PO Box 215 Bondi NSW 2026 | ph.: +61 2 9332 2024 | fax.: +61 2 9332 2022 | mob.: +61 (0)4 1497 8067 | email: o.s@tefconsult.com.au | www.tefconsult.com.au

AN ADDENDUM TRAFFIC AND PARKING IMPACTS REPORT FOR A DEVELOPMENT APPLICATION FOR A PROPOSED RESIDENTIAL DEVELOPMENT AT Nos. 45–49 WARRIEWOOD ROAD, WARRIEWOOD NSW 2102

Property address	45 – 49 Warriewood Road, Warriewood NSW 2102
Client	Archidrome
Prepared by	O. Sannikov, MEngSc (Traffic Engineering), MIEAust, PEng, FAITPM
Date	21/12/23
Job No.	23042
Report No.	23042 Rep 01f
Report version	This report is an addendum report for the previous Traffic and Parking Impacts Report (TPIR) "21063 Rep 01e" dated 07/07/22. It is based on the amended architectural plans dated December 2023, prepared by Archidrome. Copies of the relevant architectural drawings are attached in the **Appendix**. The following sections of the present report deal with only those parts of the assessment which differ from the TPIR dated 07/07/22.

Item	Report
Proposed development	• 34 residential units ◦ The mix of units has been changed – refer to a table of changes titled "R.F.B UNIT MIX – BREAKDOWN" included in the **Appendix**. • Basement car park ◦ 81 car parking spaces ▪ 68 spaces for residents • Including six (6) spaces for people with disabilities ▪ 13 spaces for visitors • Including two (2) spaces for people with disabilities ◦ One (1) car wash bay ◦ 12 bicycle spaces • The above development is part of of the proposed subdivision of Lot 2 (DP 349085). The subdivision includes 5 separate lots with frontages to Lorikeet Grove and 6 separate lots with frontages to Warriewood Road. ◦ A dwelling house is proposed on each lot in the future (subject to detailed Development Applications (DAs)). The internal car parking design for each lot will be assessed separately at part of the future DA applications for each lot. ◦ Traffic impacts (in terms of the access point and trip generation) for the 11 separate lots have been assessed within the contents of this report.

Item	Report
Planning control document	• Pittwater 21 Development Control Plan 2004 ◦ Part B – General Controls ◦ Part C – Development Type Controls

Requirement	Compliance
Part B – General Controls	
Section B6 – Access and Parking	
	There are no changes to the previous assessment against the Pittwater 21 DCP requirements. However, the assessment of the parking requirements has been replicated from the previous TPIR dated 07/07/22 to confirm compliance of the proposed parking provision. Refer to the previous TPIR dated 07/07/22 for the full assessment against the Pittwater 21 DCP requirements.
B6.3. Off-Street Vehicle Parking Requirements	
The minimum number of vehicle parking spaces to be provided for off-street parking is as follows for dual occupancies, dwelling houses, secondary dwellings, exhibition homes, rural workers' dwellings and tourist and visitor accommodation:	Dwelling houses on separate lots will be provided with complying car parking.
For a Secondary Dwelling a minimum of 1 space is required in addition to existing requirement for the principal dwelling (based on number of bedrooms in principal dwelling).	N/A
Minimum dimensions of internal space for on-site parking are:	Complies with AS/NZS 2890.1:2004

Single car parking spaces on hard stand and Single Carport	2.4 metre x 5.5 metre with 0.3m minimum clear space each side for access to doors
Enclosed garage(internal dimension)	3.0 metre x 6.0 metre, with 2.4 metre minimum width entry
Multiple side by side carport and enclosed garage(internal dimension)	5.7 metre x 6.0 metre for 2 adjacent vehicles + 2.7 metre width for each additional vehicle with, 2.4 metre minimum width entry per vehicle space

For all other uses, the minimum number of vehicle parking and service spaces to be provided within the development site for new development and extensions to existing development is to be in accordance with the following:	
• The total number of spaces as set out in TABLE 1 below;	Calculations are shown below.
• PLUS the number of on-street parking spaces lost as a direct result of the development due to access and traffic facilities requirements.	No on-street car parking spaces are lost. N/A

P.T.O.

TABLE 1: Onsite Car Parking requirements

Development Type	Minimum Number of. Car Spaces	
Multi Dwelling Housing, Residential Flat Buildings and Shop-Top Housing:	1 bedroom dwellings	1 space per dwelling
	2 or more bedroom dwellings	2 spaces per dwelling
	Adaptable Housing in accordance with control C1.9 of the Pittwater 21 Development Control Plan.	1 space per dwelling in accordance with AS 4299-1995: Adaptable Housing.
	The provision of parking for people with disabilities must be provided at a rate of 3% of the required parking spaces, excluding parking required for Adaptable Housing.	
	Separate visitor parking is to be provided at a rate of 1 space per 3 dwellings rounded up.	
	Provision must be made for garbage collection, removalist vans and emergency vehicles.	
	For developments with 10 or more dwellings, a vehicle wash bay is to be provided.	

Car parking required	Car parking proposed
There are a total of 34 dwellings with 2 or more bedrooms. • 34 x 2 = **68 spaces**	68 spaces for residents are proposed. Complies
Requirement	**Compliance**
Visitor car parking required	**Visitor car parking proposed**
There are a total of 34 dwellings. • 34/3 = 11.3, say **12 spaces**	13 visitor spaces are proposed. Complies and exceeds The level of visitor parking provision required by DCP appears to be excessive, particularly considering that each unit is provided with two (2) car parking spaces. RMS (2002) Guide to Traffic Generating Developments requires only one (1) visitor space per 5 residential units. If the **RMS** rate was applied, then the total requirement would be **7 visitor spaces**. This requirement is exceeded by the proposed 13 spaces.
Car parking required for people with disabilities	**Car parking proposed for people with disabilities**
There are four (4) adaptable units, requiring one (1) accessible space each. • 4 spaces For the remaining 30 units (excluding parking required for adaptable housing), 60 car parking spaces plus 12 visitor spaces are required • 72 x 0.03 = 2.16 spaces, say **2 spaces** Total: • 4 + 2 = **6 spaces**	6 spaces are proposed as per DCP requirements. However, it must be noted that spaces for people with disabilities are not required for buildings of Class 2 (residential units) by the BCA. Complies and exceeds BCA requirements
	Provision for garbage collection
	On-site waste collection at the ground floor level is proposed. Entry and exit from the collection point in a forward direction is achievable by a typical large waste collection vehicle (9.9 m long).
Wash bay required	**Wash bay proposed**
34 dwellings are proposed. • 1 wash bay	One (1) car wash bay is proposed. Complies

Item	Report	
	Bicycle Storage	
	For residential development (other than a dwelling house, dual occupancy, secondary dwellings, exhibition homes and rural workers' dwellings), secure bicycle storage facilities must be provided within the building at the rate of 1 bicycle rack per 3 dwellings.	As below.
	Bicycle parking required	**Bicycle parking proposed**
	There are a total of 34 dwellings.	12 spaces are proposed.
	• 34/3 = 11.3, say **11 spaces**	Complies and exceeds
	For Business/Industrial development or additions, comprising of 200m² GFA or more, secure enclosed bicycle storage facilities must be provided within the building at the rate of 1 bicycle rack per 1000m² GFA, or a minimum of 4 bicycle racks, whichever is the greater.	N/A
	Motor Cycle Parking	N/A
	For Business/Industrial development or additions, comprising of 200m² GFA or more, provision is to be made for motor cycle parking at a rate of 1 motor cycle parking space per 100 motor vehicle spaces.	N/A

Item	Report
	Traffic impacts
Traffic generation	• Base traffic generation rates ◦ From RMS (2002) Guide to Traffic Generating Developments ▪ Updated statistics from TDT 2013 / 04a
	• **Existing traffic generation** ◦ Vacant lot
	• **Traffic generated by proposed development** ◦ High density residential flat buildings (34 residential flat buildings)
	◦ The definition of a high density residential flat building in the RMS (2002) is a building containing 20 or more dwellings. This definition is only for the purpose of calculating the trip generation. It is different from and does not affect the town planning definitions for land use and development density. ▪ Morning peak hour vehicle trips = 0.19 trips per unit ▪ Afternoon peak hour vehicle trips = 0.15 trips per unit
	◦ Morning peak hour ▪ 0.19 x 34 = 6.5, say **7 trips** (in and out)
	◦ Afternoon peak hour ▪ 0.15 x 34 = 5.1, say **5 trips** (in and out)
	◦ 11 dwelling houses (on lots A1 to A7 and lots B1 to B4)
	◦ Dwelling houses ▪ Weekday peak hour vehicle trips = 0.99 trips per dwelling • 0.99 x 11 = 10.9, say **11 trips** (exiting in the morning peak hour and entering in the afternoon peak hour)
	◦ Total:
	◦ Morning peak hour ▪ 7 + 11 = **18 trips** (in and out)
	◦ Afternoon peak hour ▪ 5 + 11 = **16 trips** (in and out)
Street network	• The street network in the Warriewood Precinct is currently being developed.
	• The planned road infrastructure has been designed to accommodate for the forecast growth within the area, assuming that the specific developments are in accordance with the planned land uses and densities as specified in the Pittwater Local Environmental Plan 2014.
	◦ The proposed development is located in the medium density residential zone (as per Pittwater LEP 2014) and complies with the density requirements of that zone.
Trip distribution	• The trip distribution diagrams in TPIR dated 07/07/22 overestimated traffic in Lorikeet Grove by not accounting for traffic from the four lots fronting Warriewood Road (six lots in the current proposal). The updated trip distribution diagrams are attached in the **Appendix** to this report.
	• The trip distribution diagrams demonstrate that the additional traffic in Lorikeet Grove and Bubalo Street will be very low and will not have adverse impact on their performance. Further on the road network the additional traffic will be minuscule, well within hourly and daily fluctuations of traffic.
Conclusion	• The likely trip generation from the proposed development is low, within the planned levels, and no negative impacts on traffic operations are expected.

Conclusions	• Proposed parking provision ◦ Complies with the Council's Development Control Plan requirements with regard to provision for residents, visitors and people with disabilities. • Traffic impacts ◦ The additional traffic from the proposed development will have no negative impact on the street network operation. • Design of access, car parking and servicing facilities ◦ Complies with the relevant Standards • The proposed development is supportable on traffic and parking grounds.

Oleg I. Sannikov
Director
MEngSc (Traffic Engineering)
MIEAust, PEng
FAITPM

References:

Pittwater 21 Development Control Plan 2004

RMS (2002) Guide to Traffic Generating Developments

AS/NZS 2890.1:2004: Parking Facilities – Off-street car parking

AS 2890.2-2018: Parking Facilities – Off-street commercial vehicle facilities

AS 2890.3:2015: Parking Facilities – Bicycle parking

AS/NZS 2890.6:2009: Parking Facilities – Off-street parking for people with disabilities

Appendix

Unit mix breakdown
Reduced copies of the architectural drawings for ground and basement levels
Car park design checks and vehicle turning diagrams
Trip distribution of additional traffic

TORRENS TITLE LOTS

	D.A	AMENDED SET - AUG,2023	AMENDED SET - SEP,2023	AMENDED SET - DEC,2023
SUBDIVIDED LOTS	4 LOTS ALONG WARRIEWOOD RD + 7 LOTS ALONG LORIKEET GROVE TOTAL 11 LOTS	4 LOTS ALONG WARRIEWOOD RD + 7 LOTS ALONG LORIKEET GROVE TOTAL 11 LOTS	6 LOTS ALONG WARRIEWOOD RD + 5 LOTS ALONG LORIKEET GROVE TOTAL 11 LOTS	6 LOTS ALONG WARRIEWOOD RD + 5 LOTS ALONG LORIKEET GROVE TOTAL 11 LOTS

COMMENTS
LOT BOUNDARIES AMENDED TO ACCOMMODATE SIX LOTS FACING WARRIEWOOD ROAD AND 5 FACING LORIKEET GROVE

RESIDENTIAL FLAT BUILDING

	D.A	AMENDED SET - AUG,2023	AMENDED SET - SEP,2023	AMENDED SET - DEC,2023
R.F.B	BLDG C + BLDG D	BLDG C + BLDG D	BLDG C + BLDG D	BLDG C + BLDG D
NO. OF UNITS	34 UNITS COMBINED	34 UNITS COMBINED	34 UNITS COMBINED	34 UNITS COMBINED
UNIT TYPOLOGY	20 NOs. X 4 BED TOWN HOUSE STYLE 2 STOREY UNITS.	20 NOs. X 4 BED TOWN HOUSE STYLE 2 STOREY UNITS.	11 NOs. X 4 BED TOWN HOUSE STYLE 2 STOREY UNITS. 9 NOS. X 5 BED TOWN HOUSE STYLE 2 STOREY UNITS	11 NOs. X 4 BED TOWN HOUSE STYLE 2 STOREY UNITS. 9 NOS. X 5 BED TOWN HOUSE STYLE 2 STOREY UNITS
	14 NOs. X 3 BED TOP FLOOR UNITS.	10 NOs. X 3 BED TOP FLOOR UNITS. 4 DUAL KEY TOP FLOOR UNITS BREAKDOWN BELOW: DUAL KEY UNIT C16 CAN INTERNALLY FUNCTION AS AN INDEPENDENT STUDIO AND 2 BED UNIT. DUAL KEY UNIT D17 CAN INTERNALLY FUNCTION AS AN INDEPENDENT STUDIO AND 2 BED UNIT. DUAL KEY UNIT C17 CAN INTERNALLY FUNCTION AS AN INDEPENDENT 1 BED + 1 BED UNIT. DUAL KEY UNIT D16 CAN INTERNALLY FUNCTION AS AN INDEPENDENT 1 BED + 1 BED UNIT.	10 NOs. X 3 BED TOP FLOOR UNITS. 4 NOs. X 2 BED TOP FLOOR UNITS. BREAKDOWN BELOW: UNITS C11,12,13,14,15 & D13,14,15 16,17 FUNCTION AS 3BED UNITS D11,12 & C16,17 ARE MODIFIED TO FUNCTION AS 2 BED UNITS	10 NOs. X 3 BED TOP FLOOR UNITS. 4 NOs. X 2 BED TOP FLOOR UNITS. BREAKDOWN BELOW: UNITS C11,12,13,14,15 & D13,14,15 16,17 FUNCTION AS 3BED UNITS D11,12 & C16,17 ARE MODIFIED TO FUNCTION AS 2 BED UNITS

COMMENTS
NO CHANGES
NO CHANGES
9 UNITS (C1 - C9) MODIFIED TO BE USED AS SILVER ADAPTABLE UNITS
AMENDED TO IMPROVE THE UNIT MIX AS PER ADG CLAUSE 4.3 TO PROVIDE A VARIETY OF ARAPRTMENTS WITHIN A FLOORPLATE

REVISION R10

LEGEND:

LATEST REVISION

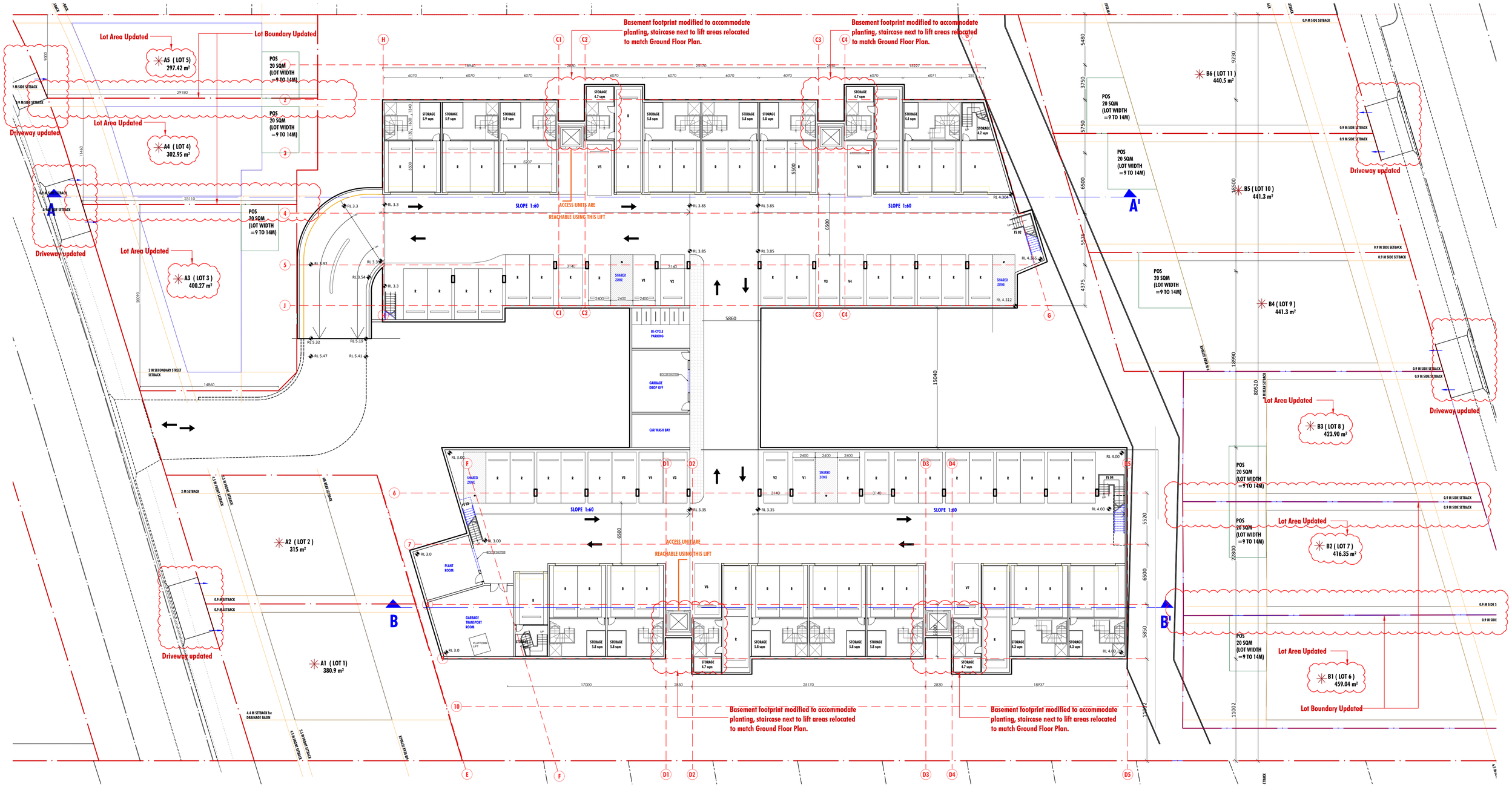
R.F.B UNIT MIX - BREAKDOWN

PROJECT LOCATION : 43-45&49 WARRIEWOOD ROAD, WARRIEWOOD

ARCHIDROME
206, LEVEL 2, 8 HELP ST, CHATSWOOD, N.S.W 2067 TARUNCHADHA@ARCHIDROME.NET ARCHITECT'S REG. NO. 8777 NSW ARCHIDROME.COM.AU

DRWG. NO. A21

11/12/23
@A1
R-10



NOTES:

PARKING CALCULATIONS

PARKING FOR RESIDENTS
REQUIRED - 68
PROVIDED - 68
PARKING FOR VISITORS
REQUIRED - 12
PROVIDED - 13

THE DUPLEX UNITS IN THE GROUND AND FIRST FLOOR ARE DESIGNED WITH STORAGE THAT EXCEEDS THE REQUIREMENTS THROUGH EXPANSIVELY DESIGNED STORAGE INSIDE THE UNITS AT LAUNDRY, KITCHEN, LIVING AND BEDROOM AREAS. IN ADDITION TO THESE, A STORAGE LOCKER HAS ALSO BEEN PROVIDED FOR EACH UNIT IN THE BOTTOM FLOOR BEHIND THE CAR PARK

REVISION R10

-Torrens Title Lot Boundary and Lot Area for Lots 3,4 ,5 and 6,7,8 updated.
-Shared Driveway Crossings Updated
-Basement footprint modified to accommodate planting, staircase next to lift areas relocated to match ground floor plan.

LEGEND:

REVISION

Energy Rating

Certificate Number I30GS7ISKL

☐ single-dwelling rating — 6.0av stars

☑ multi-unit development (attach listing of ratings) — heating 23.5av MJ/m² — cooling 25.1av MJ/m²
If selected, data specified is the average across the entire development

Recessed downlights confirmation: ☐ Rated with ☑ Rated without

Assessor Name/Number Sowmya Sastry VIC/BDAV/10/1014

Assessor Signature _____ Date 13/12/23

BASEMENT PLAN

PROJECT LOCATION : 43-45&49 WARRIEWOOD ROAD, WARRIEWOOD

ARCHIDROME
206, LEVEL 2, 8 HELP ST, CHATSWOOD, N.S.W 2067 TARUNCHADHA@ARCHIDROME.NET ARCHITECT'S REG. NO. 8777 NSW ARCHIDROME.COM.AU

DRWG. NO. A04

11/12/23
1:200 @A1
R-10

NOTES:

BASIX Specifications		Date: 15/03/2020
Water Commitments Target – 41 (achieved)/40 (required)		
Indigenous or Low Water Species	N/A	
Fixtures	Shower Heads	3 Star (>4.5 but <=6 L/min) in all showers in the development
	Toilet	4 Star
	Kitchen Taps	5 Star
	Basin Taps	5 Star
Alternative Water	Central Water Tank 50,000L For irrigation of common area landscape and private open spaces	
Swimming Pool/ SPA	N/A	

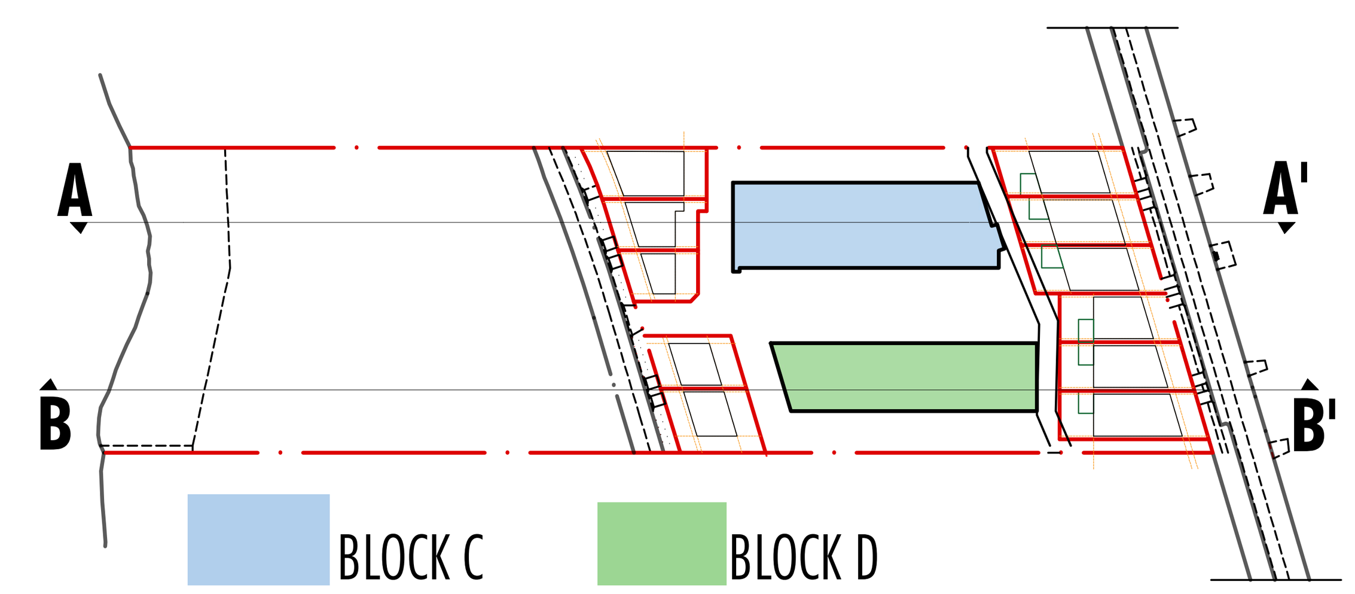
Energy Commitments - 46 (achieved)/45 (required) – refer to BASIX certificate for all		
Hot Water	Central Hot Water System – gas instantaneous Refer to Basix Certificate for piping insulation requirements	
Cooling System	Living Areas	1-phase airconditioning – 4star
	Bedrooms	1-phase airconditioning – 4 star
Heating System	Living Areas	1-phase airconditioning – 4 star
	Bedrooms	1-phase airconditioning – 4 star
Ventilation	Bathrooms	Individual fan-ducted to façade or roof; manual switch on/ off
	Kitchen	Individual fan-ducted to façade or roof; manual switch on/ off
	Laundry	Individual fan-ducted to façade or roof; manual switch on/ off
Artificial Lighting Primary type of artificial lighting to be fluorescent or light emitting diode (LED)		Bedrooms/ living/ kitchen/ bathrooms/ laundry and hallways

REVISION R10

- Torrens Title Lot Boundary and Lot Area for Lots 3,4 ,5 and 6,7,8 updated.
-Shared Driveway crossing updated

Natural Lighting	Kitchen	Refer to plans
	Bathrooms	Refer to plans
Other	Cooktop	Gas cooktop/ electric oven
	Refrigerator	Well ventilated as defined in BASIX definitions
	Dishwasher	4 Star Energy/ 5 Star Water
	Clothes Dryer	3 Star
Alternative Energy	Central Photovoltaic System	30 peak kW

KEY PLAN:



LEGEND:

LATEST MODIFICATION

Energy Rating Certificate Number I30GS7ISKL

☐ single-dwelling rating — 6.0av stars

☑ multi-unit development (attach listing of ratings) — heating 23.5av MJ/m², cooling 25.1av MJ/m²

If selected, data specified is the average across the entire development

Recessed downlights confirmation: ☐ Rated with ☑ Rated without

Assessor Name/Number Sowmya Sastry VIC/BDAV/10/1014

Assessor Signature ________ Date 13/12/23

GROUND FLOOR PLAN

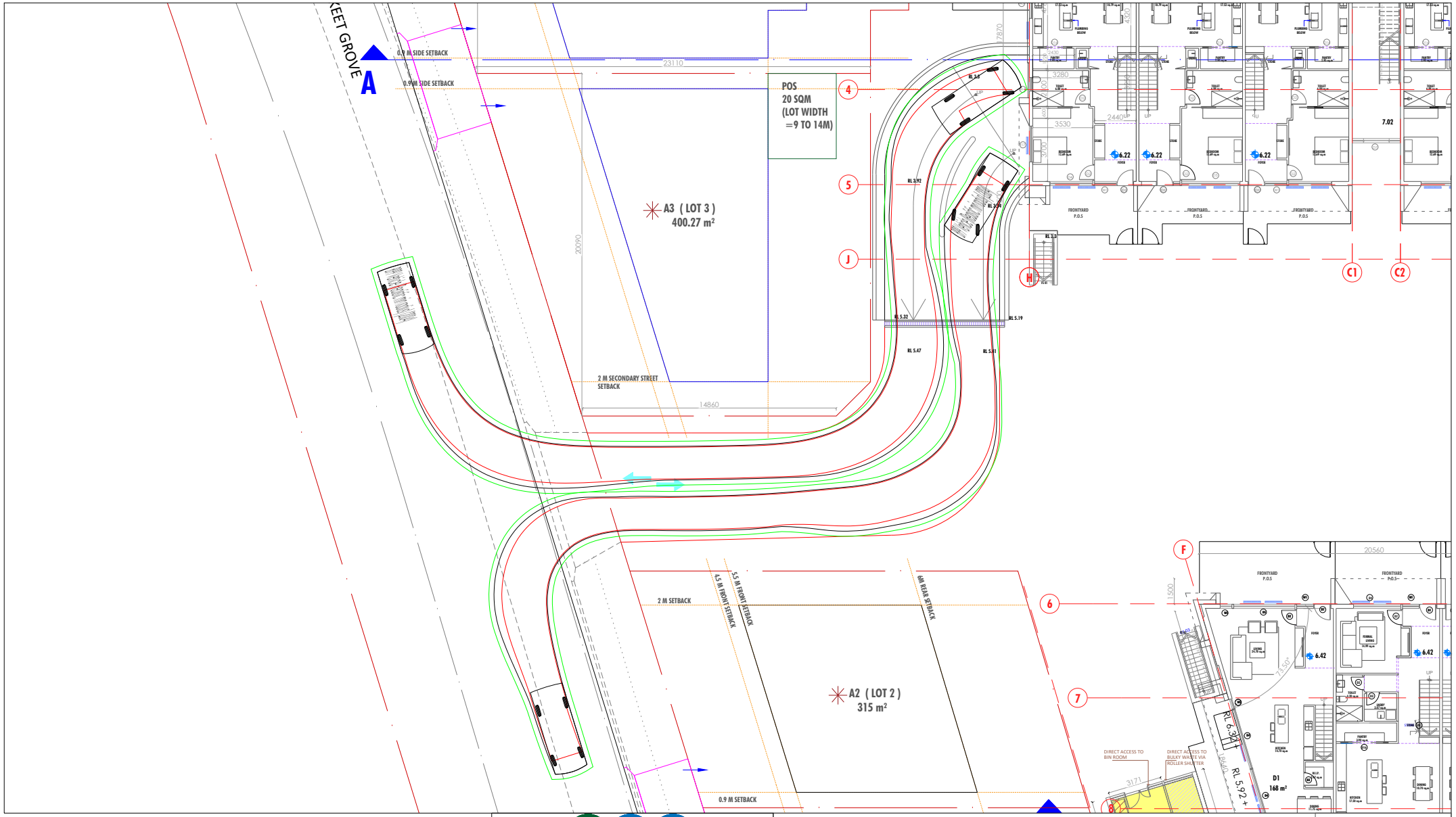
PROJECT LOCATION : 43-45&49 WARRIEWOOD ROAD, WARRIEWOOD

ARCHIDROME

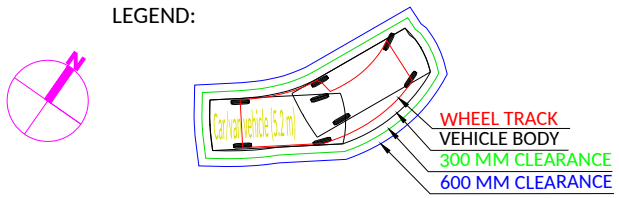
206, LEVEL 2, 8 HELP ST, CHATSWOOD, N.S.W 2067 TARUNCHADHA@ARCHIDROME.NET ARCHITECT'S REG. NO. 8777 NSW ARCHIDROME.COM.AU

DRWG. NO. A05

11/12/23
1:200 @A1
R-10



LEGEND:



TEF CONSULTING

Dwg No 23042/01	Rev. A	21/12/2023

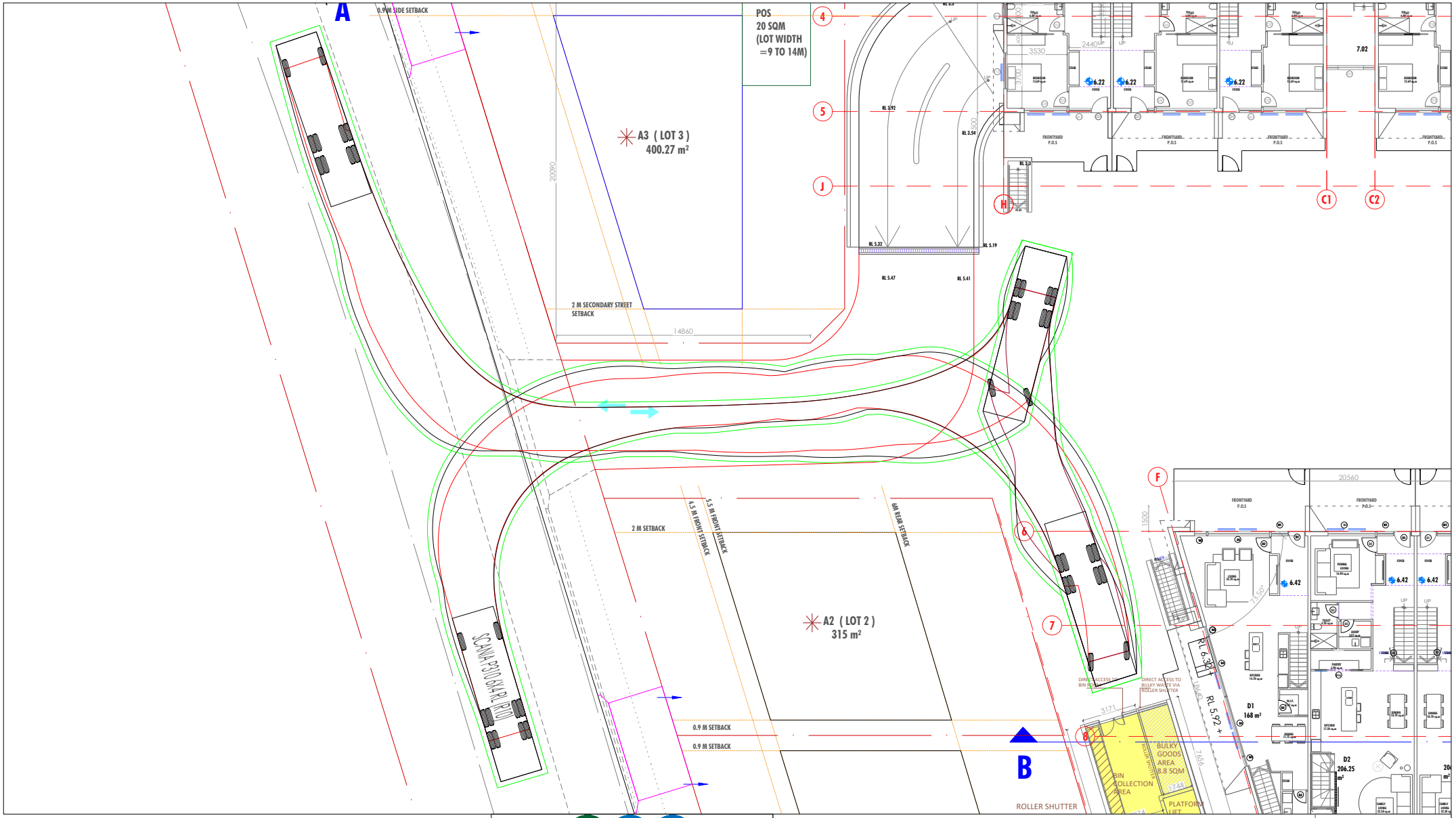
Client:
Archidrome

45-49 Warriewood Road, Warriewood NSW 2102

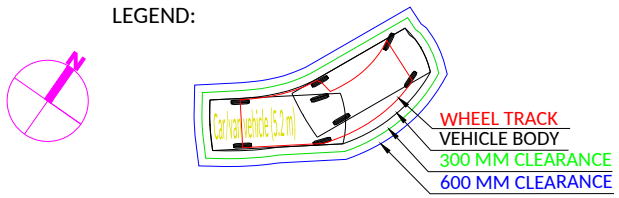
SCALE 1:300@A4

DWG Design checks
Design checks as per AS/NZS 2890 series

PO Box 215 Bondi NSW 2026 | ph:+61 (0)2 9332 2024 | fax: +61 (0)2 9332 2022 | mob: +61 (0)414 978 067 | email: o.s@tefconsult.com.au | www.tefconsult.com.au



LEGEND:



TEF CONSULTING

Dwg No 23042/02	Rev. A	21/12/2023

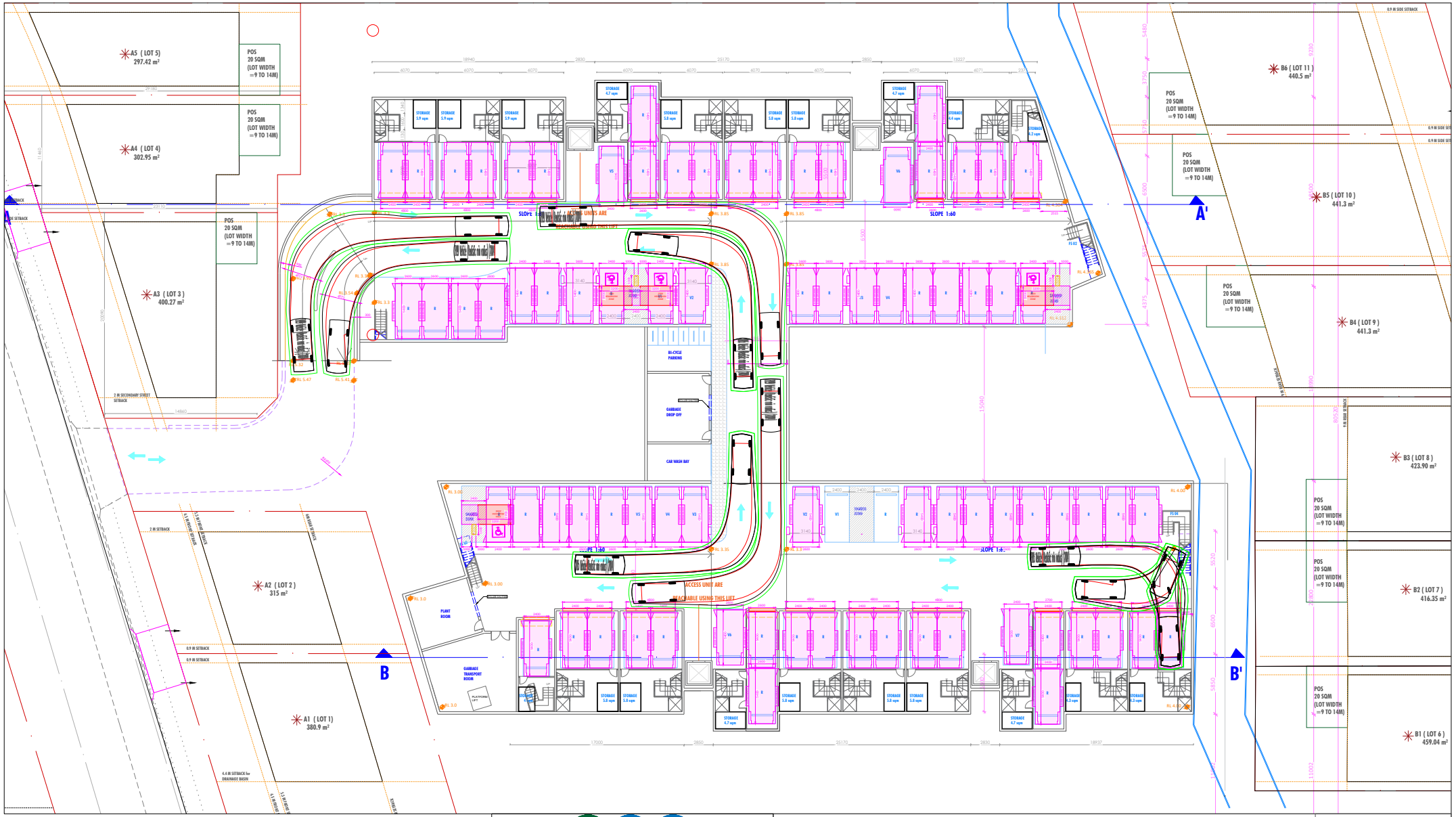
Client:
Archidrome

45-49 Warriewood Road, Warriewood NSW 2102

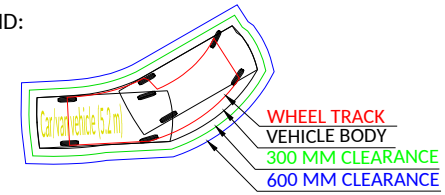
SCALE 1:300@A4

DWG Design checks
Design checks as per AS/NZS 2890 series

PO Box 215 Bondi NSW 2026 | ph:+61 (0)2 9332 2024 | fax: +61 (0)2 9332 2022 | mob: +61 (0)414 978 067 | email: o.s@tefconsult.com.au | www.tefconsult.com.au



LEGEND:



TEF CONSULTING

Dwg No 23042/03	Rev. A	21/12/2023

Client:
Archidrome

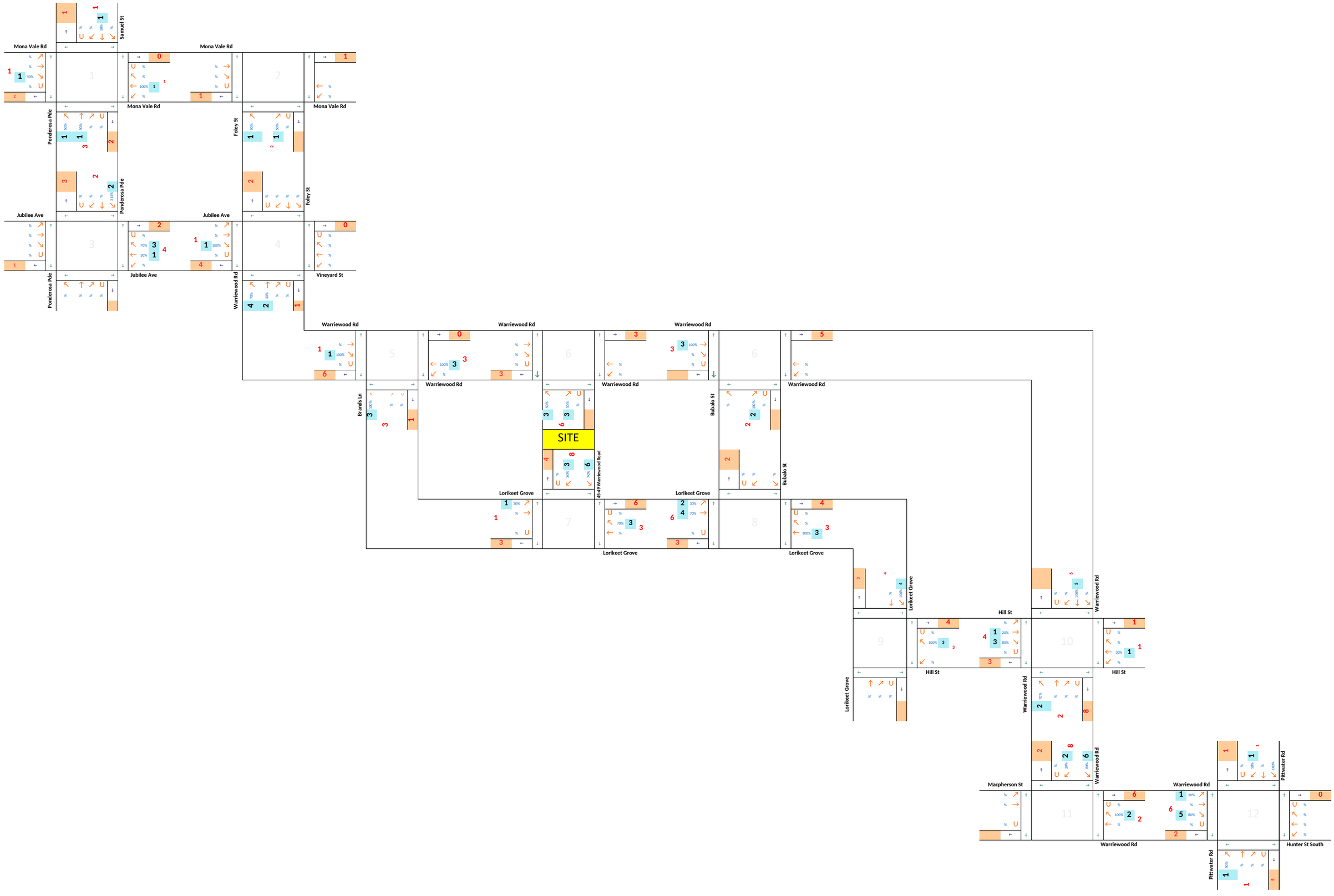
45-49 Warriewood Road, Warriewood NSW 2102

SCALE 1:500@A4

DWG Design checks
Design checks as per AS/NZS 2890 series

PO Box 215 Bondi NSW 2026 | ph:+61 (0)2 9332 2024 | fax: +61 (0)2 9332 2022 | mob: +61 (0)414 978 067 | email: o.s@tefconsult.com.au | www.tefconsult.com.au

Additional traffic - Morning peak



Additional traffic - Afternoon peak