



Broad Street Mall, Reading

Transport Statement

On behalf of **McLaren (Broad Street Mall) Ltd and UREF III LP.**

Project Ref: 332110742/5500 | Rev: A | Date: December 2023

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Document Control Sheet

Project Name: Broad Street Mall, Reading

Project Ref: 332110742

Report Title: Transport Statement

Doc Ref: BSMR-STN-BSM-XX-R-TR-0101-P01

Date: December 2023

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Revision	Date	Description	Prepared	Reviewed	Approved
P01	Jan 2024	Final	RH	JH	SW

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1 Introduction

Overview

- 1.1.1 Stantec has been commissioned on behalf of McLaren (Broad Street Mall) Limited and UREF III LP to prepare a Transport Statement (TS) to support the planning application for the partial redevelopment of the existing Broad Street Mall shopping centre to provide a mixed-use commercial and residential development.
- 1.1.2 The residential-led development will comprise of 644 new homes across four buildings, and 1,770sqm of non-residential space on ground level.
- 1.1.3 An illustrative plan is submitted with the planning application, which identifies the full extent of the proposed development, and the scheme assessed for the purposes of this report. **Appendix A** of this Report illustrates the proposed masterplan layout for the site.
- 1.1.4 This TS should be read in conjunction with the suite of planning documents submitted as part of the application, including a Framework Residential Travel Plan which has been prepared to identify measures that will be used to encourage sustainable travel choices by future residents and visitors.

Red Line Planning Application Strategy

- 1.1.5 A key element to enabling the development of this site is the construction works required outside of the development scheme red line. Therefore, two red lines and in turn two planning applications will be submitted;
 - Development Scheme
 - Temporary Construction
- 1.1.6 These applications will be submitted concurrently to Reading Borough Council and are expected to be considered and determined in this way by the local planning authority. This Transport Statement is submitted in respect of both applications.

Development Proposals

- 1.1.7 The extent of the redevelopment proposal covers the southern area of the existing shopping centre which fronts onto Dusseldorf Way, Queens Walk and Hosier Street.
- 1.1.8 The Development Scheme application is for:

“Part-demolition of existing retail units, car park and service areas, demolition and rebuild of car park ramp, and construction of a residential-led, mixed-use development fronting Queens Walk and Dusseldorf Way, including all necessary enabling and alteration works required”
- 1.1.9 The Temporary Construction application is for:

“Part-demolition of podium deck on Dusseldorf Way and Queens Walk, amendments to existing retaining wall, excavation works and road and hardstanding re-alignment to create a temporary construction area related to proposed redevelopment works at Broad Street Mall”

1.2 Transport Statement Objectives

1.2.1 The objectives of this TS are as follows:

- Demonstrate the suitability of the development proposals within the context of national and local transport policy;
- Consider access and movement to and from the site by all modes of transport with an emphasis on the promotion of non-car modes and with reference to the infrastructure in the vicinity of the site; and
- Determine the likely impact of the development proposals on the surrounding transport network relative to appropriate baseline conditions.

1.3 Report Structure

1.3.1 This TS is structured as follows:

- **Section 2: Policy Context** – This section sets out the various national and local policies and guidance related to this site.
- **Section 3: Site in Context** – This section provides an overview of the site location and the historical and existing site uses.
- **Section 4: Baseline Conditions** – This section provides the existing Highway and Parking Network connecting the site.
- **Section 5: Development Proposals** – This section outlines the proposed developments of the site.
- **Section 5: Construction Phase** – This section outlines the proposed construction works associated with the development and means of access during this phase.
- **Section 7: Sustainable Transport Network** – This section sets out accessibility to the site by walking, cycling and public transport.
- **Section 8: Highway Impact Assessment** – This section provides the site's existing and proposed trip rates and generation for both users and servicing.
- **Section 9: Town Centre Parking Impact Assessment** - This section provides a review of town centre parking demands and impact of the development proposals has on parking provisions.
- **Section 8: Conclusion**– This section summarises the finding of the report.

2 Policy Context

2.1 Introduction

- 2.1.1 This section of the TS review national and local policy documents relating to transport and highways matters and the proposed development site.

2.2 National Policy

National Planning Policy Framework (December 2023)

- 2.2.1 The National Planning Policy Framework (NPPF), published in 2012, was most recently updated in December 2023. The document sets out the Government's planning policies for England and how these should be applied.
- 2.2.2 Chapter 9 of the NPPF refers to promoting sustainable transport with respect to development proposals. Paragraph 108 states that "transport issues should be considered from the earliest stages of plan-making and development proposals, so that:
- *'The potential impacts of development on transport networks can be addressed;*
 - *Opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
 - *Opportunities to promote walking, cycling and public transport use are identified and pursued;*
 - *The environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects and for net environmental gains; and*
 - *Patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high-quality places.'*
- 2.2.3 Paragraph 114 of the NPPF states that when assessing sites, it should be ensured that;
- *'appropriate opportunities to promote sustainable travel modes can be – or have been – taken up, given the type of development and its location';*
 - *safe and suitable access to the site can be achieved for all users;*
 - *The design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including National Design Guide and National Model Design Code; and*
 - *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.'*
- 2.2.4 Paragraph 115 highlights that;
- 'Development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe'.*

2.2.5 Paragraph 116 states that applications for development should;

- *'give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*
- *address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*
- *create plans that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*
- *allow for the efficient delivery of goods, and access by service and emergency vehicles; and*
- *be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations'.*

2.2.6 Paragraph 117 states that

'All developments that will generate significant amounts of movements should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.'

2.2.7 As a whole, Chapter 9 emphasises the need to plan for sustainable travel but also to be pragmatic about the variability of transport options in different communities.

2.2.8 The proposed development is able to demonstrate compliance with all of the above paragraphs benefitting from excellent provision of public transport in proximity to the site and a pedestrian/cycle focussed direct access from the ground floor level.

Planning Practice Guidance (PPG) – Department for Communities and Local Government

2.2.9 The supporting 'Planning Practice Guidance' provides a section on 'Travel plans, transport assessments and statements in decision-taking'. This states that TAs can positively contribute to the following:

- *'encouraging sustainable travel;*
- *lessening traffic generation and its detrimental impacts;*
- *reducing carbon emissions and climate impacts;*
- *creating accessible, connected, inclusive communities;*
- *improving health outcomes and quality of life;*
- *improving road safety; and*
- *reducing the need for new development to increase existing road capacity or provide new roads.'*

2.2.10 The guidance also states that TAs should be:

- *'proportionate to the size and scope of the proposed development to which they relate and build on existing information wherever possible;*
- *established at the earliest practicable possible stage of a development proposal;*
- *be tailored to particular local circumstances (other locally-determined factors and information beyond those which are set out in this guidance may need to be considered in these studies provided there is robust evidence for doing so locally);*
- *be brought forward through collaborative ongoing working between the Local Planning Authority/Transport Authority. Engaging communities and local businesses in TAs can be beneficial in positively supporting higher levels of walking and cycling (which in turn can encourage greater social inclusion, community cohesion and healthier communities).'*

2.2.11 The proposed development has been designed incorporating these principles.

2.3 Local Policy

Reading Borough Council Local Plan (adopted November 2019);

2.3.1 This Local Plan provides policies on how Reading will develop up to 2036. Also, vision 2050 has been launched with an aim to make Reading more dynamic, clean, green, healthy, safe and desirable places to live, work, study and visit.

2.3.2 The Plan states that central Reading "is one of the most accessible locations in the South East".

2.3.3 There are six policies that affect the proposed development, these being:

- CC6 – The highest density and largest scale development location taking place in the most accessible location.
- CR12d – States that the Broad Street Mall has been earmarked for residential development and continued use of retail.
- TR1 – *'Proposed development should contribute appropriately to meeting the objectives of the most up-to-date Local Transport Plan'. Along with 'development proposals should make appropriate provision for works and contributions to ensure an adequate level of accessibility and safety by all modes of transport from all parts of a development, particularly by public transport, walking and cycling, in accordance with any agreed transport assessment submitted as part of the application.'*
- TR3 – *'Developments will only be permitted where:*
 - i. *Accesses and works to the highway comply with the adopted standards of the Transport Authority;*
 - ii. *The development would not have a material detrimental impact on the functioning of the transport network;*
 - iii. *The proposals would not be detrimental to the safety of users of the transport network, including pedestrians and cyclists;*
 - iv. *The proposal would not generate regular movement of heavy goods vehicles (HGVs) on unsuitable roads or on roads without easy access to the Classified Highway Network; and*

- v. *For non-residential uses, or new dwellings on classified roads, off-street servicing would be provided.'*
- TR4 – It is expected that developments will *'make full use of opportunities to improve access for cyclists to, from and within the development and to integrate cycling through the provision of new facilities. Development of new facilities for cycling, such as cycle hire points and cycle parking, will be acceptable.'*
- TR5 – *'Development should provide car parking and cycle parking that is appropriate to the accessibility of locations within the Borough to sustainable transport facilities, particularly public transport.'*

Local Cycle and Walking Infrastructure Plan 2020 - 2030 (LCWIP) (adopted November 2019)

- 2.3.4 The LCWIP has been developed in line with the following objectives. These targets will be agreed and quantified through the emerging Local Transport Plan:
- Reducing the number of cars travelling into the town centre.
 - Increasing the proportion of adults walking at least 3 times per week.
 - Increasing the proportion of adults cycling at least 3 times per week.
 - Increasing the number of people walking and cycling to the town centre.
 - Reducing the number of cyclists and pedestrians injured on our roads.
 - Increasing the number of schools with the Modeshift STARS accreditation to promote children cycling and walking to school.
- 2.3.5 Section 4.5 outlines the Transport policies, these are based on meeting the objectives set out in the current adopted Local Transport Plan for the period 2011- 2026. Any proposed development must not have a material detrimental impact on the functioning of the transport network in order to be permitted as set out in TR3.
- 2.3.6 TR4 provides guidance on cycle routes and facilities, and states that "Developments will be expected to make full use of opportunities to improve access for cyclists to, from and within the development and to integrate cycling through the provision of new facilities." The proposed development has accommodated for the existing and future cycling demand adjacent to the site.

Declared Climate Emergency

- 2.3.7 RBC declared a climate emergency on 26th February 2019. Strategies are being developed by the Council aimed at achieving net zero carbon by 2030.
- 2.3.8 In terms of transport objectives, this is likely to reinforce the need to access development by good public transport facilities and services and to make provision for pedestrians and cyclists.
- 2.3.9 The development will be located in an accessible site in Reading by public transport and will provide excellent facilities for pedestrians and cyclists. The development is proposing to reduce car parking by approximately 290 spaces.

Reading Borough Council Third Local Transport Plan, 2011-2026

2.3.10 Reading's third Local Transport Plan (LTP3 covering the period 2011 to 2026) was published in April 2012. It will be superseded by the adoption of the Local Transport Plan 4 in 2023.

2.3.11 The LTP3 Strategy Plan provides the context for Reading in terms of the economy, environment and quality of life. The long-term vision for transport in Reading is the aim of better 'connecting Reading' through a transport system that enables people to move around easily, safely, sustainably and in comfort, promoting inclusion, intervention and innovation. This is reflected in the key LTP objectives, which are:

- To facilitate more physically active travel for journeys in a healthy environment;
- To improve personal safety on the transport network;
- To provide affordable, accessible and inclusive travel options for everyone;
- To ensure that the transport network operates safely and efficiently to meet the needs of all users;
- To align transport and land use planning to enable sustainable travel choices, improve mobility, reduce the need to travel and preserve the natural environment;
- To deliver balanced packages of value for money transport solutions and make the best use of existing transport investment;
- To offer sustainable transport choices for the Travel to Work Area and beyond, integrating within and between different types of transport;
- To improve journey times, journey time reliability and the availability of information;
- To reduce carbon emissions from transport, improve air quality and create a transport network which supports a mobile, affordable low, carbon future.

Reading Borough Council Local Transport Plan 4 2020-36 (LTP4) (Emerging)

2.3.12 Reading's LTP4 covering the period 2020 – 2036 is currently emerging.

2.3.13 The LTP4 vision for Reading *"is to deliver a sustainable transport system ... that creates an attractive, green and vibrant town with neighbourhoods that promote healthy choices and wellbeing. Future mobility options will enable everyone in Reading to thrive, enjoy an exceptional quality of life and adapt to meet future challenges and opportunities."*

2.3.14 LTP4 has five objectives:

- *'Provide transport options to enhance quality of life, reduce emissions and improve air quality to create a carbon neutral town'.*
- To create healthy streets to assist in active travel and lifestyles by improving accessibility to key destinations in a safe manner.
- Enable sustainable growth for Reading and facilitate connections to communities.
- Promote sustainable transport as part of the transport network that provides an alternative to cars. The network will be fast, affordable, connected and resilient.

- Using technology to improve the efficiency of the network to allow for informed travel choices for users and *'enabling Reading to become a smart, connected town of the future'*.

Reading Borough Council Revised Parking Standards and Design Supplementary Parking Document (Adopted October 2011);

- 2.3.15 RBC's parking standards have been acknowledged and reflected in the development of the scheme.

2.4 Summary Response to National and Local Policy

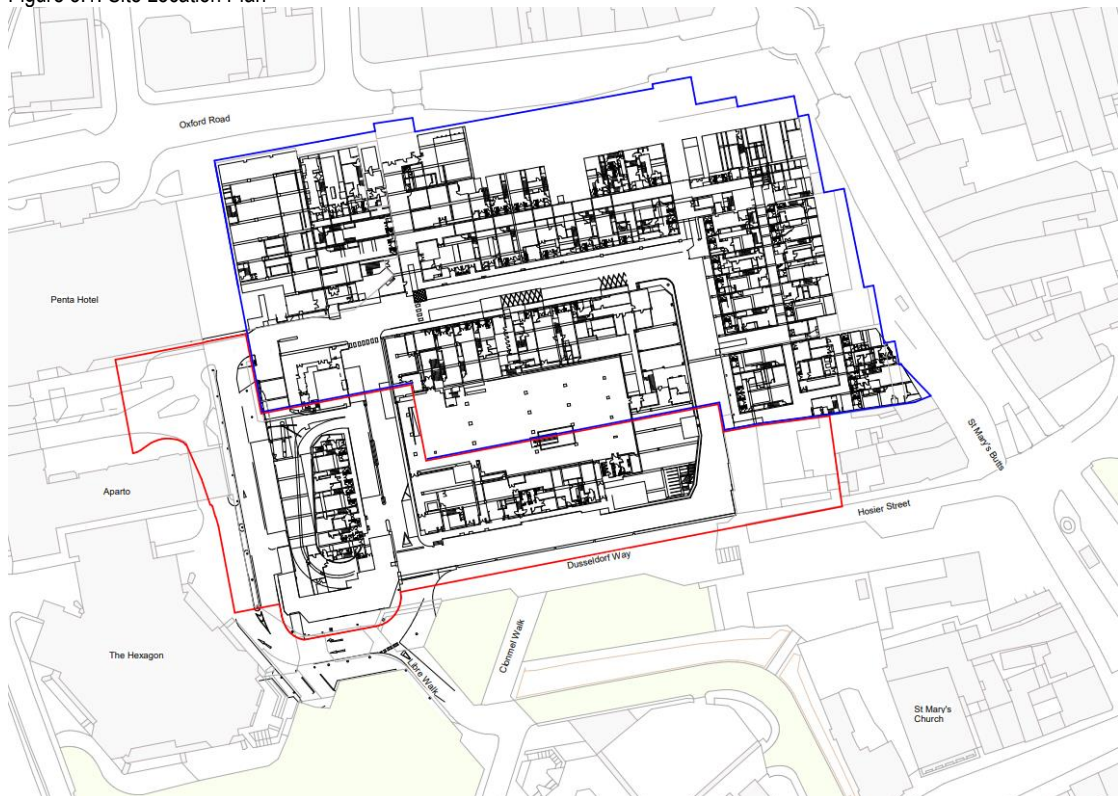
- 2.4.1 The proposed development is located in an area with a high level of accessibility by rail and bus with good walking and cycle access. The masterplan and layout of the site will provide priority for pedestrians and cyclists in accordance with NPPF objectives and Reading Borough policy requirements.
- 2.4.2 The development is therefore considered to align well with key local, regional, and national transport policies.

3 Site In Context

3.1 Site Location and Description

- 3.1.1 Broad Street Mall is an existing shopping centre located in central Reading and provides shops, restaurants, cafes, bars, health care and leisure activities across the two floors.
- 3.1.2 The Shopping Centre is served by a multi-storey car park (MSCP) which has a total of 784 spaces across three levels located within the site. At basement level, the site primarily accommodates the existing service and delivery area for the whole shopping centre.
- 3.1.3 The site is in a well-connected area on the western edge of the town centre. Oxford Road and St Mary's Butts bound the site to the north and east respectively, while the car-free Dusseldorf Way and Queens Walk bound the site to south and west. The site is located 550m southwest of Reading Railway Station and 300m northwest of The Oracle shopping centre.
- 3.1.4 **Figure 3.1** below identifies the location of the site in the context of the local area. The location of the Temporary Construction Area (red dash boundary), immediately to the south of the development area is also provided for context.

Figure 3.1: Site Location Plan



- 3.1.5 To the immediate west of the site is the Hexagon Theatre which offers a multi-purpose venue with a maximum capacity of 1,686. The primary pedestrian access to the Hexagon is taken from Dusseldorf Way / Queens Walk. At basement level there is another pedestrian access which lead directly onto the service yard / car park road network. To the north of this basement entrance, there are c.15 'block parked' surface level car parking spaces for the Hexagon alongside the Hexagon loading bay and stage door.

3.2 Regional and National Connectivity

- 3.2.1 Reading is recognised as a strategic regional transport and growth hub. It regularly ranks in the Centre for Cities Outlook index as one of the best places in the UK for business and investment. It is also ranked as a great place to live and one of the highest-ranked areas for innovation, smart cities and carbon reduction initiatives.
- 3.2.2 One of the reasons for Reading's continued success is its excellent regional and national connectivity. Reading railway station is located close to the site and is one of the most important hub railway stations in the UK at the convergence of 4 national lines for passengers, freight and the Trans European Network.
- 3.2.3 It provides direct national, regional and local services to key economic centres, including London, Birmingham, Bristol, Manchester and Cardiff.
- 3.2.4 Reading is located immediately north of the M4 and is accessed from 3 junctions (10 to 12) to provide strategic road access west towards Bristol and Wales and east towards London and the M25.

4 Baseline Conditions

4.1 Local Highway Network

- 4.1.1 The two points of vehicular access to the site are from Castle Street and the north facing A329 IDR Slip Road only.
- 4.1.2 Access from Castle Street is via the mini-roundabout junction to the east of the Reading Magistrates' Court building where the access road links down to the basement level and through to the car park entry barriers. There is no direct exit route for vehicle back onto Castle Street from the basement level of Broad Street Mall. Castle Street itself links to St Marys Butts, Gun Street, and Bridge Street to the east and the Castle Street / Castle Hill / A329 roundabout to the west.
- 4.1.3 The A329 IDR is, for the most part, a dual-carriageway orbital route that links Reading town centre with the major corridors of A33, A329, and A4 which in turn lead to the M4 at Junctions 10, 11 and 12.
- 4.1.4 At the Chatham Street / Friar Street / A329 roundabout north of the site, the southbound on-slip provides a dedicated lane for access into Broad Street Mall. When exiting the site to the west, vehicles are directed back onto a southbound slip road adjacent to the A329 IDR which leads up to the grade separated Castle Street / Castle Hill / A329 roundabout.
- 4.1.5 Dusseldorf Way and Queens Walk bound Broad Street Mall to the south and west, respectively. They are pedestrian and cycle-only accesses that have only permit access by authorised vehicle. These paths allow car free passages around the site and through to the Hexagon and St Marys Butts.
- 4.1.6 To the east of Dusseldorf Way, the access changes to Hosier Street which then joins onto St Mary's Butts. Hosier Street is a two-way local access road which accommodates time restricted on-street parking and also provides on road loading for nearby properties including The Boundary pub and Blue Collar food arena.

4.2 Regional Highway Network

- 4.2.1 The A329 IDR provides access to the strategic highway network from the site's access points described above.
- 4.2.2 The A33 is accessed approximately 430m south of the site, providing a route into south Reading and on towards Basingstoke. Along the same corridor the A33 provides access to M4 Junction 11 which provides connectivity to Bracknell, Maidenhead, Slough and London to the east, and Newbury, Swindon and Bristol to the west.

4.3 Broad Street Mall MSCP Car Park Access

- 4.3.1 The Broad Street Mall multi-storey car park (MSCP) has a total of 784 spaces across three levels located within the Broad Street Mall Shopping centre complex. The car park is operational 24 hours a day, seven days a week and has a height restriction of 1.83m. The primary lift and stair cores that serve the car park are operational during the shopping centre opening times. The lift and stair core on the southern edge of the car park provides an out of hours access which can be accessed from Dusseldorf Way 24hrs a day.
- 4.3.2 Access to the MSCP can be taken from the IDR to the west or Castle Street to the south, where both accesses lead into and through the basement level of the site and to the entry barriers at the bottom of the existing car park ramp.

- 4.3.3 The exit barriers of the car park are located on car park level 1. When exiting the MSCP vehicles are directed out into the service yard of the basement and guided around the basement level past the Hexagon and out onto the IDR to the west. Exit to Castle Street is not possible.

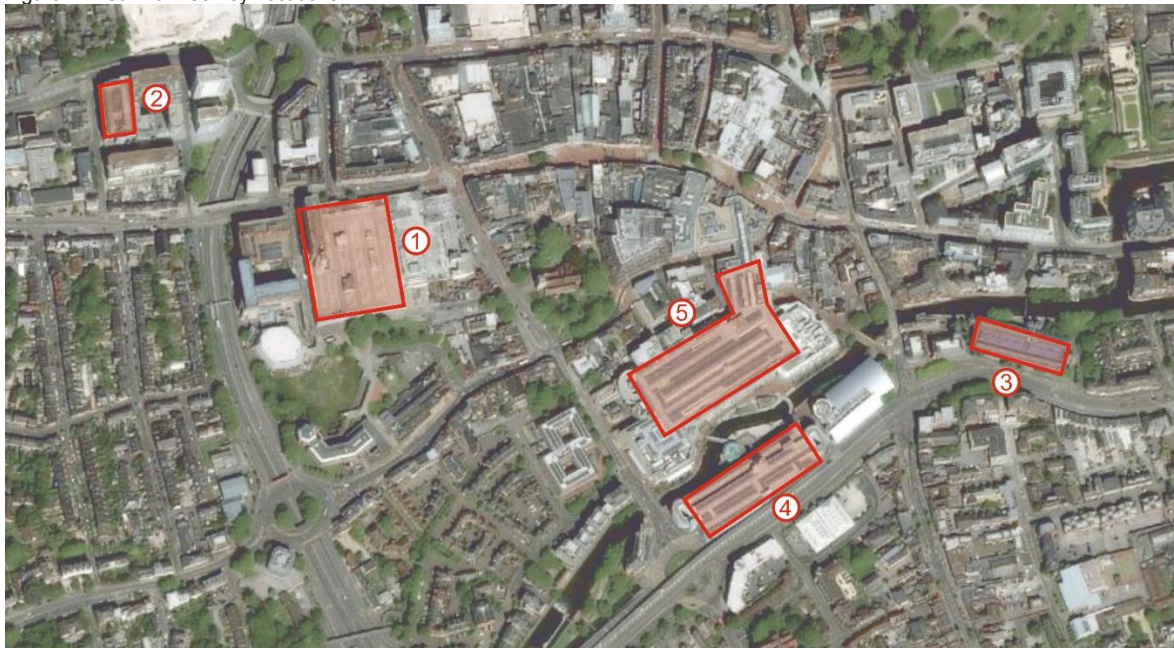
4.4 Service Yard Access

- 4.4.1 The basement level of the site accommodates service and delivery activities associated with the shopping centre, whilst also providing a small number of parking spaces (not for public access).
- 4.4.2 The service and delivery area can only be accessed via the A329 IDR to the west of the site which leads to an internal barrier controlled entry into the service yard.
- 4.4.3 The service yard extends under shopping centre in a one-way loop road arrangement providing access to parallel loading bays with raised loading platforms. There is an internal north-south (n-s) service road that bisects the basement level which is also used by vehicles exiting the MSCP.
- 4.4.4 Egress from the service yard can only be achieved out on to the A329 IDR to the west of the site.
- 4.4.5 Records between January to July 2022 show that the service yard accommodated an average of 79 vehicles per day across a typical weekday, 44 per day on a Saturday and 24 per day on a Sunday. Of the vehicles recorded, approximately 40% were car based arrivals with the remaining arrivals associated with van and HGVs movements. The service yard is operational 24hrs a day. However, the core service yard activity takes place between 6am and 6pm.

4.5 Existing Town Centre Parking Provision and Demand

- 4.5.1 To understand the baseline parking demand of the existing MSCP at Broad Street Mall, a car park occupancy survey was undertaken for a 7 day period (Monday-Sunday) in November 2022.
- 4.5.2 Stantec commissioned traffic survey specialist Streetwise to conduct car park occupancy surveys at the MSCP at Broad Street Mall to establish the current usage level. The survey was carried out between 14/11/22 and 20/11/2022, Monday to Sunday, for a 24-hour duration.
- 4.5.3 In addition, four other town centre car parks were surveyed at the same time providing a wider understanding of the parking demand across Reading town centre. The five car parks that this study considers are listed below and illustrated in **Figure 4.1**.
1. Broad Street Mall (BSM) Car Park.
 2. Chatham Place Q-Park Chatham Place.
 3. Queens Road Car Park.
 4. The Riverside (Oracle Shopping Centre) Car Park.
 5. Holy Brook (Oracle Shopping Centre) Car Park.

Figure 4.1: Car Park Survey Locations



- 4.5.4 **Table 4.1** sets out the number of spaces currently within each car park and the corresponding distance from the site.

Table 4.1: Existing Car Parking Provisions

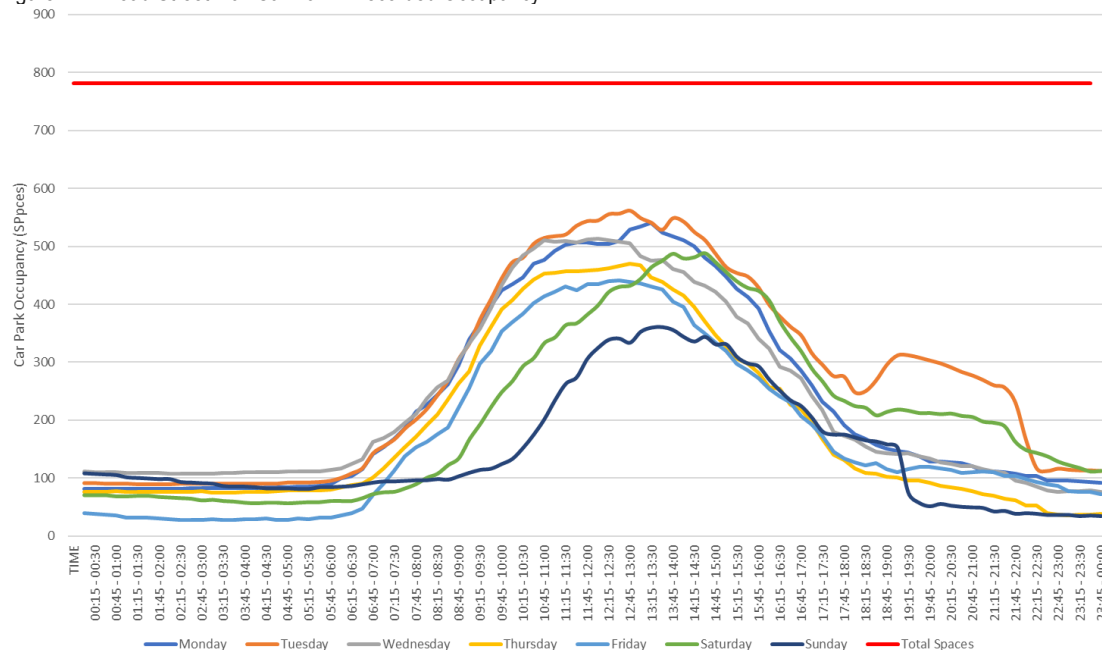
Car Park Ref	No. of Spaces	No. of Disabled Spaces	Distance from Site
1 - Broad Street Mall	784	17	-
2 - Chatham Place Q-Park	586	30	350m
3 - Queens Road	700	8	700m
4 – The Riverside Oracle	1,611	100	425m
4- Holy Brook Oracle	595	37	300m
Total	4,276	192	-

- 4.5.5 The following analysis in **Section 4.6** summarises the results of the Broad Street Mall MSCP survey. A full summary of the parking demand across all five locations is provided in **Appendix B**.

4.6 Broad Street Mall MSCP Parking Demand

- 4.6.1 The Broad Street Mall multi-storey car park (MSCP) has a total of 784 spaces across three levels. The car park is operational 24 hours a day, seven days a week and has a height restriction of 1.83m. During the 7-day survey period, it was recorded that three events were held at The Hexagon, which is the main entertainment venue in the town, holding events throughout the year. The events were held on the evenings of Tuesday 15th November and Saturday 19th, and in the afternoon on Sunday 20th.
- 4.6.2 **Figure 4.2** summarises the parking accumulation assessment of Broad Street Mall MSCP across the 7-day survey period.

Figure 4.2: Broad Street Mall Car Park - Recorded Occupancy



- 4.6.3 As shown in **Figure 4.2**, the car park recorded a maximum occupancy of 72% (562 spaces) between 12:45-13:00 on Tuesday, at which time 222 spaces were unoccupied. Across both weekend days, a maximum occupancy of 62% (488 spaces) was recorded between 14:30-14:45 on Saturday, leaving 296 spaces available.
- 4.6.4 For an average weekday the car park's occupancy remains above 60% between 11am and 2pm with a peak occupancy of 64% recorded between 12:45 and 13:00. The lowest peak occupancy recorded was on a Friday compared to the highest recorded on a Tuesday.
- 4.6.5 Each weekday recorded a similar pattern in arrival and departure profiles, whereby the MSCP would quickly fill up from 07:00 in the morning, leading up to a relatively level profile between 11:00 and 14:00 which then begins to empty across the remainder of the day.
- 4.6.6 As highlighted above, an event was held at The Hexagon during the evening on Tuesday during the survey period, which can be linked to the unusual demand profile between 18:00 and 22:30 that evening.
- 4.6.7 Across the Saturday and Sunday surveys, the car parking demand starts to increase slightly later in the morning but stays busier for longer period on Saturday compared to most weekdays.
- 4.6.8 Across all 7 days that were surveyed, Sunday recorded the lowest peak occupancy of 46%, leaving 423 spaces available.
- 4.6.9 **Table 4.3** summarises the total number of cars (derived from arrival rates) to the Broad Street Mall car park for each of the surveyed days.

Table 4.3: Total Daily Cars per hour and day

Time Period	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
00:00-07:00*	61	56	55	26	54	24	19
07:00-08:00	82	64	63	73	85	20	4
08:00-09:00	86	109	102	97	72	48	11
09:00-10:00	146	145	141	138	144	137	34
10:00-11:00	97	100	114	92	109	160	104
11:00-12:00	95	94	63	67	106	150	162
12:00-13:00	106	108	78	84	90	163	141
13:00-14:00	85	84	46	44	72	191	145
14:00-15:00	58	66	42	38	64	142	126
15:00-16:00	40	52	35	40	75	119	83
16:00-17:00	36	54	52	53	59	73	28
17:00-18:00	25	85	36	36	45	57	31
18:00-19:00	28	114	37	37	39	63	17
19:00-24:00*	31	78	46	54	89	94	38
Daily Total	976	1,209	910	879	1,103	1,441	943

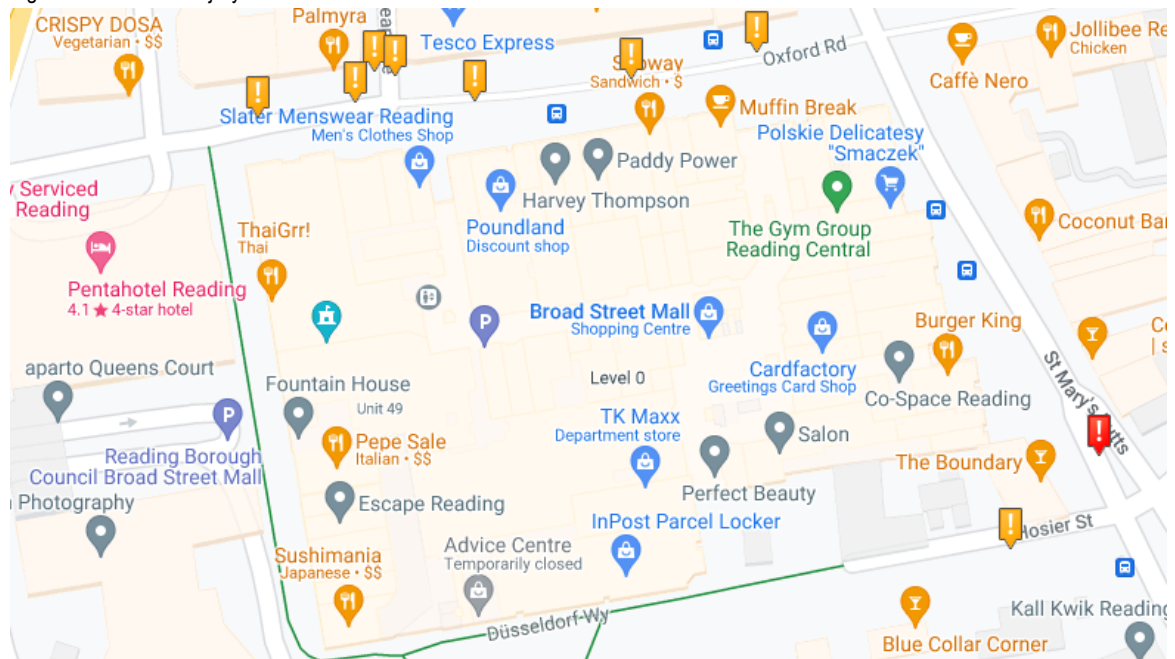
*Group time period before and after core 7am to 7pm period.

- 4.6.10 **Table 4.3** shows that across the week-long survey period, there were a total of 7,461 cars entering the Broad Street Mall MSCP, with the busiest day recorded being Saturday, which comprised of around 20% of the total weekly arrivals. Typically, the busiest hourly period across the week was between 09:00 and 10:00, with the single busiest hour in terms of arrivals recorded between 13:00 and 14:00 on the Saturday survey period, with 191 arrival trips.

4.7 Personal Injury Collision Review

- 4.7.1 A review of Crash Map collision data took place for the most recently available five-year period between 2018 and 2022. All vehicle types were considered for this review. The study area includes the roads in the site's immediate vicinity, as shown in **Figure 4.4**.

Figure 4.4: Personal Injury Accident Data Review



Source: www.Crashmap.co.uk (Accessed: January 2024)

Oxford Road

- 4.7.2 There were five accidents along Oxford Road; all of these are slight in severity, with three occurring at the junction with Cheapside. This could be due to Oxford Road having a bus gate forcing other traffic to use Cheapside.

St Marys Butts

- 4.7.3 There was one accident on St Marys Butts, which was serious in severity. It involved one vehicle; the accident occurred at the traffic lights.

Hosier Street

- 4.7.4 There was one accident on Hosier Street, which was slight in severity. It involved one vehicle; the accident occurred at the traffic lights.

Summary

- 4.7.5 In total seven collisions have been recorded on the local road network surrounding the site. Of these collisions six were recorded as slight collisions with a single serious collision recorded on St Mary's Butts to the east of the site. On this basis, it is deemed that the development proposals will not have a detrimental impact on the local highway network in terms of user safety.

5 Development Scheme Proposals

5.1 Introduction

5.1.1 This section outlines the main elements of the proposed development site at Broad Street Mall and focuses on the land uses and parameters considered most relevant to transport appraisal including land usage, access, delivery and servicing strategy and details of proposed public realm improvements. The Masterplan layout is contained in **Appendix A** and should be reviewed in conjunction with reading this chapter.

5.2 Development Scheme Proposals

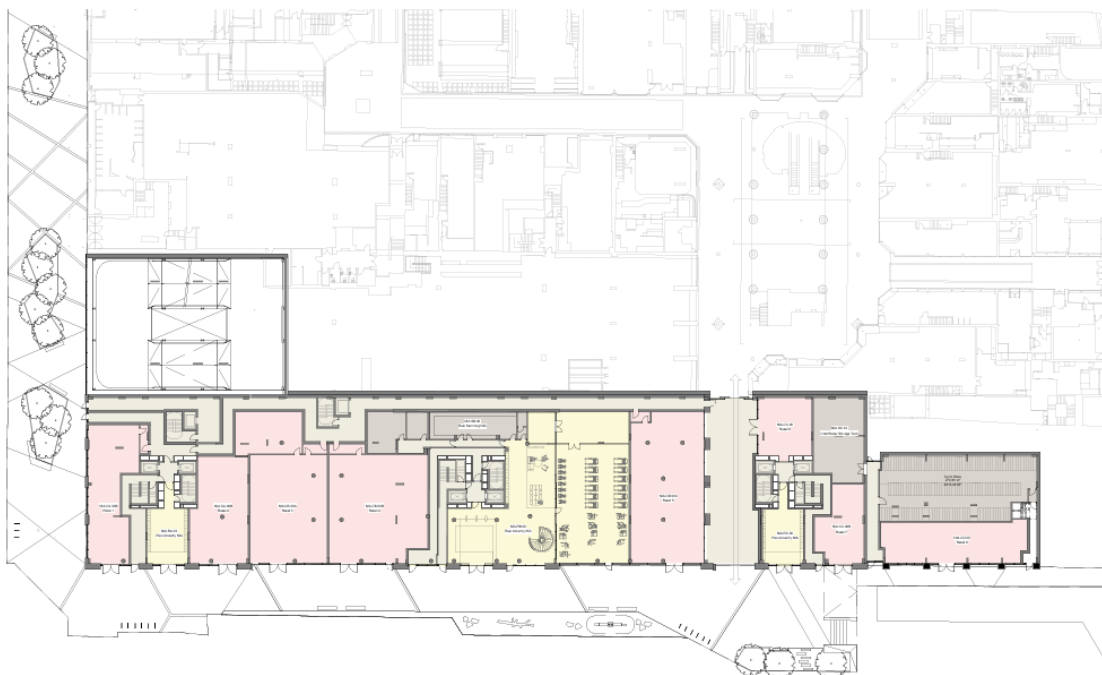
5.2.1 The Development Scheme application is for:

“Part-demolition of existing retail units, car park and service areas, demolition and rebuild of car park ramp, and construction of a residential-led, mixed-use development fronting Queens Walk and Dusseldorf Way, including all necessary enabling and alteration works required”

5.2.2 The proposals for the site are illustrated in **Figure 5.1** and set out below:

- Demolition and rebuild of new car park ramp to support the reconfigured existing MSCP.
- 644 Residential units across 4 blocks ranging between 8 and 30 storeys (Facilities include residents’ gym, amenity spaces, and private roof gardens).
- Up to a total of 100 residential car parking spaces provided within the Broad Street Mall car park.
- 1,770sqm of replacement non-residential uses across 8 Class E units at ground level.

Figure 5.1: Proposed Site Plan (Ground Floor)



Source: AHR Plan Ref. BSM-AHR-ZZ-00-DR-A-06200 P7

- 5.2.3 **Table 5.1** sets out the development accommodation schedule for the residential elements of the development scheme proposals.

Table 5.1: Residential Accommodation Schedule

Unit Type	Blocks				
	Block A	Block B	Block C	Block D	Total
1 Bed Flat	116	95	87	0	298
2 Bed Flat	104	91	67	35	297
3 Bed Flat	26	23	0	0	49
Total	246	209	154	35	644

5.3 Pedestrian and Cycle Access Strategy

- 5.3.1 Dusseldorf Way will provide pedestrian and cycling access to the proposed residential block entrances. The new residential towers will each have an entrance directly onto Dusseldorf Way, which offers a predominantly pedestrianised street across the southern frontage of the site and also provides access to the other residential amenities (i.e. Gym in Block B)
- 5.3.2 Similarly, the proposed retail units will have a direct frontage access onto Dusseldorf Way with a rear linked service corridor. The development scheme proposals retain an access through the site, between retail units 5 and 6, for access into the Broad Street Mall shopping centre north of the site.
- 5.3.3 It is proposed to provide a secure cycle store on the eastern end of the development site that will be accessed from the existing cycle network on Hosier Street.
- 5.3.4 Existing and future users of the site will benefit from the proposed public realm enhancements, which will improve the pedestrian and cycle environment along the southern and western corridors adjacent to the development site. The improvements to these spaces include new planting and landscape areas, seating, public cycle parking and improved surfacing and materials.
- 5.3.5 Along the western frontage of the site a public entrance into the site at ground level will provide the out of hour access to the MSCP.

5.4 Cycle Parking

- 5.4.1 The cycle parking provision for the development has been informed by RBC's Parking Standards (2011). The residents' parking standards are shown in **Table 5.2**, along with the proposed residential provision based on the accommodation schedule set out in **Table 5.1**.

Table 5.2: Proposed Residential Cycle Parking

Land Use Proposal	RBC Standards	No. Units	Development Provision (spaces)
1-2 Beds	0.5	595 Flats	298
3+ Bed	1	49 Flats	49
Retail Units	See Para 5.4.5/6	1,501sqm	17
Public Realm Space	See Para 5.4.7		30

- 5.4.2 Based on applying the standards prescribe in RBC parking guidance, the development will provide 347 cycle parking spaces for the future residents.
- 5.4.3 The proposed cycle parking will be consolidated in a secure store within the ground floor of Block D with easy access from Dusseldorf Way / Hosier Street. In addition, the cycle stores will have CCTV installed to increase the security. The proposed cycle parking will be provided in the form of two tier Josta style racks.
- 5.4.4 The existing shopping centre facilities does not provide staff cycle parking. To promote sustainable travel for staff travelling to/from the retail units secure cycle parking will also be provided for staff.
- 5.4.5 Based on 'A1 Non-Food Retail Over 1,000m²', RBC cycle standards require:
- 1 space per 6 staff; plus
 - 1 space per 300m²
- 5.4.6 The number of staff at this stage is unknown, therefore using an employment density of 1 per 20sqm (Employment Density Guide 2015) this would equate to 75 employees of which would require 12 cycle parking spaces. In addition, there would also be a further 5 spaces, based on 1 space per 300m², totalling 17 spaces for the non-residential development proposals.
- 5.4.7 Further to the cycle parking proposed for future residents and staff, as part of the public realm package of works on Dusseldorf Way and Queens Walk there will be 15 new Sheffield stands (30 spaces) provided for public use.

5.5 Car Parking

Residential Parking

- 5.5.1 RBC's Parking Strategy was adopted in October 2011, and contains residential parking standards, along with standards for cycle and motorcycle parking provision. The parking standards in Reading are based on RBC's zonal scheme 'Zone 1' covering the town centre in which the site falls. The maximum car parking standards for this zone are;
- 0.5 space for 1 & 2 bed Flats, and
 - 1 space per 3+ Bedroom Flat.
- 5.5.2 This would allow a maximum on-site parking provision of 347 spaces.

- 5.5.3 It is proposed that the new residential units will be predominantly car-free and only have access to a limited number of car parking spaces within the MSCP. A total of 100 spaces (1 per 6.5 units) are intended to be designated as private residential parking within the MSCP.
- 5.5.4 As previously outlined, the existing shopping centre is supported by a MSCP with 784 spaces. The proposed development site at Broad Street Mall requires part of the existing MSCP and will reduce the capacity of the MSCP by approximately 290 public parking spaces across the 3 levels, to a revised total of c.494 spaces of which up to 100 could be allocated for private residential lease.

Non-Residential and Visitor Parking

- 5.5.5 The non-residential land uses proposed as part of the development scheme are considered as replacement development whereby the existing retail space is being demolished and replaced with new retail.
- 5.5.6 Therefore, visitors of the site travelling by car will continue to use Broad Street Mall car park, or another local public car park in the town centre.

5.6 Vehicular Access

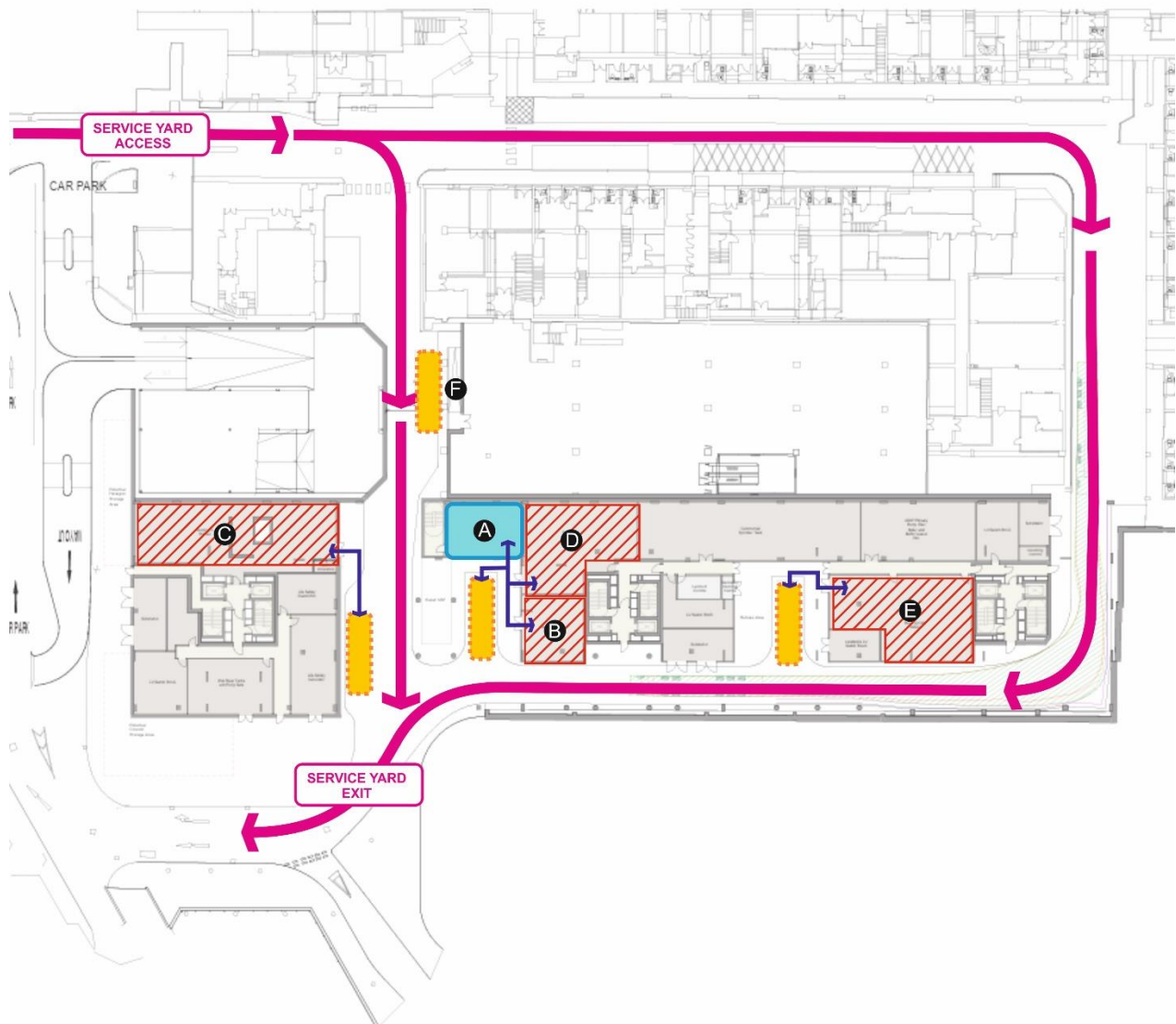
New Car Park Access

- 5.6.1 To facilitate the proposed development, the existing MSCP ramps will need to be demolished, and a new car park ramp constructed to serve the amended car park footprint.
- 5.6.2 Upon completion of the new ramp and internal car park reconfiguration, the car park will be reopened and accessible for public use. Access to the car park will be in the same manner as currently undertaken with access from both the A329 IDR and Castle Street.
- 5.6.3 Within the basement level the development proposals include a package of changes to the road layout to enable access to / from the new car park ramp.
- 5.6.4 The proposed basement level arrangement is shown on Stantec Drawing 332110742/5500/001 contained in **Appendix D** and summarised below:
- New entry and exit barriers proposed on the existing inbound car park entry from Castle Street (which would be closed at its southern end).
 - Access to the MSCP ramp to/from the western edge of the site;
 - Inbound traffic from Castle Street will arrive at the basement level and use the main service road travelling north past the Hexagon with a new junction to join with the inbound traffic coming from the A329 IDR from the west.
 - Outbound cars exiting the MSCP will join the service road to the north of the Hexagon doors and will give-way to MSCP entry traffic (from Castle Street) and outbound shopping centre service vehicles.
- 5.6.5 At basement level, the adjacent land to the west of the service road forms part of a future planning application linked with the HexBox project. The Broad Street Mall proposals have been subject to detailed vehicle tracking analysis and illustrate that outbound vehicles from the MSCP require only existing service road space and would not require land outside of the Hexagon entrance, or impede access to that area for future uses.
- 5.6.6 The proposed road layout changes in this location retain the required access to and from the service yard from the A329 IDR to the west of the site.

5.7 Delivery, Servicing & Refuse Strategy

- 5.7.1 The primary servicing and delivery activities will be undertaken from the existing basement service yard. The service yard area will be reconfigured to provide dedicated loading and storage areas for the residential and retail proposals.
- 5.7.2 The proposed access to the service yard will be carried out as per the existing access arrangements which is from the A329 IDR to the west of the site and through to the internal service yard control barriers.
- 5.7.3 Access to the developments' new loading bays can be undertaken using the existing internal service road which is a one-way loop road access that will be shared with the main Broad Street Mall shopping centre and vehicles generated by the proposed development.
- 5.7.4 **Figure 5.2** below illustrates the proposed service and delivery access routes in the basement level.

Figure 5.2: Proposed Service Yard Access Routes



Retail

- 5.7.5 The proposed ground floor retail space will use the existing servicing area in the basement of Broad Street Mall, with entry from the A329 and Castle Street exit onto A329 southbound.
- 5.7.6 A delivery loading bay will be provided for the retail units which is located adjacent to the proposed retail refuse store (Ref. B on Figure 5.2) and retail deliveries store (Ref. A on Figure 5.2). The proposed retail delivery store includes a goods lift to the ground floor providing access to the rear service corridor.
- 5.7.7 A new loading bay will be provided on the 'middle' service road to the north of the site (Ref. F on Figure 5.2). This will provide a basement level loading facility for the current TK Maxx store which is required due to their existing loading location being replaced by the development scheme.
- 5.7.8 The new loading bay will be able to accommodate 10m long heavy goods vehicles. To the west of this new loading bay the new car park ramp will extend into the service road. Between the wall of the new car park ramp and the proposed loading bay, which is 3m wide, there will be a 3.7m through lane so that vehicles can easily pass if another vehicle is loading into the TK Maxx unit.
- 5.7.9 This proposed loading bay would not be able to accommodate larger vehicle types due to the risk of blocking the road, although this could be managed if necessary if less frequent, and other vehicles routed to the eastern service road. However, should the units' tenants require regular deliveries by a large vehicle type then this could take place along the main service loop road to the north with goods transported to the desired location.

Residential

- 5.7.10 Servicing for the residential elements of the development site will be distributed across three separate locations in the basement service yard. Buildings A and B will have separate refuse stores (Ref. C & D on Figure 5.2) which will have direct access to the main lift/stair cores, with Buildings C and D sharing a refuse store (Ref. E on Figure 5.2) that can be accessed via the lift core to the east.
- 5.7.11 There will be segregated bins for refuse and recycling; the residents will be responsible for taking their refuse to the bins on the basement level. It is the responsibility of the building manager to then place them at suitable points for collection.
- 5.7.12 The proposed basement layout provides 2 loading locations for the residential proposals, as follows:
- Loading Bay adjacent to the Building A
 - Loading Bay located between Buildings B and C
- 5.7.13 Swept path analysis of a 11.2m Refuse and 10.0m Heavy Goods Rigid Vehicle have been completed for the proposed service yard and are shown on drawings 332110742/5500/002 to 003 and contained in **Appendix D**.
- 5.7.14 Residents will be encouraged to consider the use of services such as Click and Collect and local collection points when ordering goods for home delivery. This will be achieved through promoting the benefits of Click and Collect within the Travel Information Pack that is distributed to the new residents as part of the Residential Travel Plan. The pack will contain information of the available goods collection points such as Amazon Locker and InPost parcel lockers.

- 5.7.15 Click and Collect and local collection points provide an alternative to having deliveries sent to individual home addresses. This can help reduce the number of missed deliveries (particularly during the day) and subsequently reduce delivery vehicle trips.
- 5.7.16 Where residents require an extended period of set-down time for deliveries that require extended periods of time such as when moving home or receiving bulky goods, the resident will be required to inform the estates management team so that the service yard can be booked for use.
- 5.7.17 In addition to the facilities proposed in the basement service yard, within Car Park Level 1 of the MSCP an area has been secured adjacent to the proposed northern building edge that will provide space for a car or small van to use for loading/unloading and will have direct access into Level 1 of Building B.

5.8 Framework Residential Travel Plan

- 5.8.1 A Framework Travel (FTP) will be produced and submitted as part of the application. The FTP sets out a package of measures to encourage future residents of the site to travel by sustainable modes and will inform the preparation of a detailed Travel Plan prior to occupation of the proposed development.
- 5.8.2 The travel plan has been prepared for the residential elements of the development site only, with the other uses to be accommodated within the Broad Street Mall centres existing management.

6 Construction Phase

6.1 Introduction

6.1.1 This chapter provides a summary of the construction traffic access arrangements and temporary works that are required to facilitate the construction of the development site. This should be reading in conjunction with the following documents:

- 3104-S-RP-006 – Dusseldorf Way Construction Ramp (Meinhardt December 2023)
- Outline Construction Environment Management Plan (Silver, December 2023).

6.2 Proposed Temporary Works

- 6.2.1 To enable construction of the proposed buildings, part of Dusseldorf Way immediately to the south of the site requires “dropping”/clearing down to basement level creating a construction zone created adjacent to the site. This will require the partial removal of the existing retaining wall along the southern edge of the site that separates Dusseldorf Way and the internal service yard.
- 6.2.2 To drop Dusseldorf Way down to basement level this will require an embedded retaining wall to be installed from Dusseldorf Way level prior to excavation.
- 6.2.3 The creation of the construction zone provides the opportunity to use the area for construction vehicle access. Land constraints and proposed structural features restrict the ability to turn around at basement level, therefore it is proposed that a temporary construction ramp will take construction vehicles back up to ground level (i.e. Dusseldorf Way/Hosier Street).
- 6.2.4 Once at ground level, construction vehicles will be able to turn around within the footprint of Block D. The structural columns of Block D are designed so that construction vehicles can manoeuvre while construction of the block takes place for the duration of time for which the construction ramp is required.
- 6.2.5 The level difference between Hosier Street and the basement is 3.95m and the proposed construction ramp would have a maximum gradient of 1:10 with a suitable transition ramp at the top of the ramp.
- 6.2.6 To accommodate the anticipated construction vehicles, it is assumed that the largest will be 16.5m articulated lorries. There will be temporary works required at basement level to amend kerb lines, pavement removal, and bollard removal to accommodate these vehicles.
- 6.2.7 Stantec drawing **332110720/5500/004** illustrates the proposed construction ramp arrangement and is contained in **Appendix D**.

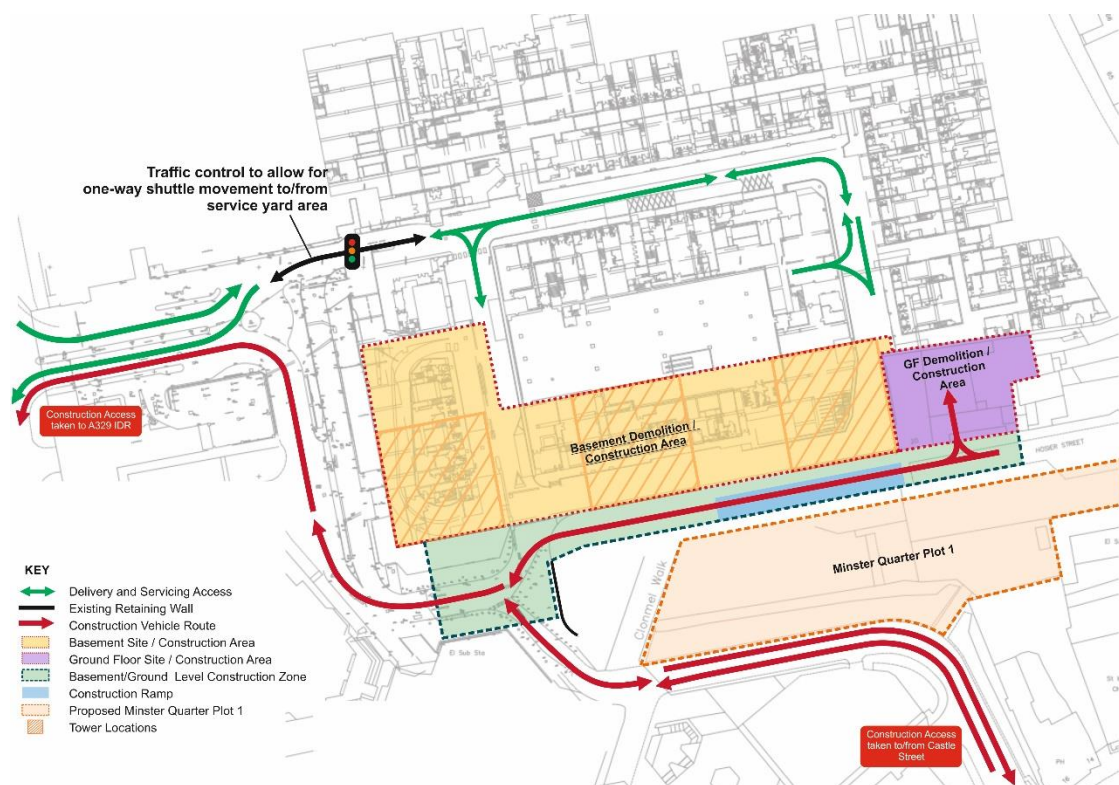
6.3 Proposed Construction Routing and Access

- 6.3.1 Vehicle access to the basement construction area is proposed to be via the Castle Street mini roundabout which can be accessed from the A329/Castle St signalised junction to southwest of the site via the IDR. The existing access road to the Broad Street Mall car park will take construction traffic down to basement level where a site entry management system will be in place. Once at basement level construction vehicles will be able to turn right into the new construction zone.
- 6.3.2 When exiting the construction site, the primary vehicle route out will be westbound towards the A329 IDR using the existing basement roads. If required as a fall back (for example if the IDR

exit is blocked), construction vehicles could alternatively leave the construction site via the inbound route onto Castle Street. However, since part of this route is one-way, construction vehicles will need to be managed by the on-site banksmen.

6.3.3 **Figure 6-1** illustrates the proposed construction access routes to/from the site at basement leave.

Figure 6.1: Proposed Construction Access



6.3.4 Stantec drawing 332110720/5500/005, contained in **Appendix D** illustrates the construction vehicle access swept path with a 16.5m articulated vehicle.

6.3.5 The estimates of demolition and construction material quantities, together with the outline demolition and construction programme, have been used to calculate the predicted number of vehicle movements for the works programme.

6.3.6 Peak vehicle movements are anticipated to occur during months 19 and 30 (Year 2026) when a maximum of 1,550 two-way vehicle movements per month are estimated. This equates to up to 60 daily construction vehicle movements (30 inbound, 30 outbound) comprised of the following:

- 36 Daily LGVs (18 Inbound / 18 Outbound)
- 24 Daily HGVs (12 Inbound / 12 Outbound)

6.4 Broad Street Mall Temporary Internal Servicing Access Layout

6.4.1 Access to the existing surface car park 'Reading Civic B' will be retained via Castle Street. Vehicle access beyond this into the basement will be restricted to construction access only, and managed access may need to be provided to the Hexagon during construction.

- 6.4.2 During construction of the site the existing retail delivery arrangements will be temporarily altered as illustrated in **Figure 6-1**. The entry route from the IDR will be as existing but the existing exit route from the service yard will be closed and all deliveries will access and egress from the current entry barrier that will be managed to shuttle delivery vehicles in and out.
- 6.4.3 The construction site will remove the ability for a vehicle to circulate around the service yard, therefore a temporary turning is also proposed on the eastern side of the service yard that will provide a turning head for HGVs up to 12m long.
- 6.4.4 During this temporary period, if retail deliveries are required by articulated lorries these will be carried out on the initial section of the n-s service road with goods transported to the desired access.
- 6.4.5 When exiting the service yard from the control barrier, vehicles will be diverted back onto the outbound access road and onto the A329 IDR slip road.
- 6.4.6 In the initial stages of construction when the new car park ramp is being constructed, the car park will be closed completely. Once the car park is reopened (following the installation of the new car park ramp), it is proposed that access and egress for the general public will be via the IDR only until the development is complete.

7 Site Accessibility

7.1 Introduction

- 7.1.1 This chapter sets out accessibility to the site by walking, cycling and public transport. It provides a detailed review of the existing characteristics of the area and existing services and infrastructure which provide access by more sustainable modes.

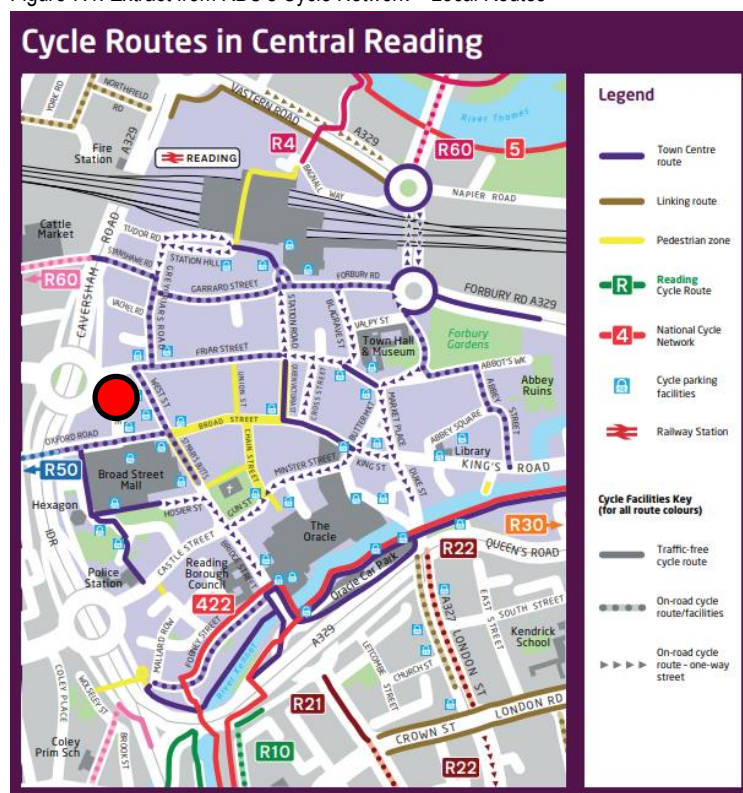
7.2 Walking Accessibility

- 7.2.1 The site is situated on the western edge of Reading town centre and is ideally located to encourage walking from a large population catchment of retail and leisure activities. Access to town centre jobs for residents will be largely within a 10-minute walk with further access to multiple transport hubs, including bus stops and Reading Railway Station.
- 7.2.2 Walking trips will form a widely available and attractive method of travel for future residents of the proposed residential units, limiting the need to own or drive a car.
- 7.2.3 The site is surrounded by footways on all surrounding streets that either are pedestrianised areas or benefit from wide footpaths along low-traffic roads.

7.3 Cycling Accessibility

- 7.3.1 The site is served by a network of local town centre cycling routes which consist of a mixture of traffic-free and on-road cycle routes and connect to the extended cycle network around Reading. **Figure 7.1** illustrates the cycling routes in central Reading.

Figure 7.1: Extract from RBC's Cycle Network – Local Routes



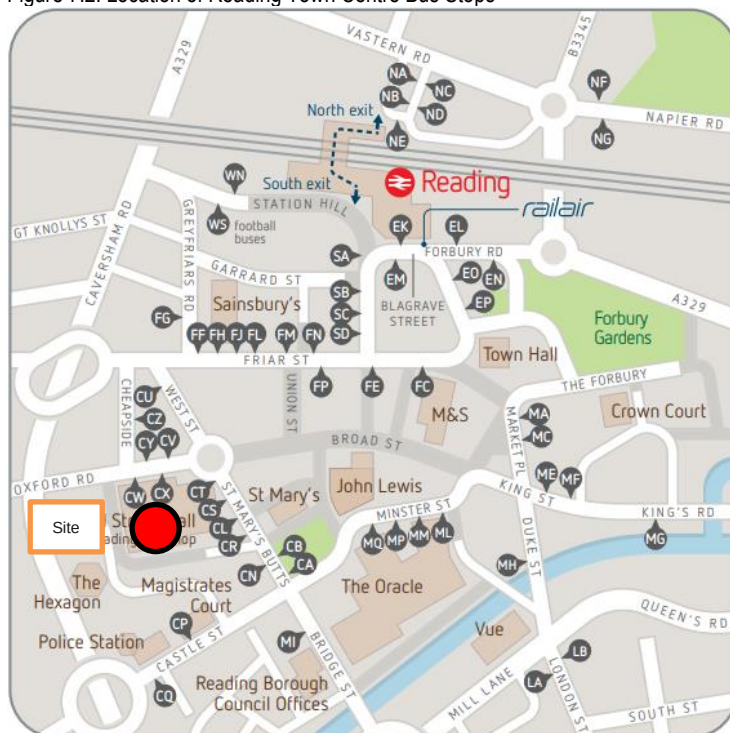
Source: <https://www.reading.gov.uk/vehicles-roads-and-transport/cycling/#routes>

- 7.3.2 The extensive cycle network that the site has access to will allow for ease of access to the rest of the town centre along with travel hubs, including Reading Railway Station making cycling an attractive option for travel for future site residents and visitors.
- 7.3.3 Beyond the immediate town centre area, there are dedicated cycle routes on the main highway corridors into Reading, including A4 Bath Road and Portman Road to the west, A33 to the south, and routes through Caversham across Caversham Bridge and Christchurch Bridge to the north.

7.4 Bus Accessibility

- 7.4.1 Broad Street Mall is within a short walking distance of numerous strategic bus routes connecting the town centre with destinations across the Reading Borough and beyond.
- 7.4.2 Multiple bus stops are within walking distance of the site on Oxford Road, St Mary's Butts, West Street and Friar Street. These services provide access to the wider region, including Newbury and Wokingham, along with other transport nodes, such as Reading Railway Station.
- 7.4.3 A summary of the local bus services serving these bus stops and other bus stops in a 500m radius of the site is provided in **Table 7.1**, and the locations of bus stops are shown in **Figure 7.2**

Figure 7.2: Location of Reading Town Centre Bus Stops



Source: [Bus Stop Locations \(reading-buses.co.uk\)](http://reading-buses.co.uk)

Table 7.1: Summary of Local Bus Services and Frequencies

Service	Destinations (to/from)	Weekday services per hour	Saturday services per hour	Sunday services per hour
1	Reading - Newbury via Theale	2	2	1
2/2a	Central Reading - Mortimer	2	2	1
3	Reading Station – Wokingham vis Royal Berkshire Hospital (RBH)	3	2	2
4/4X	Reading – Bracknell via Wokingham	3	3	2
5	Reading Station - Northumberland Avenue	5	4	2
6/6a	Reading Station – Whitley Wood via Basingstoke Road	5	4	2
9	Reading Station – Whitley Wood via RBH	1	-	-
10	Central Reading – Kennet Island	2	2	2
11	Reading – Coley Park	3	3	2
15/15a	Central Reading – Theale and Calcot	3	3	2
16	Central Reading - Purley	3	3	2
17	Wokingham Road – Tilehurst via Central Reading	7	6	3
19a / 19c	Central Reading – London Bridge via Woodley, RBH & Earley Gate	2	2	-
19b	Central Reading – Lower Earley via RBH & Earley Gate	1	1	-
21	Reading Station - Lower Earley via UoR	7	3	2
26	Reading Station - Calcot	4	3	2
33	Central Reading - Turnhams Farm via Tilehurst Road	3	3	2
42	Rivermead - Kenavon Drive via Central Reading	2	1	-
50	Central Reading – Green Park	5	2	-
143	Reading to Upper Basildon & Goring	1 every 2 hours	1 every 2 hours	-
600	Central Reading – Spencers Wood/Mere oak P&R	4	3	-

Source: [Reading Buses & Thames Valley Buses](#) (Accessed: November 2023)

7.5 Rail Accessibility

- 7.5.1 The site is conveniently located with good access to Reading Railway Station, which is recognised as national transport hub.
- 7.5.2 Reading Railway Station is used by approximately 17 million passengers per year (2019) and is the ninth busiest station outside of London and the second busiest interchange station outside of London. Reading Railway Station underwent a phase of expansion and modernisation between 2009 and 2014, adding five new platforms and improving the station facilities and interchanges.
- 7.5.3 Rail services from Reading Railway Station provide connections to the regional and national rail network, where the following train companies offer services to a range of destinations:
- First Great Western operate trains to destinations which include London Paddington, Slough, Basingstoke, Gatwick Airport, Oxford, Hereford, Worcester, Bristol, South Wales and the South West of England;
 - Cross Country Trains operate trains to destinations including Bournemouth, Southampton, Guildford, Banbury, Coventry, Birmingham, the North of England and Scotland; and
 - South Western Trains provides services to Wokingham, Staines, Richmond, Clapham Junction, London Waterloo, Basingstoke, Winchester, Southampton, Portsmouth and Brighton.
 - Crossrail (Elizabeth Line) services providing 4 trains per hour during peak hours. The route directly connects to railway stations and key interchanges in central and east London, including Bond Street, Farringdon and Canary Wharf.

7.6 Local Amenities

- 7.6.1 Broad Street Mall is conveniently located in an accessible and sustainable location in Reading Town Centre, which allows for future residents of the site to access a wide range of amenities, including entertainment, healthcare and retail. The Oracle Shopping Centre is located within an 800m walk (approximately 6 minute walking time).
- 7.6.2 Below are the amenities that are within the vicinity of the site:
- Broad Street Mall (Retail, Fitness, Bank)
 - Broad Street (Retail, Restaurants, Pharmacy, Bank)
 - The Oracle (Retail, Entertainment, Restaurants, Pharmacy, Bank)
 - The Hexagon (Entertainment)
 - Forbury Gardens
 - Primary Schools – Oxford Community School & Katesgrove School
 - Secondary School - Civitas Academy

7.7 Public Transport Accessibility Index

- 7.7.1 In compliance with the most recent BREEAM New Construction 2018 (UK), the calculation of the existing public transport Accessibility Index (AI) has been undertaken for the Non-residential elements of the proposals and is provided with **Appendix E**.
- 7.7.2 In total 9 compliant transport nodes have been included within the AI assessment covering bus services that stop on St Mary's Butts, Minster Street, Bridge Street, Oxford Road, West Street and Friar Street, and rail services at Reading Railway Station which is circa 800m from the development site.
- 7.7.3 Based on these outlined transport nodes an AI of 27.4 is achieved which demonstrates the site is highly accessible using this measure.

7.8 Summary

- 7.8.1 The site's location in Reading Town Centre means it is a highly accessible place to reach by active travel or by public transport, and that it also benefits from excellent access to retail, leisure and employment within Reading and the wider region. This will reduce the reliance of single-car occupancy trips and encourage the use of more sustainable modes of transport.

8 Highway Impact Assessment

8.1 Introduction and Background

- 8.1.1 This section of the TS sets out the forecast travel demand associated with the redevelopment of Broad Street Mall. The proposed ground floor retail space will replace the existing commercial units and therefore would not generate any additional/new vehicle movements. Therefore, this assessment only considers the proposed residential elements of the site of 644 units.

8.2 Proposed Retail Trip Generation

- 8.2.1 At ground level, the site currently accommodates retail and restaurant land uses facing onto Dusseldorf Way and Queens Walk. The proposed retail units will replace the existing ground floor shops and therefore the development scheme is replacement development rather than new development.
- 8.2.2 Any trips to/from the proposed retail units can be assumed to be pre-existing trips or pass-by trips that are generated from the wider Broad Street Mall and neighbouring town centre facilities.

8.3 Proposed Residential Trip Rates and Generation

- 8.3.1 The trip generation associated with the residential development has been calculated based on surveys of comparable sites within the TRICS database. The following parameters have been used in the selection of TRICS sites.
- Land use: 03 Residential / Flats Privately Owned
 - Region: England Only
 - Location Types: Town Centre
 - Survey Date: 01/01/10 – 11/05/22
 - Size: 6 – 184 Units (Actual Range Selected Sites (62 – 175 units)
- 8.3.2 These criteria resulted in the selection of four sites which had an average parking provision of approximately 1 space per dwelling. The total people rates and corresponding trip generation for 644 homes is summarised in **Table 8.1**, with the TRICS outputs contained in **Appendix C**.

Table 8.1: Proposed Residential Trip Rate and Generation - Total People (-OGVs)

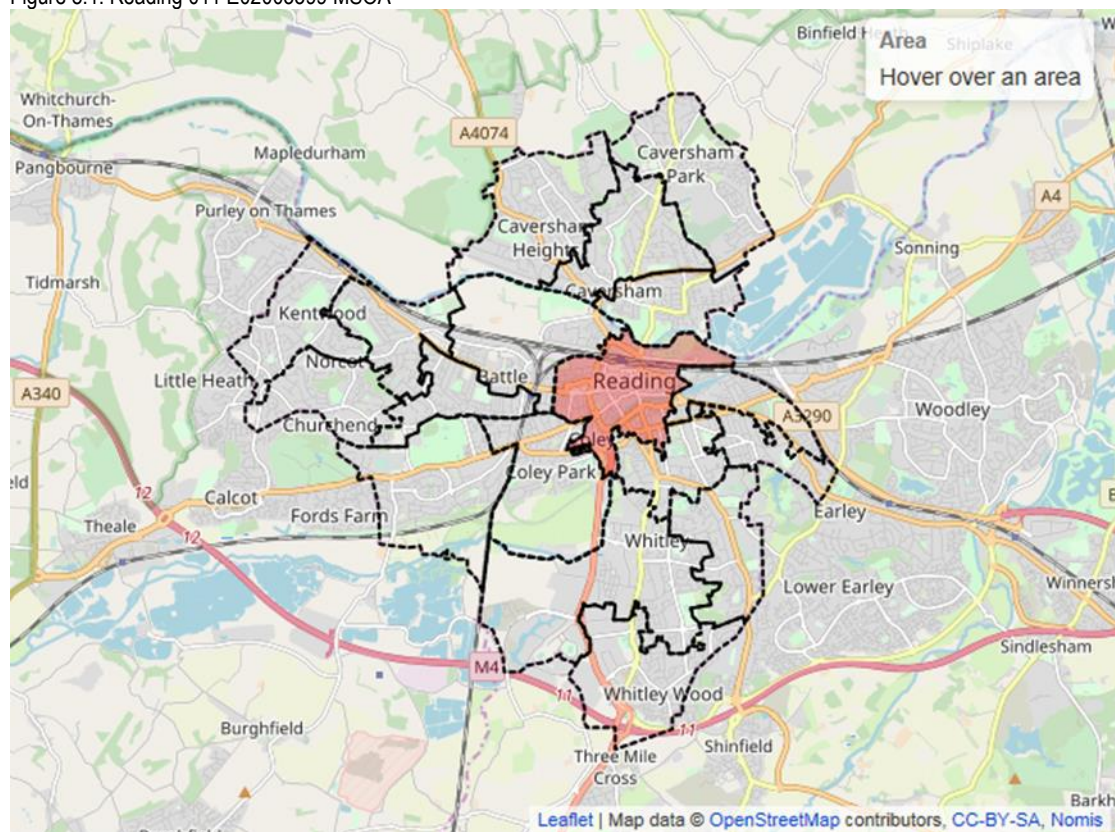
Time Period	Total People Trip Rate (per unit)			Proposed Trip Generation (644 Units)		
	Arrive	Depart	Two-Way	Arrive	Depart	Two-Way
AM Peak (08:00 – 09:00)	0.086	0.577	0.663	55	372	427
PM Peak (18:00 – 19:00)	0.459	0.196	0.655	366	153	519
Daily (07:00 – 19:00)	2.616	2.745	5.361	1,679	1,762	3,441

Table may be subject to minor errors due to rounding.

Travel to Work Mode Share

- 8.3.3 To understand the modal split of the development people trips, the 2011 Census Travel to Work Data has been for the 'Reading 011' E02003399 Middle Super Output Area (MSOA), shown in **Figure 8.1**.

Figure 8.1: Reading 011 E02003399 MSOA



Adjusted Mode Share

- 8.3.4 The resulting 2011 Census Travel to work modal split data for the MSOA Reading 011 is outlined in **Table 8.2**, along with the corresponding multimodal trip generation.
- 8.3.5 The modal split has been adjusted to reflect the proposed limited residential car parking provision. The car driver split has been reduced from the baseline share of 30.4% down the 16.0% to reflect the maximum potential car use based on up to 100 parking spaces being available. The remaining 14.4% have been split evenly (3.6%) across train, bus, bicycle and foot modes.

Table 8.2: Modal Split of Residential (644 Units)

Mode	Modal Split 2011 Census	Modal Split Adjusted	AM Peak (08:00 – 09:00)			PM Peak (18:00 – 19:00)		
			Arrive	Depart	Total	Arrive	Depart	Total
Train	20.6%	24.2%	13	90	103	89	37	126
Bus	11.5%	14.2%	8	53	61	52	22	74
Taxi	0.4%	0.4%	0	1	2	1	1	2
Motorcycle	0.4%	0.4%	0	1	2	1	1	2
Car Driver	30.4%	16.0%	9	59	68	59	24	83
Car Passenger	3.1%	3.1%	2	12	13	11	5	16
Bicycle	3.5%	6.0%	3	22	26	22	9	31
Foot	29.4%	35.0%	19	130	149	128	53	182
Other	0.7%	0.7%	0	3	3	3	1	4
Total	100%	100%	55	372	426	366	153	519

Table may be subject to minor errors due to rounding.

- 8.3.6 Table 8.2 shows that the proposed 644 residential units is estimated to generate 426 and 515 two-way trips in the AM and PM peak hours, respectively.
- 8.3.7 Due to the highly sustainable location of the site, the combined non-car driver trips (car share, train, bus, walking, and cycling) account for 82.50% of trips. Of these walking (35%) is predicted to be the most common method of travelling to work with 149 and 182 two way walking trips to/from the site in the AM and PM peak period respectively.

8.4 Proposed OGV Trip Generation

- 8.4.1 An assessment of the likely loading bay demand by goods vehicles has been undertaken based on the development scheme proposal to demonstrate that provisions within the amended basement service yard can be adequately accommodated.
- 8.4.2 The TRICs database provides an overall Ordinary Goods Vehicle (OGV) trip rates which comprises of both an OGV1 and OGV2 vehicle classifications which are classified as vehicles weighing over 3.5t ranging from small rigid lorries to articulated vehicle.
- OGV 1 are defined as all larger rigid vehicles with two or three axles including box vans, similar large vans and middle-sized trucks which have double rear wheels.

- OGV 2 vehicles included all large rigid vehicles with four or more axles and all articulated vehicles.

Proposed Residential (644 Units)

- 8.4.3 Including Greater London sites within the high level review for OGV vehicle rates, the daily OGV Trip rates and corresponding trip generation for 644 homes is summarised in **Table 8.3**.

Table 8.3: Proposed Residential Trip Rate and Generation - OGVs

Time Period	OGV Trip Rate (per unit)			Predicted Daily OGV Trip Generation (644 Units)		
	Arrive	Depart	Two-Way	Arrive	Depart	Two-Way
Daily (07:00 – 19:00)	0.010	0.011	0.021	6	7	14

Table may be subject to minor errors due to rounding.

- 8.4.4 As summarised above, the OGV assessment has estimated that the residential proposal could generate 14 two-way OGV movements per day. The peak hourly demand for OGV movements is between 09:00-10:00 with two inbound OGV's predicted in the hour.
- 8.4.5 On this basis the two proposed residential loading bays in the service yard would be able to provide sufficient capacity for the proposed residential land uses.

Proposed Retail (1,770sqm)

- 8.4.6 The existing service yard vehicle logs were obtained from the shopping centre's management department which provides a record of all inbound vehicles travelling through the control barrier. The service yard vehicle records highlight January as the busiest month with an average of 84 inbound vehicle movements per weekday (all vehicle type i.e. Car, Lorry, Vans etc).
- 8.4.7 Based on the shopping centre having 36,144sqm of occupied commercial floor space (2022 data) this equates to a daily inbound Trip Rate of 0.232 per 100sqm.
- 8.4.8 Using the existing service yard rates as a basis for the proposed development site, it is estimated that 1,770sqm of retail space generates approximately 4 inbound and 4 outbound vehicle movements per day.
- 8.4.9 TfL's Kerbside Loading Guidance details that on average A1 Retail land uses have an average duration of stay of c.14 minutes. On this basis the proposed retail loading bay in the service yard will provide sufficient capacity for the proposed retail land uses.

8.5 Proposed Development Trip Distribution

- 8.5.1 In December 2021 a previous development proposal at the Broad Street Mall site was granted full planning by RBC (Ref. 182137). As part of this application Transport Statement was submitted.
- 8.5.2 Within this document (prepared by Connect Consultants, November 2019) an assumed distribution of the development trips was set out based on broad assumptions of the existing local traffic network. These appear to be broadly logical and were agreed with RBC officers, so we have used a similar distribution in our assessments. The distribution percentages of the trips on the major roads surrounding the site are outlined below in **Table 8.4** and **Table 8.5** alongside the resulting vehicle volumes based on the predicted residential development traffic ('Cars') set out in **Table 8.2**.

Table 8.4: Two-way Development Trips Distribution (Peak Hour)

Road	%	AM Peak Hour	PM Peak Hour	Daily (12hr)
A329 Caversham Road (North)	20%	14	17	110
Chatham Street	10%	7	8	55
A4155 Castle Hill	10%	7	8	55
A33	35%	24	29	193
A329	10%	7	8	55
Southampton Street	15%	10	12	83
Total	100%	68	83	550

Table 8.5: Two-way Development Trips Distribution (12hr Daily)

Road	2022 (12hr Flow)	Proposed Dev Distribution (%)	Dev Traffic Daily (12hr)	% Impact
A329 Caversham Road (North)	22,029	20%	110	0.5%
Chatham Street	13,706	10%	55	0.4%
A4155 Castle Hill	19,958	10%	55	0.3%
A33	22,923	35%	193	0.8%
A329	15,825	10%	55	0.3%
Southampton Street	13,1714	15%	83	0.6%

- 8.5.3 The 2022 flows presented in Table 8.5 are based on the DfT AADT traffic flow data which have been factored down to provide a comparative 12hr period. Table 8.5 summarises the across a daily period the traffic impacts of the proposed development site will be very low across the local highway network.
- 8.5.4 Through limiting the provision of on-site parking for future residents and the highly sustainably site location in respect to access to public transport and access to jobs and amenities, this assessment shows that the proposed development site will have no material impact on the local transport network.
- 8.5.5 Furthermore, due to the reduction in available public parking spaces at the Broad Street Mall MSCP (from 784 public spaces to 394 public spaces), there will be an associated reduction in generated vehicle trips arriving at the site. The displaced trips could either change mode or if they still require access to parking in the town centre, they would be re-distributed to other car parks and not be totally removed from the road network.
- 8.5.6 The main access routes to the town centre are unlikely to change significantly though, so the overall network effects will be insignificant.

9 Town Centre Parking Impact Assessment

- 9.1.1 The proposed development at Broad Street Mall requires the demolition of part of the existing MSCP and will result in a reduction of approximately 290 parking spaces across the 3 levels. In addition, up to 100 existing spaces will be allocated for lease for the new residential development. As a result, the further Broad Street Mall will have 394 parking spaces available for public use.
- 9.1.2 During the first phase of the development construction, in particular the provision of a new car park ramp, the Broad Street Mall MSCP will need to be closed for circa 12 months, during which time the associated parking demand will need to be reassigned to other Reading town centre locations, assuming those customers do not change mode.
- 9.1.3 **Table 9.1** provides a summary of parking provision across the 5 town centre car parks for the construction and development completion stage of the site.

Table 9.1: Existing vs Construction vs Future Public Parking Provision

Car Park Location	Current Capacity (Spaces)	During Construction (Spaces)	Future Scenario (Spaces)
Broad Street Mall	784	-	394
Chatham Place Q-Park	586	586	586
Queens Road	700	700	700
The Riverside	1,611	1,611	1,611
Holy Brook	595	595	595
Combined Provision	4,276	3,492	3,886

- 9.1.4 **Table 9.1** summarises that across the five car parks, under the future scenario with the development site built out, there would be a total of 3,886 car parking spaces available.

9.2 Maximum Demand Assessment

- 9.2.1 Utilising the results of the car parking demand surveys carried out in November 2022, as per contained in **Appendix B**, **Table 9.2** summarises the recorded maximum parking occupancy for each individual car park for an average weekday and the absolute maximum on a given weekday.
- 9.2.2 This presents a robust maximum demand assessment as not all peak demands occur at the same time or weekday. The survey recorded vehicle movement in 15 minute intervals, as such the maximum demands reported are for a 15 minute period.

Table 9.2: Average & Actual Maximum Weekday Demand

Car Park Location	Average Weekday Max Demand (Spaces)	Actual Weekday Max Demand	
		Spaces	Time Period
Broad Street Mall	501	562	12:45 to 13:30
Chatham Place Q-Park	155	189	11:30 to 11:45
Queens Road	403	466	12:15 to 12:30
The Riverside	1,031	1,139	13:00 to 13:15
Holy Brook	391	456	12:00 to 12:15
Combined Demand	2,481	2,812	-

9.2.3 **Table 9.3** summarises the maximum parking occupancy recorded for each individual car park for the Saturday survey period.

Table 9.3: Saturday Maximum Parking Demand

Car Park Location	Actual Saturday Max Demand (Spaces)	Max Demand Time Period
Broad Street Mall	488	14:30 to 14:45
Chatham Place Q-Park	190	14:30 to 14:45
Queens Road	384	14:30 to 14:45
The Riverside	1,591	13:30 to 14:00
Holy Brook	639	13:15 to 13:30
Combined Demand	3,292	-

9.2.4 As shown in Table 9.2 & Table 9.3, in combination of each car parks actual maximum demand, this equates to a total of 2,812 spaces on a weekday and 3,292 spaces on a Saturday. Comparing these totals back to the provisions outlined in Table 9.1, none of the combined maximum demands would exceed the total number of spaces provided during the construction and future full build-out scenario.

9.2.5 For the average weekday maximum (Table 9.2), the parking demand is 2,481 spaces which would result in 1,011 and 1,405 spaces remaining available during the construction and future scenarios respectively.

9.3 Redistribution of Parking Demand

9.3.1 The greatest impact the proposed development will have in terms of parking provision will be during the construction period as all 784 spaces at the Broad Street Mall MSCP will be temporarily closed while to new car park ramp is configured.

9.3.2 During this time the other four town centre car parks have sufficient residual parking capacity to accommodate the maximum parking demands of 562 spaces for a Weekday and 488 spaces for a Saturday.

9.3.3 Given the location of the Chatham Place Q-Park, this would offer the preferred alternative parking facility in the town centre to accommodate reassigned parking demands during the construction period. As this study has found, Chatham Place Q -Park recorded a maximum parking demand of 190 spaces (32%) leaving 396 spaces available.

- 9.3.4 This residual capacity alone accommodates around 70% of the maximum parking demand from the existing Broad Street Mall car park.
- 9.3.5 During a weekday the remainder of the reassigned Broad Street Mall parking can be accommodated across the other 3 locations. Across the weekend, as The Riverside and Holy Brook locations are both well used facilities, reassigned parking could be accommodated by the available spaces at Queens Road, which was recorded as having approximately 316 spaces available on a Saturday.

Future Development Phase

- 9.3.6 Once the Broad Street Mall car park is re-opened, there will be a lower number of spaces available for public parking, from 784 down to 394 which includes the 100 spaces allocated for potential private residential lease.
- 9.3.7 Based on the existing car park occupancy rates recorded in the November 2022 surveys, the maximum parking demand is 501 spaces for an average weekday. The revised number of spaces at Broad Street Mall would not be able to fully support this demand resulting in surplus demand for 107 parking spaces if customers do not change mode.
- 9.3.8 However, this assumes that the future parking demand of the smaller Broad Street Mall MSCP remains as per existing, and as demonstrated above, the wider Reading town centre parking provision has surplus capacity to be able to accommodate any overspill parking from Broad Street Mall.

10 Conclusion

10.1 Policy

10.1.1 The development has been worked up in accordance with national and local policy in a transport context. The Broad Street Mall development is a mixed-use development in a highly accessible area. The development has been designed to enhance and integrate into the existing shopping centre and surrounding area.

10.1.2 The development specifically meets the requirements of local policy, including:

- LTP3 and emerging LTP4 promoting more active and sustainable travel in Reading.
- Promoting greater levels of walking and cycling as outlined in the LCWIP.
- Public realm enhancements to help encourage walking and cycling through improvements to the local environment.

10.2 Development Proposals

10.2.1 The development provides a highly accessible mixed-use town centre development comprising of 644 residential units and replacement ground floor retail units.

10.2.2 Pedestrian and cycle access to the site will be taken from Dusseldorf Way which will be subject to a package of public realm enhancements to provide not only for new users of the development but also for those that currently travel through and past the site.

10.2.3 The existing MSCP ramp will be demolished and reconstructed in a different orientation and design. Once completed, strategic access to/from the car park will be undertaken as it does today. The site will provide up to 100 car parking spaces for future residents within the shopping centre's public car park. The low parking provision is in accordance with policy and sustainable due to the availability of high quality and high frequency public transport services that are within a walk or cycling distance, including Reading Railway Station.

10.2.4 Provision of secure, sheltered cycle parking for residents in accordance with policy to encourage residents to travel using more active sustainable modes of transport.

10.2.5 The proposals will re-purpose part of the existing basement service yard and provide dedicated waste storage and loading bays to accommodate the requirements of the scheme. Access to the service yard will be as per the existing access arrangement where all service vehicles enter and exit from the A329 IDR to the west of the site.

10.3 Construction Access

10.3.1 During the construction of the site, construction traffic access will be taken from Castle Street down to basement level, with vehicles turning around on site. A temporary construction ramp will be provided along Dusseldorf Way that will provide access from the basement to the surface level to enable vehicles to turn around within the site at upper level to drive back down the ramp to exit the site. Construction vehicles will then exit the site using the existing service roads and exit onto the A329 IDR slip road to the west, with a fall back option of using Castle Street, if necessary.

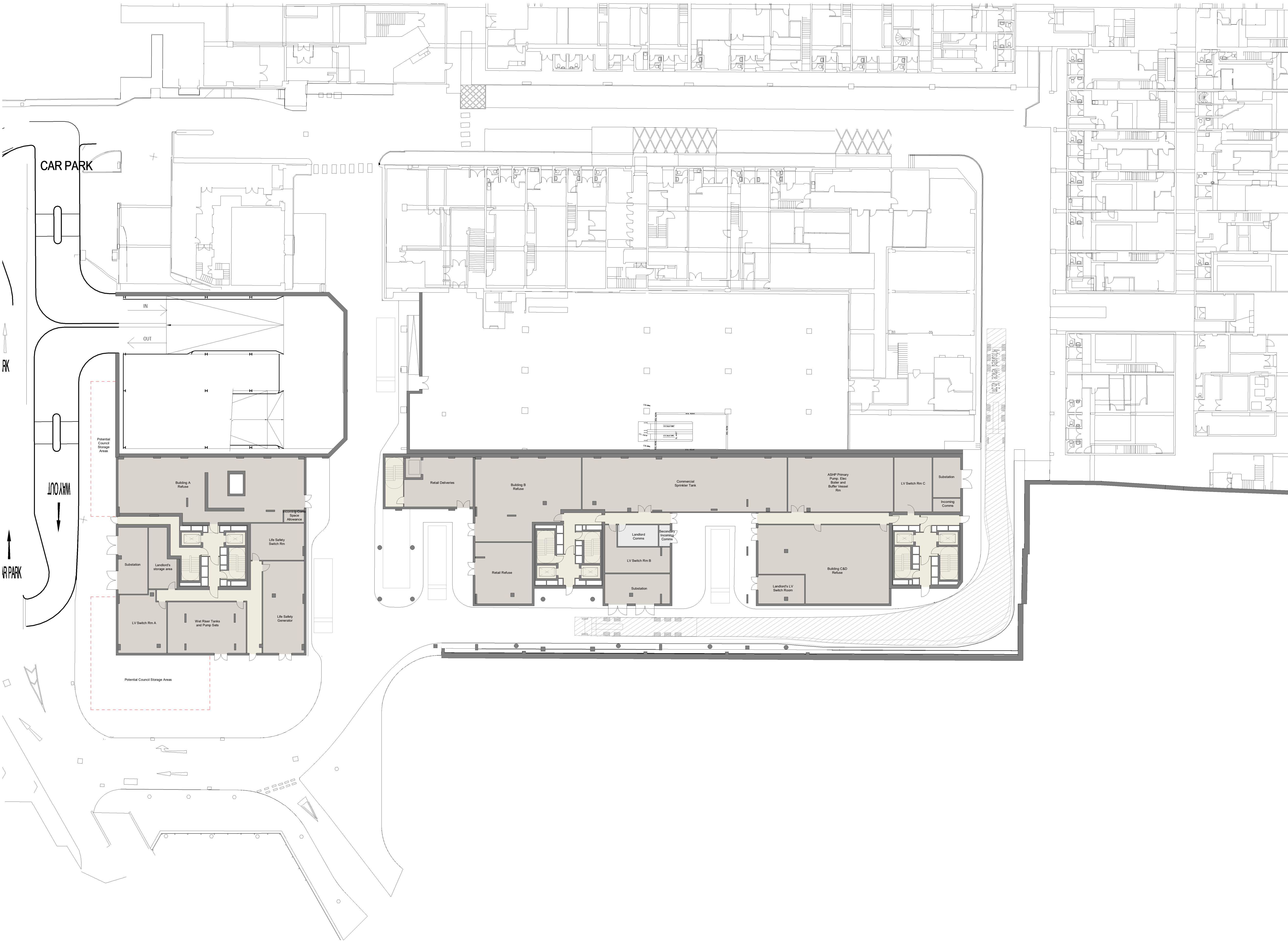
10.4 Trip Generation Assessment

- 10.4.1 The proposed development has been shown to have no detrimental impact on the safety or function of the local transportation network, with the level of trips generated by the proposal able to be accommodated by the existing transport network.

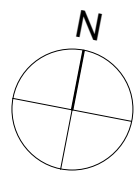
10.5 Monitoring and Review

- 10.5.1 A Framework Travel Plan will be prepared for the site, and this will form the basis of targets and measures to be adopted by future occupiers to help promote the use of more sustainable travel as the means of access for the site.

Appendix A Masterplan



- Key**
- Circulation
 - BOH
 - Comms



SCALE 1 : 250

0 5 10 15

Scale Bar in Metres

Rev	Description	Date	Dr by	App by
original by		date created		
EK		11/12/23		DB



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client name			
McLaren (Broad Street Mall) Ltd and UREF III LP			
project			
Broad Street Mall Residential			
drawing			
GA Plan - Basement			
computer file		plot date	
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BSM-AHR-ZZ-B1-DR-A-08200		issue status	
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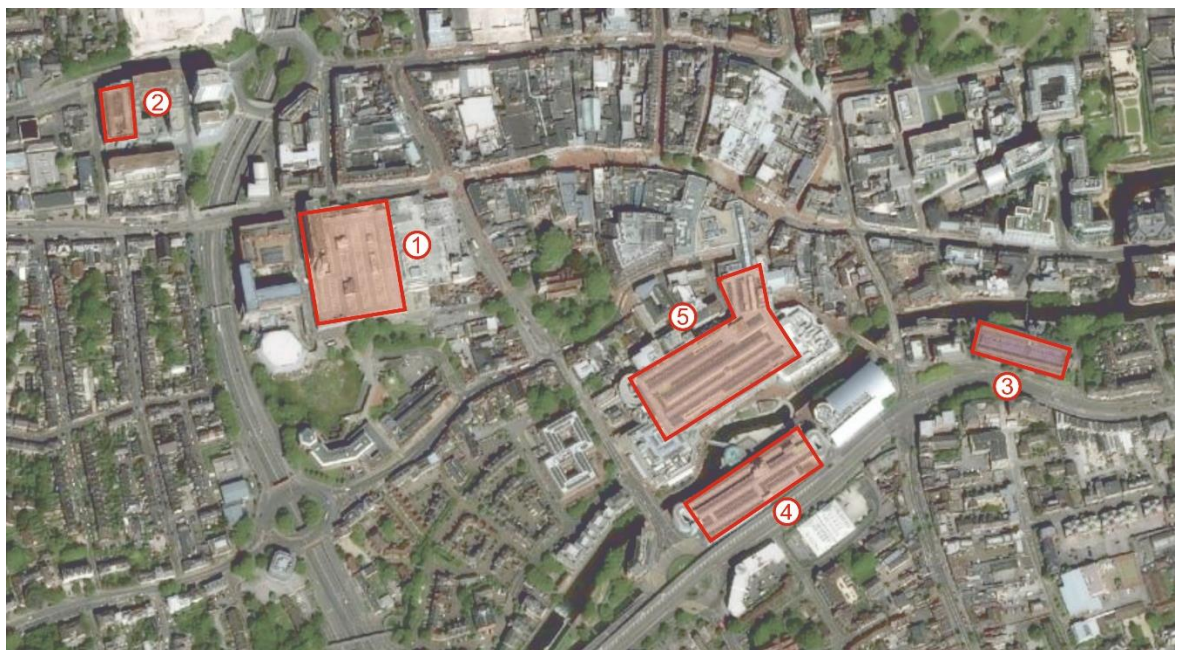
Appendix B Reading Town Centre Parking Demand Assessment

(Extract from Stantec Technical Note BSMR-STN-BSM-XX-TN-TR-0104)

2. Introduction

- 2.1. This technical report has been prepared by Stantec Ltd on behalf of McLaren (Broad Street Mall) Limited to provide a review of the existing parking demand at several public car parks within Reading town centre, including the multi-storey car parking that currently supports the Broad Street Mall Shopping Centre.
- 2.2. The outcomes of the parking demand surveys will inform the emerging development proposals associated with the planning application for the proposed partial redevelopment of Broad Street Mall shopping centre. The proposals comprise of approximately 620 new residential apartments and new ground floor retail facing Dusseldorf Way.
- 2.3. To accommodate the development proposals, it will require part of the existing multi-storey car park resulting in a reduction of around 290 public parking spaces once the development is completed. Furthermore, during periods of the construction programme, the existing car park will need to be closed to allow for the partial demolition and new ramp construction.
- 2.4. Stantec commissioned traffic survey specialist Streetwise to conduct car park occupancy surveys at five of the main public car parks in Reading town centre to establish the current usage level. The surveys were carried out between 14/11/22 and 20/11/2022, Monday to Sunday, for a 24-hour duration. The five car parks that this study considers are listed below and illustrated in **Figure 2.1**.
 1. Broad Street Mall (BSM) Car Park.
 2. Chatham Place Q-Park Chatham Place.
 3. Queens Road Car Park.
 4. The Riverside (Oracle Shopping Centre) Car Park.
 5. Holy Brook (Oracle Shopping Centre) Car Park.

Figure 2.1: Car Park Survey Locations



- 2.5. **Table 2.1** sets out the number of spaces currently within each car park. The tables show that there is a supply of 4,276 spaces across the five car parks, of which 192 are allocated as disabled bays.

Table 2.1: Existing Car Parking Provisions

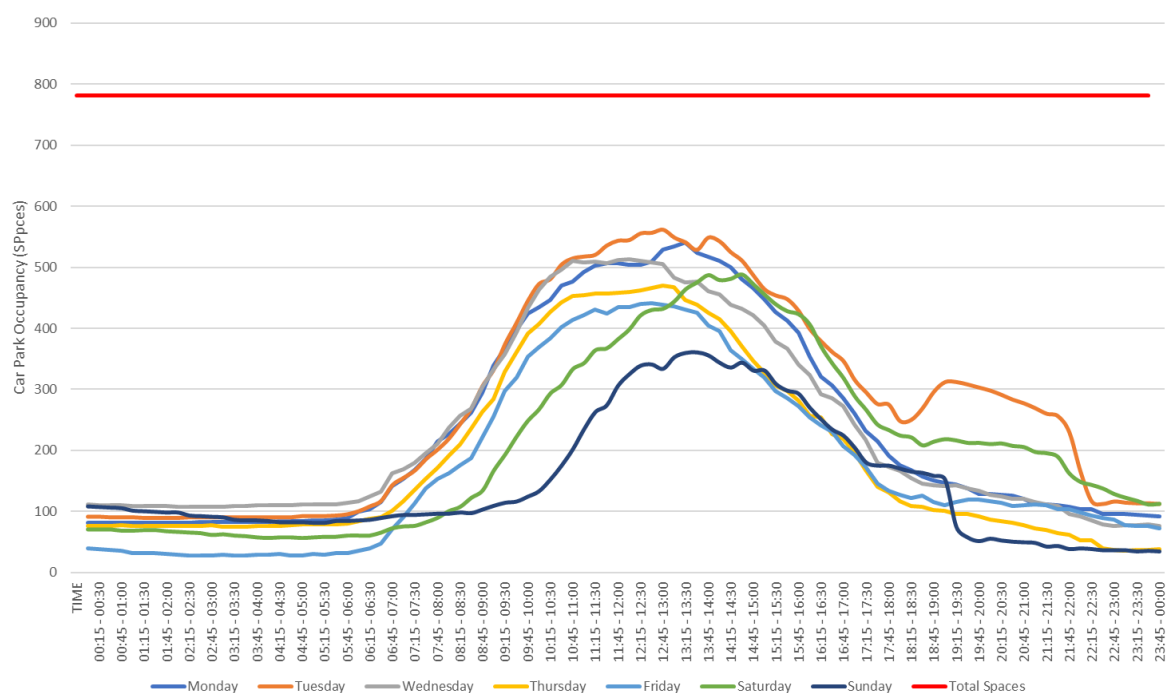
Car Park Location	No. of Spaces	No. of Disabled Spaces
Broad Street Mall	784	17
Chatham Place Q-Park	586	30
Queens Road	700	8
The Riverside	1611	100
Holy Brook	595	37
Total	4,276	192

- 2.6. The following sections of this technical note present the findings of the 7-day car park occupancy surveys for each of the locations that form part of this review. **Section 8** of this note provides a combined assessment which discusses the overall parking demand across the assessed car parks.

3. Broad Street Mall Car Park Occupancy Results

- 3.1. The Broad Street Mall multi-storey car park (MSCP) has a total of 784 spaces across three levels located above the Broad Street Mall Shopping centre to the west of the town centre. The car park is operational 24 hours a day, seven days a week and has a height restriction of 1.83m
- 3.2. During the 7-day survey period, it was recorded that three events were held at The Hexagon, which is the main entertainment venue in the town, holding events throughout the year. The events were held on the evenings of Tuesday 15th Nov and Saturday 19th, and in the afternoon on Sunday 20th.
- 3.3. **Figure 3.1** summarises the parking accumulation assessment of Broad Street Mall MSCP across the 7-day survey period.

Figure 3.1: Broad Street Mall Car Park Occupancy



- 3.4. As shown in **Figure 3.1**, the car park recorded a maximum occupancy of 72% (562 spaces) between 12:45-13:00 on Tuesday, at which time 222 spaces were unoccupied. Across both weekend days, a maximum occupancy of 62% (488 spaces) was recorded between 14:30-14:45 on Saturday, leaving 296 spaces available.
- 3.5. For an average weekday the car park's occupancy remains above 60% between 11am and 2pm with a peak occupancy of 64% recorded between 12:45 and 13:00. The lowest peak occupancy recorded was on a Friday compared to the highest recorded on a Tuesday.
- 3.6. Each weekday recorded a similar pattern in arrival and departure profiles, whereby the MSCP would quickly fill up from 07:00 in the morning, leading up to a relatively level profile between 11:00 and 14:00 and then begins to empty across the remainder of the day.
- 3.7. As highlighted above, an event was held at The Hexagon during the evening on Tuesday during the survey period, which can be linked to the unusual demand profile between 18:00 and 22:30 that evening.

- 3.8. Across the Saturday and Sunday surveys, the car parking demand starts to increase slightly later in the morning but stays busier for a slightly longer period on Saturday compared to most weekdays.
- 3.9. Across all 7 days that were surveyed, Sunday recorded the lowest peak occupancy of 46%, leaving 423 spaces available.
- 3.10. **Table 3.1** summarises the total number of visitors (derived from arrival rates) to the Broad Street Mall car park for each of the surveyed days.

Table 3.1: Total Daily Visitors per hour and day

Time Period	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
00:00-07:00*	61	56	55	26	54	24	19
07:00-08:00	82	64	63	73	85	20	4
08:00-09:00	86	109	102	97	72	48	11
09:00-10:00	146	145	141	138	144	137	34
10:00-11:00	97	100	114	92	109	160	104
11:00-12:00	95	94	63	67	106	150	162
12:00-13:00	106	108	78	84	90	163	141
13:00-14:00	85	84	46	44	72	191	145
14:00-15:00	58	66	42	38	64	142	126
15:00-16:00	40	52	35	40	75	119	83
16:00-17:00	36	54	52	53	59	73	28
17:00-18:00	25	85	36	36	45	57	31
18:00-19:00	28	114	37	37	39	63	17
19:00-24:00*	31	78	46	54	89	94	38
Daily Total	976	1,209	910	879	1,103	1,441	943

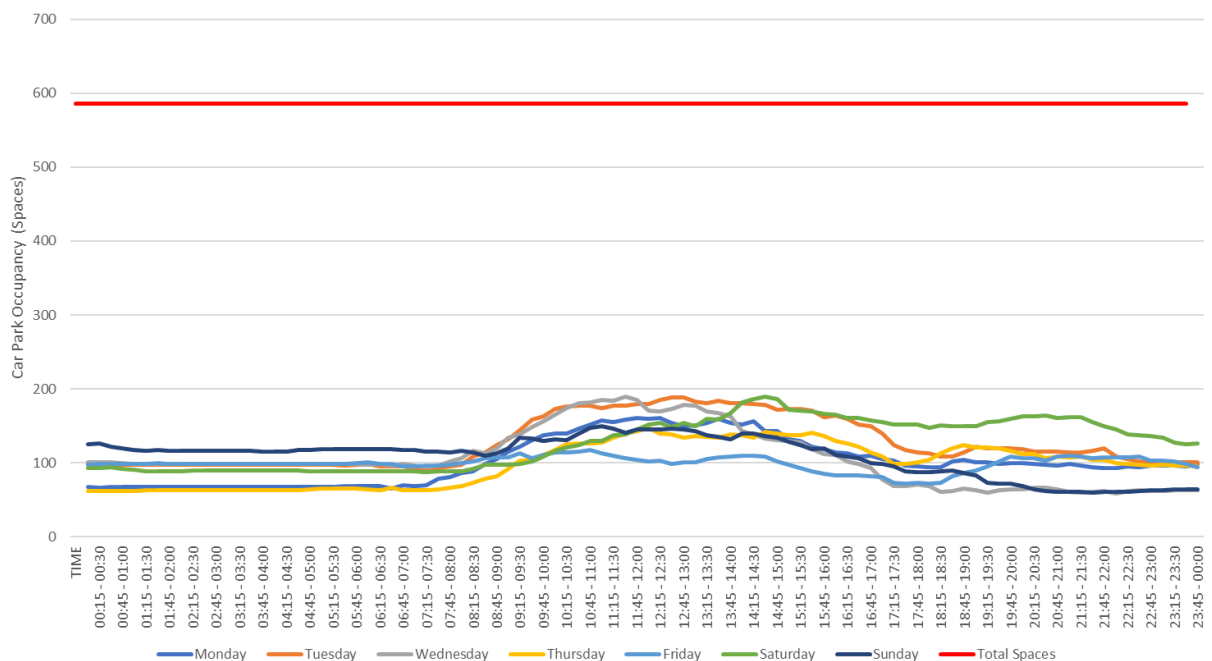
*Group time period before and after core 7am to 7pm period.

- 3.11. **Table 3.1** shows that across the week-long survey period, there was a total of 7,461 visitors to the Broad Street Mall MSCP, with the busiest day recorded being Saturday, which comprised of around 20% of the total weekly arrivals.
- 3.12. Typically, the busiest hourly period across the week was between 09:00 and 10:00, with the single busiest hour in terms of arrivals recorded between 13:00 and 14:00 on the Saturday survey period, with 191 arrival trips.

4. Chatham Place Q-Park Car Park Occupancy Results

- 4.1. Chatham Place MSCP ('Q-Park') provides a total of 586 spaces across 18 half-deck levels. The parking facility is located to the west of Reading town centre on the periphery of the core town centre zone and outside of the Inner Distributor Road (IDR) ring road that encircles the town centre. The car park is open 24 hours a day, seven days a week.
- 4.2. In respect to Broad Street Mall, the Chatham Place MSCP is located 450m (walking route from Dusseldorf Way) to the northwest, which is a 5-minute walk away.
- 4.3. **Figure 4.1** summarises the parking accumulation assessment of Chatham Place Q-Park MSCP across the 7-day survey period.

Figure 4.1: Chatham Place Car Park Occupancy

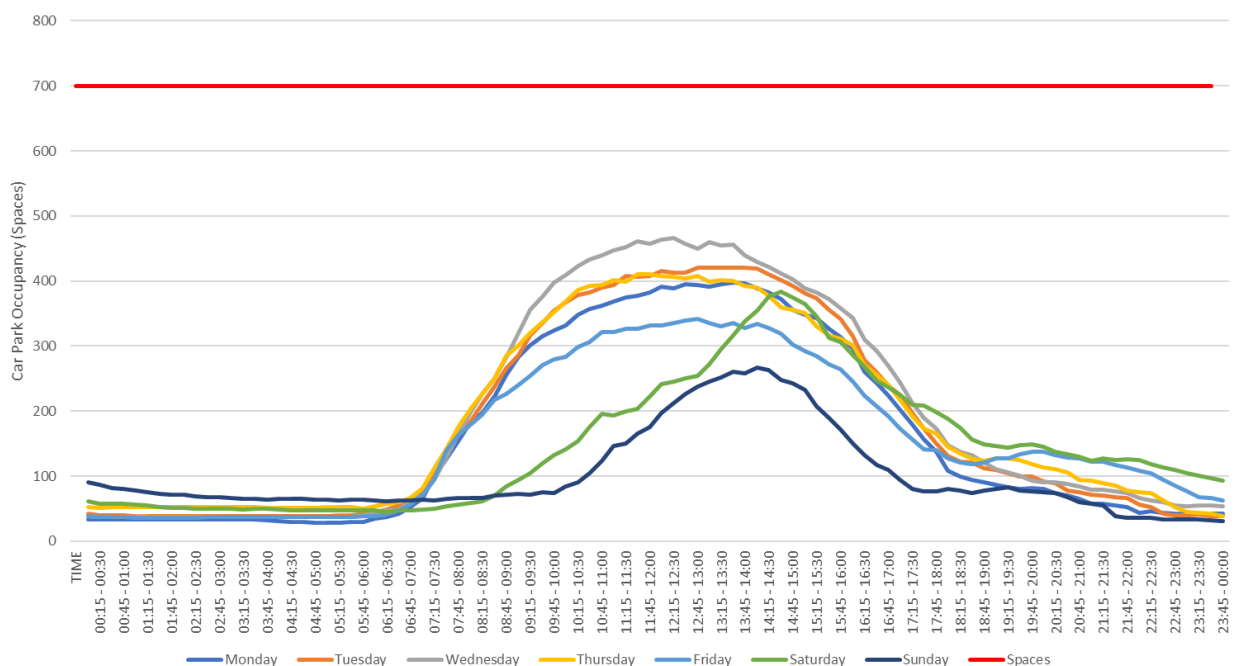


- 4.4. As shown in **Figure 4.1**, the car park recorded a maximum occupancy of 32% (189 spaces) between 11:30-11:45 on the Wednesday surveys period leaving 397 spaces available during the busiest period weekday period. During the weekend surveys, a similar level of peak parking demand was recorded between 14:30-14:45 for 190 spaces on Saturday.
- 4.5. Across the 7-day survey period, the lowest peak occupancy was recorded on Friday, where a maximum of 117 spaces were occupied at 10:45-11:00.
- 4.6. It is also noted that the car park offers a hub for an Enterprise rental car site at the ground floor level as well as other leased spaces on some of the upper floors.
- 4.7. Of all five car parks surveyed, the Chatham Place car park recorded the lowest occupation rate.

5. Queens Road Car Park Occupancy Results

- 5.1. Queens Road MSCP provides a total of 700 spaces across 10 half-deck levels. The parking facility is located to the east of Reading town centre located, between Queens Road and the River Kennett, with direct vehicle access via the A329 Queens Road to the south. The car park is open 24 hours a day, seven days a week.
- 5.2. In respect to Broad Street Mall, the Queens Road MSCP is located 750m (walking route from Dusseldorf Way) to the southeast.
- 5.3. **Figure 5.1** summarises the parking accumulation assessment of Queens Road MSCP across the 7-day survey period.

Figure 5.1: Queens Road Car Park Occupancy

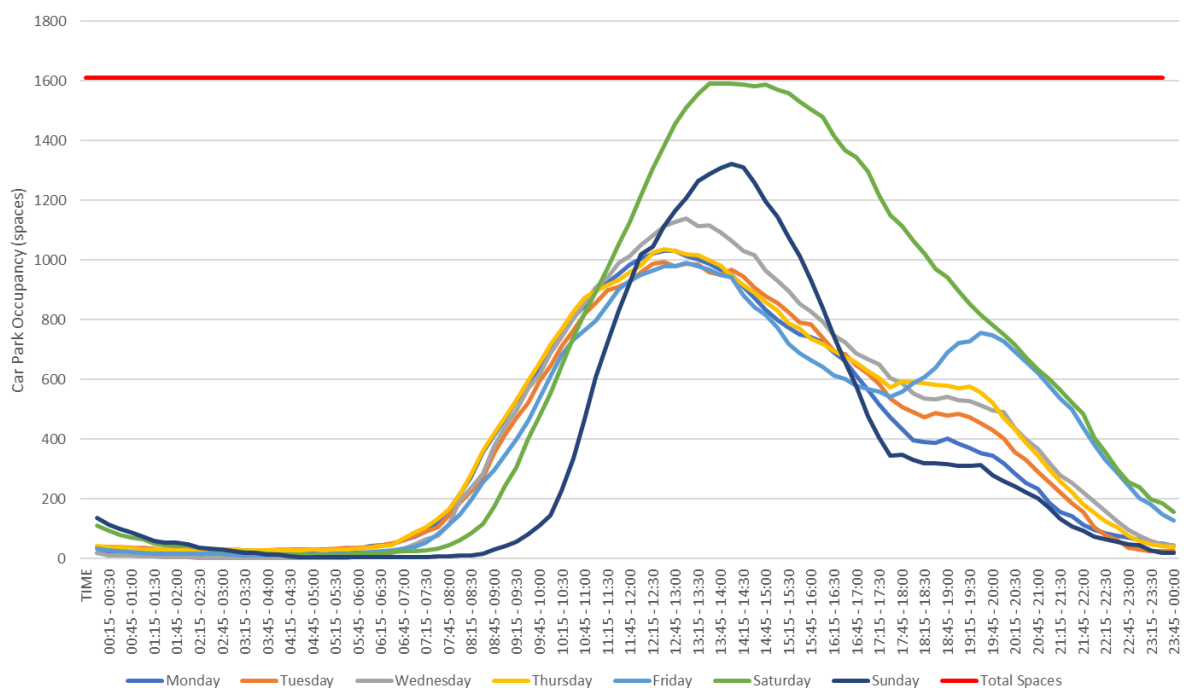


- 5.4. **Figure 5.1** shows that Queens Road Car Park had a maximum parking occupancy of 67% (466 spaces) between 12:15-12:30 on the Wednesday survey period, with around 234 spaces remaining unoccupied.
- 5.5. For an average weekday the car park's occupancy was recorded above 50% between 10am and 3pm with an average peak occupancy of 58% recorded between 12:45 and 13:00.
- 5.6. The maximum parking demand for the Saturday period reaches similar levels to an average weekday, with Sunday recording the lowest peak demand of just 38% (267 spaces), resulting in 433 spaces unoccupied.
- 5.7. Each of the weekday survey periods recorded a similar occupation profile, with demand rising from 07:00am, plateauing from 10:00am and beginning to empty at 13:30pm. While Saturday and Sunday have a more gradual increase in demand and peak later in the day at 14:30 – 14:45pm and 14:00 – 14:15pm, respectively.

6. The Riverside (Oracle Shopping Centre) Occupancy Results

- 6.1. The largest car parking provision in Reading town centre is located at The Riverside car park, which forms part of The Oracle Shopping Centre. A total of 1,611 spaces are provided across 7 levels with access to/from the car park taken directly from the A329 IDR. The car park is open 24 hours a day, seven days a week.
- 6.2. In respect to Broad Street Mall, The Riverside MSCP is located 550m (walking route from Dusseldorf Way) to the south. **Figure 6.1** summarises the parking accumulation assessment of The Riverside MSCP across the 7-day survey period.

Figure 6.1: The Riverside Car Park Occupancy

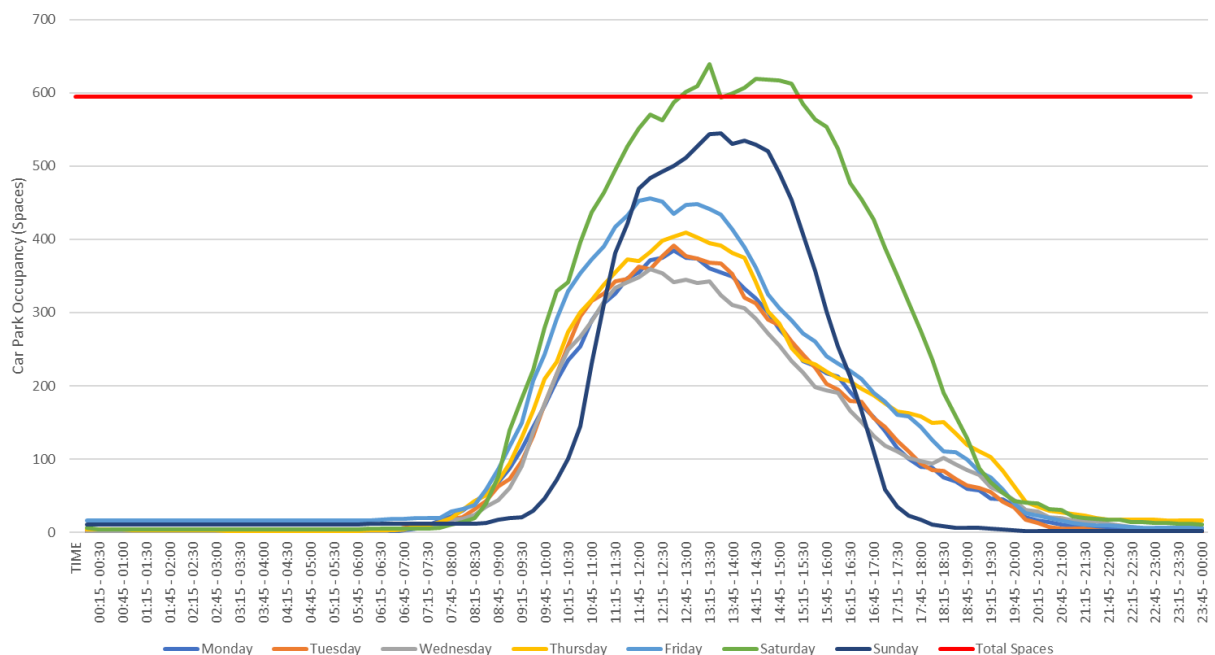


- 6.3. The car park occupancy surveys at The Riverside car park show that the facility is almost full during the Saturday assessment period, with a maximum occupancy of 1591 spaces (99%) at 13:30. Between the hours of 13:00 and 16:00, the car parks occupancy remains above 90%.
- 6.4. The next busiest day, with respect to peak occupancy, was the Sunday survey period which recorded a maximum occupancy of 82% at 14:00; however, the demand for parking after this point rapidly started to fall away.
- 6.5. For an average weekday the car park's occupancy was recorded above 60% between 11:45am and 14:15pm with an average peak occupancy of 64% (1031 spaces) recorded between 12:30–12:45, leaving an average of 580 spaces free.
- 6.6. Each of the weekday surveys recorded similar parking demand profiles, with parking the demand increasing quickly after 07:00am and then falling away gradually from 14:00 for the remainder of the day. The only exception to this trend was Friday evening, which recorded an evening peak in parking demand which can be linked to the night-time economy provided by the shopping centre and surrounding restaurants and bars.
- 6.7. For a typical weekday, The Oracle car park generally had in excess of 600 spaces available across a daily period.

7. The Holy Brook (Oracle Shopping Centre) Occupancy Results

- 7.1. The Oracle Shopping Centre is supported by a second car park located above the shopping centre and provides 595 spaces across two levels. In contrast to the other city centre car parks, this facility operates under defined opening hours of 0700 to 1930 every day.
- 7.2. In respect to Broad Street Mall, the Holy Brook Car Park is located 400m (walking route from Dusseldorf Way) to the east and can be accessed on foot from inside the shopping centre.
- 7.3. **Figure 7.1** summarises the parking accumulation assessment of the Holy Brook car park across the 7-day survey period.

Figure 7.1: Holy Brook Car Park Occupancy



- 7.4. As shown by the graph above, the Holy Brook car park exceeded its capacity during the Saturday survey period between 12:45 and 15:15, where a maximum parking demand of 639 spaces was surveyed. This meant there were around 44 excess vehicles in the car park.
- 7.5. Saturday is clearly the busiest day across the weekly survey. However, Sunday also recorded high occupancy rates, with a maximum demand of 92% recorded at 13:30, although the intensified usage of the car park on Sunday lasted for a shorter duration than Saturday and was largely empty by 17:00.
- 7.6. For an average weekday the car park's occupancy was recorded above 60% between 11:15am and 2pm, with an average peak occupancy of 66% (391 spaces) recorded at midday resulting in 204 spaces remaining unoccupied.
- 7.7. Across all 7 days that were surveyed, Monday to Thursday recorded similar peak occupancy results ranging between 60-69%, with Wednesday recording the lowest of the four days.

8. Combined Town Centre Assessment

- 8.1. Across the five car parks that formed this occupancy review, there is a combined parking provision of 4,276 spaces. **Table 8.1** summarises the combined parking occupancies across the weekday surveys with a corresponding average weekday occupancy level and subsequent level of surplus car parking.

Table 8.1: Combined Weekday Parking Occupancy

Time	Mon	Tues	Wed	Thurs	Fri	Ave. Weekday Occupancy	Spaces Occupied (%)	Spaces Free
00:00 – 01:00	200	267	258	229	209	233	5%	4043
01:00 – 02:00	197	258	250	226	198	226	5%	4050
02:00 – 03:00	199	259	247	226	196	226	5%	4050
03:00 – 04:00	196	257	246	221	192	222	5%	4053
04:00 – 05:00	201	261	248	225	193	226	5%	4050
05:00 – 06:00	219	274	260	231	206	238	6%	4038
06:00 – 07:00	331	368	361	301	273	327	8%	3949
07:00 – 08:00	634	625	609	596	554	604	14%	3672
08:00 – 09:00	1136	1113	1126	1121	938	1087	25%	3189
09:00 – 10:00	1701	1731	1779	1716	1523	1690	40%	2586
10:00 – 11:00	2126	2217	2277	2163	1992	2155	50%	2121
11:00 – 12:00	2390	2422	2517	2340	2251	2384	56%	1892
12:00 – 13:00	2480	2527	2605	2451	2309	2474	58%	1802
13:00 – 14:00	2384	2453	2467	2319	2204	2366	55%	1910
14:00 – 15:00	2076	2215	2175	1987	1860	2062	48%	2214
15:00 – 16:00	1785	1920	1832	1685	1527	1750	41%	2526
16:00 – 17:00	1390	1539	1455	1416	1253	1411	33%	2865
17:00 – 18:00	947	1141	1102	1150	1050	1078	25%	3198
18:00 – 19:00	808	1067	957	1049	1113	999	23%	3277
19:00 – 20:00	691	986	831	912	1152	914	21%	3362
20:00 – 21:00	525	763	657	652	983	716	17%	3560
21:00 – 22:00	371	576	466	442	773	526	12%	3750
22:00 – 23:00	307	295	295	279	527	341	8%	3935
23:00 – 00:00	279	276	243	228	364	278	7%	3998

- 8.2. **Table 8.1** summarises that for an average weekday, there was a maximum parking demand of 2,474 spaces, equating to 58% of the total parking provision across all five car parks with 1,802 spaces remaining unoccupied. Parking occupancies remain above 50% for a 4 hour period (10am to 2pm) with occupancy rates dropping away quickly either side of this period.
- 8.3. With regards to the absolute maximum recorded across the five-day period, the highest combined demand for parking was recorded between 12:00-13:00 during the Wednesday survey, where 61% of the surveyed parking spaces were occupied with 1,671 surplus parking spaces.

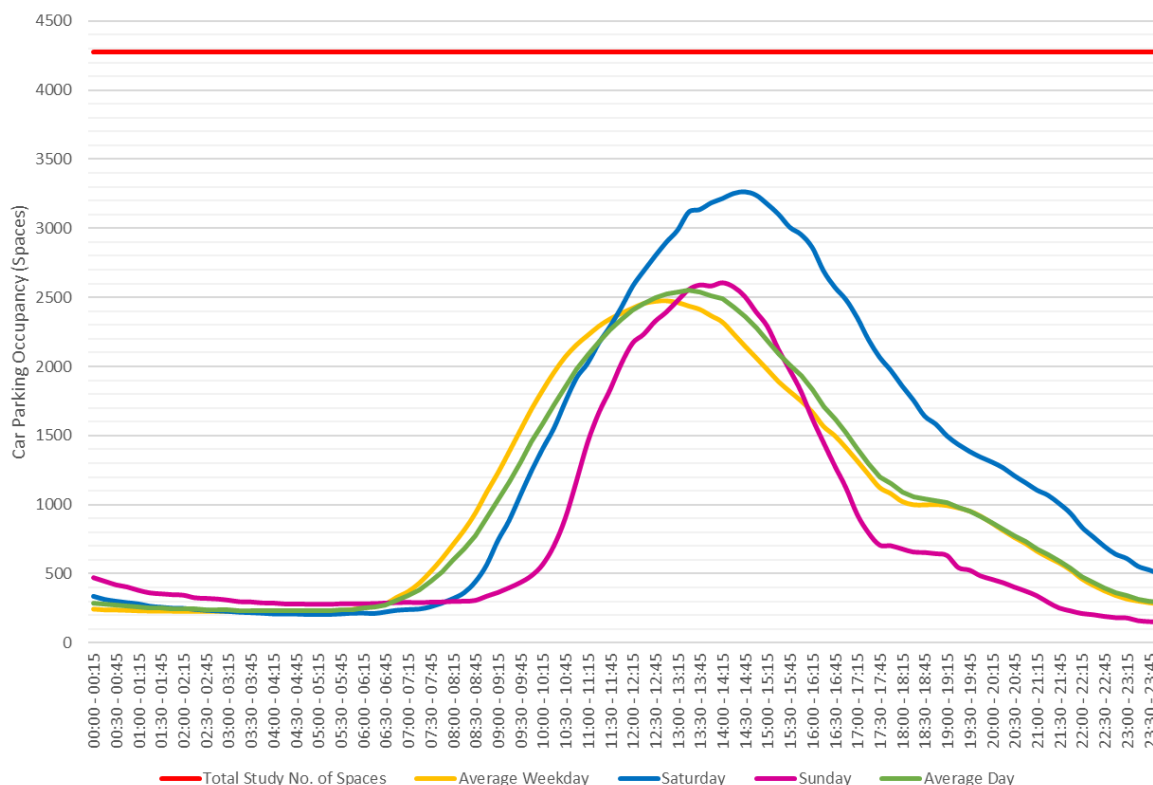
- 8.4. **Table 8.2** summarises the combined parking occupancies across both weekend days with corresponding average occupancy levels and subsequent level of surplus car parking.

Table 8.2: Combined Car Park Occupancies – Weekend

Time	Saturday	Spaces Occupied (%)	Spaces Free	Sunday	Spaces Occupied (%)	Spaces Free
00:00 – 01:00	294	7%	3982	404	9%	3872
01:00 – 02:00	255	6%	4021	349	8%	3927
02:00 – 03:00	235	5%	4041	318	7%	3958
03:00 – 04:00	218	5%	4058	289	7%	3987
04:00 – 05:00	209	5%	4067	280	7%	3996
05:00 – 06:00	218	5%	4058	282	7%	3994
06:00 – 07:00	239	6%	4037	291	7%	3985
07:00 – 08:00	290	7%	3986	296	7%	3980
08:00 – 09:00	566	13%	3710	337	8%	3939
09:00 – 10:00	1246	29%	3030	486	11%	3790
10:00 – 11:00	1916	45%	2360	1170	27%	3106
11:00 – 12:00	2427	57%	1849	2021	47%	2255
12:00 – 13:00	2897	68%	1379	2394	56%	1882
13:00 – 14:00	3182	74%	1094	2583	60%	1693
14:00 – 15:00	3237	76%	1039	2395	56%	1881
15:00 – 16:00	2953	69%	1323	1820	43%	2456
16:00 – 17:00	2483	58%	1793	1123	26%	3153
17:00 – 18:00	1971	46%	2305	703	16%	3573
18:00 – 19:00	1583	37%	2693	645	15%	3631
19:00 – 20:00	1345	31%	2931	484	11%	3792
20:00 – 21:00	1160	27%	3116	374	9%	3902
21:00 – 22:00	939	22%	3337	231	5%	4045
22:00 – 23:00	645	15%	3631	182	4%	4094
23:00 – 00:00	499	12%	3777	149	3%	4127

- 8.5. **Table 8.2** shows that across both weekend survey days, the Saturday survey period recorded the greatest parking demand of 3,237 (76%) spaces at 14:00-15:00. During this period, 1039 car parking spaces remained available across the 5 car parks.
- 8.6. Taking into account the results from **Table 8.1** and **Table 8.2**, for an average day (across the 7 day period) there was a maximum parking demand of 2,523 spaces equating to 59% of the total parking provision across all five car parks with 1,753 spaces remaining unoccupied.
- 8.7. **Figure 8.1** illustrates the total combined car park occupancies for an average weekday, average day, Saturday, and Sunday for a daily period.

Figure 8.1: Combined Average Weekday, Average Day, and Weekend Parking Occupancies



9. Other Town Centre Parking Facilities

- 9.1. This study focuses on five of the town centres primary public car parks, which offer parking provisions for several purposes, including commuting, leisure, and retail demands.
- 9.2. In addition to these five locations, there are several other car parks which range in scale that are located within Reading town centre, which are listed below.
 - Reading Civic B 170 spaces (surface car park)
 - Cattle Market 90 spaces (surface car park)
 - Hill Meadow 298 spaces (surface car park)
 - Kings Meadow 95 spaces (surface car park)
 - Reading Station 1,600 spaces (MSCP)
- 9.3. The above car parks offer a further 2,253 spaces across the town centre in addition to the 4,276 that comprise this assessment, therefore totalling 6,529 spaces. Of these other locations, Reading Station MSCP offers the most substantial offering of public parking provision outside of those surveyed, and is located north of Reading Station and therefore presents an attractive facility for long stay commuter parking as well as for leisure and retail demands.
- 9.4. Surveys undertaken at Reading Station car park, as part of the planning application Ref. 191384, indicate that in May 2019 the car park was around 76% occupied for a weekday and therefore had 372 spaces available at the time, noting this was completed under pre-covid travel behaviours.

Appendix C Residential TRICS Outputs

Calculation Reference: AUDIT-706701-230814-0840

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST	
CT	CENTRAL BEDFORDSHIRE	2 days
HF	HERTFORDSHIRE	1 days
PO	PORTSMOUTH	1 days

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

Primary 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: No of Dwellings
 Actual Range: 62 to 175 (units:)
 Range Selected by User: 6 to 184 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/15 to 11/05/22

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	3 days
Thursday	1 days

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

Selected survey types:

Manual count	4 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:

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	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.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	6 days - Selected
Servicing vehicles Excluded	1 days - Selected

Secondary Filtering selection:

Use Class:

C3 4 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

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

250,001 to 500,000 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 2 days

1.1 to 1.5 2 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 2 days

No 2 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 4 days

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

LIST OF SITES relevant to selection parameters

1	CT-03-C-01	BLOCKS OF FLATS	CENTRAL BEDFORDSHIRE
	WING ROAD		
	LEIGHTON BUZZARD		
	LINSLADE		
	Edge of Town Centre		
	Residential Zone		
	Total No of Dwellings:	175	
	Survey date: TUESDAY	15/05/18	Survey Type: MANUAL
2	CT-03-C-02	BLOCKS OF FLATS	CENTRAL BEDFORDSHIRE
	STANBRIDGE ROAD		
	LEIGHTON BUZZARD		
	Edge of Town Centre		
	Residential Zone		
	Total No of Dwellings:	62	
	Survey date: TUESDAY	15/05/18	Survey Type: MANUAL
3	HF-03-C-03	BLOCK OF FLATS	HERTFORDSHIRE
	SHENLEY ROAD		
	BOREHAMWOOD		
	Edge of Town Centre		
	Built-Up Zone		
	Total No of Dwellings:	91	
	Survey date: THURSDAY	14/11/19	Survey Type: MANUAL
4	PO-03-C-01	BLOCKS OF FLATS	PORTSMOUTH
	CROSS STREET		
	PORTSMOUTH		
	Edge of Town Centre		
	Built-Up Zone		
	Total No of Dwellings:	90	
	Survey date: TUESDAY	05/06/18	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
CT-03-C-03	No Railway Station within walking/cycling distance
MS-03-C-04	Covid
SF-03-C-05	Covid

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL VEHICLES
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period
 Total People to Total Vehicles ratio (all time periods and directions): 2.39

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	4	105	0.048	4	105	0.191	4	105	0.239
08:00 - 09:00	4	105	0.036	4	105	0.203	4	105	0.239
09:00 - 10:00	4	105	0.055	4	105	0.074	4	105	0.129
10:00 - 11:00	4	105	0.060	4	105	0.072	4	105	0.132
11:00 - 12:00	4	105	0.060	4	105	0.086	4	105	0.146
12:00 - 13:00	4	105	0.110	4	105	0.108	4	105	0.218
13:00 - 14:00	4	105	0.072	4	105	0.062	4	105	0.134
14:00 - 15:00	4	105	0.053	4	105	0.055	4	105	0.108
15:00 - 16:00	4	105	0.077	4	105	0.057	4	105	0.134
16:00 - 17:00	4	105	0.120	4	105	0.060	4	105	0.180
17:00 - 18:00	4	105	0.170	4	105	0.074	4	105	0.244
18:00 - 19:00	4	105	0.227	4	105	0.115	4	105	0.342
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.088			1.157			2.245

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:	62 - 175 (units:)
Survey date range:	01/01/15 - 11/05/22
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	3

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.

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

MULTI-MODAL TAXIS

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	4	105	0.002	4	105	0.005	4	105	0.007
08:00 - 09:00	4	105	0.000	4	105	0.000	4	105	0.000
09:00 - 10:00	4	105	0.002	4	105	0.002	4	105	0.004
10:00 - 11:00	4	105	0.000	4	105	0.000	4	105	0.000
11:00 - 12:00	4	105	0.002	4	105	0.002	4	105	0.004
12:00 - 13:00	4	105	0.012	4	105	0.012	4	105	0.024
13:00 - 14:00	4	105	0.000	4	105	0.000	4	105	0.000
14:00 - 15:00	4	105	0.000	4	105	0.000	4	105	0.000
15:00 - 16:00	4	105	0.000	4	105	0.000	4	105	0.000
16:00 - 17:00	4	105	0.007	4	105	0.007	4	105	0.014
17:00 - 18:00	4	105	0.002	4	105	0.002	4	105	0.004
18:00 - 19:00	4	105	0.002	4	105	0.002	4	105	0.004
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.029			0.032			0.061

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.

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

MULTI-MODAL OGVS

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	4	105	0.007	4	105	0.007	4	105	0.014
08:00 - 09:00	4	105	0.000	4	105	0.000	4	105	0.000
09:00 - 10:00	4	105	0.002	4	105	0.002	4	105	0.004
10:00 - 11:00	4	105	0.000	4	105	0.000	4	105	0.000
11:00 - 12:00	4	105	0.000	4	105	0.000	4	105	0.000
12:00 - 13:00	4	105	0.000	4	105	0.000	4	105	0.000
13:00 - 14:00	4	105	0.000	4	105	0.000	4	105	0.000
14:00 - 15:00	4	105	0.000	4	105	0.000	4	105	0.000
15:00 - 16:00	4	105	0.000	4	105	0.000	4	105	0.000
16:00 - 17:00	4	105	0.000	4	105	0.000	4	105	0.000
17:00 - 18:00	4	105	0.000	4	105	0.000	4	105	0.000
18:00 - 19:00	4	105	0.000	4	105	0.000	4	105	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.009			0.009			0.018

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.

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

MULTI-MODAL CYCLISTS

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	4	105	0.002	4	105	0.007	4	105	0.009
08:00 - 09:00	4	105	0.002	4	105	0.012	4	105	0.014
09:00 - 10:00	4	105	0.000	4	105	0.000	4	105	0.000
10:00 - 11:00	4	105	0.002	4	105	0.000	4	105	0.002
11:00 - 12:00	4	105	0.002	4	105	0.002	4	105	0.004
12:00 - 13:00	4	105	0.000	4	105	0.000	4	105	0.000
13:00 - 14:00	4	105	0.002	4	105	0.000	4	105	0.002
14:00 - 15:00	4	105	0.005	4	105	0.002	4	105	0.007
15:00 - 16:00	4	105	0.000	4	105	0.000	4	105	0.000
16:00 - 17:00	4	105	0.000	4	105	0.000	4	105	0.000
17:00 - 18:00	4	105	0.007	4	105	0.005	4	105	0.012
18:00 - 19:00	4	105	0.005	4	105	0.000	4	105	0.005
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.027			0.028			0.055

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.

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

MULTI-MODAL VEHICLE OCCUPANTS

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	4	105	0.057	4	105	0.294	4	105	0.351
08:00 - 09:00	4	105	0.043	4	105	0.356	4	105	0.399
09:00 - 10:00	4	105	0.067	4	105	0.098	4	105	0.165
10:00 - 11:00	4	105	0.079	4	105	0.103	4	105	0.182
11:00 - 12:00	4	105	0.079	4	105	0.117	4	105	0.196
12:00 - 13:00	4	105	0.153	4	105	0.172	4	105	0.325
13:00 - 14:00	4	105	0.108	4	105	0.081	4	105	0.189
14:00 - 15:00	4	105	0.069	4	105	0.072	4	105	0.141
15:00 - 16:00	4	105	0.115	4	105	0.084	4	105	0.199
16:00 - 17:00	4	105	0.211	4	105	0.089	4	105	0.300
17:00 - 18:00	4	105	0.301	4	105	0.096	4	105	0.397
18:00 - 19:00	4	105	0.411	4	105	0.158	4	105	0.569
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.693			1.720			3.413

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.

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

MULTI-MODAL PEDESTRIANS

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	4	105	0.017	4	105	0.069	4	105	0.086
08:00 - 09:00	4	105	0.024	4	105	0.079	4	105	0.103
09:00 - 10:00	4	105	0.043	4	105	0.045	4	105	0.088
10:00 - 11:00	4	105	0.053	4	105	0.031	4	105	0.084
11:00 - 12:00	4	105	0.017	4	105	0.033	4	105	0.050
12:00 - 13:00	4	105	0.060	4	105	0.041	4	105	0.101
13:00 - 14:00	4	105	0.050	4	105	0.029	4	105	0.079
14:00 - 15:00	4	105	0.026	4	105	0.043	4	105	0.069
15:00 - 16:00	4	105	0.060	4	105	0.036	4	105	0.096
16:00 - 17:00	4	105	0.041	4	105	0.069	4	105	0.110
17:00 - 18:00	4	105	0.072	4	105	0.081	4	105	0.153
18:00 - 19:00	4	105	0.072	4	105	0.067	4	105	0.139
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.535			0.623			1.158

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.

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

MULTI-MODAL BUS/TRAM PASSENGERS

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	4	105	0.002	4	105	0.043	4	105	0.045
08:00 - 09:00	4	105	0.017	4	105	0.103	4	105	0.120
09:00 - 10:00	4	105	0.002	4	105	0.033	4	105	0.035
10:00 - 11:00	4	105	0.005	4	105	0.007	4	105	0.012
11:00 - 12:00	4	105	0.007	4	105	0.007	4	105	0.014
12:00 - 13:00	4	105	0.010	4	105	0.026	4	105	0.036
13:00 - 14:00	4	105	0.010	4	105	0.024	4	105	0.034
14:00 - 15:00	4	105	0.014	4	105	0.007	4	105	0.021
15:00 - 16:00	4	105	0.069	4	105	0.012	4	105	0.081
16:00 - 17:00	4	105	0.019	4	105	0.007	4	105	0.026
17:00 - 18:00	4	105	0.055	4	105	0.014	4	105	0.069
18:00 - 19:00	4	105	0.060	4	105	0.007	4	105	0.067
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.270			0.290			0.560

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.

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

MULTI-MODAL TOTAL RAIL PASSENGERS

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	4	105	0.000	4	105	0.029	4	105	0.029
08:00 - 09:00	4	105	0.000	4	105	0.026	4	105	0.026
09:00 - 10:00	4	105	0.000	4	105	0.010	4	105	0.010
10:00 - 11:00	4	105	0.010	4	105	0.002	4	105	0.012
11:00 - 12:00	4	105	0.005	4	105	0.000	4	105	0.005
12:00 - 13:00	4	105	0.005	4	105	0.005	4	105	0.010
13:00 - 14:00	4	105	0.002	4	105	0.002	4	105	0.004
14:00 - 15:00	4	105	0.005	4	105	0.000	4	105	0.005
15:00 - 16:00	4	105	0.007	4	105	0.000	4	105	0.007
16:00 - 17:00	4	105	0.017	4	105	0.000	4	105	0.017
17:00 - 18:00	4	105	0.024	4	105	0.000	4	105	0.024
18:00 - 19:00	4	105	0.017	4	105	0.005	4	105	0.022
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.092			0.079			0.171

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.

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

MULTI-MODAL PUBLIC TRANSPORT USERS

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	4	105	0.002	4	105	0.072	4	105	0.074
08:00 - 09:00	4	105	0.017	4	105	0.129	4	105	0.146
09:00 - 10:00	4	105	0.002	4	105	0.043	4	105	0.045
10:00 - 11:00	4	105	0.012	4	105	0.010	4	105	0.022
11:00 - 12:00	4	105	0.007	4	105	0.007	4	105	0.014
12:00 - 13:00	4	105	0.014	4	105	0.031	4	105	0.045
13:00 - 14:00	4	105	0.014	4	105	0.026	4	105	0.040
14:00 - 15:00	4	105	0.017	4	105	0.007	4	105	0.024
15:00 - 16:00	4	105	0.079	4	105	0.012	4	105	0.091
16:00 - 17:00	4	105	0.036	4	105	0.007	4	105	0.043
17:00 - 18:00	4	105	0.079	4	105	0.014	4	105	0.093
18:00 - 19:00	4	105	0.081	4	105	0.012	4	105	0.093
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.360			0.370			0.730

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.

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
 Total People to Total Vehicles ratio (all time periods and directions): 2.39

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	4	105	0.079	4	105	0.443	4	105	0.522
08:00 - 09:00	4	105	0.086	4	105	0.577	4	105	0.663
09:00 - 10:00	4	105	0.112	4	105	0.187	4	105	0.299
10:00 - 11:00	4	105	0.146	4	105	0.144	4	105	0.290
11:00 - 12:00	4	105	0.105	4	105	0.160	4	105	0.265
12:00 - 13:00	4	105	0.227	4	105	0.244	4	105	0.471
13:00 - 14:00	4	105	0.175	4	105	0.136	4	105	0.311
14:00 - 15:00	4	105	0.117	4	105	0.124	4	105	0.241
15:00 - 16:00	4	105	0.254	4	105	0.132	4	105	0.386
16:00 - 17:00	4	105	0.287	4	105	0.165	4	105	0.452
17:00 - 18:00	4	105	0.459	4	105	0.196	4	105	0.655
18:00 - 19:00	4	105	0.569	4	105	0.237	4	105	0.806
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.616			2.745			5.361

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.*

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

MULTI-MODAL CARS

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	4	105	0.031	4	105	0.167	4	105	0.198
08:00 - 09:00	4	105	0.029	4	105	0.189	4	105	0.218
09:00 - 10:00	4	105	0.041	4	105	0.065	4	105	0.106
10:00 - 11:00	4	105	0.055	4	105	0.060	4	105	0.115
11:00 - 12:00	4	105	0.038	4	105	0.065	4	105	0.103
12:00 - 13:00	4	105	0.081	4	105	0.072	4	105	0.153
13:00 - 14:00	4	105	0.065	4	105	0.053	4	105	0.118
14:00 - 15:00	4	105	0.045	4	105	0.053	4	105	0.098
15:00 - 16:00	4	105	0.067	4	105	0.050	4	105	0.117
16:00 - 17:00	4	105	0.098	4	105	0.038	4	105	0.136
17:00 - 18:00	4	105	0.148	4	105	0.069	4	105	0.217
18:00 - 19:00	4	105	0.220	4	105	0.108	4	105	0.328
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.918			0.989			1.907

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.

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

MULTI-MODAL LGVS

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	4	105	0.005	4	105	0.012	4	105	0.017
08:00 - 09:00	4	105	0.007	4	105	0.014	4	105	0.021
09:00 - 10:00	4	105	0.010	4	105	0.005	4	105	0.015
10:00 - 11:00	4	105	0.005	4	105	0.012	4	105	0.017
11:00 - 12:00	4	105	0.019	4	105	0.019	4	105	0.038
12:00 - 13:00	4	105	0.017	4	105	0.022	4	105	0.039
13:00 - 14:00	4	105	0.005	4	105	0.007	4	105	0.012
14:00 - 15:00	4	105	0.007	4	105	0.002	4	105	0.009
15:00 - 16:00	4	105	0.010	4	105	0.007	4	105	0.017
16:00 - 17:00	4	105	0.014	4	105	0.014	4	105	0.028
17:00 - 18:00	4	105	0.017	4	105	0.002	4	105	0.019
18:00 - 19:00	4	105	0.002	4	105	0.002	4	105	0.004
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.118			0.118			0.236

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.

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

MULTI-MODAL MOTOR CYCLES

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	4	105	0.002	4	105	0.000	4	105	0.002
08:00 - 09:00	4	105	0.000	4	105	0.000	4	105	0.000
09:00 - 10:00	4	105	0.000	4	105	0.000	4	105	0.000
10:00 - 11:00	4	105	0.000	4	105	0.000	4	105	0.000
11:00 - 12:00	4	105	0.000	4	105	0.000	4	105	0.000
12:00 - 13:00	4	105	0.000	4	105	0.002	4	105	0.002
13:00 - 14:00	4	105	0.002	4	105	0.002	4	105	0.004
14:00 - 15:00	4	105	0.000	4	105	0.000	4	105	0.000
15:00 - 16:00	4	105	0.000	4	105	0.000	4	105	0.000
16:00 - 17:00	4	105	0.000	4	105	0.000	4	105	0.000
17:00 - 18:00	4	105	0.002	4	105	0.000	4	105	0.002
18:00 - 19:00	4	105	0.002	4	105	0.002	4	105	0.004
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.008			0.006			0.014

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.

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

MULTI-MODAL Servicing 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	4	105	0.012	4	105	0.010	4	105	0.022
08:00 - 09:00	4	105	0.007	4	105	0.007	4	105	0.014
09:00 - 10:00	4	105	0.010	4	105	0.007	4	105	0.017
10:00 - 11:00	4	105	0.000	4	105	0.005	4	105	0.005
11:00 - 12:00	4	105	0.007	4	105	0.007	4	105	0.014
12:00 - 13:00	4	105	0.010	4	105	0.012	4	105	0.022
13:00 - 14:00	4	105	0.005	4	105	0.005	4	105	0.010
14:00 - 15:00	4	105	0.002	4	105	0.002	4	105	0.004
15:00 - 16:00	4	105	0.005	4	105	0.002	4	105	0.007
16:00 - 17:00	4	105	0.005	4	105	0.007	4	105	0.012
17:00 - 18:00	4	105	0.005	4	105	0.002	4	105	0.007
18:00 - 19:00	4	105	0.002	4	105	0.005	4	105	0.007
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.070			0.071			0.141

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.

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Appendix D Stantec Drawings



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P01 - FOR PLANNING	CE	JH	2024.01.09
Issued/Revision	By	Appd	YYYY.MM.DD
	CE	JH	JH
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			2024.01.09
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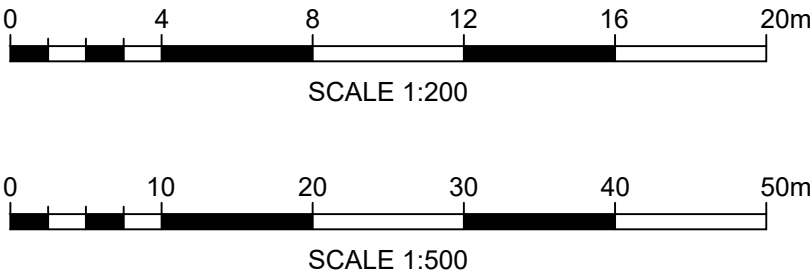
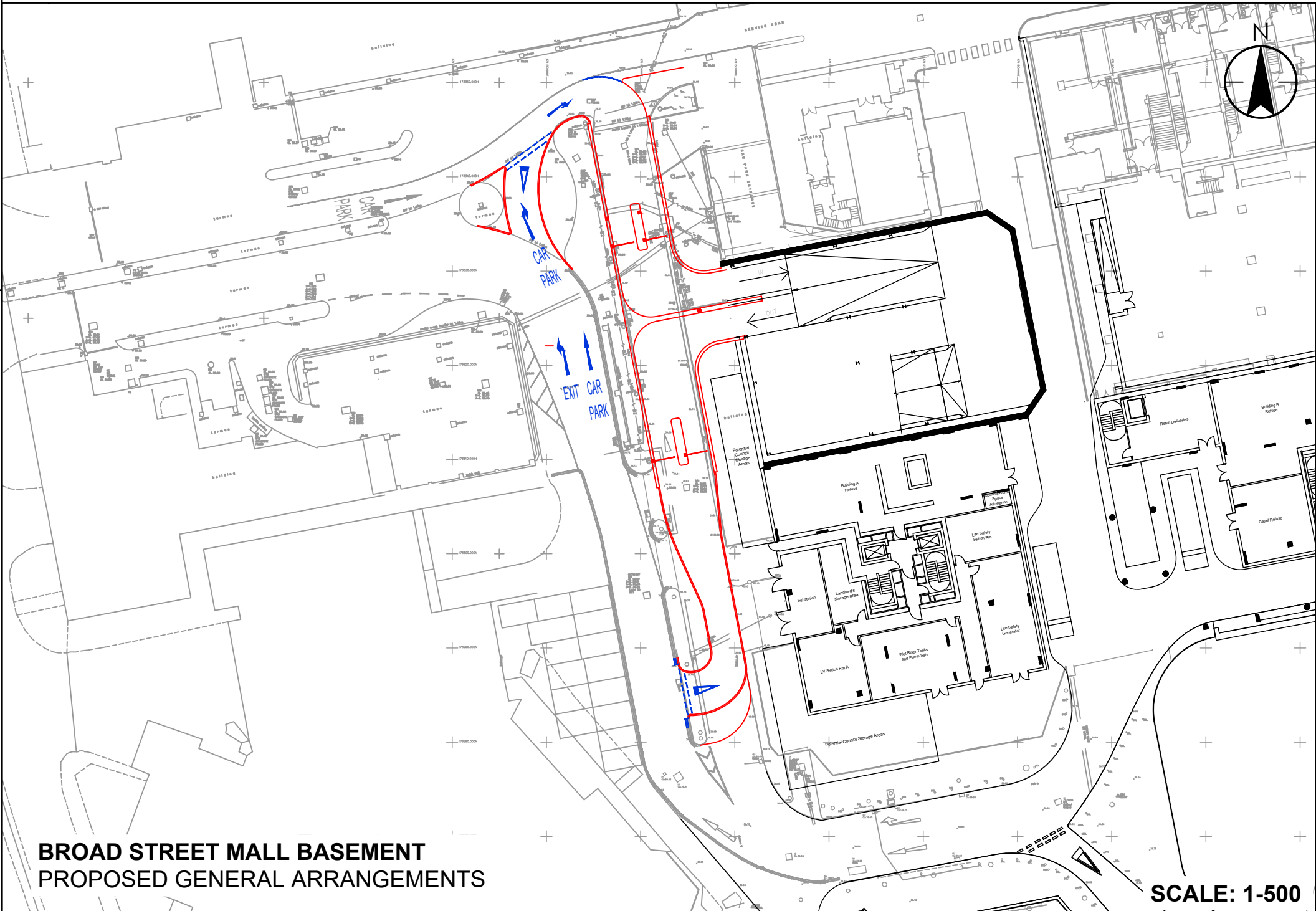
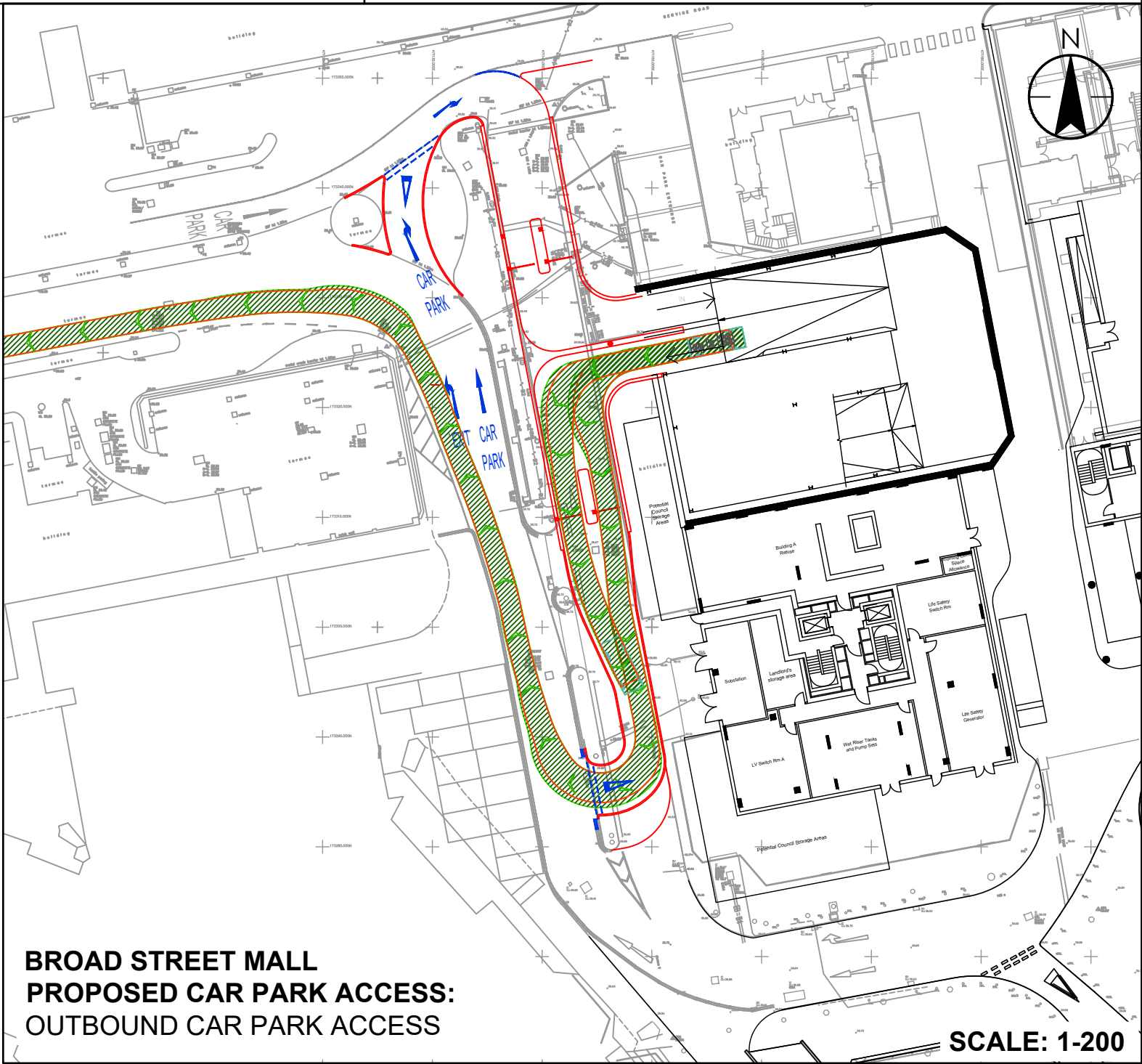
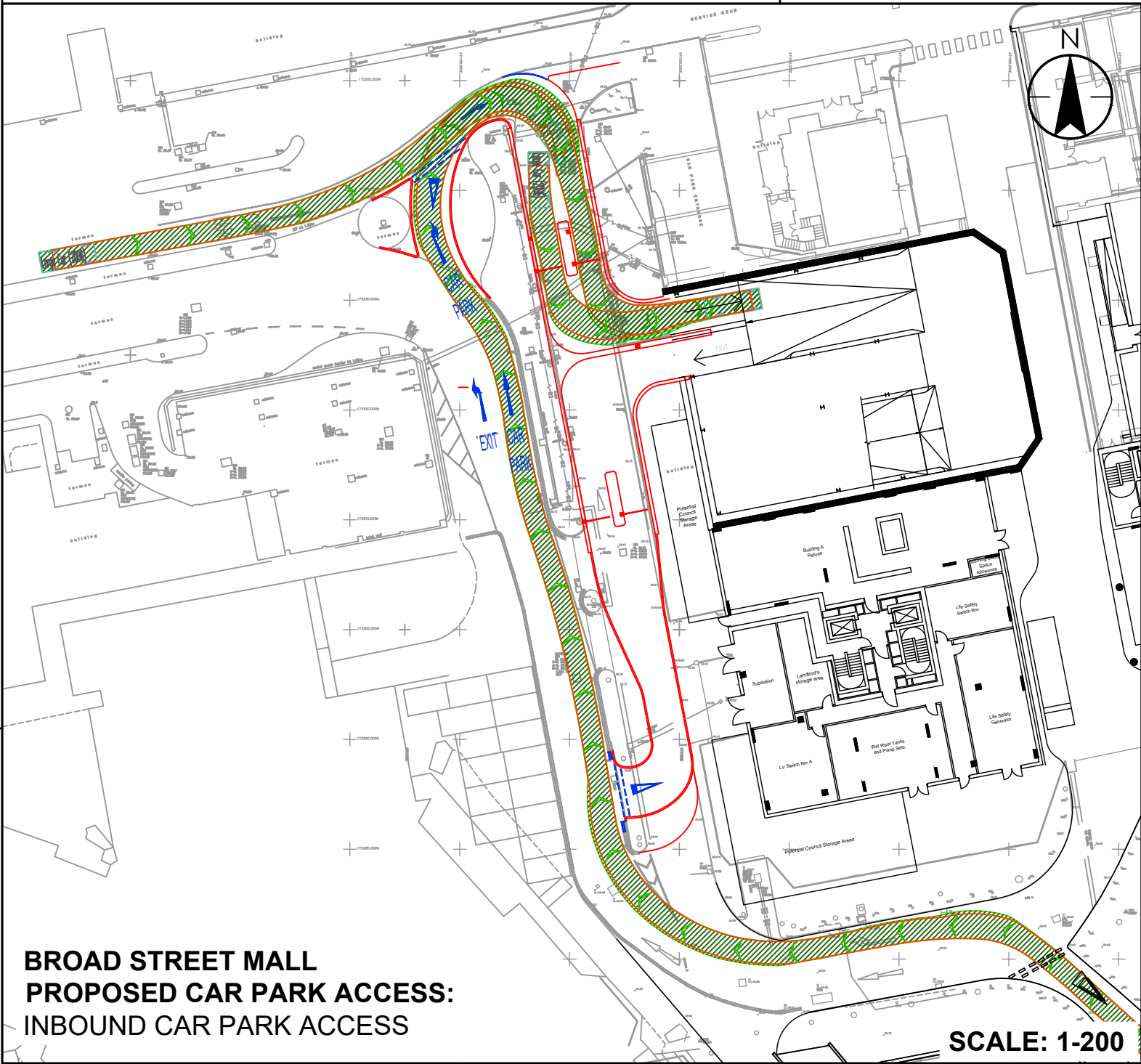
Client/Project
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BROAD STREET MALL

READING, UK

Title
PROPOSED BASEMENT LEVEL
CAR PARK ACCESS ARRANGEMENT

Project No.	Scale
332110742	AS SHOWN
Revision	Drawing No.
P01	332110742/5500/001





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Title
PROPOSED BASEMENT LEVEL
SWEEP PATH ANALYSIS

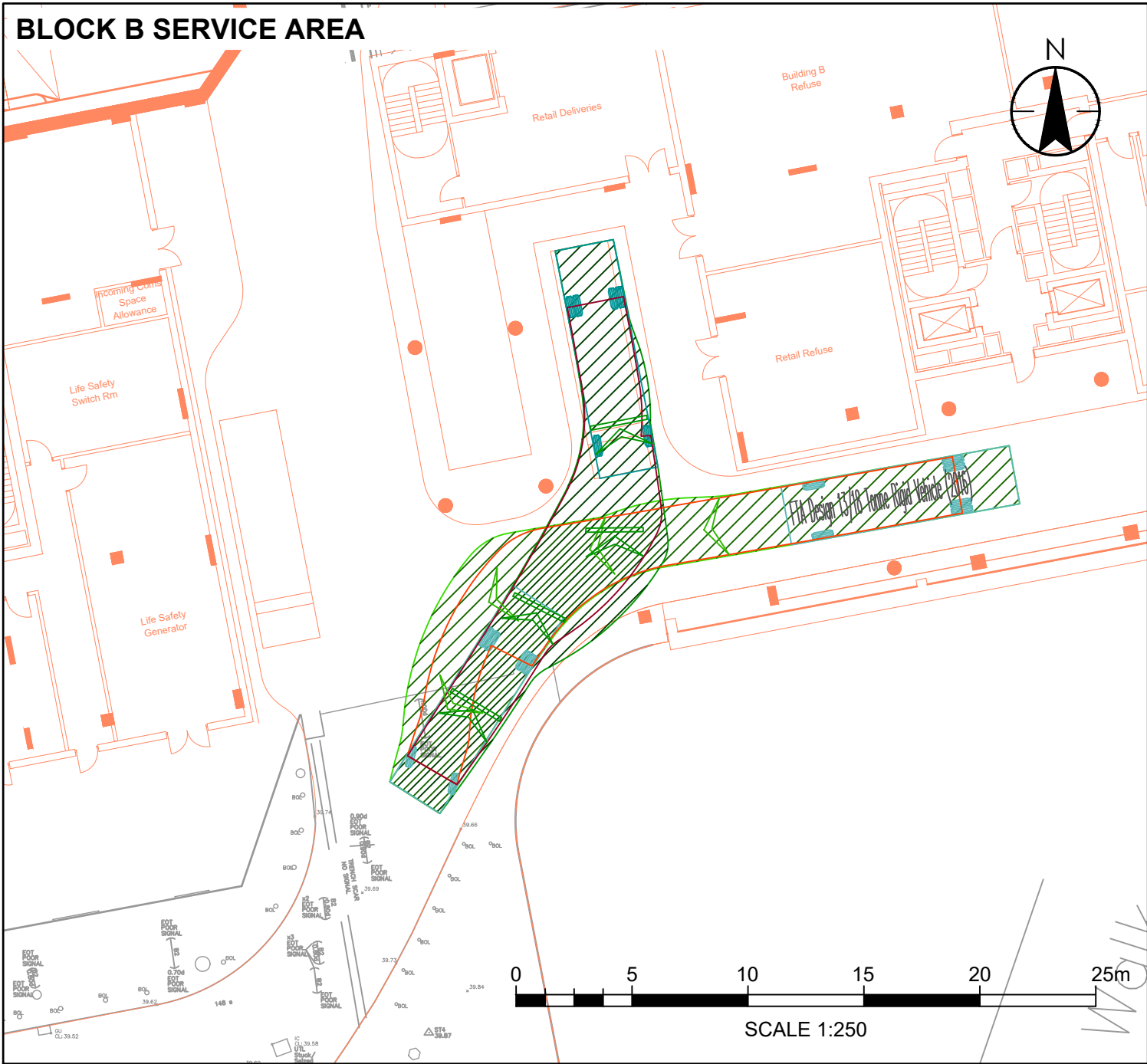
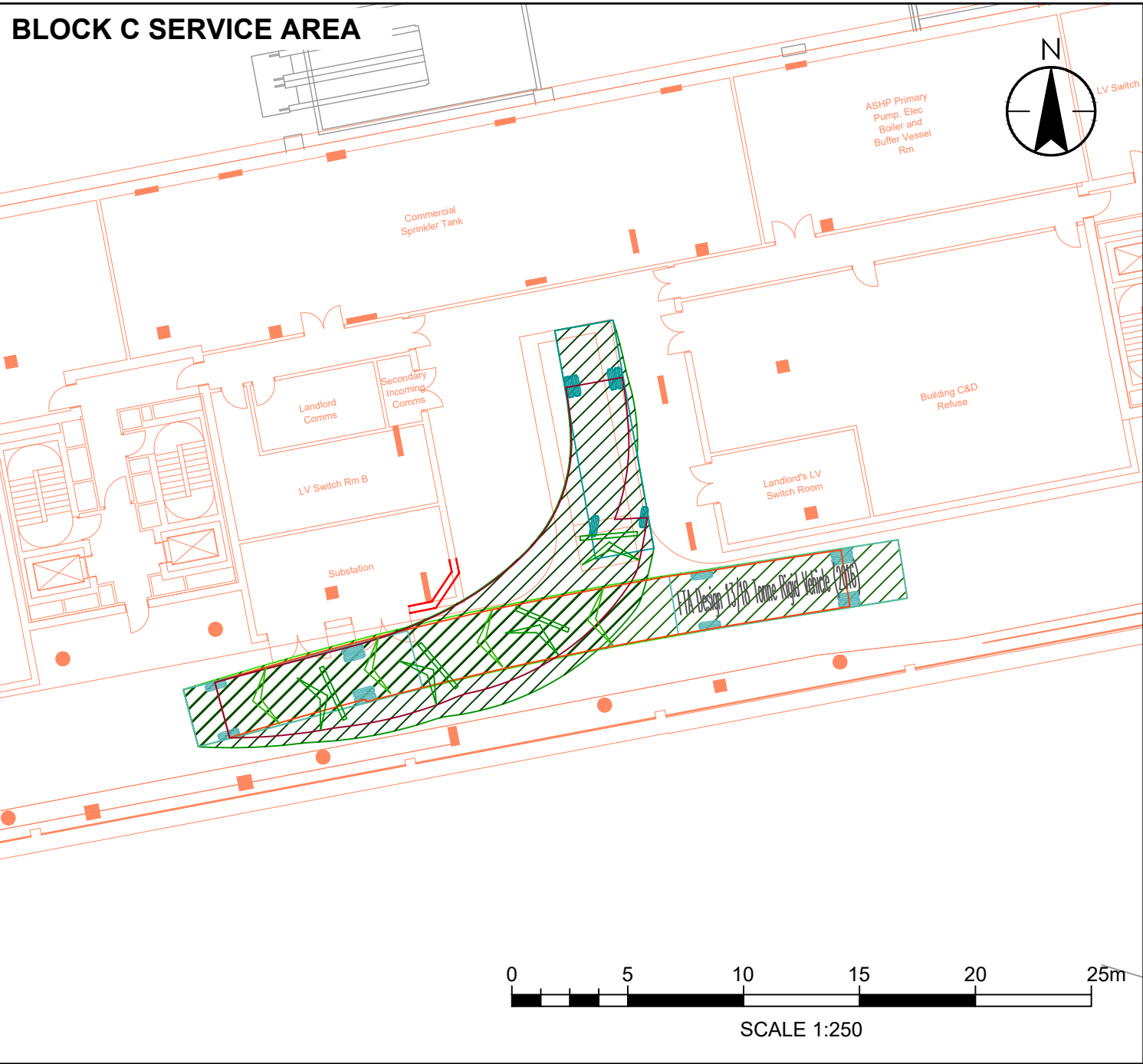
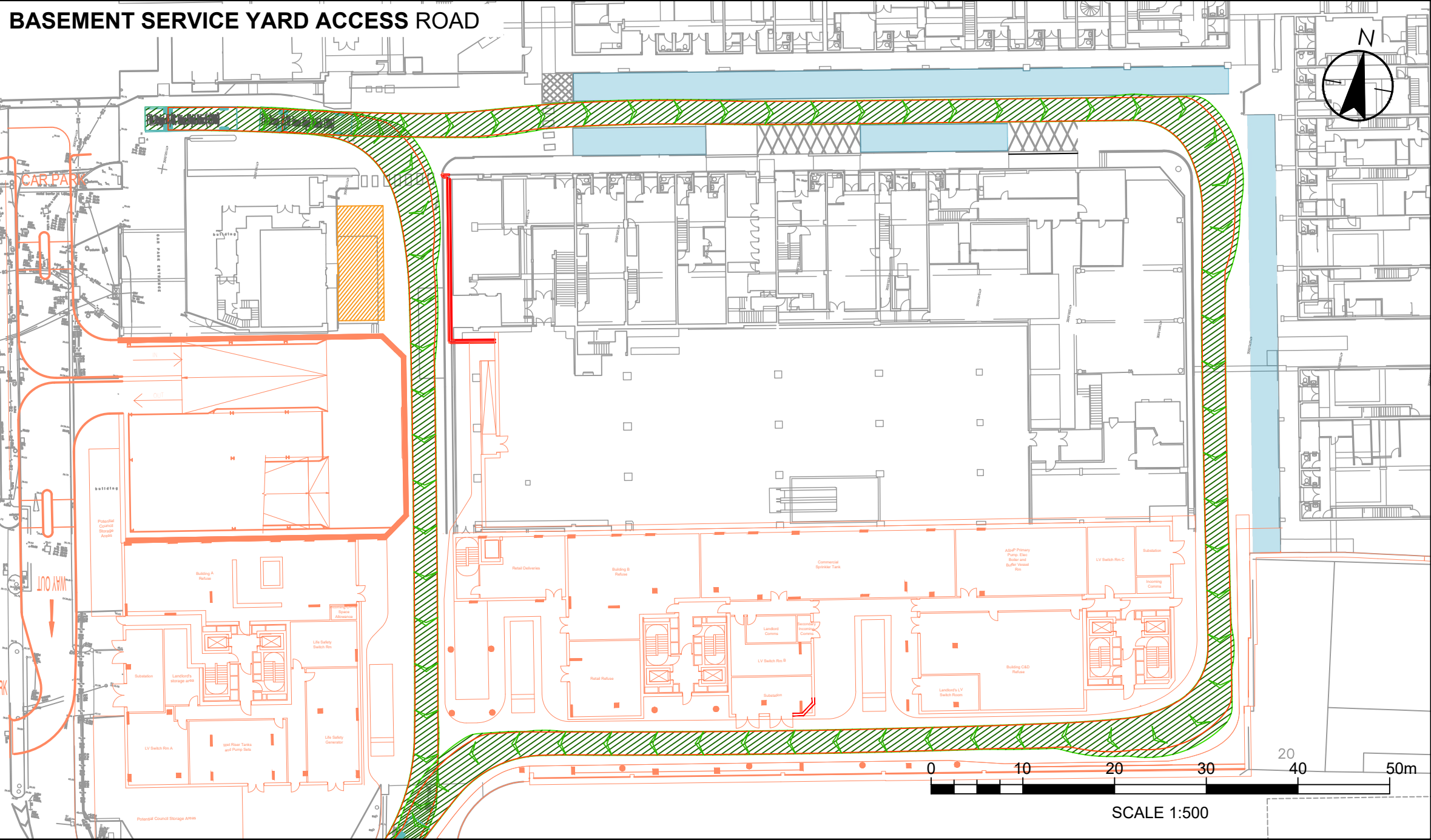
10.0m HGV

Project No.
332110742

Scale
AS SHOWN

Revision
P01

Drawing No.
332110742/5500/002





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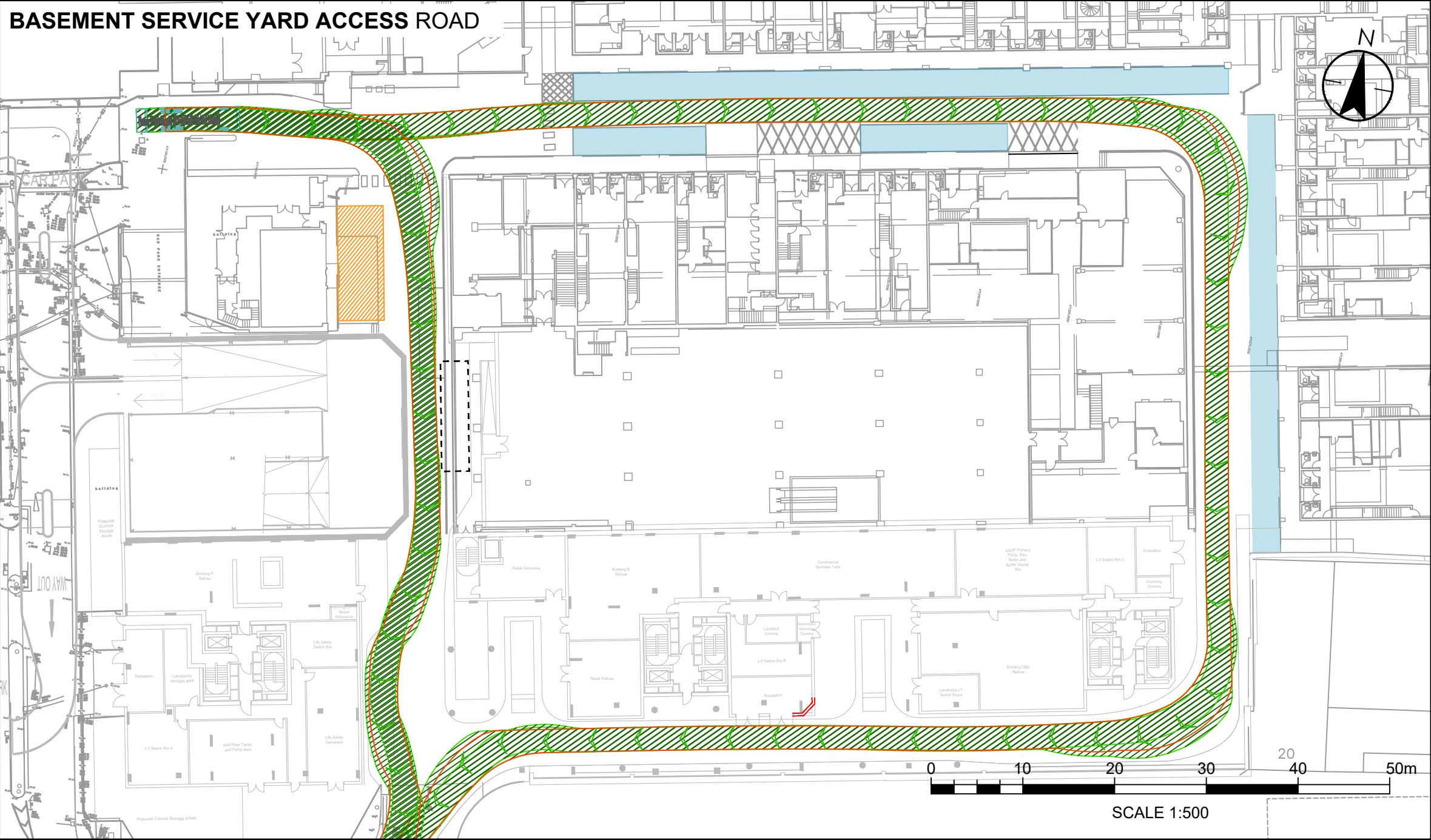
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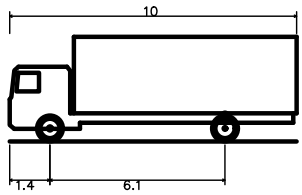
Title
PROPOSED BASEMENT LEVEL
ARRANGEMENT SWEEP PATH ANALYSIS

11.2m REFUSE VEHICLE

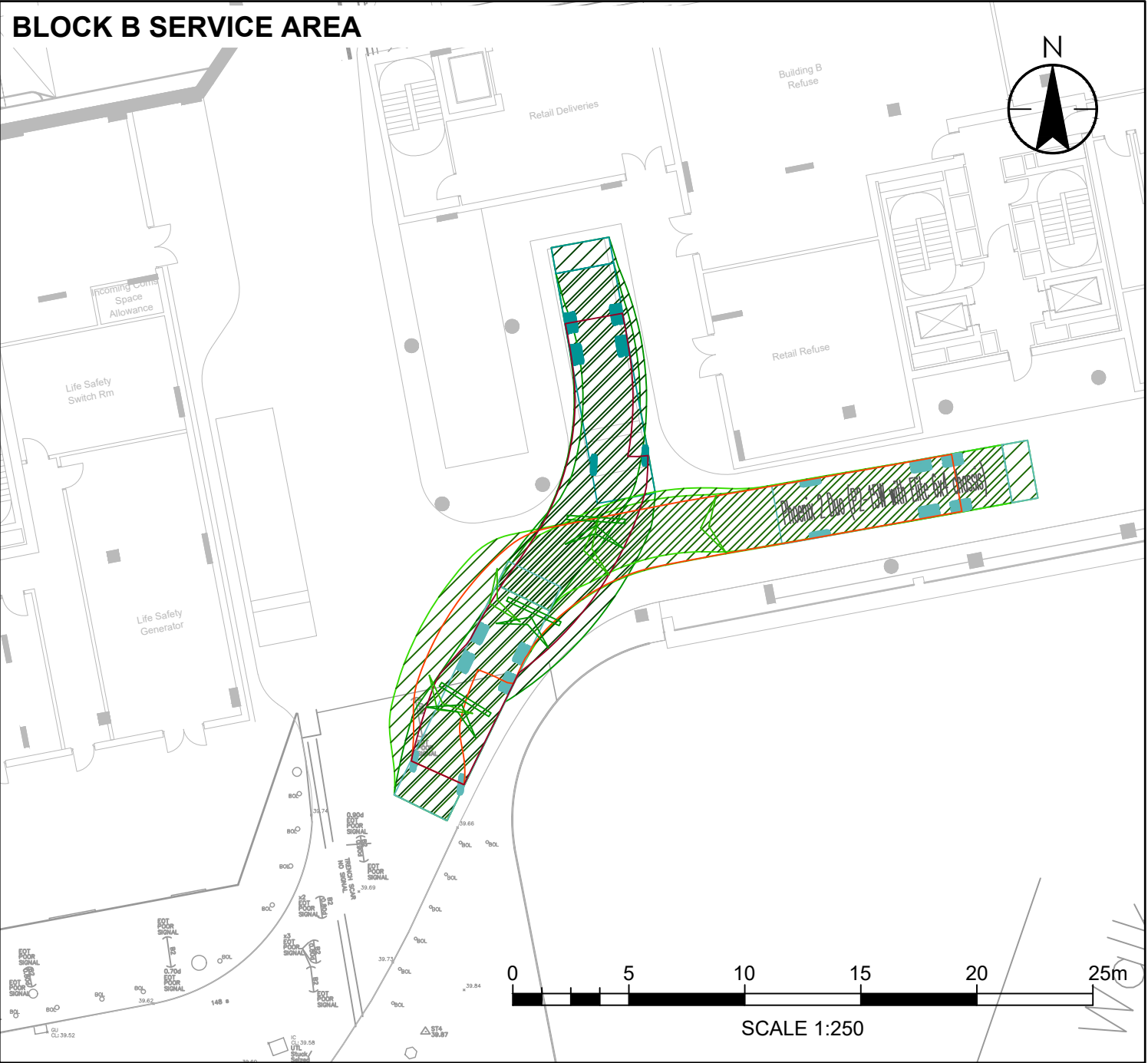
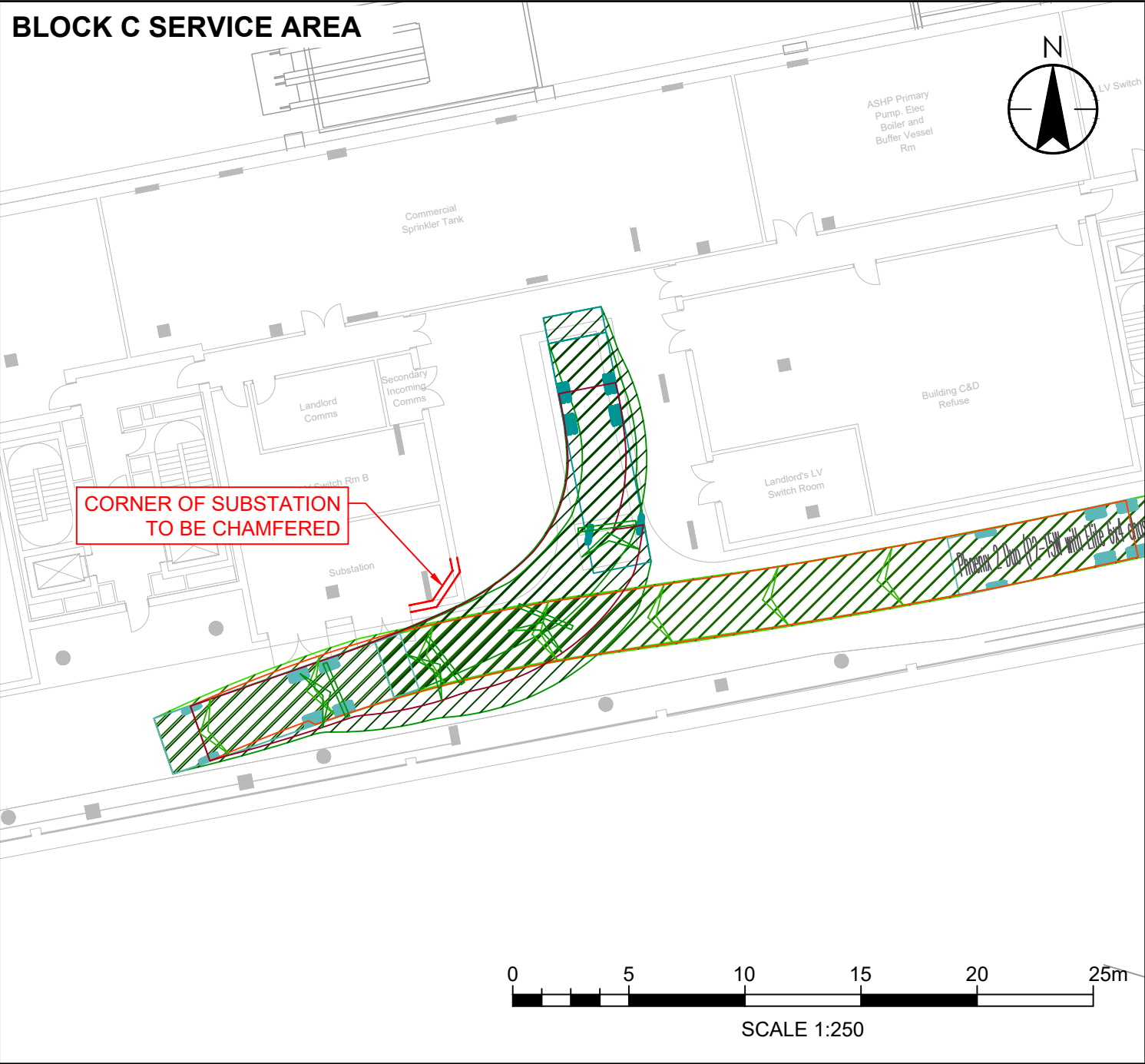
Project No.	Scale
332110742	AS SHOWN
Revision	Drawing No.
P01	332110742/5500/003



VEHICLE PROFILE



FTA Design HG Rigid Vehicle (1998)
Overall Length 10.000m
Overall Width 2.500m
Overall Body Height 3.645m
Min Body Ground Clearance 0.440m
Track Width 2.470m
Lock to lock time 3.00s
Kerb to Kerb Turning Radius 11.000m



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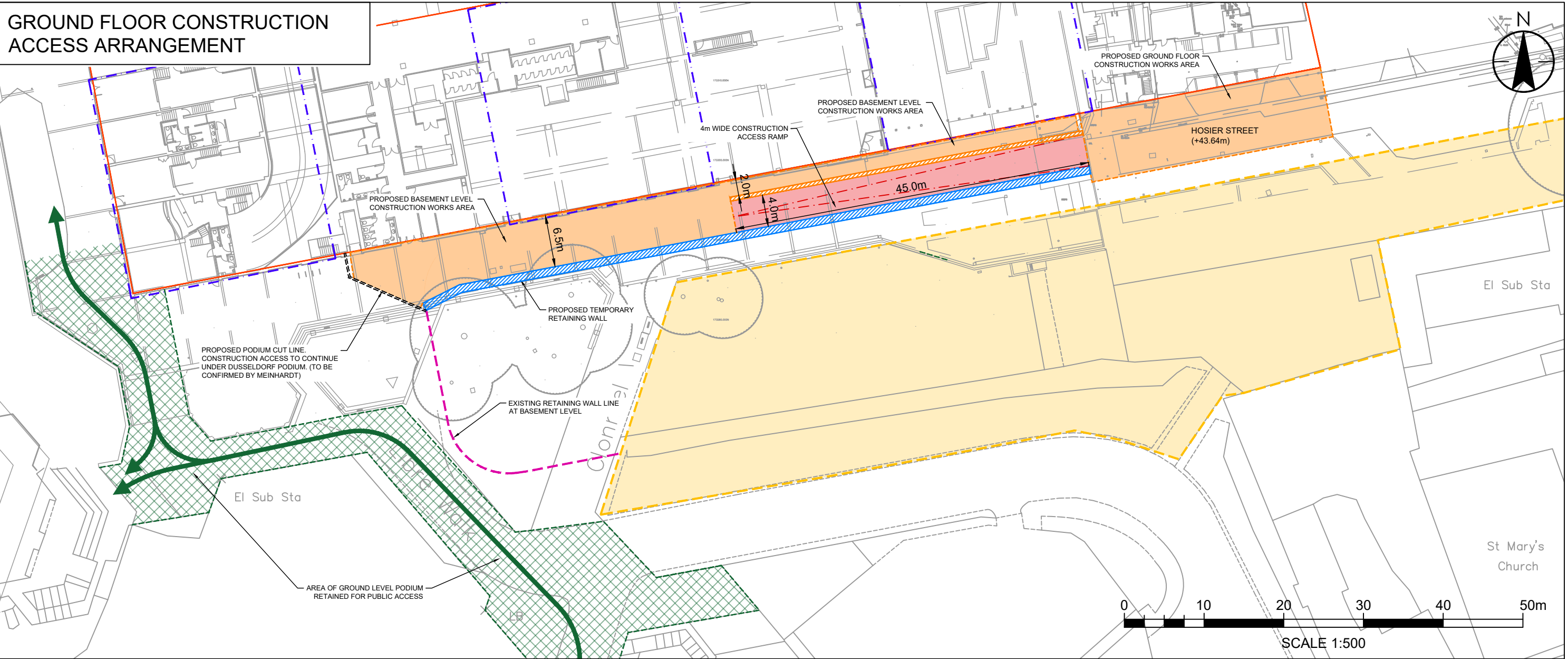
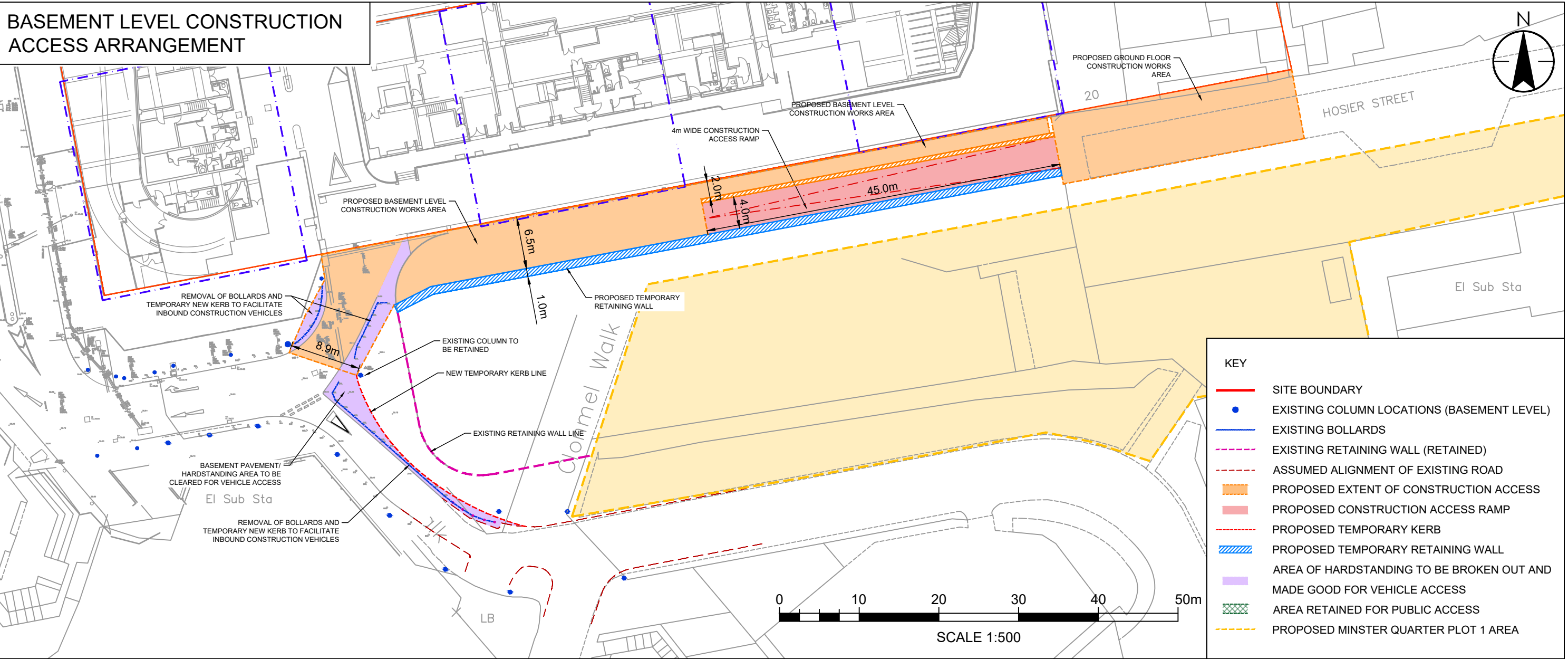
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Title
PROPOSED CONSTRUCTION ACCESS
GENERAL ARRANGEMENT

Project No.	Scale
332110742	1:500
Revision	Drawing No.
P01	332110742/5500/004



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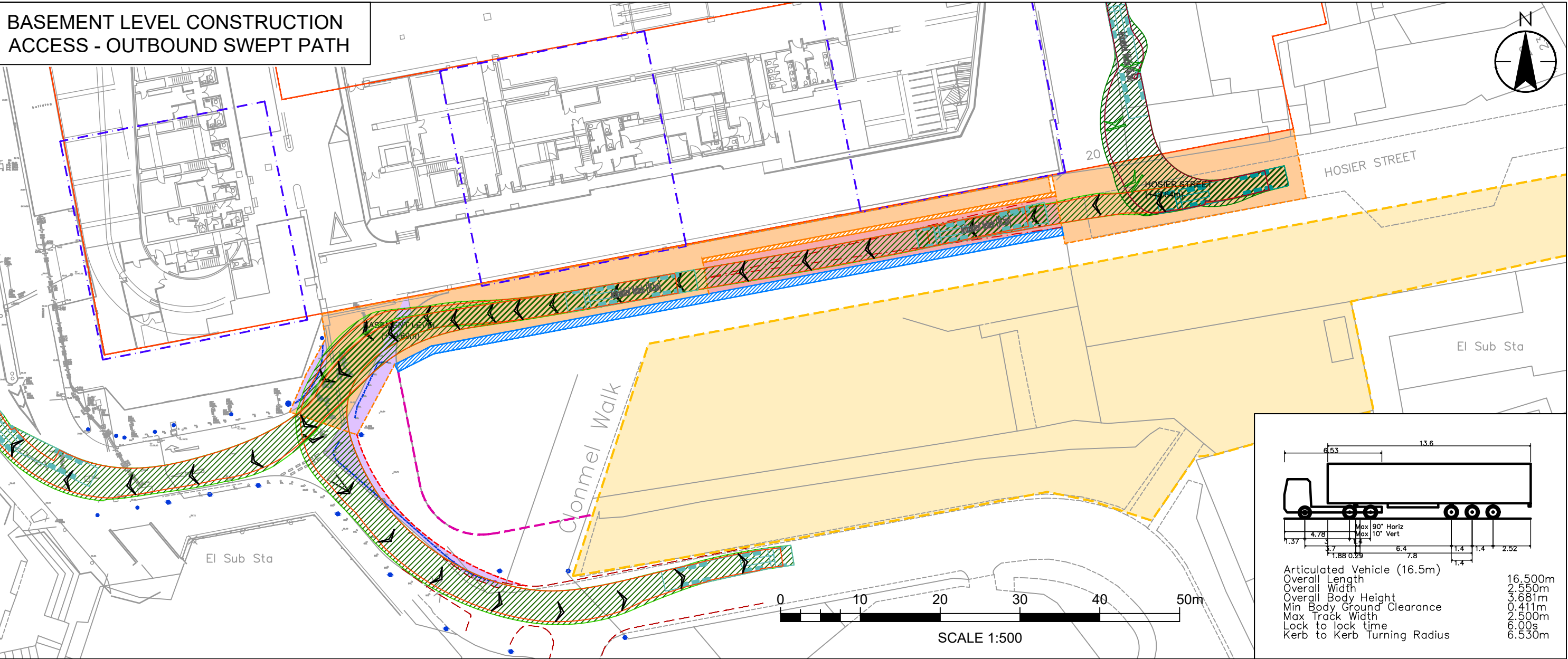
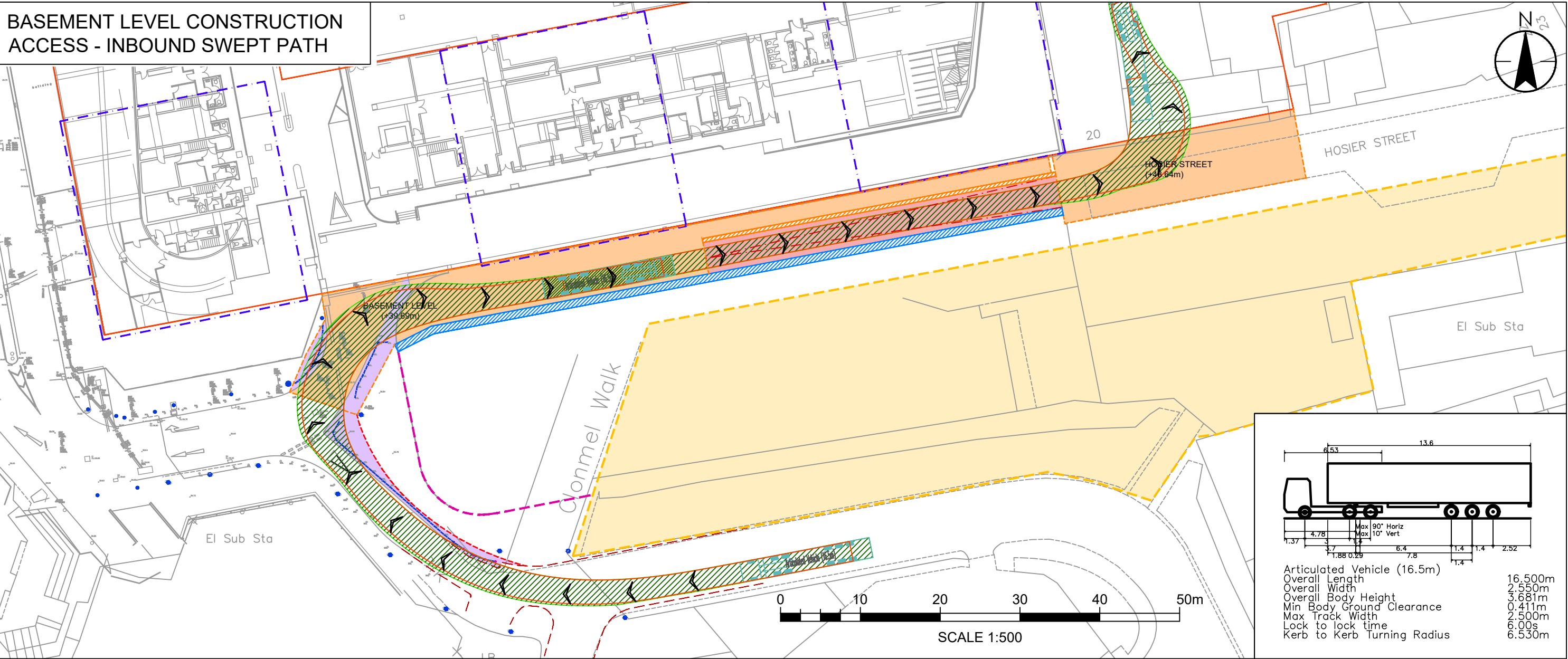
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READING, UK

Title
PROPOSED CONSTRUCTION ACCESS
ARRANGEMENT
SWEEP PATH ANALYSIS
16.5m ARTICULATED VEHICLE

Project No. 332110742	Scale 1:500
Revision P01	Drawing No. 332110742/5500/005





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P01 FOR PLANNING	CE	JH	2024.01.09
Issued/Revision	By	Appd	YYYY.MM.DD
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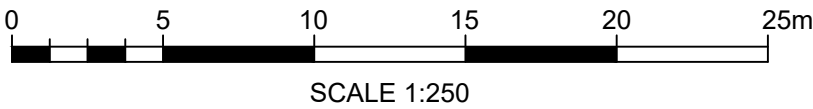
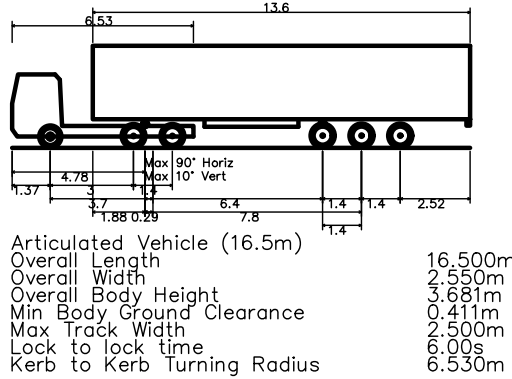
Title
PROPOSED BASEMENT SERVICE ROAD
SWEEP PATH ANALYSIS

16.5m ARTICULATED VEHICLE

Project No.	Scale
332110742	1:250
Revision	Drawing No.
P01	332110742/5500/008



VEHICLE PROFILE



Appendix E Accessibility Index

BREEAM-NOR v6.0 Tra 01 Accessibility Index Calculator

BREEAM[®] NOR

Using the drop down boxes make the relevant selections and press the 'Select' button

Building type

No. nodes required

Select

NODE 1

NODE 1	Public transport type	Bus										
	Distance to node (m)	200										
		Service 1	Service 2	Service 3	Service 4	Service 5	Service 6	Service 7	Service 8	Service 9	Service 10	
Average frequency per hour		7										

NODE 2

NODE 2	Public transport type	Bus										
	Distance to node (m)	230										
		Service 1	Service 2	Service 3	Service 4	Service 5	Service 6	Service 7	Service 8	Service 9	Service 10	
Average frequency per hour	2	2	4	3								

NODE 3

Public transport type	Bus									
	Distance to node (m)	245								
	Service 1	Service 2	Service 3	Service 4	Service 5	Service 6	Service 7	Service 8	Service 9	Service 10
Average frequency per hour	1	3	2	7	2	2	5	4		

NODE 4

NODE 4										
Public transport type	Bus									
Distance to node (m)	245									
	Service 1	Service 2	Service 3	Service 4	Service 5	Service 6	Service 7	Service 8	Service 9	Service 10
Average frequency per hour	3									

NODE 5

Public transport type	Bus									
	Distance to node (m)									
370	Service 1	Service 2	Service 3	Service 4	Service 5	Service 6	Service 7	Service 8	Service 9	Service 10
Average frequency per hour	5	5								

NODE 6

NODE 6										
Public transport type	Bus									
Distance to node (m)	430									
	Service 1	Service 2	Service 3	Service 4	Service 5	Service 6	Service 7	Service 8	Service 9	Service 10
Average frequency per hour	3									

NODE 7

NODE 7										
Public transport type	Bus									
Distance to node (m)	270									
	Service 1	Service 2	Service 3	Service 4	Service 5	Service 6	Service 7	Service 8	Service 9	Service 10
Average frequency per hour	3	3	0.5							

NODE 8

NODE 8										
Public transport type										
Distance to node (m)	NA									
	Service 1	Service 2	Service 3	Service 4	Service 5	Service 6	Service 7	Service 8	Service 9	Service 10
Average frequency per hour										

NODE 9

NODE 9	Public transport type	Bus										
	Distance to node (m)	520										
			Service 1	Service 2	Service 3	Service 4	Service 5	Service 6	Service 7	Service 8	Service 9	Service 10
Average frequency per hour						1	1	1	0	2	2	

NODE 10

NODE 10										
Public transport type	Rail									
Distance to node (m)	800									
	Service 1	Service 2	Service 3	Service 4	Service 5	Service 6	Service 7	Service 8	Service 9	Service 10
Average frequency per hour	23	11								

Accessibility Index

27.43