

Proposed Development at 88 Walker Street  
Response to Traffic Submissions to Public  
Exhibition

23 Sept 2009  
Final

Prepared for  
**Eastmark Holdings Pty Ltd**

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This report has been issued and amended as follows:

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# 1 Introduction

This report responds to public submissions made in relation to transport aspects of the proposed hotel, commercial, retail development at 88 Walker Street. In particular it provides more information on traffic generation in response to concerns raised regarding this aspect. It also addresses combined traffic effects of the subject proposal together with those of another proposed commercial development at 100 Mount Street. Finally it addresses suggested conditions of consent proposed by North Sydney Council's traffic engineer.

## 2 Response to Submissions by North Sydney Council

North Sydney Council's Report to the General Manager summarises two reports on the application prepared by its traffic engineer, Ms Cathy Edwards-Davis.

The first provides an assessment of the application. The second responds to traffic matters raised in the Traffix submission made in respect of traffic matters on behalf of Beau Monde Apartments. Our response to that report is provided in Chapter 4 of this report.

### 2.1 *Initial Consent Traffic Advice*

In essence this can be summarised as follows:

- proposed parking is generally considered acceptable and compliant with the DCP
- traffic generation rates for office space and the hotel could potentially be low
- the proposed development at 100 Walker Street could potentially add a further 27.5 vehicles per peak hour onto the local road network
- the intersection of Mount Street with Walker Street should be upgraded by the developers of 88 Walker Street and 100 Mount Street to accommodate the additional traffic that would be generated by the two proposed developments
- the hotel pick-up and set-down area in Little Spring Street is supported
- closure of Denison Street and provision of a Shared Zone in the proposed new cross link between Little Spring Street and Denison Street are supported
- the proposed loading dock represents an improvement over the existing situation which requires service vehicles to reverse on Little Spring Street.

The report recommends that if consent was to be given then the following 16 traffic related conditions should be imposed.

1. *That a deferred commencement condition be set which states:*

- *A Demolition and Construction Management Program shall be prepared and submitted to Council for approval by Council's Traffic Committee. Any use of Council property shall require appropriate separate permits/approvals. Consideration must be given to potential construction conflicts should the proposed development at 100 Mount Street be underway at the same time.*
2. *That a deferred commencement condition be set which states:*
    - *A Transport Management Plan for service, delivery and garbage vehicles to the site shall be prepared and submitted to Council for approval by Council's Traffic Committee.*
  3. *That a deferred commencement condition be set which states:*
    - *A workplace green travel plan is to be developed to highlight to staff the available public and alternative transport options for travelling to the site. This is to be submitted to Council for approval by the Director of Engineering and Property Services.*
  4. *That all vehicles, including delivery vehicles and garbage collection vehicles must enter and exit the site in a forwards direction.*
  5. *That all aspects of the carpark comply with the Australian Standard AS 2890.1.*
  6. *That all aspects of parking spaces for people with disabilities comply with the Australian Standard AS 2890.6.*
  7. *That all aspects of the loading dock comply with the Australian Standard AS 2890.2.*
  8. *The driveways to the site must be modified such that there are minimum sight lines for pedestrian safety as per Figure 3.3 of AS 2890.1.*
  9. *The location of any security access point for driveway entry to the car park should be located a minimum of 18 metres within the boundary of the property, such that three queued vehicles can be contained wholly within the boundary of the property, as per AS 2890.a.*
  10. *That all aspects of the bicycle parking and storage facilities comply with the Australian Standard AS 2890.3.*
  11. *That the streetscape improvements to Denison Street, Spring Street, Little Spring Street and the new laneway be designed to the satisfaction of the Director of Engineering & Property Services.*
  12. *That the traffic modifications to Denison Street, Spring Street, Little Spring Street and the new laneway be designed to the satisfaction of the Director of Engineering & Property Services and approved by the North Sydney Traffic Committee.*
  13. *That "Stop" signage and "Give Way to Pedestrians" signage be installed at the exit from the car park.*

14. *That the Shared Zone in the new laneway end on the western side of the intersection with Little Spring Street and is not to include the intersection of the new laneway and Little Spring Street.*
15. *That the proposed Shared Zone in Little Spring Street is to commence on the southern side of the proposed new driveway to 77-81 Berry Street.*
16. *That the street lighting on Little Spring Street, Spring Street, Denison Street, and the walker Street frontage of 88 Walker street be upgraded to meet the North Sydney CBD Lighting Upgrade Specification and to the satisfaction of the Director of Engineering & Property Services.*

We respond first to the concerns relating to traffic generation and then at the end of this Chapter to the appropriateness of the suggested Conditions of Consent.

## **2.2 *Traffic Generation estimates***

### Office Space

The Council report acknowledges that we used a traffic generation rate of 0.4 vehicles per peak hour per space but suggests that a figure of 0.5 veh/hr/space may be appropriate.

This rate does not accord with our experience so as a check traffic generation surveys were conducted at two further sites in North Sydney. Analysis of the results of these plus of surveys at 88 Walker Street, Berry Square and 100 Mount Street (by Colston Budd Hunt and Kafes; CBHK) is presented in Appendix A to this report.

This analysis established that the following rates are appropriate in North Sydney:

AM peak hour	0.30 veh trips/space/hr
PM peak hour	0.22 veh trips/space/hr

Table 1 compares traffic generation estimates used in our and the CBHK traffic reports, provided in the Council report and those above which are now found to be appropriate based on the actual survey information.

**Table 1 – Comparative Office Traffic Generation Estimates (veh/hr)**

Site	Additional Parking Spaces	Original HMWT Traffic Report Traffic		Council Estimate		Based on Survey Results	
		AM	PM	AM	PM	AM	PM
88 Walker	130	52 <sup>(1)</sup>	52 <sup>(1)</sup>	65	65	39	28.5
100 Mount	51 <sup>(2)</sup>	60 <sup>(3)</sup>	60 <sup>(3)</sup>	27.5	27.5	15.5	11.0
Total		N/A <sup>(4)</sup>	N/A <sup>(4)</sup>	92.5	92.5	54.5	39.5

(1) By Halcrow MWT

(2) Note Council analysis assessment assumed 55

(3) CBHK report estimate

(4) Addition of traffic estimates for 88 Walker Street and 100 Mount Street not appropriate as extracted from different reports.

The table indicates that the previous assessments have tended to overestimate the traffic generation of the office parking.

### Hotel

Our analysis estimated that the hotel component (200 rooms) would generate about 20 vehicle movements per peak hour. Although not calculated this way, this is equivalent to one vehicle trip per 10 hotel rooms. This estimate applied to traffic on the immediate road network. It is possible/likely that some hotel patrons would walk to taxi ranks or elsewhere away from the site to catch taxis.

The Council traffic report presents results of surveys conducted by Traffix in 2005 at four hotels in Sydney. The average traffic generation found in these surveys during the critical morning and evening peak hours and results for the Vibe Hotel in Milsons Point, which is the hotel most analogous to the proposed hotel, were as follows:

	Morning Peak Hour 8.00 – 9.00am	Evening Peak Hour 5.00 – 6.00pm
Average of 4 Surveys	23.7 veh/hr/100 rooms	14.6 veh/hr/100 rooms
Vibe Hotel Milsons Point	18.2 veh/hr/100 rooms	10.9 veh/hr/100 rooms

The Vibe Hotel at Milsons Point is essentially a business hotel and is very well located to public transport. The proponent of the 88 Walker street development has indicated an expectation that this would be closest to the hotel proposed for 88 Walker Street as:

- Walker Street is not an obvious location for a tourist hotel but would be extremely well located to cater for the business market;
- restricted parking on site for hotel guests would limit its attractiveness for guests with their own car, and
- any function business would cater mainly for businesses located in North Sydney.

Table 2 compares the traffic generation that would result from application of the surveyed Vibe Hotel rate with that allowed in our traffic report.

**Table 2 – Comparison of Hotel Traffic Generation Estimates (veh/hr)**

	<b>AM Peak Hour (8.00 – 9.00am)</b>	<b>PM Peak Hour (5.00 – 6.00pm)</b>
Traffic report	20	20
Based on Vibe Hotel	36.4	21.8

The Vibe Hotel survey would suggest about 16 more vehicle trips in the morning peak hour and only 2 in the evening peak hour.

Combined Traffic Generation Increases

The Council agreed with the traffic generation estimates prepared by us for changes in the public parking and on-street parking.

Table 3 below provides an amended traffic generation estimate for 88 Walker Street based on the information above and then one with extra traffic for the 100 Mount Street project also added.

**Table 3 – Revised estimate of Development Traffic Generation (Above Existing) (veh/hr)**

<b>Compound</b>	<b>AM Peak Hour</b>	<b>PM Peak Hour</b>
Public Parking	-22.5	-18.8
On Street Parking	- 4.5	- 3.7
Office	+ 3.9	+28.5
Hotel	+36.4	+21.8
Total 88 Walker Street	+48.4	+27.8
100 Mount Street	+15.5	+11.0
Combined Total	63.9	38.8

The revised traffic generation estimates for the 88 Walker Street proposal indicated on Table 3 compared to the allowances in the traffic study were:

	AM Peak Hour	PM Peak Hour
Original	45 veh/hr	50 veh/hr
Revised	48.4 veh/hr	27.8 veh/hr

Thus for the morning peak period there would be 3.4 additional vehicles per hour compared to the original estimate. This change would be inconsequential.

For the evening peak hour the revised estimate provides for 22.2 less vehicle trips per hour.

With the 100 Mount Street additional traffic added there would be 15.5 additional vehicle trips per hour generated by both developments combined compared to the allowance for 88 Walker Street in our original analysis and 11.2 veh/hr less for the evening peak hour.

### **2.3 *Effects of Combined Traffic Generation***

The analysis provided in our traffic report, observations and submissions on the project confirm that the evening peak is the critical traffic period in the local area. Morning traffic conditions are relatively free flowing.

The critical intersection in the morning is that of Walker Street with Berry Street which was found to operate at Level of Service D. In the morning most traffic would be arriving at the site and hence the two proposed developments would impose little

additional traffic on this intersection. Other intersections were found to operate at Level of Service C or better.

In view of this the small increase in traffic forecast in the revised estimate for the combined developments would have minimal impact in the morning peak period.

The revised forecast including both developments for the evening peak is lower than our original forecast which was used in our analysis. This means that, as it turns out, our original evening peak analysis is still applicable to the combined developments.

From this we conclude that our original findings that “the traffic and parking impacts of the development can be accommodated on the adjoining road network without detrimental impacts and are therefore satisfactory” was correct. This aspect is discussed further in Chapter 5 of this report.

#### ***2.4 Modification to the Intersection of Mount Street with Walker Street***

The Council traffic report recommends that this intersection be upgraded to provide more exit capacity from the area.

We believe that this would be prudent and agree that there should be a cost sharing arrangement to fund the improvement.

#### ***2.5 Council Engineer’s Response to Traffix Submission***

The Council Engineer’s response to the Traffix report dismissed most of the issues raised or stated that they had been addressed in the Council report.

However the second report did recommend that two further conditions be imposed as set out below. We discuss the appropriateness of these conditions along with those previously mentioned in the following section of this report.

- 17. That a concrete median be installed to delineate between the entrance and exit to the car park.  
This concrete median is to end at the boundary line such that it does not become a trip hazard to pedestrians on the footpath*
- 18. That the pick-up/drop off zone to be installed on Little Spring street have a time restriction of 5 minutes.*

## **2.6 Discussion of council Recommended Conditions of Consent**

- Conditions 1, 2 and 3 should not be “deferred commencement” conditions but rather ones to be satisfied before Construction Certificate in the case of Condition 1 and prior to occupancy in the case of Conditions 2 and 3.
- Query whether for Condition 2 the whole Council Traffic Committee should necessarily be involved. Suggest that the plan be approved by Council’s Director of Engineering & Property Services who could consult the Council Traffic Committee if he/she deemed necessary.
- Otherwise agree with Conditions 1 and 2 but disagree with Condition 3 for the reasons stated in relation to the Ministry of Transport’s submission in Chapter 4 of this report.
- Conditions 4 and 5 – Agree with these but suggest that Condition 5 be rephrased to say that “the design of the car park shall comply generally with Australian Standard AS2890.1 – 2004 and this compliance shall be certified by an experienced practicing traffic engineer”.
- Condition 6 is not appropriate as AS2890.6 is a draft standard only and it specifically states that as a draft it is not intended for use. Rather AS2890.1 deals with disabled parking and in the light of Condition 5, Condition 6 should be omitted.
- Condition 7 would cause a complication as AS2890.2 requires clearance heights of 4.5m but a clearance height of only 3.6m is proposed in accordance with the North Sydney DCP. Suggest that the condition be reworded as follows:  
“The loading dock and access to it shall have a clear height of 3.6m and in other ways shall comply with Australian Standard AS2890.2 – 2002.” 3.6m height clearance is an appropriate requirement in a CBD context and is consistent with requirements in the Sydney CBD.
- Condition 8 – Agree.
- Condition 9 – For after hours security reasons it is desirable that security gates not be set too far into the driveway such that they would provide an unsafe alcove or concealed area. Suggest that the condition be reworded as follows: “The location of any boomgate or other vehicular access control shall be located sufficiently far into the driveway so as to avoid queuing back out onto Little Spring Street.” This wording would allow a security gate to be then provided

close to the property boundary, say one car length within the site to provide appropriate after hours security without providing a personal safety hazard.

- Conditions 10 to 15 – Agree.
- Condition 16 – Not sure why the subject proposal precipitates the need for upgraded lighting if there is a pre-existing deficiency.
- Condition 17 – OK in principle but a concrete median would need to be set back within the site to allow occasional large trucks to enter the site. Suggest that instead the condition be changed to: “A median be provided to separate the entrance and exit lanes in the car park driveway. This shall be designed to accommodate truck entry/exit movements while keeping entry and exit traffic movements apart.”

The requirement of a concrete median to end at the property line would complicate potential footpath widening onto the site.

- Condition 18 – Agreed.

### **3 Response to Submission by Roads and Traffic Authority**

1. Concerns that traffic generation rates used in the report are low. This aspect is addressed in detail in Chapter 2 which shows that the traffic generation estimate for the project is appropriate.
2. Suggestion that DoP and Council should consider undertaking a comprehensive traffic impact study which incorporates future developments within the CBD. The Council has commissioned a traffic study. We are not sure what methods have been specified for the study.

Notwithstanding this, the traffic analysis conducted for the subject proposal indicates that the road system is capable of accommodating the extra traffic that would be generated by the 88 Walker Street and 100 Mount Street proposals which are the only concrete ones we are aware of.

3. Suggestion that the capacity of the Mount Street west approach to its intersection with Walker Street be improved. This is covered by the Council's suggested Condition of Consent.
4. Requires that the developer provide unspecified improvements to the intersection of Berry Street with Walker Street. While it would be acceptable for the developers of 88 Walker street and 100 Mount Street to make reasonable contributions towards any such works, the lack of specificity makes such a condition unenforceable. From the description of the works suggested, it may be appropriate for a condition to specify a fixed contribution towards such works say \$10,000 from each development.
5. Requires amended signal design plans for the Walker Street / Mount Street intersection. This is acceptable as long as it is shared by both developments. There is a danger that the first development to proceed may have to bear the full cost. To

avoid this it would be preferable if North Sydney was to undertake the work and each development was to contribute half towards the work.

6. Future Shared Zones to satisfy RTA requirements. Not sure that a condition is required because the RTA has the final say on any traffic controls anyway.
7. Requires a management plan for Denison Street and Little Spring Street to be provided to the satisfaction of Council – Agreed.
9. Requires demonstration of how a requirement for bus/coach pick-up/drop-offs would be met. This is addressed in Appendix C.
- 10 and 11. Taxi facilities and car parking and loading provisions to be provided to satisfaction of Council. This is advice only and we assume this should read DOP not Council.

## 4 Response to Submission by Ministry of Transport

The Ministry's submission expresses a belief that our Traffic Impact Study does not address the opportunities to maximise and encourage the use of public transport together with walking and cycling.

It is submitted that this is exactly what the proposed development does do by:

- having a location that is extremely convenient to trunk public transport services
- having a location that has a wide variety of shops and services nearby that would logically only be accessed by walking by employees and guests accommodated by the proposed development
- providing good pedestrian connections to the surrounding area
- providing on site cyclist storage facilities, and
- by having a highly restrictive parking provision.

In relation to the latter point it is noted that RTA guidelines indicate that the unrestrained demand for office parking is 1 space per 40m<sup>2</sup> of gross floor area. The proposed development will provide office parking at a rate of 1 space per 400m<sup>2</sup>. Therefore office parking will be provided at a rate of only one tenth of the natural parking demand.

Put another way, with a typical office employee density of one space per 20m<sup>2</sup> of floor area, there would be one parking space per 20 workers i.e. only 5% would be able to drive. By way of comparison about 20% of Sydney CBD employees drive to work in the CBD.

The MoT does suggest that a Green Travel Plan be prepared. While the need for such is disputed in North Sydney because most persons visiting are obliged to travel via Green Travel modes, nevertheless such plans need to be prepared by tenants or occupants rather than developers otherwise there is not likely to be "ownership" of such a plan.

Overall it is difficult to see how the application could better respond to the MoT's aspirations.

## 5 Response to Traffix Report (for Beau Monde Apartments)

This section follows the same headings as provided in the Traffix Report that was prepared for the Beau Monde Apartments.

### Access Design Principles

- Driveway Design Compliance with AS2890.2

The design complies with the standard because the actual traffic generation would be the same as that for which the standard would require a width of 7.0m as proposed. In this case it is appropriate to observe the intent of the standard rather than follow it blindly without regard to the actual circumstances involved.

Leaving aside the matter of AS compliance, it is considered appropriate in terms of good urban design to keep driveways in CBD situations as narrow as possible. In this regard it is noted that the Sydney City Council DCP specifies maximum driveway widths of 5.5m for development in the CBD.

- Driveway Location

Concern is raised at the possible conflict of pedestrians with the driveway traffic flows and on the basis of this the appropriateness of the driveway location is questioned.

In this regard it is noted that Little Spring Street has only a narrow footpath on its western side. For this reason and because of limited active uses on that side of the road, pedestrian movements are and will continue to be very low at this driveway crossing. Accordingly this concern does not represent a material issue.

Notwithstanding this, it is noted that the driveway would need to be located somewhere and this chosen location would afford least conflict with pedestrians compared to any other of the site's frontages.

- Location of Driveway Opposite Driveway to 100 Walker Street  
This is not considered to be a concern because Little Spring Street carries comparatively little traffic and the car park at 100 Walker Street mainly exits into Spring Street. Thus conflicts between the two driveways would be low. The matter is assisted by there being good visibility between the two driveways.
- Vehicle Access Swept Path Plans  
These are appended.
- Separation Median to Delineate Entry and Exit Lanes On the Site Access Driveway  
A median could be provided as discussed in Chapter 2 of this report.

#### Internal Designs

Comments made are noted and not necessarily agreed with. Nevertheless compliance with Australian Standard AS 2890.1 would be an appropriate Condition of Consent.

#### Internal Design Service Area

Swept path diagrams are provided as an appendix to this submission.

North Sydney specifies a minimum height clearance of 3.6m for loading areas and it is proposed to adhere to this.

#### Parking Allocation

The proposed parking supply has been discussed and agreed with North Sydney Council as being appropriate for the site.

Provision of small car spaces is supported by the Green Star Rating principles as being environmentally responsible. In the circumstances of a tenant car park we believe that tenants would be in a position to allocate parking spaces appropriately.

A proposed pick up/drop off zone that could be used by hotels is proposed in Little Spring Street. In addition 25 seater buses would be able to use the loading area. Use of this area by buses will be allowed for as part of a loading area management plan.

#### Traffic Generation Rates

The applicability of the surveyed car park generation rate for Berry Square is queried as being low. As most of this car parking is being removed then adoption of a higher rate would have resulted in displacement of a greater amount of retail traffic than allowed in our analysis. This would have resulted in better operating conditions after the proposed development was completed than shown in our analysis.

The suggested rate of 2 trips per hour per space for retail parking is not agreed with for the reasons stated above. In particular the proposed public parking will be a general resource and not just a retail parking resource. If the suggested rate was applicable to the existing Berry Square car park then it would generate six to eight times that which was actually surveyed. This does not make sense.

In this regard it is noted that Berry Square survives largely on walk in business from the large number of office workers in North Sydney. It thus operates very differently to other more traditional neighbourhood retail outlets and therefore its traffic generation characteristics would be expected to be different.

- Hotel Traffic Generation

The submission queries the hotel traffic generation rate used, citing the Rydges Hotel in North Sydney as being an example of a hotel with a higher traffic generation. This hotel is not considered to provide a suitable analogy because:

- it has a large on site public car park
- it has larger function facilities,
- it is somewhat further from the station, and
- it has a more suburban setting

In contrast the Council report provides results of a survey of the Vibe hotel in North Sydney which more closely resembles the proposed hotel. This produced a traffic generation rate of about 11 veh/hr/100 rooms during the most critical peak period in the area which is on a weekday peak hour of 5.00 to 6.00pm.

Our traffic report used a rate of 10 veh/hr/100 rooms. The difference in application of these two rates to the subject proposal (200 hotel rooms) is only two vehicle trips per hour. The effect of this small difference would be negligible.

### Vehicle Distribution

The submission incorrectly states that our traffic report assumes that all additional traffic would use the intersection of Mount and Walker Streets. In fact our analysis assumes that traffic would enter the area via Spring Street and Little Spring Street. It assumes that traffic from the proposed development would exit via Denison Street to Mount Street thence Walker Street.

The extra traffic assigned to Mount Street in the morning peak was only 13 vehicles per hour and is so low as to be inconsequential. Some of this traffic could readily have exited the area via Denison Street to Berry Street. Assigning all to Mount Street provided a likely “worst” case in the analysis of the morning operation of the Mount Street/Walker Street intersection.

As stated in the traffic report, there are extensive delays in exiting Denison Street into Berry Street in the evening peak, especially towards the end of the peak. Because Mount Street would provide a quicker exit route from the area it is likely that most of the additional traffic exiting the proposed development would use this route in preference to the Denison/Berry Street route.

This would be a normal driver behavioural response and so is considered to be an appropriate assumption in the circumstances.

### Operation of Key Intersections

We do not agree with Traffix’s analysis of the operation the Walker Street/Berry Street intersection. Notwithstanding this we make two observations in relation to Traffix’s findings:

1. The change in operation between the existing and future operation with the additional development traffic added would be very low even though it includes the Traffix higher traffic generation estimate for the development, and
2. The Traffix analysis suggests that changes to the control of the intersection are needed irrespective of the proposed development. In its response to the application the RTA has proposed to modify control at the intersection so if this did need to take place, there would not be an obstacle in doing so.

Traffix presents results of a survey of queuing on Denison Street leading up to Berry Street in the evening peak period.

The results and corresponding SIDRA analysis corroborate our observations and finding that additional traffic would be unlikely to use Denison Street to access Berry Street when leaving the area in the evening peak. This is the exact reason why the alternative exit via Mount Street would most likely be used in the evening peak.

The Traffix report suggests that a SCATES analysis be undertaken to examine future conditions on Berry Street at Denison Street. SCATES is an inappropriate program for this as it does not analyse the operation of unsignalised intersections.

The matter of the future effects of both the subject proposal and those of the proposed development at 100 Mount Street are discussed in Chapters 2 and 5 of this report.

#### Operation of Little Spring Street

It is proposed to maintain the existing width of Little Spring Street. Little Spring Street already caters for the large trucks that service Berry Square. Those are comparable to the ones that will service the subject proposal and therefore there is no doubt as to the ability of Little Spring Street to accommodate the heavy vehicles that will be generated by the proposal.

Swept path diagrams are provided in the Appendix.

The possible designation of the east-west link as a shared pedestrian zone will be a matter for the North Sydney Traffic Committee to determine. North Sydney Council has expressed a desire for the link to operate as a pedestrian shared zone but the proposed design is not dependent on it.

#### Director General's Requirements

The Traffix Report is incorrect in saying that the Project Application report does not address non-car travel modes. These are covered in Sections 4.4 and 4.5.

#### Summary

Matters raised in the Traffix report are easily answered and do not provide reasonable traffic grounds as to why the proposed development should not be approved.

## 6 Additional Information Sought By Department of Planning

### Cumulative Effect of Development

At 88 Walker Street and 86-96 and 100 Mount Street.

This is addressed in Chapter 2 of this response in the response to matters raised by North Sydney Council.

### Operation of Walker Street/Berry Street Intersection

This is related to the first point. To illustrate the minimal effect that the proposed developments would have on this intersection we provide on Figure 1 in Appendix B the following traffic figures for morning and evening peak hours at this intersection.

- Existing peak hour turning movements;
- Additional traffic determined in our original traffic analysis
- Additional traffic for 88 Walker Street and 100 Mount Street combined as determined in Chapter 2.

From this it will be seen that:

- The two developments would increase total movements through the intersection by 0.4% in the morning peak and 0.5% in the evening peak.
- The extra traffic would turn right into Berry Street from the south and the increase on this movement would only be 1.5% in the morning peak and 2.0% in the evening peak.

These volume increases are very low and would be indistinguishable from day to day variation at the intersection.

Despite the additional traffic being so low we have examined the potential benefit of changing the lane allocations on the Walker Street Northbound approach from:

- Through, through/right, right, to
- Through, right, right.

SIDRA analysis found that this change would improve performance of the intersection as to a small extent as follows:

	Level of Service		Ave Delay/Vehicle (seconds)	
	AM Peak Hr	PM Peak Hr	AM Peak Hr	PM Peak Hr
Existing Arrangement	D	D	44	50
Modified Arrangement	D	D	43	47

Given that the work involved in changing this would involve only removal of part of arrow markings on the road, it would be worth doing if the RTA so wished.

For such a small change it would not be worthwhile the developers having to go to the trouble of entering into a formal agreement with the RTA. It would be much more efficient all round either for the RTA to do the work on its own or at most for the developers to provide funding to do the work.

Finally it is noted that the Council estimated traffic generation increase due to two proposed developments was 85 veh/hr in the more critical evening peak period compared to the figure of 50 veh/hr estimated in over traffic report. This would increase total traffic through the intersection by only 0.9% and the volume turning right into Berry Street from Walker Street south by only 3.4%. Thus, even if the Councils estimated were correct, the impact on this intersection would be very low.

Vehicle Movements at and in the Loading Area

Vehicle turning path diagrams drawn using the widely use Autoturn Computer Program as provided in Appendix C.

These demonstrate the workability of the loading area and that trucks will be able to enter and exit in a forward direction.

Provision for bus/coach parking

The hotel is proposed to be a business hotel and its location, restricted car parking and focus of its function facilities on the business market would limit its appeal for tourist visitors.

North Sydney has excellent train, bus and taxi services and these would be the most likely travel modes for business visitors. Business visitors are less likely to travel in groups and their highly varied working hours while away from home mitigate against group travel.

Notwithstanding this, the proposed drop off/pick up zone would be able to accommodate buses with up to 30 seats. In addition a 25 seater bus would be able to use the loading area. It is proposed that the management plan for the loading area provide for incidented use by such.

In this regard it is noted that if group travel was to occur, the most likely times would be between Friday night and Monday mornings. Very little other use of the loading area would be made at this time. Thus while minimal travel by buses to/from the site is expected, the proposed design does allow for such.

## **7 Conclusions**

Having examined the various submissions in detail we have not found any traffic, transport or parking reasons why the proposed development should not be approved. The Council and RTA have suggested that a number of conditions of consent be imposed if the development is approved. Subject to refinement to these conditions as discussed in this report, we do not believe that these would be out of order.

# Appendix A Traffic Generation Analysis

# 88 Walker Street North Sydney

## *Surveys of Traffic Generation Rates for Offices*

1. Survey by CBHK of 90/100 Mount Street
  - 71 Parking Spaces
  - Existing traffic generation 15 to 20 veh/hr in peak periods
  - Traffic generation rate per space 0.21 to 0.28 veh/hr/space
  
2. Survey by HMWT Berry Square
  - 117 Parking Spaces
  - AM peak hr 35 veh/hr
  - AM peak hr rate = 0.30 veh/hr/space
  - PM peak hr = 29 veh/hr
  - PM peak hr rate = 0.25 veh/hr/space
  
3. Survey by HMWT 88 Walker Street
  - 22 Parking Spaces
  - AM peak hr = 4 veh/hr
  - AM peak hr rate = 0.18 veh/hr/space
  - PM peak hr = 5 veh/hr
  - PM peak hr rate = 0.23 veh/hr/space
  
4. Survey by HMWT 40 Miller Street
  - 107 Parking Spaces
  - AM peak hr = 43 veh/hr
  - AM peak hr rate = 0.40 veh/hr/space
  - PM peak hr = 25 veh/hr
  - PM peak hr rate = 0.23 veh/hr/space
  
5. Survey by HMWT 100 Pacific Highway
  - 170 Parking Spaces
  - AM peak hr = 44 veh/hr
  - AM peak hr rate = 0.34 veh/hr
  - PM peak hr = 34 veh/hr
  - PM peak hr rate = 0.20 veh/hr/space

6. 90/100 Mount Street, 88 Walker Street, 40 Miller Street & Pacific Highway Combined

- 370 Parking Spaces
- AM peak hr = 111 veh/hr
- AM peak hr rate = 0.30 veh/hr/space
- PM peak hr = 79 veh/hr
- PM peak hr rate = 0.21 veh/hr/space

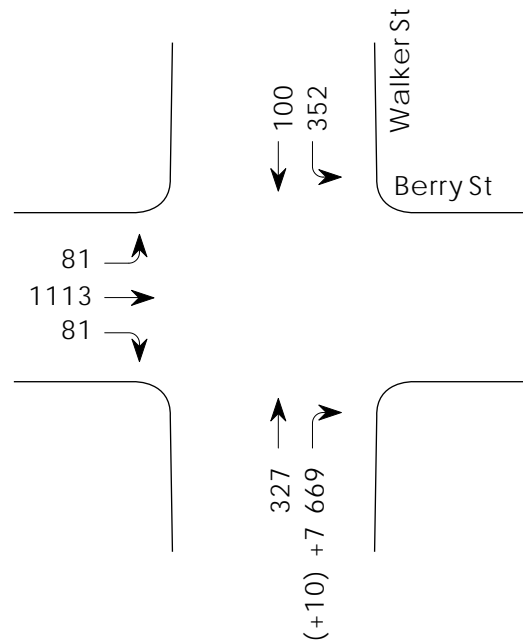
7. All Sites Combined

- 487 Parking Spaces
- AM peak hr = 146 veh/hr
- AM peak hr rate = 0.30 veh/hr/space
- PM peak hr = 108 veh/hr
- PM peak hr rate = 0.22 veh/hr/space

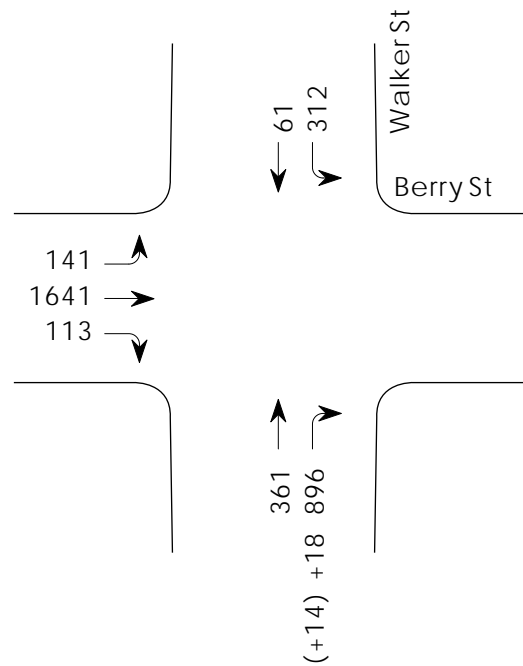
# **Appendix B Berry Street/Walker Street Traffic Volumes**

# BERRY STREET/WALKER STREET TRAFFIC VOLUMES

88 WALKER STREET



AM Peak Hour



PM Peak Hour

## Key

- 5: Existing Flow
- +5: Original Assessment Flow
- (+5): Modified Traffic Generation for 88 Walker + 100 Mount combined

# Appendix C Vehicle Swept Paths

# MINI BUSES USING THE LOADING DOCK

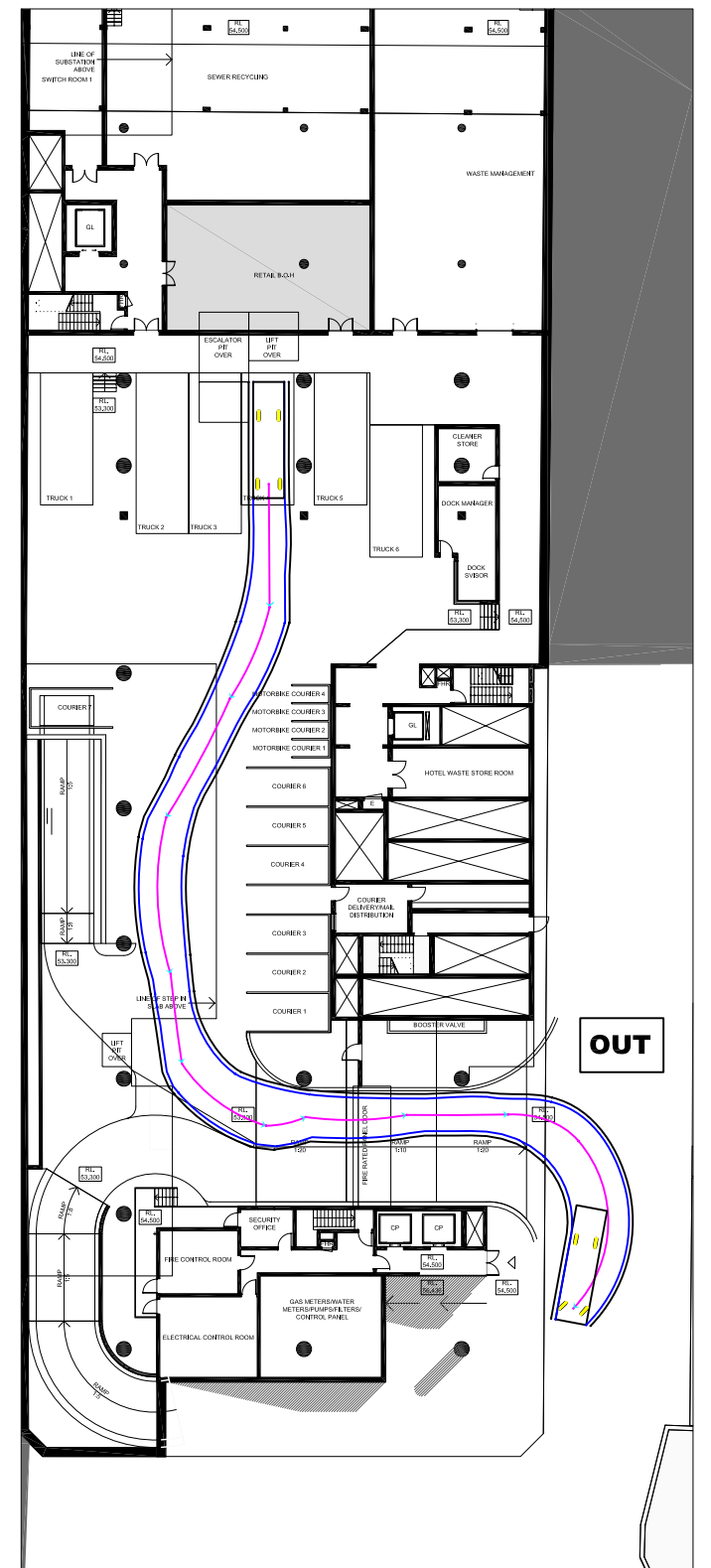
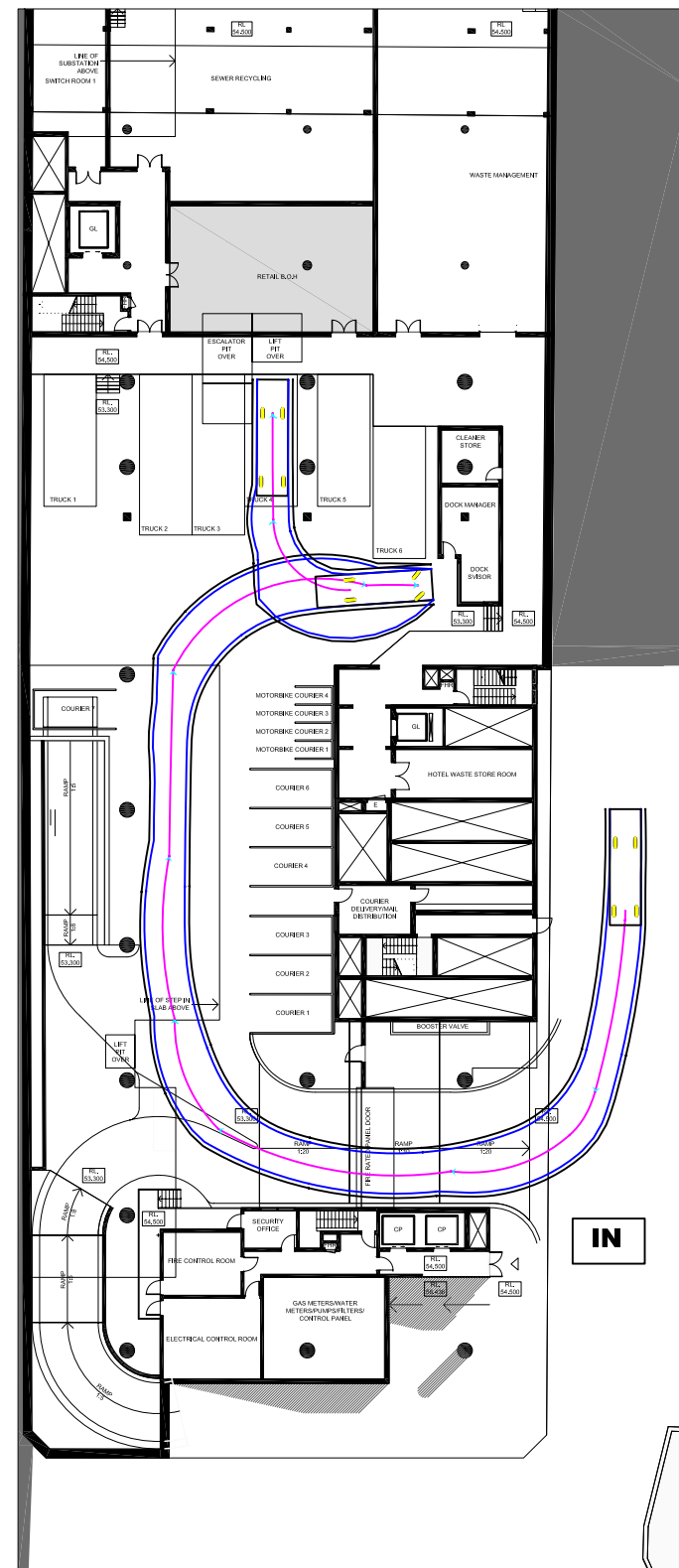
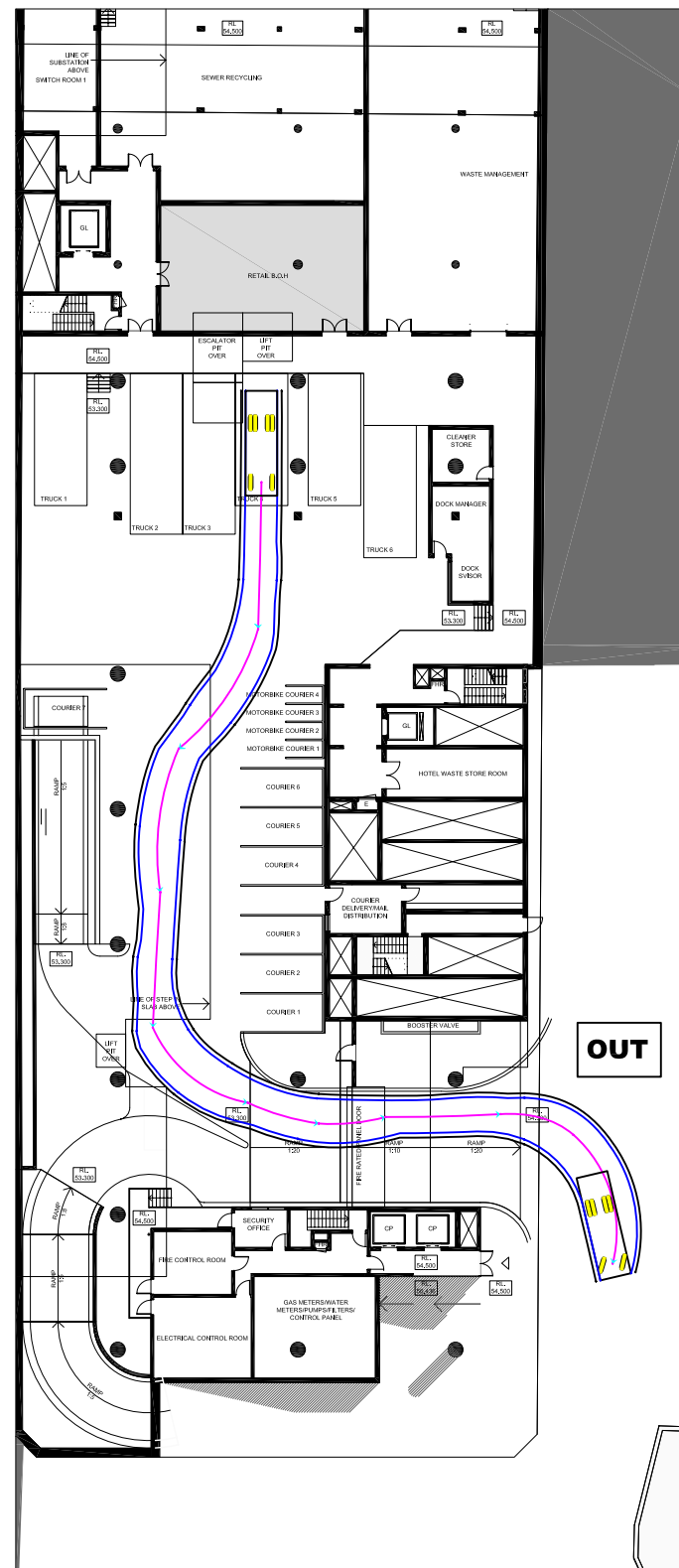
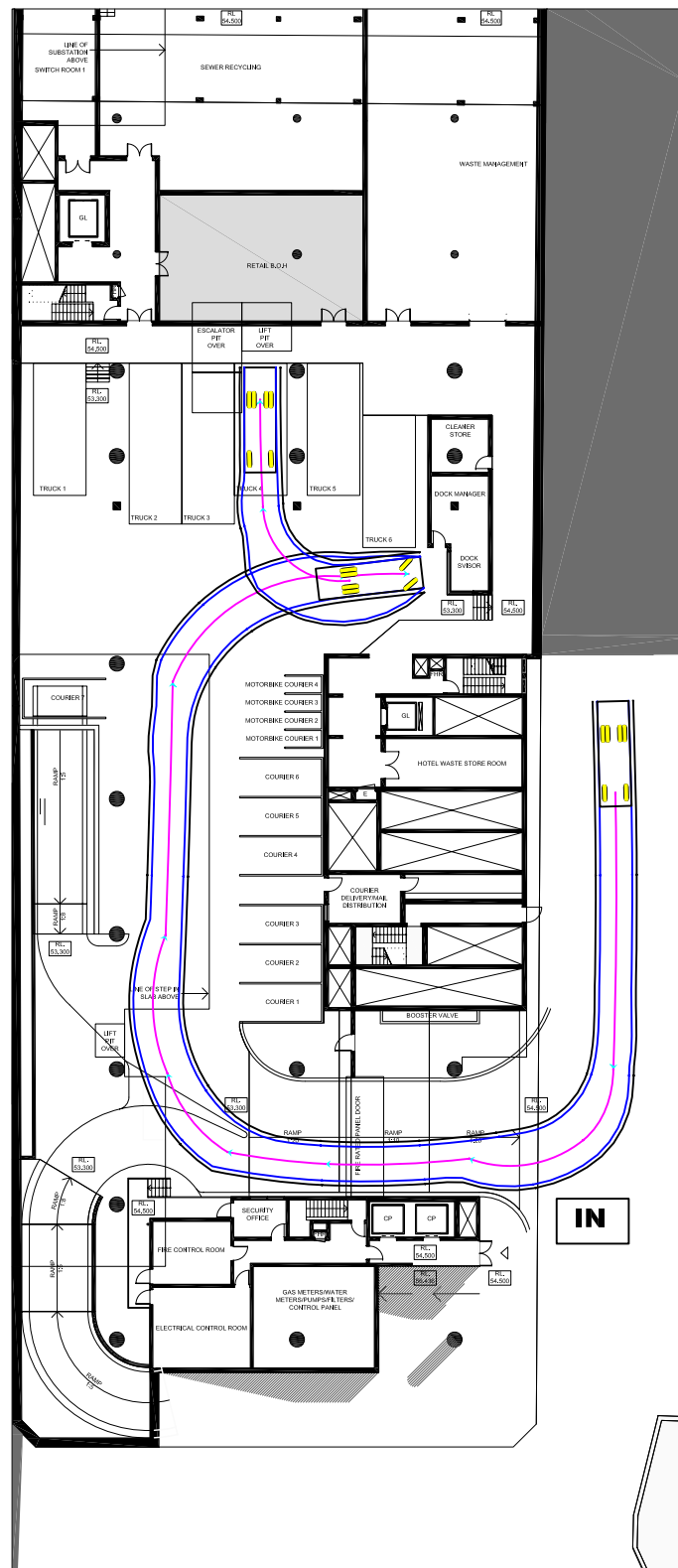
88 WALKER ST, NORTH SYDNEY

20 SEAT TOYOTA COASTER

20 SEAT TOYOTA COASTER

25 SEAT MITSTUBISHI ROSA

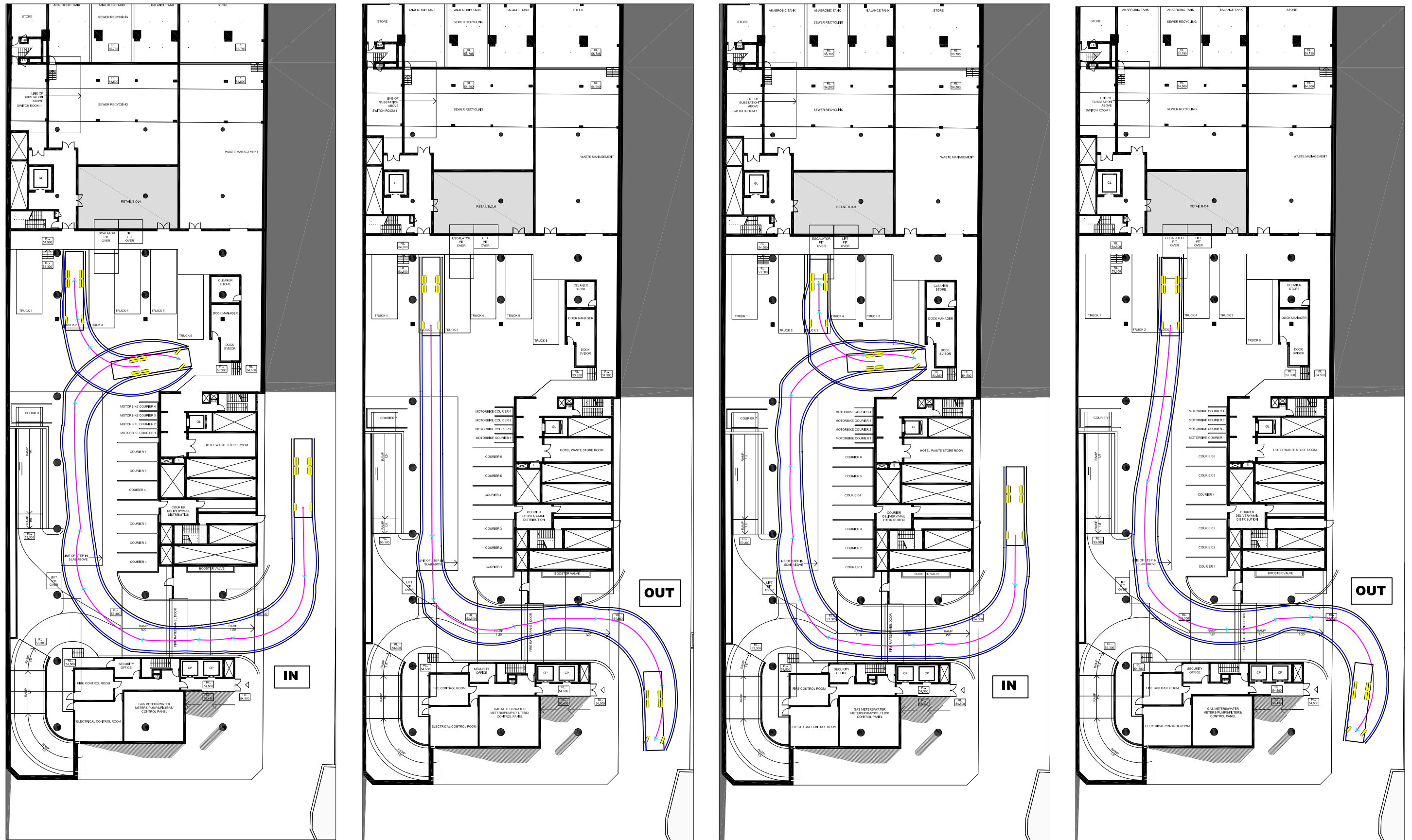
25 SEAT MITSTUBISHI ROSA



Scale: 1:500 @ A3

# 10.7m HRV USING THE LOADING BAY

88 WALKER ST, NORTH SYDNEY



Scale: 1:500 @ A3

**Halcrow MWT**

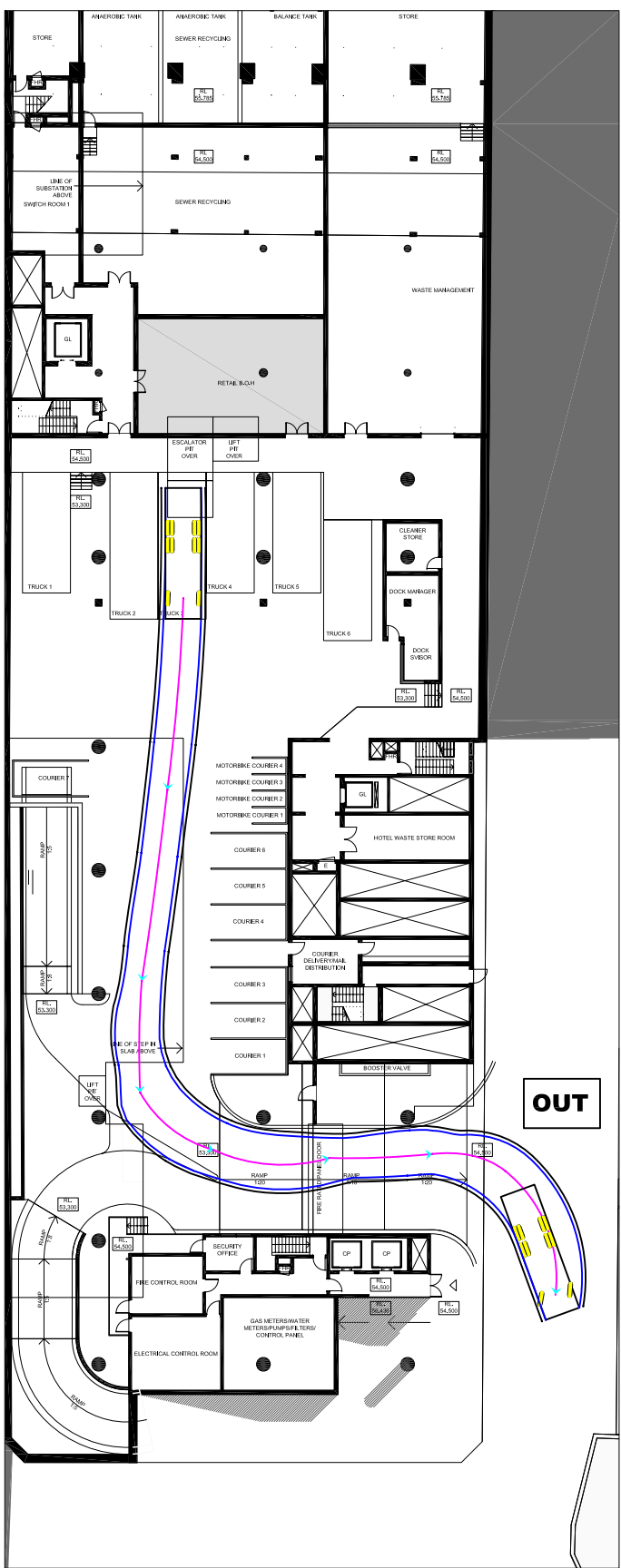
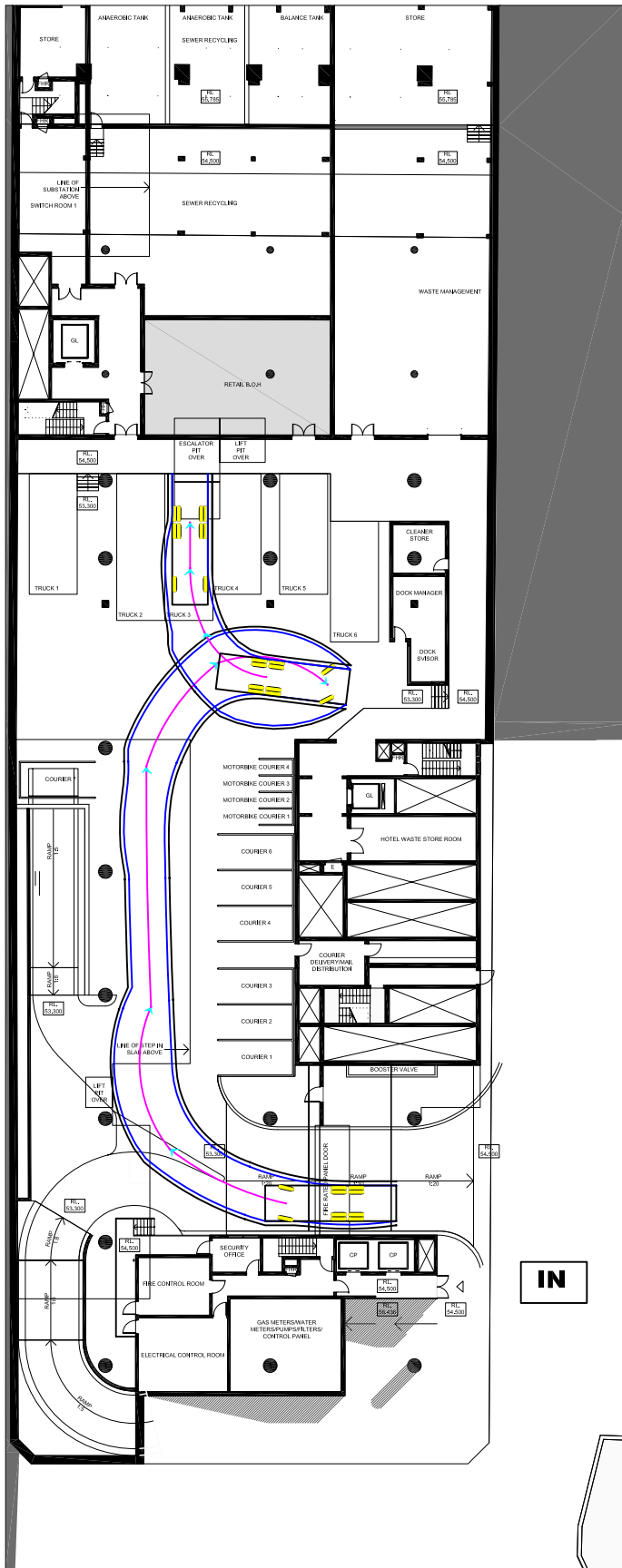
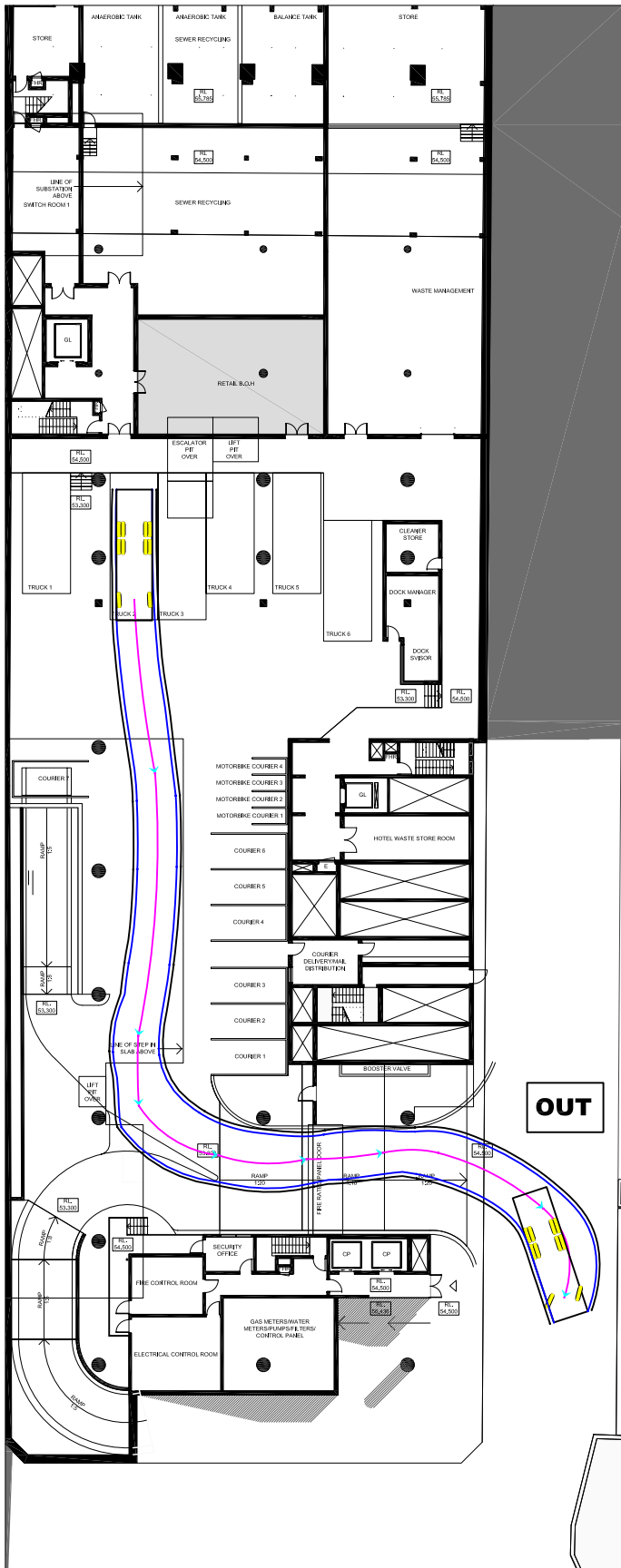
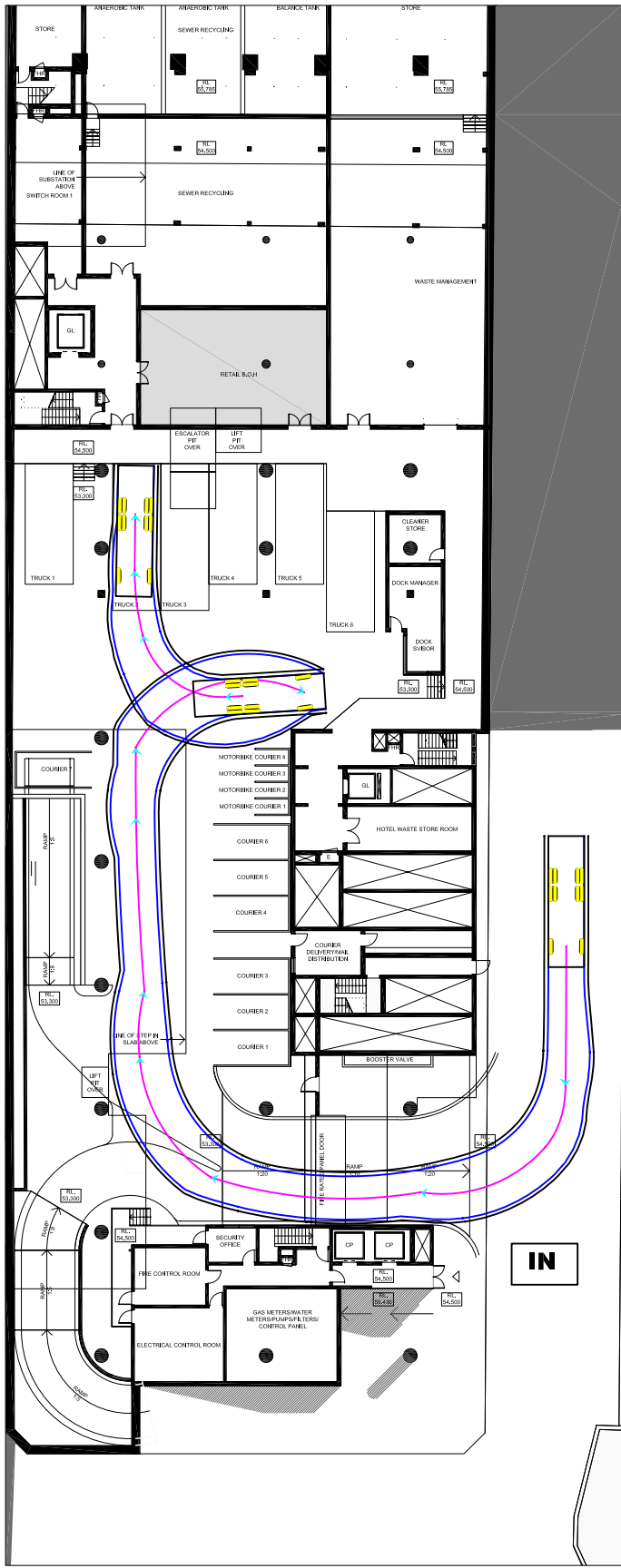
Filename: CTLCTU081/063142da15

Appendix C-2

Date: 10 September 2009

# WASTE TRUCK USING THE LOADING BAY

88 WALKER ST, NORTH SYDNEY



Scale: 1:500@A3



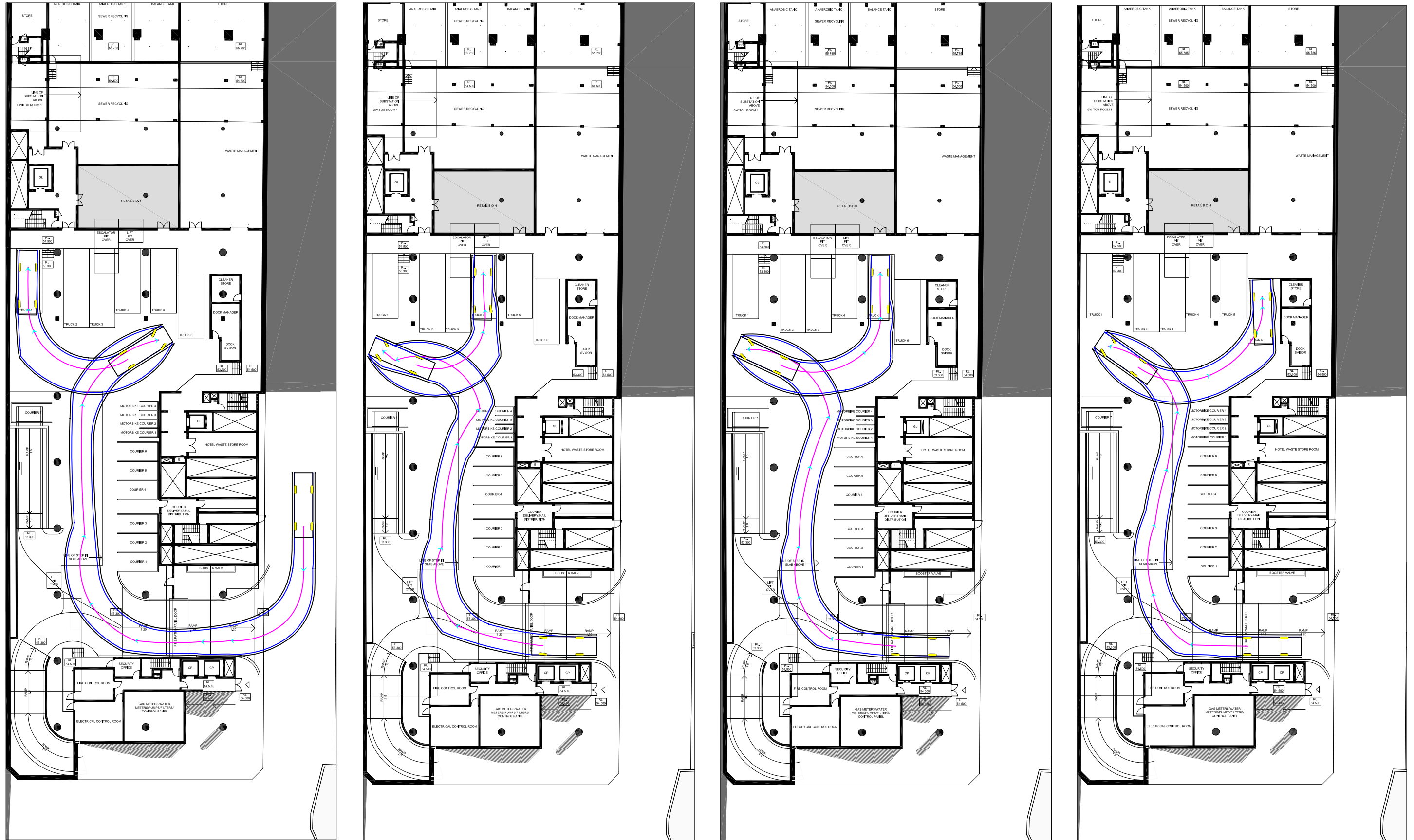
Filename: CTLCTU081/063142da15

Appendix C-3

Date: 10 September 2009

# 8.8m MRV INTO THE LOADING BAY

88 WALKER ST, NORTH SYDNEY



Scale: 1:500 @ A3



Filename: CTLCTU081/063142da15

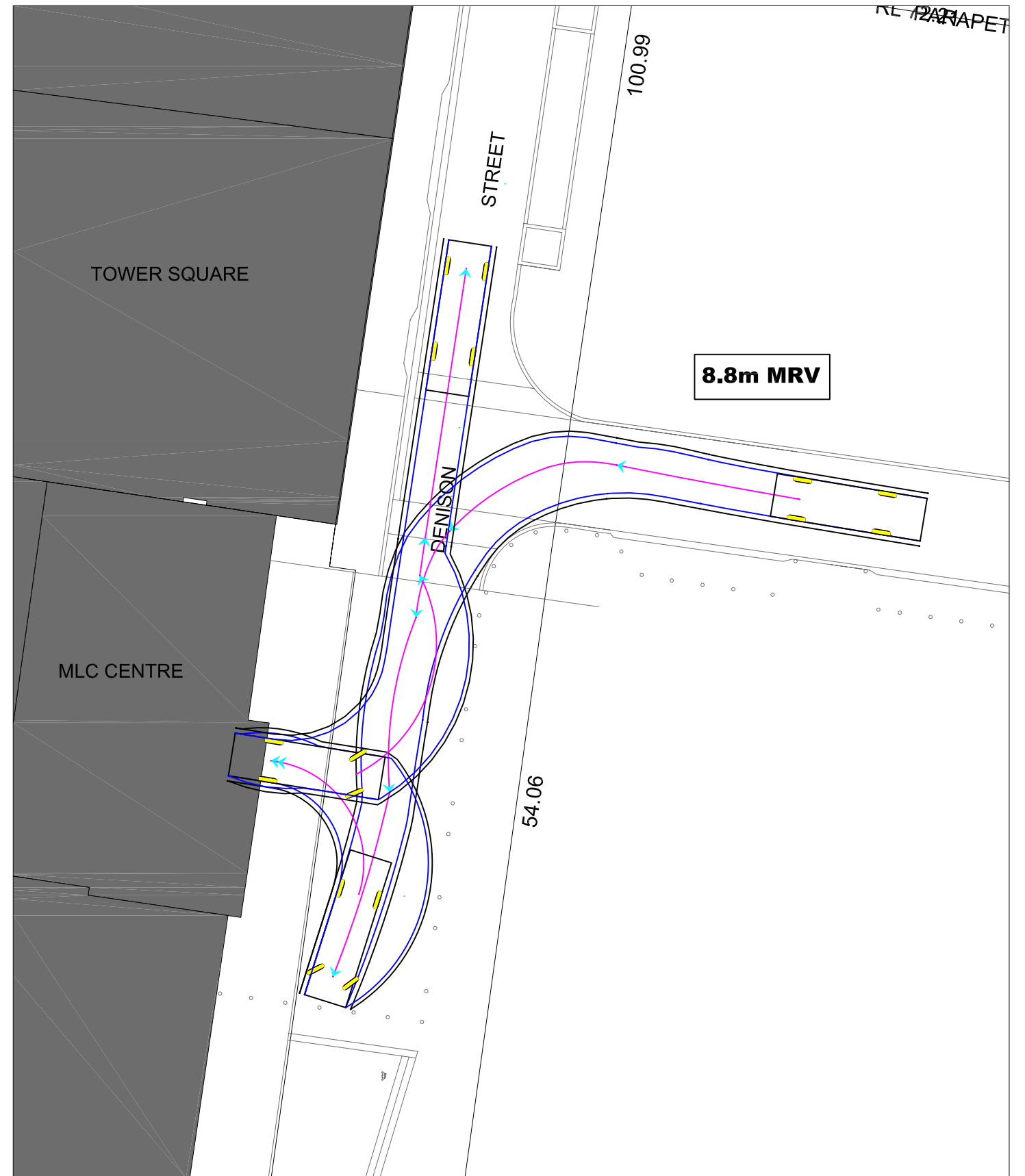
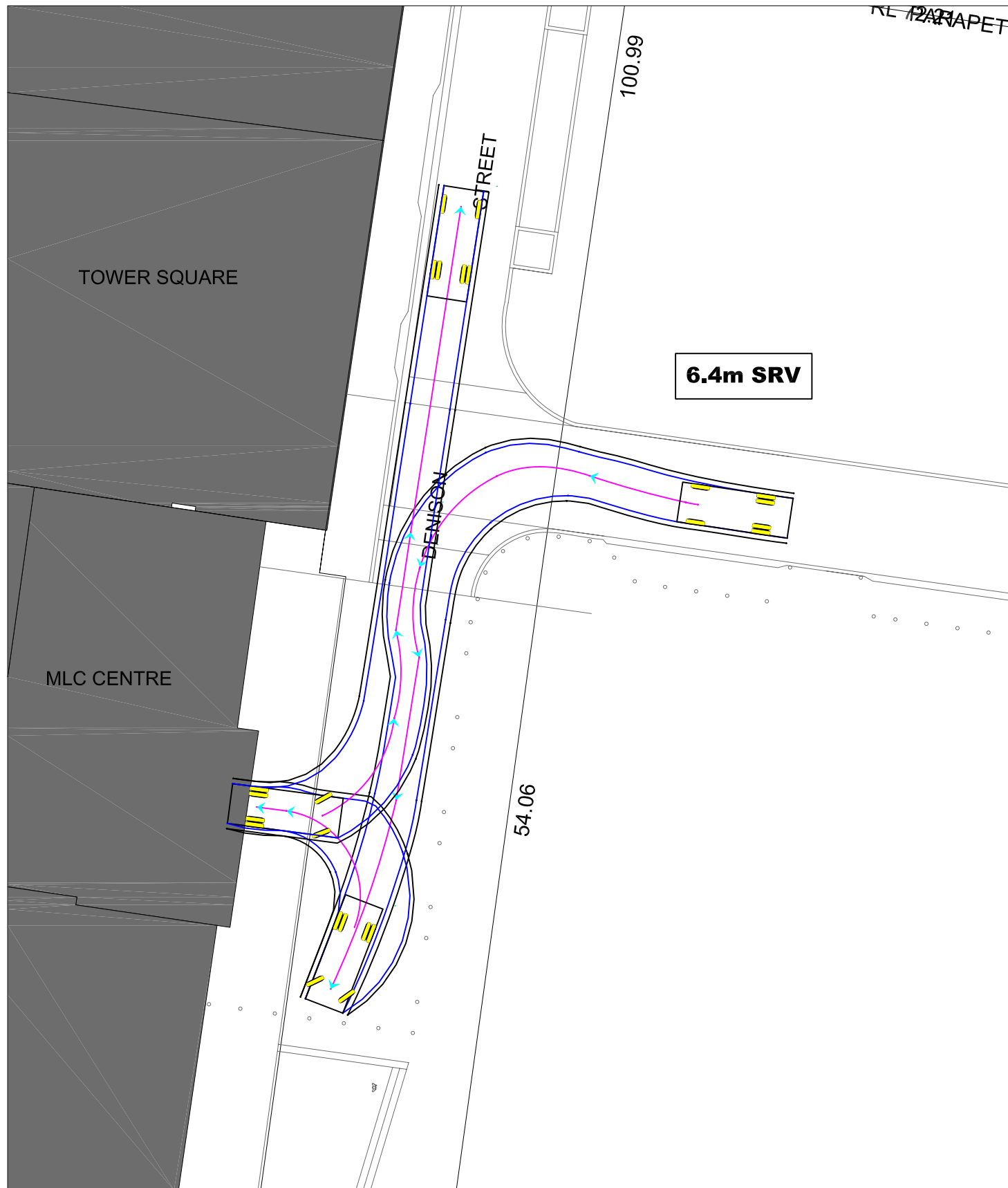
Appendix C-4

Date: 10 September 2009



# 6.4m SRV & 8.8m MRV USING MLC CENTRE LOADING AREA

88 WALKER ST, NORTH SYDNEY



Scale: 1:300@A3



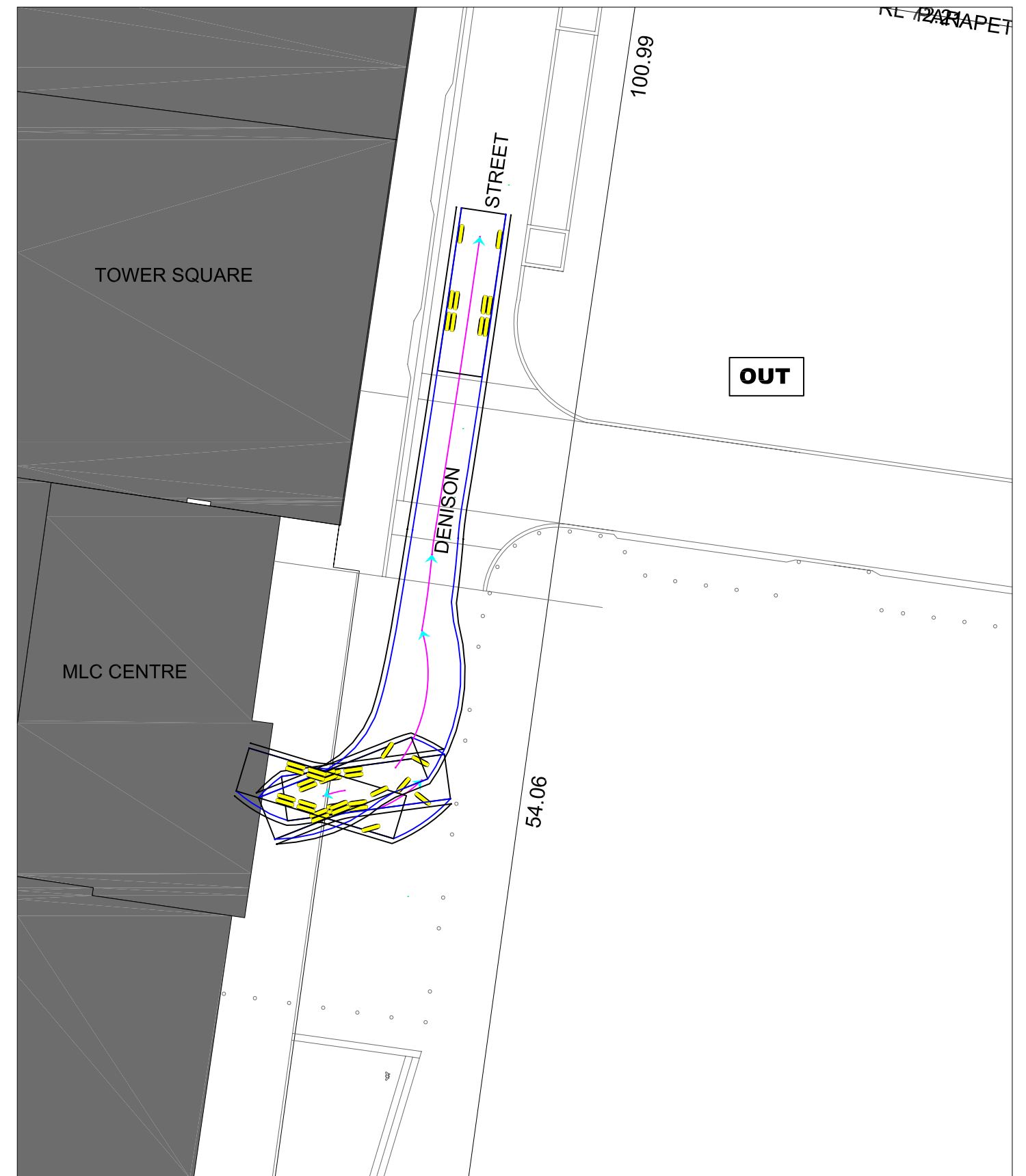
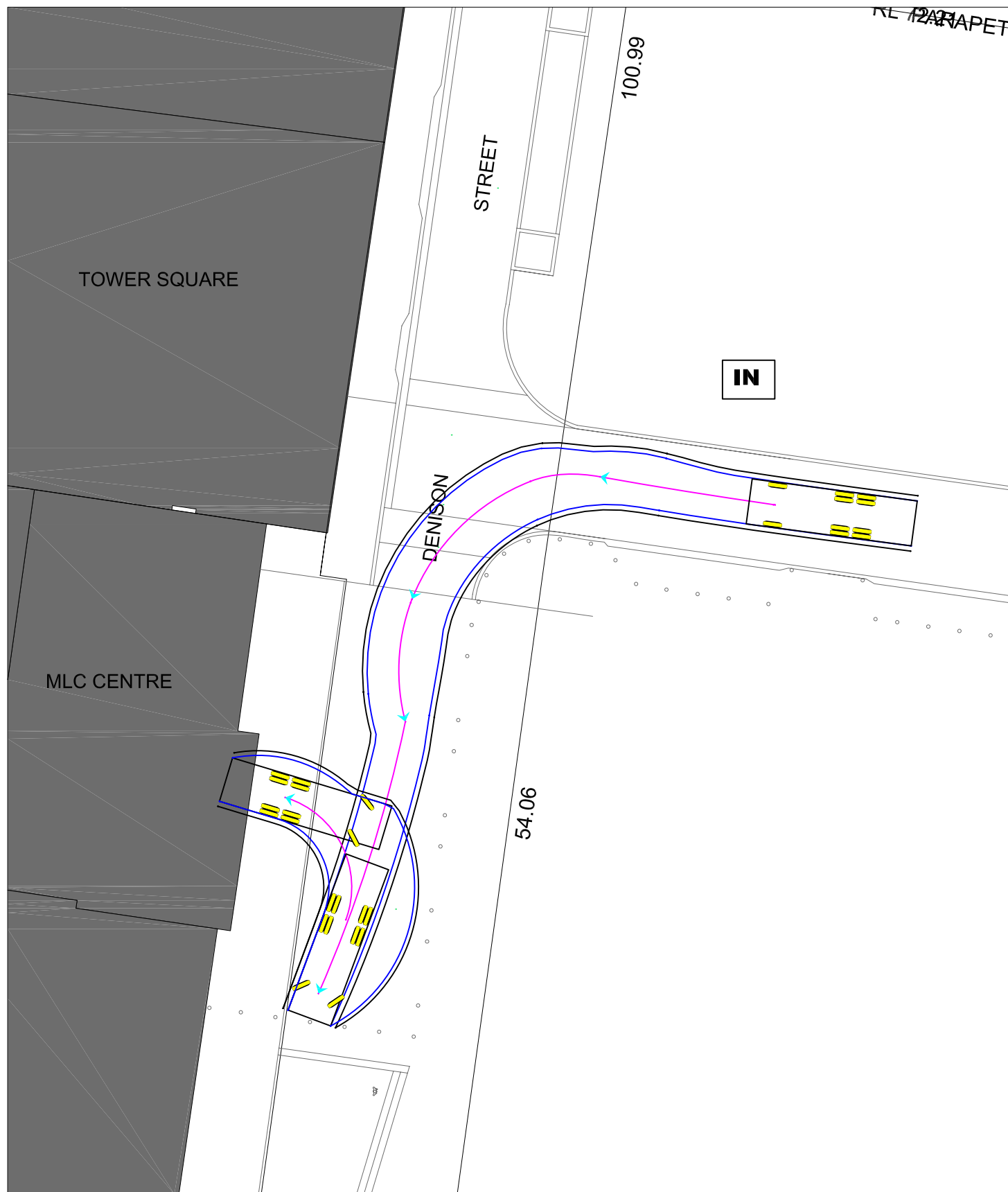
Filename: CTLCTU081/063142da16

Appendix C-6

Date: 14 September 2009

# WASTE TRUCK USING MLC CENTRE LOADING AREA

88 WALKER ST, NORTH SYDNEY



Scale: 1:300@A3



Filename: CTLCTU081/063142da16

Appendix C-7

Date: 14 September 2009