



PROPOSED MIXED-USE DEVELOPMENT

20-22 ATCHISON STREET, ST LEONARDS

TRAFFIC IMPACT ASSESSMENT REPORT

PROPOSED MIXED-USE DEVELOPMENT 20-22 ATCHISON STREET, ST LEONARDS

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1 INTRODUCTION

SALT has been engaged by Setia Sydney Pty Ltd to undertake a traffic engineering assessment of the proposed residential and commercial development to be located at 20-22 Atchison Street in St Leonards.

This report has been prepared to support a State Significant Development Application (SSDA) SSD-87486461 for the site at 20-22 Atchison Street, St Leonards (the site).

The Minister for Planning, or their delegate, is the consent authority for the SSDA and this application is lodged with the NSW Department of Planning, Housing and Infrastructure (DPHI) for assessment.

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) dated 9 July 2025 (SSD-87486461). Specifically, this report has been prepared to respond to the following SEARs:

9. Transport

Provide a Transport Impact Assessment (TIA) in accordance with the processes and methodology recommended in the Guide to Transport Impact Assessment (GITA) published by TfNSW.

If the construction of the development would cause interruptions to regular pedestrian and transport routes (including public transport, active transport or general traffic), a preliminary Construction Traffic (or Transport) Management Plan (CTMP) should be prepared as part of the TIA to mitigate any such impacts.

In the course of preparing this report, the following has been undertaken:

- The subject site and its environs have been inspected;
- Development plans and background material have been reviewed;
- Design advice has been provided to the project team;
- Swept path analysis has been conducted; and
- The traffic and parking implications of the proposal have been assessed.

The following sets out SALT's findings with respect to the traffic engineering matters of the proposal.

2 EXISTING CONDITIONS

2.1 LOCATION AND LAND USE

The site occupies a strategic location in the St Leonards Crows Nest precinct and is in close proximity to the St Leonards railway station and Crows Nest Metro station and town centre.

The site is located at 20-22 Atchison Street, St Leonards. The site has a primary frontage to Atchison Street to the south, Mitchell Street to the east and Atchison Lane to the north. The site is located within the North Sydney Local Government Area (LGA) and is located approximately 4.5km north of the Sydney CBD.

The site comprises two allotments described as Lot 1 in DP740017 and Lot 120 DP564606 with a total area of 1374.4sqm. The site is located near the crest of a high ridgeline point, with Mitchell Street falling in elevation towards the north of the site and Atchison Street falls towards the east.

Existing development on the site includes:

- 22 Atchison Street is currently occupied by six storey commercial office building and 18-20 Atchison Street comprises a three-storey commercial building which is currently vacant. The building was constructed in the 1980s and has a primary frontage to Atchison Street and secondary vehicular access from Atchison Lane.
- 22 Atchison Street accommodates additional vehicular access from Mitchell Street.

Figure 1 depicts the location of the subject site with respect to the surrounding road network and land uses. An aerial view of the site is provided in Figure 2.

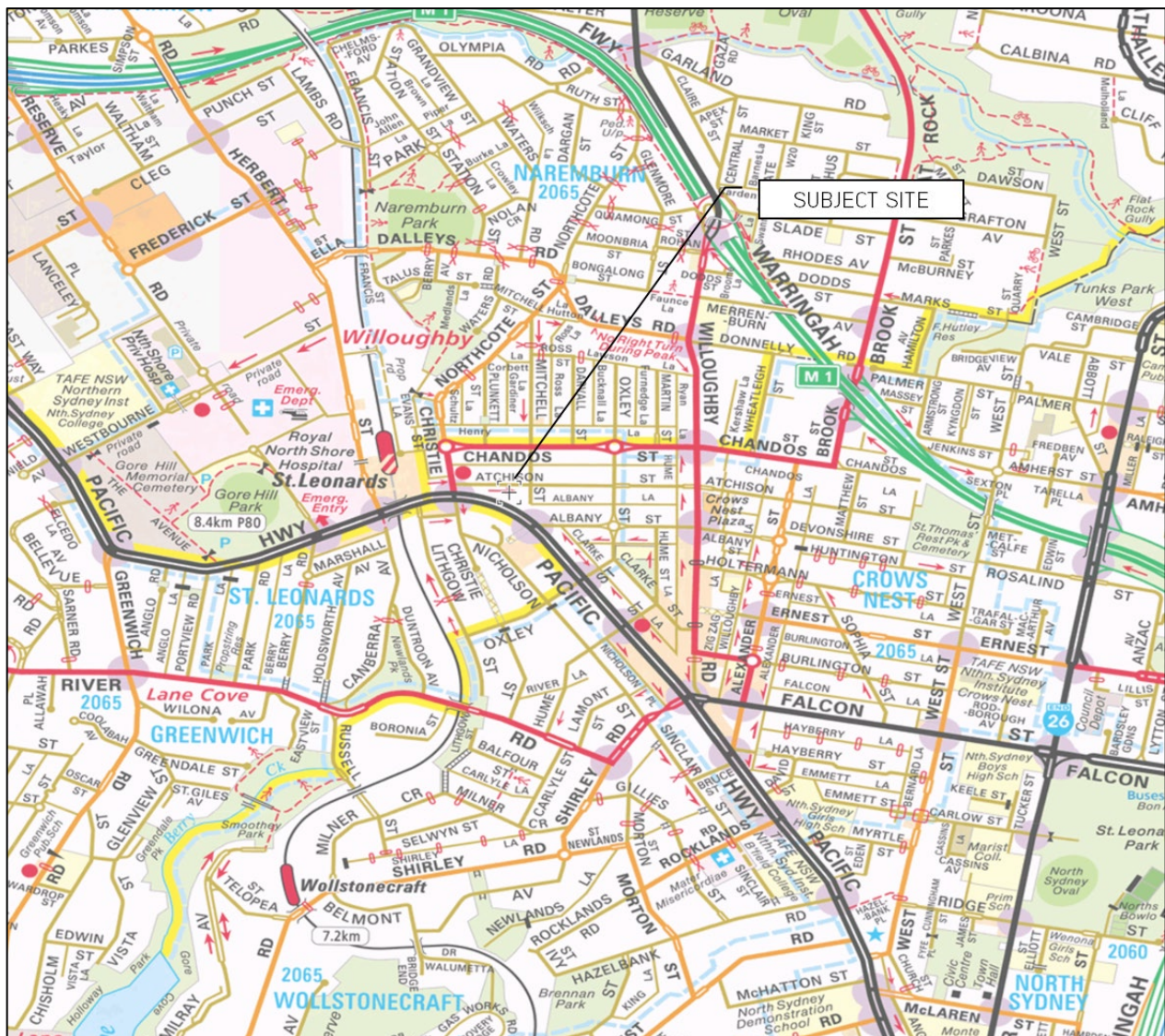


Figure 1 Subject site locality

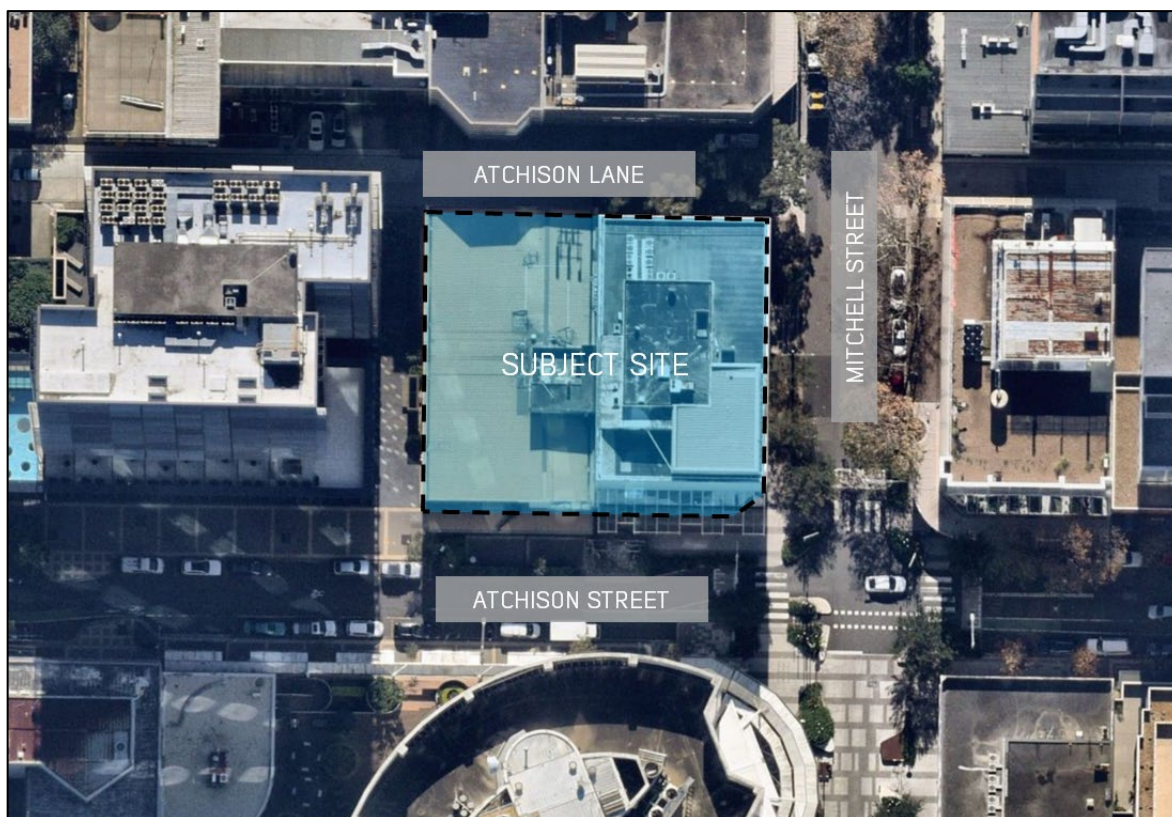


Figure 2 Aerial view of subject site

The site lies within a Mixed-Use zone (MU1). Surrounding land includes Commercial Centre (E2) and Public Recreation (RE1) land, as depicted in Figure 3.

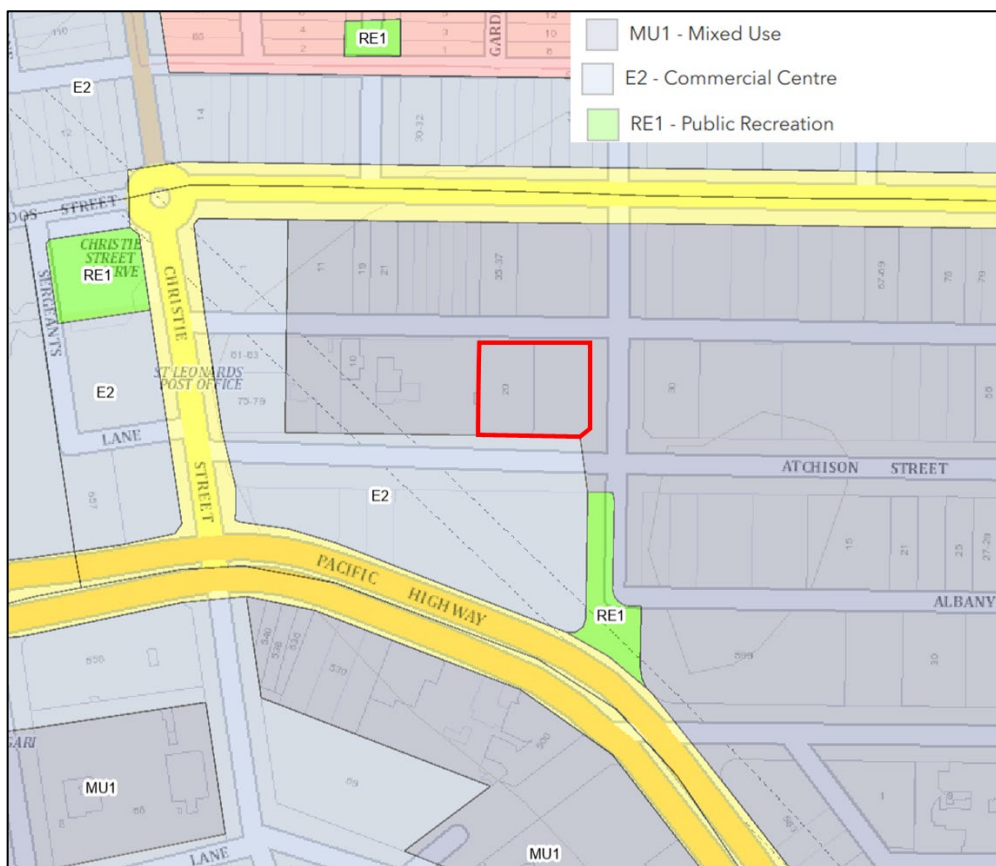


Figure 3 Local planning map

The site also lies within the Crows Nest Transport Oriented Development Precinct for which a Design Guide provides detailed objectives and requirements to guide development in the area as indicated in Figure 4.

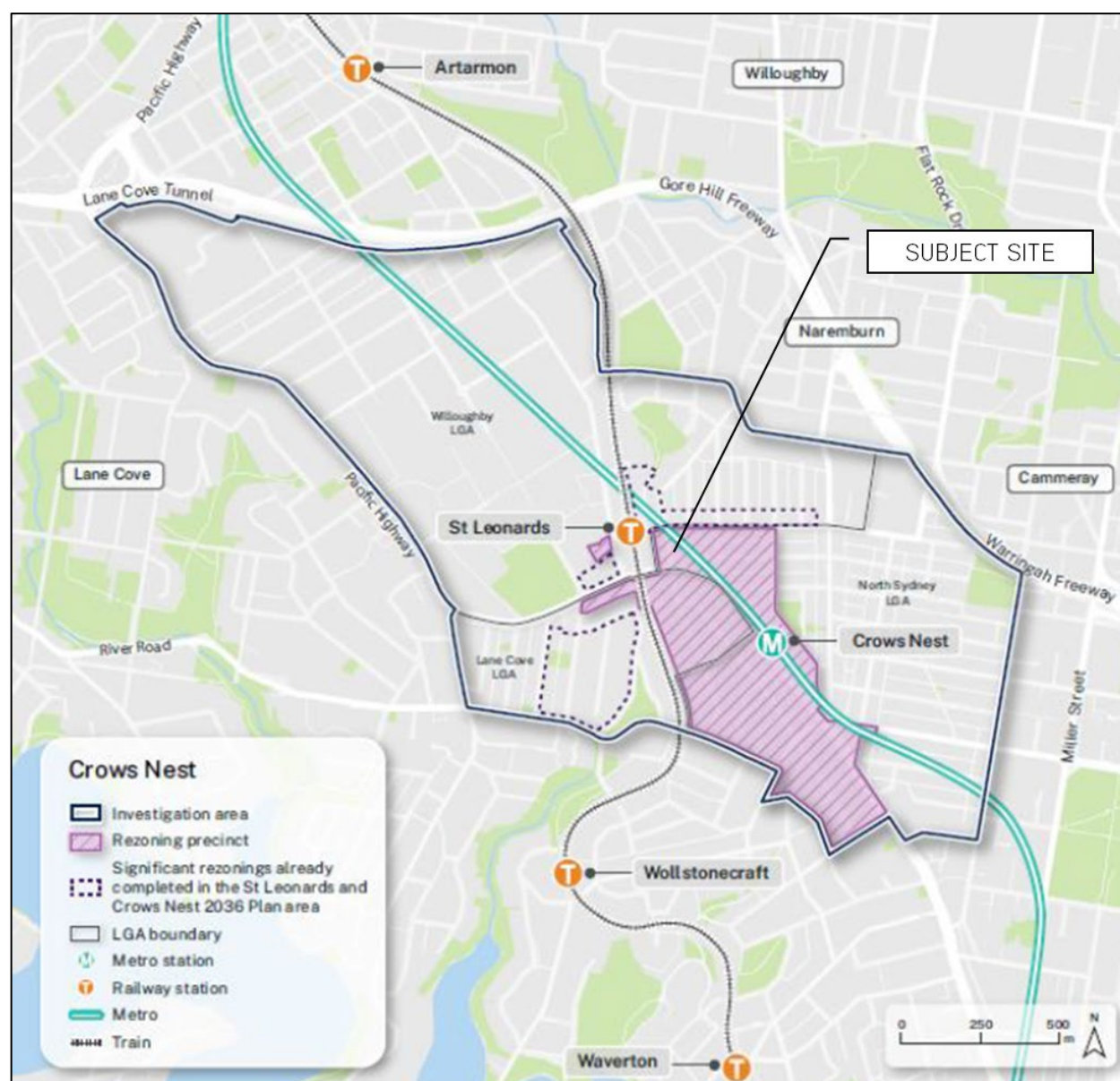


Figure 4 Crows Nest Transport Oriented Development Area

2.2 ROAD NETWORK

2.2.1 ATCHISON STREET

Atchison Street is a local road under the care and management of Council. It extends in an east-west alignment between Christie Street and Willoughby Road. At the site frontage, Atchison Street operates in a one-way eastbound arrangement, increasing to two-way east of Mitchell Street. Entry from Christie Street is restricted to left-turn in only.

At the direct site frontage, an on-street Loading Zone is provided on the southern side of Atchison Street, and parking is not permitted on the northern side. Elsewhere, on-street parking is generally permitted on both sides of the road and is largely restricted to 2-hour meter parking between 8:30am-6:00pm Monday to Friday and 8:30am-12:30pm Saturday.

An on-road bike lane is provided on Atchison Street at the site frontage.

The default speed limit of 50km/hr applies.

2.2.2 ATCHISON LANE

Atchison Street is a local road under the care and management of Council. It extends in an east-west alignment between Christie Street and Hume Lane. It provides vehicular access at the rear of various properties fronting Atchison Street and Chandos Street.

Atchison Lane has a width of approximately 5.6m and permits vehicle access in both directions.

Kerbside parking is not permitted on Atchison Lane.

The default speed limit of 50km/hr applies.

2.2.3 MITCHELL STREET

Atchison Street is a local road under the care and management of Council. It extends in a north-south alignment between Northcote Street and Albany Lane.

Along the site frontage, it provides one traffic lane in each direction, plus kerbside parking on both sides of the road. South of Atchison Street, it converts to a shared zone with pedestrians given priority as dictated by signage and pavement treatments.

At the site frontage, an on-road Loading Zone is provided. Elsewhere on-street parking is largely restricted to 2-hour meter parking between 8:30am-6:00pm Monday to Friday and 8:30am-12:30pm Saturday.

2.3 SUSTAINABLE TRANSPORT

2.3.1 PUBLIC TRANSPORT

The subject site has excellent connection to sustainable transport, with train and bus services located within a convenient walking distance. The site achieves a Transit Score of 76 out of a possible 100 at www.walkscore.com.au, indicating that it is provided with 'excellent transit' and that 'transit is convenient for most trips'.

St Leonards train station is situated west of the subject site, accessible via a 110m (1-minute) walk from the subject site. This is on the T1, T9 and CCN train lines. The site is also in proximity to Crows Nest metro station, which is situated to the south-east of the site, accessible via a 400m (6-minute) walk from the site. This is on the M1 line.

Various bus routes operate in the area, including along Pacific Highway and on Willoughby Road.

The nearest bus stop is located at Pacific Highway before Christie Street which is accessible via a 240m (4-minute) walk from the subject site. This provides access to a number of bus routes including 114, 119, 144, 252, 254, 265, 267, 286, 287, 290 and 291.

Additionally, the bus stop at Willoughby Road at Atchison Street provides access to bus route 115. This is accessible via a 400m (5-minute walk) from the site.

2.3.2 WALKING

The subject site has good walking facilities in place with pedestrian footpaths and safe crossing opportunities provided in the vicinity.

At the intersection of Atchison Street and Mitchell Street, pedestrian zebra crossings are provided on three of the intersection legs, with the fourth being entry to the shared zone in which pedestrians are provided priority of vehicles. Further, a signalised pedestrian crossing is provided at the intersection of Atchison Street and Christie Street.

A pedestrian connection is also provided on the western boundary of the site, connecting Atchison Street and Atchison Lane.

2.3.3 CYCLING

The subject site is accessible by bike, with on-road cycling treatments provided on Atchison Street. This includes an on-road bike lane for westbound cyclists, and sharrows to direct eastbound cyclists to utilise the traffic lane.

3 PROPOSAL

3.1 PROJECT DESCRIPTION

The application seeks development consent for an SSDA which will facilitate the redevelopment of the site for a shop top housing development using the recently introduced provisions under the Transit Oriented Development (TOD) reforms.

The project seeks consent for:

- Demolition of existing buildings on site and tree removal.
- Construction of a 40-storey shop top housing development comprising:
 - 4-storey mixed-use (commercial, residential and retail) podium with a retail tenancy at ground level (Atchison Street frontage).
 - 36 levels of residential apartments and residential amenities within the tower.
 - Landscaping and public amenities along the Mitchell Street eastern elevation at ground level.
 - Consolidated vehicular and loading access from Atchison Lane.
 - 5 storey basement accommodating car, bicycle and motorcycle parking, storage, plant and end of trip facilities (EOTF) for the commercial component.
- Amalgamation of Lot 1 in DP740017 and Lot 120 DP564606.
- 10% of residential floor space to be used for affordable housing via monetary contribution.
- Storage areas, utilities and service provision.

Refer to Architectural Plans prepared by Cox Architecture appended to the Environmental Impact Statement and provided in APPENDIX 1.

3.2 DEVELOPMENT DETAILS

The development is proposed to comprise of:

- Total of 181 dwellings between Levels 2–39, including:
 - 74 x one-bedroom units;
 - 85 x two-bedroom units; and
 - 22 x three-bedroom units.
- Residential amenities on Level 4
- Commercial tenancies with a total area of 1,938m² GFA

3.3 ACCESS AND PARKING

Vehicular access is proposed via a new crossover to Atchison Lane. Car parking is proposed over five basement levels, and is to include:

- Total 87 car parking spaces, including:
 - Five (5) commercial spaces, including one (1) accessible space
 - 81 residential spaces, including 37 adaptable spaces
 - One (1) service parking space
- Total nine (9) motorcycle parking spaces
- Total 198 resident bicycle parking spaces 16 commercial bicycle parking spaces and 26 visitor bicycle parking spaces
- Two loading bays to accommodate up to 8.8m long Medium Rigid Vehicles (MRVs).

4 CAR PARKING ASSESSMENT

4.1 STATUTORY CAR PARKING REQUIREMENTS

Section 3.11 of the Crows Nest Transport Oriented Development Precinct Design Code (the Design Code) outlines the **maximum** car parking requirements for the residential component of the development. The Design Code mentions use of the relevant DCP for other land uses.

The North Sydney DCP specifies the maximum car parking requirements for the commercial component, noting that the subject site falls within a *High Accessibility Area* as per the DCP.

The car parking requirements applicable to the development are therefore summarised in Table 1.

Table 1 Maximum car parking requirements

Land Use		Area / Number of Units	Statutory Maximum Parking Rate	Maximum Parking Allowed ¹
Shop-top housing (MU1 Zone, High Accessibility Area)	1-bedroom units	74 units	0.4 spaces per dwelling	29 spaces
	2-bedroom units	85 units	0.7 spaces per dwelling	59 spaces
	3-bedroom units	22 units	1 space per dwelling	22 spaces
Commercial (all other uses, B4 Mixed Use Zone, St Leonards area)		Total 1,938m ² GFA	1 space per 400m ² non-residential GFA	5 spaces
TOTAL				Max. 115 spaces, including Max. 110 resident spaces; and Max. 5 commercial spaces

¹ Car parking requirement rounded down to the nearest whole number as per the DCP

Therefore, the proposal must not provide more than 115 car parking spaces on-site, including 110 resident spaces and five (5) commercial spaces.

4.2 ADEQUACY OF CAR PARKING PROVISIONS

The proposal includes a total of 87 car parking spaces, including 81 residential spaces, five (5) commercial spaces and one (1) shared service vehicle space. The car parking provisions therefore comply with the requirements.

4.3 ELECTRIC VEHICLE CHARGING

The Design Guide specifies that all parking spaces allocated to an individual residential apartment must make provision for charging stations. In new developments, EV charging switchboard should have sufficient capacity for a future when all residents and staff are charging. The proposal includes electrical switchboards with electric vehicle distribution boards on each basement level.

5 MOTORCYCLE PARKING

5.1 STATUTORY REQUIREMENTS

The Design Guide does not provide any specifications relating to motorcycle parking. The North Sydney DCP is therefore used as a guide, with specifies the following motorcycle parking requirements applicable to the development:

- For the residential component, a maximum of 1 motorcycle space per 10 car spaces applies.
- For the commercial component, in addition to the car parking requirement, parking for motorcycles must be provided at the minimum rate of 1 space per 10 cars or part thereof.

Therefore, the proposal must include at least one (1) motorcycle space for the commercial component and must not provide more than eight (8) resident motorcycle spaces.

5.2 ADEQUACY OF MOTORCYCLE PARKING PROVISIONS

The proposal includes a total of 9 motorcycle parking spaces which allows designation of at least one (1) space to the commercial component whilst designating not more than eight (8) spaces to the residential component.

6 BICYCLE PARKING ASSESSMENT

6.1 STATUTORY BICYCLE PARKING REQUIREMENTS

The Design Guide does not provide any specifications relating to motorcycle parking. The North Sydney DCP is therefore used as a guide, which specifies the bicycle parking requirements as summarised in Table 2, rounded up to the nearest whole number as per P3 of Section 10.5 of the DCP.

Table 2 Statutory bicycle parking requirements

Land Use	Area / Number of Units	Occupants		Visitors / Customers	
		Statutory Bicycle Parking Rate	Bicycle Parking Required	Statutory Bicycle Parking Rate	Bicycle Parking Required
Residential	181 dwellings	1 space per dwelling	181 spaces	1 space per 10 dwellings	19 spaces
Commercial / Office Premises	Total 1,938m ²	1 space per 150m ² GFA	13 spaces	1 space per 400m ² GFA	5 spaces
TOTAL			194 spaces		24 spaces

Therefore, the proposal has a requirement to provide a total of 194 occupant bicycle spaces, to be provided in a secure, enclosed area and a total of 24 visitor spaces which can be provided at bicycle racks.

6.2 ADEQUACY OF BICYCLE PARKING PROVISIONS

The proposal includes a series of bicycle storage rooms within the basement levels, providing a total of 198 resident bicycle parking spaces and 16 commercial spaces, thus exceeding the minimum required 194 occupant spaces.

In addition, a total of 26 visitor bicycle spaces are proposed at bike racks at ground level and at Basement 1, exceeding the exceeding the visitor requirement.

7 DESIGN ASSESSMENT

7.1 VEHICLE ACCESS ARRANGEMENTS

Vehicle access is proposed via a new crossover to Atchison Lane of approximately 7.86m wide. This exceeds the requirement of Australian Standard AS2890.1 for staff and resident access to a car park of this size and nature.

An Australian Standard B85 and B99 vehicle can pass simultaneously when entering and exiting the car park, as demonstrated by swept path analysis, with diagrams provided in APPENDIX 2. The crossover also suitably accommodates access for loading and waste collection vehicles on-site including up to an 8.8m long Medium Rigid Vehicle (MRV).

The building wall is proposed to be set back from the property boundary, on the exit side of the driveway to provide the required 2.0m by 2.5m pedestrian sight triangle as per AS2890.1.

7.2 RAMP DESIGN

7.2.1 RAMP GRADES

The ramp from ground level to the lower ground level is proposed to be provided with a grade of 1:20 for the first 6m from the site boundary then a grade of 1:16 for a length of 10.56m into the site, including around the bend in the accessway. These ramp grades and transitions are compliant to accommodate an 8.8m MRV as per Australian Standard AS2890.2.

The ramps between each basement level are proposed to be provided with a maximum grade of 1:4, with a section of 1:9 measured along the inside edge of the bend, and with transitions of 1:8 for at least 2m at both ends. These grades and transitions comply with AS2890.1 for passenger vehicles.

7.2.2 ONE-LANE RAMP

The ramps have been designed to accommodate one lane of movements at a time. On each level, at both ends of the ramp, a red/green traffic light system and waiting bay is proposed.

The traffic light will be set to green as a default, and only turn red if a vehicle is sensed to be present on the ramp. The line marked waiting bay will hold a vehicle in a suitable position to give-way to another vehicle exiting the ramp. When the light returns to green, the held vehicle can then continue to access the ramp.

This is an acceptable performance solution for a development of this nature with a relatively small car parking provision and therefore traffic generation. Residents and staff will also become familiar with the arrangement, improving its functionality and operation. This is further discussed in Section 8.3.

This arrangement of vehicle holding and passing is demonstrated by swept path analysis, with diagrams provided in APPENDIX 2

7.3 HEIGHT CLEARANCE

The lower ground level is proposed to be provided with a height clearance of 4.5m from the entrance and majority of the accessway length. This is compliant with AS290.2 to accommodate the 8.8m long MRV manoeuvring.

A lower height clearance of minimum 2.2m is proposed for the accessway and ramps, as complies with AS2890.1. Each basement level is proposed with a height clearance of 2.6m which is compliant with AS2890.6 for accessible parking.

7.4 CAR PARKING LAYOUT

Parking spaces are proposed to be minimum 2.4m wide and 5.4m long, accessed from a minimum 5.8m wide aisle (including 300mm kerb). These dimensions are compliant with AS2890.1 for staff and resident parking facilities.

The accessible parking spaces are largely proposed to be 2.4m wide and 5.4m long with a shared space of the same dimensions as complies with AS2890.6.

On basement levels 2-4, one (1) wide accessible space is proposed at 3.8m wide and 5.4m long.

It is noted that there are some instances of column encroachment into the required clearance zones of parking spaces. This is considered an appropriate performance solution considering that parking spaces will be designated to residents and staff who will become familiar with their parking spaces that the easiest way to enter/exit. Drivers

can let any passengers out of the vehicle before parking the car for example. Each parking space has suitable 300mm clearance to at least one side of the vehicle to allow driver door opening.

7.5 LOADING AND WASTE COLLECTION

The Design Guide specifies for loading and servicing facilities to be provided according to the applicable DCP. Section B10 of the North Sydney DCP specifies that a residential development containing more than 60 dwellings is to provide at least one (1) service delivery space capable of accommodating either one (1) Heavy Rigid Vehicle, or two (2) Medium Rigid Vehicles. The DCP does not specify the number of loading bays required for the commercial / retail component, rather mentions that loading facilities are to be provided with regard to the intended use, frequency of deliveries and size and bulk to be delivered.

The proposal includes two (2) designated MRV bays within the lower ground level, which meets the requirement of the DCP for the residential component. It is intended that the loading facilities will be shared by both the residential and commercial/retail components with suitable booking systems (or similar) implemented.

The loading bays are each to be 3.5m wide and approximately 9.8m long, exceeding the requirements of AS2890.2 to accommodate an MRV. An 8.8m MRV is considered representative of a standard waste collection vehicle. MRVs can enter and exit the site in a forward direction, using the accessway to reverse into the designated loading bays.

It is noted that an MRV cannot enter Bay 01 if another MRV is present in Bay 02. Loading is to be managed such that MRV Bay 01 is occupied first, followed by MRV Bay 02 such that both spaces are suitably accessible. This is an appropriate performance solution considering the constraints of the site and the infrequent nature of loading activity at a building of this nature such that the presence of two MRVs at one time would be rare.

The manoeuvring of loading and waste collection vehicles is demonstrated by swept path analysis, with diagrams provided in APPENDIX 2.

Refer to the Waste Management Plan prepared by SALT for further details on waste storage and collection.

7.6 SECURITY

A roller door is proposed on access from Atchison Lane to the lower ground car parking and loading facilities. It is envisaged that residents and staff will be provided with remote control access. A back-up card/fob reader can be placed on the adjacent wall should a remote be not working.

On entry to the site from Atchison Lane, a car can prop in front of the roller door, awaiting it opening whilst largely keeping clear of Atchison Lane such that other vehicles can suitably pass.

Loading and waste collection vehicles can be granted access by building management (or similar).

8 TRAFFIC CONSIDERATIONS

8.1 TRAFFIC GENERATION

The TfNSW Guide to Traffic Impact Assessment (2024) provides a consolidated source of traffic generation rates based on surveys undertaken at similar existing sites.

In this case, the peak periods of activity are expected to be a weekday morning and afternoon for both the residential and commercial components.

For a high-density residential development with high public transport accessibility in the Sydney area, the following traffic generation rates are applicable:

- Weekday AM peak hour: 0.19 trips per dwelling
- Weekday PM peak hour: 0.15 trips per dwelling
- Daily: 1.52 trips per dwelling

For the commercial and retail spaces, traffic generation will be determined by the car parking provisions. Typically, office / retail parking spaces become 80% full within the AM peak hour and vice versa in the PM peak hour.

Table 3 Traffic generation summary

Land Use	Number of Units / Parking Spaces	Weekday AM Peak Hour		Weekday PM peak Hour		Daily	
		Traffic Generation Rate	Trips Generated	Traffic Generation Rate	Trips Generated	Traffic Generation Rate	Trips Generated
Residential	181 units	0.19 trips per dwelling	34 trips	0.15 trips per dwelling	27 trips	1.52 trips per dwelling	275 trips
Commercial and Retail	5 parking spaces	0.8 trips per parking space	3 trips	0.8 trips per parking space	3 trips	2 trips per parking space	10 trips
TOTAL		-	37 trips	-	30 trips	-	285 trips

8.2 TRAFFIC DISTRIBUTION

Typically, resident trips are distributed as 20% arrivals / 80% departures during the weekday AM peak hour, and as 60% arrivals / 40% departures during the weekday PM peak hour.

For the commercial / retail component, it is assumed that all vehicles will arrive in the weekday AM peak hour and depart in the weekday PM peak hour.

Table 4 Traffic distribution summary

Land Use	Weekday AM Peak Hour			Weekday PM peak Hour			Daily		
	Trips Generated	% In / % Out	Trips In / Trips Out	Trips Generated	% In / % Out	Trips In / Trips Out	Trips Generated	% In / % Out	Trips In / Trips Out
Residential	34 trips	20% in / 80% out	7 in / 27 out	27 trips	60% in / 40% out	16 in / 11 out	275 trips	50% in / 50% out	137 in / 138 out
Commercial and Retail	3 trips	100% in / 0% out	3 in / 0 out	3 trips	0% in / 100% out	0 in / 3 out	10 trips	50% in / 50% out	5 in / 5 out
TOTAL	37 trips	-	10 in / 27 out	30 trips	-	16 in / 14 out	285 trips	-	142 in / 143 out

The distribution of traffic to/from the surrounding road network can be estimated based on the layout of the surrounding road network and locations of nearby employment and residential catchments.

In this case, all traffic will be generated to/from Atchison Lane where the car park access is proposed. It is estimated that traffic will be distributed approximately equally in both directions on Atchison Lane, considering the fairly central location of the subject site.

8.3 ONE-LANE RAMP ANALYSIS

Regarding the operation of the one-lane ramp, a probability assessment has been undertaken to determine the likelihood of opposing vehicle movements during the critical weekday PM peak hour. This has been undertaken for the lower ground / ground ramp which will accommodate all of the vehicles, in comparison to lower-level ramps which will accommodate some proportion of the vehicles depending on the location / level of their parking space.

Based on the preceding traffic generation with 16 vehicles arriving and 14 vehicles departing in the PM peak hour, adopting a vehicle speed of 10km/hr and assuming a one-lane accessway of approximately 32m (between passing areas), the following can be calculated:

- During the PM peak hour, exiting vehicles will occupy the one-lane ramp for 5.6% of the time. Therefore, there is a 5.6% chance of the ramp being occupied as an inbound vehicle arrives at the entrance to the ramp.
- During the PM peak hour, entering vehicles will occupy the one-lane ramp for 6% of the time. Therefore, there is a 6% chance of the ramp being occupied as an inbound vehicle arrives at the entrance to the ramp.
- At any point in time during the PM peak hour, there is a 0.3% change that there will be vehicles attempting to travel in both directions on the one-lane ramp.

Therefore, the traffic light will be set to green as a default, with only a 0.3% chance of a vehicle having to stop and the light change to red.

It can be concluded that minimal queueing is expected as a result of the one-lane ramp. The hold point is located well within the site such that queueing back onto Atchison Lane is not anticipated.

8.4 TRAFFIC IMPACTS

The proposed development is expected to generate a relatively low level of traffic. The addition of up to 37 vehicles during a peak hour equates to one vehicle entering or exiting the site every 1.6 minutes on average. Traffic is expected to be well distributed amongst the surrounding road network such that all vehicles are not added to any particular intersection.

The site access has been designed to allow vehicles to enter and exit simultaneously such that queuing back onto Atchison Lane is not expected.

The preceding traffic generation will not all be new trips added to the road network. It is expected that this will displace some (or all) of the traffic that would have been generated by the existing / former use of the two lots. For comparison, the existing buildings on-site include:

- 20 Atchison Street: 3 storey commercial office building with NLA of 1,818m² and basement parking for 21 vehicles.
- 22 Atchison Street: 6-storey commercial office building with NLA of 2,601m² and parking for 31 vehicles over two basement levels.

As per Section 8.1, typically the parking facilities at commercial buildings become 80% full in the AM peak hour and 80% leave in the PM peak hour. Applying this to the existing buildings and on-site parking, the existing buildings would have generated total traffic as follows:

- AM peak hour: 42 vehicles arriving
- PM peak hour: 42 vehicles departing.

Therefore, the level of traffic generated by the proposal is lower than that of the existing buildings in the peak hours. The proposal is therefore expected reduce the level of traffic on Atchison Lane (and the surrounding road network), improving its operation.

9 CONSTRUCTION TRAFFIC MANAGEMENT

At the time of writing, a builder has yet to be engaged for the construction of the development, thus limited details on the construction arrangements are available. The following sets out some preliminary considerations relating to the management of construction traffic.

Please note this is a high-level preliminary assessment. A full Construction Traffic Management Plan must be prepared to the satisfaction of TfNSW and the City of North Sydney.

9.1 CONSTRUCTION VEHICLE ACCESS

Considering the location of the subject site, it is expected that construction vehicles will largely be distributed to/from Pacific Highway, with this being the nearest arterial road.

During demolition, the largest expected vehicle type is a 19m 'Truck and Dog Trailer'. This can access the site to/from Pacific Highway, circulating the area as demonstrated by swept path analysis with an extract provided in Figure 5 and full diagrams provided in APPENDIX 3.

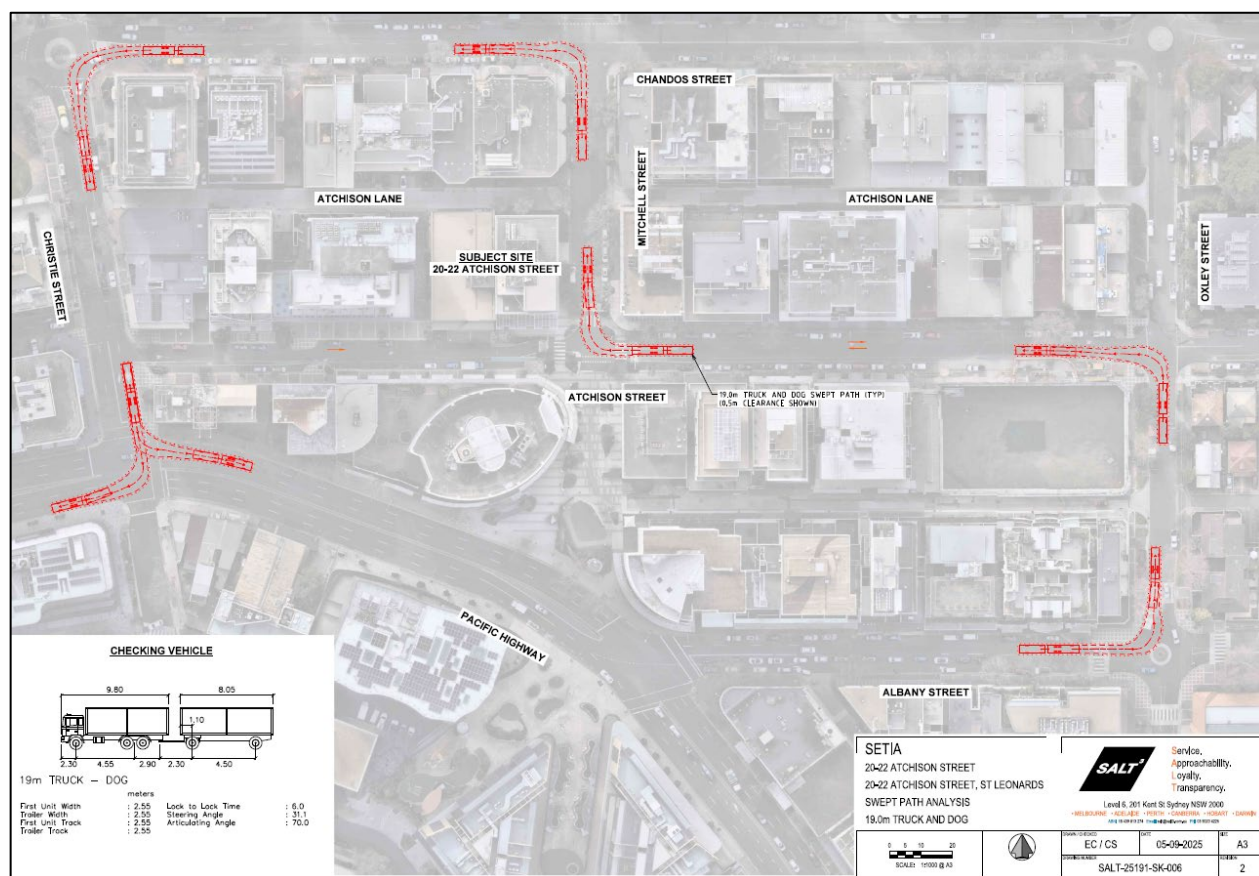


Figure 5 Truck and dog trailer swept path

Typically, the largest vehicle expected during construction may be a 19m semi-trailer. The semi-trailer can circulate the surrounding road network, if modifications can be made such as the removal of signage to allow the truck to mount islands when turning corners, specifically out of Chandos Street. This is demonstrated by swept path analysis depicted in Figure 6.

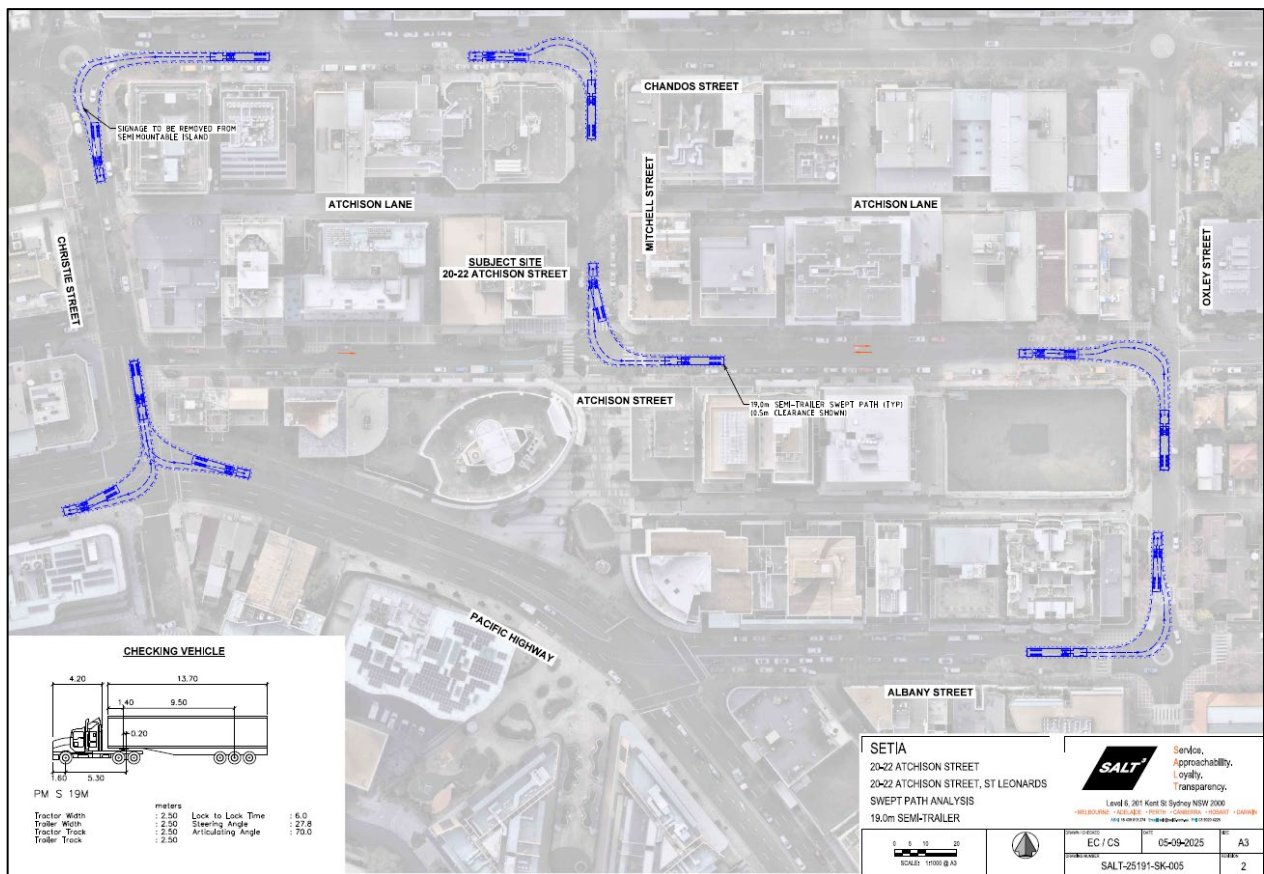


Figure 6 Semi-trailer swept path

Alternatively, construction could be managed using up to a 12.5m long Heary Rigid Vehicle (HRV). The HRV can circulate the surrounding road network, as demonstrated by swept path analysis with an extract provided in Figure 7 and full diagrams provided in APPENDIX 3.

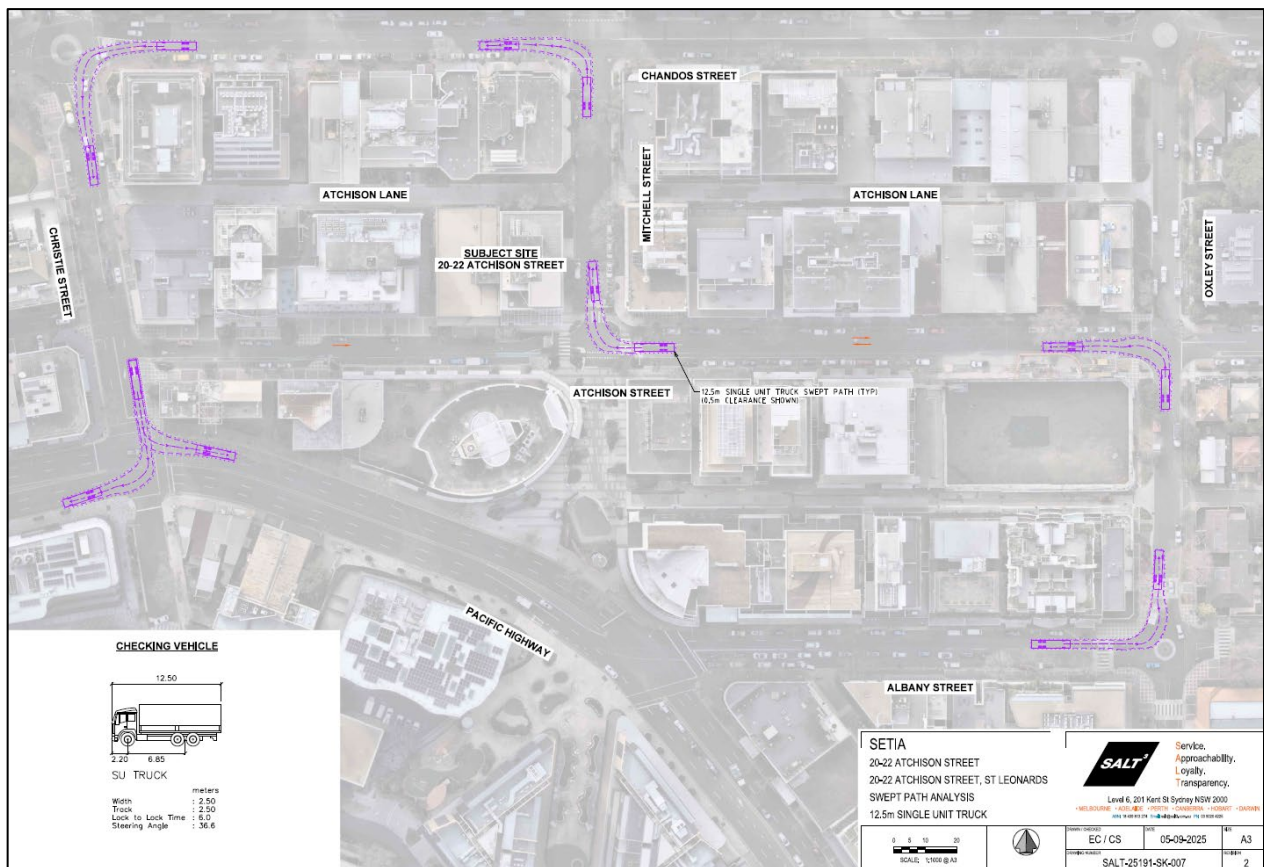


Figure 7 12.5m Heavy Rigid Vehicle swept path

In the case that more than one construction vehicle arrives to the site simultaneously, there are limited opportunities for truck parking in the vicinity of the site. When necessary, trucks shall be instructed to park and wait at a service station (or similar truck parking facility) until the loading area is available at the construction site.

9.2 PEDESTRIAN AND CYCLIST IMPACTS

Where possible, a gantry should be installed to maintain pedestrian access on the site frontages including Atchison Street, Mitchell Street and Atchison Lane.

Construction is not expected to cause any major interruptions to cyclists, with the on-road bike lane and public bike racks located on the southern side of Atchison Street.

10 CONCLUSIONS

Based on the preceding assessment, the following can be concluded:

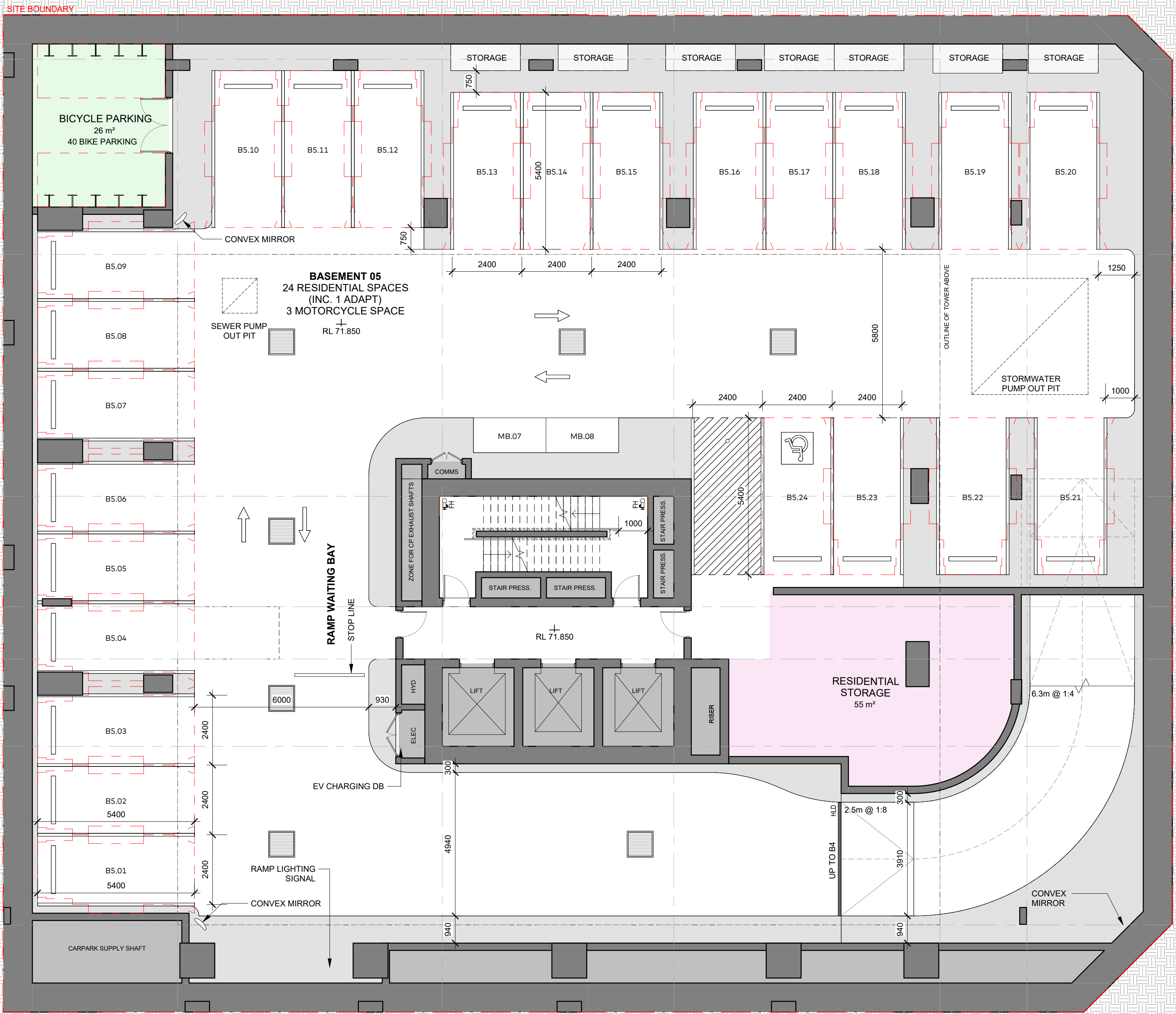
- It is proposed to redevelop the site to provide a mixed-use development comprising commercial and retail spaces with shop-top housing.
- The development has a requirement to provide no more than 114 car parking spaces on-site, including 110 resident spaces and 5 commercial spaces as per the Design Guide and DCP.
- The proposal includes a total of 87 car parking spaces, including 81 residential spaces and five (5) commercial spaces, and one (1) shared service vehicle space.
- The development has a requirement to provide at least one (1) motorcycle space for the commercial component and must not provide more than eight (8) resident motorcycle spaces which can be met by the proposal.
- The development has a requirement to provide 193 resident/staff bicycle spaces and 26 visitor bicycle parking spaces. The proposal includes on-site bicycle parking facilities in excess of the minimum requirements for residents, staff and visitors.
- The proposed access and parking layout is generally in accordance with the requirements of the DCP and Australian Standards.
- The ramps between each basement level are proposed to accommodate one-lane of traffic at a time. Low levels of traffic, especially opposing movement, are expected, marking this a suitable performance solution. The ramps are proposed to be provided with a red/green traffic light system and line marked holding bays.
- Suitable provisions have been made for loading and waste collection arrangements.
- Preliminary considerations of construction traffic management have been identified and reviewed.
- The level of traffic anticipated to be generated by the development is relatively low in traffic engineering terms and is not expected to have any significant adverse impacts on the operation of the surrounding road network.

Therefore, the proposal is supported from a traffic engineering perspective.

APPENDIX 1 DEVELOPMENT PLANS

PARKING SCHEDULE		
CAR PARK TYPE		NUMBER OF SPACES
BASEMENT 1		
2500mm x 1200mm / MOTORCYCLE		1
5400mm x 2400mm COMMERCIAL		4
5400mm x 2400mm COMMERCIAL ACCESSIBLE		1
5400mm x 2400mm RESIDENTIAL		4
5400mm x 2400mm SERVICE		1
BASEMENT 2		
5400mm x 2400mm RESIDENTIAL		6
5400mm x 2400mm RESIDENTIAL ADAPTABLE		11
5400mm x 3800mm RESIDENTIAL ADAPTABLE		1
BASEMENT 3		
2500mm x 1200mm / MOTORCYCLE		3
5400mm x 2400mm RESIDENTIAL		6
5400mm x 2400mm RESIDENTIAL ADAPTABLE		11
5400mm x 3800mm RESIDENTIAL ADAPTABLE		1
BASEMENT 4		
2500mm x 1200mm / MOTORCYCLE		3
5400mm x 2400mm RESIDENTIAL		5
5400mm x 2400mm RESIDENTIAL ADAPTABLE		11
5400mm x 3800mm RESIDENTIAL ADAPTABLE		1
BASEMENT 5		
2500mm x 1200mm / MOTORCYCLE		2
5400mm x 2400mm RESIDENTIAL		23
5400mm x 2400mm RESIDENTIAL ADAPTABLE		1

TOTAL PARKING COUNT	
CAR PARK TYPE	NUMBER OF SPACES
2500mm x 1200mm / MOTORCYCLE	9
5400mm x 2400mm COMMERCIAL	4
5400mm x 2400mm COMMERCIAL ACCESSIBLE	1
5400mm x 2400mm RESIDENTIAL	44
5400mm x 2400mm RESIDENTIAL ADAPTABLE	34
5400mm x 2400mm SERVICE	1
5400mm x 3800mm RESIDENTIAL ADAPTABLE	3
Grand total	96



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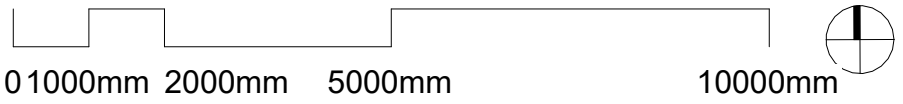
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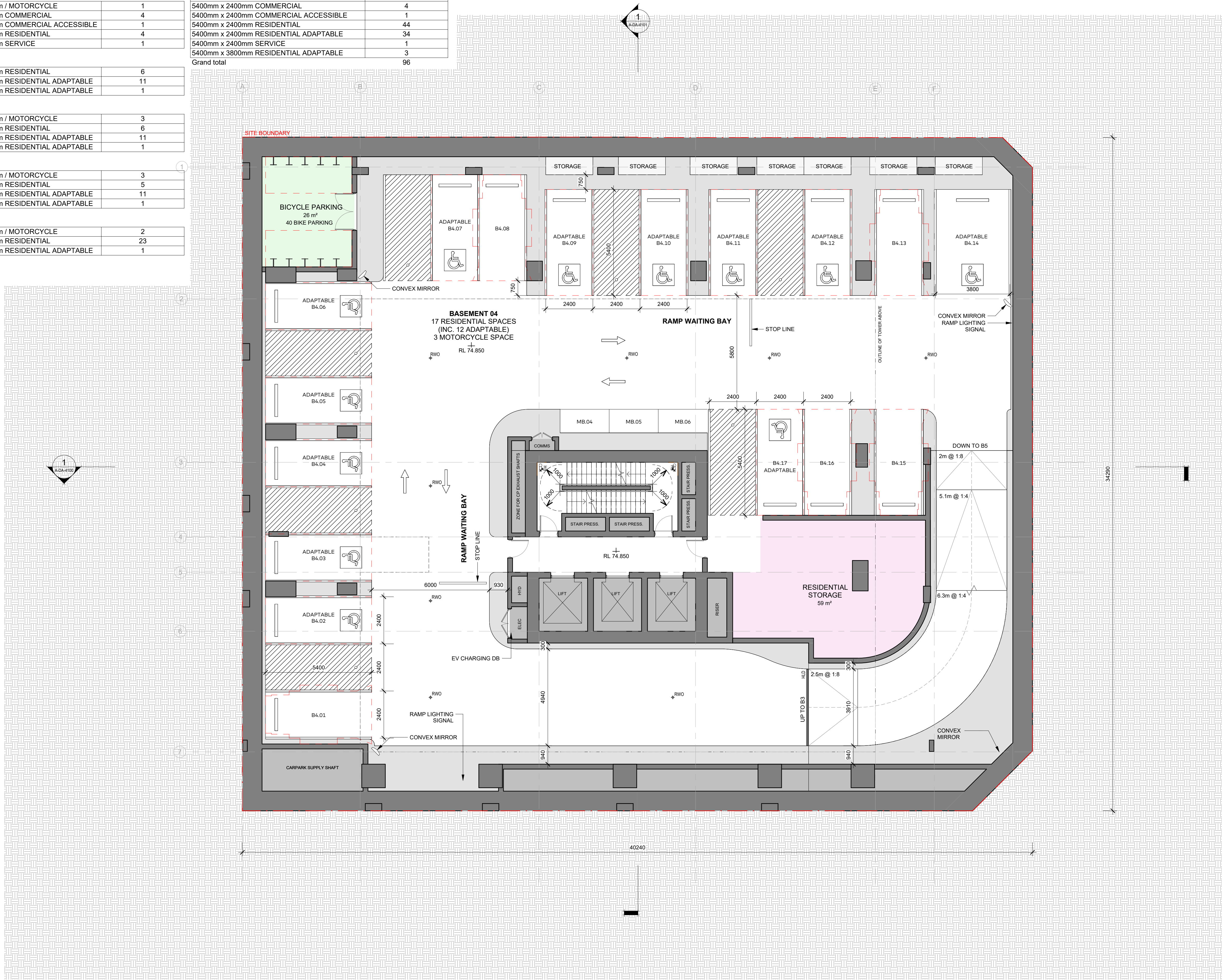
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Project Director:	Approver	Date: 18/09/2025
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BASEMENT 5	
2500mm x 1200mm / MOTORCYCLE	2
5400mm x 2400mm RESIDENTIAL	23
5400mm x 2400mm RESIDENTIAL ADAPTABLE	1

5400mm x 3800mm RESIDENTIAL ADAPTABLE	3
Grand total	96



Rev	Description	By	Date
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Project **ATCHISON STREET**

20-22 Atchison St, St Leonards, NSW 2065

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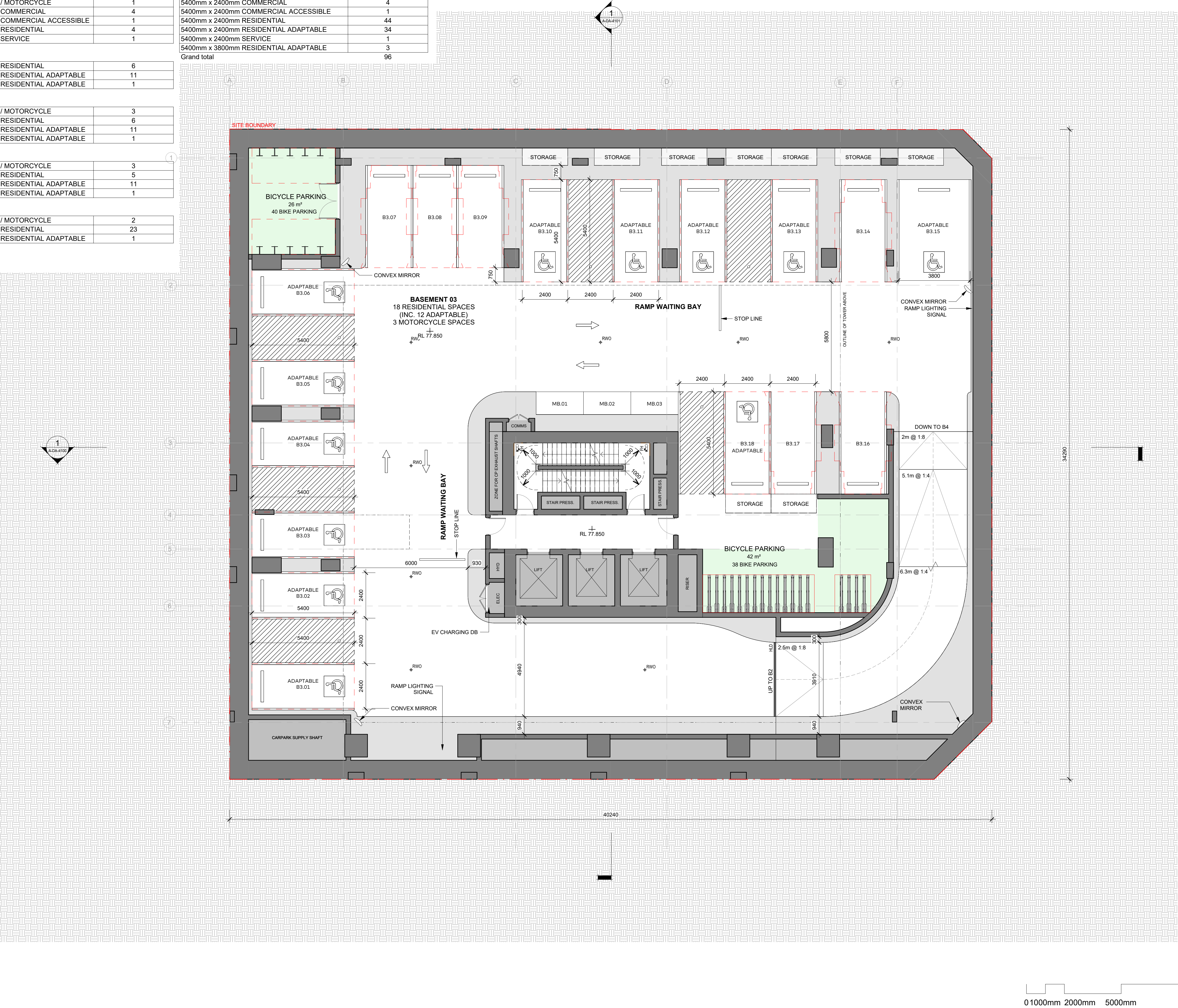
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Project Director:	RJ	Date:	18/09/202
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PARKING SCHEDULE		
CAR PARK TYPE		NUMBER OF SPACES
BASEMENT 1		
2500mm x 1200mm / MOTORCYCLE		1
5400mm x 2400mm COMMERCIAL		4
5400mm x 2400mm COMMERCIAL ACCESSIBLE		1
5400mm x 2400mm RESIDENTIAL		4
5400mm x 2400mm SERVICE		1
BASEMENT 2		
5400mm x 2400mm RESIDENTIAL		6
5400mm x 2400mm RESIDENTIAL ADAPTABLE		11
5400mm x 3800mm RESIDENTIAL ADAPTABLE		1
BASEMENT 3		
2500mm x 1200mm / MOTORCYCLE		3
5400mm x 2400mm RESIDENTIAL		6
5400mm x 2400mm RESIDENTIAL ADAPTABLE		11
5400mm x 3800mm RESIDENTIAL ADAPTABLE		1
BASEMENT 4		
2500mm x 1200mm / MOTORCYCLE		3
5400mm x 2400mm RESIDENTIAL		5
5400mm x 2400mm RESIDENTIAL ADAPTABLE		11
5400mm x 3800mm RESIDENTIAL ADAPTABLE		1
BASEMENT 5		
2500mm x 1200mm / MOTORCYCLE		2
5400mm x 2400mm RESIDENTIAL		23
5400mm x 2400mm RESIDENTIAL ADAPTABLE		1

TOTAL PARKING COUNT	
CAR PARK TYPE	NUMBER OF SPACES
2500mm x 1200mm / MOTORCYCLE	9
5400mm x 2400mm COMMERCIAL	4
5400mm x 2400mm COMMERCIAL ACCESSIBLE	1
5400mm x 2400mm RESIDENTIAL	44
5400mm x 2400mm RESIDENTIAL ADAPTABLE	34
5400mm x 2400mm SERVICE	1
5400mm x 3800mm RESIDENTIAL ADAPTABLE	3
Grand total	96



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Salt3		Waste Engineer
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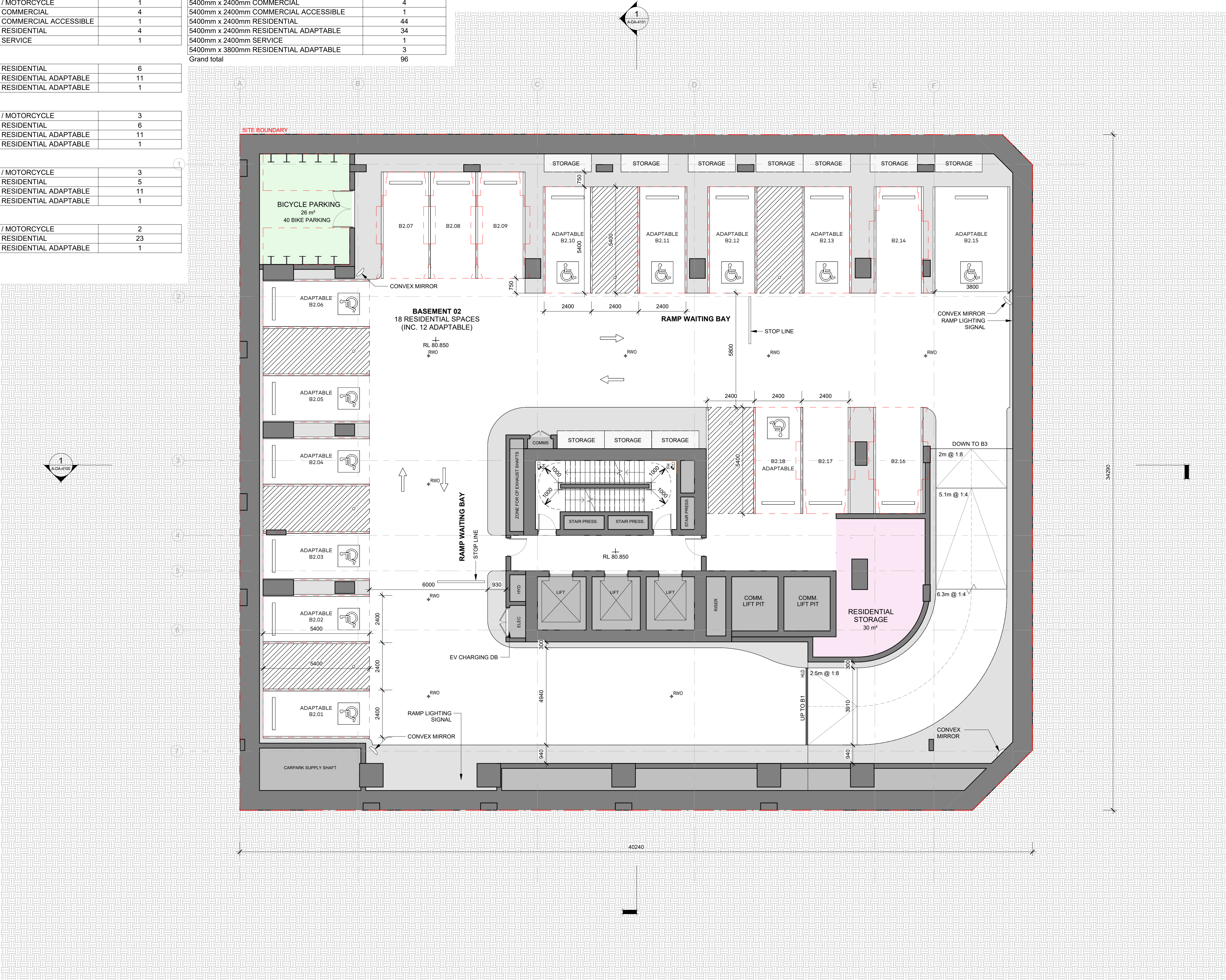
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5400mm x 3800mm RESIDENTIAL ADAPTABLE	1	

BASEMENT 4		
2500mm x 1200mm / MOTORCYCLE	3	
5400mm x 2400mm RESIDENTIAL	5	
5400mm x 2400mm RESIDENTIAL ADAPTABLE	11	
5400mm x 3800mm RESIDENTIAL ADAPTABLE	1	

BASEMENT 5		
2500mm x 1200mm / MOTORCYCLE	2	
5400mm x 2400mm RESIDENTIAL	23	
5400mm x 2400mm RESIDENTIAL ADAPTABLE	1	

TOTAL PARKING COUNT	
CAR PARK TYPE	NUMBER OF SPACES
2500mm x 1200mm / MOTORCYCLE	9
5400mm x 2400mm COMMERCIAL	4
5400mm x 2400mm COMMERCIAL ACCESSIBLE	1
5400mm x 2400mm RESIDENTIAL	44
5400mm x 2400mm RESIDENTIAL ADAPTABLE	34
5400mm x 2400mm SERVICE	1
5400mm x 3800mm RESIDENTIAL ADAPTABLE	3
Grand total	96



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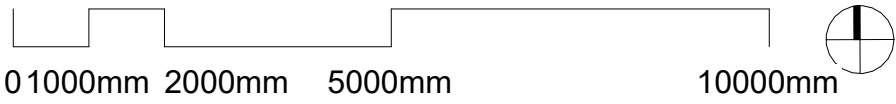
Nominated Architects:
Joe Agius no. 6491
Ramin Jahromi no. 10000

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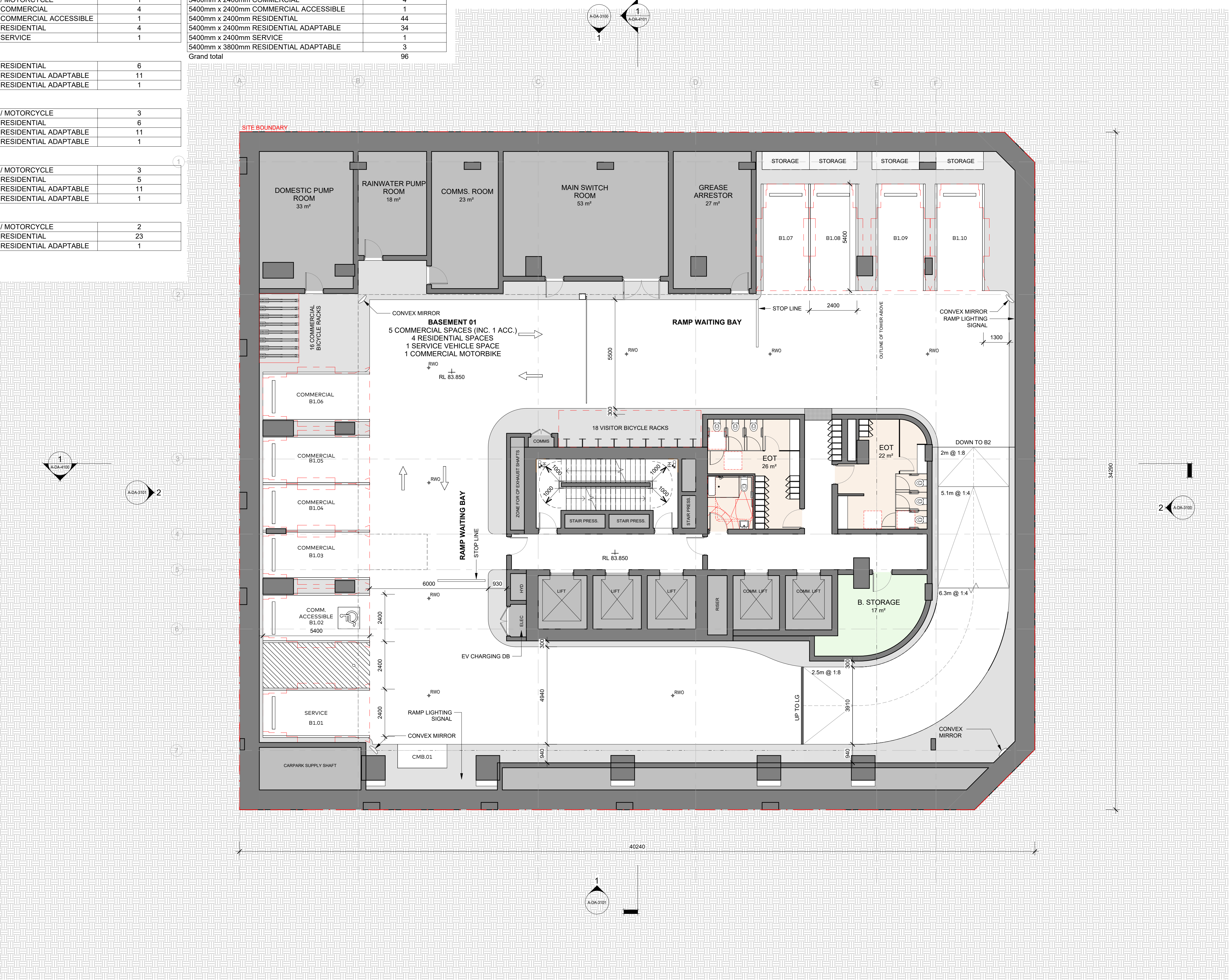
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CAR PARK TYPE		NUMBER OF SPACES
BASEMENT 1		
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5400mm x 2400mm COMMERCIAL		4
5400mm x 2400mm COMMERCIAL ACCESSIBLE		1
5400mm x 2400mm RESIDENTIAL		4
5400mm x 2400mm SERVICE		1
BASEMENT 2		
5400mm x 2400mm RESIDENTIAL		6
5400mm x 2400mm RESIDENTIAL ADAPTABLE		11
5400mm x 3800mm RESIDENTIAL ADAPTABLE		1
BASEMENT 3		
2500mm x 1200mm / MOTORCYCLE		3
5400mm x 2400mm RESIDENTIAL		6
5400mm x 2400mm RESIDENTIAL ADAPTABLE		11
5400mm x 3800mm RESIDENTIAL ADAPTABLE		1
BASEMENT 4		
2500mm x 1200mm / MOTORCYCLE		3
5400mm x 2400mm RESIDENTIAL		5
5400mm x 2400mm RESIDENTIAL ADAPTABLE		11
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BASEMENT 5		
2500mm x 1200mm / MOTORCYCLE		2
5400mm x 2400mm RESIDENTIAL		23
5400mm x 2400mm RESIDENTIAL ADAPTABLE		1

TOTAL PARKING COUNT	
CAR PARK TYPE	NUMBER OF SPACES
2500mm x 1200mm / MOTORCYCLE	9
5400mm x 2400mm COMMERCIAL	4
5400mm x 2400mm COMMERCIAL ACCESSIBLE	1
5400mm x 2400mm RESIDENTIAL	44
5400mm x 2400mm RESIDENTIAL ADAPTABLE	34
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5400mm x 3800mm RESIDENTIAL ADAPTABLE	3
Grand total	96



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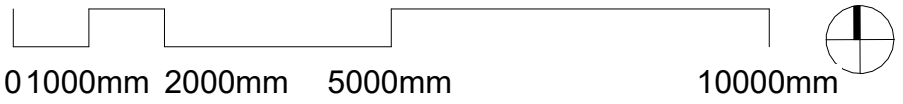
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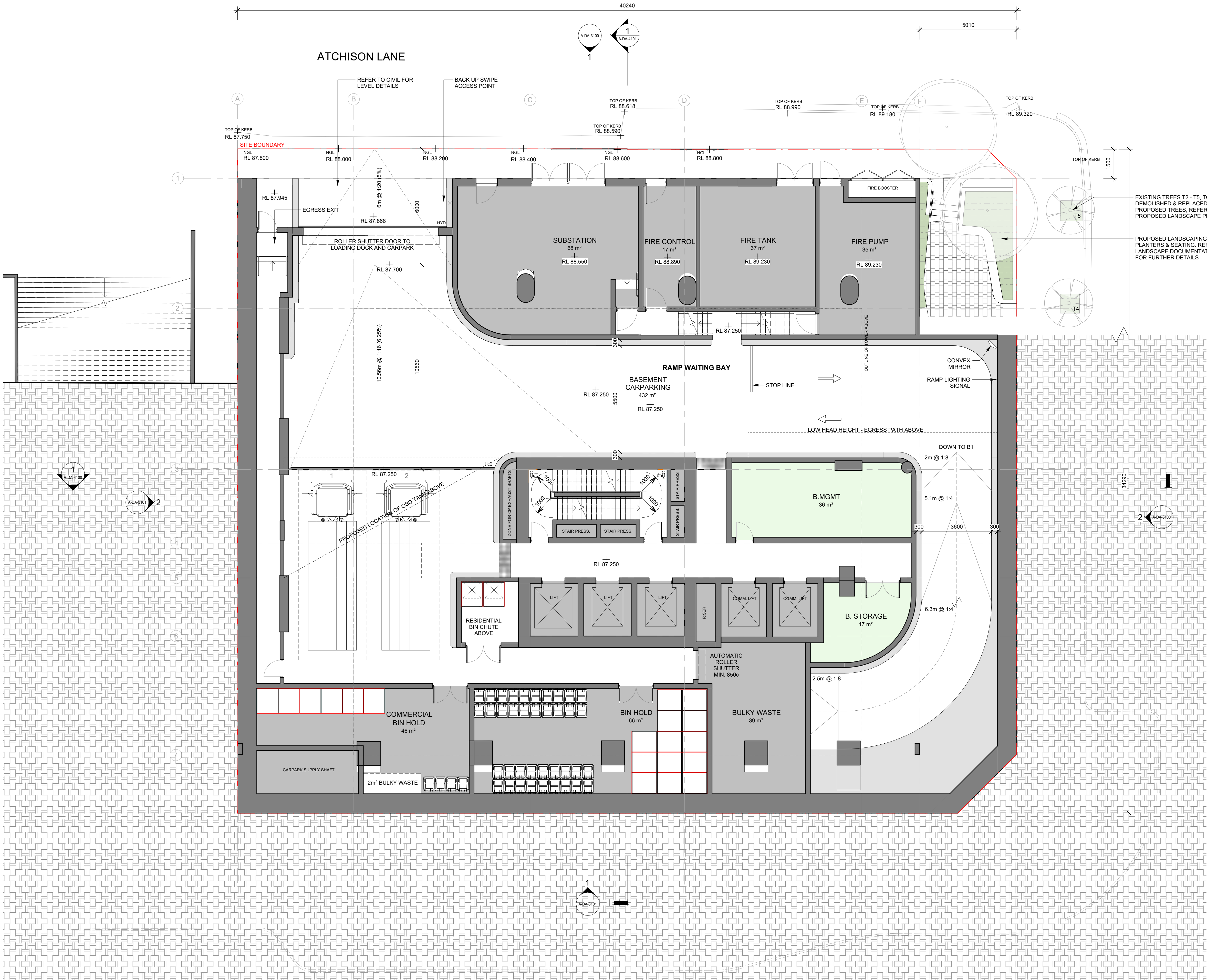
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■	BICYCLE PARKING
■	BUILDING MANAGEMENT
■	COMMERCIAL
■	RESIDENTIAL LOBBY
■	RESIDENTIAL AMENITIES
■	1B RESIDENTIAL
■	2B RESIDENTIAL
■	3B RESIDENTIAL
■	PENTHOUSE

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	20-22 Atchison St, St Leonards, NSW 2065
Acknowledgement	In the language of the CAMMERAYGAL people,
Drawing Title	LOWER GROUND

Document Control Status:	
Co-ordinated:	Drawn:
KH	KH
Project Architect:	Scale:
RB	1 : 100 @ A1
Project Director:	Date:
RJ	18/09/2025
Drawing Number:	Revision:
A-DA-2110	6



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Rev	Description	By	Date
1	ISSUE FOR CONSULTANT COORDINATION	KH	10/07/2025
2	ISSUE FOR CONSULTANT COORDINATION	KH	11/08/2025
3	FROZEN DRAWING SET ISSUE	KH	03/09/2025
4	FINAL COORDINATION SET	KH	17/09/2025

Setia	Project Manager
L1, 155 Franklin St, Melbourne, VIC 3000	
Urbis	Town Planner
L6, 123 Pitt St, Sydney, NSW 2000	
Tel: (02) 8533 9900	
Meinhardt	Structure & Building Services
4/66 Clarence St, Sydney, NSW 2000	
Tel: (02) 9699 3088	
Tract	Landscape Architect
L8, 80 Mount St, North Sydney, NSW 2060	
Tel: (02) 9654 3733	
Slattery	Quantity Surveyor
L10, 14 Martin Pl, Sydney, NSW 2000	
(02) 9423 8850	
Salt3	Traffic Engineer
L4, 201 Kent St, Sydney NSW 2000	
(02) 9068 7995	
Salt3	Waste Engineer
L6, 201 Kent St, Sydney NSW 2000	
(02) 9068 7995	

LEGEND

■	SERVICES
■	BICYCLE PARKING
■	BUILDING MANAGEMENT
■	COMMERCIAL
■	RESIDENTIAL LOBBY
■	RESIDENTIAL AMENITIES
■	1B RESIDENTIAL
■	2B RESIDENTIAL
■	3B RESIDENTIAL
■	PENTHOUSE

Setia

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Cox Architecture
70 George Street
The Rocks NSW 2000
Australia
T + 61 2 9267 9599
coxarchitecture.com.au

Nominated Architects:
Joe Agius no. 6491
Ramin Jahromi no. 10000

Client	Setia Sydney Pty Ltd
Project No.	223107.00
Project	ATCHISON STREET
	20-22 Atchison St, St Leonards, NSW 2065
Acknowledgement	In the language of the CAMMERAYGAL people,
Drawing Title	BASEMENT EGRESS

Document Control Status:	
Co-ordinated:	Drawn:
Checker	Author
Project Architect:	Scale:
Designer	1 : 100 @ A1
Project Director:	Date:
Approver	18/09/2025
Drawing Number:	Revision:
A-DA-2111	4



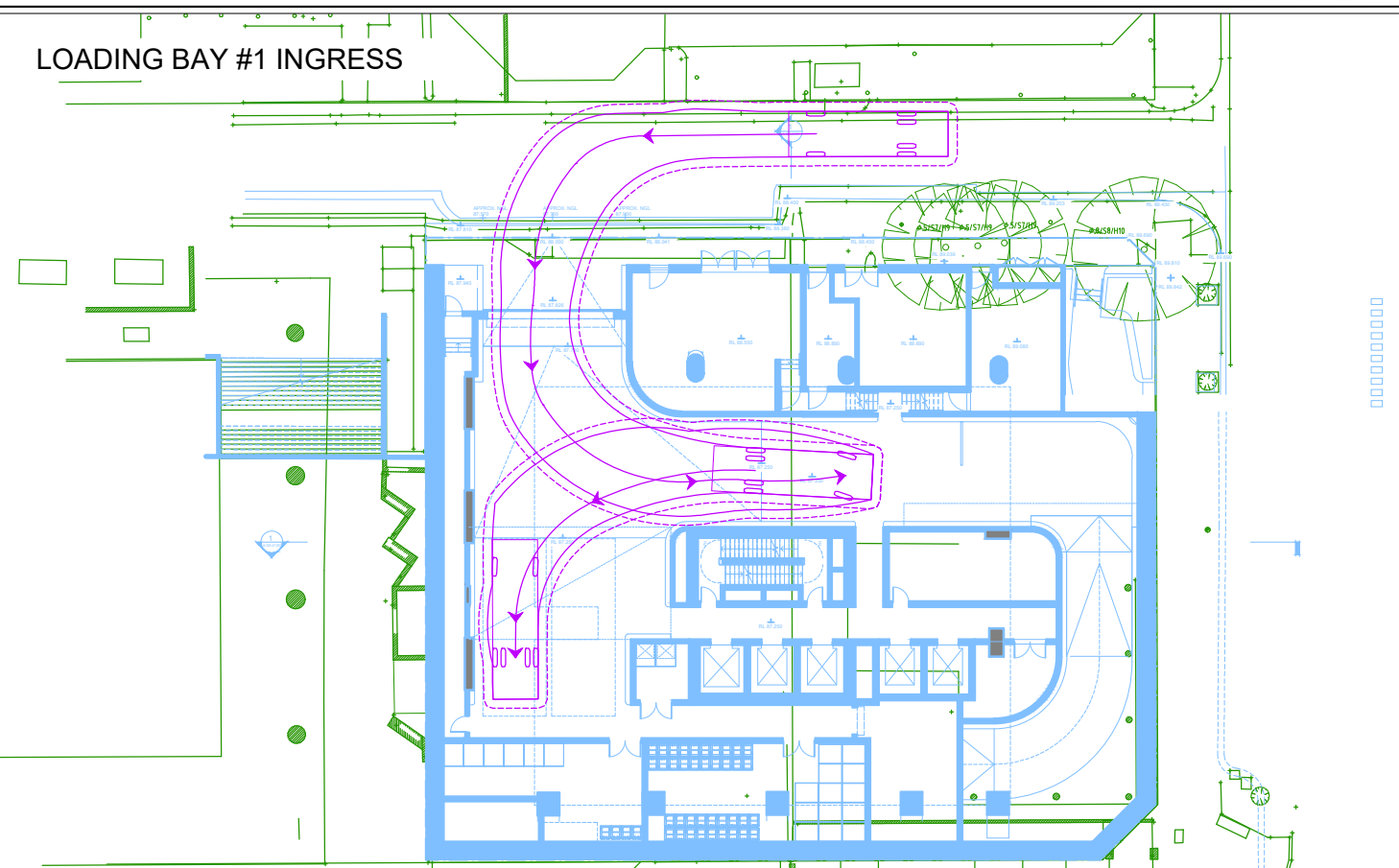
Seta L1: 155 Franklin St, Melbourne, VIC 3000	Project Manager
Urbis L1: 123 Pitt St, Sydney, NSW 2000 Tel: (02) 8233 9900	Town Planner
Mainhardt 466 Clarence St, Sydney, NSW 2000 Tel: (02) 9699 3088	Structure & Building Services
Tract L1: 80 Mount St, North Sydney, NSW 2060 Tel: (02) 9564 3733	Landscape Architect
Slattery L10: 14 Martin Pl, Sydney, NSW 2000 Tel: (02) 9423 8550	Quantity Surveyor
Salt3 L1: 20 Kent St, Sydney NSW 2000 (02) 9088 7995	Traffic Engineer
Salt3 L1: 20 Kent St, Sydney NSW 2000 (02) 9088 7995	Waste Engineer

	SERVICES
	BICYCLE PARKING
	BUILDING MANAGEMENT
	COMMERCIAL
	RESIDENTIAL LOBBY
	RESIDENTIAL AMENITIES
	1B RESIDENTIAL
	2B RESIDENTIAL
	3B RESIDENTIAL
	PENTHOUSE

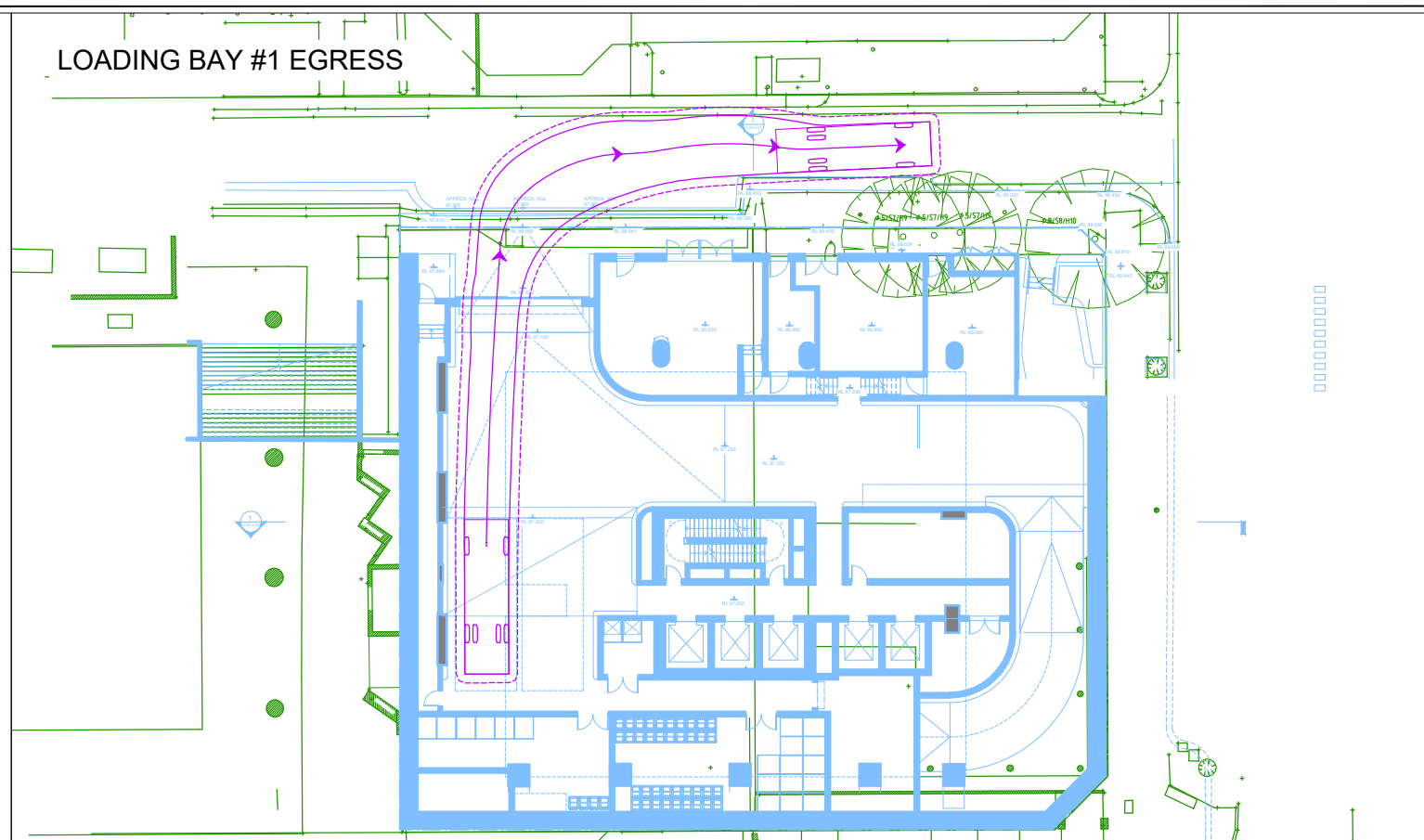
Co-ordinated:	KH	Drawn:	KH
Project Architect:	RB	Scale:	1 : 100 @ A1
Project Director:	RJ	Date:	18/09/2025
Drawing Number:		Revision:	

APPENDIX 2 SWEPT PATH DIAGRAMS

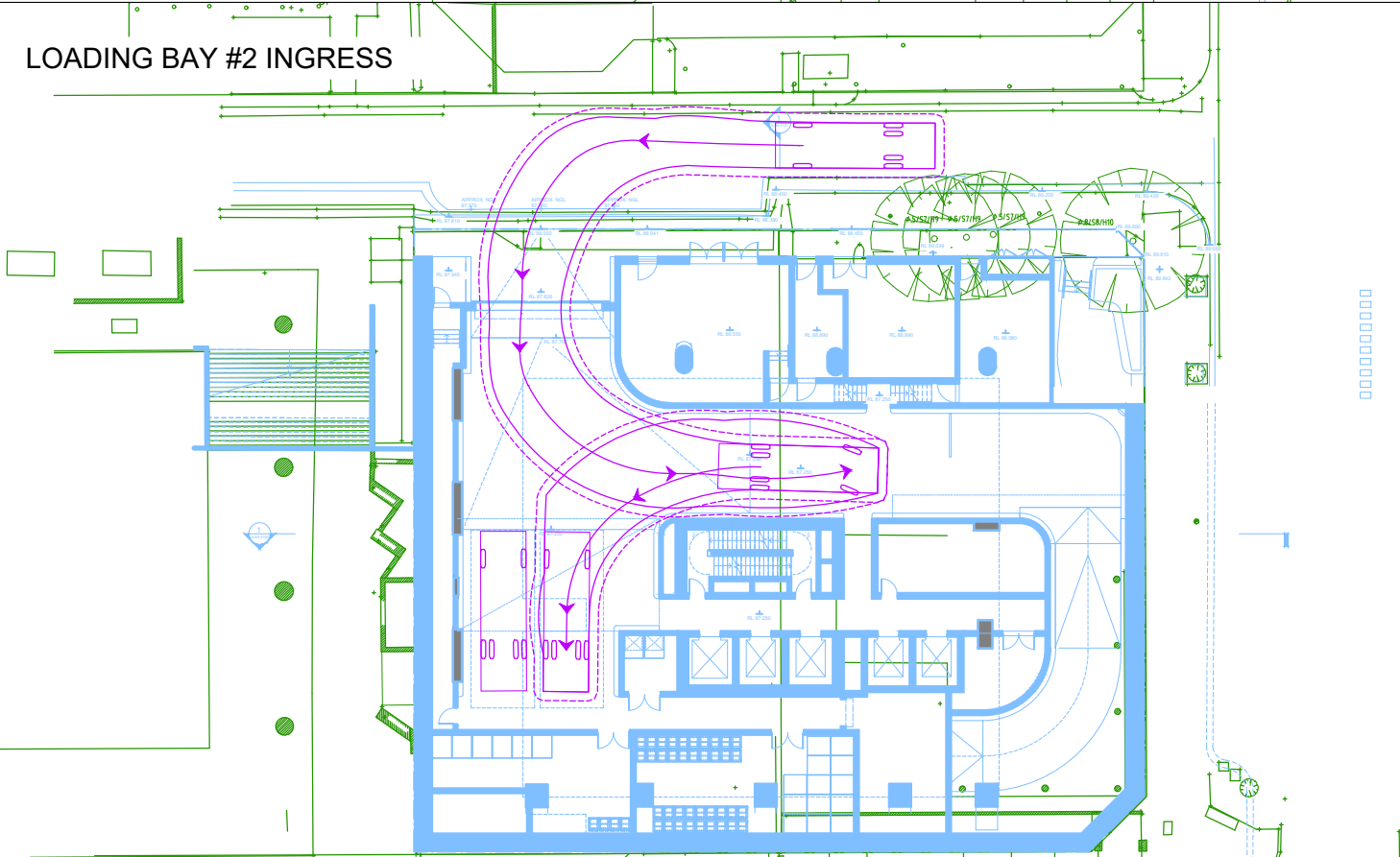
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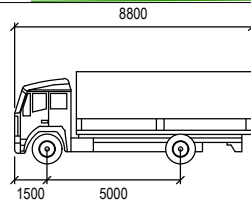
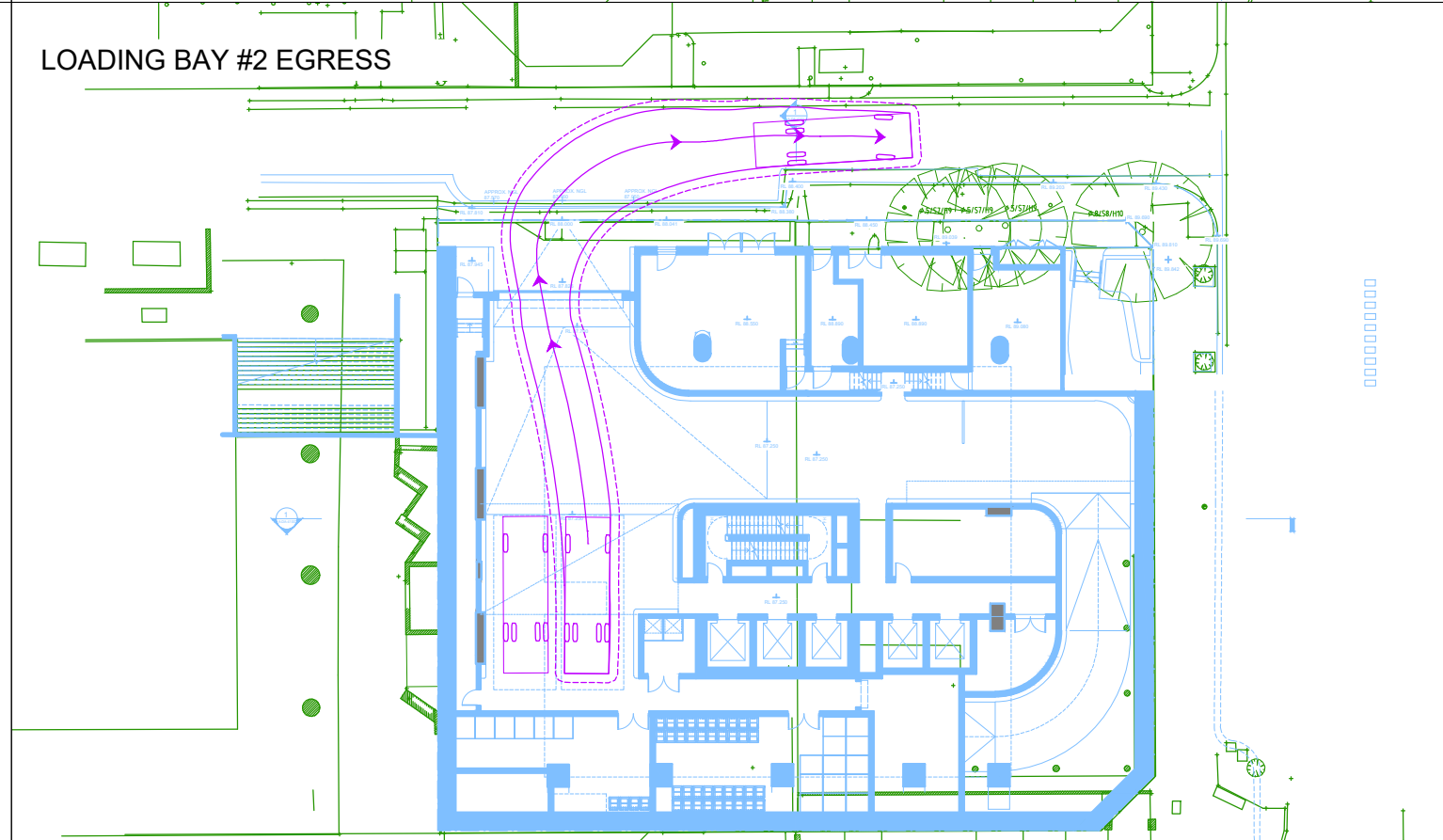
LOADING BAY #1 EGRESS



LOADING BAY #2 INGRESS



LOADING BAY #2 EGRESS



MRV

Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

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PROPOSED MIXED-USE DEVELOPMENT
20-22 ATCHISON STREET
ST LEONARDS
SWEEP PATH DIAGRAM

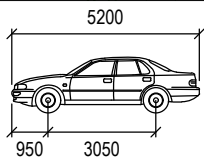
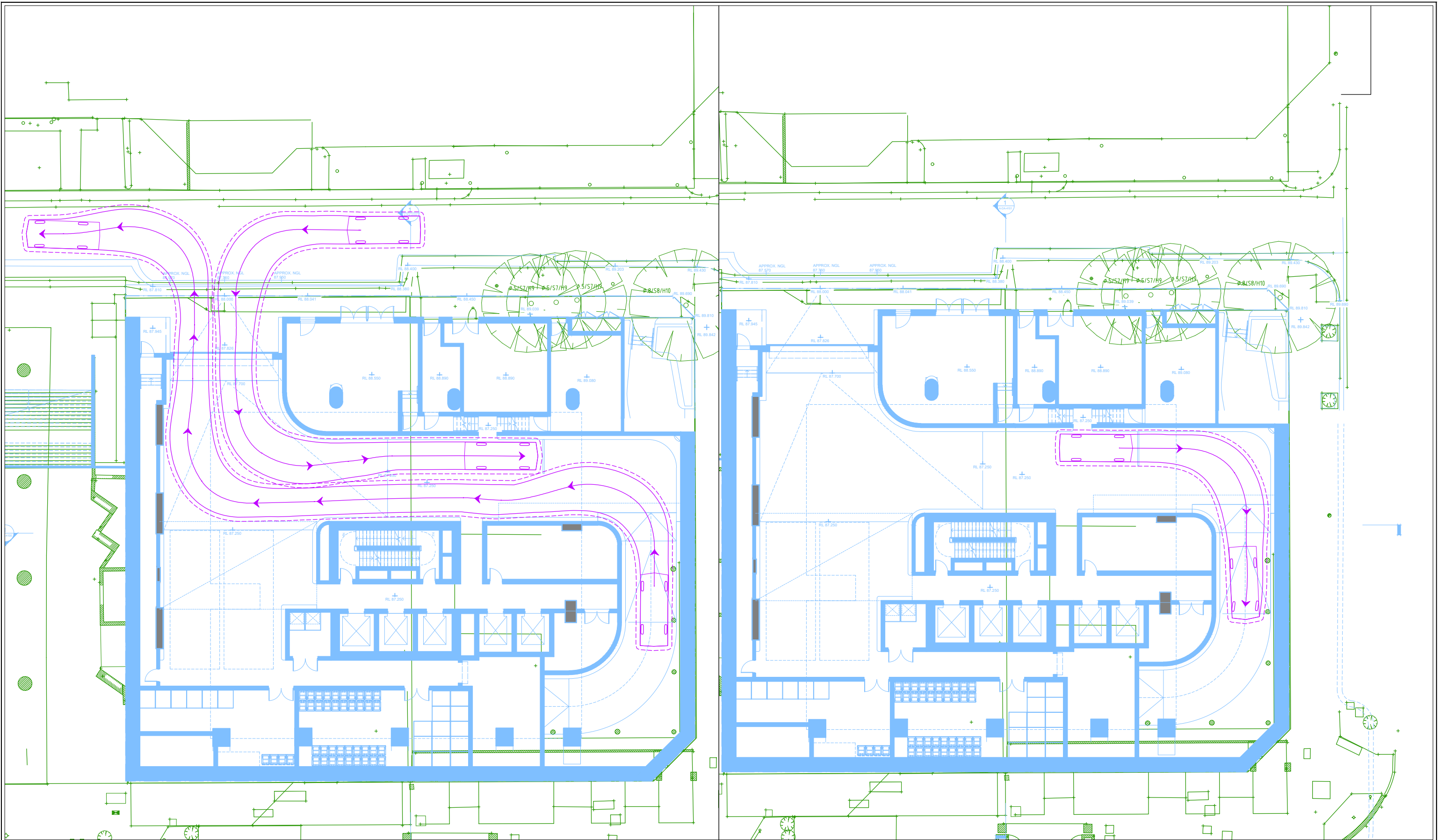
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0 2 4 8
SCALE: 1:400 @ A3



DRAWN / CHECKED CG / JG	DATE 04-09-2025	SIZE A3
DRAWING NUMBER SALT-25191-SK-001	REVISION 2	



B99

Width : 1940
Track : 1840
Lock to Lock Time : 6.0
Steering Angle : 33.9

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PROPOSED MIXED-USE DEVELOPMENT
20-22 ATCHISON STREET
ST LEONARDS
SWEEP PATH DIAGRAM



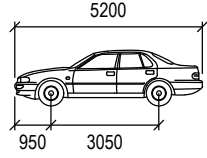
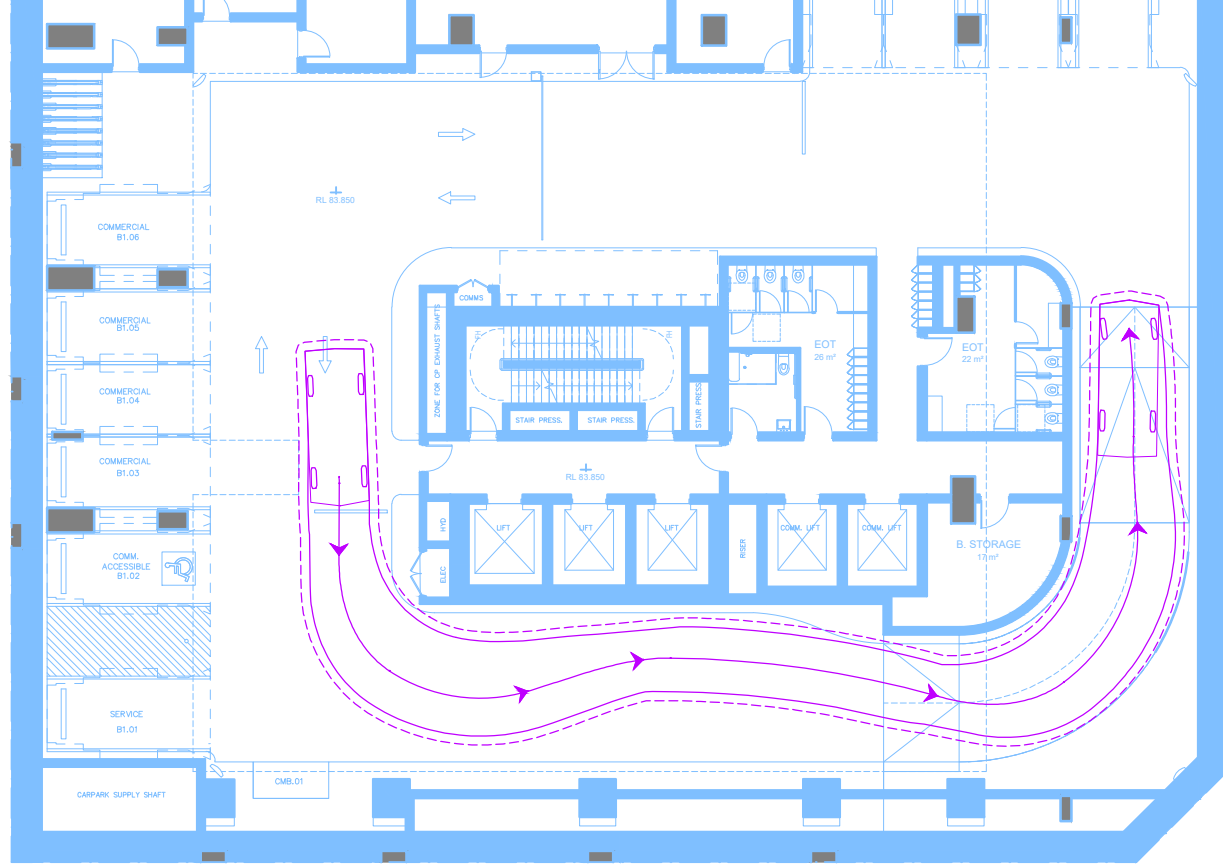
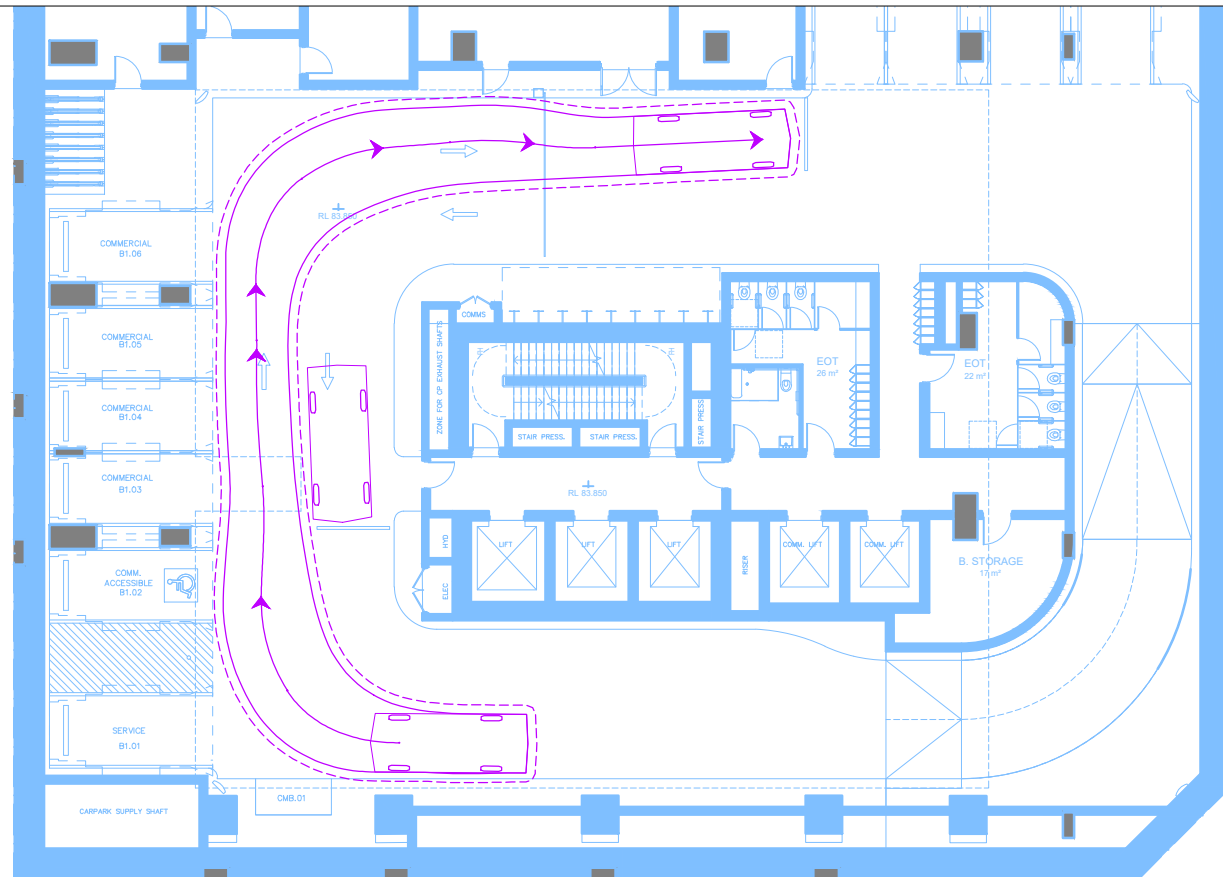
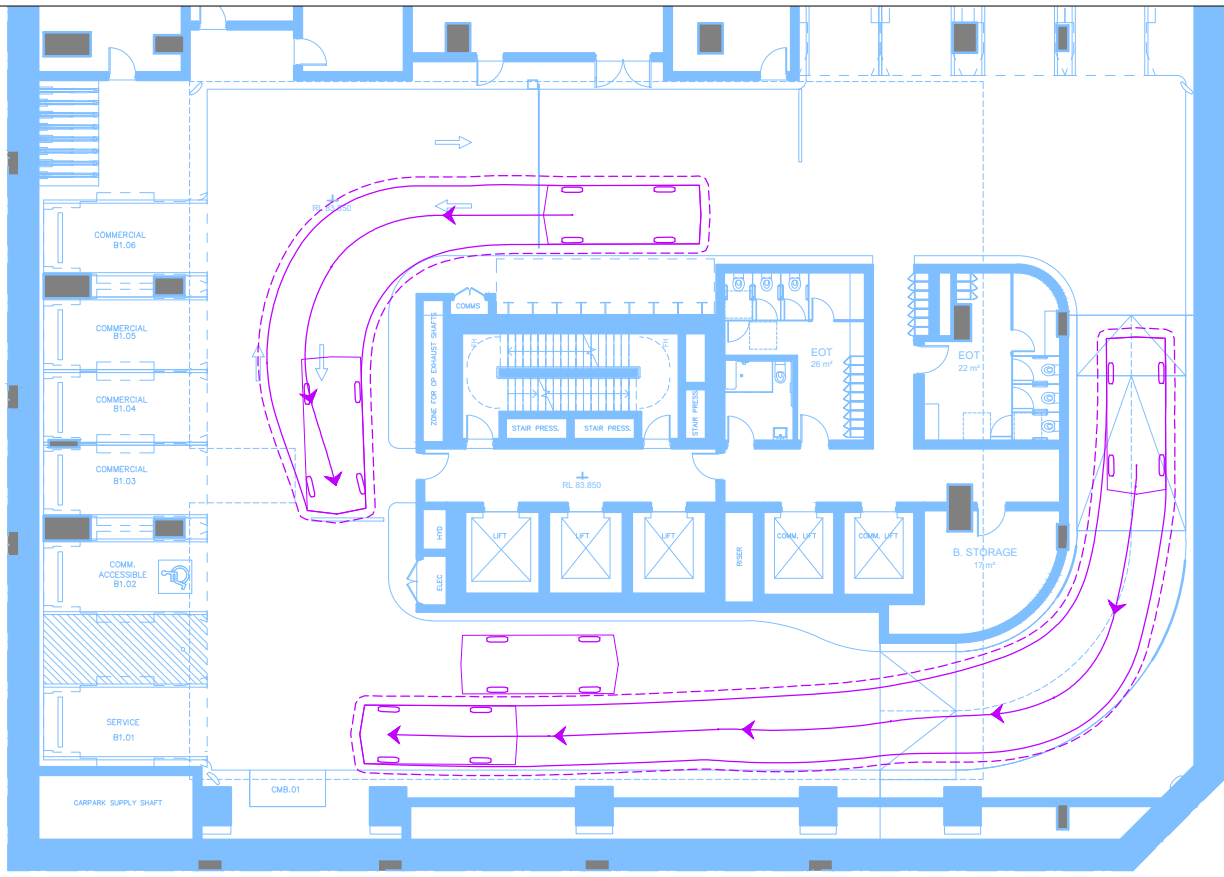
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0 1.25 2.5 5
SCALE: 1:250 @ A3



DRAWN / CHECKED CG / JG	DATE 04-09-2025	SIZE A3
DRAWING NUMBER SALT-25191-SK-002	REVISION 2	



B99

mm

Width : 1940

Track : 1840

Lock to Lock Time : 6.0

Steering Angle : 33.9

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PROPOSED MIXED-USE DEVELOPMENT

20-22 ATCHISON STREET

ST LEONARDS

SWEPT PATH DIAGRAM

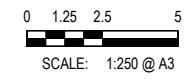


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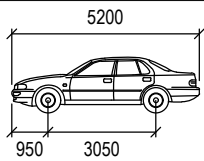
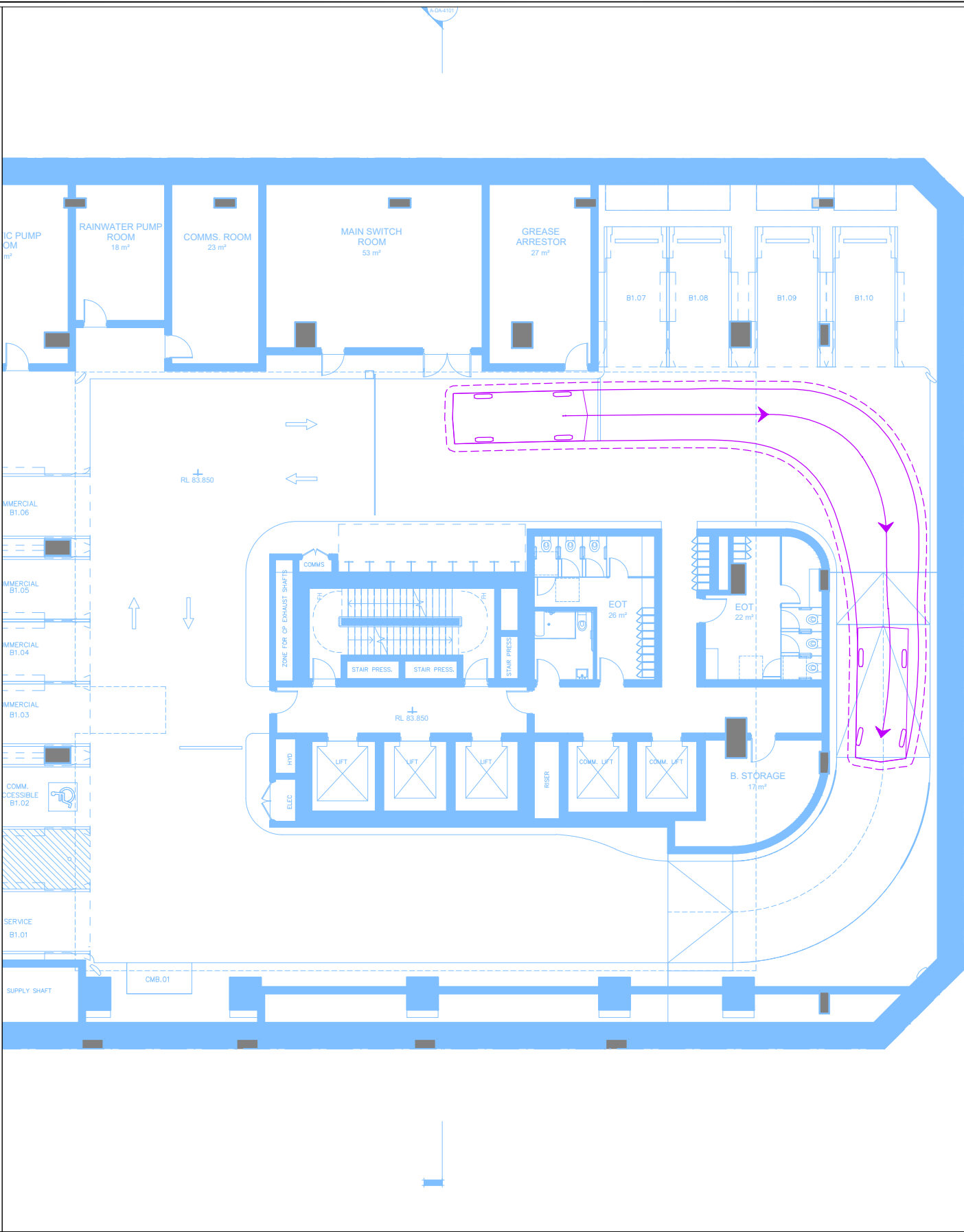
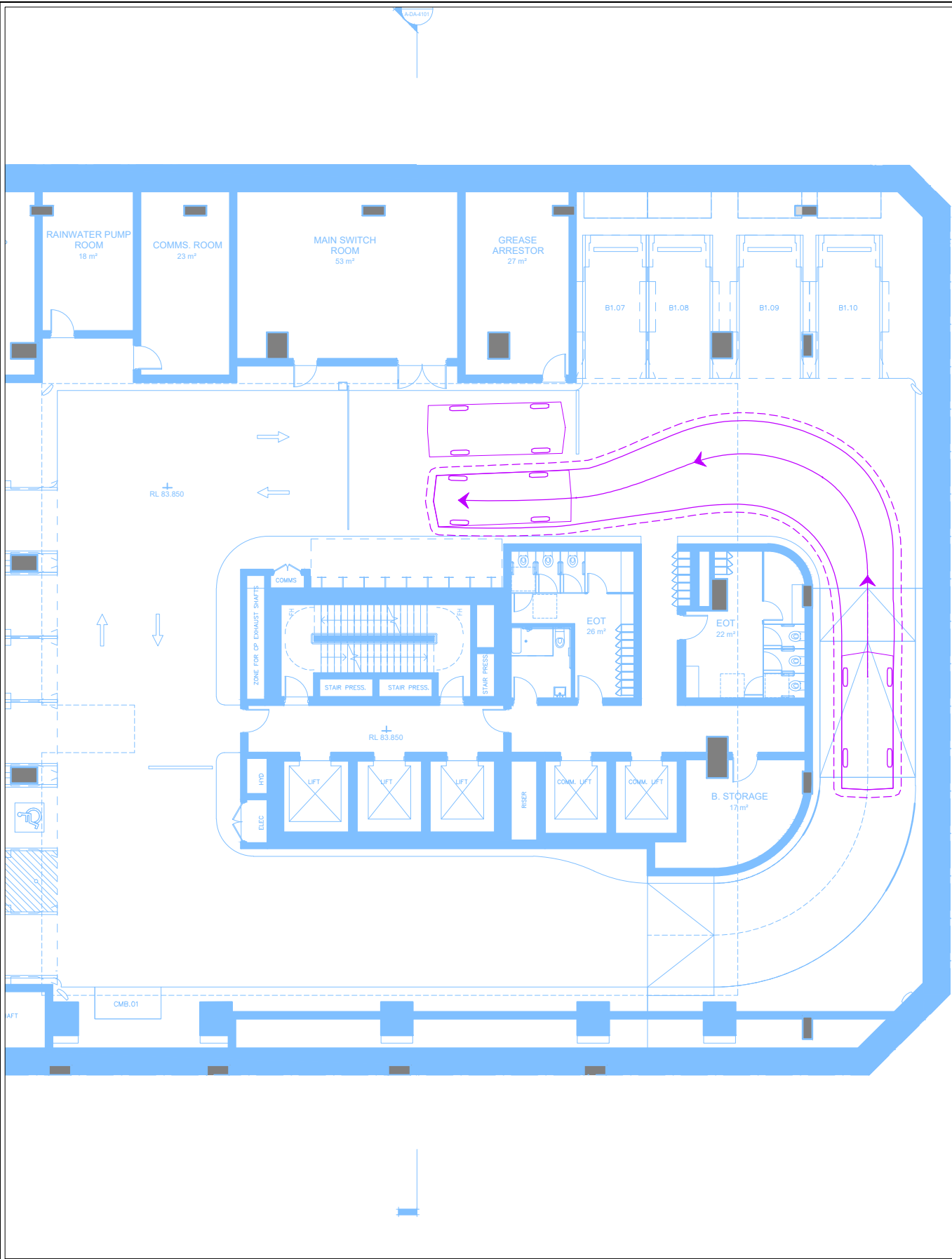
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DRAWN / CHECKED CG / JG	DATE 04-09-2025	SIZE A3
DRAWING NUMBER SALT-25191-SK-003		REVISION 2



B99

mm

Width : 1940

Track : 1840

Lock to Lock Time : 6.0

Steering Angle : 33.9

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PROPOSED MIXED-USE DEVELOPMENT

20-22 ATCHISON STREET

ST LEONARDS

SWEEP PATH DIAGRAM



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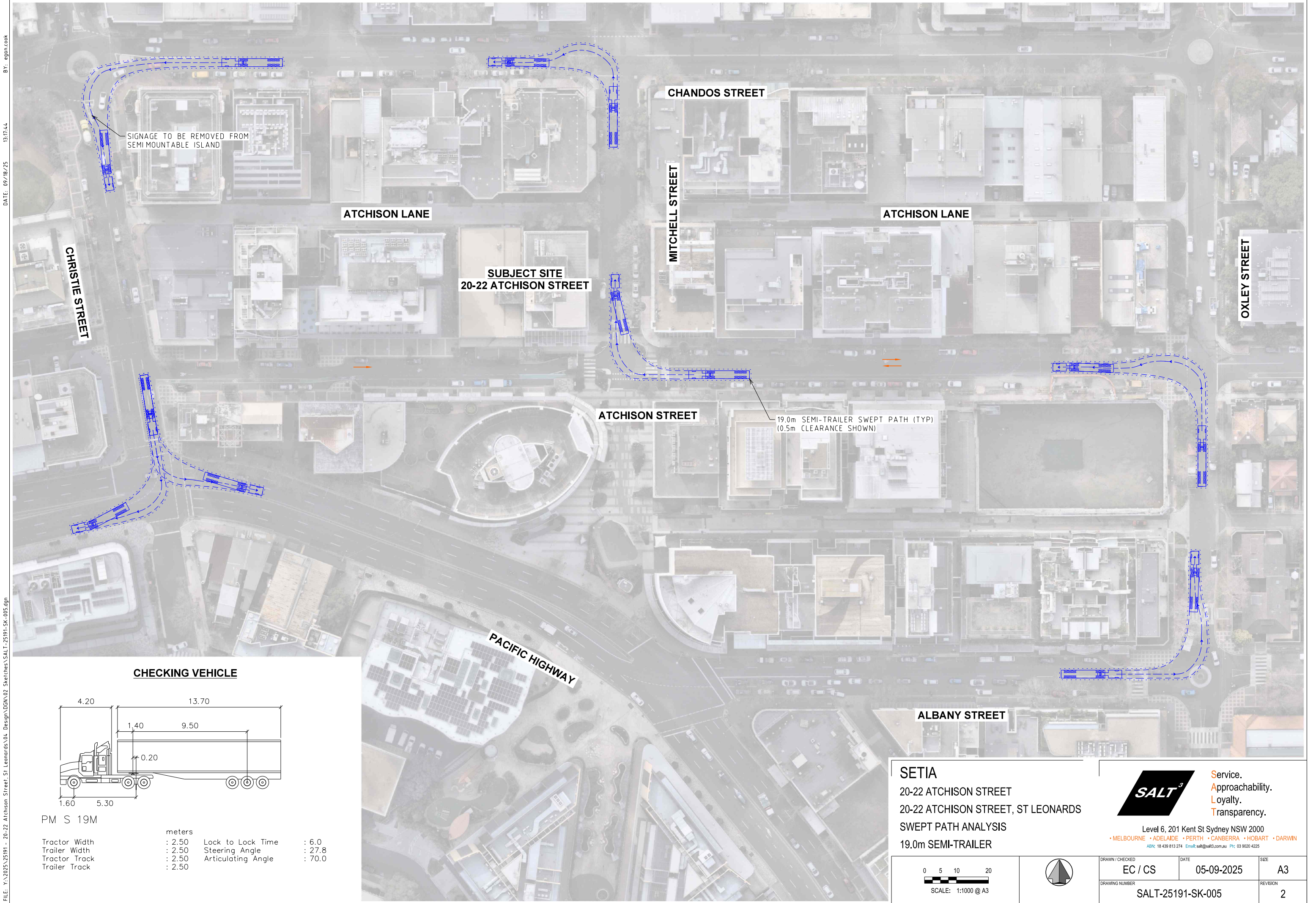
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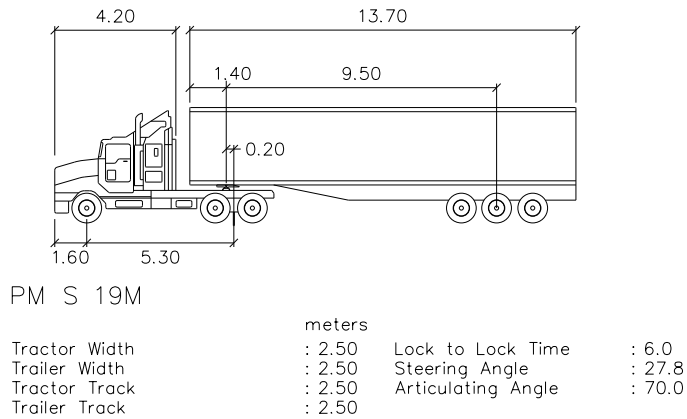


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CG / JG	04-09-2025	A3
DRAWING NUMBER	REVISION	
SALT-25191-SK-004	2	

APPENDIX 3 CONSTRUCTION VEHICLE SWEEP PATH DIAGRAMS



CHECKING VEHICLE



SETIA

20-22 ATCHISON STREET
20-22 ATCHISON STREET, ST LEONARDS
SWEEP PATH ANALYSIS
19.0m SEMI-TRAILER



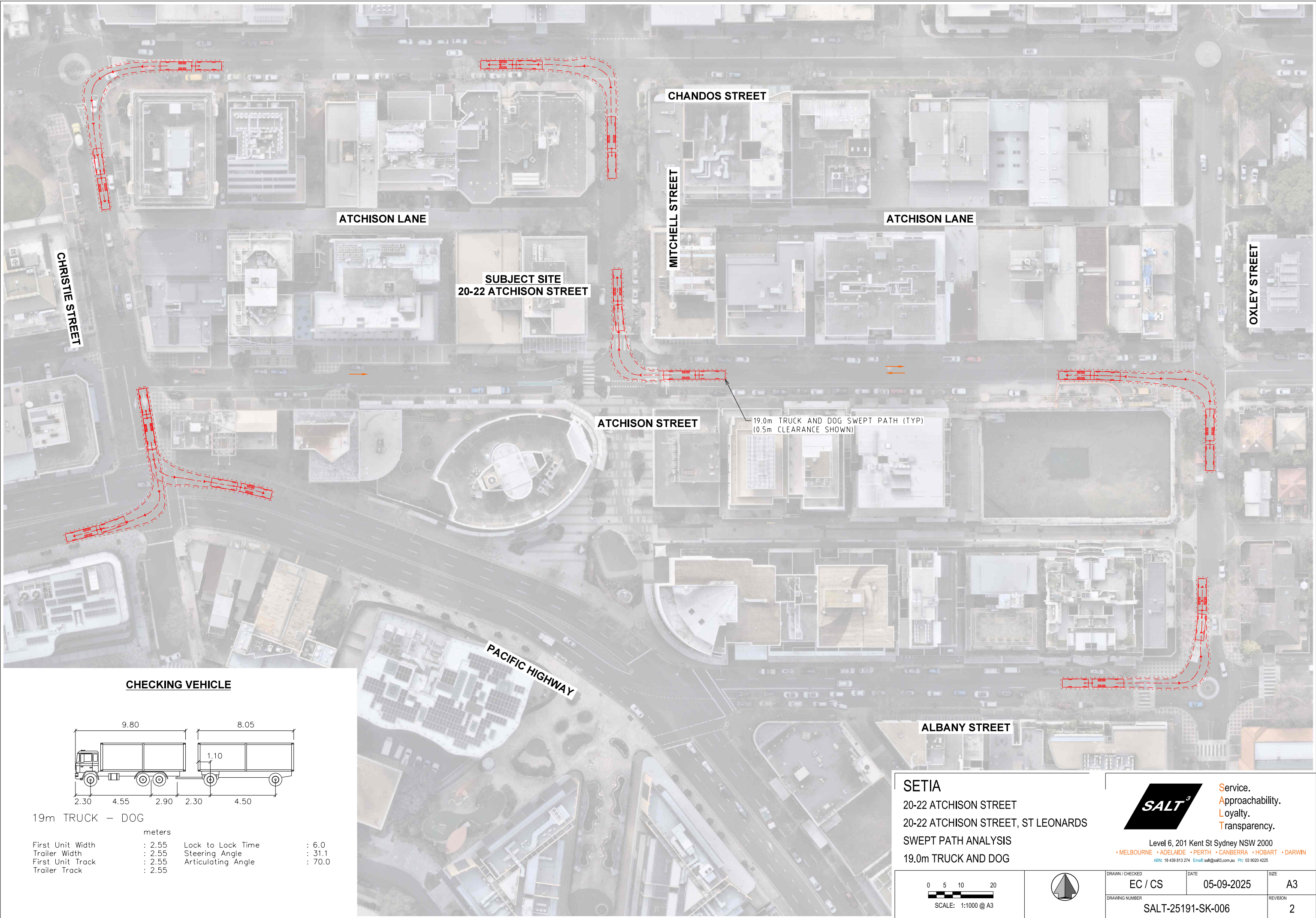
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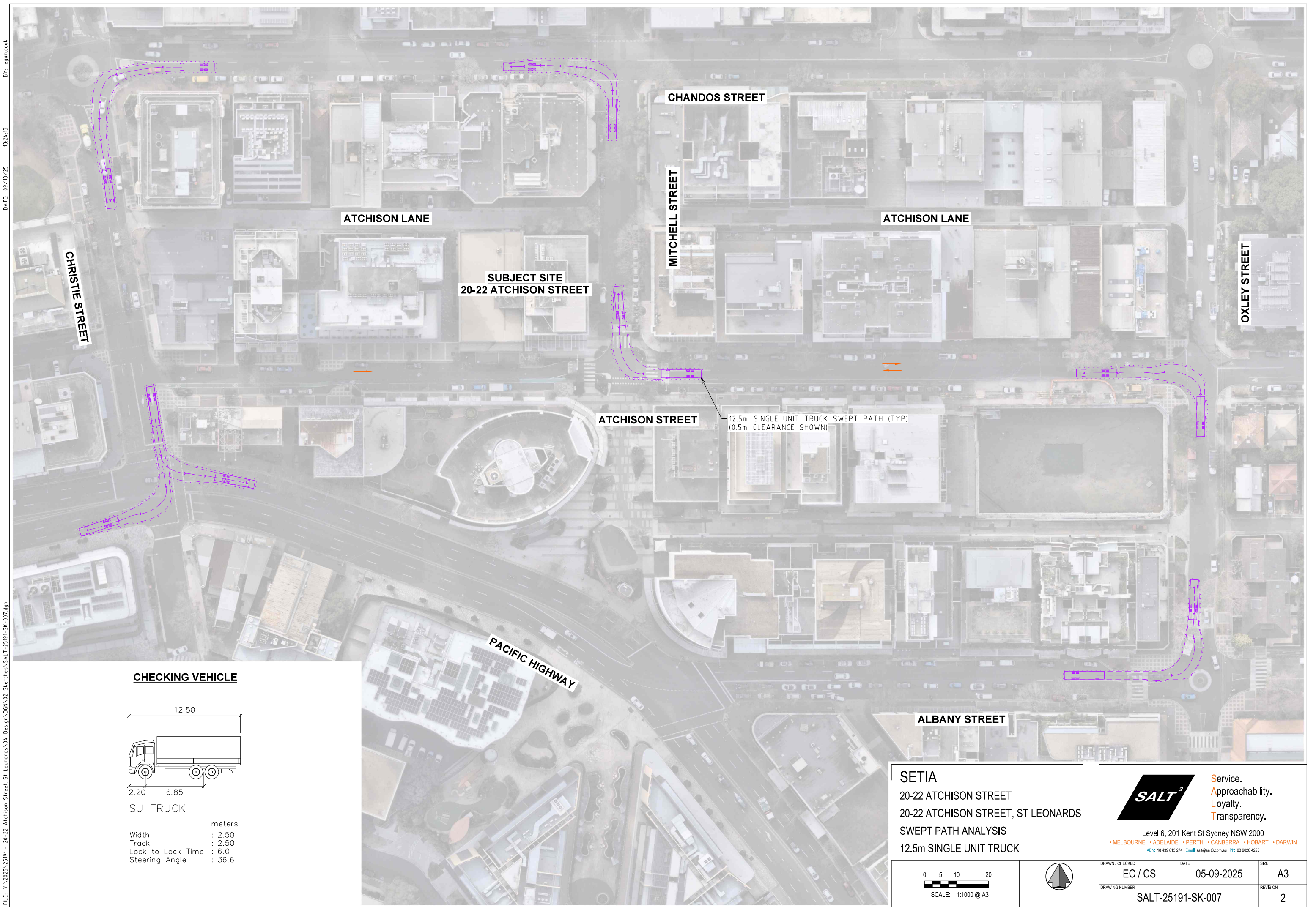
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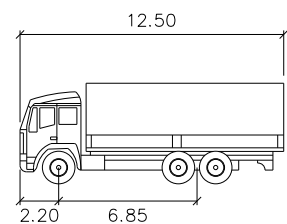
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DATE: 09/18/25

BY: egan.cook



CHECKING VEHICLE



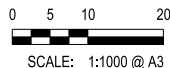
SU TRUCK	
	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

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20-22 ATCHISON STREET, ST LEONARDS
SWEEP PATH ANALYSIS
12.5m SINGLE UNIT TRUCK



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