

# **ParkTransit**

TRAFFIC IMPACT ASSESSMENT – SENIORS HOUSING 20-22 Raymond Street 12th October 2023

ParkTransit Pty Ltd Marrickville NSW 2525 ABN: 16 627 168 290



Traffic Impact Assessment Report for Seniors Housing 20-22 Raymond Street, Eastwood

For: DTA Architects

Date: 12th October 2023

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#### **Abbreviations**

Proposal: Construction of a Seniors Housing Development

RMS: Road and Maritime Services

DCP: Ryde Council Development Control Plan- 2014

SEPP (Housing): State Environmental Planning Policy (Housing) 2021

RMS Guide: RMS Guide to Traffic Generating Development 2002

AS2890.1: Australian Standard for Off-Street Parking Facilities AS2890.1-2004

AS2890.6: Australian Standard for Off-Street Parking for people with Disabilities AS2890.6



#### 1. Introduction

ParkTransit have been engaged by DTA Architects to assist with the Part 5 Activity Application process for the construction of a Seniors Housing development located at 20-22 Raymond Street, Eastwood, within the Ryde Council LGA.

The proposed development will accommodate a total of 10 residential units with associated parking provided within the at-grade level car park within the site boundary.

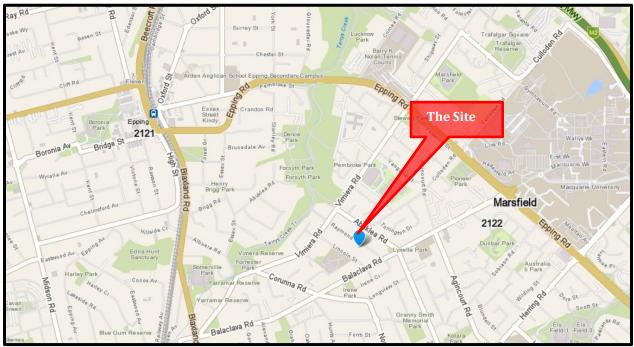


Figure 1-Site Location (Source Whereis Maps)

The purpose of this report is to present the traffic and parking assessment associated with the proposal, and to determine the implications of the projected change in traffic activity on the surrounding road network. The report is structured as follows:

Section 2: Site Description

Section 3: Overview of Existing Traffic Conditions
Section 4: Description of the Proposed Development

Section 5: Traffic Impact Assessment

Section 6: Parking Provision
Section 7: Access Arrangements

Section 8: Conclusions and Recommendations

Section 9: Attachments



The following documents were referenced for the preparation of this report:

- Ryde Council Development Control Plan (DCP 2014);
- The Road and Maritime Services Guide to Traffic Generating Development;
- NSW State Environmental Planning Policy (Housing) 2021;
- Australian Standard for Parking Facilities Part 1: Off-Street Car Parking (AS2890.1-2004); and
- Australian Standard for Parking Facilities Part 6: Off-Street Parking for People with Disabilities (AS2890.6-2009).



# 2. Site Description

The site is located at 20-22 Raymond Street, Eastwood in a predominantly residential area and forms part of the Ryde Council LGA. The site is located on the southern side of Raymond Street. It occupies an area of 1448m<sup>2</sup>.

The site occupies Lot 34, 35 of DP35375 and has a sole frontage located along Raymond Street. The site is bordered by residential development except to the north which is bordered by Raymond Street. It has a frontage measuring 38m frontage on Raymond Street.

The site is occupied by two single storey dwelling houses. Each of the dwelling houses is serviced by a dedicated driveway resulting in a total of two driveways servicing the subject site.



Figure 2-The Site (Source NSW Imagery-Six Maps)

A site visit was undertaken to observe the operation of the existing road network and the site photographs are presented below:







Photo taken looking towards the Driveways Servicing 20 Raymond Street

Photo taken on Raymond Street (left of Desmond Street) looking to the east

The following map shows the hierarchy of the surrounding road network as classified by Transport for NSW (TfNSW).

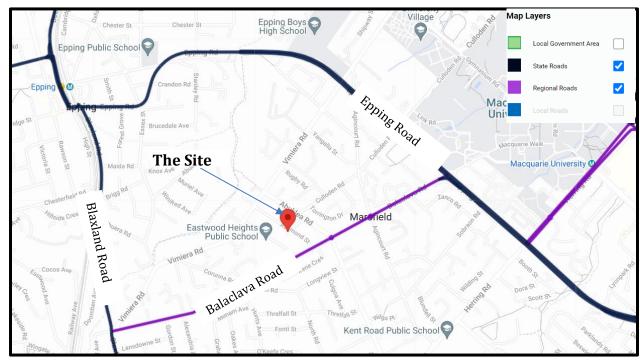


Figure 3-Surrounding Road Network (Source Transport for NSW Website)



# 3. Overview of the Existing Traffic Conditions

#### 3.1. Description of Road Environment

Epping Road is classified as a State Road and follows an East-West alignment. The carriageway is divided and comprises three traffic lanes in each direction with no on-street parking permitted. A paved footpath is available on both sides and Epping Road has a posted speed limit of 70kph. The intersection of Balaclava Road with Epping Road operates as a signalised intersection and includes pedestrian crossing on all the approaches.

Balaclava Road is classified as a Regional Road and connects Epping Road with Blaxland Road. It follows an East-West alignment, and the carriageway is divided and comprises one traffic lane in each direction with onstreet parking permitted. A paved footpath is available on both sides and Balaclava Road has a posted speed limit of 60kph. A number of residential properties have their frontages located along the Balaclava Road and these properties are accessible via the driveways located along the Balaclava Road.

Raymond Street is classified as a Local Road and follows an East-West alignment. The carriageway is undivided and comprises one traffic lane in each direction with on-street parking permitted. The intersection of Balaclava Road with Raymond Street operates as a priority-controlled intersection with motorists on Balaclava Road having priority over vehicles on Raymond Street.

#### 3.2. Public Transport

The site is serviced by buses. The nearest bus stop is on Balaclava Road (east of Abuklea Road)– located approximately 350m southwest of the subject site.

Route No 545 is a regular bus service operating daily between Macquarie Park and Parramatta. It operates from 05:00am to 12:00am (mid night), with a frequency of one service every 10 minutes (during the morning and evening commuter peak period).



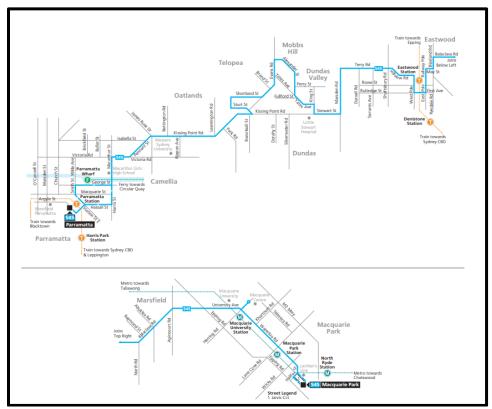


Figure 4- Route Map –Bus Route 545 (Source NSW Transport Info Website)

### 3.3. Pedestrian Access to the Bus Stop

Bus services are accessible via the bus stops located along Balaclava Road (approx 3500m South west of the subject site). The location of the existing bus stops are shown in the figure below.



10

Figure 5- Bus Stop Location Plan (Source Google Maps)



In relation to accessibility to/from The Site, clause 93(4) of Part 5 of the SEPP (Housing 2021) identifies public transport as the preferred means of transport and recommends any bus stops or rail stations should be located at a maximum distance of 400m from The Site. Additionally, in relation to the topography along the access route to any public transport, the SEPP recommends the gradient along the pedestrian route (connecting the bus stop with the Seniors Housing development) should be flat or even.

The review further indicated that the pedestrian access to/from the subject site to the above bus stops, suggests these bus stops are located within the recommended 400 metre walking distance - therefore, are considered suitable to be used by the residents of the proposed Seniors Housing.

#### 3.4. Existing Traffic Generation of the Site

The subject site is located within a predominantly residential area and is currently occupied by two single storey residential buildings. The traffic activity associated with the existing development was determined with reference to the RMS Guide to Traffic Generating Development (The Guide). In relation to the existing uses, the Guide classifies the existing residential use as a "Dwelling House" and recommends the following trip generation rates:

Weekday peak hour vehicle trips = 0.85 per dwelling

Application of the above trip generation rate to the (2) existing dwelling houses results in the 1.7 (say 2) vehicle trip per hour during peak period.

#### 3.5. Crash Data

The NSW Centre for Road Safety collects crash and casualty data on a periodic basis which is publicly available. A review of the latest crash data from 2017-2021 indicates, a limited number of crashes, predominantly non-casualty in nature, were recorded in the surround road network - indicates the local road is operating relatively safely. The Figure below provides the crash location and severity of these crashes recorded in the area.



Figure 6- Crash data (Source NSW Centre for Road Safety)



# 4. Description of the Proposed Development

The development proposal involves the construction of a double storey Seniors Housing that will accommodate a total of 10 residential units comprising the following:

- 5 *x* one-bedroom units; and
- 5 x two-bedroom units.

As part of the proposal, an on-site parking provision of five (5) car spaces, including two (2) disabled car spaces. All vehicular access will be provided via a combined entry and exit driveway located on the Raymond Street frontage. The proposed Seniors Housing development is being constructed by a social housing provider.

Architectural plans associated with the proposal have been prepared by DTA Architects, and the plans indicating the car park are presented as **Attachment A**.



Figure 7- Proposed Ground Floor Plan (Source DTA Architects)



# 5. Traffic Impact Assessment

#### 5.1. Trip Generation

The traffic activity associated with the proposal has been calculated with reference to the 'RMS Guide to Traffic Generation Developments'. The proposal involves the construction of a double storey Seniors Housing that will accommodate a total of 10 residential units.

In relation to the residential component, the RMS has recently published a Technical Direction for traffic, safety and transport practitioners. This document serves to update the existing Section 3 of the RMS Guide which was originally published in October 2002. The TDT classifies Seniors Housing as Housing for aged and disabled persons and specifies the following traffic generation rates:

Daily vehicle trips = 2.1 per dwelling Peak hour vehicle trips = 0.4 per dwelling

Application of the above trip generation rates to the proposed development results in approximately 4.4 (say 5) vehicle trips, during both morning and evening peak hour.

#### **5.2.** Impact Assessment

The development is proposed on a site that currently has a peak hour traffic generation of 2.0 vehicle trips (please refer to Section 3.4 of this report for further details).

The projected traffic activity associated with the proposal indicates the site is likely to generate a peak hour traffic flow of 5 vehicle trips- representing a trip every twelve minutes or so. A comparison of the existing traffic activity with the projected traffic activity indicates that the new development will result in a negligible increase in traffic activity within the surrounding road network.

The minimal increase in traffic activity is likely to be less than the typical daily variation, which is usually 10% of the peak hourly flow. Additionally, the minimal increased traffic activity will not impact existing, and post development intersection modelling. Therefore, no formal Sidra intersection analysis has been undertaken as part of this project.

In conclusion, the proposal is likely to generate a maximum of 5.0 vehicle trips an hour - which represents an increase of 3.0 vehicle trip an hour. This increase is highly unlikely to have any detrimental impact on the operation of the surrounding road network.



# 6. Parking Provision

#### **6.1. Planning Requirements**

Typically, the on-site parking provision is calculated with the reference to the Council's planning controls (i.e. Development Control Plan and Local Environmental Plan). However, in this instance the proposed development represents a Seniors Housing project and therefore, the on-site parking requirements are determined with reference to the NSW State Environmental Planning Policy (SEPP) (SEPP Housing 2021).

In relation to Self-contained dwellings, Clause 108(j) of the SEPP (Housing 2021) specifies the following parking provision rates (for sites developed by a social housing provider):

Table 1 - SEPP Recommended On-Site Parking Provision

Description	Car Park Provision
Dwellings	1 car space for each 5 dwelling

The proposed development will accommodate 10 units comprising of the following:

- 5 x one bedroom units; and
- 5 *x* two bedroom units.

Application of the above on-site parking provision rate to the proposed development would results in two(2) car spaces.

### **6.2.** Proposed Parking Provision

The proposed on-site provision of five (5) car spaces, including two (2) disabled spaces is compliant with the requirement recommended within the SEPP (housing 2021). Therefore, the proposed on-site parking provision is considered suitable to service the proposed development and is unlikely to result in increased on-street parking.



# 7. Access Arrangements

The proposed car parking arrangement has been assessed according to the requirements listed in AS2890.1 (2004). Table 1.1 of AS2890.1 provides a classification of the off-street parking facilities based on various land uses, which is essential in determining the associated parking space dimensions. The development is proposed to be occupied by residential use. Therefore, the proposed parking provision has been assessed against the 'Type 1A' user class with a 90-degree parking space configuration (which is associated with Residential and Employee Parking). In relation to the Type 1A user class, Figure 2.2 of the AS2890.1 specifies the following parking dimensions:

- Space width 2.4 metres
- Space length 5.4 metres
- Aisle width 5.8 metres
- Shared Space (disabled bays) 2.4 metres

The proposed car park accommodates a total of five (5) parking spaces, including two(2) the disabled car spaces are located with the at-grade car park. The space dimensions were measured at a minimum of 2.4 metres wide and 5.4 metres long, with an associated aisle width exceeding 5.8 metres, thereby meeting the minimum requirements stipulated by AS2890.1.

Furthermore, the disabled car spaces were measured at a minimum of 2.4 metres wide and 5.4 metres long, with an associated shared space of 2.4 metres wide and 5.4 metres long, thereby meeting the minimum requirements stipulated by AS2890.6.

In this regard, the proposed car parking arrangement has been designed in accordance with the Australian Standard.

#### 7.1. Driveway Arrangement

As part of the proposal, all vehicular access to the site will be provided via the driveway located along Raymond Street frontage. The at-grade car park accommodating five (5) spaces. Table 3.1 & Table 3.2 of AS2890.1 specifies the width of the access driveway, which is directly proportional to the on-site parking provision and also the type of frontage road.

Taking into account the proposed driveway is located on Raymond Street (which is classified as a Local Road) and the car park has a capacity of 5 parking spaces, Table 3.1 classifies the proposed driveway as 'Category 1'. Table 3.2 subsequently recommends the driveway width should be within a range of 3.0-5.5 metres, as a combined entry and exit. The width of the proposed driveway is in excess of 3.0 metres and is therefore considered compliant with the Standard.

In order to access the driveway configuration, ParkTransit have undertaken Swept Path Analysis utilising the AutoTrack simulation software. The Swept Path Analysis was undertaken utilising the recommended vehicle type and is presented as **Attachment B**.

The swept path assessment concluded the driveway arrangement is suitable to service the Seniors Housing facility.



#### 7.2. Vehicle Access

The proposal involves provision of a new driveway to service the development. The width of the proposed driveway was measured to be 3.2 metres wide which is suitable to accommodate one-way flow.

During the morning peak hour, the proposal is likely to generate a total of 5 vehicle movements (for details please refer to Section 5.1 of this report) and would involve most of the commuting drivers exiting the site. Typically, during the morning peak period it is standard engineering practice to assume 80% of the total traffic generated from the residential development will exit the site and the remaining 20% arrives at the site. Application of the above to the projected traffic activity associated with the subject development will result in 4 vehicles exiting the site and 1 vehicle entering the site and vice versa during the evening peak period.

In this regard, the driveway generally operates as a one-way driveway and therefore in accordance with the Australian Standard (Section 3.2 of AS2890.1), a recommended minimum width of 3.0 metres is required to accommodate one-way driveway. The proposal includes the provision of a passing bay at the site entry and exit to the car park - thus minimising the need for motorists to reverse on to Raymond Street.

In this regard, the proposed access way configuration is considered adequate to service the proposed Seniors Housing development.

#### 7.3. Sight Distance

Section 3.2 of AS2890.1 specifies the recommended sight distance associated with the driveway. The sight distance requirement is prescribed in accordance with the posted speed limit along the frontage road.

The proposed residential development will be accessible via a driveway located along the Raymond Street frontage, which has a posted speed limit of 50kph.

Section 3.2 of the Standard specifies a desirable visibility distance of 69 metres, and a minimum distance of 45 metres for streets having a posted speed limit of 50kph. The proposed driveway is located on a straight section of Raymond Street with unobstructed visibility. In this regard, the driveway arrangement is considered safe and appropriate to service the proposed residential development.

#### 7.4. Driveway Location

Figure 3.1 of the Standard shown below, specifies the prohibited location for introduction of a Category 1 driveway.



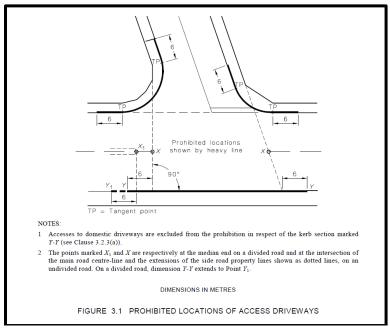


Figure 8- Prohibited Locations of Access Driveway (Source AS2890.1-2004)

A review of the proposed driveway indicate it is located well outside the prohibition zone and therefore, the proposal is considered compliant with the Standard.

#### 7.5. Servicing

As part of the proposal, all deliveries (including furniture removalist) will utilize the existing on-street parking provision available along the site frontage. This procedure is considered typical for a development of this size. The subject site is located within a predominantly residential area where on-street parking is permitted along all the local streets servicing the site. Therefore, the occasional delivery vehicle utilising on-street parking to service the development, is highly unlikely to result in any detrimental impact on the overall on-street parking provision.



#### 8. Conclusions and Recommendations

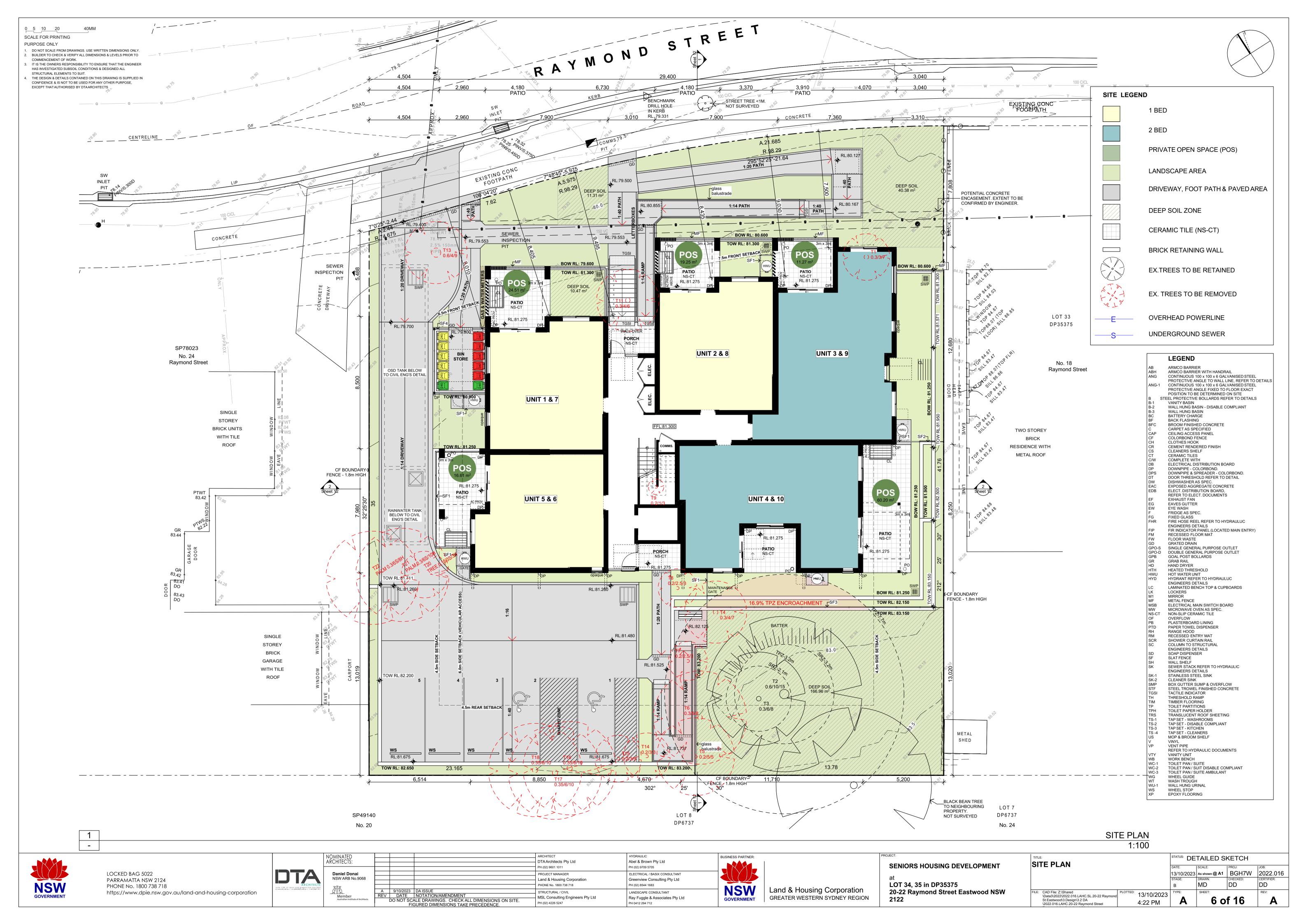
- The provision of five (5) car parking spaces, including two (2) disabled spaces, for the proposed senior residential development is considered sufficient to handle the project parking demand;
- Based on the information provided, the proposal does not generate any increase in safety risk to pedestrians or drivers as a result of the access and parking configuration;
- The proposed development will not negatively impact the current traffic conditions; and
- An assessment of the car park layout, including the proposed parking spaces and associated aisle
  width, indicate the car park layout is compliant with the relevant applicable Standards (AS2890.12004).

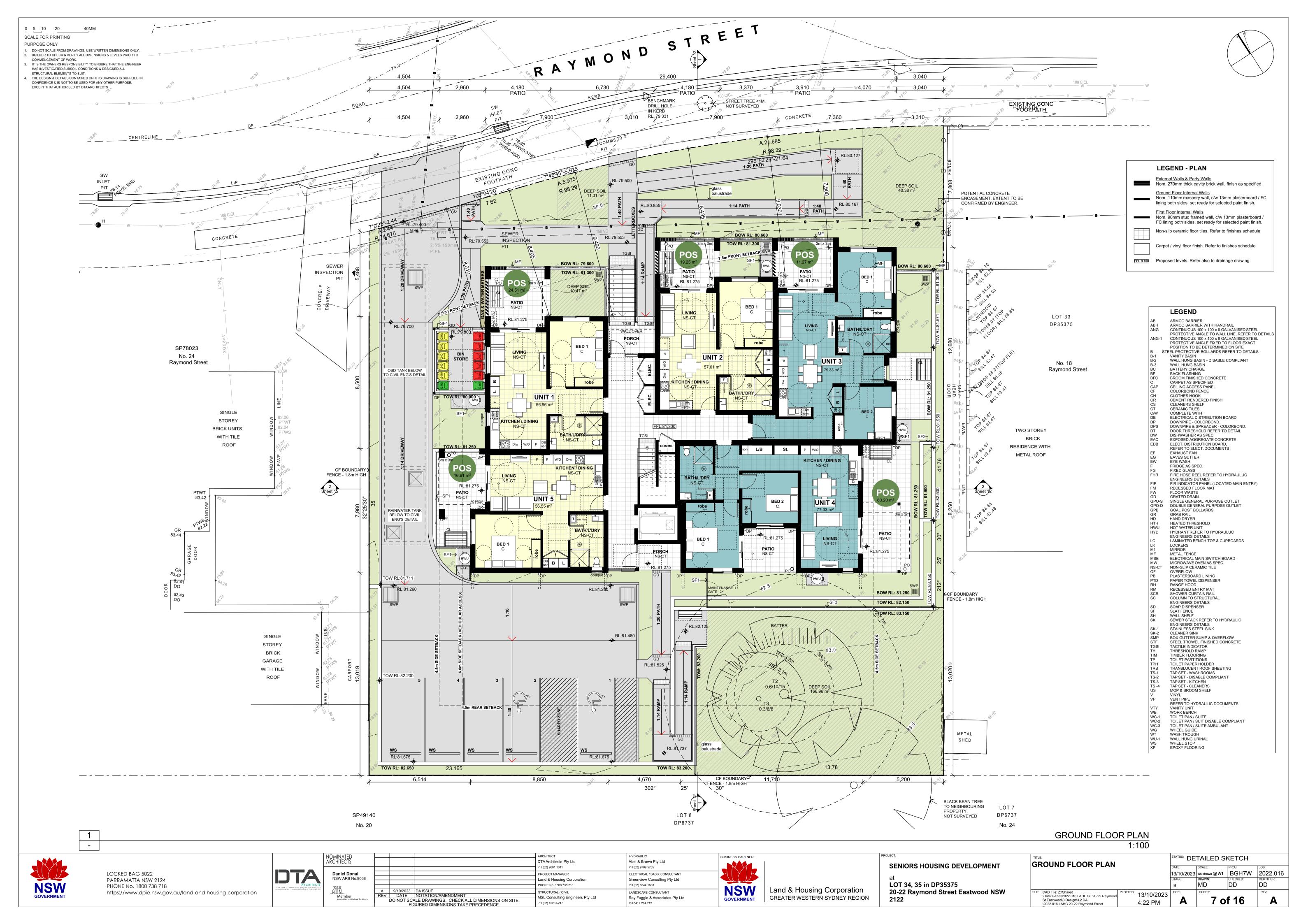
#### 9. Attachments

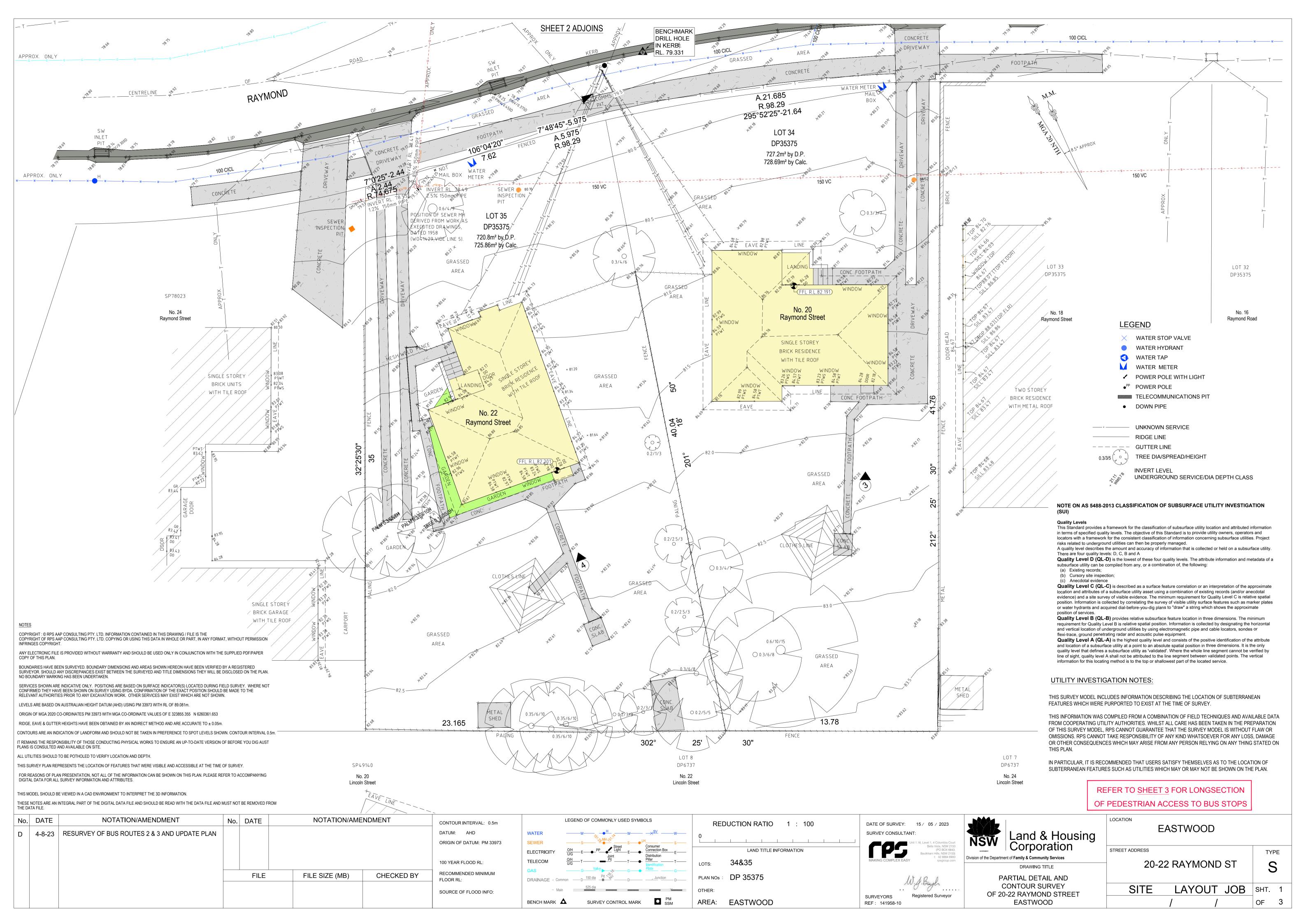
Attachment A - Architectural Plan indicating Access and Car Park Arrangement

**Attachment B - Copy of the Survey Plans** 

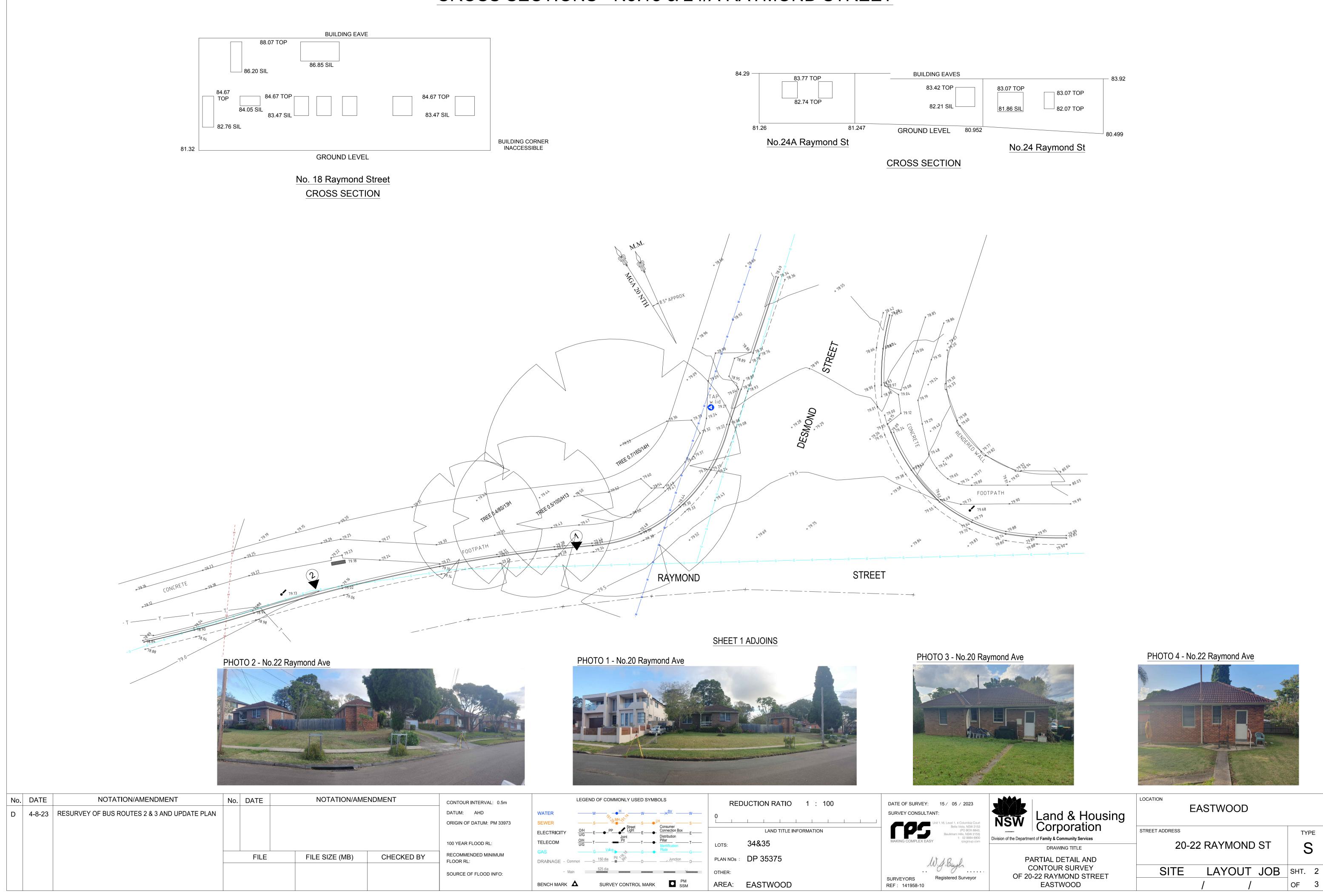
Attachment C- Swept Path Assessment Demonstrating a Standard B85th Vehicle Type Accessing the Car Park

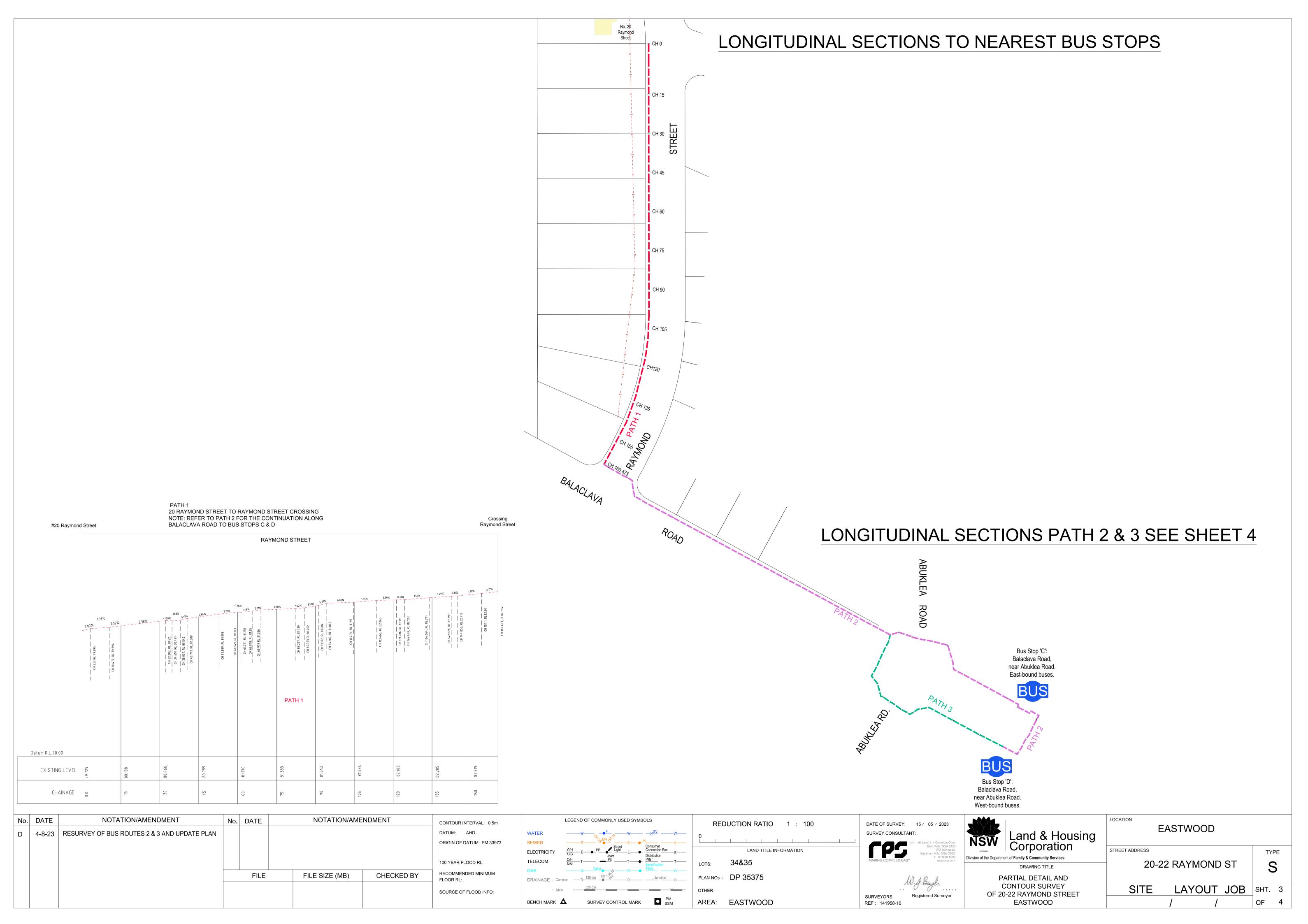




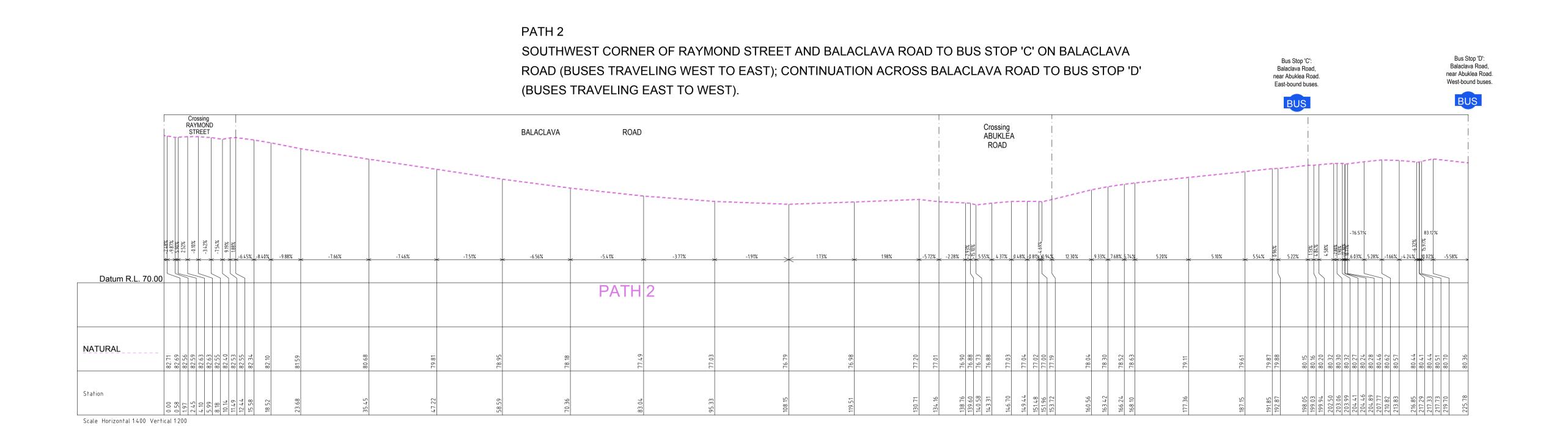


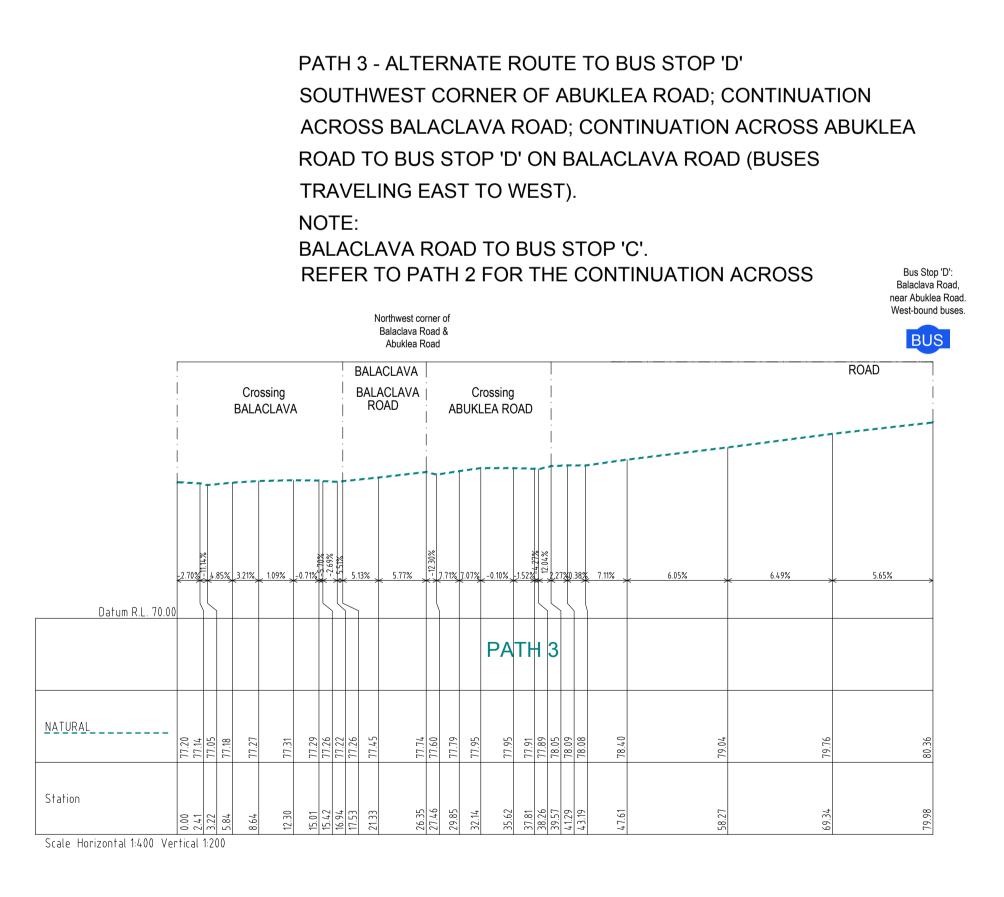
# CROSS SECTIONS - No.18 & 24/A RAYMOND STREET





# LONGITUDINAL SECTIONS TO NEAREST BUS STOPS





No. DATE	NOTATION/AMENDMENT	No. DATE	NOTATION/AME	ENDMENT	CONTOUR INTERVAL: 0.5m	LEGEND OF COMMONLY USED SYMBOLS	REDUCTION RATIO 1 : 100	DATE OF SURVEY: 15 / 05 / 2023		LOCATION	
D 4-8-23 RES	JRVEY OF BUS ROUTES 2 & 3 AND UPDATE PLAN				DATUM: AHD	WATER ————————————————————————————————————	0	SURVEY CONSULTANT:	Land & Housing	EASTWOOD	
					ORIGIN OF DATUM: PM 33973	SEWER  STreet  Consumer  Connection Box	LAND TITLE INFORMATION	Unit 1.16, Level 1, 4 Columbia Court Bella Vista, NSW 2153 (PO BOX 6843, Baulkham Hills, NSW 2153) t: 02 8884 6900	NSW Corporation	STREET ADDRESS	TYPE
					100 YEAR FLOOD RL:	TELECOM  O/H U/G  T — Pit  T — Pit  Identification	LOTS: 34&35	Baulkham Hills, NSW 2153) t: 02 8884 6900 rpsgroup.com	Division of the Department of Family & Community Services	20-22 RAYMOND ST	C
	The state of the s	RECOMMENDED MINIMUM FLOOR RL:	GAS  G  G  G  G  G  G  G  G  G  G  G  Junction  D  Juncti	PLAN NOs : DP 35375	1,5 1,0 1	PARTIAL DETAIL AND	20 22 TO (TWO NO OT	5			
					SOURCE OF FLOOD INFO:	- Main 525 dia	OTHER:	SURVEYORS Registered Surveyor	CONTOUR SURVEY OF 20-22 RAYMOND STREET	SITE LAYOUT JOB	SHT. 4
						BENCH MARK  SURVEY CONTROL MARK SSM	AREA: EASTWOOD	SURVEYORS Registered Surveyor REF: 141958-10	EASTWOOD		OF 4

