ParkTransit

TRAFFIC IMPACT ASSESSMENT – GENERAL HOUSING

50 FROST STREET AND 1 WARATAH AVENUE

26th October 2021

ParkTransit Pty Ltd
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Traffic Impact Assessment Report for General Housing 50 Frost Street and 1 Waratah Avenue For: DTA Architects Date: 26th October 2021

Version No.	Author	Reviewed by:	Date:
1	A.M.	G Caldwell	29.06.2021
2	A.M.	Client	25.08.2021
3	A.M.	Client	26.10.2021
4			

Contents

Abbreviations

Proposal:	Construction of a General Residential Housing Development
RMS:	Road and Maritime Services
DCP:	Orange Council Development Control Plan – 2004
LEP:	Orange Council's Local Environmental Plan – 2011
SEPP:	NSW State Environmental Planning Policy (Affordable Rental Housing) 2009;
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 Development Application process for the construction of a General Housing development located at 50 Frost Street and 1 Waratah Avenue, Orange, within Orange Council LGA.

The proposed development will accommodate a total of 6 residential units with associated parking provided within the at-grade level car park within the site boundary.

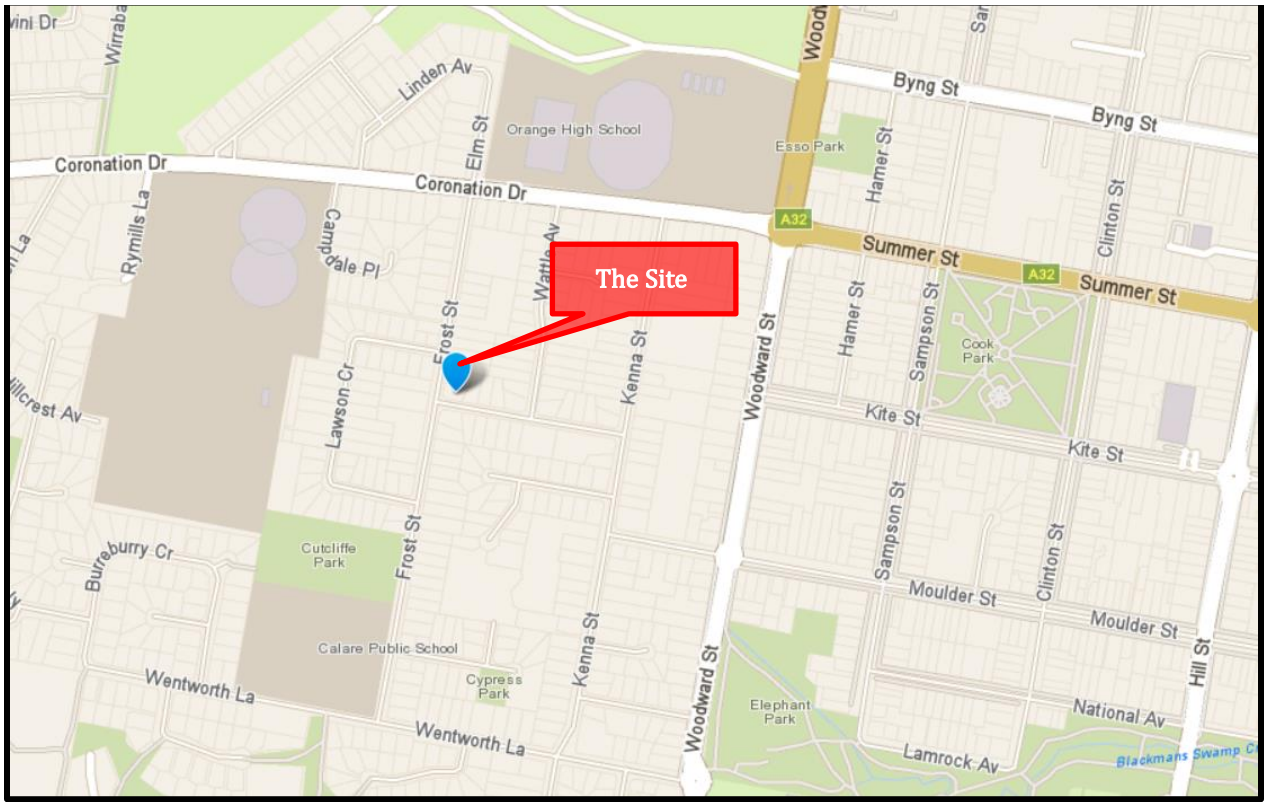


Figure 1-Site Location (Source Whereis Maps)

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:

- Orange Local Environmental Plan 2011 (SLEP 2011);
- Orange Council Development Control Plan (DCP 2004);
- The Road and Maritime Services Guide to Traffic Generating Development;
- NSW State Environmental Planning Policy (Affordable Rental Housing) 2009;
- 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 50 Frost Street and 1 Waratah Avenue in a predominantly residential area and forms part of the Orange Council LGA. The site is located on the north east corner of Waratah Avenue and Frost Street. and occupies an area of 1,650m^2.

The site occupies Lot 5 and Lot 6 of DP36132 and has frontages located along Waratah Avenue and Frost Street. The site is bordered by residential development to the North and East, Waratah Avenue to the South and Frost Street to the East. It has frontages measuring 24.38m and 38.71m located on Waratah Avenue and Frost Street respectively.

The site is occupied by two single storey dwelling houses. Each of the dwelling houses is serviced by a dedicated driveway (located on Frost Street frontage) resulting in a total of two driveways servicing the subject site.

Figure 2-The Site (Source NSW Imagery-NearMap)

A site visit was undertaken on 17th June 2021 to observe the operation of the existing road network and the site photographs are presented below:

Photo taken on Frost Street looking towards Waratah Avenue

Photo taken on Frost St looking towards the Driveway Servicing 1 Waratah Avenue

The following map shows the hierarchy of the surrounding road network as classified by Road and Maritime Services (RMS).

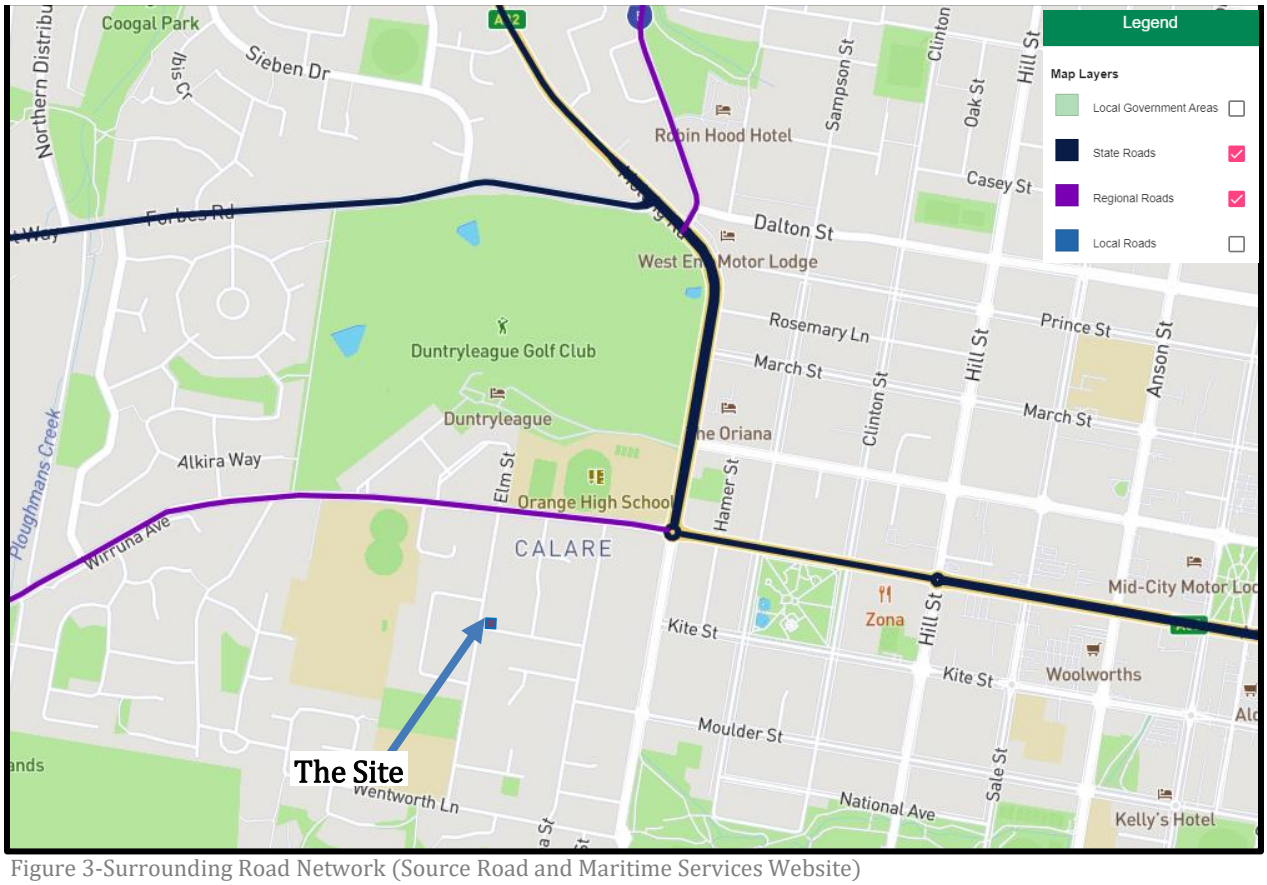


Figure 3-Surrounding Road Network (Source Road and Maritime Services Website)

3. Overview of the Existing Traffic Conditions

3.1. Description of Road Environment

Summer Street is classified as a State Road and connects Orange with Mitchell Highway. It follows an east-west alignment, and the carriageway is divided and comprises two traffic lanes in each direction with on-street parking permitted. A paved footpath is available on both sides and has a posted speed limit of 50kph. A number of properties comprising both retail and residential have their frontages located along the Summer Street and these properties are accessible via the driveways located along Summer Street.

Coronation Drive follows an east-west alignment and is classified as a Regional Road. It connects Cargo Road with Summer Street, and the carriageway is undivided and comprises one traffic lane in each direction with on-street parking permitted. A paved footpath is available on both sides and has a posted speed limit of 50kph. A number of properties have their frontages located along Coronation Drive and these properties are accessible via the driveways located along Coronation Drive.

Frost Street is classified as a Local Road and follows a north-south alignment. The carriageway is undivided and comprises one traffic lane in each direction with on-street parking permitted. The intersection of Coronation Drive with Frost Street operates as a priority-controlled intersection with vehicles travelling along Coronation Drive having priority over vehicles travelling along the Frost Street. A paved footpath is available on the eastern side of Frost Street and has a posted speed limit of 50kph. Frost Street provides primary vehicular access to the subject site.

Waratah Avenue 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 Waratah Avenue with Frost Street operates as a priority-controlled intersection with vehicles travelling along Frost Street having priority over the vehicles travelling along Waratah Avenue.

3.2. Public Transport

The site has limited access to public transport. The nearest bus stop is located approximately 400m south of the subject site. Bus services within vicinity of the development site are operated by Orange Busline Buses Company and are summarised below:

Route No 534 is a limited bus service operating Monday-Saturday between Orange City Centre and Warrendine. It operates from 07:30am to 6:00pm, with a total of 9 services throughout the day. Bus services can be accessed via the bus stop located along Frost Street south of Cypress Street.

Route No 535 is a limited bus service operating Monday-Saturday between Orange City Centre and Calare. It operates from 07:30am to 6:00pm, with a total of 8 services throughout the day. Bus services can be accessed via the bus stop located along Coronation Drive east of Wattle Avenue.

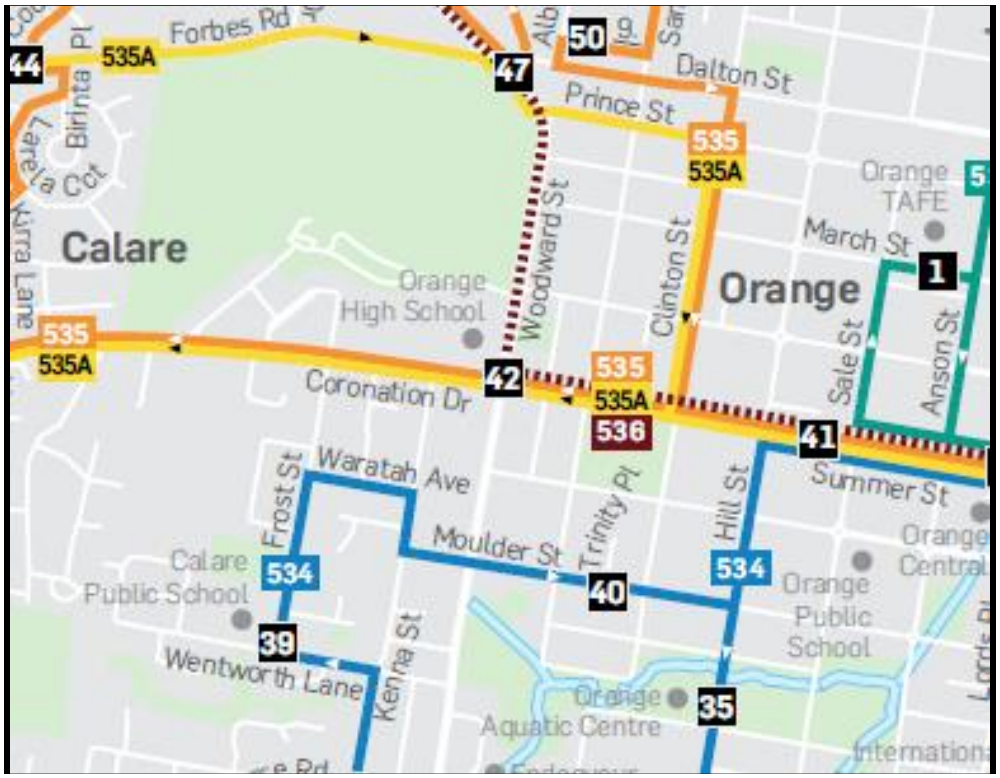


Figure 4- Route Map –Bus Route 534 (Source Orange Busline Website)

3.3. Pedestrian Access to the Bus Stop

Bus services are accessible via the bus stops located along Frost Street south of Cypress Street and Coronation Drive east of Wattle Avenue. The location of the existing bus stops are shown in the figure below.

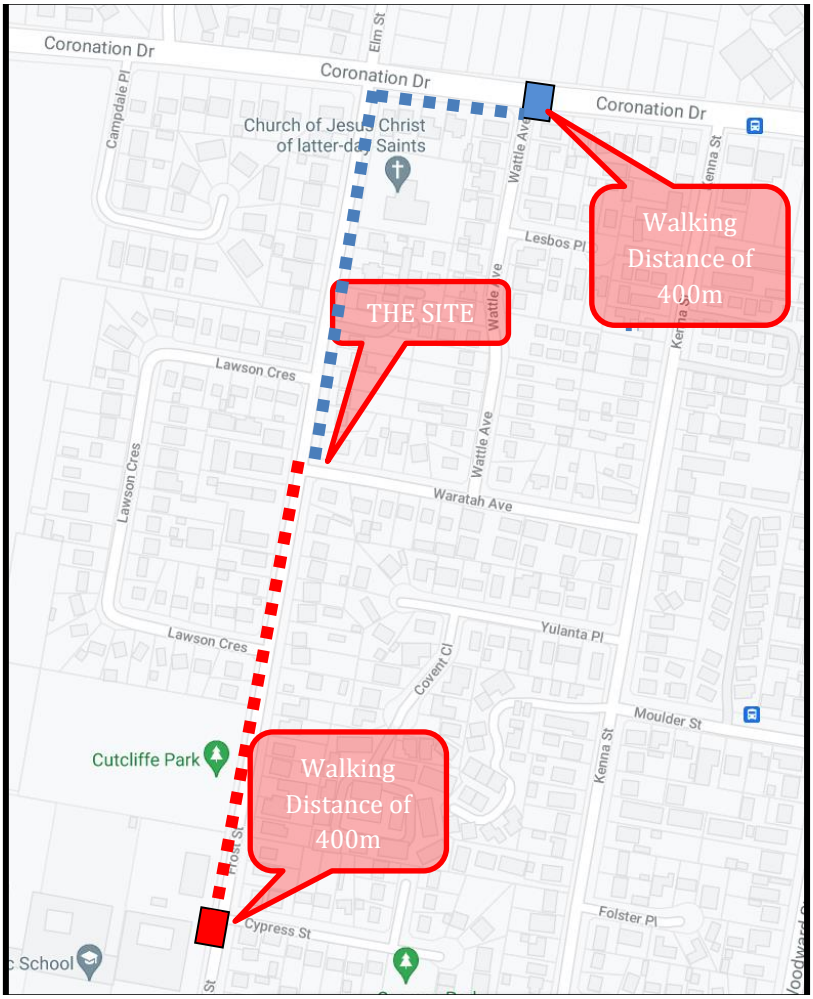


Figure 5- Bus Stop Location Plan (Source Google Maps)

In relation to providing accessibility to/from a General Housing development, Section 6 of the SEPP defines accessible areas as the following:

> *4(1)(c) 400 metres walking distance of a bus stop used by a regular bus service (within the meaning of the Passenger Transport Act 1990) that has at least one bus per hour servicing the bus stop between 06.00 and 21.00 each day from Monday to Friday (both days inclusive) and between 08.00 and 18.00 on each Saturday and Sunday.*

This bus stops are located at approximately 400m from the site, however these buses do not operate between 06.00 and 21.00 each day from Monday to Friday (both days inclusive) and between 08.00 and 18.00 on each Saturday and Sunday, nor have one bus service per hour. In this regard, the subject site is located outside accessible areas.

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 two (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 2015-2019 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.

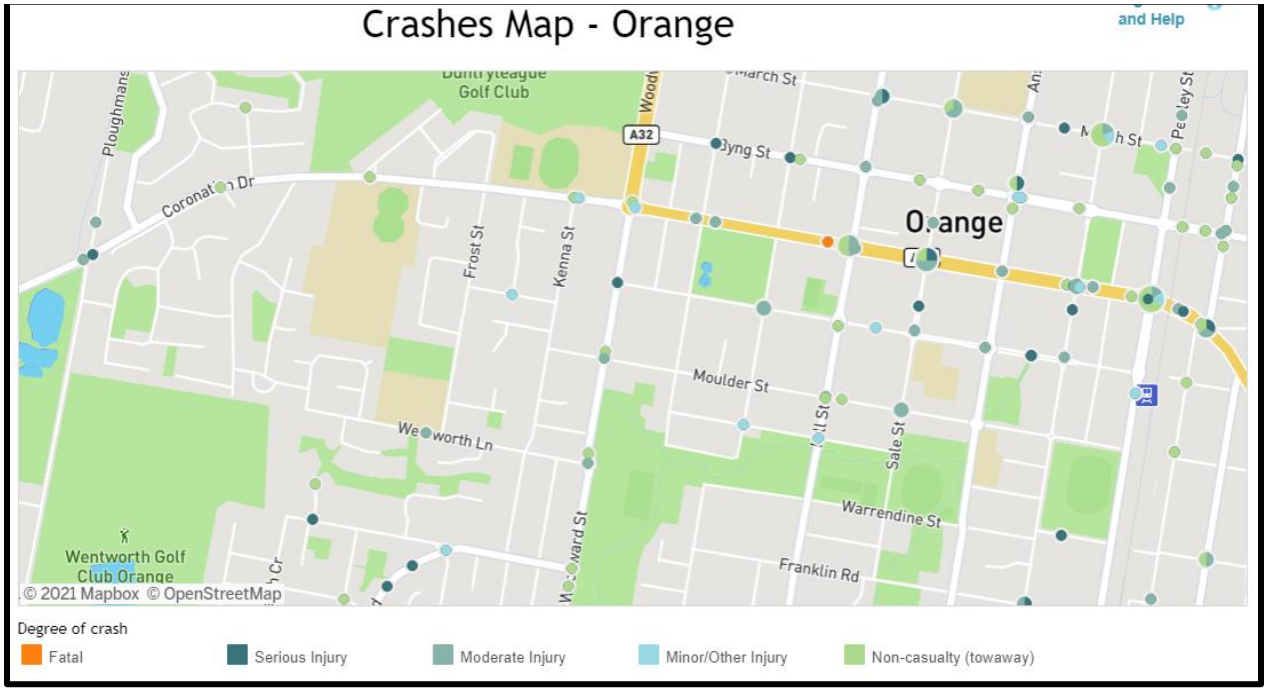


Figure 7 - Crash data (Source NSW Centre for Road Safety)

4. Description of the Proposed Development

The development proposal involves the construction of a 1-2 storey General Housing development that will accommodate a total of six (6) residential units comprising the following:

- Four *x* one-bedroom units; and
- Two *x* two-bedroom units.

As part of the proposal, an on-site parking provision of four (4) car spaces, including one adaptable space, will be provided. The proposed car park will be accessible via the combined entry and exit driveway located on the Frost Street frontage. The proposed General 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**.

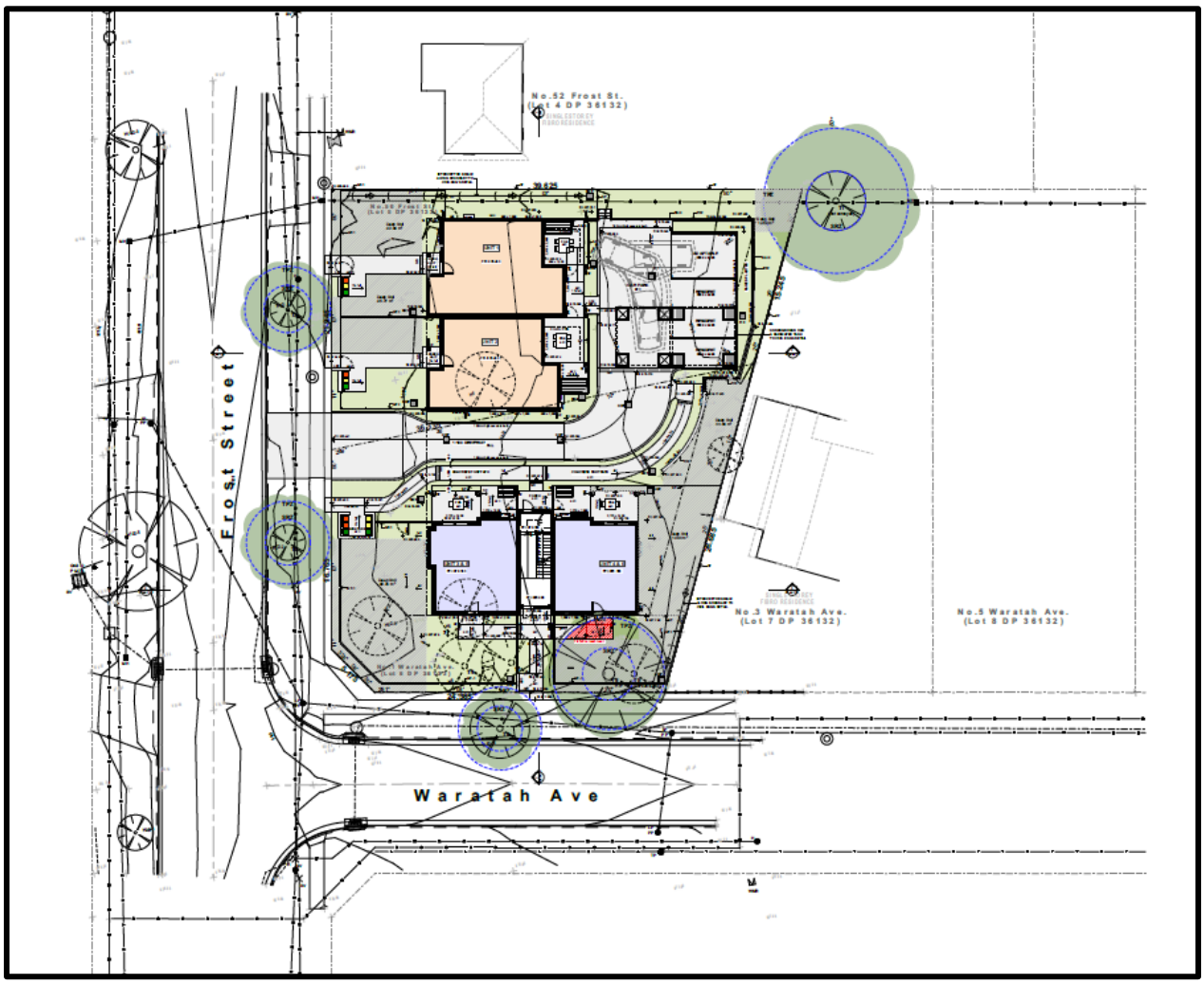


Figure 8 – Proposed Site Plan (Source DTA Architects) ` ``.

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 General Housing development that will accommodate a total of six (6) residential units.

RMS Guide identifies the proposed residential development as medium density residential building. Section 3.3.2 of the RMS Guide specifies the following traffic generation rates:

Daily vehicle trips = 4-5 per dwelling
Peak hour vehicle trips = 0.4 -0.5 per dwelling

Application of the above trip generation rates to the proposed development results in approximately 2.4-3.0 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 3.0 vehicle trips- representing a trip every 20 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 3.0 vehicle trips an hour - which represents an increase of 1.0 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 is being developed by a social housing provider (i.e. NSW Land and Housing Corporation) and therefore, the on-site parking requirements are determined with reference to the NSW State Environmental Planning Policy (Affordable Rental Housing 2009).

In relation to Self-contained dwellings, Clause 40 of the SEPP (Affordable Rental Housing) specifies the following parking provision rates (for sites located outside accessible zone and developed by a social housing provider):

Table 1 – SEPP Recommended On-Site Parking Provision (Affordable Rental Housing 2009)

Description	Car Park Provision
One bedroom	0.5 car spaces for each dwelling
Two bedroom	1.0 car space for each dwelling

The proposed development will accommodate 6 units comprising of the following:

- Four *x* one bedroom units; and
- Two *x* two bedroom units.

Table below presents parking provision rates in accordance with SEPP (Affordable Rental Housing 2009).

Description	No. of Units	SEPP (Affordable Rental Housing 2009)	
		Rates	No. of Car Spaces
One Bedroom Unit	4	0.5 spaces per unit	2.0
Two Bedroom Unit	2	1.0 space per unit	2.0
Total No. of Car Spaces	**6**		**4.0**

6.2. Proposed Parking Provision

The proposed on-site provision of four (4) car spaces, including one adaptable space, is compliant with the requirement recommended within the SEPP for Affordable Rental housing. 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

The proposed car park accommodates a total of four (4) parking spaces. 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. 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 a new combined entry/exit driveway located along Frost Street frontage. 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 existing driveway is located on Frost Street (which is classified as a Local Road) and the car park has a capacity of 4 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.

Additionally, 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**.

7.2. Vehicle Access

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 3 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 boarding house 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 2 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.

In this regard, the proposed access way configuration, including the waiting bay at the site entry and exit to the car park, is considered adequate to service the proposed General 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 Frost 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 Frost 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.

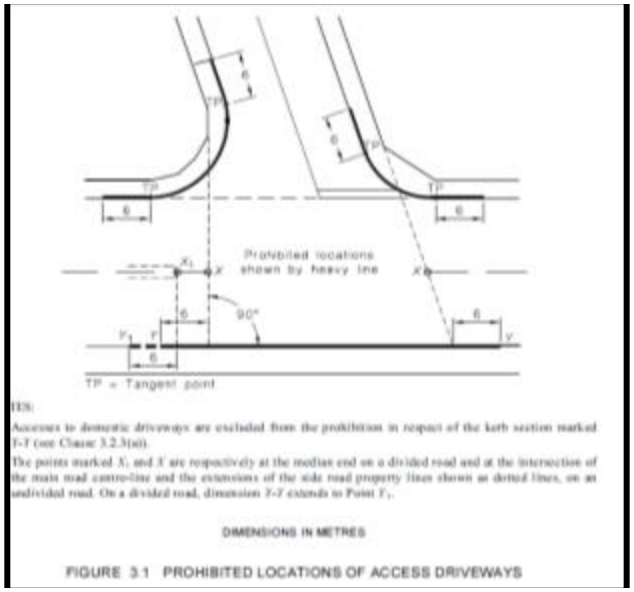


Figure 9- Prohibited Locations of Access Driveway (Source AS2890.1-2004)

A review of the proposed driveway indicates the driveway 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 four (4) car parking spaces, including one adaptable space, for the proposed 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 (AS2890.1-2004).

9. Attachments

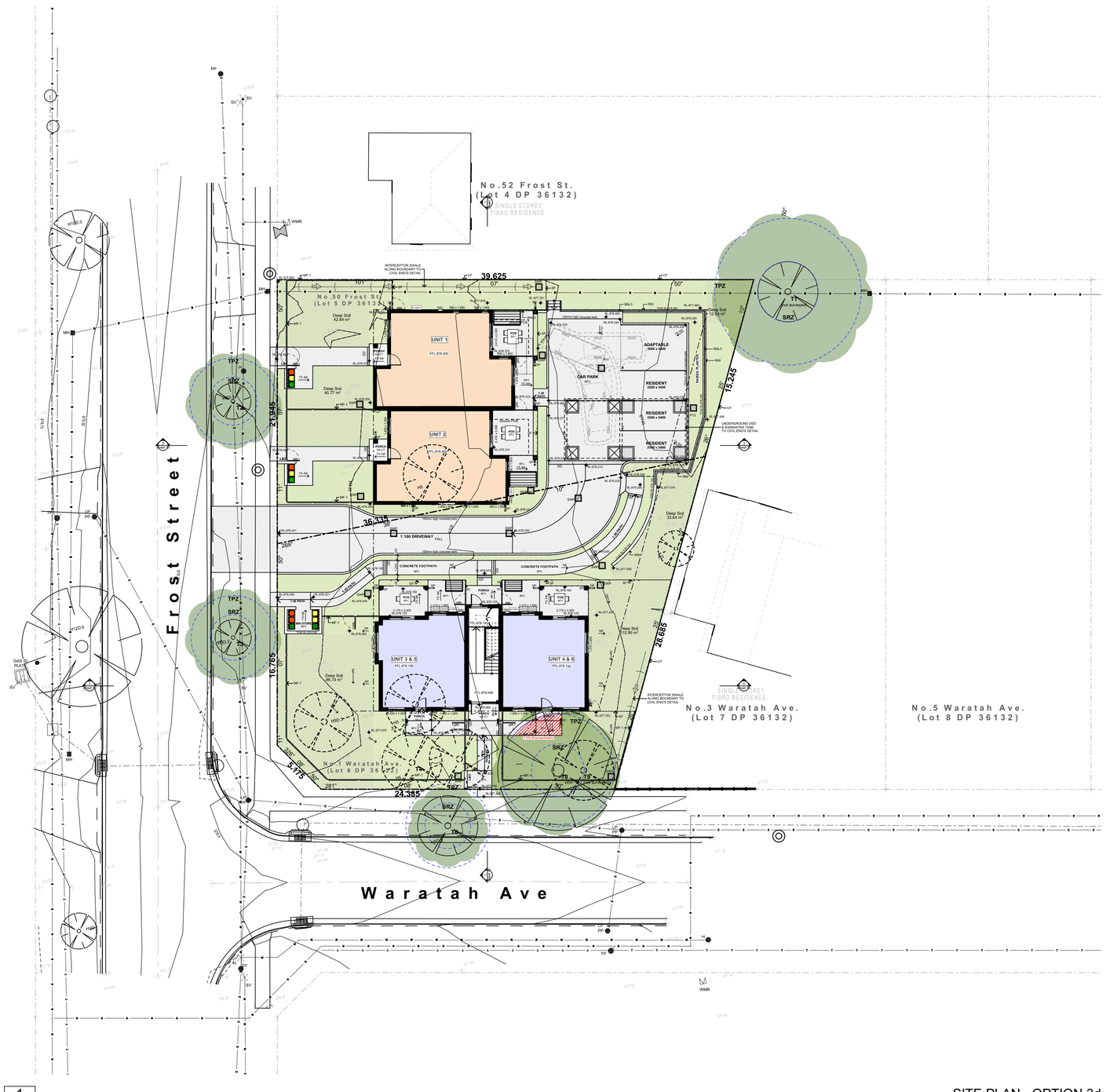
Architectural Plan indicating Access and Car Park Arrangement

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

0 5 10 20 40MM

SCALE FOR PRINTING PURPOSE ONLY

1. DO NOT SCALE FROM DRAWINGS. USE WRITTEN DIMENSIONS ONLY.
2. BUILDER TO CHECK & VERIFY ALL DIMENSIONS & LEVELS PRIOR TO COMMENCEMENT OF WORK.
3. IT IS THE OWNERS RESPONSIBILITY TO ENSURE THAT THE ENGINEER HAS INVESTIGATED SUBSOIL CONDITIONS & DESIGNED ALL STRUCTURAL ELEMENTS TO SUIT.
4. THE DESIGN & DETAILS CONTAINED ON THIS DRAWING IS SUPPLIED IN CONFIDENCE & IS NOT TO BE USED FOR ANY OTHER PURPOSE, EXCEPT THAT AUTHORISED BY DTAARCHITECTS



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SITE PLAN - OPTION 3d
1:200

PLANT SCHEDULE

REFER TO LANDSCAPE PLAN

Code	Latin Name (Common Name - Mature Height)
Trees	
E	Elaeocarpus reticulatus (Blue berry ash - 8m)
F	Fraxinus griffithsii (Evergreen ash - 5m)
M	Pyrus calleryana 'Chanticleer' (Callery Pear - 10m)
L	Lagerstroemia indica 'Natchez' (Crepe myrtle - 5m)
P	Pistachio chinensis (Chinese pistachio - 10m)
Shrubs	
Bsf	Buxus sempervirens sufruticosa (Dwarf Box - 1m)
Bx	Buxus microphylla 'Japonica' (Box - 1m)
Cs	Camellia sasanqua (Sasanqua - 3m)
Cbj	Callistemon 'Better John' (Dwarf Bottlebrush - 1m)
Cci	Casuarina 'Cousin it' (Prostrate casuarina - 0.3m)
Cma	Callistemon 'Macarthur' (Bottlebrush - 1.8m)
Cwa	Callistemon 'White Anzac' (White Bottlebrush - 1.5m)
Gpc	Grevillea 'Peaches & Cream' (Grevillea - 1.5m)
Gry	Grevillea Rhyolitica (Deua Grevillea - 1.5m)
Gd	Gardenia augusta 'florida' (gardenia - 1.2m)
Hyl	Hymenosporum flavum 'Lushious' (Native frangipani - 0.5m)
Lc	Leptospermum 'Cardwell' (Dwarf Tea Tree - 2m)
Mbg	Melaleuca bracteata revolution green (Bracelet myrtle - 3m)
Mt	Melaleuca thymifolia (Rock Myrtle - 1m)
Mct	Melaleuca 'Claret Topp' (Paperbark - 1.2m)
Ngs	Nandina 'Gulf Stream' (Nandina - 0.4m)
Prr	Photinia 'Red Robin' (Photinia - 2.5m)
Px	Philodendron xanadu (Dwarf philodendron - 0.5m)
Rxm	Raphiolepis 'Snow maidens' (Indian hawthorne - 0.75m)
Rp	Raphiolepis 'Oriental Pearl' (Dwarf Indian hawthorne - 1m)
Sre	Syzygium australe 'Resilience' (Lilly Pilly - 3m)
Wwj	Westringia 'Wynyabbie gem' (Coastal rosemary - 2m)
Groundcovers	
Cm	Clivea miniata (Kaffir lilly - 0.5m)
Hs	Hibbertia scandens (Guinea flower - climber)
Lrg	Liriope 'Evergreen Giant' (Giant liriope - 0.5m)
Lt	Lomandra longifolia 'Tanika' (Fine leaf dwarf lomandra - 0.6m)
My	Myoporum parvifolium (Creeping Boobiala - 0.2m)
Tj	Trachelospermum jasminoides (Star jasmine - 0.3m)

LEGEND

AB	ARMCO BARRIER
ABH	ARMCO BARRIER WITH HANDRAIL
ANG	CONTINUOUS 100 x 100 x 6 GALVANISED STEEL PROTECTIVE ANGLE TO WALL LINE, REFER TO DETAILS
ANG-1	CONTINUOUS 100 x 100 x 6 GALVANISED STEEL PROTECTIVE ANGLE FIXED TO FLOOR EXACT POSITION TO BE DETERMINED ON SITE
B	STEEL PROTECTIVE BOLLARDS REFER TO DETAILS
B-1	VANITY BASIN
B-2	WALL HUNG BASIN - DISABLE COMPLIANT
B-3	WALL HUNG BASIN
BC	BATTERY CHARGE
BF	BACK FLASHING
BFC	BROOM FINISHED CONCRETE
BS	BATTEN PRIVACY SCREEN
C	CARPET AS SPECIFIED
CAP	CEILING ACCESS PANEL
CF	1.8M HIGH COLORBOND FENCE
CL	CLOTHES LINE
CH	CLOTHES HOOK
CR	CEMENT RENDERED FINISH
CS	CLEANERS SHELF
CT	CERAMIC TILES
C/W	COMPLETE WITH
DB	ELECTRICAL DISTRIBUTION BOARD
DP	DOWNPIPE - COLORBOND.
DPS	DOWNPIPE & SPREADER - COLORBOND.
DT	DOOR THRESHOLD REFER TO DETAIL
DW	DISHWASHER AS SPEC.
EAC	EXPOSED AGGREGATE CONCRETE
EDB	ELECT. DISTRIBUTION BOARD. REFER TO ELECT. DOCUMENTS
EF	EXHAUST FAN
EG	EAVES GUTTER
EW	EYE WASH
F	FRIDGE AS SPEC.
FG	FIXED GLASS
FHR	FIRE HOSE REEL REFER TO HYDRAULUC ENGINEERS DETAILS
FIP	FIR INDICATOR PANEL (LOCATED MAIN ENTRY)
FM	RECESSED FLOOR MAT
FW	FLOOR WASTE
GD	GRATED DRAIN
GPO-S	SINGLE GENERAL PURPOSE OUTLET
GPO-D	DOUBLE GENERAL PURPOSE OUTLET
GPB	GOAL POST BOLLARDS
GR	GRAB RAIL
HD	HAND DRYER
HTH	HEATED THRESHOLD
HWU	HOT WATER UNIT
HYD	HYDRANT REFER TO HYDRAULUC ENGINEERS DETAILS
LC	LAMINATED BENCH TOP & CUPBOARDS
LK	LOCKERS
M1	MIRROR
MF-1	1M HIGH METAL FENCE
MSB	ELECTRICAL MAIN SWITCH BOARD
MW	MICROWAVE OVEN AS SPEC.
NS-CT	NON-SLIP CERAMIC TILE
OF	OVERFLOW
PB	PLASTERBOARD LINING
PTD	PAPER TOWEL DISPENSER
RH	RANGE HOOD
RM	RECESSED ENTRY MAT
SCR	SHOWER CURTAIN RAIL
SC	COLUMN TO STRUCTURAL ENGINEERS DETAILS
SD	SOAP DISPENSER
SF	1.8M HIGH SLAT SCREEN FENCE
SH	WALL SHELF
SK	SEWER STACK REFER TO HYDRAULIC ENGINEERS DETAILS
SK-1	STAINLESS STEEL SINK
SK-2	CLEANER SINK
SMP	BOX GUTTER SUMP & OVERFLOW
STF	STEEL TROWEL FINISHED CONCRETE
SRZ	STRUCTURAL ROOT ZONE
TPZ	TREE PROTECTION ZONE
TGSI	TACTILE INDICATOR
TH	THRESHOLD RAMP
TIM	TIMBER FLOORING
TP	TOILET PARTITIONS
TPH	TOILET PAPER HOLDER
TRS	TRANSLUCENT ROOF SHEETING
TS-1	TAP SET - WASHROOMS
TS-2	TAP SET - DISABLE COMPLIANT
TS-3	TAP SET - KITCHEN
TS -4	TAP SET - CLEANERS
US	MOP & BROOM SHELF
V	VINYL
VP	VENT PIPE REFER TO HYDRAULIC DOCUMENTS
VTY	VANITY UNIT
WB	WORK BENCH
WC-1	TOILET PAN / SUITE
WC-2	TOILET PAN / SUIT DISABLE COMPLIANT
WC-3	TOILET PAN / SUITE AMBULANT
WG	WHEEL GUIDE
WT	WASH TROUGH
WU-1	WALL HUNG URINAL
WS	WHEEL STOP
XP	EPOXY FLOORING

Legend - Site

- Extent of site boundary
- Proposed 1 bed dwelling
- Proposed 2 bed dwelling
- Landscape area
- Footpath, Driveway and Car Park area
- Deep soil zone
- Ceramic Non-Slip Tiles
- Existing trees to remain. Refer also to Arborist report
- Existing trees to be removed. Refer also to Arborist report
- SWP — Stormwater pit. Refer also to drainage drawing
- RL 9.10 — Existing level. Refer also to survey
- RL 9.10(x) — Proposed levels. Refer also to drainage drawing

LEGEND - PLAN

- Ground Floor External Walls and Party Walls: Nom. 270mm thick cavity brick wall, finish as specified
- First Floor External Wall: Nom. 240mm thick brick veneer wall, finish as specified
- Ground Floor Internal Walls: Nom. 110mm masonry wall, c/w 13mm plasterboard / FC lining both sides of framing, set ready for selected paint finish.
- First Floor Internal Walls: Nom. 90mm stud framed wall, c/w 13mm plasterboard / FC lining both sides of framing, set ready for selected paint finish.
- Non-slip ceramic floor tiles. Refer to finishes schedule
- Ceramic floor tiles. Refer to finishes schedule
- Carpet / vinyl floor finish. Refer to finishes schedule
- FFL 9.100 — Proposed floor levels.

BASIX REQUIREMENTS

- Shower to have a min rating of 4 stars (>4.5 but <=6.0 L/min)
- Toilet flushing system to have a min rating of 4 stars
- Taps for kitchens and bathrooms to have a min rating of 5 stars
- Hot water units to be gas instantaneous system with a min rating of 4 stars
- Provide gas cooktop and electric oven to all units
- Provide ceiling fan to main bedroom and living room to all units

Common Areas:
- Rainwater tank to be a min of 15000 Litres and be of a central rain water tank, collecting a min of 400sqm of roof area. Landscape connection to all ground floor units and common landscaped area. Toilet and Laundry connection to all units
- Solar panels to be provided with a min electrical output of 0.4 peak kW

NatHERS Thermal Performance Specification - Orange

External Walls

Wall Type	*Insulation*	*Colour*	*Comments*
Brick Veneer	R2.7	Med - SA 0.475 - 0.70	Units 1, 2, 5 & 6 as per the elevations
Cavity Brick	R1.4	Med - SA 0.475 - 0.70	Units 3 & 4 as per the elevations
FC Sheeting	R2.7	Dark - SA > 0.70	All units as per the elevations
Metal Clad	R2.7	Dark - SA > 0.70	All units as per the elevations
SA - Solar Absorptance			

Internal Walls

Wall Type	*Insulation*	*Comments*
Plasterboard Stud	None	Internally in units 1, 2 5 & 6 except below
Plasterboard Stud	R1.5	Bathroom wall of unit 2
Single skin Brick	None	Internally in units 3 & 4
Cavity Brick	None	Party walls between units
Cavity Brick	None	Shared walls with lobby/stairs/lift

Floors

Floor Type	*Insulation*	*Comments*
Concrete slab on ground	None	Ground Level
Concrete	None	Level 1

Ceilings

Ceiling Type	*Insulation*	*Comments*
Plasterboard	R2.7	All exposed ceiling throughout except for unit 2
Plasterboard	R3.5	Exposed ceiling of unit 2

Insulation loss due to downlights has not been modelled in this assessment. A sealed exhaust fan has been included in every kitchen, bathroom, laundry and ensuite.

Roof

Roof Type	*Insulation*	*Colour*	*Comments*
Metal	R1.3 foil-faced blanket	Light - SA < 0.475	All exposed roof throughout
SA - Solar Absorptance			

Glazing

Opening type	*U-Value*	*SHGC*	*Glazing & Frame Type*
Sliding + Fixed	4.3	0.53	e.g. Single glazed ComfortPlus clear Aluminium Frame
Awning	4.3	0.47	e.g. Single glazed ComfortPlus clear Aluminium Frame

U and SHGC values are based on the AFRC Default Windows Set. Glazing systems to be installed must have an equal or lower U value and a SHGC value ± 10% of the above specified values.

Skylights

Skylight Type	*Frame Type*	*Comments*
Fixed	Timber & Aluminium	U1

Planning, Industry & Environment
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NOMINATED ARCHITECTS:
Daniel Donai
NSW ARB No.9068
Member Australian Institute of Architects

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BUSINESS PARTNER: Planning, Industry & Environment, Land & Housing Corporation, GREATER WESTERN SYDNEY REGION

REV	DATE	NOTATION/AMENDMENT
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P2	19/07/2021	UPDATED SKETCH ISSUE

DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE.

PROJECT: GENERAL HOUSING at LOT 5 & 6 in DP 36132, 1 WARATAH AVENUE & 50 FROST STREET, ORANGE NSW

TITLE: SITE PLAN

STATUS: DEVELOPMENT ASSESSMENT

DATE:	SCALE:	PROJ:	JOB:
25/10/2021	As shown @ A1	BGXUP	2021.009
STAGE: C	DRAWN: SD	CHECKED: DD	CERTIFIER: DD

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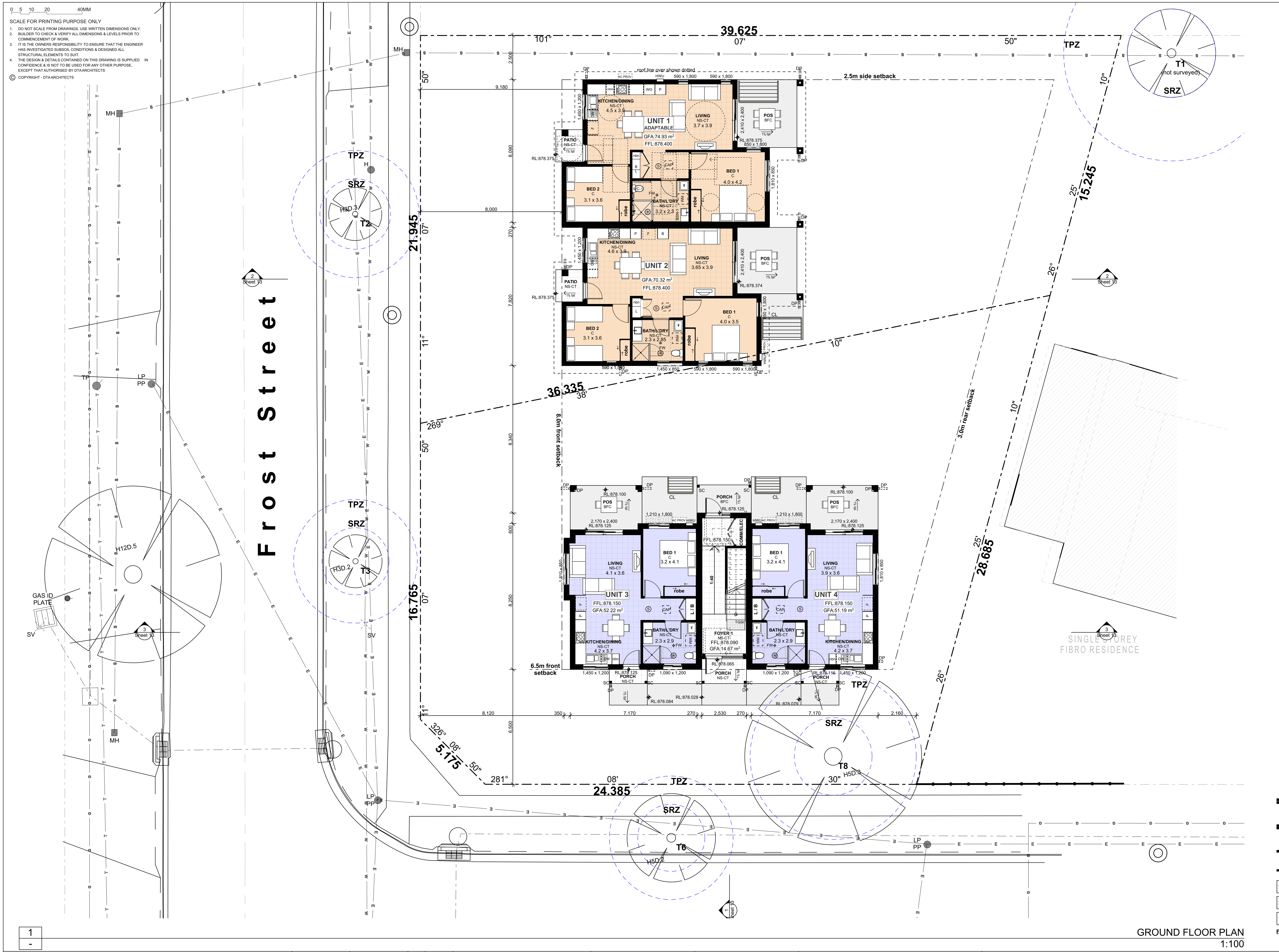
PLOTTED: 25/10/2021 12:41 AM

TYPE: A | SHEET: 6 of 16 | REV: P7



LEGEND

AB	ARMCO BARRIER
ABH	ARMCO BARRIER WITH HANDRAIL
ANG	CONTINUOUS 100 x 100 x 6 GALVANISED STEEL PROTECTIVE ANGLE TO WALL LINE, REFER TO DETAILS
ANG-1	CONTINUOUS 100 x 100 x 6 GALVANISED STEEL PROTECTIVE ANGLE FIXED TO FLOOR EXACT POSITION TO BE DETERMINED ON SITE
B	STEEL PROTECTIVE BOLLARDS REFER TO DETAILS
B-1	VANITY BASIN
B-2	WALL HUNG BASIN - DISABLE COMPLIANT
B-3	WALL HUNG BASIN
BC	BATTERY CHARGE
BF	BACK FLASHING
BFC	BROOM FINISHED CONCRETE
BS	BATTEN PRIVACY SCREEN
C	CARPET AS SPECIFIED
CAP	CEILING ACCESS PANEL
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EDB	ELECT. DISTRIBUTION BOARD, REFER TO ELECT. DOCUMENTS
EF	EXHAUST FAN
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FHR	FIRE HOSE REEL REFER TO HYDRAULUC ENGINEERS DETAILS
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LC	LAMINATED BENCH TOP & CUPBOARDS
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NS-CT	NON-SLIP CERAMIC TILE
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LEGEND - PLAN

Ground Floor External Walls and Party Walls: Nom. 270mm thick cavity brick wall, finish as specified

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Non-slip ceramic floor tiles. Refer to finishes schedule

Ceramic floor tiles. Refer to finishes schedule

Carpet / vinyl floor finish. Refer to finishes schedule

FFL 0.000 Proposed floor levels.

1 / -

GROUND FLOOR PLAN
1:100

NSW Planning, Industry & Environment

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DTA ARCHITECTS

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P2	19/07/2021	INITIAL SKETCH ISSUE

DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE.

ARCHITECT: DTA ARCHITECTS Pty Ltd, PH (02) 9601 1011
PROJECT MANAGER: LAND & HOUSING CORPORATION, PH (02) 9354 1880
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GREATER WESTERN SYDNEY REGION

PROJECT:
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at
LOT 5 & 6 in DP 36132
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TITLE:
GROUND FLOOR PLAN

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DATE: 25/10/2021	SCALE: As shown @ A1	PROJ: BGXUP	JOB: 2021.009
STAGE: C	DRAWN: SD	CHECKED: DD	CERTIFIER: DD
TYPE: A	SHEET: 7 of 16		REV: P7

0 5 10 20 40MM

SCALE FOR PRINTING PURPOSE ONLY

1. DO NOT SCALE FROM DRAWINGS. USE WRITTEN DIMENSIONS ONLY.
2. BUILDER TO CHECK & VERIFY ALL DIMENSIONS & LEVELS PRIOR TO COMMENCEMENT OF WORK.
3. IT IS THE OWNERS RESPONSIBILITY TO ENSURE THAT THE ENGINEER HAS INVESTIGATED SUBSOIL CONDITIONS & DESIGNED ALL STRUCTURAL ELEMENTS TO SUIT.
4. THE DESIGN & DETAILS CONTAINED ON THIS DRAWING IS SUPPLIED IN CONFIDENCE & IS NOT TO BE USED FOR ANY OTHER PURPOSE, EXCEPT THAT AUTHORISED BY DTAARCHITECTS

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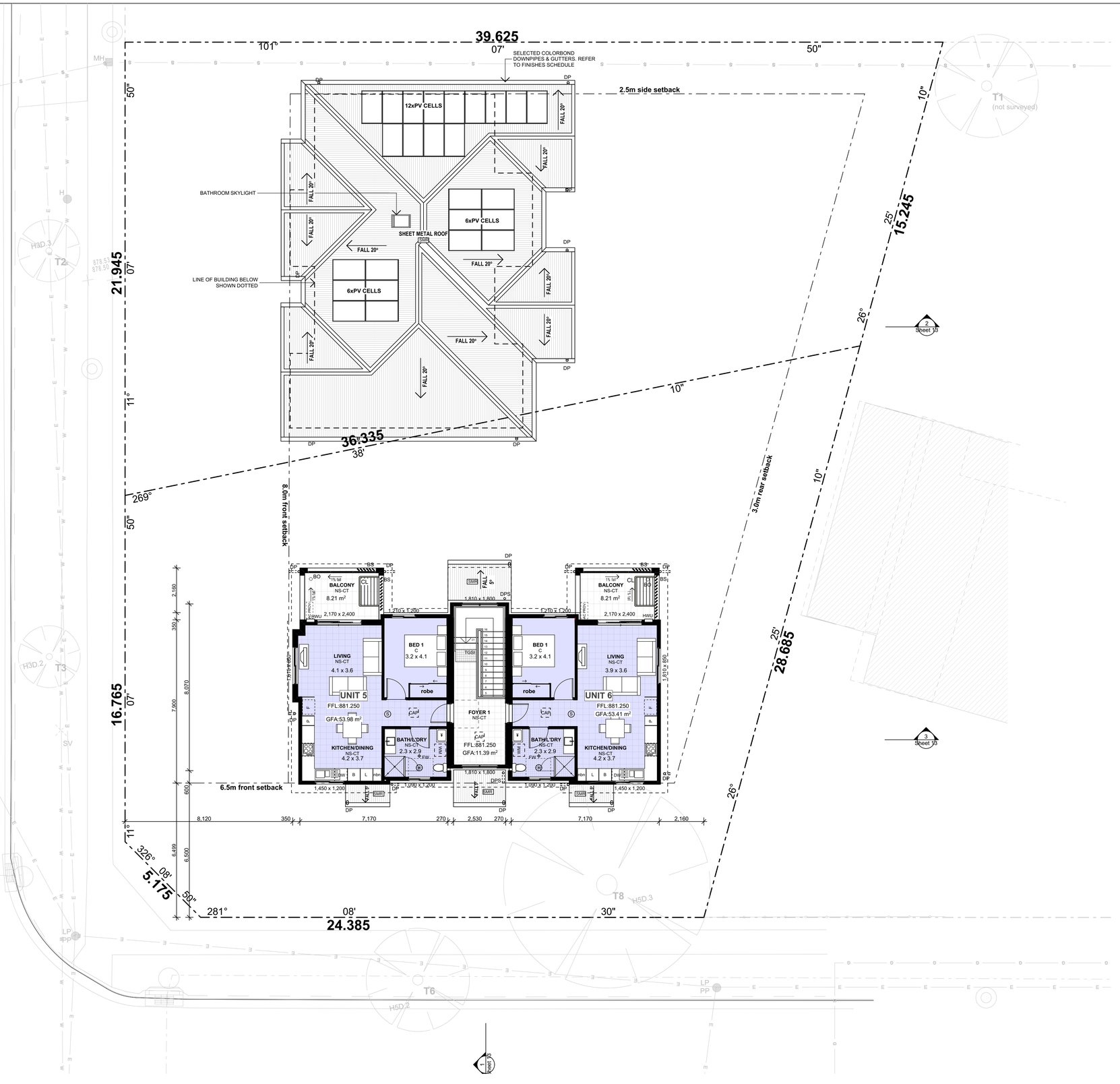
FFL 9.100 Proposed floor levels.



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FFL 9.100 Proposed floor levels.

3
-

FIRST FLOOR PLAN
1:100

NSW GOVERNMENT Planning, Industry & Environment
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at
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TITLE:
FIRST FLOOR PLAN

STATUS: DEVELOPMENT ASSESSMENT

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25/10/2021	As shown @ A1	BGXUP	2021.009
STAGE:	DRAWN:	CHECKED:	CERTIFIER:
C	SD	DD	DD

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TYPE: A
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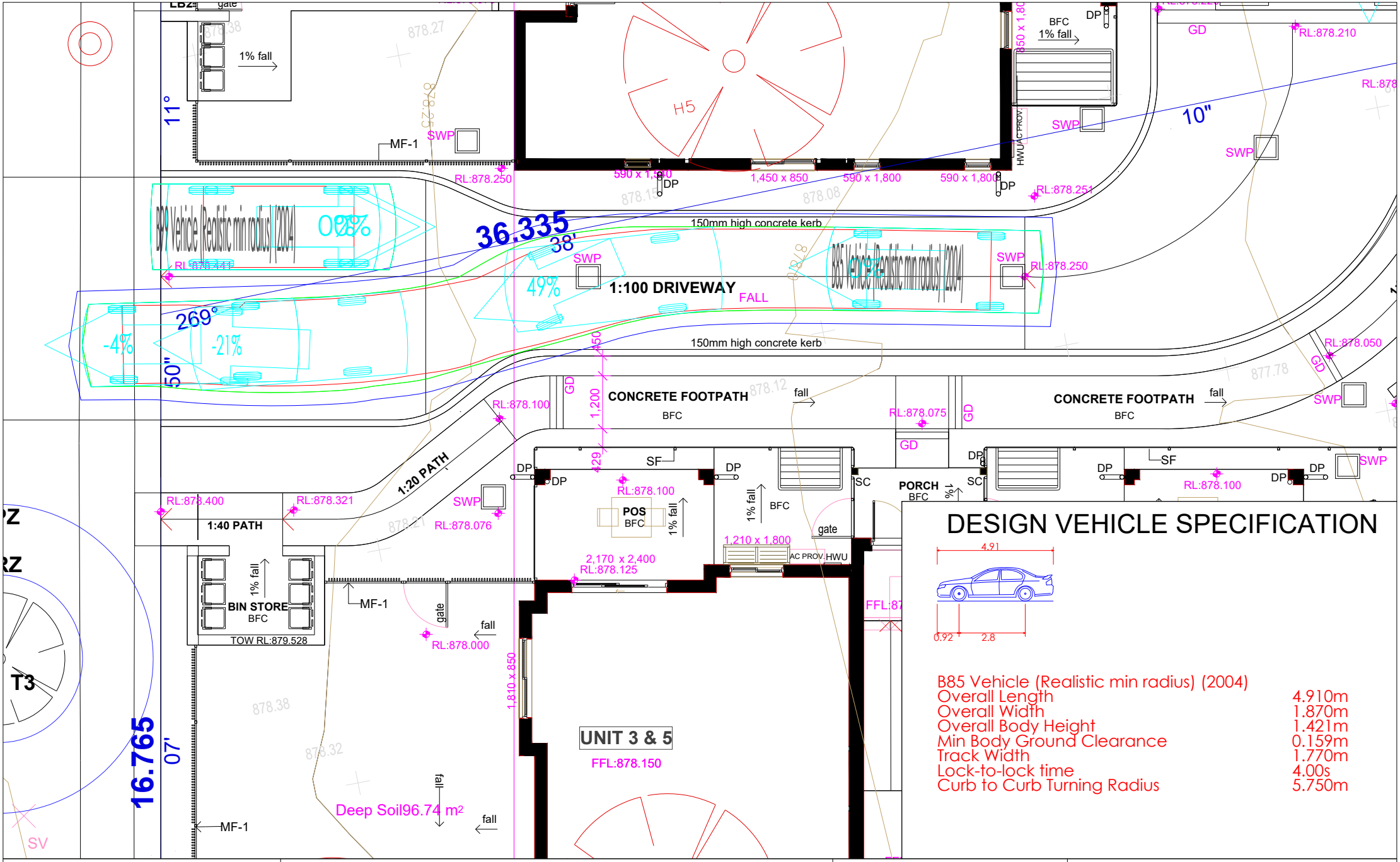
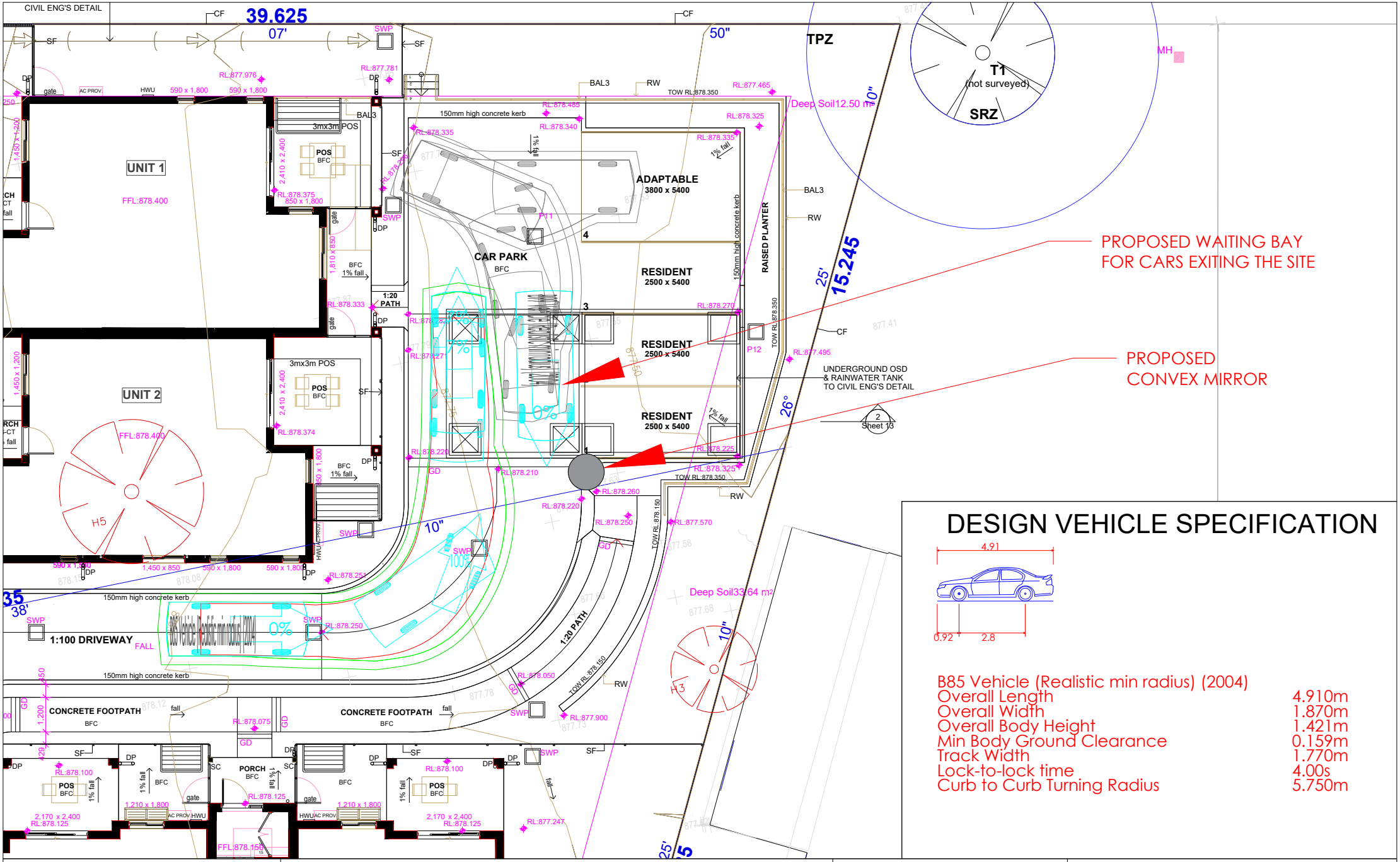


ParkTransit
Parking & Traffic Design

DRAWING TITLE- B85TH VEHICLE TYPE EXITING THE SITE	PROJECT NO - PT1WAR01	SCALE - NTS
CLIENT- DTA ARCHITECTS	SHEET NO - PT1 WAV01	
PROJECT ADDRESS - 1 WARATAH AVENUE, ORANGE	NOTES -	DATE - 25/10/2021



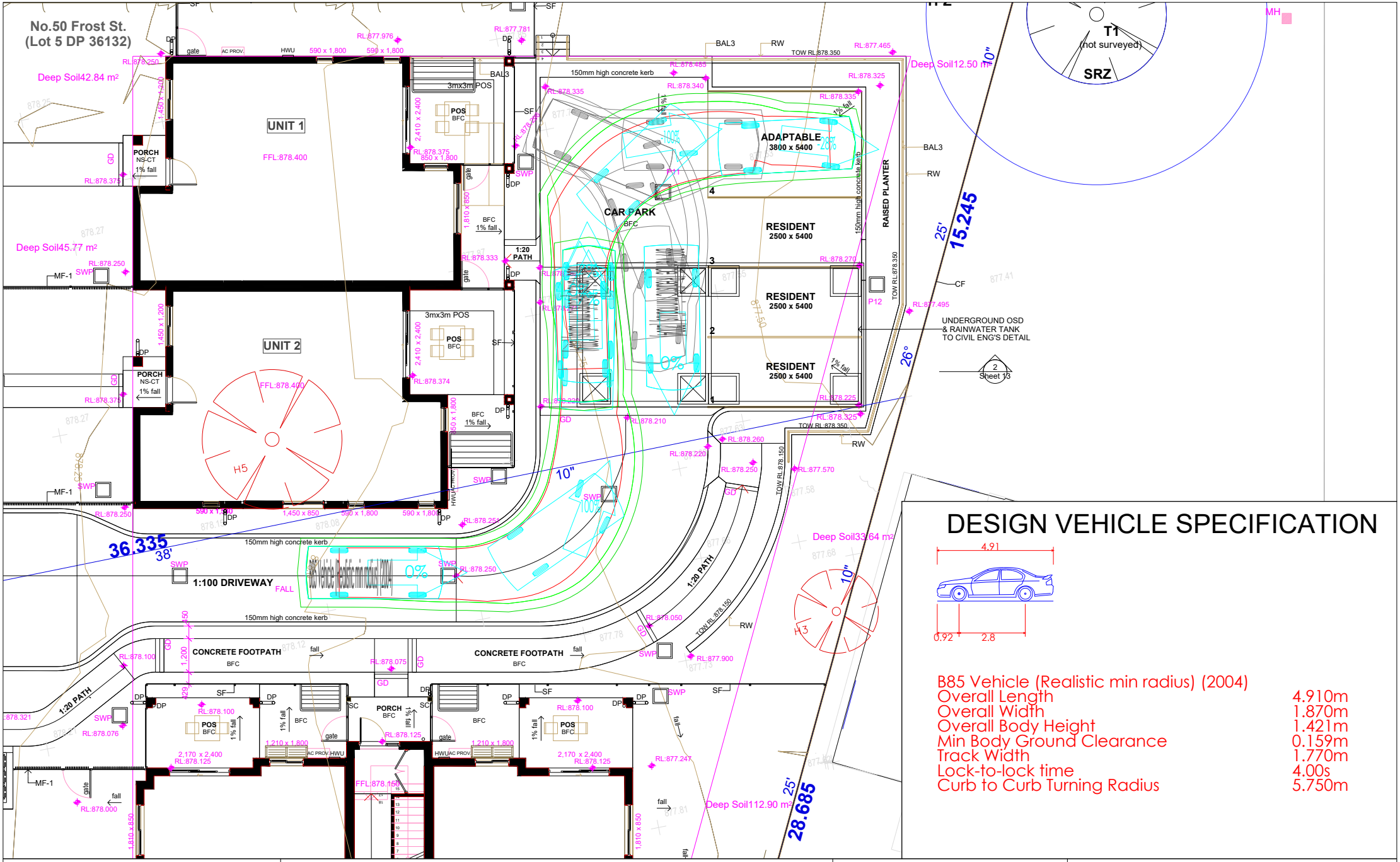
DESIGN VEHICLE SPECIFICATION

B85 Vehicle (Realistic min radius) (2004)

Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	5.750m

ParkTransit
Parking & Traffic Design

DRAWING TITLE- B85TH VEHICLE TYPE ENTERING THE SITE	PROJECT NO - PT1WAR01	SCALE - NTS
CLIENT- DTA ARCHITECTS	SHEET NO - PT1 WAV02	
PROJECT ADDRESS - 1 WARATAH AVENUE, ORANGE	NOTES -	DATE - 25/10/2021



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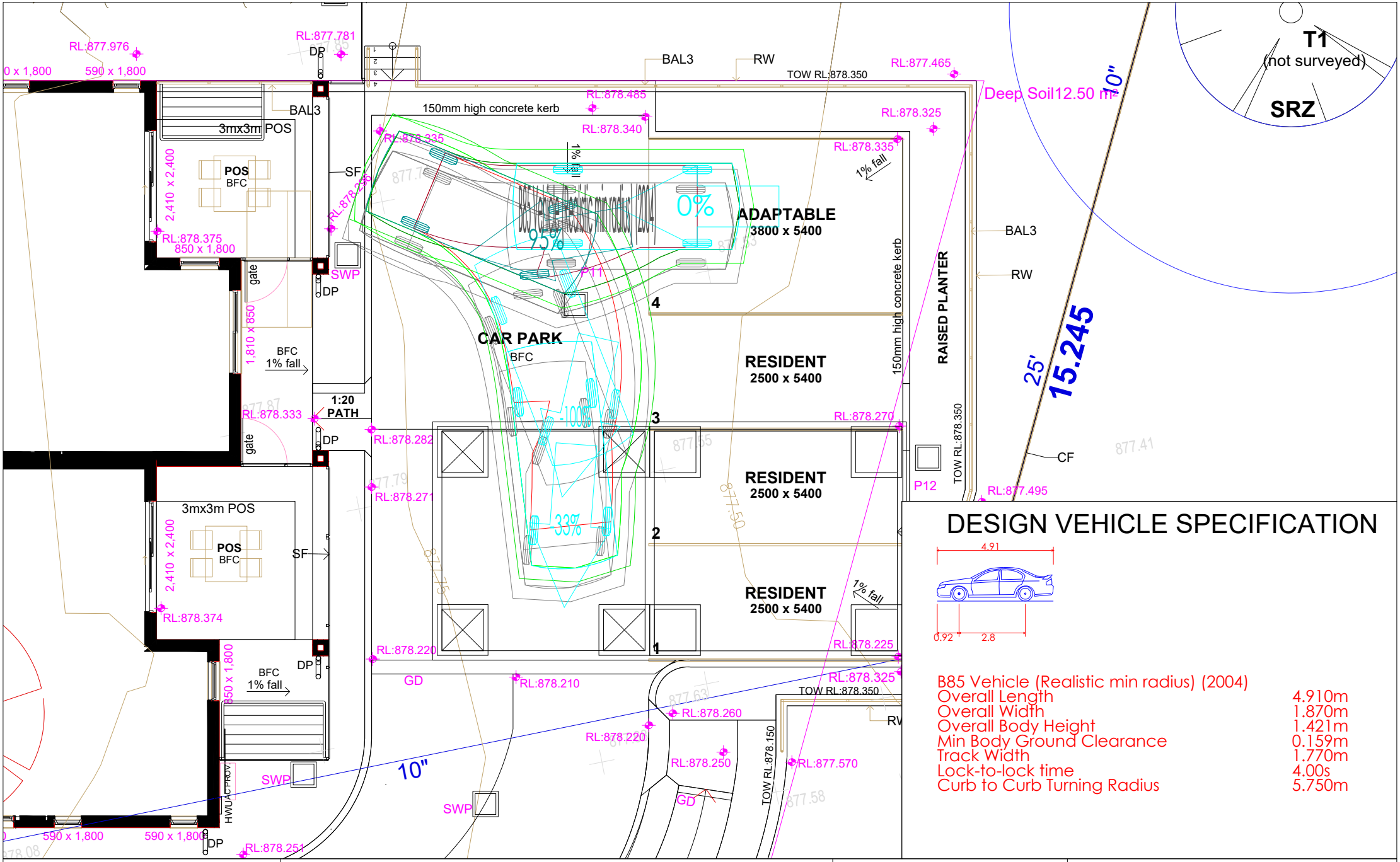
DRAWING TITLE- B85TH VEHICLE TYPE ENTERING ADAPTABLE UNIT	PROJECT NO - PT1WAR01	SCALE - NTS
CLIENT- DTA ARCHITECTS	SHEET NO - PT1 WAV03	
PROJECT ADDRESS - 1 WARATAH AVENUE, ORANGE	NOTES -	DATE - 25/10/2021



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ParkTransit
Parking & Traffic Design

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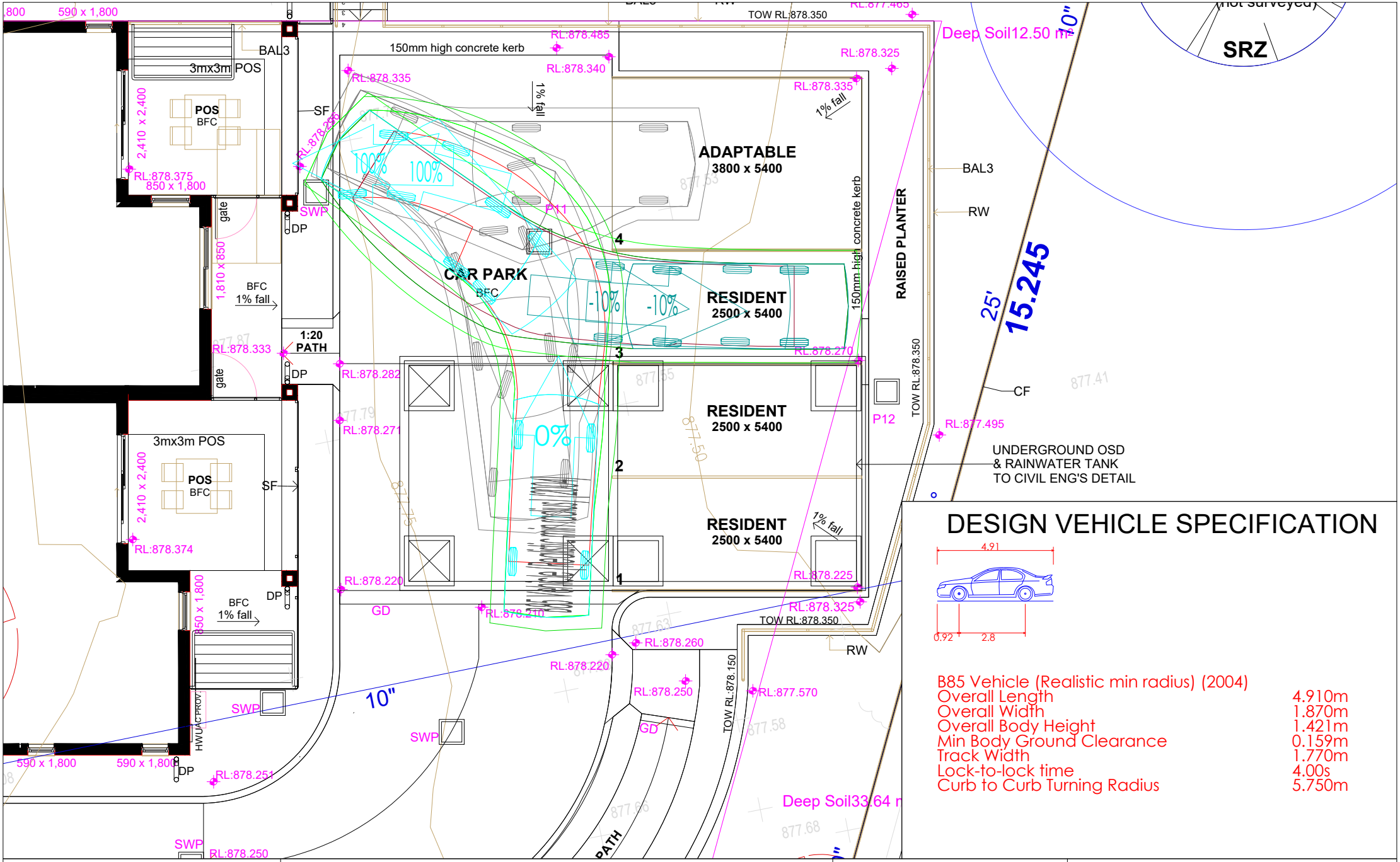
CLIENT- DTA ARCHITECTS	SHEET NO - PT1 WAV05	
PROJECT ADDRESS - 1 WARATAH AVENUE, ORANGE	NOTES -	DATE - 25/10/2021



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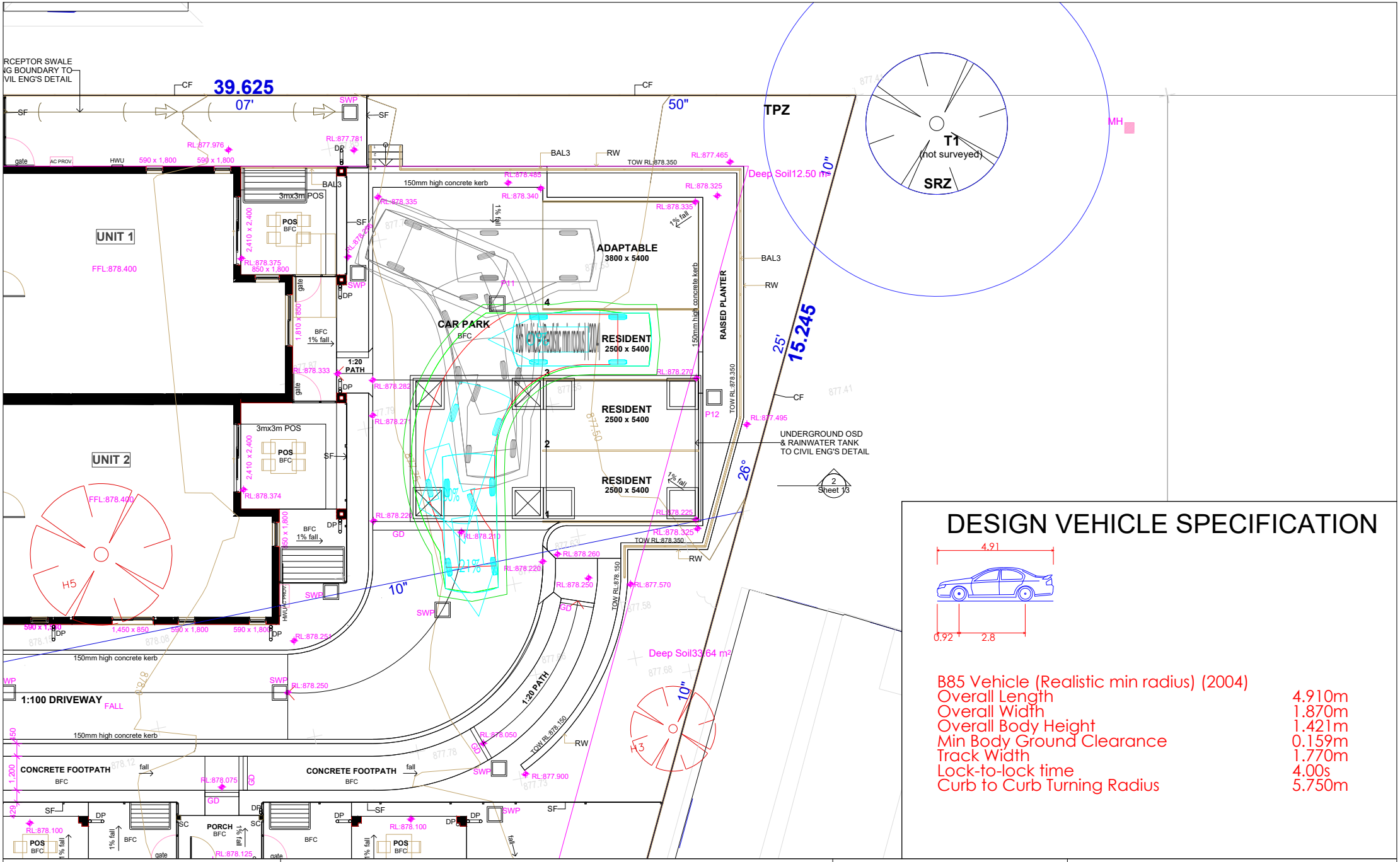
ParkTransit
Parking & Traffic Design

DRAWING TITLE- B85TH VEHICLE TYPE ENTERING CAR SPACE 3	PROJECT NO - PT1WAR01	SCALE - NTS
CLIENT- DTA ARCHITECTS	SHEET NO - PT1 WAV04	
PROJECT ADDRESS - 1 WARATAH AVENUE, ORANGE	NOTES -	DATE - 25/10/2021



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ParkTransit
Parking & Traffic Design

DRAWING TITLE- B85TH VEHICLE TYPE EXITING CAR SPACE 3	PROJECT NO - PT1WAR01	SCALE - NTS
CLIENT- DTA ARCHITECTS	SHEET NO - PT1 WAV06	
PROJECT ADDRESS - 1 WARATAH AVENUE, ORANGE	NOTES -	DATE - 25/10/2021