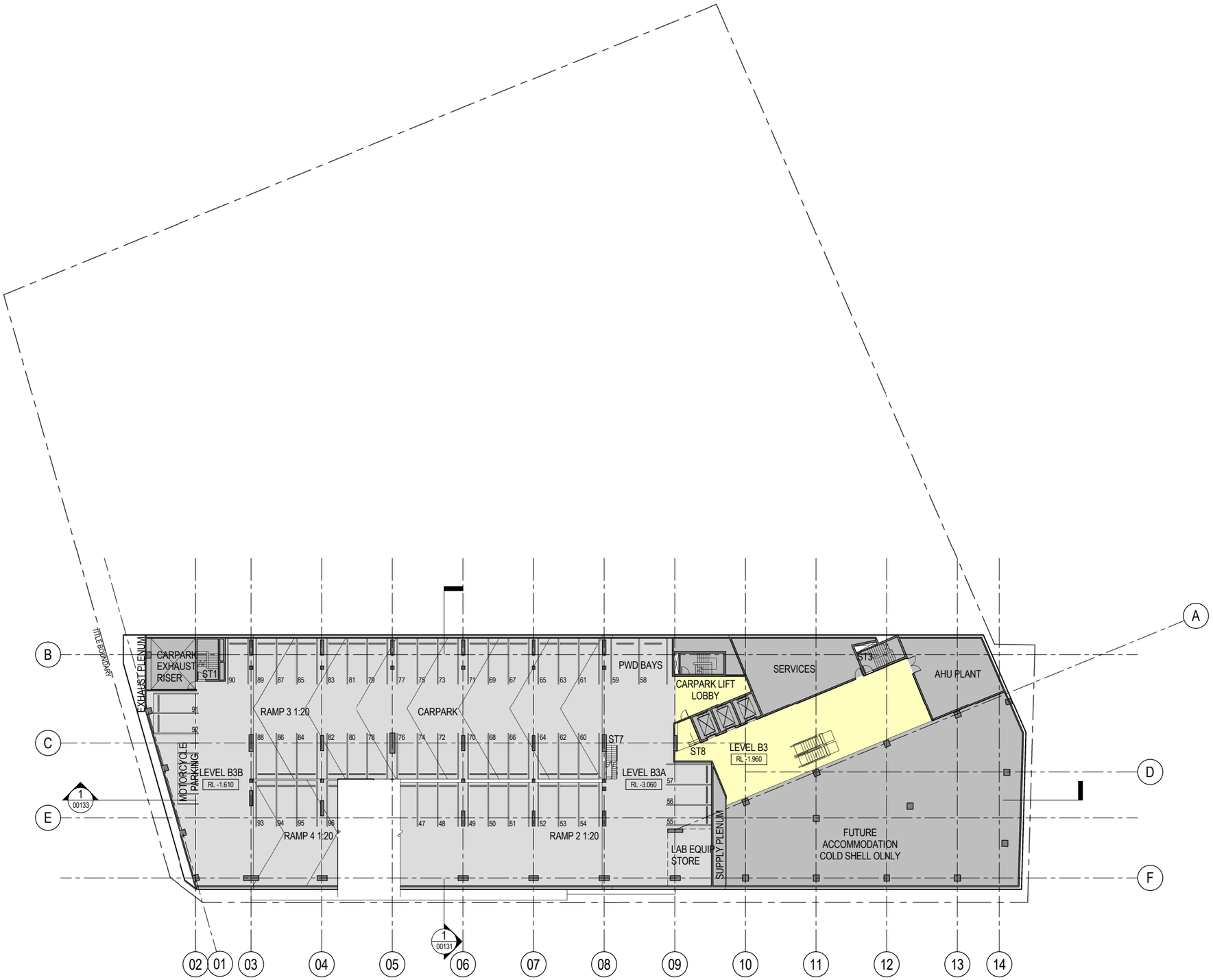

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D_PA_B3

1:250 @ A1
1:500 @ A3

0 2.5 5 7.5 12.5M

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LEVEL B3 BASEMENT FLOOR PLAN
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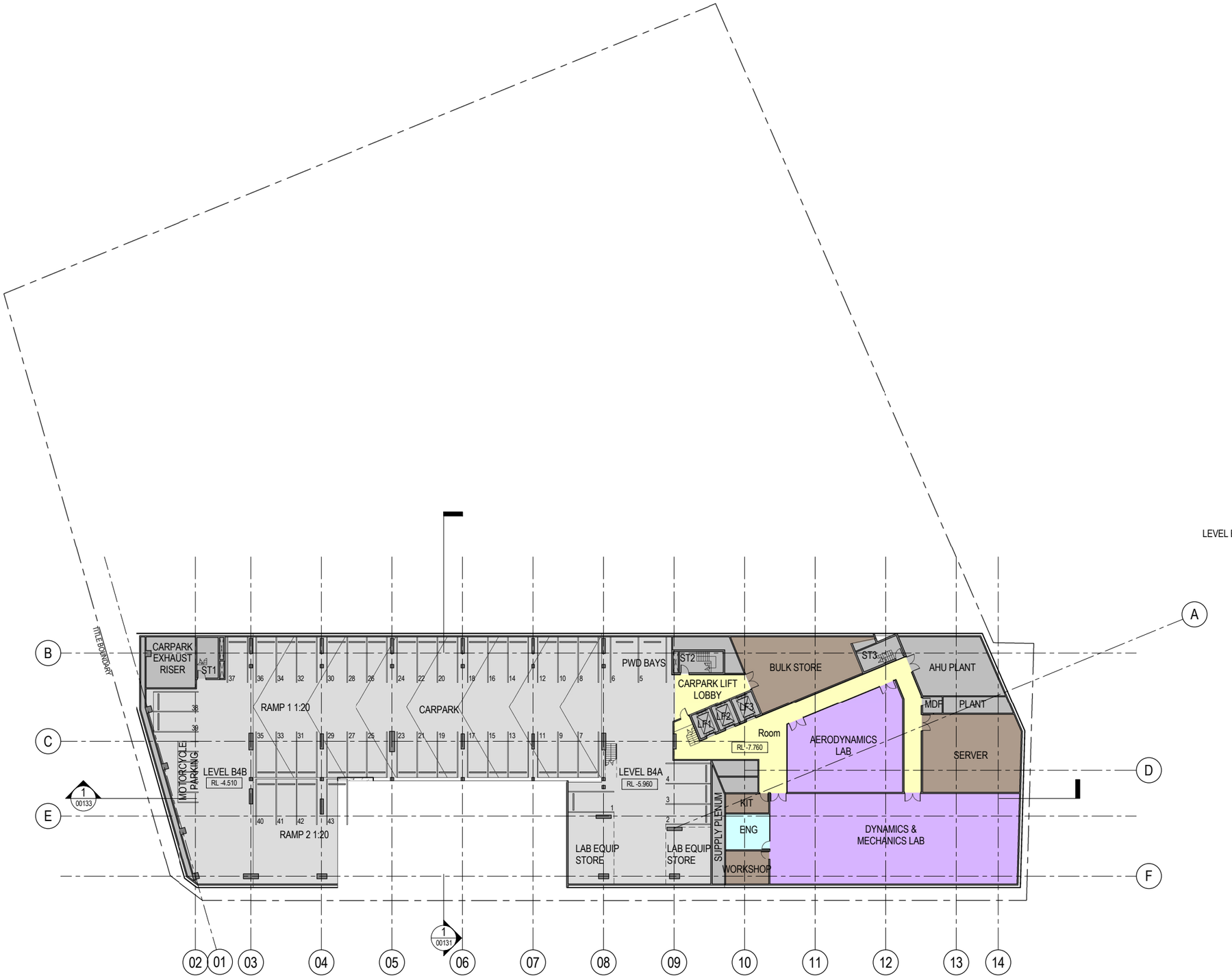

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D_PA_B4

1:250 @ A1
1:500 @ A3

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UTS BROADWAY BUILDING
SYDNEY

LEVEL B4 BASEMENT FLOOR PLAN
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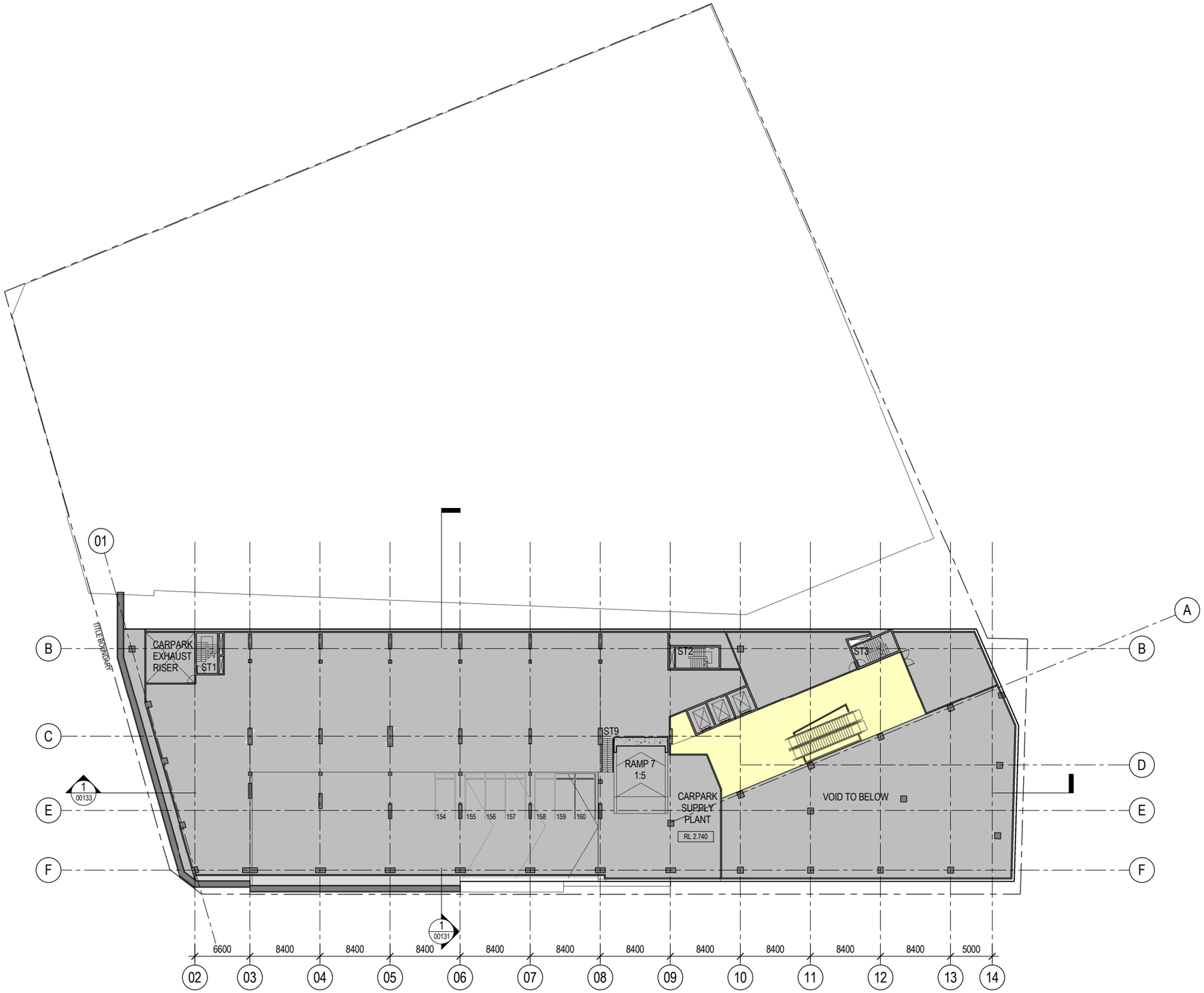

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1:250 @ A1
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PLANNING

UTS BROADWAY BUILDING
SYDNEY

LEVEL B2 MEZZANINE FLOOR PLAN
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Appendix B Photographs

Entry / Exit to the site from Jones Street

Jones Street north of Broadway looking north

Jones Street looking south towards Broadway

Wattle Street looking south towards Broadway

Wattle Street looking south from Broadway

Broadway looking east

Broadway and Jones Street looking east

Appendix C Calculation of Queues at Proposed Boom Gates

Building 10 currently has 168 car parking spaces which comprise 150 car spaces, 12 service vehicles and 6 spaces for persons with disabilities. Access is achieved from Thomas Street and egress is achieved onto Wattle Street. It is proposed that an additional 160 car parking spaces will obtain access/egress by the same arrangements.

Surveys undertaken at the site show that the maximum hourly inbound and outbound traffic flows were 83 and 64 vehicles per hour. Anecdotal evidence provided by the University has reported that the current level of traffic results in queues of up to 3 vehicles (i.e. one in the car park, one across the driveway and one on the road).

Australian Standard Queuing Check

Table 3.3 of AS2890.1 requires that for a car park with a capacity of more than 100 cars that the minimum queuing length is the total of

- 1st 100 cars – 3% of capacity
- 2nd 100 cars – 2% of capacity
- Additional cars – 1% of capacity

Assuming the ramp works result in the loss of 32 spaces, the car park access will need to serve 296 spaces, this equates to 6 cars (i.e. 3 + 2 + 1) which is also greater than the recommended minimum queuing length of 3 vehicles recommended in Table 3.3.

Queuing Theory Check

A single boom gate at the access would have a capacity of around 400 vehicles per hour (as per Australian Standard Appendix D capacity for a card reader entry) but due to the mixture of users at this site (which includes casual users) we have assumed the capacity to be 300 vehicles per hour. Our queuing theory spreadsheet calculations, which are more exact than the Australian Standard estimate, confirm that the existing situation with an arrival rate of 83 vehicles per hour would result in a 95th percentile queue length of between 2 and 3 vehicles (which accords with observed conditions).

If we assume that the arrival patterns for the new car park will be the same as for the existing car park, the new 160 space car park would generate 79 additional inbound

movements. Assuming the reduced number of 136 spaces would generate 67 movements; this would give a total of 146 inbound movements.

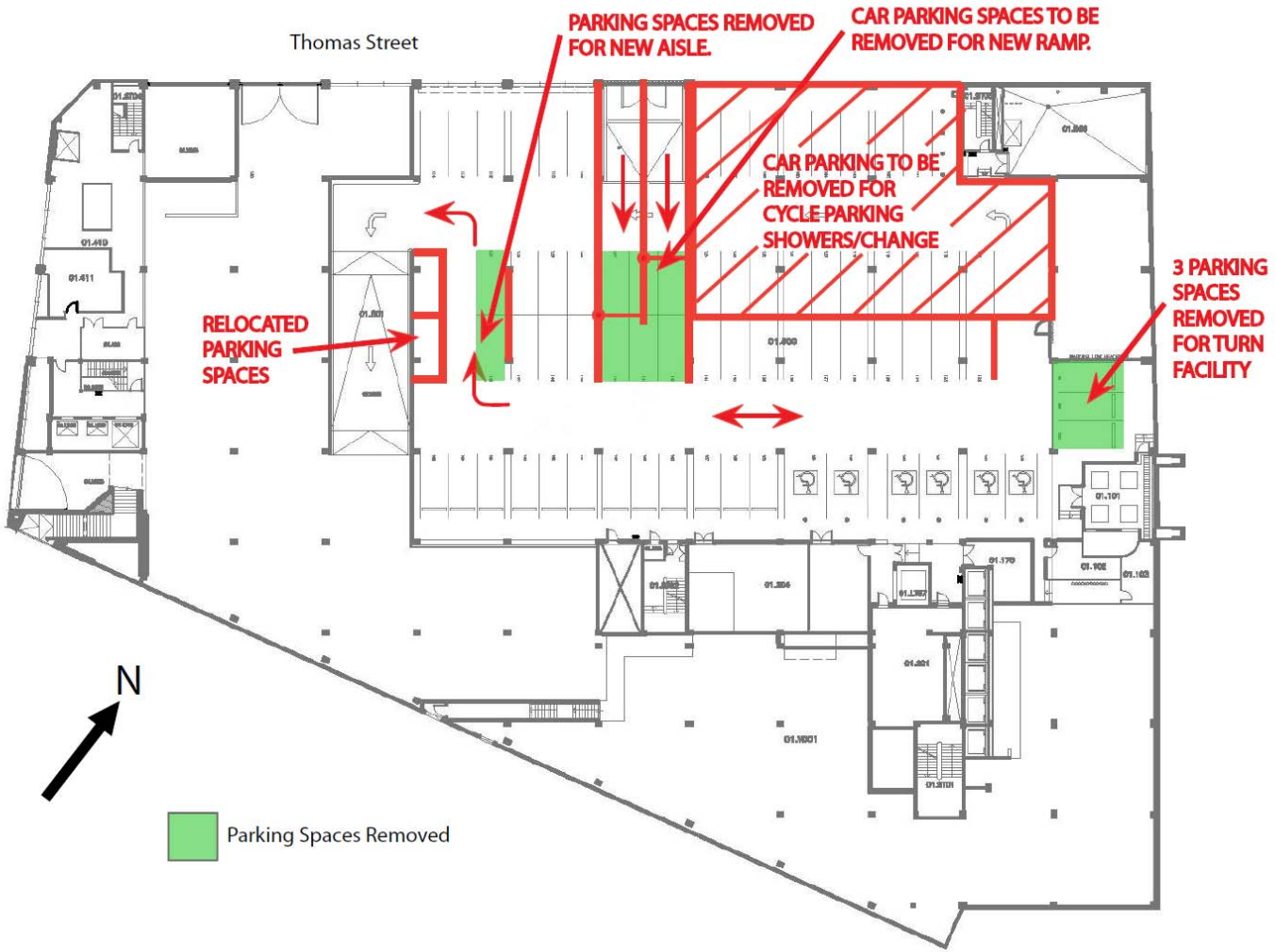
A single access, with a capacity of 300 vehicles per hour, but with an arrival rate of 146 vehicles per hour, would operate with a 95th percentile queue of between 4 and 5 vehicles. This would, with the current layout, result in queuing back onto the road.

The provision of 2 entry lanes, each being controlled with a card reader – but still with a capacity of 300 vehicles per hour per access, with an arrival rate of 146 vehicles per hour, would result in a 95th percentile queue length of between 2 and 3 vehicles.

In summary, it would seem appropriate therefore to provide, within the site, either a single access for 5 queued vehicles or two entry lanes with a total provision for 3 vehicles (*one vehicle in one lane and two vehicles in the other – the fact that there are two boom gates letting cars through alternately means that there are not as many queuing vehicles as for a single boom gate*). Assuming a 6m length for each vehicle within the queuing lane (as per Australian Standard 2809.1 Para 3.4), the capacity of the queuing space should be around 18m if there are 2 entry lanes or 30m if there is a single entry lane proposed.

It is proposed therefore that a dual access with dual car readers is provided. If we assume 2 traffic lanes no more than 3m wide with a separating median of 0.6m, it would be possible to provide a dual access – this would require the provision of a "straight" entry into the car park and any parking loss could be relocated if the proposed cycle parking area was relocated to the location shown on the sketch. A small stagger would need to be introduced between the two gates thereby allowing cars to alternate access to the main aisle allowing the driver of the trailing vehicle to clearly see the movement of the vehicle negotiating the barrier gate in front of him. This option would however require engineering works to provide a second access point.

A sketch of this option is provided below.


Thomas Street
PARKING SPACES REMOVED FOR NEW AISLE.
CAR PARKING SPACES TO BE REMOVED FOR NEW RAMP.
CAR PARKING TO BE REMOVED FOR CYCLE PARKING SHOWERS/CHANGE
3 PARKING SPACES REMOVED FOR TURN FACILITY
RELOCATED PARKING SPACES
N
Parking Spaces Removed