71-79 Macquarie St, Sydney Proposed Residential/Serviced Apartment Development

Concept Plan Transport Assessment Report

20 December 2011

FINAL

Prepared for

AMP Capital and Mirvac Projects Pty Ltd

Halcrow

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This report has been issued and amended as follows:

Rev	Description	Date	Prepared by	Approved by
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1 Introduction

AMP Capital Investors (the land owner of the subject site) and Mirvac (the developer) are seeking Concept Plan approval for a proposed residential/serviced apartment development at 71-79 Macquarie Street, Sydney. The proposal involves the demolition of an existing commercial building and erection in its place of a new residential building to accommodate approximately 103 luxury apartments/serviced apartments. The proposal also includes approximately 100m^2 of retail area at the ground level. Parking for the proposed development would be located in the basement over four levels.

The Concept Plan envisages the development yield outlined above is subject to further design refinements and finalisation in the future during the Project Application/Development Application stage, however, it is envisaged that it will not vary substantially from the assumed level of development presented above.

The Minister for Planning has declared the proposed development as a Major Project under the planning provisions of Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act). The Department of Planning (DoP) has issued the Director-General's Requirements (DGRs) for the project.

Halcrow has been commissioned by Mirvac to prepare this transport assessment report to accompany an Environmental Assessment Report to be submitted to the DoP. This report examines the traffic and transport implications of the proposed development with considerations to present and future traffic conditions, public transport, pedestrian and cyclist implications and transport arrangements around the subject site. This report has been prepared in accordance with the methodology set out in the NSW Roads and Traffic Authority's (RTA) *Guide to Traffic Generating Development*, 2002.

With regard to the DGRs, the following table gives a summary of where each of the items raised by the Director General has been addressed in this report.

Table 1.1 – Director-General's Requirements on Traffic & Transport

Key Issues	Addressed in
Demonstrate the existing public road over which the colonnade is proposed is not necessary	Section 3.3
Detail the proposed changes to the street network and access arrangements adjoining the site	Section 3.2 and Swept Path Diagrams in **Appendix A**
Daily and peak hour traffic movements likely to be generated by the proposed development including modelling and assessment of the performance of key intersections providing access to the site and any upgrades (road / intersections) required as a consequence of the proposal	Section 4.1
Transport and Accessibility Impact Assessment with particular regard to • Transport and traffic management including the demonstration of minimalist approach to car parking provision • Justification of proposed quantum of on-site parking for the proposal having regard to RTA accessibility of the site to public transport • Pedestrian and cycle access/circulation and connections to external networks • Measures to promote public transport usage and pedestrian an bicycle linkages	Section 5.1 Section 5.1 Section 6.1&6.2 Section 8
Identification of Travel Demand Measures (TDM) - that will optimise the opportunity provided by the project site's proximity to public transport including the preparation of a work place travel plan	Section 8
In relation to construction traffic • Details of anticipated truck movements to and from the site • Details of access arrangements for works to and from the site, emergency vehicles and service vehicle movements	Section 7

The remainder of this document is structured as follows:

- Section 2 summarises the existing conditions;
- Section 3 describes the proposed development;
- Section 4 documents the findings of the traffic assessment;
- Section 5 provides details of the parking assessment;
- Section 6 describes the public transport, cycling and pedestrians implications; and
- Section 7 presents the summary and conclusions.

2 Existing Conditions

2.1 Site Description

The subject site is located at 71-79 Macquarie Street, Sydney. The legal description of the site is Lot 1 in DP 202431. The site is located within the Circular Quay East precinct. The site has an area of approximately 890m^2 (excluding land in the ownership of City of Sydney).

The site is generally rectangular in shape. It is bounded by Macquarie Street to the east (with the Royal Botanic Gardens located further east across Macquarie Street), Cahill Expressway (and the railway viaduct beneath it) to the south, Circular Quay East pedestrian walkway to the west and the Quay Grand development to the north.

From Macquarie Street to Circular Quay foreshore area, there is a difference in level of about 9-10m.

At present, the site is occupied by a 19-storey commercial building. This is the most southerly building in the Circular Quay East precinct, and is immediately to the north of the Cahill Expressway.

Vehicular access to the site is provided via an access road off Alfred Street at the end of Phillip Street. This access road is shared with adjoining developments – Quay Apartments (loading access only), the Royal Automobile Club of Australia (RACA) and Quay Grand. The access road crosses beneath the railway viaduct near Alfred Street. In this vicinity, the access road wraps around an island formed by the columns supporting the viaduct to form a loop road around the island.

The western section of the access road is restricted in height to 3.9m and the access road beneath the bridge further to the east is limited to 2.7m. Although, the road appears to operate as a small gyratory system, there is no prohibition on movements so vehicles accessing Quay Grand and the Amatil building can enter and leave by means of the 3.9m height restricted access route.

Figure 1 shows the location of the proposed site. **Figure 2** shows the existing access arrangement providing vehicular access to the subject building as well as other nearby buildings.

2.2 Road Network

The roads in the vicinity of the site include Cahill Expressway, Alfred Street, Macquarie Street, Phillip Street, Young Street and Albert Street.

With the exception of Cahill Expressway, all of these roads are local roads under the jurisdiction of the local Council. These are generally configured with one traffic lane and one parking lane in each direction. They generally have a posted speed limit of 50km/hr. They provide access to the abutting properties.

Cahill Expressway is a classified road and as such the NSW Roads and Traffic Authority (RTA) is the road authority and has responsibility for funding and maintaining the road. It is generally a four-lane road with a posted speed limit of 60km/hr. Kerbside parking on the Cahill Expressway is prohibited at all times. It connects the north-eastern quadrant of the Sydney CBD to the Sydney Harbour Bridge to provide access to North Sydney and beyond. It also links the Eastern Distributor to the Harbour Bridge.

2.3 Public Transport Network

The site is located in close proximity to all three traditional forms of public transports – train, bus and ferry. Below is a description of the available services and service frequencies.

2.3.1 Train

The site is located within 150m walking distance to Circular Quay Railway Station. Circular Quay Railway Station services trains running on four main railway lines within the CityRail network, namely the South Line, the Inner West Line, the Bankstown Line and Airport and East Hills Line. Circular Quay is one of the six City Circle railway stations serving the Sydney CBD area.

The daily number of services and average frequency on the four railway lines are summarised in **Table 2.1**.

Table 2.1 Daily Train Service and Frequency

Railway Line	Inbound		Outbound	
	No. of Services	Frequency	No. of Services	Frequency
South Line	220	8 Mins	222	9 Mins
Inner West Line	176	9 Mins	158	9 Mins
Bankstown Line	136	8 Mins	147	9 Mins
Airport and East Hills Line	131	9 Mins	130	9 Mins

As can be seen from **Table 2.1**, Circular Quay railway station is located on a high frequency and well serviced lines.

2.3.2 Bus

The site is located within 200m walking distance of the Alfred Street bus terminus. There are in excess of 65 different bus routes serving the area providing bus services to numerous destinations around Sydney and surrounding suburbs. These services travel to destinations as far out as Watson's Bay and Bondi Beach in the east, La Perouse in the south, Kogarah and Canterbury in the south-west, Parramatta in the west, and Abbotsford, Ryde and Haberfield in the inner west. The services are operated by Sydney Buses. These services generally have a frequency in the order of 5 to 10 minutes during peak times.

2.3.3 Ferry

The site is located within 200m walking distance to the Circular Quay Ferry Terminal, opposite the railway station. From the Circular Quay Ferry Terminal, there are direct services to all parts of the Sydney's ferry network such as Parramatta, Balmain, Neutral Bay, Mosman Bay, Manly, Watson's Bay and Taronga Zoo Ferry services generally have a frequency of about 30 minutes.

2.4 Pedestrian and Cycle Network

The site is very well situated in terms of provision for walking and cycling. There are a number of strategic and local cycling routes and links in the vicinity of the site.

Public footpaths are currently provided along both sides of all roads in the local road network. There is a generous pedestrian walkway along the foreshore of Circular Quay East linking the Sydney Opera House in the north to Circular Quay transport hub in the west and beyond.

The majority of intersections (with the exception of a small number of minor intersections) in the area have signalised pedestrian crossings. There is also a mid block signalised pedestrian crossing on Macquarie Street adjacent to the subject site linking Circular Quay East to the Royal Botanic Gardens. In addition to this, a section of Alfred Street in front of the Circular Quay Railway Station has been converted into a pedestrian area where vehicular traffic is redirected to travel around the block to continue on Alfred Street in either direction.

In relation to existing cycling facilities, a combination of on-road and off-road bicycle paths is available providing cycle access from the site to other areas within the CBD area and the wider Sydney area.

On road cycle routes are provided along Alfred Street, Albert Street, George Street, Pitt Street, Phillip Street and Macquarie Street.

There is a RTA off-road, shared cycling/walking path that starts near the site and runs in a westerly direction along Cahill Expressway to link up with another RTA off road cycle route that extends across the Sydney Harbour Bridge.

There are currently no formal bicycle parking facilities within the immediate vicinity of the site.

3 Proposal Description

3.1 The Proposed Development

The proposed development involves the demolition of an existing commercial building, and erection in its place of a new residential building. The Concept Plan for the proposed building includes approximately 103 apartments with the following mix:

- studio apartments – 10;
- 1-bed units – 43;
- 2-bed units – 24; and
- 3-bed units – 26.

At this stage, the proposed total number of apartments is indicative only and will be subject to further refinements during the project application stage.

It is intended for some of the units to be allocated to a serviced apartments use while the others would be provided as traditional long term residential apartments. Both of these would be marketed to the premium end users. The proposed development would be very similar to the adjacent Quay Grand building.

The proposal also includes a small retail component on the ground floor with a floor area of approximately 100m^2.

The proposed development would have 133 car parking spaces located over four basement levels. The proposed parking provision is based on the following Mirvac's proposed parking rates:

- 1.0 space per studio;
- 1.0 space per one bedroom apartment;
- 1.4 spaces per two bedroom apartment; and
- 1.8 spaces per three or more bedroom apartment.

The above parking rates reflect Mirvac's experience and the marketability of their other residential developments within a city centre environment.

The current submission is for a concept plan approval. The configuration of apartment types will be further reviewed and refined during the Project Application/Development Application stage.

3.2 Proposed Access Arrangement

At present, vehicular access to the site is provided via an access road off Alfred Street. This access road is shared with other nearby developments, namely the Quay Grand building, the RACA building and the Quay Apartments building (to the rear loading areas only).

The access road crosses beneath the railway viaduct near Alfred Street. In this vicinity, the access road wraps around either side of an island formed by the columns supporting the viaduct to form a loop road around the island. The existing access to the building on the subject site is located immediately to the north of the island. The access road then continues further towards the north to provide access for the Quay Grand building, while access to the RACA and service area of Quay Apartments is off the loop road on the southern side of the island. There are also a number of loading bays located along this access road.

As part of the proposed development, it is proposed to pedestrianise the section of the access road that currently provides access to the Quay Grand building. This would allow the continuation of the existing colonnade southwards of the Quay Grand building to improve the public domain area both in front of the subject site as well as in the general vicinity. This is facilitated by the diversion of the Quay Grand traffic into the basement of the subject proposed development (see Section 3.3 for further discussion on the closure of the public road).

Vehicular access to the proposed development and other existing developments would be maintained on the remaining section of the access road that currently exists.

The proposed vehicular access is shown in **Figure 3**.

Appendix A contains a series of swept path diagrams showing various types of vehicles passing one another on the external access road under the new traffic arrangement discussed above.

These show that an Australian Standard B99 car (which is 5.2m long similar to a Holden Statesman, Toyota Landcruiser and Ford Falcon utility) could pass an Australian B85 car (which is 4.8m long and is similar to a Ford Falcon sedan) on the external access road.

However, due to existing road constraints it is not possible for a small truck (for example, a typical waste collection truck of 8.6m long) to pass a B99 or B85 car along this road. This would either require an existing/entering car to wait in the wider areas at each end of the access road to allow the truck to pass or a management strategy to be implemented to regulate traffic on the external road and the ramp providing access into the basement parking levels. It is considered that this could be satisfactorily managed with additional warning signage and possibly passing bays.

3.3 Public Road Closure and "Breakthrough" Deed

As indicated previously, the existing colonnade that currently terminates at the southern edge of the Quay Grand building is proposed to be extended southward as part of the works to improve the public domain area in front of the subject site.

This would require the removal of all traffic from this area as the section of the access road between the two existing driveways that serve the Quay Grand development and the existing building on the subject site is proposed to be closed. In its place would be a new combined driveway to serve both the Quay Grand and the subject development. The new combined driveway would be located at approximately the same location as existing driveway that serves the subject site.

The proposed access arrangement would require traffic to/from the Quay Grand building to be provided through the basement of the proposed building. This will be facilitated via an existing "breakthrough" deed between Council and the owner of the Quay Grand. The requirement for the relevant parties to execute the "breakthrough" deed forms part of the Quay Grand's development approval, specifically Condition 22

(Future Connection of Basement Levels to Adjoining Development) of the Quay Grand Development Consent Z94-00280. The wording of Condition 22 is provided below.

> ***Future Connection of basement levels to adjoining development***
>
> *(22) The applicant shall provide "break-through" panels in the southern wall of each basement, in anticipation of the future redevelopment of the adjacent AMP site at 71-79 Macquarie Street and the connection of both basement areas, in order to facilitate the closure of the vehicular access, of the subject development in East Circular Quay and the use of the vehicular access in the future redevelopment of the AMP site. In this regard, the applicant shall enter into a deed with Council, prepared by Council's solicitor, which requires the building owner, upon the written instruction of Council, to connect all basement levels of the subject development with the adjacent basements of the adjacent site at 71-79 Macquarie Street, remove the vehicular entrance in East Circular Quay within the subject development and convert it to retail facilities, to the satisfaction of the Assistant General Manager, Planning and Building. The cost of the preparation of the deed is to be borne by the applicant. The deed is to be executed prior to the release of the building approval for the development.*

In relation to the closure of the public road, the DGRs specifically states that the traffic report is to "*demonstrate that the existing public road, over which the colonnade is proposed to be built, is not necessary, as required when considering the closure of a public road*".

The section of the public road proposed to be closed has two formal loading bays and other informal loading areas which are used intermittently – both are located adjacent to the western site boundary. To address the above DGR issue, a survey of the utilisation at the two formal loading bays was conducted. The result is presented in **Figure 4**.

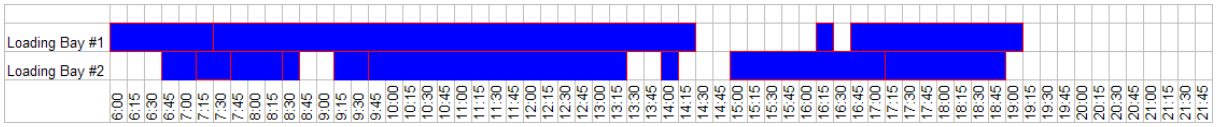


Figure 4 Loading Bay Utilisation

The survey of the loading bays was conducted on Wednesday 13 April 2011 from 6:00am to 10:00pm. The survey involved recording the partial number plates of the vehicles occupying the loading bays along with the time it was first observed and the

time when the vehicle left the bays. This way the survey allows the occupation of the bays and the time that each vehicle spends in the bay to be determined.

Prior to reporting the analysis results, rules for stopping in a loading zone are provided below.

- A driver must not stop in a loading zone unless the driver is driving:
  - a public bus that is dropping off, or picking up, passengers; or
  - a truck that is dropping off, or picking up, goods; or
  - a vehicle that a person is getting into or out of or getting on or off.
- A driver who is permitted to stop in a loading zone must not stay continuously in the zone for longer than 30 minutes; or the indicated time on road signage adjacent to the loading zone.

Figure 4 shows that:

- Loading Bay 1 was occupied by only four vehicles over the surveyed day and three of these vehicles significantly exceeded the expected 30 minute use of the loading zone. Consequently, although the loading bays are occupied, they appear to be used as general parking spaces than for loading activities.
- Loading Bay 2 was occupied by nine vehicles over the surveyed day and four of these vehicles significantly exceeded the expected 30 minute use of the loading zone. Consequently, although the loading bays are occupied, they appear to be used as general parking spaces than for loading activities.

As such, the loading bays are not being used for their intended purpose. Therefore, it is considered the removal of these is unlikely to result in adverse effects on the availability of loading spaces in the area.

3.4 Internal Traffic and Parking Arrangements

It is proposed to provide a combined entry and exit driveway off the reconfigured access road described above for access by general and truck traffic to the subject site. A curved ramp would connect Level B1 to the driveway on the street level. This ramp is proposed to be designed to comply with the Australian Standard AS2890.1-2004 and AS2890.2-2002.

However, it is not possible to provide independent two-way traffic flows between all kinds of vehicles (i.e. cars/trucks) due to existing site constraints and structural issues in particular beneath the railway viaduct. But it is considered that this could be satisfactorily managed with additional warning signage and possibly passing bays. However, the low volume of traffic expected to use the basement and other nearby developments means that any two way traffic flow issues will be infrequent.

Within the basement levels, the floor plates would be rectangular in shape with a central core.

The loading area serving the proposed development would be located on Level B1 within the central core between two lift wells.

The existing height restriction into the Quay Grand loading area is signed at 3.0m, but the maximum available height clearance has been measured to be 3.6m. The existing Amatil building has a current height restriction of 2.0m. Therefore, it is proposed to provide a height of 3.6m along the through access (including the external access road and the entrance to the subject site) shared between the Quay Grand building and the proposed subject building.

As the available vertical clearance in the loading area is 3.6m, the loading area has been designed to accommodate the turning geometry of a medium sized refuse truck with an overall length of 8.6m and a height of 3.05m. This is the largest truck that currently serves the Quay Grand development (as informed by the maintenance manager of Quay Grand) and this truck collects only once a day and generally before 6AM.

As indicated previously, Quay Grand traffic, including service vehicles would access their respective basement areas via the new combined driveway for the subject site.
They would do so via Level B1.

Residential parking spaces would be located on Levels B1 to B4. The parking spaces would be located around the periphery of the basement footprint and configured 90 degree to the boundary walls. An inter-floor ramp is proposed on each floor and located to the north of the central core to provide access between the parking levels.

The circulation aisles wrapping around the central core would gently ramp up to reduce the grading of the inter-floor ramps between levels.

The lower basement levels (i.e. B1 to B4) are proposed to be designed to comply with the relevant Australian Standard for car parking facilities namely AS2890.1-2004.

3.5 Service Vehicle Requirements

As indicated previously, the loading area and the associated ramp have been designed to have a vertical clearance of 3.6m. This is the consistent with the current clearance within the Quay Grand, but exceeds the signed clearance in the existing building on the subject site.

As such, deliveries to the site and the Quay Grand are likely to be limited to medium sized refuse trucks with a height of about 3.0m and a length of 8.6m.

Other design aspects of the loading area are proposed to generally comply with the requirements of AS2890.2-2002.

Appendix A contains a number of swept path drawings showing

- Vehicles entering the site from Alfred Street
- Vehicles negotiating the proposed access into the service area
- Service vehicles manoeuvring within the site in order to achieve access and egress in a forward direction
- Cars negotiating the basement car parking

These swept paths show that the expected turning movements can be satisfactorily accommodated within the proposed layout.

4 Traffic Assessment

4.1 Traffic Generation

The proposed development is for a residential/serviced apartment building to provide 103 units with a small retail component.

The retail component would be developed as a coffee shop or similar. Typical of this type of retail, custom would be predominately by walk-in pedestrians. As such, it is not expected to generate additional vehicular trips; therefore any traffic impact would be negligible.

In relation to the residential component, some of the residential units would be provided as serviced apartments, while the others would be traditional residential apartments. The subject proposed development would be very similar to the adjacent Quay Grand development, and to a lesser extent the serviced apartments known as the Quay Apartments on Phillip Street.

To estimate the potential traffic generation of the proposed development, traffic generation surveys were conducted to count the traffic entering and leaving the Quay Grand and Quay Apartments. The surveys also counted the traffic entering and leaving the building on the subject site. The results are presented in **Table 4.1**.

Table 4.1 Quay Grand and Quay Apartments Traffic Survey

	Quay Grand	Quay Apartments	Existing Amatil Site
Morning Peak			
- In (vph)	9	5	5
- Out (vph)	13	5	1
- Two-way (vph)	22	10	6
Evening Peak			
- In (vph)	18	6	0
- Out (vph)	9	3	3
- Two-way (vph)	27	9	3
Survey Period (6am-10pm)			
- In (Total)	116	25	15
- Out (Total)	115	24	13
- Two-way (Total)	231	49	28

Quay Grand and Quay Apartments each respectively have 129 and 48 residential apartments.

From this, it is estimated that the Quay Grand and Quay Apartments have peak hour trip generation rates ranging from 0.17 to 0.21 trips per peak hour per unit. This is presented in **Table 4.2**. Trip generation rates for high density residential developments contained in the RTA's *Guide to Traffic Generating Development*, 2002 is also presented in **Table 4.2** to facilitate comparisons with the surveyed trip rates.

Table 4.2 Peak Hour Traffic Generation Rates

	Quay Grand	Quay Apartments	RTA Rates
Morning Peak			
- In (vtph per unit)	0.07	0.10	0.05
- Out (vtph per unit)	0.10	0.10	0.19
- Two-way (vtph per unit)	0.17	0.21	0.24
Evening Peak			
- In (vtph per unit)	0.14	0.13	0.19
- Out (vtph per unit)	0.07	0.06	0.05
- Two-way (vtph per unit)	0.21	0.19	0.24
Daily			
- In (vtpd per unit)	0.90	0.52	Not Quoted
- Out (vtpd per unit)	0.89	0.50	Not Quoted
- Two-way (vtpd per unit)	1.79	102	Not Quoted

From **Table 4.2**, it can be seen that the surveyed trip rates are generally consistent, albeit lower than the RTA's rates.

The above surveys were undertaken during the first week of the 2011 Term 1 school holiday period.

A separate survey of the Quay Grand building outside of the school holiday period, as shown in **Table 4.3** indicates exactly the same of number of trips in the peak hour although there is a slight difference in the in/out proportions.

Table 4.3 Peak Hour Traffic Generation Rates

Morning Peak	Quay Grand
- In (vph)	14
- Out (vph)	8
- Two-way (vph)	22

From the traffic generation rates derived from the surveys and the RTA's generation rate, it is estimated that the proposed development with an indicative yield of 103 residential apartments would generate between 18 and 25 vehicles per hour (vph) during the morning peak periods and between 19 and 25 in the evening peak.

Taking into account that the new development traffic would displace the 3-6 vph that is currently generated by the site, the net additional traffic would be about 22 vph at most (during the evening peak period) which equates to one vehicle every three minutes on average. It is also noted at present, the buildings on the site are not fully occupied, and as such the surveyed site generated traffic is lower than it would have been if the buildings were fully occupied.

At this low level of change in the overall development traffic generation, it is expected that any resultant adverse traffic impacts on the wider highway network would be negligible. The external road network would continue to operate as per current situation and consequently no traffic modelling has been undertaken.

4.2 Impacts to Quay Grand Residents

As indicated previously, the Quay Grand development was surveyed to generate about 231 light vehicles (see **Table 4.1**) plus an additional 46 service vehicles per day or a total of 277 vehicles per day (two-way) for the period from 6:00am to 10:00pm. It is worthwhile to note that of the 46 service vehicles observed entering and leaving the Quay Grand development, only eight movements were related to trucks (predominately small trucks up to one car length). During the busiest period, the Quay Grand generated about 31 vph (two-way) in total (including nine service vehicles mostly utility/van types vehicles).

It is predicted the subject development would generate about the same level of traffic as the Quay Grand development albeit slightly less – about 25 vph during the peak periods. A vast majority of this would be tenant vehicles (i.e. cars).

Following the redevelopment, the new combined access being proposed beneath the subject development would have an estimated combined flow of about 56 vph during the peak period, of which about half would arrive and while the other half would leave the site. Of the 56 vehicles expected during the peak hour, 47 vehicles would be tenant vehicles, five utility/van type service vehicles and four small trucks.

The departures and arrivals of the small trucks during the busiest period equate to an average of about two movements (one in and one out) every 15 minutes.

Based on a discussion with the Quay Grand building manager (and additional information from the waste contractor), the largest vehicle servicing the building is the 8.6m waste truck. This waste truck arrives to collect waste once a day before 6:00am (at this time there would be little or no tenant traffic entering or leaving). Other deliveries are generally completed by 10:00am.

In addition, the design of the loading areas adjacent to the through access within the subject proposed building incorporates waiting bays and vehicle turning bay to maximise the efficiency of the through access area.

On this basis, it is expected that the Quay Grand residents are not likely to be significantly adversely affected by the truck movements. Furthermore, it is likely that the truck collecting refuse from Quay Grand would also collect refuse from the proposed site. In fact, many existing service deliveries to Quay Grand might deliver to the proposed site as well, which would reduce the volume of traffic estimated from the subject site still further.

5 Parking Assessment

5.1 Parking Provision

Parking requirement for the proposed development has been assessed against Sydney City Council's *Central Local Environmental Plan 2005* (LEP 2005) and *Central Sydney DCP 1996* (DCP 1996).

The LEP stipulates the following maximum parking rates for residential developments:

- studio apartments – 1 space per 4 studio;
- 1-bed apartments – 1 space per 2 apartments;
- 2-bed apartments – 1 space per apartments plus 1 additional space per 5 apartments; and
- 3-bed apartments – 2 spaces per apartments.

For other uses including retail use, the LEP stipulates the following parking provision:

$$\frac{\text{Total Other FSA}}{\text{Total FSA within Development}} \times \frac{\text{Site Area}}{50}$$

In addition to the above LEP permissible parking spaces, the DCP also suggests the following provisions for delivery and service vehicles:

- residential buildings and serviced apartments – 1 space for first 50 dwellings plus 0.5 spaces for every 50 dwellings thereafter; and
- retail uses – 1 space per 350m^2 of floor space area.

The LEP and DCP have no specific requirements for visitor parking.

Table 5.1 presents a calculation of the LEP and DCP required parking provisions.

Table 5.1 Parking Requirements

Unit Type	No. of Units/FSA	Parking Rate	No. of Spaces
LEP Requirements			
Residential			
- Studio	10	0.25 space per studio apartment	2.5
- 1-Bed	43	0.5 space per apartment	21.5
- 2-Bed	24	1.2 space per apartment	28.8
- 3-Bed	26	2 space per apartment	52.0
Retail	100	(Total Other FSA/Total Development FSA)x(Site Area/50)	0
DCP Requirements			
- Residential (unit)	100	1 space for 1st 50 dwellings plus 0.5 spaces for every 50 dwellings thereafter	2.1
- Retail (m^2)	100	1 space per 350m^2 FSA	0.33
Total Parking Requirement			**107**

The LEP and DCP require a total of 107 car spaces to be provided for the proposed development. It is proposed to provide a total of 133 parking spaces which exceeds the LEP/DCP guidance by 26 car spaces.

The parking at the existing Quay Grand and Quay Apartments has been examined to assess their compliance with the DCP and also to assess the effect of residential car parking upon trip generation in this vicinity.

The Quay Grand contains 129 apartments and 151 car spaces. The unit mix at Quay Grand comprises:

- 85 x one bedroom units;
- 22 x two bedroom units; and
- 22 x three bedroom units.

Based on the above unit mix, the Quay Grand would require 115 parking spaces. The current parking provision at the Quay Grand exceeds the LEP and DCP allowable parking spaces by 36 spaces.

Similarly, Quay Apartments comprises 48 units and 73 spaces. The unit mix at Quay Apartments comprises:

- 2 x one bedroom units;
- 18 x two bedroom units;
- 16 x three bedroom units;
- 7 x four bedroom units; and
- 5 penthouses.

Compared with the DCP, this site would require 79 parking spaces and is therefore an under provision of six spaces.

It is interesting to note however that the provision of parking does not seem to affect the peak hour traffic generated by the two sites with **Table 5.2** showing that the apartments with the restricted parking generates more traffic in the morning peak than that with an apparent overprovision of parking. It does however generate less traffic in the evening peak. Notwithstanding this, both developments generate lower traffic levels than that specified in the RTA Guide to Traffic Generating Developments for high density residential blocks.

Table 5.2 Traffic Generation of Quay Grand / Quay Apartments

	Quay Grand	Quay Apartments
Morning Peak		
- In (vtph per unit)	0.07	0.10
- Out (vtph per unit)	0.10	0.10
- Two-way (vtph per unit)	0.17	0.21
Evening Peak		
- In (vtph per unit)	0.14	0.13
- Out (vtph per unit)	0.07	0.06
- Two-way (vtph per unit)	0.21	0.19

The fact that parking does not affect traffic generation is probably due to the unique location of the proposed site. Many people who inhabit units in this area are staying in the serviced apartments as tourists or business people.

Neither of these groups would have a high demand for car travel because of the proximity to the CBD and the range of public transport/active transport opportunities, but would still require a parking space for their cars even if they are unused.

Similarly, residents who live in the larger properties (i.e. 3 or 4 bedroom) will generally require parking for each occupant. Notwithstanding this, the residents' choice of living in this area is driven by the fact they would choose not to use their car for traditional peak hour car travel although they may choose to travel occasionally at other times.

The principle of reducing residential car parking has been established in the DCP/LEP to try and reduce peak hour car travel – it is not intended to restrict car ownership. However, it is clear from the evidence produced in this report, that at this unique location, the provision of parking does not influence the traffic generated by the site.

Consequently, it is considered that the proposed number of car parking spaces and the resulting traffic generation would not lead to traffic capacity problems on the external road network.

5.2 Motorcycle and Bicycle Parking Provisions

The LEP has no specific requirements for motorcycle and bicycle parking provision. However, the DCP suggests that motorcycle parking is to be provided at a rate equivalent to at least one car parking space for every 100 car parking spaces provided. These car spaces are to be set aside for the exclusive of motorcycles.

On this basis, an area equivalent to that of two car spaces (or eight motorcycle spaces) is to be set aside for the parking of motorcycles.

The DCP also stipulates that for residential developments, bicycle parking spaces are to be provided an area equivalent to at least one car parking space for every 100 car parking spaces provided.

Therefore, an area equivalent to two car spaces (say 10 bicycle spaces) is required to be set aside for bicycle parking.

It is proposed to provide 10 bicycle spaces. These will be located on the ground floor level to be used as bicycle spaces for visitors.

With regard to residents, each of the proposed car parking spaces would be provided as caged enclosures (each apartment would have one parking enclosure) and as such they could also accommodate parking of bicycles. Therefore, bicycle parking is considered to be satisfactory.

6 Other Transport Implications

6.1 Pedestrian and Cyclist Implications

It is anticipated that the development would attract some additional walking and cycling trips. However, the additional trips are not expected to be detrimental to existing pedestrian and cycling facilities in the area. In fact, the proposed development would provide positive benefits to both pedestrians and cyclists in the Circular Quay East precinct as key components of the proposed development include the continuation of the colonnade and the creation of a through site link from Circular Quay to Macquarie Street as part of the public domain improvement works. As such, embellishment of existing pedestrian and cycling facilities in the area other than the public domain works is not necessary.

The impact of the vehicular traffic arising from the development in the vicinity of the site has been assessed as negligible and it is considered that the development would have minimal impact on existing walking and cycling facilities on the surrounding road network.

6.2 Public Transport Implications

Similarly, the proposed development would generate some additional trips utilising the existing public transport system. It is expected that these trips would be modest, and is unlikely to result in any additional capacity stress on current public transport systems in the area.

7 Construction Traffic

It is expected that only small sized construction vehicles would access the site from Alfred Street, but because of the height constraint that presently exists beneath the railway viaduct; the majority of construction vehicles will access the site from Macquarie Street.

At this stage, it is not possible to quantify the traffic volumes likely to be generated during construction but is unlikely to present any road system capacity problems.

A detailed construction traffic management plan will be prepared once a builder is appointed. This will allow the construction traffic management plan (CTMP) to reflect the actual staging of development as it is proposed.

- Hours of work
- Traffic Management
- Truck routes to / from site
- Access to the site
- Management of loading and unloading
- Truck / construction vehicle volumes
- Periods of truck access
- Parking
- Changes to on street parking
- A qualitative assessment of the impacts on and management of
    - traffic
    - parking
    - pedestrian
    - public transport movements
- Management strategies for any identified issues
- Existing vehicle and pedestrian movements
- Construction traffic and parking demand
- Preparation of a Construction Traffic Management Plan (CTMP) report.

The report would be prepared and checked by engineers who hold the RTA Red and Orange Cards to Design, Amend and Audit Traffic Control Plans. Generally all such engineers are also IPWEA/RTA approved Road Safety Auditors.

The CTMP is also likely to make a number of commitments to pedestrians and traffic. These may include

Pedestrian & Public Protection

- During the Demolition Phase B Class overhead protection hoardings will be provided along Macquarie St and along the public space adjacent to the western site boundary.
- Pedestrian footpaths adjacent to the site will be maintained during the demolition period.
- The pedestrian access stair from Macquarie St to the Cahill Walk will be maintained during the demolition period, overhead protection will be provided where required.
- Due care is to be taken by all vehicles entering and leaving the site.
- All vehicles will enter and exit the site in a forward direction.
- Qualified traffic controllers will be utilised where necessary to manage traffic and ensure pedestrians and cyclists are allowed safe access adjacent the project;
- Signs alerting both pedestrians & drivers of the potential danger will be posted for added protection.
- Trucks access to the site, during the period of demolition will be provided via temporary entry and exit driveways onto Macquarie Street. The demolition access driveways will be managed and controlled by qualified traffic controllers and construction vehicles will enter and exit the site in a forward direction.
- The existing vehicle access to Quay Grand will be maintained at all times during the demolition phase of the project.

Traffic

- Through traffic on Macquarie Street will be maintained at all times throughout the demolition/construction period. There will be no requirement to permanently block traffic lanes in these streets during the construction process other than approved "works zones".

- Truck movements will be restricted to designated truck routes and will be confined to the main road network. Truck routes to and from the site will be identified in the Pedestrian & Traffic Management Plan for the project, with the aim to minimise impact of construction traffic on streets within the CBD, Transport companies and subcontractors will be advised of the designated truck routes to and from the site.
- Emergency & service vehicle access will maintained to the site, adjoining properties and public areas for the duration of the project.
- All trucks leaving the site will be loaded to prescribed weight limits and loose material will be covered during transport from the site. The site contractor will be responsible for locating a truck wash facility or other appropriate cleaning mechanism adjacent to the site access driveway. Loose material will be removed from all vehicles and/or machinery before leaving the site and entering the road system. Any run-off from the washing down of vehicles will be directed to the sediment control system to be located within the site.

It would usually be appropriate that a condition of consent be imposed requiring such a plan to be approved before the commencement of construction.

8 Travel Demand Management

A number of measures are proposed to optimise the opportunity provided by the project site's proximity to public transport.

Whilst adequate parking is provided to accommodate the demands of the residents, it is likely that residents will choose to use active transport or public transport for the majority of their trips.

It is therefore the intention to provide a Green Travel Plan prior to the occupation of the proposed development. The Travel Plan would promote the use of transport, other than the private car, for choice for travel to and from the site, which is more sustainable and environmentally friendly. The Travel plan would take advantage of the high level of public transport accessibility available from the site at present.

Ultimately, the objectives of the Travel Plan would be:

- to encourage walking;
- to encourage cycling;
- to encourage the use of public transport;
- to reduce the use of the car, in particular single car occupancy; and
- where it is necessary to use the car, encourage more efficient use.

The Travel Plan would be in a form of easy to understand travel information included in the residents' information pack.

In addition, the Green Travel Plan could include measures such as:

- public transport notice boards to make residents and visitors more aware of the alternative transport options available to them;
- provision of bus passes for the initial occupation of the units so that residents would be encouraged to make public transport their modal choice from the day they moved into the unit;
- provision of secure bicycle parking spaces both for residents and for visitors to the site; and

- provision of a car share space within the basement to be operated by a commercial car share operator.

The introduction of a Travel Plan will:

- offer wider travel choices to residents;
- help residents to be healthier, fitter and more productive; and
- provide equal opportunities by supporting those residents without access to a car.

It is important that such a plan, and all of the measures incorporated within it, should be available to residents upon moving in to the proposed units and use of the serviced apartments. This will allow the plan to influence the occupants travel behaviour from the first day of occupation. The provision of a Travel Plan will accord with the aims of the government led TravelSmart campaign which aims to promote sustainable travel alternatives and reduce reliance on cars.

Some examples of such information packs, which are used extensively by Halcrow in Europe, are contained in **Appendix B.**

9 Summary and Conclusions

This traffic and transport assessment report relates to a proposed residential development at 71-79 Macquarie Street, Sydney. The proposed development would accommodate 103 luxury residential units provided as a mixed of serviced apartments and traditional long term residential units. The development would have approximately 100m^2 of retail area provided on the ground floor as take-away shop or similar. It is proposed to provide 133 car spaces to serve the proposed development.

The salient findings from the investigation are:

- the site is located in very close proximity to high frequency and well serviced public transport networks including train, bus and ferry;
- the site currently enjoys access to existing nearby pedestrian and cycling facilities;
- a development approval condition for the adjacent Quay Grand building requires the access road serving it be pedestrianised and traffic re-directed to use the basement in the subject site;
- part of the loop road servicing the site would also be pedestrianised;
- the loading and parking areas would be located in the basement levels accessed from a combined entry/exit driveway;
- the loading and parking areas are proposed to be designed to generally comply with requirements set out in the relevant Australian Standard;
- traffic generation potential of the proposed development would be similar to the adjacent Quay Grand building;
- the proposed development is expected to generate some additional 22 vph during the peak periods as a worst case scenario;
- the low level of development traffic is not expected to create any noticeable adverse impacts to the surrounding road network;
- the proposed development includes on-site parking provision for 133 vehicles;
- the proposed on-site parking provision would exceed the LEP and DCP requirements, but it is considered to be satisfactory for reasons provided in Section 5.1 of the report;

- parking for motorcycles and bicycles will be made available in the basement design;
- construction traffic is also not expected to create road network capacity problem;
- a detailed construction traffic management plan would be prepared before commencement of construction works;
- future public transport demand arising from the proposed development would be negligible and as such it is not expected that the proposed development would create capacity stress on existing public transport infrastructures; and
- the proposed development would provide positive benefits to existing pedestrian and cyclist facilities and amenities as the proposed development would include the embellishment of the existing public domain area.

Overall it is concluded that traffic and parking aspects of the proposal will be satisfactory.

LOCATION PLAN

71 MACQUARIE ST, SYDNEY - PROPOSED RESIDENTIAL DEVELOPMENT

Halcrow

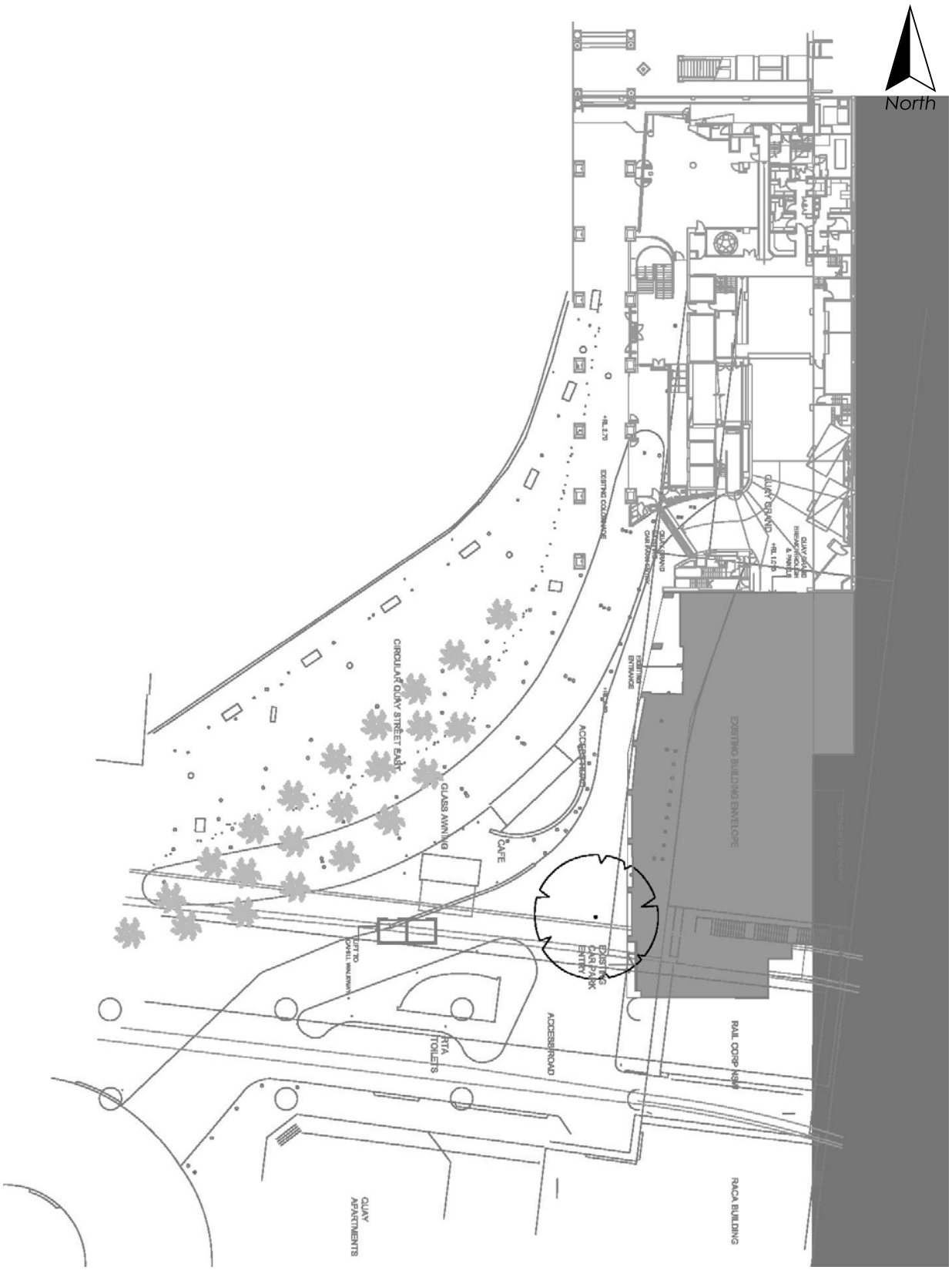
Figure 1

Filename: CTLRSEdi01.ai

Date: 13 May 2011

EXISTING ACCESS ARRANGEMENT

71 MACQUARIE ST, SYDNEY - PROPOSED RESIDENTIAL DEVELOPMENT



Halcrow

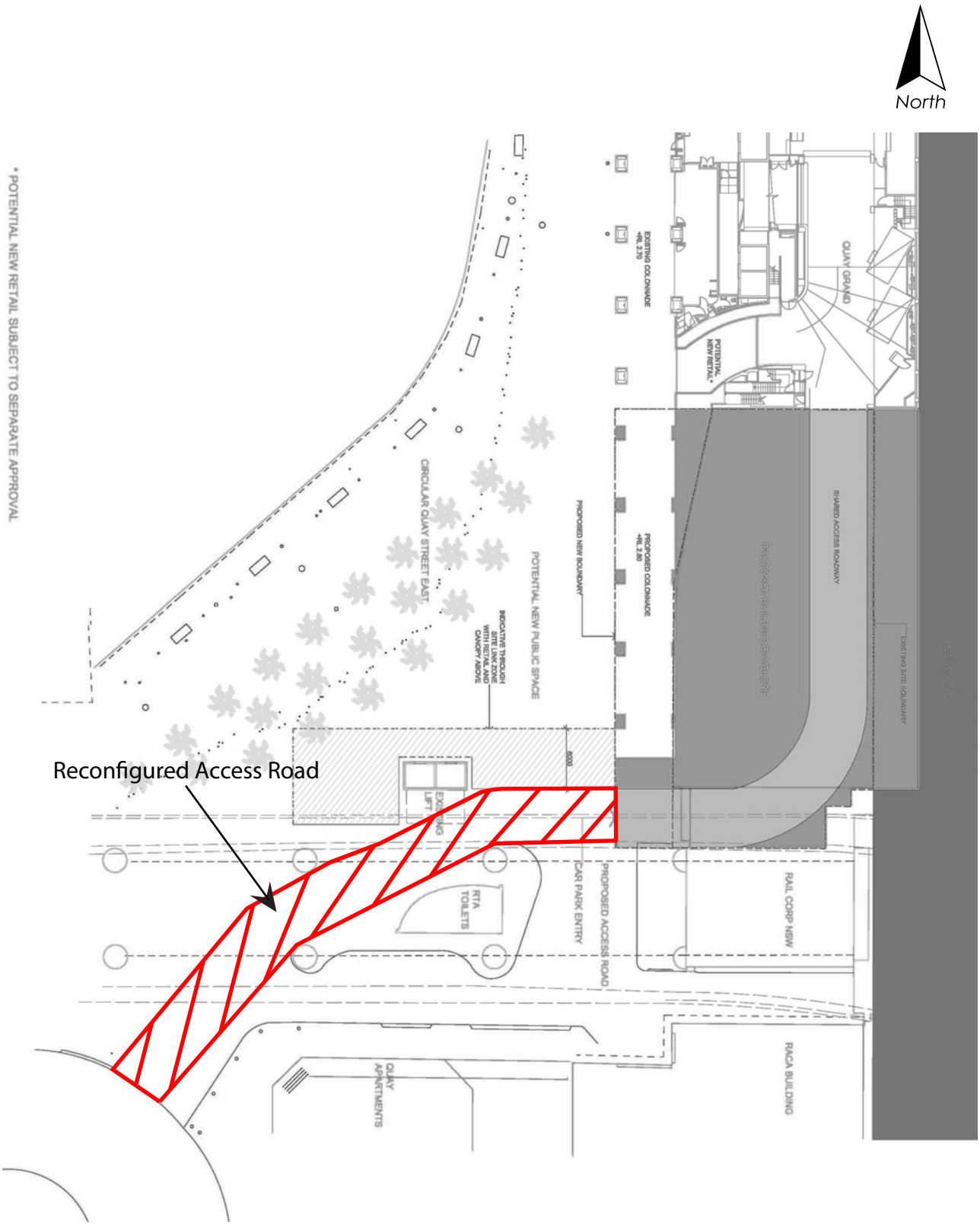
Figure 2

Filename: CTLRSEdi02.ai

Date: 06 June 2011

PROPOSED ACCESS ARRANGEMENT

71 MACQUARIE ST, SYDNEY - PROPOSED RESIDENTIAL DEVELOPMENT



Halcrow

Figure 3

Filename: CTLRSEdi03.ai

Date: 06 June 2011

Appendix A Swept Path Diagrams

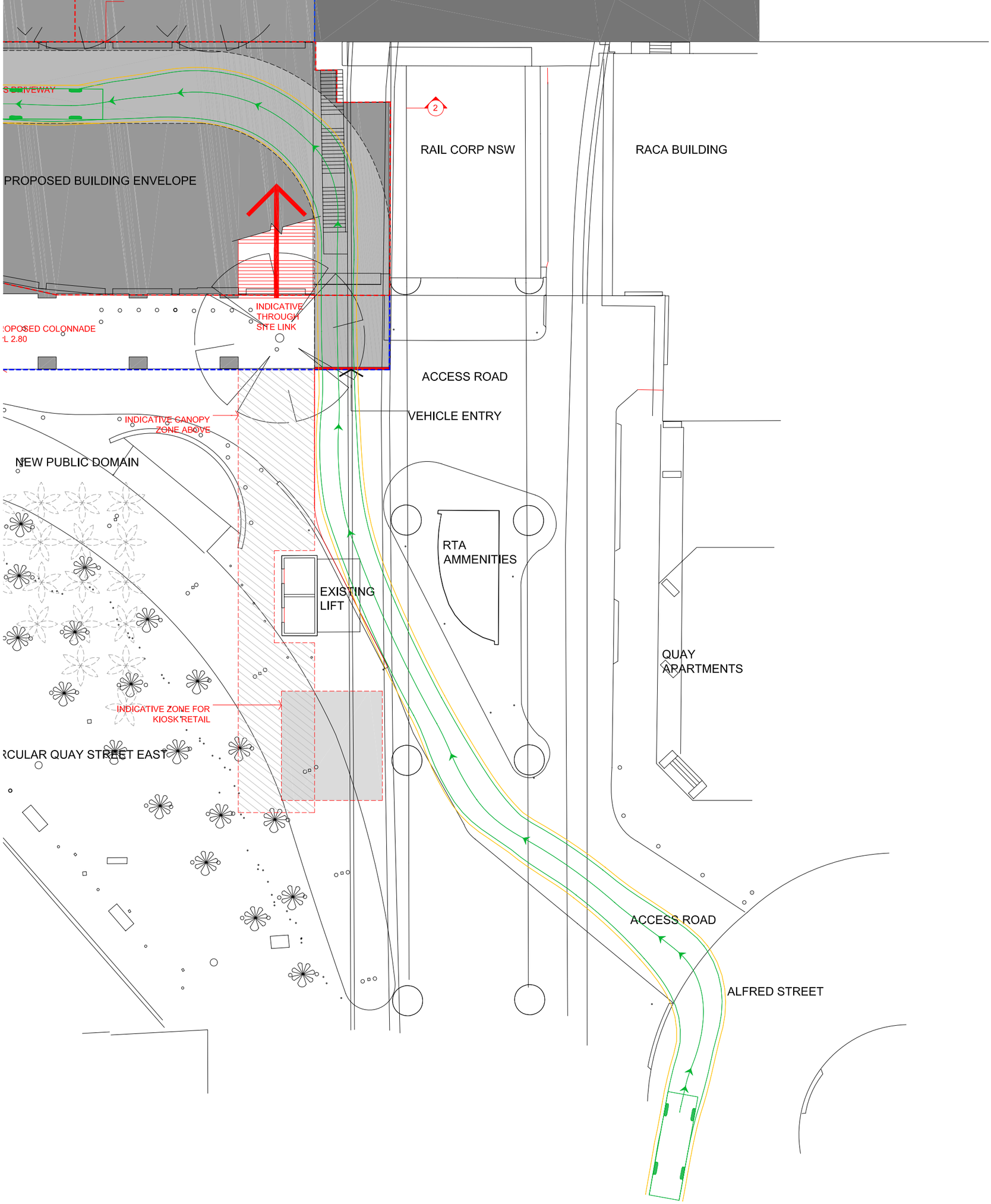


FIGURE 1A - 8.6m REFUSE VEHICLE ENTERING FROM ROAD

Existing Site Boundary

Proposed Site Boundary Extension

B - Concept Plan	03-11-2011
C - Adjacent Retail amendment	12-12-2011

Revision	Date	Scale	Client	Project Name	Drawing
		1:150@A1, 1:500@A3	AMP Capital Investors Mirvac	AX003070 71 Macquarie Street Concept Plan	A101-Proposed Site Plan

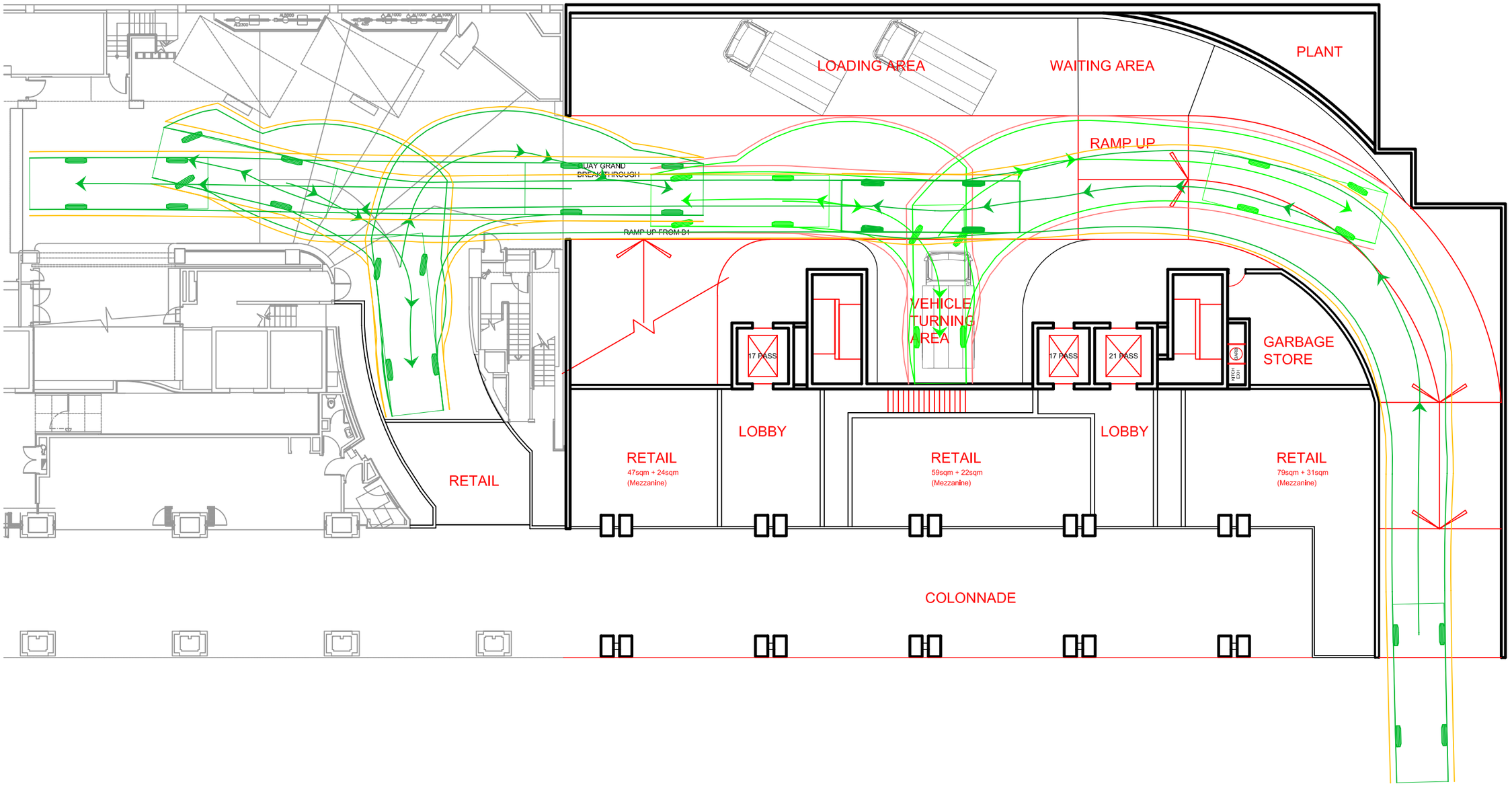


FIGURE 1B - 8.6m REFUSE VEHICLE ENTERING FROM ROAD, REVERSING INTO LOADING DOCK

Revision		Date	Scale	Client	Project Name	Drawing
01	SKETCH	27/07/2011	1:200@A3	MIRVAC	AX003070	SK 101
02	ADJACENT RETAIL UNIT AMENDED	19/12/2011			71 MACQUARIE STREET	Level 1 Plan

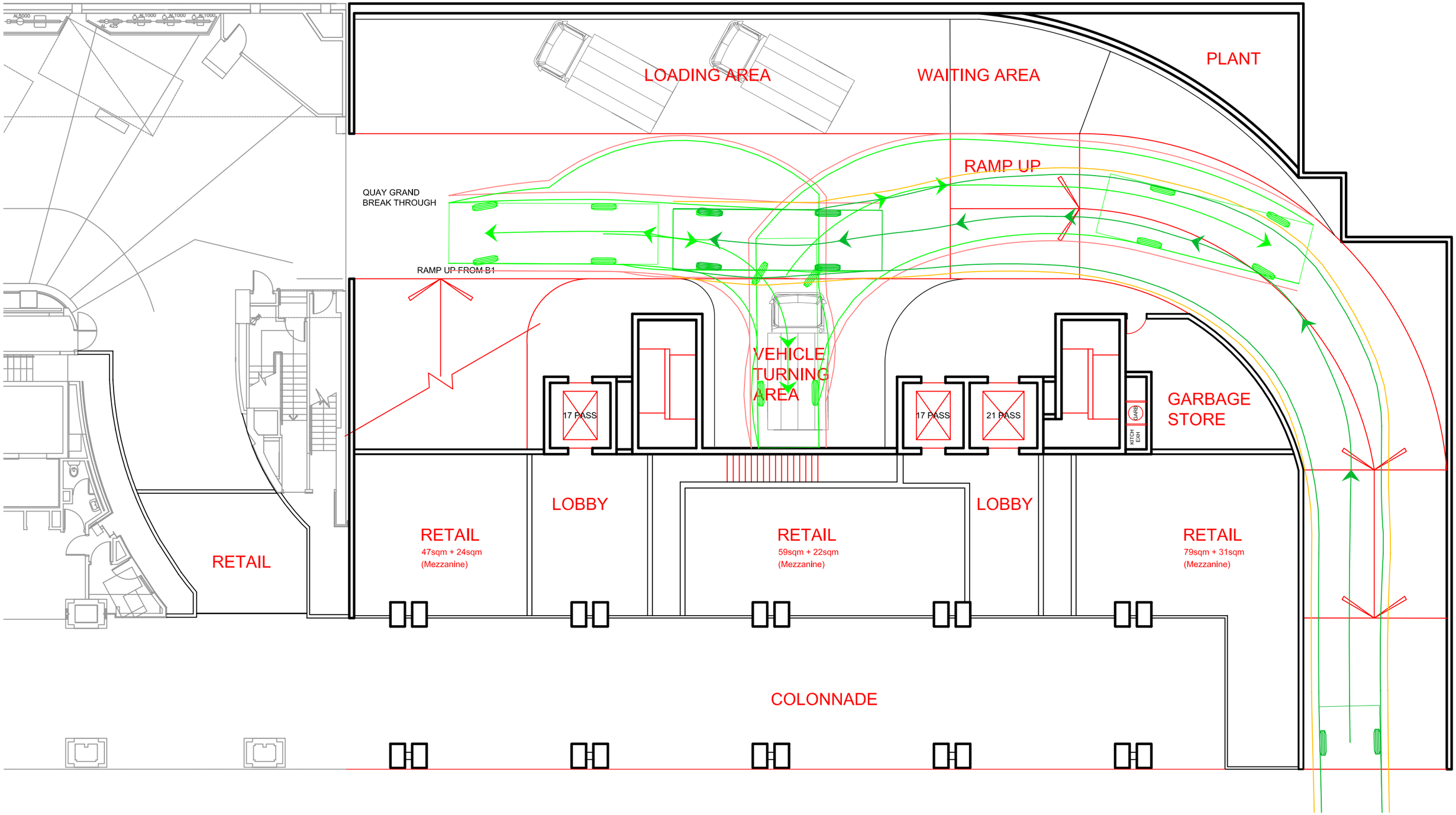


FIGURE 1C - 8.6m REFUSE VEHICLE REVERSSOMG INTO LOADING DOCK

	Revision	Date
01	SKETCH	27/07/2011
02	ADJACENT RETAIL UNIT AMENDED	19/12/2011

Scale: 1:200@A3

Client: MIRVAC

Project Name: AX003070 71 MACQUARIE STREET

Drawing: SK 101 Level 1 Plan

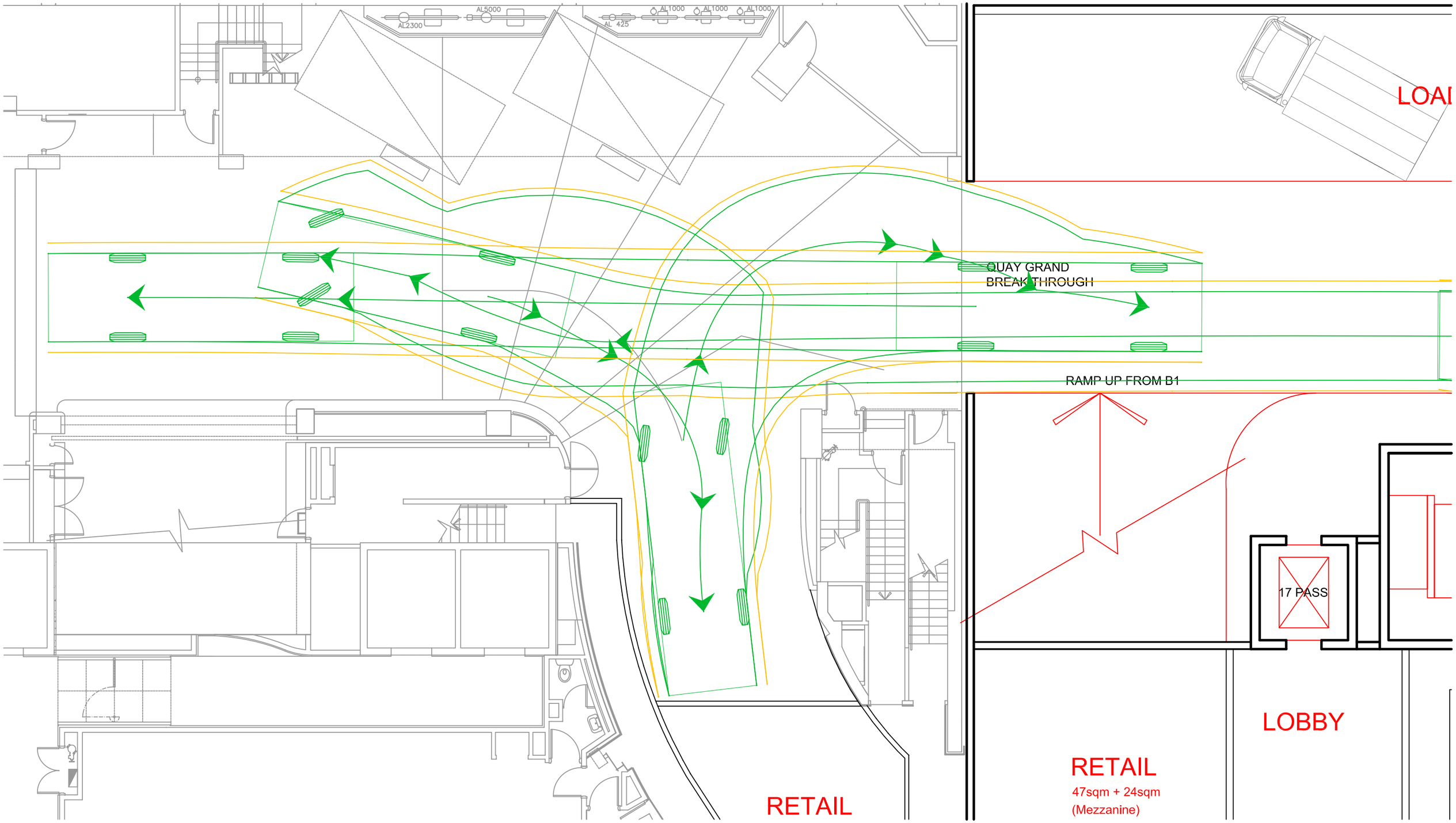


FIGURE 1D - 8.6m REFUSE VEHICLE REVERSSOMG INTO LOADING DOCK AT QUAY GRAND (4 POINT TURNS)

	Revision	Date	Scale	Client	Project Name	Drawing
01	SKETCH	27/07/2011	1:200@A3	MIRVAC	AX003070	SK 101
02	ADJACENT RETAIL UNIT AMENDED	19/12/2011			71 MACQUARIE STREET	Level 1 Plan

mirvac

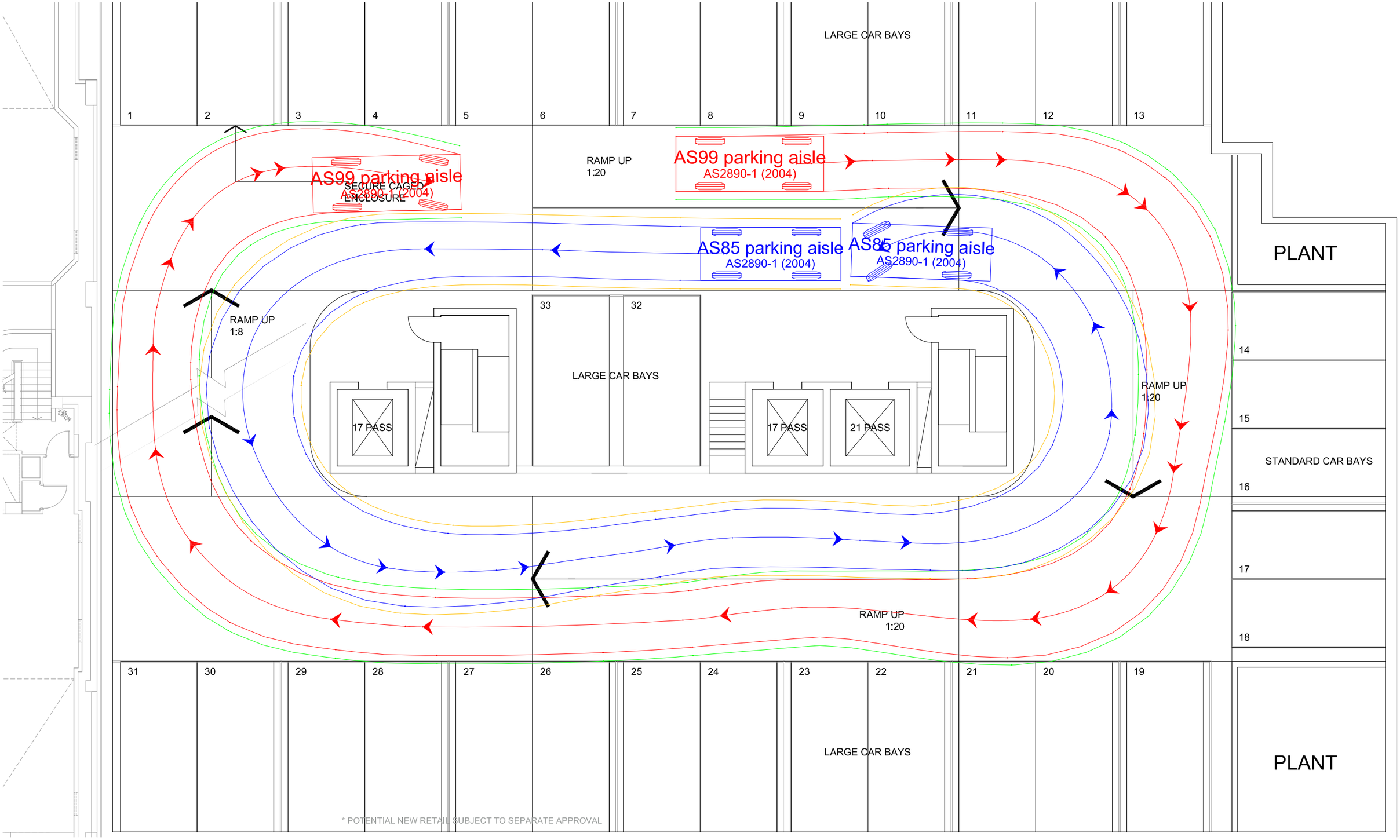


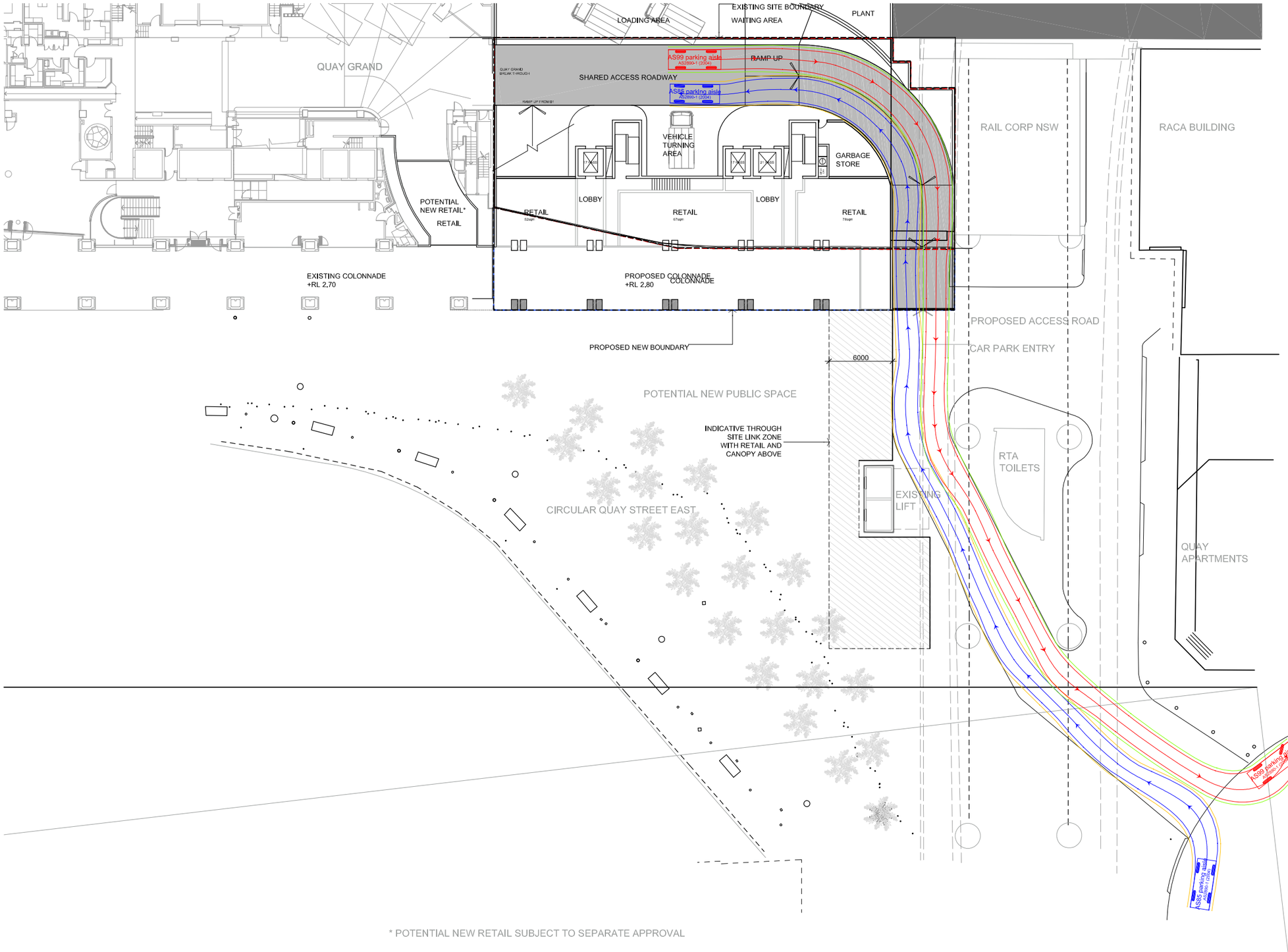
FIGURE 2 - B85 & B99 VEHICLES DRIVING ON LEVEL 1 BASEMENT

ISSUED FOR INFORMATION ONLY

HASSELL

Revision	Date	Scale	Client	Project Name	Drawing
REV - 1	10-05-2011	1:62.5@A1, 1:125@A3	AMP Capital Investors Mirvac	AX003070 71 Macquarie Street Concept Plan	A101 Proposed Site Plan

0 5 10 20m



* POTENTIAL NEW RETAIL SUBJECT TO SEPARATE APPROVAL

FIGURE 3 - B85-OUT, B99-ENTER THE PROPOSED CAR PARK

ISSUED FOR INFORMATION ONLY

HASSELL

Revision	Date	Scale	Client	Project Name	Drawing
REV - 1	10-05-2011	1:200@A1, 1:400@A3	AMP Capital Investors Mirvac	AX003070 71 Macquarie Street Concept Plan	A101 Proposed Site Plan

0 5 10 20m

N:\Blocks\AMP_Logo.jpg

Appendix B Examples of Residents Travel Packs

PERSIMMON

INFORMATION PACK

Welcome to your new Persimmon home.

As you and your family settle into your new location, Persimmon would like to help make the transition as straightforward as possible.

This welcome pack aims to inform you and your family of the travel options available to you, providing you with travel information and a specialist contact for all your travel needs.

The best time to reconsider your travel options is when you move house; therefore if you are looking to save money, improve your health through increased exercise or cut your carbon emissions, Persimmon is here to help.

The Persimmon Travel Plan Coordinator will be available to answer any of your travel questions and help you find the right transport options for your family.

This pack also contains bus maps for local bus services, walking and cycling maps of the local area and further travel information to facilitate more sustainable transport options.

Welcome to XXXXXXXXXXX,

an initial phase of the wider redevelopment of the former Goodyear site.

Your new home is located less than three kilometres north of Wolverhampton city centre, the Railway and Bus Stations and Metro stops.

These are all within cycling distance of the estate or a short bus journey, provided by frequent services located within 400 metres of your home.

Several local primary and secondary schools are situated within 20 minutes walk of the estate; along with local shops, banks and services on Stafford Road and Shorwell Circus.

If you are looking to improve your health through more active travel options, reduce your carbon emissions or simply enjoy local leisure facilities close to your new home, the local walking and cycling network provides good quality facilities for you and your family.

Walking

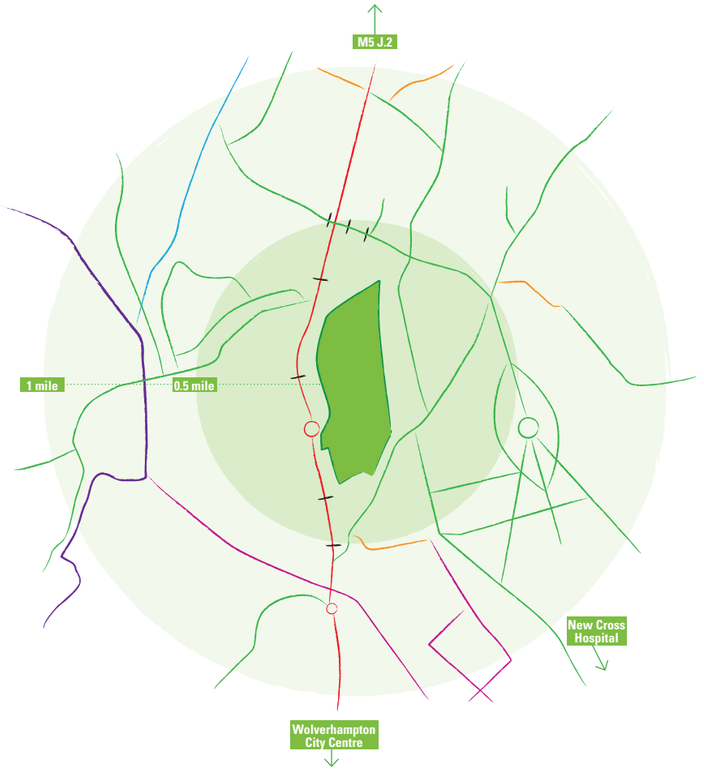
There are good quality walking routes within the development, which link into the main footpath and highway network to the west of the estate.

Pedestrian links between the development and the adjacent residential areas provides links to local schools, amenities and frequent local bus services.

Cycling

National Cycle Network Route 81 is within two kilometres of the estate. It provides cycling links between Sandwell and Shrewsbury through the city centre.

The majority of local roads surrounding the estate are suitable for all cyclists; some of the major roads are suited to more proficient cyclists, however there are off-road cycle route opportunities to the south of the development towards the city.



The future delivery of the development will include further pedestrian and cycling links throughout the estate and to the local area.

Further information on walking and cycling in your local area is available at the back of this pack, with the Wolverhampton walking and cycling map.

Walking & Cycling Map

Key

- Suitable for all cyclists
- Suitablke for moderate cyclists
- Suitable for experienced cyclists
- National cycle network 81
- Footpaths / Tracks
- Pedestrian crossing
- Canal towpath

Bus

There are 56 buses per hour serving the estate, within a ten minute walk on Stafford Road (28 buses per hour), Bushbury Lane (22 buses per hour) and Three Tuns Lane (six buses per hour). These services provide links to Wolverhampton city centre, Stafford, Bilston, Cannock and other areas in the wider Wolverhampton area (Fordhouses, Pendeford Circle, Wobaston and Northwood Park).

The map on the next page outlines the locations of the local bus stops for the estate. Further information on the destinations, routes and frequencies for all buses serving the state can be found on the bus map at the back of this pack.

Train

Wolverhampton Railway Station is located approximately three kilometres from the estate. It provides national links to places such as London, Manchester, Liverpool, Oxford, Milton Keynes, Scotland and Wales; as well as local links to Birmingham, Stafford, Stoke-on-Trent, Coventry and Northampton.

There are 20 sheltered cycle parking spaces available at the railway station and the bus station is located adjacent, providing sustainable transport options for accessing the station. Car parking is also available at the railway station (477 spaces), with spaces charged (£8.00 peak and £4.00 off-peak prices).

Metro

Wolverhampton St George's Metro stop is located approximately three kilometres from the estate, providing services every 6-8 minutes to Birmingham Snow Hill, via Bilston, Wednesbury, West Bromwich and Jewellery Quarter.

The metro stop is located within an 800 metre walk of the bus station, where plenty of bus services are available to travel to the estate.

Leaving your car at home and walking, cycling, or taking the bus or train will help reduce the negative impacts of driving.

Car Sharing

Sometimes public transport and other sustainable modes of travel are not viable as a travel option, whether it is due to childcare commitments, the travel distance to your destination or the lack of public transport options for your journey. Before opting for your car, consider the possibility of car sharing.

Whether you share with a partner, a neighbour, a colleague or via a car share matching website (www.liftshare.com), car sharing can often provide a more direct and flexible option than public transport, as well as enabling you to reduce the costs of travelling and cut your carbon emissions.

Part of process of moving home is finding out where your local services and amenities are located. The following amenities are all located within a 20 minute walk of your estate.

GPs, Dentists and Hospitals

Your local Hospital (with an Accident and Emergency department) is New Cross Hospital, located on Wolverhampton Road, approximately four kilometres from the development. It has cycle parking facilities and is easily accessible by bicycle. Local bus services provide links via interchange at the bus station.

There are several GP and dental surgeries, as well as pharmacies, situated within a 20 minute walk of the estate. The map on the previous page outlines the locations of these facilities.

Shopping and Local Amenities

Stafford Road (between Church Road and Three Tuns Lane) provides an array of shopping and local services for you, including local supermarket, pharmacy, bank, hairdressers/barbers, cycle shop and takeaway venues. It is located approximately a 10-15 minute walk from the estate. The local library is located on Probert Road, just off Stafford Road to the north of the estate.

Showell Circus, approximately 20 minutes walk from the estate, also provides a selection of shopping and services, including an off-licence, local supermarket, pharmacy, post office, butchers and florists.

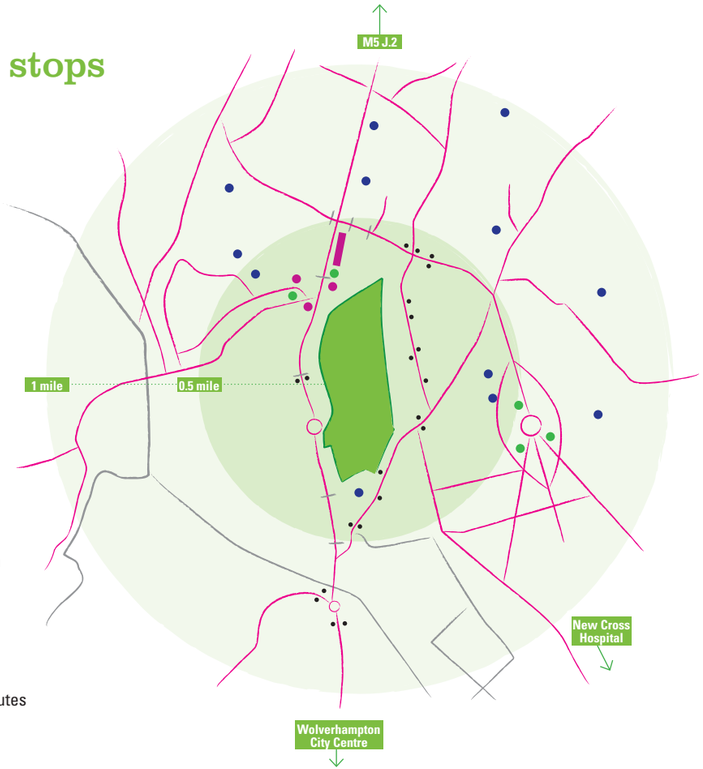
Local amenities & bus stops

Schools within 10 minutes walk
Oxley Primary School

Within 15 minutes walk
Elston Hall Primary School
Northwood Park Primary School
Rakegate Infant and Junior Schools
Whitgreave Infant and Junior Schools

Within 20 minutes walk
Bushbury Primary School
St Anthony's Primary School
Moreton Secondary School
Northcote Secondary School
Our Lady & St Chad's Secondary School
Pendeford High School

Further local primary and secondary schools, as well as City of Wolverhampton College and University of Wolverhampton are accessible by bicycle and local bus services.



Key

- Schools
- GP surgeries & dentists
- Shopping & services
- Bus serviced routes
- Bus stops

Travel Plan Coordinator

The Travel Plan Coordinator (TPC) is located within the sales office on the development. They are here to help you with your sustainable travel options, providing you with further information for your specific travel needs.

If you have any problems or would like to report any travel related issues within the estate, please contact the TPC, who will aim to address issues or relate them Persimmon, the Council or Local Transport Authority.

Useful Contacts

www.networkwestmidlands.com
Public transport information - timetables, maps, ticket prices

www.travelinemidlands.co.uk
Public transport information - route planning, timetables

www.wolverhampton.gov.uk/transport_streets/rights_way/cycling/default.htm
Cycling - maps, strategy, safety, cycle forum

www.wolverhampton.gov.uk/NR/rdonlyres/BA4C8CCD-13DA-470C-9AA9-14BEBFA6C169/0/wtonbikemap.pdf
Wolverhampton walking and cycling map

www.wolverhampton.gov.uk/transport_streets/rights_way/walking/
Walking strategy for Wolverhampton - Public Rights of Way

www.sustrans.org.uk
Cycle maps, routes and information

www.liftshare.com
Liftshare (National Car Share Network)

Your travel plan coordinator is:

More information

Contact Persimmon Homes:

Venture Court, Broadlands, Wolverhampton, WV10 6TB

Telephone: 01902 787989 or visit **www.persimmonhomes.com**

IMPORTANT CONTACT DETAILS

CONTACT	SERVICE	TELEPHONE NO.	WEBSITE
TRAVELINE	UK public transport information, planning journeys, operators and timetables	0870 608 2608	www.traveline.org.uk
PUBLIC TRANSPORT INFORMATION	Public transport timetables, fare information, facilities etc. throughout the UK		www.pti.org.uk
NATIONAL RAIL INQUIRIES	Timetable and fare information	08457 48 49 50	www.nationalrail.co.uk
FIRST GROUP	Bus Operators in and around Somerset	01823 272033	www.firstgroup.com
SOMERSET CC ROADS AND TRANSPORTATION	Travel information for areas in Somerset	0845 3459177	www.somerset.gov.uk
WESSEX TRAINS	Train Operators in the South West and Wales	0845 6000 880	www.wessextrains.co.uk
FIRST GREAT WESTERN TRAINS	Train Operator between the South West, Wales and London	08457 000 125 (bookings)	www.firstgreatwestern.co.uk
VIRGIN TRAINS	Train Operator between the South West, Midlands, North of England and Scotland	0870 789 1234	www.virgintrains.co.uk
TRAIN TAXI	Information on taxi companies serving railway stations throughout the UK	01733 237037	www.traintaxi.co.uk
SOMERSET COUNTY COUNCIL	Local Authority. All travel and transport policies and information in Somerset	0845 3459166 (switchboard)	www.somerset.gov.uk
TAUNTON DEANE BOROUGH COUNCIL	Local Authority. All travel and transport policies and information in Somerset.	01823 356356 (switchboard)	www.tauntondeane.gov.uk
SUSTRANS	Sustainable transport charity. Maps, information, resources, advice and help on cycling throughout the UK	0845 113 0065	www.sustrans.org.uk
LIFECYCLE	Offer cycle training, advice, resources and maps on cycling	0117 929 0440	www.lifecycle.org.uk
TRIPSCOPE	Provides a telephone helpline for any person with impaired mobility. The service is free and they specialise in transport and travel information for the UK and abroad.	0117 939 7782	www.tripscope.org.uk
A1 TAXIS	Taxi Company	01823 332211	
KNIGHTS EXECUTIVE TRAVEL	Taxi company serving Taunton and other parts of Somerset	01823 288100	
THE BIG TAXI COMPANY	Taxi company serving Somerset	01823 664488	
ALLO ALLO TAXIS	Taxi company	01460 55255	www.alloallotaxisltd.co.uk
BERRY'S COACHES (TAUNTON)	Transportation Company	01823 331356	www.berryscoaches.co.uk
FROME MINIBUSES LTD	Minibus Company	01373 471474	www.fromeminibuses.co.uk
SOMERSET CAR SHARE SCHEME	Car Sharing	01823 355598	www.somersetcarsharescheme.co.uk
COOKS COACHES	Coach Hire Company in Somerset	01823 672247	
BAKERS COACHES	Coach Hire Company	01935 428401	
BAKERS DOLPHIN COACHES	Coach Hire	01934 635635	www.bakersdolphin.com

NATIONAL GRID PROPERTY/SOMERSET COUNTY COUNCIL
TANGIER/CASTLE STREET, TAUNTON
TRAVEL INFORMATION GUIDE
WINTER 2005

Tangier/Castle Street

Bus Services in Taunton

Cycling to work

The Tangier/Castle Street development has excellent links to walking, cycling, bus and train routes. This leaflet shows you where they are so that you can make the most of them as alternative modes of transport to the car.

The table shows the primary local employment, education and shopping facilities together with information on which services that are available from public services to reach various destinations in and around Taunton. The table shows the approximate frequency of buses.

Finally, this leaflet contains a table showing contact information relating to many other modes of transport.

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