

Reference: 0403101



23 February 2018

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Attention: Christine Alexander, Senior Asset Manager

RE: St Clair Shopping Centre –Design Statement

Dear Christine,

Ason Group has been commissioned to provide parking and design advice in support of the subject Development Application (DA). Approval is sought for external alterations to the car park located at St Clair Shopping Centre (the Site). The car park amendments include new line marking, additional drive-through queue capacity, new directional traffic flow in car park 3 and the provision for pedestrian pathways.

The objectives of the Proposal seek to:

1. Improve traffic flow and vehicle circulation.
2. Formalise pedestrian connectivity to the external road network.
3. Implement Objectives 1 and 2 whilst minimising impact to the parking quantum.
4. Undertake a merit-based design assessment which improves the general operation of the car park, resulting in a balanced outcome for the existing and proposed parking/traffic conditions.

In this regard, Ason Group has undertaken an assessment of the parking, access and internal design of the car park. The Proposal responds to the above objectives by implementing several traffic management measures whilst considering the existing car park design and site constraints. All relevant documentation available to us has been reviewed and the findings of our investigation are summarised herewith.

### **Site Location & Characteristics**

A Location and Site Plan is provided in **Figure 1**. The Site is located in Penrith City Council LGA, approximately 12 kilometres south east of Penrith, 21km west of Parramatta and 1km south of the M4 Western motorway. In a more local context, the Site is generally rectangular in configuration with Botany Lane forming the curved southern boundary of the Site. The Site is bound by Endeavour Avenue to the north, Botany Lane to the west and south, and Bennett Road to the east. Beyond the Site,

- St Clair High School sits to the west.
- St Clair Community Health Facility and St Clair Leisure Centre are located to the south, and
- A preschool and residential development is situated to the east.

### **St Clair Shopping Centre – Existing Conditions**

A summary of the existing layout characteristics are provided below:

- A total of 416 car parking spaces are provided on site identified in the Leffler Simes Architects plan shown in **Attachment 1**.
- The site is served by three (3) access driveways, including;
  - Botany Lane,
  - Endeavour Avenue, and
  - Bennett Road.
- The McDonalds drive-through facility is heavily utilised and is understood to experience congestion during peak periods, impacting traffic flow on site. It was observed on site that the queue from the McDonalds drive-through extends into the shopping centre circulation roadway. Vehicles attempting

to access the internal east-west roadway (between Bennett Road and Botany Lane) were blocked and subsequently delayed in accessing the eastern or western car parks.

- It has been observed that the pedestrian crossing located to the west of the site on Botany Lane (providing pedestrian connectivity to the nearby school) is regularly used. There is currently no formal pedestrian connection between the shopping centre and Botany Lane.

The key items that were identified on site have therefore formed the basis of this application. They include:

1. Congestion within the site as a result of the high demands with the McDonalds drive-through facility.
2. Where possible, formalise pedestrian linkages providing pedestrian refuges in locations where vehicle and pedestrian traffic interact on site.

### **Proposal**

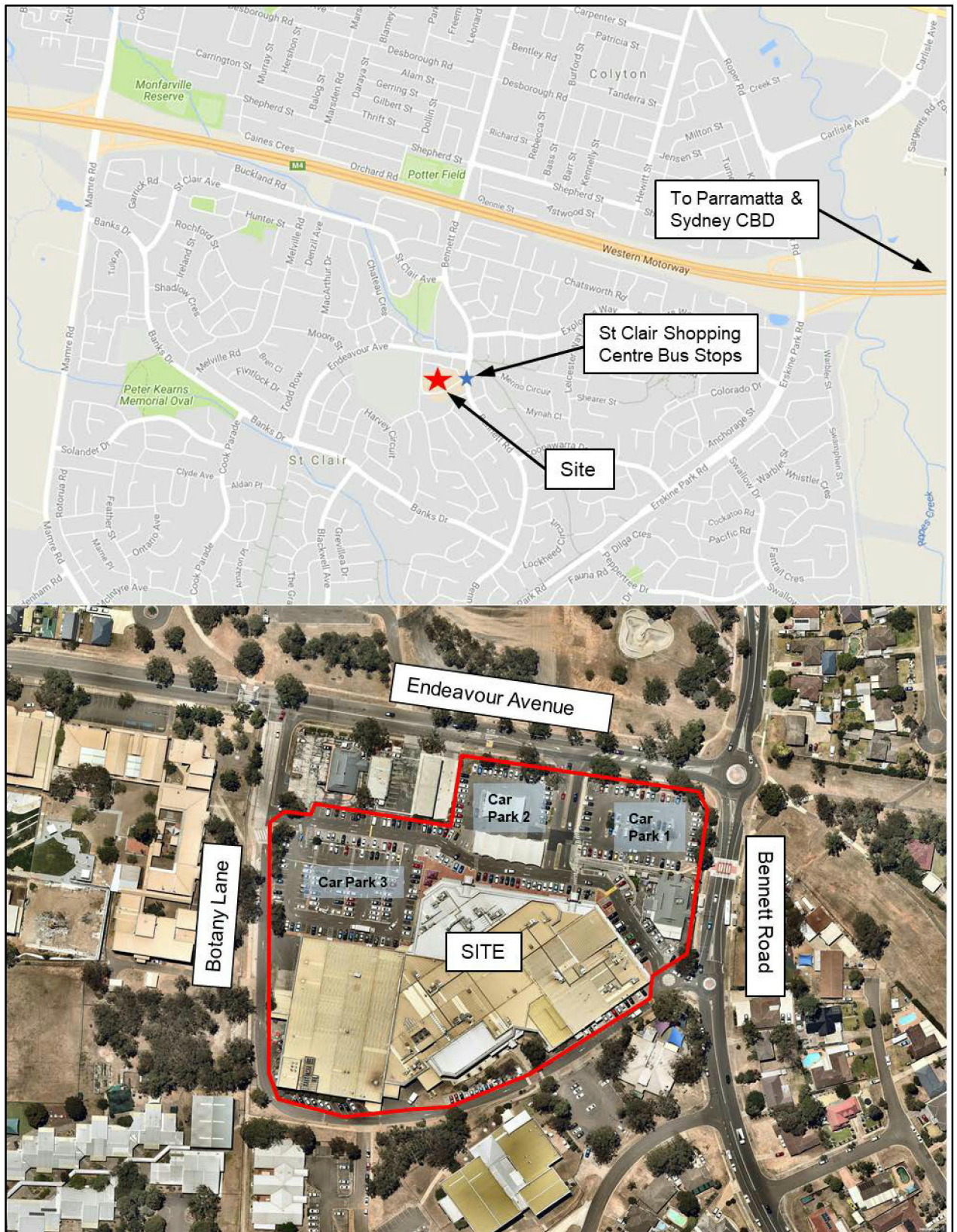
The car park upgrades and reason for implementation are summarised in **Table 1**.

**Table 1: Proposed Design Amendments**

<i>Item</i>	<i>Car Park Upgrade</i>	<i>Reason</i>
1	Additional capacity (lane) for McDonalds drive through facility	On site observations indicate that there are high demands associated with the drive through facility. Queuing can occur into the car park circulation roadways and the additional capacity is a key improvement necessary to assist with improved traffic flow and reduced congestion at this focal point of the car park.
2	Car park 1: New Line marking	The requirement to re-line mark car park 1 is a direct result of the McDonalds drive-through upgrade (i.e. provision of an additional lane). The car park amendments retain the existing car park traffic flow and parking layouts and would permit operation consistent with the existing development.
3	Pedestrian delineation/refuge and connectivity to the public road	Two pedestrian connections (line marked paths) are currently provided on site with access from Bennett Road and Endeavour Avenue. A new dedicated pedestrian path is now proposed and extends to Botany Lane. The formal path provides an improved safety outcome with refuge locations within the car park. The path will alert drivers of the pedestrian activity in this area noting that currently all pedestrians are required to share the internal circulation roadway.
4	Car park 2: Modification of eastern access to Entry only	Further to Item 1, there are a number of conflicting movements which occur at the intersection of car park 2 and car park 3. The proposed entry only access removes 1 movement to assist in achieving the objective to improve traffic flow and reduce queued impacts at this location.
5	Car park 3: Reconfiguration	This reconfiguration seeks to improve vehicle accessibility access to the car park. The design amendment aligns with the objective to improve traffic flow removing the existing 90-degree parking spaces currently accessed via the east-west circulation roadway. These spaces have been relocated into Car Park 3. The changes in this area results in the opportunity to provide superior parking dimensions.
6	Superior aisle width between Botany Lane & Car park 2	The proposed configuration of car park 3 provides the opportunity to increase the east-west aisle to permit 7.3 – 8 metres wide aisles.
7	Reconfiguration of staff parking: Botany Lane	Increased parking quantum in this location for staff.

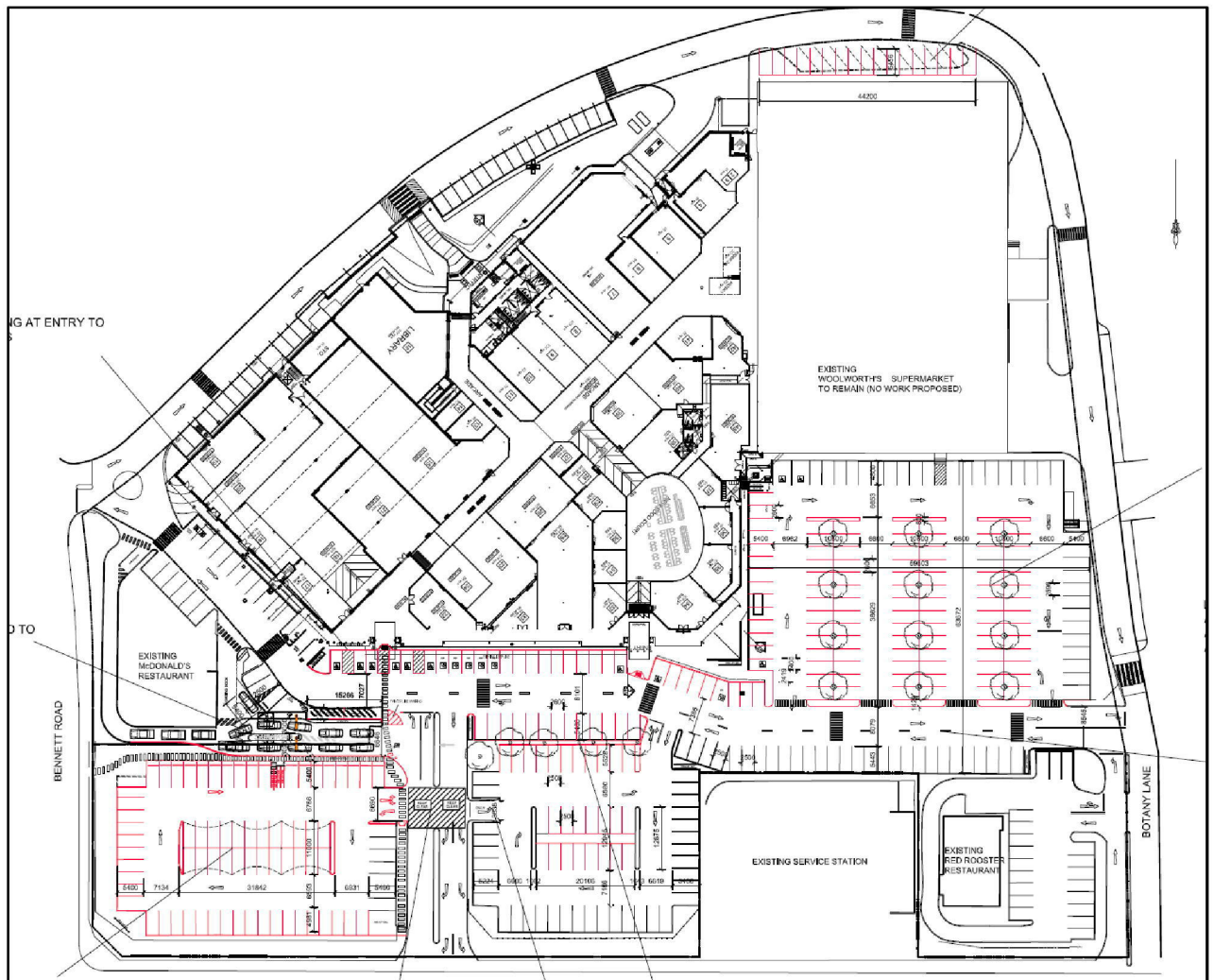


The traffic management improvements are annotated in the architectural plan (in red) prepared by 'Leffler Simes Architects' and can be found in **Figure 2** (overleaf) or in **Attachment 2**.



**Figure 1: Site and Location Plan**





**Figure 2: Proposed Site Plan**

### **Design Assessment**

The site access, internal circulation and car parking arrangements have been developed with consideration of the requirements of the relevant Australian Standards (i.e. AS2890. and AS2890.2), and the existing conditions on site. A merit-based assessment has been undertaken for the Proposal to achieve the key objectives of this study. The internal configuration of the Site – including light vehicular access and car parking– has been designed generally in accordance with the requirements of the relevant Australian Standards (AS2890.1, AS2890.2 and AS2890.6) and in line with the existing car park conditions. The car park amendments are consistent with existing car park layouts and in some circumstances provide superior design dimensions (parking and aisle widths), resulting in an improved outcome for the site.

A swept path analysis assessment has been undertaken to investigate the suitability of the car park primary upgrade, this being the additional lane for the McDonalds drive-through facility. The analysis demonstrates that a B99 design vehicle can be accommodated on site and in accordance with AS 2890.1 as shown in **Attachment 3**. The traffic flow recommendations for Car Park 3 are shown in Attachment 3 also.

The amended design delivers improved circulation, pedestrian connectivity, a reduction in conflict points and queuing impacts of the existing drive-through facility. The design changes that are sought will retain 98.8% of the existing parking provision.

### **Pre-DA Consultation**

The Pre-DA meeting held on the 12<sup>th</sup> of September 2017 primarily related to an alternative concept option seeking amendment to all internal parking layouts and access principles. Further detailed design development has been undertaken since and the subject application now relates to internal improvements only. As such – some comments that were received are no longer relevant. The following summarises and responds to comments raised by Council’s traffic engineer.

- No changes are proposed to on site servicing.
- No changes are proposed to the access principles.
- No changes are sought for the shopping centre GFA and therefore there would be no increase in traffic generation. The design amendments seek to service an existing demand.
- Accessible pedestrian paths of travel are provided to external road network.
- The merit-based design assessment incorporates the relevant design requirements to improve vehicular circulation in the car park. The proposed car park layout results in an improved and balanced outcome for the shopping centre which generally achieves the Proposal objectives. Whilst there is a loss of 5 parking spaces (1.2%) of the overall parking quantum – the Proposal would assist in reducing congestion within the car park and improving queuing impacts on site. The minimal loss of parking is considered acceptable in this circumstance where the overarching objectives seek to improve driver amenity.

### **Summary**

The proposed car park layout results in an improved and balanced outcome for the shopping centre which achieves the Proposal objectives set out in this report including:

1. Improve traffic flow and vehicle circulation throughout the car park.
2. Formalise pedestrian connectivity to the external road network.
3. Limit impact to the car park quantum by maintaining 98.8% of the existing parking provision.

This design is considered a significant improvement on the existing car park arrangement which seeks to reduce conflict points, improve traffic flow/efficiency and better manage pedestrian connectivity.

We trust the above is of assistance and please contact the undersigned should you wish to discuss matters further.

Yours sincerely,



John Mulhaire  
**Principal Traffic Engineer – Ason Group**  
Email: [john.mulhaire@asongroup.com.au](mailto:john.mulhaire@asongroup.com.au)

## Attachment 1 – Existing Site Plan

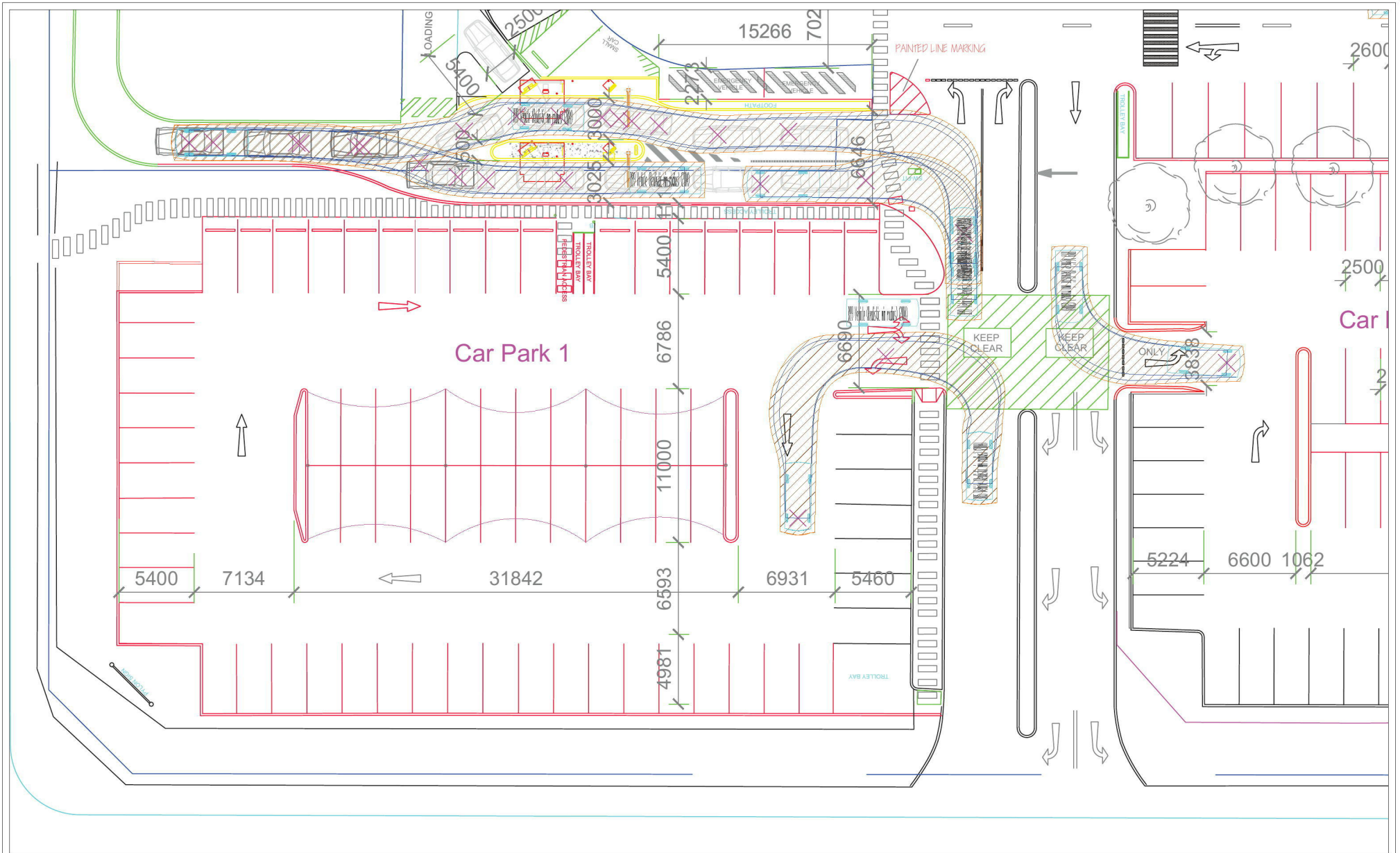


## Attachment 2 – Proposed Site Plan





## Attachment 3 – Swept Path Analysis



Revision notes:

Rev.	Date:	Notes:

*For information purposes only - not for construction*

<b>Drawn By:</b> vc
<b>Client:</b> Ringmer Pacific Management Pty Ltd

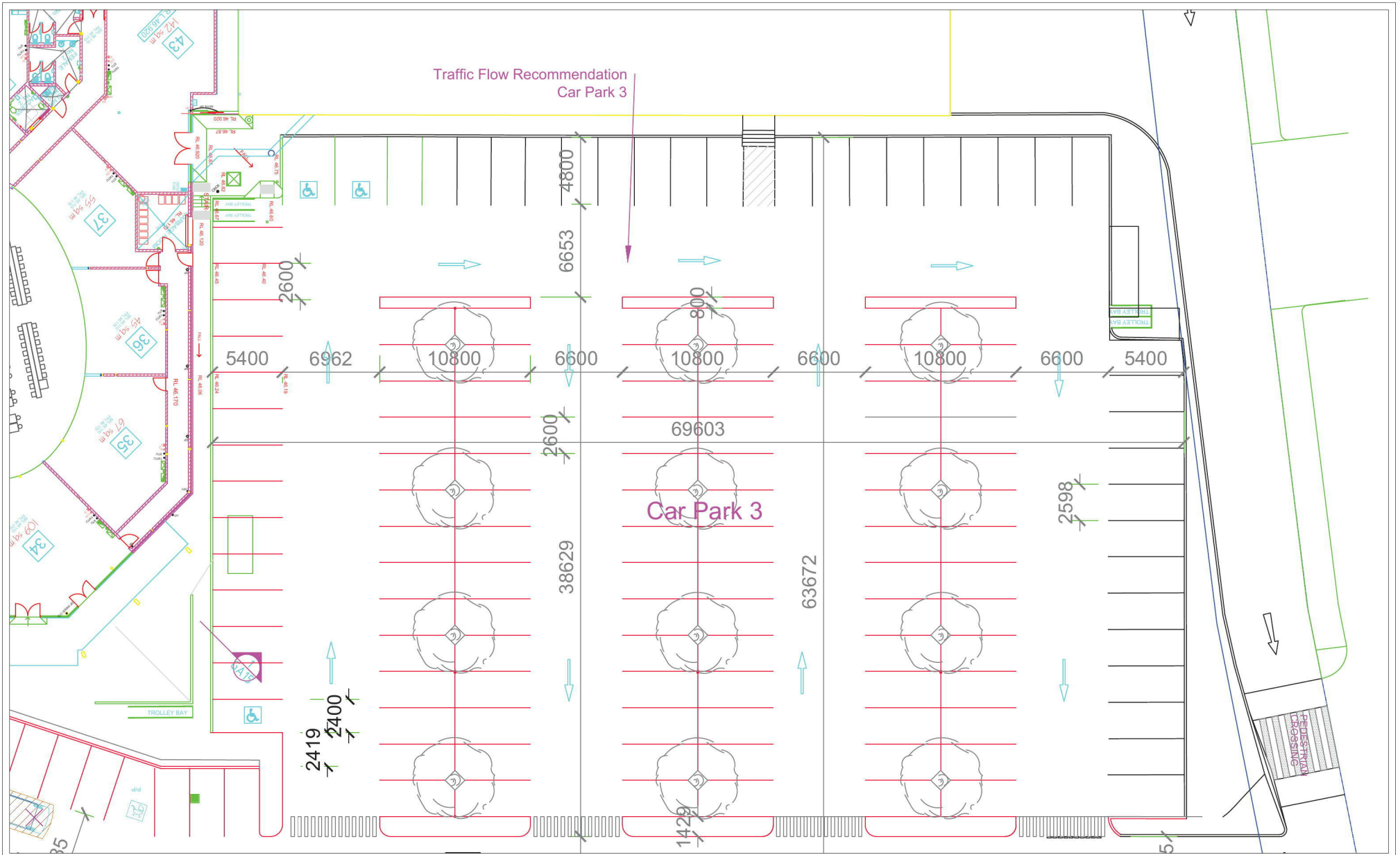
<b>Project:</b> AG0403 St. Clair Shopping Centre
<b>Drawing Title:</b> Proposed Car Park Layout St. Clair Shopping Centre

<b>Date:</b> 23/02/2018
<b>Scale @ A3:</b> 1:250
<b>Drawing Number:</b> 01

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Revision notes:

Rev:	Date:	Notes:
		Traffic flow recommendation annotated in the above plan for car park 3.

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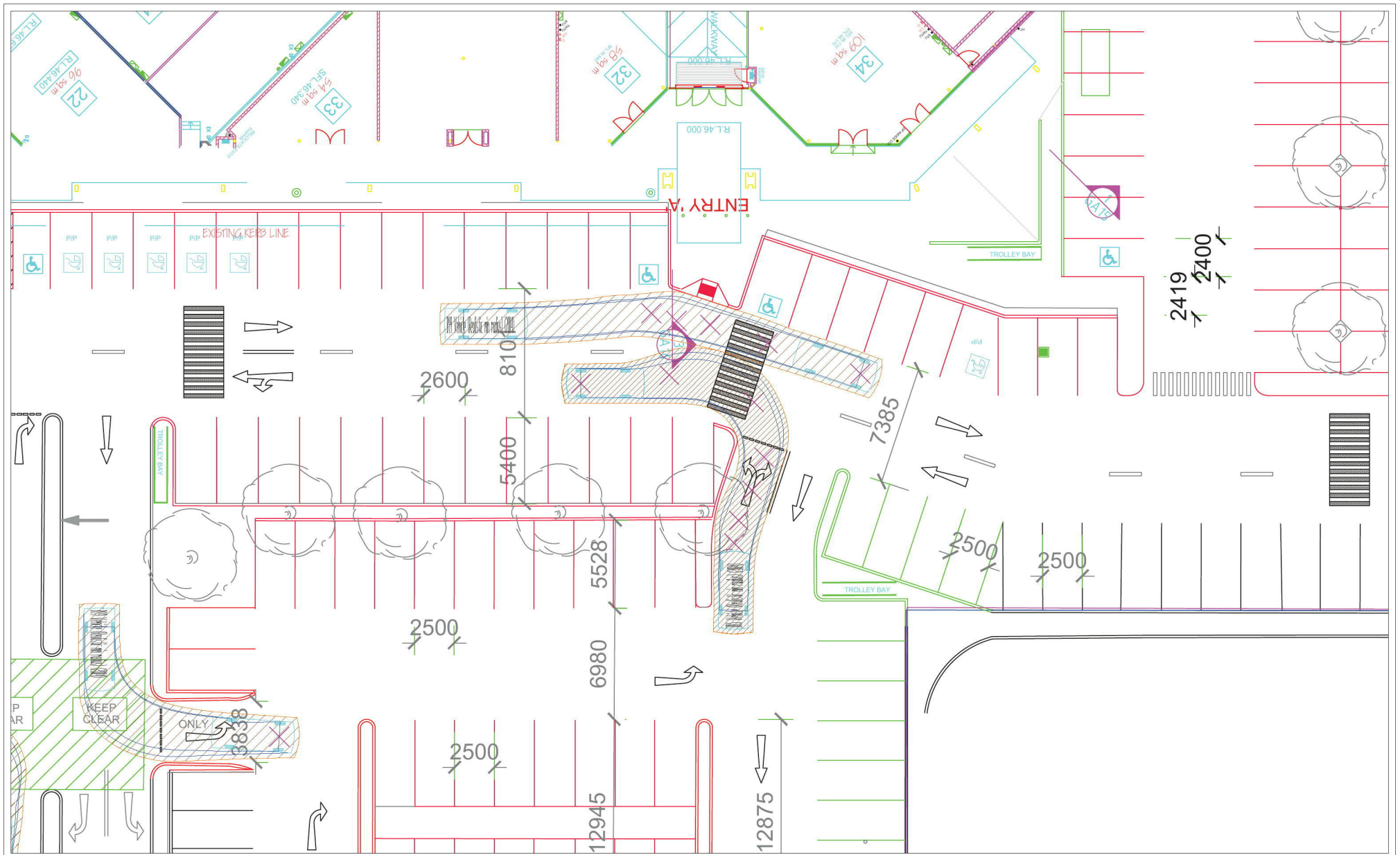
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<b>Date:</b> 23/02/2018	<b>Scale @ A3:</b> 1:250
<b>Drawing Number:</b> 02	

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<b>Drawing Number:</b> 03	

  
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