4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

Ms A Mac Sharry
James Kirkpatrick Group Limited
Level 17, 48 Emily Place
Auckland 1010

13 November 2023

Copy via email: **aoife@jkgl.co.nz**

Dear Aoife,

TRAFFIC ASSESSMENT REPORT – 538 KARANGAHAPE ROAD, AUCKLAND
PROPOSED COMMERCIAL DEVELOPMENT

Further to your instruction, we are pleased to provide this traffic assessment in respect to the proposed commercial development at 538 Karangahape Road in Auckland's CBD.

1 INTRODUCTION

Commute Transportation have prepared a Transport Assessment for a proposed commercial development located at 538 Karangahape Road, Auckland.

The proposed development comprises a 10 storey commercial building with a GLFA of 11,646m^2, supported by a two-level basement car park comprising a total of 48 parking spaces. Vehicle access to the development is proposed to be via a vehicle crossing on Gundry Street along the eastern side of the site.

This report assesses the effects of the proposed development and compliance with relevant Unitary Plan rules. In particular, this report assesses the following:

- The surrounding transport environment and its ability to accommodate the proposed development;
- The traffic generating potential of the proposed development;
- The ability of the proposed development to accommodate expected parking and servicing requirements; and
- Assessment of proposed parking, loading and access provisions.

These and other matters are addressed in detail in this report. By way of summary, it is considered by this assessment that if the proposed development as detailed in this report is undertaken, minimal adverse effects to the function, capacity and safety of the surrounding transport network are anticipated.

2 BACKGROUND

A previous application was submitted to Auckland Council in 2020 that comprised 2,599m^2 NLA (Net Leasable Floor Area) of office activity, 416m^2 GFA of retail activity and 162m^2 of common area. The proposal was supported by two levels of basement car parking with 20 parking spaces.

By way of summary, the proposal was generally compliant with the Unitary Plan with the exception of the provision of 5 additional car parking spaces above the maximum requirement, provision of a non-complying gradient at the Gundry Street access, and the non-provision of an on-site loading space. The proposal was granted resource consent following the Section 92 process.

commute
TRANSPORTATION CONSULTANTS

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

3 EXISTING CONDITIONS

3.1 SITE LOCATION

The subject site is located at 538 Karangahape Road in Auckland's CBD, and is zoned 'Business – City Centre Zone'. The site has an approximate area of 1,597m^2, and is currently undeveloped, having recently been cleared with the previous building demolished.

Figure 1 below shows the location of the site in relation to the surrounding road network.

Figure 1: Site Location

A recent aerial photograph of the site is shown in Figure 2.

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

Figure 2: Aerial Photograph of Site

The surrounding area comprises a combination of commercial and retail developments, with a Mobil petrol station on the northern corner of the Karangahape Road / Ponsonby Road intersection.

3.2 ROAD ENVIRONMENT

Karangahape Road is classified as an arterial road in the Unitary Plan, and connects Great North Road with Grafton Bridge, forming a continuation of the road in between. In the proximity of the site, Karangahape Road has an approximate carriageway width of 16.5 metres, accommodating two lanes of traffic in both directions, with the kerbside lanes operating as bus lanes during peak commuter hours. There are designated off-road cycle lanes on both sides of the road, and a posted speed limit of 50 km/h.

Gundry Street is not classified as an arterial road in the Unitary Plan, and runs south from Karangahape Road before terminating in a cul-de-sac at its southern end. It has a carriageway width of approximately 12.8 metres, accommodating one lane of traffic in each direction, as well as kerbside

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

parallel parking on the eastern side and angled parking on the western side. There are generous footpaths along both sides of the road. Gundry Street has a speed limit typical of a local road of 30 km/h.

Photograph 1 and Photograph 2 show Gundry Street looking north and south respectively from in front of the site.

Photograph 1: Gundry Street Looking North from in Front of the Site

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

Photograph 2: Gundry Street Looking South from in Front of the Site

Abbey Street is also not classified as an arterial road in the Unitary Plan, and runs east from Newton Road before terminating in a cul-de-sac to the east of Abbey Street. It has a carriageway width of approximately 10.2 metres, accommodating one lane of traffic in each direction, as well as kerbside parallel parking on both sides of the road. There are generous footpaths along both sides of the road. Abbey Street has a posted speed limit of 30 km/h.

Photograph 3 and Photograph 4 show Abbey Street looking west and east respectively from in front of the site.

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

Photograph 3: Abbey Street Looking West from in Front of the Site

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

Photograph 4: Abbey Street Looking East from in Front of the Site

3.3 KARANGAHAPE ROAD ENHANCEMENT PROJECT

The Karangahape Road Enhancement project is a joint project between Auckland Transport and Auckland Council which aims to preserve the road's character, and create an environment that supports the local community.

As part of the project, modifications to the on-street parking arrangement along Gundry Street are understood to be planned in front of the site. It is acknowledged that the proposed development may impact these car parking arrangements slightly, particularly in front of the proposed access location discussed later in this report.

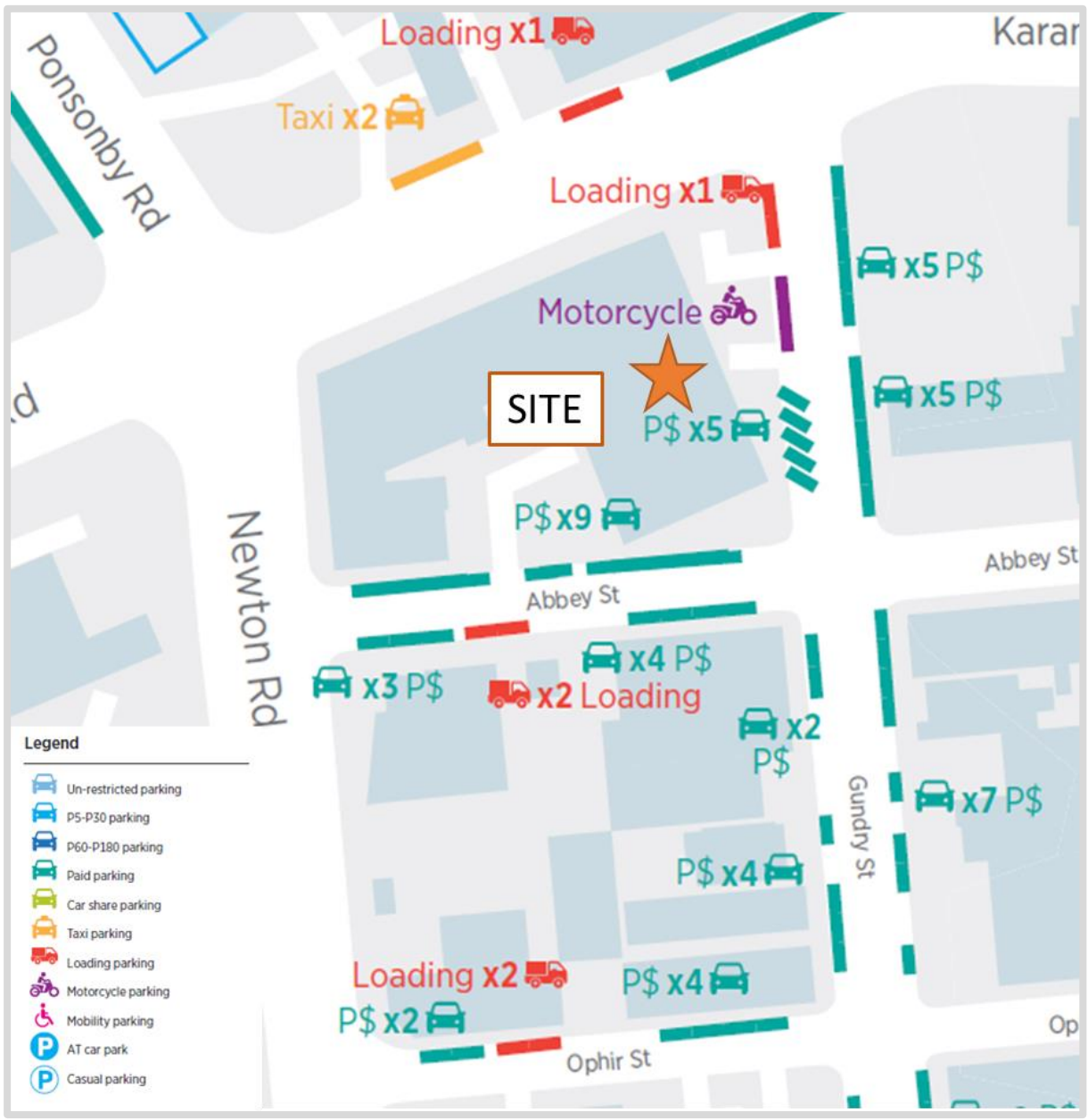
The existing car parking arrangement around the site is shown in Figure 3, with the proposed car parking arrangements shown in Figure 4. It is noted that the existing car parking arrangement along the western side of Gundry Street in front of the site does not reflect what is shown in Figure 3, due to recent construction works along the footpath and within the site, and no on-street car parking is currently available.

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

Figure 3: Existing On-Street Car Parking Arrangement

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

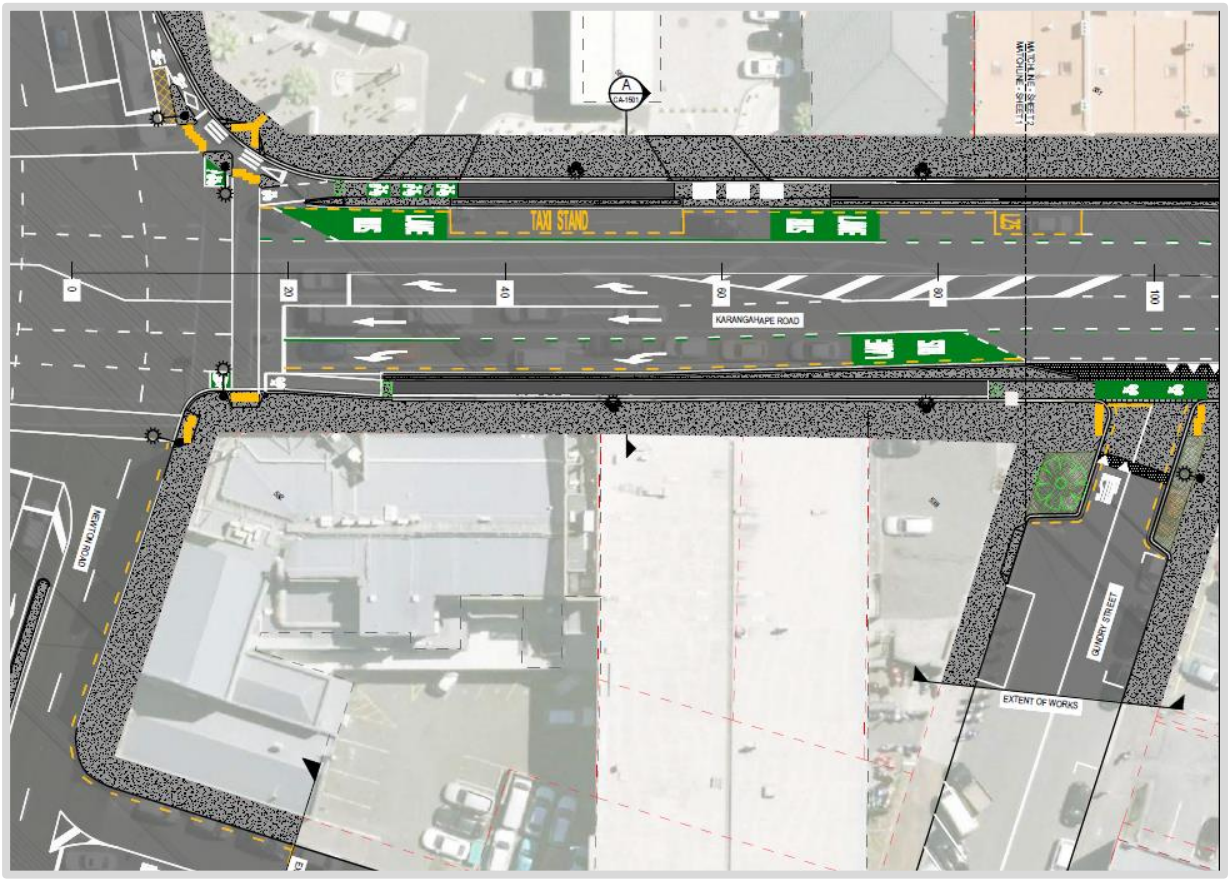
Figure 4: Proposed On-Street Car Parking Arrangement



As can be seen from the above figure, a loading space is proposed to be provided on the western side of Gundry Street in front of the site, which is also shown in the more detailed plans in Figure 5.

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

Figure 5: Karangahape Road / Gundry Street Road Improvements



3.4 TRAFFIC VOLUMES

Traffic data obtained from Auckland Transport's (AT) traffic volume database for Karangahape Road between Howe Road and Cobden Street was most recently recorded in March 2023, and reveals a 7-day Average Daily Traffic (ADT) volume of 10,091 vehicles per day (vpd), including AM and PM peak hour flows of 755 vehicles per hour (vph) and 762 vph respectively.

Recent traffic volume data for Abbey Street and Gundry Street is unavailable, however observations from site visits indicate that both roads carry significantly less volume than Karangahape Road, and are typically only used by staff and customers of the businesses along the roads.

3.5 PUBLIC TRANSPORT SERVICES

The nearest bus stop to the site is located on Great North Road, approximately 150 metres walking distance from the site. The Great North Road bus stop serves the following bus routes:

- InnerLink (via Britomart, Parnell, Newmarket, Karangahape Road and Ponsonby);
- 18 (New Lynn to City Centre via Great North Road);
- 20 (St. Lukes to Wynyard Quarter via Kingsland);
- 105 (Westmere to Britomart via Richmond Road);
- 110 (Westgate to City Centre via Northwestern Motorway);
- 129 (Westgate to City Centre via Don Buck Road);
- 132 (Te Atatu Peninsula to City Centre);
- 133 (Henderson to City Centre via Te Atatu Road);
- 134 (Henderson to City Centre via Edmonton Road and Royal View Road);
- 195 (New Lynn to Britomart via Green Bay and Blockhouse Bay); and

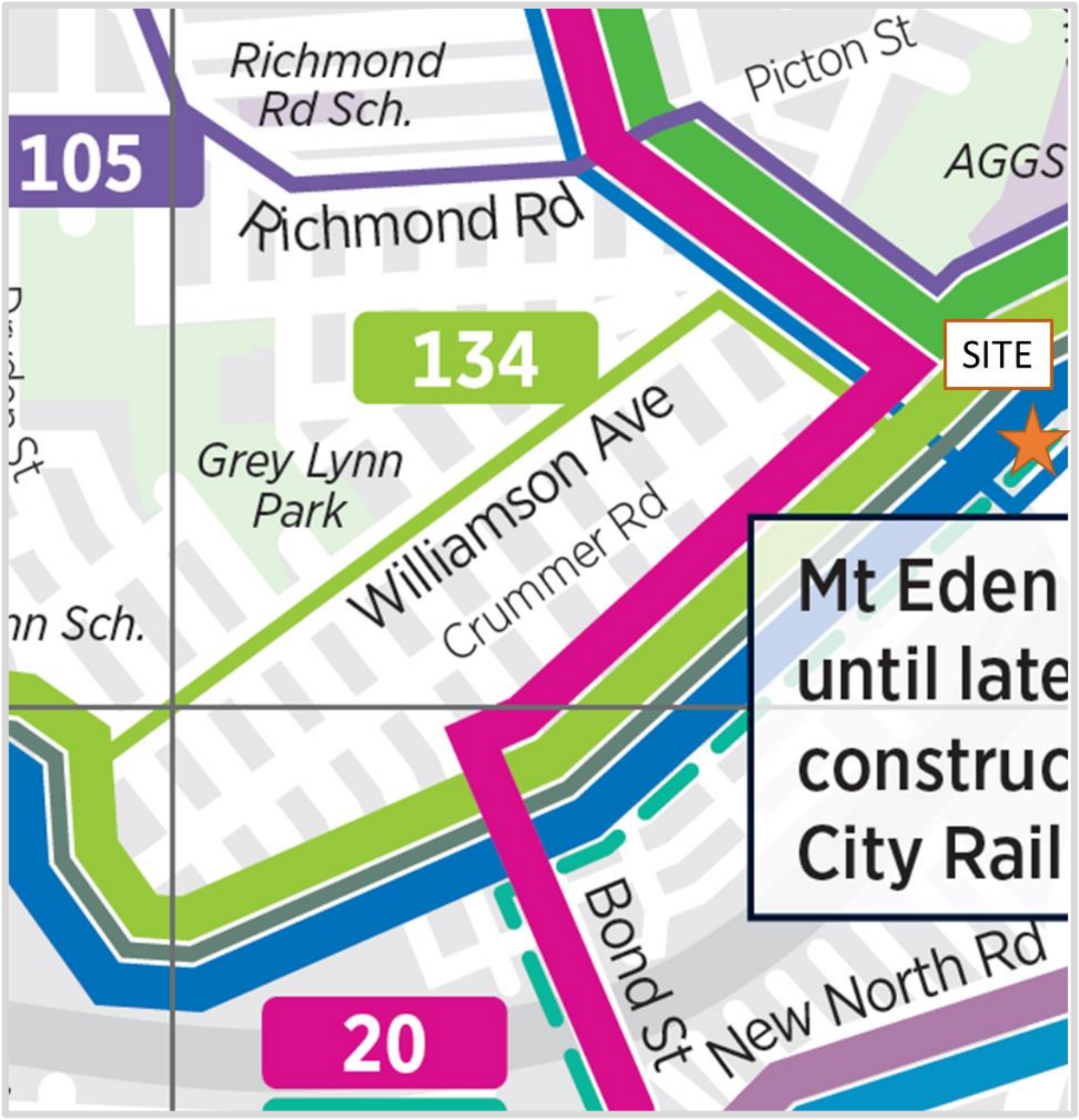
4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

- 209 (Titirangi to Britomart).

Accordingly, it is considered that the site is located in a good location relative to the public transport network.

Figure 6 shows the site in relation to the local public transport network.

Figure 6: Public Transport Services in the Local Area



While there are no existing train stations within reasonable walking distance from the site, the future Karangahape Train Station will be located approximately 550 metres walking distance from the site.

The Karangahape Train Station and the City Rail Link are expected to be complete and operational by the end of 2025.

Figure 7 shows the location of the future Karangahape Train Station.

Figure 7: Karangahape Train Station Location

3.6 ROAD SAFETY ASSESSMENT

An assessment of the surrounding road network's safety record has been carried out using the NZTA's CAS database for crashes near the subject site for the period 2018-2022 including all available data for 2023. The study area includes all crashes recorded along Abbey Street and Gundry Street as well as Ophir Street between Newton Road and Gundry Street. The search area included the following intersections:

- Karangahape Road / Gundry Street;
- Newton Road / Abbey Street;
- Newton Road / Ophir Street;
- Gundry Street / Abbey Street; and
- Gundry Street / Ophir Street.

A total of 13 crashes were found to have occurred, including three minor and one severe injury crashes. The crash types are summarised as follows:

- 11 turning crashes;
- One crash involving a vehicle hitting a parked vehicle; and
- One crash involved a vehicle hitting a pedestrian;

There is no evidence of any existing safety issues relating to vehicles turning into or out of private accesses along Gundry Street, with only one of the above recorded crashes occurring along Gundry Street (involving a vehicle reversing out of a parking space).

commute TRANSPORTATION CONSULTANTS
4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

4 PROPOSED DEVELOPMENT

It is proposed to construct a 10 storey commercial development on the subject site at 538 Karangahape Road in Auckland's CBD. The proposed development comprises:

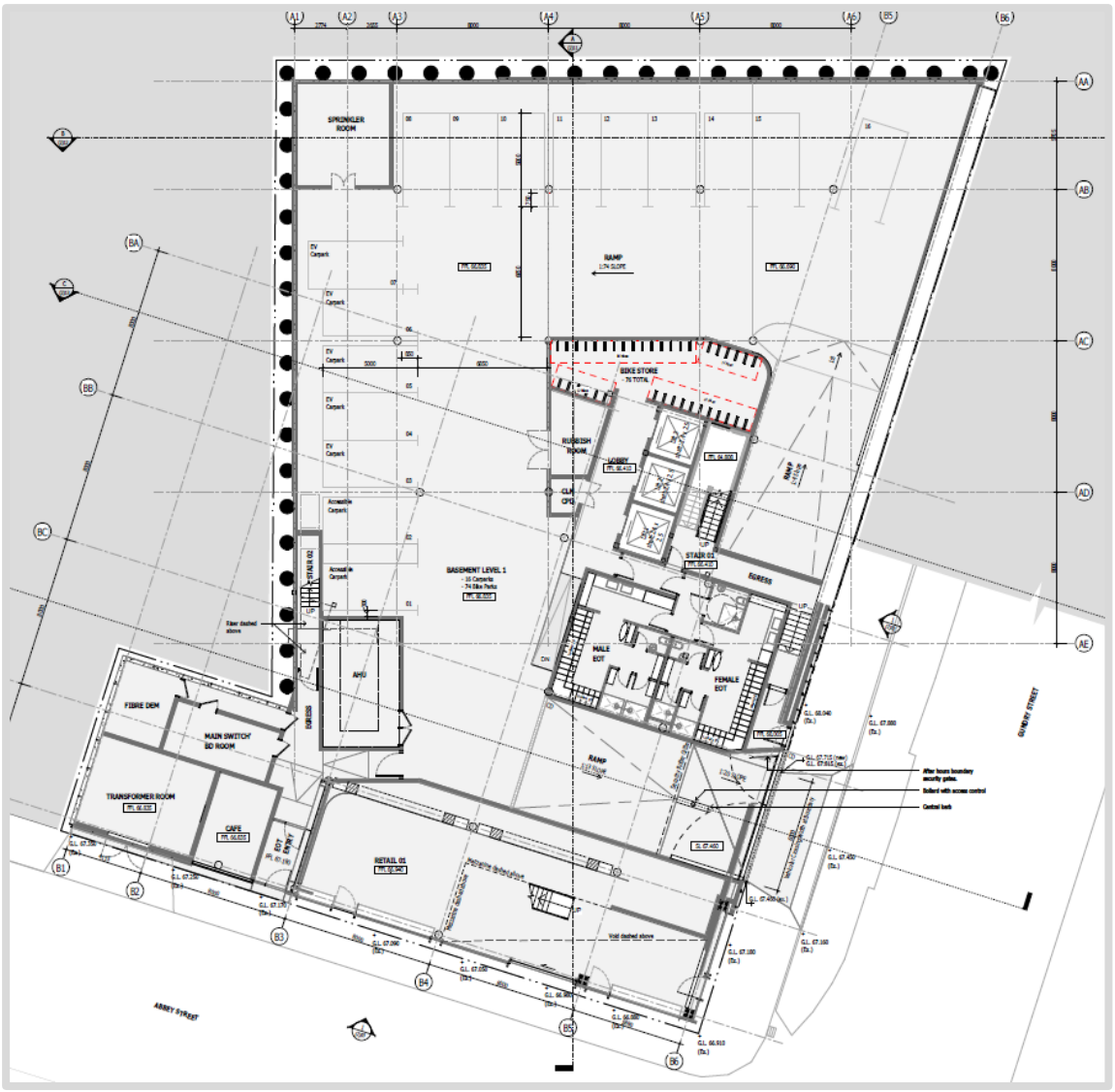
- 9,795m^2 Gross Floor Area (GFA) of office activity on Levels 1-9;
- 1,851m^2 GFA of retail activity on the Basement 1 and Ground Floor levels;
- 48 car parking spaces across the two basement levels (16 spaces on the Basement 1 level and 32 spaces on the Basement 2 level); and
- 76 bicycle parking spaces and associated end-of-trip facilities located on the Basement 1 level.

Vehicular access to the site is proposed to be via Gundry Street on the eastern side of the development, with existing vehicle crossings removed as part of the proposal.

Waste collection is proposed to occur via private waste collection, with loading occurring on-street on Gundry Street.

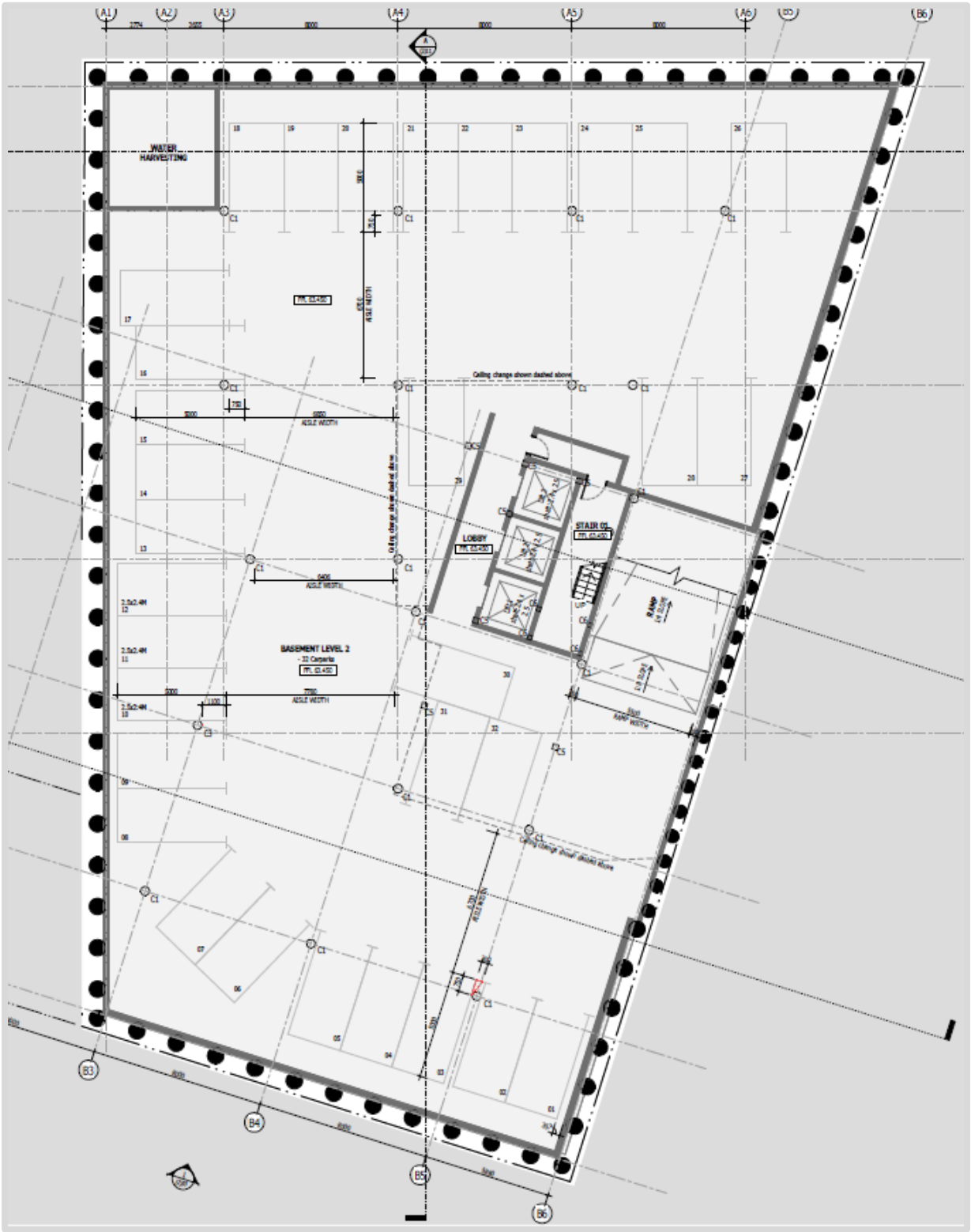
Figure 8 and Figure 9 show the proposed development plans for the basement levels (B1 and B2 respectively).

Figure 8: Proposed Basement Level 1



4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

Figure 9: Proposed Basement Level 2



4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

5 TRIP GENERATION

5.1 UNITARY PLAN

Rule E27.6.1 of the Unitary Plan outlines the requirements for trip generation criteria for new developments. Rule E27.6.1(1) states that the resource consent for a restricted discretionary activity does not apply if the site is located in a Business – City Centre Zone.

Accordingly, a detailed trip generation and traffic assessment is not required to be carried out. Notwithstanding this, peak hour and daily trip generation has been estimated for the proposed development, and is discussed below.

5.2 PROPOSED DEVELOPMENT TRIP GENERATION

The Roads and Traffic Authority of New South Wales' (now RMS) '*Guide to Traffic Generating Developments (2002)*' (RTA Guide) provides traffic generation rates for the activities that is considered to be appropriately applied to the proposed development. The RTA Guide is commonly used by traffic engineering practitioners in New Zealand to estimate the traffic movements of new developments both throughout the day and during typical weekday peak hours.

RMS' '*Technical Directive TDT 2013/04A'* (TDT 2013/04A) provides updated trip generation for certain land uses including offices, and these rates are discussed below.

5.2.1 OFFICE ACTIVITY

For office activities, TDT 2013/04A suggests the following trip generation rates:

- 1.6 trips per 100m^2 Gross Floor Area (GFA) during the AM peak hour;
- 1.2 trips per 100m^2 GFA during the PM peak hour; and
- 11 trips per 100m^2 GFA per day.

5.2.2 RETAIL ACTIVITY

For retail activities, the RTA Guide only suggests trip generation rates for shopping centres. It is considered that the proposed development will operate differently than a 'centre', however for the purposes of this assessment the specialty shop trip generation rates have been adopted. (The RTA Guide defines these as specialty shops and secondary retail, which are not primary attractors to the centre).

- 2.3 trips per 100m^2 GFA during the AM peak hour (adopted from 50% of the PM peak hour);
- 4.6 trips per 100m^2 GFA during the PM peak hour (adapted from the Thursday PM peak hour rate); and
- 55.5 trips per 100m^2 GFA per day.

5.2.3 CAFE ACTIVITY

The RTA Guide does not specifically provide peak hour trip generation rates for food and beverage activities which might operate similar to cafes or takeaway coffee activities, however for restaurants the following rates are suggested:

- 5.0 trips per 100m^2 GFA during the PM peak hour
- 60 trips per 100m^2 GFA per day

It is noted that in this instance, the proposed food and beverage activities are ancillary to the office activity, with a small coffee shop proposed on the Abbey Street frontage (which will operate as a hole-in-the-wall style takeaway service) and the Ground Floor food and beverage service expected to

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

primarily serve future staff of the proposed retail and office tenancies within the development. There is also expected to be some demand from staff and visitors of surrounding developments, who will primarily travel to and from the site via foot. The food and beverage activities will likely primarily serve coffee and drinks as well as cabinet food and are unlikely to be attractors to the development. As such, it is not expected that the food and beverage activities will generate a significant volume of vehicle trips, and accordingly it is considered that a peak hour trip generation rate of around 1-2 vehicles per tenancy (representing staff movements) and up to 4 vehicle movements per day per tenancy is a more accurate assumption in this instance.

5.2.4 SUMMARY

Based on the above rates, the estimated trip generating potential of the site is summarised in Table 1. It is noted that the office GFA as specified in Section 4 of this report includes the entire floor of the upper levels (including stairways), which represents a slightly more conservative estimate of the total floor area.

Table 1: Estimated Trip Generation

Activity	RTA / Adopted Rate	Number / GFA	Peak Hour Vehicle Trips	Daily Vehicle Trips
Office	AM – 1.6 vph per 100m^2 GFA PM – 1.2 vph per 100m^2 GFA 11 vpd per 100m^2 GLFA	9,795m^2 GFA	AM – 157 vph PM – 118 vph	1,077 vpd
Retail	AM – 2.3 vph per 100m^2 GFA PM – 4.6 vph per 100m^2 GFA 55.5 vpd per 100m^2 GFA	1,851m^2 GFA	AM – 43 vph PM – 85 vph	1,027 vpd
Café	Assumed - AM – 1-2 vph PM – 1-2 vph 4 vpd per day	2 tenancies	AM – 2-4 vph PM – 2-4 vph	8 vpd
Total			**202-204 vph (AM)** **205-207 vph (PM)**	**2,112 vpd**

As can be seen from the table above, in the order of 204 vph / 207 vph (AM / PM) are expected to be generated during the weekday peak hours, and 2,112 total vpd during the day if the RTA Guide trip generation rates are to be applied. During the weekends, it is expected that the development trip generation will be relatively minor, with the office and café activities likely to be closed.

In practice, the proposed retail activities are unlikely to be major trip generators for the proposed development, and as such the RTA suggest peak hour and daily rates are considered to be high in this instance. Further, as discussed later in this report, the site has a maximum parking rate which applies to the site and is much lower than typical office buildings provide. As a result of this, and combined with the site's excellent proximity to both the existing and future public transport network, the actual peak hour and daily trip generation of the site as a whole is expected to be lower than the values calculated above (in the order of two to four trips per parking space per day, one to two inbound / outbound trips, or 48-96 vph / 96-192 trips per day).

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

6 ACCESS

6.1 EXISTING ACCESS

The site previously had access onto both Abbey Street and Gundry Street, however demolition works were undertaken and the site currently has a formalised access to Abbey Street only.

The access is shown in Photograph 5.

Photograph 5: Existing Site Access

As part of the proposed development, it is proposed that this vehicle crossing would be removed, with the berm, kerb and channel reinstated to Council standards.

6.2 PROPOSED ACCESS

One vehicle crossing is proposed to be provided, and will be located on Gundry Street. The vehicle crossing is assessed against the Unitary Plan criteria in the sections below.

6.2.1 VEHICLE CROSSING WIDTH

Table E27.6.4.3.2 (T153) of the Unitary Plan outlines rules regarding vehicle crossing and vehicle access widths.

For an access serving 10 or more parking spaces within a zone not specified in the table, the Unitary Plan requires the following:

- A minimum width of 5.5 metres (two-way) at the site boundary;

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

- A maximum width of 6.0 metres (two-way) at the site boundary; and
- A minimum formed width of 5.5 metres (providing for two-way movements), 1.5 metres pedestrian access for rear sites.

It is proposed to provide a 6.0 metre wide vehicle crossing (as measured along the site boundary) to accommodate movements into and out of the site. A visibility splay measuring approximately 2.9 metres by 1.1 metres is proposed to be provided along the northern (exiting) side of the access (not factored into the vehicle crossing width) to allow for inter-visibility between pedestrians and exiting vehicles.

Accordingly, the proposed vehicle crossing width complies with the Unitary Plan.

6.2.2 DISTANCE TO INTERSECTION

Rule E27.6.4.1 (3) (a) of the Unitary Plan requires that vehicle crossings should not be provided within 10 metres of an intersection or with any other "vehicle crossing restriction" area, measured from the road boundary.

The proposed access is located approximately 8.4 metres from the nearest intersection (Abbey Street / Gundry Street) and therefore triggers a Vehicle Access Restriction for distance to an intersection.

An assessment has been undertaken against the criteria outlined in Section E27.8.2 (11), and is provided in Table 2 below.

Table 2: Unitary Plan E27.8.2 (11) Assessment Criteria

Assessment Criteria	Comment
E27.8.2 (11) construction or use of a vehicle crossing where a Vehicle Access Restriction applies:	
(a) this applies where a Vehicle Access Restriction is identified in Standard E27.6.4.1 (2) and Standard E27.6.4.1 (3), other than a Vehicle Access Restriction Level Crossing or a Vehicle Access Restriction Motorway Interchange:	
(i) effects of the location and design of the access on the safe and efficient operation of the adjacent transport network having regard to: ▪ **visibility and safe sight distances;** ▪ **existing and future traffic conditions including speed, volume, type, current accident rate, and the need for safe manoeuvring;** ▪ **proximity to and operation of intersections;** ▪ **existing pedestrian numbers, and estimated future pedestrian numbers having regard to the level of development provided for in this Plan;** ▪ **existing community or public infrastructure located in the adjoining road, such as bus stops, bus lanes and cycleways;**	Gundry Street has a straight alignment and there is good sight distance from the access along both directions. The speed, volume and type of vehicles along Gundry Street are not expected to change as a result of the proposed development. As discussed in Section 3.5 of this report, there were found to be no crashes relating to vehicle movements into or out of driveways in the proximity of the site. All vehicles will enter and exit the site in a forward direction. The Gundry Street / Abbey Street intersection is an unsignalised intersection, with Gundry Street operating as the primary road through the intersection. The access is proposed to be located approximately 8.4 metres from the intersection, 1.6 metres short of the 10 metre trigger. It can be reasonably expected that pedestrian volumes along the site frontage on Gundry Street would increase slightly as a result of the proposed development, however the provision of the visibility splay at the site access and the general absence of traffic movements outside of weekday peak hours
(ii) the effects on the continuity of activities and pedestrian movement at street level in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone and Business – Local Centre Zone; or	The provision of a vehicle access in its proposed location, or if it were further north to satisfy the 10 metre criteria for a Vehicle Access Restriction, is considered to have no impact on the continuity of activities and pedestrian movement at street level in the vicinity of the site.
(iii) the practicability and adequacy of the access arrangements considering site limitations, arrangements of buildings and activities, user requirements and operational requirements, proximity to and operation of intersections, having regard to:	There is a level drop along Gundry Street descending from Karangahape Road toward Abbey Street, and providing an access further to the north would result in significant internal gradient changes and ramping, and potentially limiting the amount of car parking and car park layout.

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

▪ **the extent to which the site can reasonably be served by different access arrangements including:** ▪ **access from another road;** ▪ **shared or amalgamated access with another site or sites;** ▪ **via a frontage road, such as a slip lane or service road; or** ▪ **the extent to which the need for access can reasonably be avoided by entering into a shared parking and/or loading arrangement with another site or sites in the immediate vicinity**	Access provided along Abbey Street would result in a steep gradient to meet level requirements in order to achieve the same degree of development as is proposed. There is no opportunity to provide a shared or amalgamated access with another site. There are no frontage roads along any of the site frontages. There are no opportunities for a shared parking or loading arrangement with another site in the vicinity.

Accordingly, it is considered that the provision of a vehicle crossing in the proposed location is satisfactory.

6.2.3 DISTANCE BETWEEN CROSSINGS

Table E27.6.4.2.1 (T144) of the Unitary Plan specifies that the minimum separation from crossings serving adjacent sites is 2.0 metres, and the minimum separation distance of 6.0 metres for vehicle crossings serving the same site.

The proposed vehicle crossing is the only vehicle crossing on the Gundry Street frontage, and therefore complies with the Unitary Plan.

6.2.4 NUMBER OF CROSSINGS

Table E27.6.4.2.1 (T144) of the Unitary Plan specifies that a maximum of one driveway per 50 metres of site frontage (or part thereof) can be provided.

The site has a frontage to Gundry Street of approximately 53 metres, and accordingly two vehicle crossings are permitted to be provided.

One vehicle crossing is proposed to be provided along Gundry Street, and accordingly the proposed number of vehicle crossings is compliant with the Unitary Plan requirements.

6.2.5 GRADIENTS

Table E27.6.4.4.1 (T159) of the Unitary Plan outlines the requirement for the gradients of vehicle accesses for all other activities. A maximum gradient of access is 1 in 6 (16.66%) is permitted, while Rule E27.6.4.4 (3) states that a 1:20 platform is required at the top of the ramp with a minimum length of 6.0 metres.

It is proposed to provide a 1:20 gradient a the top of the ramp, however this section is only proposed to be 4.4 metres long. The remainder of the gradients within the Basement 1 and Basement 2 levels are less than 1 in 6.

The ramp connecting the Basement 1 car park to the Basement 2 car park is proposed to have transitional gradients of 1:8 for 2.0 metres at the top and bottom, and a central gradient of 1:4, and as such does not comply with the Unitary Plan.

Accordingly, an assessment has been undertaken against the criteria outlined in Rule E27.8.2 (8) of the Unitary Plan, and is provided in

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

Table 3.

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

Table 3: Assessment Against the Criteria of Rule E27.8.2 (8) of the Unitary Plan

Assessment Criteria	Comment
E27.8.2 (8) any activity or development which infringes the standards for design of parking and loading areas or access under Standard E27.6.3, E27.6.4.2, E27.6.4.3 and E27.6.4.4:	
(a) effects on the safe and efficient operation of the adjacent transport network having regard to:	
(i) the effect of the modification on visibility and safe sight distances;	The proposed 4.4 metre long 1:20 gradient is not expected to have any impacts on visibility or safe sight distances at the site boundary. The length of a Unitary Plan 85th percentile vehicle from front to the centre of the rear wheels is approximately 3.72 metres, and as such an exiting vehicle will be able to come to rest entirely on the 1:20 section to be able to check both directions before exiting the site. A visibility splay has been provided along the northern side of the access to assist with the visibility between vehicles and pedestrians walking along Gundry Street.
(ii) existing and future traffic conditions including speed, volume, type, current accident rate and the need for safe manoeuvring	The proposed car parking arrangement on the site is such that all vehicles will be able to enter and exit the site in a forward direction. It is expected that the both the speed and volume of cars travelling along Gundry Street will have a negligible effect as a result of the development.
(iii) existing pedestrian numbers, and estimated future pedestrian numbers having regard to the level of development provided for in this Plan; or	The western side of Gundry Street is currently closed to pedestrians (as a result of works on the site), however the development will reinstate the footpath to accommodate pedestrians along the eastern side of the development. The primary pedestrian entry point for the office activities will be located on Gundry Street, however the proposed access is located to the south of this and is not expected to impact the pedestrian volumes or safety along the frontage of the site.
(iv) existing community or public infrastructure located in the adjoining road, such as bus stops, bus lanes and cycleways.	There are no existing bus stops, bus lanes or cycleways on Gundry Street in front of the site.
(b) effects on pedestrian amenity or the amenity of the streetscape, having regard to;	
(i) the effect of additional crossings or crossings which exceed the maximum width; or	The proposed vehicle crossing will not exceed the maximum width permitted in the Unitary Plan.
(ii) effects on pedestrian amenity and the continuity of activities and pedestrian movement at street level in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone and Business – Local Centre Zone	The proposed gradients of the vehicle access are not expected to impact pedestrian amenity or the continuity of activities and pedestrian movement.
(c) the practicality and adequacy of parking, loading and access arrangements having regard to:	
(i) site limitations, configuration of buildings and activities, user requirements and operational requirements;	The site is limited by the level differences between the Karangahape Road, Gundry Street and Abbey Street frontages, and as such in order to provide a building design that integrates with all three frontages, the internal levels of the building are restricted. The resultant ramp at the site access is still able to comply with the maximum gradient of the Unitary Plan, and the shortfall in length (1.6 metres) is not considered to have an impact on an exiting vehicle's position when undertaking site distance checks. Internally, the 1:4 ramp between the B1 and B2 levels is considered to be appropriate, as it is in accordance with Standard 2.5.3 (b) (ii) of AS/NZS 2890.1:2004, which states that a 1 in 4 gradient is permitted for ramps up to 20 metres long.
(ii) the ability of the access to accommodate the nature and volume of traffic and vehicle types expected to use the access. This may include considering whether a wider vehicle crossing is required to: ▪ **comply with the tracking curve applicable to the largest vehicle anticipated to use the site regularly;** ▪ **accommodate the traffic volumes anticipated to use the crossing, especially**	The car park, and in particular the B2 level car park, will be used by employees of the activities on the site, and as such drivers will be familiar with the layout of the car parks.

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

where it is desirable to separate left and right turn exit lanes; ▪ **the desirability of separating truck movements accessing a site from customer vehicle movements;** ▪ **the extent to which reduced manoeuvring and parking space dimensions can be accommodated because the parking will be used by regular users familiar with the layout, rather than by casual users, including the number of manoeuvres required to enter and exit parking spaces;** **Note: Parking spaces for regular users can be designed to undertake more than one manoeuvre to enter and exit parking spaces in accordance with AS/NZS 2890.1:2004 Off-Street Parking.**	

Accordingly, it is considered that the provision of a 1:20 section for 4.4 metres at the site access, and a gradient of 1:4 for the B1 to B2 ramp are both acceptable to serve the proposed development.

6.2.6 SIGHT DISTANCE

The RTS-6 Guidelines for Visibility at Driveways document (RTS-6 Guide) indicates that for low volume driveways (less than 200 vehicle movements per day) accessing onto a Local Road (as Gundry Street is assumed to be) with a 50km/h operating speed, the required sight distance is 45 metres.

Austroads' *Guide to Road Design Part 4A – Unsignalised and Signalised Intersections* (Austroads Part 4A) recommends a Safe Intersection Sight Distance (SISD) of 73 metres for a 40 km/h design speed (30 km/h operating speed) with a reaction time of 2.0 seconds.

Gundry Street has a straight alignment in the vicinity of the proposed access location, with visibility to Karangahape Road to the north and to the southern end of Gundry Street. The RTS-6 Guide states that "*If parking is in demand near these driveways, then it may be impractical to fully insist on these lines of clear sight. It is accepted therefore that for these driveways parked vehicles may obstruct these lines of sight but there should be no permanent obstructions to these sight lines.*" Further, observations on-site indicate that the operating speed of vehicles in the vicinity of the proposed access (and along Gundry Street and Abbey Street in general) is lower than 30 km/h, as the roads serve commercial properties and are relatively narrow. The presence of parked vehicles on both sides of the road also assists in keeping operating speeds under 30 km/h.

Accordingly, it is considered that the available sight distance at the proposed vehicle crossing is satisfactory.

6.3 PEDESTRIAN PROVISION

Pedestrian access is proposed to be provided via Gundry Street, Abbey Street and Karangahape Road, with the primary entrance to the ground floor lobby provided on Gundry Street. The tenancies located on Basement 1 will have dedicated access directly onto Abbey Street, while the ground floor office tenancy will have a dedicated access onto Karangahape Road. As such the pedestrian provisions are considered to be sufficient to serve the proposed development.

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

7 PARKING

7.1 CAR PARKING REQUIREMENT

Table E27.6.4.2 of the Unitary Plan outlines the parking requirements for developments located within all zones. Table E27.6.2.1 (T15) of the Unitary Plan specifies maximum car parking rates for Business – City Centre Zone, with office and café (retail – food and beverage) activities falling under 'all other activities'. The maximum car parking rate is 1 space per 200m^2 GFA.

As it is proposed to provide a total of 11,646m^2 GFA of office, retail and café activities, a maximum of 58 spaces are permitted to be provided.

7.2 PARKING PROVISION

It is proposed to provide a total of 48 car parking spaces within two levels of car parking in the development (ground floor and basement).

Accordingly, the proposed parking provision of 48 spaces complies with the maximum parking rate of the Unitary Plan.

Accordingly, it is not considered that the provision of 5 additional parking spaces will have a significant impact on the surrounding road network. If the proposed development was located in a different zone, it could have a maximum parking requirement of 287 spaces, which is significantly higher than what is proposed. The spaces would likely be used for office employee parking, and would therefore only generate trips during the peak hours with negligible trips generated throughout the day.

7.3 ACCESSIBLE PARKING

NZS 4121:2001 Rule 1.1.2 (f) states that accessible parking for commercial developments is required to be provided, with the rate being not less than 2 accessible spaces where up to 50 total car parking spaces are provided.

It is proposed to provide 2 accessible parking spaces on the ground floor near the central lift core, which is considered to be a satisfactory provision.

7.4 CAR PARKING DIMENSIONS

Table E27.6.3.1.1 of the Unitary Plan states that for 2.5 metre wide 90-degree parking spaces, a length of 5.0 metres and manoeuvring width of 6.7 metres is required to be provided.

It is proposed to provide 2.5 metre wide parking spaces across both the Basement 1 and Basement 2 levels, which have lengths of 5.0 metres and are accessed via aisles with a minimum width of 6.7 metres throughout both the ground floor and basement levels.

A vehicle tracking assessment has been undertaken to demonstrate the appropriateness of the proposed car parking layout. The assessment was undertaken using the software package 'AutoTurn' and the 85th percentile design vehicle as specified in the Unitary Plan, and is provided for reference in Appendix A. By way of summary, it is considered that the car park is appropriately designed, with the critical parking spaces being able to be accessed in a satisfactory manner.

7.5 HEIGHT CLEARANCE

Rule E27.6.3.5 (1) (c) of the Unitary Plan states that 2.5 metres of height clearance is to be provided where access and/or accessible parking for people with disabilities is provided. The rule is unclear as

to specifically where this rule extends to throughout the car park, however it is acknowledged that this requirement is above the car parking space.

Standard 2.4 of AS/NZS 2890.6:2009 states "*the path of vehicular travel from the car park entrance to all parking spaces for people with disabilities and from those spaces to the car park exit shall have a minimum headroom of 2200mm. The headroom above each dedicated space and adjacent shared area, measured from the level of the dedicated space shall be a minimum of 2500mm.*"

It is proposed to provide 2.5 metres of height clearance above the accessible parking spaces, however the height clearance throughout the rest of the car park is proposed to be 2.3 metres, consistent with Rule E27.6.3.5 (1) (b) of the Unitary Plan.

There are three parking spaces within the Basement 2 car park which have a slightly reduced height clearance of 2.1 metres (Spaces 27, 28, 29). As these parking spaces do not comply with the 2.3 metre requirement of the Unitary Plan, an assessment has been undertaken against the criteria outlined in Rule E27.8.2 (8), and is provided in Table 4.

Table 4: Assessment Against the Criteria of Rule E27.8.2 (8) of the Unitary Plan

Assessment Criteria	Comment
E27.8.2 (8) any activity or development which infringes the standards for design of parking and loading areas or access under Standard E27.6.3, E27.6.4.2, E27.6.4.3 and E27.6.4.4:	
(a) effects on the safe and efficient operation of the adjacent transport network having regard to:	
(i) the effect of the modification on visibility and safe sight distances;	N/A.
(ii) existing and future traffic conditions including speed, volume, type, current accident rate and the need for safe manoeuvring	It is generally expected that these parking spaces will be allocated to staff members of the proposed development, who will be familiar with the movements into and out of the spaces. It can be arranged that these three parking spaces will accommodate vehicles that have a low height clearance, such as sedans, mini SUVs and hatchbacks, which all generally have a height of lower than 1.7-1.8 metres, allowing 300 mm clearance above the vehicle.
(iii) existing pedestrian numbers, and estimated future pedestrian numbers having regard to the level of development provided for in this Plan; or	N/A.
(iv) existing community or public infrastructure located in the adjoining road, such as bus stops, bus lanes and cycleways.	N/A.
(b) effects on pedestrian amenity or the amenity of the streetscape, having regard to;	
(i) the effect of additional crossings or crossings which exceed the maximum width; or	N/A.
(ii) effects on pedestrian amenity and the continuity of activities and pedestrian movement at street level in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone and Business – Local Centre Zone	N/A.
(c) the practicality and adequacy of parking, loading and access arrangements having regard to:	
(i) site limitations, configuration of buildings and activities, user requirements and operational requirements;	The site is limited with levels such that the proposed internal ramp and RL of Basement 1 will slightly infringe in the clearance above parking spaces 27, 28 and 29. It is considered that 2.1 metres of height clearance is sufficient to accommodate parking of passenger vehicles, and that potential occupiers of the space will be notified that the parking spaces have 200mm less height clearance than the rest of the car park.
(ii) the ability of the access to accommodate the nature and volume of traffic and vehicle	N/A.

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

types expected to use the access. This may include considering whether a wider vehicle crossing is required to:
▪ **comply with the tracking curve applicable to the largest vehicle anticipated to use the site regularly;**
▪ **accommodate the traffic volumes anticipated to use the crossing, especially where it is desirable to separate left and right turn exit lanes;**
  ▪ **the desirability of separating truck movements accessing a site from customer vehicle movements;**
  ▪ **the extent to which reduced manoeuvring and parking space dimensions can be accommodated because the parking will be used by regular users familiar with the layout, rather than by casual users, including the number of manoeuvres required to enter and exit parking spaces;**
 	
Note: Parking spaces for regular users can be designed to undertake more than one manoeuvre to enter and exit parking spaces in accordance with AS/NZS 2890.1:2004 Off-Street Parking.	

As can be seen from the above table, it is considered that the reduction in height clearance above the three spaces in Basement 2 will not result in any effects on the rest of the car park nor the surrounding road environment, and is therefore considered to be acceptable. Each of these three spaces will be appropriately signed to indicate the reduced height clearance, however as every space will be allocated within the basement, it is expected that only lower-height vehicles will be assigned to park in these spaces.

7.6 BICYCLE PARKING

Table E27.6.2.5 (T86) of the Unitary Plan requires that bicycle parking be provided for office developments greater than 200m^2 GFA up to 10,000m^2 GFA. The bicycle parking rates are as follows:

- 1 secure (staff) space per 300m^2 GFA of office; and
- 1 short-stay (visitor) spaces plus 1 space per 1,000m^2 GFA above 1,000m^2 GFA.

Accordingly, as 9,795m^2 GFA of office is proposed to be provided, 33 secure spaces and 10 visitor spaces are required to be provided on the site.

Table E27.6.2.5 (T89) of the Unitary Plan requires the following bicycle parking rates for “all other” retail activities with a GFA greater than 500m^2 up to 5,000m^2 GFA:

- 1 secure (staff) space per 500m^2 GFA; and
- 1 short-stay (visitor) spaces per 300m^2 GFA.

Table E27.6.2.5 (T87) of the Unitary Plan requires the following bicycle parking rates for food and beverage retail activities with a GFA of up to 350m^2:

- 1 secure (staff) space per 300m^2 GFA; and
- No visitor spaces required.

A total of 1,851m^2 GFA of retail and food and beverage activities are proposed to be provided, with the food and beverage component expected to be below 350m^2 GFA. As such, it is considered that a total

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

of 4 secure spaces and 6 visitor spaces are required to be provided to support the retail component of the proposed development.

Therefore a total of 37 secure (staff) bicycle parking spaces are required to be provided, and 15 visitor bicycle parking spaces.

It is proposed to provide a total of 76 bicycle parking spaces within the development, comprising 76 secure spaces located within the Basement 1 level, in a dedicated bicycle parking area. As such, the proposed bicycle parking provision complies with the Unitary Plan requirements.

7.7 END OF TRIP FACILITIES

Table E27.6.2.6 (T107) of the Unitary Plan outlines the end-of-trip requirements for office activities. For offices with a GFA of 7,500m^2 or above, two showers and changing areas are required for the first 7,500m^2, and for every additional 7,500m^2 GFA above that two additional showers and changing areas are required to be provided.

As the proposed office GFA is 9,795m^2, it is considered that a minimum of 4 showers and changing areas are required to be provided.

4 showers and changing areas are proposed to be provided in a dedicated changing area within the Basement 1 car park, which complies with the Unitary Plan.

8 SERVICING AND LOADING

8.1 LOADING REQUIREMENT

Table E27.6.2.7 (T113) of the Unitary Plan outlines the loading requirements for 'all other activities' with a GFA greater than 5,000m^2 and up to 20,000m^2. As the site has a proposed office GFA of 9,795m^2, one loading space is required to be provided.

Table E27.6.2.7 (T109) of the Unitary Plan outlines the loading requirements for retail and industrial activities with a GFA of greater than 300m^2 and up to 5,000m^2. As the retail component of the proposed development has a GFA of 1,851m^2, one loading space is required to be provided.

No dedicated loading spaces are proposed to be provided on-site, however, there is an existing on-street loading zone on the southern side of Abbey Street, approximately 30 metres walking distance from the entrance to the café. Additionally, as discussed in Section 3.3 of this report, it is understood that Auckland Transport intends to provide an on-street loading space on Gundry Street directly in front of the site (likely to occur simultaneous with construction of the proposed development).

It is considered that these loading spaces are in close proximity to the site, and are convenient for couriers to utilise. As the proposed development comprises of primarily office activity, it is not expected that loading demand for large trucks will be significant outside of the initial moving in period, which would largely be expected to be carried out on weekends or outside of typical office hours during the week where on-street parking spaces are less in demand within close proximity to the site.

Notwithstanding this, it is acknowledged that the proposed provision of zero loading spaces on-site does not meet Unitary Plan requirements, and as such an assessment has been undertaken against the criteria listed in Rule E27.8.2 (7),

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

Table 5: Unitary Plan E27.8.2 (8) Assessment Criteria

Assessment Criteria	Comment
E27.8.2 (7) any activity or development which provides fewer than the minimum number of loading spaces under Standard E27.6.2(8):	
(a) effects of the loading arrangements proposed for the site on the safe and efficient operation of adjacent transport network;	The proposed activities on the site are primarily office (9,795m^2) and retail (1,851m^2). The office activities are only expected to experience a loading demand of larger trucks the beginning and ends of tenancies, while the retail tenancies may experience regular deliveries. It is considered that the existing (or AT planned) on-street loading spaces will be able to accommodate the delivery demands for the proposed activities.
(b) the specific business practice, operation or type of customer associated with the proposed activities;	As discussed above, the proposed development comprises mainly office activities, which typically only have a demand for smaller delivery vehicles once operational. The retail tenancies are also likely to be serviced by smaller delivery vehicles (as opposed to large trucks).
(c) the extent to which an accessible and adequate on-street loading space is available nearby or can be created while having regard to other demands for kerbside use of the road;	As discussed above, there is an on-street loading zone on Abbey Street approximately 30 metres walking distance from the proposed development, and a planned on-street loading space on Gundry Street in front of the site. Outside of typical weekday business hours, there is considered to be sufficient kerbside parking available in the vicinity of the site to accommodate any larger trucks in the event that they are required.
(d) the extent to which loading can be provided informally on site or on another site in the immediate vicinity; or	It is considered that there is sufficient room on-site to accommodate a larger delivery vehicle to temporarily park while loading, however the height clearance required to allow these vehicles on-site would dramatically alter the proposed design of the building. There are no other sites in close proximity to the site that could feasibly serve as an alternative for accommodating loading of larger vehicles.
(e) the extent to which the reduction in loading spaces will contribute to the efficient use of land and the growth and intensification provided for in this Plan.	Two loading spaces are required to be provided, and by not providing this on the site allows for further office and retail GFA to be provided (by way of height limitations).

As such, it is considered that the proposed loading arrangements via the on-street loading spaces is satisfactory to serve the proposed development.

8.2 WASTE COLLECTION

It is proposed that waste collection will be undertaken via a private waste collection service, with a waste vehicle loading from the street and servicing the building after typical operating hours of the building.

A waste management plan has been prepared by Green Gorilla further detailing the proposed waste collection.

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

9 CONCLUSION

Based on the assessment undertaken of the proposed commercial development located at 538 Karangahape Road in Auckland's CBD, the following is concluded:

- The proposal comprises a 10 storey commercial building with two levels of basement car parking and ancillary cafés, providing 9,795m^2 GFA of office activity and 1,851m^2 of retail activities;
- The surrounding road network in the vicinity of the site has no reported crashes relating to the vehicle movements into or out of driveways in the most recent five years of available data;
- The proposed development is expected to generate in the order of 204 and 207 vehicles per hour during the AM and PM peak hours respectively, and 2,112 vehicles per day according to the RTA *Guide to Traffic Generating Developments*. As the site has a maximum car parking requirement resulting in 58 parking spaces being permitted on the site (and 48 spaces proposed), it is expected that the trip generation for the development will be lower than calculated. As the site is located within a 'Business – City Centre Zone', no detailed traffic assessment is required to be undertaken;
- The proposed vehicle crossing complies with the Unitary Plan requirements in regard to width, location, number of crossings, and the sight distance at the crossing location is considered to be satisfactory. The proposed access is located 8.4 metres from the nearest intersection, and an assessment against the criteria in the Unitary Plan has determined that the location of the access is appropriate to serve the development;
- The length of the 1:20 platform at the site boundary is proposed to be 4.4 metres long, which is 1.6 metres short of the required 6.0 metres length. The gradient of the internal B1 to B2 ramp is also
- There is a maximum car parking requirement for the proposed development at a rate of 1 space per 200m^2 GFA on the site (no minimum requirement), resulting in a maximum car parking provision of 58 parking spaces. The proposed parking provision of 48 car parking spaces is considered to be satisfactory to serve the proposed development;
- The car parking spaces are proposed to be provided across two levels (Basement 1 and Basement 2), and will provide accessible parking as well as some electric vehicle (EV) parking. All proposed spaces comply with the Unitary Plan in regard to dimensions and manoeuvring width;
- 52 bicycle parking spaces and 4 showers and changing rooms are required to be provided, and 76 secure bicycle parking spaces are proposed to be provided in the Basement 1 level along with 4 showers and changing rooms, thereby complying with the Unitary Plan;
- Two loading spaces are required to be provided on the site, and while no official loading spaces are proposed to be provided, there is one existing and understood to be one more proposed on-street loading spaces on Abbey Street and Gundry Street respectively. The Gundry Street loading space is on the western side of Gundry Street directly in front of the site, while the Abbey Street loading space is approximately 30 metres from the Abbey Street pedestrian access. An assessment has been undertaken against the assessment criteria outlined in the Unitary Plan, and it is considered that the loading demands of the proposed development can be comfortably and safely accommodated without the provision of a dedicated on-site loading zone; and
- Waste collection is proposed to be undertaken by a private waste collection service, with the contractor loading from the street in front of the access outside of operating hours (i.e. late at night).

Accordingly, it is concluded that the proposed development is in general compliance with the Unitary Plan (with the exception of the separation of the Gundry Street vehicle crossing from the nearest intersection, the length of the 1:20 gradient at the site access, the maximum gradient of the B1-B2

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

ramp, and the non-provision of an on-site loading space), and there are no traffic engineering or transportation planning reasons to preclude approval of the proposed commercial development.

Yours sincerely

Commute Transportation Consultants

Tom Guernier

Senior Transport Consultant
tom@commute.kiwi

4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

APPENDIX A – VEHICLE TRACKING ASSESSMENT