4.200	8.400	1.20
4	RD-03-C-02	BLOCK OF FLATS	BARNES	RICHMOND	28	Mon	29/01/07	2.571	3.500	6.071	1.18
5	HG-03-C-02	BLOCK OF FLATS	WOOD GREEN	HARINGEY	30	Wed	01/10/14	2.733	3.033	5.766	0.83
6	WH-03-C-01	BLOCKS OF FLAT	CLAPHAM JUNCTION	WANDSWORTH	30	Wed	09/05/12	2.433	2.633	5.066	1.20
7	IS-03-C-03	BLOCK OF FLATS	ISLINGTON	ISLINGTON	9	Thu	21/11/13	1.778	2.111	3.889	0.89
8	SK-03-C-02	BLOCK OF FLATS	BERMONDSEY	SOUTHWARK	29	Thu	23/04/15	1.241	1.586	2.827	0.07
9	KN-03-C-01	BLOCKS OF FLAT	NOTTING HILL	KENSINGTON AND CHEL	16	Thu	15/10/09	0.563	1.188	1.750	1.13

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

APPENDIX K

CENSUS OUTPUT

COTTEE

Method of Travel to Work (QS701EW)

	E00019336 Output Area		Richmond upon Thames London Borough		London Region		England Country	
All Usual Residents Aged 16 to 74	127		90334		3796218		23813153	
Underground, Metro, Light Rail, Tram	36	28%	10605	12%	902263	24%	1027625	4%
Train	14	11%	21768	24%	532720	14%	1343684	6%
Bus, Minibus or Coach	9	7%	7531	8%	561605	15%	1886539	8%
Taxi	1	1%	237	0%	20314	1%	131465	1%
Motorcycle, Scooter or Moped	4	3%	1654	2%	45976	1%	206550	1%
Driving a Car or Van	47	37%	32271	36%	1120826	30%	14345882	60%
Passenger in a Car or Van	0	0%	1341	1%	69659	2%	1264553	5%
Bicycle	9	7%	6062	7%	161705	4%	742675	3%
On Foot	6	5%	8138	9%	352612	9%	2701453	11%
Other Method of Travel to Work	1	1%	727	1%	28535	1%	162727	1%

Note: Those who work at or mainly from home and those not currently in employment have been excluded from this analysis.

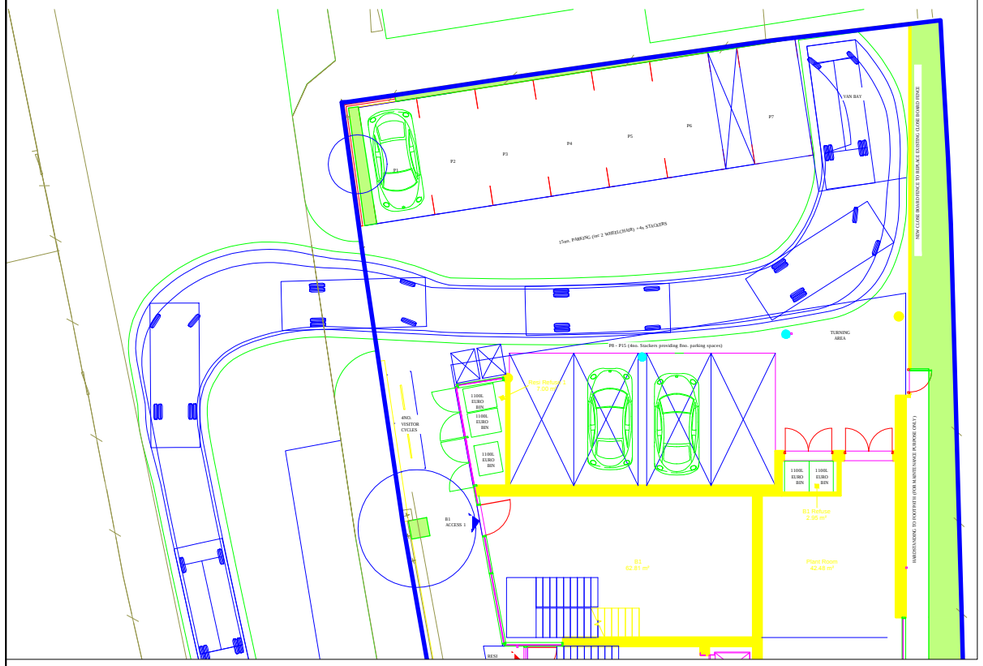
COTTEE

Car or Van Availability (QS416EW)

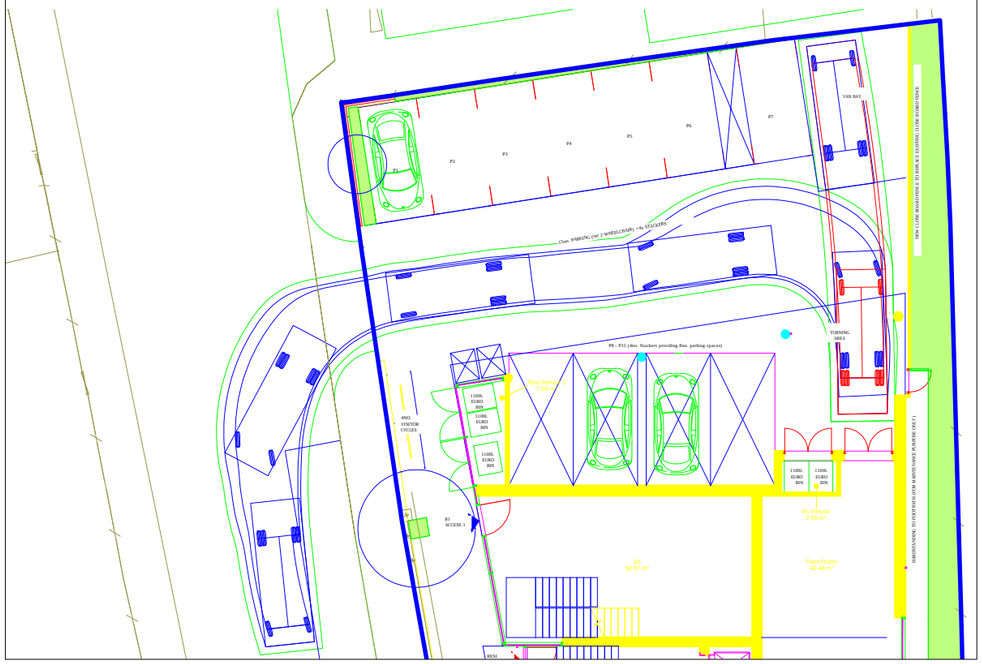
	E00019336 Output Area		Richmond upon Thames London Borough		London Region		England Country	
All Households	131		79835		3266173		22063368	
No Cars or Vans in Household	38	29%	19751	25%	1357251	42%	5691251	26%
1 Car or Van in Household	57	44%	40079	50%	1324032	41%	9301776	42%
2 Cars or Vans in Household	28	21%	16289	20%	458659	14%	5441593	25%
3 Cars or Vans in Household	7	5%	2926	4%	95619	3%	1203865	5%
4 or More Cars or Vans in Household	1	1%	790	1%	30612	1%	424883	2%

APPENDIX L

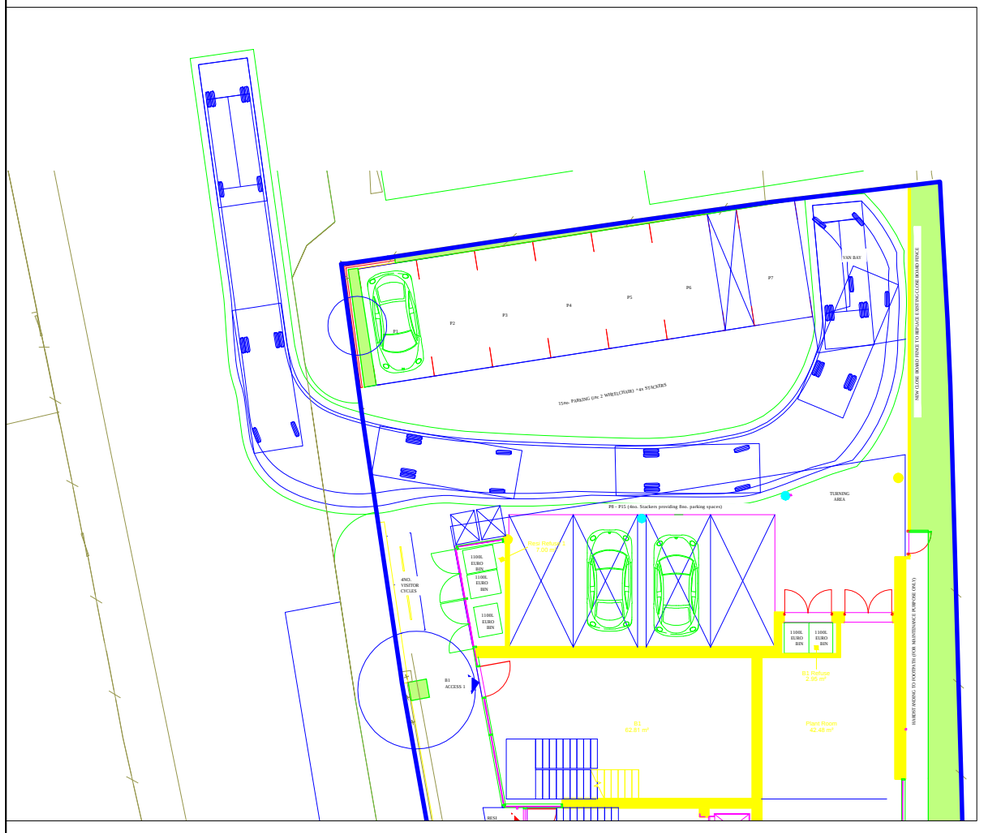
SWEPT PATH ANALYSIS



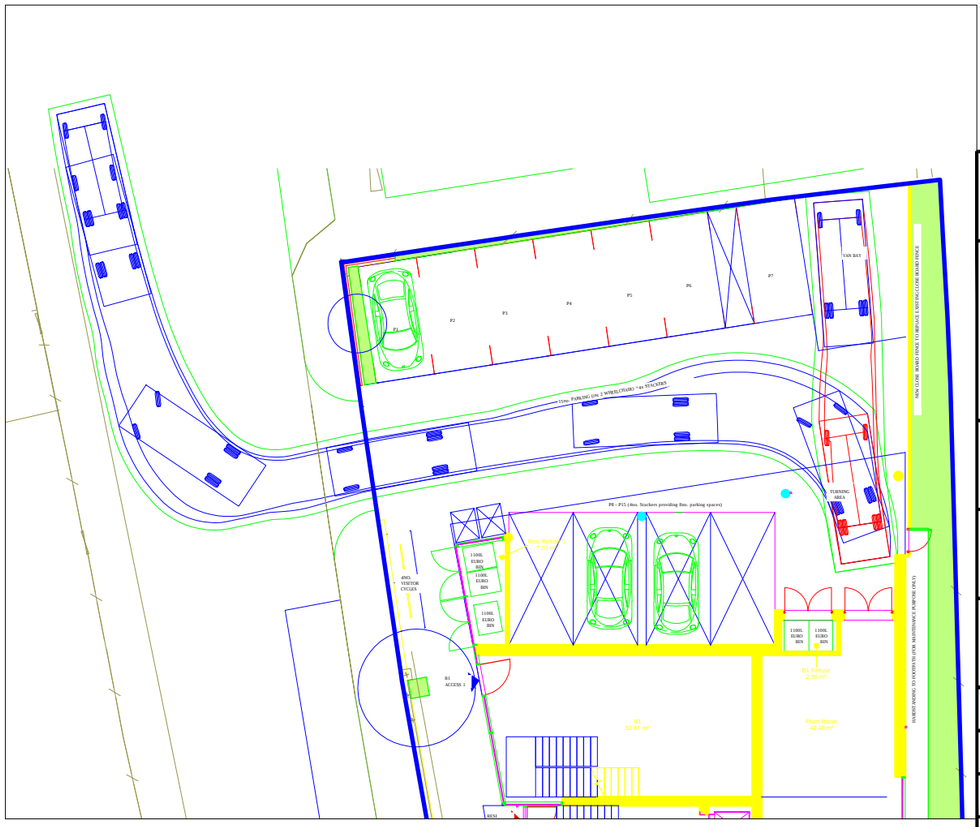
1. Design Vehicle turning right into the site from south on Sandycombe Road and entering the van bay in forward gear.



2. Design Vehicle exiting the van bay in reverse gear, turning and exiting the site in forward gear onto Sandycombe Road.

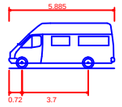


3. Design Vehicle turning left into the site from Sandycombe Road and entering the van bay in forward gear.



4. Design Vehicle exiting the van bay in reverse gear, turning and exiting the site in forward gear onto Sandycombe Road.

DESIGN VEHICLE:



4.6t Light Van

Overall Length	5.885m
Overall Width	2.000m
Overall Body Height	2.526m
Min Body Ground Clearance	0.299m
Track Width	1.765m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	6.000m

NOTE:

Drawing based on Goldcrest Architects drawing **5409-P03-100-GroundFloor-Proposed November 2016**

Subject to Topographical Survey, Highway Boundary information, Safety Audit, and Council Approval.

PRELIMINARY

COTTEE Transport Planning

Fir Lodge
Threshelfords Business Park
Feering
Essex
CO5 9SE

Tel : 01376 573400
Fax : 01376 573480
email : info@cottee-tp.co.uk
www.cotteetransportplanning.co.uk

Client

GOLDCREST LAND PLC

Project

1 - 9 SANDYCOMBE ROAD
RICHMOND

Title

SWEPT PATH ANALYSIS - SERVICE VEHICLE

Drawn	Checked
A FIRMIN	GJK
Scale 1:250 @ A3	**Date** NOV 2016

Drawing No. 14129/18