

Terraffic Pty Ltd

Traffic and Parking Consultants

ABN 83 078 415 871

24th August 2021

Ref 20006

The General Manager
Northern Beaches Council
725 Pittwater Road
Dee Why NSW 2099

Attention: Anna Williams

Dear Anna,

RE DA2020/0824 – 321-331 CONDAMINE STREET, MANLY VALE

I refer to Council's letter to Manly Vale Developments No.2 Pty Ltd dated 28th June 2021 relating to concerns regarding vehicular access. The traffic related issues have been addressed as follows:

- a. *Swept path diagrams are required to demonstrate that safe manoeuvring can be achieved and to specifically to confirm:*
 - i *How the largest vehicle proposed to access the loading bay will ingress and egress to and from the loading bay in a forwards direction noting the constrained conditions on Somerville Place and its One Way traffic flow.*

The proposed development is served by a 7.3m x 4.5m loading bay on the ground level capable of accommodating a typical courier van similar in size to the B99 vehicle specified in the Australian Standard AS/NZS2890.1:2004. The B99 vehicle is similar to the Ford Transit Medium Wheelbase Van and measures 5.2m x 1.94m. This vehicle will adequately serve the 4 small retail shops.

In the circumstances where a larger vehicle is required to make a delivery, this vehicle will temporarily park in the 1 HOUR PARKING zone along the Condamine Street frontage as per the current arrangements. Keeping the larger vehicles to the higher order road network would be preferable to making them travel along a one way laneway.

The swept path of the B99 vehicle exiting the loading bay is reproduced in Annexure A. As can be appreciated, the vehicle can comfortably enter the loading bay in one manoeuvre.

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- ii. *How concurrent entry to the driveway by a B99 vehicle and egress from the carpark levels by a B85 vehicle can occur.*
- iii. *How concurrent entry to the driveway by a B85 vehicle and egress by a B99 vehicle from the carpark levels can occur.*

Somerville Road is an unclassified local road with a primary function of providing access to the rear of properties fronting Condamine Street. In February 2020, the laneway carried approximately 20 vehicles in the morning peak and 30 vehicles in the afternoon peak. This includes traffic generated by the existing site development.

Based on the calculations in the Traffic and Parking Assessment Report prepared for the application, the proposed development will yield a traffic generation potential in the order of 25-26vtpm during the weekday peak periods. This level of traffic equates to approximately 1 vehicle movement every 2 minutes during the peak periods.

Due to the relatively low traffic flows along Somerville Place and those generated by the proposal, the access arrangements off Somerville Place were not designed to provide concurrent “free flows” where entering and exiting cars can pass at the same time. The intent of the design was to provide a clear line of sight for drivers to see approaching traffic and give way accordingly.

The swept paths of the B99 and B85 vehicles accessing the site are reproduced in Annexure B. As can be seen, drivers coming up the ramp will be able to see if a vehicle is turning into the driveway. As can be appreciated, a driver entering the site can also see a car exiting and will stop temporarily in Somerville Place to allow the car to depart.

- iv. *How service vehicles and delivery vehicles up to large rigid vehicles will proceed south along Somerville Place past the developed site.*

The proposal will not restrict the movements of any passing vehicles on Somerville Place.

- v. *How vehicles will be able to enter and egress parking spaces Retail 01 and Retail 02 without impacting upon fences or bollards on the western side of Somerville Place.*

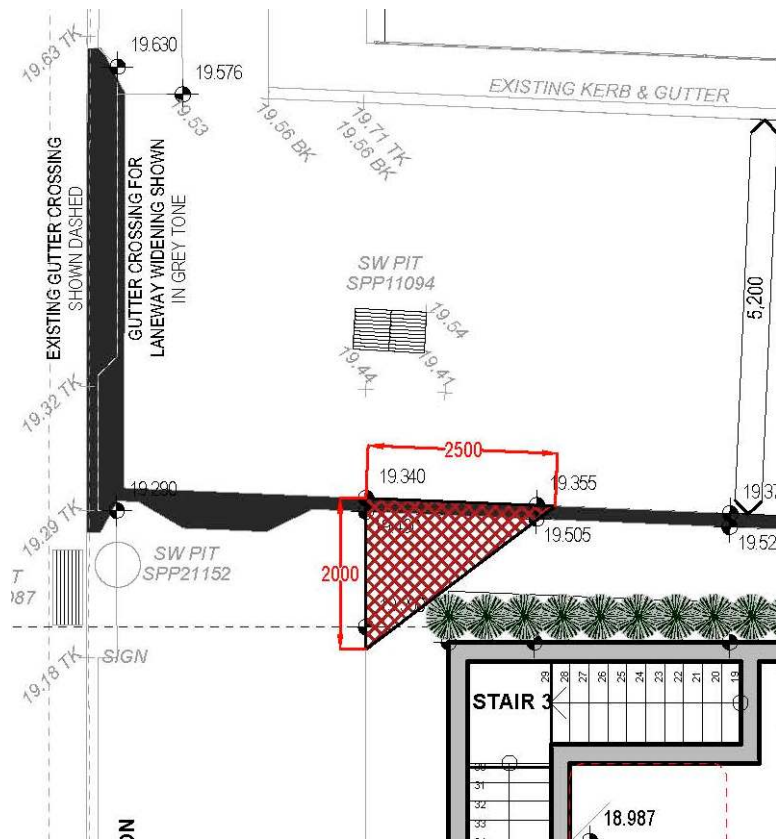
The swept path of the B85 vehicle accessing each Retail space off Somerville Place is reproduced in Annexure C. As can be seen, the vehicle makes a total of 3 manoeuvres (2 entry + 1 exit turn). The assessment has been carried out using the Autodesk Vehicle Tracking software which was created for the simulation of vehicle turning manoeuvres and ground clearance evaluation.

- vi. *That sight lines triangles consistent with AS2890.1 section 3.2.4 are provided at the proposed basement carpark driveway noting the proximity of parking space Retail 01 (which appears to impede sight lines top pedestrian traffic).*

The retail parking spaces off Somerville Place have been relocated away from the access driveway and replaced with motorcycle parking. The sight line concern has therefore been resolved.

- vii. *That adequate visibility to pedestrians and vehicles will be available on Sunshine Street given the location of proposed landscaping on the south west corner of the site.*

As can be seen in the graphic below, the development plans now provide compliant pedestrian sight lines at Sunshine Street.



- b. *Certification that all driveways, parking aisles and car parking spaces comply with the provisions of AS2890.1, and AS2890.2 and AS2890.6 (where necessary). As proposed, the clearance for the loading bay is undersized, Retail Space 01 appears to be undersized, the first 6m of the driveway inside the property does not meet required grades and sightlines at the northern boundary are unacceptable.*

It is understood that the Conditions of Consent will require compliance with the relevant Standards. Notwithstanding, the basement carpark and access ramps have been designed to satisfy the following requirements of the Australian Standard AS/NZS2890.1-2004 – “*Off-Street Car Parking*”:

- Long-term (Class 1) parking spaces are a minimum 5.4m long and 2.4m wide
- Short term (Class 3) parking spaces are a minimum 5.4m long and 2.6m wide
- Small car spaces are a minimum 5.0m long and 2.3m wide
- An additional 0.3m has been provided for spaces adjacent to a wall or obstruction
- Blind aisle extensions 1.0m wide have been provided as per Figure 2.3 of the Standard
- The access/manoeuvring aisle ranges in width from 5.8m to 6.2m
- Pavement cross-falls at parking spaces do not exceed 5% (1 in 20)
- The maximum gradient of the main access ramp for the first 6.0m into the site from Somerville Place does not exceed 5% (1 in 20)
- Maximum ramp grades do not exceed 25% (1 in 4)
- Ramp transitions do not exceed 12.5% (1 in 8) over a distance of 2.0m
- The two-way access driveways are 6.1m wide wall to wall comprising a 5.5m roadway and 2 x 300mm wide kerbs
- A minimum headroom clearance of 2.2m has been provided throughout the basement carpark
- Motorcycle spaces are 2.5m long and 1.2m wide

The disabled parking spaces have also been designed in accordance with the Australian Standard AS/NZS2890.6:2009 – “*Off-street parking for people with disabilities*” as follows:

- A 5.4m long x 2.4m wide dedicated (*non-shared*) parking space
- An adjacent *shared* area that is also 5.4m long x 2.4m wide
- A minimum headroom of 2.5m above the disabled spaces
- Pavement cross-falls in disabled spaces do not exceed 2.5% (1 in 40) in any direction

c. *A safe path of travel between the parking area on Somerville Lane and the retail shops or residential lobby (Note: reliance upon the laneway for pedestrian access is not supported).*

A safe path of travel has now been provided along the Somerville Place frontage that connects to the retail shops.

d. *Amended plans demonstrating 3.5m high clearance to the loading bay and compliance with AS2890.2. Furthermore, internal access should be amended to provide level or ramped access (without stairs) between the loading bay and the retail spaces.*

As noted above, the proposed loading bay has been designed to accommodate courier vans only. Commercial trucks requiring a headroom clearance of 3.5m will not be accessing the site and will load/unload on-street as per current practice.

Should you require any further information, please do not hesitate to contact Michael Logan on 0411 129 346 during business hours.

Yours faithfully

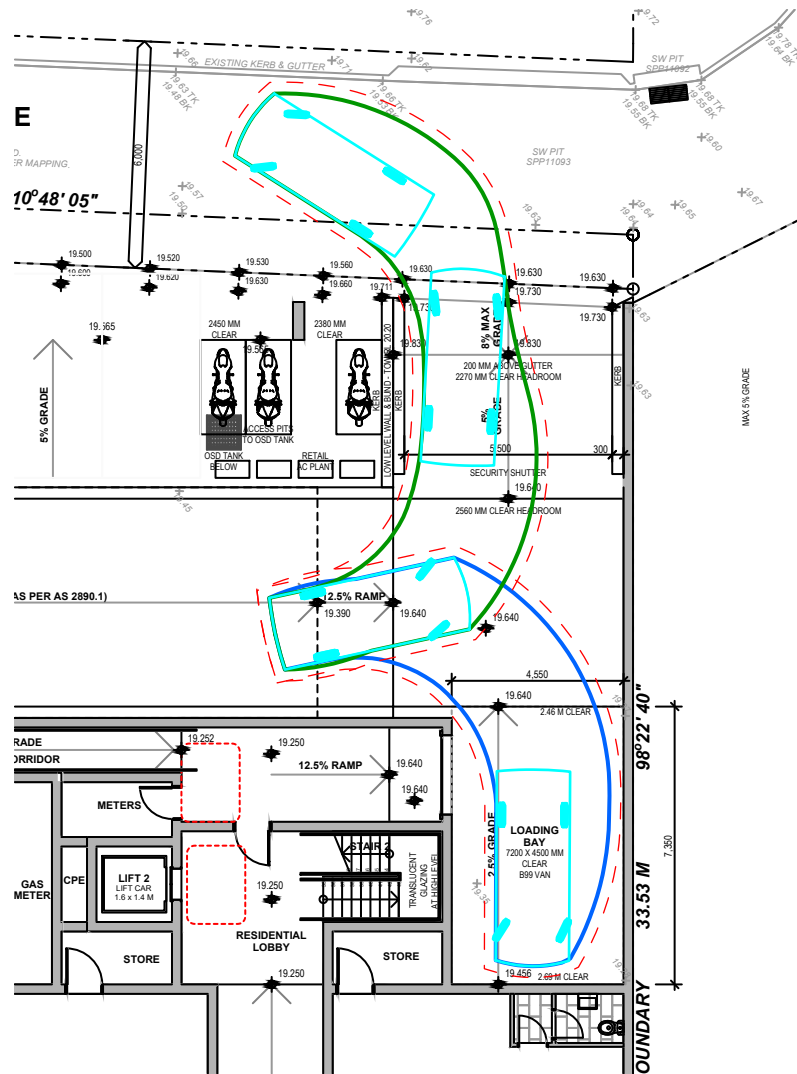
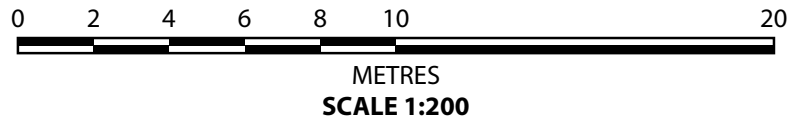
A handwritten signature in black ink, appearing to read 'M Logan', with a horizontal line extending to the right.

Michael Logan *MTraff* (*Monash University*)
Director
Terraffic Pty Ltd

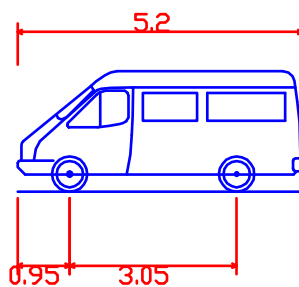
ANNEXURE A

LOADING BAY B99 SWEEP PATH ANALYSIS

**Path prepared using
Autodesk Vehicle Tracking**



- Forward Vehicle Path
- Reverse Vehicle Path
- 300mm Clearance Path



B99 Vehicle (Realistic min radius) (2004)
 Overall Length 5.200m
 Overall Width 1.940m
 Overall Body Height 2.200m
 Min Body Ground Clearance 0.312m
 Track Width 1.840m
 Lock to Lock Time 4.00s
 Curb to Curb Turning Radius 6.250m



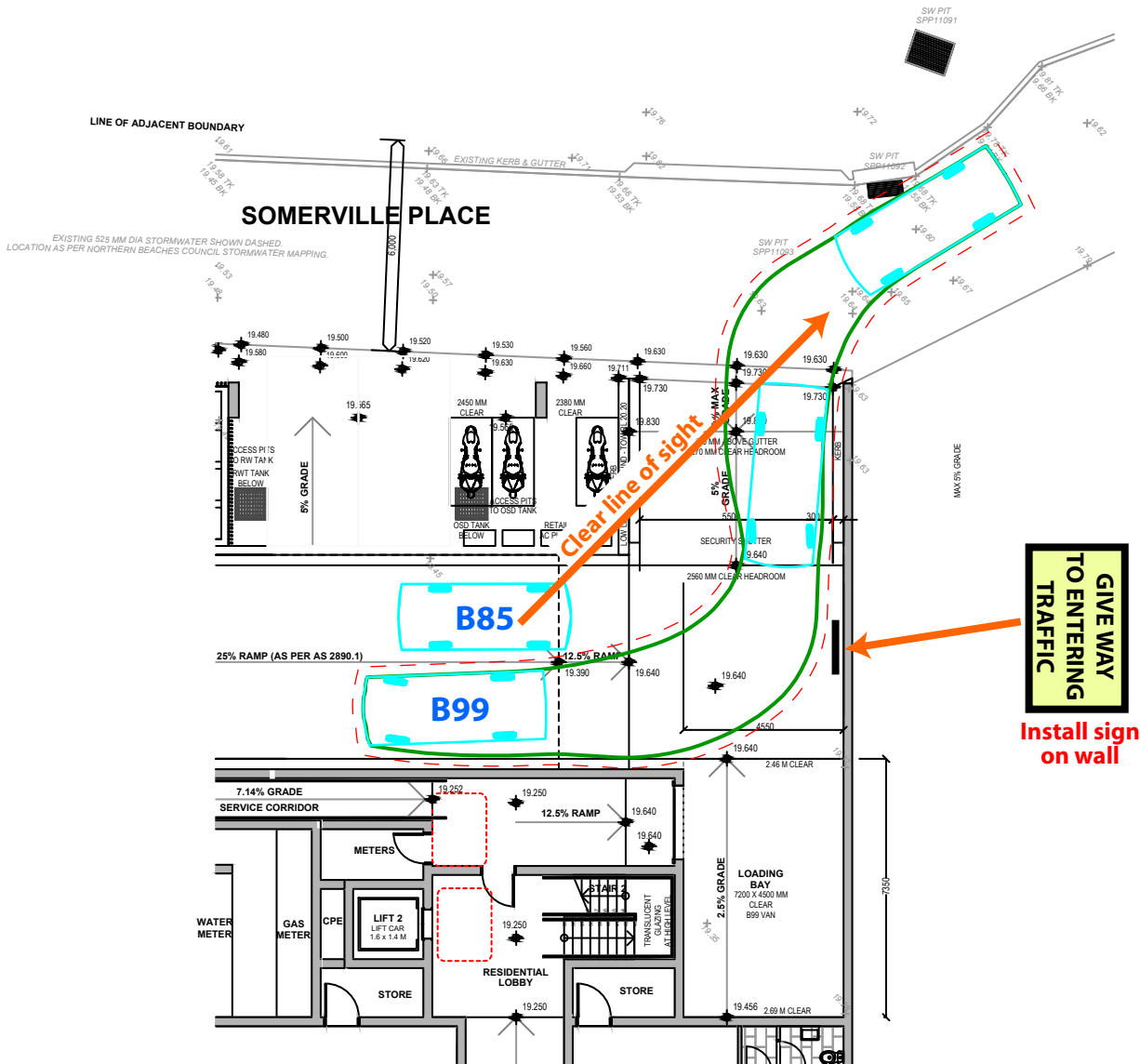
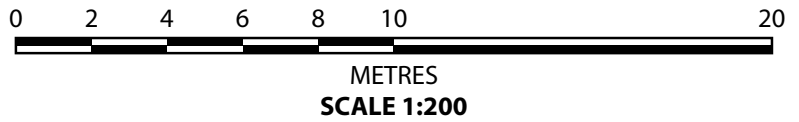
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**Manoeuvring Path of Australian
Standard AS/NZS2890.1:2004
B99 Vehicle Accessing Loading Bay**

ANNEXURE B

ACCESS DRIVEWAY SWEEP PATHS

**Path prepared using
Autodesk Vehicle Tracking**



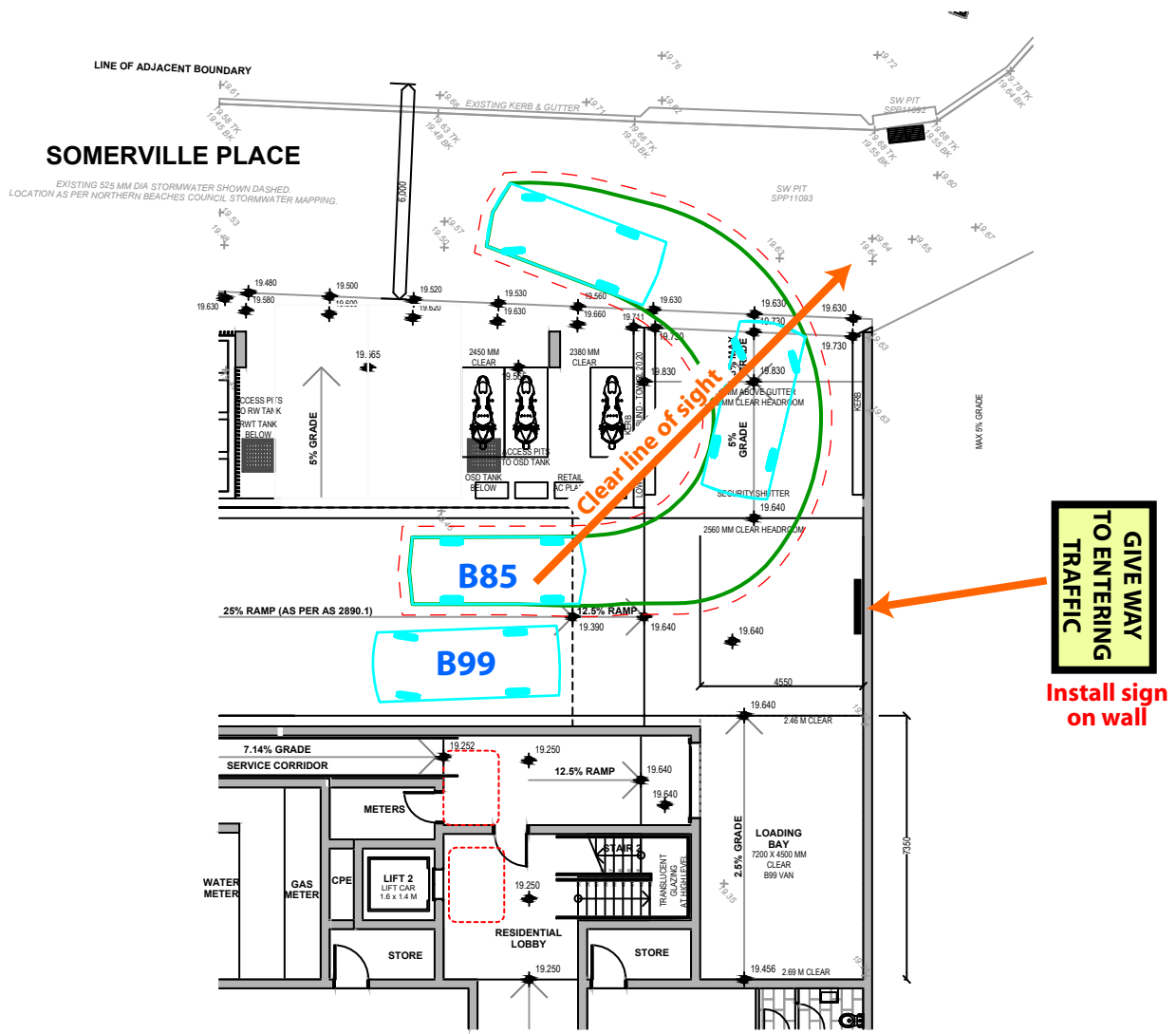
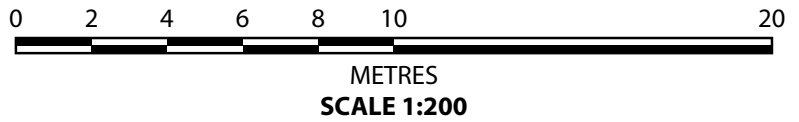
- Forward Vehicle Path
- Reverse Vehicle Path
- - - 300mm Clearance Path

**Manoeuvring Path of Australian
Standard AS/NZS2890.1:2004
B99 Vehicle Entering Basement and
Passing a Waiting B85 Vehicle**



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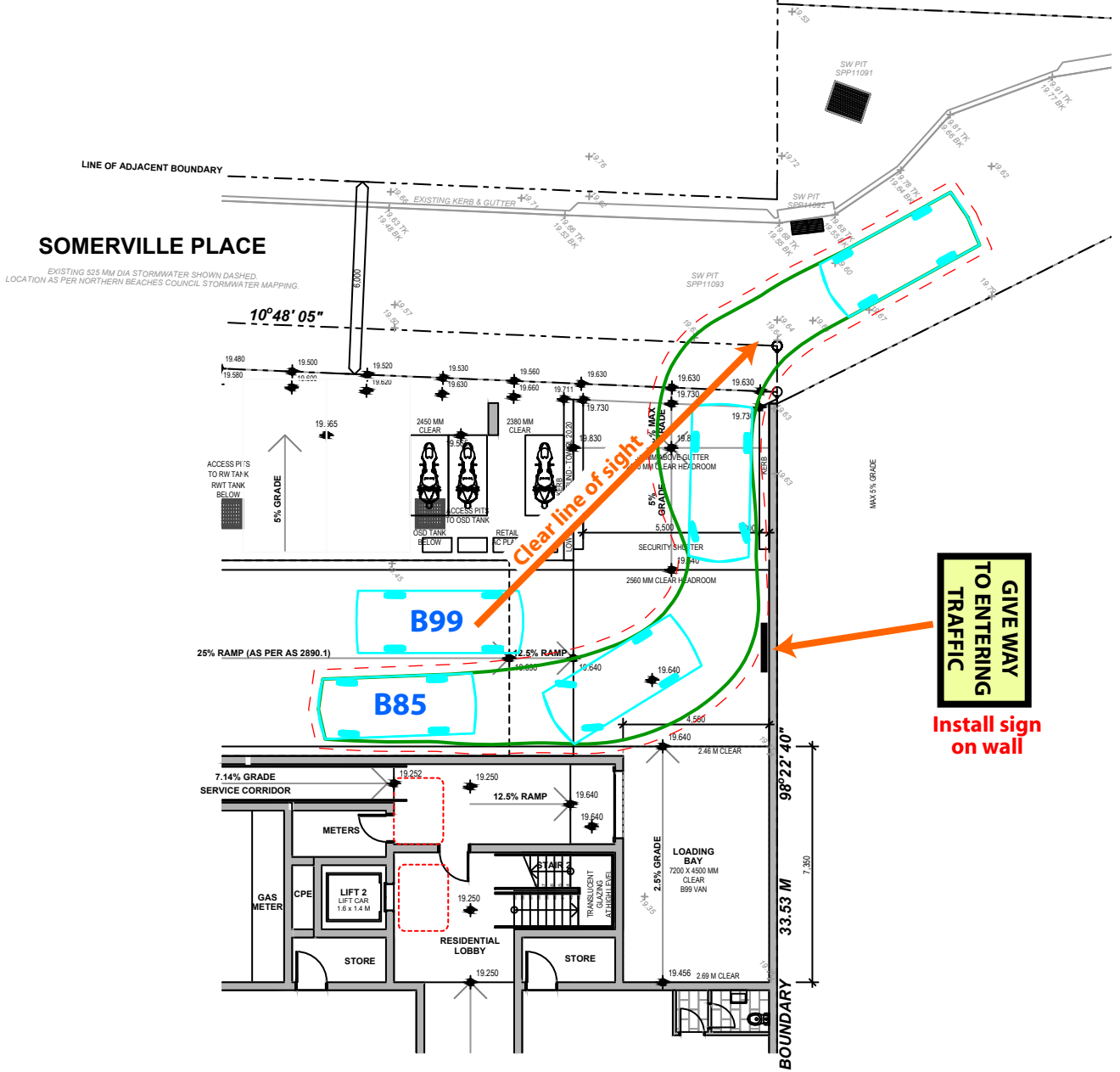
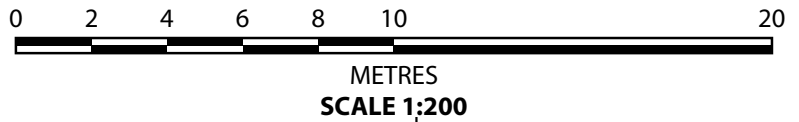
**Path prepared using
Autodesk Vehicle Tracking**



- Forward Vehicle Path
- Reverse Vehicle Path
- - - 300mm Clearance Path

**Manoeuvring Path of Australian
Standard AS/NZS2890.1:2004
B85 Vehicle Exiting Basement
After entering B99 passes**

**Path prepared using
Autodesk Vehicle Tracking**



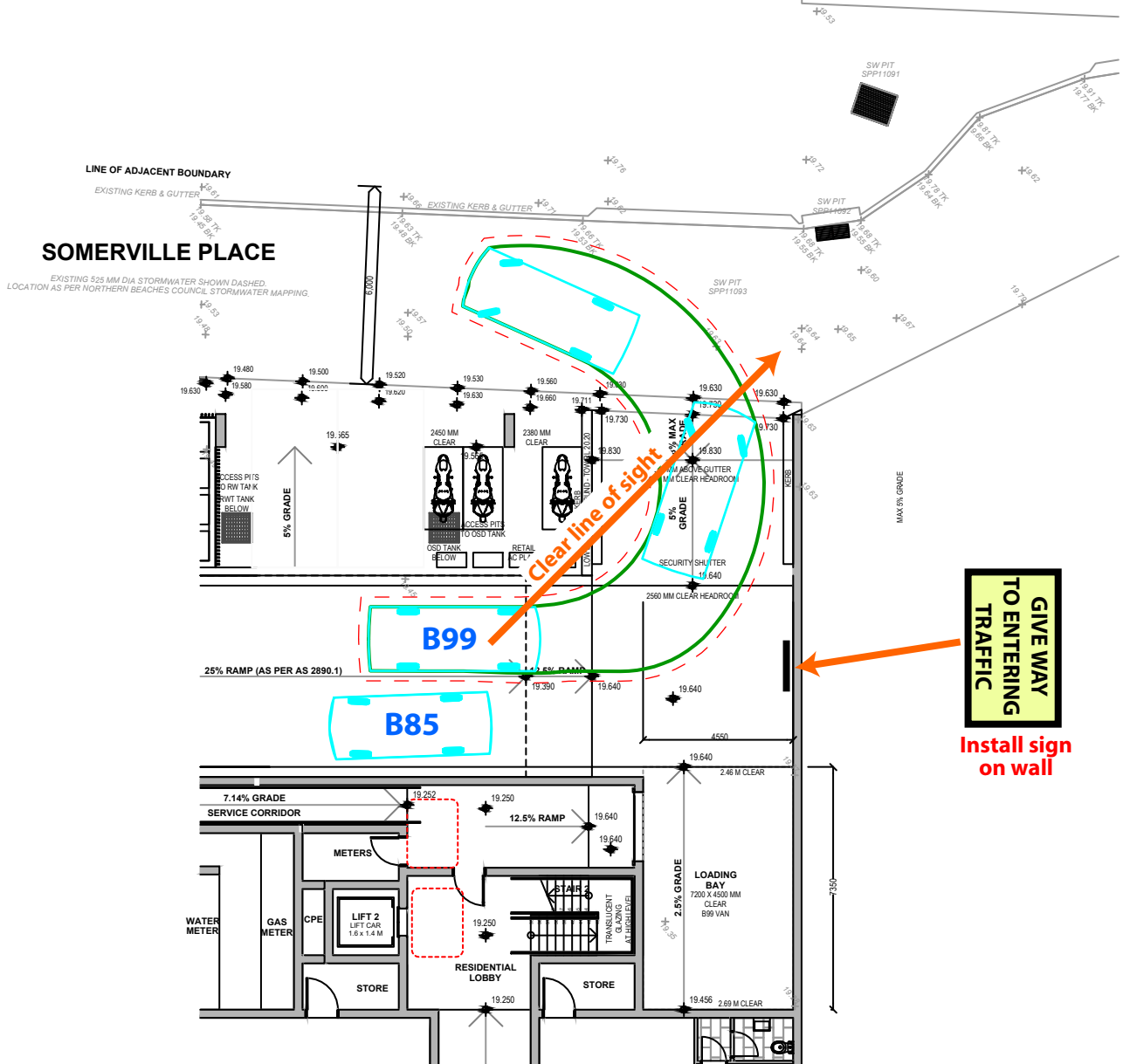
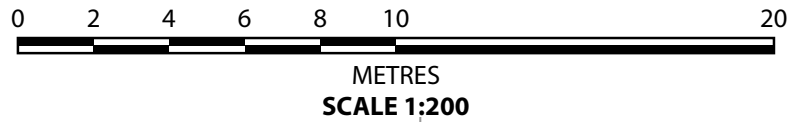
- Forward Vehicle Path
- Reverse Vehicle Path
- - - 300mm Clearance Path

**Manoeuvring Path of Australian
Standard AS/NZS2890.1:2004
B85 Vehicle Entering Basement and
Passing a Waiting B99 Vehicle**



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**Path prepared using
Autodesk Vehicle Tracking**



- Forward Vehicle Path
- Reverse Vehicle Path
- - - 300mm Clearance Path

**Manoeuvring Path of Australian
Standard AS/NZS2890.1:2004
B99 Vehicle Exiting Basement
After entering B85 passes**

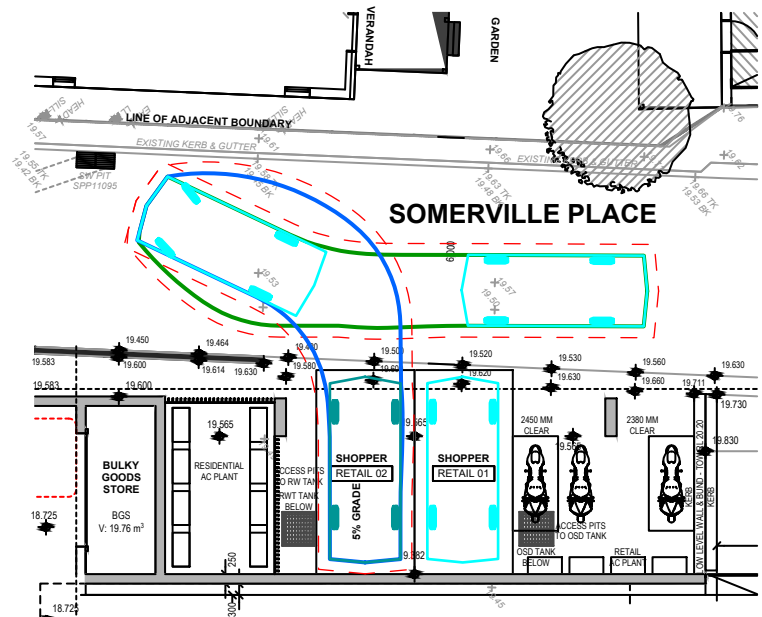
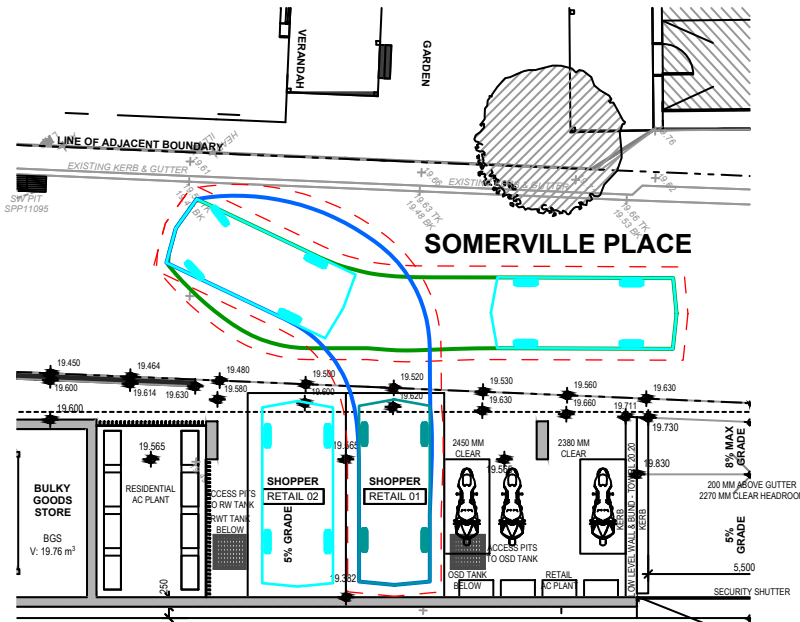
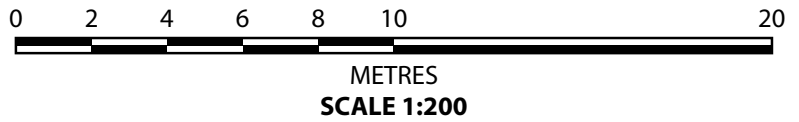


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ANNEXURE C

RETAIL SPACES SWEEP PATHS

**Path prepared using
Autodesk Vehicle Tracking**



- Forward Vehicle Path
- Reverse Vehicle Path
- 300mm Clearance Path

**Manoeuvring Path of Australian
Standard AS/NZS2890.1:2004
B85 Vehicle Accessing Retail
Parking Spaces 1 and 2**



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