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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	07/07/22
Job No.	21063
Report No.	21063 Rep 01e

Item	Report
Site location	• Refer to **Figure 1.**
Existing land use	• Vacant lot
Proposed development	• 34 residential units • Basement car park ◦ 81 car parking spaces ▪ 68 spaces for residents • Including four (4) 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 7 separate lots with frontages to Lorikeet Grove and 4 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 DA applications. ◦ 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.

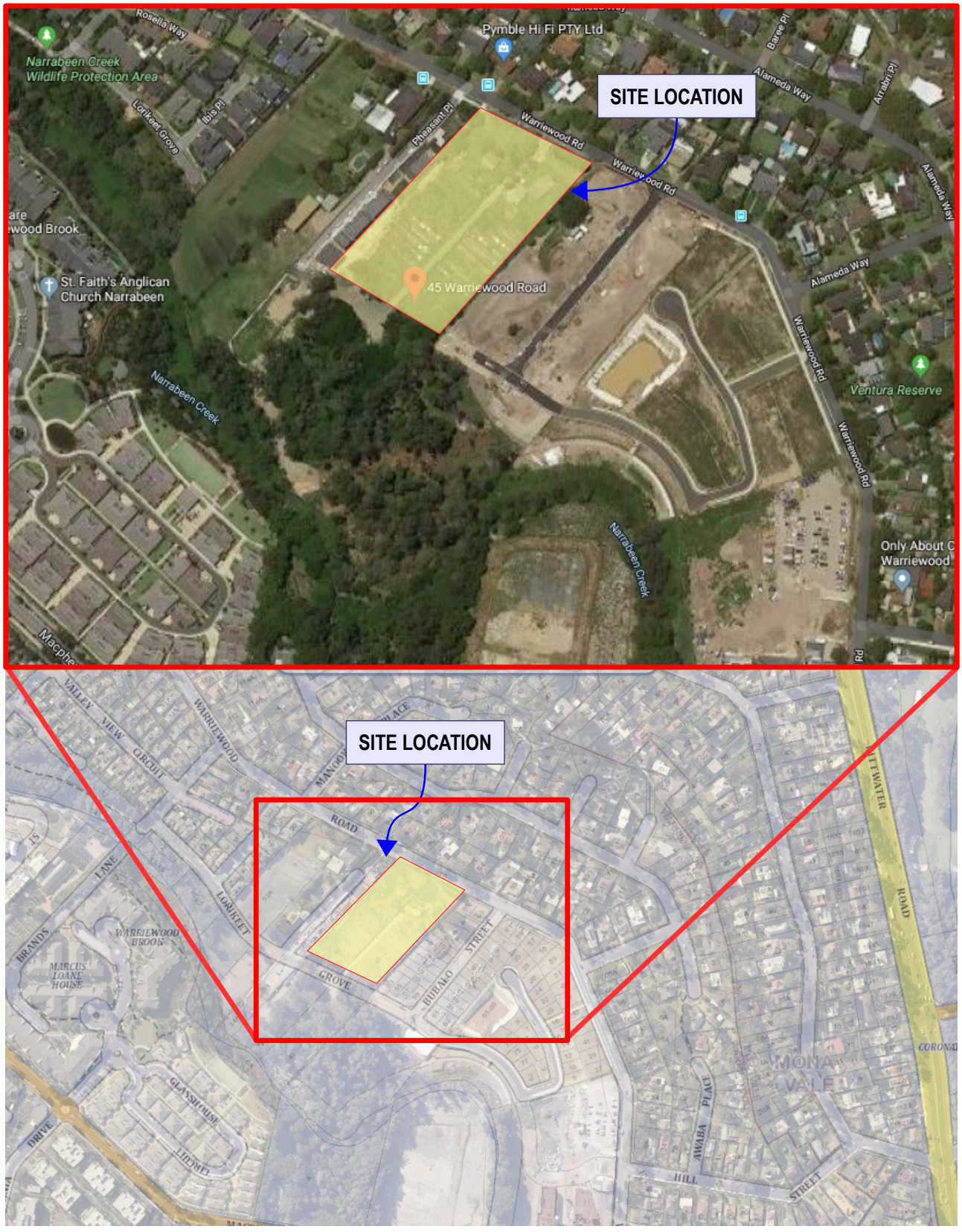

Figure 1. Site location.

Item	Report
	Existing traffic and parking situation
Street characteristics	• Refer to **Figure 2.**
	• The main roads bounding the proposed development are described below.
	◦ Warriewood Road
	▪ Warriewood Road (north of Macpherson Street) is classified as a local collector road and Warriewood Road (east of Macpherson Street) is classified as a sub-arterial road by the Pittwater 21 Development Control Plan 2004 and Warrriewood Valley Roads Masterplan 2018 (refer to the **'Planning control document'** section in this report)
	▪ Warriewood Road (north of Macpherson Street) has 2 travel lanes and parking opportunities on both sides
	◦ Pheasant Place
	▪ Local road
	▪ 2 travel lanes and parking opportunities on alternate sides
	◦ Bubalo Street
	▪ Local road
	▪ 2 travel lanes and parking opportunities on alternate sides
	◦ Lorikeet Grove
	▪ Local road
	▪ 2 travel lanes and no parking opportunities on both sides
	◦ Hill Street
	▪ Local road
	▪ 2 travel lanes and parking opportunities on alternate sides
	◦ Macpherson Street
	▪ Machpherson Street is classified as a sub-arterial road by the Pittwater 21 Development Control Plan 2004 and Warrriewood Valley Roads Masterplan 2018 (refer to the **'Planning control document'** section in this report)
	▪ 2 travel lanes and parking opportunities on both sides
	◦ Other streets in the surrounding area are local/local collector roads. Street conditions are typical for a residential area, with low to moderate traffic volumes.
	▪ General speed limit is 50 km/h on local streets around the site.
	Public Transport
Bus	• The site is located approximately 25 metres from a bus stop located along the northern and southern sides of Warriewood Road.
	• Refer to **Figure 3.**
	◦ Bus Route 185
	▪ PrePay-Only – Warringah Mall to Mona Vale via Warriewood
	• 6 services operate during the morning peak hours.
	• 1 service operates during the afternoon peak hours.
	▪ PrePay-Only – Mona Vale to Warringah Mall via Warriewood
	• 2 services operate during the morning peak hours.
	• 6 services operate during the afternoon peak hours.
	◦ Bus Route E85
	▪ PrePay-Only – City Wynyard to Mona Vale via Warriewood (Express Service)
	• No services operate during the morning peak hours.
	• 11 services operate during the afternoon peak hours.
	▪ PrePay-Only – Mona Vale to City Wynyard via Warriewood (Express Service)

Item	Report
	• 7 services operates during the morning peak hours. • No services operate during the afternoon peak hours. • The morning peak hours were between 6:30 a.m. and 9:30 a.m. and the afternoon peak hours were between 3:30 p.m. and 6:30 p.m.
NSW Transport on Demand	• Keoride on-demand pick-up and drop-off services are available from any location to and from Warriewood to Palm Beach. Refer to **Figure 4.** ◦ This transport on demand solution offers a flexible pick-up and drop-off schedule from any location through an online booking which takes seconds to confirm. ◦ The Keoride application for smart phones is available on the Google and iOS play stores.

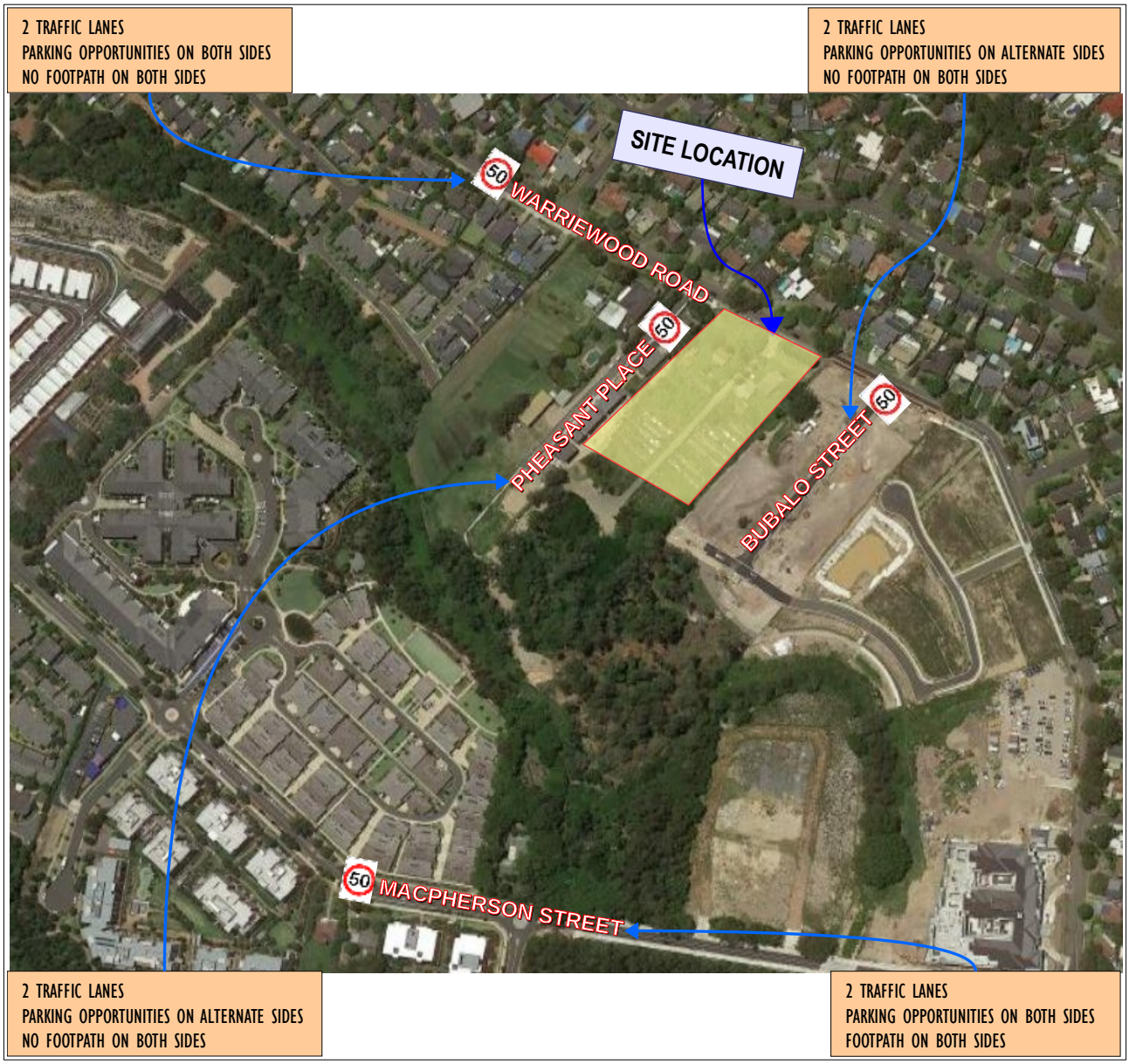

Figure 2. Street characteristics.

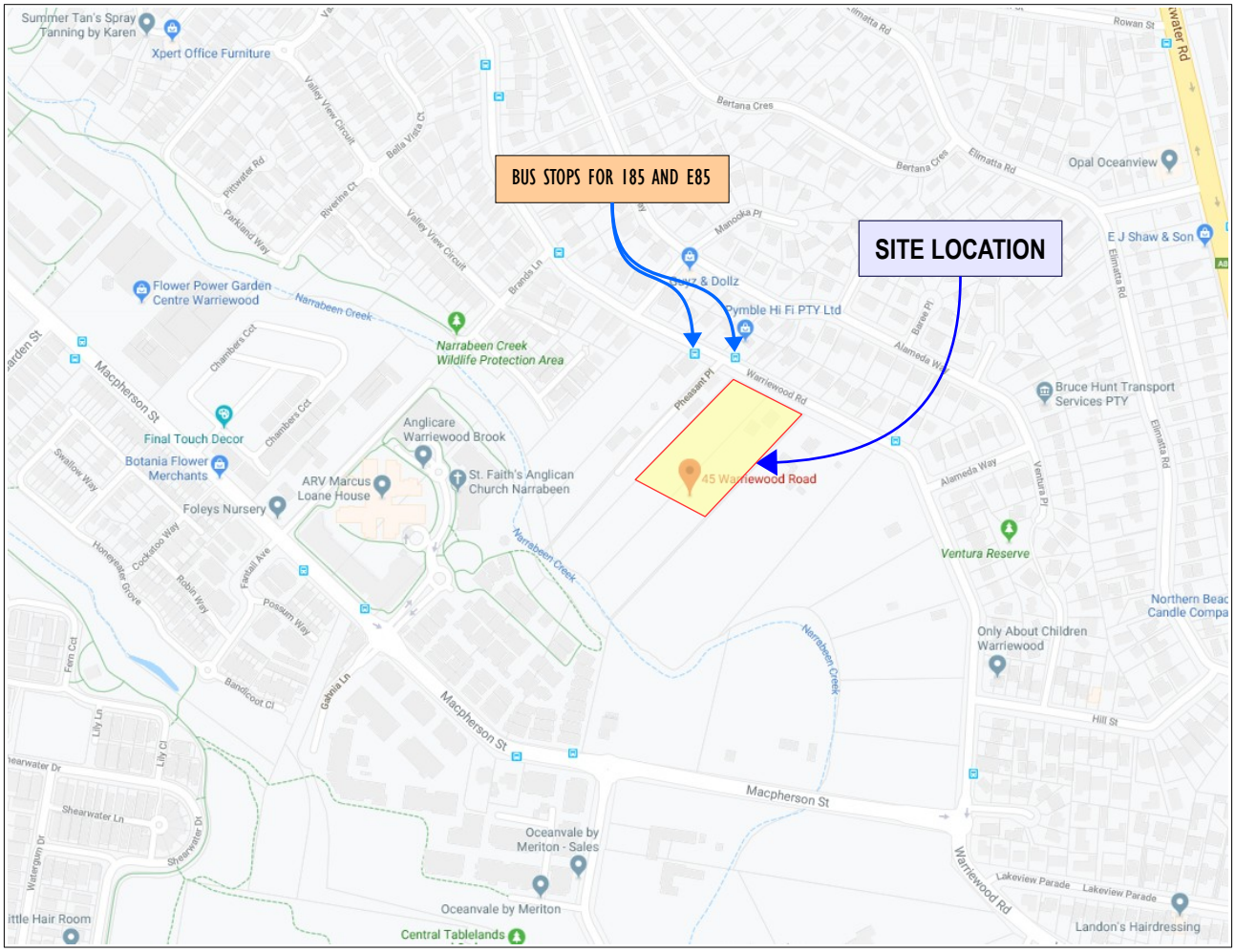

Figure 3. Public transport.

Figure 4. Keoride On Demand Service Areas.

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	
B6.1. Access Driveways and Works on the Public Road Reserve	N/A
General Requirements	N/A
Access Driveways include the driveway pavements, gutter crossings, supporting retaining walls, suspended slabs and related structures located on the public road reserve between the road edge and property boundary as illustrated in Appendix 10 -Driveway Profiles.	N/A
An Access Driveway to the standards as set out below must be provided for:	N/A
• any new development;	N/A
• any alterations and additions where the sum of the additional Gross Floor Area (GFA) of the dwelling exceeds 30 m^2; and	N/A
• where additional car parking spaces and/or garages are proposed.	N/A
Where there is an existing driveway and the applicant proposes to retain the existing driveway, the applicant will be required to demonstrate compliance with this control.	N/A
Access Driveway Design	N/A
The design of all Access Driveways shall be in accordance with the current edition of following Australian Standards:	N/A
Australian Standard *AS/NZS 2890.1-2004: Parking Facilities - Part 1: Off-Street Car Parking*.	N/A
Australian Standard *AS/NZS 2890.2-2002: Parking Facilities – Part 2: Off-Street Commercial Vehicle Facilities* except as qualified in this control.	N/A
Number of Access Driveways per Allotment	N/A
The number of permissible Access Driveways to an allotment is as follows:	N/A
where the frontage of an allotment to a local public road is less than 30m, one only access driveway.	N/A
where the frontage of an allotment to a local public road is 30m or more, a second access driveway will be considered on merit.	N/A
Where the allotment has a frontage to a second local public road, one additional access driveway to the second local road frontage will be considered on merit, based on Council's consideration of the site constraints.	N/A
Council, under the *Local Government Act 1993*, may direct as to which frontage access is to be gained where traffic safety issues are a consideration.	N/A

Item	Report	
	Requirement	**Compliance**
	Shared Driveways and Access Driveways located in front of adjoining properties	N/A
	Shared Access Driveways shared between adjoining private properties and Access Driveways located in front of adjoining properties will be considered on merit, based on Council's consideration of the site constraints.	N/A
	Access Driveway for Service Vehicles to Loading Dock	N/A
	Access Driveways providing access for service vehicles to loading docks must be separated from access used by the general public for access to public parking areas.	N/A
	Access Driveways providing access for service vehicles to loading docks shall, where practical, be located on a rear public road frontage providing separation from pedestrian activity.	N/A
	Where Access Driveways are located on the same frontage, the minimum distance between an Access Driveway for service vehicles and an Access Driveway for the general public shall be 5 metres from the inside edge to the inside edge of the Access Driveways.	N/A
	Access Driveway Location	N/A
	Access Driveways shall be designed and located to provide adequate sight distance to maximise pedestrian and vehicular safety as follows:	N/A
	• minimum clear distance along the road frontage edge of kerb of 50 metres for 40 and 50 kph speed limit roads measured from a point on the centreline of the driveway 2.5 metres from the face of kerb; and	N/A
	• minimum clear distance along the frontage footway of 5 metres, measured from a point on the centreline of the driveway 2.5 metres from the edge of footway area closest to property boundary.	N/A
	For corner allotments, the closest point of the Access Driveway shall be located at the maximum practical distance from the intersection of adjoining roads, being no closer than 6m from the tangent point at the kerb.	N/A
	For corner allotments adjacent to traffic signals, the location of the Access Driveway will be subject to the approval of the Roads and Maritime Services as the authority responsible for traffic signal facilities.	N/A
	For developments in commercial centres where separate entry/exit vehicular access is required, access driveways for entry and exit are to be separated by a minimum distance of 2 metres.	N/A
	The location of the Access Driveway is to maximise the retention of trees and native vegetation in the public road reserve.	N/A
	Access Driveway Width	N/A
	The maximum width of an Access Driveway for dual occupancies, dwellings houses, secondary dwellings, exhibition homes, rural works	N/A

Requirement	Compliance
dwellings and tourist and visitor accommodation shall be as follows:	

Distance Building Line to Boundary	Width at Boundary	Width at Kerb
Nil to 3.5m	Width of car parking area or garage opening	Width of car parking or garage opening plus 0.5m
Greater than 3.5m to 6.5m	4.0m	4.5m
Greater than 6.5m	3.0m	3.5m

Access Driveway width can be varied subject to a merit based consideration.	N/A
Access Driveway Profile and Gradient	N/A
Access Driveway profiles shall conform to the profiles as illustrated in Appendix 10 - Driveway Profiles.	N/A
Access Driveway Construction and Finishes	N/A
All Access Driveways shall be constructed with an impervious pavement and gutter crossing construction	N/A
Gutter crossings are to be in plain concrete.	N/A
Access Driveways are to be in plain concrete. Cosmetic Access Driveways on a public road reserve are not permitted.	N/A
Access Driveways are to match with the adjacent constructed footpaths or alternatively adjacent constructed footpaths are to be adjusted to provide a continuous surface with no trip points with a maximum 1:14 (V:H) transition.	N/A
The Access Driveway is to be structurally adequate for its intended use.	N/A
Suspended driveways must not use the existing road structure for support.	N/A
Ancillary Structures within the Road Reserve	N/A
Ancillary structures within the Road Reserve will be supported for the purposes of structurally supporting the access driveway only. Ancillary structures include retaining walls.	N/A
Encroachment into the road reserve is to be minimised.	N/A
Where retaining walls and structures are visible from a public place, preference is given to the use of textured finishes of dark earthy tones or sandstone-like finishes.	N/A
All structural elements within the Road Reserve must be certified by a Structural Engineer.	N/A
In addition, where the land is identified on the Landslip Hazard Map, the design of all structural elements must satisfy the Landslip Hazard Controls	N/A
Access Driveway – Stormwater Drainage	N/A
All Access Driveways on the low side of the road are to be designed and constructed such that stormwater drainage is directed away from the Access Driveway.	N/A
Access Driveway and Public Utilities Costs	N/A
The cost for Access Driveways construction and maintenance and adjustment of any utility	N/A

Item	Report	
	Requirement	**Compliance**
	service is the responsibility of the Applicant.	
	Variations	N/A
	Access Driveway Location	N/A
	If driveways are located where the sight distance is below the minimum criteria, consideration will be given on a merit basis subject to the submission of a Traffic Assessment Report by a suitably qualified Traffic Engineer.	N/A
	Access Driveway Profile and Gradient	N/A
	A new driveway or an existing structurally sound driveway with gradients up to 1:3 (V:H) may be permitted to remain on merit subject to demonstration through a Traffic Assessment Report and relevant certification that the Access Driveway including surface finish is safe for its intended use and that a pedestrian footpath either can be accommodated in the road reserve or is not required.	N/A
	Dual Occupancy / Secondary Dwelling Development	N/A
	For Dual Occupancy and Secondary Dwelling development, a separate Access Driveway to each dwelling will be considered on merit, based on Council's consideration of the site constraints.	N/A
	Alternative Design on steeply sloping sites	N/A
	Where it can be demonstrated to Council's satisfaction that this control is not applicable in the case of steeply sloping sites and steeply sloping public road reserve verges, the design of the Access Driveway may be in accordance with the current edition of the following Australian standard, based on turning paths for a B85 vehicle and subject to provision for a 1.5metre footpath width, kerb and gutter and stormwater drainage being directed away from the Access Driveway:	N/A
	• Australian Standard *AS/NZS 2890.1 "Parking Facilities Part 1" Off-Street Car Parking*.	N/A
	Category 5 Access Driveways as Defined in ASNZS 2890.1: Parking Facilities – Off-Street Car Parking	N/A
	Category 5 Access Driveways are to be constructed as an intersection to the public road either by way of 'T'-intersection, signalised intersection or roundabout. A section of land of a minimum depth of 3 metres by the width of the entry road plus provision for footpaths will be required to be dedicated to Council as public road reserve.	N/A
	The cost for all intersection improvements is the responsibility of the Applicant.	N/A
	B6.2. Internal Driveways	N/A
	General	N/A
	An Internal Driveway must be provided for in:	N/A
	• Any new development;	N/A
	• Development where additional car parking spaces and/or garages are	N/A

Requirement	Compliance
required by Council's plans or policies;	
• Any alterations and additions where the sum of the additional Gross Floor Area (GFA) of the dwelling exceeds 30 m2 ; and	N/A
• Development where additional car parking spaces and/or garages are proposed.	N/A
If the applicant proposes to retain the existing driveway, the applicant will need to demonstrate compliance with the outcomes and driveway standards of this control.	N/A
Internal Driveway	N/A
Internal Driveway Profiles	N/A
Internal Driveways are to be designed and constructed to provide safe access and shall have a maximum gradient of 1:5 (V:H). Recommended maximum gradient of an Internal Driveway for a distance of 2m on the approach to a garage, parking area or carport is 1:20 (V:H). There must be a minimum 2 metre long transition between the driveway and the garage/parking area/carport in accordance with the standards.	N/A
For Internal Driveways on steeply sloping or difficult sites, gradients may be increased up to 1:4 (V:H) over a maximum 20 metre length.	N/A
Provision is to be made for vehicles to enter and leave the site in a forward direction, where:	N/A
• The internal driveway grade exceeds 1:4 (V:H)	N/A
• The land abuts a roadway subject to high pedestrian use (e.g. School, Commercial Centre)	N/A
• Driveways are more than 30m in length	N/A
• The driveway enters onto a classified road.	N/A
Internal Driveway Stormwater Drainage	N/A
Internal Driveway grades, cross falls and grated drains are to be designed to reduce discharge into the public drainage system and to maximise stormwater discharge into adjacent landscape areas by the use of grass swales and soakage pits.	N/A
Internal Driveway Construction/Finishes	N/A
Internal Driveways shall have a stable surface for all weather construction.	N/A
Internal Driveways where visible from a public road or public place are to be constructed of materials that blend with the environment and of dark earthy tones or natural materials.	N/A
Internal Driveway Design for all other uses than dual occupancies, dwelling house, secondary dwellings, exhibition homes, rural works dwellings and tourist and visitor accommodation	N/A
The design of all Internal Driveways and ramps shall be in accordance with the current edition of the following Australian Standards:	N/A
• Australian Standard *AS/NZS 2890.1*-	N/A

Item	Report	
	Requirement	**Compliance**
	2004: Parking Facilities – Off-Street Car Parking.	
	• Australian Standard *AS/NZS 2890.2-2002: Parking Facilities – Off-Street Commercial Vehicle Facilities* except as qualified in this control.	N/A
	Driveway width for dual occupancies, dwellings, secondary dwellings, exhibition homes, rural works dwellings and tourist and visitor accommodation.	N/A
	The Internal Driveway shall be contained within the driveway corridor. The minimum width of the driveway corridor (i.e. impervious pavements together with grassed shoulder area) shall be as follows:	N/A
	• Single Dwelling: 3.0 metres minimum.	N/A
	• Dual Occupancy: 3.0 metres minimum.	N/A
	• Combined driveway for more than 2 dwellings: 3.0 metres minimum except where the driveway length exceeds 40 metres, a passing bay to an overall minimum width of 5.0 metres for a length of 10 metres with suitable transitions to the adjacent narrow driveway.	N/A
	Internal Driveway and Driveway Corridor Width for all other development than dual occupancies, dwellings, secondary dwellings, exhibition homes, rural works dwellings and tourist and visitor accommodation	N/A
	Internal Driveways shall be designed and constructed to the minimum practical pavement width needed to facilitate access and turning movements.	N/A
	Internal Driveways shall be designed and constructed to minimise the area of impervious pavement within the land. Track style driveways are encouraged where practical.	N/A
	Turning movements are to be in accordance with the turning paths for a B85 vehicle (Australian Standard *AS/NZS 2890.1-2004: Parking Facilities - Part 1: Off-Street Car Parking*).	N/A
	Variations	N/A
	For existing Internal Driveways on steeply sloping or difficult sites proposing dual occupancies, dwelling houses, secondary dwellings, exhibition homes, rural works dwellings and tourist and visitor accommodation, gradients up to a maximum of 1:3 (V:H) may be maintained subject to demonstration through a Traffic Assessment Report and the relevant certification that the Internal Driveway including surface finish is safe for its intended use.	N/A
	Any alternate design of the Internal Driveway (based on turning paths for a B85 vehicle) is to be in accordance with the current edition of Australian Standard AS/NZS 2890.1 "Parking Facilities Part 1" Off-Street Car Parking.	N/A
	A variation may be considered subject to demonstration through a Traffic Assessment Report and the relevant certification that an	N/A

Requirement	Compliance
alternate vehicular access arrangement to the site is safe for all pedestrian and vehicular traffic.	
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:	N/A
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

The maximum cross-fall in any direction for an open car parking space is 1:20 (V:H).	N/A
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

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

Item	Report	
	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
	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. • 34/3 = 11.3, say **11 spaces**	12 spaces are proposed. 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
	Shop top housing	N/A

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	Requirement	**Compliance**
	The provision of parking is to be in accordance with the associated land use parking requirements i.e. parking must be provided at the requirement rate for the commercial floor space requirements if commercial floor space is proposed.	N/A
	Location of patron parking for Retail and/or Commercial land use should not to be restricted or obstructed (for example behind roller doors).	N/A
	On-Site Car Parking Facilities	
	The design of all parking areas shall be in accordance with the current edition of the following Australian Standards:	
	• Australian Standard *AS/NZS 2890.-1.2004: Parking Facilities Part 1: Off Street Car Parking;*	Complies with AS/NZS 2890.1:2004
	• Australian Standard *AS/NZS 2890.2-2002: Parking Facilities – Part 2: Off-Street Commercial Vehicle Facilities;*	Complies with AS/NZS 2890.2-2018
	• Australian Standard *AS/NZS 2890.3-1993: Parking Facilities Part 3: Bicycle Parking Facilities*; and	Complies with AS 2890.3:2015
	• Australian Standard *AS/NZS 2890.6-2009: Parking Facilities – Part 6: Off-Street Parking for People with Disabilities* except as qualified in this control.	Complies with AS/NZS 2890.6:2009
	Surface Car Parking Areas	N/A
	At grade car parking areas are to be landscaped to a minimum of 20% of the car parking area using primarily native species of vegetation and are to achieve the following:	N/A
	• Shade, shelter and amenity;	N/A
	• Protection and management of existing trees, bushland habitat and existing/potential wildlife corridors;	N/A
	• Enhancement of the streetscape and internal areas by the provision of canopy trees;	N/A
	• Minimum 2 metre width for landscape islands to break up parking rows;	N/A
	• Application of Water Sensitive Urban Design Principles to landscaped areas,	N/A
	• Safety and amenity of pedestrians and vehicles; and	N/A
	• lighting.	N/A
	Residential Car Parking for Residential Flat Buildings, Shop Top Housing, Mixed Use Development, Multi Dwelling Housing and Seniors Housing	
	The following are applicable in respect of residential car parking areas:	Noted
	• Where there are dwellings with two (2) or more bedrooms in a development, tandem parking spaces may be permitted where all of the following criteria are met:	

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	• Two parking spaces have been allocated per two (2) or more bedroom apartments;	Complies
	• The proportion of tandem parking spaces does not exceed 10% of the total residential parking for two (2) or more bedroom units; and	Complies
	• It can be clearly demonstrated that vehicles parked are directly associated to a single dwelling/unit and that such vehicles do not restrict or impede the parking, manoeuvring or access of other vehicles;	Complies
	• Parking spaces are to be located as close as possible to their respective dwelling;	Complies
	• Rows of multiple garages and long driveways, particularly those that create a "gun barrel" effect are avoided;	Complies
	• Visitor parking spaces are to be easily accessible and clearly marked "Visitor";	Complies
	• For developments resulting in 10 or more dwellings, Control C1.18 Car/Vehicle/Boat Wash Bays also apply; and	Complies
	• Parking spaces for people with disabilities must be appropriately signposted and in accordance with Australian Standard *AS/NZS 2890.6-2009: Parking Facilities – Part 6: Off-street Parking for People with Disabilities*.	Complies with AS/NZS 2890.6:2009
	Development not included in the above table	N/A
	The minimum number of vehicle parking requirements must be determined using the appropriate guidelines for parking generation and servicing facilities based on development type comparison based on the *Roads and Maritime Services Guide to Traffic Generating Development* or analysis drawn from surveyed data for similar development uses. Provision must be made within the development site for access and parking of all service vehicles servicing the site, visitor parking and parking for people with disabilities.	N/A
	Variations	N/A
	Car Parking for Secondary Dwelling or Dual Occupancy	N/A
	A reduction in the car parking requirements for a secondary dwelling or dual occupancy to a minimum of 2 spaces per allotment may be considered on merit.	N/A
	Changes in Use	N/A
	For change of use and developments within existing commercial centres consideration may be given to a variation to the minimum parking and service facilities requirements subject to the outcomes of this control being achieved and adequate justification being provided.	N/A
	In the Mona Vale Commercial Centre, no additional on-site parking is required for lots	N/A

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	Requirement	**Compliance**
	where there is a 'change of use' to residential and where the street frontage is to Bungan Street or Pittwater Road (between Barrenjoey Road and Bungan Street) and the subject site has a street frontage width of less than 15 metres.	
	Variations to parking requirements will be considered for the temporary use of vacant premises for a maximum period of 3 months.	N/A
	Off-Set of On-Site Car Parking Requirements	N/A
	Visitor parking requirements may be offset by:	N/A
	• The provision additional on-street parking facilities over and above existing provisions within the public road reserve or proposed road reserve (provided the additional on-street parking facilities can be accommodated within the road reserve adjacent to the site and not to the detriment of the streetscape environment and authorisation provided by Council as the road authority under Section 138 of the *Roads Act 1993*) and on the basis that the offset only applies to the visitor parking component of the residential development.	N/A
	Masterplans	N/A
	Variations to the minimum car space number will be considered on a merit basis where a Masterplan has been adopted by Council nominating car space numbers based on an overall development scenario.	N/A
	A variation to the minimum number of car spaces required will be considered on merit where such variation can be justified based on an analysis drawn from survey data for similar development uses or alternate use of an existing development or in a case of Avalon, Newport and Mona Vale Commercial Centres, the time of operation of the business and availability of adjacent carparking facilities.	N/A
	Newport Commercial Centre	N/A
	In the Newport Commercial Centre, no on-site parking is required for lots with vehicular access solely from Barrenjoey Road and with a street frontage width of less than 18 metres.	N/A
	Parking Requirements on Steeply Sloping Sites	N/A
	On steeply sloping sites, car parking solutions may need to be negotiated for each individual site.	N/A
	The range of possible car parking solutions is outlined below:	N/A
	• The provision of suspended or rooftop car parking to provide direct access from the road; and/or	N/A
	• Shared vehicular access with adjoining properties may be acceptable where there is a mutual agreement.	N/A
	The provisions for car parking on the steepest sloping sites may be waived, subject to the merit consideration for each case.	N/A
	Parking Requirements on Sites with High	N/A

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	Environmental Value	
	On sites with high environmental value, carparking solutions may need to be negotiated for each individual site.	N/A
	Alternative Design	N/A
	The design of off-street parking facilities may alternatively be in accordance with the current edition of the following Australian standard based on turning paths for a B85 vehicle:	N/A
	• Australian Standard *AS/NZS 2890.1-2004: Parking Facilities – Part 1: Off-Street Car Parking*.	N/A
	B6.5. Internal Driveways	N/A
	Approval for works on the public road reserve under Section 138 of the Roads Act 1993	N/A
	Applicants will be required to obtain approval under Section 138 of the *Roads Act 1993*, providing authorisation for works on the main road to construct an Access Driveways and associated structures located on a public road reserve except in the case for a Dwelling House where there is existing kerb and gutter and the proposed driveway is of slab or paving on ground construction requiring minimal alteration of the existing ground level.	N/A
	The issue of the approval for works on a public road reserve to be undertaken by the Applicant, will be subject to development consent for the adjacent land being issued by the Council.	N/A
	Egress from an Access Driveway	N/A
	All Access Driveways with access to a Main Road shall be designed to ensure vehicles enter and leave in a forward direction.	N/A
	Access to Alternative Public Road	N/A
	An Access Driveway from allotments adjoining a Main Road is not permitted where alternative access to a local road is available or can be made available via a right-of-way or easement.	N/A
	Access Driveways in Newport Commercial Precinct and Mona Vale Commercial Precinct	N/A
	An Access Driveway from allotments adjoining a Main Road in the Newport Commercial Precinct and Mona Vale Commercial Precinct is not permitted onto the Main Road where alternative access to a local road is available or can be made available via a right-of-way or easement.	N/A
	The number of Access Driveways is to be minimised within the Commercial Precincts to enhance the pedestrian amenity. Access Driveways are to be combined with adjoining allotments where practical.	N/A
	Access Driveways for allotments adjoining a Main Road providing access for service vehicles to loading docks are not permitted onto the Main Road.	N/A
	Variations	N/A
	Egress from an Access Driveway	N/A
	Egress from an Access Driveway in the reverse	N/A

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	direction where allotments front a Main Road where the traffic volumes are low may be considered on a merit based consideration.	
	Access to Alternative Public Road	N/A
	Where access via the alternative public road is not considered suitable due to steep grades, safety or other access constraints, consideration on a merit basis may be given to waiving this requirement.	N/A
	B6.6. On-Street Parking Facilities	N/A
	On-Street Parking Facilities	N/A
	On-street parking facilities may be provided within the public road reserve or proposed public road reserve adjacent to the development site, either as additional parking facilities to enhance the development or as part of the development to offset the on-site parking requirements, both of which are subject to a merit based consideration. On-street parking facilities must not reduce similar opportunities for adjacent development sites.	N/A
	Design Requirements	N/A
	The design of all On-street Parking Facilities shall be in accordance with the current edition of Australian Standard:	N/A
	• Australian Standard *AS/NZS 2890.5-1993 – Parking Facilities On-Street Parking* except as qualified in this control.	N/A
	On-Street Parking Facilities Requirements	N/A
	On-street parking facilities must also comply with the following requirements:	N/A
	• A fully constructed and sealed road pavement with kerb and street drainage is to be provided to accommodate on-street parking facilities.	N/A
	• A footpath on public road reserve is to be provided around the on-street parking facilities for public access along the road and to the development.	N/A
	• Landscaping of the area adjacent to the on-street parking facilities must be provided with maximum retention of native vegetation and trees in the public road reserve.	N/A
	• On-street parking facilities are to provide for the safety and amenity of pedestrians, vehicles and other transport modes.	N/A
	• Adequate street lighting, signs and traffic facilities are to be provided.	N/A
	On-Street Parking Facilities and Public Utilities Costs	N/A
	The cost for on-street parking and adjustment of any utility services required to service the development is the responsibility of the Applicant.	N/A
	Variations	N/A

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	On-Street Parking on a Main Road	N/A
	On-street parking facilities may be permitted on a Main Road subject to low traffic volumes and Roads and Maritime Services authorisation.	N/A
	B6.7. Transport and Traffic Management	
	Transport and Traffic Planning	N/A
	Where development generates pedestrian, cyclist, traffic and transport requirements in excess of the capacity of the existing road and transport network, the capacity of the surrounding public infrastructure and transport network is required to be upgraded to at least match the additional demands generated by the development.	N/A
	Any improvement works external to the development site, required to ensure the development complies with this control, must be provided as part of the development at the full cost to the applicant.	N/A
	All traffic assessments are to be undertaken in accordance with the Roads and Maritime Services *Guidelines for Traffic Generating Developments* or similar guidelines.	Complies
	All proposed traffic facilities must comply with the Roads and Maritime Services and/or relevant Australian Standards.	Complies
	An assessment of the impact of traffic generated by the proposed development on the local street system must be undertaken.	Complies
	Adequate vehicular entrances to and exits from the site are to be provided so that vehicles using those entrances and exits will not endanger persons using adjoining roads.	Complies
	Adequate space is to be provided within the site of the building or development for the loading, unloading or fueling of vehicles, and for the picking up and setting down of passengers.	N/A
	Traffic and Transport Facilities and Public Utilities Costs	N/A
	The cost for traffic and transport facilities and adjustment of any utility service is the responsibility of the Applicant.	N/A
	B6.8. Access Driveways and Works on the Public Road Reserves on or Adjacent to a Commercial Centre Primary Road	N/A
	Access to Alternative Public Road	N/A
	An Access Driveway from allotments adjoining Avalon Parade and Old Barrenjoey Road in the Avalon Commercial Precinct and Bungan Street, Waratah Street, and Park Street in the Mona Vale Commercial Precinct is not permitted onto either Avalon Parade, Old Barrenjoey Road, Bungan Street, Waratah Street, or Park Street where alternative access to a local road is available or can be made available via a right-of-way or easement.	N/A
	The number of Access Driveways is to be minimised within the Commercial Precincts to enhance the pedestrian amenity. Access Driveways are to be combined with adjoining	N/A

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allotments where practical.	
Access Driveways for allotments adjoining Avalon Parade and Old Barrenjoey Road in the Avalon Commercial Precinct providing access for service vehicles to loading docks are not permitted onto Avalon Parade and Old Barrenjoey.	N/A
Access Driveways for allotments adjoining Bungan Street, Waratah Street, and Park Street in the Mona Vale Commercial Precinct providing access for service vehicles to loading docks are not permitted onto Bungan Street, Waratah Street, and Park Street.	N/A
B6.11. Access Driveways, Internal Driveways and Off-Street Parking Requirements – Dwelling – Scotland Island	
General	N/A
The use of vehicles on Scotland Island is discouraged due to the environmental damage to the public roads.	N/A
On-Site Carparking Requirements	N/A
Where proposed, the maximum number of vehicle parking spaces provided for on-site parking is one space.	N/A
Internal Driveway	N/A
An internal driveway where proposed, is to be designed and constructed to provide safe access, reduce the impacts of stormwater run-off to any public land and provide a high value visual amenity.	N/A
The internal driveway shall be designed and constructed to a minimum practical impervious pavement width to accommodate access and turning movements to minimise the area of impervious pavement within the land. Track style driveways or driveways of natural pavement materials are encouraged.	N/A
Access Driveway in Public Road Reserve	N/A
The access driveway where proposed, is to fit within the natural topography linking to the adjacent roadway such as not to interfere with road table drain. The access driveway may be constructed in natural materials, concrete or textured materials in dark or earthy tones. Driveway location to maximise retention of native vegetation, trees in particular, in the public road reserve.	N/A
Access driveway profiles shall conform to the profiles as illustrated in Appendix 10 – Driveway Profiles.	N/A
Part C – Development Type Controls	
Section C1 – Design Criteria for Residential Development	
C1.12. Waste and Recycling Facilities	
All development that is, or includes, demolition and/or construction, must comply with the appropriate sections of the Waste Management Guidelines and all relevant Development Applications must be accompanied by a Waste Management Plan.	Capable of compliance at the Construction Certification stage

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	C1.18. Car/Vehicle/Boat Wash Bays	
	A designated wash bay is to be incorporated on the site where developments have more than ten units.	One (1) car wash bay is proposed. Complies
	The wash bay must be designed and constructed so as to not allow polluted waters to enter the storm water drain and storm waters do no enter the sewer.	Capable of compliance at the Construction Certification stage
	Variations	N/A
	Where the use of vehicles or boats is not part of the activity associated with the proposed development this control does not apply.	N/A
	Section C4 – Design Criteria for Subdivision	N/A
	C4.1. Subdivision – Protection from Hazards	N/A
	C4.2. Subdivision – Access Driveways and Off-Street Parking Facilities	N/A
	(i) Off-Street Parking Requirements	N/A
	The design of each individual lot created within the subdivision is to provide for off street parking facilities compatible with the proposed development uses for that lot.	N/A
	(ii) Access Driveways (ie; driveway crossings)	N/A
	A safe and functional access driveway must be designed and constructed from the road edge/kerb and gutter to the lot boundary for each individual lot within the subdivision as part of the subdivision works.	N/A
	Only one driveway access to a public road is permitted for each lot.	N/A
	(iii) Internal Driveways	N/A
	The design of each individual lot created within the subdivision is to provide for an internal driveway compatible with the proposed development uses for each individual lot.	N/A
	Where an internal driveway is located within a 'right of way' or proposed 'right of way', the internal driveway is to be designed and constructed as part of the subdivision works.	N/A
	Variations	N/A
	Access Driveways	N/A
	Council may permit a second driveway access to a public road if the street frontage to the road is 30m or more, or where rear access to the lot is provided.	N/A
	Internal Driveways	N/A
	Consideration will be given on a merit basis where the applicant is proposing not to construct the internal driveway located within a right of way or proposed right of way as part of the subdivision works phase.	N/A
	C4.3. Subdivision – Transport and Traffic Management	N/A
	Where development generates pedestrian, traffic and transport requirements in excess of the capacity of the road and transport network, the capacity of the surrounding public infrastructure	N/A

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	and transport network is required to be upgraded to at least match the additional demands generated by the development.	
	Any improvement works external to the development site, required to ensure the development complies with this control, must be provided as part of the development at the full cost to the applicant.	N/A
	A traffic assessment is to be undertaken in accordance with the RTA *Guidelines for Traffic Generating Developments* or similar guidelines.	N/A
	All proposed traffic facilities must comply with the Roads and Maritime Services and/or relevant Australian Standards and be approved by Council's Traffic Committee when on local roads or the Roads and Maritime Services on classified roads.	N/A
	Variations	N/A
	Where there is no increase in the number of lots this control may be dispensed with.	N/A
	C4.4. Subdivision – Public Roads, Footpath and Streetscape	N/A
	Proposed public roads within the subdivision	N/A
	Where the proposed public roads within the subdivision are to be dedicated to the Council, the design and construction of the road pavement, vertical kerb and gutter, footpaths (minimum 1.5m width) or cycleways (minimum 2.1m width), street lighting and landscaping to service the lots to be created shall be for the full width between the proposed lot boundaries within the subdivision land created as a road reserve by subdivision. The design and construction of works are to be funded by the applicant.	N/A
	Subdivision to be created as a Community Title	N/A
	Where a subdivision is to be created as a community title, allowing full public access, the design and construction of the road and pedestrian networks shall provide for full pedestrian and vehicular access and on-road parking as a public road network.	N/A
	Subdivision adjoining a public road reserve	N/A
	Where the subdivision adjoins a public road reserve, the subdivision shall include the design and construction of the perimeter road for half width construction including road pavement, vertical kerb and gutter, footpaths or cycleways (minimum 1.5m width or minimum 2.1m width where a cycleway is required), street lighting and landscaping, for full width of the development site frontage to all public road reserves and shall include any intersection to provide access the subdivision all at the full cost to the applicant.	N/A
	Variations	N/A
	Where the landscaping or infrastructure in the public road reserve currently exists to Council standard, the requirements of this control in respect to the specific landscaping or infrastructure item need not apply.	N/A

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	C4.5. Subdivision – Utility Services	N/A
	C4.6. Service and delivery vehicle access in subdivisions	N/A
	Roads and access ways within the subdivision are to be designed and constructed to accommodate access for waste, recycling, service, emergency and delivery vehicles.	N/A
	C4.7. Subdivision – Amenity and Design	N/A
	C4.8. Subdivision – Landscaping of the Existing and Proposed Public Road Reserve Frontage to Subdivision Lots	N/A
	Part C6 – Design Criteria for Warriewood Valley Release Area	
	C6.1. Integrated Water Cycle Management	
	C6.2. Natural Environment and Landscaping Principles	
	C6.3. Ecologically Sustainable Development, Safety and Social Inclusion	
	C6.4. The Road System and Pedestrian and Cyclist Network	
	The Road System	
	A traffic analysis report and road plans and sections for the Sector, buffer area or development site, demonstrating that the outcomes within this control will be achieved, must be prepared by a suitably qualified professional and submitted with the application. The road plans must comply with the relevant specifications and cross sections in Council's *Warriewood Valley Roads Masterplan*.	A traffic analysis is presented through the contents of this report by a suitably qualified professional. Complies
	In order to address the outcomes and controls of this DCP, the Warriewood Valley Roads Masterplan adopts the following road hierarchy: • Sub-arterial Streets -*Ponderosa Parade, Macpherson Street, Warriewood Road (east of Macpherson Street) and Garden Street.* • Collector Streets -*Foley Street, Jubilee Avenue, Orchard Street, Warriewood Road (north of Macpherson Street), Daydream Street and Boondah Road and any new road with traffic volumes 2000 to 5000 vehicles per day.* • Local Streets – *Fern Creek Road and new roads servicing a maximum of 200 dwellings, located within a Sector, buffer area or development site.* • Local Streets – *Fern Creek Road and new roads servicing a maximum of 200 dwellings, located within a Sector, buffer area or development site.* • Access Streets –*New roads servicing a maximum of 30 dwellings located within a Sector, buffer area or development site.* • Lane ways –*New which are not primary street frontages to dwellings servicing a maximum of 30 dwellings, and not*	Noted

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exceeding a length of 80m located within a Sector, buffer area or development site. • Sector Entry Streets -*Primary entrance street to a Sector, buffer area or development site.*	
Council shall not grant consent to development on land adjoining Pittwater Road or Mona Vale Road if the development proposes vehicular access to Pittwater or Mona Vale Roads.	N/A
The design and construction of the road and pedestrian network shall, regardless of the form of subdivision and future ownership of the road(s), provide full pedestrian and vehicular access and on-street parking and function as a public road network.	Full pedestrian and vehicular access is provided to each lot. On-street parking provision is not affected on Lorikeet Grove as it is a local road which does not require a separate on-street parking lane. Loss of on-street parking provision on Warriewood Road (north of Macpherson Street) will be minimised as much as possible. The four (4) adjoining lots will have two (2) adjacent driveways which will ensure maximum on-street parking opportunities for the public. Satisfactory
Design Requirements	
A single access point to each sector, buffer area or development site serviced by a roundabout or other on-street traffic management facilities (if necessary) is to be provided with vehicular access to individual lots within the subdivision being from internal roads within that subdivision. Internal roads linking separate existing sites are to be provided.	A single access point has been provided to the proposed development. Single access points to each of the separate lots will be proposed in the future. Access driveways located on Lorikeet Grove links the subject site to Warriewood Road (a local collector road) through Pheasant Place and Bubalo Street. Complies
The street pattern must provide direct, safe, and convenient pedestrian and cyclist access from housing and employment areas to public transport stops and to areas of open space, services and other facilities. Connectivity within the sector, buffer area or development site is required to ensure the majority of dwellings are within walking distance to bus stops.	Not within the scope of this assessment
The street layout and design is to consider opportunities for the retention of existing significant trees within the road reserve where possible. Trees may be incorporated with small, informal spaces that provide opportunities for 'greening of the street'.	Not within the scope of this assessment
All roads in Warriewood Valley must be designed with traffic calming devices to lower vehicle speeds, which may incorporate pavement treatment and enhanced landscaping. The provision of safe crossing areas is required. All roads and any traffic calming devices in Macpherson Street, Warriewood Road, Ponderosa Parade, Garden Street and Boondah Road must be able to cater for ultra-low floor articulated buses. The road system is to cater for adequate vehicular access for waste removal services.	Traffic calming devices will not be required at Lorikeet Grove as it is not an arterial or sub-arterial road. It is a local road which will not carry a large number of vehicles. The four (4) lots with the adjacent driveways on Warriewood Road (north of Machperson Street) will not require traffic calming devices. As only one (1) dwelling house is proposed on each of the four (4) lots, there will be a low number of trips entering and exiting Warriewood Road which will ensure minimal traffic impacts. Complies
Driveway locations on Sub-arterial Roads,	No on-street parking opportunities will be lost on

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	Collector, Local and Access Streets are to consider the impact on street trees and on street parking opportunities.	Lorikeet Grove due to the proposed driveway locations. Loss of on-street parking provision on Warriewood Road (north of Macpherson Street) will be minimised as much as possible. The four (4) adjoining lots will have two (2) adjacent driveways which will ensure maximum on-street parking opportunities for the public. Satisfactory.
	Lane ways	N/A
	For residential lots with double frontages, laneways should be used to provide rear loaded access. Laneways are not suitable for single frontage lots.	N/A
	The design, dimensions and materials of the laneway should promote a slow speed driving environment, distinctively different from a street. Laneways are to be provided with a suitable level of passive surveillance.	N/A
	Garbage collection areas are to be incorporated into the design of laneways to ensure access along the laneway is not hindered during garbage collection periods. Garbage bins are to be located in designated collection areas only during the collection period. The garbage collection area(s) is not to be used for parking or storage.	N/A
	Temporary Roads	N/A
	Where access arrangements have not been constructed in a timely manner, the construction of temporary roads may be permitted to enable an isolated property to develop ahead of the surrounding roads being constructed to facilitate direct access onto the existing public road network. In these circumstances temporary roads are permitted subject to the following criteria being satisfied:	N/A
	• A traffic report being prepared by an appropriately qualified professional demonstrating how the temporary road provides for the safe usage of all road users including service and passenger vehicles, pedestrians and cyclists;	N/A
	• The final road configuration (permanent road) for the development is consistent with the applicable specifications and cross section within the *Warriewood Valley Roads Masterplan*;	N/A
	• The temporary road is to cater for no greater than 300 vehicles per day, with a minimum carriageway width of 6m provided to cater for two-way traffic;	N/A
	• The safety of all road users including service and passenger vehicles; pedestrians and cyclists is not compromised by the temporary road;	N/A
	• Engineering design details are submitted for the temporary road, including details of any necessary water management, drainage and service utility provision requirements;	N/A
	• Where the development of adjoining	N/A

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development sites results in them being temporarily isolated from formal and final road infrastructure, arrangements between developers of these sites is to result in temporary roads being located so that a full width temporary road can be provided i.e. the temporary road on each development site should be adjacent to the other temporary road; and	
• The temporary road being removed once direct access to the newly completed public road network has been achieved.	N/A
Half Width Road Construction	N/A
Due to the narrow width of some Sectors, Buffer Areas or Development Sites in Warriewood Valley, it may be necessary for roads to be constructed across the boundary of two adjoining properties.	N/A
Where a road is to be constructed along the boundary of two properties, the partial/half width construction of the road is permitted subject to the following criteria being satisfied:	N/A
• a traffic report is submitted with the application prepared by an appropriately qualified professional demonstrating how the partial road proposal provides for the safe usage of all road users including service and passenger vehicles, pedestrians and cyclists;	N/A
• a minimum carriageway width of 6m is provided to cater for two-way traffic;	N/A
• the development potential of all adjoining allotments is maintained. The proposed development shall not render any allotment of future redevelopment opportunity undevelopable in the event that this allotment does not meet the development standards set out in Pittwater LEP 2014 or the controls set out in this DCP;	N/A
• the safety of all road users including service and passenger vehicles, pedestrians and cyclists is not compromised by the partial road construction;	N/A
• engineering drawings are provided with the application for the partial and full width of the road, including details of any necessary water management, drainage and service utility provision requirements;	N/A
• where the road classification requires a footpath to be provided, the footpath is to be provided along the first completed side of the road;	N/A
• reciprocal right of access is afforded to the adjoining property(s); and	N/A
• the final road configuration is consistent with the applicable specifications and	N/A

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	cross section within the*Warriewood Valley Roads Masterplan*, as amended.	
	Subdivision adjoining an existing public road	
	Where the subdivision adjoins an existing public road reserve, plans are to be submitted for the intersection treatment to the public road reserve and any works within the public road reserve including road pavement, vertical kerb and gutter, footpaths and cycle ways (minimum 1.5m wide footpath or a minimum 2.1m wide where a cycle way is required).	Complies
	All works associated with the intersection treatment (except those identified under the *Warriewood Valley Section 94 Development Contributions Plan* as amended) and any works within the public road reserve are to be carried out at full cost to the developer.	Noted
	Pedestrian and Cyclist Network	Allowances have been made for the pedestrian pathway/cycleway which will connect to the adjoining developments. The 2.5 m pathway follows the southern side of Lorikeet Grove until it deviates. The pathway will then run adjacent to the western side boundary where it will connect with the existing pathway network at the rear of 53 Warriewood Road. Refer to the architect's drawing attached in the **'Appendix'** of this report.
	A pedestrian and cyclist network is to be provided in accordance with the*Warriewood Valley Landscape Masterplan & Design Guidelines* (Public Domain).	Complies
	The pedestrian/cycleway link should be located off road, where practical. Where a pedestrian/cycleway link is located in:	Complies
	• A public reserve, the minimum width is 2.5 metres; and	Complies
	• The road verge adjacent to the road carriageway, the minimum width is 2.1 metres.	Complies
	The location of the pedestrian path/cycleway is variable within the creekline corridor to ensure connectivity with existing sections of the path and facilitate retention of vegetation so long as the pedestrian path/cycleway is sited above the 20% AEP flood level to reduce the incidence of flood damage to a manageable level and achieve a satisfactory safety level for regular use. The alignment of the pedestrian/cycleway network must provide adequate sightlines for cyclists.	
	Where a pedestrian/cyclist link is identified within or adjoining a sector, buffer area or development site, the applicant is to identify on their development drawings the location for this infrastructure.	
	The pedestrian/cycleway network must be accompanied by appropriate landscaping and vegetation. Details of the proposed landscaping and vegetation must accompany any development application.	
	Reference should be made to *Warriewood Valley Landscape Masterplan & Design Guidelines*	Noted

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	(Public Domain) for further information.	
	Approval for works on the public road reserve under Section 138 of the Roads Act 1993	
	Any new road, regardless of ownership, connecting to the existing public road network, will require separate approval from Pittwater Council as the Roads Authority under the *Roads Act 1993*.	Noted, will be sought at the Construction Certificate stage
	Access Driveways	
	Driveways shall be designed and constructed to:	
	• provide safe access and reduce the impacts of storm water run-off to any public land;	Complies in terms of safe access
	• the minimum practical pavement width needed to facilitate access and turning movements; and	Complies
	• minimise the area of impervious pavement within the land.	
	The cost for Access Driveways construction and maintenance and adjustment of any utility service is the responsibility of the Applicant.	Complies
	Access Driveway Location	
	Access Driveways shall be designed and located to provide adequate sight distance to maximise pedestrian and vehicular safety as follows:	
	• minimum clear distance along the road frontage edge of kerb of 50 metres for 40 and 50 km/h speed limit roads measured from a point on the centre line of the driveway 2.5 metres from the face of kerb; and	Complies
	• minimum clear distance along the frontage foot way of 5 metres, measured from a point on the centre line of the driveway 2.5 metres from the edge of foot way area closest to property boundary.	Complies
	The location of Access Driveways is to maximise the retention of trees and native vegetation in the public road reserve.	
	Access Driveways located in front of adjoining properties will be considered on merit, based on Council's consideration of the site constraints.	Noted
	Ancillary structures within the public road reserve may be considered where the intended purpose is to structurally support the access driveway only however, encroachment into the road reserve is to be minimised. Suspended driveways must not use the existing road structure for support.	N/A
	Access Driveway design, widths and profiles	
	The maximum width of an Access Driveway for dwelling houses, dual occupancies and secondary dwellings shall be as follows:	Complies with AS/NZS 2890.1:2004 and AS 2890.2-2018

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Distance Building Line to Boundary	Minimum Width at Boundary	Width at Kerb
Nil to 3.5m	3.0m	Width at the boundary plus 0.5m
Greater than 3.5m to 6.5m	4.0m	4.5m

Access Driveway profiles shall conform to the profiles as illustrated in Appendix 10 – Driveway Profiles.	Complies with AS/NZS 2890.1:2004 and AS 2890.2-2018
The Access Driveway is to be structurally adequate for its intended use. All structural elements within the road reserve must be certified by a Structural Engineer. In addition, where the land is identified on the Landslip Hazard Map, the design of all structural elements must satisfy the Landslip Hazard Controls.	
Access Driveways are to be in accordance with: • Australian Standard *AS/NZS 2890.1-2004: Parking Facilities Part 1: Off-Street Car Parking*. • Australian Standard *AS/NZS 2890.2-2002: Parking Facilities – Part 2: Off-Street Commercial Vehicle Facilities* except as qualified in this control.	Complies with AS/NZS 2890.1:2004 and AS 2890.2-2018
Turning movements are to be in accordance with the turning paths for a B85 vehicle (Australian Standard *AS/NZS 2890.1-2004: Parking Facilities – Part 1: Off-Street Car Parking*).	Complies with AS/NZS 2890.1:2004
Provision is to be made for vehicles to enter and leave the site in a forward direction, where:	
• the internal driveway grade exceeds 1:4 (V:H);	Complies
• the land abuts a roadway subject to high pedestrian use (e.g. School, Commercial Centre); and/or	Complies
• driveways are more than 30m in length.	Complies
Access Driveways are to match in with adjacent constructed footpaths or alternatively adjacent constructed footpaths are to be adjusted to provide a continuous surface with no trip points with a maximum 1:14 (V:H) transition.	
Access Driveway for Service Vehicles to Loading Dock	
For developments on land zoned B7 Business Park and IN2 Light Industrial, separate entry/exit vehicular access is required with Access Driveways for entry and exit separated by a minimum distance of 2 metres.	N/A
Access Driveways providing access for service vehicles to loading docks must be separated from access used by the general public for access to public parking areas and where practical, be located on a rear public road frontage providing separation from pedestrian activity.	The width of the lot available for provision of vehicular access is not sufficient for separated access for trucks and cars and therefore a two-lane access driveway is provided. It must be noted that the proposed development is not intended for access by general public but only by residents and their visitors. Most of these people will be very familiar with the access conditions. The only regular services vehicles will be waste collection trucks. The number of service vehicle movements and hence, the frequency of possible conflicts with cars will be very low. The proposed

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		waste collection area is separated from the general vehicular access ramp to the car park and from the pedestrian path. Safety measures to prevent pedestrians from entering the waste collection point are also proposed. The safety measures are listed below. • Lights will be places on both sides of the waste collection point to alert pedestrians, • An alarm will start ringing when a waste collection vehicle will head towards the waste collection point or reverse from it and • Signs will be placed on both sides of the waste collection point to warn pedestrians. The signs are proposed to read 'CAUTION: WASTE COLLECTION VEHICLE MANOEUVRING' Satisfactory.
	Where Access Driveways are located on the same frontage, the minimum distance between an Access Driveway for service vehicles and an Access Driveway for the general public shall be 5 metres from inside edge to inside edge of the Access Driveways.	N/A
	Access Driveway Construction and Finishes	
	All Access Driveways shall be constructed with an impervious pavement and gutter crossing construction.	Capable of compliance at the Construction Certification stage
	Gutter crossings are to be in plain concrete.	Capable of compliance at the Construction Certification stage
	Access Driveways are to be either in plain concrete or a cosmetic finish consisting of concrete, asphaltic concrete or paver construction in dark earthy tones, (Cosmetic Access Driveways on a public road reserve are subject to a Deed of Agreement releasing Council in respect to liability and damage to the driveway by any means).	Capable of compliance at the Construction Certification stage
	Where retaining walls and structures are visible from a public place, preference is given to the use of textured finishes of dark earthy tones or sandstone-like finishes.	Capable of compliance at the Construction Certification stage
	C6.5. Utilities, Services and Infrastructure Provision **C6.6. Interface to Warriewood Wetlands or Non-residential and Commercial/Industrial Development** **C6.7. Landscape Area (Sector, Buffer Area, or Development Site)** **C6.8. Residential Development Subdivision Principles** ***Subdivision Principles***	
	The design of the subdivision should be generally consistent with the following key principles: • The subdivision layout is to incorporate adequate pedestrian, cycle and vehicle links to the road network, public	Complies

Requirement	Compliance
transport nodes, pedestrian/cyclist network and public open space areas.	
• Roads should adjoin creek line corridors and open space areas to facilitate surveillance, provide access to and prevent isolation and degradation of these spaces.	
• Where it is not possible to locate a road along creek line corridors and open space areas, Residential Flat Buildings or Multi Dwelling Housing products designed to facilitate casual surveillance should adjoin these areas.	
• A single access point to each sector, buffer area or development site serviced by a roundabout, if necessary, or other on-street traffic management facilities is to be provided, with vehicular access to individual lots within the subdivision being from internal roads within that subdivision.	Complies in terms of vehicular access being from internal roads within that subdivision for lots with frontages to Lorikeet Grove. Vehicular access to lots with frontages to Warriewood Road can only be made through two (2) sets of two (2) adjacent driveways.
• The number of driveway entrances from any sector, buffer area or development site onto major roads in Warriewood Valley including Garden Street, Macpherson Street, Forest Road, Orchard Street and Warriewood Road is to be minimised. Opportunities for shared driveways maximise the on-street parking provision and create a more attractive street scape.	Two (2) adjacent driveways have been proposed for the four (4) lots with a frontage to Warriewood Road. Complies
• Lots must have the appropriate area, dimensions and shape to accommodate the housing product proposed as well as canopy trees and other vegetation, a private outdoor open space, rainwater tanks, vehicular access and onsite parking.	Complies with regard to vehicular access and parking
• Continuous runs of garages fronting lane ways are to be avoided (i.e. break up through pairing, setback variation etc.)	N/A
Lots should be rectangular. Where lots are irregular in shape, they are to be large enough and orientated appropriately to enable a future dwelling to meet the controls in this DCP.	
In instances where the permitted maximum dwelling yield for the sector, buffer area or development site is to be achieved, the retention of existing dwellings on large lots greater than 500m², particularly along Warriewood Road, is not desired as it is not in keeping with the desired future character and limits the ability to achieve the adopted density. Lots suitable for housing typologies that reflect the streetscape character of existing housing on the opposite side of Warriewood Road, for example dual occupancies (attached or detached), should be sited fronting Warriewood Road.	
Lots less than 225m² in size or less than 9m wide are to be rear loaded, except where it can be demonstrated that:	
• Rear access is not practical due to the size or shape of the development site; or	

Requirement	Compliance
• There will be no adverse impact on streetscape amenity and on-street parking.	
The minimum width of a rear loaded lot is to be 4.5 metres.	
Where dwellings front two roads, dwellings are to present to the higher street classification and are to reflect the streetscape character of the higher street classification. Appropriate presentation to the higher street classification is to include a front door, front entry articulation such as a porch, letterbox and direct pedestrian access to the higher street classification from the dwelling. A front building setback is also applicable.	
Street Network	
The design of the internal street network should:	
• Establish a traditional grid street network pattern to facilitate walking and cycling and enable direct local vehicle trips;	Complies
• Encourage a low speed traffic environment;	Complies
• Optimise solar access opportunities for dwellings;	
• Respond to the natural site topography to minimise cut and fill;	
• Seek to retain significant trees or areas of bushland; and	
• Provide frontage to and maximise surveillance of open space areas and riparian corridors.	
Cul-de-sacs may be included only in limited circumstances such as where access-denied roads or shallow lots caused by irregular shaped areas exist and where the applicant can demonstrate that the outcomes of the control can be satisfied.	N/A
Subdivision of existing small and narrow lots	
Due to the dimensions and size of some sectors, buffer areas and development sites in Warriewood Valley, it may be difficult to achieve quality urban design outcomes and a mix of dwelling types. Narrow lots with single street frontages, in particular, are also likely to have difficulty in achieving access without compromising lot depth.	
Through site amalgamations however there may be opportunities to reduce unnecessary road duplication and deliver better quality urban design outcomes.	
Sectors, buffer areas and development sites with an effective lot width less than 60 metres should ideally pursue opportunities for site amalgamation to facilitate orderly planning and development outcomes and the efficient use of land.	
Lot Diversity Requirements	
A range of residential lot types (varying in area, frontage, depth and access) should be provided	

Requirement	Compliance
to ensure a mix of housing types and dwelling sizes.	
With the exception of development applications for an Integrated Housing development (refer to control C6.9 Residential Land Subdivision Approval Requirements) not more than 40% of the lots created through a subdivision proposal may be of the same lot type. Every development application for subdivision must be accompanied by a Lot Mix table showing the lot types, number and percentage of the overall total. If the application is to be staged and a single stage does not demonstrate that not more than 40% of the lots are the same lot type, an indicative plan of the remaining lot types proposed under the remaining stages is to be submitted, indicating compliance with the above.	
Lot type is determined by lot width. Lot width is measured from one side boundary to the other at the primary street front building line not including access handles. Lots of different lot types must have to have a difference in their lot widths of at least 2 metres.	
Not more than 20% of any block length is to be of front loaded lots less than 9 metres wide to avoid the streetscape being visually dominated by garages and to reasonably optimise on street parking opportunities.	
Titling arrangements	
The design of the subdivision must consider the future ownership, access and management of the internal road network, water management facilities and any other infrastructure associated with the development that, in turn, informs the form/type of subdivision proposed.	
Details of proposed requirements for services and infrastructure, including garbage collection and emergency services, access and maintenance necessary for the subdivision to function are to accompany the development application.	Complies
Additional requirements for specific development types	
Allotments proposed to incorporate a zero lot line and attached or abutting dwellings (zero lot line dwellings and attached/abutting dwellings see Figures 1 and 2 in this control respectively)	
The location of a zero lot line dwelling is to be determined with regard to the allotment orientation and ability to achieve the solar access provisions within this DCP. The location of a zero lot line dwelling should only occur on the southern side boundary of east-west allotments and on either side boundary of north-south allotments.	
The location of all nominated zero lot lines must be identified on the proposed Plan of Subdivision (refer to control C6.10 Residential Subdivision Approval Requirements)	
Where a zero lot line is nominated, the following is to be ensured: • a Section 88B instrument is to be applied to both the benefited lot and	

Requirement	Compliance
the burdened lot and shall include a notation identifying the potential for a building to have a zero lot line; • the burdened lot is to include an easement for access and maintenance on the burdened boundary in accordance with the following: • 900mm for single storey zero lot walls; or • 1200mm for two storey zero lot walls; • the easement is to enable servicing, construction and maintenance of the adjoining dwelling; • the Section 88B instrument is to be worded so that Council is removed from any dispute resolution process between adjoining allotments; and • No overhanging eaves, gutters or services (including rainwater tanks, hot water units, air conditioning units, downpipes, electrical conduits or the like) of the dwelling on the benefited lot will be permitted within the easement.	
Allotments for attached and abutting dwellings are to be rear loaded, except where it can be demonstrated that rear access is not practical due to constraints arising from the shape or size of the development site. Where dwellings are proposed on lots with two street frontages (not corner lots), the dwellings are to present (have a street address) to the higher street classification and are to reflect the streetscape character of the higher street classification. The composition of attached/abutting dwellings needs to be determined at the subdivision stage to take into account the lot widths required in order for a 'break' to be provided. A 'break' (i.e. a larger lot width, an indentation in the dwelling with a width and depth of 1.5m on both levels, a housing product of a different width, a detached housing product) is to be provided between every 3 attached/abutting dwellings of the same lot width Where buildings are to be located on boundaries, retaining walls (as required) are to be built as part of the subdivision works. Details of the fill (depth, source and amount of fill material to be deposited) and retaining walls are to be submitted with the application. Corner lots are to be configured to allow the dwelling to address both street frontages as depicted in Figure 3 below. Multi-dwelling housing is a good example of a housing type that achieves this.	
<u>Residential Flat Buildings and Multi-dwelling housing</u>	
The minimum dimensions of a lot proposed to contain a residential flat building (but not multi dwelling housing) is 30 metres in any direction.	

Item	Report	
	Requirement	**Compliance**
	Residential Flat Buildings and Multi Dwelling Housing developments with 10 or more dwellings are to provide at least: • 10% studio apartments/units; • 10% 1 bedroom apartments/units; and • 10% 2 bedroom apartments/units.	
	Variations	
	Where the subdivision proposal will result in the creation of less than 20 lots, compliance with the lot diversity requirements within this control will be considered on merit.	
	C6.9. Residential Land Subdivision Approval Requirements	
	The land subdivision approval process is to be consistent with the requirements of the table below:	

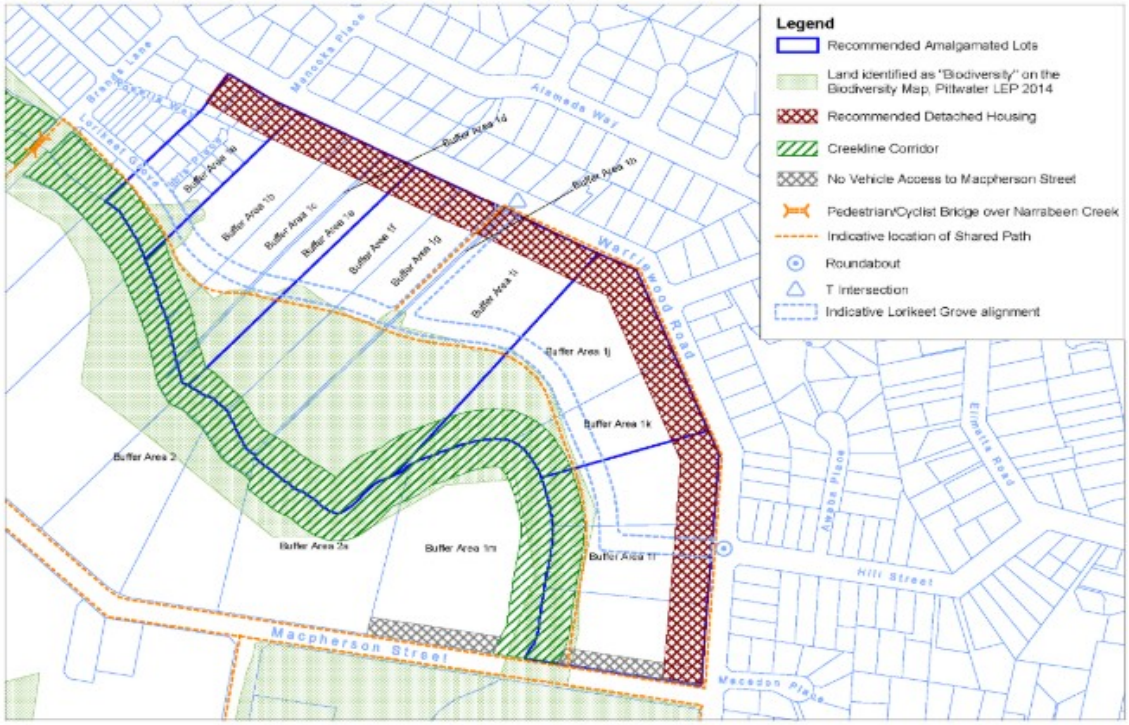
Approval Pathway	Pathway 1: DA for subdivision	Pathway 2a: DA for subdivision and detached or abutting dwellings (Integrated Housing)	Pathway 2b: DA for subdivision and attached dwellings (Integrated Housing)
Application	Proposed lots equal to or greater than 225 square metres in area, and with a lot width equal to or greater than 9 metres.	Subdivision and dwelling construction involving detached or abutting dwellings on lots less than 225 square metres or on lots with a lot width less than 9 metres.	Subdivision and dwelling construction involving attached dwellings on lots less than 225 square metres or on lots with a lot width less than 9 metres
Plans required	Plan of Subdivision showing the building envelope for each lot is required. Plans of each dwelling are not required, as these will be included as part of any future Development Application or Complying Development Certificate.	Dwelling plans (floor plans, sections and elevations etc.) are required as part of an Integrated Housing proposal.	Dwelling plans (floor plans, sections and elevations etc.) are required as part of an Integrated Housing proposal.
Section 88B restriction on dwelling design	No	Yes – only approved dwelling can be built.	Yes – only approved dwelling can be built.
Timing of subdivision (registration of the subdivision with Land and Property Information)	Prior to approval of any land use including residential development.	Prior to the issue of a Construction Certificate for dwellings.	Prior to the issue of any Occupation Certificate (Interim or Final) for dwellings.

	Pathway 1 – Application for subdivision only	
	If a Plan of Subdivision incorporating a Building Envelope Plan is provided with the Development Application, it must be in accordance with the following:	
	• The Building Envelope, shown on the Plan of Subdivision, should be at a legible scale and include the following elements:	
	• Maximum permissible building envelope (including site coverage for a Complying Development Certificate), specifying setbacks, storeys and articulation zones;	Not in the scope of this report
	• Landscaped areas and deep soil areas;	Not in the scope of this report
	• Preferred location of private open space;	Not in the scope of this report
	• Driveway location and location of any hardstand areas;	Complies
	• Garage size (single or double) and location; and	Complies
	• Zero lot line boundaries.	Not in the scope of this report
	• Other elements that may be relevant to include on the Building Envelope depending on the particular lot/development proposed include:	Not in the scope of this report
	• Extent of basement car parking;	Complies

Item	Report	
	Requirement	**Compliance**
	• Retaining walls;	Not in the scope of this report
	• Easements;	Not in the scope of this report
	• For corner lots, the preferred entry/frontage;	Not in the scope of this report
	• Frontage where vehicular access is not permitted; and	N/A
	• Special fencing requirements.	
	Pathway 2a and 2b – Application for subdivision and dwelling construction	
	Subdivision of land creating residential lots with an area less than 225m² or a width less than 9 metres, shall include dwelling plans (floor plans, sections and elevations etc.) as part of the Development Application for subdivision, i.e. Integrated Housing approval for the subdivision and construction of the dwellings on each lot.	Not in the scope of this report
	Upon approval of the subdivision a Section 88B instrument will be attached to the lot restricting the built form to the approved dwelling plans.	Not in the scope of this report
	C6.10. Additional Specifications for development of Buffer Area 1a to 1m	
	Subdivision and Lot Layout	
	Individual buffer sectors with effective lot widths less than 60 metres should pursue opportunities for amalgamation to facilitate orderly planning and development outcomes and the efficient use of land. The Indicative Layout Plan included further in this control identifies Council's preferred site amalgamations.	Not in the scope of this report
	Denser housing typologies, including Residential Flat Buildings and Multi Dwelling Housing, should be located on the north eastern side of Lorikeet Grove, in close proximity to the creekline corridor.	Not in the scope of this report
	Where it is not possible to align Lorikeet Grove directly along the creekline corridor, Residential Flat Buildings and Multi Dwelling Housing products should be proposed adjoining these areas which will facilitate casual surveillance.	Not in the scope of this report
	Lots suitable for housing typologies that reflect the streetscape character of existing housing on the opposite side of Warriewood Road, for example dual occupancies (attached or detached), should be sited fronting Warriewood Road. The retention of existing dwellings on lots greater than 500m² in size along Warriewood Road is not desired as it is not in keeping with the future desired character and limits the ability to achieve the adopted density.	Not in the scope of this report
	Access Arrangements	
	Lorikeet Grove extension is to traverse Buffer Areas 1a to 1l, and be: • Designed and constructed as a Local Road under the *Warriewood Valley Roads Masterplan* and comply with the specifications and cross section; and • Generally in accordance with the alignment of Lorikeet Grove on the Indicative Layout Plan below.	

Item	Report	
	Requirement	**Compliance**
	A maximum of two new public roads are to directly connect to Warriewood Road and Lorikeet Grove. Each new connection road is to comply with the specifications and cross section for a Local Road under the Warriewood Valley Roads Masterplan, as amended. One road connection is to be located across the boundaries of Buffer 1g, 1h and 1i. The second road connection is to be located within Buffer 1l, adjacent to Hill Street. The traffic management device for both proposed road intersections with Warriewood Road is to be in accordance with the Indicative Layout Plan contained further within this control.	The proposal is not consistent with the indicative layout plan, in that a roadway connecting Warriewood Road to Lorikeet Grove would not be located within the boundaries of the subject site. It should however be noted that the indicative road layout envisioned the amalgamation of 41, 43, 54 and 49 Warriewood Road, and 41 Warriewood Road has already been separately developed. The constructed subdivisions approved at 25, 41 and 85 Warriewood Road have all included the construction of full/half width roads; three roads connecting Warriewood Road and Lorikeet Grove have therefore already been constructed. If the construction of an additional (i.e. fourth) through-road within the subject site were proposed, it would create a second full-width road intersection within a 120-metre section of Warriewood Road. It is therefore submitted that the proposed layout is suitable for both the proposed subdivision and the locality more broadly, and is thus supported by this assessment.
	The number of driveways along Warriewood Road is to be minimised. This can be achieved through shared driveways for dwellings that front Warriewood Road.	Two (2) adjacent driveways have been proposed for the four (4) lots with a frontage to Warriewood Road. Complies
	All other access roads within Buffer Areas 1a to 1l must be designed with traffic calming devices to lower vehicle speeds, which may incorporate pavement treatment and enhanced landscaping. The provision of safe crossing areas is required.	The subject site is within buffer area 1g. Traffic calming devices will not be required at Lorikeet Grove as it is not an arterial or sub-arterial road. It is a local road which will not carry a large number of vehicles. The adjacent driveways with a frontage to Warriewood Road (north of Machperson Street) will not require separate traffic calming devices. As only one (1) dwelling house is proposed on each of the four (4) lots, there will be a low number of trips entering and exiting Warriewood Road which will not result in any discernible traffic impacts. Satisfactory.
	No new vehicular access including driveways, is permitted onto Macpherson Street to ensure a safe approach to the bridge across Narrabeen Creek.	Not applicable
	A traffic analysis report will need to accompany any subdivision Development Application, taking into account the new East-West connection of Lorikeet Grove connects to Warriewood Road at Hill Street. Where the access arrangements have not been constructed in a timely manner, the construction of temporary roads may be permitted to enable the isolated property to develop ahead of the required roads being constructed. This will be assessed on a merit basis.	A traffic and parking analysis is provided through the contents of this report. The subject site will be accessed through Lorikeet Grove which connects to Warriewood Road at Hill Street. The construction of temporary roads may be required if Lorikeet Grove is not constructed before the proposed development.
	Location of Pedestrian and Cycle way Network	
	The alignment of the pedestrian and cycle way network is to be generally in accordance with the Indicative Layout Plan below.	Complies

Item	Report	
	Requirement	**Compliance**



	Variations	N/A
	The location of the pedestrian path/cycleway is variable to ensure connectivity with existing sections of the path and to facilitate the retention of existing vegetation.	N/A
	C6.11. Additional Specifications for Development of Sector 901A to 901H **C6.12. Warriewood Valley Release Area Focal Neighbourhood Centre**	N/A
	A focal neighbourhood centre is to be established on the land labelled as Sector 801.	N/A
	Its central location in Warriewood Valley results in it being within reasonable walking and cycling distance of most residents and employees within in Warriewood Valley. The sector fronts Macpherson Street which is the primary vehicular and public transport route through Warriewood Valley along which medium density residential development is concentrated.	N/A
	The focal neighbourhood centre is to incorporate a gross floor area between 855m² 2,222m² to meet the retail convenience needs of the incoming population (such as a small general store, post office shop, ATM, internet/coffee shop, etc.). The retail potential in Warriewood Valley is limited to this size given nearby established retail/commercial centres at Mona Vale and Warriewood Square.	N/A
	The focal neighbourhood centre must be linked to public transport nodes and the pedestrian and cyclist network, and if possible, to the district park and/or community facilities. This will enable the majority of residents and people employed in the Valley to walk or cycle to the local shops, public transport, and services. This will also	N/A

Requirement	Compliance
enhance the viability of the neighbourhood centre as a focal point in the Valley and reduce dependence on the car.	
The opportunity exists for Shop Top Housing to be incorporated with the retail facilities within the focal neighbourhood centre.	N/A
Safety and security are to be considered in the design of the centre.	N/A
Car parking for the centre is to be in accordance with this DCP.	N/A
Requirements under the *Disability Discrimination Act 1992* and this DCP must also be considered in the design of the centre.	N/A
Pre-DA consultation requirements	
Construction Traffic Management Plan (CTMP)	
During the pre-DA consultation, the Northern Beaches Council informed the applicant that a CTMP would be required at the DA stage.	Typically, Councils require a CTMP after the DA has been approved, because if the DA is not approved then no CTMP would be required. It would be illogical to prepare a CTMP and it would put an unfair financial burden on the applicant if the DA is not approved. Furthermore, a builder has not yet been appointed for this DA. A CTMP is normally prepared when the builder has been appointed as it requires interaction between the traffic engineer and the builder to work out exact details for the proposed construction activities in terms of vehicle types, material quantities and frequency of truck movements. This information will be available at the Construction Certification (CC) stage and once the DA has been approved, a CTMP will be provided as per the Council's request.
Response to Council's RFI dated 31 May 2022 (design)	
Provide information for basement parking turning path assessment to ensure compliance with the AS2890	The design of the proposed car park, the loading/unloading area and the associated ramps and manoeuvring areas have been checked for compliance with AS/NZS 2890 series. The proposed design (after a number of recommendations during the design process) has been found satisfactory and complying with the relevant parts of AS/NZS 2890. Vehicle swept path diagrams and design dimensions tests are attached in the **Appendix** to this report.

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	• When the development will have been constructed, vehicular trips by residents will occur in all directions, as needed for their travel to and from work, shopping and leisure destinations.
	• The most common road transport routes, as determined using Google maps travel guidance feature, are shown in **Figure 5**. These routes will change somewhat as new roads are being built. ◦ Specifically, Lorikeet Grove has recently been constructed all the way to the south between the site and Hill Street, where a roundabout has been installed. ◦ It is planned for Lorikeet Grove to be extended to the north where it will connect with its already built north-western section and Brands Lane.
	• The **Appendix** to this report contains diagrams of traffic distribution of additional vehicular trips on the road network for the commuter peak hours. These diagrams take into account the road extensions described above.
	◦ It is evident from these diagrams that the number of additional turning movements at all nearest intersections and at the intersection of Warriewood and Pittwater Roads will be minor and would not have any detrimental effect on the road network operation.

Item	Report
	◦ With regard to impacts on local streets, it must be noted that when the previous version of this report was prepared, only Bubalo Street provided a link between Lorikeet Grove and Warriewood Road. With the above described recent road network developments, this is no longer the case.
	◦ It is now evident that Bubalo Street is not likely to be the first choice for routing for the residents of the proposed development.
	▪ Travelling to the south, if Bubalo Street is used, drivers would need to make a right-hand turn into Warriewood Road, where they would need to give way to the traffic on the main road. It is much easier to continue travelling on Lorikeet Grove to the Hill Street intersection, where a roundabout makes it much easier to turn in any direction. Coming from the south, turning left into Lorikeet Grove at the roundabout would be the first choice, as it presents a slightly shorter route. Also, if a driver chooses to travel via Bubalo Street, he/she would have to give way to traffic in Lorikeet Grove at the T-intersection with this street.
	• Nevertheless, in our assessment of trip distribution, 30% of southbound outgoing traffic was assigned to use Bubalo Street, representing the worst-case scenario. Even with such an assignment, the number of additional vehicular trips (3) is miniscule and is not of concern.
	▪ Travelling to and from the north, once the north-western extension of Lorikeet Grove is completed, would be logically made via Brands Lane only, with no additional traffic in Bubalo Street.
	• It must also be noted that the proposed development is subject to the Warriewood Valley Section 94 Contributions Plan which provides for the collection of necessary funds for the road network upgrades identified in Warriewood Valley Roads Masterplan. These documents already identified necessary road upgrades due to new developments in Warriewood Valley.
Response to Council's RFI dated 31 May 2022 (access) Demonstrate that the access to the basement carpark cannot be achieved from Warriewood Road	• With regard to the access points to the proposed development, a number of options was considered in the course of design development. These options included:
	◦ **Access to Warriewood Road only** – discarded as contrary to general traffic engineering principle to avoid a concentrated point of traffic generation directly to the main road, whereas a rear lower level access road is planned and should be used.
	▪ Provision of the access driveway for all dwellings contained within the proposed development would mean that all generated traffic would have to come into and leave from one access point. This arrangement would result in an undesirable number of conflicts between in and out turning movements and the through traffic in Warriewood Road. If the turning movements were to be restricted to left in/left out only, drivers would be forced to take approach/departure routes consistent with the turn restrictions. This would lead to unnecessary increases in travel distances and increases in traffic volumes at streets and intersections which would otherwise be unaffected or affected at a much lesser scale. The turning restrictions of may lead to drivers using the nearest intersections and driveway for turning around, which is undesirable.
	◦ **A through connection between Warriewood Road and Lorikeet Grove –** discarded as not consistent with C6.10 of the Pittwater DCP.
	▪ C6.10 requires that a maximum of two new public roads are to directly connect to Warriewood Road and Lorikeet Grove. One road connection is to be located across the boundaries of Buffer 1g, 1h and 1i (TEF: this is Bubalo Street). The second road connection is to be located within Buffer 1l, adjacent to Hill Street (TEF: a new roundabout, also constructed). There is also seems to be a new connection via Pheasant Place.
	▪ If the construction of an additional (i.e. fourth) through-road within the subject site were proposed, it would create a second full-width road intersection within a 120-metre section of Warriewood Road. It is therefore submitted that the proposed layout is more suitable for both the proposed subdivision and the locality more broadly.
	▪ **The above two options** were also mentioned at the pre-DA consultations and were not favoured by Council.
	◦ **An internal loop road and access for all lots to Lorikeet Grove** – discarded as not providing a satisfactory outcome for landscaping and waste collection requirements.

Item	Report
	◦ **The current adopted arrangement**, which addresses the points of concern with regard to other options and is, therefore, the preferred option. ▪ It is also noted that the trip distribution (described on pages 41 and 42 of the present report) shows that the additional traffic likely to use Bubalo Sreet is very low. No specific traffic management will be required at the intersections of Bubalo Street with Warriewood Road and Lorikeet Grove as a result of the proposed development.
Conclusion	• The likely trip generation from the proposed development is low, within the planned levels, and no negative impacts on traffic operations are expected.

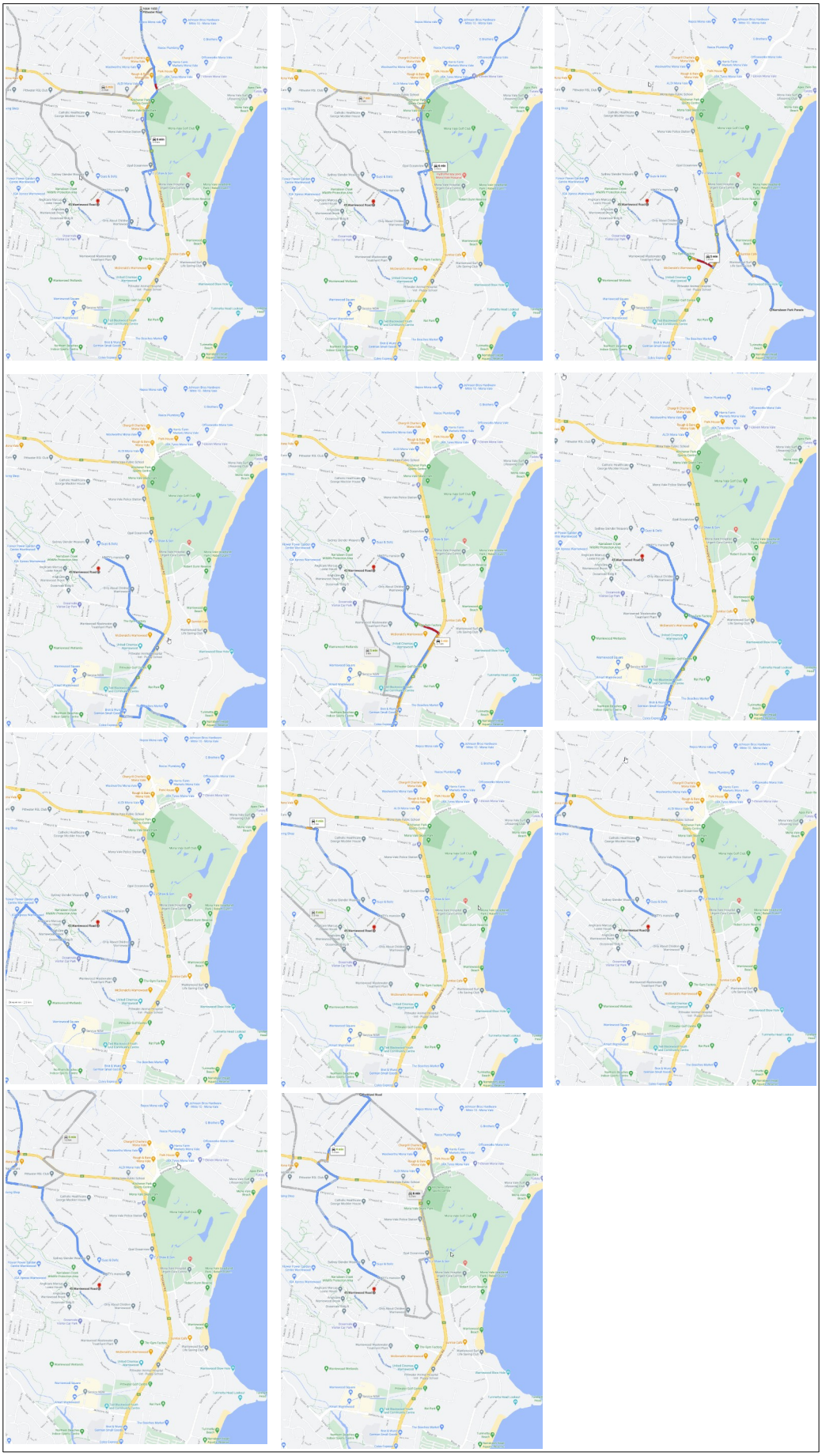
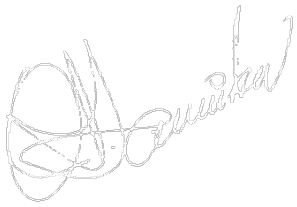


Figure 5. Common routes for road transport from the site in all directions (source: Google maps).

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.



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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

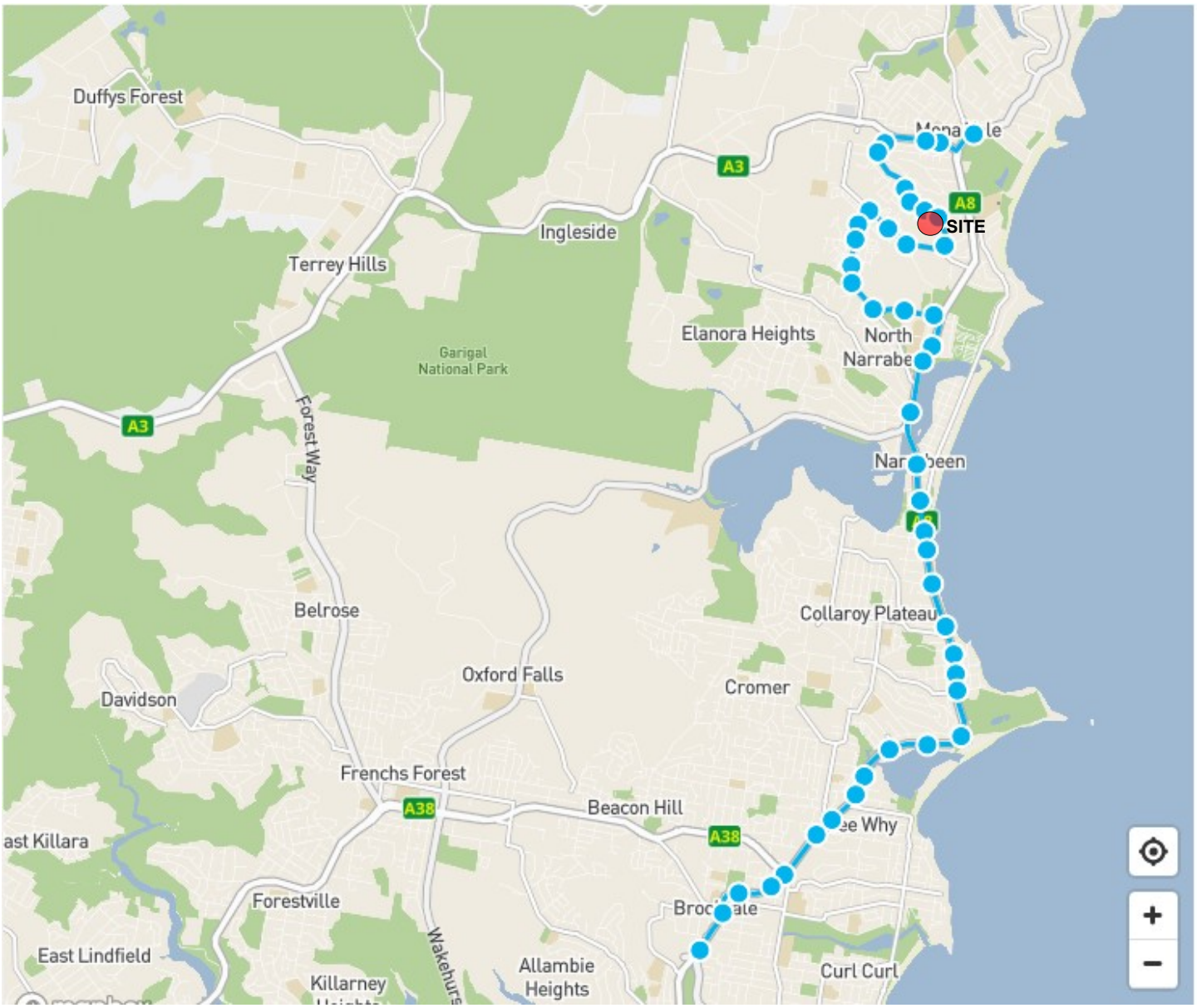
Bus routes

Reduced copies of the architectural drawings for ground and basement levels

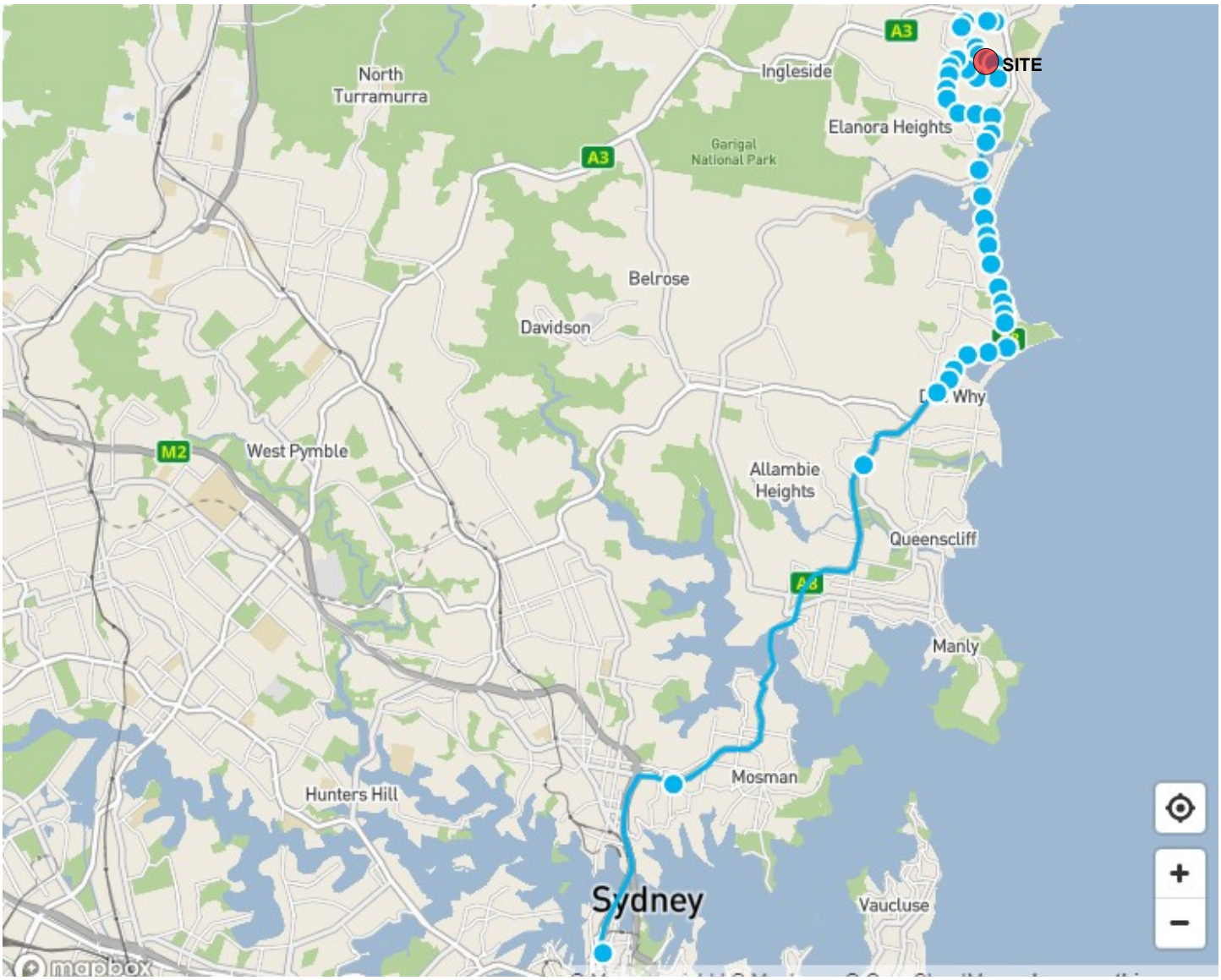
Car park design checks and vehicle turning diagrams

Trip distribution of additional traffic

Bus Route 185



Bus Route E85



MINOR INTERNAL MODIFICATIONS
ENSURE ALL BEDROOMS ARE 3M
WIDE MINIMUM

LOT'S BOUNDARY MODIFIED TO
ENSURE 6M CLEARANCE FROM
LOT BOUNDARY TO THE RFB WALL

REAR SET BACK MOVED TO 9M TO PROVIDE
APPROPRIATE SETBACK DISTANCE BETWEEN
THE RFB AND DWELLINGS

LORIKEET GROVE

WARRIEWOOD ROAD

A7 (LOT 7)
278 m²

A6 (LOT 6)
237 m²

A5 (LOT 5)
225 m²

A4 (LOT 4)
225 m²

A3 (LOT 3)
226.5 m²

A2 (LOT 2)
226.6 m²

A1 (LOT 1)
225.6 m²

B4 (LOT 11)
666 m²

B3 (LOT 10)
568 m²

B2 (LOT 9)
584 m²

B1 (LOT 8)
814 m²

POS
20 SQM
(LOT WIDTH
=9 TO 14M)

GARAGE

UPPER FLOOR LINE

LOWER AND UPPER FLOOR
B.E.P ARE IDENTICAL

BACKYARD
P.O.S

FRONTYARD
P.O.S MIN 12 m²

15245

13246

7000

15000

EASEMENT

FIRE ESCAPE
STAIRS 2

FIRE ESCAPE
STAIRS 4

BIN AREA
FFL: 5.70 m

BIN
COLLECTION
AREA

BICYCLE
GOODS
AREA
6.9 SQM

PLANT
LIFT

REVERSE BAY

ACOUSTIC FENCE

0.9 M SIDE SETBACK

4.5 M FRONT SETBACK

5.5 M FRONT SETBACK

9.5M REAR SETBACK

6M REAR SETBACK

3 M SECONDARY STREET SETBACK

MODIFICATION
INTERNAL MODIFICTIONS MADE TO UNITS TO IMPROVE BEDROOMS SIZES TO MINIMUM 3M WIDTH

OPTIONAL ARRANGEMENT WITH LIFT READY:
PLANS PROVIDED WITH AN OPERATING LIFT IF REQUESTED BY CLIENT

✳ **BUILDING ENVELOPE PLANS ONLY**
THE DESIGN OF THE INDIVIDUAL DWELLINGS WITHIN THE LOTS WILL BE SUBJECT TO A SEPARATE APPROVAL PROCESS

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 15/03/20

PROPOSED RESIDENTIAL DEVELOPMENT
45-49 WARRIEWOOD ROAD, WARRIEWOOD, NSW

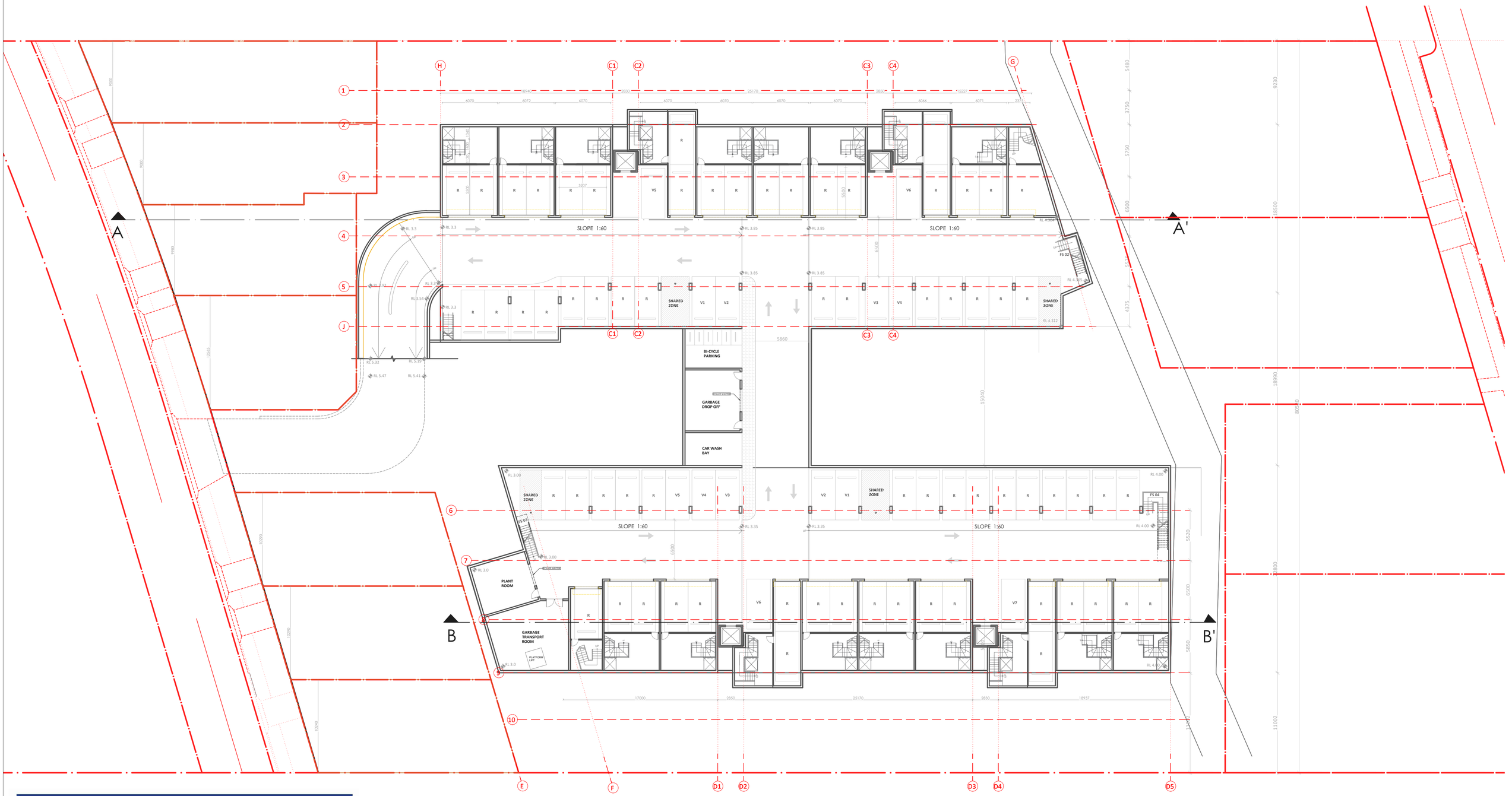
SITE PLAN

ARCHIDROME
SUITE 601, 90 GEORGE STREET, HORNSBY, N.S.W 2077 TARUNCHADHA@ARCHIDROME.NET ARCHITECT'S REG. NO. 8777

DRWG. NO.
A03
R-06

SCALE 1: 150 @A0

25/05/21



Energy Rating

Certificate Number: I30GS7ISKL

- [ ] single-dwelling rating — 6.0av stars
- [x] 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 [x] Rated without

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

Assessor Signature: _____ Date: 15/03/20

CAR PARKING SPACES:

RESIDENTIAL-
REQUIRED = 68
PROVIDED = 68

VISITORS-
REQUIRED = 12
PROVIDED = 13

MODIFICATION
INTERNAL MODIFICTIONS MADE TO UNITS TO IMPROVE BEDROOMS SIZES TO MINIMUM 3M WIDTH

OPTIONAL ARRANGEMENT WITH LIFT READY: PLANS PROVIDED WITH AN OPERATING LIFT IF REQUESTED BY CLIENT

✳ **BUILDING ENVELOPE PLANS ONLY THE DESIGN OF THE INDIVIDUAL DWELLINGS WITHIN THE LOTS WILL BE SUBJECT TO A SEPARATE APPROVAL PROCESS**

PROPOSED RESIDENTIAL DEVELOPMENT
45-49 WARRIEWOOD ROAD, WARRIEWOOD, NSW

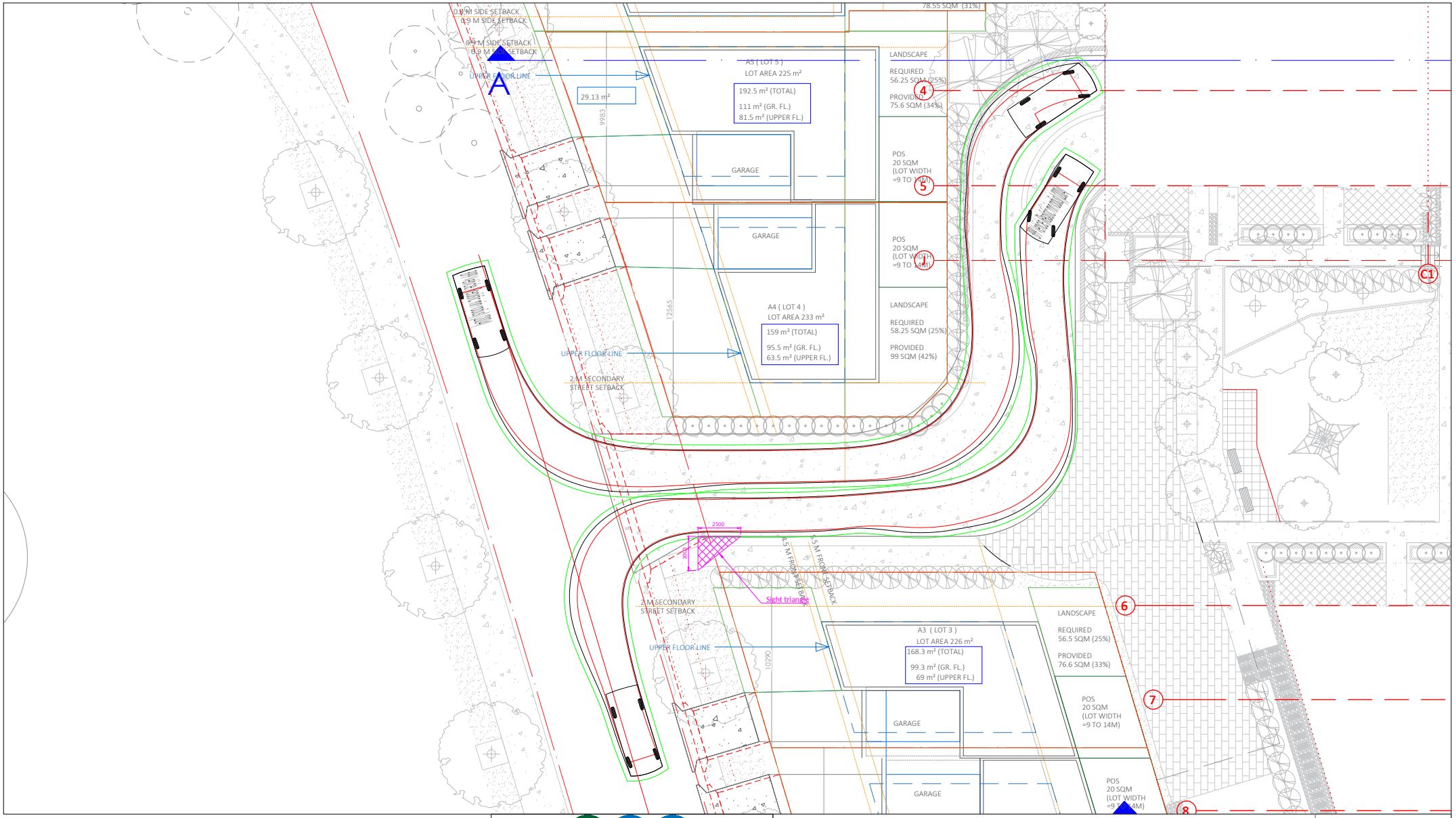
BASEMENT PLAN

ARCHIDROME
SUITE 601, 90 GEORGE STREET, HORNSBY, N.S.W 2077 TARUNCHADHA@ARCHIDROME.NET ARCHITECT'S REG. NO. 8777

DRWG. NO. A04 R-06

SCALE 1: 200 @A1

25/05/21



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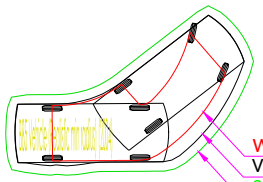


TEF CONSULTING

Dwg No 21063/01	Rev. A	24/08/2021

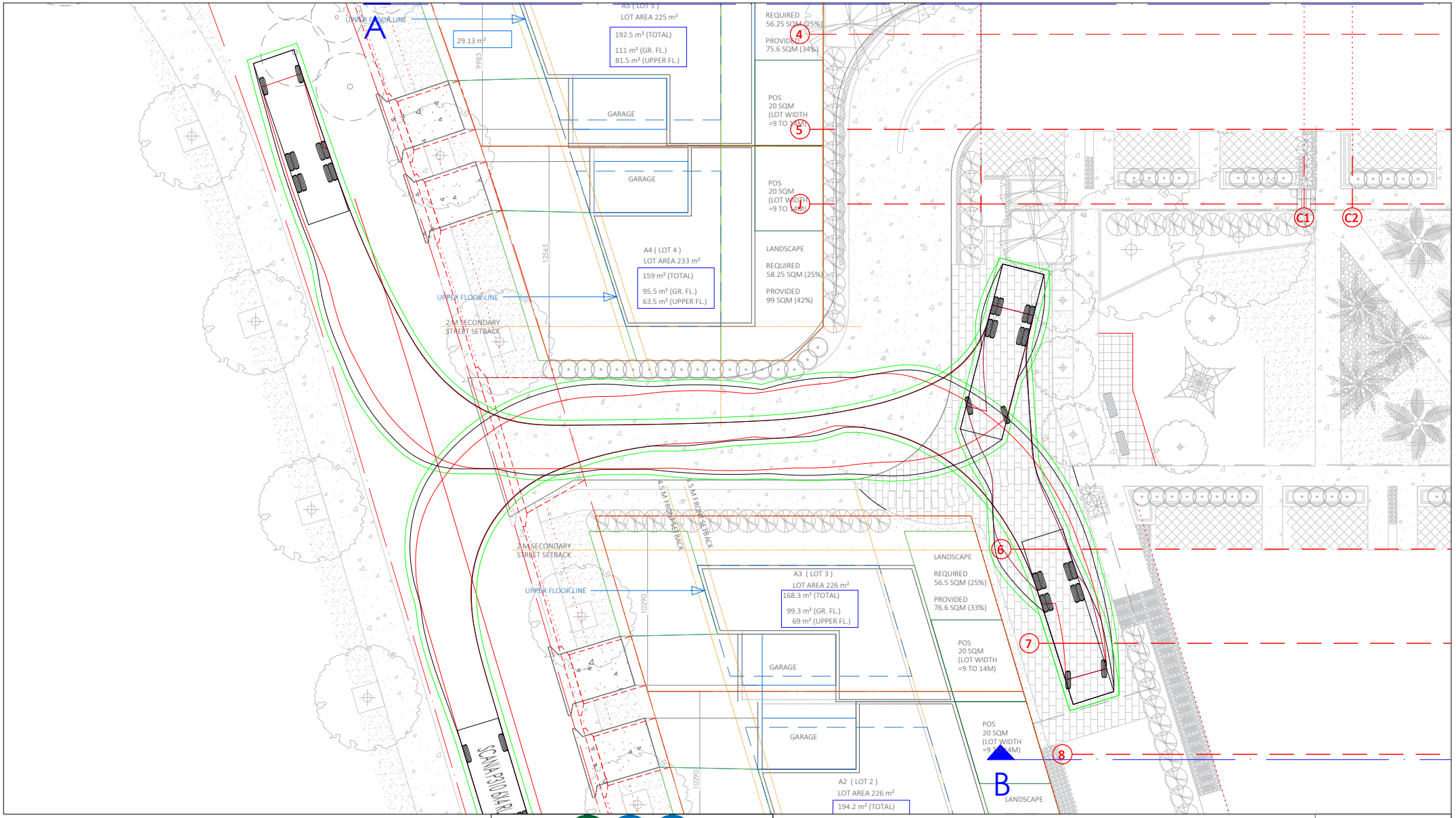
Client:
Archidrome

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



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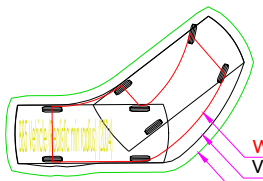

TEF CONSULTING

Dwg No 21063/02 | Rev. A | 24/08/2021

Client:
Archidrome

45-49 Warriewood Road, Warriewood NSW 2102

SCALE 1:300@A4

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

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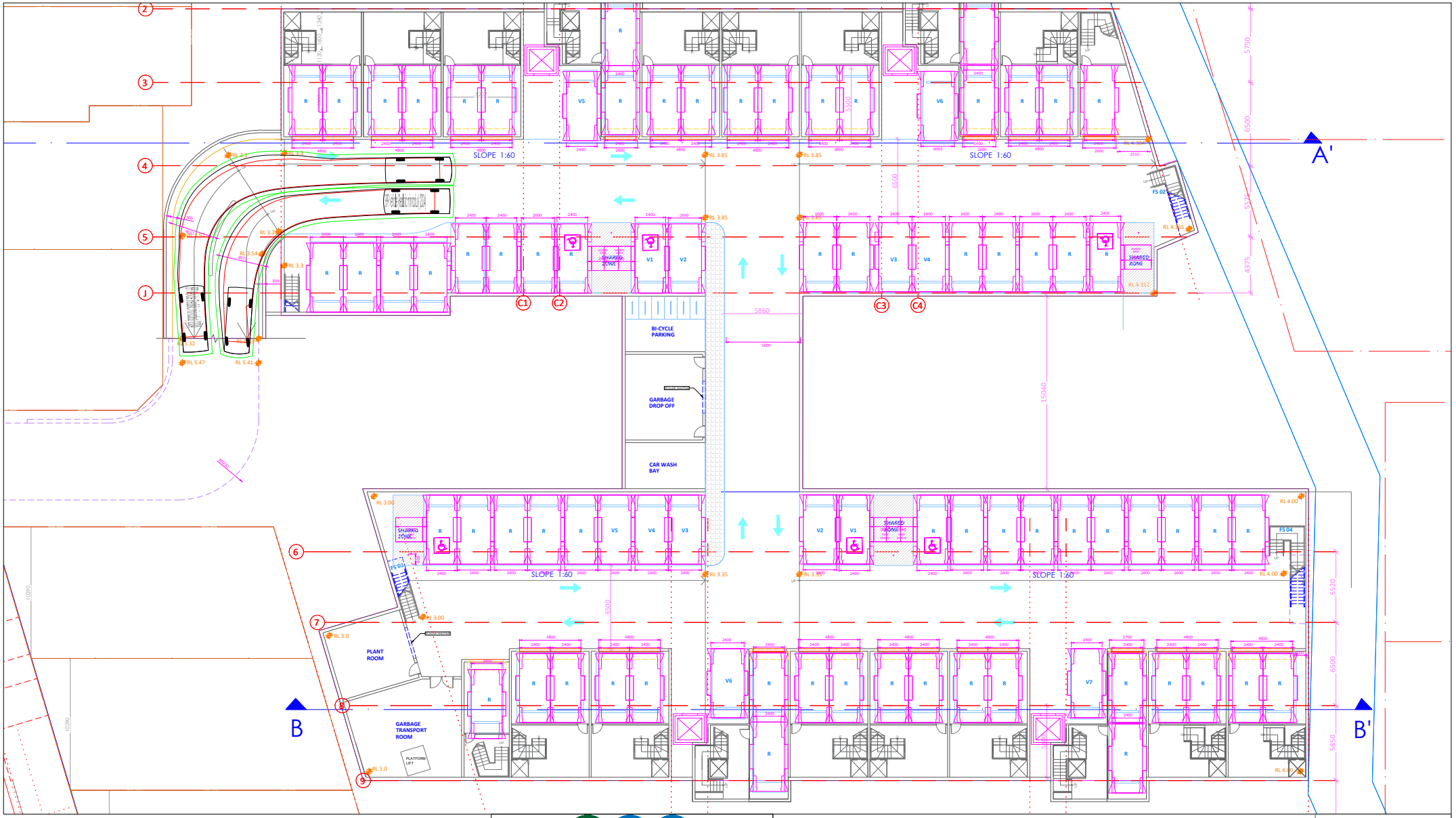

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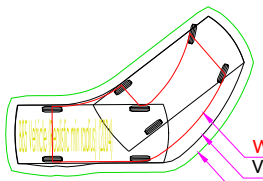

TEF CONSULTING

Dwg No 21063/03	Rev. A	24/08/2021

Client:
Archidrome

45-49 Warriewood Road, Warriewood NSW 2102

SCALE 1:400@A4

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

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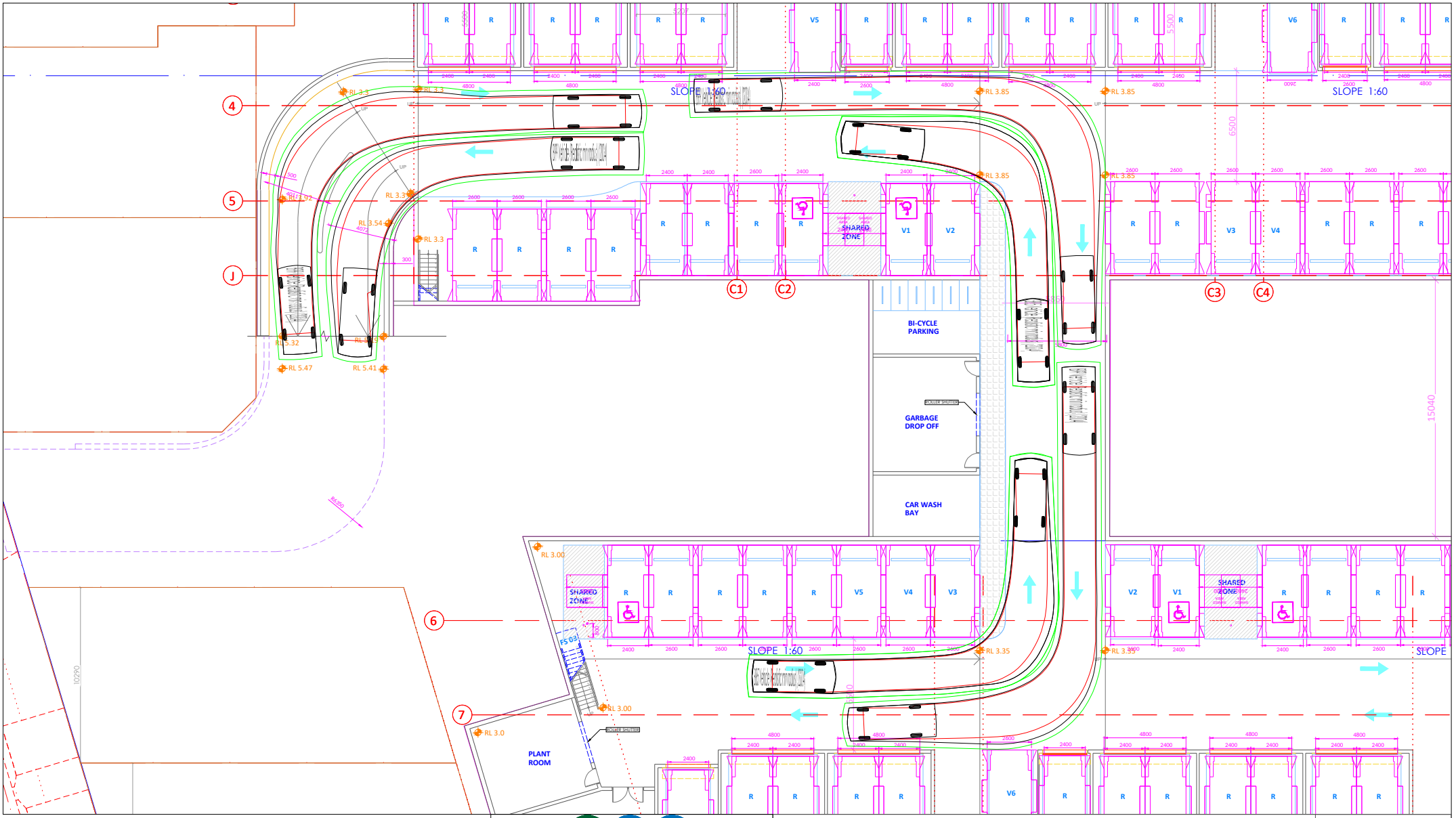

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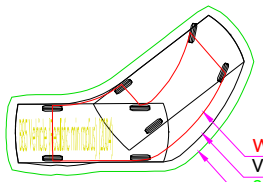

TEF CONSULTING

Dwg No 21063/03	Rev. A	07/07/2022

Client:
Archidrome

45-49 Warriewood Road, Warriewood NSW 2102

SCALE 1:300.0001@A4

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

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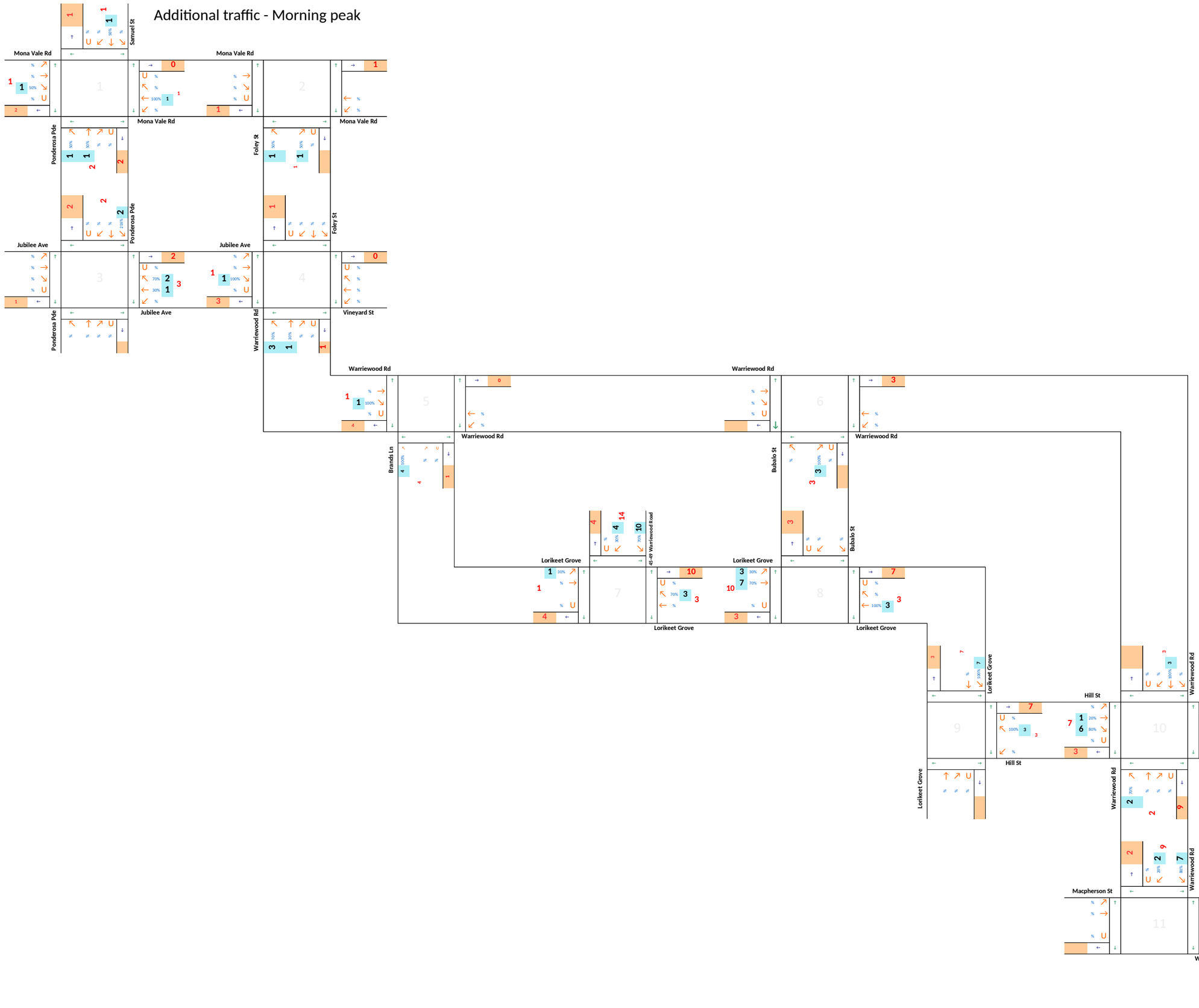
Additional traffic - Morning peak



Additional traffic - Afternoon peak