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6 PAINE STREET, NEWPORT

VICTORIAN CIVIL & ADMINISTRATIVE TRIBUNAL

**VCAT REFERENCE NUMBER:** P2101/2013

**DATE OF HEARING:** 3<sup>RD</sup>-7<sup>TH</sup> FEBRUARY, 2014

**DATE OF STATEMENT:** 11<sup>TH</sup> DECEMBER, 2013

**DATE OF INSPECTION:** 21<sup>ST</sup> NOVEMBER, 2013

**PREPARED FOR THE APPLICANT:** RAIO

**INSTRUCTED BY:** BEST HOOPER SOLICITORS

IN THE MATTER OF AN APPLICATION FOR REVIEW AGAINST HOBSONS BAY CITY COUNCIL'S NOTICE OF REFUSAL TO GRANT A PERMIT FOR A PROPOSED RESIDENTIAL DEVELOPMENT AT 6 PAINE STREET, NEWPORT.

**STATEMENT TO THE VICTORIAN CIVIL AND ADMINISTRATIVE TRIBUNAL BY CHARMAINE DUNSTAN,  
TRAFFIC ENGINEER**

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## 1. EXECUTIVE SUMMARY

### 1.1. Background and Proposal

This statement presents my traffic engineering assessment of a proposed 3 storey residential development at 6 Paine Street, Newport.

The proposal assessed by Hobson Bay City Council comprised 43 dwellings and 50 car spaces within a semi-basement carpark.

An Application for Review has been lodged by the Applicant against Council's Notice of Refusal to Grant a Permit for Application No. PA1226036.

A number of Statements of Grounds have been lodged by third party objectors, which raised the traffic issues of insufficient parking for residents and visitors, and increased traffic congestion. My response to the Statements of Grounds is presented at Section 8 of this statement.

A set of amended plans, prepared by Kavellaris Urban Design (dated 5<sup>th</sup> December, 2013), has been circulated for the VCAT hearing. These plans did not alter the number of dwellings and include minor modifications to the parking layout areas.

The amended plans detail a proposal for 43 dwellings, with 50 on-site car spaces and 44 bicycle spaces. Vehicle access to the site is provided via double width crossover to Paine Street.

A copy of the relevant information that is required to accord with the VCAT Practice Note No. 2 – Expert Evidence is attached at Appendix A.

I have visited the site, made various assessments, perused relevant documentation and plans, and report as follows.

### 1.2. Summary of Opinions

Having undertaken a detailed review of traffic engineering issues associated with the proposed residential development at 6 Paine Street, Newport, I am of the opinion that:

- a) the proposed development has a statutory car parking requirement of 54 car spaces under Clause 52.06-5 of the Planning Scheme (i.e. 46 resident spaces and 8 visitor spaces),
- b) the proposal provides 50 car spaces on the site, including 46 resident spaces in mechanical car stackers and 4 visitor spaces, and therefore, requires a reduction of 4 visitor spaces under Clause 52.06-6,
- c) there are adequate grounds to support a reduction of 4 visitor car spaces under the decision factors set out at Clause 52.06-6 on the basis of:
  - i. there is sufficient parking available on-street in the nearby area (including the site's frontages) to accommodate any overflow visitor parking demands, and
  - ii. the site has access to efficient public transport services.
- d) the bicycle parking provision accords with the requirements of Clause 52.34 of the Planning Scheme,
- e) the proposed parking layout and access arrangements to Paine Street accords with Clause 52.06-8, AS2890.1-2004 (where relevant) and current practice,
- f) the level of additional traffic generated as a result of this proposal will be low, residential in nature and will not have a detrimental impact on Paine Street or the surrounding local road network,
- g) waste collection for this site will occur on-street via Paine Street with bins transferred to and from the street for collection during non-peak traffic times under a Waste Management Plan, and
- h) there are no traffic engineering reasons why a planning permit for the proposed residential development should not be approved, subject to appropriate conditions.

## 2. THE PROPOSAL

The proposal is for a 3 storey residential development comprising 43 dwellings and 50 car spaces within a semi-basement carpark. A development summary setting out the proposed dwelling mix and car parking allocation is provided in Table 1.

**Table 1: Development Summary**

Dwelling Type	Number	Carparking Allocation	Car parking Rate	Car parking Type
One-bedroom	7	7	1 space/dwelling	46 car stacker spaces
Two-bedroom	33	33	1 space/dwelling	
Three-bedroom	3 (Note 1)	6	2 spaces/dwelling	
Visitors	43 (dwellings)	4	0.09 spaces/dwelling	4 standard spaces
<b>Total</b>	<b>43</b>	<b>50</b>	-	-

Note: Dwelling No. 1 includes an enclosed study and has been counted as a third bedroom for car parking assessment purposes in this statement.

The semi-basement carpark provides 50 car spaces, including 46 resident spaces within mechanical car stackers and 4 spaces for visitors as standard spaces. Access to the carpark is proposed via a new crossover to Paine Street, approximately midway along the site's frontage.

The construction of the new crossover will result in the loss of one on-street car space, leaving 26 on-street spaces remaining along the site's combined frontages to Paine Street, Crawford Street and Latrobe Street.

There are 44 bicycle spaces provided across the development as follows:

- 25 secure spaces within the corridors and storage areas on ground floor for use by residents.
- 11 spaces provided within the courtyard areas of each ground level dwelling.
- 8 spaces (4 rails) adjacent to each of the four pedestrian entrances to the site (2 rails on Crawford Street, 2 on La Trobe Street).

Pedestrian access will be available from Crawford Street, Latrobe Street and Paine Street. A new footpath is proposed along all of the site's frontages, including Armstrong reserve.

A copy of the amended VCAT plans detailing the parking layout and access arrangements for the site (prepared by Kavellaris Urban Design, dated 5<sup>th</sup> December, 2013) is attached at Appendix B.

## 3. BACKGROUND

### 3.1. Previous VCAT decision

The site has been the subject of a two previous planning applications and VCAT decisions. In traffic engineering terms, these development proposals were very similar to the current application with respect to the number of dwellings and on-site car spaces provided.

#### **VCAT reference No. P27/2012 (order dated 5<sup>th</sup> October, 2012)**

This application related a 42 dwelling development on the site, comprising 4 x one-bedroom and 38 x two-bedroom dwellings. Car parking for 49 vehicles was proposed, including 44 car spaces within independent mechanical car stackers. Five of the 49 spaces were to be allocated to visitors. Under Clause 52.06-5, this proposal would have satisfied the required resident parking demands, with a shortfall of 3 visitor spaces.

The Tribunal was satisfied with the proposal from a traffic and parking perspective, with the following key findings from the decision presented below:

**Visitor car parking**

- 70 Ms Dunstan provided traffic and car parking evidence. The development requires planning permission as it has only five visitor car parking spaces on the site, as opposed to the statutory requirement of eight spaces. Ms Dunstan said that the street boundaries of the site could accommodate 26 cars post development, that at present these frontages experienced a very low level of parking and that thus a reduction of the standard requirement for the provision of visitor car parking should be approved.
- 71 Residents submitted that the width of the surrounding streets were such that when cars are parked on both sides of the road, it is difficult for through traffic. The narrowest of the adjacent roads is Paine Street, at 7.0 metres. Clause 56.06-8 of the Hobsons Bay Planning Scheme, (although not applicable to the present application), details road widths for the construction of new subdivisions. It states that a road width of 7.0 to 7.5 metres for an access street – level 2 is sufficient to accommodate car parking on both sides of the carriageway, and a single lane of through traffic. On this basis we do not accept the submissions of the residents.
- 72 The residents also queried the accuracy of Ms Dunstan's traffic surveys, asserting that the capacity to park vehicles in the surrounding streets is lower, and the extent of actual car parking is higher, than was detailed in her evidence. Even if we were to accept the residents' data, we still find that there will be more than sufficient capacity to cater for the three visitor car parking spaces that are needed off-site at peak times.
- 73 We therefore consider it appropriate to grant the requested reduction in the provision of visitor car parking on site.

**Car stackers**

- 74 The residents were opposed to the design of the stackers, which in their view are of inadequate dimension to accommodate a significant number of vehicles types favoured in the neighbourhood. They were also concerned that the 100% reliance on stackers would mean that residents would be more likely to take advantage of the available and convenient on-street parking, to the detriment of the amenity of the local area.
- 75 Car stackers have been for some time an acceptable form of providing for long term parking within developments that appear before this Tribunal. Particularly for multi-level residential developments, stacker parking is becoming more and more common. There is nothing unusual or exceptional, therefore, in the proposed use of stackers to provide for the resident car parking in this development.
- 76 We also accept the evidence of Ms Dunstan that for longer stays, including overnight, residents are likely to prefer the security and weather protection provided by the on-site parking, even if it is slightly less convenient to use the stackers. She acknowledges that residents may use the kerb-side parking for short stays, for example between trips, but says that this will not cause a traffic issue in the surrounding streets as there is significant availability on-street.
- 77 Ms Dunstan's evidence is that the arrangement of the stackers is appropriate, that they provide appropriate turning circles, and that as the stackers operate independently, each vehicle can be accessed at any time. We accept her evidence that the height clearance of the stackers, at 1800mm, complies with the requirements of Clause 52.06-8. It is thus acceptable.

79 We therefore find the proposed use and design of the stacker car parking arrangement as proposed acceptable.

**Traffic impacts**

80 Ms Dunstan's evidence is that the existing level of use of the surrounding road network is well below capacity, and that the expected traffic levels from this development will not markedly change that situation. Having considered the traffic levels provided in her evidence, and the likely increase of traffic from this proposal, as well as our own observations of traffic levels during our site inspection, we accept her evidence.

81 In relation to the collection of waste, we acknowledge that it will require a waste vehicle to prop in Paine Street for a short period of time while the rubbish and recycling bins are retrieved and emptied. We anticipate that the Waste Management Plan will ensure that this is done in a manner which causes the least amount of interruption to the other traffic movements.

**VCAT reference No. P3214/2010 (order dated 6<sup>th</sup> April, 2011)**

This application related a 40 dwelling development, comprising 6 x one-bedroom and 34 x two-bedroom dwellings. Car parking for 47 vehicles was proposed on the site, including 20 car spaces within independent car stackers. Seven of the 47 spaces were to be allocated to visitors. Under the new Clause 52.06-5, this proposal would have satisfied the required resident parking demands, with a shortfall of one visitor space.

Similar to the 2012 decision, the Tribunal was satisfied with the proposal from a traffic and parking perspective, with the following key findings from the decision presented below:

42 In line with Ms Dunstan's evidence, it is clear to me that this network of local streets is comprised of reasonable quality road infrastructure and that it is currently operating well within capacity. Residents of the development would make heavier use of this road network but this is an offshoot of planning policy supporting the more effective use of existing assets. I do not equate this additional residential use with unacceptable amenity impacts on existing residents.

43 On consideration, I accept Ms Dunstan's evidence on behalf of the applicant. Specifically, I find that:

- the number of parking spaces on site is appropriate, noting that adequate resident parking is provided relative to ResCode provisions and there is only one visitor parking space to be 'waived' on these calculations;
- the current design of the ramp and basement is conventional, convenient and functional;
- the stacker parking as proposed would be readily workable and acceptable. These systems are regularly installed in developments of this nature and are commonly supported by the Tribunal. I am also satisfied that the installation and maintenance regime proposed by Ms Dunstan is suitable; and
- the site's frontages offer substantial opportunities for overflow on-street visitor parking if required from time to time.<sup>11</sup>

<sup>11</sup> Noting low parking counts which were consistent with my observations.



## 4. NOTICE OF REFUSAL

Hobsons Bay City Council issued a Notice of Refusal to Grant a Planning Permit for Application No. PA1226036 on the 5<sup>th</sup> September, 2013. The grounds of refusal are set out as follows:

1. *The proposal does not meet State Planning Policy, particularly the objectives and guidelines at Clause 15 (Built Environment and Heritage) of the Hobsons Bay Planning Scheme.*
2. *The proposal does not meet the Municipal Strategic Statement and Local Planning policy, particularly Council's objectives at Clause 21.02 (The Hobsons Bay Strategy), Clauses 21.06 (Built Environment & Heritage) and 21.07 (Housing) and Clause 22.10 (Neighbourhood Character) of the Hobsons Bay Planning Scheme as it negatively impacts on local neighbourhood character and the amenity of the surrounding residential areas.*
3. *The proposal does not satisfy the requirements of Clause 21.06-2 (Heritage) and Clause 22.01 (Heritage Policy) of the Hobsons Bay Planning Scheme because it is inappropriately designed and unrelated in terms of design, scale, form and materials to the historic context provided by the surrounding heritage places.*
4. *The bulk, form and appearance of the proposed building is inconsistent with the objectives and guidelines of Clause 43.01 (Heritage Overlay) of the Hobsons Bay Planning Scheme.*
5. *The proposed development does not meet the purpose of Clause 32.01 (Residential 1 Zone), as it does not provide residential development that respects the neighbourhood character.*
6. *The bulk, form and appearance of the proposed development will have an adverse impact upon the significance of the prevailing heritage precinct covered by Heritage Overlay – HO27 in the Hobsons Bay Planning Scheme.*
7. *The proposal fails to comply with the following Standards of Clause 55 (ResCode) of the Hobsons Bay Planning Scheme:*
  - *Standard B1 – Neighbourhood character*
  - *Standard B5 – Integration with the street*
  - *Standard B6 – Street setback*
  - *Standard B7 – Building height*
  - *Standard B8 – Site coverage*
  - *Standard B9 – Permeability*
  - *Standard B13 – Landscaping*
  - *Standard B28 – Private open space*
  - *Standard B31 – Design detail*
  - *Standard B32 – Front fences*
8. *The proposal is excessive in height and creates unreasonable visual bulk.*
9. *The proposal is not responsive to the prevailing character of the neighbourhood.*

Significantly, none of these Grounds of Refusal relate to traffic or parking issues.

### 4.1. Council Officer's Recommendation

I note that the Council Officer recommended approval of the application, subject to conditions. The conditions related to traffic and parking are provided below.

#### *Condition 1*

- g) *The front fence to the east of the proposed driveway on Paine Street reduced to 1.2m high for the first 2.0m along the road frontage, and the side fence reduced to 1.2m high for the first 2.5m from the front property boundary to provide for adequate pedestrian sight lines.*
- i) *The effective headroom clearance for the semi-basement car park, including the pit depth of 2m, provided at a minimum of 5.8m to comply with the applicable Australian Standards.*

- j) *The location of the columns in the car park to comply with Section 5 of AS/NZS 2890.1:2004 and setback from the front edge of the car space between 0.65m and 1.65m to comply with the specifications.*
- k) *Confirmation of the headroom clearance of the proposed semi-basement garage door (height of the garage door) through the provision of sectional plans of the semi-basement garage indicating the headroom clearance of the garage and the basement.*
- l) *The car park layout plan altered to correctly refer to 23 stackers in lieu of 22 stackers currently shown.*
- m) *Details demonstrating that the development complies with the Access to Premises Standards (via Australian Standard 1428.1 - design for Access and Mobility) including, to the satisfaction of the Responsible Authority:*
  - *Provision of a continuous accessible path of travel to the front door for the dwellings (that is from the car park to the lift; and from the street into the building, and consequently into the dwelling);*
  - *Provision of internal openings and hallways that meet the Standard;*
  - *Ensuring the minimum width of any common area in the building meets the Standard;*
  - *Ensuring the lift dimensions meet the Standard;*
  - *Provision of a designated accessible car space that is placed closest to the lift and is not located in a car stacker;*
  - *Ensuring the entrance to the car park is to have a minimum headspace above dedicated accessible car spaces;*
  - *Alterations to the ramp entrance from the car park to the foyer area that does not rely on the car park entry ramp.*
- n) *The construction of a 1.5 metre wide pedestrian footpath along the three street frontages to the subject site. The design and construction of the footpaths is to be carried out by the owner at their expense to the satisfaction of the Responsible Authority.*
- o) *The provision of indented parking bays for three cars on the northern side of Paine Street within the nature strip in accordance with the plans approved by Council pursuant to Condition 27 of this permit.*
- p) *The construction of a 1.5 metre wide pedestrian path along the length of the Armstrong Reserve property boundary of which 500mm of it is to be accommodated within Council the reserve. The design and construction of the footpaths is to be carried out by the owner at their expense and to the satisfaction of the Responsible Authority.*

The amended plans generally address these requirements except for conditions 1(m) and 1(o). The following statement refers to each of the above conditions where appropriate.

## 5. STATEMENTS OF GROUNDS

I understand that a number of Statements of Grounds have been received by VCAT. Most were provided in a pro-forma format. The grounds relating to traffic and parking on this form were as follows:

*The proposed development does not provide adequate parking for the number of proposed residences. Whilst some on-site parking is provided, by utilisation of stacker parking machines, the balance of the cars will be required to park in the surrounding streets which are very narrow.*

*The increased traffic from such a densely populated site will exacerbate current difficulties and delays residents face entering Melbourne Road (from Yarra Street, Bunbury Street, Paine Street, Wilkins Street, North Road) and exiting Williamstown and Newport.*

The officer's report stated that over 300 submissions were received at the town planning stage, which generally raised similar grounds for objection.

This statement addresses the concerns raised by objectors throughout the body of this evidence. A summary of my response is provided in Section 8 of this statement.



## 6. EXISTING CONDITIONS

### 6.1. Development Site

The development site is located on the north side of Paine Street, between Latrobe Street and Crawford Street. A locality plan and photograph of the site are provided at Figure 1 and Figure 2, respectively.

The site is irregular in shape with frontages to Paine Street of approximately 66m, to Latrobe Street of 44m and to Crawford Street of 79m. The site has a total area of approximately 3,250m<sup>2</sup>. The site is currently vacant, however I understand it was previously used as a timber and building supplies yard.

Vehicle access to the site was previously provided via a gravel crossover approximately 10m wide at the intersection of Paine Street and Latrobe Street. The crossover is disused and is now overgrown.

A total of 27 unrestricted car spaces are available along the site's frontages to Latrobe Street (6 spaces), Paine Street (9 spaces) and Crawford Street (12 spaces).

The site is located within a Residential 1 Zone under the Planning Scheme (as presented at Figure 3). Land-use in the immediate vicinity of the site is predominately residential, with the exception of Armstrong Reserve which abuts the northern site boundary. Significant non-residential land-uses in the vicinity of the site include:

- **Newport Rail Workshops and Gardens Railway Station**, beginning 400m west of the subject site,
- **Newport Neighbourhood Activity Centre**, located approximately 750m north-west of the subject site,
- **Newport Park**, beginning approximately 500m north-east of the subject site,
- **Westbourne Grammar School**, located approximately 700m east of the subject site, and
- **The Williamstown Major Activity Centre**, located approximately 1.6km walking distance to the south-east of the subject site.

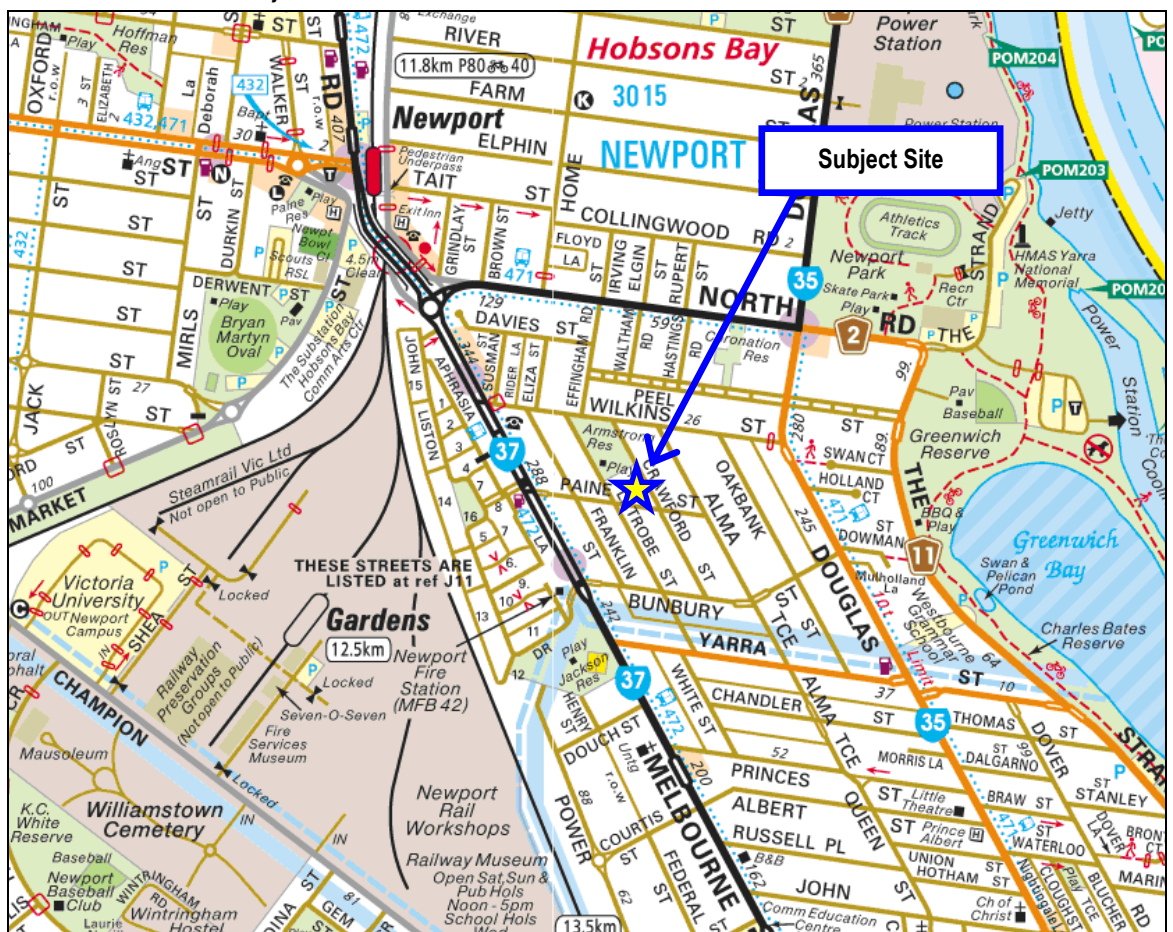


Figure 1: Locality Plan

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Figure 2: Subject Site – Paine Street Frontage

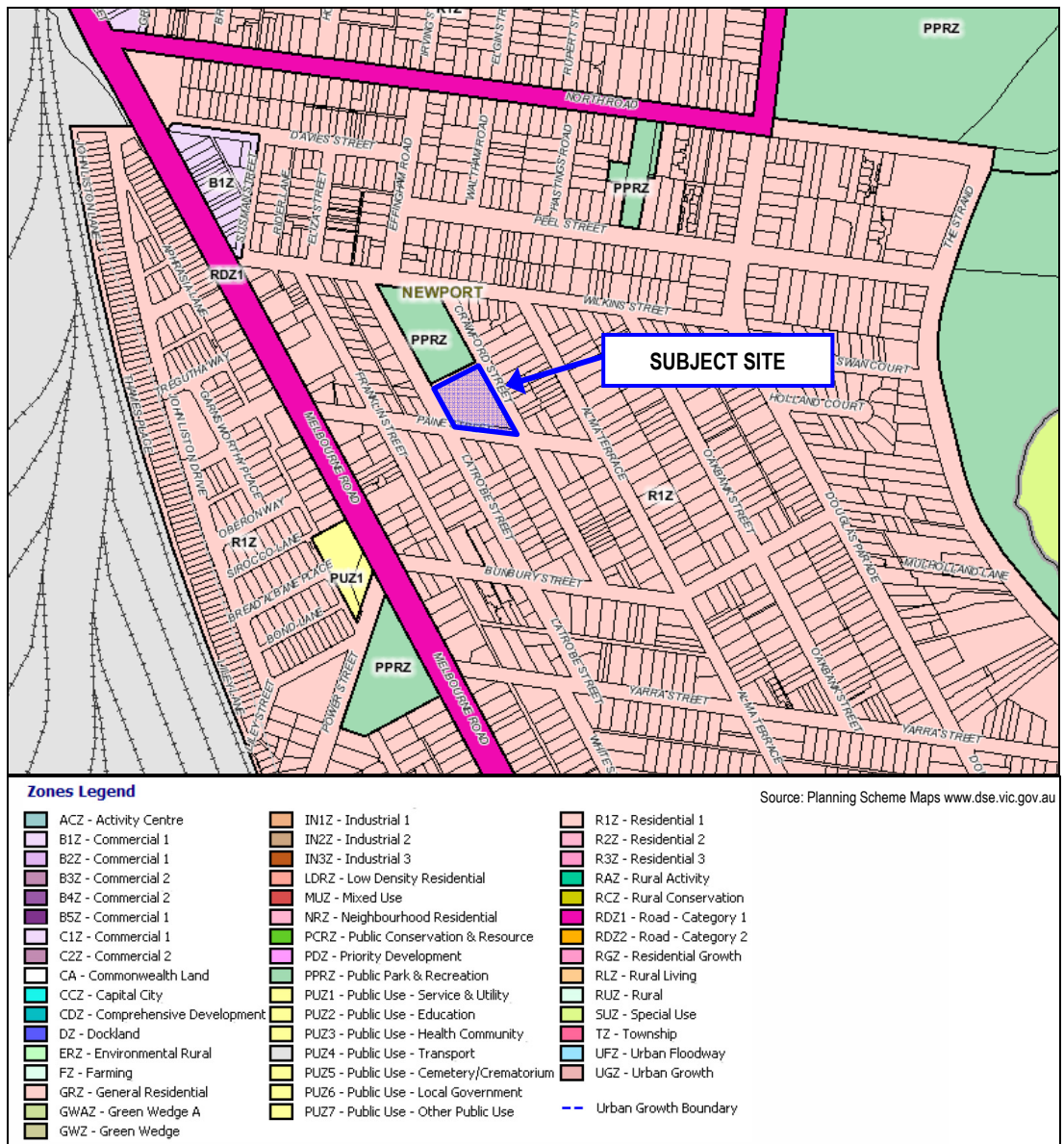


Figure 3: Planning Scheme Zoning Map

## 6.2. Road Network

**Paine Street** is classified as a local street and is aligned in an east-west direction between Melbourne Road in the west and Alma Terrace in the east. Paine Street has a carriageway width of 7.0m. Footpaths are generally provided on both sides of Paine Street, with the exception of the site's frontage where no footpath is provided.

All traffic movements are permitted at the intersection of Paine Street with Melbourne Road, which is controlled by a 'Stop' sign in Paine Street.

**Latrobe Street** is a local street aligned in a north-west to south-east direction between Wilkins Street in the north and Yarra Street in the south. Latrobe Street has a carriageway width of 7.7m. A footpath is provided on the western side of Latrobe Street only (between Paine Street and Wilkins Street).

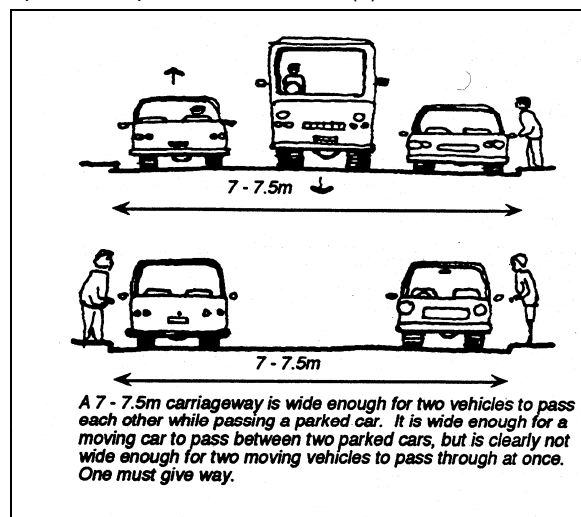
**Crawford Street** is a local street aligned in a north-west to south-east direction between Wilkins Street in the north and Bunbury Street in the south. In the vicinity of the subject site, Crawford Street has a carriageway width of 7.8m. A footpath is provided on the eastern side of Crawford Street only (between Paine Street and Wilkins Street).

Both Latrobe Street and Crawford Street form cross-intersections with Paine Street, which are controlled by 'Stop' signs with priority given to Paine Street traffic.

The default 50km/h urban speed limit applies to the above local roads.

A carriageway width of between 7m and 8m (as Paine Street, Latrobe Street and Crawford Street provide) allows sufficient width for vehicles to legally park on both sides of the road and maintain one lane of shared two-way traffic. Alternatively, the road width can accommodate two lanes of traffic and one lane of parking. These arrangements are illustrated in Figure 4.

It is expected that the applicant would be required to construct the footpaths along the site's frontages to Paine Street, Latrobe Street and Crawford Street as the proposed development will take direct pedestrian access to each of these roads in the form of either a shared pedestrian access or as a private pedestrian access to individual dwellings on the ground floor. This requirement should be included as a condition of permit, as per draft condition 1(n) in the Council Officer's report.



**Figure 4: Typical On-Street Parking Arrangements in Local Streets**

Source: Victorian Code for Residential Development: Subdivision and single Dwellings (VicCode 1).

Photographs depicting the surrounding road network are presented in Figure 5 to Figure 10.





Figure 5: Paine Street – View east from Latrobe Street



Figure 6: Paine Street – View west from Crawford Street



Figure 7: Crawford Street – View north from Paine Street



Figure 8: Latrobe Street – View north from Paine Street



Figure 9: Latrobe Street - View south from Paine Street



Figure 10: Crawford Street – View south from Paine Street

### 6.2.1. Road Safety Review

A review of the State Road Accident Records (CrashStats) has been undertaken in vicinity of the subject site for the past 5 years of available data (01/01/2008 to 31/12/2012)<sup>1</sup>. The crash investigation area is shown in Figure 11.

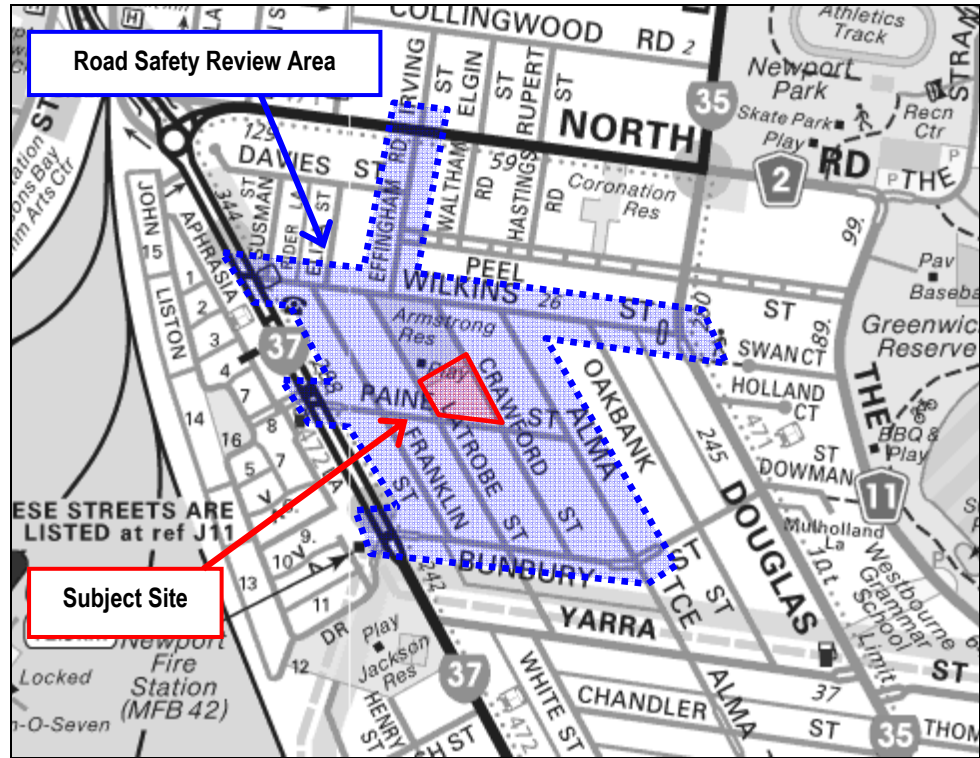


Figure 11: Road Safety Review Area

The review indicates that there has been one casualty crash recorded within the review area over this time period. A 'cross traffic' (DCA Code 110) crash occurred at the intersection of Melbourne Road and Bunbury Street. A vehicle travelling west on John Liston Drive failed to give way to and collided with vehicle travelling north on Melbourne Road. This collision was classified as an 'Other Injury' (i.e. minor injury) with one of the drivers requiring medical treatment. This crash occurred at 5pm on Thursday 16<sup>th</sup> September, 2010 in dry conditions.

This review does not identify any discernible crash patterns at this intersection or the surrounding local road network.

### 6.3. Existing Parking Conditions

A series of spot parking occupancy surveys have been conducted by Traffix Group. These surveys were undertaken at various times to establish a parking profile for the area surrounding the site. The surveyed times were:

- 1pm and 8pm on Thursday 21<sup>st</sup> November, 2013, and
- 1pm and 8pm on Saturday 23<sup>rd</sup> November, 2013.

The survey times include the expected peak times for residential visitors of the proposed development and the surrounding residential area.

The area surveyed is shown in Figure 12 and the detailed results of the surveys are provided at Appendix C.

<sup>1</sup> Casualty crash data is contained in the VicRoads' *CrashStats Internet Database* and includes all reported casualty crashes (i.e. injury crashes), which are classified into Fatal Injury, Serious Injury and Other Injury (i.e. minor injury) crashes. Property damage only or non-injury crashes are not included in the database.



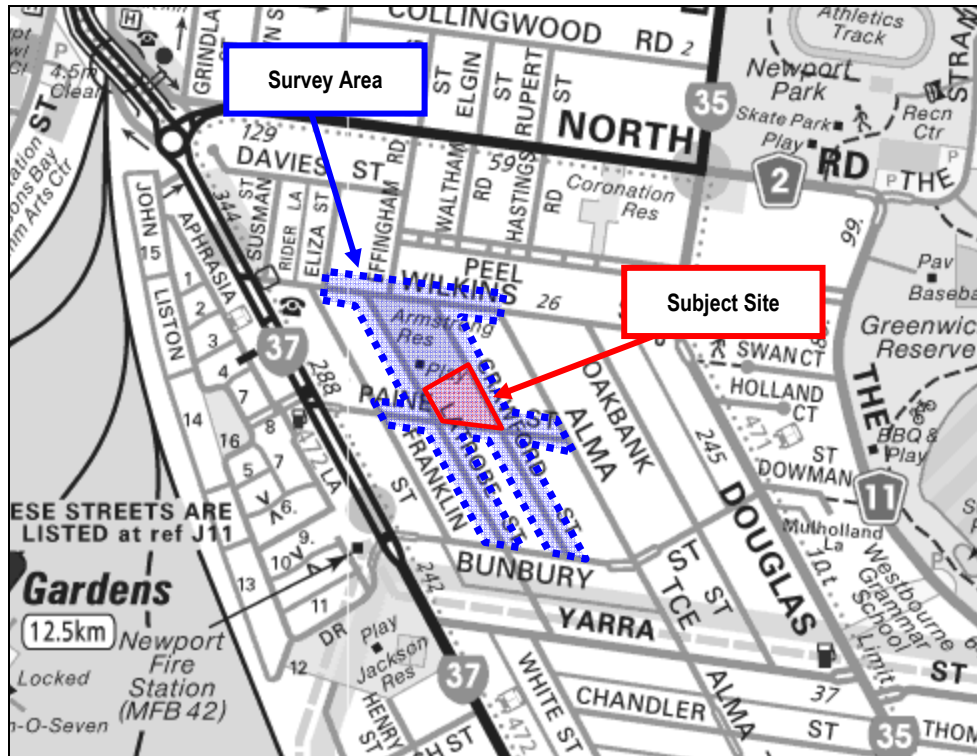


Figure 12: Parking Survey Area

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A total of 238 unrestricted car spaces are available within the survey area and a total of 27 car spaces are available along the site's frontages to Latrobe Street (6 spaces), Paine Street (9 spaces) and Crawford Street (12 spaces).

The profile of on-street parking demands recorded in these surveys is provided at Figure 13.

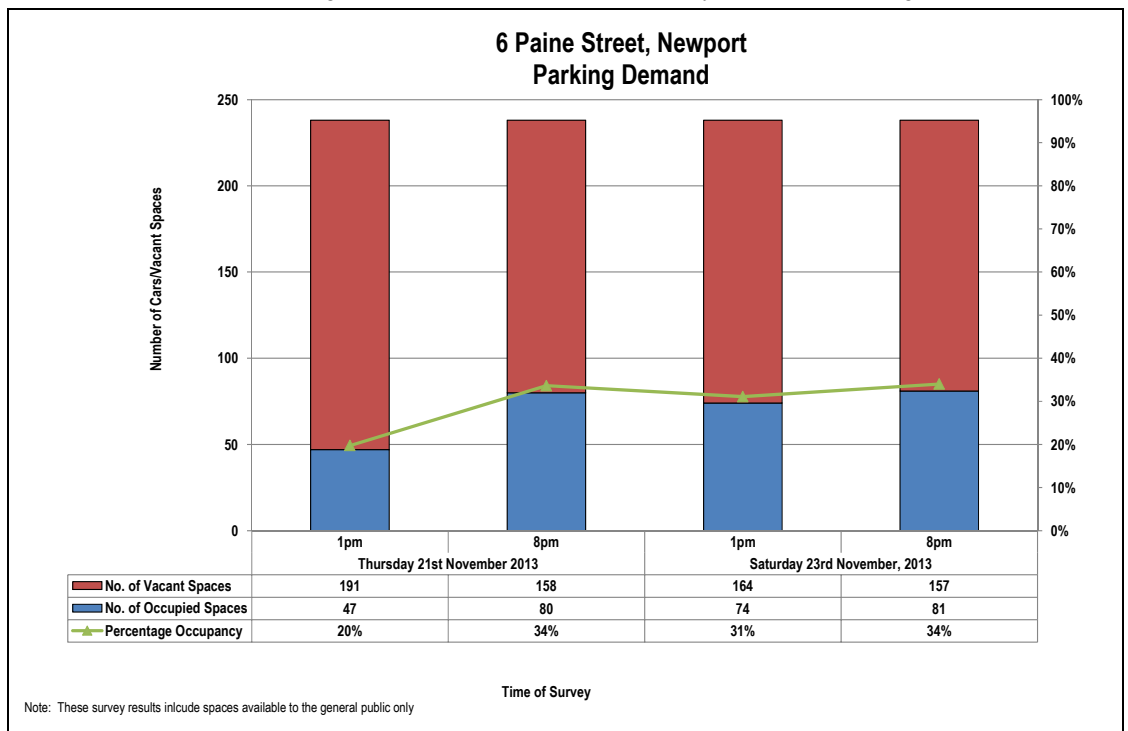


Figure 13: Profile of On-Street Parking Demands

The demand for parking within the survey area was low at all surveyed times, with a peak demand recorded at 8pm on Saturday 23<sup>rd</sup> November, 2013. At this time, a total of 157 vacant car spaces were available (representing 81 parked cars and a parking occupancy of 34%).



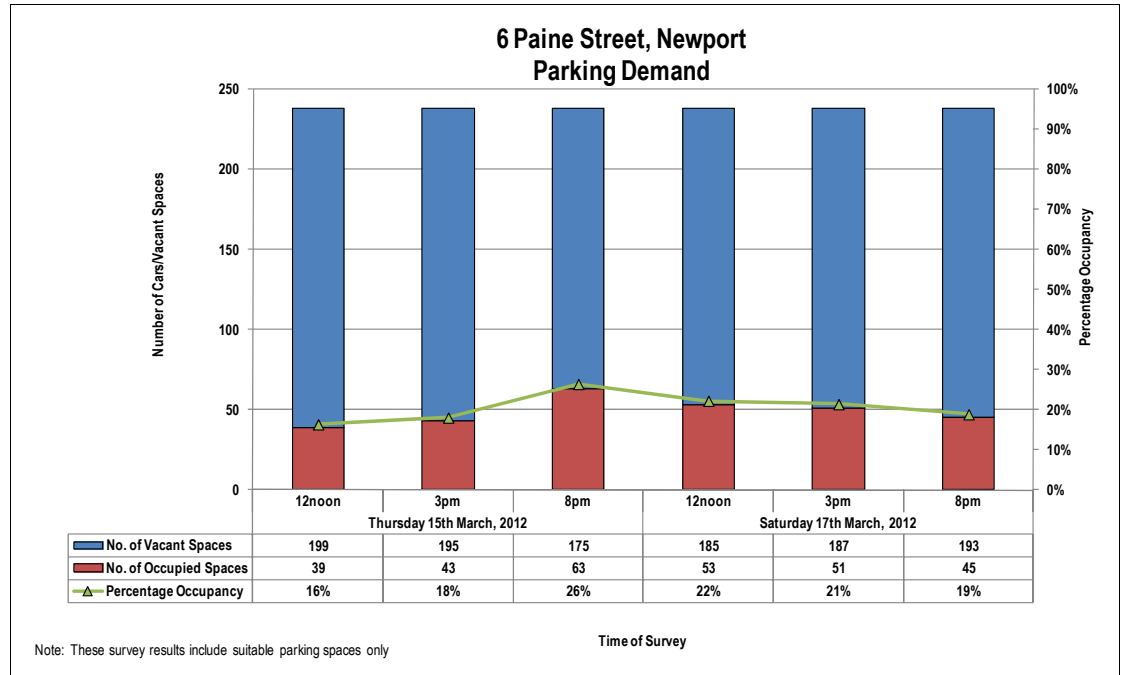
Significantly, no more than 6 parked cars (leaving 21 vacant spaces) were recorded along the site's combined frontages to Latrobe Street, Paine Street and Crawford Street.

### 2012 Surveys

Traffix Group has previously undertaken surveys in March, 2012 at the following times:

- 12noon, 3pm and 8pm on Thursday 15<sup>th</sup> March, 2012, and
- 12noon, 3pm and 8pm on Saturday 17<sup>th</sup> March, 2012.

The profile of on-street parking demands recorded in these surveys is provided at Figure 13.



**Figure 14: Profile of On-Street Parking Demands**

The demand for parking within the survey area was low at all surveyed times, with a peak demand recorded at 8pm on Thursday 15<sup>th</sup> March, 2012. At this time, a total of 175 vacant car spaces were available (representing 63 parked cars and a parking occupancy of 26%).

Significantly, no more than 3 parked cars (leaving 24 vacant spaces) were recorded along the site's combined frontages to Latrobe Street, Paine Street and Crawford Street.

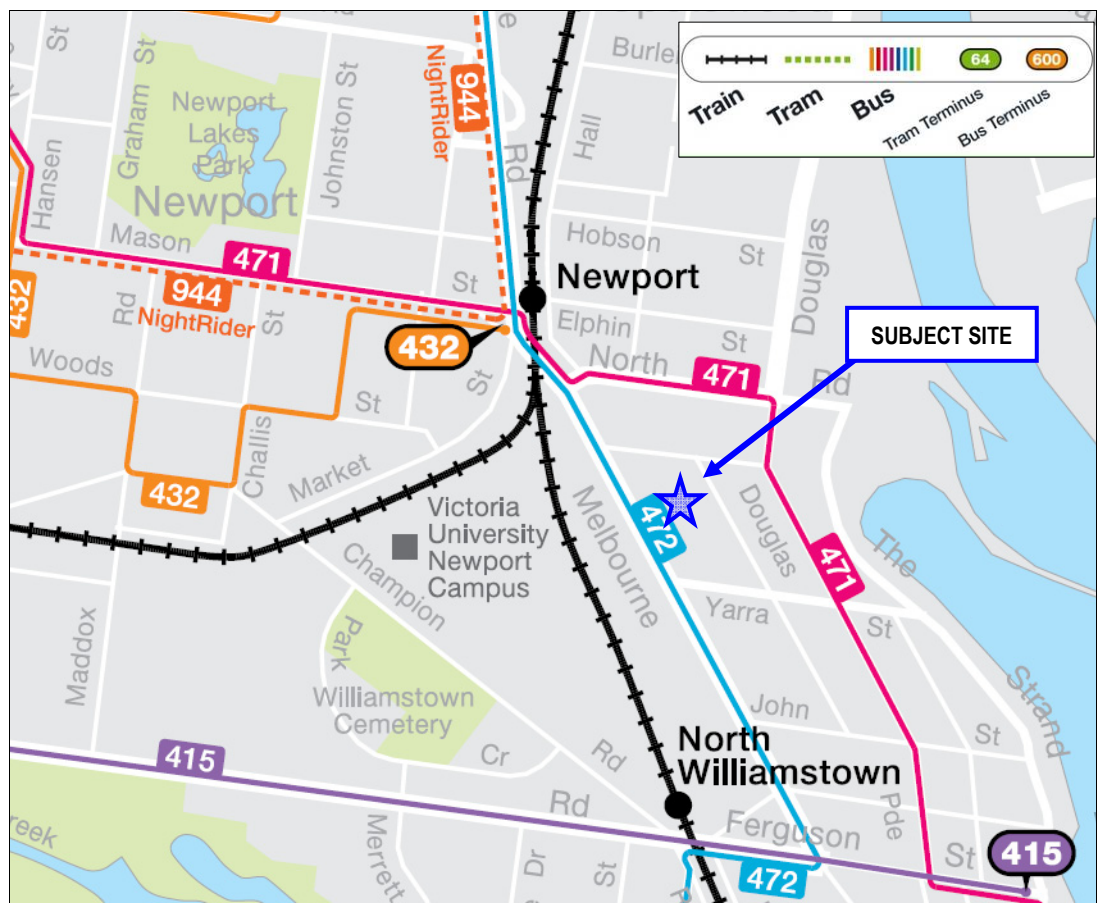
## 6.4. Public Transport and Alternative Transport Modes

The site has available public transport services in the form of train and bus services within reasonable walking distances. The available public transport services within walking distance are detailed in Table 2 and Figure 15.

**Table 2: Public Transport Services in the Vicinity of the Subject Site**

Service	Between	Via	Operating Times (General Frequency) <sup>1</sup>		
			Monday-Friday	Saturday	Sunday
Railway Station – Approximately 800m walking distance from the Subject Site					
Newport Railway Station	Williamstown, Werribee & CBD	Yarraville & Footscray	5:10am-1:25am (4-30min)	5:30am-1:25am (20-30min)	7:50am-12:30am (20-30min)
Bus Route – Operating along North Road – Approximately 350m north of the subject site					
Bus Route 471	Williamstown & Sunshine	Newport & Altona Gate Shopping Centre	6:30am-9:40pm (20-60min)	7:20am-9:40pm (30-60min)	9:30am-10:00pm (50 minutes)
Bus Route – Operating along Melbourne Road – Approximately 200m west of the subject site					
Bus Route 472	Williamstown & Moonee Ponds	Footscray	5:50am-9:50pm (15-60min)	6:30am-9:30pm (20-60min)	9:00am-10:20pm (50min)

Note 1: Operating times and frequencies are provided as a general guide.



**Figure 15: Public Transport Map**

Source: www.ptv.vic.gov.au

The subject site also benefits from the provision of on-road and off-road bicycle paths, with formal and informal bicycle lanes on many major roads in vicinity of the site. Dedicated on-road bicycle lanes are provided along Melbourne Road, The Strand and Kororoit Creek Road. In addition, Douglas Parade, Alma Terrace, North Road and Wilkins Street are designated as informal bicycle routes. This infrastructure links the site to various destinations within the City of Hobsons Bay and with surrounding municipalities. Bicycle infrastructure in the vicinity of the site is shown in Figure 16.

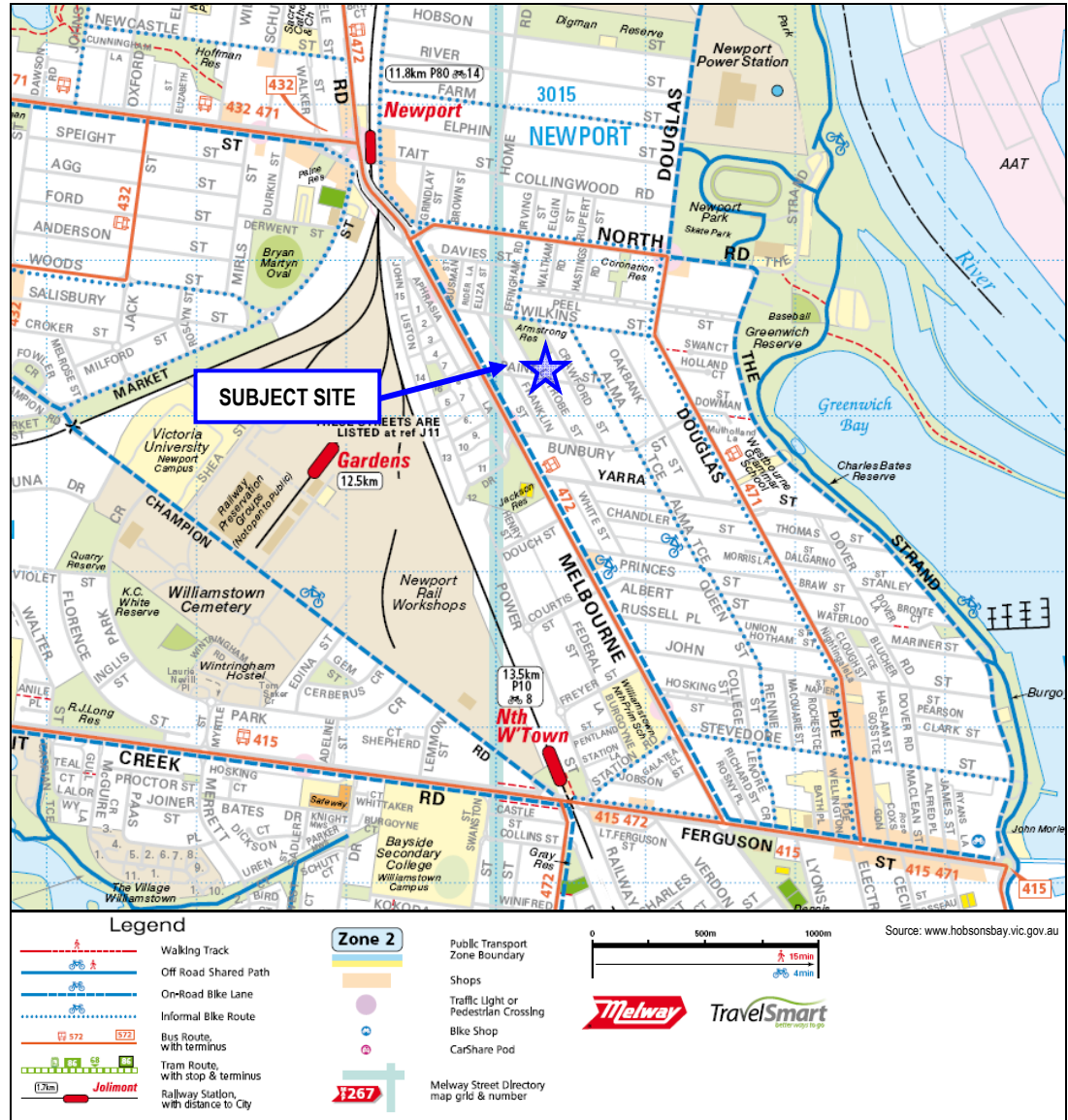


Figure 16: Sustainable Transport Map

## 6.5. Demographic Profile

A review of car ownership statistics for the suburb of Newport and the City of Hobsons Bay highlights the following average car ownership statistics. This data was recorded by the Australian Bureau of Statistics (ABS) in the 2011 Census and includes all respondent data in the 'private dwelling' category.

**Table 3: Car Ownership Data: 2011 Census, Australian Bureau of Statistics**

Type of Dwelling	Average No. of Cars	
	Suburb of Newport	Hobsons Bay LGA
<b>Dwelling Type: Flats Units and Apartments</b>		
1 bedroom	0.8	0.7
2 bedroom	1.1	1.0
3 bedroom	1.0	1.3
<b>Dwelling Type: Semi-detached, Row/terrace, Townhouse</b>		
1 bedroom	0.7	0.6
2 bedroom	1.3	1.2
3 bedroom	1.7	1.6

It is noted that the dwelling types proposed in this application are best described as a 'flat, unit or apartment', rather than 'semi-detached, row/terrace or townhouse', however, both sets of data are provided as background information.

## 7. TRAFFIC ENGINEERING ASSESSMENT

### 7.1. Statutory Car Parking Requirements

The proposed development is situated within a Residential 1 Zone under the Planning Scheme.

The proposed use of the site falls within the land-use category of 'dwelling' under Clause 74 of the Planning Scheme.

The Planning Scheme sets out the parking requirements for new developments under the recently updated Clause 52.06.

The purpose of Clause 52.06 is:

- To ensure that car parking is provided in accordance with the State Planning Policy Framework and Local Planning Policy Framework.
- To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.
- To support sustainable transport alternatives to the motor car.
- To promote the efficient use of car parking spaces through the consolidation of car parking facilities.
- To ensure that car parking does not adversely affect the amenity of the locality.
- To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.

The car parking requirements for the proposed use is specified in the car parking table at Clause 52.06-5 of the Planning Scheme. The assessment is set out as follows.

**Table 4: Development Car parking Requirement under Clause 52.06-5**

Proposed Use	Number	Statutory Park Rate (Column A)	Parking Requirement <sup>(1)</sup>	Parking Provision	Surplus Shortfall
One-Bedroom Dwelling	7	1 space per dwelling	7	7	0
Two-Bedroom Dwelling	33	1 space per dwelling	33	33	0
Three-Bedroom Dwelling	3 <sup>(2)</sup>	2 spaces per dwelling, with studies or studios that are separate rooms counted as bedrooms	6	6	0
Visitor Parking	43	0.2 spaces per dwelling	8	4	4
<b>TOTAL</b>			<b>54</b>	<b>50</b>	<b>-4</b>

Notes:

- (1) Clause 52.06 specifies that where a car parking calculation results in a requirement that is not a whole number, the number of spaces should be rounded down to the nearest whole number.
- (2) The enclosed study of Dwelling 1 has been counted as bedroom

Under Clause 52.06-5, the parking requirement for the development is 54 car spaces. As 50 spaces are provided on the site, the shortfall is 4 spaces which relates to visitor parking.

## 7.2. Reducing the Requirement for Car Parking

Clause 52.06-6 allows for the statutory car parking requirement to be reduced (including to zero). An application to reduce (including reduce to zero) the number of car spaces required under Clause 52.06-5 or in a schedule to the Parking Overlay must be accompanied by a Car Parking Demand Assessment.

Clause 52.06-6 sets out that a Car Parking Demand Assessment must have regard to the following key factors:

- *The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use.*
- *The variation of car parking demand likely to be generated by the proposed use over time.*
- *The short-stay and long-stay car parking demand likely to be generated by the proposed use.*
- *The availability of public transport in the locality of the land.*
- *The convenience of pedestrian and cyclist access to the land.*
- *The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.*
- *The anticipated car ownership rates of likely or proposed visitors to or proposed occupants (residents or employees) of the land.*
- *Any empirical assessment or case study.*

Practice Note 22 (April, 2013) specifies that the provisions for reducing the car parking requirement draw a distinction between the assessment of likely demand for parking spaces (the Car Parking Demand Assessment), and whether it is appropriate to allow the supply of fewer spaces than assessed by the Car Parking Demand Assessment. These are two separate considerations, one technical while the other is more strategic. Different factors are taken into account in each consideration.

Accordingly, the applicant must satisfy the responsible authority that the provision of car parking is appropriate on the basis of a two-step process, which has regard to:

- *The car parking demand likely to be generated by the use.*



- Whether it is appropriate to allow fewer spaces to be provided than the number likely to be generated by the site.

An assessment of the appropriateness of reducing the car parking provision below the statutory requirement is set out below.

### 7.2.1. The car parking demand likely to be generated by the use

#### Resident Demands

Resident parking is provided in accordance with the statutory requirements and accordingly, it is not necessary to consider the adequacy of resident parking as the application cannot be refused on the adequacy of resident parking.

In any event, the 2011 Census data for the suburb of Newport indicates that residents of 'flats, units or apartments' have the following average car ownership rates:

- 0.8 cars per one-bedroom flat, unit or apartment,
- 1.1 cars per two-bedroom flat unit or apartment, and
- 1.0 cars per three-bedroom flat, unit or apartment.

Therefore, I am satisfied that the provision of 1 car space per one or two-bedroom dwelling and 2 spaces per three-bedroom dwelling is adequate to meet the likely resident parking demands of this development.

If required, residents can rely on on-street parking to accommodate overflow demands, just as is the case with some households occupying standard single dwellings, who may require more than the 2 on-site car spaces typically provided for these dwelling types.

#### Visitor Demands

It is accepted that the statutory visitor parking requirement under Clause 52.06-5 of 1 space per 5 dwellings represents the peak parking demand for residential visitors of this development (i.e. 8 spaces).

As there are 4 visitor car spaces provided on the site (0.09 spaces per dwelling), a maximum overflow of up to 4 spaces would be generated by the development.

Typically, the peak time for any visitor demands will be in the evening and on weekends. During normal business hours, residential visitor demands are negligible and typically less than 30% of the peak demand (2 spaces only). During these times, all visitor demands can be accommodated on the site.

#### Decision Factors

Clause 52.06-6 sets out that an assessment of the car parking demand likely to be generated by the use must have regard to the following key factors, as reviewed in the table below.

**Table 5: Assessment of Likely Parking Demands: Car parking Demand Factors**

Carparking Demand Factor	Assessment
<i>Multi-purpose trips within an area.</i>	This factor is not a relevant as the proposal is solely for a residential use.
<i>The variation of car parking demand over time.</i>	<p>Whilst this is not a relevant factor for resident parking (which is fully allocated on the site), visitor parking demands will vary over time and can readily share on-street parking resources in the nearby area.</p> <p>Typically, the peak time for any visitor demands will be in the evenings and on weekends. During normal business hours, residential visitor demands are negligible and typically less than 30% of the peak demand (maximum of 2 spaces), which can be accommodated on-site.</p>
<i>The short-stay and long-stay car parking demand.</i>	<p>The development provides a satisfactory level of long-term parking for residents, in accordance the requirements of Clause 52.06-5 and generally consistent with the ABS 2011 Census car ownership levels of this area.</p> <p>Short-stay parking demands will be associated with residential visitors. The majority of these demands will be catered for on-site, with a small level of overflow parking at peak times (up to 4 spaces).</p>
<i>The availability of public transport</i>	The site has access public transport services as detailed in Section 6.4. Services



Carparking Demand Factor	Assessment
<i>in the locality.</i>	include Newport Station and multiple bus services. The accessibility of the site by public transport provides a convenient alternative transport mode for residents and visitors.
<i>The convenience of pedestrian and cyclist access to the site.</i>	The site benefits from bicycle infrastructure in the nearby area as detailed in Section 6.4. Footpaths are typically provided on both sides of most local roads. As there are no footpaths provided along the site's frontage, I recommend that these are included as a condition of permit, as per the Council Officer's draft conditions.
<i>The provision of bicycle parking and end of trip facilities for cyclists.</i>	The development provides bicycle parking in accordance with the requirements of Clause 52.34 of the Planning Scheme. This is discussed in detail at Section 7.3. Appropriate end of trip facilities are available within each dwelling.
<i>The anticipated car ownership rates of likely or proposed occupants (residents or employees).</i>	As set out in the demographic profile provided at Section 6.5, average car ownership rates for the Newport suburb (based on the 2011 Census data) are: <ul style="list-style-type: none"> <li>• 0.8 cars per one-bedroom flat, unit or apartment,</li> <li>• 1.1 cars per two-bedroom flat, unit or apartment, and</li> <li>• 1.0 cars per three-bedroom flat, unit or apartment</li> </ul> The development provides resident car parking at the statutory rates and I am satisfied that the development provides adequate parking to accommodate the likely resident parking demands.

Based on the above parking demand factors, I am satisfied that resident parking demands will be adequately accommodated on-site, with a low level of overflow associated with visitor parking (up to 4 spaces).

### 7.2.2. Appropriateness of Providing Fewer Spaces than the Number Likely to be Generated

The second step is to consider whether it is appropriate to allow fewer spaces to be provided than the number likely to be generated by the site.

This requires consideration as to whether the provision of 4 visitor car spaces, rather than 8 is acceptable in this case (i.e. shortfall of 4 spaces). The proposed level of visitor parking provision equates to 0.09 spaces per dwelling.

#### Decision Factors

Clause 52.06-6 sets out a series of factors that should be considered when assessing the appropriateness of providing fewer car spaces on the site than are likely to be generated by the use. The table below considers these factors.

**Table 6: Assessment of Appropriateness of Providing Fewer Spaces than Expected Demand**

Car parking Provision Factors	Assessment
<i>Any relevant local planning policy or incorporated plan</i>	Not relevant to residential visitors.
<ul style="list-style-type: none"> <li><i>The availability of car parking including:</i> <ul style="list-style-type: none"> <li><i>Efficiencies gained from the consolidation of shared car parking spaces.</i></li> <li><i>Public car parks intended to serve the land.</i></li> <li><i>On street parking in non residential zones and streets in residential zones specifically managed for non-residential parking.</i></li> <li><i>On street parking in residential zones for residential use.</i></li> </ul> </li> </ul>	<p>Overflow parking demands are expected to relate to visitor demands only.</p> <p>As set out in Section 6.3, on-street parking demands in the surrounding area were low at all surveyed times.</p> <p>It needs to be acknowledged that the supply of on-street parking along the site's frontages is significant in this development. Due to the significant street frontages, this development will have the benefit of 26 on-street spaces post-development (i.e. loss of 1 car space). These spaces provide for unrestricted parking and will comfortably accommodate any overflow parking demands by visitors or residents.</p> <p>Under Standard C21 of Clause 56 (Residential Subdivision) of the Planning Scheme, the design standards for new residential subdivisions generally require the provision of 1 on-street parking space per 2 lots (which is equivalent to 0.5 spaces per dwelling assuming single dwellings). This represents the situation in standard residential subdivisions where visitor parking demands are expected to be met on-street, rather than on-site (albeit at a higher rate than Clause 52.06-5).</p> <p>Whilst this requirement does not apply to a medium density housing application under Clause 52.06 of the Planning Scheme, it is relevant that this application exceeds this requirement. The proposal has the benefit of 0.6 on-street spaces per dwelling (based on 26 on-street spaces and 43 new dwellings), exceeding the Clause 56 requirements in a traditional subdivision context.</p> <p>These on-street areas experience low demands at all survey times and accordingly, I am satisfied that a dispensation of visitor parking requirements (in part or full) is supported for this application.</p>
<ul style="list-style-type: none"> <li><i>Any adverse economic impact a shortfall of parking may have on the economic viability of an activity centre.</i></li> </ul>	Not applicable to this application as the site is not within an Activity Centre.
<ul style="list-style-type: none"> <li><i>The future growth and development of an activity centre.</i></li> </ul>	Not applicable to this application as the site is not within an Activity Centre.
<ul style="list-style-type: none"> <li><i>Any car parking deficiency associated with the existing use of the land.</i></li> </ul>	Not applicable to this application as the site is currently vacant and has been for some time now.

Car parking Provision Factors	Assessment
<ul style="list-style-type: none"> <li>Any credit that should be allowed for the car park spaces provided on common land or by a Special Charge scheme or cash-in-lieu payment.</li> </ul>	Not applicable to this application.
<ul style="list-style-type: none"> <li>Local traffic management.</li> </ul>	Not applicable to this application.
<ul style="list-style-type: none"> <li>The impact of fewer car parking spaces on local amenity including pedestrian amenity and the amenity of nearby residential areas.</li> </ul>	Not applicable to this application.
<ul style="list-style-type: none"> <li>The need to create safe, functional and attractive parking areas.</li> </ul>	<p>Visitors have been allocated the 4 'standard' car spaces on the site, which are easily accessible and located near the entrance.</p> <p>It should be noted that visitors cannot be expected to use the mechanical car stackers as this would be contrary to Design Standard 4 of Clause 52.06-8.</p>
<ul style="list-style-type: none"> <li>Access to or provision of alternative transport modes.</li> </ul>	The development has access to nearby public transport services including Newport Station and multiple bus services. Accordingly, I am satisfied that alternatives to private car travel are available for residents and visitors, if desired.
<ul style="list-style-type: none"> <li>The equity of reducing the car parking requirement having regard to any historic contributions by existing businesses.</li> </ul>	Not applicable to this application.
<ul style="list-style-type: none"> <li>The character of the surrounding area and whether reducing the car parking provision would result in a quality/positive urban design outcome.</li> </ul>	Not applicable to this application.
<ul style="list-style-type: none"> <li>Any other relevant consideration.</li> </ul>	<p>I note that the Tribunal at paragraph 73 of the previous VCAT decision (P27/2012) found that a visitor parking dispensation to be acceptable. This dispensation related to 3 visitors spaces.</p> <p>I am satisfied that a visitor dispensation of 4 spaces is not significantly different in the context of this site, where ample on-street parking is readily available, including along the site's frontages.</p>

Based on the decision factors of Clause 52.06-6, I am satisfied that the proposed level of car parking provision for this development is acceptable and that providing fewer car spaces on the site than required under Clause 52.06-5 is supported in this instance.

### 7.3. Bicycle Parking

Clause 52.34 of the Planning Scheme specifies bicycle parking requirements for new developments and changes in use.

Clause 52.34-3 states that bicycle parking should be provided at a rate of 1 space per 5 dwellings for resident parking and 1 space per 10 dwellings for visitor parking in residential developments of four or more storeys. Whilst this proposal relates to a 3 storey building, the assessed requirement using these rates equates to 9 bicycle spaces for residents and 4 bicycle spaces for visitors.

There are 44 bicycle spaces provided across the development as follows:

- 25 secure spaces within the corridors and storage areas on ground floor for use by residents.
- 11 spaces provided within the courtyard areas of each ground level dwelling.
- 8 spaces (4 rails) at each of the four pedestrian entrances to the site (2 rails on Crawford Street, 2 on La Trobe Street). These spaces are readily accessible by visitors.

Based on the above, I am satisfied the development provides a satisfactory level of bicycle parking for both residents and visitors of the development.

## 7.4. Parking Layout and Access Arrangements

A total of 50 car spaces are provided within the semi-basement level carpark, including 46 provided within mechanical car stackers for residents. The remaining 4 spaces are standard spaces for use by visitors.

Traffix Group has provided design advice to the project architect in order to achieve a satisfactory design outcome. The proposed parking layout has been assessed under the relevant sections of the Planning Scheme and the Australian Standard for off-street parking facilities (AS2890.1-2004), where relevant.

Key elements of the design include:

### **General Layout - Standard Car Spaces**

- Standard car spaces are provided in accordance with the dimensions set out in the Planning Scheme.
- For standard car spaces, columns are located between 0.25m and 1.25m from the entrances to car spaces. This complies with Clause 52.06-8 (Design Standard 2) and AS2890.1-2004 (modified for 4.9m long spaces).
- A minimum headroom clearance in excess of 2.2m provided within the carpark and at the entrance in accordance with Clause 52.06-8 (Design Standard 1) and AS2890.1-2004. I am satisfied that the layout and plans comply with draft condition 1(k).

### **Access Arrangements**

- Vehicle access to the site is proposed via a new 5.5m wide crossover and accessway to Paine Street. This width satisfies the requirements of Clause 52.06-8 and AS2890.1-2004 and provides for simultaneous two-way vehicle access.
- All cars can enter and exit the site in a forwards direction as required under Clause 52.06-8 (Design Standard 1).
- A downgrade of 1:20 is required between the property line and the carpark, which accords with Clause 52.06-8 (Design Standard 3) and AS2890.1-2004.
- A pedestrian sight triangle in accordance with Clause 52.06-8 (Design Standard 1) is provided. The front fence of unit 10 has also been lowered to 1.2m high to satisfy proposed condition 1(g). There is no requirement for a sight triangle to be provided on the western side given the width of the accessway.
- A garage door with an intercom system is provided approximately 6.7m from the property boundary along the accessway. This will ensure that visitors can enter the site (and use the intercom system), whilst being clear of the footpath.

### **Bicycle Parking**

- Bicycle parking is provided via either 'Ned Kelly' bicycle racks or 'Flat Top' bicycle racks. These spaces are provided in accordance with the requirements of the *Bicycle Victoria Bicycle Parking Handbook* or Clause 52.34 and are satisfactory.

### **Mechanical Car Stackers**

The Planning Scheme sets out Design standards for car parking under Clause 52.06-8. Under this clause, mechanical parking must be provided in accordance with the following requirements:

#### **Design Standard 4: Mechanical parking**

*Mechanical parking may be used to meet the car parking requirement provided:*

- *At least 25 per cent of the mechanical car parking spaces can accommodate a vehicle clearance height of at least 1.8 metres.*
- *Car parking spaces that require the operation of the system are not allocated to visitors unless used in a valet parking situation.*
- *The design and operation is to the satisfaction of the responsible authority.*

The proposal includes 46 spaces within mechanical car stackers utilising the Nussbaum Liftparker N 4600 S/D.

All car spaces are proposed independent car stacker systems, which enable each space (on each level) to be accessed independently. These types of stackers are the preferred model of car stacker as the independent systems provide a more convenient arrangement in comparison to traditional tandem parking.

Car stackers are used as a means of providing space-efficient vehicle storage and are ideally suited to residential and office developments, where the majority of parking demands are for long-term parking. Car stackers enable void spaces in traditional carparks, basements and buildings to be used effectively to increase the supply of parking.

The systems are typically sourced from Europe, where the use of such systems is commonplace in cities where the demand for 'floor space' occupied by parking is at a premium. These systems are now regularly used in Australia, with many residential developments using this type of independent stacker.

The systems use high quality precision hydraulics, safety interlocks and remote operation to provide a safe environment for both vehicles and operators.

The use of an independent car stacker system in this development is an acceptable design solution as they will be used for long-term parking by residents who will become familiar with the use of the system.

These systems are simple to use, with suppliers providing appropriate written, wall mounted instructions. The supply of these systems typically includes on-site training to users under maintenance contracts, which is typical of other mechanical plants included in buildings (lifts, air-conditioning, etc).

#### Nussbaum Liftparker N 4600 S/D System

The proposal includes 46 car spaces within the Nussbaum Liftparker N 4600 S/D system (refer to specifications in Appendix D).

The key design features are:

- The stackers will be provided as double or single width platform stackers, with a useable platform width of 5.0m for double stackers (or 2.5m per car space) and a usable platform width of 2.5m for the single stackers. The 5.3m long stackers will accommodate the B85 design car on the lower level and the B99 design car on the upper level (as presented in AS2890.1-2004).
- The proposed access aisle adjacent to the car stacker spaces is 6.4m wide. The provision of 2.5m wide car spaces exceeds the requirements of User Class 1A for long term resident parking under AS2890.1-2004 and is satisfactory.
- A pit depth of 2m and headroom clearance of 3.8m will ensure that the car stackers can accommodate cars up to 1.8m high on each level (as per Liftparker N 4600 specifications) in accordance with the requirements of Clause 52.06-8 (Design Standard 4). These dimensions comply with draft condition 1(i).
- Columns are located between 0.65m and 1.65m from the entrance to car spaces in accordance with AS2890.1-2004 (modified for 5.3m long car spaces) and draft condition 1(j).
- Blind aisle extensions of at least 850mm are provided for the blind aisles. Whilst this is less than the 1m required under AS2890.1-2004, the adjacent car spaces are 100mm wider and the access aisle is 600mm longer than required under AS2890.1-2004. I have tested this arrangement using AutoTurn for the B85 design car and I am satisfied that access to these spaces is acceptable and requires an additional manoeuvre. The results of the AutoTurn assessment are attached at Appendix E. I note that an additional manoeuvre is expressly permitted under AS2890.1-2004 for resident parking.

Based on the above, I am satisfied that the proposed parking layout is satisfactory and that the access arrangements for the site will provide for safe and efficient movements to and from Paine Street.

### Comments on Conditions related Traffic and Parking

The Council officer's report included a number of recommended conditions related to traffic and parking. The amended plans comply with all of these requirements, with two exceptions. My view of these remaining conditions is provided below.

**Table 7: Review of Draft Conditions**

Condition	Response
<p>m) Details demonstrating that the development complies with the Access to Premises Standards (via Australian Standard 1428.1 - design for Access and Mobility) including, to the satisfaction of the Responsible Authority:</p> <ul style="list-style-type: none"> <li>Provision of a designated accessible car space that is placed closest to the lift and is not located in a car stacker;</li> </ul>	<p>I understand that a disabled car space is not required under the Building Code of Australia for this residential development. As the provision of a disabled space would result in the loss of on-site car parking (i.e. cannot be located in a stacker and requires a 2.4m wide shared area), this condition should be deleted given there is no statutory requirement to provide a disabled bay.</p> <p>Therefore, this condition is unnecessary and should be deleted.</p>
<p>o) The provision of indented parking bays for three cars on the northern side of Paine Street within the nature strip in accordance with the plans approved by Council pursuant to Condition 27 of this permit.</p>	<p>Paine Street provides sufficient carriageway width under Clause 56.06-8 of the Planning Scheme to adequately accommodate shared two-way traffic flow and kerbside parking on both sides of the road (see Figure 4).</p> <p>The site's frontage to Paine Street currently provides 9 on-street car spaces, which will reduce to 8 following the construction of a new crossover to Paine Street.</p> <p>Providing indented parking would allow a lane for traffic in each direction and kerbside parking along the south side of Paine Street.</p> <p>However, implementing indented parking in accordance with AS2890.5-1993 would potentially result in the loss of up to 5 further on-street car spaces along the site's Paine Street frontage.</p> <p>It is my observation that traffic volumes along Paine Street are very low, do not warrant the provision of indented parking (which is a more suitable arrangements around schools or shops). Therefore, this condition is unnecessary and should be deleted.</p>

## 7.5. Waste Collection

Waste bins will be stored in a common waste storage area accessed from the semi-basement carpark. Waste collection is to be undertaken by a private contractor with bins transferred to and from the waste store for collection by a vehicle on Paine Street. Bin collections should be undertaken in off-peak periods to minimise disruption to through traffic. I am satisfied with this arrangement.

## 7.6. Traffic Generation

The proposed development is conservatively expected to generate in the order of 5 vehicle trip ends per dwelling per day (based on a mix of mainly one and two bedroom dwellings), which is consistent with other medium density developments within middle ring suburban areas<sup>1</sup>. This equates to a daily traffic generation of 215 vehicle trip ends per day.

Approximately, 10% of this daily traffic volume can be expected to occur in the AM and PM commuter peak hours. This equates to 22 vehicle trip ends in the peak hour (assuming 0.5 vehicle trip ends per dwelling in each of the peak hours). This level of peak hour traffic is relatively low.

<sup>1</sup> Residential traffic generation rates for flats or units is typically in the range of 3 to 5 vehicle trip ends per dwelling per day. Residential traffic generation rates for dwellings in middle suburbs is typically in the range of 5 to 8 vehicle trip ends per dwelling per day (Traffic Engineering & Management, K.W. Ogden and S.Y. Taylor-2003, pp. 9.1.5).



Traffic generated by the development will be spread throughout the local road network. The local road network is highly connective and allows for convenient access to the arterial road network in all directions, as well as nearby Activity Centres.

I also note that in the 2012 VCAT decision (VCAT Ref No. 27/2012) for a 42 dwelling development on the site included the following in relation to the traffic impact of the development:

82 *Ms Dunstan's evidence is that the existing level of use of the surrounding road network is well below capacity, and that the expected traffic levels from this development will not markedly change that situation. Having considered the traffic levels provided in her evidence, and the likely increase of traffic from this proposal, as well as our own observations of traffic levels during our site inspection, we accept her evidence.*

The current proposal is for 1 additional dwelling only, which is a negligible difference from the previous application considered by VCAT.

Based on the above, I am satisfied that the level of traffic generated by the proposed development will be relatively low, will be residential in nature, will be distributed throughout the local road network and will have a negligible impact on the operation, safety and amenity of nearby streets.

## 8. RESPONSE TO OBJECTIONS

The following table outlines my response to the relevant traffic concerns raised within Statement of Grounds submitted by the third party objectors.

**Table 8: Response to Issues**

Issue	Response
<b>Statement of Grounds</b>	
<i>The proposed development does not provide adequate parking for the number of proposed residences. Whilst some on-site parking is provided, by utilisation of stacker parking machines, the balance of the cars will be required to park in the surrounding streets which are very narrow.</i>	<p>The development only falls short of meeting the statutory requirements for visitors, with the long-term resident requirement met on the site. The requirements of Clause 52.06-8 are also consistent with the ABS car ownership statistics for Newport.</p> <p>The use of car stackers to provide on-site parking is very common in new developments and entirely acceptable, as set out in the previous VCAT decision for this site (VCAT Ref No. 27/2012):</p> <p>75. <i>Car stackers have been for some time an acceptable form of providing for long term parking within developments that appear before this Tribunal. Particularly for multi-level residential developments, stacker parking is becoming more and more common. There is nothing unusual or exceptional, therefore, in the proposed use of stackers to provide for the resident car parking in this development.</i></p> <p>The statutory shortfall of 4 visitor car spaces is minor and can be easily accommodated on-street, including along the site's frontage (total of 26 spaces will be available post-development).</p> <p>This overflow demand will be limited to peak demand times for residential visitors, with the 4 visitor spaces provided on-site being adequate to cater for visitor parking demands for the majority of times.</p> <p>These demands would be spread across the three street frontages and I note that each street is capable of accommodating on-street parking on both sides, whilst still allowing for a waste collection or emergency service vehicle to pass between parked cars.</p> <p>With regards to visitor parking, in the 2012 application for this site, the Tribunal concluded that:</p> <p>71. <i>Residents submitted that the width of the surrounding streets were such that when cars are parked on both sides of the road, it is difficult for through traffic. The narrowest of the adjacent roads is Paine Street, at 7.0 metres. Clause 56.06-8 of the Hobsons Bay Planning Scheme, (although not applicable to the present application), details road widths for the construction of new</i></p>

Issue	Response
	<p>subdivisions. It states that a road width of 7.0 to 7.5 metres for an access street – level 2 is sufficient to accommodate car parking on both sides of the carriageway, and a single lane of through traffic. On this basis we do not accept the submissions of the residents.</p> <p>72. The residents also queried the accuracy of Ms Dunstan's traffic surveys, asserting that the capacity to park vehicles in the surrounding streets is lower, and the extent of actual car parking is higher, than was detailed in her evidence. Even if we were to accept the residents' data, we still find that there will be more than sufficient capacity to cater for the three visitor car parking spaces that are needed off-site at peak times.</p> <p>73. We therefore consider it appropriate to grant the requested reduction in the provision of visitor car parking on site.</p> <p>I am satisfied that the visitor parking provision is appropriate and the required dispensation can be supported in this case.</p>
<p><i>The increased traffic from such a densely populated site will exacerbate current difficulties and delays residents face entering Melbourne Road (from Yarra Street, Bunbury Street, Paine Street, Wilkins Street, North Road) and exiting Williamstown and Newport.</i></p>	<p>The increase in traffic generated by the development is predicted to be in the order of 215 vehicles per day, with 22 vehicle movements expected during each peak hour.</p> <p>This level of traffic can easily be accommodated in Paine Street and surrounding streets. The local street network provides convenient access to the arterial road network in all directions and I expect the development traffic to be well spread over a number of routes.</p> <p>I also note that in the 2012 VCAT decision (VCAT Ref No. 27/2012) for a 42 dwelling development included the following in relation to the traffic impact of the development:</p> <p>80 <i>Ms Dunstan's evidence is that the existing level of use of the surrounding road network is well below capacity, and that the expected traffic levels from this development will not markedly change that situation. Having considered the traffic levels provided in her evidence, and the likely increase of traffic from this proposal, as well as our own observations of traffic levels during our site inspection, we accept her evidence.</i></p>

## 9. CONCLUSIONS

Having undertaken a review of traffic engineering issues associated with the proposed residential development at 6 Paine Street, Newport, I am of the opinion that:

- a) the proposed development has a statutory car parking requirement of 54 car spaces under Clause 52.06-5 of the Planning Scheme (i.e. 46 resident spaces and 8 visitor spaces),
- b) the proposal provides 50 car spaces on the site, including 46 resident spaces in mechanical car stackers and 4 visitor spaces, and therefore, requires a reduction of 4 visitor spaces under Clause 52.06-6,
- c) there are adequate grounds to support a reduction of 4 visitor car spaces under the decision factors set out at Clause 52.06-6 on the basis of:
  - i. there is sufficient parking available on-street in the nearby area (including the site's frontages) to accommodate any overflow visitor parking demands, and
  - ii. the site has access to efficient public transport services.
- d) the bicycle parking provision accords with the requirements of Clause 52.34 of the Planning Scheme,
- e) the proposed parking layout and access arrangements to Paine Street accords with Clause 52.06-8, AS2890.1-2004 (where relevant) and current practice,
- f) the level of additional traffic generated as a result of this proposal will be low, residential in nature and will not have a detrimental impact on Paine Street or the surrounding local road network,
- g) waste collection for this site will occur on-street via Paine Street with bins transferred to and from the street for collection during non-peak traffic times under a Waste Management Plan, and
- h) there are no traffic engineering reasons why a planning permit for the proposed residential development should not be approved, subject to appropriate conditions.

I have made all inquiries that I believe are desirable and appropriate and there are no matters of significance which I regard as relevant which, to the best of my knowledge, have been withheld from the Tribunal.



CHARMAINE CHALMERS DUNSTAN  
B.E. (Civil) Hons., Masters of Traffic, M.IEAust., M.V.P.E.L.A

## **APPENDIX A**

### **PRACTICE NOTE – PNVCAT2 – EXPERT EVIDENCE**

## STATEMENT OF WITNESS

### Name

Charmaine Chalmers Dunstan

### Position

Director of Traffix Group Pty Ltd

### Address

Suite 8, 431 Burke Road  
GLEN IRIS VIC 3146

### Qualifications

My qualifications and membership of professional associations are as follows:

- Bachelor of Civil Engineering (honours), Monash University, Clayton
- Masters of Traffic, Monash University
- Masters of Transport (current), Monash University
- Member, Engineers Australia
- Member, Victorian Planning & Environmental Law Association

### Experience

I have over 18 years experience as a Traffic Engineering and Transport Planning consultant with Traffix Group Pty Ltd and formerly Turnbull Fenner Pty Ltd. My experience also includes a number of local government appointments which involved acting in the role of Council's Transport Co-ordinator or Senior Traffic Engineer.

### Area of Expertise

I have experience and expertise in traffic management, road safety planning and engineering, parking management and strategy development, and development impact assessment of a range of land-use developments.

### Disclosure of Interests

I disclose that I have no private relationship with the permit applicant.

I did provide the traffic engineering services on this application at the town planning application stage. I have worked with other consultants associated with this project in the past. These relationships have not impacted on my ability to provide impartial Expert Evidence to the Tribunal.

### Engagement and Scope of Report

I have been retained by Raio in October, 2013 to review an application for a proposed residential development at 6 Paine Street, Newport. At the town planning application stage, Traffix Group prepared a Traffic Report to accompany the application (Our Reference: 14432L#2, dated 14<sup>th</sup> June, 2013).

The scope of my engagement in relation to the Application for Review has included the following tasks:

- site inspections,
- review of Council policies and other relevant documents,
- spot parking surveys of the surrounding area at various times,
- review of road crash statistics,
- detailed review of the car parking layout and access to Paine Street,
- review of parking and traffic generation impacts of the proposal, and
- preparation and presentation of Expert Evidence in accordance with VCAT Practice Note No. 2 for Expert Evidence.

### Facts and Assumptions

As detailed in evidence.

### Reference Documents

I have reviewed the following documents as part of my assessment:

- Waste Management Plan prepared by Leigh Design Pty Ltd (dated 13<sup>th</sup> June, 2013),
- Traffic Report prepared by Traffix Group which accompanied Town Planning Application No. PA1226036 (dated 14<sup>th</sup> June, 2013),
- Application Plans considered by Council, prepared by Kavellaris Urban Design (dated 5<sup>th</sup> June, 2013),

- Council Officer's Report for Application No. PA1226036, dated 5<sup>th</sup> September, 2013,
- Notice of Refusal to Grant a Permit, dated 5<sup>th</sup> September, 2013,
- Amended VCAT Development Plans prepared by Kavellaris Urban Design (dated 5<sup>th</sup> December, 2013),
- Statements of Grounds and objections,
- various Council policies, and
- relevant sections of the Hobsons Bay Planning Scheme.

#### **Experiments**

I have visited the site to observe traffic and parking activity within the nearby area.

A number of parking occupancy surveys have been conducted of the surrounding area at the following times:

- 1pm and 8pm on Thursday 21<sup>st</sup> November, 2013, and
- 1pm and 8pm on Saturday 23<sup>rd</sup> November, 2013.

Traffix Group has previously completed parking occupancy surveys at the following times:

- 12noon, 3pm and 8pm on Thursday 15<sup>th</sup> March, 2012, and
- 12noon, 3pm and 8pm on Saturday 17<sup>th</sup> March, 2012.

#### **Summary of Opinions**

Refer to evidence.

#### **Provisional Opinions**

Not applicable.

#### **Other members of Traffix Group involved in the preparation of Evidence**

Leigh Furness (Senior Traffic Engineer) assisted with the review of development plans and preparation of this report.

Experienced survey staff members and technical officers employed by Traffix Group assisted with the parking and traffic surveys detailed in this report.

#### **Report Completeness**

Final report.



## **APPENDIX B**

### **DEVELOPMENT PLANS**







Ground/Site Floor Plan

1:100

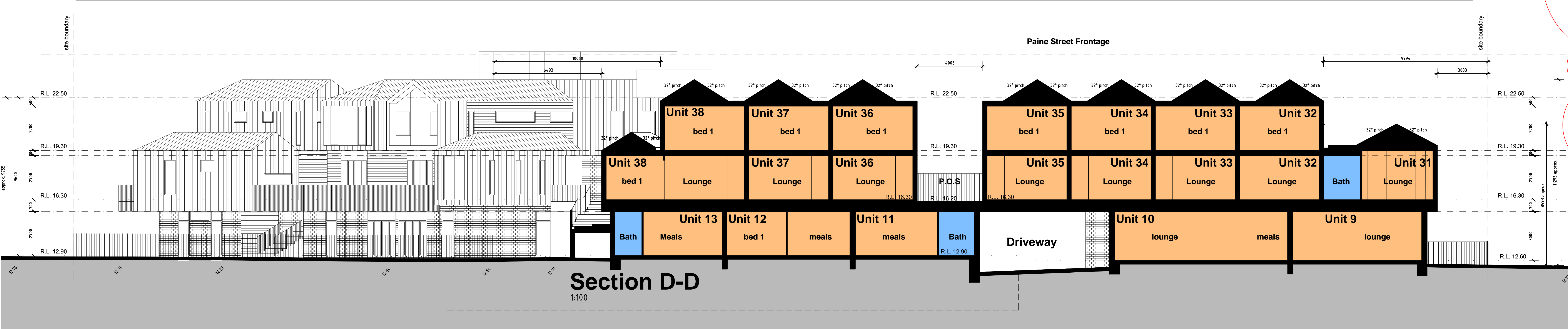
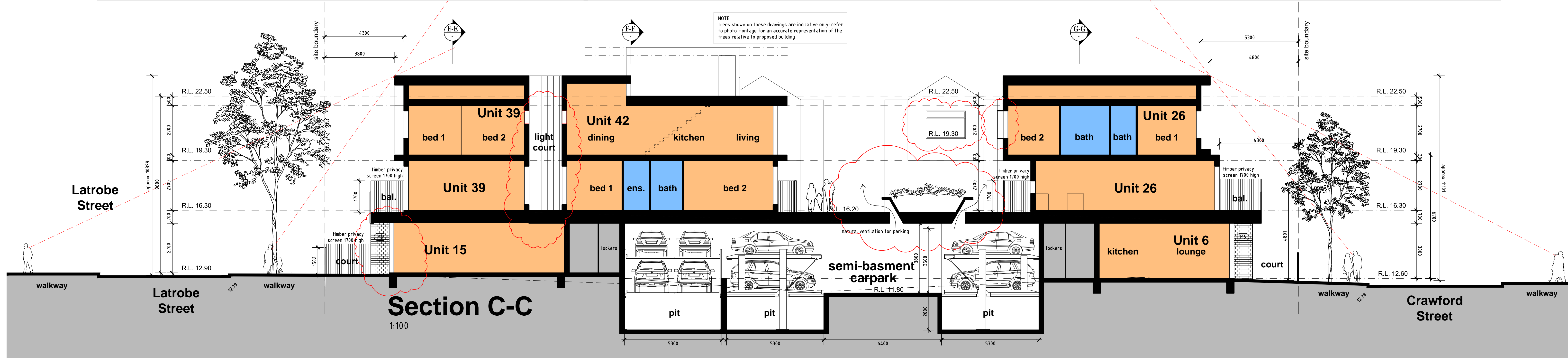
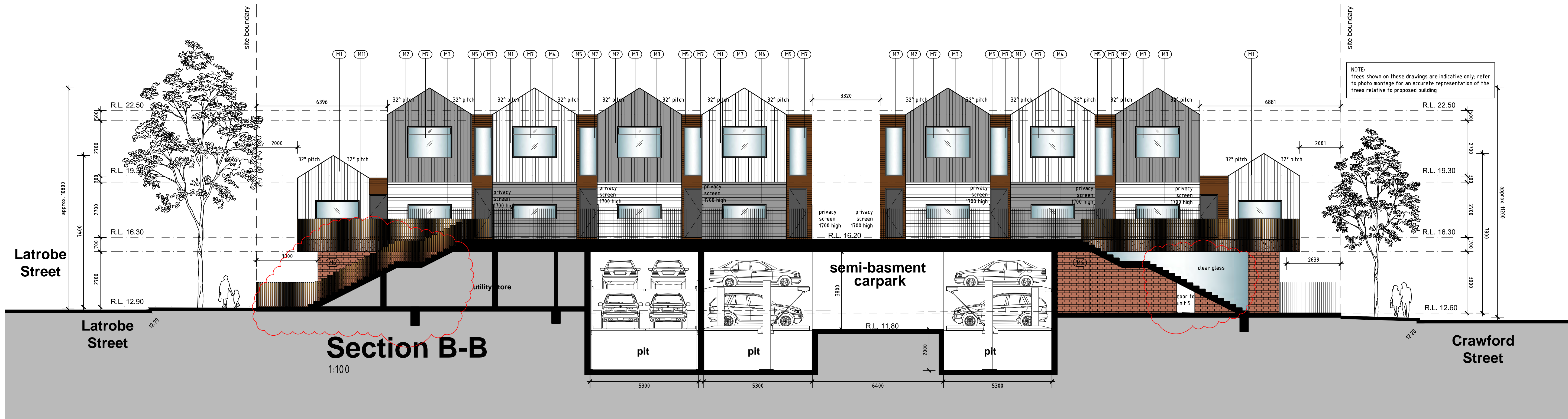
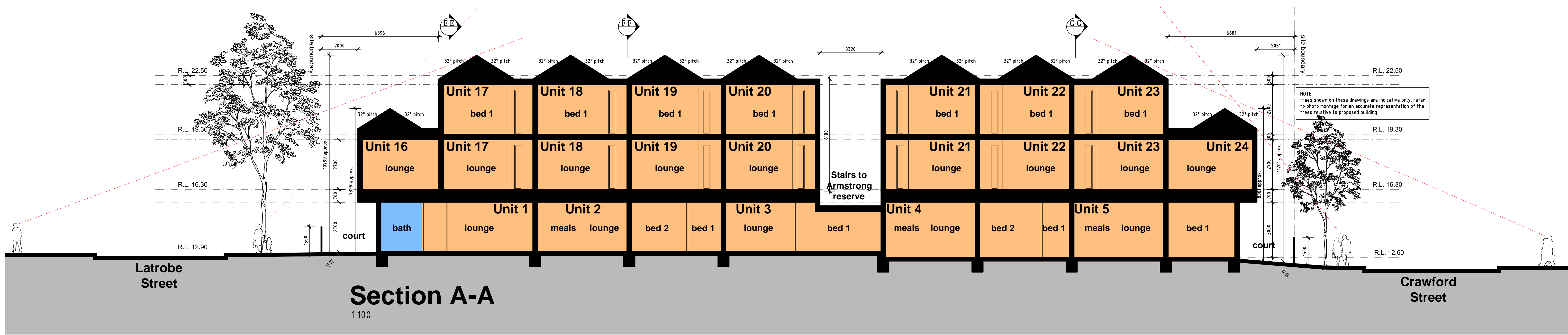
REVISION:	ISSUE:	CHECKED:	DATE:	CAD FILE:
A	Further Information	BK	13/02/13	-
B	Further Information B	BK	05/06/13	-
C	VCAT	BK	05/12/13	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

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DRAWING LEGEND:
WD - WORKING DRAWINGS
TI - TENDER ISSUE/NOT FOR CONSTRUCTION
TP - TOWN PLANNING
SK - SCHEMATIC DESIGN
DD - DESIGN DEVELOPMENT

 <div>architecture interior planning urban design consultants 1/70-72 Balfour Street Glenmore 3121 VIC Australia t +61 3 9497 6733 enquiries@kud.com.au www.kud.com.au</div>	PROJECT NO:				
	11-0022				
	TITLE: Proposed Ground Floor Plan				
	ADDRESS: 6 Paine Street, Newport				
	CLIENT: Domain Hill Pty Ltd				
DATE: 05/12/13	DRAWN: ST	SCALE: 1:100@A0	REV: C	SHEET: TP03	REASON FOR ISSUE: VCAT





## Material Schedule

- M1 parchment interlocking metal cladding
- M2 grey interlocking metal cladding
- M3 parchment weatherboard cladding
- M4 grey weatherboard cladding
- M5 light color timber cladding - natural timer / slats
- M6 austral governor series pressed brick
- M7 aluminium framed glass windows / sliding doors (black)
- M8 grey render finish
- M9 steel channel fascia (colour to match metal cladding)
- M10 clear glass balustrade
- M11 timber picket balustrade/fence
- recycled Timber Sleeper fence to denote entry on ground floor units
- all external paving to be made of Concrete

All downpipes and gutters to match metal cladding colours. On white metal cladding, all plumbing items will be coloured white. On grey metal cladding, all plumbing items will be coloured grey.

Material selection inspired by notable buildings and facilities in Newport like 'the substation' and the rail yards nearby.

REVISION	ISSUE	CHECKED	DATE	CAD FILE
A	Further Information	BK	13/02/13	-
B	Further Information B	BK	05/06/13	-
C	VCAT	BK	05/12/13	-

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DRAWING LEGEND:  
WD - WORKING DRAWINGS  
TI - TENDER ISSUE-NOT FOR CONSTRUCTION  
TP - TOWN PLANNING  
SK - SCHEMATIC DESIGN  
DD - DESIGN DEVELOPMENT

<b>KUD</b> Kavalik Urban Design architectural studio planning urban design consultants 1/176-78 Bannock Street, Geelong 3217 - VIC Australia t +61 3 9489 4730 enquiries@kud.com.au www.kud.com.au	PROJECT No: <b>11-0022</b>
TITLE: Proposed Sections ADDRESS: 6 Paine Street, Newport CLIENT: Domain Hill Pty.Ltd	SCALE: 1:100@A0
DATE: 05/12/13	REV: C
SHEET: TP09	REASON FOR ISSUE: VCAT



## **APPENDIX C**

### **PARKING SURVEY RESULTS**

Supervised By: Leigh Furness  
Surveyed By: Xuejun Fu

Survey Dates & Times: See below

Location	Restriction	Capacity	Thursday 21st November 2013		Saturday 23rd November, 2013	
			1pm	8pm	1pm	8pm
WILKINS STREET						
North Side						
Eliza Street to Effingham Road	No Stopping	-	0	0	0	0
	Unrestricted	7	7	6	3	6
	No Stopping	-	0	0	0	0
Effingham Road to Opposite Alma Terrace	No Stopping	-	0	0	0	0
	Unrestricted	17	6	10	7	10
South Side						
Franklin Street to Latrobe Street	No Stopping	-	0	0	0	0
	Unrestricted	6	2	2	2	6
	No Stopping	-	0	0	0	0
Latrobe Street to Crawford Street	No Stopping	-	0	0	0	0
	Unrestricted	9	0	0	1	1
	No Stopping	-	0	0	0	0
Crawford Street to Alma Terrace	No Stopping	-	0	0	0	0
	Unrestricted	7	2	5	5	5
	No Stopping	-	0	0	0	0
WILKINS STREET	Capacity	46 - 46	46	46	46	46
	Total Number of Cars Parked		17	23	18	28
	Total Number of Vacant Spaces		29	23	28	18
	Percentage Occupancy		37%	50%	39%	61%
LATROBE STREET						
West Side						
Wilkins Street to Paine Street	No Stopping	-	0	0	0	0
	Unrestricted	18	2	4	3	4
	No Stopping	-	0	0	0	0
Paine Street to Bunbury Street	No Stopping	-	0	0	0	0
	Unrestricted	20	5	6	7	5
	No Stopping	-	0	0	0	0
East Side						
Wilkins Street to NB Subject Site (see map)	No Stopping	-	0	0	0	0
	Unrestricted	19	2	1	0	2
NB Subject Site to Paine Street (Subject Site see map)	Unrestricted	6	0	0	2	2
	No Stopping	-	0	0	0	0
Paine Street to Bunbury Street	No Stopping	-	0	0	0	0
	Unrestricted	20	3	5	8	5
	No Stopping	-	0	0	0	0
LATROBE STREET	Capacity	83 - 83	83	83	83	83
	Total Number of Cars Parked		12	16	20	18
	Total Number of Vacant Spaces		71	67	63	65
	Percentage Occupancy		14%	19%	24%	22%

Supervised By: Leigh Furness  
Surveyed By: Xuejun Fu

Survey Dates & Times: See below

Location	Restriction	Capacity	Thursday 21st November 2013		Saturday 23rd November, 2013	
			1pm	8pm	1pm	8pm
CRAWFORD STREET						
West Side						
Wilkins Street to NB Subject Site (see map)	No Stopping	-	0	0	0	0
	Unrestricted	13	0	0	0	0
NB Subject Site to Paine Street (Subject Site see map)	Unrestricted	12	2	3	0	4
	No Stopping	-	0	0	0	0
Paine Street to Bunbury Street	No Stopping	-	0	0	0	0
	Unrestricted	16	4	7	9	5
	No Stopping	-	0	0	0	0
East Side						
Wilkins Street to Paine Street	No Stopping	-	0	0	0	0
	Unrestricted	13	3	8	7	5
	No Stopping	-	0	0	0	0
Paine Street to Bunbury Street	No Stopping	-	0	0	0	0
	Unrestricted	17	4	13	12	8
	No Stopping	-	0	0	0	0
CRAWFORD STREET	Capacity	71 - 71	71	71	71	71
	Total Number of Cars Parked		13	31	28	22
	Total Number of Vacant Spaces		58	40	43	49
	Percentage Occupancy		18%	44%	39%	31%
PAINE STREET						
North Side						
Franklin Street to Latrobe Street	No Stopping	-	0	0	0	0
	Unrestricted	5	3	3	3	2
	No Stopping	-	0	0	0	0
Latrobe Street to Crawford Street (Subject Site see map)	No Stopping	-	0	0	0	0
	Unrestricted	9	0	0	0	0
	No Stopping	-	0	0	0	0
Crawford Street to Alma Terrace	No Stopping	-	0	0	0	0
	Unrestricted	6	0	2	1	4
	No Stopping	-	0	0	0	0
South Side						
Franklin Street to Latrobe Street	No Stopping	-	0	0	0	0
	Unrestricted	6	0	1	0	0
	No Stopping	-	0	0	0	0
Latrobe Street to Crawford Street	No Stopping	-	0	0	0	0
	Unrestricted	5	1	3	2	5
	No Stopping	-	0	0	0	0
Crawford Street to Alma Terrace	No Stopping	-	0	0	0	0
	Unrestricted	7	1	1	2	2
	No Stopping	-	0	0	0	0
PAINE STREET	Capacity	38 - 38	38	38	38	38
	Total Number of Cars Parked		5	10	8	13
	Total Number of Vacant Spaces		33	28	30	25
	Percentage Occupancy		13%	26%	21%	34%
SUMMARY => ON-STREET CARPARKING						
Spaces Available		238 - 238	238	238	238	238
Total Number of Cars Parked			47	80	74	81
Total Number of Vacant Spaces			191	158	164	157
Percentage Occupancy			20%	34%	31%	34%



## **APPENDIX D**

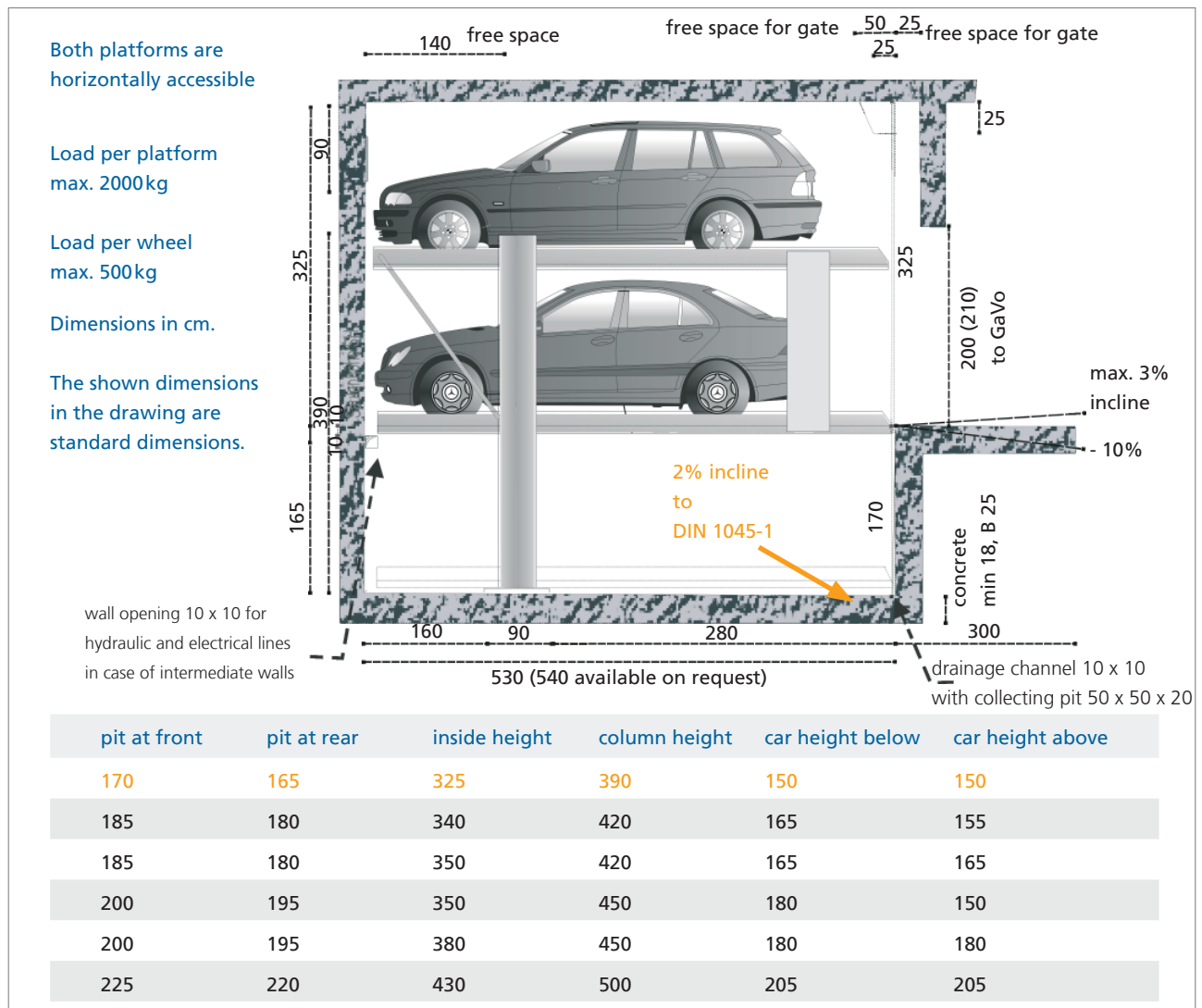
### **CAR STACKER SPECIFICATIONS - NUSSBAUM LIFTPARKER N 4600**



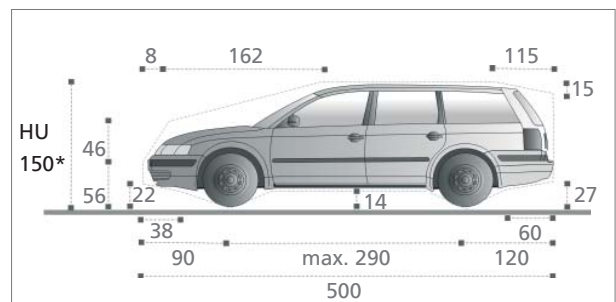
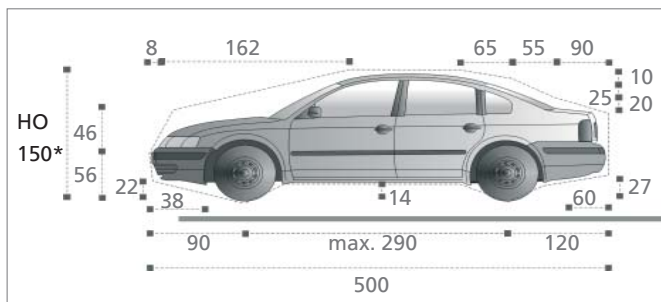
## Liftparker N 4600 S/D

Revised Design of the traditional solution  
with offset columns for  
higher comfort when "opening the door"

Area of application: residential buildings, hotels,  
office buildings, single garages above ground, prefabricated garages



## Vehicle data



standard: car width max. 190cm, load per platform max. 2000kg, load per wheel max. 500kg

## Note

Height of the car HO\* and HU\*: Alternative car height, see table above. The total car height including roof rail and antenna fixture must not exceed the mentioned max. height.

## Optional vehicle data

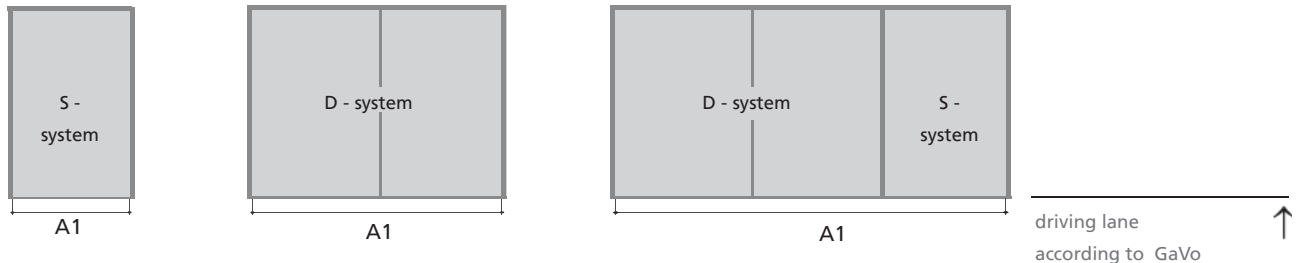
Car length: 510cm, load per platform max. 2500kg, load per wheel max. 625kg;  
only with S-system (single system for 2 cars): width of space 250/260/270cm – total system width 280/290/300cm; pit length 540cm

## Width dimensions • Garages

All dimensions are minimum dimensions. All dimensions in cm. Tolerances to the German Norm VOB part C (DIN 18330, 18331) and DIN 18202 are to be considered.

**Note:** Dimensions do not include the dimensions of the hydraulic unit. Dimensions of the hydraulic unit and the switch cabinet shown in page 4 below, are to be considered in the planning.

### partition walls



#### S-system for 2 cars

width A1	260	270	280
width*	230	240	250

\* gives clear platform width

#### D-system for 4 cars

width A1	490	500	510	520	530
width*	460	470	480	490	500

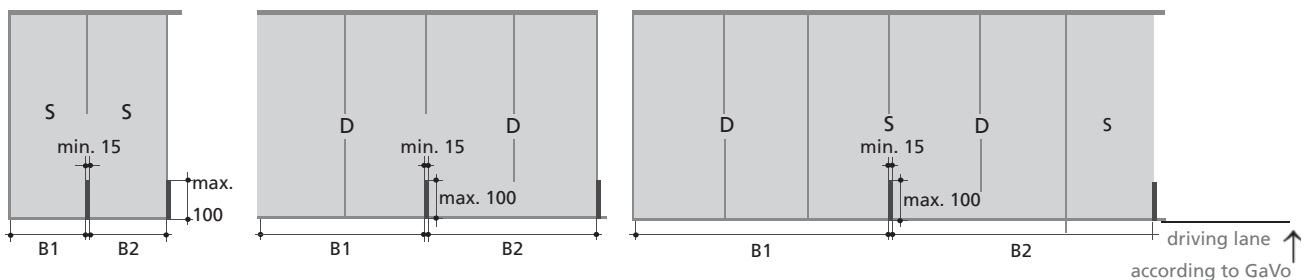
\* gives clear platform width

#### D- and S-system for 6 cars

width A1	750	780	810
width*	460/230	480/240	500/250

\* gives clear platform width

### building pillars inside of the pit



#### S-system for 2 cars

width B1	255	265	275
width B2	250	260	270
width*	230	240	250

\* gives clear platform width

#### D-system for 4 cars

width B1	485	495	505	515	525
width B2	475	485	495	505	515
width*	460	470	480	490	500

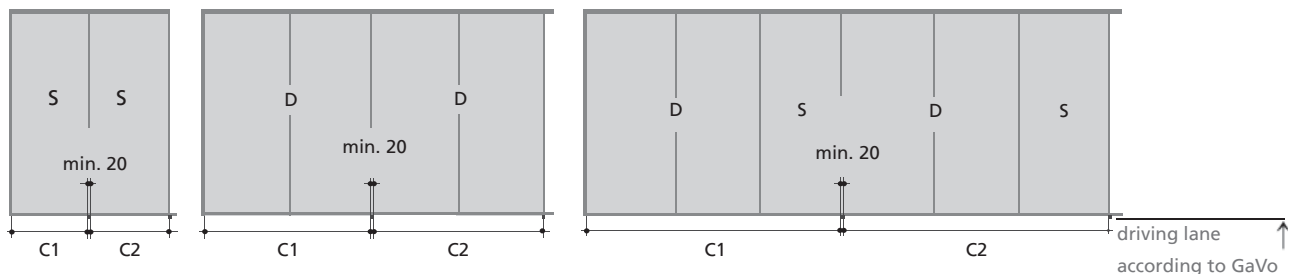
\* gives clear platform width

#### D- and S-system for 6 cars

width B1	745	775	805
width B2	735	765	795
width*	460/230	480/240	500/250

\* gives clear platform width

### building pillars in front of the pit



#### S-system for 2 cars

width C1	250	260	270
width C2	240	250	260
width*	230	240	250

\* gives clear platform width

#### D-system for 4 cars

width C1	480	490	500	510	520
width C2	470	480	490	500	510
width*	460	470	480	490	500

\* gives clear platform width

#### D- and S-system for 6 cars

width C1	740	770	800
width C2	730	760	790
width*	460/230	480/240	500/250

\* gives clear platform width

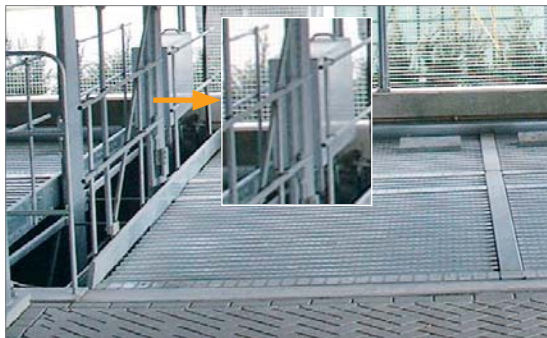


## Features in the scope of delivery



### Key switch

Key switch incl. emergency stop, dead man's control type with brief operating instructions and wiring to hydraulic unit.



### Hydraulic unit

Hydraulic unit "Silencio" with tubing and wiring to the installation. The oil submerged motor "Silencio" is extremely quiet and smooth running. The motor-pump assembly is sound absorbent.

### Location

- between or behind two systems in the pit on a 2m high support, see picture above
- if there is no space between or behind the systems – wall-mounted
- single systems: power supply placed directly on the lower platform, in the front left side

### Dimensions incl. switch cabinet

1 – 2 systems: 65cm x 25cm x 60cm

3 – 5 systems: 115cm x 25cm x 60cm

The hydraulic unit can be used for up to 5 Car Parking Systems.

### Scope of supply

S/D-system with 2 platforms, 2 columns with hydraulic cylinder and hydraulic block

### Width of parking space

Width of parking space 230cm and pit depth 170/165 cm as standard

### Safety devices

- synchronizing device for safe operation even with unequal load distribution on the platform
- entering wedge for easy drive-in and parking
- locking device prevents lowering by pipe breakage
- fixation of the car parking systems and hydraulic unit with HD-anchors, wiring and impact dowels
- railings to avoid risk of falling onto the platform, insofar as necessary

**Note:** Safety guards against shearing and squeezing have priority and must be provided by the Buyer.

### Protection against corrosion

Corrosion protection version „Classic“ of driving plates by continuous line-galvanizing to DIN EN 10142/10143.

Corrosion protection version „Classic Plus“ of driving plates by line-galvanizing to DIN EN 10142/10143 (depending on the market specific needs zinc coated and powder coated sheet metal included in the scope of supply).



### Driving plates

Driving plates as trapezoidal sheet plates as standard, options see "Extra Equipment".

## Extra Equipment and Options

---



button lifting  
button lowering  
emergency stop  
key switch with key  
interlock

### Berlin control system/Fire brigade

Interlocked key switch, removal of the key only in the upper basic position.



### Driving plates

Alu-bulb-plate in the walking area even more user friendly when walking and driving.



### Catwalks

Positioning on the left side of the parking space even more comfortable, when walking to the driver door. 1,5mm zinc sheet, surface area coined. The catwalks are screwed with the drive plates, available with corrosion protection „Classic“ or „Classic Plus“.

Dimensions: approx. 350cm x 31/41 cm (L x W)

### Width of parking space

Width of parking space 240cm and 250cm is recommended for even more vehicle comfort

### Vehicle weight

Optional vehicle weight: 2500kg. We recommend to use for these vehicles our solutions Liftparker N 4400 and N 4600 with horizontal accessible platforms.

### Additional sound insulation

- structure-borne noise package to comply with DIN 4109 and adherence to sound insulation-measure  $R_w$  '57
- sound insulation hood to minimize airborne sound

### Hydraulic

- HVLP-oil for high fluctuations in temperature

### Installation of garage gates

- ramp when door facing is not available to install the door slide rail, pit length must be 535cm, at the minimum

### Protection against corrosion

- Corrosion protection version „Premium“ of driving plates by individual piece-galvanizing to DIN ISO 1461
- Corrosion protection version „Premium Plus“ of driving plates by individual piece-galvanizing to DIN ISO 1461 and coating of the top surfaces

### Tips

- We recommend a maintenance contract.
- Attendance and cleaning according to recommendations or in regular intervals.

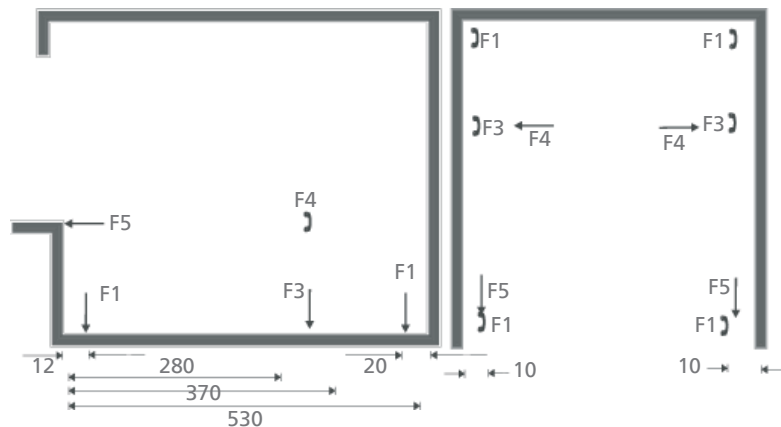
## Interfaces to be performed by the Buyer

### Foundation

Foundation works exactly to size, clean and dry is to be completed by the start of the installation. Bonded anchors for high foundation requirements shall be provided if necessary, available also as option.

Foundation plan

	single system	double system
F1	15 kN	27.5 kN
F3	30 kN	55 kN
F4	+/- 1 kN	+/- 1 kN
F5	10 kN	10 kN



The pit must be executed in compliance with the designated forces. The forces and loads are transferred to the foundation by bearing plates with an area of 150cm<sup>2</sup>. The bearing plates are fixed with metal expansion anchors. The drill hole depth is approx. 14 cm. All walls in the pit below the entrance level must be of concrete.

### Electrical Data

- supply line to main switch 5 x 2,5mm<sup>2</sup> or according to local requirements, fuse protection 3 x 16 amp, slow
- lockable main switch, near to hydraulic unit but outside of the pit, completed at the beginning of installation, height approx. 180cm above entrance level (color requirements to EN 60204-1, 10.7.4, color red)
- capacity of the hydraulic unit: 400volt, 50hz, three-phase motor 3,0kW
- electrical potential equalisation (foundation grounding steel-construction to VDE 0100 T410)

### General costumers duties

- level surface (L x W) 50cm x 20cm to attach the control panel, close to the system, outside the platform area
- safeguarding according to DIN EN 294
- lighting according to DIN 67528, illumination of parking lots and buildings for parking
- at the edge of the pit a 10cm wide, yellow-black marking according to ISO 3864
- wall opening 10cm x 10cm for hydraulic and electrical lines in case of intermediate walls
- compliance with installation requirements as per quotation

lockable main switch



safeguarding to DIN EN 294

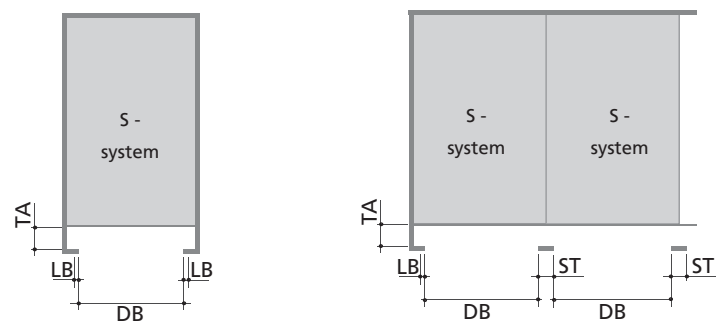


marking pit edge



# Width dimensions • Garages with doors

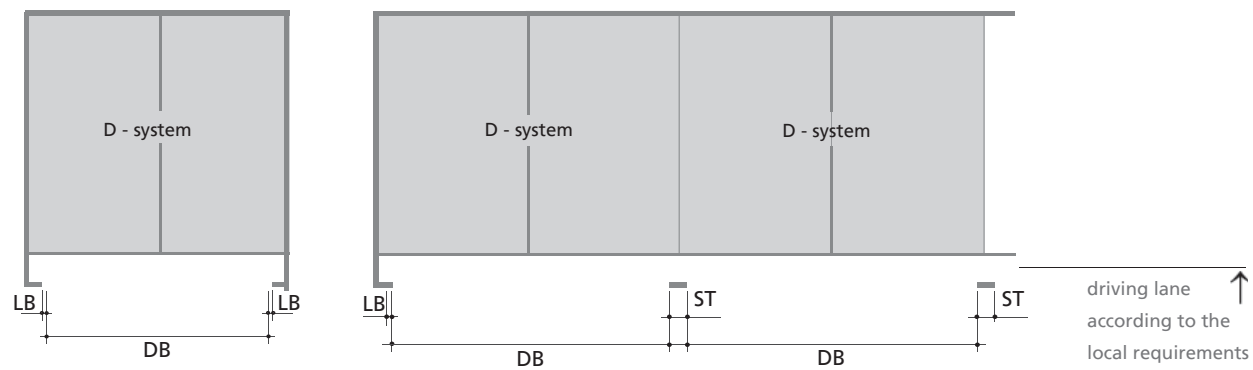
## single system for 2 cars



TA = seat-engaging surface for doors  
The dimensions must be agreed with  
the door manufacturer on site.

width of parking space	door entrance width DB	reveal LB	pillar ST
230	237 <sup>5</sup>	12 <sup>5</sup>	25
240	250	12 <sup>5</sup>	25
250	250	15	30

## double system for 4 cars



width of parking space	door entrance width DB	reveal LB	pillar ST
460	460	15	30
470	475	12 <sup>5</sup>	25
480	475	17 <sup>5</sup>	35
490	500	12 <sup>5</sup>	25
500	500	15	30

## Electric Installation

### Installation diagram

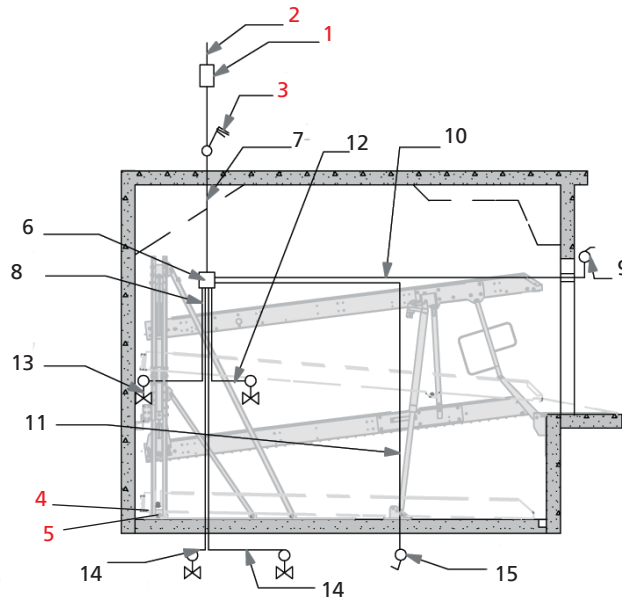


Figure: Car Parking System with inclined accessible. Specifications are also apply to systems with horizontal accessible platforms.

Item	Performance	Quantity	Designation	Positioning	Frequency
1	on site	1	fuse or automatic circuit 3 x 16 amp slow to DIN VDE 0100 part 430	in the feed cable	1 per hydr. unit
2	on site	1	supply line 5 G 2,5mm <sup>2</sup> or according to local requirements	feed cable to main switch	1 per hydr. unit
3	on site	1	lockable main switch	near to hydraulic unit	1 per hydr. unit
4	on site	each 10 m	foundation earth connector	corner pit floor/ rear wall	
5	on site	1	potential equalisation to DIN EN 60204	from foundation earth connector to system	1 per hydr. unit
6	Nussbaum	1	hydraulic unit with 3-phase motor 230/400volt, 50hz 3kW		
7	Nussbaum	1	supply line 5 G 2,5mm <sup>2</sup> with marked wires and protective conductor	from main switch to hydraulic unit	1 per hydr. unit
8	Nussbaum	1	control line 2x1		
9	Nussbaum	1	control element with emergency stop		
10	Nussbaum	1	control line 4G1		
11	Nussbaum	1	control line 4G1		
12	Nussbaum	1	control line 2x1		
13	Nussbaum	1	hydraulic valve lifting and lowering		
14	Nussbaum	1	hydraulic valve lifting and lowering by installation in ranks		
15	Nussbaum	1	control element for each further system		

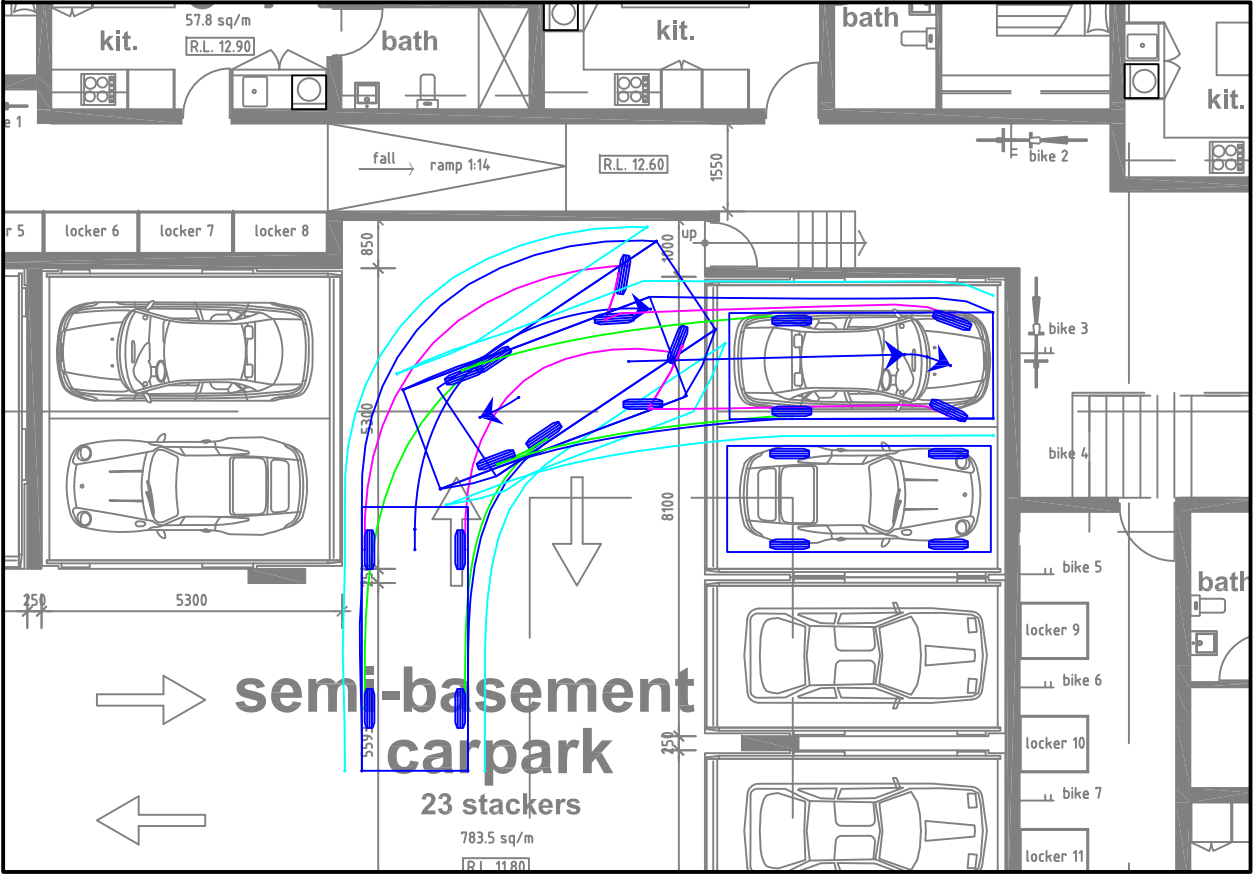
The items 6 – 15 are included in the scope of supply, unless otherwise specified in the offer/order.



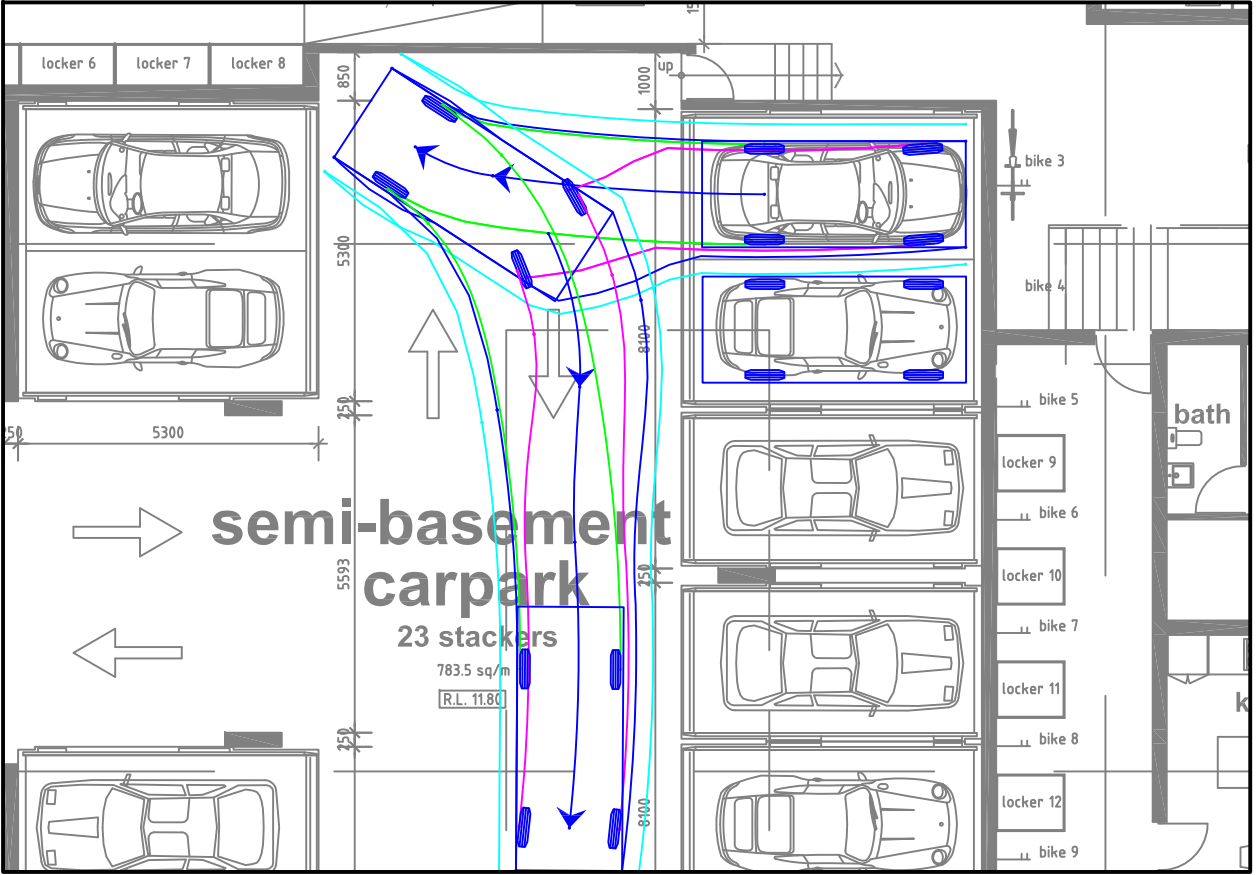
## **APPENDIX E**

### **AUTO TURN ASSESSMENT**

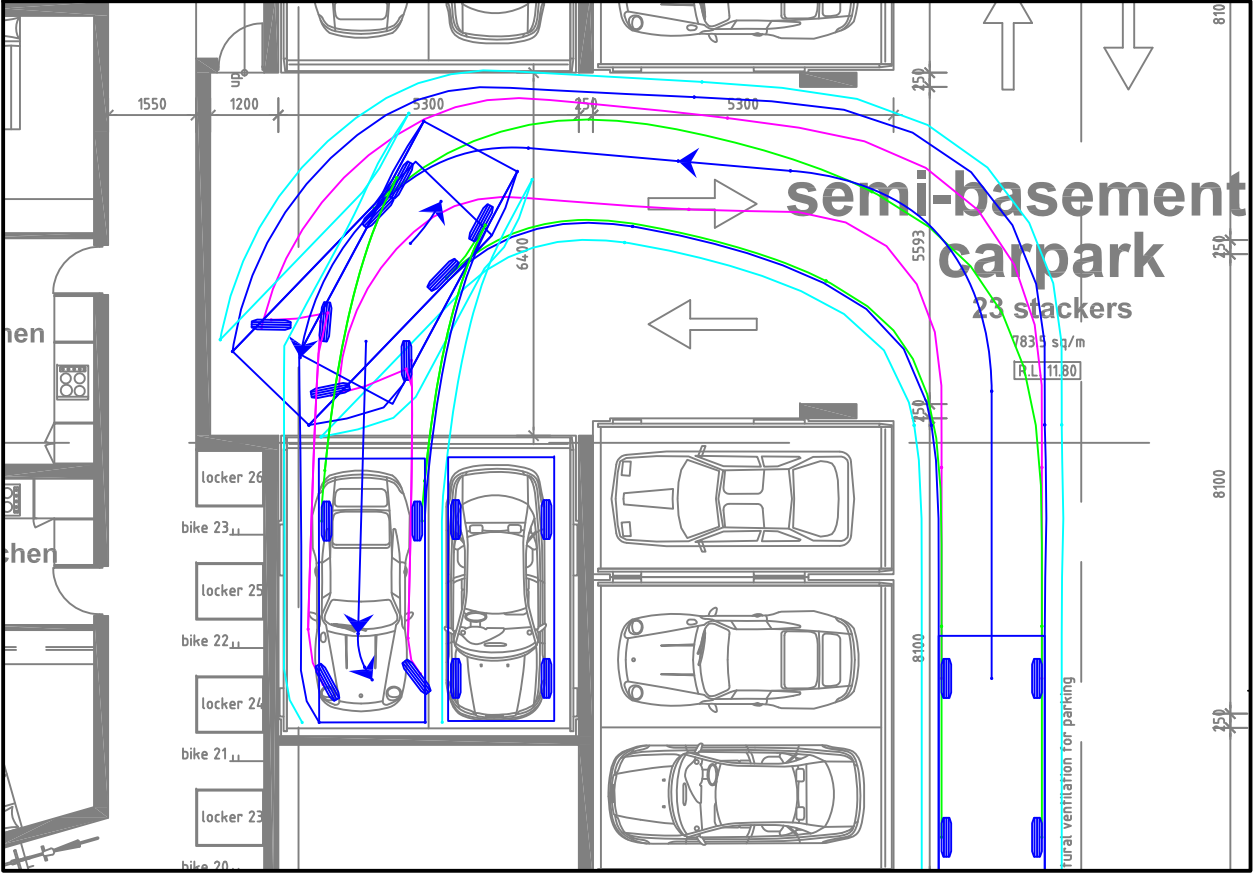
Car Stacker Space – Autoturn IN



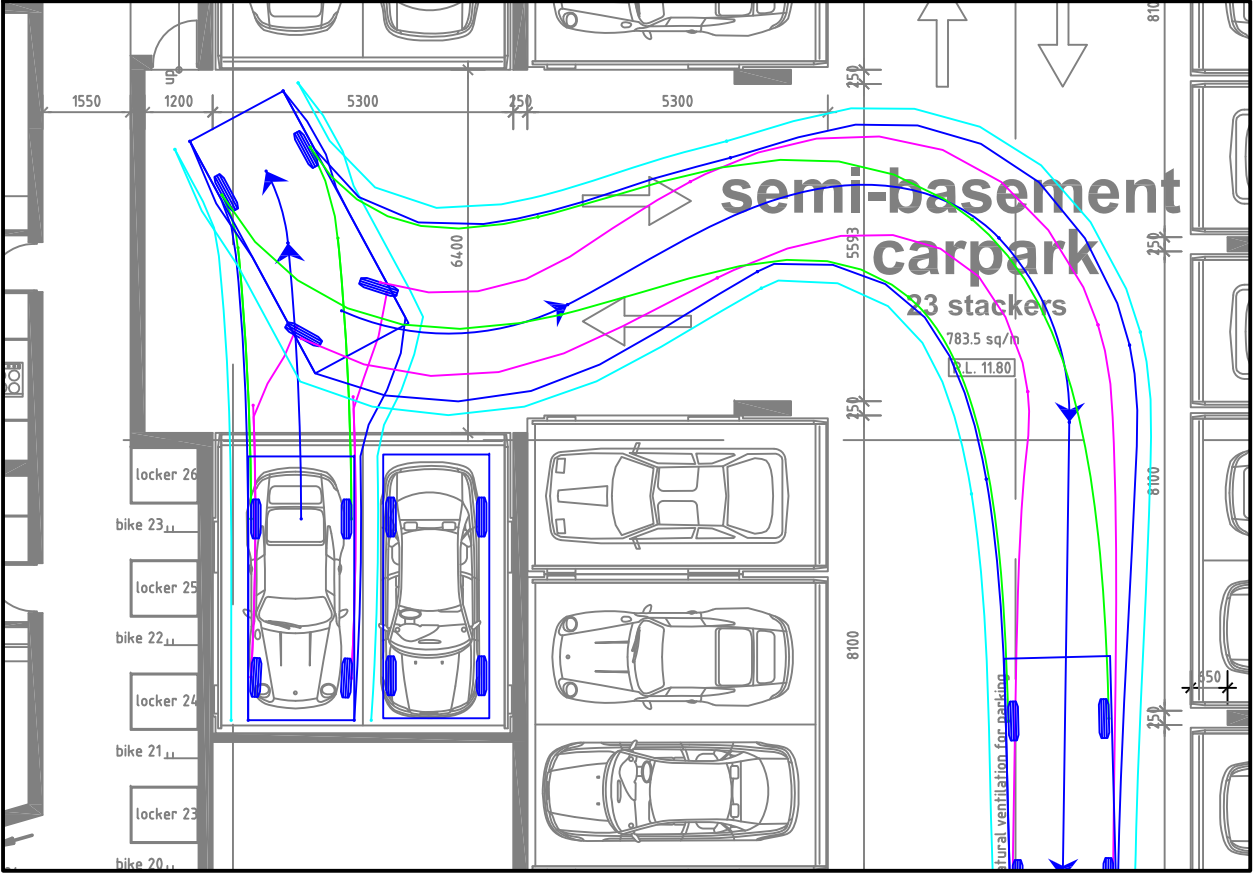
Car Stacker Space – Autoturn OUT



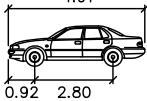
Car Stacker Space – Autoturn IN



Car Stacker Space – Autoturn OUT



VEHICLE USED IN SIMULATION  
(VEHICLE SPEED – 5km/h)



85TH-CAR-AS2890-04  
Width : 1.87  
Track : 1.77  
Lock to Lock Time : 6.00  
Steering Angle : 37.50

LEGEND

- FRONT WHEELS
- REAR WHEELS
- VEHICLE BODY
- BODY CLEARANCE

REV.	REVISION NOTES	REVISION DATE

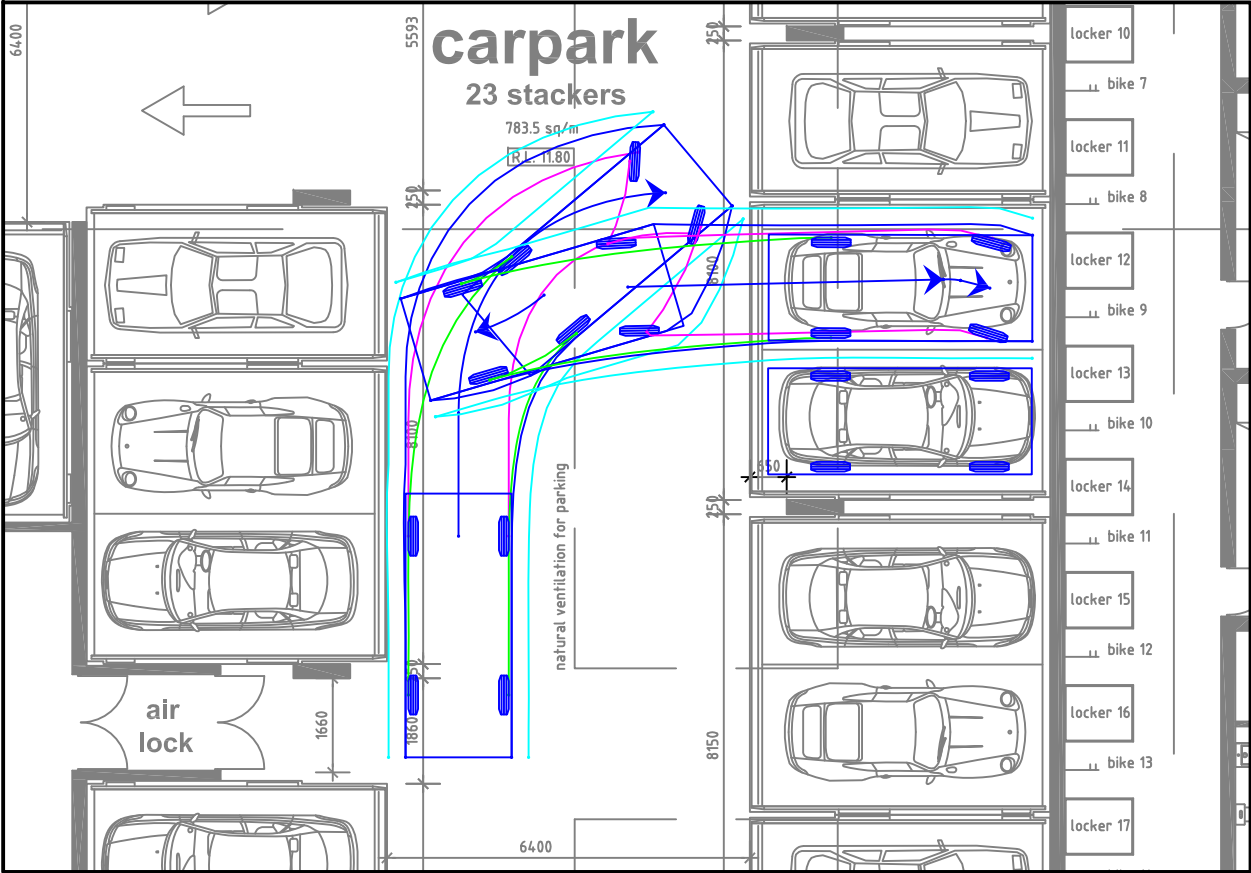
GENERAL NOTES  
1. BASE INFORMATION FROM: Ground/Site Floor Plan.dwg  
PREPARED BY Kavellaris Urban Design – Dated 5th December, 2013

DESIGNED: M. WOOLLARD	13 JAN 2014
CHECKED: L. FURNESS	13 JAN 2014
FILE NAME: 13342-02.DWG	ISSUE: A

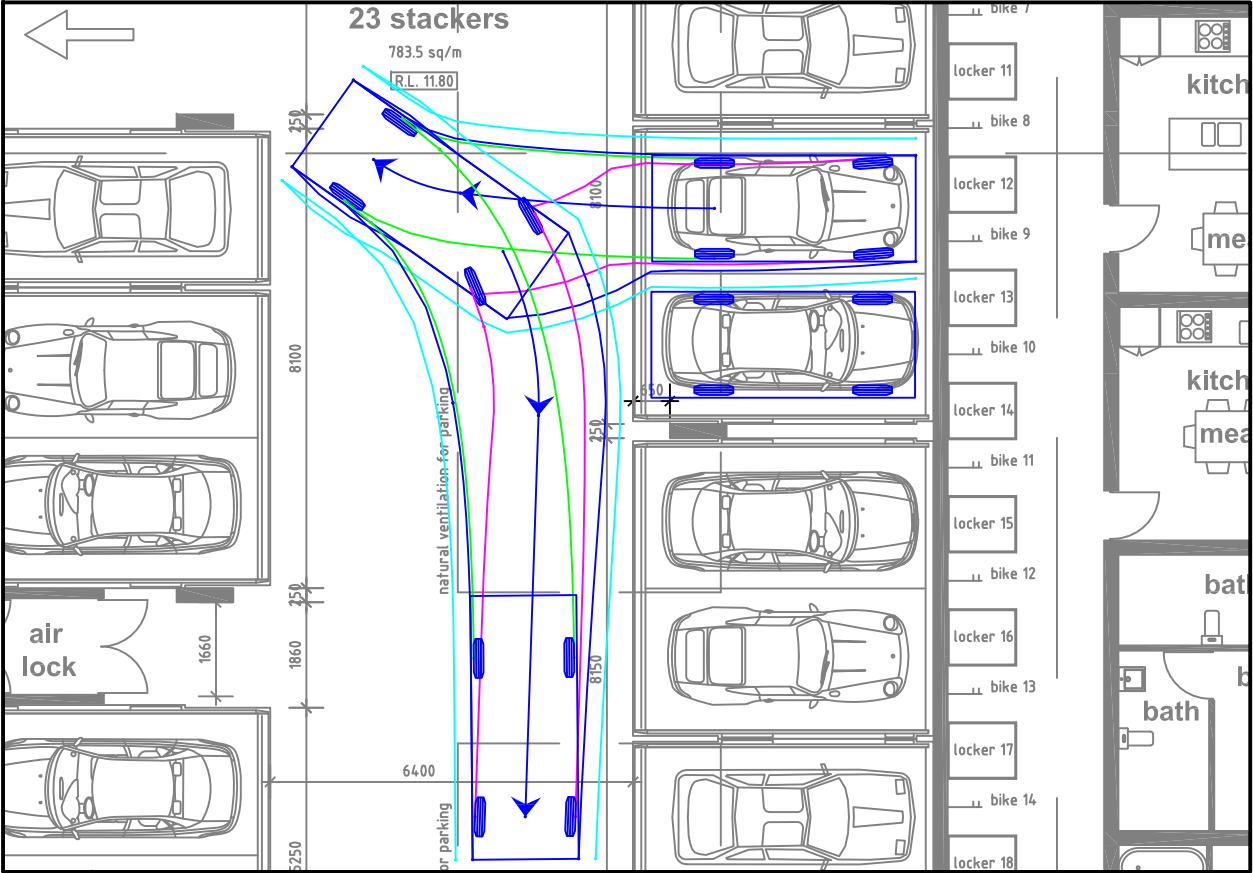
**Traffix Group**  
Traffic Engineers and Transport Planners  
Suite 8/431 Burke Road GLEN IRIS VICTORIA 3146  
TEL : (03) 9822-2888 FAX: (03) 9822-7444

6 PAINE STREET, NEWPORT B85 DESIGN CAR SWEEP PATHS PROPOSED RESIDENTIAL DEVELOPMENT		
SCALE 0 1.5 3	SHEET No. 01/02	13342-02

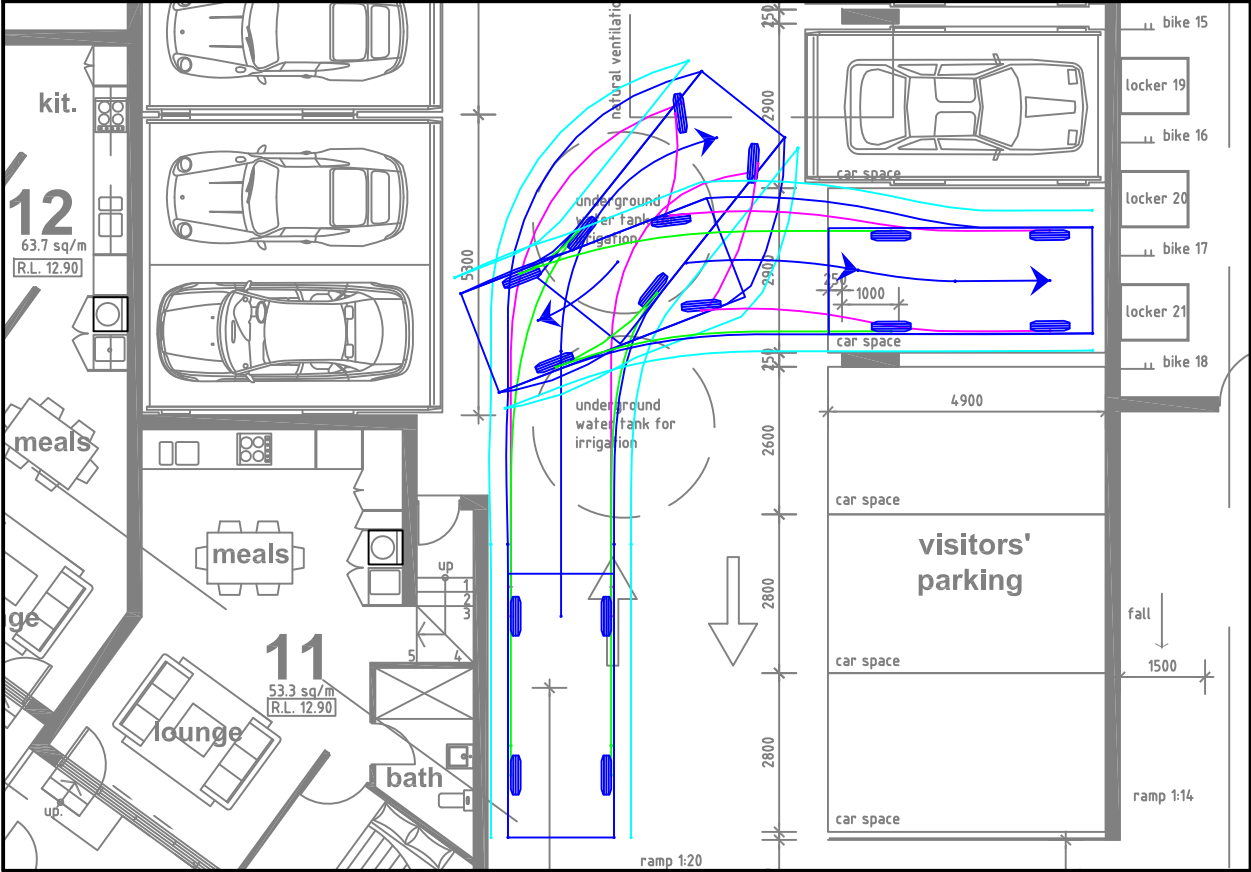
Car Stacker Space – Autoturn IN



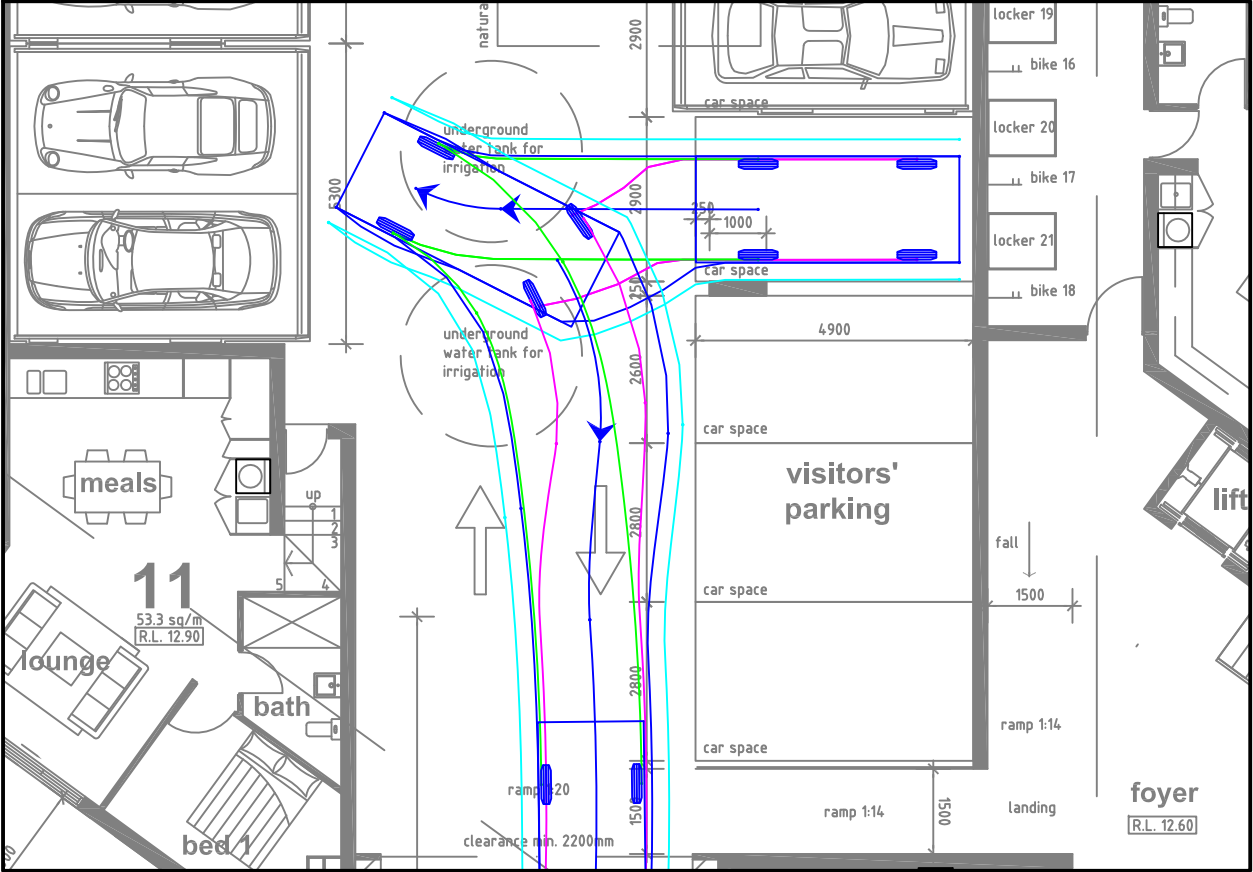
Car Stacker Space – Autoturn OUT



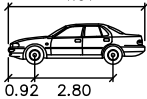
Visitor Space – Autoturn IN



Visitor Space – Autoturn OUT



VEHICLE USED IN SIMULATION  
(VEHICLE SPEED - 5km/h)  
4.91



85TH-CAR-AS2890-04  
Width : 1.87  
Track : 1.77  
Lock to Lock Time : 6.00  
Steering Angle : 37.50

LEGEND

- FRONT WHEELS
- REAR WHEELS
- VEHICLE BODY
- BODY CLEARANCE

REV.	REVISION NOTES	REVISION DATE

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1. BASE INFORMATION FROM: Ground/Site Floor Plan.dwg  
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SCALE 0 2.0 4  
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13342-02