

54-58 Queen's Road, Reading

22/05/2018

Reference number KMSCDE36



## TRANSPORT NOTE



# SYSTRA

# 54-58 QUEEN'S ROAD, READING

## TRANSPORT NOTE

### IDENTIFICATION TABLE

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- Appendix B – Office TRICS Trip Rates
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# 1. INTRODUCTION

## 1.1 Context

- 1.1.1 SYSTRA Ltd has been commissioned by Pinemace Ltd to produce a Transport Note to support a Prior Notification Application (PNA) for the change of use at 54-58 Queen's Road, Reading from 1,402m<sup>2</sup> of B1 Office space to 20 residential units. The proposed redevelopment will provide 10 car parking spaces together with 10 cycle parking spaces. The proposed site layout is included as **Appendix A**.
- 1.1.2 The site is located on the corner of Queen's Road and Sidmouth Street, approximately 500m to the south east of Reading Town Centre. The site is bordered by Queen's Road to the north, Sidmouth Street to the east, Trinity Hall student accommodation to the south and 52 Queen's Road to the west. The local planning and highway authority is Reading Borough Council (RBC).

## 1.2 Policy Considerations

- 1.2.1 This Transport Note has taken into consideration key policy at National, Regional and Local level. The key policy documents considered are listed below;
- National Planning Policy Framework (March 2012);
  - Draft Revised National Planning Policy Framework (March 2018);
  - National Planning Practice Guidance (NPPG) 'Travel Plans, Transport Assessments and Statements in Decision-Taking' (March 2014);
  - Reading Borough Council Draft Local Plan (2017);
  - Reading Core Strategy (2008; amended 2015); and
  - Reading Local Transport Plan 3 (2011).

## 1.3 Report Structure

- 1.3.1 This Transport Note is set out as follows:
- **Section 2 Existing Situation:** Review of the existing transport conditions of the site and surrounding transport networks;
  - **Section 3 Proposed Development:** Analysis of the development proposal in respect of access, parking arrangements and servicing;
  - **Section 4 Proposed Trip Generation:** Sets out the level of trips that are likely to be generated by all modes of travel as well as outlining the net increase in trips;
  - **Section 5 Summary:** Summary of the findings of this Transport Note.

## 2. EXISTING CONDITIONS

### 2.1 Introduction

- 2.1.1 This section considers the site location in relation to the existing highway network and sustainable modes of transport available in close proximity to the development site. It is informed by desk-based research and a site audit undertaken on 24<sup>th</sup> April 2018.

### 2.2 Site Location and Existing Use

- 2.2.1 The site is located at 54-58 Queen's Road, approximately 500m east of Reading Town Centre. The site provides approximately 1,402m<sup>2</sup> of B1 office space with Unit 54 occupied by Barrett & Co LLP (a solicitors firm), Unit 58 occupied by Moore Stephens LLP (a tax and accounting firm) whilst Unit 56 is part occupied by UNISON (Trade Union). The existing site has a total of 31 car parking spaces whilst no formal cycle parking is currently provided. The existing site is demonstrated in Figure 2.1 and Figure 2.2.

Figure 2.1. Existing Site Conditions (from Queen's Road)



Figure 2.2. Existing Site Conditions (from Sidmouth Street)



## 2.3 Site Planning History

2.3.1 Whilst 54-58 Queen's Road is not subject to any recent, relevant planning applications, a number of similar applications have been recently approved on Queen's Road, including the following in the near vicinity of the site:

- 38 Queen's Road. *Change of use from B1 offices to 6 self-contained flats.* Application number 170164 (permitted May 2017).
- 52 Queen's Road. Proposed conversion of office into 4 self-contained residential units. Application number 110380 (permitted May 2012).
- 60 Queens Road. *Change of use of ground, first and second floors from Class B1(a) (offices) to C3 (dwelling houses) to comprise 8 x 2-bed flats and 22 x 1-bed flats.* Application number 141834 (permitted January 2015).
- Clarendon House 59-75 Queen's Road. *Change of use of building from Class B1(a) (offices) to C3 (dwelling houses) to comprise 49 residential units.* Application number 170905 (permitted July 2017).
- Havell House 62-66 Queen's Road. *Change of use of first floor from Class B1(a) (offices) to C3 (dwelling houses) to comprise 4 no. one bed flats.* Application number 160026 (permitted June 2016).

2.3.2 No objection was recommended by the Local Highway Authority to any of the above applications. It is worth noting that an informative was given for application number 141834 and 170905 which stated;

'The occupiers of the residential units will not be entitled to an on-street car parking permit in the interests of the proper management of parking, and to ensure that the development does not harm the existing amenities of the occupiers of the neighbouring residential properties by adding to the already high levels of on street car parking in the area in accordance with Core Strategy Policy CS24 and Sites and Detailed Policies document Policy DM12.'

2.3.3 The applicant would be happy to impose a similar restriction on future residents at the proposed residential conversion.

## 2.4 Pedestrian and Cycle Network

2.4.1 To enable an assessment of the viability of walking between the site and key destinations in the local area it is appropriate to establish the maximum distance that people are generally prepared to walk and the destinations that exist within these distances.

2.4.2 The Institute of Highways and Transportation's (IHT) guidance, Guidelines for Providing for Journeys on Foot (2000), states in paragraph 3.32 that the preferred maximum walking distance to facilities and local services is two kilometres. The distances for various land uses, are summarised in Table 2-1.

**Table 2-1 Acceptable Walking Distances (metres)**

| Definition        | Town Centres | Commuting/School | Elsewhere |
|-------------------|--------------|------------------|-----------|
| Desirable         | 200m         | 500m             | 400m      |
| Acceptable        | 400m         | 1,000m           | 800m      |
| Preferred Maximum | 800m         | 2,000m           | 1,200m    |

Source: *Providing for Journeys on Foot (IHT, 2000)*

- 2.4.3 Being within 500m of Reading Town Centre, the site is well connected in terms of footways and cycleways. Footways measuring approximately 2.5m in width are provided on both sides of the carriageway on Queen's Road which facilitate access to the town centre. The footways on Queen's Road are shown in Figure 2.3.

**Figure 2.3. Footway Conditions on Queen's Road**



- 2.4.4 Footways on Sidmouth Street, to the south of the site, are approximately 2.0m wide and are shown in and Figure 2.4 below.

**Figure 2.4. Footway Conditions on Sidmouth Street**



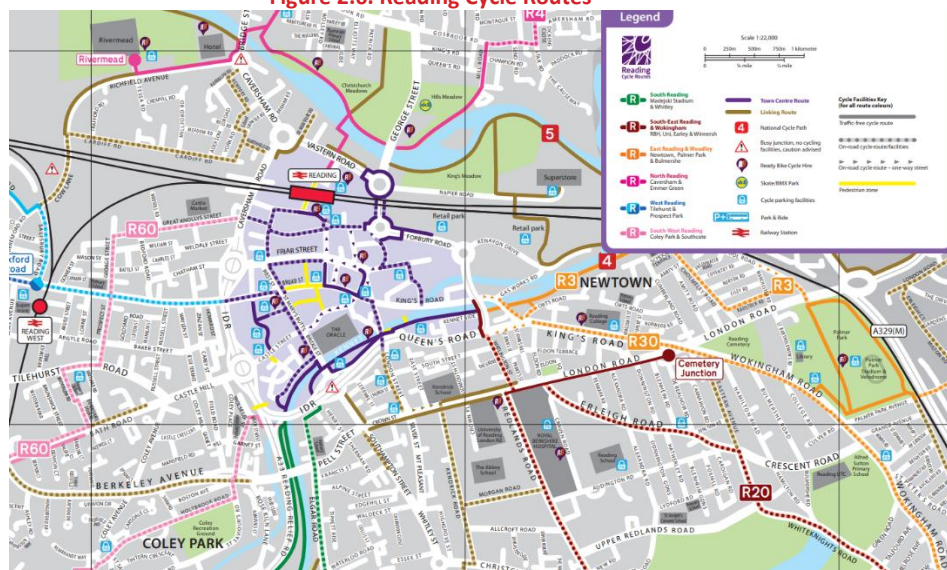
- 2.4.5 As shown in Figure 2.5, to the immediate north of the site on Queen's Road a signalised junction with pedestrian crossings is provided which enables movement to the northern side of the carriageway and into the town centre, as well as across Sidmouth Street to the east. Within the town centre a full network of footways, crossings and pedestrianised zones are available to facilitate pedestrian movement.

Figure 2.5. Signalised Pedestrian Crossing on Queen's Road



- 2.4.6 Cycling is considered an important mode of sustainable travel and is generally considered suitable for distances of up to 3 miles (4.8km) for regular journeys in urban areas, and 5 miles (8.0km) for commuting journeys (source: LTN 2/08, Cycle Infrastructure Design).
- 2.4.7 Being within the town centre, the local road network is conducive to travel by cycle with various routes in the vicinity of the site. National Cycle Route 4 is also located to the north of the site, providing an off-road route in the vicinity of the site along the River Kennet and into the town centre. RBC have produced a town centre cycle routes map which is shown below in Figure 2.6.

Figure 2.6. Reading Cycle Routes



Source: Reading Borough Council

- 2.4.8 Cycle parking is available throughout the Reading Town Centre, with the nearest public cycle racks located at Oracle Riverside within 400m from the site.
- 2.4.9 Readybike docking stations are located throughout Reading Town Centre and offer people the opportunity to rent a bike on a pay as you go basis. Readybike provides a 24 hour bike share service in Reading and the nearest docking station is located on London Street close to Oracle Riverside as shown in Figure 2.7.

**Figure 2.7. Readybike Docking Stations at Riverside**



- 2.4.10 The local pedestrian and cycle network is considered high quality, with a comprehensive network of infrastructure available in the vicinity of the site to encourage travel by sustainable modes.

## **2.5 Bus and Rail Connections**

- 2.5.1 The nearest bus stops to the site are located on the A327 London Street, 300m to the west as shown in Figure 2.8. These bus stops are served by a number of services providing various routes to leisure, school and employment destinations including Reading Town Centre, Reading Railway Station, Farnborough, Coley Park, Lower Earley, Reading University, Whitley and Madejski Stadium, amongst others. An additional stop is provided on London Road approximately 300m south of the site.

**Figure 2.8. Southbound Bus Stop on London Street**



2.5.2 Services are available 7 days per week, with some services available up to every 10 minutes 24 hrs per day. A summary of the services available from this stop is detailed in Table 2-2.

**Table 2-2 Summary of Bus Routes from London Road**

| Service Number | Route Summary                                                | Daytime Frequency                                       |                                                         |                                                         |
|----------------|--------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------|
|                |                                                              | Monday-Friday                                           | Saturday                                                | Sunday                                                  |
| <b>3B</b>      | Bracknell – Aborfield – Reading                              | One per hour<br>First Bus: 07:23<br>Last Bus: 23:56     | One per hour<br>First Bus: 07:21<br>Last Bus: 23:56     | One per hour<br>First Bus: 09:41<br>Last Bus: 19:43     |
| <b>5, 6/6a</b> | Central Reading – Whitley Wood                               | Every 8-10 minutes<br>(24 Hour Service)                 | Every 10 minutes<br>(24 Hour Service)                   | Every 20 minutes<br>First Bus: 06:47<br>Last Bus: 03:47 |
| <b>7</b>       | Reading Station – Three Mile Cross – Hartley Wintney - Fleet | One per hour<br>First Bus: 05:25<br>Last Bus: 18:58     | One per hour<br>First Bus: 06:18<br>Last Bus: 18:31     | No Service                                              |
| <b>9</b>       | Shinfield Park – Whitley – Reading                           | One per hour<br>First Bus: 06:21<br>Last Bus: 20:22     | One per hour<br>First Bus: 07:21<br>Last Bus: 20:22     | No Service                                              |
| <b>10a</b>     | Wokingham – Aborfield – Reading                              | Three per hour<br>First Bus: 05:47<br>Last Bus: 23:26   | Three per hour<br>First Bus: 06:41<br>Last Bus: 23:26   | One per hour<br>First Bus: 09:11<br>Last Bus: 00:07     |
| <b>11</b>      | Central Reading – Coley Park                                 | Every 20 minutes<br>First Bus: 05:48<br>Last Bus: 23:48 | Every 20 minutes<br>First Bus: 05:48<br>Last Bus: 23:48 | Every 20 minutes<br>First Bus: 08:18<br>Last Bus: 22:23 |
| <b>12</b>      | Woodley – Earley – Reading                                   | One per hour<br>First Bus: 07:38<br>Last Bus: 20:15     | One per hour<br>First Bus: 09:08<br>Last Bus: 20:08     | No Service                                              |
| <b>21/21a</b>  | Central Reading – University – Lower Early                   | Every 8 minutes<br>(24 Hour Service)                    | Every 15 minutes                                        | Every 20 minutes<br>First Bus: 07:02<br>Last Bus: 03:02 |
| <b>22</b>      | Lower Earley – Central Reading – Caversham Heights           | One per hour<br>First Bus: 05:33<br>Last Bus: 20:44     | One per hour<br>First Bus: 07:27<br>Last Bus: 20:39     | No Service                                              |

Source: Traveline (Checked 04/05/17)

- 2.5.3 Reading Railway Station is located 900m to the north west of the site which is accessible via an 11 minute walk or a 5 minute cycle. Reading Railway Station is managed by Network Rail and served by Great Western Railway, CrossCountry and South Western Railway services. Being a transport hub, Reading Railway Station provides frequent services both locally and further afield, including to London Paddington, London Waterloo, Gatwick Airport, Cardiff, Bournemouth and Bristol Temple Meads, amongst many others.
- 2.5.4 The level of accessibility to frequent bus and rail services to a wide range of locations ensures that travel to and from the site by bus and rail are viable options and could form part of a multi-modal journey from the site to wider afield.

## 2.6 Local Amenities

- 2.6.1 Being within just 500m of Reading Town Centre, a wide range of facilities and amenities are located well within the 'preferred maximum' walking distance recommended by IHT. These include (but are not limited to); The Oracle Shopping Centre, restaurants, pubs, Vue Cinema, churches, recreation facilities, car parks, libraries and offices. The Oracle Shopping Centre is demonstrated in Figure 2.9, with a summary of nearby local amenities and their associated walking and cycling distance included as Table 2-3.

**Figure 2.9. Oracle Shopping Centre**



**Table 2-3 Summary of Walking and Cycling Distances to Local Amenities**

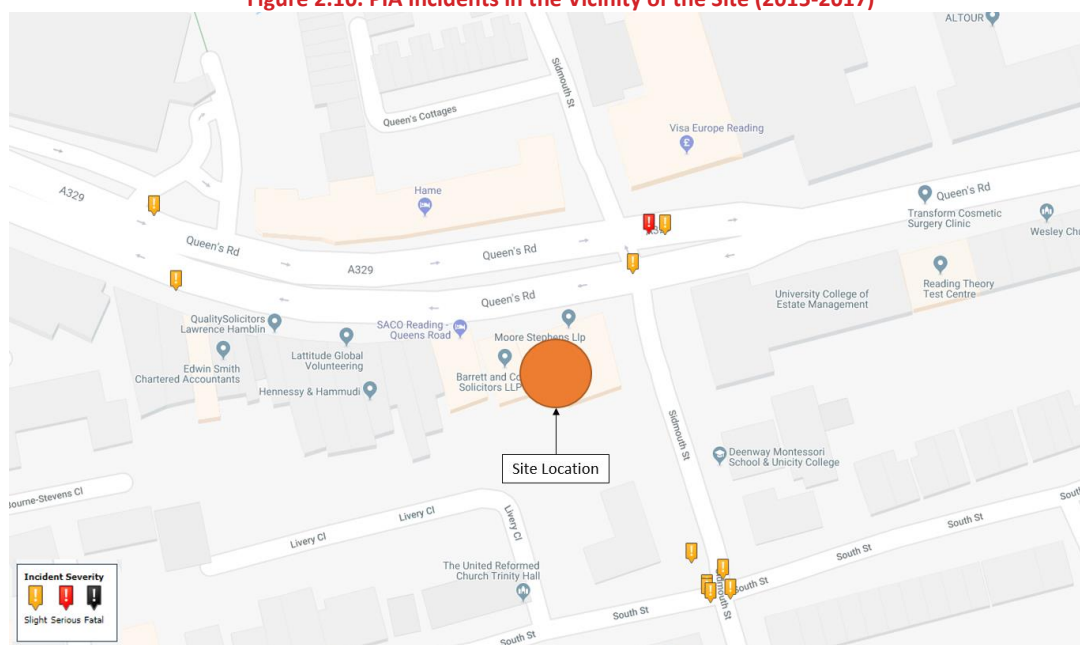
| Amenity                                    | Distance (metres) | Walking Time (Minutes) | Cycling Time (minutes) |
|--------------------------------------------|-------------------|------------------------|------------------------|
| <b>Retail</b>                              |                   |                        |                        |
| Reading Town Centre                        | 500m              | 7                      | 3                      |
| Broad Street                               | 700m              | 9                      | 5                      |
| Forbury Retail Park                        | 850m              | 11                     | 6                      |
| <b>Schools and Universities</b>            |                   |                        |                        |
| Kendrick School                            | 350m              | 5                      | 2                      |
| University of Reading (London Road Campus) | 500m              | 7                      | 3                      |
| The Abbey School                           | 650m              | 8                      | 5                      |
| Reading College                            | 750m              | 10                     | 4                      |
| Reading School                             | 1.1km             | 14                     | 7                      |
| <b>Healthcare</b>                          |                   |                        |                        |
| Kendrick View Dental Practice              | 350m              | 5                      | 2                      |
| Boots Pharmacy                             | 500m              | 7                      | 3                      |
| Melrose Doctor's Surgery                   | 500m              | 7                      | 3                      |
| Royal Berkshire Hospital                   | 850m              | 11                     | 6                      |

- 2.6.2 In terms of education, a variety of schools (both primary and secondary) are located within the 'preferred maximum' walking distance recommended by IHT. These include (but are not limited to) Kendrick School (350m away), Reading University London Road Campus (500m away), The Abbey School (650m away), Reading College (950m away) and Reading School (1.1km away).
- 2.6.3 The site is also well connected in terms of health provision, with Royal Berkshire Hospital (providing Accident and Emergency facilities) located less than 1km away.

## 2.7 Personal Injury Accident Data

- 2.7.1 A review of recent Personal Injury Accidents (PIA)s has been undertaken in the vicinity of the site using the Crashmap database, for the latest available three year period (2015-2017). The results are shown on Figure 2.10.

**Figure 2.10. PIA Incidents in the Vicinity of the Site (2015-2017)**



Source: Crashmap

- 2.7.2 As indicated in Figure 2.10 there have been three reported incidents at the junction of Queen's Road and Sidmouth Street, of which one was classified as 'serious' and two as 'slight' in nature. There has also been a cluster of 'slight' incidents at the junction of South Street with Sidmouth Street, to the south of the site. A review of these incidents has verified that two of the recorded eleven incidents in the site's vicinity have involved pedestrians, and none have involved cyclists. It is therefore most likely that the 'slight' incidents have occurred as a result of rear shunting at the junctions.
- 2.7.3 With a total of eleven PIA incidents occurring in the vicinity of the site over a three year period, and with the vast majority recorded as 'slight' in nature, it is not considered that a trend is identified that may worsen as a result of the development proposals, particularly when considering the busy nature of both Queen's Road and Sidmouth Street and that the development proposals are likely to result in a decrease of both vehicle and pedestrian trips to and from the site.

## 2.8 Summary

- 2.8.1 This section has demonstrated that the site is extremely accessible with high quality pedestrian and cycle links into Reading Town Centre, located just 500m away. The closest bus stops to the site provide regular services to the town centre and further afield, including local schools and employment and Reading Railway Station is a transport hub with numerous, frequent services to a wide range of destinations.
- 2.8.2 An array of local amenities and facilities including employment, healthcare and educational facilities are located within short walking and cycling distance of the site. A review of PIA incidents indicates no trend that may worsen as a result of the development proposals. The site is therefore considered accessible in highways terms.

### 3. PROPOSED REDEVELOPMENT

- 3.1.1 The proposed PNA is for the change of use of the existing 1,402m<sup>2</sup> office building at 54-58 Queen's Road, Reading to provide 20 residential units. The proposed development will comprise 16 x one bedroom flats and 4 x two bedroom flats with associated car and cycle parking. The existing and proposed site layout plans are attached as **Appendix A**.

#### 3.2 Access Arrangements

- 3.2.1 Vehicle access to the proposed residential units will remain unchanged from the existing office access arrangements, which are demonstrated in Figure 3.1.

**Figure 3.1. Existing Access onto Sidmouth Street**



- 3.2.2 Vehicle access to the development is taken to the south eastern corner of the site onto Sidmouth Street, via a barrier entrance. Given the existing use of the site versus the proposed, and the resulting decrease in trip generation as a result of the proposals (see **Section 4**), the existing access is considered safe and suitable to accommodate all vehicular traffic associated with the site.
- 3.2.3 The primary pedestrian access will be via the existing entrance off Queens Road. This will provide access to an Entrance Lobby with a corridor provided through the centre of the building through to the rear parking courtyard. A lift is provided to all floors ensuring that level access is provided to each of the units. As previously described the existing pedestrian network in the immediate vicinity of the site is suitable to accommodate all pedestrian traffic.

#### 3.3 Car and Cycle Parking Provision

- 3.3.1 The car parking standards for RBC are set out within their 'Reading Borough Local Development Framework Revised Parking Standards and Design' supplementary planning

document (SPD) (October 2011). The parking standards are based upon a zonal approach, for which this site lies on the boundary of Zone 1 and Zone 2, with Zone 1 covering the areas to the north of Queens Road and Zone 2 covering the area to the south of Queens Road.

- 3.3.2 Zone 1 is classified as being the ‘*very heart of Reading Borough*’, defined as having the best transport hubs and the largest proportion of public car parking spaces. Zone 2 is classified as the ‘*primary core area*’ extending to a 2km walking distance from the centre of Reading.
- 3.3.3 Based on this zonal approach, the Council’s requirements for 1-2 bedroom flats are 0.5 spaces per dwelling (Zone 1) and 1 space per dwelling (Zone 2). Sites within Zone 2 also require an additional 1 space per 10 dwellings for visitor parking. No additional visitor spaces are required for sites within Zone 1.
- 3.3.4 Applying these figures to the proposed development would equate to 10-22 spaces being required to serve the development. Whilst the site is located in Zone 2 it is considered that the area more reflects the characteristics of Zone 1 and therefore in accordance with policy objectives at a local and national level the site presents a good opportunity to reduce the level of parking and promote sustainable modes of transport over the use of the car.
- 3.3.5 As such the proposed development will provide a total of 10 spaces. It is considered that the level of parking reflects the sustainable location of the site (on the edge of Zone 1) whilst still providing sufficient parking provision to ensure that vehicles can park safely on the site, without overspill onto the local road network.
- 3.3.6 It is also noted that the restriction of resident parking on surrounding permitted streets is likely to be imposed, and therefore the proposed parking arrangements will ensure that no overspill parking will occur. It is also recognised that, being within 500m of the town centre, various car parks are in place in the immediate vicinity of the site (including the Queen’s Road car park and the Oracle car park) for visitor parking.
- 3.3.7 The standards also provide *minimum* requirements for cycle parking, which state a requirement for 0.5 spaces per 1-2 bedroom flat. These can be provided in the form of communal cycle parking, and must be conveniently located, easy to use, secure and covered.
- 3.3.8 To accommodate cycles a dedicated cycle store is proposed on the ground floor; accessible from both the front and rear of the site as shown on **Appendix A**. The cycle store provides five Sheffield cycle stands to accommodate 10 cycles in accordance with RBC’s minimum requirements.

### 3.4 Deliveries and Servicing

- 3.4.1 Access to the site for servicing and deliveries would primarily comprise the following:
  - Refuse vehicles accessing the residential units;
  - Post and mail deliveries and collections to the residential units;
  - Delivery of shopping and goods to the residential units; and
  - Maintenance vehicles.
- 3.4.2 There would also be the occasional removals vehicle when residents move into / out of properties. This will be most notable when the development is first occupied; subsequent to which these will be infrequent movements.

- 3.4.3 A refuse store is proposed to be located in the south eastern corner of the site, directly adjacent to the main vehicle entrance. The refuse store will be served in accordance with the existing servicing arrangements with refuse vehicles collecting bins from the roadside.
- 3.4.4 The refuse store is located 10m from the roadside and 25m from the apartment block and is therefore in accordance with Manual for Streets (MfS) required carry distances for both residents and collectors.
- 3.4.5 Mailboxes are provided off the Entrance Lobby for residents.

### 3.5 Construction

- 3.5.1 The details of construction for the proposed redevelopment (number of staff, length of works, operational hours etc) are yet to be finalised.
- 3.5.2 All construction routes to the site will be agreed with RBC prior to construction. The contractor would aim to employ local companies and workers to further reduce the impact of construction on the highway network, as well as providing economic benefits to the local area.
- 3.5.3 Construction workers will be encouraged to travel to the site via sustainable means. **Section 2** of this Transport Note describes the vast array of sustainable transport options to/ from the site.
- 3.5.4 Positive action would be taken to reduce the number of heavy construction vehicles entering and exiting the site. This will include 'Backloading' vehicle operation, where site delivery vehicles are utilised to remove waste materials from the site as part of the same trip.
- 3.5.5 It is not anticipated that there will be any abnormal loads, but if these are required the route and hours will be agreed in advance with RBC.
- 3.5.6 The above measures will help to ensure that construction works are organised and delivered in a manner that minimises the impact of the construction traffic on the local highway network in terms of highway safety and amenity.
- 3.5.7 A Construction Traffic Management Plan (CTMP) can be conditioned and submitted if required. The CTMP could provide measures to minimise the impact of the proposals at the development stage with mitigation measures suggested where appropriate.

## 4. VEHICLE TRIP GENERATION

- 4.1.1 This Transport Note has been prepared to demonstrate that the access arrangements are safe and satisfactory and that sustainable forms of travel such as pedestrian, cycle and public transport trips can be suitably catered for and encouraged.
- 4.1.2 To demonstrate that the proposed redevelopment will have no detrimental impact on the existing local road network, the TRICS database (version 7.5.1) has been interrogated to determine the likely trip generation of both the existing and the proposed development.

### 4.2 Existing Office Vehicle Trip Generation

- 4.2.1 The TRICS database has been interrogated for sites with similar characteristics to the existing use as a 1,402m<sup>2</sup> office building. The following parameters were used:
- 'Employment', 'Office' Use;
  - Sites in England and Wales Only (with sites in Greater London excluded);
  - GFAs of 500-3,000m<sup>2</sup>;
  - Surveys undertaken Monday- Friday only;
  - Sites located in 'Town Centre' and 'Edge of Town Centre' only.
- 4.2.2 A total of 12 sites were selected in the calculation with the TRICS outputs attached as **Appendix B**. The trip rates and trips generated by the existing office building are outlined in Table 4-1 below.

**Table 4-1 Existing Office Trip Generation**

|                   | AM Peak (0800-0900) |            |         | PM Peak (1700-1800) |            |         | TOTAL Daily |
|-------------------|---------------------|------------|---------|---------------------|------------|---------|-------------|
|                   | Arrivals            | Departures | Two-Way | Arrivals            | Departures | Two-Way |             |
| Vehicle Trip Rate | 2.145               | 0.288      | 2.349   | 0.293               | 1.768      | 2.061   | 16.759      |
| Vehicle Trips     | 30                  | 4          | 34      | 4                   | 25         | 29      | 235         |

- 4.2.3 Based on the TRICS trip rates, the assessment shows that the existing office building is likely to generate 34 trips in the AM Peak period (0800-0900), 29 trips in the PM Peak period (1700-1800) and 235 two-way trips across a 12 hour period.

### 4.3 Proposed Residential Use Vehicle Trip Generation

- 4.3.1 The proposed change of use seeks to provide a total of 20 residential flats comprising of 16 one bedroom units and 4 two bedroom units. To assess the likely future trip generation from the proposed site, the following parameters were used:
- 'Residential - Flats Privately Owned';
  - Multimodal Surveys
  - Sites in England and Wales Only (with sites in Greater London excluded);
  - Sites with less than 100 units;
  - Surveys undertaken Monday- Friday only;
  - Sites located in 'Town Centre' and 'Edge of Town Centre' only.

- 4.3.2 A total of 3 sites were selected in the calculation with the TRICS outputs attached as **Appendix C**. The trip rates and trips that are likely to be generated by the proposed site are outlined in Table 4-2 below.

**Table 4-2 Proposed Site Trip Generation**

|                   | AM Peak (0800-0900) |            |         | PM Peak (1700-1800) |            |         | TOTAL Daily |
|-------------------|---------------------|------------|---------|---------------------|------------|---------|-------------|
|                   | Arrivals            | Departures | Two-Way | Arrivals            | Departures | Two-Way |             |
| Vehicle Trip Rate | 0.068               | 0.149      | 0.217   | 0.159               | 0.115      | 0.274   | 2.613       |
| Vehicle Trips     | 1                   | 3          | 4       | 3                   | 2          | 5       | 52          |

- 4.3.3 Based on the TRICS trip rates, the assessment shows that the proposed residential development is likely to generate 4 trips in the AM Peak period (0800-0900), 5 trips in the PM Peak period (1700-1800) and 52 two-way trips across a 12 hour period.

## 4.4 Net Trip Generation

- 4.4.1 The total vehicle trips generated by the existing office building has been removed from the total vehicle trips generated by the proposed residential development in order to calculate the net vehicle trip generation associated with the redevelopment proposal. The net vehicle trips are outlined in Table 4-3.

**Table 4-3 Net Trip Generation**

|                      | AM Peak (0800-0900) |            |         | PM Peak (1700-1800) |            |         | TOTAL Daily |
|----------------------|---------------------|------------|---------|---------------------|------------|---------|-------------|
|                      | Arrivals            | Departures | Two-Way | Arrivals            | Departures | Two-Way |             |
| Existing Office      | 30                  | 4          | 34      | 4                   | 25         | 29      | 235         |
| Proposed Residential | 1                   | 3          | 4       | 3                   | 2          | 5       | 52          |
| Net Trip Generation  | -29                 | -1         | -30     | -1                  | -23        | -24     | -183        |

- 4.4.2 Table 4-3 demonstrates that the proposed redevelopment is likely to result in a reduction in vehicle trips compared to the existing office of -30 in the AM Peak Period, -23 in the PM Peak period and -183 across a 12 hour day.

## 4.5 Person Trip Generation and Modal Split

- 4.5.1 The proposed redevelopment lies on the border of the Abbey and Katesgrove wards. Census data from 2011 has been used to establish the modal split of person trips in the local area. Table 4-4 below demonstrates the modal split and the likely number of trips generated by the proposed development. Given the site location on the border of two wards an average of the two modal splits taken from the 2011 Census Method of Travel to Work has been used to estimate the person trips.

**Table 4-4 Census Travel to Work Modal Split**

| Mode          | AM PEAK  |          |           | PM PEAK  |          |           | 12 HOUR    | Census Modal Split |
|---------------|----------|----------|-----------|----------|----------|-----------|------------|--------------------|
|               | IN       | OUT      | TWO WAY   | IN       | OUT      | TWO WAY   |            |                    |
| Train         | 1        | 2        | 3         | 2        | 1        | 3         | 28         | 18%                |
| Bus           | 0        | 1        | 1         | 1        | 1        | 2         | 18         | 11%                |
| Taxi          | 0        | 0        | 0         | 0        | 0        | 0         | 1          | 0%                 |
| Motorcycle    | 0        | 0        | 0         | 0        | 0        | 0         | 1          | 0%                 |
| Car Driver    | 1        | 3        | 4         | 3        | 2        | 5         | 52         | 33%                |
| Car Passenger | 0        | 0        | 0         | 0        | 0        | 0         | 5          | 3%                 |
| Bicycle       | 0        | 0        | 0         | 0        | 0        | 0         | 7          | 4%                 |
| On foot       | 1        | 3        | 4         | 3        | 2        | 5         | 46         | 30%                |
| Other         | 0        | 0        | 0         | 0        | 0        | 0         | 1          | 1%                 |
| <b>TOTAL</b>  | <b>3</b> | <b>9</b> | <b>12</b> | <b>9</b> | <b>6</b> | <b>15</b> | <b>159</b> | <b>100%</b>        |

- 4.5.2 Journey to work data shows that a high proportion (29%) of trips generated by the development are likely to use public transport (18% train and 11% bus) with a further 30% travelling on foot and 4% travelling by bicycle; equating to a total of 62% of trips using sustainable modes of travel.
- 4.5.3 The proximity of Reading Town Centre 500m to the north, as well as the high quality pedestrian, cycle and public transport links in the immediate vicinity of the site, will help to encourage residents to travel by public transport. The provision of a sheltered and secure cycle store coupled with high quality cycle parking in the town centre and at Reading Railway Station will help to encourage the take-up of cycling to and from the site.

## 4.6 Summary

- 4.6.1 The redevelopment proposal is therefore not considered to result in a negative impact upon the local highway network, pedestrian and cycle infrastructure or public transport networks given that the proposals are likely to generate a reduction of 199 vehicle trips per 12-hour day. It is therefore considered that the development would not result in a severe residual impact in accordance with the NPPF.

## 5. SUMMARY AND CONCLUSION

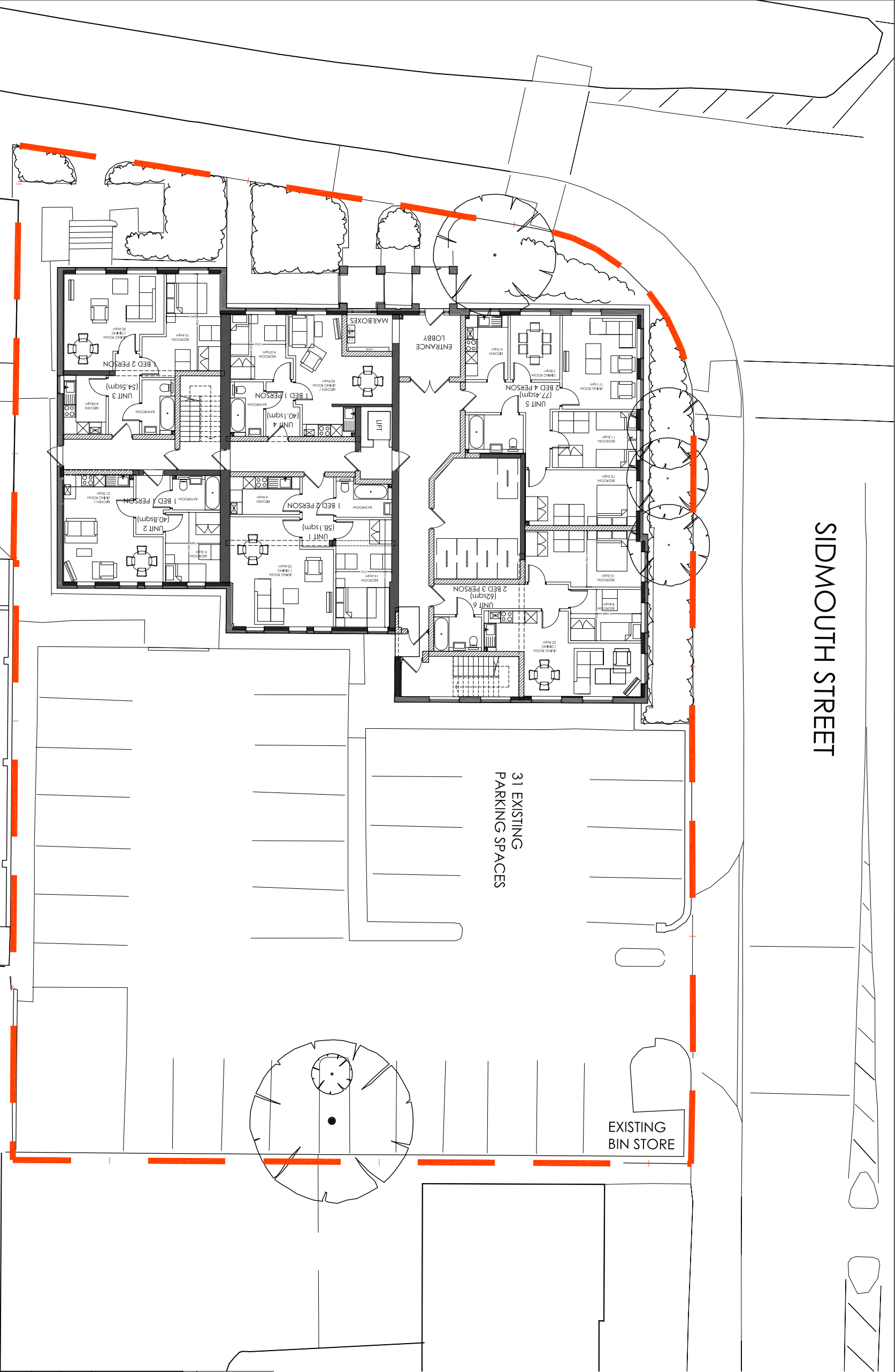
- 5.1.1 SYSTRA Ltd has been commissioned by Pinemace Ltd to produce a Transport Note to support a PNA for the change of use at 54-58 Queen's Road, Reading from 1,402m<sup>2</sup> of B1 Office space to 20 residential units. The proposed redevelopment will provide 10 car parking spaces and 10 cycle parking spaces. The proposed residential development will comprise of 16 one bedroom units and 4 two bedroom units. The site layout plans are attached as **Appendix A**.
- 5.1.2 The site is extremely accessible with high quality pedestrian and cycle links into Reading Town Centre, with an array of local amenities and facilities including employment, healthcare and educational facilities located within short walking and cycling distance. The closest bus stops to the site provide regular services to Reading Town Centre, Reading Railway Station and further afield, including local schools and employment. Reading Railway Station is a transport hub with numerous, frequent services to a wide range of destinations. A review of PIA incidents indicates no injury accident trends that may be exacerbated as a result of the development proposals.
- 5.1.3 Access to the proposed development will remain unchanged from the existing office access arrangements. Vehicle access to the site is taken from Sidmouth Street, with pedestrian access to both the front and rear of the site.
- 5.1.4 Car and cycle parking arrangements would be provided in accordance with RBC's requirements, with 10 car parking spaces provided to the rear of the site. A cycle store would be provided on the ground floor of the apartment building, providing space for 10 cycles. It is considered that the level of parking reflects the sustainable location of the site whilst still providing sufficient parking provision to ensure that vehicles can park safely on the site, without overspill onto the local road network.
- 5.1.5 A refuse store is proposed to be located in the south eastern corner of the site, immediately adjacent to the site access. The refuse store would be served in accordance with existing on-street servicing arrangements with carry distances for both residents and collectors provided in accordance with MfS guidance.
- 5.1.6 The proposed residential development is likely to result in a reduction of approximately -30 in the AM Peak Period, -23 in the PM Peak period and -183 across a 12 hour day compared to the existing use as an office. Therefore, the proposed development is not considered to result in a negative impact on the local highway network.
- 5.1.7 The proposed redevelopment is therefore not considered to result in an adverse impact upon the local highway network, pedestrian and cycle infrastructure or public transport networks. It is therefore considered that the development would not result in a severe residual impact in accordance with the NPPF.

## APPENDIX A – Proposed Site Plan



SIDMOUTH STREET

| PERMITTED DEVELOPMENT |              |                  |
|-----------------------|--------------|------------------|
| UNIT / FLOOR          | SIZE OF UNIT | BED / PERSON     |
| GROUND FLOOR          |              |                  |
| UNIT 1                | 58.1sqm      | 1 BED - 2 PERSON |
| UNIT 2                | 40.8sqm      | 1 BED - 1 PERSON |
| UNIT 3                | 54.5sqm      | 1 BED - 2 PERSON |
| UNIT 4                | 40.1sqm      | 1 BED - 1 PERSON |
| UNIT 5                | 77.4sqm      | 2 BED - 4 PERSON |
| UNIT 6                | 62sqm        | 2 BED - 3 PERSON |
| FIRST FLOOR           |              |                  |
| UNIT 7                | 58.1sqm      | 1 BED - 2 PERSON |
| UNIT 8                | 40.8sqm      | 1 BED - 1 PERSON |
| UNIT 9                | 54.5sqm      | 1 BED - 2 PERSON |
| UNIT 10               | 40.1sqm      | 1 BED - 1 PERSON |
| UNIT 11               | 40.4sqm      | 1 BED - 1 PERSON |
| UNIT 12               | 44.4sqm      | 1 BED - 1 PERSON |
| UNIT 13               | 62sqm        | 2 BED - 3 PERSON |
| SECOND FLOOR          |              |                  |
| UNIT 14               | 58.1sqm      | 1 BED - 2 PERSON |
| UNIT 15               | 40.8sqm      | 1 BED - 1 PERSON |
| UNIT 16               | 54.5sqm      | 1 BED - 2 PERSON |
| UNIT 17               | 40.1sqm      | 1 BED - 1 PERSON |
| UNIT 18               | 40.4sqm      | 1 BED - 1 PERSON |
| UNIT 19               | 44.4sqm      | 1 BED - 1 PERSON |
| UNIT 20               | 62sqm        | 2 BED - 3 PERSON |



| Rev | Date     | Description               | Rev By | CHKD By |
|-----|----------|---------------------------|--------|---------|
| A   | 10/05/18 | COLOURED HATCHING REMOVED | TVT    | BG      |

Project Title  
52-58 QUEENS ROAD  
READING  
RG1 4RP

Client  
PINEMACE LTD

Status  
FEASIBILITY

| Scale | Drawing Size |
|-------|--------------|
| 1:500 | A3           |

| Date       | Drawn By | Checked |
|------------|----------|---------|
| 10/04/2018 | TVT      | LB      |

Drawing Title  
PROPOSED BLOCK PLAN

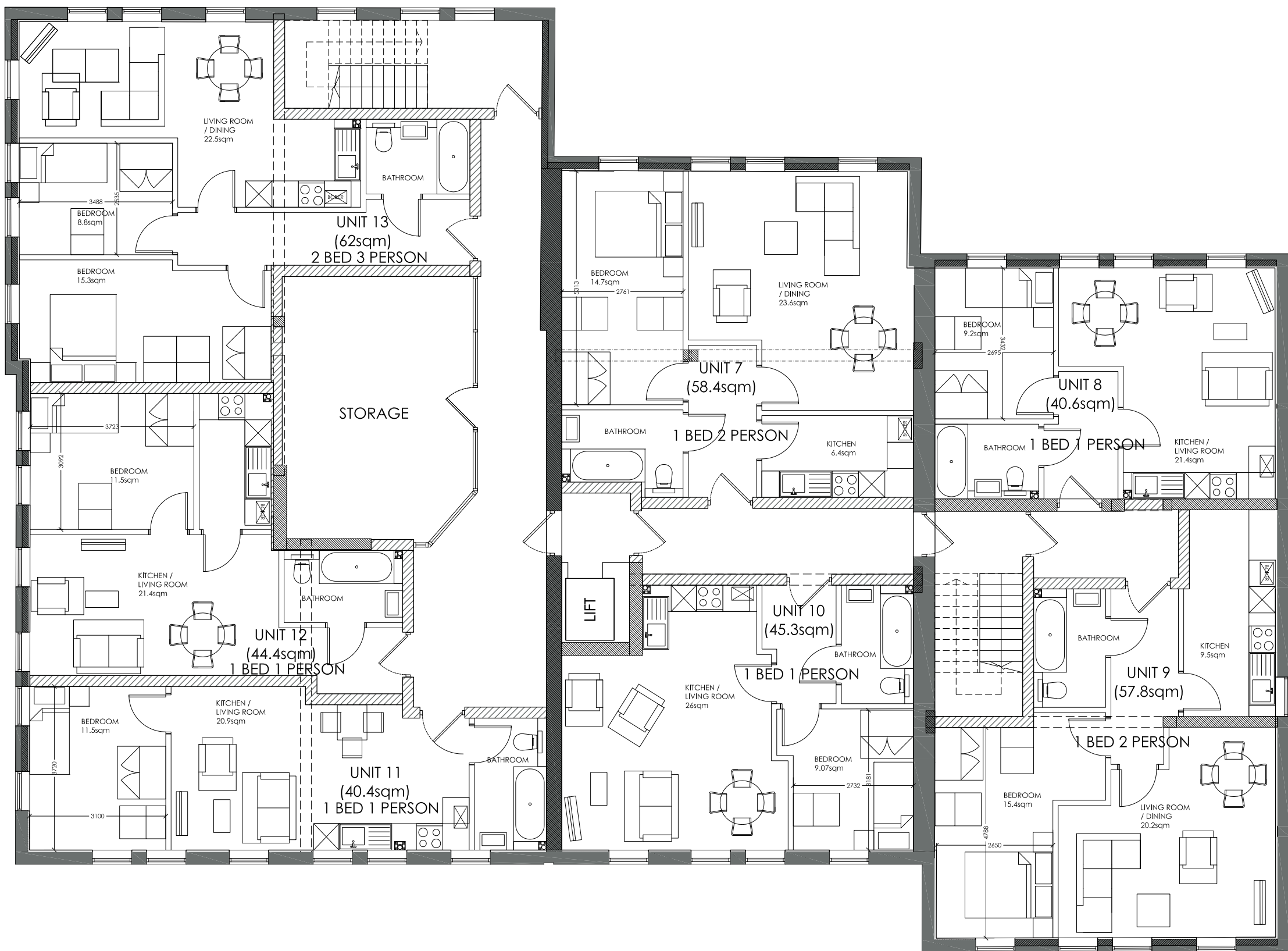
Job-Dwg No  
15261-013

Rev  
A

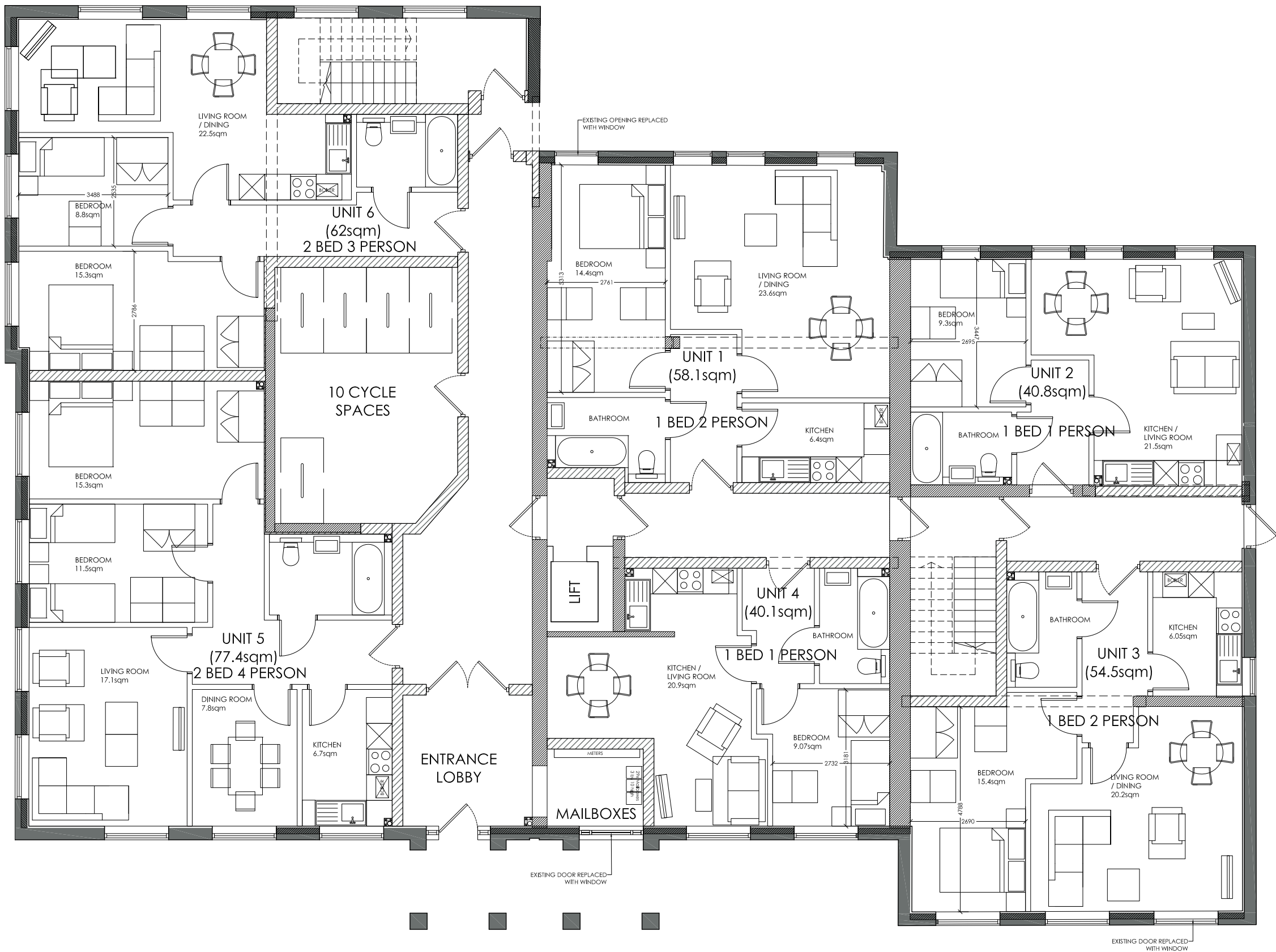
- ☐ 2 St. Johns North, Wokingham, WFT 3QA  
t. 01924 291800
- ☐ Corners Warehouse, 77 Dole Street, Manchester, M1 2HG  
t. 0161 2388555
- ☐ The Old Rectory, 79 High Street, Reading, RG1 1AA  
t. 01928 211577
- ☒ 101 London Road, Reading, RG1 1AA  
t. 0118 3507700
- ☐ 10 Gees Court, St Christophers Place, London, W1U 1JJ  
t. 0207 4071215



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FIRST FLOOR PLAN - PERMITTED DEVELOPMENT



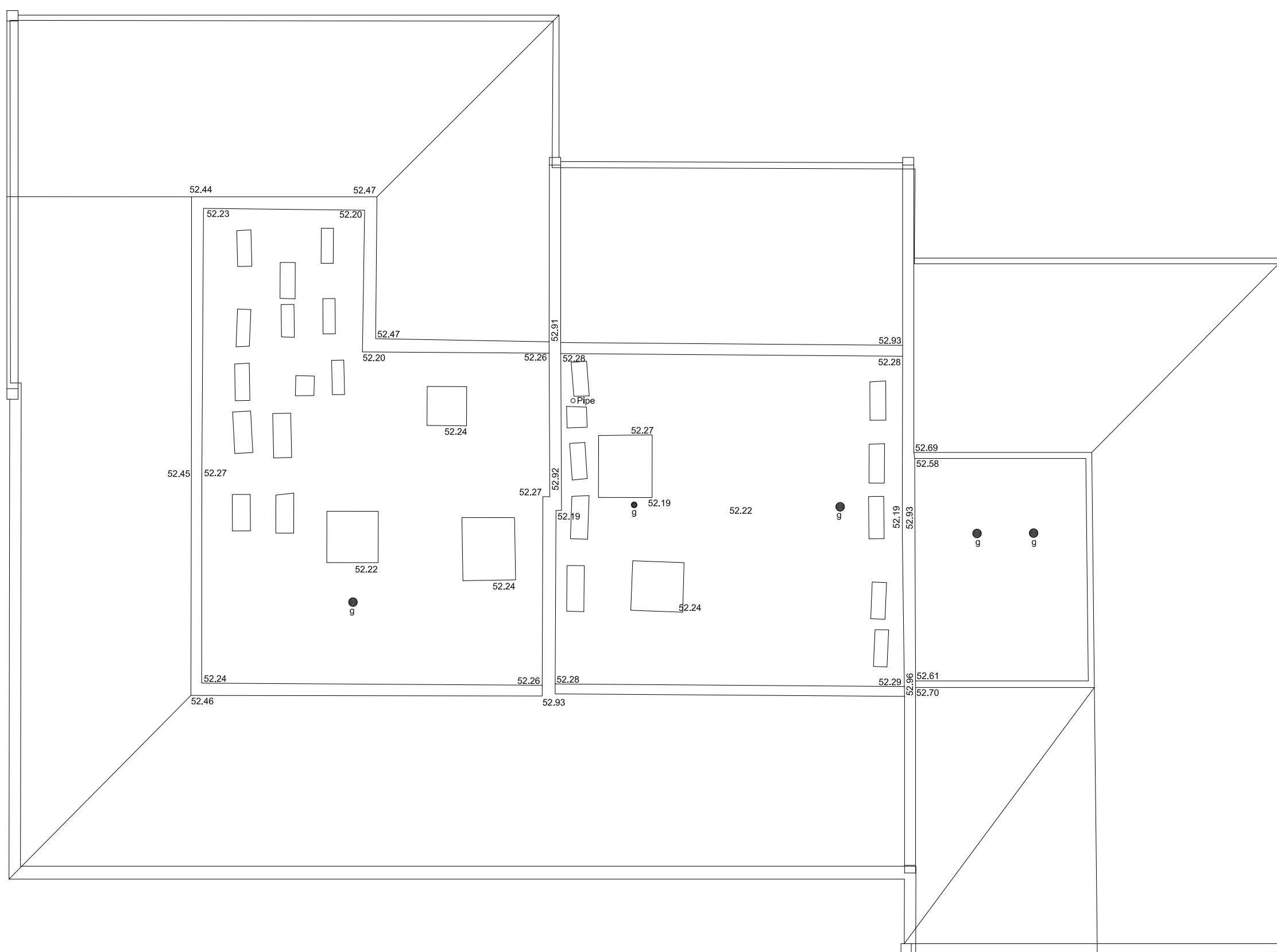
GROUND FLOOR PLAN - PERMITTED DEVELOPMENT

1m 2m 3m 4m 5m 6m 7m  
Scale Bar 1:100

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|               |                                         |              |     |
|---------------|-----------------------------------------|--------------|-----|
| Project Title | PROPOSED DEVELOPMENT                    |              |     |
|               | 54-58 QUEENS ROAD<br>READING<br>RG1 4RP |              |     |
| Client        | PINEMACE LTD                            |              |     |
| Status        | FEASIBILITY                             |              |     |
| Scale         | 1:100                                   | Drawing Size | A2  |
| Date          | 10/04/2018                              | Drawn By     | BG  |
|               |                                         | Checked      | TVT |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |                                    |        |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------|--------|----------|
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 10/05/18  | COLOURED HATCHING REMOVED          | TVT    | BG       |
| Rev                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Date      | Description                        | Rev By | Chk'd By |
| Drawing Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           | PROPOSED GROUND & FIRST FLOOR PLAN |        |          |
| Job-Dwg No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 15261-014 |                                    | Rev    | A        |
| <div><div><input type="checkbox"/> 2 St. Johns North,<br/>Wakefield, WF1 3QA<br/>t. 01924 291800</div><div><input type="checkbox"/> Carvers Warehouse, 77 Dale Street,<br/>Manchester, M1 2HG<br/>t. 0161 2388555</div><div><input type="checkbox"/> The Old Rectory, 79 High Street,<br/>Newport Pagnell, MK16 8AB<br/>t. 01908 211577</div><div><input checked="" type="checkbox"/> 101 London Road,<br/>Reading, RG1 5BY<br/>t. 0118 9507700</div><div><input type="checkbox"/> 10 Gees Court, St Christophers Place,<br/>London, W1U 1JJ<br/>t. 0207 4091215</div></div> <div><div><div>THE</div><div>HARRIS</div><div>PARTNERSHIP</div></div><div>ARCHITECTS</div><div>www.harrispartnership.com</div></div> |           |                                    |        |          |



The floor plan illustrates the layout of the 1st floor, featuring six residential units and a central storage area. The units are distributed across the plan, with Unit 20 being the largest and Unit 14 being the smallest. Each unit is equipped with a kitchen, living room, bedroom, and bathroom. The storage area is a large, open space located in the center of the floor. The plan also shows a lift and various stairwells. Room layouts and furniture placement are indicated by simple line drawings. Area measurements are provided for each room and unit.

| Unit    | Bedrooms | Bathrooms | Kitchen / Living Room | Storage | Total Area (sqm) |
|---------|----------|-----------|-----------------------|---------|------------------|
| Unit 14 | 1        | 1         | 6.4                   | 0       | 58.4             |
| Unit 15 | 1        | 1         | 21.4                  | 0       | 40.6             |
| Unit 16 | 1        | 1         | 20.5                  | 0       | 57.8             |
| Unit 17 | 1        | 1         | 26.6                  | 0       | 45.3             |
| Unit 18 | 1        | 1         | 20.9                  | 0       | 40.4             |
| Unit 20 | 2        | 1         | 22.5                  | 15.5    | 62.5             |

| A           | 10.05/18  | COLOURED HATCHING REMOVED         | TVT    | BG       |
|-------------|-----------|-----------------------------------|--------|----------|
| Rev         | Date      | Description                       | Rev By | Chk'd By |
|             |           | PROPOSED SECOND FLOOR & ROOF PLAN |        |          |
| Job-Dwrg No | 15261-015 |                                   |        | Rev A    |

|               |                                         |          |              |             |
|---------------|-----------------------------------------|----------|--------------|-------------|
| Project Title | PROPOSED DEVELOPMENT                    |          |              |             |
|               | 54-58 QUEENS ROAD<br>READING<br>RG1 4RP |          |              |             |
| Client        | PINEMACE LTD                            |          |              |             |
| Status        | FEASIBILITY                             |          |              |             |
| Scale         | 1:100                                   |          | Drawing Size | A2          |
| Date          | 10/04/2018                              | Drawn By | BG           | Checked TVT |

- ☐ 2 St. Johns North,  
Wakefield, WF1 3QA  
t. 01924 291800
- ☐ Carvers Warehouse, 77 Dale Street,  
Manchester, M1 2HG  
t. 0161 2388555
- ☐ The Old Rectory, 79 High Street,  
Newport Pagnell, MK16 8AB  
t. 01908 211577
- ☒ 101 London Road,  
Reading, RG1 5BY  
t. 0118 9507700
- ☐ 10 Gees Court, St Christophers Place,  
London, W1U 1JJ  
L0207 4091215



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## APPENDIX B – Office TRICS Trip Rates

## TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT  
 Category : A - OFFICE  
 MULTI-MODAL VEHICLES

Selected regions and areas:

|    |                       |        |
|----|-----------------------|--------|
| 02 | SOUTH EAST            |        |
|    | BD BEDFORDSHIRE       | 1 days |
|    | ES EAST SUSSEX        | 1 days |
|    | HF HERTFORDSHIRE      | 1 days |
|    | KC KENT               | 2 days |
|    | SO SLOUGH             | 1 days |
| 04 | EAST ANGLIA           |        |
|    | NF NORFOLK            | 1 days |
| 06 | WEST MIDLANDS         |        |
|    | WK WARWICKSHIRE       | 1 days |
| 08 | NORTH WEST            |        |
|    | GM GREATER MANCHESTER | 1 days |
| 09 | NORTH                 |        |
|    | CB CUMBRIA            | 1 days |
|    | TW TYNE & WEAR        | 1 days |
| 10 | WALES                 |        |
|    | SW SWANSEA            | 1 days |

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

## Secondary Filtering 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: Gross floor area  
 Actual Range: 610 to 2900 (units: sqm)  
 Range Selected by User: 500 to 3000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 11/09/17

*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    | 4 days |
| Wednesday | 3 days |
| Thursday  | 4 days |
| Friday    | 1 days |

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

Selected survey types:

|                       |         |
|-----------------------|---------|
| Manual count          | 12 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 undertaken using machines.*

Selected Locations:

|                     |   |
|---------------------|---|
| Town Centre         | 3 |
| Edge of Town Centre | 9 |

*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:

|                  |   |
|------------------|---|
| Industrial Zone  | 1 |
| Commercial Zone  | 1 |
| Development Zone | 1 |
| Built-Up Zone    | 7 |
| High Street      | 1 |
| No Sub Category  | 1 |

*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.*

## Secondary Filtering selection:

Use Class:

|    |         |
|----|---------|
| B1 | 12 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:

|                  |        |
|------------------|--------|
| 5,001 to 10,000  | 1 days |
| 10,001 to 15,000 | 1 days |
| 15,001 to 20,000 | 1 days |
| 20,001 to 25,000 | 2 days |
| 25,001 to 50,000 | 7 days |

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

Population within 5 miles:

|                    |        |
|--------------------|--------|
| 25,001 to 50,000   | 1 days |
| 50,001 to 75,000   | 1 days |
| 75,001 to 100,000  | 1 days |
| 125,001 to 250,000 | 6 days |
| 250,001 to 500,000 | 1 days |
| 500,001 or More    | 2 days |

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

Car ownership within 5 miles:

|            |        |
|------------|--------|
| 0.6 to 1.0 | 7 days |
| 1.1 to 1.5 | 5 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 | 3 days |
| No  | 9 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.*

PTAL Rating:

|                 |         |
|-----------------|---------|
| No PTAL Present | 12 days |
|-----------------|---------|

*This data displays the number of selected surveys with PTAL Ratings.*

LIST OF SITES relevant to selection parameters

|   |                         |                    |  |                     |
|---|-------------------------|--------------------|--|---------------------|
| 1 | BD-02-A-03              | OFFICES            |  | BEDFORDSHIRE        |
|   | BROMHAM ROAD            |                    |  |                     |
|   | BEDFORD                 |                    |  |                     |
|   | Edge of Town Centre     |                    |  |                     |
|   | No Sub Category         |                    |  |                     |
|   | Total Gross floor area: | 1469 sqm           |  |                     |
|   | Survey date: MONDAY     | 14/10/13           |  | Survey Type: MANUAL |
| 2 | CB-02-A-02              | OFFICE             |  | CUMBRIA             |
|   | PORT ROAD               |                    |  |                     |
|   | CARLISLE                |                    |  |                     |
|   | Edge of Town Centre     |                    |  |                     |
|   | Industrial Zone         |                    |  |                     |
|   | Total Gross floor area: | 925 sqm            |  |                     |
|   | Survey date: FRIDAY     | 24/06/16           |  | Survey Type: MANUAL |
| 3 | ES-02-A-07              | DISTRICT COUNCIL   |  | EAST SUSSEX         |
|   | VICARAGE LANE           |                    |  |                     |
|   | HAILSHAM                |                    |  |                     |
|   | Edge of Town Centre     |                    |  |                     |
|   | Built-Up Zone           |                    |  |                     |
|   | Total Gross floor area: | 2855 sqm           |  |                     |
|   | Survey date: THURSDAY   | 31/03/11           |  | Survey Type: MANUAL |
| 4 | GM-02-A-09              | LEASED OFFICES     |  | GREATER MANCHESTER  |
|   | NEW MOUNT STREET        |                    |  |                     |
|   | MANCHESTER              |                    |  |                     |
|   | Edge of Town Centre     |                    |  |                     |
|   | Built-Up Zone           |                    |  |                     |
|   | Total Gross floor area: | 2500 sqm           |  |                     |
|   | Survey date: MONDAY     | 26/09/16           |  | Survey Type: MANUAL |
| 5 | HF-02-A-03              | OFFICE             |  | HERTFORDSHIRE       |
|   | 60 VICTORIA STREET      |                    |  |                     |
|   | ST ALBANS               |                    |  |                     |
|   | Edge of Town Centre     |                    |  |                     |
|   | Built-Up Zone           |                    |  |                     |
|   | Total Gross floor area: | 610 sqm            |  |                     |
|   | Survey date: WEDNESDAY  | 16/10/13           |  | Survey Type: MANUAL |
| 6 | KC-02-A-09              | COUNCIL OFFICES    |  | KENT                |
|   | SANDLING ROAD           |                    |  |                     |
|   | MAIDSTONE               |                    |  |                     |
|   | Edge of Town Centre     |                    |  |                     |
|   | Built-Up Zone           |                    |  |                     |
|   | Total Gross floor area: | 1500 sqm           |  |                     |
|   | Survey date: WEDNESDAY  | 19/10/11           |  | Survey Type: MANUAL |
| 7 | KC-02-A-10              | COUNCIL OFFICES    |  | KENT                |
|   | SANDLING ROAD           |                    |  |                     |
|   | MAIDSTONE               |                    |  |                     |
|   | Edge of Town Centre     |                    |  |                     |
|   | Built-Up Zone           |                    |  |                     |
|   | Total Gross floor area: | 2900 sqm           |  |                     |
|   | Survey date: WEDNESDAY  | 19/10/11           |  | Survey Type: MANUAL |
| 8 | NF-02-A-02              | FINANCIAL PLANNERS |  | NORFOLK             |
|   | NORTH QUAY              |                    |  |                     |
|   | GREAT YARMOUTH          |                    |  |                     |
|   | Edge of Town Centre     |                    |  |                     |
|   | Commercial Zone         |                    |  |                     |
|   | Total Gross floor area: | 894 sqm            |  |                     |
|   | Survey date: MONDAY     | 11/09/17           |  | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                                                    |                 |                     |
|----|----------------------------------------------------|-----------------|---------------------|
| 9  | SO-02-A-01<br>HIGH STREET                          | COUNCIL OFFICES | SLOUGH              |
|    | SLOUGH<br>Town Centre<br>High Street               |                 |                     |
|    | Total Gross floor area:                            | 1800 sqm        |                     |
|    | Survey date: THURSDAY                              | 27/02/14        | Survey Type: MANUAL |
| 10 | SW-02-A-02<br>KINGS ROAD                           | OFFICE          | SWANSEA             |
|    | SWANSEA<br>Edge of Town Centre<br>Development Zone |                 |                     |
|    | Total Gross floor area:                            | 2225 sqm        |                     |
|    | Survey date: THURSDAY                              | 24/10/13        | Survey Type: MANUAL |
| 11 | TW-02-A-07<br>MULGRAVE TERRACE                     | OFFICES         | TYNE & WEAR         |
|    | GATESHEAD<br>Town Centre<br>Built-Up Zone          |                 |                     |
|    | Total Gross floor area:                            | 2090 sqm        |                     |
|    | Survey date: MONDAY                                | 13/06/16        | Survey Type: MANUAL |
| 12 | WK-02-A-01<br>WARWICK ROAD                         | OFFICES         | WARWICKSHIRE        |
|    | COVENTRY<br>Town Centre<br>Built-Up Zone           |                 |                     |
|    | Total Gross floor area:                            | 960 sqm         |                     |
|    | Survey date: THURSDAY                              | 17/10/13        | 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.*

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

MULTI-MODAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

| Time Range          | ARRIVALS |          |              | DEPARTURES |          |              | TOTALS   |          |               |
|---------------------|----------|----------|--------------|------------|----------|--------------|----------|----------|---------------|
|                     | No. Days | Ave. GFA | Trip Rate    | No. Days   | Ave. GFA | Trip Rate    | No. Days | Ave. GFA | Trip Rate     |
| 00:00 - 00:30       |          |          |              |            |          |              |          |          |               |
| 00:30 - 01:00       |          |          |              |            |          |              |          |          |               |
| 01:00 - 01:30       |          |          |              |            |          |              |          |          |               |
| 01:30 - 02:00       |          |          |              |            |          |              |          |          |               |
| 02:00 - 02:30       |          |          |              |            |          |              |          |          |               |
| 02:30 - 03:00       |          |          |              |            |          |              |          |          |               |
| 03:00 - 03:30       |          |          |              |            |          |              |          |          |               |
| 03:30 - 04:00       |          |          |              |            |          |              |          |          |               |
| 04:00 - 04:30       |          |          |              |            |          |              |          |          |               |
| 04:30 - 05:00       |          |          |              |            |          |              |          |          |               |
| 05:00 - 05:30       |          |          |              |            |          |              |          |          |               |
| 05:30 - 06:00       |          |          |              |            |          |              |          |          |               |
| 06:00 - 06:30       |          |          |              |            |          |              |          |          |               |
| 06:30 - 07:00       |          |          |              |            |          |              |          |          |               |
| 07:00 - 07:30       | 12       | 1679     | 0.114        | 12         | 1679     | 0.010        | 12       | 1679     | 0.124         |
| 07:30 - 08:00       | 12       | 1679     | 0.576        | 12         | 1679     | 0.045        | 12       | 1679     | 0.621         |
| 08:00 - 08:30       | 12       | 1679     | 0.978        | 12         | 1679     | 0.104        | 12       | 1679     | 1.082         |
| 08:30 - 09:00       | 12       | 1679     | 1.167        | 12         | 1679     | 0.149        | 12       | 1679     | 1.316         |
| 09:00 - 09:30       | 12       | 1679     | 0.894        | 12         | 1679     | 0.139        | 12       | 1679     | 1.033         |
| 09:30 - 10:00       | 12       | 1679     | 0.581        | 12         | 1679     | 0.209        | 12       | 1679     | 0.790         |
| 10:00 - 10:30       | 12       | 1679     | 0.452        | 12         | 1679     | 0.348        | 12       | 1679     | 0.800         |
| 10:30 - 11:00       | 12       | 1679     | 0.343        | 12         | 1679     | 0.348        | 12       | 1679     | 0.691         |
| 11:00 - 11:30       | 12       | 1679     | 0.253        | 12         | 1679     | 0.223        | 12       | 1679     | 0.476         |
| 11:30 - 12:00       | 12       | 1679     | 0.293        | 12         | 1679     | 0.268        | 12       | 1679     | 0.561         |
| 12:00 - 12:30       | 12       | 1679     | 0.278        | 12         | 1679     | 0.343        | 12       | 1679     | 0.621         |
| 12:30 - 13:00       | 12       | 1679     | 0.253        | 12         | 1679     | 0.248        | 12       | 1679     | 0.501         |
| 13:00 - 13:30       | 12       | 1679     | 0.283        | 12         | 1679     | 0.288        | 12       | 1679     | 0.571         |
| 13:30 - 14:00       | 12       | 1679     | 0.402        | 12         | 1679     | 0.338        | 12       | 1679     | 0.740         |
| 14:00 - 14:30       | 12       | 1679     | 0.223        | 12         | 1679     | 0.218        | 12       | 1679     | 0.441         |
| 14:30 - 15:00       | 12       | 1679     | 0.243        | 12         | 1679     | 0.333        | 12       | 1679     | 0.576         |
| 15:00 - 15:30       | 12       | 1679     | 0.174        | 12         | 1679     | 0.338        | 12       | 1679     | 0.512         |
| 15:30 - 16:00       | 12       | 1679     | 0.194        | 12         | 1679     | 0.343        | 12       | 1679     | 0.537         |
| 16:00 - 16:30       | 12       | 1679     | 0.243        | 12         | 1679     | 0.774        | 12       | 1679     | 1.017         |
| 16:30 - 17:00       | 12       | 1679     | 0.189        | 12         | 1679     | 0.933        | 12       | 1679     | 1.122         |
| 17:00 - 17:30       | 12       | 1679     | 0.204        | 12         | 1679     | 1.187        | 12       | 1679     | 1.391         |
| 17:30 - 18:00       | 12       | 1679     | 0.089        | 12         | 1679     | 0.581        | 12       | 1679     | 0.670         |
| 18:00 - 18:30       | 12       | 1679     | 0.055        | 12         | 1679     | 0.367        | 12       | 1679     | 0.422         |
| 18:30 - 19:00       | 12       | 1679     | 0.020        | 12         | 1679     | 0.124        | 12       | 1679     | 0.144         |
| 19:00 - 19:30       |          |          |              |            |          |              |          |          |               |
| 19:30 - 20:00       |          |          |              |            |          |              |          |          |               |
| 20:00 - 20:30       |          |          |              |            |          |              |          |          |               |
| 20:30 - 21:00       |          |          |              |            |          |              |          |          |               |
| 21:00 - 21:30       |          |          |              |            |          |              |          |          |               |
| 21:30 - 22:00       |          |          |              |            |          |              |          |          |               |
| 22:00 - 22:30       |          |          |              |            |          |              |          |          |               |
| 22:30 - 23:00       |          |          |              |            |          |              |          |          |               |
| 23:00 - 23:30       |          |          |              |            |          |              |          |          |               |
| 23:30 - 24:00       |          |          |              |            |          |              |          |          |               |
| <b>Total Rates:</b> |          |          | <b>8.501</b> |            |          | <b>8.258</b> |          |          | <b>16.759</b> |

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.

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#### Parameter summary

|                                               |                         |
|-----------------------------------------------|-------------------------|
| Trip rate parameter range selected:           | 610 - 2900 (units: sqm) |
| Survey date range:                            | 01/01/10 - 11/09/17     |
| Number of weekdays (Monday-Friday):           | 12                      |
| Number of Saturdays:                          | 0                       |
| Number of Sundays:                            | 0                       |
| Surveys automatically removed from selection: | 0                       |
| Surveys manually removed from selection:      | 0                       |

*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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.*

## APPENDIX C – Residential TRICS Trip Rates

Calculation Reference: AUDIT-700702-180504-0520

## TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

|    |                       |        |
|----|-----------------------|--------|
| 02 | SOUTH EAST            |        |
|    | EX ESSEX              | 2 days |
| 04 | EAST ANGLIA           |        |
|    | NF NORFOLK            | 1 days |
|    | SF SUFFOLK            | 1 days |
| 08 | NORTH WEST            |        |
|    | GM GREATER MANCHESTER | 1 days |
| 09 | NORTH                 |        |
|    | CB CUMBRIA            | 1 days |

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

## Secondary Filtering 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: 6 to 94 (units: )  
 Range Selected by User: 0 to 100 (units: )

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 18/09/17

*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:

|          |        |
|----------|--------|
| Tuesday  | 2 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          | 6 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 undertaken using machines.*

Selected Locations:

|                     |   |
|---------------------|---|
| Town Centre         | 2 |
| Edge of Town Centre | 4 |

*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 | 2 |
| Built-Up Zone    | 4 |

*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.*

## Secondary Filtering selection:

Use Class:

|    |        |
|----|--------|
| C3 | 6 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®.*

## Secondary Filtering selection (Cont.):

Population within 1 mile:

|                  |        |
|------------------|--------|
| 10,001 to 15,000 | 1 days |
| 15,001 to 20,000 | 1 days |
| 25,001 to 50,000 | 4 days |

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

Population within 5 miles:

|                    |        |
|--------------------|--------|
| 50,001 to 75,000   | 2 days |
| 75,001 to 100,000  | 1 days |
| 125,001 to 250,000 | 2 days |
| 500,001 or More    | 1 days |

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

Car ownership within 5 miles:

|            |        |
|------------|--------|
| 0.6 to 1.0 | 1 days |
| 1.1 to 1.5 | 5 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:

|    |        |
|----|--------|
| No | 6 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.*

PTAL Rating:

|                 |        |
|-----------------|--------|
| No PTAL Present | 6 days |
|-----------------|--------|

*This data displays the number of selected surveys with PTAL Ratings.*

LIST OF SITES relevant to selection parameters

|   |                            |                 |                     |                    |
|---|----------------------------|-----------------|---------------------|--------------------|
| 1 | CB-03-C-01                 | BLOCK OF FLATS  |                     | CUMBRIA            |
|   | KING STREET                |                 |                     |                    |
|   | CARLISLE                   |                 |                     |                    |
|   | Town Centre                |                 |                     |                    |
|   | Built-Up Zone              |                 |                     |                    |
|   | Total Number of dwellings: | 40              |                     |                    |
|   | Survey date: THURSDAY      | 12/06/14        | Survey Type: MANUAL |                    |
| 2 | EX-03-C-01                 | FLATS           |                     | ESSEX              |
|   | WESTCLIFF PARADE           |                 |                     |                    |
|   | WESTCLIFF                  |                 |                     |                    |
|   | SOUTHEND-ON-SEA            |                 |                     |                    |
|   | Edge of Town Centre        |                 |                     |                    |
|   | Residential Zone           |                 |                     |                    |
|   | Total Number of dwellings: | 6               |                     |                    |
|   | Survey date: TUESDAY       | 22/10/13        | Survey Type: MANUAL |                    |
| 3 | EX-03-C-02                 | BLOCK OF FLATS  |                     | ESSEX              |
|   | WESTCLIFF PARADE           |                 |                     |                    |
|   | WESTCLIFF                  |                 |                     |                    |
|   | SOUTHEND-ON-SEA            |                 |                     |                    |
|   | Edge of Town Centre        |                 |                     |                    |
|   | Residential Zone           |                 |                     |                    |
|   | Total Number of dwellings: | 94              |                     |                    |
|   | Survey date: TUESDAY       | 22/10/13        | Survey Type: MANUAL |                    |
| 4 | GM-03-C-03                 | BLOCK OF FLATS  |                     | GREATER MANCHESTER |
|   | FAIRFIELD STREET           |                 |                     |                    |
|   | MANCHESTER                 |                 |                     |                    |
|   | Town Centre                |                 |                     |                    |
|   | Built-Up Zone              |                 |                     |                    |
|   | Total Number of dwellings: | 20              |                     |                    |
|   | Survey date: FRIDAY        | 14/10/11        | Survey Type: MANUAL |                    |
| 5 | NF-03-C-01                 | BLOCKS OF FLATS |                     | NORFOLK            |
|   | PAGE STAIR LANE            |                 |                     |                    |
|   | KING'S LYNN                |                 |                     |                    |
|   | Edge of Town Centre        |                 |                     |                    |
|   | Built-Up Zone              |                 |                     |                    |
|   | Total Number of dwellings: | 51              |                     |                    |
|   | Survey date: THURSDAY      | 11/12/14        | Survey Type: MANUAL |                    |
| 6 | SF-03-C-01                 | BLOCKS OF FLATS |                     | SUFFOLK            |
|   | STATION HILL               |                 |                     |                    |
|   | BURY ST EDMUNDS            |                 |                     |                    |
|   | Edge of Town Centre        |                 |                     |                    |
|   | Built-Up Zone              |                 |                     |                    |
|   | Total Number of dwellings: | 85              |                     |                    |
|   | Survey date: THURSDAY      | 18/12/14        | 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.

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

| Time Range          | ARRIVALS |             |              | DEPARTURES |             |              | TOTALS   |             |              |
|---------------------|----------|-------------|--------------|------------|-------------|--------------|----------|-------------|--------------|
|                     | 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       | 6        | 49          | 0.054        | 6          | 49          | 0.105        | 6        | 49          | 0.159        |
| 08:00 - 09:00       | 6        | 49          | 0.068        | 6          | 49          | 0.149        | 6        | 49          | 0.217        |
| 09:00 - 10:00       | 6        | 49          | 0.078        | 6          | 49          | 0.088        | 6        | 49          | 0.166        |
| 10:00 - 11:00       | 6        | 49          | 0.115        | 6          | 49          | 0.142        | 6        | 49          | 0.257        |
| 11:00 - 12:00       | 6        | 49          | 0.115        | 6          | 49          | 0.098        | 6        | 49          | 0.213        |
| 12:00 - 13:00       | 6        | 49          | 0.135        | 6          | 49          | 0.101        | 6        | 49          | 0.236        |
| 13:00 - 14:00       | 6        | 49          | 0.135        | 6          | 49          | 0.152        | 6        | 49          | 0.287        |
| 14:00 - 15:00       | 6        | 49          | 0.105        | 6          | 49          | 0.115        | 6        | 49          | 0.220        |
| 15:00 - 16:00       | 6        | 49          | 0.074        | 6          | 49          | 0.078        | 6        | 49          | 0.152        |
| 16:00 - 17:00       | 6        | 49          | 0.142        | 6          | 49          | 0.081        | 6        | 49          | 0.223        |
| 17:00 - 18:00       | 6        | 49          | 0.159        | 6          | 49          | 0.115        | 6        | 49          | 0.274        |
| 18:00 - 19:00       | 6        | 49          | 0.128        | 6          | 49          | 0.081        | 6        | 49          | 0.209        |
| 19:00 - 20:00       |          |             |              |            |             |              |          |             |              |
| 20:00 - 21:00       |          |             |              |            |             |              |          |             |              |
| 21:00 - 22:00       |          |             |              |            |             |              |          |             |              |
| 22:00 - 23:00       |          |             |              |            |             |              |          |             |              |
| 23:00 - 24:00       |          |             |              |            |             |              |          |             |              |
| <b>Total Rates:</b> |          |             | <b>1.308</b> |            |             | <b>1.305</b> |          |             | <b>2.613</b> |

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.

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#### Parameter summary

|                                               |                     |
|-----------------------------------------------|---------------------|
| Trip rate parameter range selected:           | 6 - 94 (units: )    |
| Survey date range:                            | 01/01/10 - 18/09/17 |
| Number of weekdays (Monday-Friday):           | 6                   |
| Number of Saturdays:                          | 0                   |
| Number of Sundays:                            | 0                   |
| Surveys automatically removed from selection: | 0                   |
| Surveys manually removed from selection:      | 0                   |

*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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.*

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