

Reference: #N114471

17 April 2018

Ramon Kane Project Management
PO Box 380
STRAWBERRY HILLS NSW 2012

Attention: Mr. Ed Ramon-Kane (Director)

Dear Ed

RE: DA142/2011 - MANLY WHARF STACK PARKING – SECTION 4.55 APPLICATION TRAFFIC AND PARKING ASSESSMENT

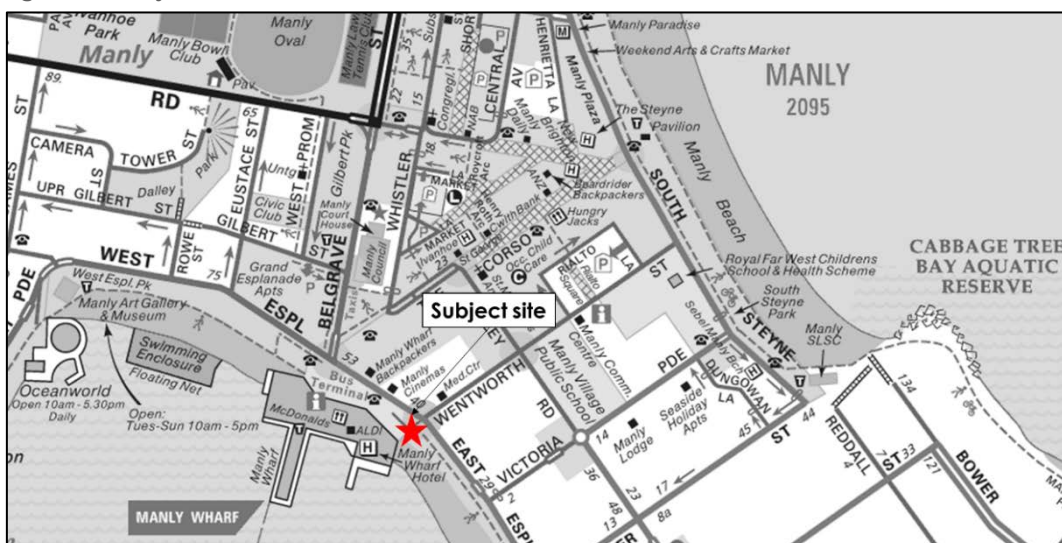
GTA Consultants (GTA) was commissioned by Ramon Kane Project Management to complete a parking assessment in relation to a Section 4.55 application – Modification of Consents (S4.55) seeking consent to amend Condition 60 of the development approval (DA142/2011). The modification aims to increase the car parking provision in the existing basement car park at Manly Wharf Car Park, managed and operated by Secure Parking.

This letter provides an assessment of the proposed modifications and operational arrangements to the basement car park and sets out the findings of this assessment.

Subject Site

Manly Wharf Car Park is located along the western side of the East Esplanade and Wentworth Street intersection near Manly Wharf as shown in Figure 1.

Figure 1: Subject site and its surrounds



Basemap source: Sydney

VIC | **NSW** | QLD
ACT | SA | WA

Level 6, 15 Help Street
CHATSWOOD NSW 2067
PO Box 5254
WEST CHATSWOOD NSW 1515
t// +612 8448 1800

www.gta.com.au

The basement car park provides public parking to both patrons of the Manly Wharf and the general public visiting the Manly foreshore area. The proposed modification aims to increase the car parking provision within the existing car park from 70 spaces to 91 spaces, providing an additional 21 car spaces.

A valet operated stack (tandem) parking arrangement is proposed for the site, comprising:

- 77 stack parking spaces
- 8 pick-up / drop off spaces
- 4 dedicated pick-up spaces
- 2 accessible parking spaces.

It is proposed to amend Condition 60 of DA142/2011, which specifies:

A contribution is to be paid prior to the issue of an Occupation Certificate for this consent for the provision, extension or augmentation of traffic and parking, environmental programs, streetscape and landscaping, community facilities and administration that will, or are likely to be, required as a consequence of development in the area.

Valet Operation Case Study (109 Pitt Street, Sydney)

The proposed car park is planned to be operated on a valet arrangement that is currently used in several other car parks that are currently managed by Secure Parking. It is understood that 109 Pitt Street, Sydney has a valet parking arrangement that is of similar size and arrangement intended.

A site visit completed on Sunday 11 March 2018 shows that the basement car park, located in Sydney CBD is accessed via Pitt Street and has a capacity of 103 car parking spaces.

The car park currently operates based on the following arrangement:

- Monday to Friday between 7am and 7pm: valet parking arrangement
- Monday to Friday prior to 7am and after 7pm, Saturday and Sunday: boom gate controlled self-parking.

The site visit also shows that three valet operators are available on site during the valet operation period. This valet arrangement effectively manages the car parking demand for the site, under the following general procedures:

- A vehicle enters the ramp and stops at the T-junction at the base of the ramp.
- A valet attendant greets the driver and provides a ticket (part one of a three-part ticket) to the driver.
- The driver would be enquired the time he/ she is likely to pick up the car.
- The key is then tagged with part two of the three-part ticket and stored within the valet attendant's office, with the final part three of the three-part ticket to be left in the car.
- The valet attendant then parks the vehicle based on the expected duration of stay.
- Vehicles parked for longer duration are located at Level Basement 3, whilst short-term parking vehicles are parked closer to the valet office.

The basement car park generally operates under Secure Parking's Terms and Conditions shown in Attachment 1.

A maximum of six vehicles can be parked around columns, as shown in Figure 2 and Figure 3 indicates that circulation aisles are generally unobstructed, with exception to Level B3 adjacent to the end of the circulation aisle.

Figure 2: Valet Arrangement 109 Pitt Street

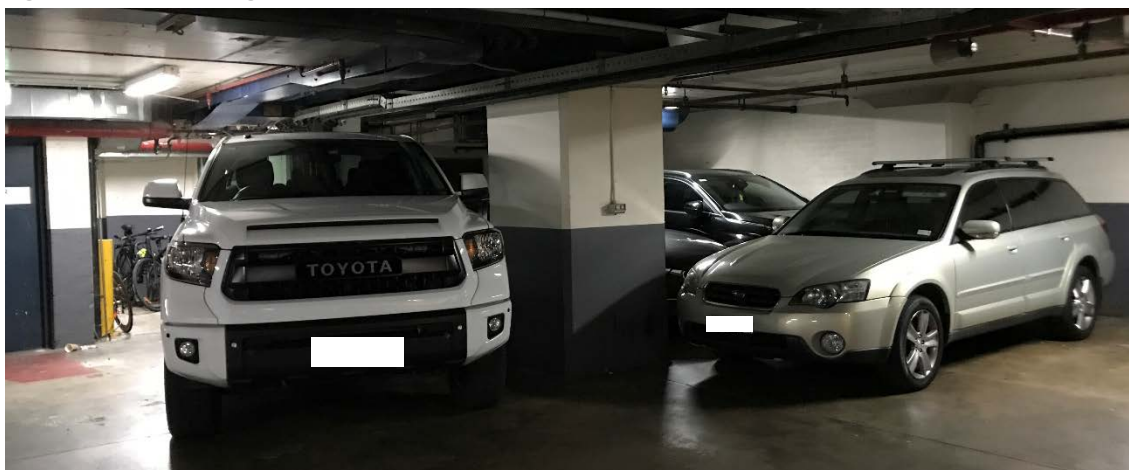
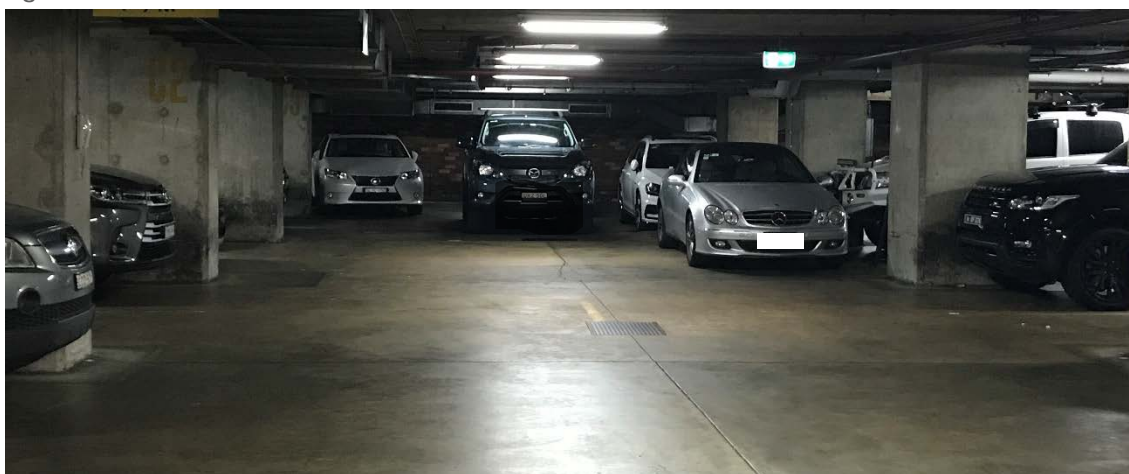


Figure 3: Level B3 of 109 Pitt Street, End of Aisle



The proposed operation at Manly Wharf Car Park is planned to be operated by two valet attendants based on a similar arrangement to 109 Pitt Street site, monitored by Secure Parking. Where necessary and during the peak periods, Secure Parking will arrange for additional valet attendant(s) where required to ensure the operation runs in an efficient manner.

Proposed Car Parking Layout

The car park layout has been designed based on the requirements of the Manly Council's *Manly Development Control Plan 2013 Amendment 5* and the Australian Standard for Off-Street Car Parking (AS2890.1:2004 and AS2890.6:2009). This assessment includes a review of the following:

- space and aisle width
- adjacent structures
- parking for persons with disabilities.

Overall, the site access arrangement and car park layout have generally been designed in accordance with the DCP 2013 and Australian Standard, with key commentary as follows:

- The existing access ramp via East Esplanade will be maintained and has been previously assessed during the original DA
- The circulation aisles within the basement car park will be modified to a six-metre wide two-way aisle generally south of the existing access ramp, suitable for two-way movements expected at the drop-off spaces
- A 3.55-metre wide aisle is provided to the aisle west of spaces 11 and 29. Vehicular movement through this area is expected to be managed by the valet attendant(s)
- Car spaces have been designed to be at a minimum 2.4-metre wide and 5.4-metre long and are designated for use by valet attendant only (i.e. no general public access)
- A minimum height clearance of 2.2 metres will be maintained throughout the car park and along the access ramp (including at the transitions) in accordance with AS2890.1:2004
- The existing boom gate will be opened during valet operation hours.

The proposed layout and access arrangement are expected to operate satisfactorily subject to the adoption of the above recommendations and other recommendations as detailed in Attachment 2.

Assessment

In formulating this assessment, GTA has adopted the parameters outlined below:

- | | |
|---|------------------|
| ○ Key handover time to valet attendant | 10 – 60 seconds |
| ○ Time to park vehicle | 15 – 60 seconds |
| ○ Driving speed | 15 km/h (4.2m/s) |
| ○ Walking speed | 5 km/h (1.4m/s) |
| ○ Average time for valet attendant to park from start to finish of the valet operation (including key pick-up, vehicle parking and return for next vehicle pick-up) | 75 – 120 seconds |

It is noted that these parameters are developed based on the observations made at other car parking facilities managed by Secure Parking in the Sydney CBD, where similar valet arrangement has been in operation for a period of time.

Based on the above parameters, each valet attendant can manage between 30 and 45 vehicles per hour (vph). Details of the arrival rate and number of valet attendants have not been provided for the site. As such, this assessment considers the potential implications of varying arrivals and number of valet attendants on the number of vehicles expected to queue within the basement.

Using a standard queuing theory model and assuming a capacity of 45 vph that can be managed by one valet attendant, the number of vehicles in the valet parking system has been calculated. The expected number of vehicles in the valet parking system for varying numbers of drivers and different arrival rates are summarised in Table 1.

Table 1: 95th Percentile Number of Vehicles in Valet Parking System

Arrival Rate (vph)	Number of Valet Attendant				
	1	2	3	4	5
20	4	3	3	3	3
30	8	4	3	3	3
40	23	5	4	4	4
50	-	6	5	4	4
60	-	9	5	5	5
70	-	14	6	5	5
80	-	-	8	6	5
90	-	-	9	7	6
100	-	-	12	7	6

Note:

Calculation is based on capacity of 45 vph per valet attendant.

The number of vehicles in the system include the vehicle being parked and all vehicles in queue

The access ramp (prior to the boom gate) permits queuing for up to nine vehicles (detailed further in the subsequent section). The number of valet attendants proposed is consistent with the current Manly Wharf Car Park's operation profile and will be monitored regularly by Secure Parking to ensure no queuing of vehicles on East Esplanade.

Access and Operation

Access to the site is maintained via the western side of the East Esplanade. It is proposed that Manly Wharf Car Park to be operated based on a valet arrangement in order to safely and effectively manage the basement car park and to provide additional car space capacity.

Patrons of the site will be required to exit their vehicles at the location of the primary vehicle drop-off location at the end of the access ramp. Patrons will then exit the car park using the existing egress arrangements (i.e. walking along the existing circulation aisle and exiting the car park through the existing passenger lifts).

It is proposed that this area also serves as a waiting area, due to its proximity to the car park office. It is also proposed that a valet attendant accompanies the patrons back to their vehicles, once the vehicle is driven to the primary pick-up spaces.

Safe movement of pedestrians would be managed by the Secure Parking by holding patrons at the waiting area and providing instructions on the pick-up location as well as the most direct route to the pick-up spaces.

Valet attendants will be required to park all vehicles at the dedicated pick-up parking spaces. In the event that the vehicle arrivals results in vehicles queuing along the ramp, the valet attendants will be required to direct vehicles to alternate drop-off spaces, primarily located around the base of the ramp, immediately adjacent to the existing boom gate.

It is proposed that the parking arrangement within the car park be based on the expected occupancy period, with patrons utilising the car park for longer periods being parked furthest from the access ramp.

At pick-up, valet attendants will be required to move vehicles to the primary pick-up spaces, located near the entrance. Upon pick-up, patrons will then exit the car park in a forward direction through the existing site egress.

Under this arrangement, access to/ from the car parking spaces by the patrons is essentially to/ from the vehicle drop-off and pick-up spaces, which are generally within close proximity to the existing access ramp. The parking of vehicles in such valet arrangement generally would involve no more than moving three vehicles at any given time, proposed to be undertaken by the valet attendants.

The proposed car parking arrangement is provided in Attachment 2.

The existing car parking spaces located near the access ramp (labelled spaces 12 and 39) would be removed to allow vehicles to circulate within the car park and to provide an adequate manoeuvring area for vehicles to exit the car park in a forward direction.

Given the car park will be strictly for use by valet attendant only (i.e. no general public access), the existing aisle width to the south of the access has been maintained, with an adequate manoeuvring area provided at the end of the circulation aisle.

Conclusion

This review shows that the proposed car park layout of 91 car parking spaces in the basement of the Manly Wharf Car Park can be achieved with the provision of appropriate valet parking arrangement. Such arrangement includes a minimum of two valet attendants to ensure vehicles can be parked or retrieved between designated drop-off/ pick-up spaces.

Based on a case study of similar valet car parking arrangement within the basement car park of 109 Pitt Street, Sydney indicates that the proposed valet arrangement for Manly Wharf Car Park can be accommodated and managed in a safe and effective manner.

Should you have any questions or require any further information, please do not hesitate to contact us in our Sydney office on (02) 8448 1800.

Yours sincerely

GTA CONSULTANTS

Dora Choi
Associate Director

encl.

Attachment 1 – Secure Parking's terms and conditions

Attachment 2 – Proposed layout and swept path assessment

Attachment 1

Secure Parking's Terms and Conditions



(name) Car Park

Terms and Conditions

You means anyone entering this Car Park. By entering this Car Park, you accept that a contract is formed between us on the following terms and conditions (Terms) (and no other):

1. If you do not accept the Terms you and any vehicle in which you entered (Vehicle) must immediately leave the Car Park. If you do so we will not charge a parking fee.
2. You must comply with all rules and directions displayed within the Car Park and any directions given to you by our staff. The Vehicle may only park in an area marked "Reserved" if that area is reserved for the Vehicle or the Vehicle is otherwise authorised by us to park in that area.
3. The Australian Consumer Law (ACL) provides consumers with guarantees that cannot be excluded, restricted or modified. These Terms do not affect any rights you have under the ACL or any other legal rights which cannot be excluded or modified. However to the extent permitted by the ACL and subject to any other legal restriction we exclude any terms, conditions, warranties, guarantees or other liability that might apply to us in respect of these Terms or anything done under them. For services other than services of a kind ordinarily acquired for personal domestic or household use or consumption we limit our liability, as permitted by the ACL, at our option, to the re-supply of the services or the payment of the cost of having the services supplied again. Unless you acquire anything under these Terms as an individual and wholly or predominantly for personal, domestic or household use or consumption and we cannot exclude liability, we are not liable for any indirect, special, consequential or economic loss or damage whether or not arising from default or negligence by us or our employees or agents.
4. If you leave the keys to the Vehicle with us, we may deliver the Vehicle to any person producing a ticket issued to you or producing other evidence of entitlement satisfactory to us.
5. You must pay us all parking fees and other costs incurred in relation to the Vehicle upon demand. A further parking fee is payable each time the Vehicle enters the Car Park. If you lose or fail to present a ticket required to be presented upon leaving the Car Park, you will be charged the maximum amount.
6. This contract does not affect any common law or statutory lien or other rights we have over the Vehicle. You grant us a 'security interest' as defined in the personal Property Securities Act 2009 Cth. to secure everything you owe us. We may retain possession of the Vehicle until everything you owe us in respect of this contract has been paid. Parking fees will continue to accrue during the period that we retain the Vehicle until we recover all fees and costs. If amounts due to us remain unpaid after 30 days, you agree that we can sell the Vehicle and use the proceeds to pay the amounts you owe us and you agree to take all steps required by us to permit us to do so.
7. We reserve the right for us and our contractors or agents to enter the Vehicle and to move it if we decide reasonably that is necessary in an emergency or if we reasonably consider it necessary for the safe or efficient operation of this Car Park. We may charge you a reasonable amount for moving the Vehicle if the need to move it arises because you breach these Terms or have caused obstruction or during the period of retention or sale for non-payment.
8. You must pay for any damage caused by you or the Vehicle to this Car Park including, but not limited to, any damage caused by oil or other substances which leak from the Vehicle.
9. You must indemnify us in respect of all losses, costs or expenses which we suffer or incur in respect of:
(a) a breach of these Terms by you; (b) the Vehicle; or (c) your use of this Car Park. In the case of paragraphs (b) and (c) your liability to indemnify is reduced to the extent that any relevant expense is caused by our negligence or default. This clause does not affect any rights you have under the ACL or other law which cannot be excluded or modified.



No warranty as to the security of this car park is expressed or is to be implied by the use of the word "Secure" in our logo or trading name. Secure Parking Pty Ltd. ABN 31 669 236 037. ACN 108 043 689 .

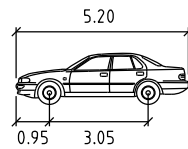
Attachment 2

Proposed layout and swept path assessment

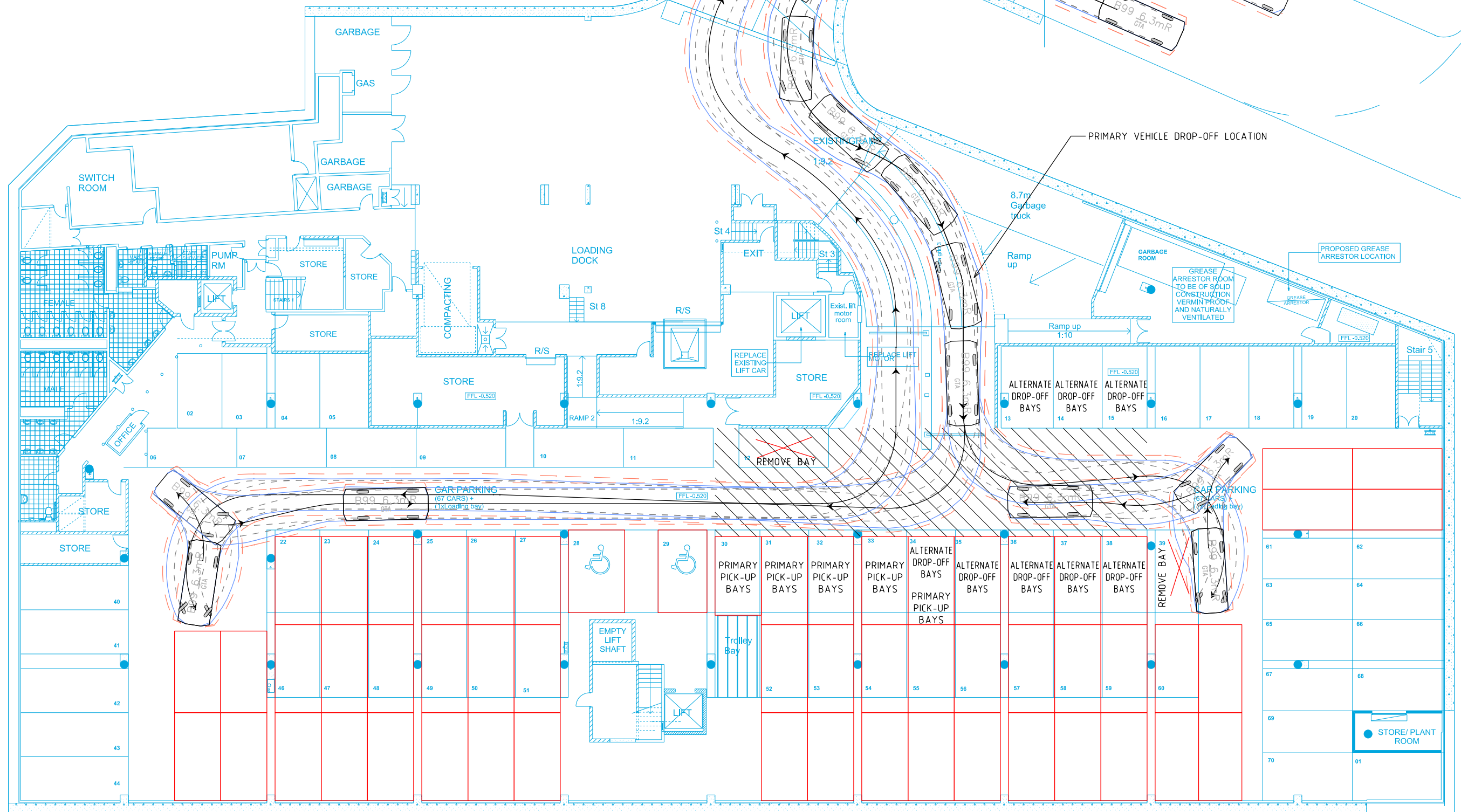
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SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY
- ASSUMED SPEED 5km/h



B99 6.3mR metres
 Width : 1.94
 Track : 1.77
 Lock to Lock Time : 6.0
 Steering Angle : 34.0



ON 17/04/2018 AT 4:32:54 PM

PLOTTED BY : Heiko Obermaier



Melbourne 03 9851 9600
 Sydney 02 9446 1800
 Brisbane 07 3113 5900
 Canberra 02 6243 9400
 Adelaide 08 8334 3600
 Gold Coast 07 5510 4814
 Townsville 07 4722 2765
 Perth 08 6169 1000

PRELIMINARY PLAN
 FOR DISCUSSION PURPOSES
 ONLY SUBJECT TO CHANGE
 WITHOUT NOTIFICATION

DESIGNED
 H.OBERMAIER

DESIGN CHECK
 -

APPROVED BY
 D.CHOI

DATE ISSUED
 17 APRIL 2018

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MANLY WHARF - CAR STACKING

VEHICLE SWEEP PATHS

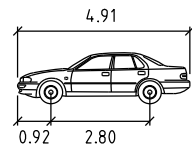
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SHEET 02 OF 03

ISSUE P2

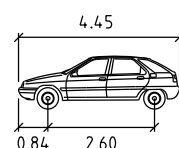
SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY
- ASSUMED SPEED 5km/h



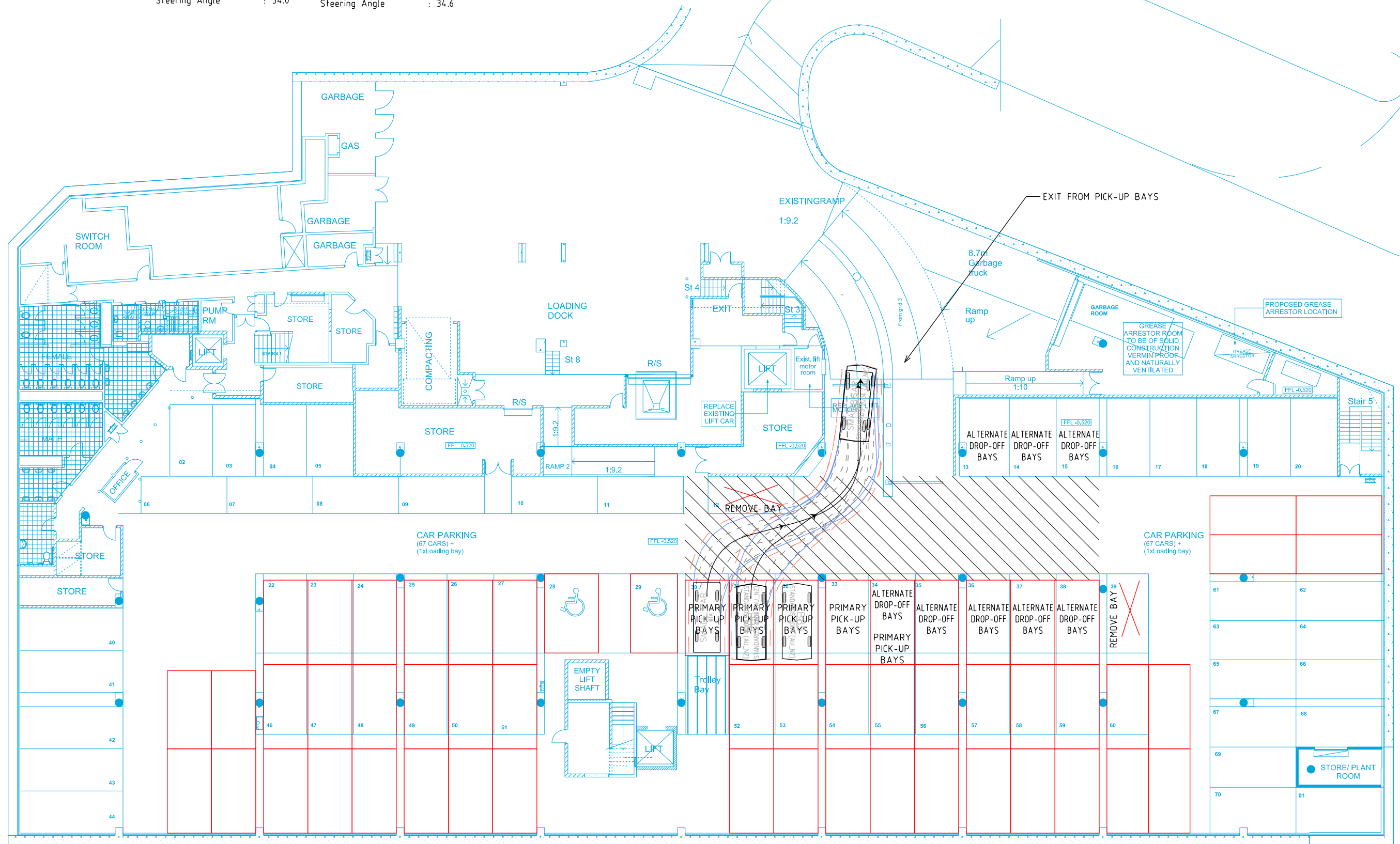
B85

metres
Width : 1.87
Track : 1.77
Lock to Lock Time : 6.0
Steering Angle : 34.0



SMALL CAR

metres
Width : 1.70
Track : 1.48
Lock to Lock Time : 6.0
Steering Angle : 34.6



ON 17/04/2018 AT 4:32:54 PM

PLOTTED BY : Heiko Obermaier



Melbourne 03 9851 9600
Sydney 02 9446 1800
Brisbane 07 3113 5900
Canberra 02 6243 9400
Adelaide 08 8334 3600
Gold Coast 07 5510 4814
Townsville 07 4722 2765
Perth 08 6169 1000

PRELIMINARY PLAN

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

DESIGNED
H.OBERMAIER

DESIGN CHECK
-

APPROVED BY
D.CHOI

DATE ISSUED
17 APRIL 2018

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MANLY WHARF - CAR STACKING

VEHICLE SWEEP PATHS

DRAWING NO. N114471-01-03

SHEET 03 OF 03

ISSUE P2