

Proposed Pre-school Development

21 Lovell Road, Denistone East

Traffic and Parking Assessment

Ref: 20353
Date: September 2022
Issue: C

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1.0 Introduction

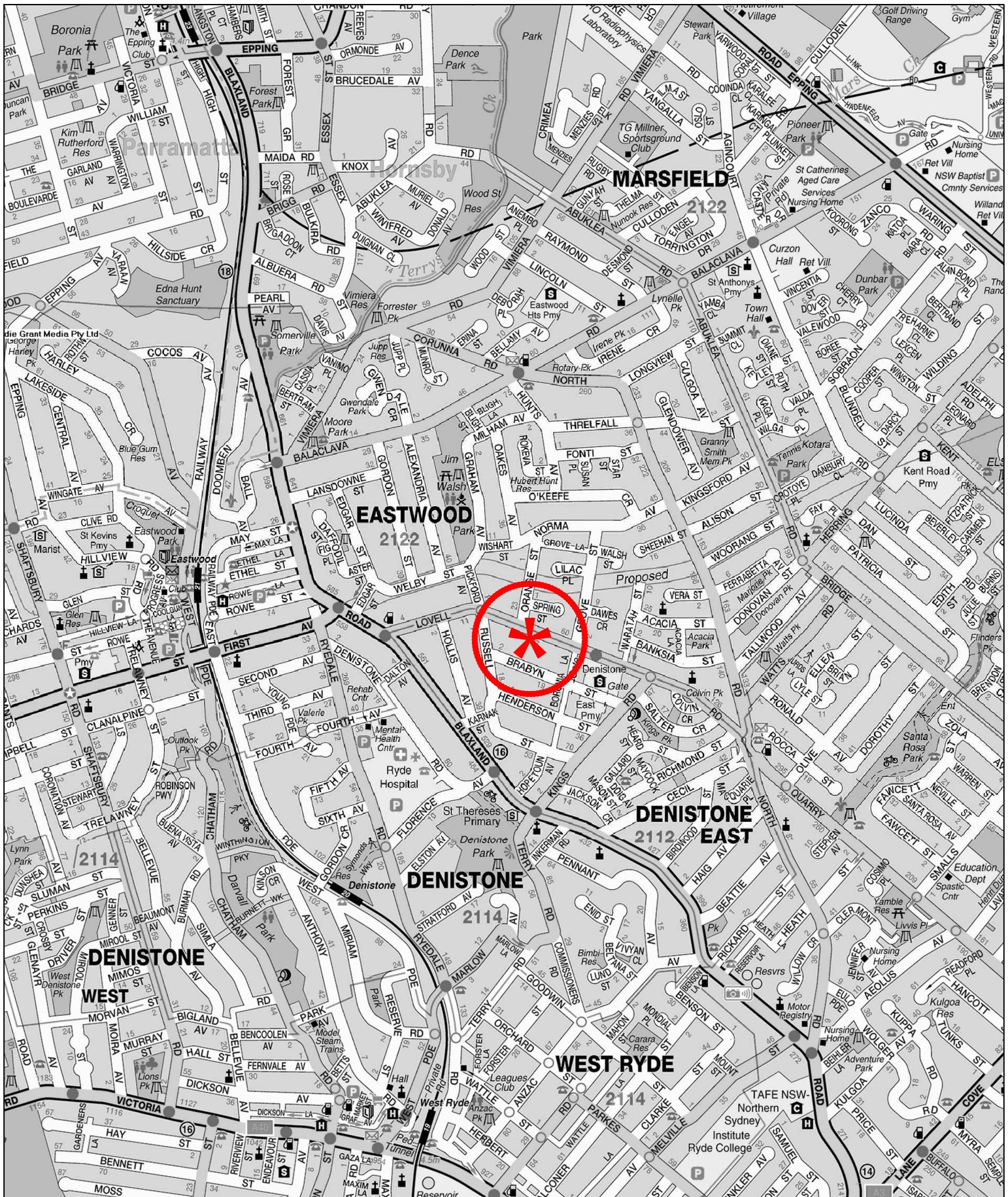
This report has been prepared to accompany a Development Application to Ryde City Council for a proposed pre-school development at 21 Lovell Road, Deniston East (Figure 1).

The establishment of childcare facilities has become an important element of community services to support young families in developing areas. The opportunities to develop much needed centres are limited by environmental and design considerations and the subject development proposal represents a favourable circumstance where the site has convenient access to the surrounding residential areas and public transport services.

The proposed development scheme involves the demolition of the existing residential dwelling on the site and construction of a purpose-built pre-school to accommodate up to 48 children with appropriate access and parking provisions.

The purpose of this report is to:

- ❖ describe the site, its context, and the proposed development scheme
- ❖ describe the road network serving the site and the prevailing traffic conditions
- ❖ assess the adequacy of the proposed parking provision
- ❖ assess the potential traffic implications
- ❖ assess the suitability of the proposed vehicle access, internal circulation, and servicing arrangements



LEGEND



LOCATION

FIG 1

2.0 Proposed Development Scheme

2.1 Site, Context and Existing Circumstances

The site (Figure 2) is Lot 18 DP 6182 at 21 Lovell Road, Deniston East. It occupies an some 980m² having a 20m wide frontage to the southern side of Lovell Road.

The site is currently occupied by a single dwelling and is surrounded by similar nature residential development. Denistone East Public school is situated some 250m to the east, while the town centre is located further west.

2.2 Proposed Development

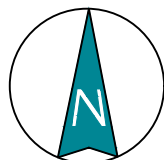
It is proposed to demolish the existing building on the site and construct a pre-school building with at-grade car parking. The Centre will have adequate facilities to accommodate 48 children and 8 staff members.

A total of 10 parking spaces will be provided and a new left-in and left-out only access driveway will be provided at Lovell Road near the western site boundary. The proposed works will also include extension of the pedestrian refuge island to provide a median strip preventing right turn access movements to/from the proposed car park.

Details of the proposed development scheme are provided on the plans prepared by MOMA Architects which accompany the Development Application and are reproduced in part in Appendix A.



LEGEND



SITE

FIG 2

3.0 Road Network and Traffic Conditions

3.1 Road Network

The existing road network serving the site area (Figure 3) comprises:

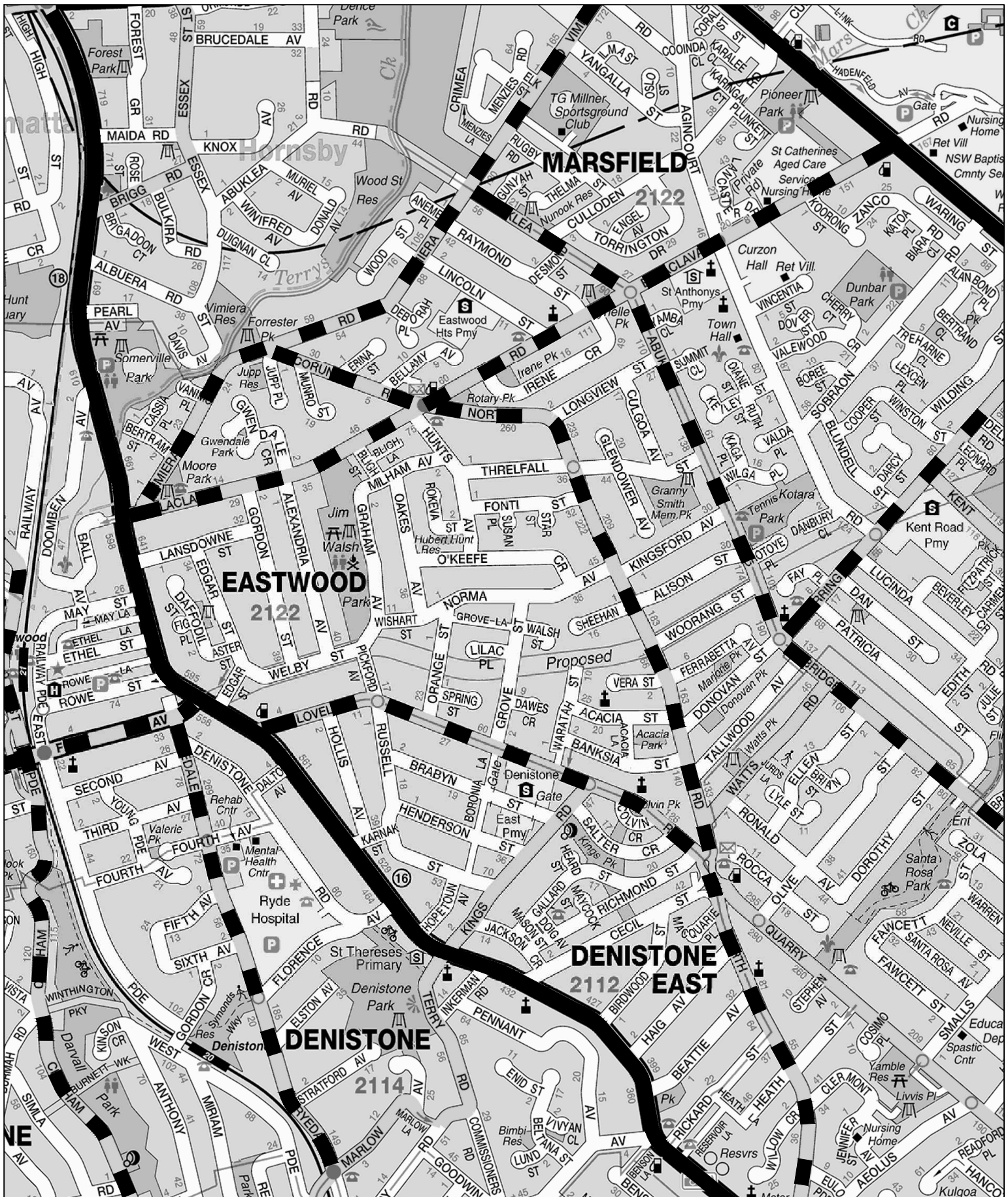
- ❖ *Blaxland Road* which forms part of a secondary arterial route providing a north-south link between Victoria Road and Pennant Hills Road
- ❖ *Rutledge Street – First Avenue* route which provides an east-west sub-arterial connection between Marsden Road and Blaxland Road and forms part of a route linking Kissing Point Road – Victoria Road to Epping Road
- ❖ *Balaclava Road* – a collector road which provides a east-west link between Blaxland Road and Epping Road
- ❖ *North Road / Lovell Road* – collector road routes connecting Eastwood to Deniston East

Lovell Road has one traffic and one parking lane in each direction and has an 11.2m wide carriageway near the site.

3.2 Traffic Controls

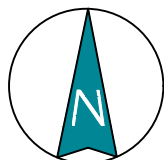
The existing traffic controls (Figure 4) in the vicinity of the site comprise:

- ❖ the traffic signal controls along Blaxland Road at the Kings Street, Florence Avenue, Lovell Road, First Avenue and Balaclava Road intersections
- ❖ the pedestrian signal control along Lovell Road east of Grove Street
- ❖ the roundabouts along Lovell Road at the Russell Street and Kings Road intersections.



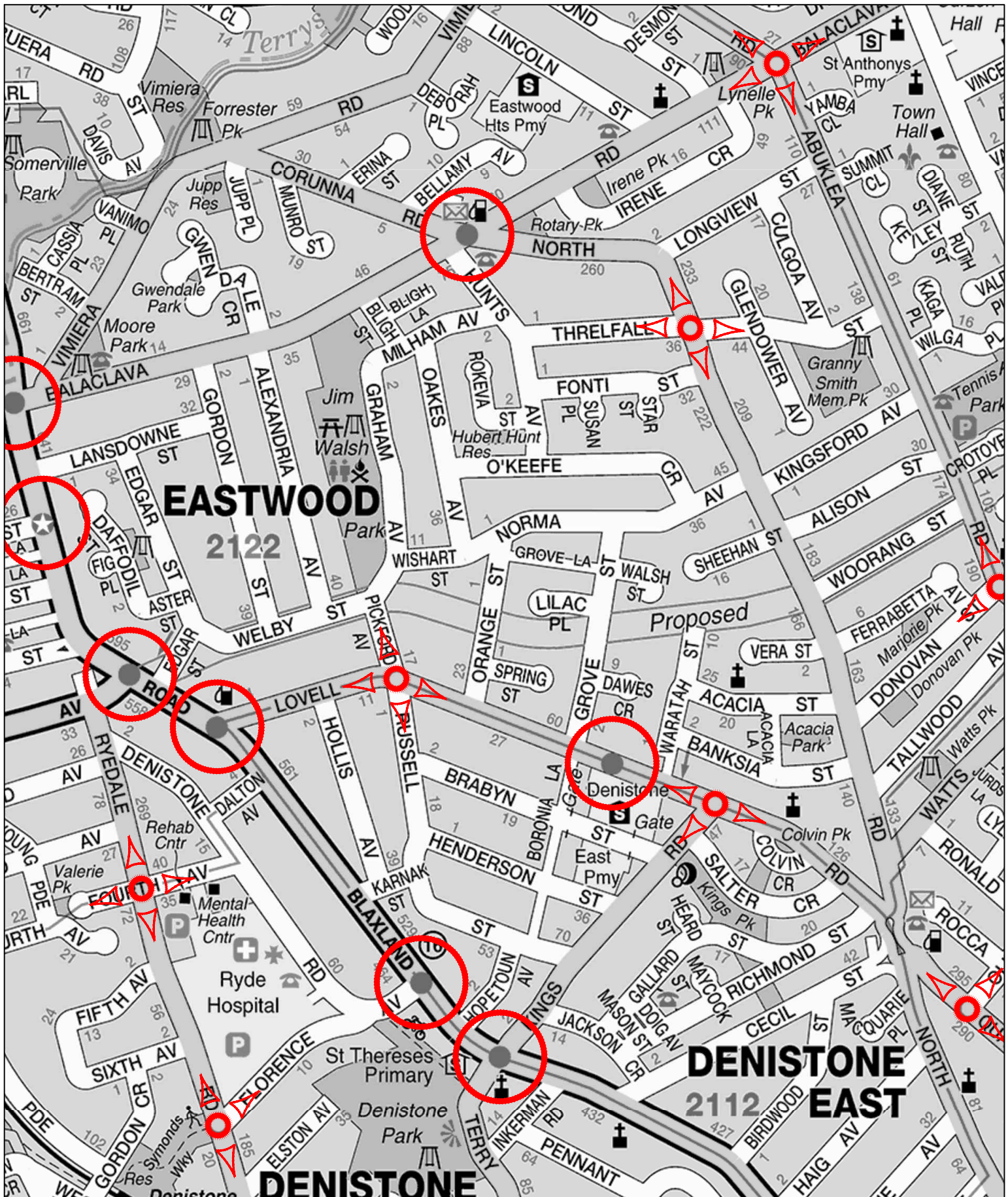
LEGEND

- ARTERIAL**
- SUB-ARTERIAL**
- COLLECTOR**






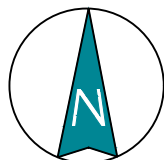
ROAD NETWORK

FIG 3



LEGEND

-  TRAFFIC SIGNAL CONTROL
-  ROUNDABOUT
-  RESTRICTED TURNING MOVEMENT



TRAFFIC CONTROLS

FIG 4

- ❖ 60kmph speed restriction on Blaxland and 50kmph on other local and collector roads with 40kmph zone restrictions in the vicinity of schools (to the east of the site along Lovell Road)
- ❖ the pedestrian refuge island along Lovell Road at the site's frontage

3.3 Traffic Conditions

The existing peak traffic circumstance on Lovell Road has been observed to be generally free flowing. However, the road is subject to delays during school set down/pick up periods. Traffic movements during the school set down/pick up periods are slow. Nevertheless, these operating constraints were brief in period and traffic flows resume to normal conditions at other times.

3.4 Transport Services

The site benefits from convenient access to local bus service on Lovell Street (No. 544). The bus route operates half hourly service connecting the site with Macquarie Centre which also provide access to the wider rail network via Macquarie Metro Station. On this basis, it is assessed that the staff members of the proposed centre will benefit from an adequate public transport service and connectivity, thus minimising their need to rely on private vehicles.

4.0 Traffic

An indication of the potential traffic generation of the proposed development is provided in the RMS Development Guidelines. However, this is derived from a study undertaken in 1992 (i.e. nearly 30 years old) and is an average of 3 types of centres namely:

- Pre School
- Long Day Care
- Before/After School Care

RMS has undertaken a more recent study¹ of Child Care Centre as part of the process of updating the Guidelines. That study involved surveys at 4 types of Centres, namely:

- Long Day Care
- Occasional Care (OC)
- Before/After School Care (BASC)
- Pre School Care

Occasional Care and Before/After School Care centres have different traffic characteristics to Long Day Care and Pre School Care centres and the RMS study includes details of all the centres surveyed and the averaged results.

Extracts from this study are provided in Appendix B. It can be seen that the average AM and PM network peak traffic generation rates of Pre Schools were 0.68 vtpd per child in the AM and 0.42 vtpd per child in the PM.

Application of these criteria to the proposed development with 48 children would indicate a peak generation of some 33 vtpd and 20 vtpd respectively as follows:

¹ *Trip Generation and Parking Surveys
Child Care Centres
TEF Consulting for RMS, Aug 2015*

AM		PM	
IN	OUT	IN	OUT
16	16	10	10

Traffic generation of this order of magnitude being some 1 vehicle movement every 2 minutes in the busiest AM peak hour is not expected to result in undue traffic implications on the surrounding road network.

5.0 Parking

Councils DCP specifies the following parking requirement for child care centres:

1 space per 8 children; plus
1 space per 2 staff

Application of this criteria to the proposal would indicate the following:

48 Children	–	6 spaces visitors/parents
8 staff	–	4 spaces staff
Total		10 spaces

Accordingly, it is proposed to provide 10 spaces (including 1 accessible) on the ground level. The proposed arrangement complies with the DCP criteria.

6.0 Internal Circulation and Servicing

Access

The existing access driveway on the western part of the site is suitable for a domestic dwelling; but will not satisfy the locational requirement for a child care centre (AS2890.1 Clause 3.2.3). However, it is impractical to relocate the driveway further east due to a pre-existing pedestrian refuge facility. Having regard for the site constraint, it is proposed to retain the existing access driveway location. The new driveway will instead be widened to 5.8m allowing vehicles to pass and be restricted to left-in and left-out only via the addition of a median strip that extends from the existing pedestrian refuge.

The access driveway arrangement has regard for the AS2890.1 design criteria and will maintain the existing pedestrian refuge facility and traffic flow safety.

Internal Circulation

The design of the carpark including bay geometry, aisle, grades etc. generally complies with AS2890.1 & 6 design criteria. It is noted that the car park is required to be enclosed to minimise acoustics impact on neighbouring properties. The enclosure will result in a 5.8m wide aisle, which is 300mm less than that required in the AS criteria. Nevertheless, details of a swept path assessment demonstrating a satisfactory vehicle manoeuvre provision in the car park (in particular those spaces with the 5.8m aisle) are provided in Appendix C.

Servicing

Refuse will be removed by privately contracted refuse collection companies outside of peak set down and pick up periods in the carpark. Details of a 6.4m long Small Rigid Vehicle (SRV) turning around in the unoccupied carpark are provided in Appendix C. Other minor deliveries that generally involve vans/utility vehicles will be able to use the visitors' parking spaces outside of the Centre's peak set down and pick up periods.

7.0 Conclusion

The traffic and parking assessment undertaken for the proposed pre-school development at 21 Lovell Street, Denistone East has concluded that:

- ❖ the traffic generation of the proposed development will be relatively minor and not present any adverse traffic implications in the context of the local traffic circumstance
- ❖ the proposed parking provision will be adequate for the needs of the development and complies with the DCP criteria
- ❖ the proposed vehicle access, internal circulation and parking arrangements will be appropriate to the AS2890 design standards

Appendix A

Development Plans



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DEVELOPMENT APPLICATION

ISSUE A12

PROPOSED PRESCHOOL

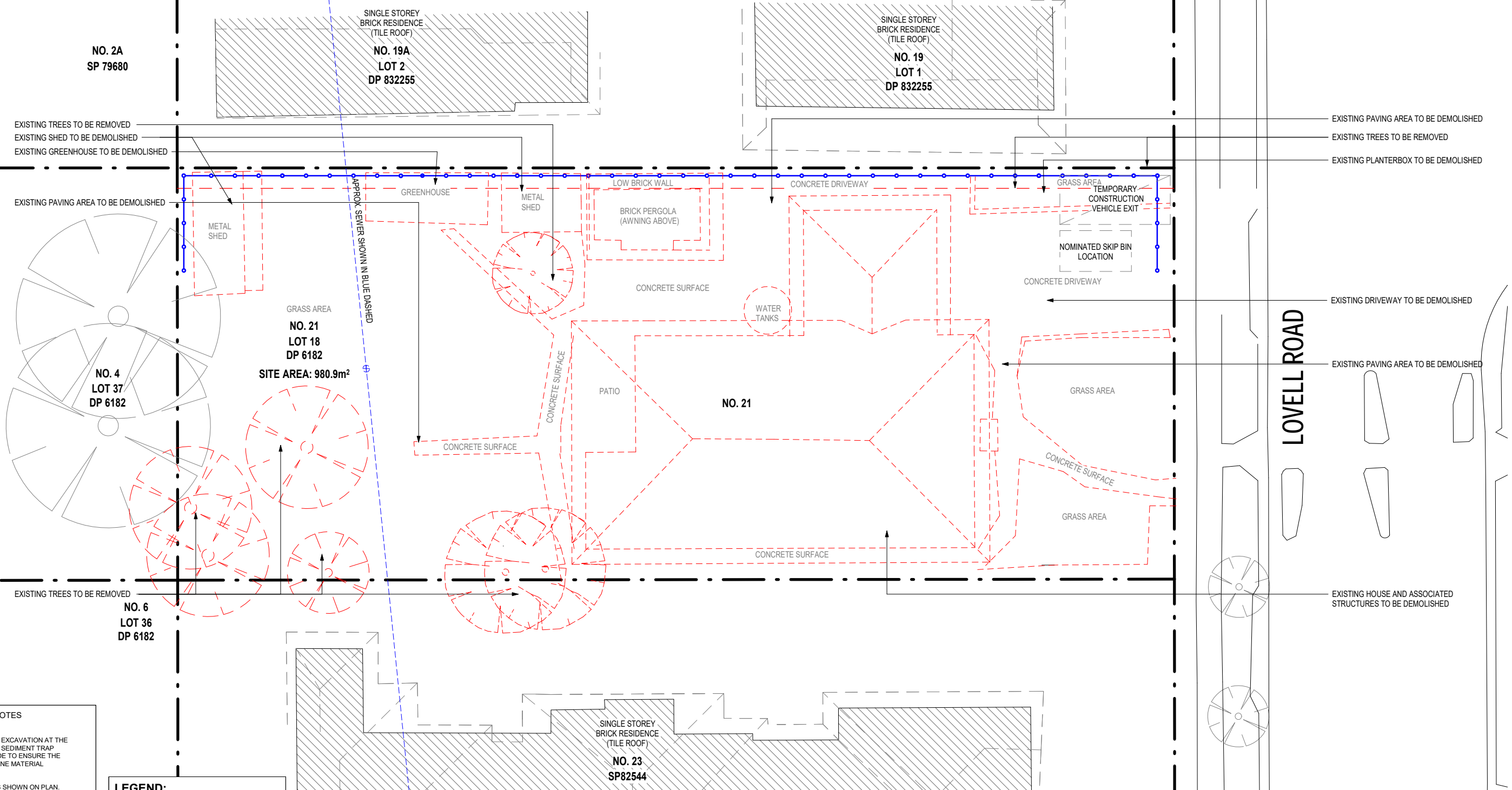
21 LOVELL ROAD, DENISTONE EAST

SITE AREA: APPROX. 980m²

DRAWING LIST

NO.	DRAWING NAME
A0.00	COVER
A0.01	DEMOLITION PLAN & EROSION SEDIMENT
A1.00	SITE / ROOF PLAN
A1.03	GROUND LEVEL
A1.04	LEVEL 1
A2.00	NORTH & EAST ELEVATIONS
A2.01	SOUTH & WEST ELEVATIONS
A2.03	SECTIONS
A3.00	SCHEDULE OF EXTERNAL FINISHES
A5.00	SHADOW STUDY
A7.00	EVACUATION PLAN

REQUIREMENTS	CONTROL	PROPOSED	COMPLIANCE
ZONING	R2 LOW DENSITY RESIDENTIAL	COMPLIES	✓
FSR	0.5 : 1 (APPROX. 490 m ²)	0.5 : 1 (APPROX. 489.6 m ²)	✓
HEIGHT OF BUILDING	MAX 9.5 m	8.3 m	✓
CAR PARKING	1 SPACE PER 8 CHILDREN = 6 SPACES (BASED ON 48 CHILDREN) 1 SPACE PER 2 STAFF = 4 SPACES (BASED ON 8 STAFF) TOTAL = 10 SPACES (INCLUDE 1 ACCESSIBLE CAR SPACE)	CHILDREN PARKING SPACE : 6 SPACES STAFF PARKING SPACE : 4 SPACES TOTAL = 10 CARPARK SPACES	✓
SET BACKS	FRONT SETBACK MIN 6M SIDE SETBACKS MIN 900 MM REAR SETBACK MIN 8M OR 25% OF LENGTH	FRONT SETBACK : 6M SIDE SETBACKS: 1M REAR SETBACK: 12.19M	✓
INDOOR AREA FOR CHILDREN	3.25 m ² OF UNENCUMBERED SPACE PER CHILD CHILDREN 55 = MIN 178.75 m ²	GROUND: 126.2m ² LEVEL 1: 57.5m ² TOTAL: 183.7m ²	✓
STAFF ROOM	MIN 20 m ²	APPROX. 34.5 m ²	✓
STORAGE FOR CHILDREN	0.2 m OF INTERNAL STORAGE SPACE PER CHILD CHILDREN 55 = MIN. 11 m ³	APPROX. 14.3m ³	✓
OUTDOOR AREA FOR CHILDREN	7.0 m ² OF UNENCUMBERED OUTDOOR SPACE PER CHILD CHILDREN 55 = MIN 385 m ²	GROUND: 239.0m ² LEVEL 1: 151.6m ² TOTAL: 390.6m ²	✓



SOIL CONSERVATION NOTES

A. PRIOR TO ANY CLEARING OR EXCAVATION AT THE PROJECT SITE, A TEMPORARY SEDIMENT TRAP ARRANGEMENT SHALL BE MADE TO ENSURE THE CAPTURE OF ANY WATER BORNE MATERIAL GENERATED FROM THE SITE.

PROVIDE SEDIMENT FENCE AS SHOWN ON PLAN.

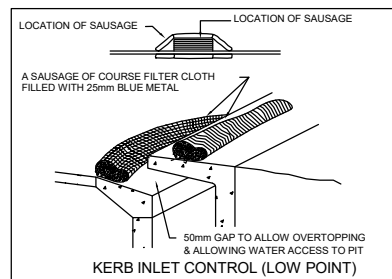
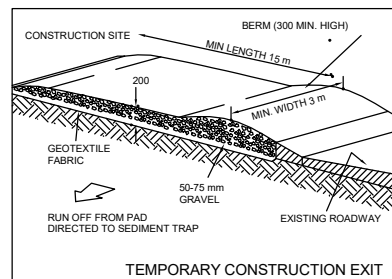
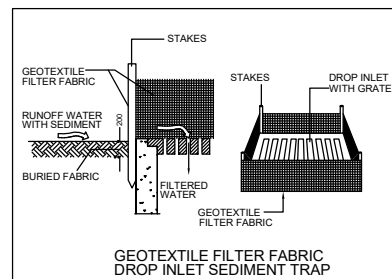
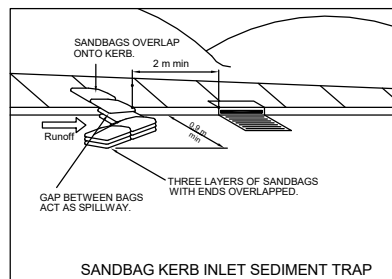
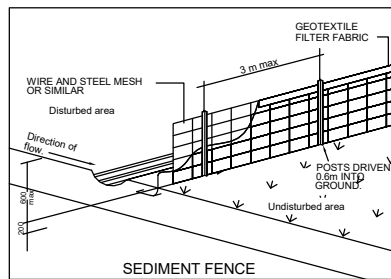
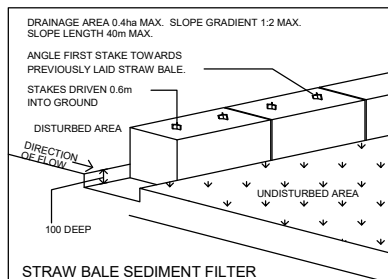
CONSTRUCT STEEL SHAKER GRID SIMILAR TO CATTLE FROM STEEL BEDDED ON 50 - 75mm GRAVEL AND AND GEOTEXTILE ACROSS MAIN ACCESS TO SITE AND MAINTAIN UNTIL ALL SURFACES HAVE BEEN REVEGETATED AND PAVED

B. DURING CONSTRUCTION

- 1) SILTATION PROTECTION DESCRIBED ABOVE SHALL BE MAINTAINED DURING THE COURSE OF CONSTRUCTION.
- 2) NEWLY CONSTRUCTED PITS SHALL BE PROTECTED FROM ANY SEDIMENT ENTRY.
- 3) ONCE IN PLACE, NO SILTATION PROTECTION SHALL BE REMOVED WITHOUT COUNCIL APPROVAL.
- 4) AFTER EACH STORM, ALL SEDIMENT TRAPS SHALL BE CLEANED AND REPLACED (IF REQUIRED) TO COUNCIL'S SATISFACTION.
- 5) OTHER METHODS OF SEDIMENT CONTROL AS MAY BE REQ'D BY THE COUNCIL SHALL BE COMPLIED WITH.

LEGEND:

- GEOTEXT FABRIC FENCE LINE DURING CONSTRUCTION
- - - - DEMOLISHED



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Nominated Architects
Eric Kim NSW.9185

Issue	Description	Date	DB	CB
A11	ISSUE FOR DA	09.06.2022	QT	EK

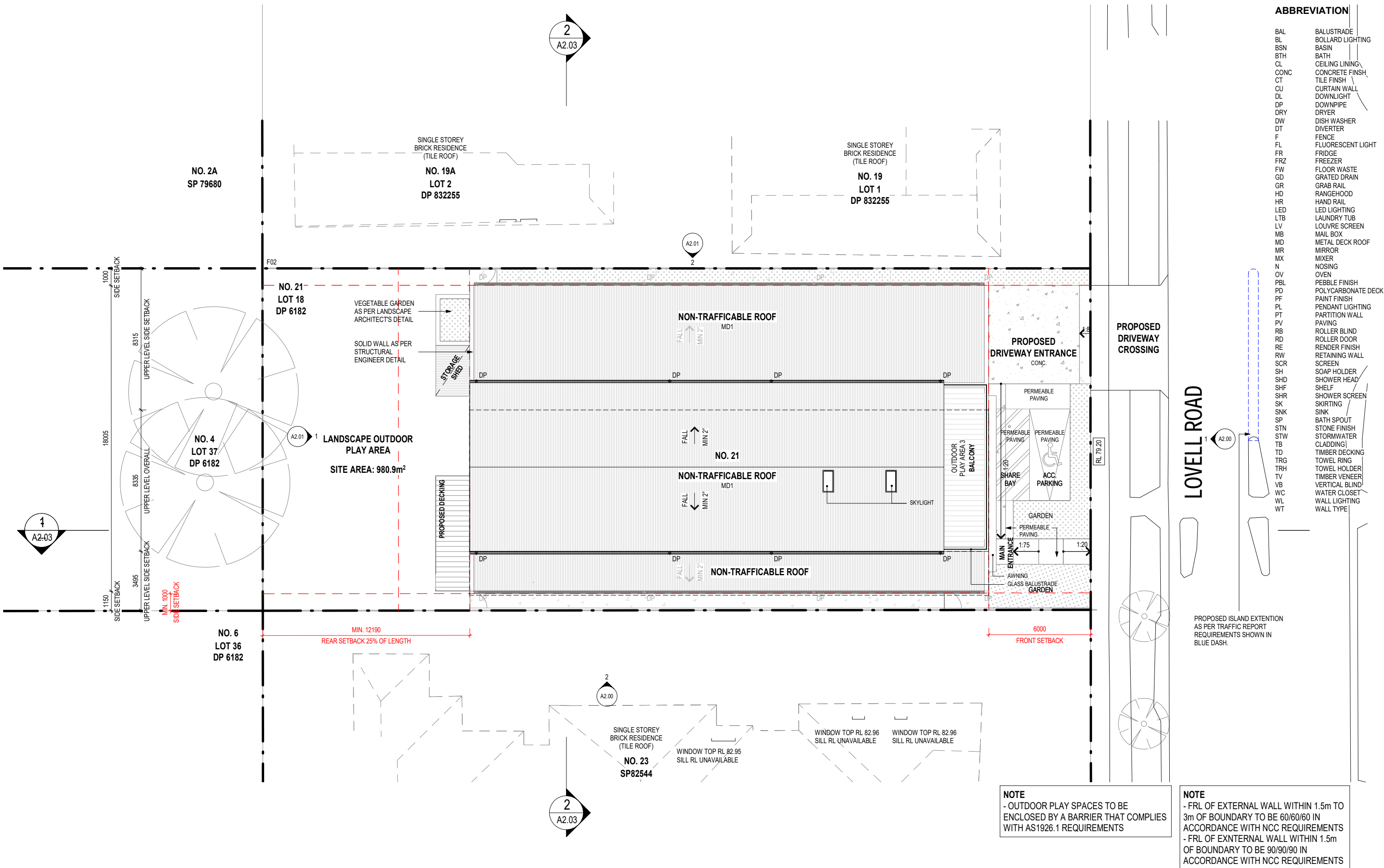
Client Name
ISABELLA LEE

Project Name
21 LOVELL ROAD, DENISTONE EAST



Drawing Title
DEMOLITION PLAN & EROSION SEDIMENT

Job No.	Scale	Drawing no:	ISSUE
A20156	1:200 @A3	A0.01	A12



Issue	Description	Date	DB	CB
A10	ISSUE FOR DA	09.05.2022	MM	EK
A11	ISSUE FOR DA	09.06.2022	QT	EK
A12	ISSUE FOR DA	22.08.2022	QT	EK

Client Name
ISABELLA LEE

Project Name
21 LOVELL ROAD, DENISTONE EAST

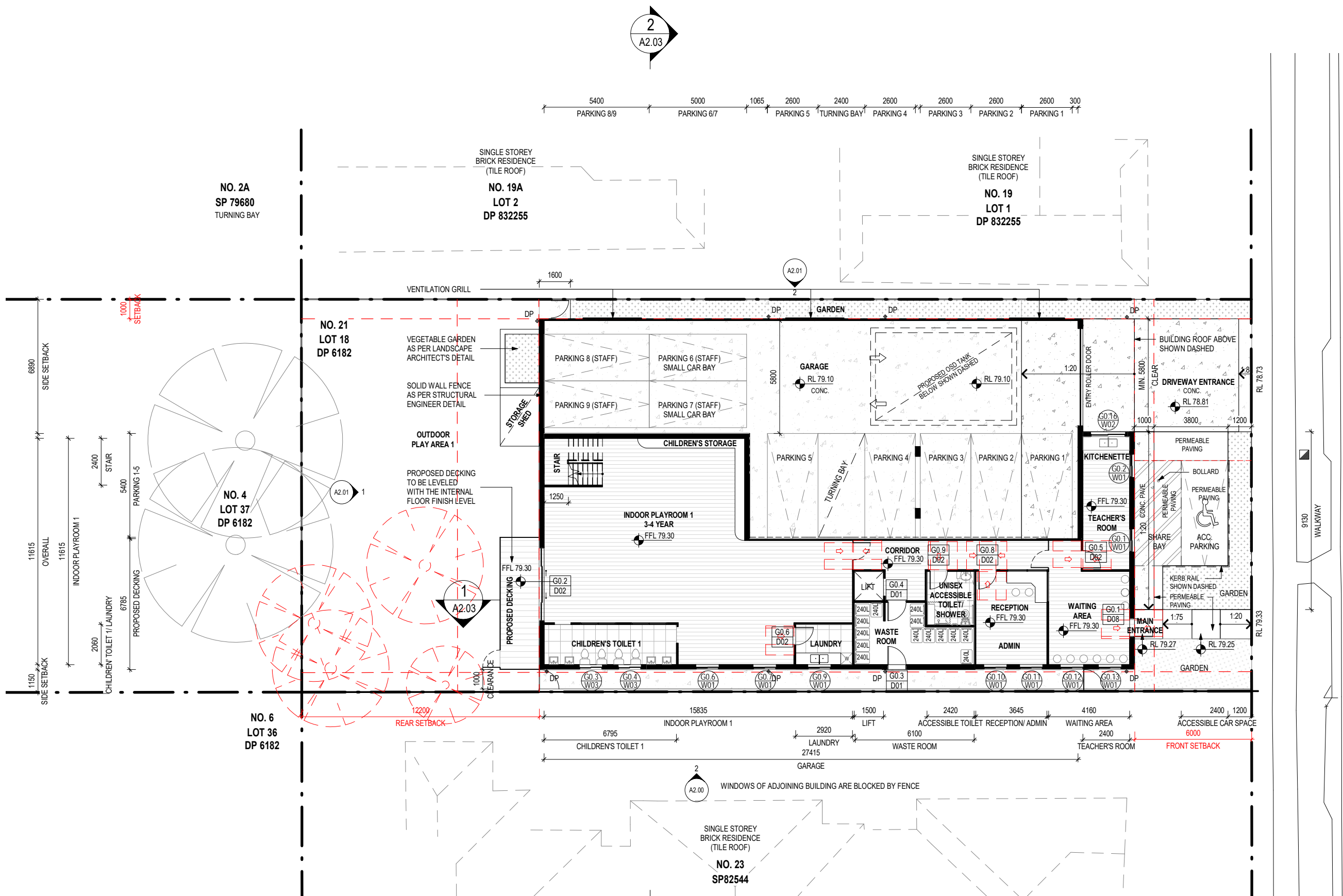


Drawing Title
SITE / ROOF PLAN

Job No.	Scale	Drawing no:	ISSUE
A20156	1:200 @A3	A1.00	A12

ABBREVIATION

BAL	BALUSTRADE
BL	BOLLARD LIGHTING
BSN	BASIN
BTH	BATH
CL	CEILING LINING
CONC	CONCRETE FINISH
CT	TILE FINISH
CU	CURTAIN WALL
DL	DOWNLIGHT
DP	DOWNPIPE
DRY	DRYER
DW	DISH WASHER
DT	DIVERTER
F	FENCE
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MB	MAIL BOX
MD	METAL DECK ROOF
MR	MIRROR
MX	MIXER
N	NOSING
OV	OVEN
PBL	PEBBLE FINISH
PD	POLYCARBONATE DECK
PF	PAINT FINISH
PL	PENDANT LIGHTING
PT	PARTITION WALL
PV	PAVING
RB	ROLLER BLIND
RD	ROLLER DOOR
RE	RENDER FINISH
RW	RETAINING WALL
SCR	SCREEN
SH	SOAP HOLDER
SHD	SHOWER HEAD
SHF	SHELF
SHR	SHOWER SCREEN
SK	SKIRTING
SNK	SINK
SP	BATH SPOUT
STN	STONE FINISH
TB	STORMWATER
TD	CLADDING
TRG	TIMBER DECKING
TRH	TOWEL RING
TV	TOWEL HOLDER
VB	TIMBER VENEER
WC	VERTICAL BLIND
WL	WATER CLOSET
WT	WALL LIGHTING
WT	WALL TYPE



NOTE
- FRL OF EXTERNAL WALL WITHIN 1.5m TO 3m OF BOUNDARY TO BE 60/60/60 IN ACCORDANCE WITH NCC REQUIREMENTS
- FRL OF EXTERNAL WALL WITHIN 1.5m OF BOUNDARY TO BE 90/90/90 IN ACCORDANCE WITH NCC REQUIREMENTS

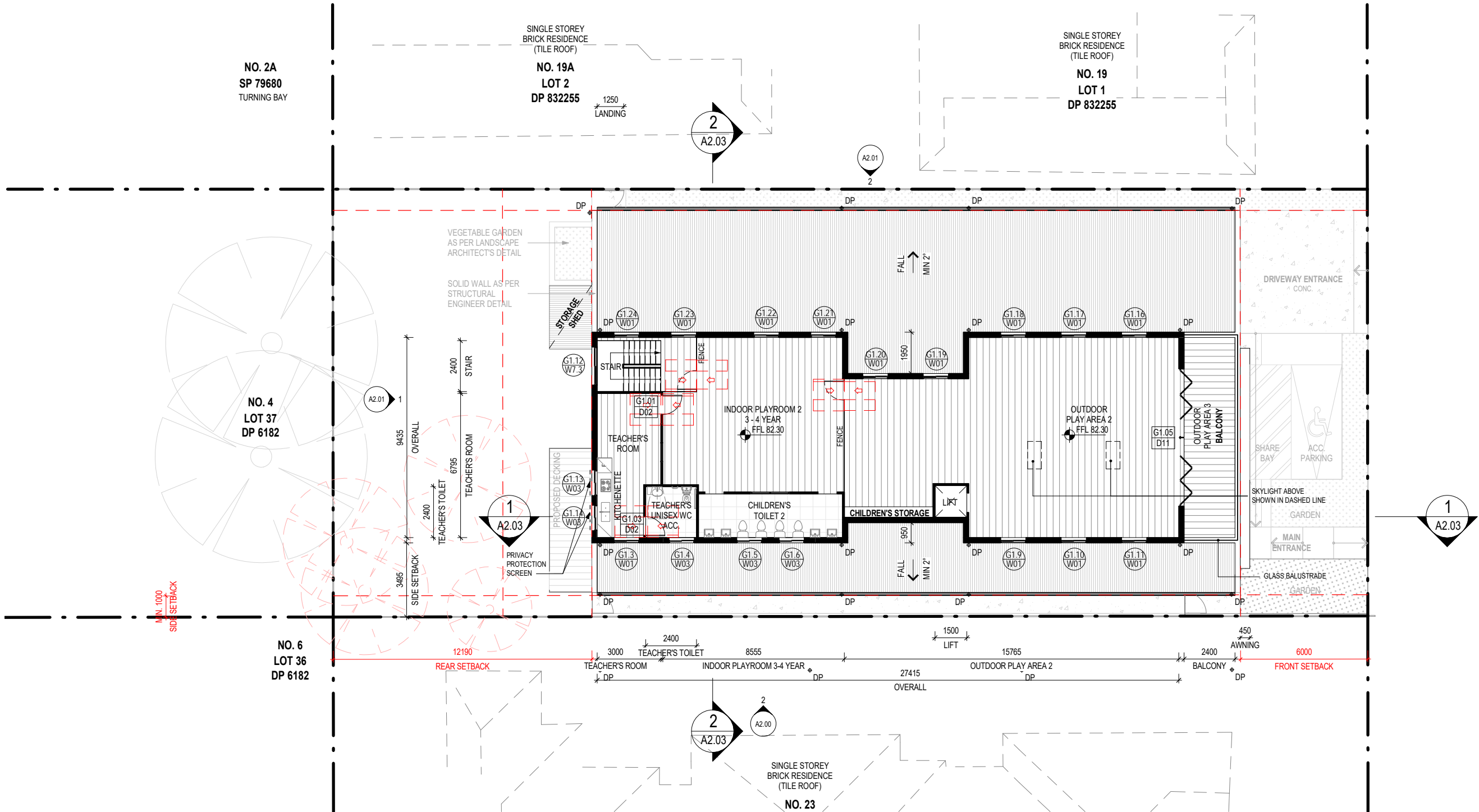
NOTE
- OUTDOOR PLAY SPACES TO BE ENCLOSED BY A BARRIER THAT COMPLIES WITH AS1926.1 REQUIREMENTS

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A11	ISSUE FOR DA	09.06.2022	QT	EK
A12	ISSUE FOR DA	22.08.2022	QT	EK

Drawing Title GROUND LEVEL				
Job No.	Scale	Drawing no:	ISSUE	
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ABBREVIATION

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1 PLAN - LEVEL 1
1 : 200

NOTE
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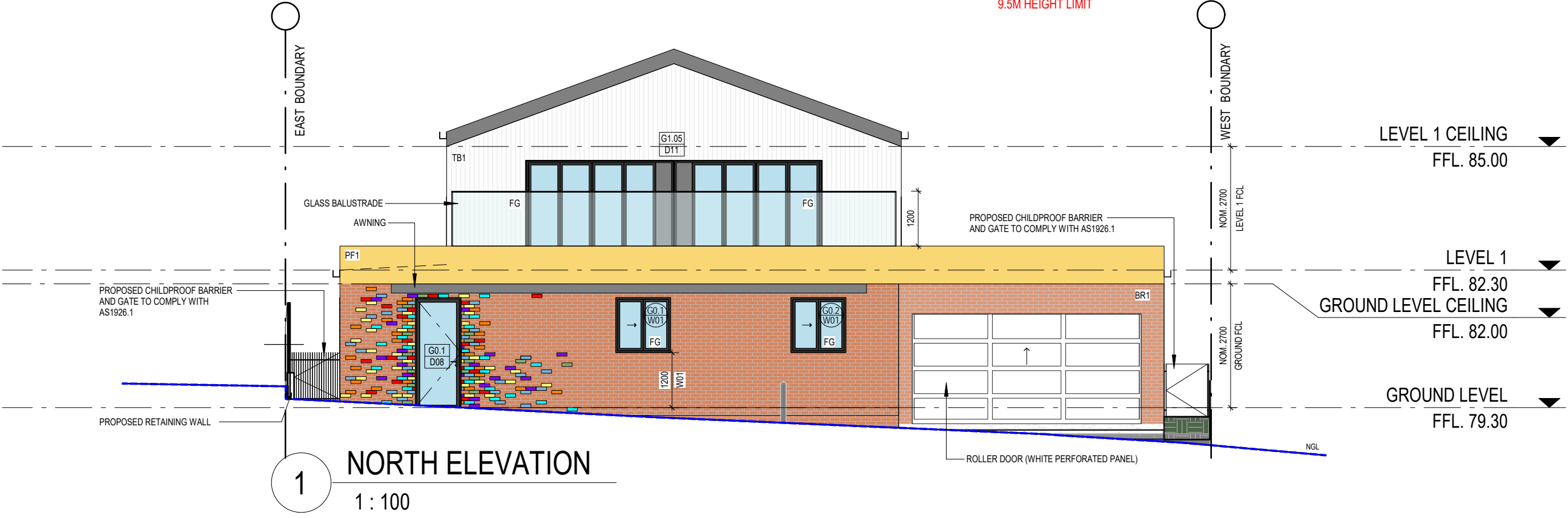
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ISABELLA LEE
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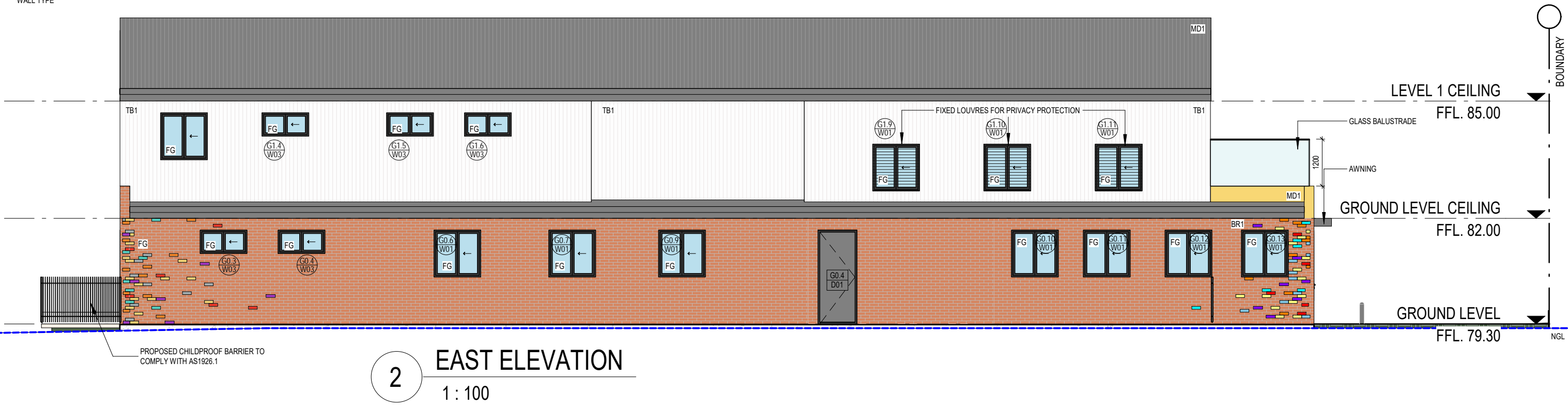
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9.5M HEIGHT LIMIT



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A12	ISSUE FOR DA	22.08.2022	QT	EK

Client Name
ISABELLA LEE

Project Name
21 LOVELL ROAD, DENISTONE EAST

Drawing Title NORTH & EAST ELEVATIONS				
Job No.	Scale	Drawing no:	ISSUE	
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PROPOSED CHILDPROOF BARRIER
AND GATE TO COMPLY WITH
AS1926.1

WEST BOUNDARY

9.5M HEIGHT LIMIT

EAST BOUNDARY

LEVEL 1 CEILING
FFL. 85.00

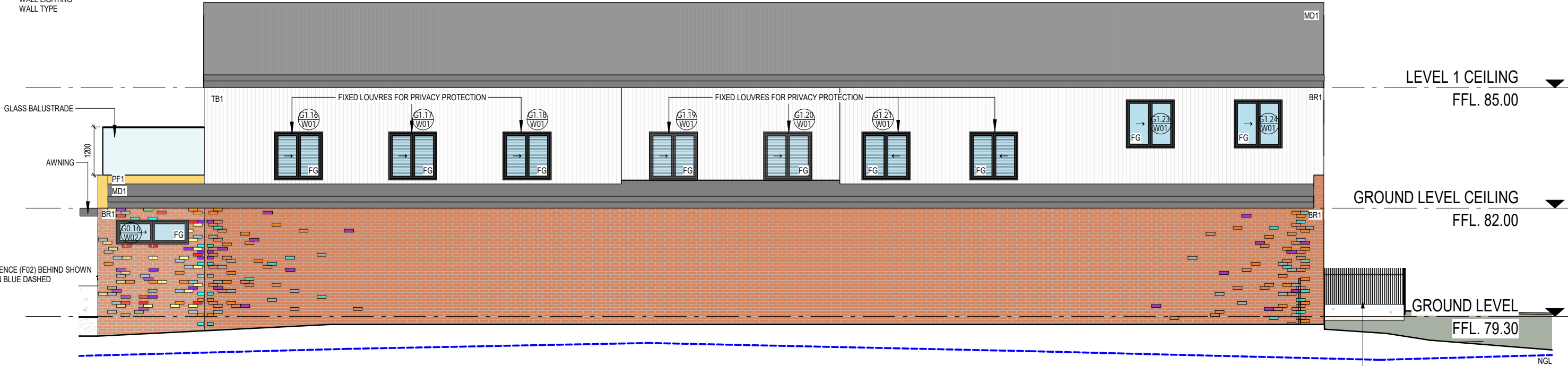
LEVEL 1
FFL. 82.30

GROUND LEVEL CEILING
FFL. 82.00

GROUND LEVEL
FFL. 79.30

1 SOUTH ELEVATION
1 : 100

9.5M HEIGHT LIMIT



2 WEST ELEVATION
1 : 100

Issue	Description	Date	DB	CB
A10	ISSUE FOR DA	09.05.2022	MM	EK
A11	ISSUE FOR DA	09.06.2022	QT	EK
A12	ISSUE FOR DA	22.08.2022	QT	EK

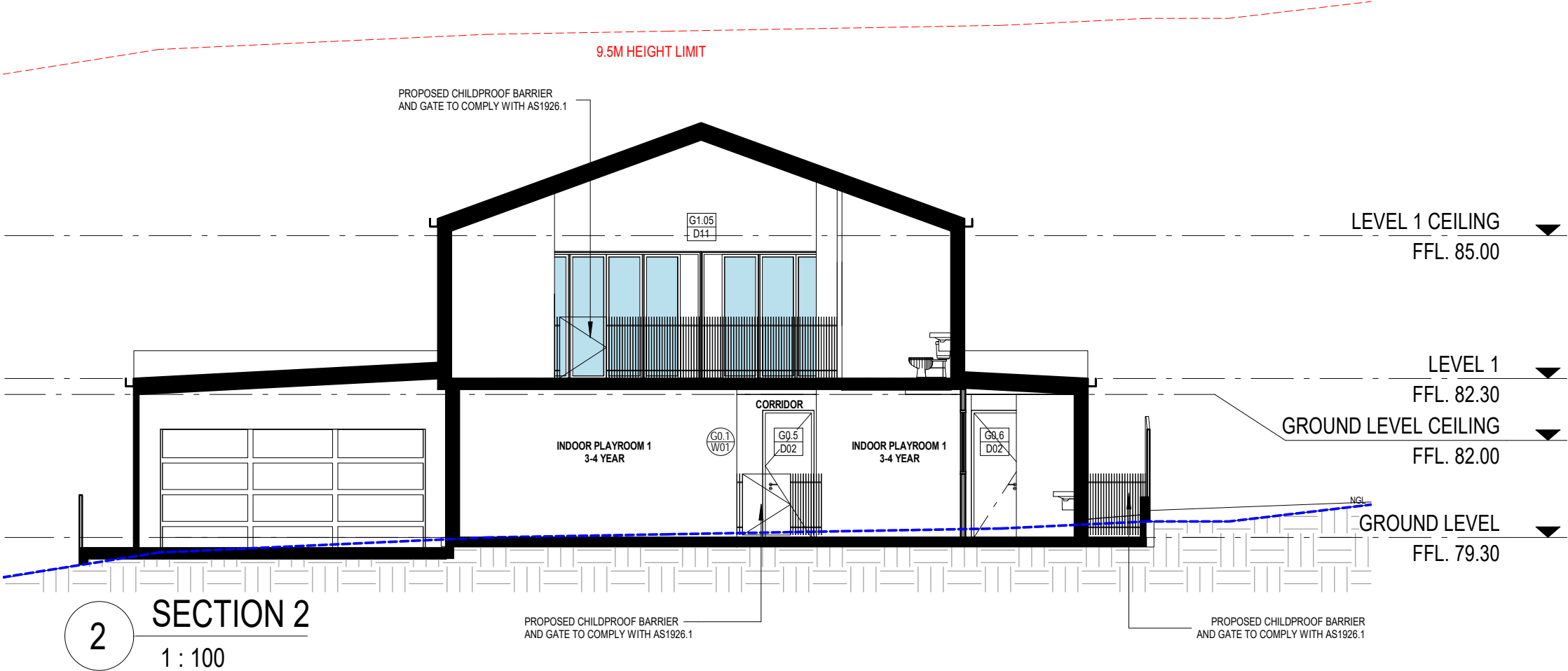
Client Name
ISABELLA LEE

Project Name
21 LOVELL ROAD, DENISTONE EAST

Drawing Title SOUTH & WEST ELEVATIONS				
Job No.	Scale	Drawing no:	ISSUE	
A20156	1 : 100 @A3	A2.01	A12	

ABBREVIATION

BAL	BALUSTRADE
BL	BOLLARD LIGHTING
BSN	BASIN
BTH	BATH
CL	CEILING LINING
CONC	CONCRETE FINISH
CT	TILE FINISH
CU	CURTAIN WALL
DL	DOWNLIGHT
DP	DOWNPIPE
DRY	DRYER
DW	DISH WASHER
DT	DIVERTER
F	FENCE
FL	FLUORESCENT LIGHT
FR	FRIDGE
FRZ	FREEZER
FW	FLOOR WASTE
GD	GRATED DRAIN
GR	GRAB RAIL
HD	RANGEHOOD
HR	HAND RAIL
LED	LED LIGHTING
LTB	LAUNDRY TUB
LV	LOUVRE SCREEN
MB	MAIL BOX
MD	METAL DECK ROOF
MR	MIRROR
MX	MIXER
N	NOSING
OV	OVEN
PBL	PEBBLE FINISH
PD	POLYCARBONATE DECK
PF	PAINT FINISH
PL	PENDANT LIGHTING
PT	PARTITION WALL
PV	PAVING
RB	ROLLER BLIND
RD	ROLLER DOOR
RE	RENDER FINISH
RW	RETAINING WALL
SCR	SCREEN
SH	SOAP HOLDER
SHD	SHOWER HEAD
SHF	SHELF
SHR	SHOWER SCREEN
SK	SKIRTING
SNK	SINK
SP	BATH SPOUT
STN	STONE FINISH
STW	STORMWATER
TB	CLADDING
TD	TIMBER DECKING
TRG	TOWEL RING
TRH	TOWEL HOLDER
TV	TIMBER VENEER
VB	VERTICAL BLIND
WC	WATER CLOSET
WL	WALL LIGHTING
WT	WALL TYPE



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a: Suite 8D,277 Lane Cove Road, Macquarie Park,2113

Nominated Architects
Eric Kim NSW.9185

Issue	Description	Date	DB	CB
A10	ISSUE FOR DA	09.05.2022	MM	EK
A11	ISSUE FOR DA	09.06.2022	QT	EK
A12	ISSUE FOR DA	22.08.2022	QT	EK

Client Name
ISABELLA LEE

Project Name
21 LOVELL ROAD, DENISTONE EAST

Drawing Title
SECTIONS

Job No.	Scale	Drawing no:	ISSUE
A20156	1 : 100 @A3	A2.03	A12



MATERIAL SCHEDULE & FINISHES



PF1: PAINT FINISH
(COLOUR: YELLOW)



BR1: FACE BRICK WALL



MD1: METAL ROOF
(COLOUR: CHARCOAL)



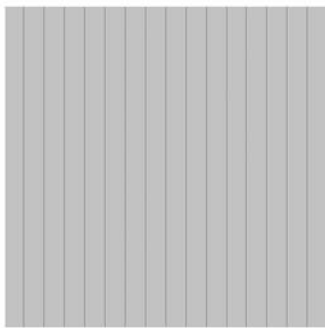
F01: PALISADE STEEL
FENCE
(COLOUR: CHARCOAL)



F02: COLOURBOND
FENCE
(COLOUR: CHARCOAL)



F03: GREEN WALL FENCE



TB1: VERTICAL CLADDING
(COLOUR: WHITE)

Issue	Description	Date	DB	CB
A10	ISSUE FOR DA	09.05.2022	MM	EK
A11	ISSUE FOR DA	09.06.2022	QT	EK
A12	ISSUE FOR DA	22.08.2022	QT	EK

Client Name

ISABELLA LEE

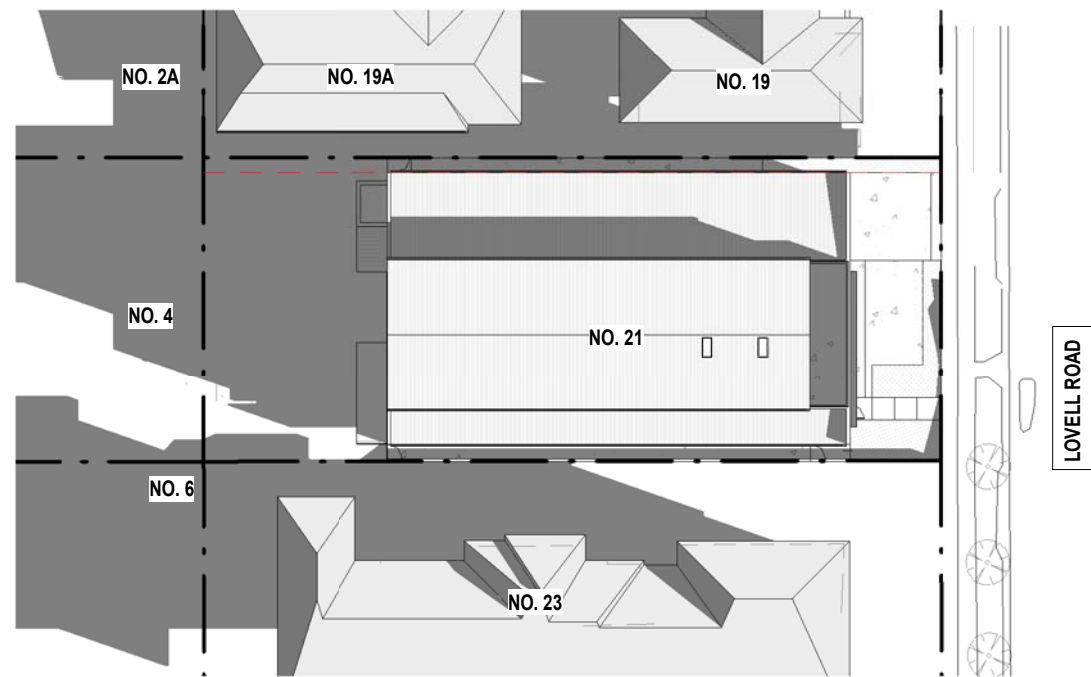
Project Name

21 LOVELL ROAD, DENISTONE EAST

Drawing Title

SCHEDULE OF EXTERNAL FINISHES

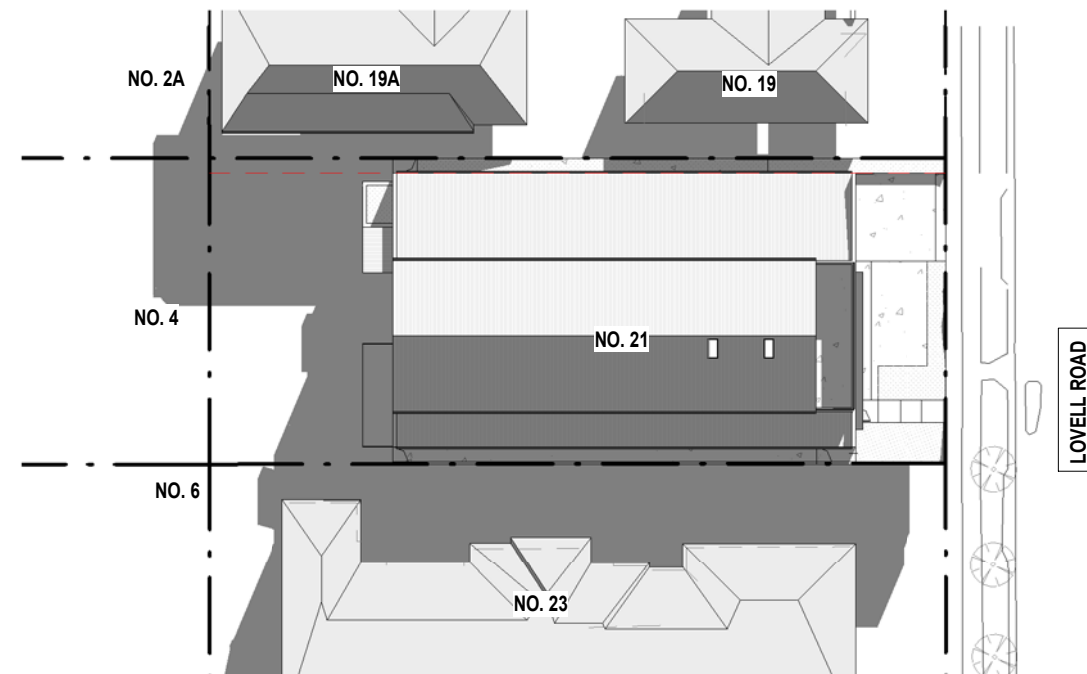
Job No.	Scale	Drawing no:	ISSUE
A20156	@A3	A3.00	A12



1 SHADOW STUDY - 21 JUNE 9AM
1 : 500



2 SHADOW STUDY - 21 JUNE 12 PM
1 : 500



3 SHADOW STUDY - 21 JUNE 3 PM
1 : 500

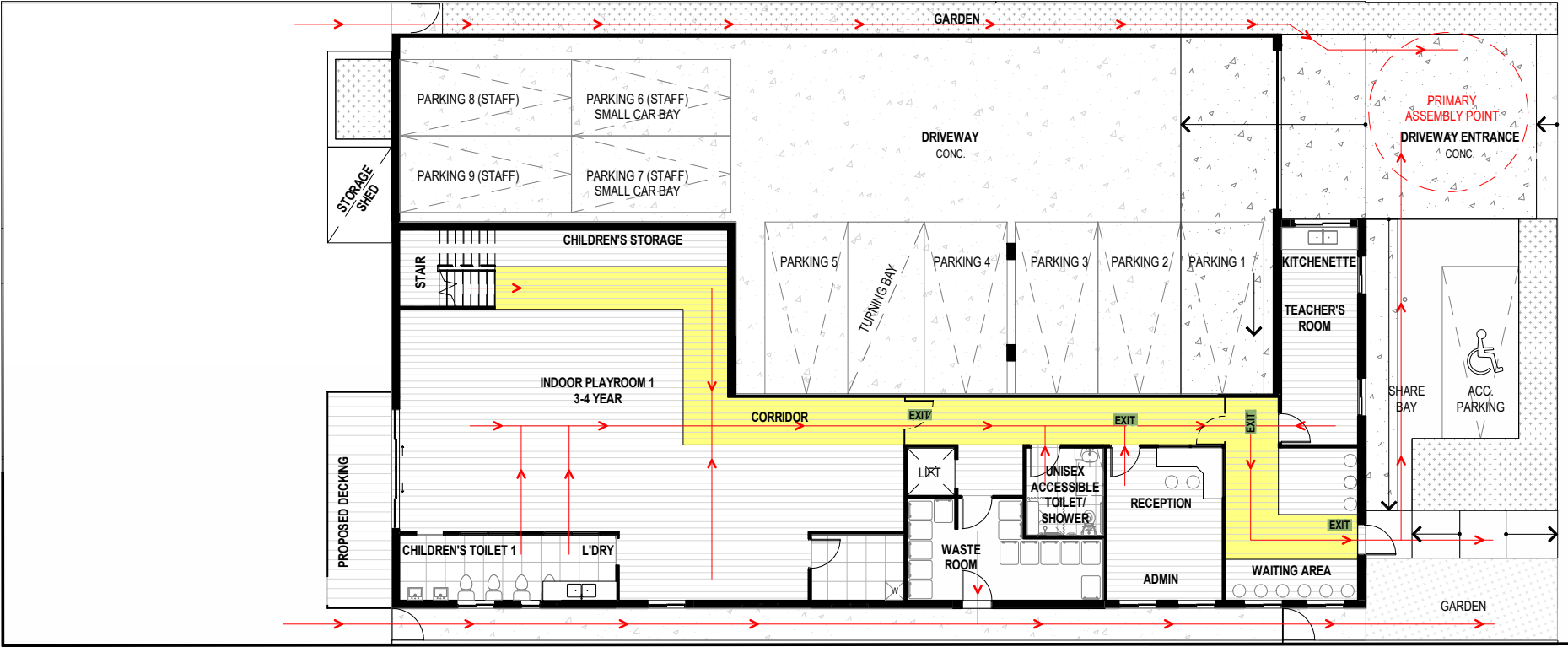


CONCEPT EVACUATION DIAGRAM

21 LOVELL ROAD,
DENISTONE EAST

RACE

- R emove people from immediate danger
- A lert Emergency switchboard - dial 555
- C onfine fire & some - close doors & windows
- E xtinguish fire, if safe to do so



EXT

EXTINGUISHER

FB

FIRE BLANKET

FHR

FIRE HOSE REEL

FH

FIRE HYDRANT

FIRE DOOR

....

FIRE WALL

EL

EMERGENCY LIGHTING

RCP

RED CALL POINT

WCP

WHITE CALL POINT

VA

VISUAL ALARM

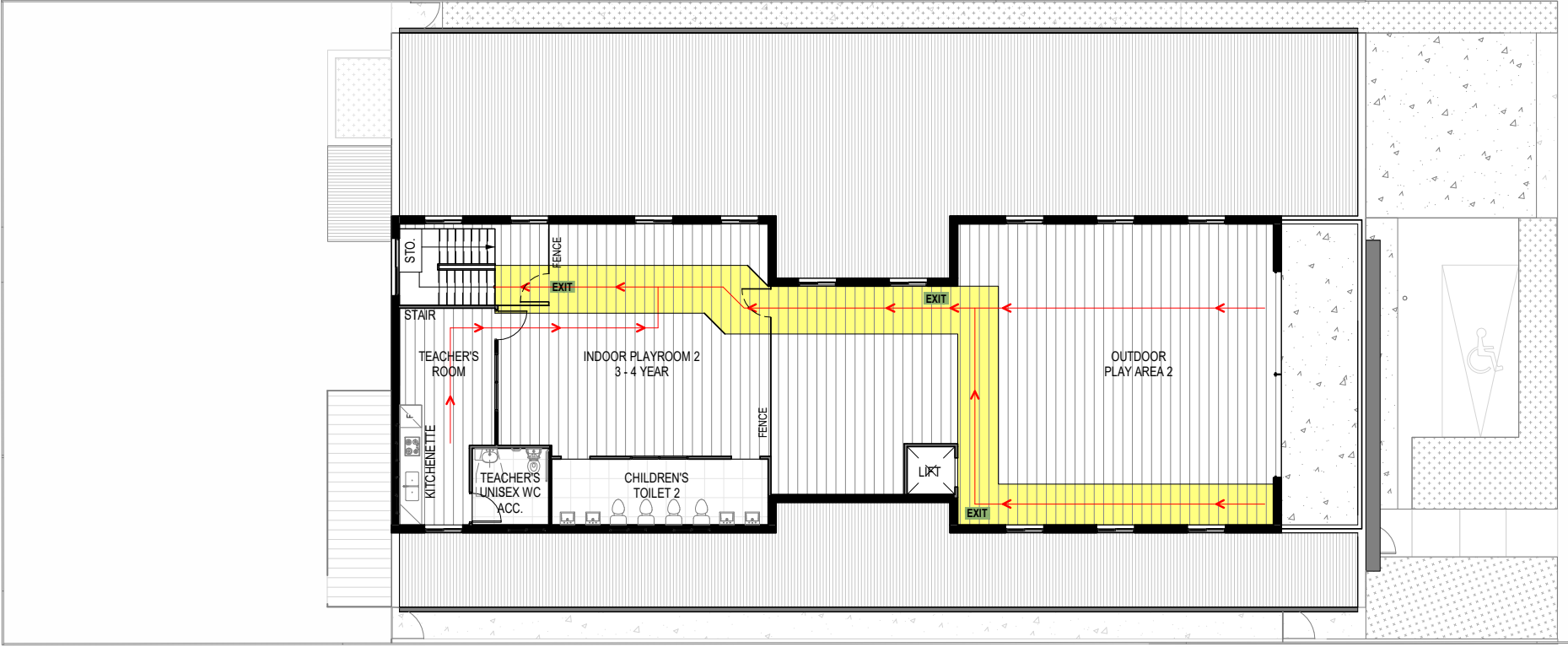
WIP

WIP PHONE

EXIT

EXIT SIGN

1 EVACUATION PLAN - GROUND
1 : 200



2 EVACUATION PLAN - LEVEL 1
1 : 200

STAGES OF EVACUATION

STAGE 1
Remove people from immediate danger and close doors.

STAGE 2
Remove people from fire area through closest fire doors into adjoining area.

STAGE 3
Evacuate patients to lower floor or to the designated assembly area.

ACKNOWLEDGEMENTS

AS 3745-2002 - "Emergency control organisation & procedures for buildings, structures and workplaces"

AS 4083-2010 - "Planning for emergencies - Health care facilities"

"NSW Health Policy Directive" PD 2010-024 - Fire Safety & Healthcare Facilities

The information contained within the diagram has been provided by consultants to the contractor for construction of the building.

Issue	Description	Date	DB	CB
A11	ISSUE FOR DA	09.06.2022	QT	EK
A12	ISSUE FOR DA	22.08.2022	QT	EK

Client Name

ISABELLA LEE

Project Name

21 LOVELL ROAD, DENISTONE EAST



Drawing Title				
EVACUATION PLAN				
Job No.	Scale	Drawing no:	ISSUE	
A20156	1:200 @A3	A7.00	A12	

Appendix B

Extract from RMS Study

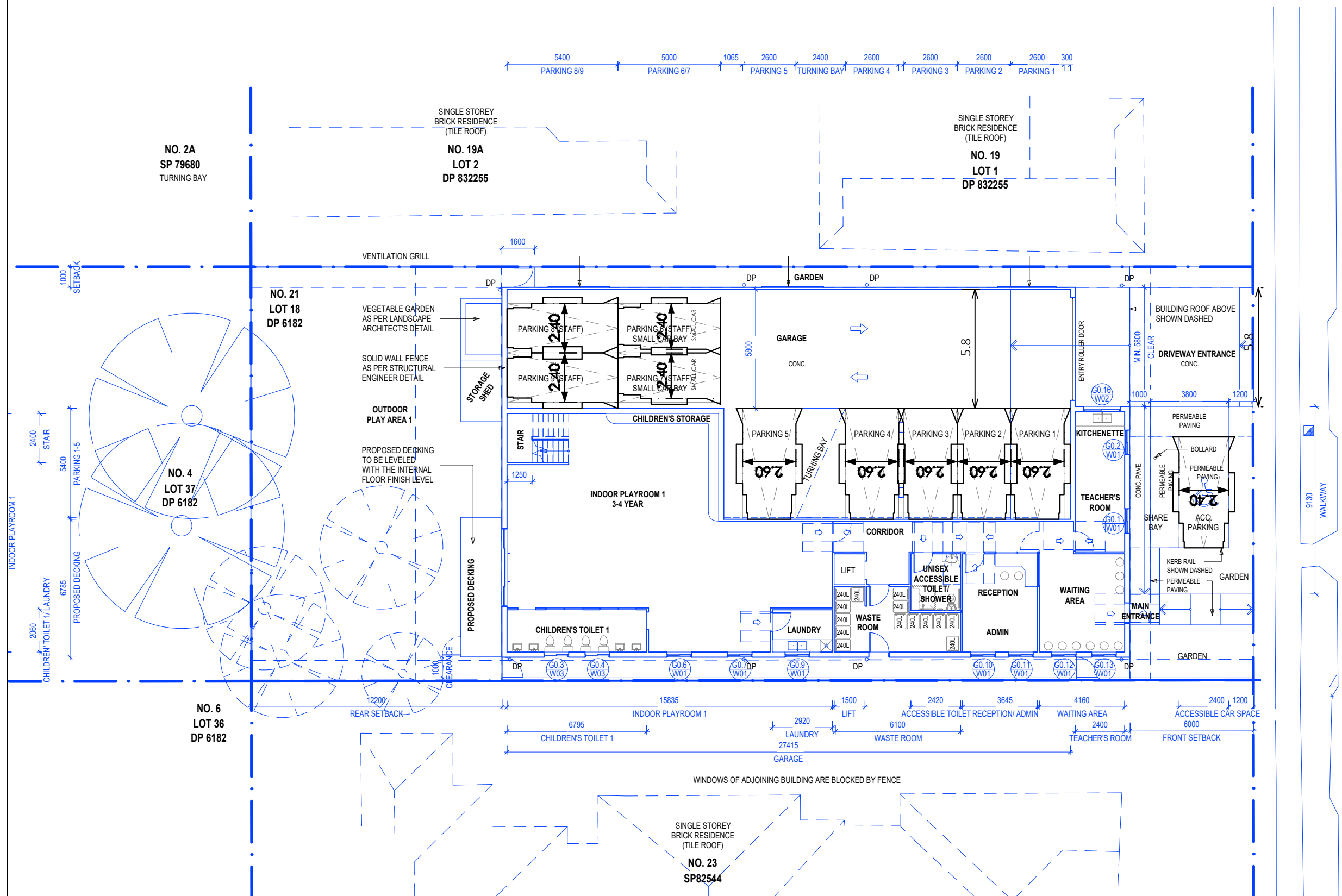
Table 2.1 Details of the selected survey sites and summary of the survey results.

	Sydney Sites												Regional Sites	
Site ID	Site S1	Site S2	Site S3	Site S4	Site S5	Site S6	Site S7	Site S8	Site S9	Site S10	Site S11	Site S12	Site R1	Site R2
Name of the development	Wattle Grove Long Day Care Centre	Acre Woods Childcare	Billy Kids Bilgola Early Learning Centre	Acre Woods Childcare	Hilda Booler Kindergarten	KU Maybanke Preschool	Wattle Grove Public School Out of School Hours Care	Kegworth Out of School Hours Care	YMCA Malabar Out of School Hours Care	Duffy's Corner Occasional Child Care Centre	Redfern Occasional Care	Balmain/Rozelle Occasional Care	Nords Wharf Community Pre School	WOOSH Care
Centre type	LDCC	LDCC	LDCC	LDCC	PS	PS	OSHC	OSHC	OSHC	OC	OC	OC	PS	OSHC
Site address	8-10 Burdekin Court, Wattle Grove NSW 2173	22-24 College Street, Gladesville NSW 2111	100 Plateau Road, Bilgola Plateau NSW 2107	81 Clanville Rd, Roseville NSW 2069	Jubilee Park, Eglinton Road, Glebe NSW 2037	99 Harris Street, Pyrmont NSW 2009	Cressbrook Drive, Wattle Grove NSW 2173	Cnr Tebutt St & Lords Road, Leichhardt NSW 2040	231-239 Franklin St, Chifley NSW 2036	419a Beauchamp Road, Maroubra NSW 2035	55 Pitt Street, Redfern NSW 2016	370 Darling Street, Balmain NSW 2041	44 Government Road, Nords Wharf NSW 2281	Woodport Public School Corner Entrance Road and Ernest Street, Erina NSW 2250
Day and date of survey(s)	Mon, 01/06/15	Wed, 03/06/15	Wed, 03/06/15	Wed-Fri, 3-5/06/15 Tue, 09/06/15 Mon, 15/06/15	Thu, 18/06/15	Thu, 25/06/15	Mon, 01/06/15	Mon, 22/06/15	Wed-Thu, 24-25/06/15	Thu, 18/06/15	Thu, 18/06/15	Mon-Tue, 22-23/06/15	Wed, 24/06/15	Thu, 18/06/15
Duration of survey - frontage road	6:30-9:30 14:30-18:00	6:30-9:30 14:30-18:00	6:30-9:30 14:30-18:00	6:30-9:30 14:30-18:00	7:00-10:00 14:30-18:00	7:00-10:00 14:00-17:30	6:30-9:30 14:30-18:00	6:30-9:30 14:30-18:00	6:30-9:30 14:30-18:00	7:00-10:00 14:30-18:00	7:00-10:00 14:30-18:00	7:00-10:00 14:30-18:00	7:00-10:00 14:00-17:30	6:30-9:30 14:30-18:00
Duration of survey - site trip generation	6:30-9:30 14:30-18:00	6:30-9:30 14:30-18:00	6:30-9:30 14:30-18:00	6:30-9:30 14:30-18:00	7:00-10:00 14:30-18:00	7:00-10:00 14:00-17:30	6:30-9:30 14:30-18:00	6:30-9:30 14:30-18:00	6:30-9:30 14:30-18:00	7:00-10:00 14:30-18:00	7:00-10:00 14:30-18:00	7:00-10:00 14:30-18:00	7:00-10:00 14:00-17:30	6:30-9:30 14:30-18:00
Surrounding land uses	Commercial / retail.	Commercial / retail.	Commercial / retail.	Low density residential dwellings.	Low density residential and parklands.	Commercial / retail and residential dwellings.	Low density residential housing and public school.	Low density residential, Kegworth Public School and Leichardt Marketplace.	Low density residential, retail, Malabar Medical Centre and Cromwell Park.	Low density residential housing.	Commercial / retail.	Commercial/retail, industrial site and medical centre.	Low density residential.	Commercial / retail and low density residential.
Frontage road - AM peak period (weekday)	8:00-9:00	8:00-9:00	8:30-9:30	multi-day ¹	8:30-9:30	8:45-9:45	8:30-9:30	8:00-9:00	6:30-7:30	8:00-9:00	8:30-9:30	8:30-9:30	8:30-9:30	8:00-9:00 8:15-9:15
Frontage road -PM peak period (weekday)	15:15-16:15	15:15-16:15	15:00-16:00	multi-day	14:45-15:45	15:30-16:30	15:15-16:15	16:45-17:45	16:30-17:30	16:45-17:45	16:15-17:15	16:15-17:15	15:00-16:00	14:45-15:45
Development details:														
Year opened	1992	2003	2007	2004	not provided	not provided	2004	2003	2003	1990	not provided	not provided	1989	1995
Total site area (m ²)	1304	1309	2318	3014	1312	1014	882	202	303	1368	1049	317	475	112
Total GFA (m ²)	514	1041	302	743	387	197	882	202	303	295	768	317	165	112
No. of licensed places for children	45	90	56	90	40	30	75	105	70	29	36	25	20	70
No. of employees	12	10	10	15	6	5	4	11	6	6	10	4	3	5
Vehicle trips:														
Centre peak hour vehicle trips (in+out) AM	27	80	40	93	39	11	42	39	38	30	8	16	25	4
Time of Centre peak hour vehicle trips (AM)	7:30-8:30 7:45-8:45	7:30-8:30	8:00-9:00	multi-day ¹	8:30-9:30	8:30-9:30	6:45-7:45	7:15-8:15	8:00-9:00	8:00-9:00 8:15-9:15	8:30-9:30 8:45-9:45 9:00-10:00	8:30-9:30 8:45-9:45 9:00-10:00	8:45-9:45	6:30-7:30 6:45-7:45 7:00-8:00
Centre peak hour vehicle trips per licensed place (AM)	0.60	0.89	0.71	1.03	0.98	0.37	0.56	0.37	0.54	1.03	0.22	0.64	1.25	0.06
Centre peak hour vehicle trips per 100m2 of total GFA (AM)	5.25	7.68	13.25	12.52	10.08	5.58	4.76	19.31	12.54	10.17	1.04	5.05	15.15	3.57
Centre peak hour vehicle trips (in+out) PM	31	73	46	77	32	11	36	53	18	40	26	6	22	34
Time of Centre peak hour vehicle trips (PM)	16:30-17:30	17:00-18:00	16:00-17:00	multi-day	14:15-15:15	14:00-15:00 14:15-15:15	16:45-17:45	16:15-17:15	16:45-17:45 17:00-8:00	15:45-16:45	15:00-16:00	14:30-15:30 14:45-15:45	14:30-15:30	17:00-18:00
Centre peak hour vehicle trips per licensed place (PM)	0.69	0.81	0.82	0.86	0.80	0.37	0.48	0.50	0.26	1.38	0.72	0.24	1.10	0.49
Centre peak hour vehicle trips per 100m2 of total GFA (PM)	6.03	7.01	15.23	10.36	8.27	5.58	4.08	26.24	5.94	13.56	3.39	1.89	13.33	30.36
Vehicle trips during adjacent road's peak hour (AM)	18	72	39	58	39	9	0	22	4	30	6	16	24	0
Vehicle trips per licensed place during adjacent road's peak hour (AM)	0.40	0.80	0.70	0.64	0.98	0.30	0.00	0.21	0.06	1.03	0.17	0.64	1.20	0.00
Vehicle trips per 100m ² of GFA during adjacent road's peak hour (AM)	3.50	6.92	12.91	7.81	10.08	4.57	0.00	10.89	1.32	10.17	0.78	5.05	14.55	0.00
Vehicle trips during adjacent road's peak hour (PM)	23	27	14	50	28	4	13	50	16	2	0	0	14	2
Vehicle trips per licensed place during adjacent road's peak hour (PM)	0.51	0.30	0.25	0.56	0.70	0.13	0.17	0.48	0.23	0.07	0.00	0.00	0.70	0.03
Vehicle trips per 100m2 of GFA during adjacent road's peak hour (PM)	4.47	2.59	4.64	6.73	7.24	2.03	1.47	24.75	5.28	0.68	0.00	0.00	8.48	1.79
Parking:														
No. of on site parking spaces	13	14	10	18	0	0	0	0	0	0	10	5	4	22
Peak parking accumulation	13	16	9	14	7	6	5	12	12	10	3	7	6	6
Peak parking accumulation per licensed place	0.29	0.18	0.16	0.16	0.18	0.20	0.07	0.11	0.17	0.34	0.08	0.28	0.30	0.09
Peak parking accumulation per 100m ² of total GFA	2.53	1.54	2.98	1.88	1.81	3.05	0.57	5.94	3.96	3.39	0.39	2.21	3.64	5.36
Time of peak parking accumulation	8:30-9:30	7:45-8:45 16:15-17:15	8:30-9:30	multi-day	15:30-16:30	9:00-10:00	16:15-17:15	15:45-16:45	16:00-17:00	15:15-16:15	multiple hours	8:30-9:30	8:15-9:15	17:00-18:00

¹ For detailed information please refer to the Trip Generation Surveys Child Care Centres Data Report.

Appendix C

Turning Path Assessment



21 LOVELL ROAD, DENISTONE EAST
CARPARK LAOUT

DRAWING REF NO. 20353-V1.3-SP

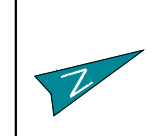
ISSUE DATE 8 September 2022

DESIGNED BY
Y. NG

REVIEWED BY
B. LO

SCALE
A3

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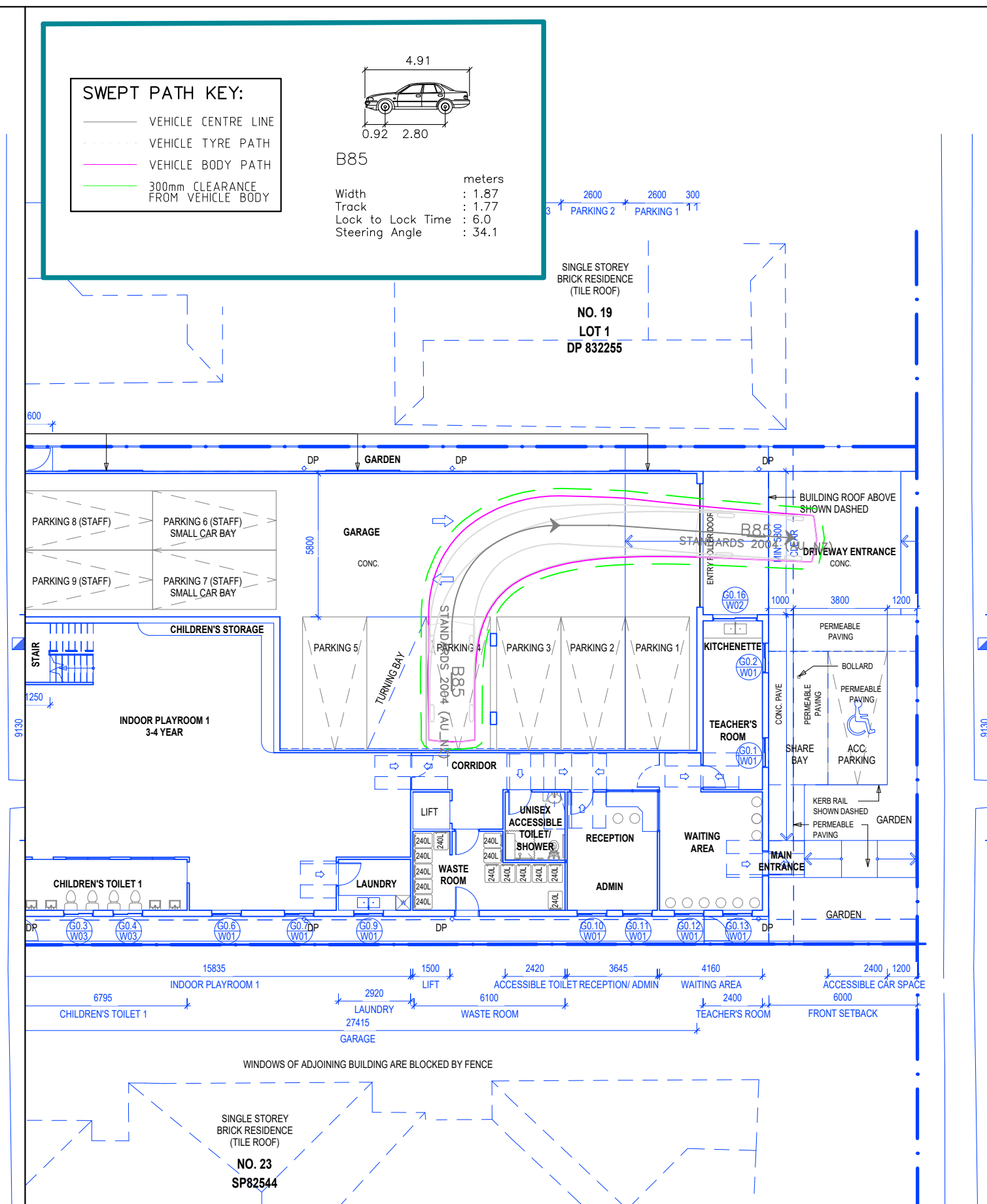
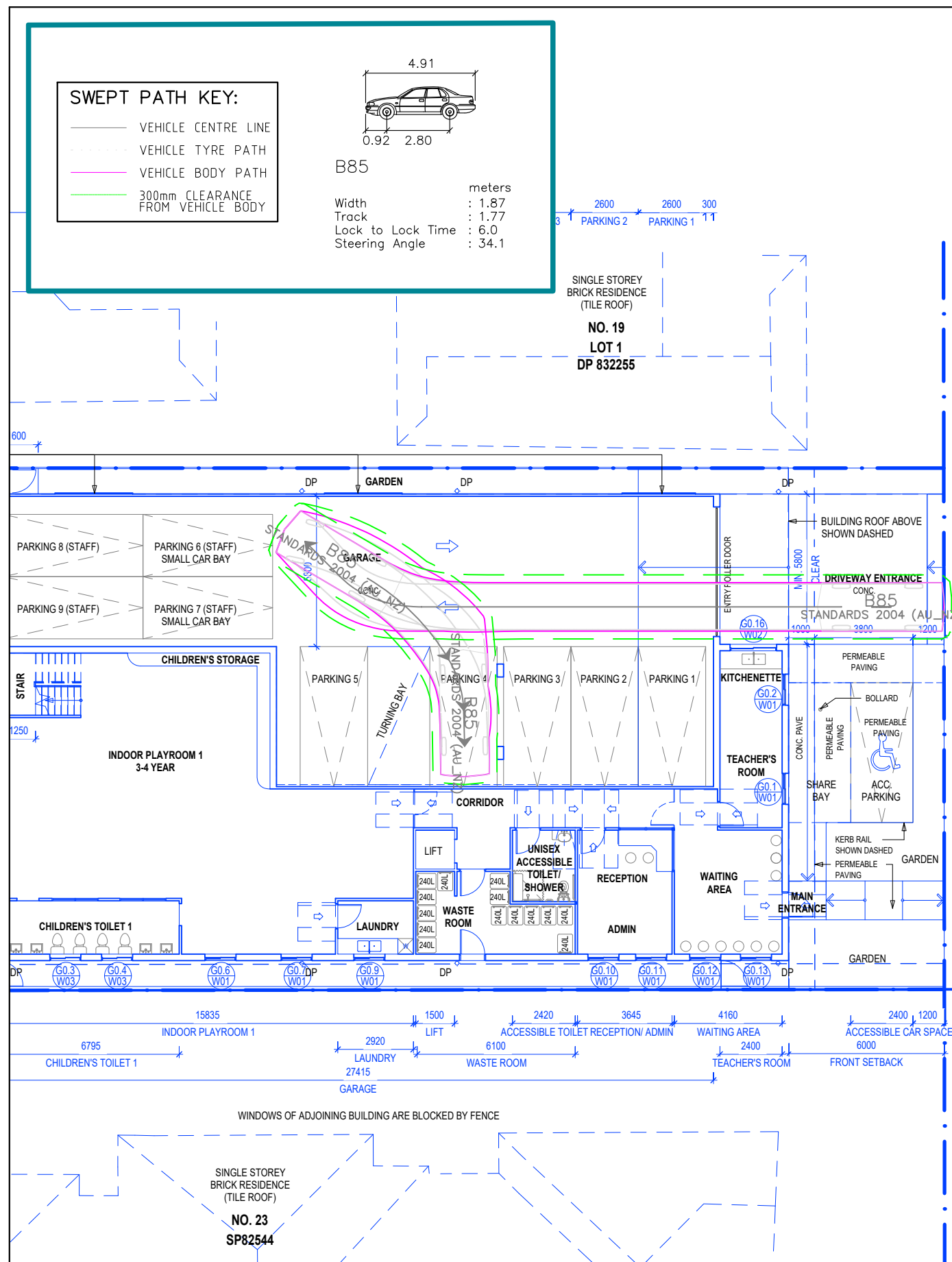


PRELIMINARY PLAN
FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

WARNING
THE LOCATION OF UNDERGROUND SERVICES
ARE APPROXIMATE ONLY
THE EXACT LOCATIONS SHALL BE DETERMINED ON SITE
ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED

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Established 1994

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21 LOVELL ROAD, DENISTONE EAST
ENTRY AND EXIT MOVEMENTS OF 85th PERCENTILE VEHICLES
SWEPT PATH ASSESSMENT

DRAWING REF NO. 20353-V1.3-SP

SHEET NO. 02 OF 06

ISSUE DATE 8 September 2022

DESIGNED BY
Y.NG

REVIEWED BY
B.L.O

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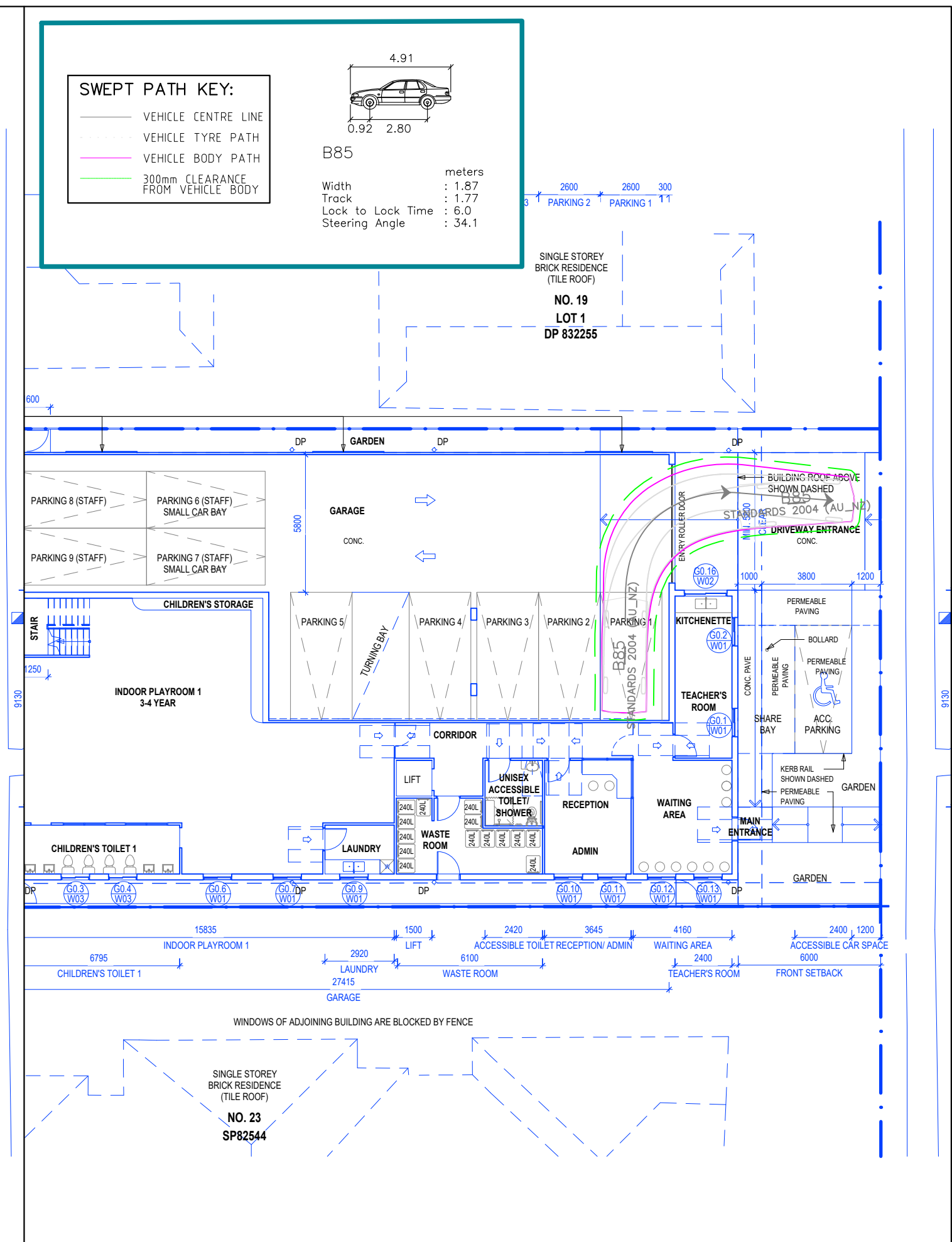
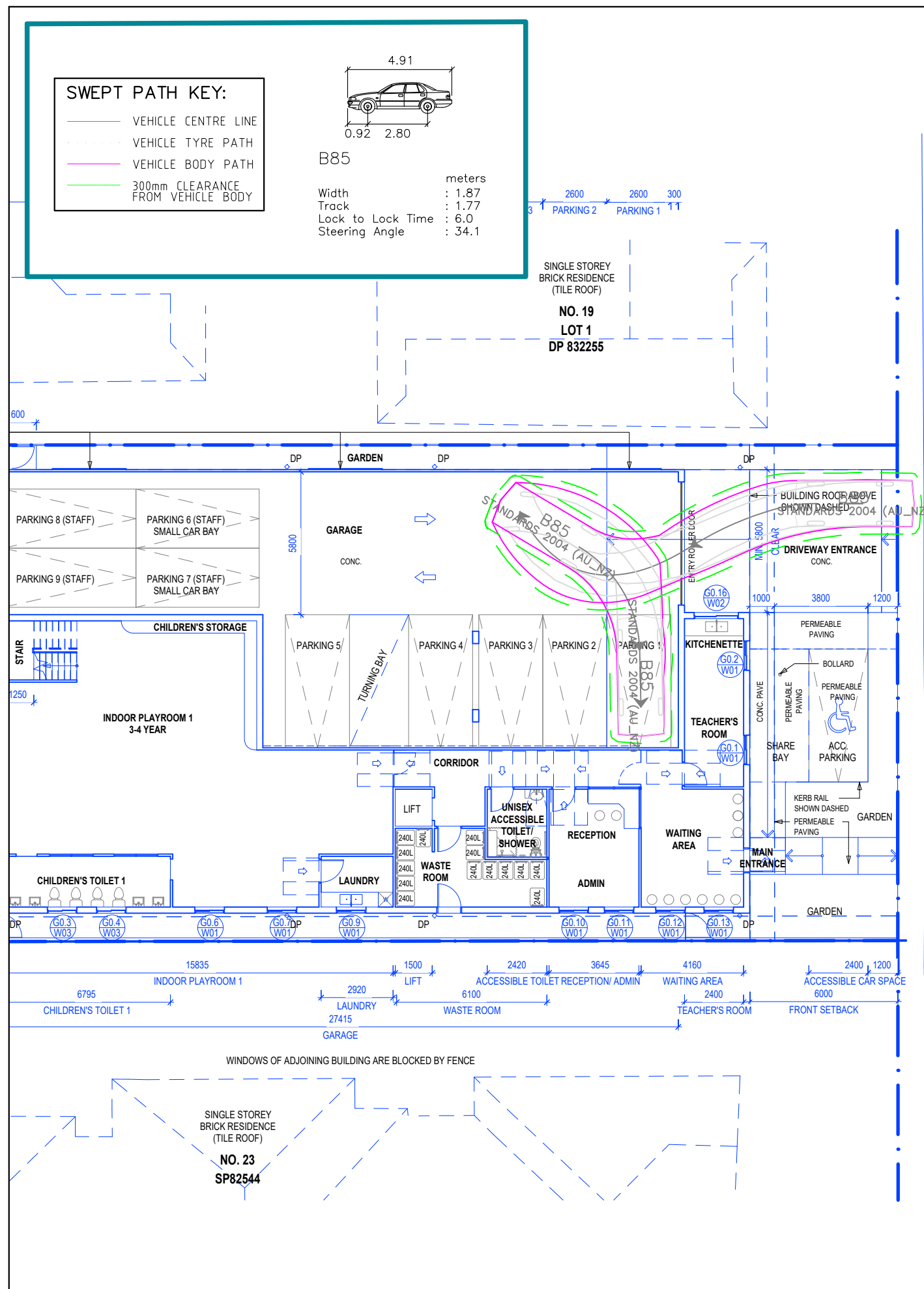


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21 LOVELL ROAD, DENISTONE EAST
ENTRY AND EXIT MOVEMENTS OF 85th PERCENTILE VEHICLES
SWEPT PATH ASSESSMENT

DRAWING REF NO. 20353-V1.3-SP

SHEET NO. 03 OF 06

ISSUE DATE 8 September 2022

DESIGNED BY
Y.NG

REVIEWED BY
B.L.O

SCALE
A3 0 2.0 4.0 1:200



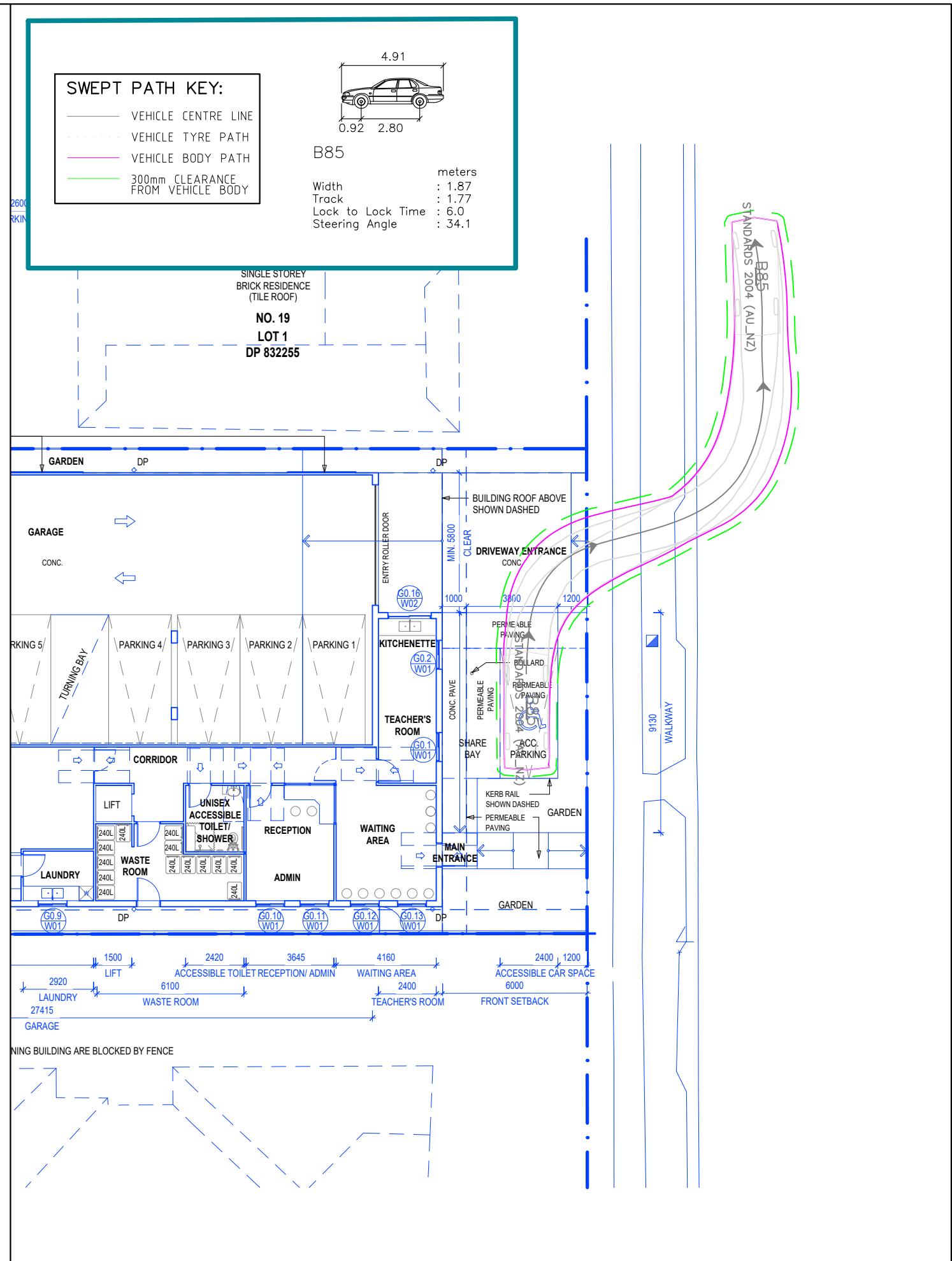
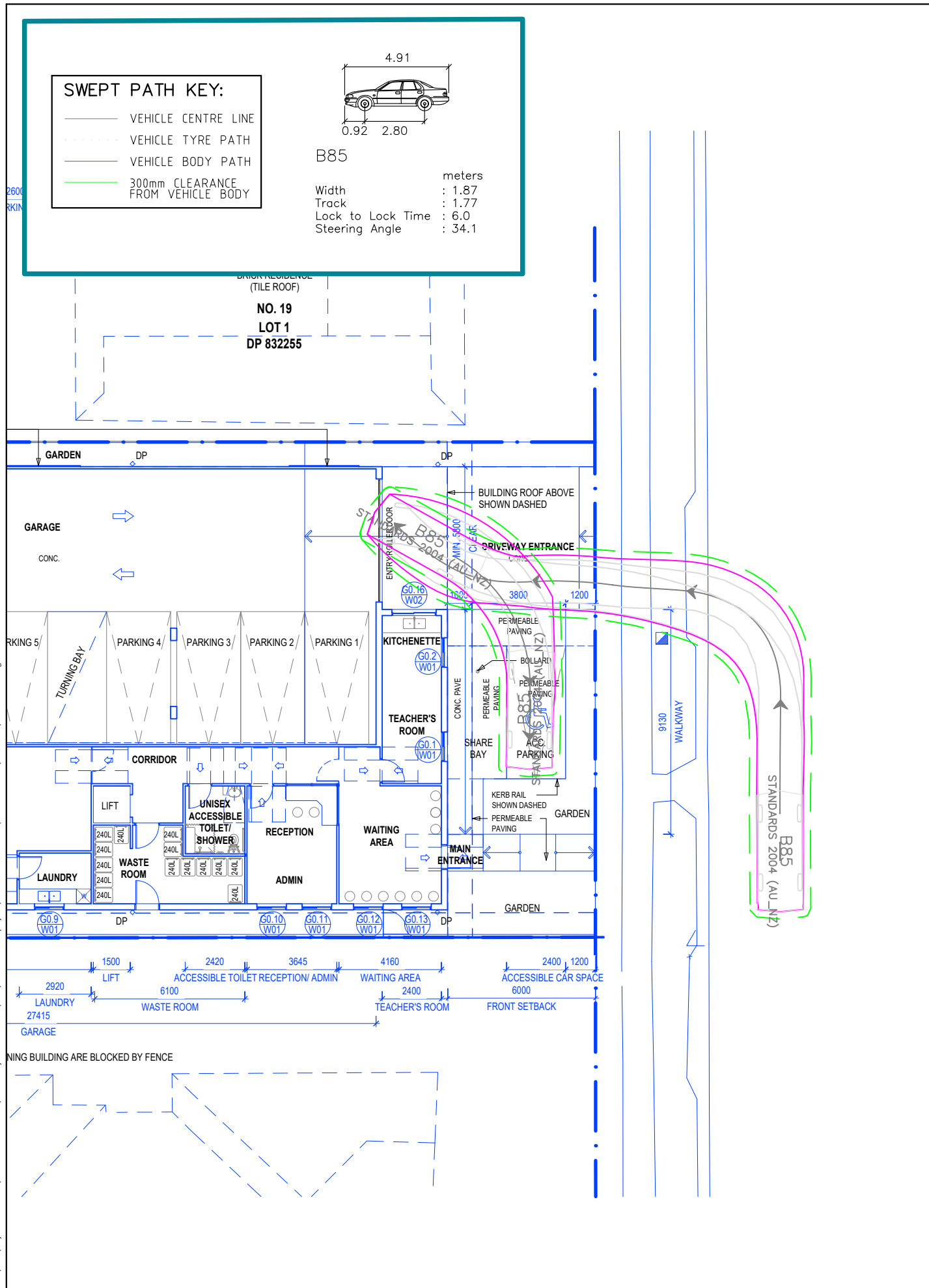
PRELIMINARY PLAN
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Plotted by Projects - Genesis Traffic\Users\Projects\Genesis Traffic Solutions\Projects - Documents\2022\TTPA transferred projects\20353 - 21 LOVELL ROAD, DENISTONE EAST\DRAWINGS\20353-V1.3-SP.dwg



21 LOVELL ROAD, DENISTONE EAST
ENTRY AND EXIT MOVEMENTS OF 85th PERCENTILE VEHICLES
SWEEP PATH ASSESSMENT

DRAWING REF NO. 20353-V1.3-SP

SHEET NO. 04 OF 06

ISSUE DATE 8 September 2022

DESIGNED BY
Y.NG

REVIEWED BY
B.L.O

SCALE
A3 0 2.0 4.0 1:200



PRELIMINARY PLAN
FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

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