

3.2 TRAFFIC CONTROLS

The traffic controls on the road system serving the site (Figure 5) includes:

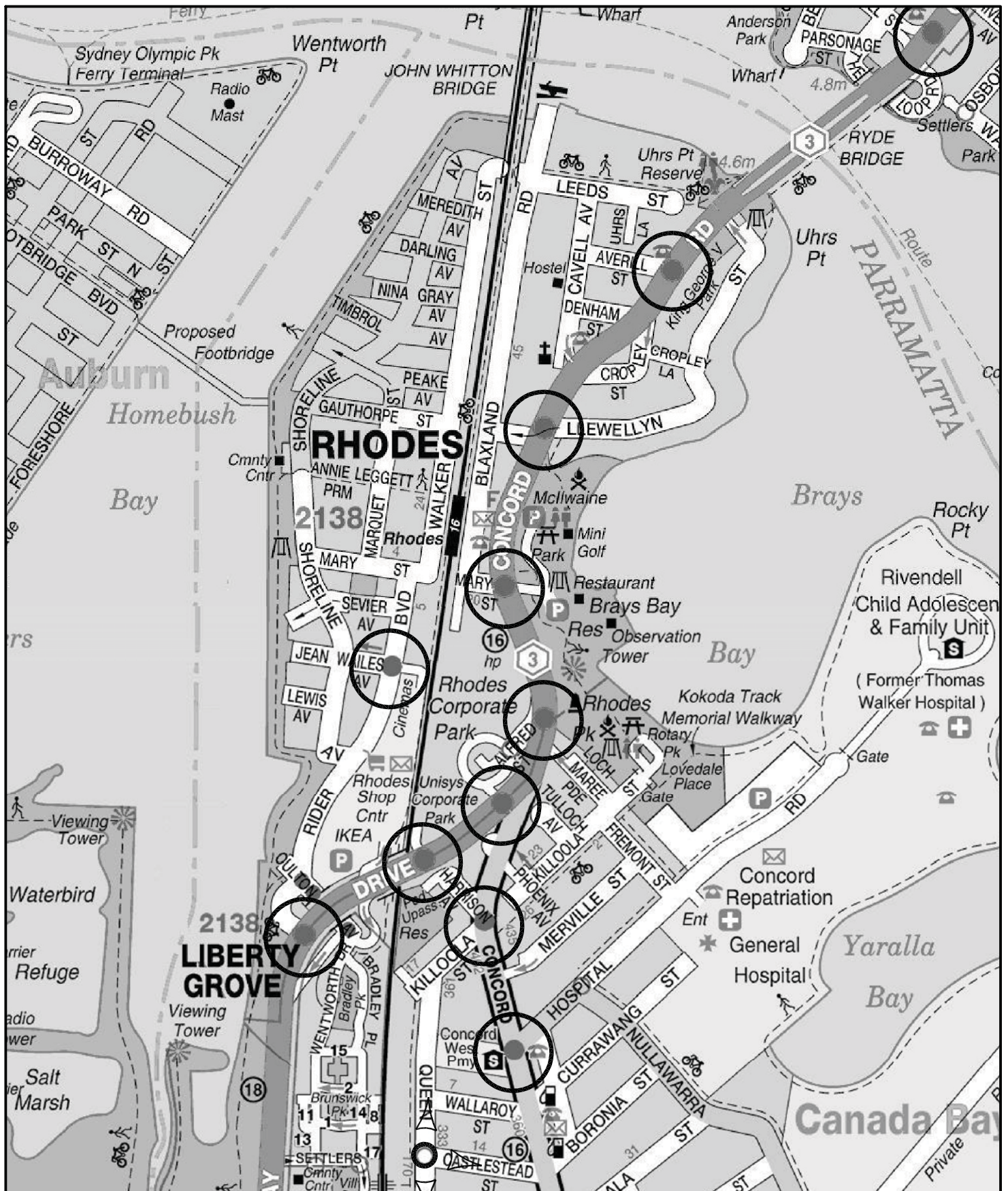
- * traffic signals at the Concord Road and Averill Street intersection
- * traffic signals at the Homebush Bay Drive and Oulton Avenue intersection
- * traffic signals at the Oulton Avenue and Rider Boulevard intersection
- * traffic signals at the Concord Road and Mary Street intersection
- * roundabout at the Blaxland Road and Leeds Street intersection
- * marked footcrossing across Rider Boulevard at Shoreline Drive
- * Bus Zones on Rider Boulevard and Walker Street.

Further afield the controls include traffic signals at the Homebush Bay Drive and Oulton Avenue intersection.

3.3 TRAFFIC CONDITIONS

The existing morning and afternoon peak hour traffic flows on the arterial road system are provided on the extract from the Masterplan traffic study reproduced overleaf. These indicate flows on the Averill Street – Leeds Street – Walker Street access route of some 400 to 600 vph (two-way). The operational performance of the access intersection for the peninsula as assessed in the Masterplan Traffic Study are summarised in the following:

	AM		PM	
	LOS	AVD	LOS	AVD
Concord Road/Averill Avenue	B	18	A	<10
Concord Road/Mary Street	B	16	C	27
Homebush Drive/Oulton Avenue	A	<10	A	<10



LEGEND

-  TRAFFIC SIGNAL CONTROL
-  ROUNDABOUT
-  RESTRICTED TURNING MOVEMENT

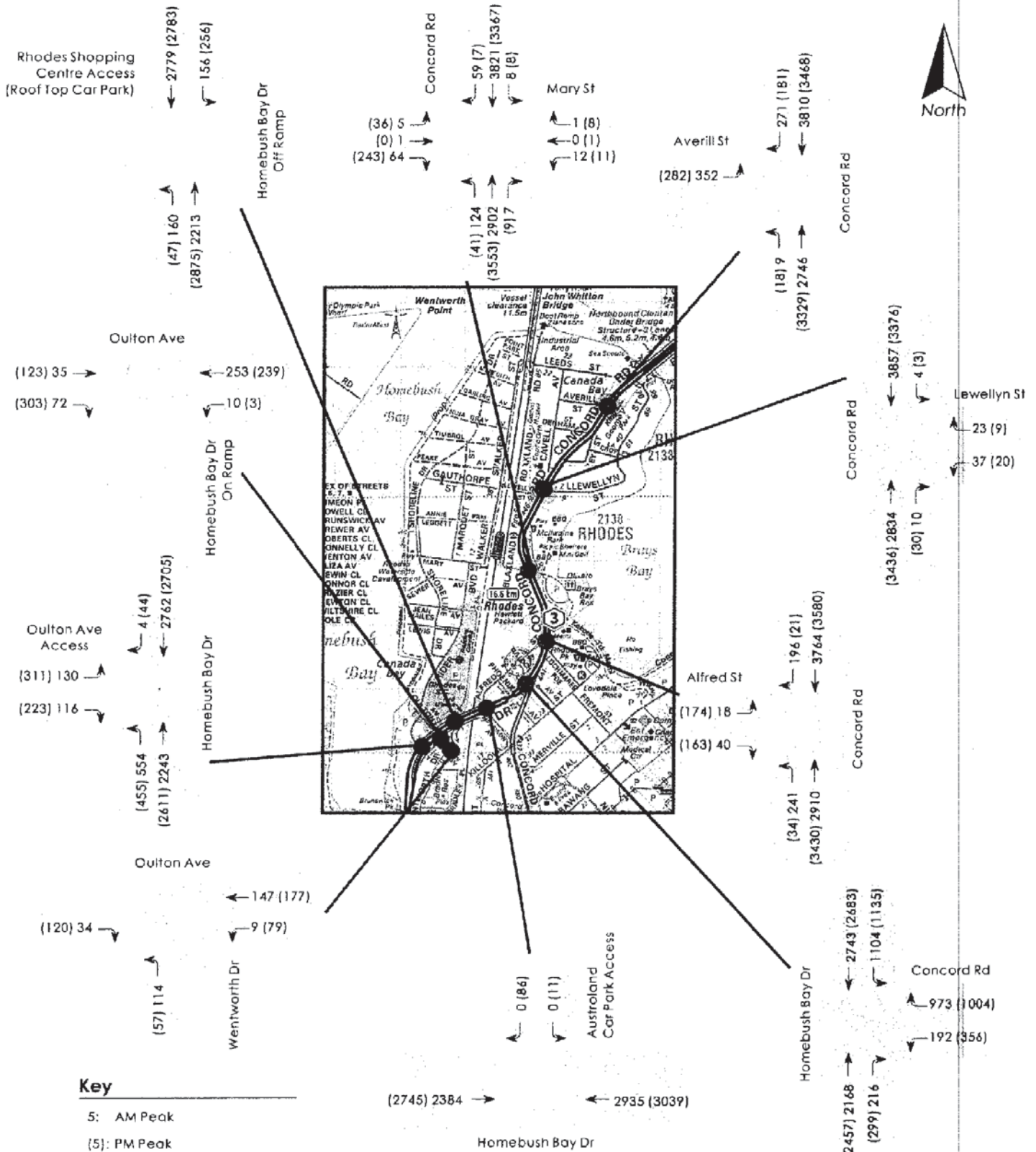


TRAFFIC CONTROLS

FIG 4

EXISTING PEAK HOUR TRAFFIC FLOWS (SCENARIO S1)

RHODES PENINSULA - TRAFFIC AND TRANSPORT ANALYSIS UPDATE



Conditions on this road system are governed by the busy Concord Road/Homebush Bay Drive intersection and the flow back effect of the Top Ryde intersections. However, access into and out of the Peninsula is largely quite satisfactory despite the heavy arterial road flows.

3.4 PUBLIC TRANSPORT SERVICES

Rhodes is directly accessible by rail and bus and is also in reasonable proximity to ferry services as follows:

- * Rhodes Railway Station is located on the City Rail Northern Line with direct services to the City and Hornsby. During the peak periods the service frequency at the station is some 15 minutes in the peak direction (eg to the City in the morning). The service frequency is as follows:

	AM 6-9	PM 4-7
Inbound	12	11
Outbound	10	12

- * Sydney Buses operate 2 services along Homebush Bay Drive (Routes 458 and 459). Route 458 operates along Oulton Avenue/Rider Avenue/Walker Avenue and Averill Avenue between Burwood and Macquarie University. The service frequencies are as follows:

	Route 458		Route 459	
	Inbound	Outbound	Inbound	Outbound
6.00 – 9.00am	8	6	3	4
4.00 – 7.00pm	6	10	6	3

- * The Meadowbank Ferry Wharf is located some 1 km to the north over Parramatta River accessing Circular Quay to the Parramatta service

3.5 FUTURE CIRCUMSTANCES

The Rhodes West Masterplan divides the Peninsula into 4 precincts (refer to extract overleaf) and the changes permitted under the plan are summarised in the following:

	Approved		Proposed		Change
	Apts	Com/Ret	Apts	Com/Ret	Apts
Precinct A	1,661	91,198m ²	1,720	98,3288m ²	59
Precinct B	1,600	1,250m ²	1,988	Same	388
Precinct C	703	395m ²	944	Same	241
Precinct D	530	705m ²	629	Same	99
Total	4,494	93,548m ²	5,281	101,949m ²	787

The projected future additional generated vehicle trips over and above that of the development already approved is as follows:

AM Peak		PM Peak	
IN	OUT	IN	OUT
66	174	183	75

It is noted that the Traffic Study indicated that there was still some 40,000m² of floorspace to be built/occupied at the Rhodes Corporate Park and that this would generated some 390 vtpd additional. The fact is however, that this floorspace is not built/occupied at present the basement car spaces are built and fully utilised. As a consequence, the traffic assessment is robust to the extent of 390 vtpd which in fact will not be additional in the future.

The assessed operational performance of the access intersections under the Masterplan development outcome is as follows:

	AM		PM	
	LOS	AVD	LOS	AVD
Concord Road/Averill Avenue*	F	45	A	<10
Concord Road/Mary Street	B	16	C	27
Homebush Drive/Oulton Avenue	A	<10	A	<10

* With additional NO STOPPING in Averill Avenue

In terms of public transport the extra additional development would generate some 280 additional public transport trips per hour in the peak periods. The Traffic Report concluded that the transport services available at Rhodes will be able to accommodate these trips.

4. ACCESS AND INTERNAL CIRCULATION

4.1 ACCESS

Vehicle accesses for the development will be located on the Meredith Avenue and Nina Grey Avenue frontages well away from the intersections. Excellent sight distances will be available and the access arrangements will suitably provide for the manoeuvres of all vehicles requiring to enter and depart in satisfaction of AS 2890.1. The access ramps at the driveways will be level and roller shutter doors will be operated by 'magic button' remote control or 'swipe card' by residents. Visitors will gain access by intercom or mobile phone contact with residents of the buildings while STOP signs will be provided at the egress driveways.

4.1 INTERNAL CIRCULATION

The internal circulation arrangements have been designed in accordance with AS 2890.1 and all ramps, aisles, parking bays and turning/manoeuvring areas accord with those design requirements. The internal circulation systems employ simple two-way traffic arrangements through the ground and basement levels.

5. TRAFFIC

The provision of the proposed 583 apartments on the site will be entirely consistent with the provision and assessment of the Rhodes West Masterplan. Accordingly, the potential traffic generation will be 'in keeping' with the assessed overall outcome on the basis of 0.29 vtpd per apartment in the morning and afternoon peak periods.

The proposed apartments will generate some 170 vtpd in the peak periods as follows:

AM		PM	
IN	OUT	IN	OUT
30	140	140	30

These movements will be distributed to the north and south along Walker Street with some minor movements along Shoreline Avenue. According to assessments undertaken in conjunction with preparation of the Masterplan the traffic flow along this section of Walker Street will be moderate. The operational performance of the access intersections in the immediate vicinity has been assessed for the circumstance of completed development in the Peninsula. The results of that assessment are provided in the following indicating satisfactory performance:

	Level of Service	
	AM	PM
Walker Street/Shoreline Drive	A	A
Shoreline Drive/Rider Avenue	B	B
Rider Boulevard/Mary Street	B	B

6. PARKING

Numerous policies and strategies documented by State Government Agencies identify the preferable planning objectives of:

- * locating high density housing near railway stations and retail facilities
- * encouraging a reduction in the reliance on private motor vehicle travel and facilitating walking and cycling.

One of the outcomes of this contemporary planning direction is to reduce the provision of carparking as a further means to encourage the desired future outcome. The proposed parking provision for the development is as follows:

Studio apartments	-	1 space
One-bedroom apartments	-	1 space
Two-bedroom apartments	-	1 space
Three-bedroom apartments	-	2 spaces
Visitors	-	1 space per 10 apartments

Application of this criteria to the proposed development would indicate a potential provision as follows:

57 x studio	-	57 spaces
159 x one-bedroom	-	159 spaces
323 x two-bedroom	-	323 spaces
44 x three-bedroom	-	88 spaces
Visitors	-	60 spaces
Total	-	687 spaces

It is proposed to provide 694 spaces in satisfaction of the constrained parking principles. The site has convenient access to public transport services (trains and buses) while there is a substantial availability of public parking nearby, comprising:

- * the on-street kerbside spaces which are subject to period parking restrictions (to preclude commuter parking and ensure availability)
- * the large retail centre carpark, which is operated as a 'public parking station'.

The proposed provisions for bicycle and motor cycle parking are:

Bicycle Parking:

Residents	1 space per 3 apartments
Visitors	1 space per 10 apartments

Motor Cycle Parking:

Equivalent of 1 carparking space per 100 spaces

Accordingly, provision will be made in the basement level to for a total of 254 bicycle parking spaces (195 resident and 59 visitor) and the equivalent of 7 carparking spaces for motorcycle parking.

7. SERVICING

It is proposed to provide 2 dedicated loading bays suitable to accommodate an 9.7 metre truck (ie 1 for each of the stage basement areas). The areas requiring to be accessed by the trucks (ie the bay and manoeuvring areas) will have a height clearance of 3.8 metres.

Details of turning path assessment for truck access to/from the service bays indicating satisfactory access provision are provided in Appendix A. Small service vehicles (eg service personnel etc) will be able to use the visitor spaces while kerbside on-street parking will also be available for any unusual peak service vehicle demand circumstance (as is normal for residential apartment developments of this nature).

8. PEDESTRIANS AND CYCLISTS

The redevelopment of the Rhodes Peninsula has made extensive provision for pedestrian and cyclist movements. The proposed residential development will continue the development of the Public Domain with:

- * provision of footways along each of the frontage roadways
- * provision of localised footway widenings at numerous intersections to reduce the extent of roadway, pedestrians are required to cross and to facilitate a low speed traffic environment
- * provision of through site linkage between Shoreline Avenue and Walker Street
- * provision of appropriate and safe levels of lighting.

In addition, the provision of a single combined entry/exit driveways on Nina Grey Avenue and Meredith Avenue significantly enhances the safety and amenity of pedestrians by minimising the number of potential pedestrian/vehicle conflict points.

The layout of consolidated site development also consists of an attractive network of 'internal' paths, which link each of the buildings enabling residents to walk/cycle through the development in a non-vehicular environment.

Safe and convenient pedestrian linkages to/from the nearby Rhodes Railway Station have been provided and these proposed provisions will integrate with the overall pedestrian and cyclist networks for the development area.

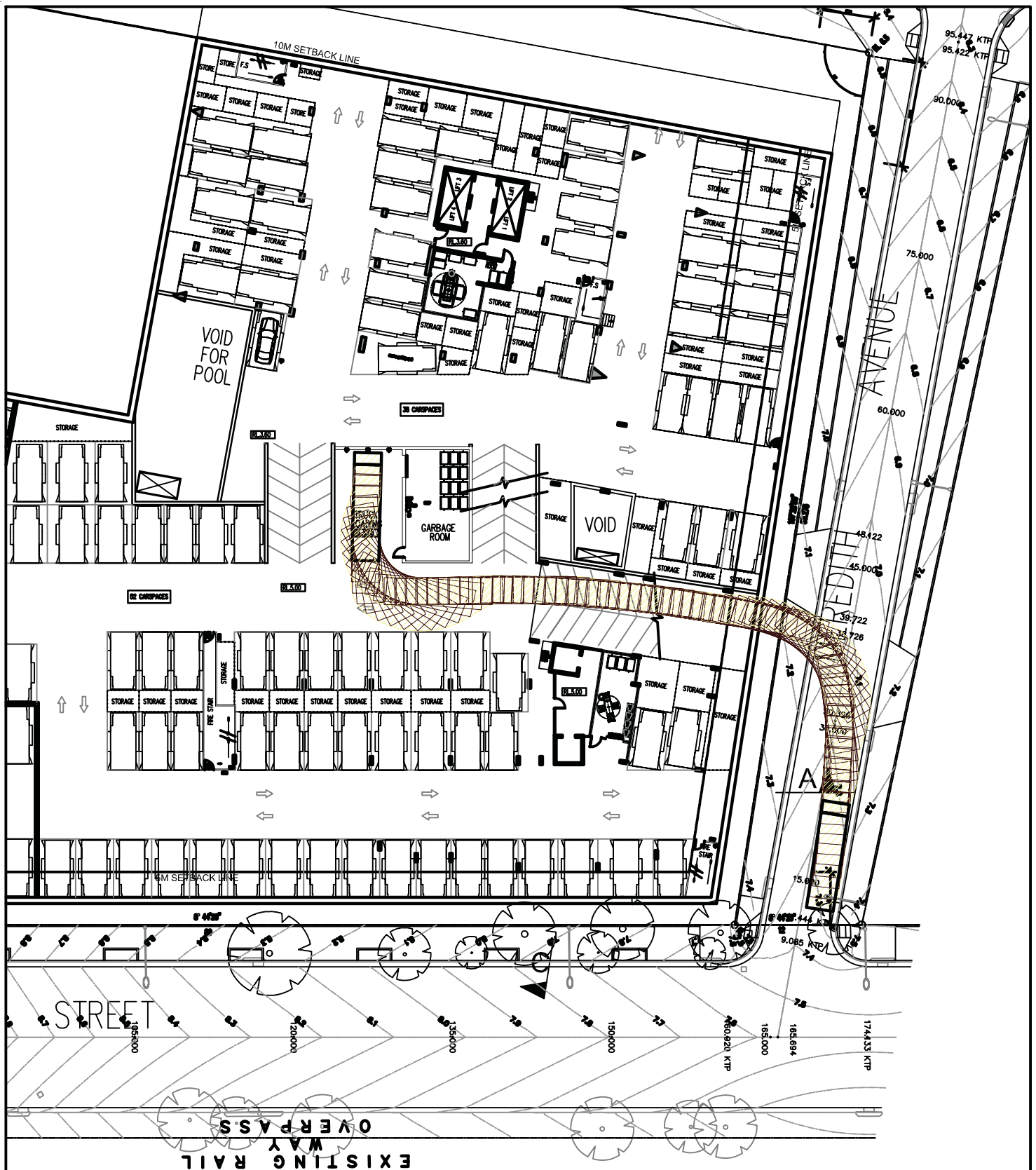
9. CONCLUSION

The proposed residential apartment development will occupy a prominent site adjacent to the waterfront open space. The proposal reflects the guidelines and requirements of contemporary State Government Policies in respect of parking provision and the high level of accessibility in relation to the retail/ entertainment and public transport facilities presenting a desirable urban outcome.

The vehicle access and traffic circumstances of the development scheme accord with and are consistent with the Masterplan documents for Rhodes West including the supporting Transport and Traffic Assessment. Accordingly, it is concluded that the development scheme will not have any unsatisfactory traffic, transport or parking implications.

APPENDIX A

TRUCK TURNING PATH ASSESSMENT



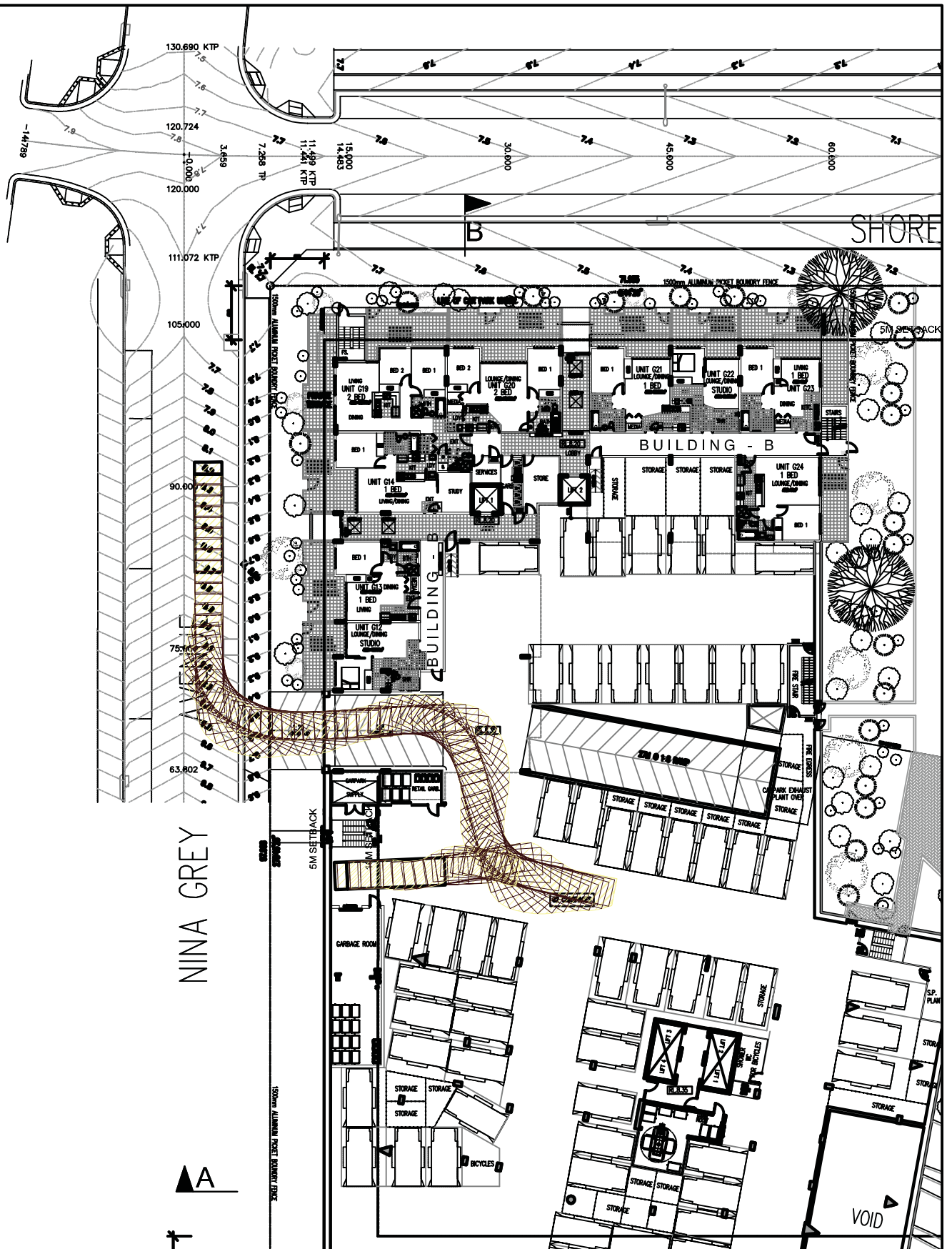
LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2000. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.



**SWEPT PATH ANALYSIS
OF A 10.2m REFUSE
VEHICLE EXITING THE SITE**

SP 2



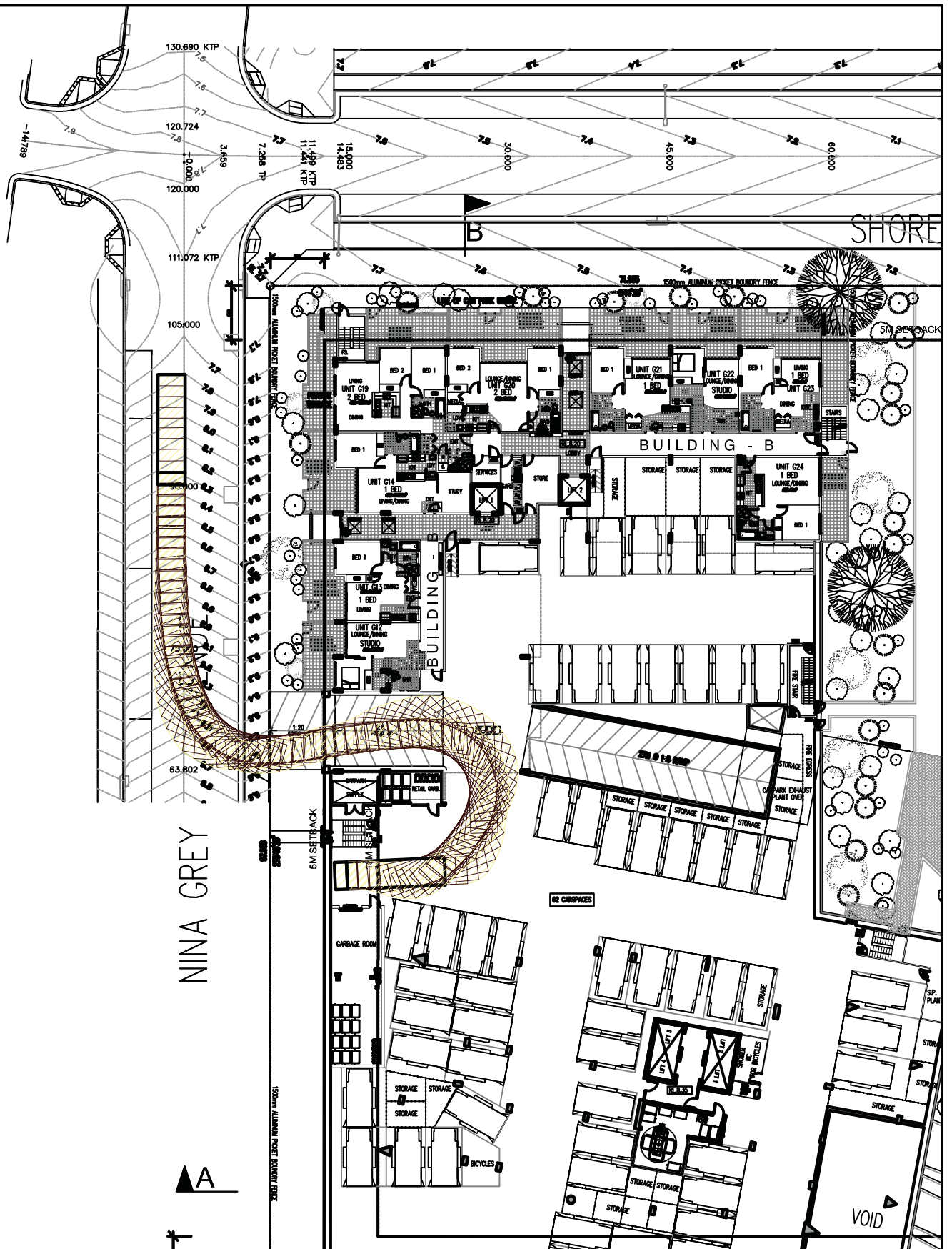
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**SWEPT PATH ANALYSIS
OF A 10.2m REFUSE
VEHICLE ENTERING THE SITE**

SP 3



LEGEND

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SWEPT PATH ANALYSIS OF A 10.2m REFUSE VEHICLE EXITING THE SITE

SP 4