

AMENDED STATEMENT OF ENVIRONMENTAL EFFECTS

Proposed Seniors Living Development
2 Caliope Street, Kiama

Original Version: February 2021
Amendment for LEC (Version 2): February 2022

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This report has been prepared and reviewed in accordance with our quality control system. The report is a preliminary draft unless it is signed below.

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2 February 2022

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1. Introduction and Background

This amended Statement of Environmental Effects (SEE) has been prepared by APP Corporation Pty Limited on behalf of Weriton Properties and forms part of a motion to amend presently before the NSW Land and Environment Court in the case of Graham Werry v Kiama Municipal Council (ref. proceedings No 2021/300482).

DA 10.2021.67.1 was refused by Kiama Municipal Council on 19 October 2021 and a Class 1 Appeal of the decision was lodged with the Court on 22 October 2021.

1.1 The Original Proposal

DA 10.2021.67.1 sought consent for a serviced self-care housing development at 2 Caliope Street, Kiama (the site).

The DA was prepared generally in accordance with the Site Compatibility Certificate (SCC_2019_001_00) for the site and proposal pursuant to Clause 25(4) of the State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 issued on 26 June 2020.

The DA sought consent for:

- Earthworks and vegetation removal;
- Torrens title subdivision to create two (2) new lots being, 'the development lot' having an area of 24,248.5m² and the 'residue lot' with an area of 32,910.83m².
- Subdivision of the development lot under a Community title to create:
 - Nineteen (19) private residential lots ranging between 500m² and 1,079.72m², each to be occupied by a single storey serviced self-care housing dwelling;
 - A 1,000.47m² community lot (Lot 2) accessible from Calliope Street, providing local passive recreation opportunities for residents of the development; and
 - A 8,086.7m² community lot (Lot 1) containing the required asset protection zones (APZ) being 29 metres deep measured from the edge of the residue lot to protect the future dwellings from potential bushfire risks arising from the vegetated corridor to the east.
- Design and construction of 19 serviced self-care dwellings;
- A total Gross Floor Area (GFA) of 2,957.17m² and Floor Space Ratio (FSR) of 0.17:1;
- Vehicular access from Caliope Street;
- New internal roads and car parking for 38 vehicles in private garages and 7 visitor spaces (including 4 disabled spaces);
- New stormwater infrastructure and civil works including a 1.5m shared path and driveway cross overs to the private roadway and new 2m wide footpath along the southern side of Calliope Street; and
- 2,781m² of communal landscaped open space (deep soil) and 6,680.8m² of private landscaped open space, the majority of which comprises deep soil zones.

The development for serviced self-care seniors housing was proposed to be initially operated by the Developer and then by a professional operator to be appointed by the Developer or Community Association as has been the case with the adjacent Seaview Estate constructed by the Developer on the land in Arnold Crescent to the west of the site.

The provision of on-site care was to be provided by South Coast Home Health Care Pty Ltd. A mini-bus agreement also supported the original DA which outlined the transport services proposed for the residents of the estate between the site and services available in the Kiama town centre.

In accordance with section 4.46 of the EP&A Act, the DA was 'Integrated Development' as approval was required under section 100B of the Rural Fires Act 1997. The development for seniors housing is a special fire protection purpose on bushfire prone land. A Bushfire Safety Authority is yet to be issued by the NSW RFS.

1.2 Council's Reasons for Refusal and Contentions

Kiama Municipal Council's reasons for refusal of DA 10.2021.67.1 are summarised as follows:

- *The proposed 2 Lot Torrens title subdivision does not comply with cl 4.1(3) of Kiama LEP 2011, as the lots resulting from the subdivision are less than the 40ha minimum lot size.*
- *The proposed 2 Lot Torrens title subdivision cannot be approved under cl 4.6(6) of Kiama LEP 2011 as the proposed subdivision results in lots that are less than 90% of the minimum area specified for such a lot.*
- *The development is inconsistent with Condition 1 of the Site Compatibility Certificate because the Zieria granulata plants are within the Asset Protection Zone (APZ).*
- *The proposed subdivision does not satisfy the objectives of the E2 Environmental Conservation zone under Kiama LEP 2011 as it does not protect, manage and restore areas of high ecological value.*
- *The development does not satisfy the objectives of the RU2 Rural Landscape zone as the proposal does not maintain the rural character of the land or protect agricultural land for long term agricultural production.*
- *The development is inconsistent with the aims of Kiama LEP 2011.*
- *Insufficient information has been provided with regards to stormwater drainage or on-site conservation and suitable road access.*
- *Insufficient information to allow NSW RFS to issue a Bushfire Safety Authority under s100B for the proposed special fire protection purpose in that the proposed bushfire protection measures are not consistent with the Site Compatibility Certificate and there is not sufficient information to assess the vegetation classification and effective slope of the land.*

Additional contentions raised by Council in their Statement of Facts and Contentions for the proceedings are summarised as follows:

- *The proposed development is prohibited as it does not meet the definition of “serviced self-care housing” because there is ‘no information providing that the services listed under clause 13(3) of the Seniors SEPP will be available on the site’.*
- *The development for which consent was sought from the Council is different to that sought under this Class 1 Application, namely that a different type of subdivision is referred to.*
- *The proposed fire trail has not been sufficiently detailed in the application and is likely to fragment, and therefore impact upon the Zieria granulata plants and cause the effect of separating the plants from the native vegetation to the east contained in the E2 zoned lands.*
- *The Applicant has not provided sufficient detail to demonstrate that a bus service capable of carrying at least 10 passengers will be provided to residents in accordance with the requirements of Clause 43 of the Seniors SEPP.*
- *There is no comprehensive report which includes a thorough assessment of the proposal against the relevant specifications and requirements of Planning for Bush Fire Protection 2019. There is insufficient detail regarding compliance sought by way of satisfying Performance Criteria and no adequate justification of the same.*
- *No Bushfire Safety Authority has been issued by the RFS.*
- *The proposed development has not demonstrated compliance with the relevant specifications and requirements of Planning for Bush Fire Protection 2019 and the NSW RFS Comprehensive Vegetation Fuel Loads document.*
- *Unacceptable impacts of bushfire mitigation on Illawarra Zieria.*
- *The development will result in significant adverse impacts on threatened terrestrial biodiversity.*
- *The Zieria site management statement is unacceptable and will not achieve the required objectives.*
- *A BDAR has not been provided and is required due to the significant impact on the endangered ecological community and threatened species, being the Illawarra Zieria, Illawarra Socketwood, White-flowered Wax Plant.*
- *The development is not in the public interest due to the fact that submissions opposing the development were received to Council.*

1.3 Site Compatibility Certificate

On 26 June 2020, the Southern Regional Planning Panel (the Panel) issued a Site Compatibility Certificate under clause 25(4) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 for development of the site to accommodate 21 single storey serviced self-care houses (SCC_2019_001_00). The Panel certified that:

- *The site is suitable for more intensive development, given the proposed provision of, or transportation to, a range of community, retail, commercial, recreational, health and education facilities.*
- *The development is compatible with the surrounding environment having had regard to the criteria specified in clause 25(5)(b); and*

- That development for the purpose of seniors housing of the kind proposed in the DA is compatible with the surrounding land uses subject to the requirements set out in Schedule 2 of the SCC.

Table 2 outlines the requirements imposed on the SCC determination and where each requirement has been addressed in this amended SEE and accompanying technical studies.

Table 1 SCC Schedule 2 Requirements

Requirement (as per Schedule 2)	Response
A future development application for seniors living on the site shall include the following revisions to the concept plan and development layout for the site to facilitate the following:	
1. The amendment of the APZ on the eastern boundary of the development area such that the identified Zieria granulate plants are excluded.	The APZs have been revised to exclude Zieria granulate plants and seedlings identified in recent targeted surveys undertaken by Cumberland Ecology in January 2022.
2. Removal of the proposed screening fence along the southern and part western boundary of the site to maintain visibility of the local heritage listed dry stone walls and reduce the visual impact of the development. This will require an alternative bushfire management solution or amendment to the development footprint on this part of the site.	The previously proposed screening fence has been removed. The southern portion of the site is now proposed to be managed as a APZ measuring 45m from the dry stone wall into the site resulting in the loss of 2 previously sought dwellings.
3. Demonstration of adequate setbacks along Old Saddleback Road to maintain visibility for vehicles approaching the intersection of Old Saddleback Road and Caliope Street.	Minimum dwelling side setbacks of 2.8m have been provided to Old Saddleback Road. Old Saddleback Road comprises a 10m wide grassed verge between the lot boundaries and edge of road. The heights of the dwellings backing on to the Old Saddleback Road frontage sit below the level of the road and will therefore not visually encumber any view of motorists approaching the intersection to

Requirement (as per Schedule 2)	Response
	<p>Calioppe Street. The setbacks provide sufficient lines of sight for drivers along Old Saddleback Road approaching the intersection.</p> <p>The original traffic report prepared by Stanbury also dealt with the issue of visibility for vehicles approaching the intersection of Old Saddleback Road and Calioppe Street and confirmed that no visual encroachment from the dwellings would occur owing to the fact that they sat substantially lower in the landscape.</p>
<p>The consent authority for a future development application being satisfied that a restriction as to user will be registered against the title of the property on which development is to be carried out, in accordance with section 88E of the Conveyancing Act 1919, limiting the use of any accommodation to which the application relates to the kinds of people referred to in Clause 18 of SEPP (Housing for Seniors or People with a Disability) 2004.</p>	<p>Note for Council. The development is proposed to be operated as serviced self-care seniors housing in accordance with the SEPP. The estate will be managed and operated initially by the Developer and then by a suitably qualified and experienced provider who will be appointed by the Developer or the Community Association as was the case with the adjacent Seaview Estate.</p>
<p>The consent authority for a future development application being satisfied that appropriate service agreements are in place as part of any consent to ensure the ongoing provision of, or transportation for residents to, community, retail, commercial, recreational, health and educational facilities.</p>	<p>South Coast Home Care Services Pty Ltd have agreed with the Developer to provide on-site health care, meals, nursing and other domestic services.</p> <p>An agreement between the proponent and Kiama Mini Coach</p>

Requirement (as per Schedule 2)	Response
	Charters provided attached confirms that a regular service capable of supporting 10 persons will operate between the development site and essential daily services provided in the Kiama town centre.

A copy of the SCC certificate is included in **Appendix A**.

1.4 Amended Proposal

The amended application includes changes to the original development proposal undertaken to address the reasons for refusal and contentions raised by the Council. Additional information is also being provided to the Court to address Council's comments around the adequacy of the information previously provided. This additional information is being supplied in support of the Motion to amend the application.

The main amendments to the development are summarised as follows:

- Cumberland Ecology have been engaged by the Applicant to re-assess the biodiversity conditions on site, including the specific locations of *Zieria granulata* plants and any seedlings which have propagated in the years since the Applicant's field surveys undertaken by Unlimited Habitats. An updated survey and additional field surveys have been conducted by Cumberland Ecology in January 2022 and the locations of the *Zieria* plants and seedlings have been confirmed to *generally* align with those locations identified by Council's Ecological Expert. The area containing the *Zieria* has now been fully excluded from any APZ required to accommodate the development.
- In locating the APZs clear of the recently mapped *Zieria* areas the extents of the APZs have been recalculated from the outer edge of the *Zieria* hazard which has been classified as a 'Rainforest' vegetation type. This approach is under clear direction and advice from Cumberland Ecology to avoid any adverse impacts to the *Zieria* populations on site. As a result, 55m APZs have been calculated into the site and are demonstrated on the amended plans. The APZ of 45m measured from the southern boundary into the site confirms that the neighbouring vegetation classification of a hazard over neighbouring Lot 33 is in fact 'grassland' and not 'rainforest'. This has been confirmed upon inspection by Cumberland Ecology in January 2022.
- Owing to the above adjustments, the developable area across the site has been subsequently reduced. The proposal has been amended to include a two lot Torrens title subdivision and a 13 lot Community title subdivision comprising 1 community lot and 12 private community lots capable of each supporting a dwelling (as outlined later in this SEE and the supporting

architectural plans). The residue lot (Lot 2) created in the Torrens title subdivision is to be retained in ownership by the current owners of the site.

- The reduction in the overall developable area across the site has also resulted in the following changes to the plan:
 - Removal of the original loop road and replacement of a single internal road ending in a 24m wide cul-de-sac. The internal road comprises a total carriageway width of 9m with 6m of pavement and 1.5m wide footpath.
 - A general re-configuration and re-shaping of all lots in the Community title scheme.
 - Removal of 1 visitor spaces, with 7 being retained.
 - Changes to internal fencing (comprising colorbond internal dividing and boundary fences for Lots 1-3, 6-12 and rural-style metal star picket fencing with tension wire to Lots 4 and 5 and no additional fencing treatment along the internal edge of the stone wall on the southern site boundary.
 - A new rural-style fence to be erected along the outer edge of the Zieria management area for the physical preservation and separation of this area from the required APZ.
 - Alterations to on-site stormwater drainage infrastructure and the overarching bulk-earthworks required to support the development.
- The development is amended to include two stages:
 - Stage 1 construction of the seniors housing development
 - Stage 2 subdivision of the completed development in accordance with cl. 23 of the Seniors SEPP.

The Applicant under the amended plan now seeks consent for:

- Earthworks (as depicted in the supporting engineering drawings prepared by Land Team).
- Torrens title subdivision in Stage 2 to create:
 - Lot 1 (2.22ha) – the lot the subject of the proposed seniors living development; and
 - Lot 2 (3.39ha – residue lot
- Subsequent Community title subdivision of Lot 1 in Stage 2 to create:
 - Lot 1 Community Lot (12,532.3m²)
 - Lot 2 (Private Lot) - 564.71m²
 - Lot 3 (Private Lot) - 523.20m²
 - Lot 4 (Private Lot) - 523.20m²
 - Lot 5 (Private Lot) - 1,342.05m²
 - Lot 6 (Private Lot) - 2,475.53m²
 - Lot 7 (Private Lot) - 922.25m²
 - Lot 8 (Private Lot) - 922.25m²
 - Lot 9 (Private Lot) - 539.02m²
 - Lot 10 (Private Lot) - 538.18m²
 - Lot 11 (Private Lot) - 722.24m²
 - Lot 12 (Private Lot) - 638.44m²

Lot 13 (Private Lot) - 925.42m²

- Construction of 12 x single storey serviced self-care housing dwellings on Lots 2-13;
- An amended total Gross Floor Area (GFA) of 1,889.07m², equivalent to a total Floor Space Ratio (FSR) of 0.143:1 which is a reduction of 1,068.03m² from the original DA proposal.
- Vehicular access from Caliope Street and a new internal private road;
- New internal roads and car parking for 24 vehicles in private garages and 7 visitor spaces (including 3 disabled spaces); and
- New stormwater infrastructure and civil works including a 1.5m shared path and driveway cross overs to the private roadway and new 2m wide footpath along the southern side of Caliope Street.

The development for serviced self-care seniors housing is still proposed to be managed and operated by the Developer initially and then by a suitably qualified and experienced professional operator who will be appointed by the Developer or the Community Association.

South Coast Home Care Services Pty Ltd will provide the following services on site on an as-needs basis:

- Regular personal care (i.e. hairdressing, bathing, grooming and other health and convenience related services for seniors)
- Nursing care services (including assistance with housework)
- Delivered meals to residents

The revised agreement to provide services with South Coast Home Care Services is provided attached in **Appendix J**.

A mini bus service capable of transporting a minimum of 10 passengers from the site to services in the Kiama Town Centre will be provided by Ledale Pty Ltd operating as Cantys Bus Rentals in accordance with the updated agreement at **Appendix I**. The service will include pick up and return of passengers twice daily, seven (7) days per week, 52 weeks per year, once in the morning between 8am and 12pm and once in the afternoon between 12pm and 6pm or otherwise as may be required from time to time. Additional services may be provided by appointment on a regular basis as required by individual residents.

This amended SEE is based on the plans prepared by Coble Stephens Architects, Job No. 610-12-331, dated 1 February 2022 (**Appendix C**) and other supporting technical information listed in Table 1 below.

Table 2 Supporting Technical Reports and Information

Technical Discipline	Consultant / Entity	Ref and Date Issued
Site Survey / Site Analysis Plan	Coble Stephens Architects	610-12-331 2 February 2021
Subdivision Plans	Matthew B Smith	D217135_21012022

Technical Discipline	Consultant / Entity	Ref and Date Issued
Bushfire Impact Assessment	Bushfire Protection Planning and Assessment Services	Ref: WPPL_GW_310821 25 January 2022
Bushfire Trail Gradient Plan	Coble Stephens Architects	610-12-331 1 February 2022
Landscape Plan	Coble Stephens Architects	610-12-331 1 February 2022
Community Management Statement	Saddleback Mountain Estates No. 2 Pty Ltd	25 January 2022
Traffic and Parking Assessment	Altus Traffic Engineering	Ref: ALT221015NSW_TIS_D1 25 January 2022
Stormwater Management Plans and MUSIC Model Assessment	Land Team	210067 – Issue E February 2022
Access Report	Accessibility Solutions NSW Pty Ltd	25 January 2022
Agreement for Provision of Bus Services	Ledale Pty Ltd t/as Cantys Bus Rentals	15 December 2021
Agreement for Provision of Care Services	South Coast Home Health Care Pty Ltd	2 December 2021
Feasibility Letter	Sydney Water	23 September 2019
Flora and Fauna Report and Appendices	Cumberland Ecology	February 2022
BASIX Certificates		Certificate No. 1257823M_02

This amended SEE describes the site, its environs, the proposed development and provides an assessment of the proposal in terms of the relevant matters for consideration under section 4.15 of the Environmental Planning and Assessment Act 1979 (the Act).

2. Site Analysis

2.1 Site Description

The site is legally identified as Lot 17 in DP 1210621, 2 Caliope Street, Kiama. It is generally rectangular in shape and has a total area of 57,159.33m² (5.716ha) with frontages of 131.7m to Old Saddleback Road (western boundary) and approximately 221m frontage to Caliope Street (northern boundary) (refer to Figure 1). It is positioned on the south-eastern corner of the intersection between Old Saddleback Road and Caliope Street and is on the western side of the Princess Highway approximately 1.4km to the south west of the Kiama Town Centre and Railway Station (refer to Figure 2).



Figure 1 – Aerial view of the Site (Source: Six Maps)



Figure 2 – Site Context Map (Source: Six Maps)

2.2 Site Location and Context

As shown in Figure 3, the site is located south of Caliope Street and east of Old Saddleback Road. Land north of Caliope Street and west of Old Saddleback Road has undergone extensive development in recent years with new dwellings completed on the adjoining residential subdivision. 19 townhouses, which consist of groups of attached single and two storey houses have been constructed on the adjoining property on the corner of Old Saddleback Road and Danube Street adjoining the northern boundary of the site. A Seniors Living Development for 31 houses has been approved to the west at 58 Old Saddleback Road and the majority of dwellings are now constructed. The land to the south and east is rural zoned land with some isolated rural buildings.



Figure 3 – Site and Surrounding Context (Source: Six Maps)

Views of the site, neighbouring and surrounding nearby properties are shown in Figures 4-9 below.



Figure 4 – View of the Site and surrounding landscape (viewed from the west looking east)



Figure 5 - Viewpoint of 2 Caliope St from Saddleback Mountain Rd, 500m South East of the site



Figure 6 – Residence on the northern side of Greyleigh Drive immediately to the north west of the subject site.



Figure 7 – View from the north-south run of Dudgeon Street looking south showing two storey semi-detached dwellings.



Figure 8 – View of houses built fronting the eastern end of Danube Street backing onto the north east boundary of the site



Figure 9 – 19 unit townhouse development (now completed) to the northern and western boundaries of the site

The site is managed vacant land, historically used for farming purposes. It falls gradually to the east from Old Saddleback Road before falling steeply into a densely vegetated ravine. The site generally flattens out east of the ravine.

2.3 Access and Services

Vehicular access to the site is currently available from Old Saddleback Road and Caliope Street. Caliope Street has a 6m wide carriageway that has recently been extended eastwards to provide access to the new residential subdivision to the north of the site. Access to Kiama Town Centre is available via Bland Street to the north and Saddleback Mountain Road to the south. Bland Street and Saddleback Mountain Road provide access across the Princes Highway.

An infrequent private bus service (Route: 126) is located 130 metres to the north of the site on Old Saddleback Road, providing services to the Kiama Town Centre. The town centre offers a full range of services including full line supermarket (Woolworths), other speciality retail, government and community services (library, community centre, medical facilities and support services).

2.4 Geology

A search of ESPADE, identified that two (2), soil types are found on the subject property:

- Kiama 9028ka, occurs over the central and eastern sections of the subject property.
- Bombo 9028bo, occurs over the western sections of the subject property.

Both soil types are Krasnozems, derived from weathered latites, a volcanic rock similar to basalt in structure. The surface soils consist of a dark loamy A horizon, overlying heavy dark brown and red clays containing numerous latite rock fragments. These soils are nutrient rich.

2.5 Heritage

The site contains several partially intact dry-stone walls. These walls are listed as a local heritage item under Schedule 5 of Kiama Local Environmental Plan 2011. The stone walls are mainly within the vegetated areas on land to the east of the site (on land that does not form part of the site and land subject to this DA). There is also a dry-stone wall along part of the site's southern boundary.

2.6 Vegetation

Most of the site comprises kikuyu grass (*Pennisetum clandestinum*) and soft wooded weeds including fireweed (*Senecio madagascarensis*), African olive (*Olea Africana*), blackberry (*Rubus fruticosus* sp. aggregate), Lantana (*Lantana camara*), Large-leaved privet (*Ligustrum lucidum*), and Coral trees (*Erythrina x sykesii*). There are some small pockets of remnant native vegetation, dominated by wattles co-occurring with mesophyllous native tree species (refer to Figure 10).

Several Illawarra Zieria (*Zieria Granulata*) are located near the eastern boundary of the site. These species are listed as endangered under the Commonwealth Environmental Protection Biodiversity and

Conservation Act 1999 (EPBC Act). Recent re-survey of the *Zieria* plants and seedlings on the site undertaken by Cumberland Ecology is shown in Figure 11.

Further east, not on the land to which the DA relates, is vegetation that has been identified as 'Illawarra Subtropical Rainforest in the Sydney Basin Bioregion'. This community is listed as an Endangered Ecological Community (EEC) under the NSW Biodiversity Conservation Act 2016, and a Critically Endangered Ecological Community (CEEC) under the EPBC Act.



Figure 10 – Vegetation classification across the site



Figure 11 – Location of *Zieria* plants and seedlings along the western edge of the ravine to the east of the proposed private lots (Source: Survey prepared in consultation with Cumberland Ecology, dated January 2022)

2.7 Bushfire

The central parts of the site comprising the vegetated riparian corridor is mapped as bushfire prone land on Kiama's Bushfire Prone Land Map (refer to Figure 12).

The central and south eastern sections contain approximately 4.2ha of predominantly native vegetation forming the bushfire hazard. This extends into the neighbouring properties to the north and south. The bushfire hazard occupies both slopes of the gully, containing riparian vegetation and an ephemeral watercourse which traverses the site in a south-westerly direction from the highway. The majority of the land west of the corridor planned for development under this proposal is not identified as being bushfire prone.

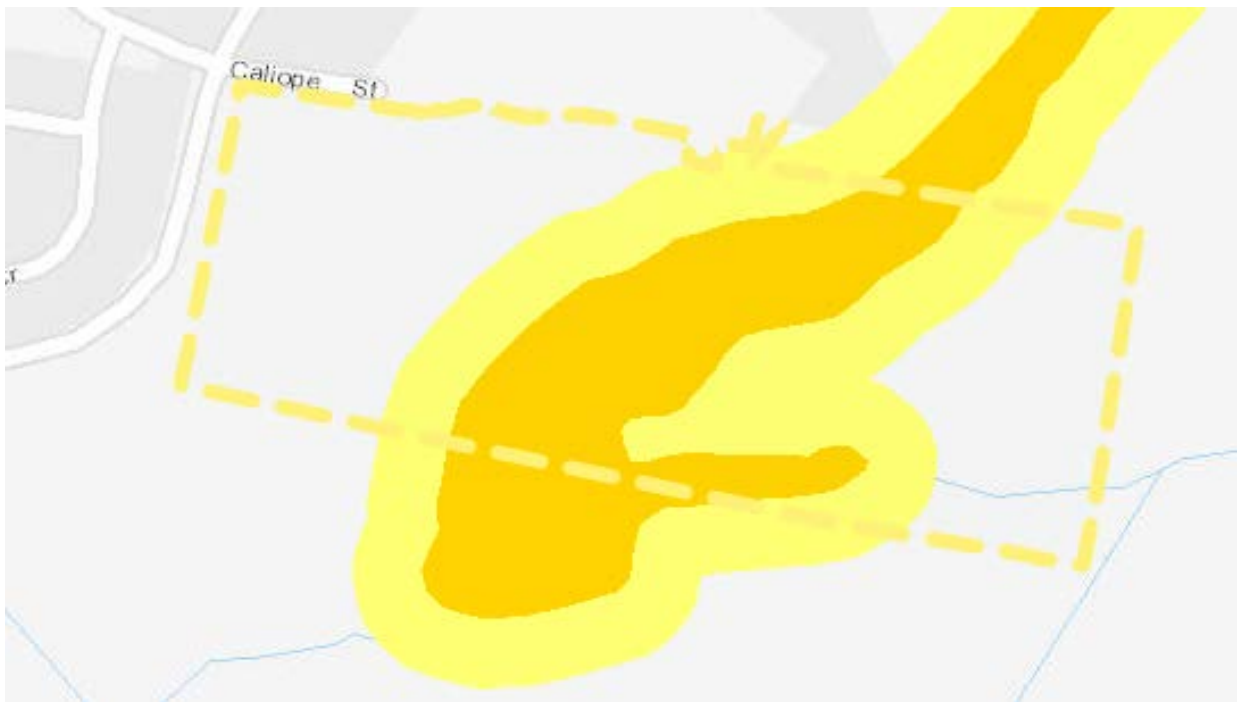


Figure 12 – Extent of Bushfire Prone Land affectation (Source: NSW Planning Portal)

2.8 Utility Infrastructure

The site has adequate essential services to accommodate up to 21 dwellings (more than the 12 dwellings proposed under the amended scheme) via extensions to the existing network. This was confirmed in a letter provided by Sydney Water dated 23 September 2019 (refer to **Appendix N**).

3. Proposed Development

This section of the report provides a detailed description of the amended development proposal, which comprises the following:

- Earthworks (as depicted in the supporting engineering drawings prepared by Land Team).
- Torrens title subdivision in Stage 2 to create:
 - Lot 1 (2.22ha) – the lot the subject of the proposed seniors living development; and
 - Lot 2 (3.39ha) – residue lot
- Subsequent Community title subdivision of Lot 1 in Stage 2 to create:
 - Lot 1 Community Lot (12,532.3m²)
 - Lot 2 (Private Lot) - 564.71m²
 - Lot 3 (Private Lot) - 523.20m²
 - Lot 4 (Private Lot) - 523.20m²
 - Lot 5 (Private Lot) - 1,342.05m²
 - Lot 6 (Private Lot) - 2,475.53m²
 - Lot 7 (Private Lot) - 922.25m²
 - Lot 8 (Private Lot) - 922.25m²
 - Lot 9 (Private Lot) - 539.02m²
 - Lot 10 (Private Lot) - 538.18m²
 - Lot 11 (Private Lot) - 722.24m²
 - Lot 12 (Private Lot) - 638.44m²
 - Lot 13 (Private Lot) - 925.42m²
- Construction of 12 x single storey serviced self-care housing dwellings on Lots 2-13;
- An amended total Gross Floor Area (GFA) of 1,889.07m², equivalent to a total Floor Space Ratio (FSR) of 0.143:1 which is a reduction of 1,068.03m² from the original DA proposal.
- Vehicular access from Caliope Street and a new internal private road;
- New internal roads and car parking for 24 vehicles in private garages and 7 visitor spaces (including 3 disabled spaces);
- New stormwater infrastructure and civil works including a 1.5m shared path and driveway cross overs to the private roadway and new 2m wide footpath along the southern side of Caliope Street; and

The development for serviced self-care seniors housing is still proposed to be managed and operated by the Developer initially and then by a suitably qualified and experienced professional operator who will be appointed by the Developer or the Community Association.

South Coast Home Care Services Pty Ltd will provide the following services on site on an as-needs basis:

- Regular personal care (i.e. hairdressing, bathing, grooming and other health and convenience related services for seniors)

- Nursing care services (including assistance with housework)
- Delivered meals to residents

The revised agreement to provide services with South Coast Home Care Services is provided attached in **Appendix J**.

A mini bus service capable of transporting a minimum of 10 passengers from the site to services in the Kiama Town Centre will be provided by Ledale Pty Ltd operating as Cantys Bus Rentals in accordance with the updated agreement at **Appendix I**. The service will include pick up and return of passengers twice daily, seven (7) days per week, 52 weeks per year, once in the morning between 8am and 12pm and once in the afternoon between 12pm and 6pm or otherwise as may be required from time to time. Additional services may be provided by appointment on a regular basis as required by individual residents.

3.1 Site Planning

The amended development comprises 12 dwellings, 7 of which are accessed via a new internal 9m wide access road from Caliope Street (refer to Figure 13). The remaining five (5) dwellings have separate and direct access from Caliope Street. A communal area of open space is provided within the eastern portion of the site.

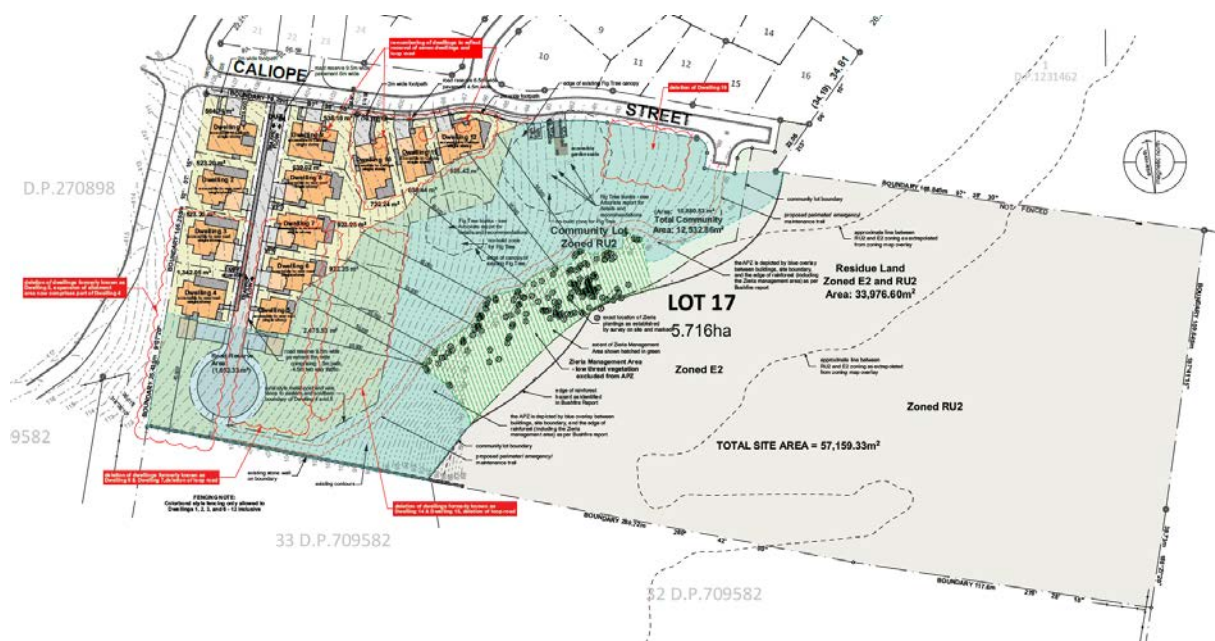


Figure 13 – Proposed site layout

3.2 Development Statistics

Table 3 provides a summary of the key development statistics for the proposed development.

Table 3 *Development Statistics*

Element	Proposed
Total Site Area	57,159.33m ²
Land to which the SSC relates	2.22ha
Gross Floor Area (GFA)	1,889.07m ²
Floor Space Ratio (FSR)	0.143:1
Building Height	<8m
Setbacks	
▪ Old Saddleback Road	Min 2.8m
▪ Caliope Street	Min 2.5m (Dwelling 12)
Car Parking Spaces	24 (private) , 7(communal / visitor)

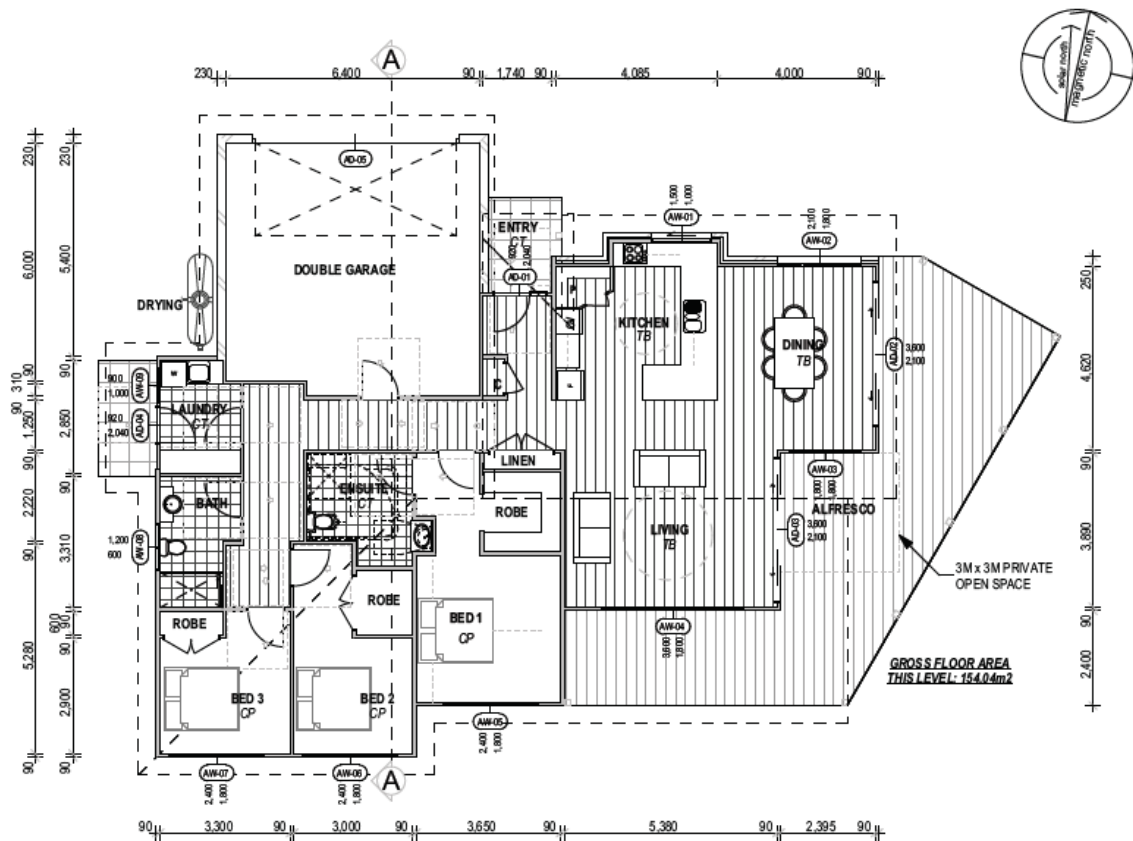
3.3 House Types

The proposed development comprises a range of dwelling types, that respond to the site's topography, local context, lot dimensions and landform and existing rural character. The use of different building types, with a mix of complimentary but slightly different elements is proposed to avoid a monotonous design, streetscape and roofscape. The proposed design is of a high quality which is sympathetic and harmonious with surrounding development and the site's rural setting. All typologies comprise a three-bedroom product with varied open-plan living, dining and entertainment layouts and amenities.

Under the amended proposal, seven (7) of the original dwellings proposed under the DA have been removed. Additionally, new dwelling types E, M, Q, S and T have been introduced into the scheme. These five new dwelling types have been specifically tailored to suit the new lots in which they are contained.

3.3.1 Type A (Proposed Dwelling 12)

Dwelling 12 is located within the eastern portion of the site, adjacent to the area of communal open space. Dwelling 12 has direct access to Caliope Street. The proposed floor plan and northern (Caliope Street) elevation of proposed dwelling is shown in Figures 14 and 15, respectively.



TYPE A - HOUSE 12 PLAN
1:100

previously labelled House 19

BUSHFIRE NOTE: All houses to reach
BAL 29 bushfire construction level - see notes
for compliance and construction measures required

Figure 14 – Housing Type A Floor Plan (Dwelling 12)



TYPE A - HOUSE 12 NORTH ELEVATION
1:100

previously labelled House 19

Figure 15 – Northern (Caliope Street) Elevation of Dwelling 12

3.3.2 Type B (Proposed Dwellings 7 & 8)

These dwellings are located on the eastern side of, and accessed from, the internal access road. The proposed floor plan and western (internal street) elevation of proposed dwellings is shown in Figures 16 and 17, respectively.

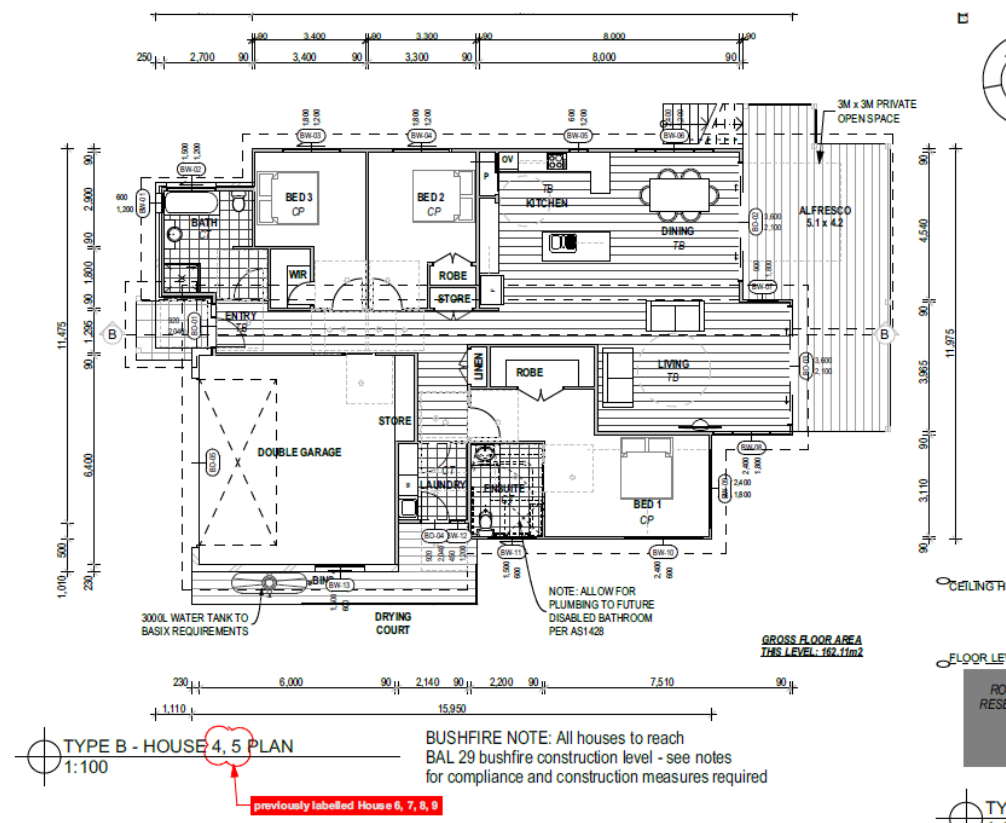


Figure 16 – Proposed Housing Type B Floor Plan (Dwellings 7 & 8)

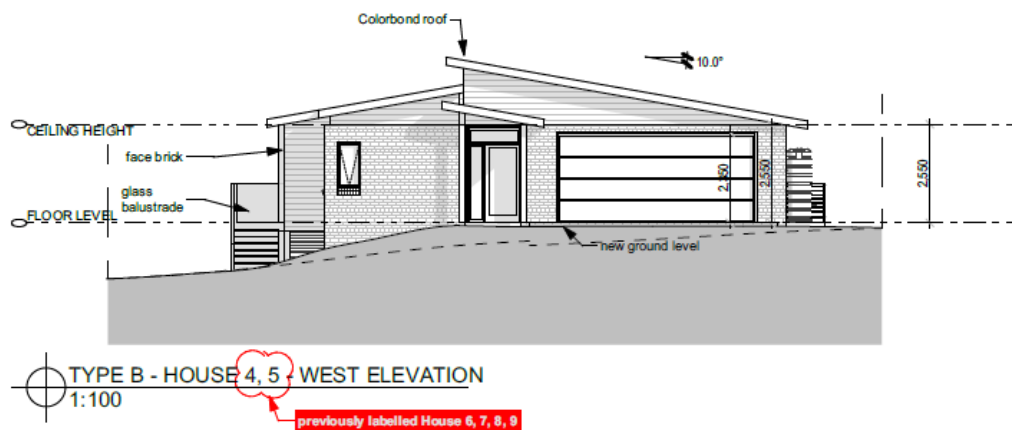


Figure 17 – Western (internal street) Elevation of Dwellings 7 & 8

3.3.3 Type E (Proposed Dwelling 10)

This dwelling is a new type of dwelling and is accessed directly from Caliope Street. The proposed floor plan is shown in Figure 18.

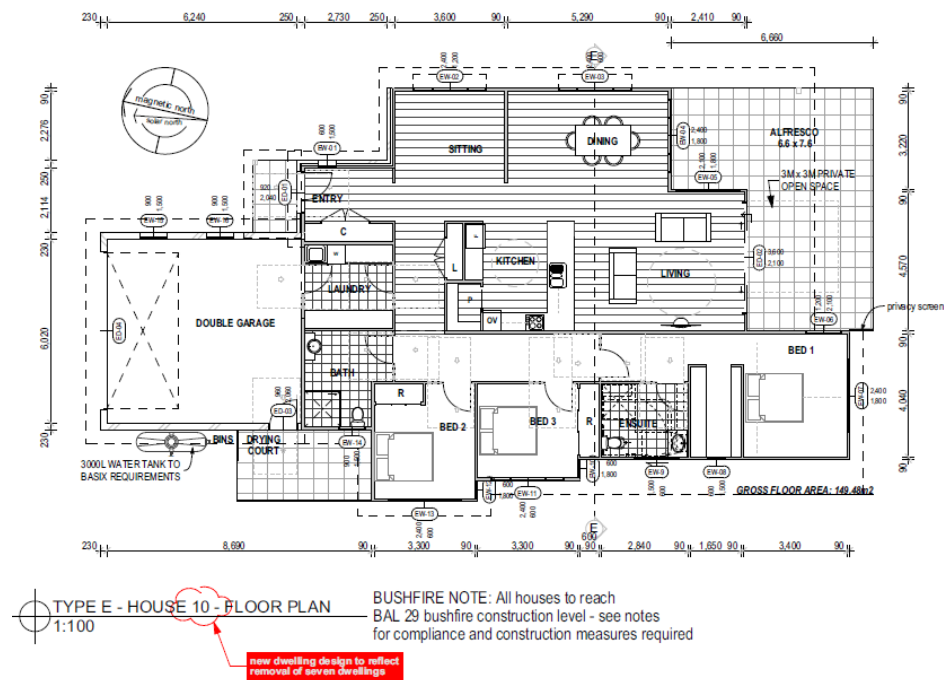


Figure 18 – Proposed Housing Type E Floor Plan (Dwelling 10)

3.3.4 Type G (Proposed Dwellings 1 & 9)

These dwellings are located in the north western portion of the site and are both directly accessed from Caliope Street. The proposed floor plan and Caliope Street elevation of the proposed dwellings is shown in Figures 19 and 20, respectively.

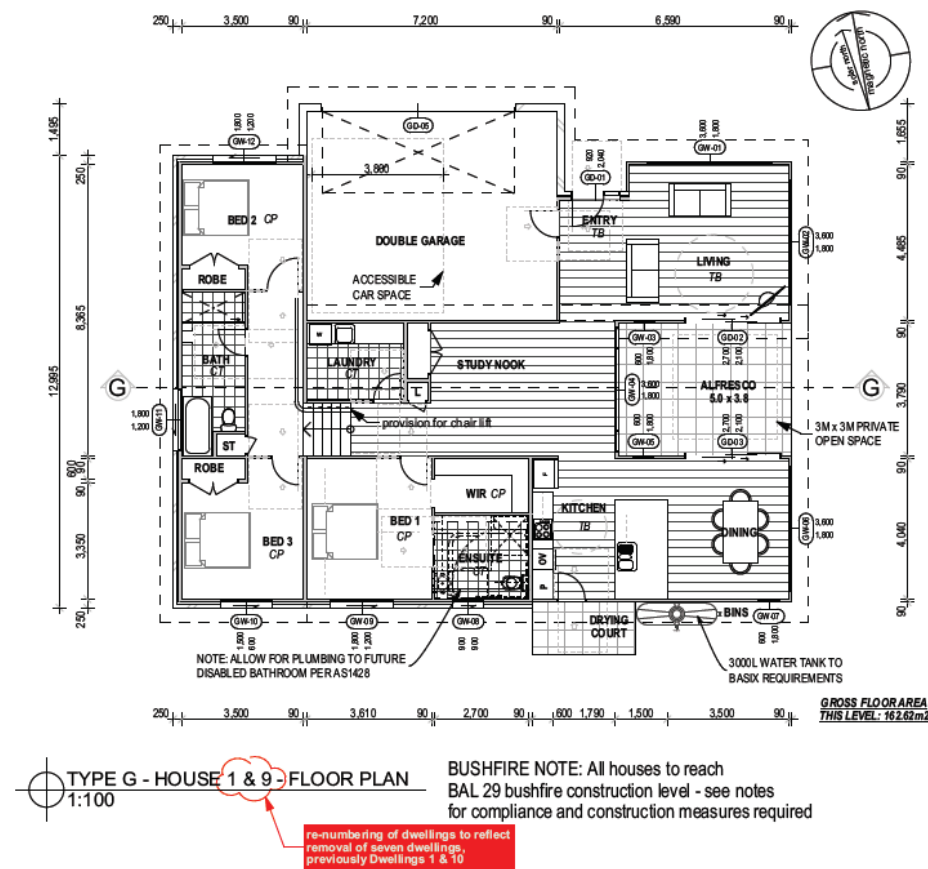


Figure 19 – Proposed Housing Type G Floor Plan (Dwellings 1 & 9)

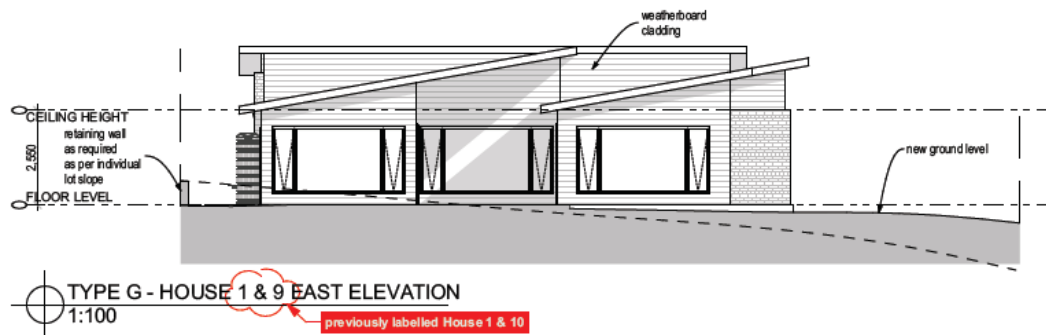


Figure 20 – Northern Elevation of Dwellings 1 & 9 (Caliope Street elevation)

3.3.5 Type H (Proposed Dwellings 2 & 3)

These dwellings are located on the western side of, and accessed from, the internal access road. The proposed floor plan and eastern (internal street) elevation of proposed dwellings is shown in Figures 21 and 22, respectively.

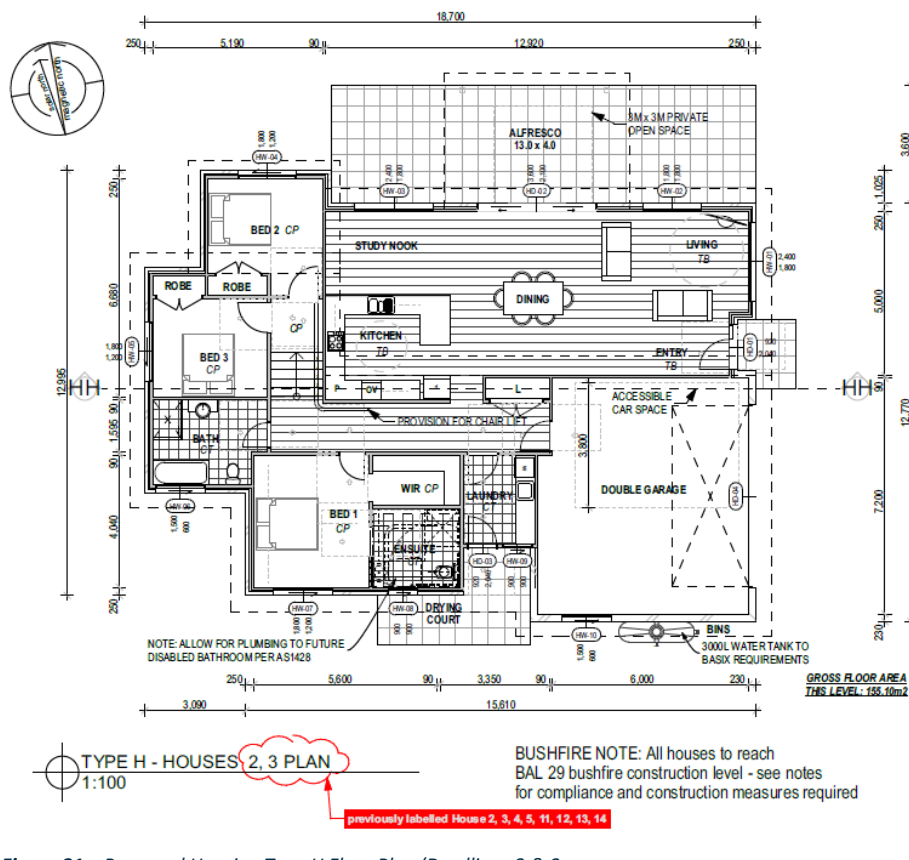


Figure 21 – Proposed Housing Type H Floor Plan (Dwellings 2 & 3)

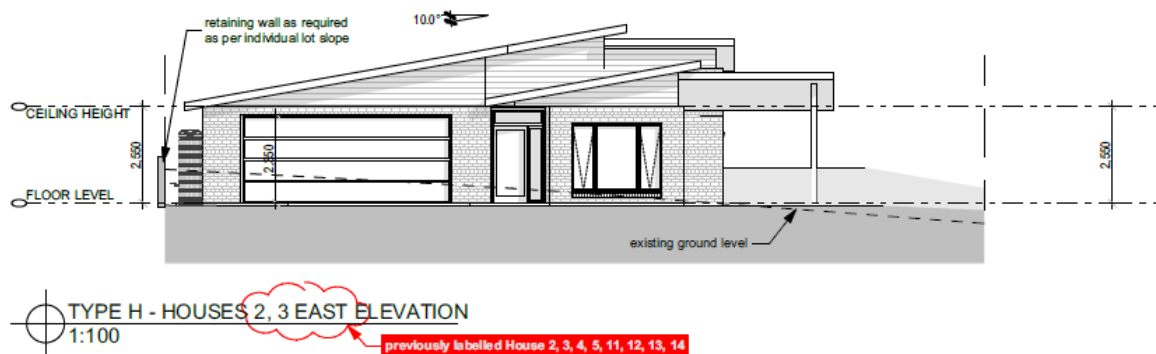


Figure 22 – Eastern Elevation of Dwellings 2 & 3

3.3.6 Type M (Proposed Dwelling 11)

Dwelling 11 is on the northern side of the site with direct access onto Caliope Street. The proposed floor plan of the dwelling is shown in Figure 23.

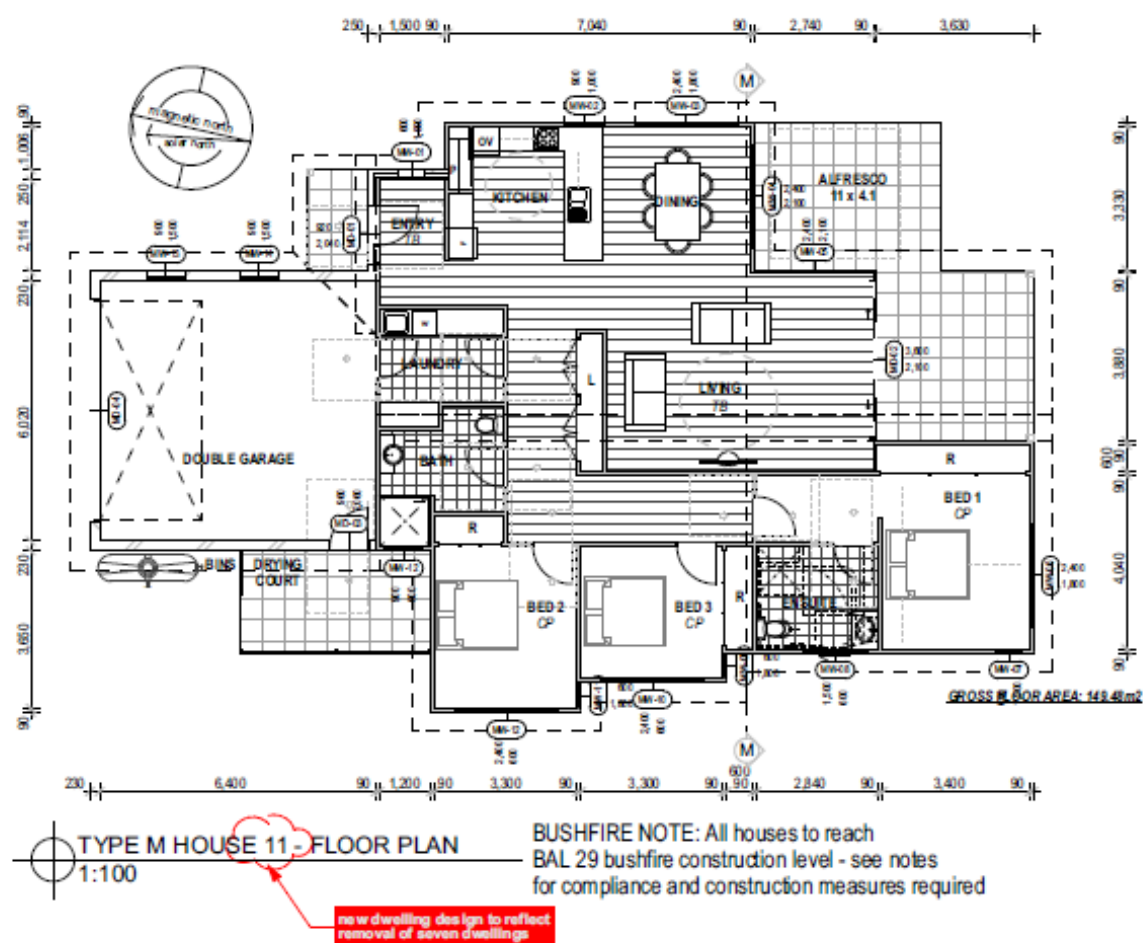


Figure 23 – Proposed Housing Type M Floor Plan (Dwelling 23)

3.3.7 Type Q (Proposed Dwelling 5)

Dwelling 5 is on the south-eastern side of, and accessed from, the internal access road. The proposed floor plan of the dwelling is shown in Figure 24.

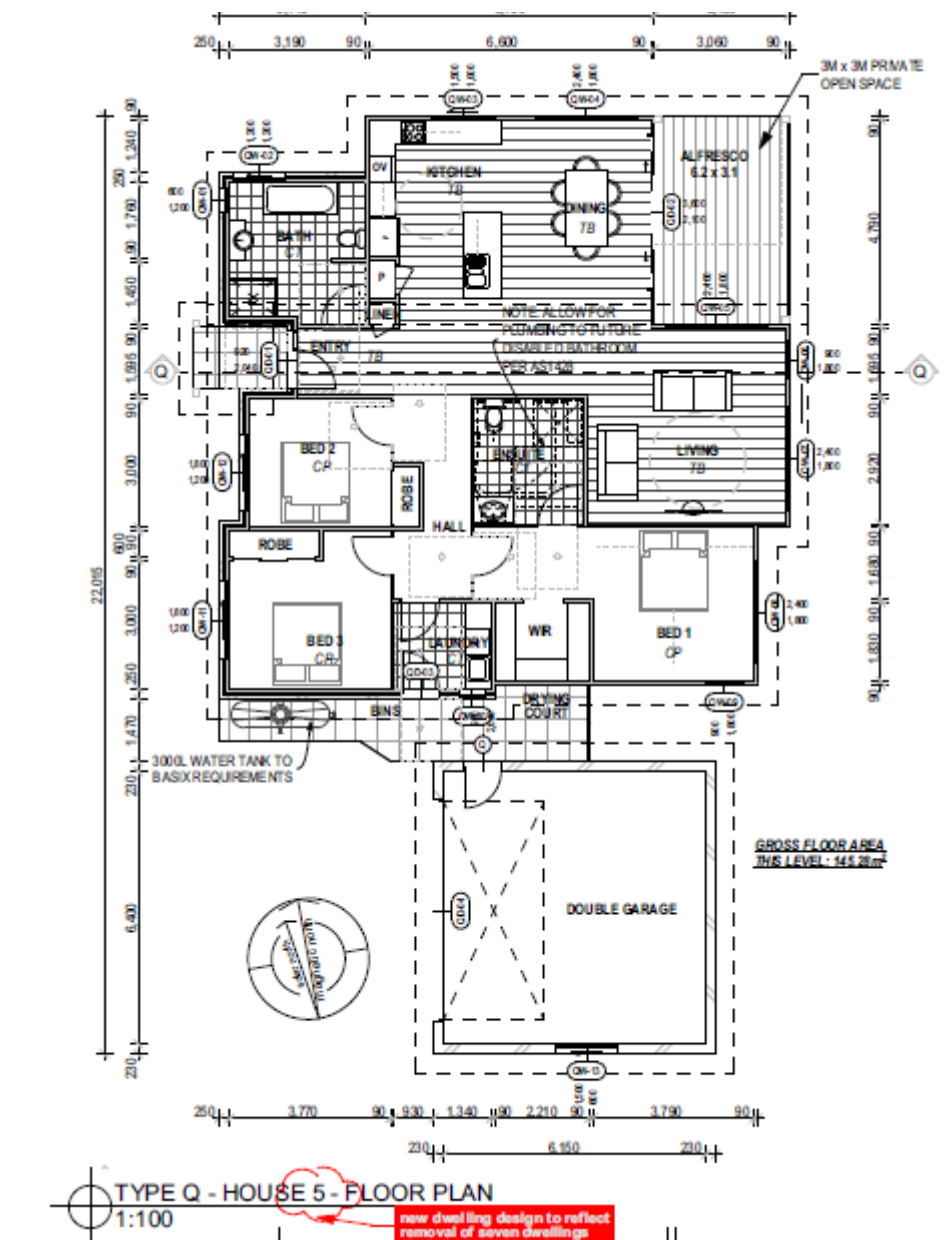


Figure 24 – Proposed Housing Type Q Floor Plan (Dwelling 5)

3.3.8 Type S (Proposed Dwelling 6)

Dwelling 6 is on the eastern side of, and accessed from, the internal access road. The proposed floor plan of the dwelling is shown in Figure 25.

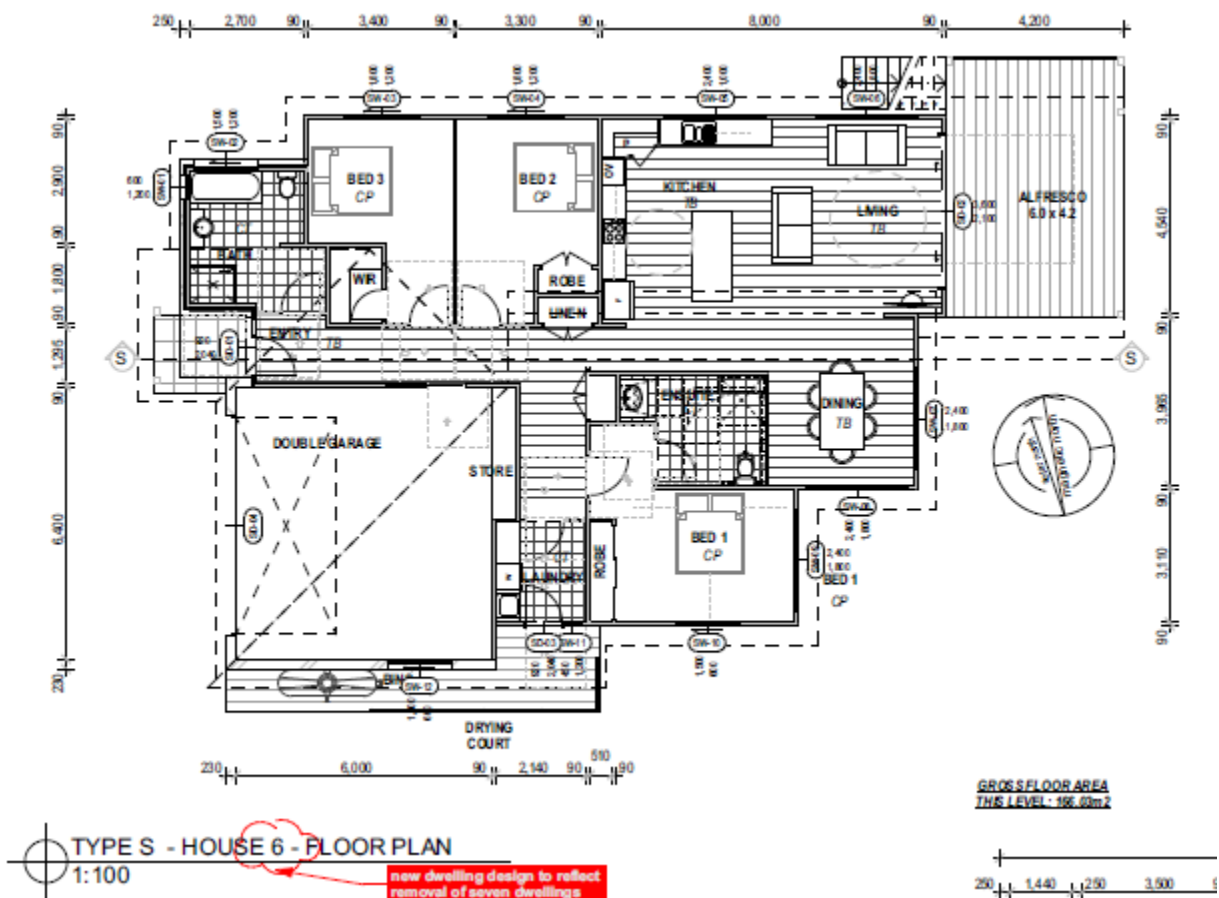


Figure 25 – Proposed Housing Type S Floor Plan (Dwelling 6)

3.3.9 Type T (Proposed Dwelling 4)

Dwelling 4 is on the south-western side of the site and is accessed from, the internal access road. The proposed floor plan of the dwelling is shown in Figure 26.

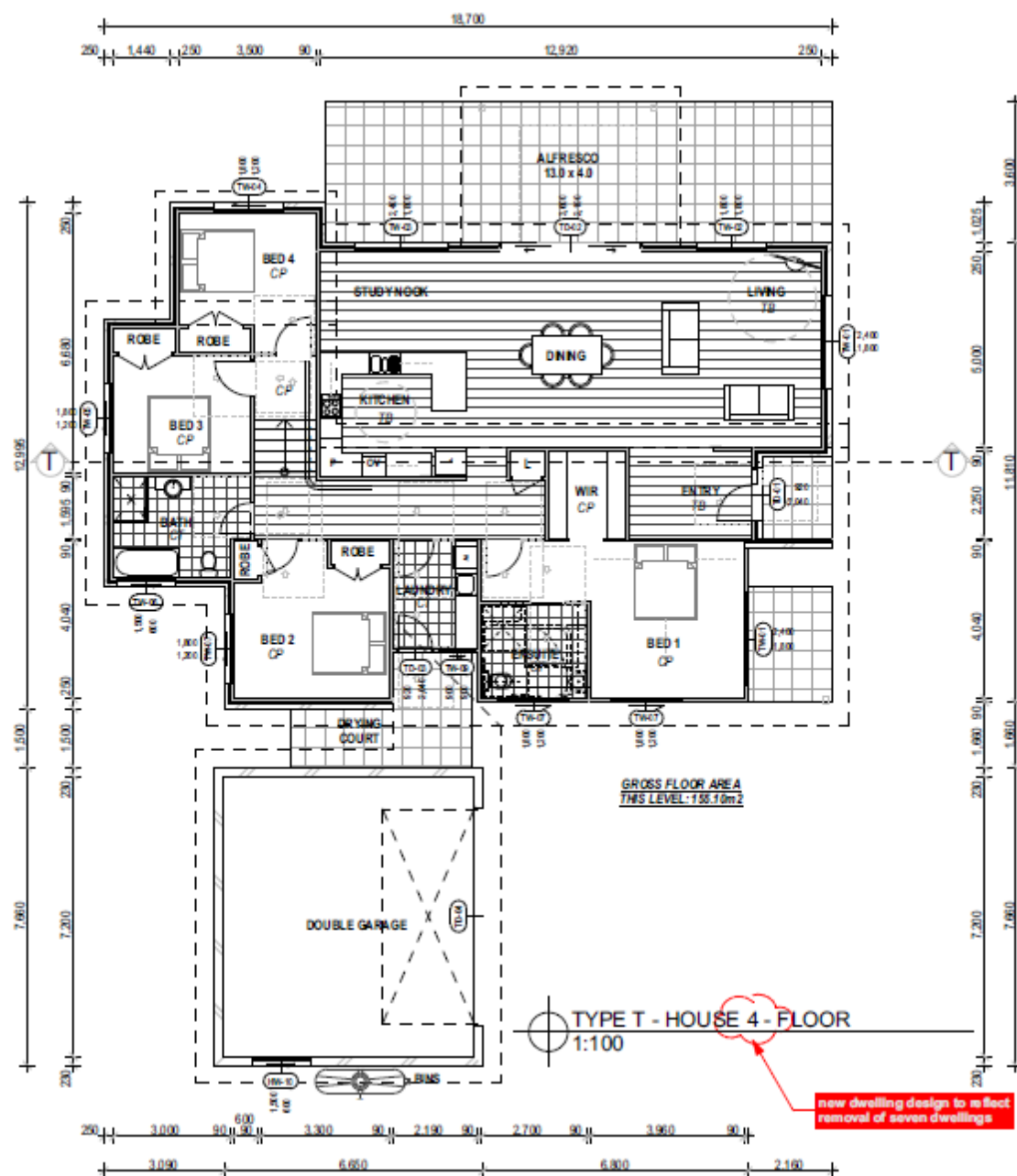


Figure 26 – Proposed Housing Type T Floor Plan (Dwelling 4)

3.4 Housing Statistics

Details of the proposed independent living units (ILUs) and the 12 new development lots are presented in Table 4 below.

Table 4 Development Statistics

Lot:	Area (m2):	Dwelling Type:	GFA (m2)
1 (Community Lot)	12,532.86		
2	564.71	Dwelling 1 (G)	162.62
3	523.20	Dwelling 2 (H)	155.10
4	523.20	Dwelling 3 (H)	155.10
5	1,342.05	Dwelling 4 (T)	155.10
6	2,475.53	Dwelling 5 (Q)	149.56
7	922.25	Dwelling 6 (S)	166.03
8	922.25	Dwelling 7 (B)	162.11
9	539.02	Dwelling 8 (B)	162.11
10	538.18	Dwelling 9 (G)	162.62
11	722.24	Dwelling 10 (E)	169.51
12	638.44	Dwelling 11 (M)	142.8
13	925.42	Dwelling 12 (A)	146.41
Residue Lot	3.39 ha		

3.5 Materials and Finishes

The proposed external materials and finishes are shown on the Architectural Drawings prepared by Coble Stephens Architects included in **Appendix C** and include:

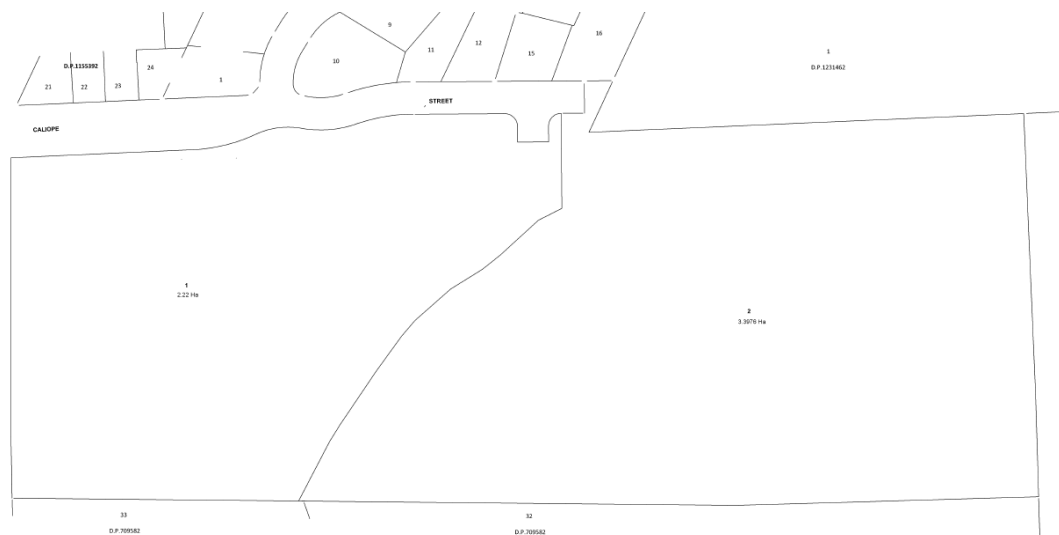
- Brick veneer, rendered masonry and weatherboard walls
- Tiled and skillion sheet metal roof form with plasterboard ceilings
- Aluminium framing to windows and external openings
- Strategic use of glazed windows to facades, side and rear aspects

3.6 Subdivision

Development consent is sought for subdivision of the parent lot under a Torrens title and a Community title scheme into:

- 12 residential lots (523.2m² to 2,475.53m²);
- 1 community lot (12,532.86m²);
- 1 residue lot (33,976.6m²).

Draft Subdivision Plans are included in **Appendix K** and is shown in Figures 27 and 28 below.



NOTE:
ALL BOUNDARY DIMENSIONS ARE FROM

Figure 27 – Proposed Torrens Title Subdivision Plan in Stage 2 of the development

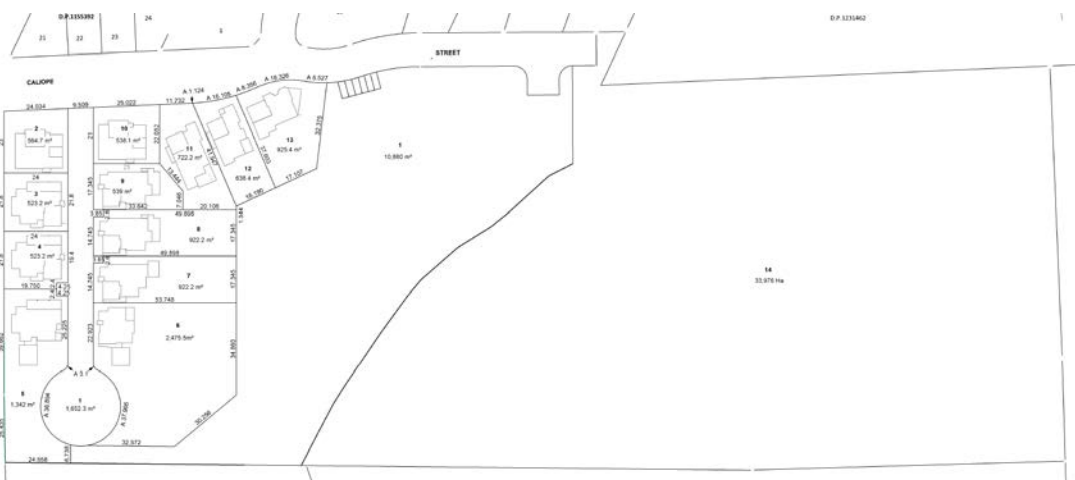


Figure 28 – Proposed Community Title Subdivision Plan in Stage 2 of the development

The amendments to the proposed subdivision scheme have been undertaken to avoid any uncertainty around the type of subdivision proposed as contended by Council.

Subdivision of the seniors housing development is permitted under Clause 23 of the Seniors SEPP 2004.

4. Planning Framework

This section outlines the relevant environmental planning framework applicable to the proposed development site. Section 4.15 of the *Environmental Planning and Assessment Act, 1979* (EP&A Act) outlines Council's statutory obligations to consider the likely impacts of development including the impacts on the natural and built environments, as well as social and economic impacts on the locality.

The following environmental planning instruments and development control plans have been considered in the assessment of the proposal:

- Kiama Local Environmental Plan 2011
- State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004
- State Environmental Planning Policy No. 55 – Remediation of Land
- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
- State Environmental Planning Policy (Infrastructure) 2007
- Kiama Development Control Plan 2020

4.1 Kiama Local Environmental Plan 2011

The Kiama LEP 2011 (KLEP) is the relevant local environmental planning instrument containing objectives and development standards relevant to the proposed seniors living development. The specific provisions relevant to the site and proposal are outlined in this chapter. Under KLEP 2011 the principal planning controls applying to the site and proposal are identified in Table 5 below:

Table 5 Key Planning Controls – KLEP 2011

Planning Standards	Development Control
Land Zoning	RU2 Rural Landscape E2 Environmental Conservation
Floor Space Ratio	N/A
Height of Building	N/A
Heritage	Not identified as a Locally or State Listed Item, however, stone walls are identified as a local item under Schedule 5.
Minimum Lot Size	40 hectares

The site is zoned majority RU2 Rural Landscape and part E2 Environmental Conservation as shown in the following zoning map extract in Figure 29.

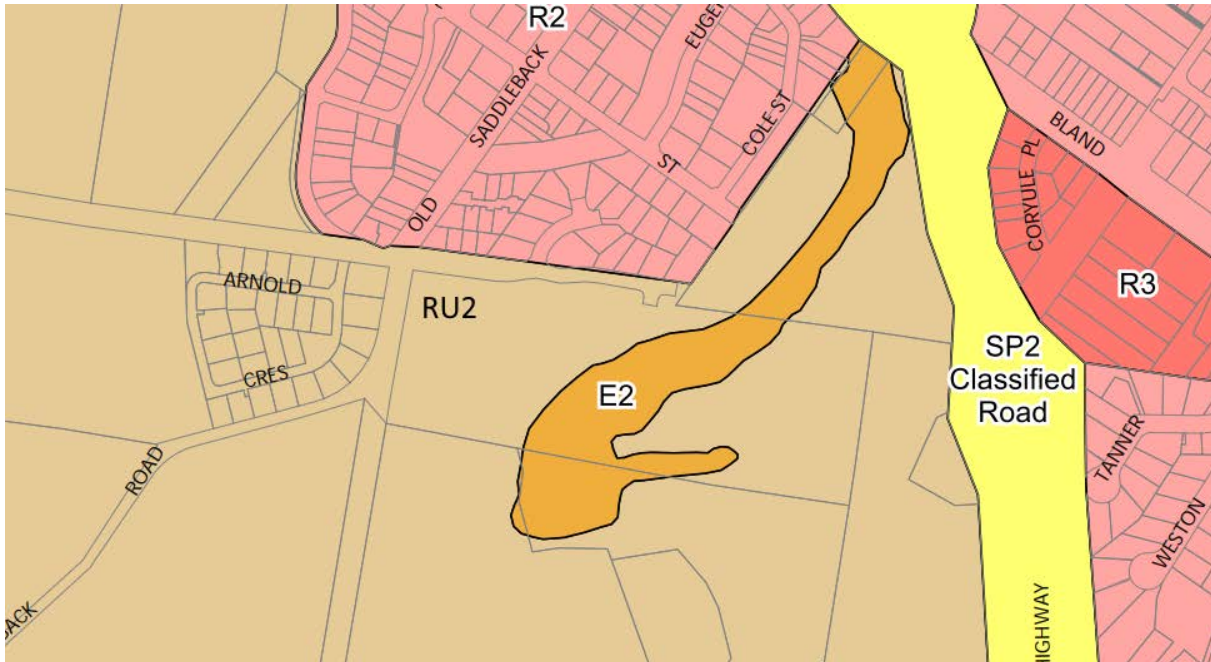


Figure 29 – Land Zoning Map Extract (KLEP 2011)

The proposed development is best defined as *seniors housing* under the KLEP 2011, being:

Seniors Housing means a building of place that is –

- (a) a residential care facility
 - (b) a hostel within the meaning of the SEPP (Housing for Seniors or People with a Disability) 2004; or
 - (c) a group of self-contained dwellings; or
 - (d) a combination of any of the buildings or places referred to in paragraph (a) – (c)
- and that is, or is intended to be, used predominantly for –
- (e) seniors or people who have a disability; or
 - (f) people who live in the same household with seniors or people who have a disability, or
 - (g) staff employed to assist in the administration of the building or place or in the provision of services to persons living in the building or place,
- but does not include a hospital.

Whilst the proposed use is prohibited in the RU2 zone, the proposal is in accordance with an approved Site Compatibility Certificate SCC_2019_KIAMA_001_00 under Clause 25(4) of the SEPP (Housing for Seniors or People with a Disability) 2004 which allows the consent authority in this instance to grant consent to the development / use.

Minimum Lot Size

The development site is subject to minimum lot size of 40 hectares. Notwithstanding this, the proposal is consistent with the recently approved Site Compatibility Certificate (SCC_2019_KIAMA_001_00) which allows the consent authority in this instance to grant consent to the proposed development, including the proposed subdivision of the land. Under cl.23 of the Seniors SEPP subdivision of seniors living developments is permitted with consent. Subdivision is proposed in Stage 2 of the amended proposal presently before the Court.

Heritage

The subject site is not identified as a listed local or State heritage item under the KLEP, however, partial stone walls within the site and in close proximity to the east have been identified as being of local heritage significance to the area under Schedule 5 as Item I64 'dry stone walls' – Kiama. Partial dry-stone walls exist along the southern boundary of the site and will be retained as part of the proposal within the Community Lot. Existing vegetation which covers majority sections of the walls are to be left in-tact to preserve this natural feature of the existing landscape. No structure is proposed to be constructed within proximity to the dry stone wall on the southern boundary and the internal ring-road is setback 2m from the northern face of the wall and will not impact the structural integrity of the wall.

Pursuant to Clause 5.10(5) of the KLEP the consent authority can be satisfied that the development will not adversely impact upon the heritage significance of these dry stone walls as:

- The walls are proposed to be retained in their current condition in perpetuity as part of Community Lot 1 (the APZ lot); and
- No structures will obscure or structurally impact the integrity of the wall.

Earthworks

Prior to the granting of development consent for proposals including earthworks, the consent authority is to consider the following matters –

- (a) the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality,*
- (b) the effect of the development on the likely future use or redevelopment of the land,*
- (c) the quality of the fill or the soil to be excavated, or both,*
- (d) the effect of the development on the existing and likely amenity of adjoining properties,*
- (e) the source of any fill material and the destination of any excavated material,*
- (f) the likelihood of disturbing relics,*
- (g) the proximity to, and potential for adverse impacts on, any waterway, drinking water catchment or environmentally sensitive area,*
- (h) any measures proposed to minimise or mitigate the impacts referred to in paragraph (g).*

The proposed development includes earthworks across the development lot to achieve a balance of cut and fill to accommodate the 12 ILUs and provide sufficient grades for the internal access road, including

shared paths. The majority of the earthworks comprises cut to 2.5m to accommodate level building platforms and fill to heights of 1.5m as shown in the supporting architectural plans. Retaining walls are proposed as in-lot treatments to provide suitable gradients for accessibility into and across the new lots and dwellings.

The earthworks proposed will alter the natural drainage conditions across the front of the site, however, the future internal drainage network has been designed by Land Team to capture overland flows and roof drainage before discharging into an extended public network in Caliope Street.

Earthworks will involve a balance of Virgin Excavated Material across the site without needing to import or export additional soil materials. The newly proposed levels have been designed with consideration to neighbouring drainage conditions and levels at Caliope Street and Old Saddleback Road. These will not drastically scar the landscape and seek to preserve the natural heights and low points in the existing landscape.

The earthworks are capable of being carried out without having detrimental impacts to the nearby waterway to the south-east and riparian vegetation. Site-wide sediment and erosion control measures and water-quality filtration devices will be installed prior to works in accordance with Council's standard conditions. All trucks and work vehicles brought on to the site will be suitably washed down, stockpiles will be covered and appropriately located on site having regard to sensitive residential neighbours and flow paths will be carefully controlled with water treated before being dispersed overland.

Terrestrial Biodiversity

The central portions of the site proposed to be contained within the residual lot comprise areas of Terrestrial biodiversity (see Figure 30). Following the issue of the SCC for the senior's living development it has come to the Applicant's attention that these areas contain State and Commonwealth listed *Zieria granulate plants* which have now been sited outside of the APZ and will be protected in perpetuity within the community lot. This approach is in accordance with Condition 1 of the SCC and avoids any adverse impacts from the development to significant native vegetation and biodiversity.

The original environmental classification report prepared by Unlimited Habitats identified the types and significance of species within the central and southern portions of the site. It identifies the vegetation within the site and includes recommendations for fencing critical woodland areas to better protect trees and ground covers. Other vegetation recommendations in the report include:

- *The following weed species are removed as a priority: Large-leaved privet (Ligustrum lucidum), Lantana (Lantana camara), Blackberry (Rubus fruticosus sp. Aggregate); African olive (Olea Africana); African boxthorn (Lycium ferocissimum).*
- *That grasslands within the APZ are regularly slashed/mown and maintained at a height not exceeding 10cm. This will remove a percentage of accumulated thatch and reduce available fuels.*

- Where necessary and practical, preferentially remove sclerophyllous native species such as wattles and retain any native rainforest species. Rainforest species have foliage that resist immolation and provide a barrier to air borne embers.
- Preserve all 137 specimens of Illawarra Zieria (*Zieria granulata*), identified on the subject property, and establish a buffer to all specimens.

Subject to the above recommendations being complied with, the development can be undertaken without harmfully impacting significant biodiversity on the site.

In addition to the above, Cumberland Ecology have been engaged to provide advice and undertake further assessments of the potential biodiversity impacts to threatened species on site from the development. As such, the proposed amendments to the overall site layout captured in this SEE and supporting materials has been under the direction of Cumberland Ecology in “almost entirely avoiding the areas comprising *Zieria granulata*” and other threatened native species situated within the ravine and the lower slopes on the eastern edge of the APZ area.

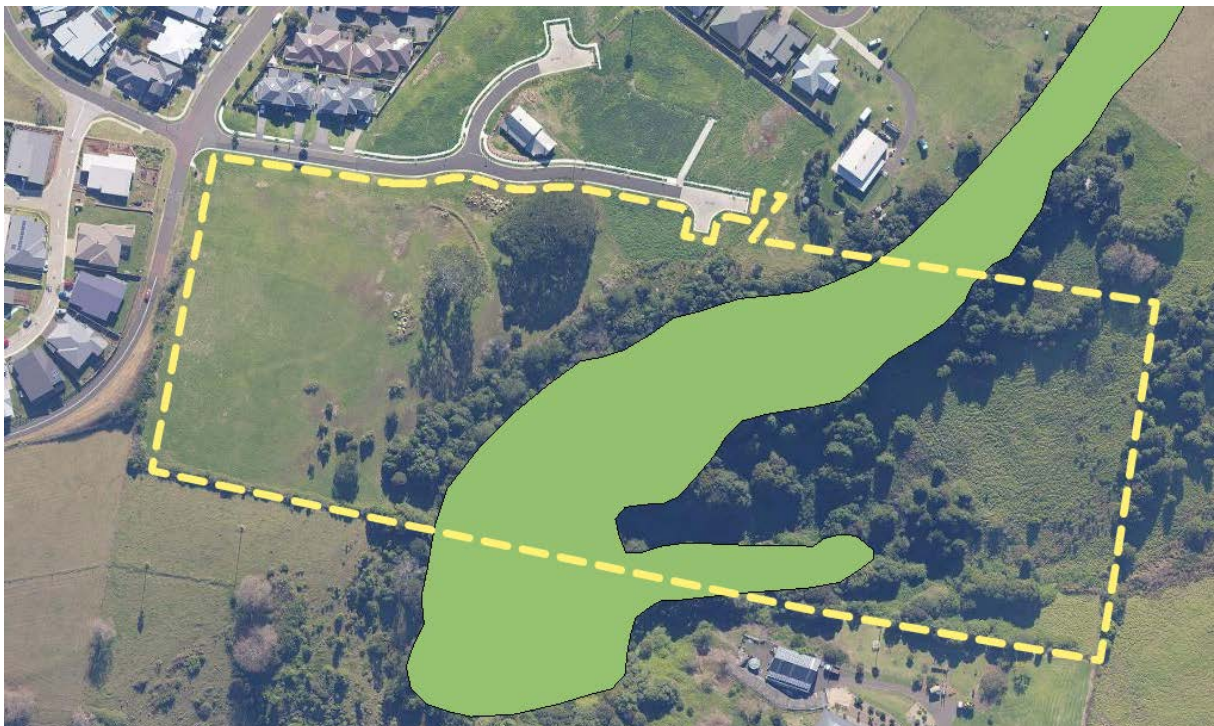


Figure 30 – Terrestrial Biodiversity (shown in green) (Source: NSW Planning Portal)

Riparian Land and Watercourses

As shown in Figure 31 a lower-order stream traverses the southern portion of the site. This ephemeral stream with narrow riparian corridor extending from the central band of native vegetation on site is proposed to be contained entirely within the residue lot, clear of the APZ areas and Community Lot 1.

Works associated with the development are capable of being undertaken without detrimentally impacting the health of the riparian corridor or natural water quality. It will be constructed in accordance with Council's stormwater engineering specifications, including the installation of GPTs and other filtration devices to control and treat stormwater, including methods of controlling overland flows.

Further details of the proposed stormwater management system are provided in the supporting engineering plan package at **Appendix D**.



Figure 31 – Mapped Riparian and Watercourse Land (shown in green) (Source: NSW Planning Portal)

Essential Services

Clause 6.12 of KLEP requires the consent authority to be satisfied that any development will / can be connected to essential utility services. The site has access to mains water and sewer networks to the north as well as existing electricity infrastructure and communications that can be extended from the adjoining recent residential estates along Old Saddleback Road and Caliope Street.

4.2 State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55)

SEPP 55 requires the consent authority to consider the likelihood of contamination of the site; any future impacts to development and land use arising from potential contamination and the need to undertake remediation. The site is an established rural property which has not contained any structures or specified land use. It is highly unlikely that the site is contaminated based on its history as part of larger agricultural holdings in the locality. Should any unexpected finds be uncovered during the works,

the works shall be ceased and relevant approvals obtained to remediate the site or remove unexpected finds under direction of Council's Environment Division and/or the EPA.

On the basis of the above, the likelihood of soil or groundwater contamination is considered very low and the proposed use for seniors living is considered suitable for the purposes of satisfying section 7 of the SEPP.

4.3 State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 (SEPP BASIX) provides objectives to encourage sustainable residential development. BASIX Certificates are in the process of being revised and updated for the amended 12 lot / dwelling proposal and will be supplied to the Court under a separate motion shortly. BASIX requires commitments to water saving and re-use initiatives, natural thermal comfort initiatives and energy saving measures. The amended development will include the following initiatives / measures:

- Water saving fixtures including showerheads with a minimum rating of 3 stars, toilet flushing systems of minimum 4 star rating and kitchen and bathroom taps with a minimum 4 star rating;
- Installation of rainwater tanks for each dwelling to collect runoff from the roof areas to be connected to cold water taps for clothes washing and one outdoor tap;
- Installation of a hot water system with a performance of 5 stars;
- Single-phase air-conditioning units to the living and bedrooms;
- Heating systems in the living and bedrooms with an energy rating of EER: 3.5-4.0;
- Ventilation systems within at least 1 bathroom, kitchen and laundry; and
- Installation of fluorescent lighting in bedrooms.

The development has been designed to comply with the requirements of BASIX with applicable Certificates to be finalised and provided for each of the 12 dwellings.

4.4 State Environmental Planning Policy (Infrastructure) 2007

The aim of State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) is to facilitate the effective delivery of infrastructure across NSW.

Clause 102 of the ISEPP is relevant to the proposal as it requires a consent authority to be satisfied that residential development has duly considered impacts of road noise and vibration where sites adjoin major arterial / classified roads. The Princes Highway is located 100m to the east and is a classified State road under the management of Transport for NSW. The subject development site (within the western portion of the site) is over 300m to the highway corridor and sites substantially higher than the road. It is considered that the new ILU's are unlikely to be drastically impacted by road noise and will be able to comply with the minimum internal noise criteria set under Clause 102 of the SEPP.

Accordingly, it is considered that no further acoustic modelling is required.

4.5 State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004

The aims of the SEPP are to increase the supply and diversity of residences to meet the needs of seniors; make efficient use of existing infrastructure and services; and contribute to good quality design. The amended proposal for 12 new ILUs for seniors in Kiama demonstrates a commitment to good quality, diverse housing product design specifically to accommodate the needs of aged residents in the locality.

Consideration of the applicable sections of the SEPP is provided in the following:

Clause 4 – Land to which Policy applies

The site is zoned RU2 and immediately adjoins land zoned R2 to the north identified for an urban purpose. A SCC has been issued for the site and proposal, and accordingly the provisions of the SEPP for seniors housing now apply.

Clause 17 – Development on land adjoining land zoned primarily for urban purposes

As above, the site adjoins land zoned primarily for an urban purpose (R2 Low Density Residential) to the north of Caliope Street. Under this clause a consent authority may grant consent to development for ‘serviced self-care housing’ on the land.

Clause 18 – Restrictions on occupation of seniors housing development

The proposal is for seniors living ‘serviced self-care housing’ and will be maintained as such in perpetuity under the standard conditions imposed under this clause. A restrictive covenant will be registered on the title of the lots in the development to restrict occupation of the dwellings to persons described under the SEPP.

Clause 21 – Subdivision

The development proposal includes an initial Torrens title subdivision to create the development lot and a residue lot. Community title subdivision in Stage 2 following completed construction of the works and creation of the development lot (Lot 1) is then proposed. Whilst KLEP 2011 applies a minimum 40ha lot size control to the land under CI 4.1, the SEPP permits subdivision of seniors housing developments pursuant to this clause where undertaken in accordance with the SEPP.

Clauses 24 and 25 – Site Compatibility Certificates

As addressed previously in this report the DA is underpinned by a SCC for the subject site and a much more comprehensive development (21 dwellings / lots envisaged under the SCC). The proposal has been designed in accordance with the approved SCC Concept Plan and accounts for the conditional changes required by the SCC including reconfiguration of the APZ to avoid the Zieria, removal of proposed screening fence along the southern and part western boundary and demonstration of appropriate setbacks to Old Saddleback Road. Refer to the supporting amended architectural plans at **Appendix C** for further detail in this regard.

Clause 26 – Location and access to facilities

The town centre offers a full range of services including strong public transport links to Wollongong and Sydney via the Kiama Railway Station and retail and community services along Terralong Street including Kiama Village Shopping Centre.

Accessibility is to be improved through the provision of a private bus service operated by Ledale Pty Ltd t/as Cantys Bus Rentals between the site and the Kiama Town Centre. Services are to run twice daily, seven days per week, fifty-two weeks per year; once in the morning between 8am and 12pm and once in the afternoon between 12pm and 6pm or otherwise. Additional services may be provided by appointment on a regular basis as required by individual residents. The service will be provided as a hail and ride type service with pick up and return of passengers to the front of their dwellings. As per the requirements of the SEPP, the bus service will be capable of transporting no less than 10 residents at any one time.

The Kiama Downs Medical Centre, located on 31 Johnson Street, Kiama Downs, confirmed in a letter dated 2 October 2019 supporting the original DA that it has adequate capacity to service the additional population enabled by the future development. Residents will have the option of being transported via the new bus service at their request from the site to the Kiama Downs Medical Centre or any other health services available in the Kiama Town Centre.

Clause 27 – Bush fire prone land

The consent authority can be satisfied that the development complies with the requirements of *Planning for Bush Fire Protection* (PBP). An updated Bushfire Assessment has been prepared in support of the amended proposal. Short-fire run modelling has been used to calculate the 55m APZs from the rainforest hazard in the ravine (to the east of the development lots) and 45m from the grassland hazard to the south (neighbouring Lot 33). The calculation of these APZs have been modelled in close consultation with the NSW RFS and exclude the recently surveyed Zieria plants and seedlings.

All dwellings have been designed and will be constructed to a minimum BAL 12.5 with additional protection measures built into garage structures where they partially or fully encroach into the APZ areas.

It is anticipated that a s100B Bushfire Safety Authority can be issued by the RFS for the amended proposal presently before the Court.

Clause 28 – Water and Sewer

The consent authority can be satisfied that the development has access to mains water and sewer network infrastructure. The existing public infrastructure to the north of Caliope Street in the adjoining

residential estate will be extended into the site to service the proposed development. With the exception of minor augmentation and connections into the existing networks, no major trunk infrastructure is required to service the development.

Clause 30 – Site Analysis

Refer to discussion in Chapters 2 and 3 of this report, the supporting SCC application documents provided in **Appendix A** and site analysis plans prepared by Coble Stephens Architects at **Appendix C**. The amended proposal has had consideration for more recently updated surveys and field works that have examined the exact nature and location of Zieria plants and other threatened species on the site. The proposal has been substantially amended by way of a reduction of 7 lots / dwellings to ensure potential impacts to biodiversity are largely mitigated and avoided.

Clause 31 – Design of in-fill self-care housing

The following assessment of the amended proposal against the principles for the design of seniors (self-care) housing is provided in Table 6.

Table 6 Compliance with Development Principles – Urban Design Guideline for Infill Development 2004

Development Principles	Comment on Consistency / Compliance
Analysis of neighbourhood character	<p>The proposed development presents a building form, layout, siting and presentation which is consistent with that of the established character of nearby residential estates in the locality. The character of dwellings proposed is consistent with the contemporary designs observed to the north of Caliope Street and the Sea Views Estate to the west of Old Saddleback Road and provide for a reduced bulk and scale which transitions well as an ‘edge’ development site.</p> <p>The reduction in the number of overall lots / dwellings under the amended proposal has allowed for a more regular subdivision pattern and site layout which responds to the natural constraints of the site, namely the presence of Zieria plants and the provision of 55m deep APZs which now fully exclude the area of these specimens.</p>
Street layout and hierarchy	<p>The proposal contributes a new internal access road providing safe and direct connections to new dwellings and communal open space from the existing public street network.</p> <p>The dwellings present to the streets in a similar fashion to that of neighbouring properties with 3-5m setbacks on</p>

Development Principles	Comment on Consistency / Compliance
	<p>average, turfed and landscaped frontages with dwellings orientated towards the streets.</p> <p>The replacement of the original internal loop road with a top of ridge road and cul-de-sac has had the benefit of reducing the extent of internal roadway and subsequently the need for wholesale bulk earthworks and site disturbance. It has also reduced the extent of hardstand area more generally across the site.</p>
Blocks and lots	<p>The proposed block pattern responds to the topographic and landscape conditions of the site. This is consistent with other surrounding estates to the north and north west which provide adequate separations to environmentally sensitive areas of semi-rural holdings.</p> <p>Lot sizes proposed above 500sqm are compatible with low density housing in the locality and most importantly, are compatible with the minimum 450sqm lot size which applies to the R2 zoned lands immediately to the north and north west.</p>
Built environment	<p>The built form and design of dwellings is consistent with the character of the nearby residential built environment. Contemporary modern designs, materials and finishes are embedded into the proposal.</p> <p>The proposed bulk, scale and site coverage of the amended proposal is modest compared to that of prevailing residential character to the north. This is reflective of the site conditions and the position of the site as a development edge.</p> <p>Additionally, the SCC envisaged a 21 lot / dwelling development (subject to amendments outlined in the conditions). The subsequent changes made resulting in the amended proposal has now resulted in a substantially reduced development at 12 lots / dwellings.</p> <p>For these reasons, the scale of the proposal as amended is considered acceptable.</p>

Development Principles	Comment on Consistency / Compliance
Trees	Mature trees existing on site are to be retained within the proposed community lot and/or the rear yards of private lots. The supporting landscape scheme includes planting of new mature trees endemic to the locality.
Policy	Compliance with Council's local plans and policies has been demonstrated in this report and in supporting material.
Site Planning and Design	
Built Form	<p>Dwellings are positioned closest to Old Saddleback Road and Caliope Street frontages to maximise street frontages and control overall site bulk and scale.</p> <p>Development towards the rear (central) part of the site incorporates more modest coverage with greater separation and form which responds to the falling levels.</p> <p>Dwellings orientated to maximise solar access to living areas and POS, taking advantage of northerly aspect.</p>
Trees, Landscaping and Deep Soil Zones	<p>Proposal incorporates landscaping that is consistent with local themes and site landscape coverage. Majority of private lots to be landscaped with modest <50% site coverages for buildings proposed. This presents significant opportunities for landscaped gardens within front and rear yards, including deep soil areas for planting of large trees.</p> <p>Communal areas will be largely managed as APZ but can accommodate low ground covers and expanses of pervious deep soil. This will contribute to natural stormwater management processes and preserve special biodiversity conditions in the centre of the site.</p>
SEPP Controls	Proposal complies with the minimum SEPP standards – refer to discussion under Clauses 41 and 50.
Impacts on Streetscape	
Built Form	<p>Dwelling facades have been well articulated through varied materiality and finishes, protruding and recessed elements, extensive use of glazing and neutral, sympathetic colour palettes.</p> <p>Facades avoid long expanses of blank walls. Varying degree of roof typologies proposed to contribute visual interest to</p>

Development Principles	Comment on Consistency / Compliance
Trees, Landscaping and Deep Soil Zones	<p>the streetscape whilst presenting compatible, contemporary forms within the landscape.</p> <p>Existing mature trees retained in the landscape. New mature trees endemic to the local area proposed within front setbacks and along southern side of Caliope Street. Other significant landscape features to be preserved in the landscape as part of the development including the recently surveyed Zieria plants and seedlings to the east of the APZ areas.</p>
Residential Amenity	<p>Open space has been clearly designed as private or public dependent on its position and access within the development site. Dwellings designed at the front of the site with commensurate setbacks to address the street.</p> <p>Pedestrian entrances and pathways are clearly defined and accessible from the street. Surveillance from within the dwellings and across site frontages are provided and all site features including fences, mailboxes and garbage store are all easily accessible and clearly defined.</p>
Parking, Garaging and Vehicular Circulation	<p>Sufficient private and visitor parking areas provided for within the development. All parking and circulation areas have been designed in accordance with AS2890.1-6 and provision of accessible parking has been fundamental in the design.</p> <p>All driveways are clearly discernible and easily accessed from the relevant street with no major obstruction to sight lines. The new internal roadway has been designed with a safe gradient, low speed limit and controlled design to promote safe movements for pedestrians and cyclists.</p> <p>Shared paths provided connecting to existing public pedestrian footpaths to the north of site.</p>
Impacts on Neighbours	
Built Form and Landscape	<p>The amenity of neighbours within the development has been assured with the low-scale and heights of dwellings proposed. Good internal separation is provided between dwellings.</p>

Development Principles	Comment on Consistency / Compliance
	POS areas provided directly linked to internal living and away from sensitive bedrooms to preserve acoustic privacy.
	Internal landscape features to be used to provide additional screening and buffering between lots and sensitive interfaces / the edge of the development. Species characteristic of the locality to be utilised in the landscape scheme.

Clause 32 – Design of Residential Development

The consent authority must not consent to a proposal unless it is satisfied that the proposed development demonstrates that adequate regard has been given to the principles set out in Division 2. A discussion of the amended proposal's consistency with the design principles is provided in Table 7.

Table 7 Compliance with Design Principles

Development Principles	Comment on Consistency / Compliance
Clause 33 – Neighbourhood Amenity and Streetscape	<p>The surrounding neighbourhood character of residential estates to the north and north west are expressed as contemporary single and double storey detached dwellings on traditional suburban-style lots with supporting open space. Dwelling designs are modern, simple and address the primary street frontages whilst also been design-responsive to the natural topography of the landscape. Neighbourhoods are orientated along Old Saddleback Road and contained by perimeter roads which separate the developments to surrounding bushland and rural scenic lands further to the west.</p> <p>The proposal exhibits features consistent with the neighbourhoods to the north and north west and maintains a good level of separation. Being situated lower than the neighbouring estates ensures that the development does not detrimentally impact upon residential amenity by way of noise, privacy, overshadowing or the like.</p> <p>The development adopts single storey dwelling forms and heights below 8m which respond to the natural levels across the site. This ensures an appropriate and modest height place which preserves distant water views to the south and east. Dwellings are orientated to address Caliope Street and the new internal road with passively-</p>

Development Principles	Comment on Consistency / Compliance
	<p>designed rear fences to the extensive road reserve to Old Saddleback Road (consistent with dwellings further to the north).</p> <p>The development retains significant site trees within the community lot and incorporates separation features and fencing to preserve and protect significant biodiversity in the central and southern portions of the site.</p> <p>Internally, dwellings are appropriately scaled, sited and setback from each other to avoid impacts and preserve residential amenity.</p>
Clause 34 – Visual and Acoustic Privacy	<p>Due to the level of separation distances provided to neighbouring residential properties to the north and north-west, no visual or acoustic impacts will be caused by the proposal.</p> <p>Internally, building separations are considered more than appropriate for the single storey forms. Where dwellings or rear yards have the potential to overlook internal neighbours due to site levels, additional screening to tops of fences and the location and design of habitable windows has been configured to avoid adverse privacy impacts.</p>
Clause 35 – Solar Access and Design for Climate	<p>Each of the proposed dwellings will receive sufficient solar access to main internal living areas and outdoor private open space. Dwellings are predominantly orientated east-west or north-south to maximise solar access and deliver solar-passive designs. Utilisation of shading structures, contemporary roof forms and overhanging eaves will help control internal climatic conditions.</p> <p>Solar heating, landscaping features and reduced dependency on mains energy supplies through passive solar designs have been a focus of the proposal.</p>
Clause 36 - Stormwater	<p>The development is supported by a comprehensive site stormwater management design. The proposal will control and minimise impacts of stormwater runoff through the use of water-tanks and on-site detention, maximisation of pervious surfaces and installation of water quality infrastructure.</p>

Development Principles	Comment on Consistency / Compliance
	<p>The inter-allotment drainage system to be rear of lots 6-13 will capture and drain overland flows to the public drainage network at Caliope Street, ensuring any potential adverse impacts from runoff into the community lot and significant biodiversity areas across the site is avoided.</p>
<p>Clause 37 – Crime Prevention</p>	<p>The design has been considerate of key CPTED principles. Dwellings and main entries are clearly discernible from the respective street boundary and large bedroom or living windows are orientated towards the street to promote passive surveillance. Landscaping features and front fences are reduced in height so as to not obscure views of the street or neighbouring properties, avoiding the creation of blind spots.</p> <p>The communal open space area within the community lot has been designed as open and accessible from Caliope Street and includes community seating areas for the enjoyment of residents and visitors.</p> <p>Front entries have been designed with open-style hallways and large front doors with glazing to provide clear lines of sight for residents between their homes and the street.</p> <p>External sensor and street lighting will ensure all shared and community accessible areas are well lit throughout the year.</p>
<p>Clause 38 – Accessibility</p>	<p>The development includes shared accessible paths for pedestrians and cyclists from Caliope Street which connect to public footpaths further to the north.</p> <p>The proposal includes 6 spaces for visitors in clearly designated areas accessible from the internal roadway.</p>
<p>Clause 39 – Waste Management</p>	<p>All new dwellings will be provided with internal bin storage areas with waste bins to be collected by Council’s weekly waste services.</p> <p>Refuse bins stored within the dwellings are to be wheeled to the left side of the internal access road for collection as required.</p> <p>Swept path analysis conducted as part of the traffic assessment</p>

Development Principles

Comment on Consistency / Compliance

determined that the proposed internal road network adequately provides for the vehicle turning paths required by Council's 9.4 metre-long vehicle.

Clause 40 – Development Standards – Minimum Sizes and Building Height

- The site exceeds the minimum 1,000sqm requirement
- The site exceeds the minimum 20m street frontage to both Old Saddleback Road and Caliope Street
- The height of all proposed buildings is less than 8m measured above the natural ground level.

Clause 41 – Standards for Hostels and Self-Contained Dwellings

The proposal fully complies with the accessibility standards for self-contained dwellings in Schedule 3 as summarised below:

- 100% of the site has been designed with wheelchair access / accessible dwellings that can be reached via the internal shared footpath or along Caliope Street (refer to Accessibility Report in **Appendix F**).
- Access to the communal open space has been designed in accordance with AS1428.1 for people in wheelchairs.
- Pathway lighting has been provided and located to avoid glare impacts to private dwellings and includes a min. lux of 20 at ground.
- Individual letter boxes that are accessible from the dwellings are provided to the front of each lot.
- Private and visitor parking spaces have been designed in accordance with AS2890. These comprise flat gradients and are provided with additional shared spaces with power-operated doors to garages.
- All entries have been designed to comply with Cl 4.3.1 and 4.3.2 of AS 4299.
- Interior doors and circulation spaces comply with AS1428.1.
- Bedroom and bathroom minimum areas and amenities to be provided (capable of also being conditioned on the consent).
- All internal living areas provide for circulation spaces in accordance with AS 4299, are provided with telephones and telecom facilities and capable of being illuminated with min 300 lux.
- All kitchen circulation areas have been designed to comply with AS 4299 and include compliant bench spaces and non-slip surfaces, tap sets, cook tops and ovens with safety shut-offs mechanisms.
- All dwellings are provided with independent laundry facilities that comprise non-slip surfaces and circulation spaces that comply with AS 1428.1.
- Linen storage provided to all units.
- Accessible garbage storage areas provided internal to each dwelling.

Clause 42 – Serviced Self-Care Housing

(1) A consent authority must not consent to a development application made pursuant to this Chapter to carry out development for the purpose of serviced self-care housing on land that adjoins land zoned

primarily for urban purposes unless the consent authority is satisfied, by written evidence, that residents of the proposed development will have reasonable access to—

(a) home delivered meals, and

(b) personal care and home nursing, and

(c) assistance with housework.

(2) For the purposes of subclause (1), residents of a proposed development do not have reasonable access to the services referred to in subclause (1) if those services will be limited to services provided to residents under Government provided or funded community based care programs (such as the Home and Community Care Program administered by the Commonwealth and the State and the Community Aged Care and Extended Aged Care at Home programs administered by the Commonwealth).

The development for serviced self-care seniors housing will be managed and operated initially by the Developer and then by a suitably qualified and experienced professional operator to be appointed by the Developer or Community Association.

Community facilities have been provided in the form of wheelchair accessible outdoor furniture which will provide a community hub and open space for family gatherings.

Services to the residents have been covered in letters and agreements from service providers and are included in **Appendices K, L and M** as part of the Accessibility Report.

Clause 43 – Transport services to local centres

The proposal includes a bus service operated by Kiama Mini Bus Rentals between the site and the Kiama Township. Services are to run twice daily, seven days per week, fifty-two weeks per year; once in the morning between 8am and 12pm and once in the afternoon between 12pm and 6pm. Additional services may be provided by appointment on a regular basis as required by individual residents. The service will be provided as a hail and ride type service with pick up and return of passengers to the front of their dwellings. The bus will be capable of supporting a minimum of 10 passengers from and to the site to the Kiama Town Centre where essential retail, community and medical services are available to the residents.

Clause 44 – Availability of facilities and services

The development will be suitably serviced by all available utility and essential infrastructure as addressed previously in this report. A standard condition of consent can be imposed to require that all utility services and other on-site infrastructure is connected and available to residents prior to the occupation of the dwellings.

Furthermore, the services to be provided on-request on site by South Coast Home Care Services will also be made available from the first day of the first resident moving on to the site. These include on-

site, on-demand health, nursing care, assistance with domestic and personal care and delivered meals to residents.

Clause 50 – Standards that cannot be used to refuse development consent for self-contained dwellings

The development fully complies with those minimum standards that cannot be used to refuse consent:

- All buildings are less than 8m in height
- FSR = 0.14:1
- Landscaped area exceeds 30% - over 50% provided.
- Two-thirds of total landscaped area provided as deep soil zones with min. dimensions of 3m provided.
- All PPOS areas exceed 15m² with 3m x 3m dimension provided accessible from main internal living room.
- All dwellings provided with two spaces within lock-up double garage and 7 visitor spaces provided.

4.6 Kiama Development Control Plan 2020

The proposed development has been assessed against the relevant non-statutory controls of the Kiama DCP 2011 (provided in Table 8).

Table 8 DCP Assessment

Controls	Comment on Consistency / Compliance
Chapter 2 – Site Considerations	
Site Analysis It is imperative that a site analysis include likely impacts of the proposed development and the measures proposed to mitigate these impacts. The site analysis should include: <ul style="list-style-type: none"> • The urban structure including property boundaries, street network and public spaces; • the land uses; • topography and landscape; • transport routes and stops; • main building typologies; • open space and waterways; • heritage and archaeology; • key views and vistas; and • building envelope, including footprint, height, setbacks and through links required in Kiama LEP 2011 and this DCP. 	A comprehensive site analysis has been provided in support of this application. Refer to site analysis and description sections provided in Chapter 2 of this SEE and supporting Site Analysis Plan prepared by Coble Stephens Architects at Appendix C . The supporting site analysis details include the site boundaries, current and surrounding residential land uses, topographic and landscape features, transport and movement networks, character of built form and landscape features, key views and building envelope, setbacks and heights of the proposed and surrounding existing developments. The proposal includes modest site coverage and building heights when compared with

Controls	Comment on Consistency / Compliance
<p>Riparian Corridors</p> <p>Development on or near to land identified as being riparian must ensure that it does not have significant adverse environmental impact, including, but not limited to, impacts on:</p> <ul style="list-style-type: none"> • water quality, • bank and bed stability, • ecological processes and any habitats. <p>Riparian land affected by proposed development must be protected and improved through any development.</p>	<p>that of the surrounding residential estates to the north.</p> <p>A lower order watercourse (ephemeral stream) traverses the southern part of the site. The watercourse will be wholly contained within the residue lot and no works are proposed within proximity (over 60m away).</p> <p>No works are proposed to the watercourses or associated riparian vegetation areas.</p> <p>The development has been designed to ensure stormwater runoff and potential pollutants are suitably controlled so as to not impact on the water quality of the stream. The engineering design adheres to Council's specifications and includes on-site detention and water quality devices. All overland flows from the development will be captured, diverted via a new inter-allotment drainage network and discharged to the public network at Caliope Street.</p>
<p>Terrestrial Biodiversity</p> <p>Dwellings and ancillary development must be located as far away as possible from stands of native vegetation to protect biodiversity and threatened species and their habitat, and reduce bush fire risk.</p> <p>Where land contains native vegetation or an endangered ecological community or where a proposed development or an activity may affect a threatened species, population or ecological community or their habitat, Council may, require a Species Impact Statement to be submitted.</p> <p>A property landscape plan (PLP) must be submitted with a development application for the erection of a dwelling</p>	<p>The amended development has been concentrated on the predominantly cleared areas within the western part of the site. No adverse impact to native vegetation is proposed and no impacts are proposed to the identified EECs and protected biodiversity located in the central parts of the site.</p> <p>An Ecological Assessment has been undertaken by Unlimited Habitats as part of the original SCC application. This assessment has confirmed that the development is unlikely to cause any detrimental impacts to biodiversity or threatened species / critical</p>

Controls	Comment on Consistency / Compliance
<p>house, secondary dwelling, ancillary development, access road, services infrastructure, fencing or works where the proposed development will require:</p> <ul style="list-style-type: none"> • clearing of native vegetation. • revegetation or planting of screening vegetation for land stabilisation. • biodiversity offsets to maintain and improve biodiversity. 	<p>vegetation communities. A series of recommendations were included in the report including establishment of boundary fencing, weed management and water quality treatments to ensure protection of the adjoining bushland in perpetuity.</p> <p>Impacts from the required APZ have been considered and are considered negligible to preserve a suitable and safe buffer between the more pristine areas of bush and the future dwellings.</p> <p>In January 2022 the proponent engaged the services of Cumberland Ecology to review the application made to Council, all previous flora and fauna reporting and to provide an independent assessment, advice and survey of the Zieria plants and seedlings. Following the preparation of the Zieria survey the extent of the development footprint has been substantially reduced to ensure avoidance of any impact to the areas of the site containing Zieria. This has included relocation of a 55m deep APZ measured from the outer face of the Zieria area</p>
<p>Tree Preservation and Vegetation Management</p> <p>Where tree pruning, or removal is to be carried out as a result of a Tree Management Application, all works are to be carried out in accordance with the following: a) Australian Standard 4373 2007- Pruning of Amenity Trees (AS4373) b) Australian Standard 4970 2009 - Protection of Trees on Development Sites (AS4970)</p>	<p>No trees are proposed to be removed. Significant trees across the site including Fig Trees are to be preserved within the community lot or private residential lots.</p>
<p>Contaminated Land</p> <p>In determining all rezoning, subdivision and development applications, Council must consider the possibility of land contamination and the implications it has for any proposed or permissible future uses of the land.</p>	<p>N/A – refer to commentary provided earlier against SEPP 55.</p>

Controls	Comment on Consistency / Compliance
<p>Bushfire Prone Land</p> <p>The erection of a dwelling on a lot containing bush fire prone land must: - be located on a lot so that it is less susceptible to a direct bush fire attack threat. - comply with bush fire protection measures and control standards in the NSW Rural Fire Services' publication Planning for Bushfire Protection, (including any revised editions or supplementary publications released by the NSW RFS).</p> <p>A Bush Fire Assessment Report must be submitted with the statement of environmental effects</p>	<p>A Comprehensive Bushfire Impact Assessment dated January 2022 has been prepared by Bushfire Protection Planning and Assessment Services. The report confirms that the site is bushfire prone land, comprising 'Rainforest' category vegetation to the east of the ravine and grassland to the south over neighbouring Lot 33.</p> <p>Seniors living is identified as a 'Special Bushfire Protection Purpose' and hence the DA is Integrated Development requiring the approval of a Bushfire Safety Certificate under 100B of the <i>Rural Fires Act, 1997</i>.</p> <p>On the basis of the SCC conditions and feedback from Council, a 55m APZ setback has now been accommodated from the outer edge of the surveyed Zieria plants and seedlings and a 45m APZ is provided from the southern boundary.</p> <p>Accordingly, the development adheres to the requirements of Planning for Bushfire Protection in incorporating relevant APZs to the dwellings.</p>

Chapter 6 Residential Accommodation

<p>Seniors Housing</p> <p>Development must be provided in accordance with the provisions under of the SEPP (Housing for seniors and people with a disability) 2004 as amended from time to time and where relevant, the Seniors Living Policy – Urban Design Guidelines for Infill Development.</p>	<p>Refer above assessment against Seniors Housing SEPP.</p>
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5. Environmental Impact Assessment

This chapter includes an assessment of the environmental effects of the proposed development as described in the preceding sections of this report. The assessment includes those matters under section 4.15(1) of the EP&A Act that are relevant to the proposal.

5.1 Traffic, Car Parking and Access

A Traffic Impact Assessment (TIA) was prepared by Stanbury Traffic Planning in support of the original application. The report assessed the impact of the proposal on the local road network and considers the appropriateness / compliance of parking provided as part of the development.

The report included the following summarised points of the assessment:

- *The proposed site access arrangements are projected to result in motorists being capable of entering and exiting the subject site in a safe and efficient manner and are capable of accommodating the largest vehicles expected to service the site;*
- *The internal circulation arrangements are satisfactory to accommodate the scale and nature of the proposed seniors living development, including servicing by Council's 9.4m long refuse collection vehicle;*
- *The surrounding road network currently provides motorists with a good level of service;*
- *The subject development has been projected to generate up to 8 peak hour vehicle trips to and from the subject site; and*
- *The surrounding road network is capable of accommodating the limited additional traffic projected to be generated by the subject proposal.*

The amended design to incorporate a dual carriage internal road with 24m turning head has been considerate of the outcomes of the original TIA and updated assessment prepared by Altus Traffic Consultants supplied in January 2022. The design provides a good level of accessibility, safe sight lines and compliant parking arrangements.

5.2 Impacts to Trees and Native Vegetation

The proposed development seeks to retain trees within the development footprint.

In respect to managing vegetation on the site, the following recommendations were included in the original Vegetation Management report prepared by Unlimited Habitats and remain relevant to the amended proposal:

- The following weed species are removed as a priority: Large-leaved privet (*Ligustrum lucidum*), Lantana (*Lantana camara*), Blackberry (*Rubus fruticosus* sp. Aggregate); African olive (*Olea Africana*); African boxthorn (*Lycium ferocissimum*).
- That grasslands are regularly slashed/mown and maintained at a height not exceeding 10cm. This will remove a percentage of accumulated thatch and reduce available fuels.

- Where necessary and practical, preferentially remove sclerophyllous native species such as wattles and retain any native rainforest species. Rainforest species have foliage that resist immolation and provide a barrier to air borne embers.
- Preserve all 137 specimens of Illawarra Zieria (*Zieria granulata*), identified on the subject property, and establish a 1.5m buffer to all specimens

The report also confirmed that existing mature canopy trees in good health and structural integrity be retained within the APZ areas with less significant understorey woodland (perimeter) and grassland vegetation be managed in accordance with the recommendations of the report. Compliance with these recommendations will ensure the following positive environmental outcomes:

- Threatening weeds are suitably managed and removed from the site to preserve threatened species vegetation across the site.
- Significant, mature canopy trees be retained within the development site and APZ areas.
- The overall health of the site ecosystems and biodiversity will be improved through the implementation of the proposed vegetation management regimes.

Council in their refusal of the original DA and subsequent contentions raised objections to the siting of *Zieria granulata* being located within the area of the APZs. Cumberland Ecology have been subsequently engaged and have undertaken a comprehensive survey of the *Zieria* plants and seedlings as they presently occur on the site. Cumberland have advised that all *Zieria* be located outside of any APZ areas which has necessitated the amendments to the proposal, reducing the overall dwelling / lot yield from 19 to 12. The areas of APZ extending from the outer edge of the *Zieria* areas have also been extended and now result in no direct impact to the health of *Zieria* which will be left to regenerate and propagate naturally within its setting on the top of the ravine.

Cumberland Ecology have confirmed in advice to the Applicant that the amended proposal will have no significant adverse impact to threatened species or biodiversity and as such a BDAR is not required. An updated Flora and Fauna Assessment and Test of Significance for the *Zieria*, the Illawarra Socketwood and White-flowered Wax Plant will be provided under separate cover in the coming weeks. The reporting will confirm that the development as revised will cause no significant adverse impacts to threatened species or other important natural biodiversity features of the site or surrounding landscapes. Accordingly, it is anticipated that Council's contentions will be suitably addressed and resolved.

5.3 Stormwater Management

The design of the amended stormwater infrastructure has considered Council's requirements, site design levels, the proposed landscaping strategy and the siting of buildings. The infrastructure proposed will collectively accommodate flows and convey stormwater to legal points of discharge.

Stormwater Quality Improvement Devices (SQIDs) will be implemented to deliver effective treatment of flows before being conveyed to the discharge points. These will include the use of rainwater tanks and stormwater cartridges within each of the OSD tanks as well as GPTs.

The collective approach to managing stormwater conditions on the development site, having considered the proposed drainage infrastructure and design levels will:

- Suitably control and convey stormwater to legal points of discharge without adversely impacting the public domain or the surrounding properties; and
- Stormwater quality targets are capable of being achieved through the implementation of devices and rainwater tanks as demonstrated in the supporting modelling.

5.4 Earthworks, Sediment & Erosion

The proposal will necessitate some regrading and earthworks across the western portion of the site to accommodate the proposed finished ground levels and suitably flat areas for accessible dwellings.

The works have the potential to create adverse impacts to water quality, vegetation and result in erosion and sedimentation.

The following mitigation measures are proposed to minimise adverse environmental impacts:

- Sandbag protection to be installed surrounding existing stormwater drainage infrastructure inlets to prevent sediment entering the system.
- Shaker grid and wash down facility will be installed at all exists from the construction site.
- All vehicles leaving the site will have wheels washed down and pass over the shaker grid to remove any spoil collected.
- Installation of sediment fences on all downstream boundaries to collect sediment and prevent it from discharging onto downstream properties or natural watercourses.
- Temporary sediment basins will be installed and all overland flow directed towards them during works. The basins will attenuate stormwater flows, preventing discharge of sediment downstream.

Additionally, impacts from earthworks will be managed in accordance with a Construction Management Plan to be developed by the contractor prior to the issue of a Construction Certificate. The plan is likely to contain the following mitigation procedures to manage sedimentation and impacts from soil disturbance:

- Bunding of sediment basins and siltation fencing to be installed;
- Stockpiles of soil to be bunded, covered and wet-down to limit impacts from dust;
- Works to be not occur during times of high wind events or prior to major storms;
- Excess cut material is to be transported from site as soon as practicable after completion and all excavation works should be undertaken in accordance with an approved staging / scheduling plan which is regularly updated by the site manager; and
- Site fencing is to be maintained around the perimeters to restrict access to the general public.

5.5 Crime and Public Safety

Refer to commentary provided in the assessment section of this report. It is considered that the design of the development has incorporated CPTED measures which will ensure site safety, including:

- Appropriate security lighting to gardens, dwellings and communal areas;
- Clear sight lines maintained across the development site and from the front entrances of dwellings to the street frontage to promote passive surveillance; and
- Incorporation of retaining walls, front gardens and fencing to provide territorial reinforcement and delineate the public domain from private areas.

5.6 Visual Impact and Acoustic Privacy

The site analysis plan shows the layout of neighbouring buildings. This assists in demonstrating the potential impacts of the proposed development on existing neighbours. The only neighbouring buildings are to the north of the site on the northern side of Caliope Street.

These houses are designed with their garages and entries to the street, and their private open spaces and living areas to the rear. Therefore, their existing private spaces are not impacted by the proposal. The distance of the neighbouring homes from the proposal's northern boundary will also prevent noise from being an issue.

Views from houses in Seaview Estate Retirement Village on the western side of Old Saddleback Road are not significantly affected by the proposed development because of the topography of the site. As can be seen in the Elevation Drawings (**Appendix C**), Houses 1 to 5 of the proposed development are recessed below the natural crest of the site near the Old Saddleback Road frontage.

The floor level of the 4 dwellings potentially affected in Seaview Estate opposite the site are as follows:

- Lot 2 (on the corner) - floor 116,250
- Lot 4 - floor 117,500
- Lot 5 - floor 118,500 (*This lot does not overlook Oceanview Estate so may be disregarded*)

The above demonstrates that the highest relevant floor level at Seaview Estate - Lot 4 of 117,500 is 2.065m higher than the highest house at Caliope. Add in a person's eye level of say 1.3m and you have a differential of 3.365m in favour of Seaview. The four dwellings in Seaview Estate enjoy expansive lateral ocean views in both a north-east and south-east direction regardless of the minimal impact of the dwellings in the proposed development on the site (refer to Figures 32 and 33 below taken from the SCC report prepared by Coble Stephens Architects). Accordingly the dwellings in Seaview Estate will retain substantial ocean views.



Figure 32 – View to the south-east over the site from Lot 3, Seaview Estate with proposed development superimposed



Figure 33 – View to the north-east over the site from Lot 4 Seaview Estate with proposed development superimposed

Within the development, windows to habitable rooms have been located to the rear and front of the dwellings, ensuring residents have no interference via noise or views to dwellings to their immediate sides.

5.7 Social and Economic Impact

The proposal provides in-demand seniors housing in the form of a serviced self-care development comprising 12 independent dwellings. The development provides well-designed new homes for local seniors in the Kiama community, supported by regular services and with on-demand transport to access the nearby town centre.

The development includes high-quality landscaped and usable community areas set amongst a bushland setting with premier views of surrounding hilltops and the coast. The future community occupying the development will be safe, well-connected, supported by essential services and transport.

The future operations of the development will generate employment opportunities, both on-site or within the local town centre including the following services to support seniors:

- Medical professionals and care nurses
- Bus / coach drivers
- Hairdressers and beauticians
- Landscapers / gardeners
- Trades and construction (during the works phase and ongoing maintenance)

6. Conclusion

This amended SEE has been prepared in respect of the amended proposal demonstrated in the supporting architectural plans prepared by Coble Stephens and other updated technical materials in January 2022. The amended proposal has been re-designed to avoid any detrimental impact to important biodiversity features of the site, namely the location of threatened *Zieria granulata* plants and seedlings which have been re-surveyed by Cumberland Ecology in January 2022. The amended 12 lot / dwelling proposal is substantially reduced in comparison to the proposal granted approval under the SCC and the original 19 lot / dwelling proposal under the original DA but still generally contains the developable portions across the western areas of the site and therefore remains consistent with the SCC.

The proposed new serviced self-care seniors housing development at 2 Caliope Street, Kiama complies with the relevant statutory provisions under SEPP (Housing for Seniors or People with a Disability) 2004, the Kiama LEP 2011 and is underpinned by Site Compatibility Certificate SCC_2019_001_00 issued on 26 June 2020. The assessment provided in Sections 4 and 5 of this SEE has demonstrated the proposal's general compliance with the relevant controls and objectives in the SEPP and Kiama DCP 2011, and the positive social, economic and environmental impacts.

The contemporary designs of new dwellings have had regard to the existing surrounding context of the area and maintain a low-rise, single storey form to preserve important views and vistas to the coast and mountainous landscape. Proposed landscaping will be of low maintenance and contribute private garden environments for the enjoyment of future residents.

The arrangements for a bus service to the site will ensure access to local facilities for residents. Arrangements have also been made for on-site care services for residents, including most importantly health and medical services to be provided by the Terralong Street surgery as needed and on site by South Coast Home Care Services Pty Ltd.

Overall, the proposal is unlikely to adversely impact the environment or surrounding properties by way of bulk, scale, densities, overshadowing, traffic, noise, view loss or privacy. The proposal preserves significant site trees, includes measures for bushfire protection which will not compromise existing native vegetation, management procedures for important on-site biodiversity and measures to control sediment, erosion and water quality.

In light of the merits and the subject absence of any unreasonable environmental effects, the amended proposal is considered worthy of support from the Court and Council.

Appendices

**APP**

Property and Infrastructure Specialists

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61 8 8205 1400
PO Box 128
Rundle Mall
Adelaide SA 5000

Brisbane

61 7 3238 0400
Level 14
145 Eagle Street
Brisbane QLD 4000

Canberra

61 2 9957 6211
Level 9
121 Marcus Clarke Street
Canberra ACT 2600

Melbourne

61 3 8866 0200
Level 7
420 St Kilda Road
Melbourne VIC 3004

Newcastle

61 2 4928 7600
Level 2
426 King Street
Newcastle NSW 2300

Perth

61 8 9224 6300
Level 4
181 Adelaide Terrace
Perth WA 6004

Sydney

61 2 9957 6211
Level 7
116 Miller Street
North Sydney NSW 2060

Wollongong

61 2 4220 6300
Suite 3, Level 1
6-8 Regent Street
Wollongong NSW 2500

APP Corporation Pty Limited ABN 29 003 764 770



SITE ANALYSIS PLAN
1:600

NOTES
ALL DIMENSIONS TO BE CONFIRMED ON-SITE.
ALL TIMBER WORKS TO COMPLY WITH AS 1684
NATIONAL TIMBER FRAMING CODE
ALL BRICKWORK TO COMPLY WITH AS 3700
MASONRY IN BUILDING
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are to be used.
Any discrepancy in the document is to be referred to the
company for clarification before proceeding with any work.

FIGURED DIMENSIONS TO BE USED IN PREFERENCE TO SCALING
ALL DIMENSIONS TO BE CHECKED ON SITE

300mm ON ORIGINAL

AMENDMENTS			
REV	AMENDMENT	DATE	BY
A	Issued for DA	02-02-21	AMS

PROJECT :
**PROPOSED SENIORS
LIVING ESTATE**
at LOT 17 DP 1210621 (Formerly Part
Lot 100 DP 751279), 2 Caliope St
KIAMA NSW

CLIENT : **WERITON
PROPERTIES**
DRAWING :
SITE ANALYSIS PLAN

CSA JOB NO. : 610-12-331	No. IN SET 15 of 16
DATE 02-02-21	SHEET NUMBER DA 15A
DRAWN BY AMS	

Print date 2/02/2021

coble stephens
architects
1 EAST STREET • MOSS VALE • NSW 2577
PO BOX 2072 • BOWRAL • NSW 2576
Ph 02 4869 5395 • Fax 02 4869 5495 • cs.arch@bigpond.net.au
Andrew Coble Architects Registration 6922 Alison Stephens Architects Registration 6678

SCALE
0 1.0 2.0 3.0 4.0 5.0
THESE DRAWINGS HAVE BEEN PREPARED FOR
DEVELOPMENT APPLICATION

PROPOSED RESIDENTIAL SUBDIVISION

LOT 17, DP 1210621
2 CALIOPE STREET, KIAMA

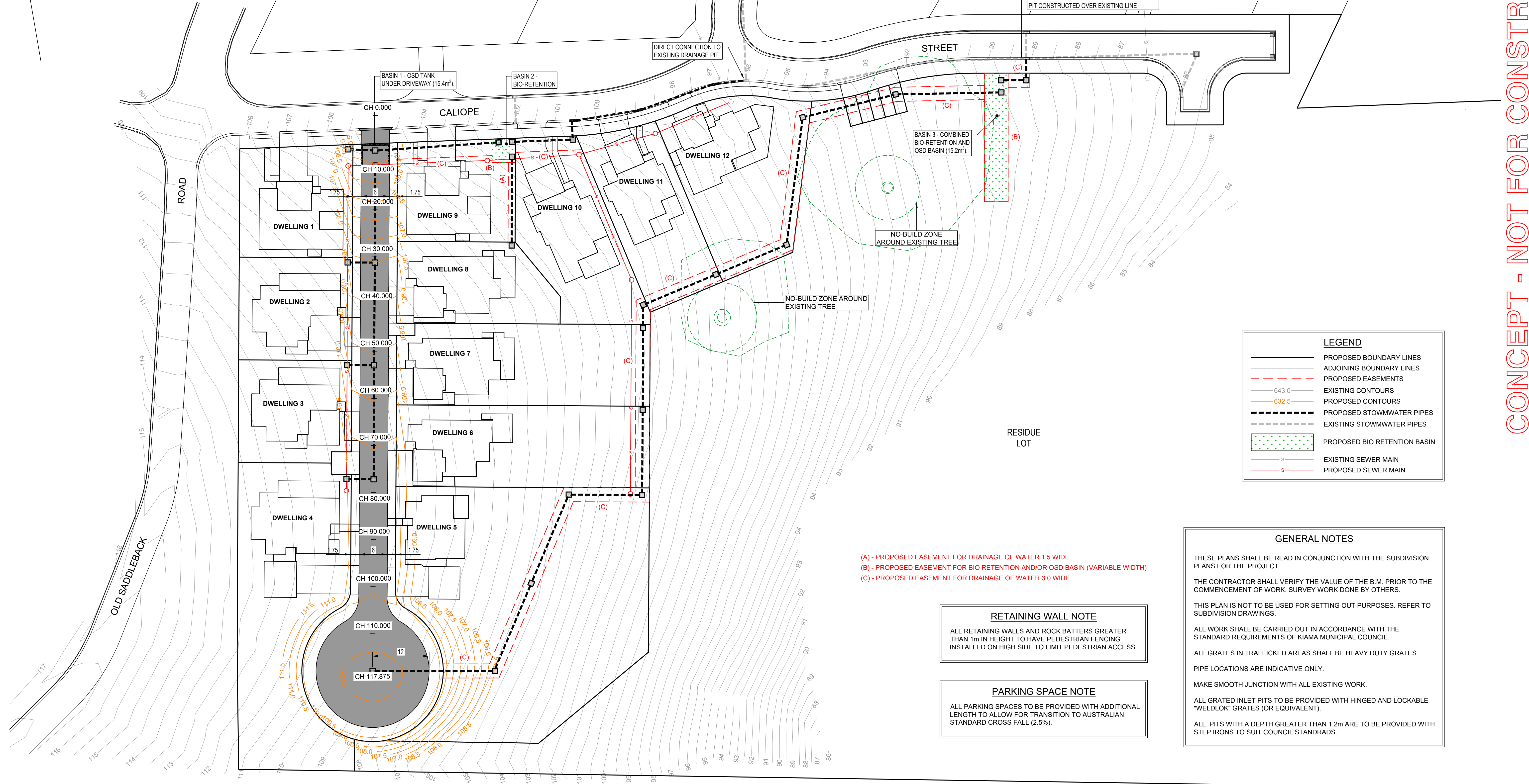
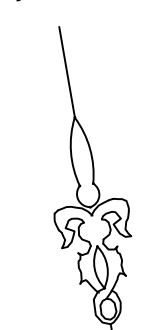
SCHEDULE OF DA DRAWINGS
210067
ISSUE G

DA00. COVER SHEET & DRAWING LIST
DA01. OVERALL DEVELOPMENT LAYOUT PLAN
DA02. PRIVATE ROAD LONG SECTION & TYPICAL SECTIONS
DA03. PRIVATE ROAD CROSS SECTIONS
DA04. WATER QUALITY & CATCHMENT PLAN
DA05. SOIL & WATER MANAGEMENT PLAN

Prepared for:
SADDLEBACK MOUNTAIN
ESTATES No. 2 Pty Ltd



MGA



LEGEND

- PROPOSED BOUNDARY LINES
- ADJOINING BOUNDARY LINES
- PROPOSED EASEMENTS
- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROPOSED STOWMWATER PIPES
- EXISTING STOWMWATER PIPES
- PROPOSED BIO RETENTION BASIN
- EXISTING SEWER MAIN
- PROPOSED SEWER MAIN

- (A) - PROPOSED EASEMENT FOR DRAINAGE OF WATER 1.5 WIDE
(B) - PROPOSED EASEMENT FOR BIO RETENTION AND/OR OSD BASIN (VARIABLE WIDTH)
(C) - PROPOSED EASEMENT FOR DRAINAGE OF WATER 3.0 WIDE

RETAINING WALL NOTE

ALL RETAINING WALLS AND ROCK BATTERS GREATER THAN 1m IN HEIGHT TO HAVE PEDESTRIAN FENCING INSTALLED ON HIGH SIDE TO LIMIT PEDESTRIAN ACCESS

PARKING SPACE NOTE

ALL PARKING SPACES TO BE PROVIDED WITH ADDITIONAL LENGTH TO ALLOW FOR TRANSITION TO AUSTRALIAN STANDARD CROSS FALL (2.5%).

GENERAL NOTES

THESE PLANS SHALL BE READ IN CONJUNCTION WITH THE SUBDIVISION PLANS FOR THE PROJECT.

THE CONTRACTOR SHALL VERIFY THE VALUE OF THE B.M. PRIOR TO THE COMMENCEMENT OF WORK. SURVEY WORK DONE BY OTHERS.

THIS PLAN IS NOT TO BE USED FOR SETTING OUT PURPOSES. REFER TO SUBDIVISION DRAWINGS.

ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE STANDARD REQUIREMENTS OF KIAMA MUNICIPAL COUNCIL.

ALL GRATES IN TRAFFICKED AREAS SHALL BE HEAVY DUTY GRATES.

PIPE LOCATIONS ARE INDICATIVE ONLY.

MAKE SMOOTH JUNCTION WITH ALL EXISTING WORK.

ALL GRATED INLET PITS TO BE PROVIDED WITH HINGED AND LOCKABLE "WELDLOK" GRATES (OR EQUIVALENT).

ALL PITS WITH A DEPTH GREATER THAN 1.2m ARE TO BE PROVIDED WITH STEP IRONS TO SUIT COUNCIL STANDARDS.

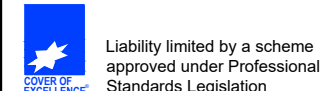
CAUTION

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SCALE 1:400

0 8 16 24 32 40

Metres

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B	UPDATED LAYOUT	AG	12.12.2017
C	LAYOUT ALTERED	AG	01.08.2018
D	LAYOUT ALTERED	AG	29.01.2021
E	REVISED TO SUIT UPDATED LAYOUT	AG	25.01.2022
F	MINOR AMENDMENT	AG	27.01.2022
G	DRIVEWAY ALTERED	AG	01.02.2022

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A1

SHEET

SADDLEBACK MOUNTAIN ESTATES No. 2 Pty Ltd

KIAMA MUNICIPAL COUNCIL

OVERALL DEVELOPMENT LAYOUT PLAN

DATUM AHD CONTOUR INTERVAL 0.5m DATE 11.08.2017

PROPOSED SUBDIVISION OF LOT 17, DP 1210621 2 CALIOPE STREET, KIAMA

DESIGNED: AG

DRAWN: MR

CHECKED: DH

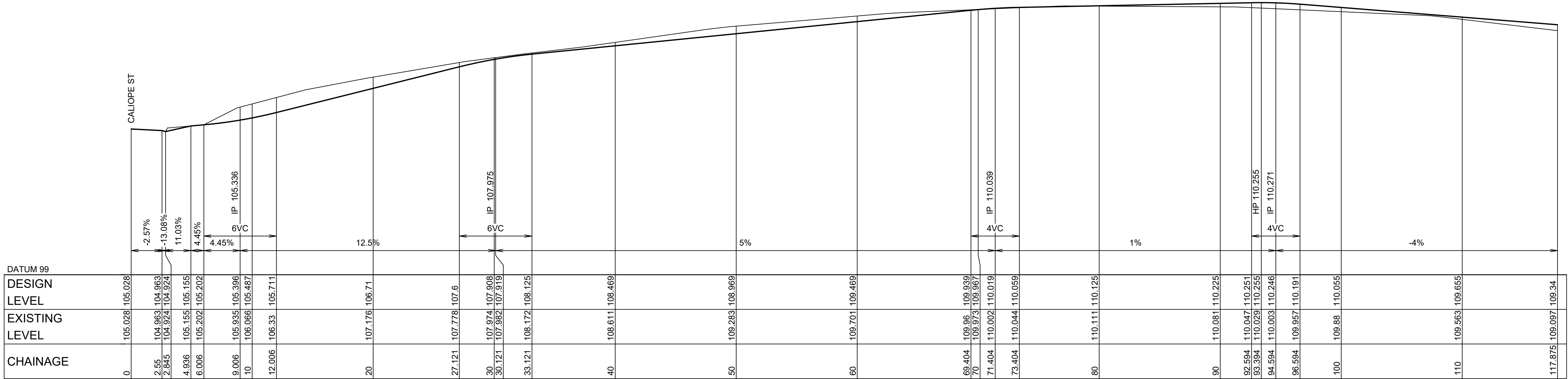
DRAWING No.

210067 DA01

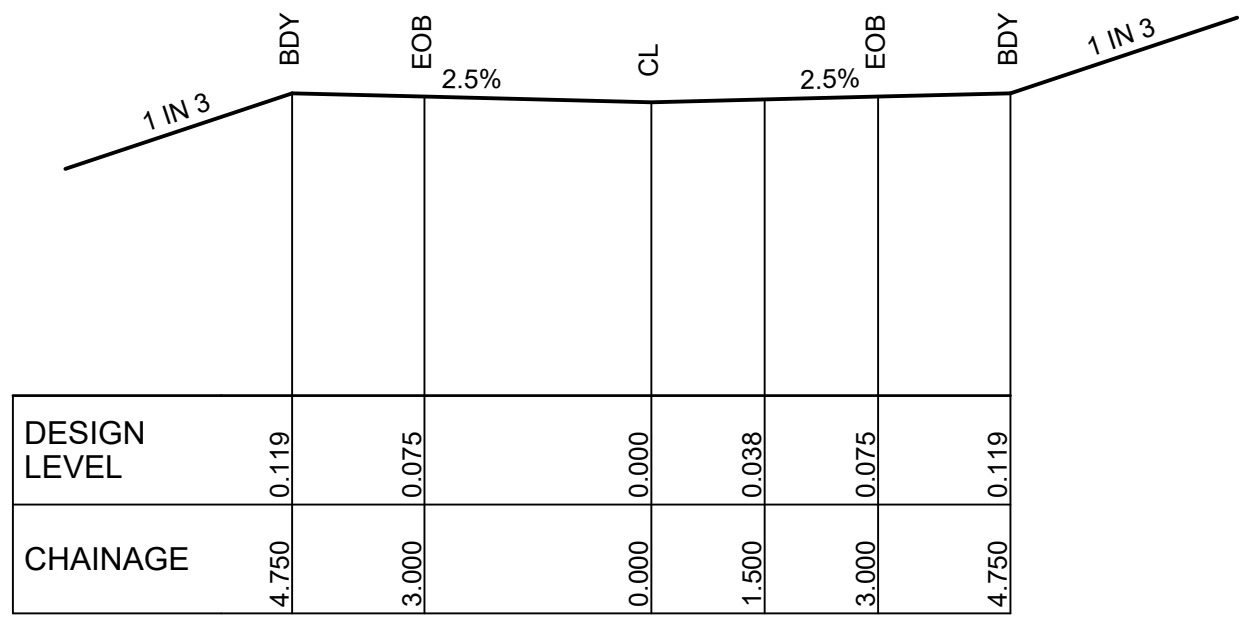
SHEET 1 OF 5 SHEET(S)

ISSUE **G**

FILE NAME: 210067-DA00-DA05-G.dwg



PRIVATE ROAD LONG SECTION
1:400 HOR
1:200 VERT



TYPICAL CROSS SECTION
CH 0 - 117.875

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G	DRIVEWAY ALTERED	AG	01.02.2022

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Integrated Management System

A1
SHEET

SADDLEBACK MOUNTAIN
ESTATES No. 2 Pty Ltd

KIAMA MUNICIPAL COUNCIL

PROPOSED SUBDIVISION OF
LOT 17, DP 1210621
2 CALIOPE STREET, KIAMA

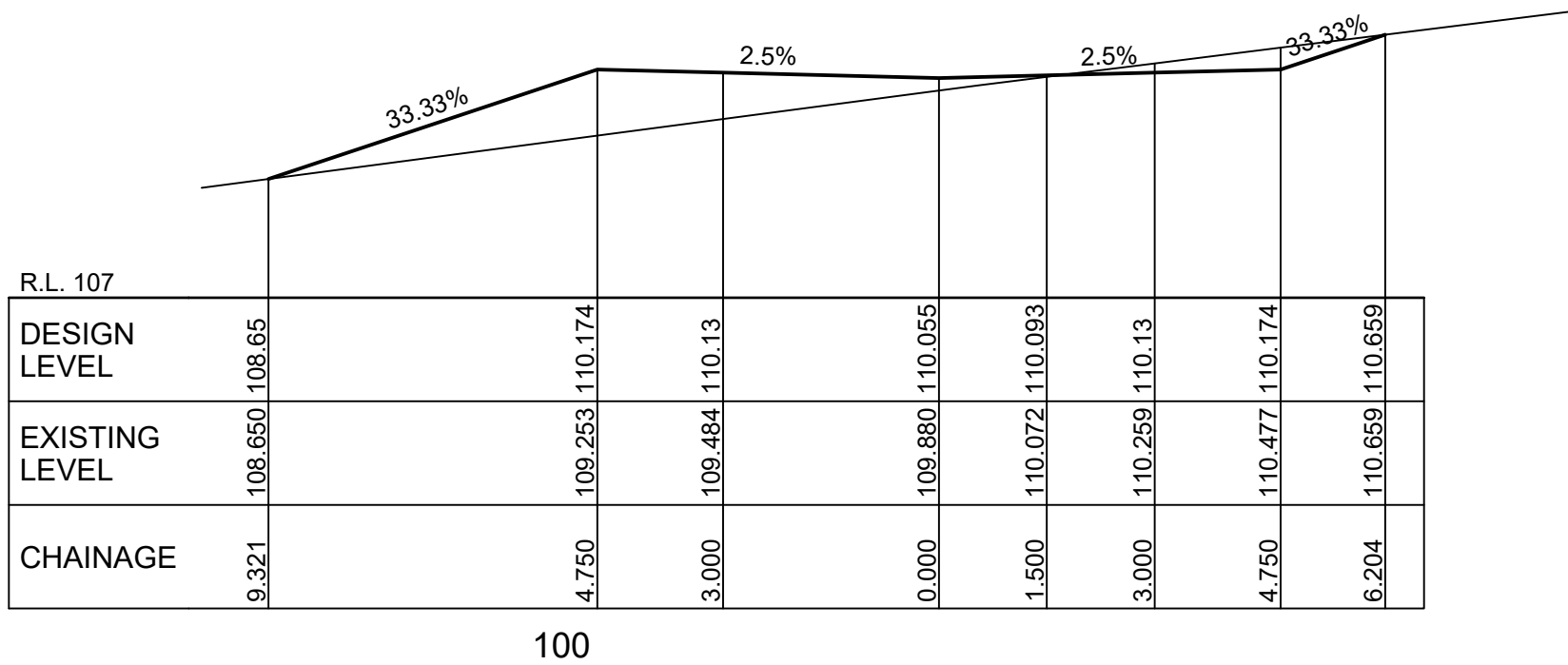
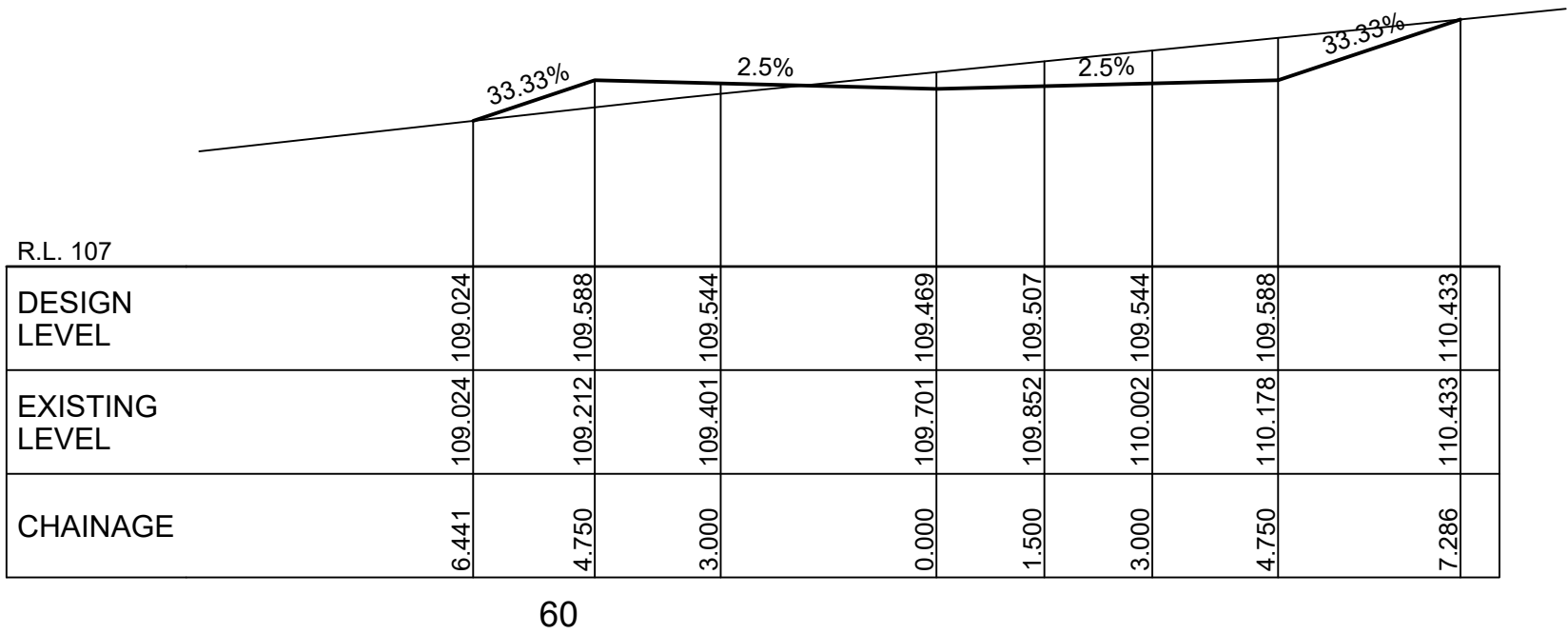
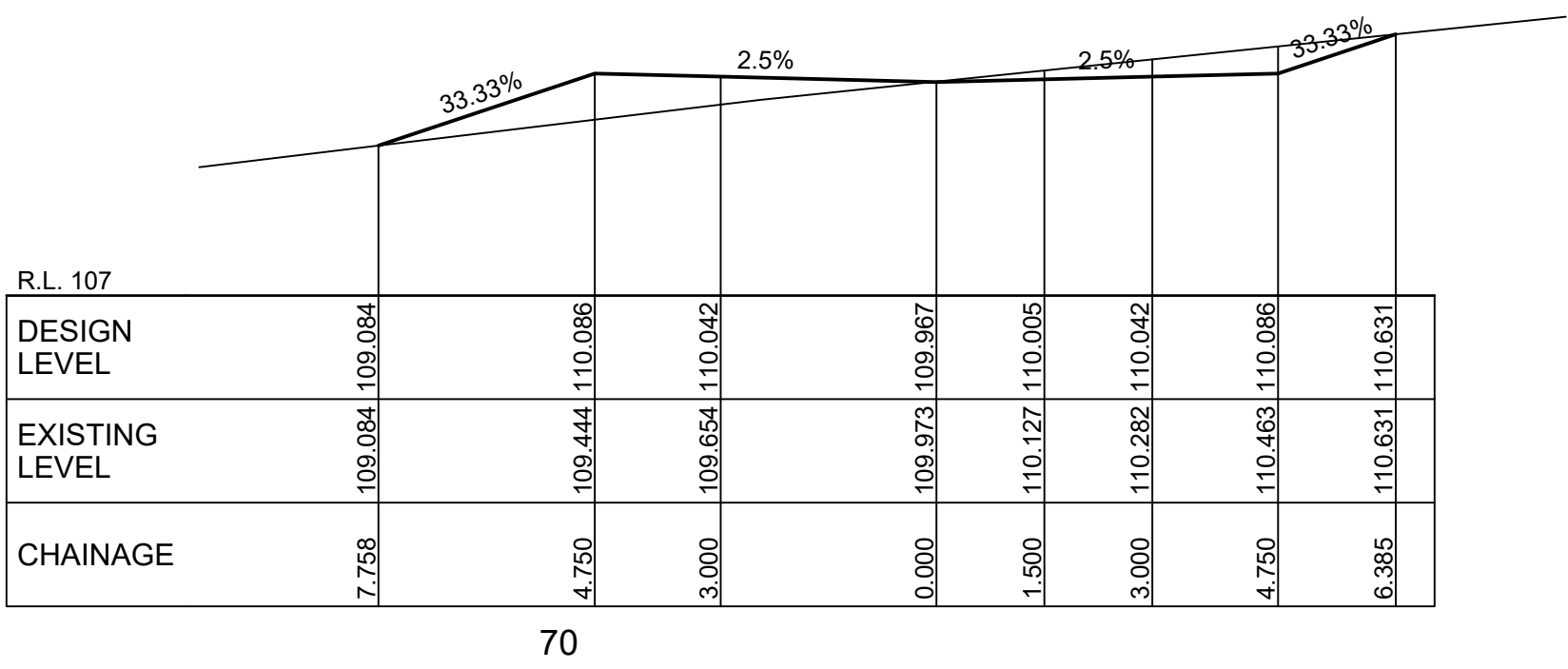
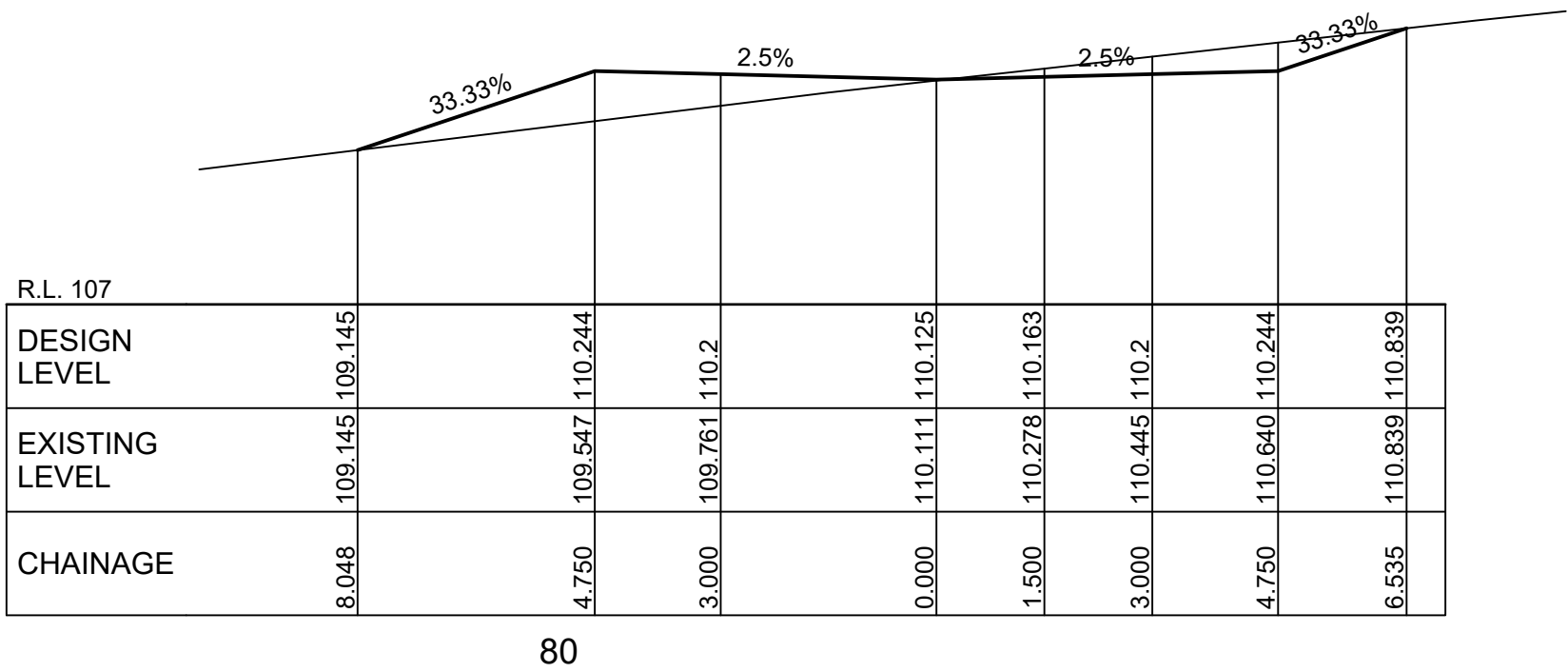
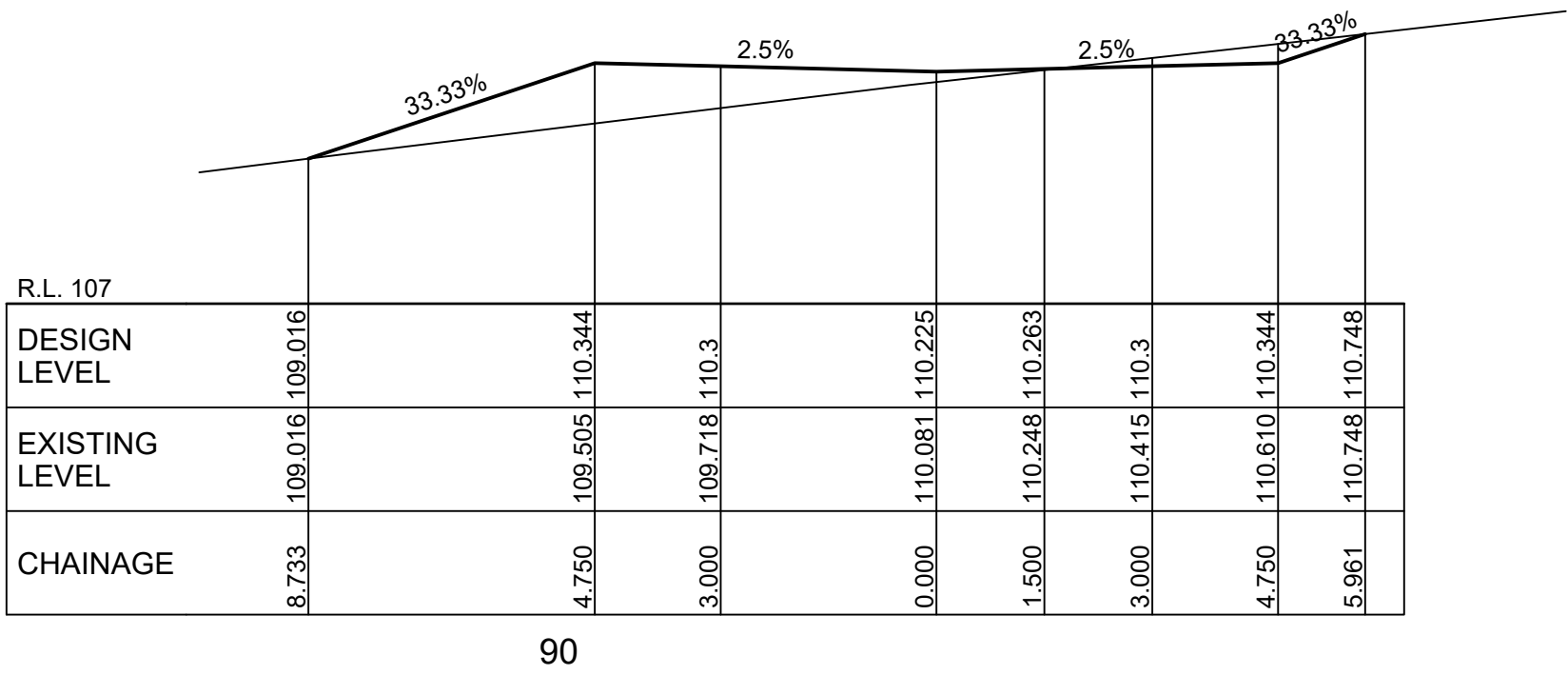
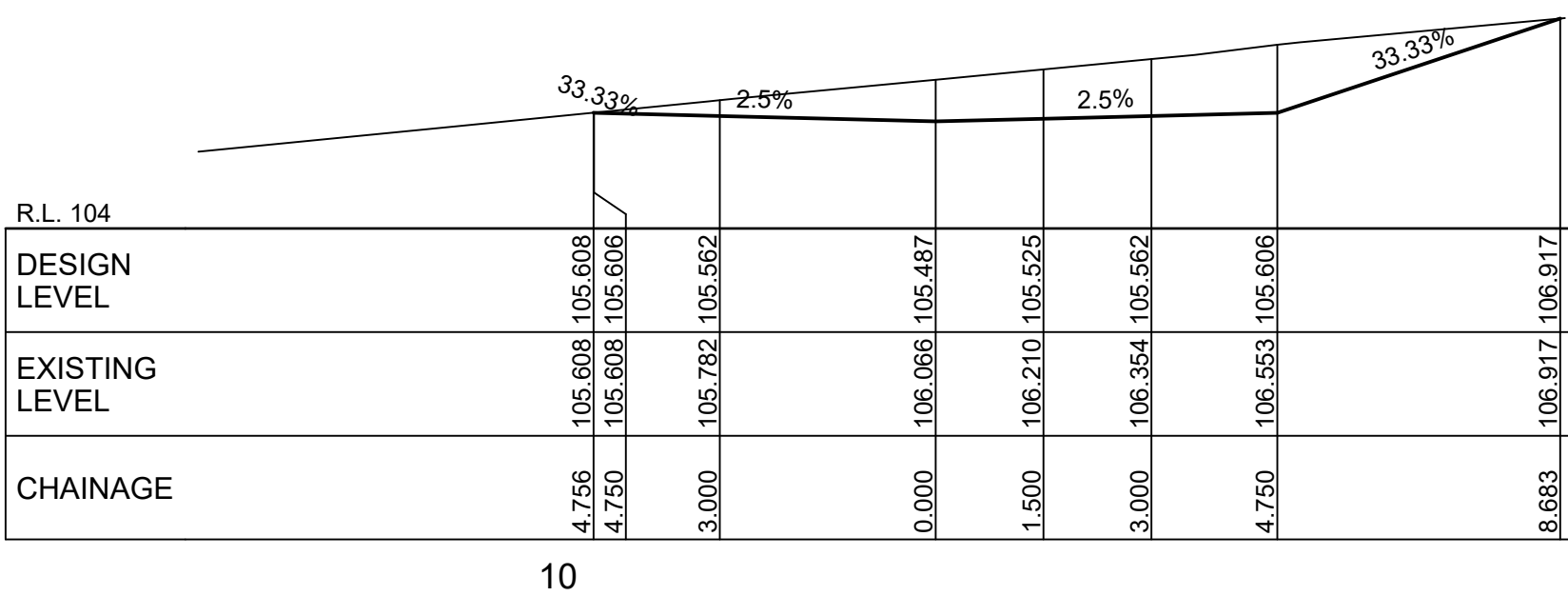
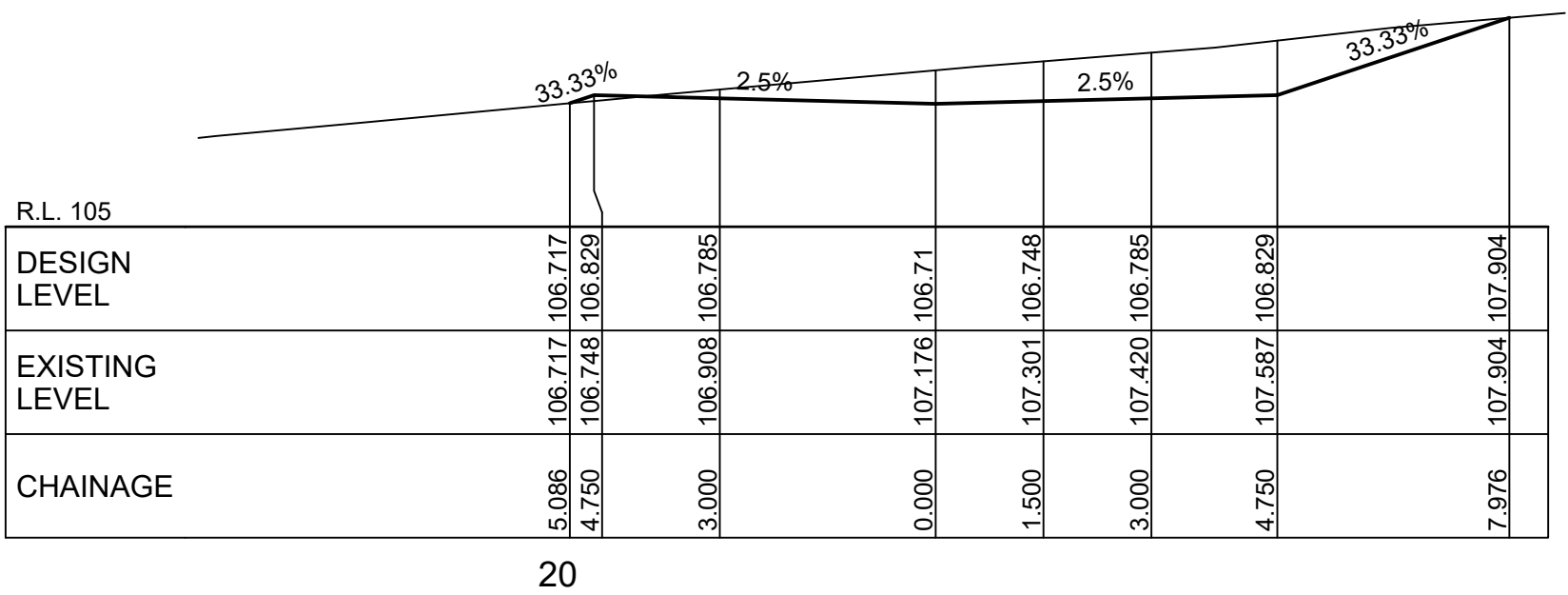
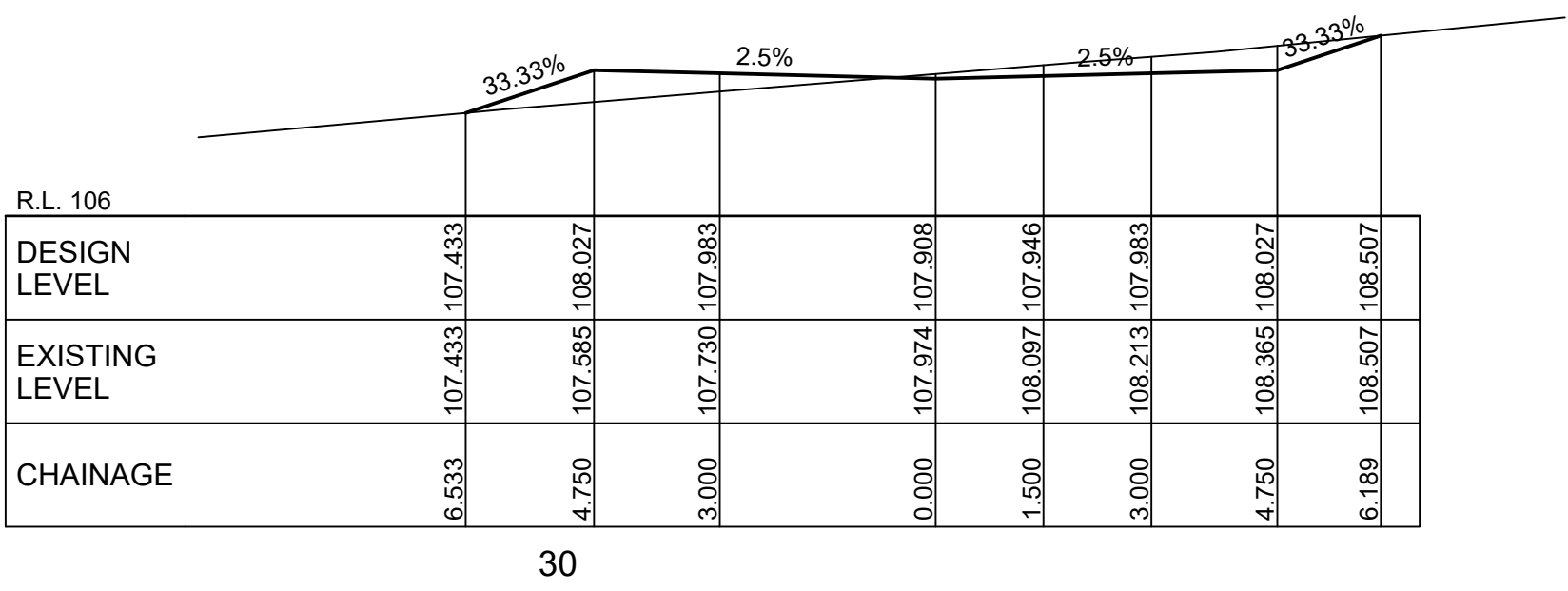
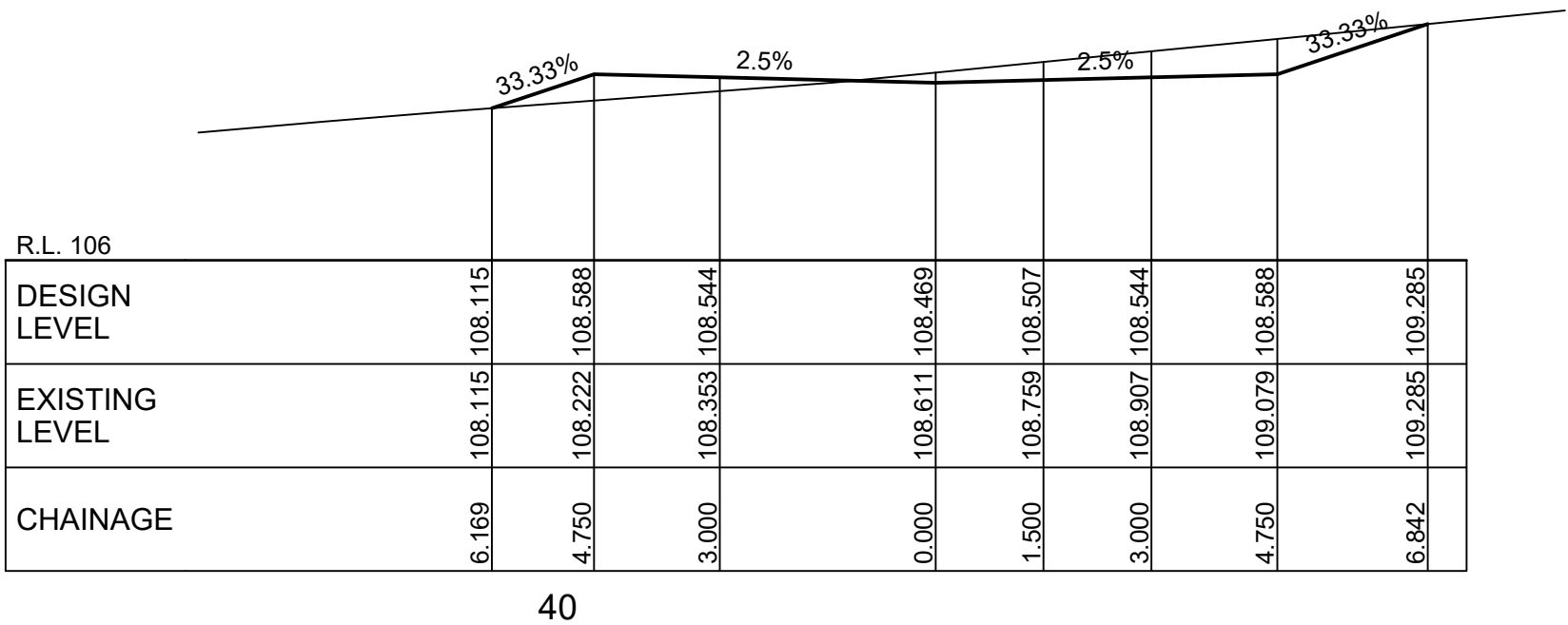
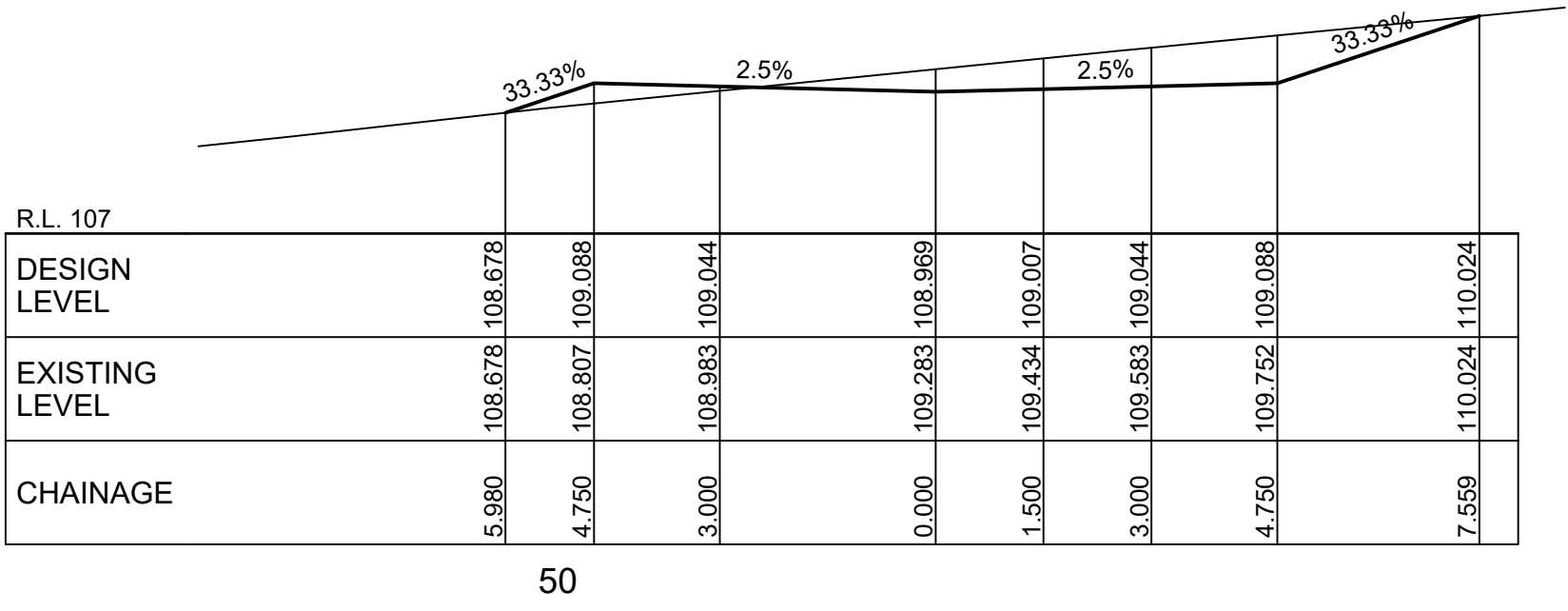
DESIGNED: AG
DRAWN: MR
CHECKED: DH
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ISSUE
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PRIVATE ROAD LONG SECTION
& TYPICAL SECTIONS

DATUM AHD CONTOUR INTERVAL - DATE 11.08.2017

210067 DA02
SHEET 2 OF 5 SHEET(S)



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1100

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E	REVISED TO SUIT UPDATED LAYOUT	AG	25.01.2022
F	MINOR AMENDMENT	AG	27.01.2022
G	DRIVEWAY ALTERED	AG	01.02.2022

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A1

SHEET

SADDLEBACK MOUNTAIN ESTATES No. 2 Pty Ltd

KIAMA MUNICIPAL COUNCIL

PRIVATE ROAD CROSS SECTIONS

PROPOSED SUBDIVISION OF LOT 17, DP 1210621 2 CALIOPE STREET, KIAMA

DESIGNED: AG
DRAWN: MR
CHECKED: DH
DRAWING No. 210067 DA03
SHEET 3 OF 5 SHEET(S)

ISSUE G

DATUM

AHD

CONTOUR INTERVAL

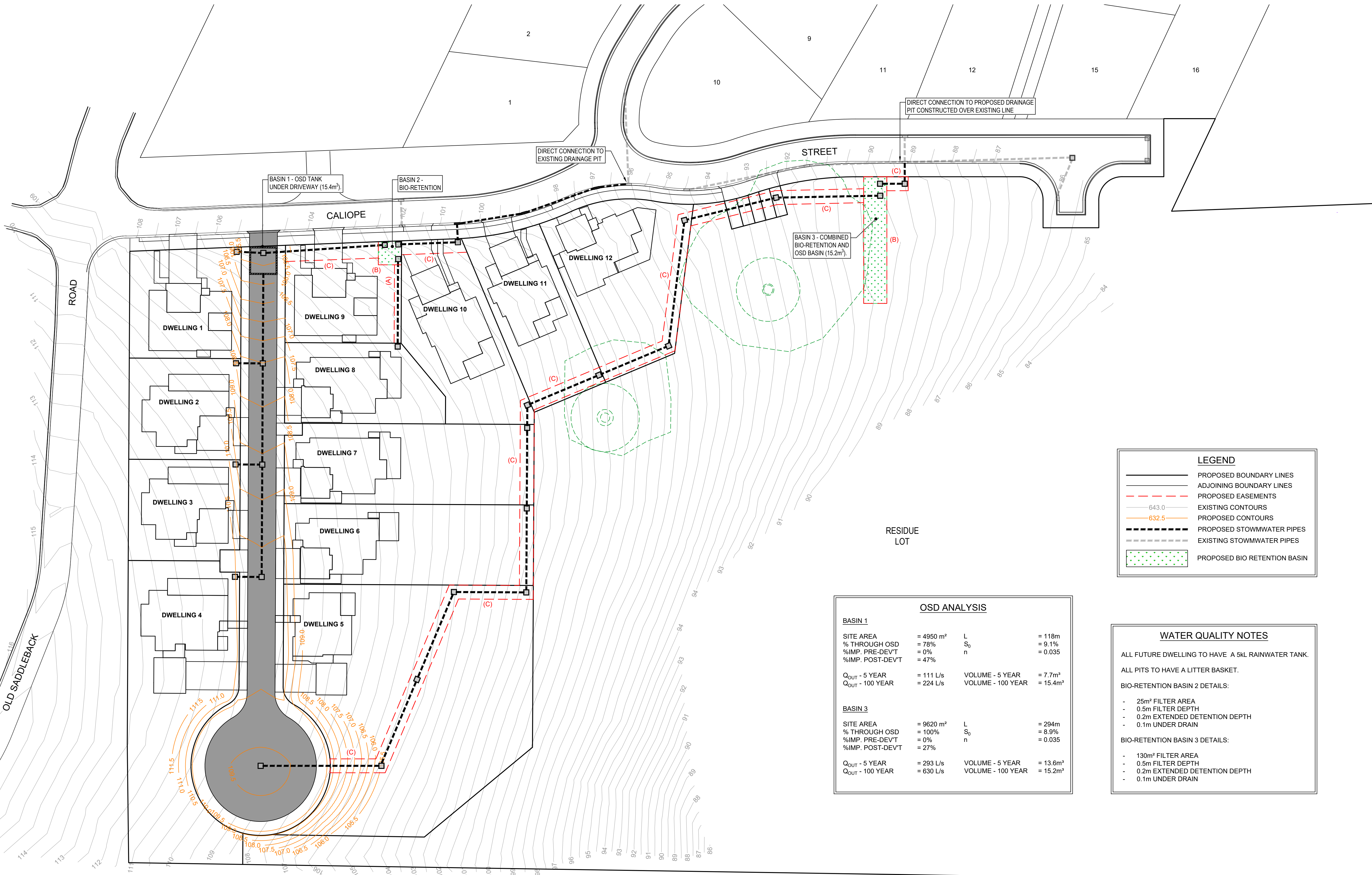
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DATE

11.08.2017

FILE NAME: 210067-DA00-DA05-G.dwg

MGA



LEGEND	
	PROPOSED BOUNDARY LINES
	ADJOINING BOUNDARY LINES
	PROPOSED EASEMENTS
	EXISTING CONTOURS
	PROPOSED CONTOURS
	PROPOSED STORMWATER PIPES
	EXISTING STORMWATER PIPES
	PROPOSED BIO RETENTION BASIN

OSD ANALYSIS			
BASIN 1			
SITE AREA	= 4950 m ²	L	= 118m
% THROUGH OSD	= 78%	S ₀	= 9.1%
%IMP. PRE-DEVT	= 0%	n	= 0.035
%IMP. POST-DEVT	= 47%		
Q _{OUT} - 5 YEAR	= 111 L/s	VOLUME - 5 YEAR	= 7.7m ³
Q _{OUT} - 100 YEAR	= 224 L/s	VOLUME - 100 YEAR	= 15.4m ³
BASIN 3			
SITE AREA	= 9620 m ²	L	= 294m
% THROUGH OSD	= 100%	S ₀	= 8.9%
%IMP. PRE-DEVT	= 0%	n	= 0.035
%IMP. POST-DEVT	= 27%		
Q _{OUT} - 5 YEAR	= 293 L/s	VOLUME - 5 YEAR	= 13.6m ³
Q _{OUT} - 100 YEAR	= 630 L/s	VOLUME - 100 YEAR	= 15.2m ³

WATER QUALITY NOTES	
ALL FUTURE DWELLING TO HAVE A 5KL RAINWATER TANK.	
ALL PITS TO HAVE A LITTER BASKET.	
BIO-RETENTION BASIN 2 DETAILS:	
- 25m ² FILTER AREA	
- 0.5m FILTER DEPTH	
- 0.2m EXTENDED DETENTION DEPTH	
- 0.1m UNDER DRAIN	
BIO-RETENTION BASIN 3 DETAILS:	
- 130m ² FILTER AREA	
- 0.5m FILTER DEPTH	
- 0.2m EXTENDED DETENTION DEPTH	
- 0.1m UNDER DRAIN	

(A) - PROPOSED EASEMENT FOR DRAINAGE OF WATER 1.5 WIDE
(B) - PROPOSED EASEMENT FOR BIO RETENTION AND/OR OSD BASIN (VARIABLE WIDTH)
(C) - PROPOSED EASEMENT FOR DRAINAGE OF WATER 3.0 WIDE

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LandTeam

A1 SHEET

SADDLEBACK MOUNTAIN ESTATES No. 2 Pty Ltd

KIAMA MUNICIPAL COUNCIL

WATER QUALITY & CATCHMENT PLAN

DATUM AHD CONTOUR INTERVAL 0.5m DATE 11.08.2017

PROPOSED SUBDIVISION OF LOT 17, DP 1210621 2 CALIOPE STREET, KIAMA

DESIGNED: AG

DRAWN: MR

CHECKED: DH

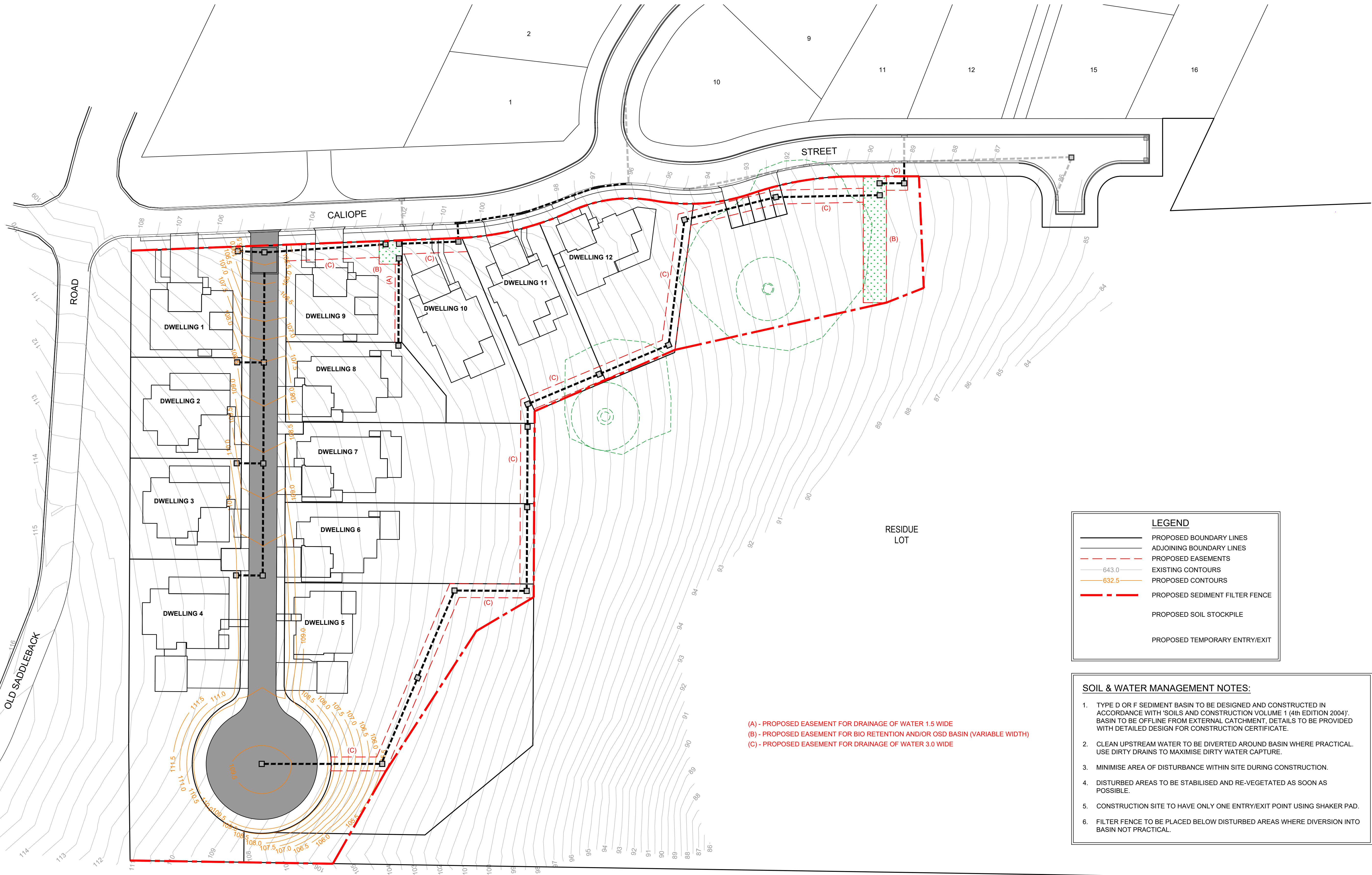
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SHEET 4 OF 5 SHEET(S)

ISSUE

G

MGA



LEGEND

PROPOSED BOUNDARY LINES

ADJOINING BOUNDARY LINES

PROPOSED EASEMENTS

643.0 EXISTING CONTOURS

632.5 PROPOSED CONTOURS

PROPOSED SEDIMENT FILTER FENCE

PROPOSED SOIL STOCKPILE

PROPOSED TEMPORARY ENTRY/EXIT

SOIL & WATER MANAGEMENT NOTES:

1.

TYPE D OR F SEDIMENT BASIN TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH 'SOILS AND CONSTRUCTION VOLUME 1 (4th EDITION 2004)'. BASIN TO BE OFFLINE FROM EXTERNAL CATCHMENT, DETAILS TO BE PROVIDED WITH DETAILED DESIGN FOR CONSTRUCTION CERTIFICATE.

2.

CLEAN UPSTREAM WATER TO BE DIVERTED AROUND BASIN WHERE PRACTICAL. USE DIRTY DRAINS TO MAXIMISE DIRTY WATER CAPTURE.

3.

MINIMISE AREA OF DISTURBANCE WITHIN SITE DURING CONSTRUCTION.

4.

DISTURBED AREAS TO BE STABILISED AND RE-VEGETATED AS SOON AS POSSIBLE.

5.

CONSTRUCTION SITE TO HAVE ONLY ONE ENTRY/EXIT POINT USING SHAKER PAD.

6.

FILTER FENCE TO BE PLACED BELOW DISTURBED AREAS WHERE DIVERSION INTO BASIN NOT PRACTICAL.

(A) - PROPOSED EASEMENT FOR DRAINAGE OF WATER 1.5 WIDE
(B) - PROPOSED EASEMENT FOR BIO RETENTION AND/OR OSD BASIN (VARIABLE WIDTH)
(C) - PROPOSED EASEMENT FOR DRAINAGE OF WATER 3.0 WIDE

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A1 SHEET

SADDLEBACK MOUNTAIN ESTATES No. 2 Pty Ltd

KIAMA MUNICIPAL COUNCIL

SOIL & WATER MANAGEMENT PLAN

DATUM AHD CONTOUR INTERVAL 0.5m DATE 11.08.2017

PROPOSED SUBDIVISION OF LOT 17, DP 1210621 2 CALIOPE STREET, KIAMA

DESIGNED: AG
DRAWN: MR
CHECKED: DH
DRAWING No.

210067 DA05

SHEET 5 OF 5 SHEET(S)

ISSUE G

FILE NAME: 210067-DA00-DA05-G.dwg

MUSIC MODEL ASSESSMENT

Proposed 12 Unit Seniors Living Development

LOT 17 DP 1210621
2 Caliope Street,
Kiama

Date: January 2022

Our Reference: 210067

Prepared on Behalf of: Saddleback Mountain Estates No. 2 Pty Ltd



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Document Control

Revision No.	Date	Description	Prepared By:	Reviewed by:
A	06/12/2017	Initial issue	T Murphy	D Harrison
B	01/08/2018	Council Comment	T Murphy	D Harrison
C	29/1/2021	Layout Update	T Murphy	D Harrison
D	25/01/2022	Layout Update	T Murphy	D Harrison
E	01/02/2022	Updated catchments	T Murphy	D Harrison

This MUSIC Model Assessment Report provides a fair and true assessment of the proposed development on the site and its likely effects on water quality.

Parameters used for the input to MUSIC were determined for the site adopting the values outlined in Sydney Metropolitan Catchment Management Authority - *Draft New South Wales MUSIC Modelling Guidelines*.

This Report includes information on the proposed development and the catchment, an assessment of the potential impacts of the development and the proposed water quality controls that can be practically implemented on the site to ensure the development achieves a neutral or beneficial effect on water quality. The report is accompanied by modelling to validate the recommended treatment measures for the development.

This assessment relates only to the development and the site as described in the report. The recommendations are based on an honest appraisal of the opportunities and constraints that existed at the site at the time of investigation. Interpretations of the modelling and assessment information should not be made including changes in the scope of the development or application to other projects.

Within the confines of the above statements and to the best of my knowledge, this report does not contain any incomplete or misleading information.

Tim Murphy
BE Civil MIE Aust
February 2022

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Tables and Figures

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Table 2 – Site Development Summary

Table 3 – MUSIC Model Results

Figure 1 – MUSIC Model Post Development

1 Assessment Summary and Recommendations

This report and accompanying development application has been prepared on behalf of Saddleback Mountain Estates No. 2 Pty Ltd in relation to the proposed subdivision development of the property located off Old Saddleback Road, Kiama. The land is identified as Lot 17, DP1210621.

Parameters used for the input to MUSIC were determined for the site adopting the values outlined in Sydney Metropolitan Catchment Management Authority - *Draft New South Wales MUSIC Modelling Guidelines*.

This assessment report contains:

- (a) a detailed description of the site and catchment area,
- (b) a description of the proposed development,
- (c) an investigation into how the proposed development will affect the site
- (d) recommended treatment measures to offset the potential impacts and address any major existing issues, and
- (e) modelling to validate the proposed treatment measures

The results of the assessment and modelling conceptually indicate that Kiama Municipal Council water quality objectives can be achieved for the proposed development if the following recommended treatment measures are implemented as part of the development:

1. Rainwater tanks for future dwellings of 5KL
2. Bioretention with extended detention at end of drainage lines for each catchment,
Catchment 1 25m² filter area.
Catchment 2 130m² filter area.
3. GPT baskets in all pits within private road.

2 Site and Development Summary

2.1 Site Description

The site is located on the eastern side of Old Saddleback Road, Kiama and has a total area of approximately 5.5Ha. The site contains cleared land and areas of remnant vegetation.

The site slope averages between 5 - 30% consists of a single catchment. The land is predominantly cleared grassland and areas of trees. The soil profile is shown on soil mapping is 'Kiama' which is characterized by clay loam.

Under *Kiama Municipal Council Local Environment Plan 2011* the subdivision area is located within the RU2 Rural Landscape Zone. The property owners seek to create a total of 12 dwellings within the development. The objective is to construct the appropriate water quality treatments to accommodate for the proposed development.

2.2 Proposed Development

The site characteristics for this 12 lot development are summarized below in Table 1.

A site plan of the proposed development is provided in Section 6 of this report.

Table 1 – Site Characteristics

Site Location	Kiama
Rainfall and PET Zone	Port Kembla
Total Site Area	5.5 Ha
Developed Catchment Area	1.46 Ha
Pre-development site gradient	5-30%
Soil Profile	Mapping identifies the soil profile as clay loam. Soil Landscape 'Kiama'.
Existing Watercourse	Yes but away from developed area
Overland flow draining onto site	No
Soils suitable for infiltration	Yes low potential

2.3 Catchment Details

The catchment area for the purpose of the MUSIC assessment is the 1.46ha of the site as developable area. The remaining 4.04ha is unchanged.

Catchment areas have been defined primarily considering the drainage flow paths, locations of proposed treatment measures and surface type distribution. These sub-catchments were further divided or grouped based on the surface types and treatment measures proposed. Overland flow-paths will convey all run off from the site and the upstream catchment area. Hence all nodes have been directed to a single Post Development end node.

Table 2 – Site Development Summary

Land use / Surface type	Total Area (ha)
Developed Site	
Building roofs	0.36
private road	0.13
95% Pervious area	0.97
Total	1.46

2.4 Source Nodes and Associated Parameters for Post Development Case

Parameters used for the input to MUSIC were determined for the site adopting the values outlined in Sydney Metropolitan Catchment Management Authority - *Draft New South Wales MUSIC Modelling Guidelines*.

For the post-development model it was assumed that the roof areas have 100% Effective Impervious Area (EIA). The remaining areas of the site were calculated as a percentage of impervious/pervious with the sealed driveways calculated as 100% impervious and the remaining areas to be assumed completely pervious. Nodes were determined by common treatments and flow paths.

Rainfall-runoff parameters for the impervious surfaces (rainfall threshold) were determined for each surface from 3-6 of the *Draft New South Wales MUSIC Modelling Guidelines*. Pervious surface parameters were determined based on clay loam adopting an average depth of 0.5m.

The stormwater pollutant concentration parameters were adopted from Table 3-9 and Table 3-10 of the *Draft New South Wales MUSIC Modelling Guidelines*.

2.5 Proposed Treatment Measures for Post Development Cases

A conceptual plan of the proposed layout of treatment measures is shown in section 6.

2.5.1 Rainwater Tanks

Rainwater tanks are proposed for each new dwelling. The appropriate size of the tanks for the development site would typically be confirmed through discussions with the local authority. For the lot size and development type a rainwater tank size of 5kL was considered appropriate for each building.

In addition, the following assumptions were adopted:

- An impervious area of 100% was adopted for roofs. The rainfall threshold was adopted in accordance with Table 3-6 (NSW MUSIC Modelling Guidelines)
- The building roof area is on average 300m² for all new lots, and it was assumed that the roof drainage can be configured to direct all roof runoff to a tank for new lots.
- The estimated demand is in accordance with Table 3-12 (NSW MUSIC Modelling Guidelines) for a 4 bedroom urban dwelling (toilet, laundry, hotwater, & external reuse)

2.5.2 Bioretention Basin 1

Bioretention Basin is proposed at the end of the drainage reticulation. This will be located to the north of the development adjacent to dwelling 9.

The basin will have the following properties:

- Modelled surface area 25m²
- Filter surface area 25m²
- Extended detention depth 0.2m
- Filter Media depth 0.5m

2.5.3 Bioretention Basin 2

Bioretention Basin is proposed at the end of the drainage reticulation. This will be located to the north east of the development adjacent to dwelling 12.

The basin will have the following properties:

- Modelled surface area 130m²
- Filter surface area 130m²
- Extended detention depth 0.2m
- Filter Media depth 0.5m

It is intended that the basin would be constructed at the conclusion of the construction of the building and hardstand areas as applicable. Bioretention basins are to be constructed in accordance with the Adoption Guidelines for Stormwater Bio-filtration Systems published by the Facility for Advancing Water Bio- Filtration (FAWB) June 2009.

2.5.4 GPT Pit Inserts

All proposed grated pits within the development will contain a gross pollutant trap insert to treat all water draining to directly into pits.

The gpt input and output properties are modelled as per the below table.

GPT default treatment node inputs		
	Inlet properties	
Low flow by-pass	0	
High flow by pass	50% of peak 1-year ARI	
	Input (mg/L)	Outlet(mg/L)
TSS	0	0
	75	75
	1000	350
TP	0.00	0.00
	0.50	0.50
	1.00	0.85
TN	0.0	0.0
	0.5	0.5
	5.0	4.3
Gross pollutants	0	0
	15	1.5

3.3 Results

The model results for the pollutant loads are presented in Table 3 below.

Table 3: Results

Treatment train effectiveness				
Pollutant	Source Load	Residual Load	% Reduction	Achieves Target?
Total Suspended Solids (kg/yr)	1410	228	83.9	yes
Total Phosphorus (kg/yr)	2.85	1.15	59.6	yes
Total Nitrogen (kg/yr)	23.1	11.3	51.2	yes
Gross Pollutants (kg/yr)	159	0	100	yes

4 Conclusion

The MUSIC model results conceptually show the pollutant reduction targets described in section 1 would be achieved for the proposed post development scenario given the treatment measures described in sections 2.5.1, 2.5.2 and 2.5.3. The modelled post development TSS, TP, TN and gross pollutant loads were reduced by a minimum of 80%, 45%, & 45% respectively.

5 References

Facility for Advancing Water Bio-Filtration, 2009, *Adoption Guidelines for Stormwater Bio-Filtration Systems*

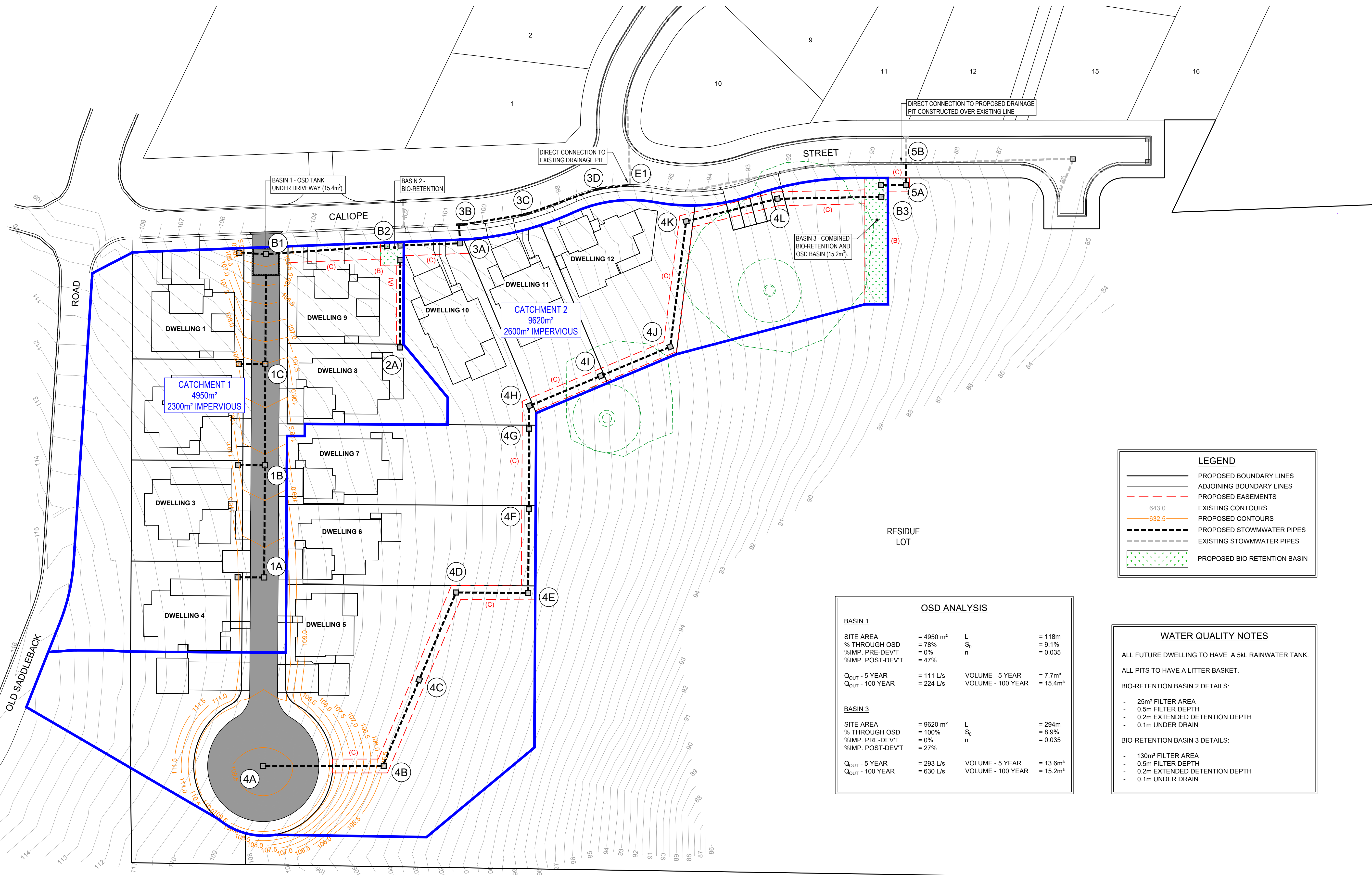
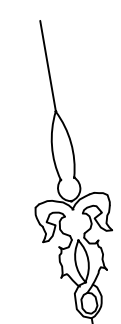
Landcom (2004). *Managing Urban Stormwater: Soils and Construction*. 4th Edition. NSW Government.

Sydney Metropolitan Catchment Management Authority - *Draft New South Wales MUSIC Modelling Guidelines*.

6 Supporting Plans and Information

Refer to LandTeam drawings:

Reference	Document	Prepared by	Date
DWG NUMBER 210067-DA04	WATER QUALITY & CATCHMENT PLAN	LandTeam Australia	01.02.2022 Issue G



LEGEND

	PROPOSED BOUNDARY LINES
	ADJOINING BOUNDARY LINES
	PROPOSED EASEMENTS
	EXISTING CONTOURS
	PROPOSED CONTOURS
	PROPOSED STORMWATER PIPES
	EXISTING STORMWATER PIPES
	PROPOSED BIO RETENTION BASIN

OSD ANALYSIS

BASIN 1

SITE AREA	= 4950 m ²	L	= 118m
% THROUGH OSD	= 78%	S ₀	= 9.1%
%IMP. PRE-DEVT	= 0%	n	= 0.035
%IMP. POST-DEVT	= 47%		
Q _{OUT} - 5 YEAR	= 111 L/s	VOLUME - 5 YEAR	= 7.7m ³
Q _{OUT} - 100 YEAR	= 224 L/s	VOLUME - 100 YEAR	= 15.4m ³

BASIN 3

SITE AREA	= 9620 m ²	L	= 294m
% THROUGH OSD	= 100%	S ₀	= 8.9%
%IMP. PRE-DEVT	= 0%	n	= 0.035
%IMP. POST-DEVT	= 27%		
Q _{OUT} - 5 YEAR	= 293 L/s	VOLUME - 5 YEAR	= 13.6m ³
Q _{OUT} - 100 YEAR	= 630 L/s	VOLUME - 100 YEAR	= 15.2m ³

WATER QUALITY NOTES

ALL FUTURE DWELLING TO HAVE A 5KL RAINWATER TANK.

ALL PITS TO HAVE A LITTER BASKET.

BIO-RETENTION BASIN 2 DETAILS:

- 25m² FILTER AREA
- 0.5m FILTER DEPTH
- 0.2m EXTENDED DETENTION DEPTH
- 0.1m UNDER DRAIN

BIO-RETENTION BASIN 3 DETAILS:

- 130m² FILTER AREA
- 0.5m FILTER DEPTH
- 0.2m EXTENDED DETENTION DEPTH
- 0.1m UNDER DRAIN

(A) - PROPOSED EASEMENT FOR DRAINAGE OF WATER 1.5 WIDE
(B) - PROPOSED EASEMENT FOR BIO RETENTION AND/OR OSD BASIN (VARIABLE WIDTH)
(C) - PROPOSED EASEMENT FOR DRAINAGE OF WATER 3.0 WIDE

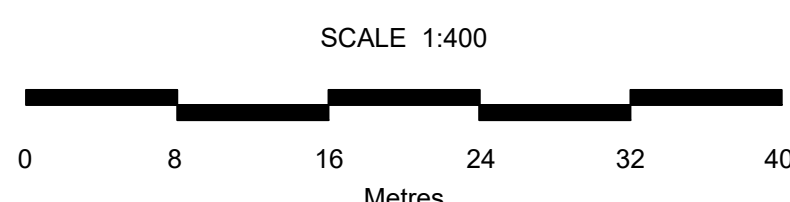
CAUTION



WE HAVE CARRIED OUT OUR NORMAL UNDERGROUND SERVICES SEARCH PRIOR TO DESIGN. HOWEVER BEFORE ANY CONSTRUCTION WORKS COMMENCE YOU NEED TO ENSURE THERE ARE NO EXISTING UNDERGROUND SERVICES - DIAL 1100 BEFORE YOU DIG



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ISSUE	AMENDMENT	DRAWN	DATE
A	INITIAL ISSUE	MR	11.08.2017
B	UPDATED LAYOUT	AG	12.12.2017
C	CATCHMENTS UPDATED	AG	01.08.2018
D	LAYOUT ALTERED	AG	29.01.2021
E	REVISED TO SUIT UPDATED LAYOUT	AG	25.01.2022
F	MINOR AMENDMENT	AG	27.01.2022
G	DRIVEWAY ALTERED	AG	01.02.2022

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LandTeam

A1
SHEET

SADDLEBACK MOUNTAIN
ESTATES No. 2 Pty Ltd

KIAMA MUNICIPAL COUNCIL

WATER QUALITY &
CATCHMENT PLAN

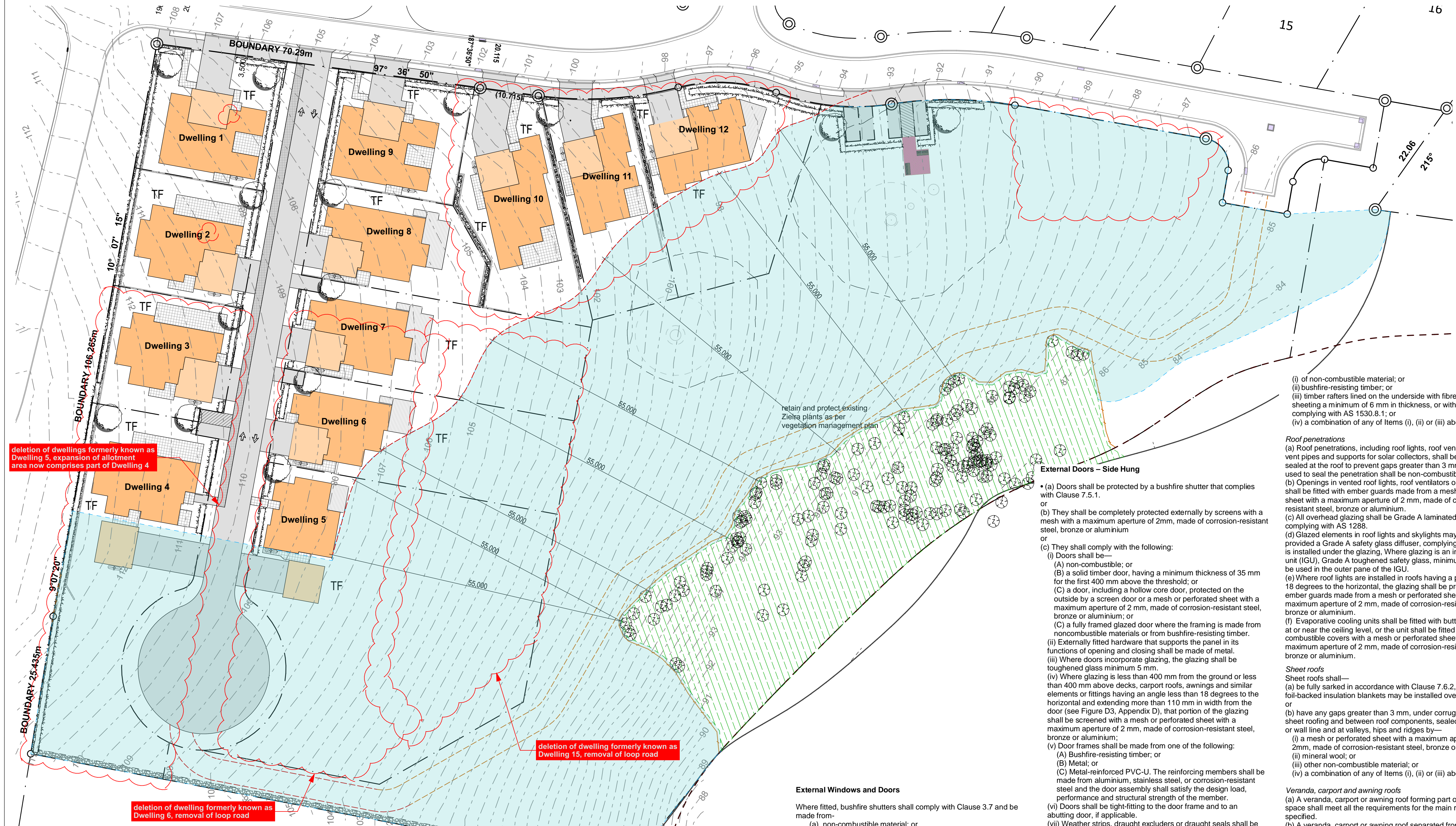
DATUM	AHD	CONTOUR INTERVAL	0.5m	DATE	11.08.2017
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PROPOSED SUBDIVISION OF
LOT 17, DP 1210621
2 CALIOPE STREET, KIAMA

DESIGNED: AG	ISSUE
DRAWN: MR	G
CHECKED: DH	
DRAWING No.	

210067 DA04
SHEET 4 OF 5 SHEET(S)

FILE NAME: 210067-DA00-DA05-G.dwg



INDICATIVE PLANT SCHEDULE

BOTANICAL NAME	COMMON NAME	MATURE HEIGHT (m)
Acronychia oblongifolia	White Lilli Pilly	10-20
Murraya paniculata	-	3m
TF Palmetto Soft Leaf Buffalo	Turf	-

(f) Evaporative cooling units shall be fitted with butterfly closers at or near the ceiling level, or the unit shall be fitted with non-combustible covers with a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

Eaves linings, fascias and gables
(a) Joints in eaves linings, fascias and gables may be sealed with plastic joining strips or timber storm mounds.
(b) Gables shall comply with Clause 7.4.
(c) Fascias and bargeboards shall—
(i) where timber is used, be made from bushfire-resisting timber; or
(ii) where made from metal, be fixed at 450mm centres; or
(iii) be a combination of Items (i) and (ii) above.
(d) Eaves linings shall be—
(i) fibre-cement sheet, a minimum of 4.5 mm in thickness; or
(ii) bushfire-resisting timber; or
(iii) a combination of Items (i) and (ii) above.
(e) Eaves penetrations shall be protected the same as for roof penetrations as specified in Clause 7.6.5.
(f) Eaves ventilation openings greater than 3 mm shall be fitted with ember guards made of non-combustible material, or a mesh, or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

Gutters and downpipes
This Standard does not provide material requirements for downpipes.
If installed, gutter and valley leaf guards shall be non-combustible.
Gutters shall be metal or PVC-U.
Box gutters shall be non-combustible and flashed at the junction with the roof with non-combustible materials.

Verandas, decks, steps, ramps and landings
General
• Decking shall be either spaced or continuous (ie. Without spacing).
• There is no requirement to enclose the subfloor spaces of verandas, decks, steps, ramps or landings.

Enclosed subfloor spaces of verandas, decks, steps, ramps and landings
The subfloor spaces of verandas, decks, steps, ramps and landings are deemed to be 'enclosed' when—
(i) the material used to enclose the subfloor space is—
(i) non-combustible material; or
(ii) bushfire-resisting timber; or
(iii) a mesh, or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.
; or
(iv) a combination of any of Items (i), (ii) or (iii) above.
(b) all openings greater than 3 mm are screened with a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.
Supports
This Standard does not provide construction requirements for support posts, columns, stumps, stringers, piers and poles.

Framing
This Standard does not provide construction requirements for the framing of verandas, decks, ramps or landings (i.e., bearers and joists).

Decking shall be—
(a) of non-combustible material; or
(b) of bushfire-resisting timber; or
(c) a combination of Items (a) and (b) above.

• **Unenclosed subfloor spaces of verandas, decks, steps, ramps and landings**

Support posts, columns, stumps, stringers, piers and poles shall be—
(a) of non-combustible material; or
(b) of bushfire-resisting timber; or
(c) a combination of Items (a) and (b) above.

Framing of verandas, decks, ramps or landings (i.e., bearers and joists) shall be—
(a) of non-combustible material; or
(b) of bushfire-resisting timber; or
(c) a combination of Items (a) and (b) above.

Decking shall be—
(a) of non-combustible material; or
(b) of bushfire-resisting timber; or
(c) a combination of Items (a) and (b) above.

Balustrades, handrails or other barriers
Those parts of the handrails and balustrades less than 125 mm from any glazing or any combustible wall shall be—
(a) of non-combustible material; or
(b) of bushfire-resisting timber; or
(c) a combination of Items (a) and (b) above.

Those parts of the handrails and balustrades that are 125 mm or more from the building have no requirements.

Water And Gas Supply Pipes
Above-ground, exposed water and gas supply pipes shall be metal.

(i) of non-combustible material; or
(ii) bushfire-resisting timber; or
(iii) timber rafters lined on the underside with fibre-cement sheeting a minimum of 6 mm in thickness, or with material complying with AS 1530.8.1; or
(iv) a combination of any of Items (i), (ii) or (iii) above.

Roof penetrations
(a) Roof penetrations, including roof lights, roof ventilators, arials, vent pipes and supports for solar collectors, shall be adequately sealed at the roof to prevent gaps greater than 3 mm. The material used to seal the penetration shall be non-combustible.
(b) Openings in vented roof lights, roof ventilators or vent pipes shall be fitted with ember guards made from a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.
(c) All overhead glazing shall be Grade A laminated safety glass complying with AS 1288.
(d) Glazed elements in roof lights and skylights may be of polymer provided a Grade A safety glass diffuser, complying with AS 1288, is installed under the glazing. Where glazing is an insulating glazing unit (IGU), Grade A toughened safety glass, minimum 4mm, shall be used in the outer pane of the IGU.
(e) Where roof lights are installed in roofs having a pitch of less than 18 degrees to the horizontal, the glazing shall be protected with ember guards made from a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.
(f) Evaporative cooling units shall be fitted with butterfly closers at or near the ceiling level, or the unit shall be fitted with non-combustible covers with a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

Sheet roofs
Sheet roofs shall—
(a) be fully sarked in accordance with Clause 7.6.2, except that foil-backed insulation blankets may be installed over the battens; or
(b) have any gaps greater than 3 mm, under corrugations or ribs of sheet roofing and between roof components, sealed at the fascia or wall line and at valleys, hips and ridges by—
(i) a mesh or perforated sheet with a maximum aperture of 2mm, made of corrosion-resistant steel, bronze or aluminium; or
(ii) mineral wool; or
(iii) other non-combustible material; or
(iv) a combination of any of Items (i), (ii) or (iii) above.

Veranda, carport and awning roofs
(a) A veranda, carport or awning roof forming part of the main roof space shall meet all the requirements for the main roof, as specified.
(b) A veranda, carport or awning roof separated from the main roof space by an external wall complying with Clause 7.4 shall have a non-combustible roof covering and the support structure shall be—
(i) of non-combustible material; or
(ii) bushfire-resisting timber; or
(iii) timber rafters lined on the underside with fibre-cement sheeting a minimum of 6 mm in thickness, or with material complying with AS 1530.8.1; or
(iv) a combination of any of Items (i), (ii) or (iii) above.

Roof penetrations
(a) Roof penetrations, including roof lights, roof ventilators, arials, vent pipes and supports for solar collectors, shall be adequately sealed at the roof to prevent gaps greater than 3 mm. The material used to seal the penetration shall be non-combustible.
(b) Openings in vented roof lights, roof ventilators or vent pipes shall be fitted with ember guards made from a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.
(c) All overhead glazing shall be Grade A laminated safety glass complying with AS 1288.
(d) Glazed elements in roof lights and skylights may be of polymer provided a Grade A safety glass diffuser, complying with AS 1288, is installed under the glazing. Where glazing is an insulating glazing unit (IGU), Grade A toughened safety glass, minimum 4mm, shall be used in the outer pane of the IGU.
(e) Where roof lights are installed in roofs having a pitch of less than 18 degrees to the horizontal, the glazing shall be protected with ember guards made from a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

External Doors – Side Hung
• (a) Doors shall be protected by a bushfire shutter that complies with Clause 7.5.1.
or
(b) They shall be completely protected externally by screens with a mesh with a maximum aperture of 2mm, made of corrosion-resistant steel, bronze or aluminium
or
(c) They shall comply with the following:
(i) Doors shall be—
(A) non-combustible; or
(B) a solid timber door, having a minimum thickness of 35 mm for the first 400 mm above the threshold; or
(C) a door, including a hollow core door, protected on the outside by a screen door or a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium; or
(C) a fully framed glazed door where the framing is made from noncombustible materials or from bushfire-resisting timber.
(ii) Externally fitted hardware that supports the panel in its functions of opening and closing shall be made of metal.
(iii) Where doors incorporate glazing, the glazing shall be toughened glass minimum 5 mm.
(iv) Where glazing is less than 400 mm from the ground or less than 400 mm above decks, carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110 mm in width from the door (see Figure D3, Appendix D), that portion of the glazing shall be screened with a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium;
(v) Door frames shall be made from one of the following:
(A) Bushfire-resisting timber; or
(B) Metal; or
(C) Metal-reinforced PVC-U. The reinforcing members shall be made from aluminium, stainless steel, or corrosion-resistant steel and the door assembly shall satisfy the design load, performance and structural strength of the member.
(vi) Doors shall be tight-fitting to the door frame and to an abutting door, if applicable.
(vii) Weather strips, draught excluders or draught seals shall be installed at the base of side-hung external doors.

External Doors – Sliding
(a) Doors shall be protected by a bushfire shutter that complies with Clause 7.5.1.
Or
Sheet roofs
Sheet roofs shall—
(a) be fully sarked in accordance with Clause 7.6.2, except that foil-backed insulation blankets may be installed over the battens; or
(b) have any gaps greater than 3 mm, under corrugations or ribs of sheet roofing and between roof components, sealed at the fascia or wall line and at valleys, hips and ridges by—
(i) a mesh or perforated sheet with a maximum aperture of 2mm, made of corrosion-resistant steel, bronze or aluminium; or
(ii) mineral wool; or
(iii) other non-combustible material; or
(iv) a combination of any of Items (i), (ii) or (iii) above.

Veranda, carport and awning roofs
(a) A veranda, carport or awning roof forming part of the main roof space shall meet all the requirements for the main roof, as specified.
(b) A veranda, carport or awning roof separated from the main roof space by an external wall complying with Clause 7.4 shall have a non-combustible roof covering and the support structure shall be-

External Windows and Doors

Where fitted, bushfire shutters shall comply with Clause 3.7 and be made from—
(a) non-combustible material; or
(b) bushfire-resisting timber (see Appendix F); or
(c) a combination of any of Items (a) and (b) above.

Window assemblies shall comply with one of the following:
(a) They shall be completely protected by a bushfire shutter that complies with Clause 7.5.1.
or
(b) They shall comply with the following:
(i) Window frames and hardware shall be made from one of the following:
(a) Bushfire-resisting timber; or
(b) Metal; or
(c) Metal-reinforced PVC-U. The reinforcing members shall be made from aluminium, stainless steel, or corrosion-resistant steel, and the frame and the sash shall satisfy the design load, performance and structural strength of the member.
(ii) Externally fitted hardware that supports the sash in its functions of opening and closing shall be metal.
(iii) Glazing shall be toughened glass minimum 5 mm.
(iv) Where glazing is less than 400 mm from the ground or less than 400 mm above decks, carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110mm in width from the window frame that portion shall be screened with a mesh or perforated sheet with a maximum aperture of 2mm, made of corrosion-resistant steel, bronze or aluminium.
(v) The operable portions of the window shall be screened with a mesh with a maximum aperture of 2mm, made of corrosion-resistant steel, bronze or aluminium.

External Walls

• All joints in the external surface material of walls shall be covered, sealed, overlapped, backed or butt-jointed to prevent gaps greater than 3 mm.
• Alternatively, sarking-type material may be applied over the frame prior to fixing any external cladding.
• Vents and weepholes in external walls shall be screened with a mesh with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium, except where they are less than 3 mm.

Flooring Systems

No particular construction requirements if floor is slab on ground.

This Standard does not provide construction requirements for elevated floors, including bearers, joists and flooring, where the subfloor space is enclosed with—
(a) a wall that complies with Clause 7.4; or
(b) a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium; or
(c) a combination of Items (a) and (b) above.

Where the subfloor space is unenclosed, the bearers, joists and flooring less than 400mm above finished ground level, shall be—
(a) non-combustible; or
(b) of bushfire-resisting timber; or
(c) particleboard or plywood flooring where the underside is lined with sarking-type material or mineral wool insulation; or
(d) a system complying with AS 1530.8.1; or
(e) a combination of any of Items (a), (b), (c) or (d) above.

This Standard does not provide construction requirements for elements of elevated floors, including bearers, joists and flooring, if the underside of the element is 400 mm or more above finished ground level.

LANDSCAPE PLAN
1:400

AS 3959 - Section 7
BAL 29 – Bush Fire Attack

Subfloor Supports

• No particular construction requirements if subfloor space is enclosed with—
(a) a wall that complies with Clause 7.4; or
(b) a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion resistant steel, bronze or aluminium; or
(c) a combination of Items (a) and (b) above.

Supporting Posts, Columns, Stumps, Piers and Poles

• Where the subfloor space is unenclosed, the support posts, columns, stumps, piers and poles shall be—
(a) of non-combustible material; or
(b) of bushfire-resisting timber; or
(c) a combination of Items (a) and (b) above.
NOTE: This requirement applies to the principal building only and not to verandas, decks, steps, ramps and landings (see Clause 7.7).

NOTES

ALL DIMENSIONS TO BE CONFIRMED ON-SITE.

ALL TIMBER WORKS TO COMPLY WITH AS 1684
NATIONAL TIMBER FRAMING CODE
ALL BRICKWORK TO COMPLY WITH AS 3700
MASONRY IN BUILDING

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Any discrepancy in the document is to be referred to the company for clarification before proceeding with any work.

FIGURED DIMENSIONS TO BE USED IN PREFERENCE TO SCALING 200

300mm ON ORIGINAL

AMENDMENTS

REV	AMENDMENT	DATE	BY
A	Issued for DA	02-02-21	AMS
B	Remove Dwellings 4, 5, 6, 7, 14, 15 and re-numbering of remaining dwellings	05-11-21	AMS
C	Remove Dwellings 5, 12, 13, 14, 15, 16, 17 and re-numbering of remaining dwellings	25-01-22	AMS
D	Retaining walls updated	1-02-22	AMS

PROJECT :

**PROPOSED SENIORS
LIVING ESTATE**
at LOT 17 DP 1210621 (Formerly Part
Lot 100 DP 751279), 2 Caliope St
KIAMA NSW

CLIENT :

**WERITON
PROPERTIES**

DRAWING :

**LANDSCAPE PLAN,
BUSHFIRE NOTES**

CSA JOB NO. :

610-12-331

SCALES

as shown

DATE

1-02-22

DRAWN BY

AMS

No. IN SET

14 of 23

SHEET NUMBER

DA14D

Print date 1/02/2022

coble stephens
architects

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Andrew Coble Architects Registration 6922 Alison Stephens Architects Registration 6678

SCALE
0 1.0 2.0 3.0 4.0 5.0
THESE DRAWINGS HAVE BEEN PREPARED FOR
DEVELOPMENT APPLICATION

ACCESS REPORT DEVELOPMENT APPLICATION

**2 CALIOPE STREET
CNR OLD SADDLEBACK ROAD
KIAMA**

**HOUSING FOR SENIORS OR
PEOPLE WITH A DISABILITY**

Prepared by Mark Relf

25th January 2022

Accessibility Report

2 CALIOPE STREET (CNR OLD SADDLEBACK ROAD), KIAMA

Development Summary

The following report has been prepared for a Development Application to establish a seniors housing development on a site at 2 Caliope Street corner of Old Saddleback Road (Lot 17 DPI210621) Kiama under the State Environment Planning Policy – Housing for Seniors Policy (Amdt 2018).

The Seniors Housing development proposes:

- Twelve (12) self-care dwellings.
- Outdoor footpaths to dwellings and amenities.
- While the development is located approximately 2.3 kilometres to the Kiama retail/commercial precinct this application proposes a daily charter bus service 7 days a week to convey residents to and from the Kiama township.

Assessment Criteria

In review of the site and proposed development this assessment considers whether the proposed development will provide appropriate housing accessibility and adaptability in accordance with:

- (a) Clause Housing for Seniors Policy, Schedule 3 concerning the on-site pedestrian accessways to self-contained detached dwellings and common amenities.
- (b) Clauses 26 and 38(a) of the Housing for Seniors Policy concerning access to transport, shops and services.

Plans relied upon for this assessment include architectural plans prepared by Coble Stephens;

Dwg No.	Issue	Title
DA 01A – 1 of 21		Site Layout Plan
DA 02E – 2 of 21	E	Site Plan – Detail Houses 1 to 12.
DA 03E – 3 of 21	E	Site Plan – Detail Houses 11 & 12
DA 04E – 4 of 21	E	Site Plan – Detail Houses 4, 5, 6
DA 05D – 5 of 21	D	Type G Houses 1 & 9 - Plans, Sections, Elevations
DA 06D – 6 of 21	D	Type H Houses 2 & 3, - Plans, Sections, Elevations
DA 07D – 7 of 21	D	Type B Houses 7 & 8, - Plans, Sections, Elevations
DA 08 – 08 of 21	-	Withdrawn
DA 09 – 09 of 21	-	Withdrawn

Dwg No.	Issue	Title
DA 10 – 10 of 21	-	Withdrawn
DA 11 – 11 of 21	-	Withdrawn
DA 12D – 12 of 21	D	Site Elevations
DA 13C – 13 of 21	C	Type A House 12 - Plans, Sections, Elevations
DA 14C – 14 of 21	C	Landscape Plan & Bushfire Notes
DA 15C – 15 of 21	C	Site Analysis Plan
DA 16B – 16 of 21	-	Withdrawn
DA 17D – 17 of 21	D	Type E, M, Q, S, T Houses 4, 5, 6, 10, 11, - Plans
DA 18 – 18 of 21	-	Type M House 11 - Plans, Sections, Elevations
DA 19 – 19 of 21	-	Type Q House 5 - Plans, Sections, Elevations
DA 20 – 20 of 21	-	Type S House 8 - Plans, Sections, Elevations
DA 21 – 21 of 21	-	Type T House 4 - Plans, Sections, Elevations

- Housing for Seniors Policy, Schedule 3, Clauses 2-21 and 38(a)(b) concerning the self-contained dwellings and common amenities and clause 50(f) and (h).
- Relevant aspects Australian Standard AS1428.1 (2009) – Design for Access and Mobility, AS4299 (1995) – Adaptable Housing and AS2890.6 (2009) – Off Street Parking for People with Disabilities as referenced by Schedule 3 and Clause 3(1) of the Housing for Seniors Policy.
- Seniors Living Urban Design Guideline and Clause 31.

[illegible]

accessibility
solutions

Clause 2 of Schedule 3 of the Seniors Housing policy sets out the requirements for on-site accessibility as shown below.

The SEPP HS recognises that some sites will inherently have variable topography whereby the natural gradients are steeper than 1:10 and rather than prohibit development on such sites the SEPP HS sets out proportional requirements for “access” relevant to the topography.

[illegible]

- Section A where the RL108.5 contour through the northwest corner at the intersection of Caliope Street and Old Saddleback Road and RL96 across the eastern corner of house 12 over a distance of 115 metres which results in a 1:9.2 average gradient.
- Section B assessment of the slope through houses 2 and 8 over a 62 metre distance that falls from RL112 to RL105 which equates to an average gradient of 1:8.6.

Site Access - Continuous Accessible Paths of Travel

- Section C assessment of the slope through houses 3 and 7 over a 76 metre distance that falls from RL113 to RL104.5 which equates to an average gradient of 1:8.9.

Therefore, as the entire development area has slope exceeding 1:10 then at least 50% of the houses, or a minimum of 6 of the 12 houses are required;

- To provide a wheelchair accessible path of travel (within the meaning of AS1428.1) from an adjoining public road or an internal road or a driveway that is accessible to all residents to at least six (6) houses.

This assessment shall demonstrate that all twelve (12) houses will be accessible in the following manner;

- That seven (7) houses (2 to 8) shall have a continuous accessible path of travel from the internal roadway to the dwelling entrance while five (5) houses [Nos. 1, 9, 10, 11 and 12], will have an accessible path of travel from Caliope Street.

1.3

Schedule 3, Clause (2) Siting standards

(1) Wheelchair access:

if the whole of the site has a gradient of less than 1:10, 100% of the dwellings must have wheelchair access by a continuous path of travel (within the meaning of AS1428.1) to an adjoining public road.

(2) if the whole of the site does not have a gradient of less than 1:10,

- the percentage of dwellings that must have wheelchair access must equal the proportion of the site that has a gradient of less than 1:10, or 50%, whichever is the greater, and
- the wheelchair access provided must be by a continuous accessible path of travel (within the meaning of AS1428.1) to an adjoining public road or an internal road or a driveway that is accessible to all residents.

Note. For example, if 70% of the site has a gradient of less than 1:10, then 70% of the dwellings must have wheelchair access as required by this subclause. If more than 50% of the site has a gradient greater than 1:10, development for the purposes of seniors housing is likely to be unable to meet these requirements.

1.4

Site Access Assessment

The plans show that the development will provide a principal pedestrian entry from Caliope Street to five (5) houses [Nos. 1, 9, 10, 11 and 12] and to an internal road that will facilitate access to an additional seven (7) houses [Nos 2, 3, 4, 5, 6, 7 and 8].

Caliope Street Access to Houses 01, 09, 10, 11, 12

Site Access - Continuous Accessible Paths of Travel

and continuing at variable gradients ranging from 1:14 to 1:20 along the internal road to Houses 2 to 8.

The plans confirm that the individual houses 2, 3, 6, 7, 8 shall provide a 1:20 pathway adjacent to a driveway at the same grade to access the porch landing which will have a step-free entry threshold into the dwelling.

In the case of houses 4 and 5 the same 1:20 sloping pathway is designed to access the dwellings, except that the path is independent of the driveway.

Overall, the plans propose an accessible environment to all future residents and visitor, including people who use a wheelchair.

1.6 Site Access – Summary

In summary the site plan illustrates that all twelve (12) houses 1, 9, 10, 11, 12 adjoining Caliope Street and houses 2, 3, 4, 5, 6, 7, 8 adjoining the internal roadway will incorporate an accessible path of travel to the dwelling entrances consistent with AS1428.1 to satisfy clauses 2 and 3 of Schedule 3 of the Housing for Seniors Policy.

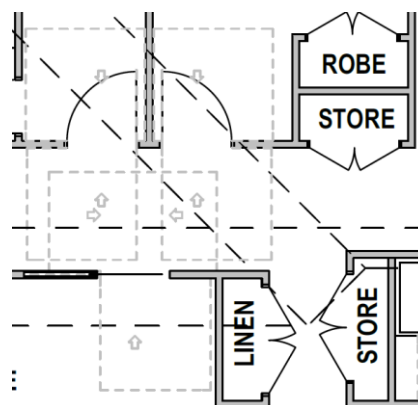
1.7 Bus Pick-Up/Drop-Off Points

The mini-bus with a minimum passenger capacity of 10 shall provide a door to door service for future residents as described in Section 2 of this report.

Clause	Item Assessment	Complies
Schedule 3, Clause 2(1)(2)	Site Access – Wheelchair Access The development proposes accessible principal pedestrian entrances and intrasite walkways that enable wheelchair access all dwellings and incorporate doorway landings with appropriate circulation spaces and accessible thresholds that comply with AS1428.1 to enter the dwellings and satisfy the SEPP HS.	YES
Clause 31 & Seniors Urban Design Guideline	Internal Site Amenity Pedestrian Accessways The development provides on-grade pedestrian walkways that have no interface with vehicle movements at the ground plane to enable appropriate safe access for older people and people with disabilities consistent with the Guideline objectives.	YES
	Communal Open Space The communal open spaces for resident access along the common walkways generally satisfies the Urban Design Guideline.	YES

Clause	Item Assessment	Complies
Schedule 3 Clause 3	Security – Low level lighting along the entry pathways can be a condition of consent which can be confirmed at construction certificate stage.	YES at CC stage
Schedule 3 Clause 4	Letterboxes – The plans indicate that letterboxes will be installed adjacent to the front boundaries and pathway entrances, which will include a generally level 1550 X 1550 minimum area adjacent to the letterboxes to comply with this requirement.	YES
Clause 50 (h)(i)	Parking – The development proposes 12 x 3 bedroom houses (36 beds) which requires at least 18 resident parking spaces, which is satisfied by the provision of 19 accessible spaces within resident garages of 6400mm to 7200mm width. The plans also proposed 7 visitor spaces including 3 accessible spaces.	YES
Schedule 3 Clause 5	Private Car Accommodation – The development proposes 19 accessible resident car spaces within 12 garages which are all accessible. In accordance with the SEPP HS the development proposes:	
	<ul style="list-style-type: none"> 7 Garages 1, 2, 3, 4, 5, 9, 12 of 7200mm width and facilitate 14 X 2400mm minimum width spaces adjoining a 2400mm width shared area X 5400mm length accessible parking spaces, which satisfies the accessibility requirements of AS2890.6 and schedule 3, clause 5(a) of the Housing for Seniors Policy. 	YES
	<ul style="list-style-type: none"> 5 Garages 6, 7, 8, 10, 11 provide 6400mm overall minimum width and facilitate 5 X 2400mm minimum width spaces adjoining a 2400mm width shared area X 5400mm length accessible parking spaces, which satisfies the accessibility requirements of AS2890.6 and schedule 3, clause 5(a) of the Housing for Seniors Policy. 	YES
	<ul style="list-style-type: none"> The 2500mm minimum internal headroom clearance over the parking spaces and 2300mm entrance height satisfies the accessibility requirements of AS2890 and schedule 3, clause 5(a) of the Housing for Seniors Policy. 	YES
	<ul style="list-style-type: none"> The provision of the 19 accessible resident spaces of 2400mm width adjoining a 2400mm width shared area will comply with schedule 3, clause 5(b) of the Housing for Seniors Policy which specifies that 20% of the spaces shall be 3800mm minimum width. 	YES
	<ul style="list-style-type: none"> The garage entry doors shall be power operated to satisfy schedule 3 clause 5(c) of the Housing for Seniors Policy. 	YES
Clause 38(b)	Parking Accessibility With respect to the requirements of clause 38(b) to provide attractive, yet safe, environments for pedestrians and motorists with convenient access and parking for residents and visitor it is my opinion that; <ul style="list-style-type: none"> The provision of attached private garages on the same level as the living areas, at least one bedroom and bathroom of every 	YES

Clause	Item Assessment	Complies
	house provides maximum convenience for motorists and generally safe areas for residents to comply with clause 38.	
	<ul style="list-style-type: none"> Generally, the driveways to each dwelling provide suitable visitor parking which is supplemented by 7 communal visitor parking spaces to comply with clause 38. 	YES
Clause 31 & the Urban Design Guideline	<p>Internal Site Amenity Parking, garaging and vehicular circulation</p> <p>In review of the car parking it is my opinion that the design of attached private garages on the same level as the living areas, at least one bedroom and bathroom of every house provides excellent resident parking that enables adequate safe pedestrian access while the provision of at least one (1) accessible resident parking space for every dwelling provides an appropriate outcome consistent with the SEPP HS and Urban Design Guideline.</p> <p>Visitor Parking – The development provides seven (7) visitor parking spaces to satisfy the objectives of clause 38(b) and the Urban Design Guideline.</p>	YES
Schedule 3 Clause 6	<p>Accessible entry – The plans confirm that the entry doorway landings for each dwelling provide 1550mm X 1550mm minimum circulation space with 530mm minimum latch side clearance in accordance with AS4299.</p> <p>The internal foyer areas also provide at least 1650mm X 1550mm circulation space with the required 530mm latch side clearance in accordance with AS4299 and the Housing for Seniors Policy.</p> <p>Details of 920mm entry doors and lever door handles can be confirmed at construction documentation stage.</p>	YES YES Can Comply
Schedule 3 Clause 7	<p>Interior: general – The plans show that all internal corridors on the accessible ground floor and entrance levels shall be 1240mm minimum width to facilitate side-on doorway circulation spaces in accordance with Figure 31(a)(b) of AS1428.1 to satisfy clause 7 of schedule 3.</p>	YES
Schedule 3 Clause 7	<p>Interior: general - Where front-on approaches to doorways is provided then the doorway circulation space shall provide at least 1550mm width with 530mm minimum latch side clearance in accordance with Figure 31(d)(h) of AS1428.1 to satisfy clause 7 of schedule 3.</p>	YES



Clause	Item Assessment	Complies
Schedule 3 Clause 8	<p>Main bedroom – The plans show a main bedroom on the accessible entry level that provide an area large enough to accommodate a queen sized bed with required circulation spaces to enter/exit the room or access the ensuite in accordance with ASI428.1.</p> <p>Generally the main bedrooms provide 1200mm clearance at the foot of a queen bed and doorway access to the robe, ensuite and exit from the room to comply with ASI428.1.</p>	YES
Schedule 3 Clause 9	<p>Bathroom – The plans show a bathroom on the accessible entry level of each dwelling that will provide at least 2700mm X 2300mm with a layout that complies with AS4299/1428.1 and the provisions of the SEPP HS in the following manner:</p> <ul style="list-style-type: none"> ▪ Toilet in a recessed corner to enable retrofitting of grabrails and provide 1250mm clearance in front of the pan, ▪ Vanity washbasin that will have plumbing that can be adapted to comply with A1428.1. ▪ 1600mm X 1100mm minimum shower area with 1250mm X 1600mm minimum circulation area and a removable screen that can accommodate a grabrail, folding seat and portable shower head to comply with ASI428.1. ▪ Wall cabinet and mirror with an adjoining power outlet 600-1100mm height above the floor in accordance with AS4299. 	<p>YES</p> <p>YES at CC stage</p> <p>YES at CC stage</p> <p>YES at CC stage</p>
Schedule 3 Clause 10	<p>Toilet – The plans show a toilet on the accessible entry level of every dwelling that provides a toilet pan in the corner of a room to enable future grabrails and provide at least 1250mm X 900mm clearance in front of the pan with no inward swing door encroachment that complies with AS4299 to satisfy the SEPP HS.</p>	YES
Schedule 3 Clause 11	<p>Surface finishes – Details regarding paving finishes in accordance with the Housing for Seniors Policy, can be provided at construction certificate stage to comply with this requirement.</p>	Can Comply
Schedule 3 Clause 12	<p>Doors – Details regarding doors and door handles complying with the Housing for Seniors Policy and ASI428.1 can be provided at construction certificate stage to comply with this requirement.</p>	Can Comply
Schedule 3 Clause 13	<p>Ancillary items – Details regarding installation of switches, power points complying with the Housing for Seniors Policy can be provided at construction certificate stage.</p>	Can Comply
Schedule 3 Clause 15	<p>Living and Dining rooms – The combined living and dining areas indicate that the circulation spaces comply with this clause. See Private Open Space Cls 50(f) regarding doorway thresholds.</p>	YES

Clause	Item Assessment	Complies
Schedule 3 Clause 16	<p>Kitchen – The plans indicate the floor area and general kitchen layout will comply with this clause by providing 1550mm minimum width circulation space between kitchen cupboards. The plans also show an area to accommodate a wall oven, hotplate, sink and fridge in accessible positions as required by sub paragraphs (a), (c) and (g).</p> <p>Details regarding other aspects of adjustable cupboards and fitments as per the requirements of sub-paragraphs (d) to (j) which will be provided at construction certificate stage to satisfy the Housing for Seniors Policy.</p>	YES At CC stage
Schedule 3 Clause 17	<p>Access to kitchen, main bedroom, bathroom and toilet – The development proposes all essential features on the entry level of 5 (1, 2, 3, 4, 9) split level houses to comply with the SEPP HS including a main bedroom, bathroom, living areas and kitchen.</p> <p>The 7 single level houses inherently comply.</p>	YES YES
Schedule 3 Clause 18	Lifts in Multi-Storey Buildings – Not applicable to individual self-detached houses.	N/a
Schedule 3 Clause 19	<p>Laundry – The laundry facilities provide closets adjoining the corridor which have appropriate circulation spaces that comply with the SEPP HS including an area for a washing machine, basin and drier.</p> <p>Details regarding slip resistant floors, level thresholds to the clotheslines and door sizes and handles can be provided at construction certificate stage to comply with this clause.</p>	YES Can Comply
Schedule 3 Clause 20	Storage – The plans indicate that all units shall have a storage / linen cupboard adjoining the hallway or within a study.	YES
Schedule 3 Clause 21	Garbage – With respect to waste management the development proposes bin store areas within garages and courtyard terraces in accessible areas with 1550 X 1550 circulation space adjacent to all bins to enable wheelchair access to satisfy the SEPP HS.	YES
Cls 50 (f)	Private Open Space - The plans indicate that there are terraces/courtyards for all ground floor self-contained dwellings providing private open space to meet the requirements of at least 15M ² with one area adjoining the living room that is at least 3.0 X 3.0 metres or has the potential to achieve this area. Details the doors and doorway thresholds can be confirmed at a later date in accordance with ASI428.1 to satisfy clause 50(f) of the SEPP HS.	YES

Section 2 - Access to Transport, Shops and Services

2.1 With respect to the requirements of Clause 26 of the Housing for Seniors Policy regarding access to shops, services and transport services the assessment considers the following matters:

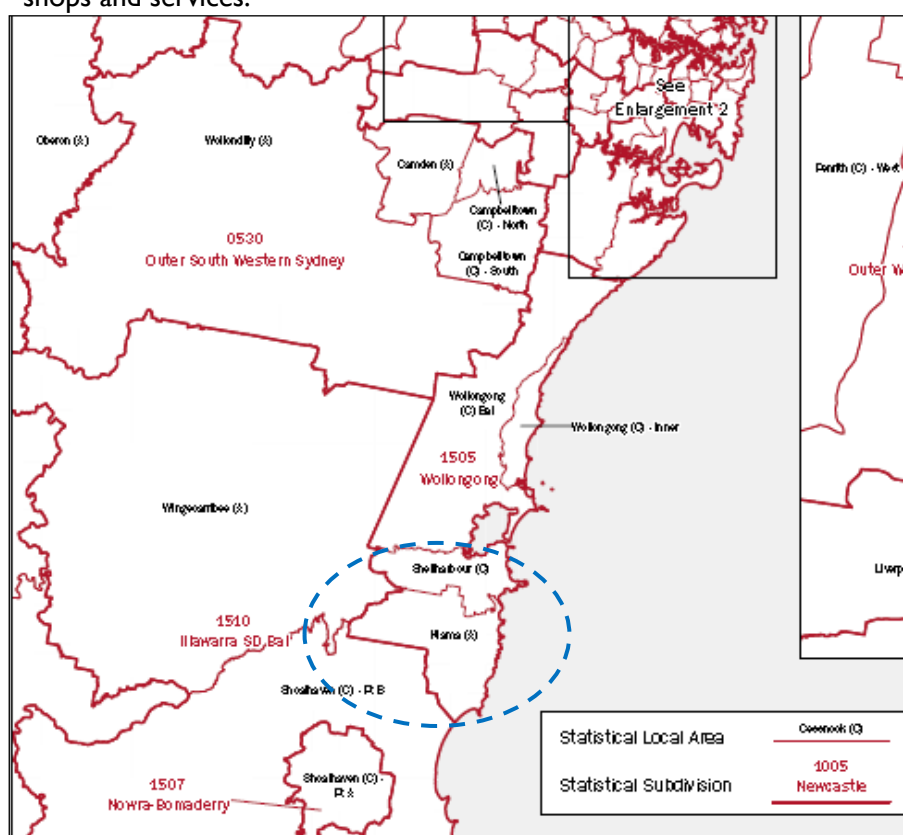
- Site location and the local government area relevant to the Statistical Division (as prescribed by the Australian Bureau of Statistics).
- Site location and proximity to shops and services including the range of services.
- Development proposal regarding the facilitation of access to a transport service including topography and access paths to the transport service.

2.2 Site Location, LGA and Statistical Division

The development site is located within the Kiama Council area, which is part of the Illawarra Statistical Division as defined by the Australian Bureau of Statistics (see ABS map below).

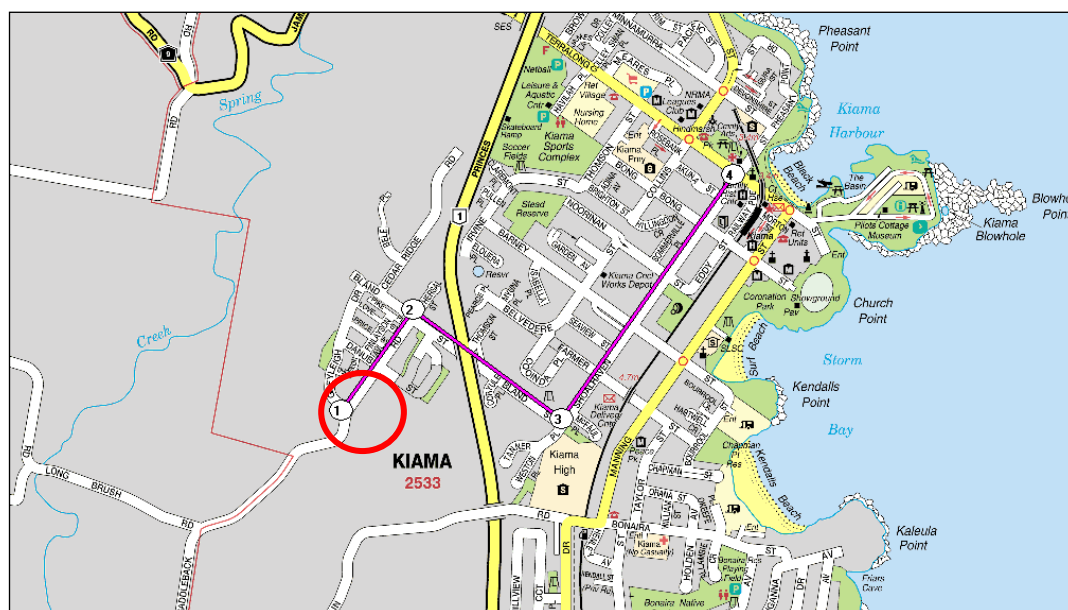
In accordance with clause 26(2)(c) of the Housing for Seniors Policy it is apparent that Seniors Living development located in LGA'S outside the Sydney Statistical Division, such as Kiama, will comply with the "access to shops and services" requirements by either of the following means:

- That a development is within 400 metres of shops and services; or
- That a development is within 400 metres of public transport that travels to shops and services; or
- That a development is within 400 metres of a transport service that travels to shops and services.



2.3 Distance to shops and services

The proposed development is located approximately 2.300 kilometres to the local retail/commercial precinct in Kiama, which clearly exceeds the 400 metre maximum specified by clause 26(2)(a) of the Housing for Seniors Policy.



2.4 Distance to Public Transport

With respect to existing public transport services within the KIAMA area it is apparent that closest bus services are 1.600 kilometres from the subject site, which clearly exceeds 400 metres maximum as specified by clause 26(2)(b) of the Housing for Seniors Policy.

Therefore this development relies upon the provisions of clause 26(2)(c), which requires access to a **transport service** and not specifically a public transport services as prescribed by clause 26(2)(b).

2.5 Development Proposal

In response to the requirements of clause 26 of the Housing for Seniors Policy, and in particular clause 26(2)(c), the development, which is situated outside the Sydney Statistical Division proposes a dedicated transport service operated by Kiama Mini Coach Charters or similar (see details at Appendix A of this report).

The transport services shall be within 400 metres of all dwellings within the subject site, and operate twice daily Monday to Friday, that will travel to the Kiama shopping centre and other nearby localities in accordance with clause 26(2)(c) as outlined below.

26(2)(c) *In the case of a proposed development on land in a local government area **not within the Sydney Statistical Division** - there is a transport service available to the residents who will occupy the proposed development:*

- (i) *that is located at a distance not more than 400 metres from the site of the proposed development; and*
- (ii) *that will take those residents to a place that is located at a distance of not more than 400 metres from the relevant facilities or services, and*

- (iii) *that is available both to and from the proposed development during daylight hours at least once per day from Monday to Friday (both days inclusive),
and the gradient along the pathway from the site to the public transport services (and from the public transport services to the facilities and services referred to in subclause (1)) complies with subclause (3).*

2.6 **Mini Coach & Taxi Service**

The development proposes a daily mini-bus and taxi service that would operate at least two (2) round trips daily to access the required range of services in Kiama in accordance with the times as specified in clause 26(2)(c).

Details of the type, size, capacity and frequency of transport services is provided at Appendix A of this report.

It is anticipated that a consent approval for the development would incorporate a condition of consent requiring the transport service or similar to be available and maintained for the life of the development.

2.7 **Pedestrian access to shops**

Within the Kiama retail/commercial precinct the mini-coach and taxi services shall provide a virtual door to door service to various parts of Kiama and potentially other retail / recreational facilities to facilitate easy access and meet the requirements of clause 26(2)(c) and 26(1), 26(4).

Notwithstanding the capacity of a door to door bus service the topography of the footpaths within Kiama generally provide gradients not exceeding 1:14 for the majority of the retail/commercial precinct along Terralong and Manning Streets, which demonstrates that pedestrian routes to the shops and services will comply with clause 26(2)(a) of the Housing for Seniors Policy.

The majority of the Kiama retail/commercial precinct provides hard surfaced footpaths and incorporate kerb ramps and roadway crossings to satisfy clause 26(2)(a) and 26(4) of the Housing for Seniors Policy.

2.8 **There are many shops and services and recreational opportunities along Terralong Street that are within 400 metres of a central drop-off and pick-up point near the Collins Street – Shoalhaven Street block adjoining Terralong Street. However, it is acknowledged that Kiama has a relatively sprawling commercial precinct that continues along Manning Street and other side streets beyond a 400 metre radius from the abovementioned centre.**

Overall, given the combination of the dedicated transport service and capacity for virtual door to door Access I and satisfied that future residents will have appropriate access to shops and services in accordance with the objectives of the Housing for Seniors Policy.

Scope and adequacy of retail and community services

2.9 **It is apparent from the range of retail, commercial, home nursing/personal care services and recreational opportunities available at Kiama that the everyday needs of residents would reasonably be met, consistent with the requirements of clauses 26 (1) and (5).**

2.10 A sample of the range of shops and services at **Kiama** include;

- Doctors (25+)
- Medical specialists
- Dentists
- Chemists (3)
- Banks (6) Westpac, IMB, Commonwealth, ANZ, St George and National.
- Supermarkets – Centro on Terralong Street
- Butcher, Bakery / Patisserie
- Post Office
- Newsagents, Hairdressers, Cafes, Gift Stores, Hardware
- Hotels & Clubs
- Homecare and Home Nursing Services – See Appendix A which details a Service Agreement.



*Terralong Surgery 133 Terralong Street, Kiama
(See Service Agreement Letter at Appendix A)*



Kiama Medical Practice, Manning Street



Centro Supermarket on Terralong Street

2.11 Community and recreational services include:

- Kiama Library
- Galleries and museums
- Community Support Centre
- Bowling Clubs



- Kiama Leagues Club
- Golf Clubs
- Kiama Leisure Centre – Swimming Pool
- Tennis Courts
- Sports Ovals

A complete list of community services is available at www.kiama.nsw.gov.au



Museum/gallery



Kiama Cultural Artists Network (KCAN)

2.12 Kiama Medical Services

In addition to the MedClinic medical centre mentioned in Appendix A there are a range of other service providers in Kiama that confirm that there is a suitable range covering;

- Audiology
- Optometry
- Allied health services
- Skin care
- Nutrition and dietary health
- Mental health

Kiama Council programs

- Kiama Healthy City & Health Plan
- Dementia Friendly Kiama program
- Health Moves program

Conclusion

Following a review of the plans and documentation it is my opinion that the proposed development site is appropriate for the geographical south coast location and can comply with the accessibility and adaptability requirements of the State Environment Planning Policy - Housing for Seniors or People with a Disability in the following manner;

- The development will facilitate access to shops and services through the provision of a **transport service** with a minimum capacity of ten (10) passengers (as detailed in Appendix A) that will travel to Kiama shopping precinct and recreational services twice a day Monday to Friday during daylight hours in accordance with clauses 26(1), 26(2)(a)(c), 26(3), 26(4) and 38(a); and
- A review of Kiama shopping centre and surrounds illustrates an appropriate range of **retail, commercial and recreational services** that includes banking, medical centres and Home Nursing/Personal Care Services (as detailed in Appendix A), supermarket and numerous variety stores to comply with clause 26(1), 26 and 26(5) suitable for this type of development; and
- The development demonstrates **accessible pedestrian pathways across the site that enables accessible paths of travel into all twelve (12) dwellings** in accordance with the minimum requirements of visitability for self contained dwellings on sites steeper than 1:10 by enabling wheelchair accessible pathways from an adjoining road or internal road or common driveway as required by schedule 3 clause 2(2); and
- The **designs of the twelve (12) houses provide appropriate access and adaptability** to and within all areas of the homes consistent with schedule 3 of the SEPP HS and related Australian Standards AS1428.1, AS2890.6 and AS1428.1.
- Provision of well designed **parking** for residents and visitors in accordance with schedule 3 clause 5, clause 50(h) and 38(b).



Mark Relf
Access Consultant (ACAA)

Appendix A – Site Compatibility Certificate documents

Bus Service Agreement

AGREEMENT FOR PROVISION OF BUS SERVICES

BETWEEN: **SADDLEBACK MOUNTAIN ESTATES NO. 2 PTY LIMITED**
(ACN 144 729 939) as trustee for Saddleback Unit Trust No. 2
of 74 Pitt Street, Sydney NSW 2000 ("**the Developer**")

AND: **LEDALE PTY LTD t/as CANTYS BUS RENTALS**
(ABN 74 122 073 545) of 12 Prince of Wales Avenue, Unanderra
NSW 2526 ("**Ledale**")

RECITALS:

- A. Ledale Pty Ltd t/as Cantys Bus Rentals operates a bus and passenger transport charter business servicing the Wollongong Illawarra region.
- B. The Developer has obtained a site compatibility certificate from the Department of Planning for 21 seniors living self-contained dwellings with community facilities and ancillary services at the site comprised in Lot 17 DP1210621 and known as 2 Caliope Street (formerly 43 Old Saddleback Road), Kiama ("the Seniors Estate") and the Developer has lodged a development application with Kiama Municipal Council for consent to carry out such development.
- C. Ledale has agreed to provide transport services for the Seniors Estate. This agreement is subject to review pending the finalised requirements prior to the commencement of the service when the Seniors Estate has been completed.

OPERATIVE PARTS

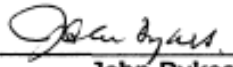
1. Ledale agrees that in the event that the Developer is successful in obtaining consent from the Council or other consent authority for the Seniors Estate, Ledale will provide transport services for residents of the Seniors Estate. These services will be provided at a price to be agreed on commencement of the services or in accordance with Ledale's Price Schedule applicable at the time and will involve

pick up and return of passengers twice daily, seven (7) days per week, 52 weeks per year, once in the morning between 8am and 12pm and once in the afternoon between 12pm and 6pm or otherwise as may be required from time to time by legislation relative to retirement villages. Additional services may be provided by appointment on a regular basis as required by individual residents. The service will be provided by means of a minibus capable of carrying a minimum of 10 passengers as a hail & ride type service with pick up from and return of passengers to the front of their dwellings.

2. Ledale warrants that this service will operate under its Ministry of Transport (T&I) accreditation at all times and also warrants that this service will be operated as a charter service for the Developer or the owners of the management scheme for the Seniors Estate.
3. Ledale will provide such services as long as they shall be required by residents of the Seniors Estate or as long as the Seniors Estate shall continue to operate and on the proviso that the agreed daily charter fees are paid on a monthly basis.
4. Ledale will, when the Developer is nearing completion of construction of the Seniors Estate, provide an up-to-date bus charter cost schedule to the Developer together with details of transfer times from the Seniors Estate to the Kiama township and return ensuring a twice morning and twice afternoon bus service connecting the Seniors Estate to Kiama Township.
5. The Developer may assign the benefit of this Agreement to the owners of the community title scheme (or such other body as shall represent the proprietors of the Seniors Estate) ("the Owners") as may be established on registration of the Plan of Subdivision for the Seniors Estate or otherwise to the Operator appointed by the Developer pursuant to the *Retirement Villages Act 1999* and in that event Ledale acknowledges and agrees that this Agreement shall be novated to the Owners or Operator as the case may be.

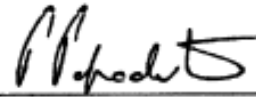
EXECUTED AS A DEED on 15 December 2021.

**SADDLEBACK MOUNTAIN
ESTATES NO. 2 PTY LIMITED**
(ACN 144 729 939) by its
attorney pursuant to Power of
Attorney Registered Book 4708
No. 766



John Dykes

LEDALE PTY LIMITED (ABN 74
122 073 545) pursuant to s127 of
the Corporations Act 2001:



Peter Papadimitriou
Sole Director/Secretary

Peter Papadimitriou
Sole Director/Secretary

Medical Practice Agreement



Shop 10, 143 Terralong Street KIAMA NSW 2533
Ph: (02) 4232 1122 Fax: (02) 4232 2551

23/01/20

The Secretary
Saddleback Mountain Estate No. 2 Pty Ltd
PO Box R1694
Royal Exchange NSW 1225

Dear Sir/Madam,

Re: Proposed Seniors Estate at 2 Caliope Street Kiama

We wish to confirm that Medclinic Kiama is aware of the proposed Seniors Estate at 2 Caliope Street Kiama, and is happy to accept new patients from that development when it is complete.

Should you require any further information, please do not hesitate to contact us.

Nada Vukovic
Practice Manager

Homecare Nursing, Personal Care and Cleaning Provider Agreement

AGREEMENT FOR PROVISION OF CARE SERVICES

BETWEEN: **SADDLEBACK MOUNTAIN ESTATES NO. 2 PTY LIMITED** (ACN 144 729 939) as trustee for Saddleback Unit Trust No. 2 of 74 Pitt Street, Sydney NSW 2000 ("the Developer")

AND: **SOUTH COAST HOME HEALTH CARE PTY LTD** (ABN 93 063 917 779) of Suite 9, 12-14 George Street, Warilla NSW 2528 ("**SCHHC**")

RECITALS:

- A. SCHHC is an accredited care provider with resources to provide health care and assisted living services to disabled and elderly members of the Illawarra community.
- B. The Developer has applied for and obtained a site compatibility certificate from the Department of Planning for 21 seniors living self-contained dwellings with community facilities and ancillary services at the site comprised in Lot 17 DP1210621 and known as 2 Caliope Street, Kiama (formerly 100 DP751279 and known as 43 Old Saddleback Road, Kiama) ("the Seniors Estate") and the Developer has lodged a development application with Kiama Municipal Council for consent to carry out such development.
- C. SCHHC has informed the Developer that it is willing to provide on the site the services listed in the attached schedule to the residents of the Developer's proposed Seniors Estate at the cost of the residents on a user pays basis ("the SCHHC Schedule").

OPERATIVE PARTS

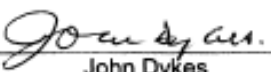
1. SCHHC agrees that in the event that the Developer is successful in obtaining consent from the Council or other consent authority for the Seniors Estate, SCHHC will provide the personal care and nursing care services listed in the SCHHC Schedule for residents of the Seniors Estate at the then scheduled fees by appointment or on a regular basis as required by individual residents.

-2-

2. SCHHC will provide such services on the site when housing in the Seniors Estate is ready for occupation and for as long as they shall be required by residents of the Seniors Estate or as long as the Seniors Estate shall continue to operate.
3. SCHHC shall devise a services management plan in accordance with the requirements of the residents and management of the Seniors Estate which shall stipulate the detailed nature of service to be made available to residents, the times at which the services will be delivered or provided and the costs of those services.
4. In addition to the services set out in the SCHHC Schedule (which include personal care and home nursing, and assistance with housework), SCHHC will provide home delivered meals to residents of the Seniors Estates at the then applicable fees.
5. The Developer may assign the benefit of this Agreement to the owners of the community title scheme (or such other body as shall represent the proprietors of the Seniors Estate) ("the Owners") as may be established on registration of the Plan of Subdivision for the Seniors Estate or otherwise to the Operator appointed by the Developer pursuant to the *Retirement Villages Act 1999* and in that event SCHHC acknowledges and agrees that this Agreement shall be novated to the Owners or the Operator as the case may be.

EXECUTED AS A DEED on 2 December 2021.

**SADDLEBACK MOUNTAIN ESTATES
NO. 2 PTY LIMITED** (ACN 144 729 939)
by its attorney pursuant to Power of
Attorney Registered Book 4708 No. 766


John Dykes

**SOUTH COAST HOME HEALTH
CARE PTY LTD** (ABN 93 063 917
779) by its Director and Secretary:


Glenda Potts
Secretary


William Albert Potts
Director



**SOUTH COAST HOME
HEALTH CARE Pty Ltd**

ABN 93 063 917 779

Telephone: 4252 0555
Fax: 4252 0515
Email: referral@schhc.com.au

P.O. BOX 20
WARILLA NSW 2528

Head Office Address:
9/12-14 George Street
Warilla NSW 2528

FEES CURRENT 1ST June 2021
(Excluding GST)

Care Worker Cert III & IV

	30 Min	1 Hour	
AM	\$37.60	\$60.65	6am – 6pm Mon - Fri
PM	\$42.20	\$69.90	6pm – 6am Mon - Fri
W/END	\$53.75	\$91.25	Midnight Friday – Midnight Sunday
P/HOL	\$67.60	\$121.30	Each gazetted 24hr period

One-Off Services all Minimum of 1 hour charge

Enrolled Nurse/Endorsed Enrolled Nurse

	1 Hour
AM	\$72.80
PM	\$81.30
W/END	\$109.00
P/HOL	\$145.55

One-Off Services all Minimum of 1 hour charge

Registered Nurse

	1 Hour
AM	\$108.35
PM	\$124.75
W/END	\$162.55
P/HOL	\$216.70

One-Off Services all Minimum of 1 hour charge

Half hour service charges for Care Workers only. Service must be of 4 weeks duration or more.

Sleepovers/Overnights Care

Non-Active 8 hour period Mon-Thurs night \$265.00 – Fri – Sun nights \$310.00 (conditions apply)

Note: Sleeping facilities must be provided

Occupational Therapist

Contact Warilla Office

Kilometres

All Kms will be charged @ 0.90Kms (only charged when service involves transport)

Note: A late cancellation fee of 1 hr will apply if service cancelled on the day (conditions apply)

Services of 3 hours or more cancelled on the day will be charged a late cancellation fee of 3 hours.

Providing Quality Nursing and Home Based Care to the Illawarra



Appendix B – Housing for Seniors Policy – Access requirements

The following extract from State Environment Planning Policy – Housing for Seniors or People with a Disability 2007 (Amendment 2018) includes matters that require consideration for the provision of accessibility of a development comprising self-contained dwellings.

Schedule 3 - Standards concerning accessibility and useability for hostels and self-contained dwellings

Part I Standards applying to hostels and self-contained dwellings

(1) Application of standards in this Part

The standards set out in this Part apply to any seniors housing that consists of hostels or self-contained dwellings.

(2) Siting standards

(1) Wheelchair access:

if the whole of the site has a gradient of less than 1:10, 100% of the dwellings must have wheelchair access by a continuous path of travel (within the meaning of AS1428.1) to an adjoining public road.

(2) if the whole of the site does not have a gradient of less than 1:10,

(a) the percentage of dwellings that must have wheelchair access must equal the proportion of the site that has a gradient of less than 1:10, or 50%, whichever is the greater, and

(b) the wheelchair access provided must be by a continuous accessible path of travel (within the meaning of AS1428.1) to an adjoining public road or an internal road or a driveway that is accessible to all residents.

Note. For example, if 70% of the site has a gradient of less than 1:10, then 70% of the dwellings must have wheelchair access as required by this subclause. If more than 50% of the site has a gradient greater than 1:10, development for the purposes of seniors housing is likely to be unable to meet these requirements.

(3) Common areas:

Access must be provided in accordance with AS1428.1 so that a person using a wheelchair can use common areas and common facilities associated with the development.


26 Location and access to facilities

(1) A consent authority must not consent to a development application made pursuant to this Chapter unless the consent authority is satisfied, by written evidence, that residents of the proposed development will have access that complies with subclause (2) to:

- (a) shops, bank service providers and other retail and commercial services that residents may reasonably require, and
- (b) community services and recreation facilities, and
- (c) the practice of a general medical practitioner.

(2) Access complies with this clause if:

- (a) the facilities and services referred to in subclause (1) are located at a distance of not more than 400 metres from the site of the proposed development that is a distance accessible by means of a suitable access pathway and the overall average gradient for the pathway is no more than 1:14, although the following gradients along the pathway are also acceptable:
 - (i) a gradient of no more than 1:12 for slopes for a maximum of 15 metres at a time,
 - (ii) a gradient of no more than 1:10 for a maximum length of 5 metres at a time,
 - (iii) a gradient of no more than 1:8 for distances of no more than 1.5 metres at a time, or
- (b) in the case of a proposed development on land in a local government area within the Sydney Statistical Division—there is a public transport service available to the residents who will occupy the proposed development:
 - (i) that is located at a distance of not more than 400 metres from the site of the proposed development and the distance is accessible by means of a suitable access pathway, and
 - (ii) that will take those residents to a place that is located at a distance of not more than 400 metres from the facilities and services referred to in subclause (1), and
 - (iii) that is available both to and from the proposed development at least once between 8am and 12pm per day and at least once between 12pm and 6pm each day from Monday to Friday (both days inclusive), and the gradient along the pathway from the site to the public transport services (and from the public transport services to the facilities and services referred to in subclause (1)) complies with subclause (3), or
- (c) in the case of a proposed development on land in a local government area that is not within the Sydney Statistical Division—there is a transport service available to the residents who will occupy the proposed development:
 - (i) that is located at a distance of not more than 400 metres from the site of the proposed development and the distance is accessible by means of a suitable access pathway, and
 - (ii) that will take those residents to a place that is located at a distance of not more than 400 metres from the facilities and services referred to in subclause (1), and
 - (iii) that is available both to and from the proposed development during daylight hours at least once each day from Monday to Friday (both days inclusive), and the gradient along the pathway from the site to the public transport services (and from the transport services to the facilities and services referred to in subclause (1)) complies with subclause (3).

Note. Part 5 contains special provisions concerning the granting of consent to development applications made pursuant to this Chapter to carry out development for the purpose of certain  housing on land adjoining land zoned primarily for urban purposes. These provisions include provisions relating to transport services.

- (3) For the purposes of subclause (2) (b) and (c), the overall average gradient along a pathway from the site of the proposed development to the public transport services (and from the transport services to the facilities and services referred to in subclause (1)) is to be no more than 1:14, although the following gradients along the pathway are also acceptable:
 - (i) a gradient of no more than 1:12 for slopes for a maximum of 15 metres at a time,
 - (ii) a gradient of no more than 1:10 for a maximum length of 5 metres at a time,
 - (iii) a gradient of no more than 1:8 for distances of no more than 1.5 metres at a time.

- (4) For the purposes of subclause (2):

- (a) a **suitable access pathway** is a path of travel by means of a sealed footpath or other similar and safe means that is suitable for access by means of an electric wheelchair, motorised cart or the like, and
- (b) distances that are specified for the purposes of that subclause are to be measured by reference to the length of any such pathway.

(5) In this clause:

bank service provider means any bank, credit union or building society or any post office that provides banking services.

Schedule 3 - Standards concerning accessibility and useability for hostels and self-contained dwellings

Part I Standards applying to hostels and self-contained dwellings

(1) Application of standards in this Part

The standards set out in this Part apply to any seniors housing that consists of hostels or self-contained dwellings.

(2) Siting standards

(1) Wheelchair access:

if the whole of the site has a gradient of less than 1:10, 100% of the dwellings must have wheelchair access by a continuous path of travel (within the meaning of AS1428.1) to an adjoining public road.

(2) if the whole of the site does not have a gradient of less than 1:10,

- (a) the percentage of dwellings that must have wheelchair access must equal the proportion of the site that has a gradient of less than 1:10, or 50%, whichever is the greater,
- (b) the wheelchair access provided must be by a continuous accessible path of travel (within the meaning of AS1428.1) to an adjoining public road or an internal road or a driveway that is accessible to all residents.

Note. For example, if 70% of the site has a gradient of less than 1:10, then 70% of the dwellings must have wheelchair access as required by this subclause. If more than 50% of the site has a gradient greater than 1:10, development for the purposes of seniors housing is likely to be unable to meet these requirements.

(3) Common areas:

Access must be provided in accordance with AS1428.1 so that a person using a wheelchair can use common areas and common facilities associated with the development.

(3) Security

Pathway lighting:

- (a) must be positioned at low height to avoid glare for pedestrians and adjacent dwellings, and
- (b) must provide at least 20 lux at ground level.

(4) Letterboxes for multi-dwelling developments;

- (a) must be situated on a hard standing area and have wheelchair access by a continuous accessible path of travel (within the meaning of AS1428.1).

- (b) must be lockable, and .
- (c) must be located together in a central location adjacent to the street entry or, in the case of self-contained dwellings, must be located together in one or more central locations adjacent to the street entry.

(5) Private car accommodation

If car parking (not being car parking for employees) is provided:

- (a) car parking spaces must comply with the requirements for parking for persons with a disability set out in of AS2890, and
- (b) 5% of the total number of car parking spaces (or at least one space if there are fewer than 20 spaces) must be designed to enable the width of the spaces to be increased to 3.8 metres, and
- (c) any garage must have a power-operated roller door, or there must be a power point and an area for motor or control rods to enable a power-operated door to be installed at a later date.

(6) Accessible entry

Every entry (whether a front entry or not) to a dwelling, not being an entry for employees: must comply with clauses 4.3.1 and 4.3.2 of AS 4299.

(7) Interior: general

Width of internal corridors and circulation at internal doorways must comply with AS1428.1.

(8) Bedroom

At least one bedroom within each dwelling must have:

- (a) an area sufficient to accommodate a wardrobe and a be sized as follows:
 - (i) in the case of a dwelling in a hostel – a single-sized bed,
 - (ii) in the case of a self-contained dwelling – a queen-size bed,
- (b) a clear area for the bed of at least:
 - (i) 1200 millimetres wide at the foot of the bed, and
 - (ii) 1000 millimetres wide beside the bed between it and the wall, wardrobe or any other obstruction, an
- (c) 2 double general power outlets on the wall where the bedhead is likely to be,
- (d) at least one general power outlet on the wall opposite the wall where the head of the bed is likely to be, and
- (e) a telephone outlet next to the bed on the side closest to the door and a general power outlet beside the telephone outlet, and
- (f) wiring to allow a potential illumination level of at least 300 lux.

(9) Bathroom

- (I) At least one bathroom within a dwelling must be on the ground (or main) floor and have the following facilities arranged within an area that provides circulation space for sanitary facilities in accordance with AS1428.1:

- (a) a slip-resistant floor surface, and
- (b) a washbasin with plumbing that would allow, either immediately or in the future the installation of a washbasin with clearances that comply with AS1428.1, and
- (c) a shower that complies with AS1428.1, except that the following must be accommodated either immediately or in the future:
 - (i) a grab rail, and
 - (li) portable shower head, and

- (iii) a folding seat,
 - (d) a wall cabinet that is sufficiently illuminated to be able to read the labels of items stored in it, and
 - (e) double general power outlet beside the mirror.
- (2) Subclause (1)(c) does not prevent the installation of a shower screen that can easily be removed.

(10) Toilet

A dwelling must have a toilet on the ground (or main) floor and be a visitable toilet that complies with the requirements for sanitary facilities of AS 4299.

(11) Surface finishes

Balconies and external paved areas must have slip-resistant surfaces.

Note: Advice regarding finishes may be obtained from ASI 428.1.

(12) Doors

Door handles and hardware for all doors (including entry and other external doors) must be provided in accordance with AS4299.

(13) Ancillary items

Switches power points must be provided in accordance with AS4299.

Part 2 Additional standards for self-contained dwellings**(14) Application of standards in this Part**

The standards set out in this Part apply in addition to the standards set out in Part I to any seniors housing that consists of self-contained dwellings.

(15) Living room and dining room

- (1) A living room in a self-contained dwelling must have:
 - (a) a circulation space in accordance with clause 4.7.1 of AS4299, and
 - (b) a telephone adjacent to a general power outlet
- (2) A living room and dining room must have wiring to allow a potential illumination of at least 300 lux.

(16) Kitchen

A kitchen in a self-contained dwelling must have:

- (a) a circulation space in accordance with clause 4.5.2 of AS4299, and
- (b) a width at door approaches complying with clause 7 of this Schedule, and
- (c) the following fittings in accordance with the relevant subclauses of clause 4.5 of AS4299:
 - (i) benches that include at least one work surface at least 800 millimetres in length that comply with clause 4.5.5(a)
 - (ii) a tap set (see clause 4.5.6),
 - (iii) cooktops (see clause 4.5.7), except that an isolating switch must be included, and
 - (iv) an oven (see clause 4.5.8), and
- (d) “D” pull cupboard handles that are located towards the top of below-bench cupboard and towards the bottom of overhead cupboards, and
- (e) general power outlets:
 - (i) at least one of which is a double general power outlet within 300 millimetres of the front of a worksurface, and

- (ii) one of which is provided for a refrigerator in such a position as to be easily accessible after the refrigerator is installed.

(17) Access to kitchen, main bedroom, bathroom and toilet

In a multi-storey self-contained dwelling; the kitchen, main bedroom, bathroom and toilet must be located on the entry level.

(18) Lifts in Multi-Storey buildings

In a multi-storey building containing separate self-contained dwellings on different storeys, lift access must be provided to dwellings above the ground floor of the building by way of a lift complying with clause E3.6 of the *Building Code of Australia*.

(19) Laundry

A self-contained dwelling must have a laundry that has:

- (a) a width at door approaches complying with clause 7 of this Schedule, and
- (b) provision for the installation of an automatic washing machine and a clothes dryer,
- (c) that has a clear space in front of appliances of at least 1300 millimetres, and
- (d) that has a slip-resistant floor surface, and
- (e) that has an accessible path of travel to any clothes line provided in relation to the dwelling.

(20) Storage

A self-contained dwelling must be provided with a linen storage in accordance with clause 4.11.5 of AS4299

(21) Garbage

A garbage storage area must be provided in an accessible location.

Division 4 – Self-Contained Dwellings –

Clause 50-Standards that cannot be used to refuse development consent for self-contained dwellings

(f) private open space for in-fill self-care housing: if:

- (i) in the case of a single storey dwelling or a dwelling that is located, wholly or in part, on the ground floor of a multi-storey building, not less than 15 square metres of private open space per dwelling is provided and, of this open space, one area is not less than 3 metres wide and 3 metres long and is accessible from a living area located on the ground floor, and
- (ii) in the case of any other dwelling, there is a balcony with an area of not less than 10 square metres (or 6 square metres for a 1 bedroom dwelling), that is not less than 2 metres in either length or depth and that is accessible from a living area.

Note: The open space needs to be accessible only by a continuous accessible path of travel (within the meaning of AS1428.1) if the dwelling itself is an accessible one. See Division 4 of Part 4.

(h) parking: if at least the following is provided:

- (i) 0.5 car spaces for each bedroom where the development application is made by a person other than a social housing provider, or
- (ii) 1 car space for each 5 dwellings where the development application is made by a person jointly with a social housing provider.

Appendix C – Statement of Expertise

CONSULTANCY PROFILE & STATEMENT OF EXPERTISE

Accessibility Solutions consultancy offers a range of services to provide advice for clients to develop new and modify existing buildings, facilities and services to be accessible to people with disabilities to comply with legislation and regulations relevant to people with disabilities.

Relevant legislation and regulations that underpins advice includes the Disability Discrimination Act (DDA) Building Code of Australia, Australian Standards 1428, DDA Premises Standards, DDA Transport Standard, State Environment Planning Policy Housing for Seniors or People With a Disability (SEPP HS) / Seniors Living Policy, SEPP 65 – Apartment Design Guide and various local government Development Control Plans.

The scope of services provided by Accessibility Solutions includes:

- Plan Appraisals and design advice
- Access Reports for development applications and construction certificates
- Expert Reports for Court evidence
- Access Auditing of existing buildings, facilities, transport conveyances and infrastructure
- Policy and document reviews and development of Disability Action Plans
- Staff training in access auditing

The services consider issues concerning people with all types of disability including; physical; vision; hearing, intellectual and other cognitive impairments that may affect access for people with a disability consistent with the Disability Discrimination Act.

As principal consultant Mark Relf has considerable experience and expertise in a wide range of access related projects and has attained accreditation with the Association of Consultants in Access Australia for the purposes of providing advice concerning access to the built environment and services for people with disabilities.

His expertise has been gained over 25 years working in management and advocacy roles within the disability sector and since 1994 providing advice to clients on access issues. Mark also participates on various key committees concerning access for people with disabilities. His qualifications and affiliations are:

- Accredited Member of the Association of Consultants in Access Australia.
- Member, Standards Australia ME/64 Committee responsible for the AS1428 suite and AS4299 – Adaptable Housing.
- Member NSW Heritage Office's – Technical Advisory Panel.



Our Reference: ALT221015NSW_TIS_D1

25 January 2022

Weriton Properties
PO Box R1694
Royal Exchange NSW 1225
via email: Graham@weriton.com.au

Attention: Graham Werry

Site: 2 Caliope Street, Kiama
Subject: Proposed Seniors Living Development

Dear Graham,

Introduction

Altus Traffic (Altus) has been commissioned by Weriton Properties Pty Ltd to undertake a revised traffic and parking assessment for a proposed senior living development to be located at 2 Caliope Street, Kiama.

The amended design seeks to address feedback received during the design review process, including those relating to parking and vehicular access.

The former development application sought approval for a seniors living development comprising 19 dwellings, each containing three bedrooms serviced by a double vehicle garage. It was proposed that 16 dwellings are to be serviced by a new crescent shaped private road intersecting with Caliope Street at two separate locations, and the remaining 3 dwellings to be directly accessed off Caliope Street.

The amended development application now seeks approval for a seniors living development with a substantial reduced yield comprising 12 dwellings, each continue to contain three bedrooms serviced by a double vehicle garage. Vehicular access arrangements have been revamped and it is now proposed that 7 dwellings to be serviced by a straight private road off Caliope Street with a cul-de-sac at its southern terminus, the remaining 5 dwellings will be directly accessed off Caliope Street.

The purpose of this report therefore examines the traffic and parking implications of the amended development proposal. In this regard, we have reviewed all documents provided to us and advise as follows.

Subject Site

The subject site is located at the south-eastern corner of the Old Saddleback Road / Greyleigh Drive / Caliope Street intersection. It has a total site area of approximately 5.716ha, with street frontages to both Caliope Street and Old Saddleback Road.

The subject site is currently vacant.

A recent aerial image of the site and its surroundings is provided in **Figure 1**.



Figure 1: Subject Site (Source: Nearmap)

Overview of the Proposed Development

The proposed development involves construction of 12 seniors living dwellings on an existing vacant lot.

Off-street parking is proposed for a total of 31 cars comprising 24 resident car spaces in 12 double vehicle garages, and 7 visitor car spaces.

Vehicular access to dwelling 2-8's vehicle garages and visitor space 5-7 is to be provided via a straight private road connected off Caliope Street.

Vehicular access to dwelling 1, 9-12 and visitor spaces 1-4 is to be provided directly off Caliope Street.

Garbage collection is to be undertaken by Council's waste contractor using 9.4m long garbage trucks.

Plans for the proposed development have been prepared by Coble Stephens Architects Pty Ltd and are reproduced in **Annexure A**.

Traffic Assessment

The traffic generation potential of the proposed development has been assessed having regard for the TfNSW Technical Direction TDT2013/04a document which is based on extensive surveys of a wide range of land uses and nominate the following traffic generation rates applicable to the development proposal:

Housing for Seniors

- AM Peak Hour: generally does not coincide with the network peak hour
- PM Peak Hour: 0.4 peak hour vehicle trips per dwelling
- Daily: 2.1 daily vehicle trips per dwelling

Application of the above traffic generation rates to the 12 seniors living dwellings outlined in the amended development proposal yields a traffic generation potential of approximately 5 vehicle trips per hour in the PM peak hour, and 25 vehicle trips per day.

That projected nett increase in the traffic generation potential of the site as a consequence of the development proposal is minimal and will clearly not have any material impact on the operational performance of the surrounding roads and intersections.

Statutory Off-Street Car Parking Requirements

The statutory off-street car parking requirements applicable to the development proposal are specified in the State Environmental Planning Policy (SEPP) – Housing for Seniors or People with a Disability 2004 document in the following terms:

Part 7, Division 4, Clause 50-(2)-(h)

- (i) 0.5 car spaces for each bedroom where the development application is made by a person other than a social housing provider, or
- (ii) 1 car space for each 5 dwellings where the development application is made by, or is made by a person jointly with, a social housing provider.

Application of item (i) to the 12 seniors living dwellings each containing three bedrooms yields an off-street car parking requirement of 18 spaces.

The proposed development makes provision for a total of 31 car spaces comprising 24 resident spaces and 7 visitor spaces, thereby satisfying minimum SEPP requirements.

Vehicular Access and Internal Design Aspects

Proposed Private Road

The internal private road is proposed to provide two-way vehicular access with a pavement width of 6m comprising a 4.5m wide road plus a 1.5m wide trafficable pedestrian path that is flush with the roadway,

consistent with the previously proposed arrangement supported in the “Updated Traffic Assessment” prepared by Stanbury Traffic Planning (Ref: 16-022-7).

It is further noted that the proposed development is expected to generate just 5 peak hour vehicle trips which is well below the 30 vehicles per hour threshold specified in AS2890.1: 2004 that would require consideration for the provision two-way passing.

In any event, the 6m wide trafficable pavement will allow two vehicles travelling in opposite directions to satisfactorily pass each other should the need ever occur.

The proposed gradient of the road will ultimately be designed to comply with AS2890.1: 2004, AS2890.2: 2018 and AS2890.6: 2009 requirements which is being undertaken separately by the Civil Engineer.

Proposed Parking Layout

All car spaces and associated manoeuvring areas have been designed in accordance with AS2890.1: 2004 as follows:

- all double vehicle garages will be designed with a minimum internal dimension of 5.4m × 5.4m
- all double vehicle garages will have a minimum door opening width of 4.8m
- all accessible visitor spaces will be designed with a minimum dimension of 2.4m wide × 5.4m long plus an adjoining shared zone of the same dimension
- all other visitor spaces will be designed with a minimum dimension of 2.6m wide × 5.4m long
- all visitor spaces will be set within a minimum parking aisle of 6m wide
- maximum change of grade on the driveway connecting the garage to the road will not exceed 1:8 over 2m
- maximum grade on any driveway will not exceed 1:4
- appropriate visual splays are to be provided at the access driveway in accordance with Figure 3.3. of AS2890.1: 2004.

In summary, the proposed configuration of the off-street car parking facilities has been designed in accordance with relevant AS2890 standards and will operate satisfactorily. It is understood that a conditions of consent would be imposed requirement compliance with these standards and as such, any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.

Private Bus Service

The proposed development will provide mini bus service for on-site residents using a Toyota Coaster or similar with a carrying capacity for at least 10 passengers.

The bus will operate twice daily providing one return trip in the morning and one return trip in the afternoon.

Loading, Servicing and Fire Truck Access

Loading and servicing for the proposed development will be undertaken by a variety of commercial vehicles up to and including Council's 9.4m long refuse collection vehicle consistent with the advice provided by Council's Waste Management Officer for the former development application.

Furthermore, Bush Fire Consultant has advised that Rural Fire Service (RFS) uses 8.2m long fire trucks.

The proposed private road has been designed to accommodate the manoeuvring requirements of these trucks, allowing them to enter and exit the site whilst travelling in a forward direction at all times, as demonstrated by the swept turning path diagrams using a conservative 9.8m long refuse vehicle and a 10m long fire truck provided in **Annexure B** at the end of this report.

It is also pertinent to note in this regard that a Toyota Coaster mini bus is approximately 7m in length which is smaller and more manoeuvrable than the aforementioned trucks, and therefore will also be able to satisfactorily enter and exit the site whilst travelling in a forward direction at all times.

Conclusion

Based on the analysis and discussions presented in this report, the following is concluded:

- the amended development proposal has substantially reduced the development yield and now seeks approval for the construction of 12 seniors living dwellings
- vehicular access to 7 dwellings will be provided via a straight private road connected off Caliope Street with a cul-de-sac at its southern terminus
- vehicular access to the remaining 5 dwellings will be provided directly off Caliope Street
- the proposed development is expected to result in a nett increase of approximately 5 vehicle trips per hour in the PM peak hour and 25 vehicle trips per day
- the projected nett increase in traffic generation potential of the amended development proposal is minimal and will clearly not have any material impact on the operational performance of surrounding roads and intersections
- the proposed development makes provision for a total of 31 car spaces comprising 24 resident spaces and 7 visitor spaces in accordance with SEPP requirements
- the proposed off-street parking facilities satisfy the relevant requirements specified in AS2890 and will operate satisfactorily
- the proposed private road and cul-de-sac has been designed to allow a Toyota Coaster, 9.4m refuse vehicle and 8.2m fire truck to enter and exit the site whilst travelling in a forward direction at all times, and will operate satisfactorily.

On the above basis, the amended development proposal is supportable on traffic engineering grounds and will not have any unacceptable traffic or parking implications.

I trust the above advice is satisfactory and to your needs. Please do not hesitate to contact the undersigned should you have any queries or require any further information regarding the above.

Yours faithfully,

ALTUS TRAFFIC ENGINEERING



Thomas Yang (NER)

Team Leader

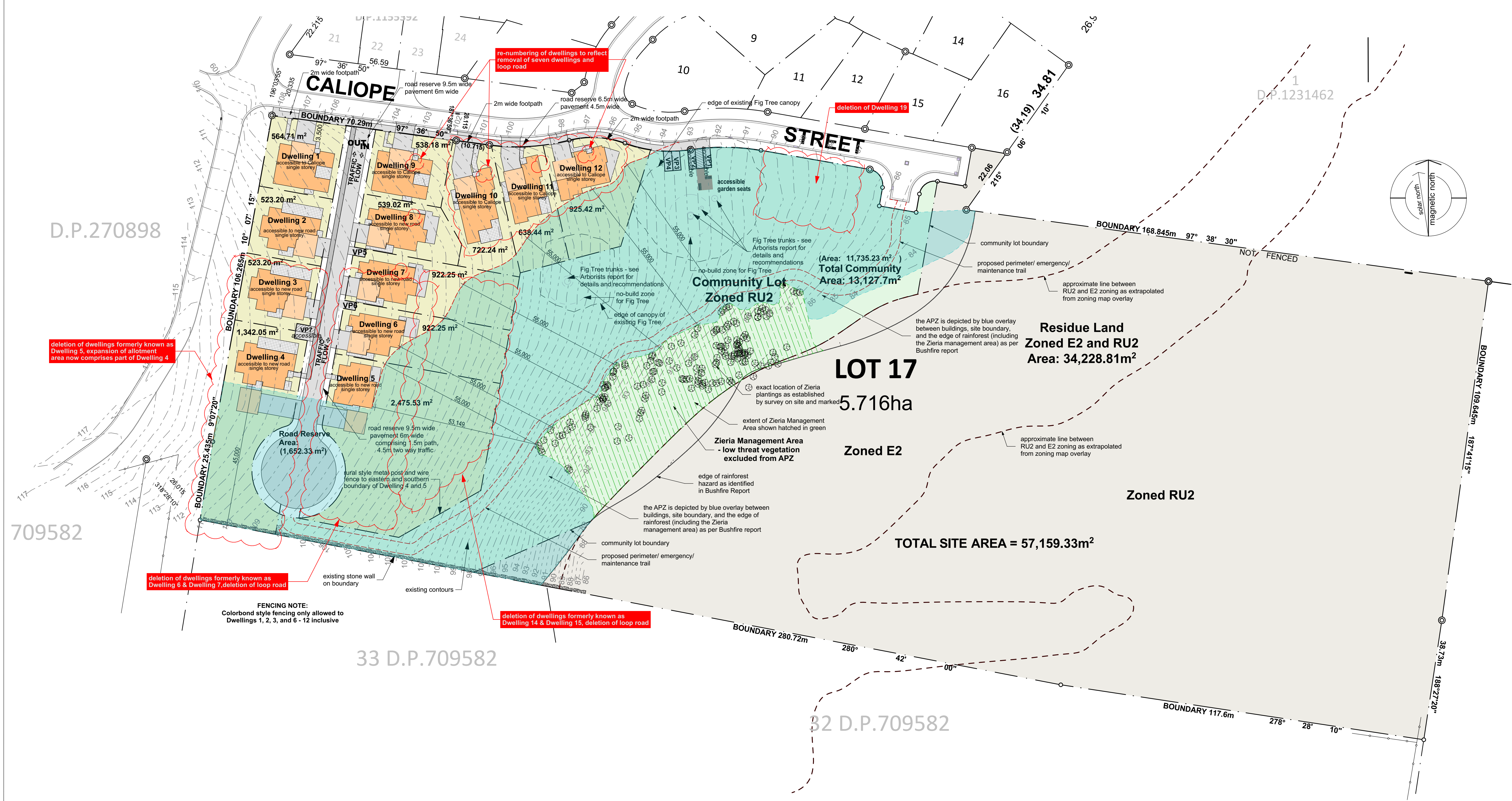
Traffic & Transport Planning NSW

E: thomas.yang@altustraffic.com.au

M: 0428 420 465

A: 2 Kildo Crescent, Glendenning NSW 2761

Annexure A Architectural Plans



SITE LAYOUT PLAN
1:600

NOTES

ALL DIMENSIONS TO BE CONFIRMED ON-SITE.

ALL TIMBER WORKS TO COMPLY WITH AS 1684

NATIONAL TIMBER FRAMING CODE

ALL BRICKWORK TO COMPLY WITH AS 3700

MASONRY IN BUILDING

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Do not scale off this drawing. Only figured dimensions are to be used.

Any discrepancy in the document is to be referred to the company for clarification before proceeding with any work.

FIGURED DIMENSIONS TO BE USED IN PREFERENCE TO SCALING

200

300mm ON ORIGINAL

AMENDMENTS			
REV	AMENDMENT	DATE	BY
A	Issued for Basic/ Nathers	28-01-21	AMS
B	Issued for DA	02-02-21	AMS
C	Additional notes regards Zieria and APZ	08-04-21	AMS
D	Remove Dwellings 4, 5, 6, 7, 14, 15 and re-numbering of remaining dwellings	05-11-21	AMS
E	Remove Dwellings 5, 12, 13, 14, 15, 16, 17 and re-numbering of remaining dwellings	20-01-22	AMS

PROJECT :

PROPOSED SENIORS LIVING ESTATE

at LOT 17 DP 1210621 (Formerly Part Lot 100 DP 751279), 2 Caliope St KIAMA NSW

CLIENT : WERITON PROPERTIES

DRAWING : SITE LAYOUT PLAN

CSA JOB NO. : 610-12-331	No. IN SET 1 of 21
DATE 20-01-22	SHEET NUMBER
DRAWN BY AMS	DA01E

Print date 24/01/2022

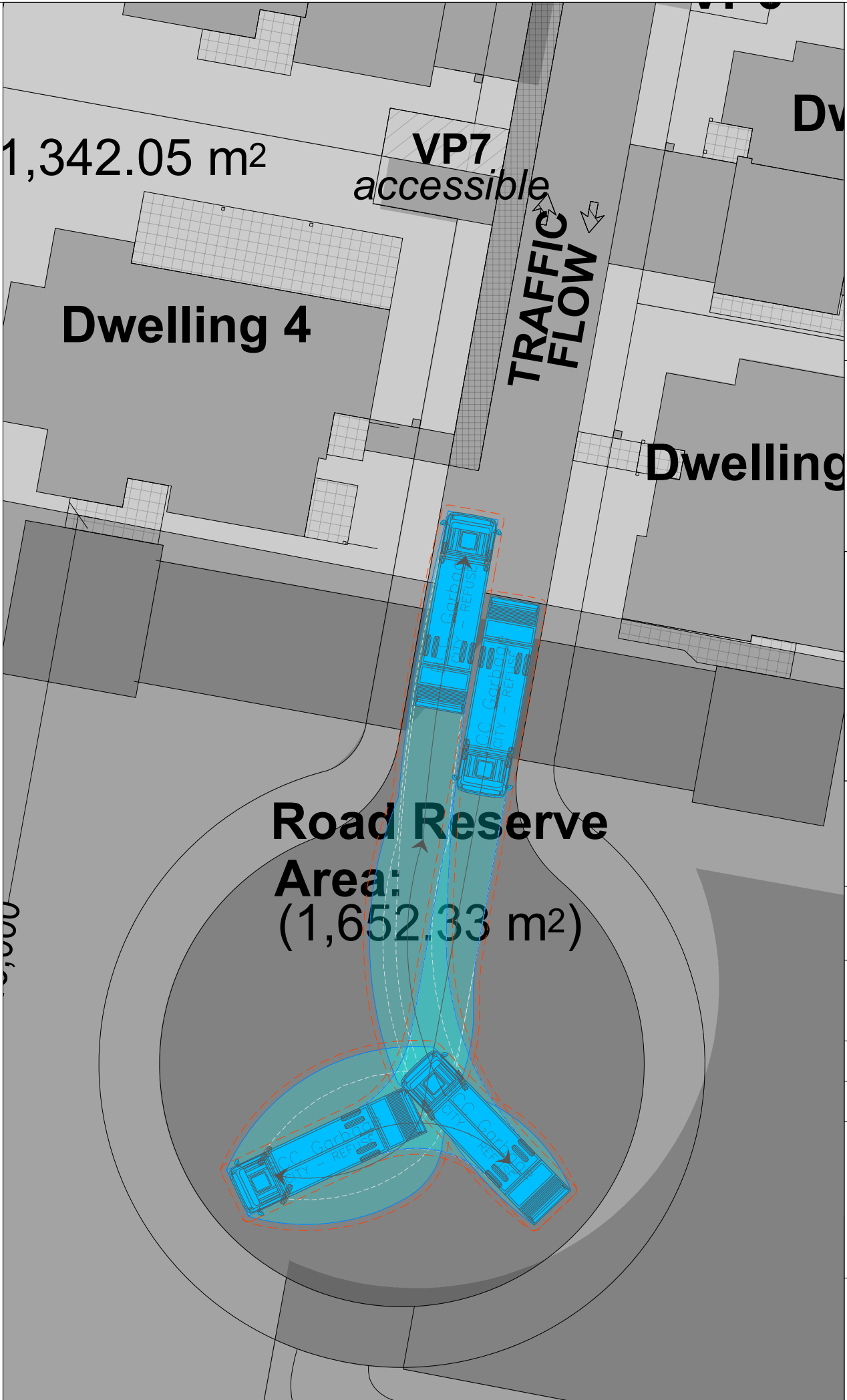
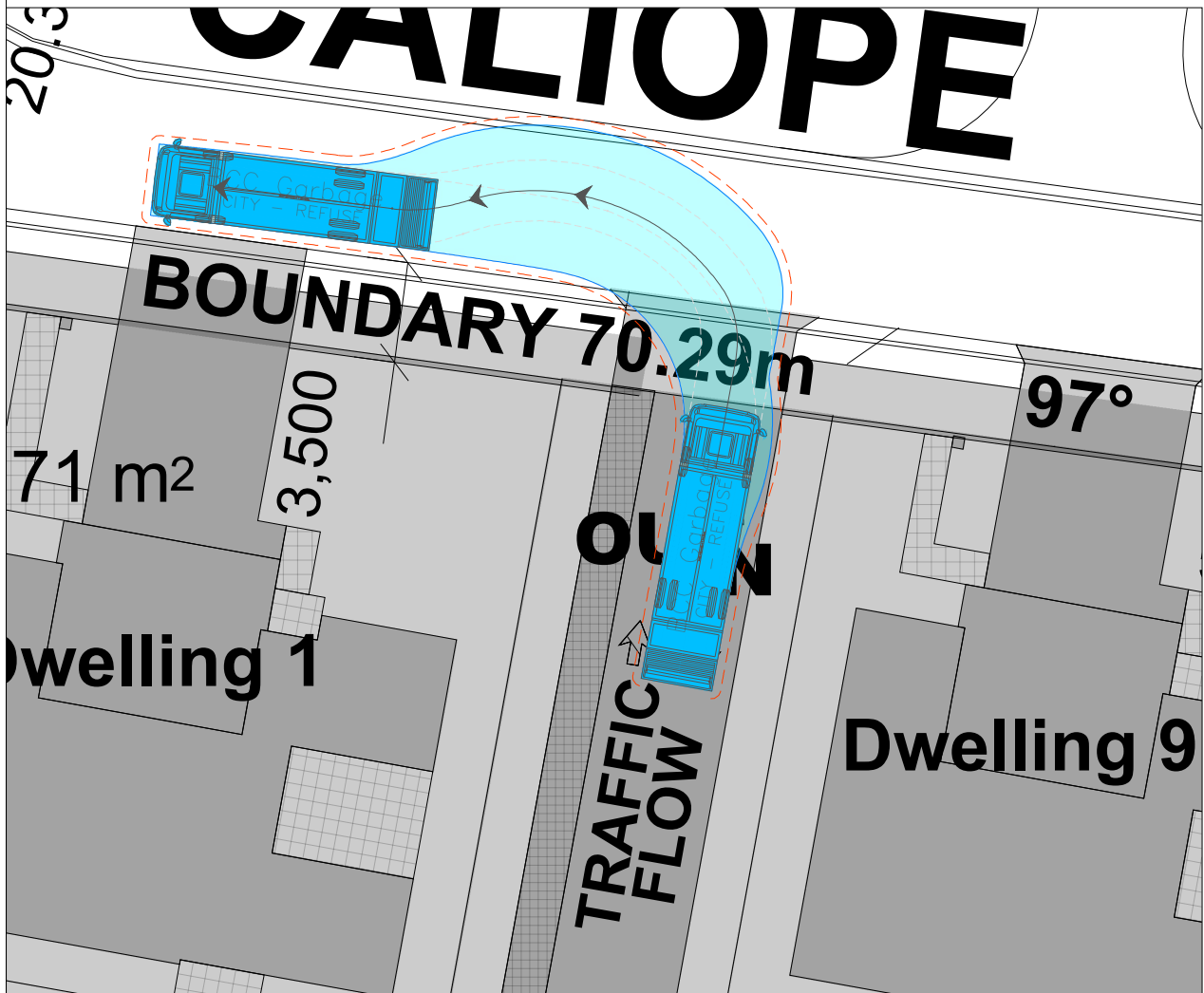
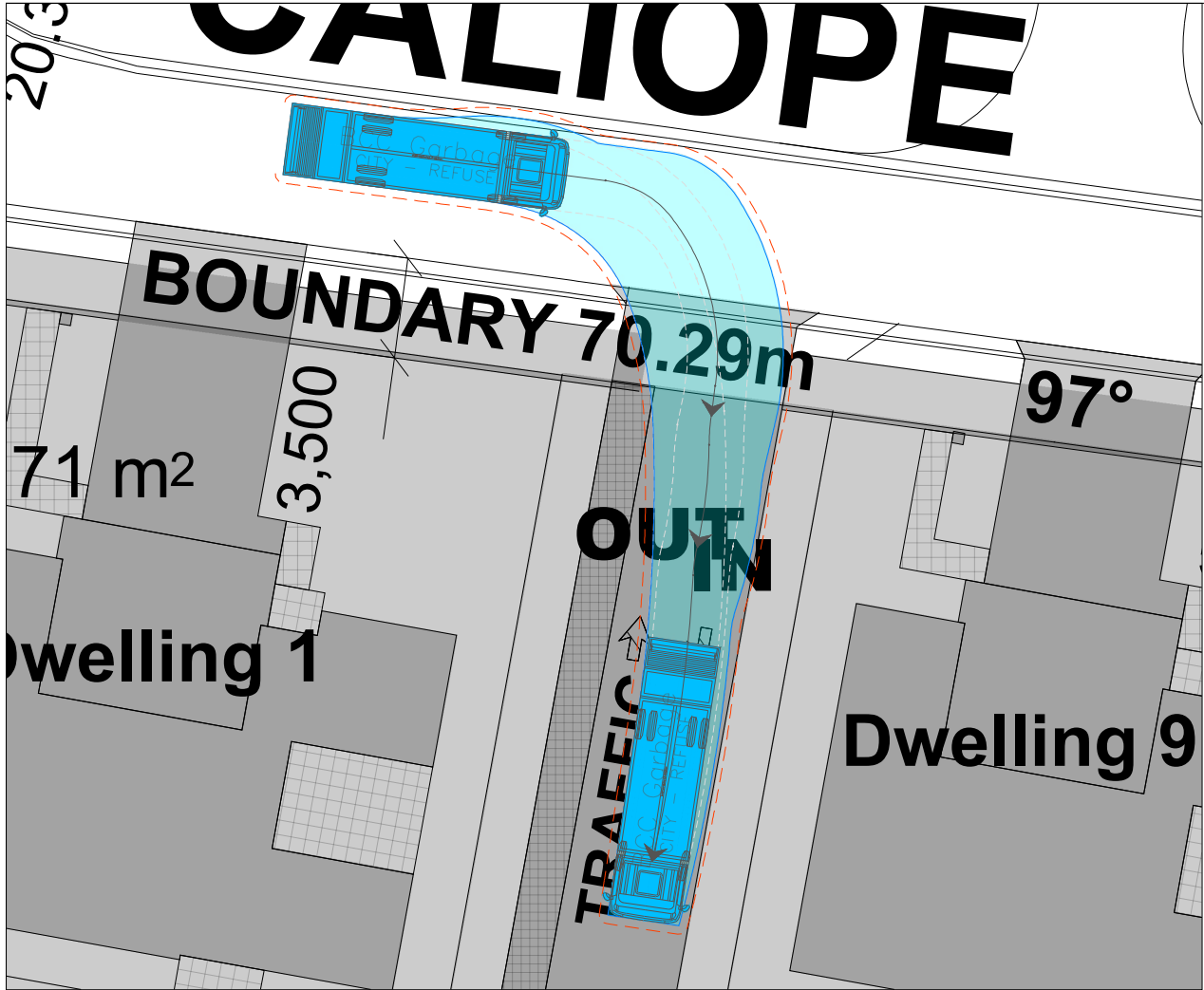
coble stephens
architects

1 EAST STREET ■ MOSS VALE ■ NSW 2577
PO BOX 2072 ■ BOWRAL ■ NSW 2576
Ph 02 4869 5395 ■ Fax 02 4869 5495 ■ cs.arch@bigpond.net.au
Andrew Coble Architects Registration 6922 Alison Stephens Architects Registration 6678

SCALE 0 1.0 2.0 3.0 4.0 5.0
THESE DRAWINGS HAVE BEEN PREPARED FOR DEVELOPMENT APPLICATION

Annexure B

Swept Turning Path Diagrams



NOTES:

THIS DRAWING IS PREPARED FOR INFORMATION PURPOSES ONLY.

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION.

ALTUS TRAFFIC IS RESPONSIBLE FOR VEHICLE SWEEP PATH DIAGRAM AND / OR DRAWING MARK-UPS ONLY, AND NOT RESPONSIBLE FOR BASE DRAWINGS WHICH ARE PREPARED BY OTHERS.

VEHICLE SWEEP PATH DIAGRAMS PREPARED USING COMPUTER GENERATED TURNING PATH SOFTWARE AND ASSOCIATED CAD DRAWING PLATFORMS.

VEHICLE DATA BASED UPON RELEVANT AUSTRALIAN STANDARDS (AS/NZS 2890.1-2004 PARKING FACILITIES - OFF-STREET CAR PARKING, AND/OR AS 2890.2-2018 PARKING FACILITIES - OFF-STREET COMMERCIAL VEHICLE FACILITIES). THESE STANDARDS EMBODY A DEGREE OF TOLERANCE, HOWEVER THE VEHICLE CHARACTERISTICS IN THESE STANDARDS REPRESENT A SUITABLE DESIGN VEHICLE AND DO NOT ACCOUNT FOR ALL VARIATIONS IN VEHICLE DIMENSIONS / SPECIFICATIONS AND / OR DRIVER ABILITY OR BEHAVIOUR.

SWEPT PATH LEGEND

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- VEHICLE CLEARANCE PATH

ASSUMED SPEED 5KM/H

BCC Garbage

Width	: 2500
Track	: 2500
Lock to Lock Time	: 4.0
Steering Angle	: 35.8

SCALE

1:250 @ A3

PROJECT

2 CALIOPE STREET
KIAMA

DRAWING TITLE

9.8mRefuseVehicle_Entry&Exit

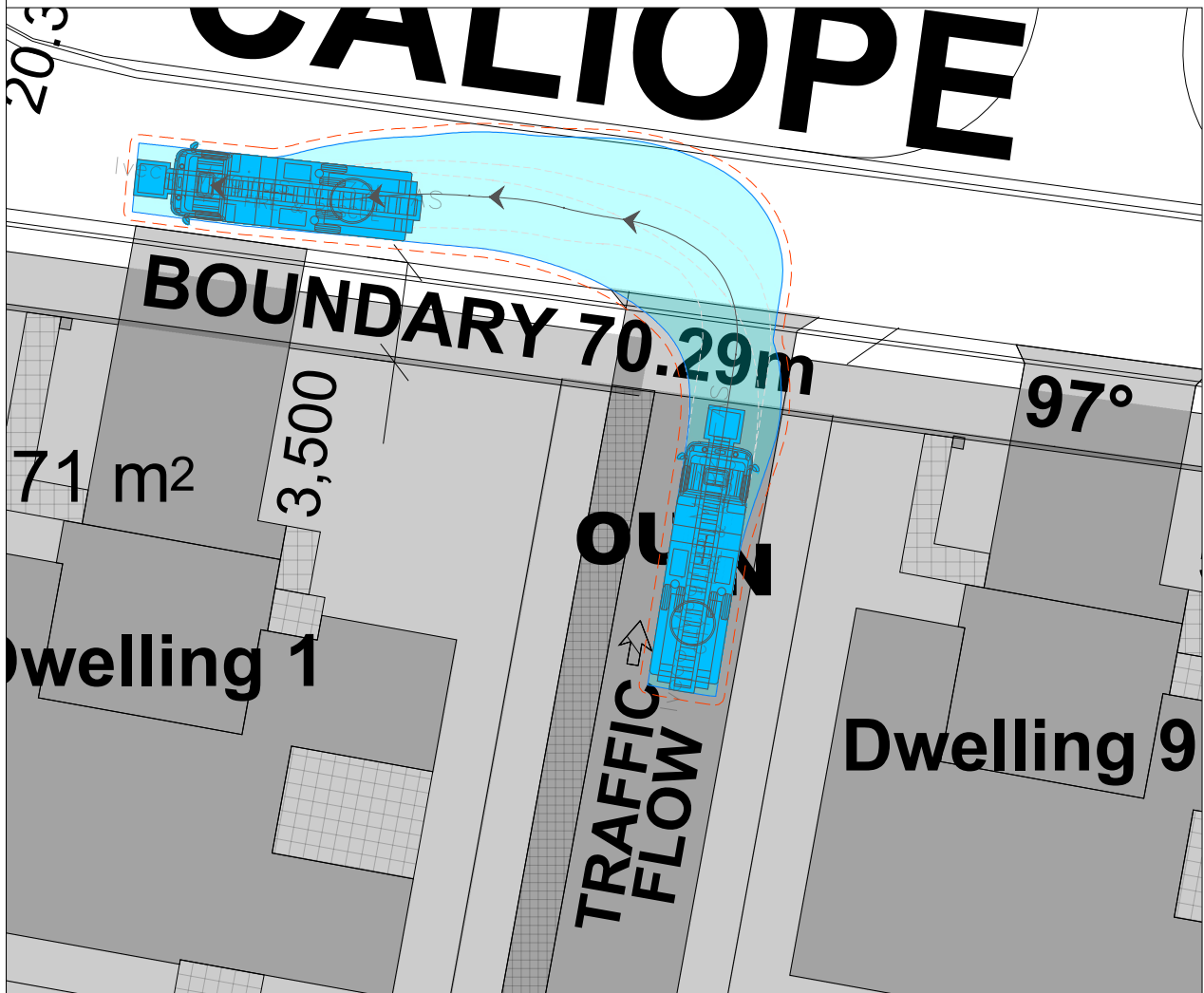
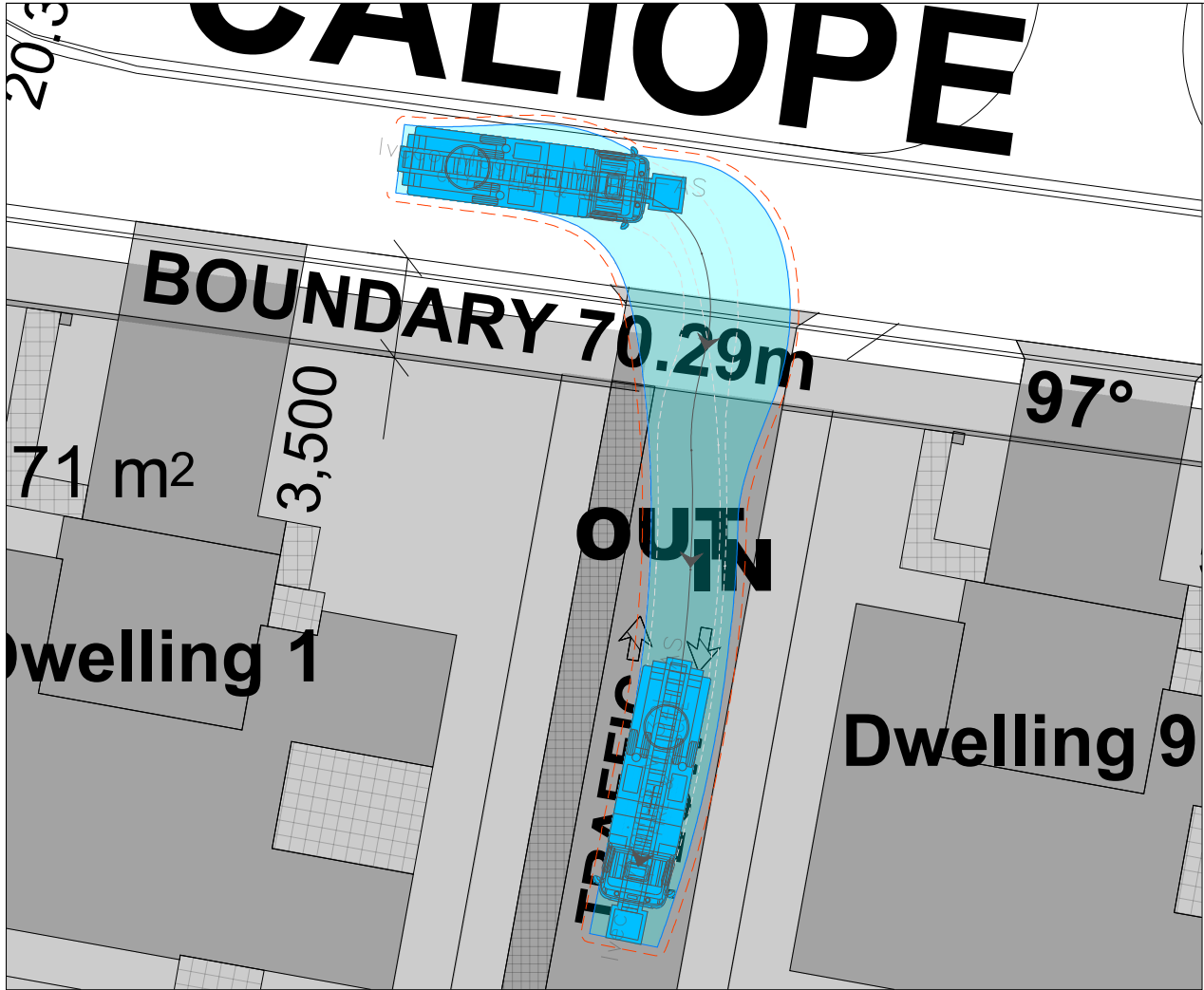
PROJECT NO. ALT221015NSW

DRAWN: TY **CHECKED:** TY **DATE:** 25-01-22

ALTUS
TRAFFIC ENGINEERING

Altus Traffic Pty Ltd
ABN 84 102 768 061
2 Kilton Crescent, Glendenning NSW 2761
1300 TRAFFIC (872 334)
www.altustraff.com.au

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SWEPT PATH LEGEND

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- VEHICLE CLEARANCE PATH

ASSUMED SPEED 5KM/H

Iveco Magirus M 32L-AS

Width	: 2400
Track	: 2400
Lock to Lock Time	: 6.0
Steering Angle	: 43.4

SCALE

1:250 @ A3

PROJECT
2 CALIOPE STREET
KIAMA

DRAWING TITLE
10mFireTruck_Entry&Exit

PROJECT NO. ALT221015NSW

DRAWN: TY **CHECKED:** TY **DATE:** 25-01-22

Altus Traffic Pty Ltd
ABN 84 102 768 061
2 Kilton Crescent, Glendenning NSW 2761
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AGREEMENT FOR PROVISION OF BUS SERVICES

BETWEEN: **SADDLEBACK MOUNTAIN ESTATES NO. 2 PTY LIMITED**
(ACN 144 729 939) as trustee for Saddleback Unit Trust No. 2
of 74 Pitt Street, Sydney NSW 2000 ("**the Developer**")

AND: **LEDALE PTY LTD t/as CANTYS BUS RENTALS**
(ABN 74 122 073 545) of 12 Prince of Wales Avenue, Unanderra
NSW 2526 ("**Ledale**")

RECITALS:

- A. Ledale Pty Ltd t/as Cantys Bus Rentals operates a bus and passenger transport charter business servicing the Wollongong Illawarra region.
- B. The Developer has obtained a site compatibility certificate from the Department of Planning for 21 seniors living self-contained dwellings with community facilities and ancillary services at the site comprised in Lot 17 DP1210621 and known as 2 Caliope Street (formerly 43 Old Saddleback Road), Kiama ("the Seniors Estate") and the Developer has lodged a development application with Kiama Municipal Council for consent to carry out such development.
- C. Ledale has agreed to provide transport services for the Seniors Estate. This agreement is subject to review pending the finalised requirements prior to the commencement of the service when the Seniors Estate has been completed.

OPERATIVE PARTS

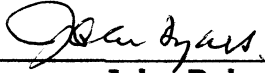
1. Ledale agrees that in the event that the Developer is successful in obtaining consent from the Council or other consent authority for the Seniors Estate, Ledale will provide transport services for residents of the Seniors Estate. These services will be provided at a price to be agreed on commencement of the services or in accordance with Ledale's Price Schedule applicable at the time and will involve

pick up and return of passengers twice daily, seven (7) days per week, 52 weeks per year, once in the morning between 8am and 12pm and once in the afternoon between 12pm and 6pm or otherwise as may be required from time to time by legislation relative to retirement villages. Additional services may be provided by appointment on a regular basis as required by individual residents. The service will be provided by means of a minibus capable of carrying a minimum of 10 passengers as a hail & ride type service with pick up from and return of passengers to the front of their dwellings.

2. Ledale warrants that this service will operate under its Ministry of Transport (T&I) accreditation at all times and also warrants that this service will be operated as a charter service for the Developer or the owners of the management scheme for the Seniors Estate.
3. Ledale will provide such services as long as they shall be required by residents of the Seniors Estate or as long as the Seniors Estate shall continue to operate and on the proviso that the agreed daily charter fees are paid on a monthly basis.
4. Ledale will, when the Developer is nearing completion of construction of the Seniors Estate, provide an up-to-date bus charter cost schedule to the Developer together with details of transfer times from the Seniors Estate to the Kiama township and return ensuring a twice morning and twice afternoon bus service connecting the Seniors Estate to Kiama Township.
5. The Developer may assign the benefit of this Agreement to the owners of the community title scheme (or such other body as shall represent the proprietors of the Seniors Estate) ("the Owners") as may be established on registration of the Plan of Subdivision for the Seniors Estate or otherwise to the Operator appointed by the Developer pursuant to the *Retirement Villages Act 1999* and in that event Ledale acknowledges and agrees that this Agreement shall be novated to the Owners or Operator as the case may be.

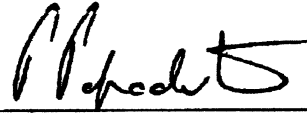
EXECUTED AS A DEED on 15 December 2021.

**SADDLEBACK MOUNTAIN
ESTATES NO. 2 PTY LIMITED**
(ACN 144 729 939) by its
attorney pursuant to Power of
Attorney Registered Book 4708
No. 766



John Dykes

LEDALE PTY LIMITED (ABN 74
122 073 545) pursuant to s127 of
the Corporations Act 2001:



Peter Papadimitriou
Sole Director/Secretary

AGREEMENT FOR PROVISION OF CARE SERVICES

BETWEEN: **SADDLEBACK MOUNTAIN ESTATES NO. 2 PTY LIMITED** (ACN 144 729 939) as trustee for Saddleback Unit Trust No. 2 of 74 Pitt Street, Sydney NSW 2000 ("the Developer")

AND: **SOUTH COAST HOME HEALTH CARE PTY LTD** (ABN 93 063 917 779) of Suite 9, 12-14 George Street, Warilla NSW 2528 ("**SCHHC**")

RECITALS:

- A. SCHHC is an accredited care provider with resources to provide health care and assisted living services to disabled and elderly members of the Illawarra community.
- B. The Developer has applied for and obtained a site compatibility certificate from the Department of Planning for 21 seniors living self-contained dwellings with community facilities and ancillary services at the site comprised in Lot 17 DP1210621 and known as 2 Caliope Street, Kiama (formerly 100 DP751279 and known as 43 Old Saddleback Road, Kiama) ("the Seniors Estate") and the Developer has lodged a development application with Kiama Municipal Council for consent to carry out such development.
- C. SCHHC has informed the Developer that it is willing to provide on the site the services listed in the attached schedule to the residents of the Developer's proposed Seniors Estate at the cost of the residents on a user pays basis ("the SCHHC Schedule").

OPERATIVE PARTS

1. SCHHC agrees that in the event that the Developer is successful in obtaining consent from the Council or other consent authority for the Seniors Estate, SCHHC will provide the personal care and nursing care services listed in the SCHHC Schedule for residents of the Seniors Estate at the then scheduled fees by appointment or on a regular basis as required by individual residents.

2. SCHHC will provide such services on the site when housing in the Seniors Estate is ready for occupation and for as long as they shall be required by residents of the Seniors Estate or as long as the Seniors Estate shall continue to operate.
3. SCHHC shall devise a services management plan in accordance with the requirements of the residents and management of the Seniors Estate which shall stipulate the detailed nature of service to be made available to residents, the times at which the services will be delivered or provided and the costs of those services.
4. In addition to the services set out in the SCHHC Schedule (which include personal care and home nursing, and assistance with housework), SCHHC will provide home delivered meals to residents of the Seniors Estates at the then applicable fees.
5. The Developer may assign the benefit of this Agreement to the owners of the community title scheme (or such other body as shall represent the proprietors of the Seniors Estate) ("the Owners") as may be established on registration of the Plan of Subdivision for the Seniors Estate or otherwise to the Operator appointed by the Developer pursuant to the *Retirement Villages Act 1999* and in that event SCHHC acknowledges and agrees that this Agreement shall be novated to the Owners or the Operator as the case may be.


EXECUTED AS A DEED on 2 December 2021.

**SADDLEBACK MOUNTAIN ESTATES
NO. 2 PTY LIMITED** (ACN 144 729 939)
by its attorney pursuant to Power of
Attorney Registered Book 4708 No. 766

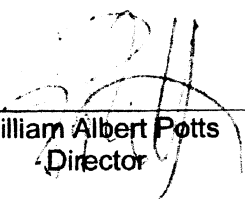


John Dykes

**SOUTH COAST HOME HEALTH
CARE PTY LTD** (ABN 93 063 917
779) by its Director and Secretary:



Glenda Potts
Secretary



William Albert Potts
Director



**SOUTH COAST HOME
HEALTH CARE Pty Ltd**

ABN 93 063 917 779

Telephone: 4252 0555
Fax: 4252 0515
Email: referral@schhc.com.au

P.O. BOX 20
WARILLA NSW 2528

Head Office Address:
9/12-14 George Street
Warilla NSW 2528

FEES CURRENT 1ST June 2021
(Excluding GST)

Care Worker Cert III & IV

	30 Min	1 Hour	
AM	\$37.60	\$60.65	6am – 6pm Mon - Fri
PM	\$42.20	\$69.90	6pm – 6am Mon - Fri
W/END	\$53.75	\$91.25	Midnight Friday – Midnight Sunday
P/HOL	\$67.60	\$121.30	Each gazetted 24hr period

One-Off Services all Minimum of 1hour charge

Enrolled Nurse/Endorsed Enrolled Nurse

	1 Hour
AM	\$72.80
PM	\$81.30
W/END	\$109.00
P/HOL	\$145.55

One-Off Services all Minimum of 1hour charge

Registered Nurse

	1 Hour
AM	\$108.35
PM	\$124.75
W/END	\$162.55
P/HOL	\$216.70

One-Off Services all Minimum of 1hour charge

Half hour service charges for Care Workers only. Service must be of 4 weeks duration or more.

Sleepovers/Overnights Care

Non-Active 8 hour period Mon-Thurs night \$265.00 – Fri – Sun nights \$310.00 (conditions apply)

Note: Sleeping facilities must be provided

Occupational Therapist

Contact Warilla Office

Kilometres

All Klms will be charged @ 0.90Klms (*only charged when service involves transport*)

Note: A late cancellation fee of 1 hr will apply if service cancelled on the day (conditions apply)
Services of 3 hours or more cancelled on the day will be charged a late cancellation fee of 3 hours.





NOTE:
ALL BOUNDARY DIMENSIONS ARE FROM
ARCHITECTS PLANS AND ARE TO BE
VERIFIED BY SURVEY AFTER CONSTRUCTION.
ALL AREAS ARE APPROXIMATE

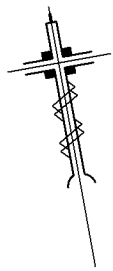
Surveyor : MATTHEW B. SMITH
Date of Survey :
Surveyor's Ref :D217135_21012022

PLAN OF PROPOSED COMMUNITY SUBDIVISION
OF LOT 17 IN DP 1210621

LGA: KIAMA
Locality : KIAMA
Subdivision No:
Lengths are in metres. Reduction Ratio 1:750

Registered

DP



NOTE:
ALL BOUNDARY DIMENSIONS ARE FROM
ARCHITECTS PLANS AND ARE TO BE
VERIFIED BY SURVEY AFTER CONSTRUCTION.
ALL AREAS ARE APPROXIMATE

Surveyor : MATTHEW B. SMITH Date of Survey : Surveyor's Ref :D217135_01/02/2022	PLAN OF PROPOSED TWO LOT TORRENS SUBDIVISION OF LOT 17 IN DP 1210621	LGA: KIAMA Locality : KIAMA Subdivision No: Lengths are in metres. Reduction Ratio 1:750	Registered	DP
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00	10	20	30	40	50	Table of mm	90	100	110	120	130	140
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Approved Form 28

COMMUNITY LAND DEVELOPMENT ACT

OCEANVIEW ESTATE COMMUNITY MANAGEMENT STATEMENT

WARNING

The terms of this management statement are binding on the community association, each subsidiary body within the community scheme and each person who is a proprietor, lessee, occupier or mortgagee in possession of a community development lot, precinct development lot, neighbourhood lot or strata lot within the community scheme.

PART 1

BY-LAWS FIXING DETAILS OF DEVELOPMENT

These By-Laws relate to the control and preservation of the essence or theme of the community scheme and as such may only be amended or revoked by a unanimous resolution of the community association (see section 17(2) Community Land Management Act 1989).

1. Limitation of Occupancy

Oceanview Estate is a seniors living community scheme developed under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 ("SEPP") and comprises serviced self-care housing under the Retirement Villages Act 1989 (NSW) ("RV Act"). Each resident must be a person who qualifies for accommodation in Oceanview Estate under Clause 18(1) of the SEPP. This includes seniors (being persons aged 55 years or more), people who have a disability, people who live in the same household with seniors or people who have a disability, and staff employed to assist in the administration and provision of services to housing provided under the SEPP. Use or occupancy of any part of Oceanview Estate contrary to the SEPP is prohibited.

2. Architectural Theme

2.1 Permitted house designs

An owner may erect on a Community Development Lot the house type permitted for the owner's Lot in accordance with the Architectural Plans approved by the Council of the Municipality of Kiama ("Council") in conjunction with the consent granted by the Council to DA 10.2021.67.1

("Approved House Designs") without further consent from the Community Association if:

- (a) the owner has a construction certificate pursuant to the requirements of the Environmental Planning & Assessment Act 1979 to erect that house type on the Lot; and
- (b) the owner complies with terms and conditions of the Consent granted by the Council to DA 10.2021.67.1 ("Consent"); and
- (c) the owner erects the house within the same footplate for the Lot shown in the Approved House Designs.

2.2 Restrictions on other development

An owner must not carry out, or permit to be carried out, the erection of any building or other structure on the owner's Lot unless:

- (a) the development is permitted under By-Law 2.1; or
- (b) the development complies with the SEPP and the owner has obtained a development consent from the Council; and
- (c) prior to seeking development consent to the development, the owner obtains in writing the consent of the Community Association under By-Law 2.3 and submits this with their development application;
- (d) if the development includes construction of a house, the owner erects the house within the same footplate and to the same ridge height for the Lot shown in the Approved House Designs; and
- (e) the owner complies at all times with the terms and conditions of the development consent and the Community Association consent.

2.3 Consent of the Community Association

The Community Association must establish an architectural review sub-committee (under By-Law 2.2) to assist it to consider applications by owners under By-Law 2.2(c). The sub-committee may appoint external consultants such as an architect or town planner to advise it on an application.

2.4 The sub-committee may conduct its proceedings in the manner it determines appropriate but it must:

- (a) comply with this management statement;
- (b) comply with any procedural directions issued by the Community Association; and
- (c) conduct its proceedings according to the principles of equity and natural justice.

2.5 Any consent by the Community Association may be given on terms and conditions including, without limitation, payment of the Community Association's costs incurred in considering the application, a requirement on the owner to effect insurances and provide a certificate by a qualified consultant such as an architect, engineer or town planner as to the proposed development or any aspect of it.

PART 2

RESTRICTED COMMUNITY PROPERTY

These By-Laws may only be amended after the expiry of the initial period by a special resolution and with the written consent of each person entitled by the By-Law to use the restricted community property (see section 54 Community Land Management Act 1989).

Not applicable

PART 3

MANDATORY MATTERS

3. Open access ways or private access ways

Open Accessway is the shared vehicle accessway within the Community Property being part of Lot 1 in the Community Plan that contains the roadway and verges and is to be maintained by the Community Association for perpetuity in a trafficable condition so that it is open for public use at all times.

Parking bays which comprise part of the Open Accessway may only be used by the residents of Oceanview Estate and their guests in accordance with the restrictions stipulated on parking signage adjacent to those parking bays.

The location of the Open Accessway is shown in the plan attached as Sheet 16 of the Community Management Statement.

4. Permitted uses of and special facilities on the Community Property

Amenities on the Community Property shall comprise bench seats and designated picnic areas.

Rules relating to the use and maintenance of the Community Property shall be determined by the Community Association or the Committee and Residents may only use the Community Property in accordance with those rules.

5. Internal fencing

5.1 Fences in Oceanview Estate must be of the following design:

- (a) No fences shall be installed in front of the building line shown on the Approved House Design without the written approval of the Community Association. Boundaries forward of the building line should as far as possible be defined by low hedge planting only;
- (b) Fencing provided on the common boundaries of Caliope Street and Old Saddleback Road shall be rurally themed in design, constructed of timber post and rails and open mesh, not exceeding 1.2 metres high;
- (c) Fencing on the eastern boundary of Dwellings 4 and 5 and the southern boundary of Dwelling 5 shall be constructed of metal posts and wire not exceeding 1.2 metres high. No fence shall be erected on the southern boundary of Dwelling 4 as the southern boundary of Dwelling 4 is defined by the drystone wall.
- (d) All other side and rear fences of all Dwellings shall be Colorbond or equivalent not exceeding 1.8 metres high.

5.2 Each owner indemnifies the Developer for the amount of any contribution to a dividing fence under the Dividing Fences Act 1991 (NSW) erected by that owner on the common boundary of that owner's land and land owned by the Developer.

6. Garbage

- 6.1** Residents must sort, store and make their garbage, waste materials and recyclable materials available for collection according to:
- (a) instructions from Council;
 - (b) instructions from the Community Association; and
 - (c) this Management Statement.
- 6.2** Instructions by Council prevail to the extent of any inconsistency between them and instructions from the Community Association or this Management Statement.

Residents must not:

- (a) deposit garbage on Community Property or Restricted Property; or
- (b) put anything in the garbage bin of another owner or resident without their consent.

Residents must place their garbage bins in the location and at the times indicated in the Waste Services Agreements between the Community Association and the Waste Services Contractors and as notified to them from time to time by the Community Association. Residents must also comply with the provisions of those Agreements regarding disposal of medical waste and recyclable materials. Copies of these Agreements are available from the Community Association on request.

Residents must remove their empty bins from the kerb and ensure they are stored out of view in the designated bin enclosures in their respective Lot within 12 hours of collection.

Bins should not be placed on the roadway.

7. Services

- 7.1** Statutory easements created in accordance with s36 of the Community Land Development Act 1989 apply to the services to Oceanview Estate. The location of the services affected by the statutory easements is shown in the Works as Executed Plan attached as Sheet 17 of this Community Management Statement.

7.2 Services Maintenance

The Community Association is responsible for and must maintain Private Services and associated Service Lines.

Subject to any easements registered with the community plan for Oceanview Estate, Service Providers are responsible for and must maintain their Statutory Services and associated Service Lines.

Water, sewer and stormwater service lines – **Sydney Water**
Communications service lines - **Telstra**
Electricity service lines – **Endeavour Energy**

7.3 Endeavour Energy

The low voltage electricity system is defined in the 'Plan of Services Works as Executed' in Sheet 17 and shown as 'E – Electricity'.

This electricity system is Association property.

The Association is responsible for the maintenance, repair, refurbishment, and augmentation of this electricity system.

The low voltage reticulation within the development beyond the point of supply shall be carried out to AS/NZS3000 based on 6.5kVA/dwelling (ADMD) or a total load of 281A/phase three phase.

This By-Law cannot be deleted or modified without the written consent of Endeavour Energy.

8. Insurance

The Community Association will take out and maintain insurance for repair of damage to the Community Property including the roadway on the Open Accessway, footpaths and streetlighting and shall procure public liability insurance and such other insurances as may be required By-Law in respect of the Community Property.

9. Executive Committee

9.1 Officers of the Committee

The officers of the Committee are the secretary, treasurer and chairperson.

9.2 Secretary's functions

The functions of the secretary are to:

- (a) convene, prepare agendas and send notices for meetings of the Community Association and the Committee;
- (b) prepare and distribute minutes of meetings of the Community Association and the Committee;
- (c) give notices under this management statement and the Community Land Management Act ("Management Act") for the Community Association and the Committee;
- (d) supply certificates about contributions, insurance and other matters under clause 2 of schedule 4 of the Management Act;
- (e) answer communications sent to the Community Association;
- (f) perform administrative and secretarial functions for the Community Association and the Committee;
- (g) keep records for the Community Association and the Committee according to this Management Statement and the Management Act;
- (h) ensure that there are permanent on going arrangements with a registered transport provider (as required by Condition of the Consent issued by the Council on2021 in respect of DA No.10.2021.67.1) and to effect the Bus Service Agreement referred

to in By-Law 15.2 and that Council is notified of the initial appointment and is notified immediately of any changes;

- (i) ensure that there are permanent on going arrangements with a registered health service provider (as required by Condition of the Consent) and to effect the Home Care Services Agreement referred to in By-Law 15.3 and that Council is notified of the initial appointment and is notified immediately of any changes;
- (j) ensure that there are permanent on going arrangements with a commercial kitchen operator (as required by Condition of the Consent) and that Council is notified immediately of any changes;
- (k) ensure that there are permanent on-going arrangements with a waste service provider (as required by Condition of the Consent) and that Council is notified of the initial appointment and is notified immediately of any changes; and
- (l) ensure that a Retirement Village Operator is occupying the position at all times to oversee the requirements of the Retirement Village Act and Regulations and that Council is notified of the initial appointment and is notified immediately of any changes.

9.3 Treasurer's functions

The functions of the treasurer are to:

- (a) send notices of contributions to members of the Community Association;
- (b) collect contributions from members of the Community Association;
- (c) receive, acknowledge, bank and account for contributions and other money paid to the Community Association;
- (d) prepare certificates about contributions, insurance and other matters under clause 2 of schedule 4 of the Management Act;
- (e) keep accounting records for the Community Association according to the Management Act; and
- (f) prepare financial statements according to the Management Act.

9.3 Chairperson's functions

The function of the chairperson is to preside at meetings of the Community Association and the Committee at which they are present.

9.3 Protection from liability

A member of the Committee is not liable for any loss or damage caused by their actions as a member of the Committee unless they acted fraudulently or negligently.

9.4 Appointing sub-committees

The Committee may appoint sub-committees to investigate and report on issues relating to the management and operation of Oceanview Estate.

9.5 Meetings of the Committee

9.5.1 Meetings of the Committee must be convened:

- (a) by the secretary of the Community Association if they are asked to convene a meeting by one-third of the members of the Committee; or
- (b) by another member of the Committee if, in the absence of the secretary, one-third of the members of the Committee ask them to convene a meeting.

9.5.2 The secretary or the other member of the Committee must convene the meeting:

- (a) within the time specified in the notice asking for the meeting; or
- (b) if the notice does not specify a time, within 14 days of being asked.

9.5.3 Conducting meetings

Subject to this management statement and the Management Act, the Committee may meet to conduct business, adjourn and otherwise regulate meetings as it thinks fit.

9.5.4 Attendance at meetings

Owners or, if an owner is a corporation, the nominee of that corporation may attend meetings of the Committee. An owner or the owner's company nominee may address the meeting only if the Committee agrees.

9.6 Notices for meetings of the Committee

9.6.1 Meeting Notice

The secretary or the member of the Committee who convenes a meeting of the Committee must give:

- (a) each member of the Committee; and
 - (b) each member of the Community Association
- at least 48 hours notice of the meeting. The notice must include:
- (c) the time, date and venue of the meeting; and
 - (d) the agenda for the meeting.

9.6.2 How to give notices

Notices under this By-Law must be given:

- (a) by facsimile (to a number given by the recipient for the purposes of this By-Law);
- (b) by E-mail (to an address given by the recipient for the purposes of this By-Law);
- (c) personally to the member of the Committee or the member of the Community Association; or
- (d) by post or hand delivery to the address shown for the member of the Committee or the member of the Community Association shown in the roll of the Community Association.

9.6.3 The agenda for the meeting

The agenda for a meeting of the Committee must include details of all the business the Committee will deal with at the meeting. The Committee cannot deal with business that is not on the agenda for the meeting.

9.7 Decisions made in writing

The Committee may vote on motions in writing if:

- (a) notice of the meeting and an agenda have been given according to By-Law 9.6;
- (b) the secretary of the Committee (or the member of the Committee who convenes the meeting) has given each member of the Committee a voting paper; and
- (c) a majority of the members of the Committee approve the motion(s) in writing and return their voting paper to the secretary of the Committee (or the member of the Committee who convenes the meeting) before the meeting commences.

9.8 Minutes of meetings of the Committee

9.8.1 Serving copies of minutes

The secretary or the member of the Committee who convenes a meeting of the Committee (including meetings held in writing) must give a copy of the minutes of the meeting to:

- (a) each member of the Committee; and
- (b) each member of the Community Association within 14 days after the meeting.

9.8.2 How minutes are served

Minutes must be given:

- (a) by facsimile;
- (b) by E-mail;
- (c) personally to the member of the Committee or the member of the Community Association; or
- (d) by post or hand delivery to the address shown for the member of the Committee or the member of the Community Association shown in the roll of the Community Association.

9.8.3 Keeping records of meetings of the Committee

The Committee must keep copies of agendas and minutes of its meetings (including meetings held in writing):

- (a) with the records of the Community Association; and
- (b) for seven years from the date of the meeting (or for the period the Management Act requires the Community Association to keep its meeting records).

PART 4

OPTIONAL MATTERS

10. Keeping of animals

- 10.1** Subject to By-Law 10.3, residents may keep companion animals on their Lots.
- 10.2** Residents must not:
- (a) keep animals in any number which exceeds the maximum number determined by the Community Association from time to time (acting reasonably);
 - (b) keep animals which are prohibited by the Community Association from time to time (acting reasonably) or any Government Agency or;
 - (c) allow any animal you keep to create a nuisance or hazard for other owners or residents; and
 - (d) allow any animal to be or remain on Community Property unless the animal is accompanying the resident in a vehicle traversing the Open Accessway.
- 10.3** If a resident breaches By-Law 10.2, the Community Association may impose reasonable conditions on the resident's right to keep animals. If a resident breaches those conditions, and the Community Association determines the resident must remove the animal, the resident must remove the animal from Oceanview Estate and not allow its return.

11. Maintenance and repair of Lots in the Community Plan

- 11.1** Residents must:
- (a) keep their Lot clean and tidy and in good repair and condition to the reasonable satisfaction of the Community Association;
 - (b) properly maintain and replace damaged improvements on their Lot or alterations made under this management statement; and
 - (c) at their own expense, comply with all laws about their Lot including, without limitation, requirements of Government Agencies and Council.
- 11.2** Subject to this management statement, residents must have consent from the Community Association to keep anything in their Lot that is visible from outside their Lot and is not in keeping with appearance of Oceanview Estate.
- 11.3** Residents must not use their Lot in a way that:
- (a) adversely affects (or might adversely affect) another Lot; or
 - (b) interferes with the use and enjoyment by an owner or resident of their Lot or Oceanview Estate.
- 11.4** Residents must carry out maintenance and repairs to their Lot properly and:
- (a) to the reasonable satisfaction of the Community Association; and
 - (b) with materials of the same or similar quality as those used in the construction of the Lot.

- 11.5 The owner or resident of a Lot must not use anything on any other part of Oceanview Estate for any purpose other than that for which it was constructed or provided.
- 11.6 Nothing in this By-Law prohibits or limits the right of the Developer to construct Oceanview Estate according to By-Law 16 (“Developer’s Rights”).
- 11.7 Owners must comply, at their cost, with the Restrictions as to User and Easements and Positive Covenants which are in the 88b instrument which apply to their Lot

12. Service Contract with Retirement Village Operator

- 12.1 Owners must enter into a Service Contract with the Retirement Village Operator if requested, for the provision of services by the Retirement Village Operator to them under this Community Management Statement. Owners must not sell or transfer their Lot unless the incoming purchaser of the Lot enters into a Service Contract with the Retirement Village Operator.

13. Safety and security measures

- 13.1 Residents must comply with laws about fire control.
- 13.2 Subject to the requirements of Government Agencies and Council, residents may keep flammable materials in their Lot if:
 - (a) they use them in connection with the lawful use of their Lot;
 - (b) they are not inflammable materials (in type or quantity) prohibited by the Community Association or a Government Agency; and
 - (c) they keep them in reasonable quantities.
- 13.3 Residents must not:
 - (a) keep flammable materials on Community Property; or
 - (b) interfere with fire safety equipment.

14. Noise control

- 14.1 This part applies to owners and residents of Lots.
- 14.2 Owners and residents must not:
 - (a) make noise that might interfere unreasonably with another owner or resident;
 - (b) use language or behave in a way that might offend or embarrass another owner or resident or their visitors;
 - (c) allow children in their care to play on Community Property unless an adult exercising effective control is with them;
 - (d) obstruct the legal use of Community Property by any person; or
 - (e) do anything in Oceanview Estate that is illegal.

- 14.3** Owners and residents of a Lot must make sure their visitors and invitees are aware of, and comply with this management statement as if they were residents.
- 13.4** Owners and residents must make their visitors and invitees leave Oceanview Estate immediately if they do not comply with this management statement.
- 14.5** If a Lot is to be leased (or it is subject to a licence agreement) the owner must:
- (a) ensure each tenant or occupant under the lease or licence qualifies for accommodation in Oceanview Estate under By-Law 1 and clause 18(1) of the SEPP;
 - (b) give the tenant or licensee a copy of this management statement and (and changes to it);
 - (c) ensure the tenant or licensee and their visitors and licensees (as if they were residents) comply with this management statement; and
 - (d) take all action available to the owner, including action under the lease or license agreement, to make the tenant or licensee comply or leave Oceanview Estate.
- An owner must not allow another person to do anything which the owner cannot do under this management statement.

15. On-going service contracts

15.1 Retirement Village Operator

The Community Association has the power to enter into an agreement with the Retirement Village Operator for the Retirement Village Operator to perform the functions of the Community Association including providing the services in relation to the transport provider, waste service provider and health and meal provider.

15.2 Bus Service

The Developer entered into an agreement with Ledale Pty Ltd t/as Cantys Bus Rentals on 15 December 2021 to secure a bus service for residents of Oceanview Estate for return services to Kiama township ("Bus Service Agreement").

15.3 Home Care Services

The Developer entered into an agreement with South Coast Home Health Care Pty Ltd (ABN 93 063 917 779) on 2 December 2021 to secure home care services for residents of Oceanview Estate including the services of personal care, home nursing, housework assistance and home delivered meals ("Home Care Services Agreement").

- 15.4** The Bus Service Agreement and Home Care Services Agreement are agreements for the purposes of s24 of the Community Land Management Act 1989 and the Community Association intends to procure a novation of the Agreements from the Developer during the Initial Period.

16. Developer's Rights

- 16.1** This is a Restricted Property By-Law. The Community Association may change or cancel it only by special resolution and with the written consent of the Developer (while the Developer owns a Community Development Lot or has obligations to carry out work). Initial period restrictions apply.
- 16.2** While the Developer develops Oceanview Estate, the owner of each Community Development Lot (for which that owner is the Developer) has restricted use of Community Property and Service Lines owned by the Community Association.
- 16.3** Nothing in this management statement binds the Developer to the extent that it may restrict, fetter or prevent the Developer exercising its rights under this By-Law.
- 16.4** The Developer may:
- (a) carry out building and development work in its discretion;
 - (b) use any part of Oceanview Estate to exercise its rights under this By-Law;
 - (c) have unrestricted access to Community Property;
 - (d) park motor vehicles and equipment on Community Property;
 - (e) install and connect services on Community Property;
 - (f) conduct development activities on Community Property;
 - (g) lock or secure part of Community Property, except the open accessway. The Developer must give the secretary of the Community Association a key for the locked or secured area;
 - (h) exercise its rights only between 7am and 5pm on Mondays to Saturdays or at other times allowed by Council (excluding Sundays and public holidays in New South Wales);
 - (i) carry out other works which the Developer considers reasonably necessary or desirable in order to build and develop Oceanview Estate and carry out the rights and objectives contemplated by this By-Law; and
 - (j) nominate to the Community Association any successor in title to the Developer. On nomination, that successor in title is entitled to enjoy the Developer's rights under this By-Law in respect of the Lots the successor in title owns. The Developer retains its rights under this By-Law, despite a nomination, in respect of the Development Lots the Developer owns.
- 16.5** The Developer must:
- (a) repair any damage to Oceanview Estate caused by exercising the rights of the Developer under this By-Law;
 - (b) take all reasonable steps to minimise disturbance to owners and residents while exercising the rights of the Developer under this By-Law;
 - (c) leave Oceanview Estate (or parts of it) clean and tidy after building and development work is finished; and
 - (d) maintain Community Property that the Developer has the right to use.

- 16.6** The Developer may gain access to the restricted use areas through Community Property.
- 16.7** The rights of the Developer under this By-Law:
- (a) for any part of Oceanview Estate, end when the Developer notifies the Community Association that the Developer has completed building and development work for that part of Oceanview Estate; and
 - (b) for the balance of Oceanview Estate, end when on the earlier of the following:
 - (i) the Developer notifies the Community Association that the Developer has completed building and development work on the Oceanview Estate; or
 - (ii) all the conditions of development consent for Oceanview Estate have been discharged.

PART 5

BY-LAWS REQUIRED BY A PUBLIC AUTHORITY

17. By-Laws required by a public Authority

17.1 The Council requires the By-Laws in this Management Statement as listed below to be Public Authority By-Laws:

- (a) By-Law 1 requiring Oceanview Estate to be operated as a Retirement Village in accordance with the Retirement Villages Act and Regulation.
- (b) By-Law 2 regarding the Architectural Theme.
- (c) By-Law 5.1 regarding fences.
- (d) By-Law 6 regarding garbage.
- (e) By-Law 9.2(h) to (l) inclusive regarding functions of the Secretary of the Community Association to ensure permanent transport service, health service, meal service, waste service and obligations under the Retirement Villages Act.

17.2 The Community Association may change the Public Authority By-Laws listed in By-Law 17.1 only by special resolution and with the written consent of the Council.

17.3 Endeavour Energy requires By-Law 7.3 to be a Public Authority By-Law.

17.4 The Community Association may change By-Law 7.3 only by special resolution and with the written consent of Endeavour Energy.

18. Maintenance of Asset Protection Zone (“APZ”)

18.1 Residents must maintain the curtilages to the Dwelling contained in their Lot in accordance with the requirements of Rural Fire Service Guidelines to ensure the curtilages function at all times as an Asset Protection Zone from any fire hazard within the vicinity of the Dwellings.

18.2 The Community Association shall take responsibility for maintaining the Community Property within the APZ as required by Rural Fire Service Guidelines.

18.3 In the event that any Resident fails to maintain its curtilage in accordance with the obligations in By-Law 18.1, the Community Association shall take responsibility for maintaining such Resident's curtilage and for that purpose shall be entitled by its contractors or employees to have access to the Resident's Lot and all costs incurred by the Community Association in this regard shall be a debt due and owing by the Resident which the Community Association may recover in the same way as unpaid levies.

Sheet 16 - Open Accessway

Execution by the original proprietor

Signature/Seal:

John Dykes, Director/Secretary Director

Name: **SADDLEBACK MOUNTAINS ESTATES NO. 2 PTY LTD** (ACN
144 729 939)

Date:

Signature/Seal:

Garrett Coleman, Director Director

Name: **SADDLEBACK MOUNTAINS ESTATES NO. 2 PTY LTD** (ACN
144 729 939)

Date:

Certificate of Approval

Kiama Council certifies that the terms and conditions of this Management Statement are consistent with the Development Consent No: 10.2021.67.1 issued by Kiama Council on

.....

Date:

Signature on behalf of Kiama Council

(consent authority):

Case Number: 180748

23 September 2019

Saddleback Mountain Estates No 2 Pty Ltd
C/- Simply Water and Sewer Pty Ltd

FEASIBILITY LETTER

Developer: Saddleback Mountain Estates No 2 Pty Ltd

Your reference: 210067

Development: Lot 17 DP 1210621 2 Caliope St, Kiama

Development Description: Current: Vacant.

Proposed: 21 Lot (plus residue) Community Title Subdivision (seniors living).

The developer has lodged a fresh Site Compatibility Certificate Application with the Department of Planning the seniors estate for the reason that the 2 year shelf life under the original approved Site Compatibility Certificate had lapsed. This department requires a feasibility letter from Sydney Water (and other authorities)

Your application date: 3 September 2019

Note: Level 1 water restrictions are now in place, which limits how and when water can be used outdoors. This can impact you and your contractors in the activities they need to undertake for this proposal.

Using water to suppress dust is not restricted, but this does mean that you/your contractors will need to apply for an exemption permit to use water for most outdoor uses including:

- Cleaning equipment and the exterior of new buildings
- Drilling and boring, and
- Batching concrete on-site

Fines for deliberate breaches of restriction rules apply from 1 September 2019.

For more information on the restrictions and for applying for an exemption, visit our web site at <http://www.sydneywater.com.au/SW/water-the-environment/what-we-re-doing/water-restrictions/index.htm>

The more water everyone saves, the longer we can stave off the progression to stricter restrictions or emergency measures.

Please provide this information to your contractors and delivery partners to inform them of their obligations.

Dear Applicant

This Feasibility Letter (Letter) is a guide only. It provides general information about what Sydney Water's requirements could be if you applied to us for a Section 73 Certificate (Certificate) for your proposed subdivision. **The information is accurate at today's date only.**

If you obtain development consent for that subdivision from your consent authority (this is usually your local Council) they will require you to apply to us for a Section 73 Certificate. You will need to submit a new application (and pay another application fee) to us for that Certificate by using your current or another Water Servicing Coordinator (Coordinator).

Sydney Water will then send you either a:

- Notice of Requirements (Notice) and Developer Works Deed (Deed) or
- Certificate.

These documents will be the definitive statement of Sydney Water's requirements.

There may be changes in Sydney Water's requirements between the issue dates of this Letter and the Notice or Certificate. The changes may be:

- if you change your proposed development eg the development description or the plan/site layout, after today, the requirements in this Letter could change when you submit your new application; and
- if you decide to do your development in stages then you must submit a new application (and pay another application fee) for each stage.

No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from Sydney Water and to the extent that it is able, Sydney Water limits its liability to the reissue of this Letter or the return of your application fee. You should rely on your own independent professional advice.

What You Must Do To Get A Section 73 Certificate In The Future.

To get a Section 73 Certificate you must do the following things. You can also find out about this process by visiting www.sydneywater.com.au > Plumbing, building & developing > Developing > Land development.

1. **Obtain Development Consent from the consent authority for your subdivision proposal.**
2. **Engage a Water Servicing Coordinator (Coordinator).**

You must engage your current or another authorised Coordinator to manage the design and construction of works that you must provide, at your cost, to service your subdivision. If you wish to engage another Coordinator (at any point in this process) you must write and tell Sydney Water.

For a list of authorised Coordinators, either visit www.sydneywater.com.au > Plumbing, building & developing > Developing > Providers > Lists or call **13 20 92**.

The Coordinator will be your point of contact with Sydney Water. They can answer most questions that you might have about the process and developer charges and can give you a quote or information about costs for services/works (including Sydney Water costs).

3. **Developer Works Deed**

It would appear that your feasibility application is served from existing mains and does not require any works to be constructed at this time. Sydney Water will confirm this with you after you have received Development Approval from Council and your Coordinator has submitted a new Development application and Sydney Water has issued you with a formal Notice of Requirements.

4. **Water and Sewer Works**

4.1 **Water**

Each lot in your subdivision must have:

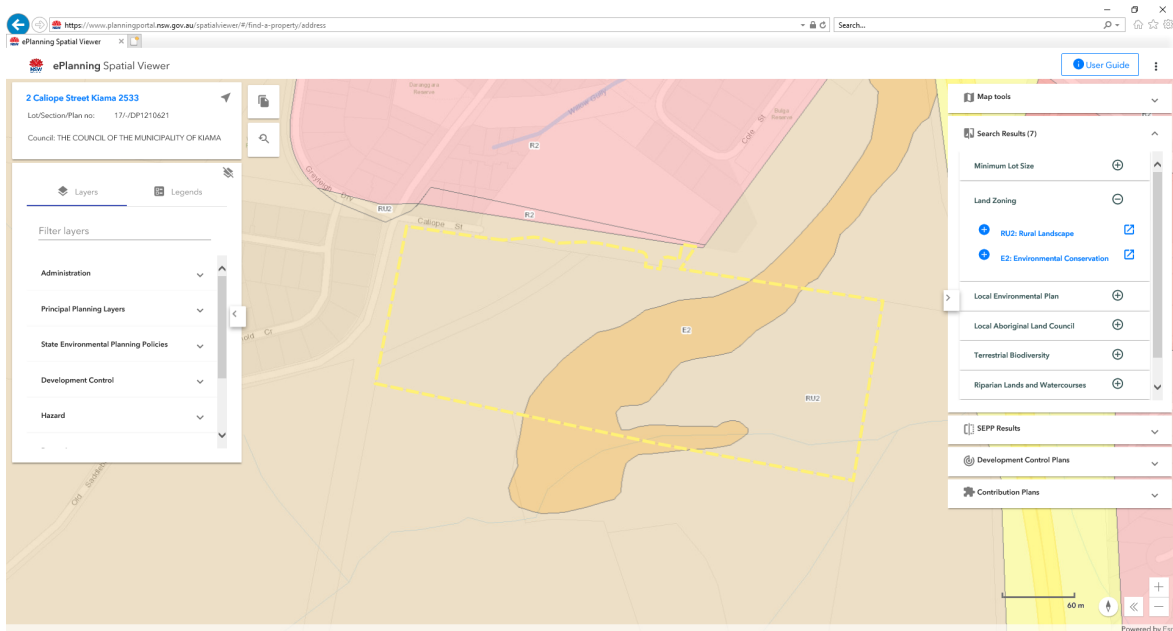
- a frontage to a drinking water main that is the right size and can be used for connection; and
- its own connection to that water main and a property service (main to meter) that is available for the fitting of a meter.

Sydney Water has assessed your application and found that:

- This site is not located within a growth precinct. (See Figure 3).

- The proposed development requires a 150mm main.
- Amplifications will be required from the closest 150mm main.

Figure 3 – Land Zoning



- **You must provide a water service connection and property service (also known as a “property service (main to meter)”) at your cost for all lots off the water main construction required above and your Coordinator must manage the work. See section below for details.**

- **Property Service (Main to Meter) Installation Details**

The property service connection must be carried out by a Sydney Water listed Driller and the installation of the property service must either be carried out or supervised by a licensed plumber. They must meet the:

- Administrative requirements of the New South Wales Code of Practice for Plumbing and Drainage; and
 - Sydney Water Property Service (Main to Meter) Installations Technical Requirements.
- **Before the Certificate can be issued, your Coordinator must give Sydney Water certification that the property service works comply with Sydney Water’s requirements.**

4.2 Sewer

Each lot in your subdivision must have a sewer main that is the right size and can be used for connection. That sewer must also have a connection point within each lot's boundaries.

Sydney Water has assessed your application and found that:

- The site is not located within a growth precinct. (See Figure 3 above).
- The 150mm main constructed under CASE145461WW can provide a point of connection.
- Extensions will be required.

5. Ancillary Matters

5.1 Asset adjustments

After Sydney Water issues this Notice (and more detailed designs are available), Sydney Water may require that the water main/sewer main/stormwater located in the footway/your property needs to be adjusted/deviated. If this happens, you will need to do this work as well as the extension we have detailed above at your cost. The work must meet the conditions of this Notice and you will need to complete it **before we can issue the Certificate**. Sydney Water will need to see the completed designs for the work and we will require you to lodge a security. The security will be refunded once the work is completed.

5.2 Entry onto neighbouring property

If you need to enter a neighbouring property, you must have the written permission of the relevant property owners and tenants. You must use Sydney Water's **Permission to Enter** form(s) for this. You can get copies of these forms from your Coordinator or the Sydney Water website. Your Coordinator can also negotiate on your behalf. Please make sure that you address all the items on the form(s) including payment of compensation and whether there are other ways of designing and constructing that could avoid or reduce their impacts. You will be responsible for all costs of mediation involved in resolving any disputes. Please allow enough time for entry issues to be resolved.

OTHER THINGS YOU MAY NEED TO DO

Shown below are other things you need to do that are NOT a requirement for the Certificate. They may well be a requirement of Sydney Water in the future because of the impact of your development on our assets. You must read them before you go any further.

Approval of your building plans

Please note that the building plans must be approved when each lot is developed. This can be done at Sydney Water Tap inTM. Visit www.sydneywater.com.au > Plumbing, building & developing > Building > Sydney Water Tap inTM.

This is not a requirement for the Certificate but the approval is needed because the construction/building works may affect Sydney Water's assets (e.g. water, sewer and stormwater mains).

Where a Sydney Water stormwater channel, pipe or culvert is located within ten (10) metres of your development site it must be referred to Sydney Water for further assessment.

Your Coordinator can tell you about the approval process including:

- Possible requirements;
- Costs; and
- Timeframes.

Note: You must obtain our written approval before you do any work on Sydney Water's systems. Sydney Water will take action to have work stopped on the site if you do not have that approval. We will apply Section 44 of the *Sydney Water Act 1994*.

Community Title Development – Water and Sewer Works

All lots in this proposed development must have a satisfactory point of connection to a Sydney Water sewer main and water main.

These are the 4 ways this can happen. Either:

- A. You can extend Sydney Water's existing water and sewer mains and, where required, install a water property service (main to meter) to our standards to provide a point of connection for each lot; or
- B. You can provide private services within your development to provide a point of connection for each lot, covering maintenance and renewal of these services within your management plans, unless Sydney Water requires servicing as outlined in C below; or
- C. Where it is likely that sometime in the future there will need to be an extension to other properties through the Community Title development, then that extension line must be a Sydney Water reticulation main to our standard (the same as option A above). The other lines can be private lines; or
- D. You may provide a combination of Sydney Water mains and private services, provided that any likely future extensions to other properties must comply with option C above.

This means that you will have satisfactory points of connection if you either:

Extend the Sydney Water mains after you engage a Water Servicing Coordinator and sign a Developer Works Deed.

Note: If it is a water main you will need a Sydney Water easement.

OR

Make your own private service arrangements.

If you choose this option you must meet **all** of the following conditions:

- (a) Any private water-related service constructed by you (the Developer) must meet at least the Plumbing Code of Australia. Private services, including a pumping station, will only be accepted if the discharge meets our requirements so you will need to give us discharge rate and quality details before we can accept a proposal for a pumping station.

Notes:

- In unusual situations such as low pressure water areas, steep terrain or for long lengths of service line, you may have to have a bigger service line than that required by the Plumbing Code of Australia; **and**
- Sometimes you may have to have one connection to our water main and a single water service laid to the property boundary where individual services can then be laid off this pipe to serve individual properties.

- (b) The private water lines are your responsibility alone;
- (c) If, in the future someone wants a Sydney Water extension to replace the private services, then the extension (and property service (main to meter) where this applies) will have to be to Sydney Water's standards including any easements. Whoever wants the extension will have to build it and pay for it and transfer it to us;
- (d) Sydney Water generally will not maintain private services;
- (e) Clauses (b) – (e) cannot be deleted, varied or modified without the written consent of Sydney Water; and
- (f) You (the Developer) should inform the purchasers of lots in the community title about the existence and implications of the private service.

Sydney Water is determined to be safe from future claims against us for the quality of private lines and from pressure to extend our lines. To achieve this, we will only issue a Section 73 Certificate after there are clauses covering these points in the Community Management Statement. The Development Services Officer will decide if what has been written is satisfactory and the conditions above may only be deleted with our written consent.

You must also tell that Development Services Officer your connection arrangements. **If you do not do this, your project may well be seriously delayed.**

Please note that each lot in the development, including any community property lot, with a demand for water must have a separate service and meter.

Visit www.sydneywater.com.au > Plumbing, building & developing > Plumbing to find out more about our connection and metering requirements.

The meter must be placed so it meets our accessibility requirements.

Backflow Prevention Water supply connections

A backflow prevention containment device appropriate to the property's hazard rating must be installed at the property boundary. The device is to be installed on all water supplies entering the property, regardless of the supply type or metering arrangements. It is needed to reduce the risk of contamination by backflow from these supplies.

A licensed plumber with backflow accreditation can advise you of the correct requirements for your property. To view a copy of Sydney Water's Backflow Prevention Policy and a list of backflow accredited plumbers visit www.sydneywater.com.au > Plumbing, building & developing > Plumbing > Backflow prevention.

The water service for your development

Sydney Water does not consider whether the existing water main(s) talked about above is adequate for fire fighting purposes for your development. We cannot guarantee that this water supply will meet your Council's fire fighting requirements. The Council and your hydraulic consultant can help.

You must make sure that each dwelling/lot has its own 20mm meter.

When access to the water supply is required, the property owner or agent must apply to Sydney Water online. Sydney Water must install a water meter before any water is used. It is illegal for anyone other than a Sydney Water employee to remove the locking mechanism on the water meter.

The online application can be found by visiting our website www.sydneywater.com.au > Plumbing, building & developing > Plumbing > Connections & disconnections. The applicant will need to have the:

1. Account (Property) Number which can be obtained from the Coordinator; and
2. Serial Number which can be found on the metal tag on your property service.

You can find more information by using the "Ask Sydney Water" section of our website.

Water Mains Not in Dedicated Public Roads

If you have to construct a water main to get a Section 73 Certificate and this water main is not in a dedicated public road or pathway, you have to pay to create an easement in favour of Sydney Water. The easement will also have to include conditions about adequate drainage. (See condition (b) below.)

Your Design Consultant must take this requirement into account when designing the works.

You will not be given a **Section 73 Certificate** until:

- (a) the water main(s) have been constructed: **and**
- (b) the main can be flushed by Sydney Water without the discharge of water onto private property. This condition must be incorporated in the easement documentation; **and**
- (c) you have paid to have a survey and the survey has been completed, **before the trenches are backfilled**, to define the centreline of each water main; **and**
- (d) all plans and documents relating to the easement have been approved by Sydney Water; **and**
- (e) you have paid our related costs; **and**
- (f) you have paid the security we require for each easement until it is registered.

You can get all the easement details from Sydney Water's Group Property, 1 Smith Street, Parramatta 2150. Ph: (02) 8849 6223 or (02) 8849 5647.

Fire Fighting

Definition of fire fighting systems is the responsibility of the developer and is not part of the Section 73 process. It is recommended that a consultant should advise the developer regarding the fire fighting flow of the subdivision and the ability of Sydney Water's system to provide that flow in an emergency. Sydney Water's Operating Licence directs that Sydney Water's mains are only required to provide domestic supply at a minimum pressure of 15 m head.

Disused Water Service Sealing

You must pay to disconnect all disused private water services and seal them at the point of connection to a Sydney Water water main. This work must meet Sydney Water's standards in the Plumbing Code of Australia (the Code) and be done by a licensed plumber. The licensed plumber must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Disused Sewerage Service Sealing

Please do not forget that you must pay to disconnect all disused private sewerage services and seal them at the point of connection to a Sydney Water sewer main. This work must meet Sydney Water's standards in the Plumbing Code of Australia (the Code) and be done by a licensed drainer. The licensed drainer must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Soffit Requirements

Please be aware that floor levels must be able to meet Sydney Water's soffit requirements for property connection and drainage.

Other fees and requirements

The requirements in this Notice relate to your Certificate application only. Sydney Water may be involved with other aspects of your development and there may be other fees or requirements.

These include:

- plumbing and drainage inspection costs;
- the installation of backflow prevention devices; and
- council fire fighting requirements. (It will help you to know what the fire fighting requirements are for your subdivision as soon as possible. Your hydraulic consultant can help you here.)

No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from Sydney Water and to the extent that it is able, Sydney Water limits its liability to the reissue of this Letter or the return of your application fee. You should rely on your own independent professional advice.

END

2 Caliope Street, Kiama

Flora and Fauna Assessment

APP - Josh Owen

2 February 2022

Final



Report No. 21326RP1

The preparation of this report has been in accordance with the brief provided by the Client and has relied upon the data and results collected at or under the times and conditions specified in the report. All findings, conclusions or commendations contained within the report are based only on the aforementioned circumstances. The report has been prepared for use by the Client and no responsibility for its use by other parties is accepted by Cumberland Ecology.

Version	Date Issued	Amended by	Details
Final	2 February 2022	DR, MF, CC	Final

Approved by:	David Robertson
Position:	Director
Signed:	
Date:	2 February, 2022

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Glossary

Abbreviation	Term
AOBV	Area of outstanding biodiversity value
APZ	Asset Protection Zone
BAM	Biodiversity Assessment Method
BDAR	Biodiversity Development Assessment Report
Biosecurity Act	NSW <i>Biosecurity Act 2015</i>
BOS	Biodiversity Offsets Scheme
BC Act	NSW <i>Biodiversity Conservation Act 2016</i>
CEEC	Critically Endangered Ecological Community
DA	Development Application
DAWE	Commonwealth Department of Agriculture, Water and the Environment
DBH	Diameter at breast height over bark
EEC	Endangered Ecological Community
EES	Environment, Energy and Science Group
EP&A Act	NSW <i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
FFA	Flora and Fauna Assessment
Ha	Hectare
KDCP	Kiama Development Control Plan 2020
KLEP	<i>Kiama Local Environmental Plan 2011</i>
LEC	Land and Environment Court
LGA	Local Government Area
MNES	Matters of National Environmental Significance
NSW	New South Wales
PCT	Plant Community Type
Project	A community title subdivision to create 12 private residential lots on which single storey serviced self-care dwelling will be constructed in addition to a two way road and ancillary works
Study area	Western portion of the subject site that was surveyed as detailed in Figure 1
Subject Property	Lot 17 DP 1210621, otherwise known as 2 Caliope Street, Kiama
Subject site	The area of the subject property to be impacted by the project as detailed in Figure 1
TEC	Threatened Ecological Community

Abbreviation	Term
VIS	Vegetation Information System
WoNS	Weeds of National Significance
ZMP	Zieria Management Plan

1. Introduction

Cumberland Ecology was commissioned by APP Corporation Pty Limited on behalf of Mr Graham Werry (the proponent) to prepare a Flora and Fauna Assessment (FFA) for the proposed amended development located at 2 Caliope Street, Kiama (Lot 17 DP 1210621) (the 'subject property') (see **Figure 1**). The proposed amended development comprises a community title subdivision to create twelve (12) private residential lots on which single storey serviced self-care dwellings will be constructed. It also includes the construction of a two way road and ancillary works and is referred to hereafter as the 'project'. This FFA will support a development application (DA) under Part 4 of the New South Wales (NSW) *Environmental Planning and Assessment Act 1979* (EP&A Act).

1.1. Purpose

The purpose of this report is to document the findings of an ecological investigation completed within the study area (see **Figure 1**). Biodiversity values considered include threatened species and communities protected under the NSW *Biodiversity Conservation Act 2016* (BC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The main objective of this report is to determine whether the project is likely to significantly affect threatened biodiversity values and to outline how the project will incorporate the biodiversity conservation principles of avoidance and mitigation into its planning.

Specifically, the objectives of this FFA are to:

- Document the reasons why the Biodiversity Offsets Scheme (BOS) under the BC Act does not apply to the project;
- Describe and map vegetation communities of the subject site and study area, identifying threatened ecological communities (TECs) listed under the BC Act and/or the EPBC Act;
- Identify and map the location of threatened flora and fauna species (if present);
- Assess the likelihood of threatened flora and fauna species occurring within the subject site;
- Assess the potential impacts on threatened entities, including the completion of Tests of Significance under Section 7.3 of the BC Act; and
- Where relevant, recommend mitigation measures to reduce the impacts of the proposed development on biodiversity values.

1.2. Background

1.2.1. Site Description

The subject property is approximately 5.72 ha in area and is located approximately 17 km south of Shellharbour, within the Kiama Local Government Area (LGA). Under the *Kiama Local Environmental Plan 2011* (KLEP) the land is zoned predominantly RU2 Rural Landscape however contains a corridor of land zoned C2 Environmental Conservation running across the middle of the site from north to south. The subject property is bounded to the north and west by further residential development, and to the east and south by a mix of grassland and treed vegetation.

1.2.2. Description of the Project

The proponent is proposing the construction and operation of twelve single storey serviced self-care dwellings each to be located on its own community title subdivision. An additional two community title lots will be created for use of the proposed road, passive recreation activities and the required asset protection zones (APZ) (see **Figure 2**).

Within the subject property, the area to be directly impacted by the project is referred to as the 'subject site' which is 2.10 ha in area as detailed in **Figure 1**. The subject site includes the development footprint and the APZ, however due to the nature of vegetation currently within the APZ it is not intended that any native vegetation clearing will occur within the APZ. The subject site is wholly within the RU2 Rural Landscape zoned area. Furthermore, a Zieria Management Plan (ZMP) is proposed to be implemented for the project due to the known occurrence of *Zieria granulata* within the study area.

1.2.3. Description of Legal Proceedings for the Project

On 23 March 2021 the DA was lodged with Council and was refused by Council on 19 October 2021. In response, a Class 1 Application with the NSW Land and Environment Court (LEC) was filed and Council served on 26 October 2021. Current ecological issues are predominantly focussed on the impact to threatened flora species and the rainforest vegetation within the study area. In response to, amongst other things, these issues, the client has proposed an alternative development footprint which reduces the size of the development and removes the impacts to the rainforest vegetation and the threatened flora species *Zieria granulata* (Illawarra Zieria).

1.3. Relevant Legislation

1.3.1. Commonwealth Environment Protection and Biodiversity Conservation Act 1999

Under the EPBC Act, any action (which includes a development, project or activity) that is considered likely to have a significant impact on Matters of National Environmental Significance (MNES) (including nationally TECs and species, and listed migratory species) must be referred to the Commonwealth Minister for the Environment. The purpose of the referral is to allow a decision to be made about whether an action requires approval on a Commonwealth level. If an action is considered likely to have a significant impact on MNES, it is declared a "controlled action" and Commonwealth approval is required.

1.3.2. NSW Environmental Planning and Assessment Act 1979

The EP&A Act is the overarching planning legislation in NSW that provides for the creation of planning instruments that guide land use. The EP&A Act also provides for the protection of the environment, including the protection and conservation of native animals and plants. This includes threatened species, populations and ecological communities, and their habitats, as listed under the BC Act and NSW *Fisheries Management Act 1994*.

1.3.3. NSW Biodiversity Conservation Act 2016

The BC Act is the key piece of legislation in NSW relating to the protection and management of biodiversity and threatened species. The purpose of the BC Act is to maintain a healthy, productive and resilient

environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development. The BC Act is supported by a number of regulations, including the *Biodiversity Conservation Regulation 2017*.

The BC Act requires consideration of whether a development or an activity is likely to significantly affect threatened species. For Part 4 local developments, projects that significantly affect threatened species trigger the BOS. The BOS is intended to simplify biodiversity assessment and improve biodiversity outcomes by creating consistent assessment requirements to measure the likely biodiversity loss of development proposals and gains in biodiversity value achieved at offset sites through active management. The BOS requires an assessment following the Biodiversity Assessment Methodology (BAM) by an accredited BAM assessor and the preparation of a Biodiversity Development Assessment Report (BDAR).

Consideration of whether the project triggers the BOS is provided in **Section 1.4**.

1.3.4. Biosecurity Act 2015

Problematic weeds in NSW are handled under the NSW *Biosecurity Act 2015* (Biosecurity Act). Under the Biosecurity Act all weeds are required to be controlled by all persons under a "General Biosecurity Duty". The General Biosecurity Duty means that all public and private land owners or managers and all other people who deal with weed species (biosecurity matters) must use the most appropriate approach to prevent, eliminate, or minimise the negative impact (biosecurity risk) of those weeds (DPI 2017).

Under the Biosecurity Act some weed species have been prioritised for management by specific regulations and controls under the act. These are known as State Level Priority Weeds. The state has been divided into 11 regions (each covering a number of LGAs) under the act. Within each region, additional weed species known as Regional Priority Weeds have been prioritised for management. A further set of weeds are identified within the Regional Strategic Weed Management Plans as being "other weeds of regional concern".

All land within the subject property occurs within the South East Local Land Services region, and weed management within the region is to be undertaken under the direction of the South East Regional Strategic Weed Management Plan (NSW Local Land Services 2017). Appendix 1 of the Weed Management Plan outlines the State Priority Weeds, Regional Priority Weeds, and other weeds of regional concern.

1.3.5. Kiama LEP/DCP

Both the KLEP and *Kiama Development Control Plan 2020* (KDCP) apply to the project. Clause 6.4 of the KLEP requires that development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:

- the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or
- if that impact cannot be reasonably avoided the development is designed, sited and will be managed to minimise that impact.

Additionally, Chapter 2 of the KDCP includes controls in relation to terrestrial biodiversity. Of particular relevance is Topics 2.2 'Biodiversity' and 2.4 'Tree preservation and vegetation management'. These topics require, amongst other things, that:

- Dwellings and ancillary development must be located as far away as possible from stands of native vegetation to protect biodiversity and threatened species and their habitat, and reduce bush fire risk;
- The keeping of cats and goats will not be permitted (by condition of consent) on land occupied by a threatened species, population or their habitat or an endangered ecological community;
- The keeping of dogs may, by condition of consent, be permitted to be kept on land occupied by, or likely to be occupied by, or periodically used by, a threatened species, population or ecological community subject to:
 - the keeping of dogs on the land not being contrary to any measures recommended in a species impact statement or any consent or approval issued under any other legislation.
 - dogs being restrained during the hours between sunset and sunrise each day so they cannot roam during the night time.
 - dogs being accompanied by a responsible person during daylight hours outside the immediate curtilage of the dwelling.
 - dogs being suitably restrained and not permitted to roam on the property when the occupants are not at home.

1.4. Assessment of Entry into the Biodiversity Offsets Scheme

To determine the type of assessment required for the project it is necessary to determine whether the project triggers the BOS. For the project to trigger the BOS, it would need to be considered as likely to significantly affect threatened species, which could occur as follows:

- It is likely to significantly affect threatened species or ecological communities, or their habitats, according to the test of significance in Section 7.3 of the BC Act; or
- It exceeds the biodiversity offsets scheme threshold; or
- It is carried out in a declared area of outstanding biodiversity value (AOBV).

These three criteria are assessed in detail below. The results indicated that the project does not trigger the BOS and therefore this FFA is provided.

1.4.1. Test of Significance

A test of significance in accordance with Section 7.3 of the BC Act was undertaken for all threatened communities and species known, or considered likely, to occur within the subject site. None of these communities or species are considered to be significantly affected by the project and therefore the BOS is not triggered by this mechanism.

1.4.2. Biodiversity Offsets Scheme Threshold

A development can exceed the BOS threshold if it is or involves:

- The clearing of native vegetation of an area above a prescribed threshold based on the minimum lot size; or
- The clearing of native vegetation, or other prescribed action, on land included on the Biodiversity Values Map.

An assessment of these two components is provided below. The results indicated that the project does not trigger the BOS and therefore a general FFA is provided.

1.4.2.1. Area Threshold

Any development being assessed under Part 4 of the EP&A Act that clears native vegetation above a threshold specified based on minimum lot size would automatically enter into the BOS and may require offsetting. The threshold levels of clearing for each minimum lot size are shown in **Table 1**. The project occurs on Lot 17 DP 1210621, which has mixed land zonings including RU2 Rural Landscape and E2 Environmental Conservation under the KLEP. The minimum lot size for the subject property is 40 ha and therefore the clearing of 0.5 ha or more would trigger entry into the BOS. As the project does not require the removal of native vegetation in excess of 0.5 ha entry into the BOS is not triggered by this mechanism.

Table 1 Area of clearing thresholds

Minimum Lot Size of Land	Area of Clearing
Less than 1 hectare	0.25 hectares or more
Less than 40 hectares but not less than 1 hectare	0.5 hectares or more
Less than 1,000 hectares but not less than 40 hectares	1 hectare or more
1,000 hectares or more	2 hectares or more

1.4.2.2. Biodiversity Values Map

The subject site, which is the location of the development footprint and area subject to clearing, does not occur on land mapped on the Biodiversity Values Map as is shown in **Figure 3**. Therefore, the BOS is not triggered by this mechanism.

1.4.3. Declared Area of Outstanding Biodiversity Value

The BC Act currently lists the following AOBVs:

- Gould's Petrel habitat;
- Little Penguin population in Sydney's North Harbour habitat;
- Mitchell's Rainforest Snail in Stotts Island Nature Reserve; and
- Wollemi Pine habitat.

The project is not located within the above AOBVs and therefore the BOS is not triggered by this mechanism.

2. Methodology

2.1. Literature Review

A review of ecological literature relevant to the subject site was undertaken as part of this ecological assessment to evaluate the flora and fauna values associated with the site. Key documents reviewed for this FFA included:

- Native vegetation of southeast NSW: a revised classification and map for the coast and eastern tablelands (Tozer et al. 2010);
- Final Determination for Illawarra Subtropical Rainforest in the Sydney Basin Bioregion (NSW Scientific Committee. 2011);
- Ecology Report prepared by Unlimited Habitats Environmental Services (2021);
- *Zieria granulata* Site Management Statement and general vegetation maintenance for Lot 17/DP 1210621 prepared by Unlimited Habitats Environmental Services (2020);
- Bushfire Report prepared by Bushfire Protection Planning & Assessment Services (2021); and
- Site Layout Plans for the DA prepared by Coble Stephens Architects (2022).

The information collected during the literature review guided the field surveys undertaken for this ecological assessment. Information within the literature reviewed was also utilised in determining the likelihood of threatened species occurring within the subject site and assessing the potential impacts of the project.

2.2. Database Analysis

A number of databases were utilised during the preparation of this FFA. Key databases reviewed for this FFA include:

- Vegetation classification:
 - Environment, Energy and Science (EES) BioNet Vegetation Classification database.
- Species records/occurrences:
 - EES BioNet Atlas (EES 2022); and
- Species profiles;
 - NSW Department of Planning, Industry and Environment (DPIE) Threatened Species Profile Database; and
 - Department of Agriculture, Water and the Environment (DAWE) Species Profile and Threat Database.

Database analysis was conducted for the locality using the EES BioNet Atlas (EES 2022). The locality is defined as the area within a 5 km radius of the subject site. The BioNet Atlas search facility was used to generate records of threatened flora and fauna species and populations listed under the BC Act and/or EPBC Act within the locality. The abundance, distribution and age of records generated within the search areas provided

supplementary information for the assessment of likelihood of occurrence of those threatened species within the subject site.

2.3. Field Surveys

Field surveys were undertaken on 12, 19 and 20 January 2022 by a botanist and ecologist from Cumberland Ecology. Surveys included vegetation mapping, plot-based vegetation survey, threatened flora surveys, microchiropteran bat surveys and a habitat assessment. It should be noted that the field surveys were mainly focused on the subject site, however where relevant, additional information from the wider study area was also collected. Further details of the field surveys are provided below, whilst survey locations are shown in **Figure 4**.

2.3.1. Flora

2.3.1.1. Vegetation Mapping

Previous broad-scale mapping by Tozer et al. (2010) was reviewed prior to the survey in order to determine vegetation communities that could occur within the study area. The vegetation within the subject site and study area was ground-truthed by Cumberland Ecology to examine and verify the mapping including the condition and extent of the different vegetation communities. Where vegetation community boundaries were found to differ from the existing mapping, records were made of proposed new boundaries using a hand-held Global Positioning System and mark-up of aerial photographs. The data collected was analysed and the resultant information was synthesised using a Geographic Information System to create a spatial database to produce a vegetation map of the study area.

2.3.1.2. Plot-based Floristic Survey

Plot-based floristic surveys were undertaken with a focus on the subject site. A total of six (6) plots were surveyed, with all of the plots focused within or in the nearby the subject site. Surveys followed the BAM and included establishment of a 20 m x 50 m plot within which the following data was collected:

- Composition for each growth form group by counting the number of native plant species recorded for each growth form group within a 20 m x 20 m plot;
- Structure of each growth form group as the sum of all the individual projected foliage cover estimates of all native plant species recorded within each growth form group within a 20 m x 20m plot;
- Cover of 'High Threat Exotic' weed species;
- Assessment of function attributes within a 20 m x 50 m plot, including:
 - Count of number of large trees;
 - Tree stem size classes, measured as 'diameter at breast height over bark' (DBH);
 - Regeneration based on the presence of living trees with stems <5 cm DBH;
 - The total length in metres of fallen logs over 10 cm in diameter;
- Assessment of litter cover within five 1 m x 1 m plots evenly spread within the 20 m x 50 m plot; and

- Number of trees with hollows that are visible from the ground within the 20 m x 50 m plot.

All vascular plants recorded or collected were identified using keys and nomenclature provided in *PlantNET* (Botanic Gardens Trust 2022).

Note that one BAM Plot was modified to a 10 m x 100 m plot in order to sample the grassland areas containing *Zieria granulata* seedlings.

2.3.1.3. Targeted Threatened Flora Surveys

Targeted threatened flora surveys were conducted within the subject site and wider study area on the 12, 19 and 20 January 2022. Targeted surveys were undertaken via parallel traverses in accordance with *Surveying threatened plants and their habitats* (NSW Government 2020) also in conjunction with the collection of floristic plot data.

Threatened flora surveys focussed on *Zieria granulata*, which is known to occur within the study area, and parallel transects for this species were spaced approximately 2 m apart commencing along the western edge of the current known area of occurrence and continued to the west into the subject site for approximately 15 m until no further individuals were recorded. Parallel transects within the remainder of the subject site were undertaken approximately 10m apart in accordance with the survey guidelines.

Threatened species quadrat surveys were also undertaken within the known area of *Zieria granulata* whereby 61 1m x 1m quadrats were surveyed to calculate the average density of the species within the study area. Of these 35 were undertaken within the known area of occurrence (seven within Exotic Dominated Vegetation and 28 within Illawarra Subtropical Rainforest) and 26 plots were undertaken within adjacent areas to confirm that no additional individuals were occurring outside of the known area of occurrence.

2.3.2. Fauna

2.3.2.1. General Habitat Assessment

A general fauna habitat assessment was undertaken within the western portion of the study area with a focus on the subject site, during field surveys. This assessment included consideration of important indicators of habitat conditions and complexity as well as the occurrence of micro-habitats such as tree hollows, fallen logs and riparian areas. An assessment of the structural complexity of the vegetation, the age structure of the remnant vegetation and the nature and extent of human disturbance was also undertaken. Notes were taken on specific habitat features that may be utilised by threatened fauna species known to occur in the locality.

In addition to the general habitat assessment, fauna habitat data was also collected within the floristic plots, which included the number of trees and their DBH, the number of trees with hollows and, the total length of logs and composition of the ground stratum.

2.3.2.2. Microchiropteran Bat Surveys

Two ultrasonic recording devices were placed within the subject site for one night on 19 January 2022. The recordings for these devices were analysed and the findings were utilised to assess the presence of the microchiropteran bats (microbats).

2.3.3. Limitations

Vertebrate fauna and vascular flora of the locality is well known based upon a sizeable database of past records and various published reports. The field survey undertaken by Cumberland Ecology added to this existing database and has helped to provide an indication of the likelihood that various species occur, or are likely to occur within the subject site. The data obtained from database assessment and surveys of the subject site and study area furnished an appropriate level of information to support this assessment.

Nevertheless, data obtained from the flora and fauna surveys should be considered as a “snapshot” in time and illustrate the biodiversity values present at the time of the surveys. The fauna data produced by the surveys is intended to be indicative of the types of species that could occur and not an absolute census of all vertebrate fauna species occurring within the subject site. It is likely that if continued field sampling was undertaken within the subject site, additional species could be identified.

The field surveys were supplemented by literature review and database analysis. The combination of these techniques is appropriate for assessing the habitat values of the site for threatened fauna within the subject site and study area.

The area values presented within this report are approximate and are derived from a combination of aerial photo-interpretation and field-based mapping. This approach is considered to be appropriate and provides adequate and reliable information for this FFA.

2.4. Data Analysis

2.4.1. Plant Community Types

The primary nomenclature used within this report is locally defined map units that were determined following field investigations within the study area. Where relevant, the locally defined map units were matched with the equivalent Plant Community Types (PCTs).

Identification of the PCTs occurring within the study area was guided by the findings of the floristic survey. The data collected during surveys of the study area was analysed in conjunction with a review of the PCTs held within the BioNet Vegetation Classification. Where locally defined map units were not readily able to be matched to PCTs, best-fit communities were selected, or noted as unassigned if comprised of planted or exotic vegetation.

2.4.2. Classification of Threatened Ecological Communities

Following review of potentially occurring TECs, the vegetation communities identified within the study area were examined against the listings of TECs under the BC Act and EPBC Act.

For TECs listed under the BC Act, vegetation communities were examined against the final determinations for potentially occurring TECs. A component of this analysis was to compare the species recorded during the field surveys with the species lists provided in the final determinations. Additional information such as location and geology and landform aspects of each final determination were also considered in the assessment.

For TECs listed under the EPBC Act, vegetation communities were examined against the DAWE Species Profile and Threats Database and any associated documentation, such as listing advice and policy statements.

3. Results

3.1. Vegetation Communities

Previous broad scale mapping published Tozer et al. (2010) identified the presence of PCT 1300 Whalebone Tree - Native Quince dry subtropical rainforest on dry fertile slopes, southern Sydney Basin Bioregion combined with PCT 906 Lilly Pilly - Sassafras - Stinging Tree subtropical/warm temperate rainforest on moist fertile lowlands, southern Sydney Basin Bioregion. These PCTs align with the TEC Illawarra Subtropical Rainforest in the Sydney Basin Bioregion (Illawarra Subtropical Rainforest).

Surveys by Cumberland Ecology refined the broad-scale mapping and determined that two vegetation communities are present within the study area. **Table 2** lists the vegetation communities occurring within the subject site and study area and their area of occupancy. Summary descriptions of the communities are provided below and their distribution within the study area is shown in **Figure 5**.

Table 2 Vegetation communities within the subject land and study area

Vegetation Community	PCT	Subject Site (ha)	Study Area (ha)
Illawarra Subtropical Rainforest	1300	0.34	1.61
Exotic Dominated Vegetation	-	1.76	1.84
Total	-	2.10	3.45

3.1.1. Illawarra Subtropical Rainforest

BC Act Status: EEC

EPBC Act Status: CEEC

PCT: 1300 - Whalebone Tree - Native Quince dry subtropical rainforest on dry fertile slopes, southern Sydney Basin Bioregion.

Within the study area this community occurs across a steep slope with a mainly eastern aspect. At the top of the slope the basalt soils are skeletal (shallow) and occur above a basalt bedrock. The dominant canopy species within the community include *Streblus brunonianus* (Whalebone Tree), *Alectryon subcinereus* (Native Quince); *Pittosporum undulatum* (Sweet Pittosporum) and *Acacia maidenii* (Maidens Wattle). The mid-storey includes *Wilkia huegeliana* (Common Wilkiea), *Guioa semiglauc* (Guioa), *Breynia oblongifolia* (Coffee Bush), *Clerodendrum tomentosum* (Hairy Clerodendrum), *Eustrephus latifolius* (Wombat Berry), *Geitonoplesium cymosum* (Scrambling lily), *Maclura cochinchinensis* (cockspur thorn), *Marsdenia rostrata* (Milk Vine), *Notelaea venosa* (Veined Mock-olive) and *Pandorea pandorana* (Wonga Wonga Vine). The understorey includes *Asplenium flabellifolium* (Necklace Fern), *Doodia aspera* (Prickly Rasp Fern), *Gymnostachys anceps* (Settlers' Twine, Boorgay), *Oplismenus imbecillis* (Creeping Beard Grass), *Pellaea falcata* (Sickle Fern) and *Pseuderanthemum variabile* (Pastel Flower).

The rainforest at the top of the slope is exposed and the canopy is low. At the bottom of the slope the soils are deeper and the rainforest is sheltered and taller. This change in the environment supports a change in floristic elements along the slope. The top of the slope supports more dry subtropical elements such *Streblus*

brunonianus (Whalebone Tree), *Alectryon subcinereus* (Native Quince) and *Pittosporum undulatum* (Sweet Pittosporum), while at the bottom of the slope supports more subtropical elements such as *Toona ciliata* (Red Cedar), *Daphnandra johnsonii* (Illawarra Socket Wood), *Dendrocnide excelsa* (Giant Stinging Tree) and *Livistona australis* (Cabbage Tree Palm).

This community occurs primarily within the wider study area and its occurrence within the subject site is limited to four large *Ficus macrophylla* (Moreton Bay Figs) which occur over an exotic understorey in the north-eastern portion of the subject site as well as some scattered native and exotic shrubs in the southern eastern portion of the subject site.

Examples of this community in the subject site and study area are shown in **Photograph 1** and **Photograph 2**, respectively.

Photograph 1 *Ficus macrophylla* over an exotic understorey within the subject site



Photograph 2 Illawarra Subtropical Rainforest at higher elevations within the study area



3.1.2. Exotic-Dominated Vegetation

BC Act Status: Not listed

EPBC Act Status: Not listed

PCT: N/A

This community is primarily exotic grassland with patches of exotic shrubby vegetation. It comprises pastures that have historically been used for livestock grazing following clearance of the original rainforest vegetation.

Exotic grassland is dominated by the exotic grasses *Cenchrus clandestinus* (Kikuyu Grass), *Bromus catharticus* (Prairie Grass) and *Paspalum dilatatum* (Paspalum). Other frequently occurring exotic species include, *Bidens pilosa* (Cobbler's Pegs), *Foeniculum vulgare* (Fennel), *Holcus lanatus* (Yorkshire Fog), *Lolium perenne* (Perennial Ryegrass), *Phalaris aquatica* (Phalaris) and *Senecio madagascariensis* (Fireweed). Areas of exotic shrubby vegetation occur along the south western boundary of the study area and are comprised predominantly of *Lantana camara* (Lantana).

An example of this community is shown in **Photograph 3**.

Photograph 3 Exotic Vegetation within the subject site



3.2. Flora Species

3.2.1. General Species

A total of 123 flora species were recorded within the subject site and study area during field surveys, including 47 exotic species. Of the native species recorded in the study area, the most frequently recorded plant families include the Poaceae (9), Cyperaceae (4) and Moraceae (4) families. Of the exotic species recorded in the site, the most frequently recorded plant families include Asteraceae (12) and Poaceae (10).

A complete list of flora species recorded in the study area during the plot-based floristic surveys is provided in **Appendix A**.

3.2.2. Threatened Species

Two threatened flora species, *Daphnandra johnsonii* (Illawarra Socketwood) and *Zieria granulata* (Illawarra Zieria) were recorded within the study area, however only *Zieria granulata* was recorded within the subject site. These two species have both previously been recorded within the study area and their locations are detailed in **Figure 6**.

The occurrence of *Daphnandra johnsonii* (Illawarra Socketwood) is restricted to lower elevations within the Illawarra Subtropical Rainforest. A total of two mature trees and one seedling were observed by Cumberland Ecology on 20 January 2022.

The occurrence of *Zieria granulata* (Illawarra Zieria) within the study area is restricted to the top of the slope on the skeletal soils. Across its known range the species is known to occur as single individuals at some sites to thousands of plants at other sites (DEC (NSW) 2005).

Within the study area, approximately 247 mature shrubs and 82 seedlings were recorded by Cumberland Ecology during field surveys on 12 January 2022. A further 466 individuals were recorded by Cumberland Ecology on 19 and 20 January 2022 including 8 mature shrubs and 459 seedlings. All of the mature *Zieria granulata* shrubs and 527 of the *Zieria granulata* seedlings recorded by Cumberland Ecology are located outside the subject site. Of the seedlings located within the subject site (total 14), these all occur within the APZ and are limited to small seedlings that are all <3cm in height. These individuals occur within areas of Exotic Dominated Vegetation in close proximity to mature shrubs that are located within the *Zieria* management area and will be maintained within the subject site where possible. The Recovery Plan for *Zieria granulata* (DEC (NSW) 2005) states that 'seed dispersal for *Zieria* spp. is by forcible ejection from mature coccus (fruit)' which explains the occurrence of seedlings within grassland areas immediately adjacent to mature shrubs. The species has also been observed to reshoot from the base of mature stems (coppice) in response to mechanical disturbance and evidence of this is present within some parts of the proposed *Zieria* management area.

Due to the large number of very small seedlings within the known area of occurrence, not all have been counted. Quadrat counts were undertaken to calculate the average density of *Zieria granulata* within the known area of occurrence. The density of *Zieria granulata* within the known area of occurrence has been calculated for areas of Exotic Dominated Vegetation as well as areas of Illawarra Subtropical Rainforest. Within the Exotic Dominated Vegetation, it is estimated that an average of approximately six seedlings occur per square metre (seven quadrats sampled). Within the Illawarra Subtropical rainforest there is estimated to be an average 13 seedlings and one mature shrub per square metre (28 quadrats sampled).

No other threatened species were detected within the subject site or study area. The subject site is considered unlikely to contain threatened flora species, as the land has been subject to a high level of disturbance. However, one additional threatened flora species, *Cynanchum elegans* (White-flowered Wax Plant) has been recorded in close proximity to the subject property and has potential to be present within the Illawarra Subtropical Rainforest which is in E2-zoned land within the study area.

A likelihood of occurrence assessment for flora species is provided in **Appendix B**.

3.2.3. Priority Weeds and Weeds of National Significance

Three State Priority Weeds, which are also Weeds of National Significance (WoNS) were recorded within the subject site. The spread of these types of species must be minimised to the extent possible, and the sale or distribution of these species is prohibited.

Four other weeds occurring within the subject site are listed as Other Weeds of Regional Concern in the South East Regional Weed Management Plan 2017 – 2022 (NSW Local Land Services 2017). These are weeds that may be useful or widely spread as crops or garden plants, but that can become invasive and threaten assets in certain circumstances.

Priority Weeds and Other Weeds of Regional Concern (collectively referred to henceforth in the report as “Priority Weeds”) located within the subject site are detailed in **Table 3** below.

Table 3 Priority Weeds recorded within the subject site

Scientific Name	Common Name	NSW Weed Status	WoNS
<i>Ageratina adenophora</i>	Crofton Weed	OWRC	
<i>Araujia sericiflora</i>	Moth Vine	OWRC	
<i>Asparagus aethiopicus</i>	Asparagus Fern	SPW	Yes
<i>Cardiospermum grandiflorum</i>	Balloon Vine	OWRC	
<i>Delairea odorata</i>	Cape Ivy	OWRC	
<i>Lantana camara</i>	Lantana	SPW	Yes
<i>Senecio madagascariensis</i>	Fireweed	SPW	Yes

Key: OWRC = Other Weed of Regional Concern, SPW = State Priority Weed

3.3. Fauna

3.3.1. Fauna Habitat

The majority of the subject site is comprised of exotic grassland, which has limited value for native fauna species. The treed areas within the subject site provide some limited habitat for native fauna species.

Habitat features recorded within the subject site include:

- Hollow-bearing trees – providing refuge, roosting and/or breeding habitat for a range of reptiles, birds, arboreal mammals and microchiropteran bats (microbats). A total of three (3) hollow-bearing trees have been recorded within the subject site, all of which are located within the APZ and will be retained by the project. **Figure 7** shows the locations of hollow-bearing trees within the subject site;
- Nectar-producing trees – foraging habitat for insects, blossom-dependant birds, arboreal mammals and megachiropteran bats (flying-foxes). These features are confined to treed areas where native canopy trees occur above an exotic dominated understorey; and
- Man-made features – an old shed is present on the subject site that provides very limited habitat for fauna species. The location of this structure is detailed in **Figure 7**. A search was undertaken within the old shed and no evidence of faunal use was recorded.

The wider subject property, although not surveyed in detail for specific habitat features, generally also comprises a number of the features listed above such as nectar-producing trees, fallen logs and stumps, and hollow-bearing trees.

3.3.2. Threatened Species

No threatened fauna species have been recorded within the subject site and none are considered likely to make substantial use of the grassland habitats of the site.

A total of 23 threatened fauna species listed under the BC Act and/or EPBC Act, as well as 13 migratory bird species listed under the BC Act and/or EPBC Act, have been recorded in the locality. The likelihood of these species occurring within the subject site has been assessed and the results presented in **Appendix C**.

Based on the results of the site inspection and the habitat requirements of each threatened fauna species, only one species, the Grey-headed Flying-fox (*Pteropus poliocephalus*), is considered as having the potential to utilise habitats within the subject site.

4. Impact Assessment

4.1. Introduction

This chapter considers the ecological impacts of the project on the biodiversity values within the subject site. The ecological impacts of the project are largely related to the direct disturbance of vegetation and associated habitat loss, represented by the removal of a relatively small area of native vegetation. Secondary impacts due to indirect impacts are also relevant to the project and are discussed below.

4.2. Direct Impacts

4.2.1. Vegetation Removal

Table 4 provides a summary of the areas of each vegetation community to be cleared or modified within the subject site and **Figure 5** shows their distribution. The dominant vegetation community impacted by the project is Exotic Dominated Vegetation (1.76 ha). Only a minor amount of native vegetation (0.34 ha) will be impacted within the subject site, although this is all within the APZ and consists predominantly of native canopy species over an exotic understorey. The project will impact native vegetation mapped within the subject site through the removal of exotic understorey vegetation however native canopy species will be retained in accordance with the requirements for the APZ as outlined in the Bushfire Report (Bushfire Protection Planning & Assessment Services 2021). As such the project is considered to result in a change to the condition of native vegetation rather than reducing its extent.

Table 4 Vegetation communities within the subject land and study area

Vegetation Community	PCT	BC Act Status	EPBC Act Status	Subject Site (ha)	Study Area (ha)
Illawarra Subtropical Rainforest	1300	EEC	CEEC	0.34	1.61
Exotic Dominated Vegetation	-			1.76	1.84
Total	-			2.10	3.45

BC Act / EPBC Act Status: EEC = Endangered Ecological Community; CEEC = Critically Endangered Ecological Community

4.3. Indirect Impacts

The project has potential to result in some indirect impacts on the ecological values of remaining vegetation and habitat within the subject site and subject property, including fragmentation and edge effects. A stormwater drainage plan has been prepared by LandTeam (2022) which provides engineering measures to treat and manage stormwater within the subject site and minimise potential impacts on native vegetation and threatened species within the subject property. As such there will be no significant alteration to hydrological regimes.

Additionally, a number of construction impacts, such as those relating to dust, noise, light and erosion, may impact the adjacent native vegetation and fauna habitat. Indirect impacts relevant to the project are considered in more detail below. Whilst it is acknowledged that indirect impacts will occur as a result of the project, such impacts cannot be mapped or accurately calculated in advance, however, with the implementation of mitigation measures these impacts are considered to be minor.

4.3.1. Fragmentation

Fragmentation is the process where habitats that were once continuous become divided into separate fragments isolated from each other by non-forest land (Primack 1993, Fahrig 2003, Lindenmayer and Fischer 2006). Habitat fragmentation affects biodiversity by reducing the amount of available habitat for some species to occupy due to increased distances between habitat patches. Plants and other sessile organisms are usually directly removed, while mobile animals (especially birds and mammals) retreat into other remnant patches of habitat (Lindenmayer and Fischer 2006). The displacement of mobile fauna can reduce the survivorship of species in the case where there are limited areas of sufficiently large habitat within dispersal distance to retreat to.

The project is not considered likely to significantly increase fragmentation within the subject site and subject property beyond current conditions. The subject site currently comprises scattered occurrences of woody vegetation in a highly cleared landscape, limiting the function of the vegetation on site to 'stepping-stone' habitat. A habitat corridor along the eastern boundary of the subject site will be retained and will continue to provide habitat connectivity across the wider subject property.

4.3.2. Edge Effects

Edge effects are impacts that occur at the interface between natural habitats, especially forests and disturbed or developed land (Yahner 1988). When an edge is created between woodland and a cleared area, changes to ecological processes within the vegetation can extend between 10 m and 100 m from the edge (Yahner 1988). These include microclimatic changes in light, temperature, humidity and wind, which can favour a suite of different species and therefore cause significant changes to the ecology of the patch (Lindenmayer and Fischer 2006). Edge effects can also result from the increase in noise and artificial light from a project.

The project is not considered to result in significant edge effects within the subject property. Due to the fragmented nature of the vegetation and habitats within the site, and the location in a highly cleared and developed landscape, the project is unlikely to exacerbate edge effects within the subject property beyond current conditions.

In addition, a large APZ area is proposed within which treed vegetation will not be disturbed. This APZ will act as a buffer for edge effects created by the development and the higher quality vegetation to the east of the subject site.

4.3.3. Construction and Operational Impacts

A number of indirect impacts relevant to the construction and operational phases of the project have the potential to impact the remaining ecological values of the subject property, such as those relating to dust, noise, light and erosion. A number of mitigation measures will be implemented and any indirect impacts are considered to be minor.

4.3.3.1. Dust

Construction activities have the ability to generate dust, which may impact on the remaining ecological values of the subject property in a number of ways. Dust pollution can lead to a decrease in habitat quality which has the potential to extend the area of impact beyond the area directly disturbed by the project. With regard to

the remaining habitats within the subject site and subject property, dust generated by the project could impact native woody vegetation, reducing health of some species along the edge of the subject site. It could also impact upon potential foraging resources for wildlife.

During the construction phase, dust will be managed by the civil works contractors using a watercart to spray water across the development footprint and reduce the amount of dust generated by the project. As development footprint is located in the western portion of the subject site, more than 50m from the patch of Illawarra Subtropical Rainforest and associated *Zieria* *granulata* individuals, the project is not likely to result in a significant increase in dust pollution beyond current levels.

4.3.3.2. Noise

Noise can affect animal physiology and behaviour, and if it becomes an ongoing stress, it can be injurious to an animal's energy budget, reproductive success and long-term survival. There are other potential impacts that include habitat loss through avoidance, reduced reproductive success and a retreat away from favourable habitats (AMEC 2005). It is likely that most animal species will habituate to the periodic noise disturbance (AMEC 2005), and the construction phase of the project is likely to cause temporary disturbance only to fauna. Furthermore, the impacts from noise emissions are likely to be localised and are not likely to have a significant, long-term, impact on wildlife populations.

4.3.3.3. Light

The project has the potential to increase the level of artificial light in the natural environment. Increased light levels may adversely impact wildlife by direct glare, chronic or periodic increased illumination and temporary unexpected fluctuations in light levels (Saleh 2007, Longcore and Rich 2010). Research into impacts from altered lighting indicates that it can trigger behavioural and physiological responses.

While the construction and operational phases of the project will have some effect on the surrounding woody vegetation, the impacts from light pollution are likely to remain close to the disturbance, with only limited glare into the surrounding vegetation. Furthermore, the project is proposed in an area that is already highly modified, hence any increase in light pollution is unlikely to be beyond current conditions. Therefore, it is likely that most fauna species would habituate to the periodic disturbance and light pollution from the project is unlikely to have a significant or long-term impact on any fauna species.

4.3.3.4. Erosion

During the construction of the proposed project the retained vegetation can be impacted by sedimentation and erosion as it is downslope of the proposed development. Eroded sediment can smother retained vegetation if appropriate control measures are not implemented. Smothering can reduce regeneration of groundcover species and enter waterways. Sediment and eroded material can also contain weed matter and nutrients, and movement of this material into the retained vegetation can facilitate the spread of weeds. Increased weed invasion can result in changes to community composition.

A Sediment Control Barrier will be installed within the subject site along the eastern edge of the development footprint and the APZ to prevent runoff during the construction phase. Furthermore, the APZ proposed for the subject site will act as a buffer for erosion between the development and the higher quality vegetation to the east.

4.4. Impacts to Threatened Ecological Communities

Within the subject site, there are areas of PCT 1300 Illawarra Subtropical Rainforest, which is a community that is a TEC under both the BC Act and EPBC Act. Within the subject site this community is limited to four large *Ficus macrophylla* (Moreton Bay Figs) which occur over an exotic-dominated understorey in the north-eastern portion of the subject site as well as some scattered native and exotic shrubs in the southern eastern portion of the subject site.

A relatively small area of approximately 0.34 ha is proposed to be impacted within the subject site. However, impacts be limited to the removal of exotic understory vegetation and native canopy species will be retained in accordance with the APZ requirements outlined in the Bushfire Report (Bushfire Protection Planning & Assessment Services 2021). Therefore, the project is considered to result in a change to the condition of native vegetation rather than reducing its extent

Potential indirect impacts to this community include:

- Weed invasion;
- Run-off, erosion and sedimentation; and
- Modification of microhabitat features resulting from long and short-term edge effects (e.g. changes in light filtration).

Such impacts are already present with the subject site due to historical clearing and disturbances. Previous land uses have resulted in the significant modification of the composition of the community within the subject site, resulting in a ground layer that is dominated by exotic species.

A Test of Significance required under Section 7.3 of the BC Act has been prepared for this community, which concludes that the project is unlikely to significantly affect the Illawarra Subtropical Rainforest EEC. This assessment is provided in **Appendix D**.

A number of mitigation measures are proposed to minimise the impacts to this community and are provided in **Chapter 5**.

4.5. Impacts to Threatened Flora Species

Two threatened flora species, *Daphnandra johnsonii* (Illawarra Socketwood) and *Zieria granulata* (Illawarra Zieria) have been recorded within the wider study area, however only *Zieria granulata* has been recorded within the subject site.

Daphnandra johnsonii individuals were recorded at lower elevations within the E2-zoned Illawarra Subtropical Rainforest and will not be impacted by the project.

No mature shrubs are present within the subject site however a total of 14 *Zieria granulata* seedlings were recorded within the Exotic Dominated Vegetation within the subject site, all of which are located within the APZ and have the potential to be impacted by future management of the APZ. Based on an average density of six seedlings per square metre within areas of Exotic Dominated Vegetation, the 14 seedlings potentially

impacted equates to approximately 0.28% of total seedlings estimated to occur on site. Furthermore, across the known area of occurrence of *Zieria granulata* within the study area (both Exotic Dominated Vegetation and Illawarra Subtropical Rainforest), the 14 seedlings potentially impacted within the subject site equates to approximately 0.04% of total *Zieria granulata* seedlings.

The project will have a minor direct impact on *Zieria granulata* through the removal of potential habitat in the form of Exotic Dominated Vegetation within the APZ. The known area of occurrence of *Zieria granulata* is not currently managed for conservation and is subject to land management practices including slashing. As such, the project is proposing to implement a ZMP for the known area of occurrence to ensure the long term survival of the species within the study area. It is noted that the Recovery Plan for *Zieria granulata* outlines that the species has been observed to reshoot from the base of mature stems in response to mechanical disturbance and therefore continue management via mechanical means may be beneficial for ongoing management.

In addition to the direct removal and modification of potential habitat within the subject site, potential indirect impacts to threatened flora species include:

- Weed invasion from escaped garden plants and other exotic species currently present within the subject site and wider study area;
- Increased run-off, erosion and sedimentation due to increased residential development and altered hydrological regimes;
- Pollution and rubbish dumping associated within an increase in residential development; and
- Modification of microhabitat features resulting from long and short-term edge effects (e.g. changes in light filtration).

Such impacts are already present with the subject site and adjoining areas due to previous clearing and land use. Whilst the project has the potential to indirectly impact habitat for threatened flora species, the resultant impacts are unlikely to be increased significantly beyond current conditions. The potential changes to the known and potential habitat resulting from indirect impacts are expected to be localised and overall are not considered to cause a substantial change in the habitat.

A Test of Significance required under Section 7.3 of the BC Act has been prepared for *Zieria granulata* (Illawarra Zieria), *Daphnandra johnsonii* (Illawarra Socketwood), as well as *Cynanchum elegans* (White-flowered Wax Plant) due to its potential to occur within the study area, which conclude the project is unlikely to significantly affect these species (See **Appendix D**). A number of mitigation measures are proposed to minimise the impacts to these species and are provided in **Chapter 5**.

4.6. Impacts to Threatened Fauna Species

No threatened fauna species were observed within the study area. The project has the potential to result in some indirect impacts to the habitat of one potentially occurring threatened fauna species, the Grey-headed Flying-fox (*Pteropus poliocephalus*), within the subject site. Potential indirect impacts to habitat for this species include:

- Habitat disturbance during the construction and operational phases of the project (e.g. changes in noise and light); and
- Modification of microhabitat features resulting from long and short-term edge effects (e.g. changes in light filtration).

The potential changes to the retained habitat resulting from indirect impacts are expected to be localised and overall are not considered to cause a substantial change in the habitat of the potentially occurring threatened fauna species.

A Test of Significance required under Section 7.3 of the BC Act has been prepared for the Grey-headed Flying-fox. This assessment is provided in **Appendix D** and concludes that the project is unlikely to significantly affect the Grey-headed Flying-fox.

A number of mitigation measures are proposed to minimise the impacts to this species and are provided in **Chapter 5**.

5. Avoidance, Mitigation and Compensatory Measures

The purpose of this chapter is to outline the avoidance, mitigation and offset measures proposed to ameliorate the impacts of the project on biodiversity values. As demonstrated in previous chapters, despite the subject site being modified and comprising mainly exotic vegetation, it provides some habitat for threatened entities. As a result, there is a need to implement measures to minimise impacts to these entities. The impact reduction measures for the project include the following hierarchy of principles:

- Avoid - to the extent possible, the project has been designed to avoid or minimise ecological impacts;
- Mitigate - where certain impacts are unavoidable through design changes, mitigation measures have been introduced to ameliorate the ecological impacts of the project; and
- Compensate - the residual impacts of the project, following the implementation of mitigation measures, have been compensated to offset what would otherwise be a net loss of habitat.

5.1. Avoidance Measures

A range of alternatives to the development can be considered to avoid impacts to biodiversity values, including a much smaller development, or development upon another portion of the subject property.

The project is located within land that has been historically cleared and now comprises mainly exotic vegetation. The entire of the subject site also has a zoning of RU2 Rural Landscape area under the KLEP.

The development footprint has been significantly modified in the amended DA to reduce potential impacts to the ecological value of Illawarra Subtropical Rainforest and threatened flora species located on the subject site. By reducing the lot yield, the amended DA has been able to substantially reduce direct impacts on Illawarra Subtropical Rainforest and threatened flora species. As such, the project is not considered to reduce the extent of the Illawarra Subtropical Rainforest and rather modify its composition through the removal of exotic understorey species. Furthermore, the modification to the development has resulted in modifications to the proposed APZs, subsequently avoiding almost the entirety of *Zieria granulata*, in particular all areas containing mature shrubs that are vital for the ongoing survival of the local population.

The ecological investigation undertaken for this assessment indicates that under the final development design the threatened species issues are manageable and not significant.

5.2. Mitigation Measures

5.2.1. Access Restrictions

To avoid unnecessary removal or damage to native vegetation to be retained within and adjacent to the subject site, the clearing area should be clearly demarcated and signed to ensure no vegetation beyond these boundaries is removed. Clearing works and equipment should be excluded from areas outside the clearing area.

5.2.2. *Zieria granulata* Management

A management plan specific to *Zieria granulata* (a ZMP) will be prepared to detail methods and requirements for the protection and long term survival of the *Zieria granulata* population within the *Zieria* management area.

This plan will clearly identify the *Zieria* management area as well as the actions required to manage and monitor the local population as identified within the *Zieria granulata* Recovery Plan. Specifically, it is recommended that the *Zieria* management area is fenced off in perpetuity to prevent unwarranted access and damage to the local population.

5.2.3. Erosion, Sedimentation and Pollution Control

Potential impacts to flora and fauna occurring in the construction and operation phases of the project that can be managed include: run-off, sedimentation, erosion and pollution. To reduce sedimentation on the construction site, erosion control measures should be implemented. This includes minimising the amount of exposed soils on the site at any given time. All soil stockpiles should be adequately covered when not in use to prevent erosion from heavy rainfall.

Sediment fences should be established around the perimeter of the development footprint to prevent the impacts of sedimentation on any adjoining vegetation. During development, precautions should be taken to ensure that no pollution, such as petrochemical substances or water containing suspended solids, escapes the construction site. Pollution traps and efficient removal of pollution to an off-site location would help to minimise pollution impacts.

5.2.4. Landscaping

For any landscaping works to be undertaken within the subject site, where possible, it is recommended that native plant species endemic to the area be incorporated into the landscape plan for the subject site. All native plantings should be sourced from local nurseries or come from seed sourced from the subject property.

5.2.5. Weed Control Measures

Priority weed species occurring within the subject site should be managed in order to prevent further spread. As such, it is recommended that all vegetation removed from the subject site should be disposed of appropriately as identified in the South East Regional Strategic Weed Management Plan 2017-2022 (NSW Local Land Services 2017).

5.2.6. Other General Construction and Operational Measures

A number of general construction and operation measures will be implemented for the project, in accordance with best practice guidelines. These include:

- Dust minimisation – reduces the indirect impacts on vegetation condition and the habitat quality for all native species;
- Noise minimisation – reduces the indirect impacts on fauna species in habitat surrounding the subject site; and
- Lighting management – reduces the indirect impacts on fauna species in habitat surrounding the subject site.

5.3. Compensation Measures

The project does not trigger the BOS and a subsequent requirement for biodiversity offsetting. Therefore no offsetting is proposed for the project. Furthermore, no native vegetation is proposed to be removed and therefore replacement plantings have not been proposed.

6. Conclusion

The project involves the subdivision of land to create 12 residential lots, and 2 additional lots for use of an APZ, road and passive recreation. An assessment was undertaken to examine the impacts of the project on the biodiversity values of the subject site and surrounds. The project does not trigger the BOS under the BC Act and therefore this FFA has been prepared to document the findings of an ecological investigation undertaken within the subject site.

To facilitate the proposed development, a total of 2.10 ha of land will be impacted. This will include direct clearing of 1.76 ha of exotic grassland and shrubland vegetation and potential indirect impacts to 0.34 ha of the Illawarra Subtropical Rainforest TEC. However clearing of the TEC within the subject site will be limited to exotic understorey vegetation, while native canopy species will be retained in accordance with the APZ canopy cover density limits. Similarly, whilst the subject site supports a large population of the endangered *Zieria granulata*, all mature individuals and the vast majority of seedlings will be conserved within a fenced off area and will not be removed. Furthermore, a ZMP will be implemented in perpetuity to ensure the long term management of the local population of *Zieria granulata* which is not currently managed.

The data collected by Cumberland Ecology indicate that there is prolific regeneration of *Zieria granulata* and while not all seedlings will survive into the future due to natural attrition, it is likely that a proportion will survive to substantially boost the existing population of mature individuals in the *Zieria* management area.

The ecological investigation undertaken for this assessment indicates that threatened species issues are manageable and not significant. Notwithstanding this, a suite of mitigation measures are proposed to minimise the impacts on biodiversity values. The objective of these measures is to provide for a net benefit to flora and fauna within the locality.

7. References

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APPENDIX A :

Flora Species List



Table 5 Flora species list

Scientific Name	Common Name	Family	Exo tic	BC Act Stat us	EPBC Act Statu s	P 1	P 2	P 3	P 4	P 5	P 6
<i>Acacia longifolia</i> var. <i>sophorae</i>	Coastal Wattle	Fabaceae (Mimosoideae)								X	
<i>Acacia maidenii</i>	Maiden's Wattle	Fabaceae (Mimosoideae)				X					X
<i>Adiantum formosum</i>	Giant Maidenhair	Pteridaceae									X
<i>Adiantum hispidulum</i> var. <i>hypoglaucum</i>		Pteridaceae				X					X
<i>Ageratina adenophora</i>	Crofton Weed	Asteraceae	*			X			X		X
<i>Ageratina riparia</i>	Mistflower	Asteraceae	*								X
<i>Alectryon subcinereus</i>	Wild Quince	Sapindaceae				X					X
<i>Alocasia brisbanensis</i>	Cunjevoi	Araceae				X			X		
<i>Aneilema acuminatum</i>		Commelinaceae				X					
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	Poaceae	*						X	X	
<i>Aphanopetalum resinosum</i>	Gum Vine	Aphanopetalaceae				X					
<i>Araujia sericiflora</i>	Moth Vine	Apocynaceae	*						X		
<i>Asparagus aethiopicus</i>	Asparagus Fern	Asparagaceae	*						X		X
<i>Asparagus plumosus</i>	Climbing Asparagus Fern	Asparagaceae	*			X					
<i>Asplenium flabellifolium</i>	Necklace Fern	Aspleniaceae				X					X
<i>Bidens pilosa</i>	Cobbler's Pegs	Asteraceae	*			X	X	X		X	X
<i>Blechnum minus</i>	Soft Water Fern	Blechnaceae									X
<i>Breynia oblongifolia</i>	Coffee Bush	Phyllanthaceae				X				X	
<i>Bromus catharticus</i>	Prairie Grass	Poaceae	*				X	X	X		
<i>Calochlaena dubia</i>	Rainbow Fern	Dicksoniaceae				X					
<i>Campsis radicans</i>	Trumpet Vine	Bignoniaceae	*						X		

Scientific Name	Common Name	Family	Exo tic	BC Act Stat us	EPBC Act Statu s	P 1	P 2	P 3	P 4	P 5	P 6
<i>Cardiospermum grandiflorum</i>	Balloon Vine	Sapindaceae	*			X	X				X
<i>Carex appressa</i>	Tall Sedge	Cyperaceae									X
<i>Carex inversa</i>	Knob Sedge	Cyperaceae					X				
<i>Cayratia clematidea</i>	Native Grape	Vitaceae				X					X
<i>Cenchrus clandestinus</i>	Kikuyu Grass	Poaceae	*				X	X	X	X	
<i>Cirsium vulgare</i>	Spear Thistle	Asteraceae	*			X	X		X		
<i>Cissus antarctica</i>	Water Vine	Vitaceae									X
<i>Clerodendrum tomentosum</i>	Hairy Clerodendrum	Lamiaceae									X
<i>Commelina cyanea</i>	Native Wandering Jew	Commelinaceae				X				X	
<i>Conyza bonariensis</i>	Flaxleaf Fleabane	Asteraceae	*							X	
<i>Conyza sumatrensis</i>	Tall fleabane	Asteraceae	*			X			X	X	X
<i>Cupaniopsis anacardioides</i>	Tuckeroo	Sapindaceae							X		
<i>Cynodon dactylon</i>	Common Couch	Poaceae								X	
<i>Cyperus brevifolius</i>		Cyperaceae	*							X	
<i>Cyperus imbecillis</i>		Cyperaceae				X					X
<i>Daphnandra johnsonii</i>	Illawarra Socketwood	Monimiaceae		E	E						X
<i>Delairea odorata</i>	Cape Ivy	Asteraceae	*			X					X
<i>Dendrocnide excelsa</i>	Giant Stinging Tree	Urticaceae									X
<i>Desmodium spp.</i>	Tick-trefoil	Fabaceae (Faboideae)				X					
<i>Dichondra repens</i>	Kidney Weed	Convolvulaceae				X	X			X	
<i>Digitaria ciliaris</i>	Summer Grass	Poaceae	*							X	
<i>Doodia aspera</i>		Blechnaceae									X
<i>Echinopogon ovatus</i>	Forest Hedgehog Grass	Poaceae								X	
<i>Ehrharta erecta</i>	Panic Veldtgrass	Poaceae	*			X			X		

Scientific Name	Common Name	Family	Exo tic	BC Act Stat us	EPBC Act Statu s	P 1	P 2	P 3	P 4	P 5	P 6
<i>Elaeodendron australe</i> var. <i>australe</i>		Celastraceae				X					X
<i>Entolasia stricta</i>	Wiry Panic	Poaceae								X	
<i>Eragrostis brownii</i>	Brown's Lovegrass	Poaceae								X	
<i>Eragrostis leptostachya</i>	Paddock Lovegrass	Poaceae								X	
<i>Euphorbia peplus</i>	Petty Spurge	Euphorbiaceae	*						X		
<i>Eustrephus latifolius</i>	Wombat Berry	Luzuriagaceae									X
<i>Ficus macrophylla</i>		Moraceae							X		
<i>Ficus obliqua</i>	Small-leaved Fig	Moraceae				X					
<i>Fimbristylis dichotoma</i>	Common Fringe-sedge	Cyperaceae				X					
<i>Foeniculum vulgare</i>	Fennel	Apiaceae	*				X	X			
<i>Geitonoplesium cymosum</i>	Scrambling Lily	Luzuriagaceae				X					X
<i>Geranium solanderi</i> var. <i>solanderi</i>		Geraniaceae							X		
<i>Glochidion ferdinandi</i>	Cheese Tree	Phyllanthaceae				X					
<i>Glycine tabacina</i>	Variable Glycine	Fabaceae (Faboideae)				X					
<i>Guioa semiglauca</i>	Guioa	Sapindaceae									X
<i>Gymnostachys anceps</i>	Settler's Twine	Araceae									X
<i>Gynochthodes jasminoides</i>	Sweet Morinda	Rubiaceae				X					X
<i>Hibbertia scandens</i>	Climbing Guinea Flower	Dilleniaceae							X		X
<i>Holcus lanatus</i>	Yorkshire Fog	Poaceae	*				X	X	X	X	
<i>Homalanthus populifolius</i>		Euphorbiaceae				X			X		
<i>Hypochaeris radicata</i>	Catsear	Asteraceae	*				X	X	X	X	
<i>Juncus usitatus</i>		Juncaceae							X		
<i>Lantana camara</i>	Lantana	Verbenaceae	*			X			X	X	X

Scientific Name	Common Name	Family	Exo tic	BC Act Stat us	EPBC Act Statu s	P 1	P 2	P 3	P 4	P 5	P 6
<i>Lastreopsis decomposita</i>	Trim Shield Fern	Dryopteridaceae				X					
<i>Legnephora moorei</i>	Round-leaf Vine	Menispermaceae									X
<i>Ligustrum lucidum</i>	Large-leaved Privet	Oleaceae	*			X			X		X
<i>Livistona australis</i>	Cabbage Palm	Arecaceae							X		X
<i>Lolium perenne</i>	Perennial Ryegrass	Poaceae	*				X	X	X	X	
<i>Lonicera japonica</i>	Japanese Honeysuckle	Caprifoliaceae	*								X
<i>Lysimachia arvensis</i>	Scarlet Pimpernel	Primulaceae	*				X			X	
<i>Maclura cochinchinensis</i>	Cockspur Thorn	Moraceae									X
<i>Marsdenia rostrata</i>	Milk Vine	Apocynaceae									X
<i>Melia azedarach</i>	White Cedar	Meliaceae							X		
<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass	Poaceae					X		X	X	
<i>Microsorium scandens</i>	Fragrant Fern	Polypodiaceae									X
<i>Notelaea venosa</i>	Veined Mock-olive	Oleaceae				X					X
<i>Olea europaea</i> subsp. <i>cuspidata</i>	African Olive	Oleaceae	*			X			X		
<i>Oplismenus aemulus</i>		Poaceae				X			X	X	
<i>Oplismenus imbecillis</i>		Poaceae				X					X
<i>Oxalis corniculata</i>	Creeping Oxalis	Oxalidaceae	*				X			X	
<i>Pandorea pandorana</i>	Wonga Wonga Vine	Bignoniaceae				X					
<i>Paspalum dilatatum</i>	Paspalum	Poaceae	*				X	X	X	X	
<i>Paspalum distichum</i>	Water Couch	Poaceae								X	
<i>Pellaea falcata</i>	Sickle Fern	Pteridaceae				X					X
<i>Peperomia blanda</i>		Peperomiaceae				X					
<i>Phalaris aquatica</i>	Phalaris	Poaceae	*				X	X	X		
<i>Phytolacca octandra</i>	Inkweed	Phytolaccaceae	*			X				X	

Scientific Name	Common Name	Family	Exo tic	BC Act Stat us	EPBC Act Statu s	P 1	P 2	P 3	P 4	P 5	P 6
<i>Piper hederaceum</i> var. <i>hederaceum</i>	Giant Pepper Vine	Piperaceae				X					X
<i>Pittosporum multiflorum</i>	Orange Thorn	Pittosporaceae							X		X
<i>Pittosporum undulatum</i>	Sweet Pittosporum	Pittosporaceae				X					X
<i>Plantago lanceolata</i>	Lamb's Tongues	Plantaginaceae	*				X	X	X	X	
<i>Plectranthus parviflorus</i>		Lamiaceae				X				X	X
<i>Podocarpus elatus</i>	Plum Pine	Podocarpaceae									X
<i>Prunella vulgaris</i>	Self-heal	Lamiaceae	*						X		
<i>Pseuderanthemum variabile</i>	Pastel Flower	Acanthaceae				X				X	X
<i>Pyrrosia rupestris</i>	Rock Felt Fern	Polypodiaceae				X					X
<i>Rumex brownii</i>	Swamp Dock	Polygonaceae					X	X			
<i>Sambucus australasica</i>	Native Elderberry	Adoxaceae				X					X
<i>Sarcopetalum harveyanum</i>	Pearl Vine	Menispermaceae				X					X
<i>Senecio madagascariensis</i>	Fireweed	Asteraceae	*			X	X			X	
<i>Senna pendula</i> var. <i>glabrata</i>		Fabaceae (Caesalpinioidea e)	*			X					X
<i>Sida rhombifolia</i>	Paddy's Lucerne	Malvaceae	*						X		
<i>Sigesbeckia orientalis</i>	Indian Weed	Asteraceae				X					
<i>Solanum mauritianum</i>	Wild Tobacco Bush	Solanaceae	*			X			X		
<i>Sonchus asper</i>	Prickly Sowthistle	Asteraceae	*				X	X	X		
<i>Stellaria media</i>	Common Chickweed	Caryophyllaceae	*			X					X
<i>Stenotaphrum secundatum</i>	Buffalo Grass	Poaceae	*							X	
<i>Stephania japonica</i>	Snake vine	Menispermaceae				X			X		X

Scientific Name	Common Name	Family	Exo tic	BC Act Stat us	EPBC Act Statu s	P 1	P 2	P 3	P 4	P 5	P 6
<i>Sticherus urceolatus</i>	Silky Fan Fern	Gleicheniaceae				X					X
<i>Streblus brunonianus</i>	Whalebone Tree	Moraceae				X			X		X
<i>Synoum glandulosum</i>	Scentless Rosewood	Meliaceae									X
<i>Tagetes minuta</i>	Stinking Roger	Asteraceae	*							X	
<i>Tecoma capensis</i>	Cape Honeysuckle	Bignoniaceae	*						X	X	
<i>Toona ciliata</i>	Red Cedar	Meliaceae				X					
<i>Tragopogon porrifolius</i>	Salsify	Asteraceae	*				X				
<i>Trema tomentosa</i> <i>var. aspera</i>	Native Peach	Ulmaceae				X					
<i>Urtica dioica</i>	Giant Nettle	Urticaceae	*							X	
<i>Verbena bonariensis</i>	Purpletop	Verbenaceae	*							X	
<i>Vicia sativa</i>	Common vetch	Fabaceae (Faboideae)	*				X	X			
<i>Viola hederacea</i>	Ivy-leaved Violet	Violaceae								X	
<i>Wahlenbergia gracilis</i>	Sprawling Bluebell	Campanulaceae								X	
<i>Wilkiea huegeliana</i>	Veiny Wilkiea	Monimiaceae									X
<i>Zieria granulata</i>	Illawarra Zieria	Rutaceae		E	E	X				X	

E = Endangered

APPENDIX B :

Flora Likelihood of Occurrence

Table 6 Flora likelihood of occurrence

Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
Apocynaceae	<i>Cynanchum elegans</i>	White-flowered Wax Plant	E	E	9	Usually associated with dry rainforest vegetation and in coastal communities. Can occur in clay influenced woodland associated with <i>Eucalyptus tereticornis</i> and <i>Corymbia maculata</i> .	Unlikely to occur. The subject site does not contain suitable habitat for the species as it has been subject to a high level of disturbance and exists predominantly as exotic grassland. Although the species has been recorded from the locality and has the potential to occur within the Illawarra Subtropical Rainforest vegetation community present within the study area, it is not considered likely to occur within the subject site. Furthermore, the species was not detected during targeted surveys within the subject site and wider study area.
Monimaceae	<i>Daphnandra johnsonii</i>	Illawarra Socketwood	E	E	44	Occupies the rocky hillsides and gullies of the Illawarra lowlands, occasionally extending onto the upper escarpment slopes. Associated vegetation includes rainforest and moist eucalypt forest while associated soils include loams and clay loams derived from volcanic and fertile sedimentary rocks.	Unlikely to occur. The species was recorded by Cumberland Ecology at lower elevations within the Illawarra Subtropical Rainforest vegetation community however the species was not detected within the subject site. The subject site does not contain suitable habitat for the species as it has been subject to a high level of disturbance and exists predominantly as exotic grassland.

Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
Myrtaceae	<i>Gossia acmenoides</i>	<i>Gossia acmenoides</i> population in the Sydney Basin Bioregion south of the Georges River	E		3	Found in subtropical and dry rainforest on the ranges and coastal plain of eastern Australia. The population is estimated to be less than 100 mature plants, through approximately 30 sites and often occur as a single individual or small group.	Unlikely to occur. The subject site does not contain suitable habitat for the species as it has been subject to a high level of disturbance and exists predominantly as exotic grassland. Although the species has been recorded from the locality and has the potential to occur within the Illawarra Subtropical Rainforest vegetation community present within the wider study area, it is not considered likely to occur within the subject site. Furthermore, the species was not detected during targeted surveys within the subject site and wider study area.
Myrtaceae	<i>Rhodamnia rubescens</i>	Scrub Turpentine	CE	CE	4	Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils. The species is distributed in coastal districts north from Batemans Bay in New South Wales to areas inland of Bundaberg in Queensland. Populations of <i>Rhodamnia rubescens</i> typically occur in coastal	Unlikely to occur. The subject site does not contain suitable habitat for the species as it has been subject to a high level of disturbance and exists predominantly as exotic grassland. Although the species has been recorded from the locality and has the potential to occur within the Illawarra Subtropical Rainforest vegetation community present within the wider study area, it is not considered likely to occur within the subject site. Furthermore, the species was not detected during

Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
						regions and occasionally extend inland onto escarpments up to 600 m (above sea level) in areas with rainfall of 1,000-1,600 mm.	targeted surveys within the subject site and wider study area.
Rutaceae	<i>Zieria granulata</i>	Illawarra Zieria	E	E	133	The typical habitat is dry ridge tops and rocky outcrops on shallow volcanic soils, usually on Bumbo Latite. Less frequently found on the moist slopes of the Illawarra escarpment and in low-lying areas on Quaternary sediments. Much of the natural habitat for the species has been removed and many sites now occupy road verges and paddock edges.	Known to occur. The species has been recorded along the western edge of the Illawarra Subtropical Rainforest at higher elevations. Within the subject site, the species occurs as seedlings, with mature individuals adjacent to the subject site.

E = Endangered, CE = Critically Endangered

APPENDIX C :

Fauna Likelihood of Occurrence



Table 7 Fauna likelihood of occurrence

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
Amphibia	Hylidae	<i>Litoria aurea</i>	Green and Golden Bell Frog	E	V	4	The species is found in a wide range of water bodies except fast moving streams. It commonly inhabits disturbed sites such as abandoned quarries and mines, though generally breeds in habitats that include still, shallow, unpolluted water bodies, that are unshaded, contain aquatic plants are free of Mosquito Fish and other predators, with a range of diurnal shelter sites (emergent aquatic vegetation).	Unlikely to occur. The subject site does not contain suitable habitat in the form of waterbodies.
Aves	Procellariidae	<i>Ardenna carneipes</i>	Flesh-footed Shearwater	V	M	1	Marine species that nest on Lord Howe Island in forests on sandy soils.	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this marine species.

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
Aves	Procellariidae	<i>Ardenna grisea</i>	Sooty Shearwater	-	M	1	The Sooty Shearwater forages in pelagic (open ocean) sub-tropical, sub-Antarctic and Antarctic waters. The species migrates and forages in the North Pacific and Atlantic Oceans during the non-breeding season. Sooty Shearwaters may forage inshore occasionally, especially during rough weather. The Sooty Shearwater breeds mainly on subtropical and sub-Antarctic islands, as well as on the mainland of New Zealand. Birds nest in burrows or rock crevices on coastal slopes, ridges and cliff tops, in herbfields, tussock grassland or forest. Areas with waterlogged or shallow soils and/or dense vegetation are avoided.	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this species.

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
Aves	Procellariidae	<i>Ardenna pacifica</i>	Wedge-tailed Shearwater	-	M	6	The Wedge-tailed Shearwater is a pelagic, marine bird known from tropical and subtropical waters. The species tolerates a range of surface-temperatures and salinities, but is most abundant where temperatures are greater than 21 °C and salinity is greater than 34.6 ‰. In tropical zones the species may feed over cool nutrient-rich waters. The species has been recorded in offshore waters of eastern Victoria and southern NSW, mostly over continental slope with sea-surface temperatures of 13.9–24.4 °C and usually off the continental shelf in north-west Australia	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this species.
Aves	Procellariidae	<i>Ardenna tenuirostris</i>	Short-tailed Shearwater	-	M	3	The Short-tailed Shearwater is found in coastal waters. During breeding season, millions converge on many small islands from NSW to Western	Unlikely to occur. The subject site does not provide suitable foraging or breeding

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
							Australia, with their stronghold in Bass Strait.	habitat for this species.
Aves	Artamidae	<i>Artamus cyanopterus</i>	Dusky Woodswallow	V	-	3	In New South Wales the species is widespread from coast to inland, including the western slopes of the Great Dividing Range and farther west. The Dusky Woodswallow is found in woodlands and dry open sclerophyll forests, usually dominated by eucalypts, including mallee associations. The species primarily eats invertebrates, mainly insects, which are captured whilst hovering and sallying above the canopy or over water.	Unlikely to occur. The subject site does not comprise suitable foraging or nesting habitat in the form of woodlands and dry open sclerophyll forests.
Aves	Ardeidae	<i>Botaurus poiciloptilus</i>	Australasian Bittern	E	E	1	Occurs in freshwater wetlands, and more rarely, estuarine wetlands. It favours wetlands with tall, dense vegetation, and forages in shallow water up to a depth of 0.3m. It nests in deep vegetative cover over shallow pools.	Unlikely to occur. The subject site does not contain suitable habitat in the form of wetlands.

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
Aves	Scolopacidae	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	-	M	1	Species prefers muddy edges of shallow fresh or brackish wetlands with inundated or low vegetation. Known to occur lagoons, swamps, lakes, dams, and other waterbodies. Roosts at the edges of wetlands.	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this species.
Aves	Scolopacidae	<i>Calidris alba</i>	Sanderling	V	M	1	Often found in coastal areas on low beaches of firm sand, near reefs and inlets, along tidal mudflats and bare open coastal lagoons; individuals are rarely recorded in near-coastal wetlands.	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this species.
Aves	Cacatuidae	<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V	-	1	Inhabits open forest and woodlands of the coast and the Great Dividing Range up to 1000 m in which stands of she-oak species, particularly Black She-oak (<i>Allocasuarina littoralis</i>), Forest She-oak (<i>A. torulosa</i>) or Drooping She-oak (<i>A. verticillata</i>) occur.	Unlikely to occur. The subject site does not comprise suitable foraging habitat in the form of she-oak species. Furthermore, only one previous record of the species in the locality from 2011 suggests the species is

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
								unlikely to occur.
Aves	Accipitridae	<i>Circus assimilis</i>	Spotted Harrier	V	-	1	Occurs throughout mainland Australia except in densely forested or wooded habitats of the coast, escarpment, and ranges. It inhabits open grassy woodland, shrubland, and grassland. It nests in trees and preys on terrestrial mammals, birds, and reptiles, and will occasionally consume carrion.	Unlikely to occur. Whilst the subject site contains marginal habitat that may constitute potential foraging habitat, there are few records of the species from the locality. Furthermore, no nests were recorded within the subject site during field surveys.
Aves	Meliphagidae	<i>Epthianura albigula</i>	White-fronted Chat	V	-	1	This is a gregarious species generally found foraging on bare or grassy ground in wetland areas, alone or in pairs. They feed on insects, mainly flies and beetles caught on the ground or close to. It occupies foothills and slopes up to 1000 m ASL, though in coastal areas is predominately	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this species.

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
							found in areas of salt marsh, and occasionally in low shrubs bordering wetland areas.	
Aves	Scolopacidae	<i>Gallinago hardwickii</i>	Latham's Snipe	-	M	1	Seen in small groups or singly in freshwater wetlands on or near the coast, generally among dense cover. They are found in any vegetation around wetlands, in sedges, grasses, lignum, reeds and rushes and also in saltmarsh and creek edges on migration. They also use crops and pasture.	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this species.
Aves	Psittacidae	<i>Glossopsitta pusilla</i>	Little Lorikeet	V	-	1	Forages primarily in the canopy of open Eucalyptus forest and woodland, yet also finds food in Angophoras, Melaleucas and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity. Also utilises isolated flowering trees in open country, e.g. paddocks, roadside remnants and urban trees. Roosts	Unlikely to occur. The subject site does not contain suitable habitat. Only one previous record exists within the locality from 2005, which suggests the species is unlikely to utilise the subject site.

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
							in treetops, often distant from feeding areas. Nests in proximity to feeding areas if possible, most typically selecting hollows in the limb or trunk of smooth-barked Eucalypts.	
Aves	Haematopodidae	<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	V	-	8	Favours rocky headlands, rocky shelves, exposed reefs with rock pools, beaches and muddy estuaries.	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this species.
Aves	Accipitridae	<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V	-	14	The White-bellied Sea-Eagle is found in coastal habitats (especially those close to the sea-shore) and around terrestrial wetlands in tropical and temperate regions of mainland Australia and its offshore islands. The habitats occupied by the sea-eagle are characterised by the presence of large areas of open water.	Unlikely to occur. The subject site does not contain suitable habitat in the form of significant wetland or watercourse areas. Furthermore, no nests were recorded within the subject site during field surveys.

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
Aves	Accipitridae	<i>Hieraaetus morphnoides</i>	Little Eagle	V	-	3	The Little Eagle occupies habitats rich in prey within open eucalypt forest, woodland, or open woodland. Sheoak or acacia woodlands and riparian woodlands of interior NSW are also used. For nest sites it requires a tall living tree within a remnant patch.	Unlikely to occur. Whilst the subject site contains marginal habitat that may constitute potential foraging habitat, there are few records of the species from the locality. Furthermore, no nests were recorded during field surveys.
Aves	Apodidae	<i>Hirundapus caudacutus</i>	White-throated Needletail	-	M	1	Almost exclusively aerial, from heights of less than 1 m up to more than 1000 m above the ground. Occur over most types of habitat, particularly above wooded areas including open forest and rainforest, between trees or in clearings and below the canopy.	Unlikely to occur. The subject site does not contain suitable habitat in the form of substantially wooded foraging areas. The species has potential to fly overhead of the subject site on occasion, however as the species is almost exclusively aerial, the habitat within the subject site is unlikely to be

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
								utilised by the species.
Aves	Laridae	<i>Hydroprogne caspia</i>	Caspian Tern	-	M	1	Prefers sheltered coastal embayments but is known to occur in near-coastal or inland terrestrial wetlands. Builds nests in open areas or areas with low vegetation.	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this species.
Aves	Ardeidae	<i>Ixobrychus flavicollis</i>	Black Bittern	V	-	2	Inhabits terrestrial and estuarine wetlands, generally in areas containing permanent water and dense vegetation. The species can occur in flooded grassland, woodland, rainforest, and mangroves. It feeds on frogs, reptiles, fish, and invertebrates such as snails, dragonflies, shrimp and crayfish. It roosts during the day on the ground amongst dense reeds or within trees. It nests in branches overhanging water.	Unlikely to occur. The subject site does not contain suitable habitat in the form of wetlands.

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
Aves	Psittacidae	<i>Lathamus discolor</i>	Swift Parrot	E	CE	2	In NSW mostly occurs on the coast and south west slopes. On the mainland they occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations. Favoured feed trees include winter flowering species such as Eucalyptus robusta, Corymbia maculata, C. gummifera, E. sideroxylon, and E. albens. Breeds in Tasmania in spring and summer.	Unlikely to occur. The subject site does not contain suitable habitat in the form of eucalypts. A low number of records within the locality suggest the species is unlikely to utilise the subject site.
Aves	Scolopacidae	<i>Numenius phaeopus</i>	Whimbrel	-	M	2	Occurs primarily in intertidal mudflats or sheltered coasts, but also occurs in sheltered coastal areas and saline or brackish lakes near the coast. Nesting usually occurs in mangroves and tall coastal trees.	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this species.
Aves	Accipitridae	<i>Pandion cristatus</i>	Eastern Osprey	V	-	1	Found in littoral and coastal habitats and terrestrial wetlands. They generally are found in coastal areas though will travel inland along major water courses. They visit a	Unlikely to occur. The subject site does not contain suitable habitat in the form of significant wetland or

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
							wide range of wetland habitats including inshore waters, reefs, bays, coastal cliffs, estuaries, mangrove swamps, broad rivers, reservoirs, large lakes, and water holes. They feed on fish over clear, open water, and nest in trees or dead trees, generally within one kilometre of the ocean.	watercourse areas. Furthermore, no nests were recorded within the subject site during field surveys.
Aves	Procellariidae	<i>Puffinus assimilis</i>	Little Shearwater	V	-	1	Little Shearwater is a marine, pelagic species, occurring in subantarctic, subtropical and occasionally tropical waters. They breed on rocky or forested islands, or on those with tussock grasslands	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this species.
Aves	Stercorariidae	<i>Stercorarius pomarinus</i>	Pomarine Jaeger	-	M	1	This species is marine outside the breeding season, remaining somewhat coastal, especially in upwelling regions of the tropics and subtropics. This species breeds in the far north of Eurasia and North America. It is a transequatorial	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this species.

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
							migrant, mostly wintering between the Tropic of Cancer and Tropic of Capricorn and along the coastlines of Australia and Argentina	
Aves	Laridae	<i>Sternula albifrons</i>	Little Tern	E	M	1	Occurs in sheltered coastal environments, beaches, estuaries, lakes, lagoons, river mouths and deltas. The species breeds from Tasmania to the Gulf of Carpentaria.	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this species.
Aves	Anatidae	<i>Stictonetta naevosa</i>	Freckled Duck	V	-	2	This species occurs primarily in south-eastern and south-western Australia and occurs as a vagrant elsewhere. It breeds in large, temporary swamps created during flood events in the Bulloo and Lake Eyre's basins and along the Murray-Darling river system. During inland droughts the species disperses to wetlands in the Murray River basin, and occasionally to coastal areas. The species prefers permanent freshwater swamps and creeks heavy	Unlikely to occur. The subject site does not contain suitable habitat in the form of swamps or wetlands.

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
							with shrub, sedge, and rush growth. It rests in dense cover during the day, usually in deep water and feeds at dusk and dawn on algae, seeds, and vegetative parts of aquatic sedges and grasses. It nests generally during October to December in dense vegetation near to the water level.	
Aves	Diomedidae	<i>Thalassarche melanophrys</i>	Black-browed Albatross	V	V	1	Marine species that breeds on subantarctic and peri-antarctic islands. Species is rarely sighted over land away from its breeding islands.	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this species.
Aves	Laridae	<i>Thalasseus bergii</i>	Crested Tern	-	M	15	Occurs along coasts and estuaries; very rarely further inland or on freshwater ponds/lagoons.	Unlikely to occur. The subject site does not provide suitable foraging or breeding habitat for this species.
Mammalia	Phascolarctidae	<i>Phascolarctos cinereus</i>	Koala	V	V	1	Inhabits eucalypt woodlands and forests. Feed on the foliage of more than 70 eucalypt species and 30 non-	Unlikely to occur. The subject site does not contain suitable habitat

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
							eucalypt species, but in any one area will select preferred feed species. Home range size varies with quality of habitat, ranging from less than two ha to several hundred hectares in size.	for the species. The low number of records from the locality suggest the species is unlikely to utilise the subject site.
Mammalia	Dasyuridae	<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V	E	5	Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline. Individual animals use hollow-bearing trees, fallen logs, small caves, rock outcrops and rocky-cliff faces as den sites.	Unlikely to occur. Although some marginal foraging and shelter habitat is present within the subject property, no suitable habitat is present within the subject site.
Mammalia	Vespertilionidae	<i>Falsistrellus tasmanicus</i>	Eastern False Pipistrelle	V	-	1	Favours hollow trunks of Eucalypt trees over 20m high in wet sclerophyll forest and coastal mallee. Occasionally found in old wooden buildings.	Unlikely to occur. No suitable roosting or foraging habitat is present within the subject site. The low number of records from the locality suggest the species is unlikely to

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
								utilise the subject site.
Mammalia	Miniopteridae	<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V	-	1	Forages above the canopy and eats mostly moths. Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures.	Unlikely to occur. The subject site contains some marginal foraging and roosting habitat, however the low number of records from the locality suggest the species is unlikely to utilise the subject site.
Mammalia	Pseudochiridae	<i>Petauroides volans</i>	Greater Glider	-	V	1	Occurs in eucalypt forests and woodlands from north-eastern Queensland to the Central Highlands of Victoria. The species has a relatively small home range which consists of numerous tree hollows.	Unlikely to occur. The subject site does not contain suitable habitat for the species as it lacks suitable tree hollows and foraging habitat. The low number of records from the locality suggest the species is unlikely to utilise the subject site.

Class	Family	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Locality Count	Habitat Requirements	Likelihood of Occurrence
Mammalia	Pteropodidae	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	53	Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops. Roosting camps are generally located within 20 km of a regular food source and are commonly found in gullies, close to water, in vegetation with a dense canopy.	Potential to occur. The subject site contains potential foraging habitat due to the presence of Ficus macrophylla (Moreton Bay Figs). No roosting camps are present within the subject site
Reptilia	Cheloniidae	<i>Chelonia mydas</i>	Green Turtle	V	V	1	The Green Turtle is known to have an initial pelagic phase, lasting up to ten years. The species subsequently settle in shallow benthic foraging habitats, when reaching 30-40 cm 'curved carapace length'. These habitats include tropical tidal and sub-tidal coral and rocky reef areas, and inshore seagrass beds.	Unlikely to occur. The subject site does not contain marine habitat

V = Vulnerable, E = Endangered, CE = Critically Endangered, M = Migratory

APPENDIX D :

Assessment of Significance



D.1. Introduction

This appendix presents formal Tests of Significance required under Section 7.3 of the BC Act, that have been prepared in accordance with the *Threatened Species Test of Significance Guidelines* (ToS Guidelines) (NSW Government 2018). The Test of Significance provides a means by which to gauge the significance of predicted impacts to threatened species and communities listed under the BC Act.

Both direct and indirect impacts are considered within these assessments. Direct impacts have been quantified within the assessments and are represented by the development footprint boundary. Whilst it is acknowledged that indirect impacts can potentially be significant for a variety of species, such impacts cannot be mapped or accurately calculated in advance.

Each component of the test of significance is provided in italicised text below, and a response supplied beneath in plain text.

D.2. Threatened Entities

Threatened ecological communities and species present within the subject site, or with the potential to be impacted directly or indirectly by the project include:

- Threatened Ecological Communities:
 - Illawarra Subtropical Rainforest.
- Threatened Flora Species
 - *Zieria granulata* (Illawarra Zieria);
 - *Daphnandra johnsonii* (Illawarra Socketwood); and
 - *Cynanchum elegans* (White-flowered Wax Plant).
- Threatened Fauna Species
 - Grey-headed Flying-fox (*Pteropus poliocephalus*).

Tests of Significance for these entities is provided in separate subsections below.

D.2.1. Illawarra Subtropical Rainforest

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction

Not applicable.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction

The local occurrence of Illawarra Subtropical Rainforest is considered to comprise vegetation within and beyond the subject property extending to the north-east. This patch covers a total area of approximately 4.90 ha with approximately 0.34 ha occurring within the subject site. The patch is located through the central portion of the subject property, primarily to the east of the subject site. The area of Illawarra Subtropical Rainforest present within the subject site exists as four large *Ficus macrophylla* (Moreton Bay Figs) which occur over an exotic understorey in the north-eastern portion of the subject site as well as some scattered native and exotic shrubs in the south eastern portion of the subject site. The project will involve the removal of the exotic understorey vegetation however all native canopy trees and shrubs are proposed be retained within the project's APZ. Given the highly modified nature and small extent of the community directly and indirectly impacted, the project is not considered to have an adverse effect on the extent of the community such that its local occurrence is placed at risk of extinction.

Previous land uses have resulted in the modification of the composition of Illawarra Subtropical Rainforest within the subject site. Within the subject site, the community is highly modified and comprises remnant canopy trees above an exotic dominated understorey. The project will result in the loss of a highly modified form of the community and may potentially indirectly impact retained remnants through weed invasion, erosion and sedimentation and edge effects. The potential modification of vegetation through indirect impacts is not considered to place the local occurrence of the community at risk of extinction.

(c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality

A small area (0.34 ha) of exotic understorey vegetation within the Illawarra Subtropical Rainforest will be removed within the subject site which will result in the modification to the condition of the community. The project will involve the removal of the exotic understorey vegetation however native canopy trees and shrubs are proposed be retained within the project's APZ. Further areas of the community are being retained within the subject property. The potential changes to the retained extent of this community resulting from indirect impacts are expected to be localised and overall are not considered to cause a substantial change in the extent of the community.

The removal of exotic understorey vegetation within the Illawarra Subtropical Rainforest will result in a minor increase in distance between retained patches of the community within the subject property. However, the subject site is located on the western side of the patch and occurs in a highly cleared and fragmented landscape and will not significantly increase fragmentation of this community.

Previous land uses have resulted in the modification of the composition of the community throughout the subject site. The community has been reduced to four canopy trees, all *Ficus macrophylla* (Moreton Bay Figs), above a highly degraded, exotic dominated understorey. Of the 0.34 ha of the community that will be directly impacted, only understorey vegetation will be removed comprising predominantly exotic vegetation and native canopy trees will be retained. As such the extent of the community will be retained within the APZ and only the condition of the community will be modified. As such, the exotic understorey vegetation within the Illawarra Subtropical Rainforest that will be removed for the project is not considered important for the long-term survival of the community in the locality.

(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

The BC Act currently lists the following AOBVs:

- Gould's Petrel habitat;
- Little Penguin population in Sydney's North Harbour habitat;
- Mitchell's Rainforest Snail in Stotts Island Nature Reserve; and
- Wollemi Pine habitat.

The project is not located within or in proximity to the aforementioned AOBVs and is therefore not likely to have an adverse effect on any AOBVs.

(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process

The project will result in the following key threatening process:

- 'Clearing of native vegetation', as this reduces the area of habitat available for threatened species and communities;
- 'Invasion and establishment of exotic vines and scramblers' as they can dominate and suppress native flora species;
- 'Invasion of native plant communities by exotic perennial grasses' as they can dominate and suppress native flora species; and
- 'Invasion, establishment and spread of Lantana (*Lantana camara*)' as this species can dominate and suppress native flora species.

Whilst the project may result in the aforementioned key threatening processes, the increase in impacts of these processes is considered to be minor. Many of these key threatened processes are already occurring within the subject site. No significant impacts resulting from key threatened processes are considered to occur as a result of the project.

Conclusion

A small area (0.34 ha) of Illawarra Subtropical Rainforest will be impacted by the project. Impacts will be limited to the removal of exotic understorey vegetation, with native canopy trees and shrubs proposed to be retained within the project's APZ. Given the degraded nature of the vegetation within the subject site, the small scale of direct impacts and the large area of the community retained within the subject property, the project is not considered to result in a significant impact to Illawarra Subtropical Rainforest.

D.2.2. *Zieria granulata* (Illawarra Zieria)

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction

The occurrence of *Zieria granulata* (Illawarra Zieria) within the study area is restricted to the top of the slope on the skeletal soils within Illawarra Subtropical Rainforest and the edge between this community and the Exotic Dominated Vegetation. Within the study area, approximately 255 mature shrubs and 541 seedlings have been recorded. All of the mature *Zieria granulata* shrubs as well as 527 of the *Zieria granulata* seedlings that have been recorded by Cumberland Ecology are located outside the subject site and will not be impacted by the project. Only 14 seedlings have been recorded within the subject site, all of which are small seedlings <3cm in height and occur within the APZ. Density quadrats have been undertaken within the known area of occurrence which indicated that the 14 seedlings potentially impacted by the project account for approximately 0.04% of total *Zieria granulata* seedlings within the local population. Furthermore, the project will not result in the removal of any mature shrubs within that are part of the local population.

Some minor indirect impacts including weed invasion could take place, however the local population is currently subject to these indirect impacts and future management as part of the project would ensure that the project will ensure that project does not have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction

Not applicable.

(c) *in relation to the habitat of a threatened species or ecological community:*

- (i) *the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and*
- (ii) *whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and*
- (iii) *the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality*

The project is not considered to remove, modify or significantly increase fragmentation of potential habitat for *Zieria granulata* within the study area. The project has been designed to reduce impacts on the species and impacts to suitable habitat are limited to a narrow strip of Exotic Dominated Vegetation along the eastern boundary of the subject site that fringes the Illawarra Subtropical Rainforest. This habitat occurs along the edge of a large patch of native vegetation that extends beyond the subject property to the north and south. The project is not considered to result in further fragmentation of habitat as the habitat to be impacted occurs along the edge of a larger patch.

Furthermore, a large area of suitable habitat that supports the local population will be retained within the study area in perpetuity and managed under a *Zieria* Management Plan (ZMP) to ensure the long-term survival of the species in the locality.

d) *Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).*

The BC Act currently lists the following AOBVs:

- Gould's Petrel habitat;
- Little Penguin population in Sydney's North Harbour habitat;
- Mitchell's Rainforest Snail in Stotts Island Nature Reserve; and
- Wollemi Pine habitat.

The project is not located within or in proximity to the aforementioned AOBVs and is therefore not likely to have an adverse effect on any AOBVs.

e) *Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.*

The following key threatening processes are relevant to the *Zieria granulata* population occurring within the study area.

- Invasion and establishment of exotic vines and scramblers

The proposed development has the potential to result in the spread of exotic weeds including vines and scramblers, with some species such as *Araujia sericifera* (Moth Vine) and *Cardiospermum grandiflorum* (Balloon Vine) already present. Further weeds could be introduced through garden escapes. In order to mitigate this key threatening process mitigation measures will be implemented during clearing works to further minimise the risk of weeds spreading during the proposed development and a ZMP implemented to ensure the ongoing management of weeds within the *Zieria* management area. Landscaping should include local native species only to ensure no introduced weed species are introduced.

- Invasion of native plant communities by exotic perennial grasses

The proposed development has the potential to result in the spreads of exotic perennial grasses, particularly during the construction phase of the project. In order to mitigate this key threatening process mitigation measures will be implemented during clearing works to further minimise the risk of exotic grasses spreading during the project and a ZMP implemented to ensure the ongoing management of exotic species within the *Zieria* management area. Landscaping should include local native species only to ensure no exotic grasses are introduced.

- Invasion establishment and spread of Lantana, *Lantana camara* L. sens. lat.)

Lantana camara is currently prevalent throughout the Illawarra Subtropical Rainforest as well as the south-western boundary of the study area. Without active weed control it is likely that *Lantana camara* will continue to spread throughout the subject site and wider study area. This however is not a direct result of the project and ongoing management as part of the project will be necessary to prevent this weed from spreading.

- Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants.

The proposed development has the potential to result in the spread of escaped garden plants. In order to mitigate this key threatening process mitigation measures will be implemented during clearing works to further minimise the risk of weeds spreading during the proposed development and a ZMP implemented to ensure the ongoing management of weeds within the *Zieria* management area. Landscaping should include local native species only to ensure no introduced weed species are introduced.

Conclusion

No mature plants will be removed by the project and only 14 seedlings have the potential to be impacted due to their presence within the APZ. These seedlings represent approximately 0.04% of the total *Zieria granulata* seedlings within the local population occurring within the study area. While some minor direct impacts are predicted, such as weed invasion, these impacts are considered to be reduced from current conditions with the implementation of a *Zieria* Management Plan. Given the small scale of direct impacts, and presence of existing indirect impacts, the project is not considered to result in a significant impact to the local population of *Zieria granulata*.

D.2.3. *Daphnandra johnsonii* (Illawarra Socketwood)

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction

The local population of *Daphnandra johnsonii* (Illawarra Socketwood) includes two mature trees and one seedling that have been recorded within the study area. Additional individuals may be present within the study area however none have been recorded within close proximity to the subject site. The *Daphnandra johnsonii* recorded within the study area are located at lower elevations within the Illawarra Subtropical Rainforest and are greater than 100m from the subject site. As such the project will not have a direct impact on this species.

Some minor indirect impacts such as increased weed invasion could take place however this is not considered to increase above current conditions. Therefore, the project is not considered to have an adverse effect on the life cycle of the species such that a viable local population is placed at risk of extinction.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction

Not applicable.

(c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality

The species is not located within the subject site and no suitable habitat is considered to be present within the subject site due to historical land practices. Mitigation measures will be implemented to ensure no indirect impacts occur on suitable habitat in the form of Illawarra Subtropical Rainforest within the subject property. As such, no suitable habitat will be removed or modified as a result of the project.

The project is located on the edge of a patch of suitable habitat in the form of Illawarra Subtropical Rainforest. This community occurs as an isolated patch approximately 4.90 ha in area. As the clearing will only require the modification of a small area (0.34ha) along the edge of the patch, the project is not considered to increase fragmentation or isolation of suitable habitat.

Suitable habitat is present within Illawarra Subtropical Rainforest which is present within the study area and wider subject property. The project has been designed to reduce impacts on the species and although a small area of Illawarra Subtropical Rainforest is present within the subject site, it consists of four large *Ficus macrophylla* (Moreton Bay Figs) which occur over an exotic understorey in the north-eastern portion of the subject site as well as some scattered native and exotic shrubs in the southern eastern portion of the subject site. These areas have been subject to a high level of disturbance and are not considered to provide suitable habitat for this species. As a larger area of suitable habitat will be retained and managed within the subject property, the habitat to be removed within the subject site is not considered important for the long-term survival of the species in the locality.

d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

The BC Act currently lists the following AOBVs:

- Gould's Petrel habitat;
- Little Penguin population in Sydney's North Harbour habitat;
- Mitchell's Rainforest Snail in Stotts Island Nature Reserve; and
- Wollemi Pine habitat.

The project is not located within or in proximity to the aforementioned AOBVs and is therefore not likely to have an adverse effect on any AOBVs.

e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The following key threatening processes are relevant to the *Daphnandra johnsonii* population occurring within the study area.

- Invasion and establishment of exotic vines and scramblers

The proposed development has the potential to result in the spread of exotic weeds including vines and scramblers, with some species such as *Araujia sericifera* (Moth Vine) and *Cardiospermum grandiflorum* (Balloon Vine) already present. Further weeds could be introduced through garden escapes. In order to mitigate this key threatening process mitigation measures will be implemented during clearing works to further minimise the risk of weeds spreading during the proposed development. Landscaping should include local native species only to ensure no introduced weed species are introduced.

- Invasion of native plant communities by exotic perennial grasses

The proposed development has the potential to result in the spreads of exotic perennial grasses, particularly during the construction phase of the project. In order to mitigate this key threatening process mitigation measures will be implemented during clearing works to further minimise the risk of exotic grasses spreading during the project and a ZMP implemented to ensure the ongoing management of exotic species within the

Zieria management area. Landscaping should include local native species only to ensure no exotic grasses are introduced.

- Invasion establishment and spread of Lantana, *Lantana camara* L. sens. lat.)

Lantana camara is currently prevalent throughout the Illawarra Subtropical Rainforest as well as the south-western boundary of the study area. Without active weed control it is likely that *Lantana camara* will continue to spread throughout the study area and wider subject property. This however is not a direct result of the project and ongoing management as part of the project will be necessary to prevent this weed from spreading.

- Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants

The proposed development has the potential to result in the spread of escaped garden plants. In order to mitigate this key threatening process mitigation measures will be implemented during clearing works to further minimise the risk of weeds spreading during the proposed development. Landscaping should include local native species only to ensure no introduced weed species are introduced.

Conclusion

No individual plants of *Daphnandra johnsonii* will be removed by the project. While some minor impacts are predicted, such as weed invasion, these impacts are considered to be reduced from current conditions with the future management of the subject site as well as area of Illawarra Subtropical Rainforest identified as the *Zieria* management area. Given the small scale of direct impacts, and presence of existing indirect impacts, the project is not considered to result in a significant impact to the local population of *Daphnandra johnsonii*.

D.2.4. *Cynanchum elegans* (White-flowered Wax Plant)

(a) *in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction*

Cynanchum elegans (White-flowered Wax Plant) was not recorded within the subject site or study area by Cumberland Ecology however one previous record of the species exists within the patch of Illawarra Subtropical Rainforest to the south of the subject property. As such, the project will not have a direct impact on this species.

Some minor indirect impacts such as increased weed invasion could take place however this is not considered to increase above current conditions. Therefore, the project is not considered to have an adverse effect on the life cycle of the species such that a viable local population is placed at risk of extinction.

(b) *in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:*

- (i) *is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction

Not applicable.

(c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality

The species is not located within the subject site and no suitable habitat is considered to be present within the subject site due to historical land practices. Potential habitat is present within Illawarra Subtropical Rainforest which is present within the study area and wider subject property. The project has been designed to reduce impacts on the Illawarra Subtropical Rainforest and as a result, the project is not considered to impact upon habitat that is important for the long-term survival of the species in the locality.

d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

The BC Act currently lists the following AOBVs:

- Gould's Petrel habitat;
- Little Penguin population in Sydney's North Harbour habitat;
- Mitchell's Rainforest Snail in Stotts Island Nature Reserve; and
- Wollemi Pine habitat.

The project is not located within or in proximity to the aforementioned AOBVs and is therefore not likely to have an adverse effect on any AOBVs.

e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The following key threatening processes are relevant to the *Daphnandra johnsonii* population occurring within the study area.

- Invasion and establishment of exotic vines and scramblers

The proposed development has the potential to result in the spread of exotic weeds including vines and scramblers, with some species such as *Araujia sericifera* (Moth Vine) and *Cardiospermum grandiflorum* (Balloon Vine) already present. Further weeds could be introduced through garden escapes. In order to mitigate this

key threatening process mitigation measures will be implemented during clearing works to further minimise the risk of weeds spreading during the proposed development. Landscaping should include local native species only to ensure no introduced weed species are introduced.

- Invasion of native plant communities by exotic perennial grasses

The proposed development has the potential to result in the spreads of exotic perennial grasses, particularly during the construction phase of the project. In order to mitigate this key threatening process mitigation measures will be implemented during clearing works to further minimise the risk of exotic grasses spreading during the project and a ZMP implemented to ensure the ongoing management of exotic species within the *Zieria* management area. Landscaping should include local native species only to ensure no exotic grasses are introduced.

- Invasion establishment and spread of Lantana, *Lantana camara* L. sens. lat.)

Lantana camara is currently prevalent throughout the Illawarra Subtropical Rainforest as well as the south-western boundary of the study area. Without active weed control it is likely that *Lantana camara* will continue to spread throughout the study area and wider subject property. This however is not a direct result of the project and ongoing management as part of the project will be necessary to prevent this weed from spreading.

- Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants

The proposed development has the potential to result in the spread of escaped garden plants. In order to mitigate this key threatening process mitigation measures will be implemented during clearing works to further minimise the risk of weeds spreading during the proposed development. Landscaping should include local native species only to ensure no introduced weed species are introduced.

Conclusion

No individual plants of *Cynanchum elegans* are present within the subject site or subject property. While some minor impacts are predicted, such as weed invasion, these impacts are considered to be reduced from current conditions with the future management of the subject site as well as area of Illawarra Subtropical Rainforest identified as the *Zieria* management area. Given the small scale of direct impacts, and presence of existing indirect impacts, the project is not considered to result in a significant impact to the local population of *Cynanchum elegans*.

D.2.5. Grey-headed Flying-fox

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction

The Grey-headed Flying-fox is a highly mobile species that has vast foraging ranges and the species is unlikely to rely on the small area (0.34 ha) of potential foraging habitat to be impacted within the subject site. Furthermore, the species is most likely to utilise the four large *Ficus macrophylla* (Moreton Bay Figs) for foraging

which will be retained within the subject site. No breeding camps are present within the subject site. Any local population of the species that may access the vegetation of the subject site would also have access to the much larger, high quality foraging areas available within the rest of the subject property and adjoining properties, and vast areas of contiguous habitat in the locality. The exotic understorey vegetation to be removed as part of the project is not considered suitable for the species, however some minor indirect impacts such as increased noise and light could occur during and post construction. These indirect impacts are not considered to increase significantly above current conditions as such, the project is not considered to have an adverse effect on the life cycle of the species such that a viable local population is placed at risk of extinction.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

- (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
- (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction*

Not applicable.

(c) in relation to the habitat of a threatened species or ecological community:

- (i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and*
- (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and*
- (iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality*

Approximately 0.34 ha of suitable habitat within the subject site will be impacted by the project. However the habitat suitable for the species is in the form of four large *Ficus macrophylla*, which will be retained within the subject site. Modification to the habitat within the subject site is limited to the removal of exotic understorey vegetation that does not provide suitable foraging habitat for the species.

As the project requires the removal of exotic understorey vegetation and canopy species will be retained, the extent of suitable habitat will remain unchanged while the overall condition of the habitat may be modified.. The potential habitat on the subject site represents only a very small area of habitat available to the species in the locality and as the species is highly mobile and accesses resources from across a vast foraging range, the proposal is not likely to decrease the movement of individuals and gene flow between areas of potential habitat throughout the locality or within or between local populations. Accordingly, the project will not remove, modify, fragment or isolate important habitat.

The habitat to be modified is of low importance to the long term survival of the species in the locality as it consists of exotic understorey vegetation and suitable foraging habitat will be retained. Furthermore, no roosting or breeding camps are present within the subject site or subject property.

d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

The BC Act currently lists the following AOBVs:

- Gould's Petrel habitat;
- Little Penguin population in Sydney's North Harbour habitat;
- Mitchell's Rainforest Snail in Stotts Island Nature Reserve; and
- Wollemi Pine habitat.

The project is not located within or in proximity to the aforementioned AOBVs and is therefore not likely to have an adverse effect on any AOBVs.

e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The following key threatening process is relevant to the Grey-headed Flying-fox within the subject site.

- 'Clearing of native vegetation'.

Clearing of native vegetation could potentially impact habitat for this species by reducing available foraging habitat. However, the vegetation within the subject site suitable for foraging by the species will be retained by the project. Furthermore, the small area of potential habitat is not considered to constitute significant habitat for the Grey-headed Flying-fox. Substantial areas of potential habitat will remain in the vicinity of the subject site, and throughout the locality and larger contiguous wilderness areas, and as such the modification to a small area of foraging habitat is not likely to significantly impact habitat for the species.

Conclusion

Foraging habitat will be modified within the subject site, however this involves the removal of exotic understorey vegetation and suitable foraging habitat in the form of large *Ficus macrophylla* will be retained within the subject site. No breeding habitat exists within the subject site and the project is not likely to place a viable local population of this species at risk of extinction. The Grey-headed Flying-fox is highly mobile and is expected to move between areas of remaining habitat within the immediate vicinity of the subject site and wider locality. As such the project is not considered to result in a significant impact to the Grey-headed Flying-fox.

FIGURES

Figure 1 Location of the subject site, study area and subject property

Figure 2 Layout of the project

Figure 3 Biodiversity Values Map

Figure 4 Survey locations

Figure 5 Vegetation communities within the study area

Figure 6 Threatened flora recorded within the study area

Figure 7 Habitat features in the study area



Legend

- Subject Site
- Study Area
- Subject Property

Image Source:
Image © NearMap 2021
Dated: 31/12/2022

Data Source:
NSW Government Spatial Services
SIX Maps 'Clip and Ship'
Kiama LGA

Coordinate System: MGA Zone 56 (GDA 94)



cumberland
ecology

0 50 100 m

Figure 1. Location of the subject site, study area and subject property

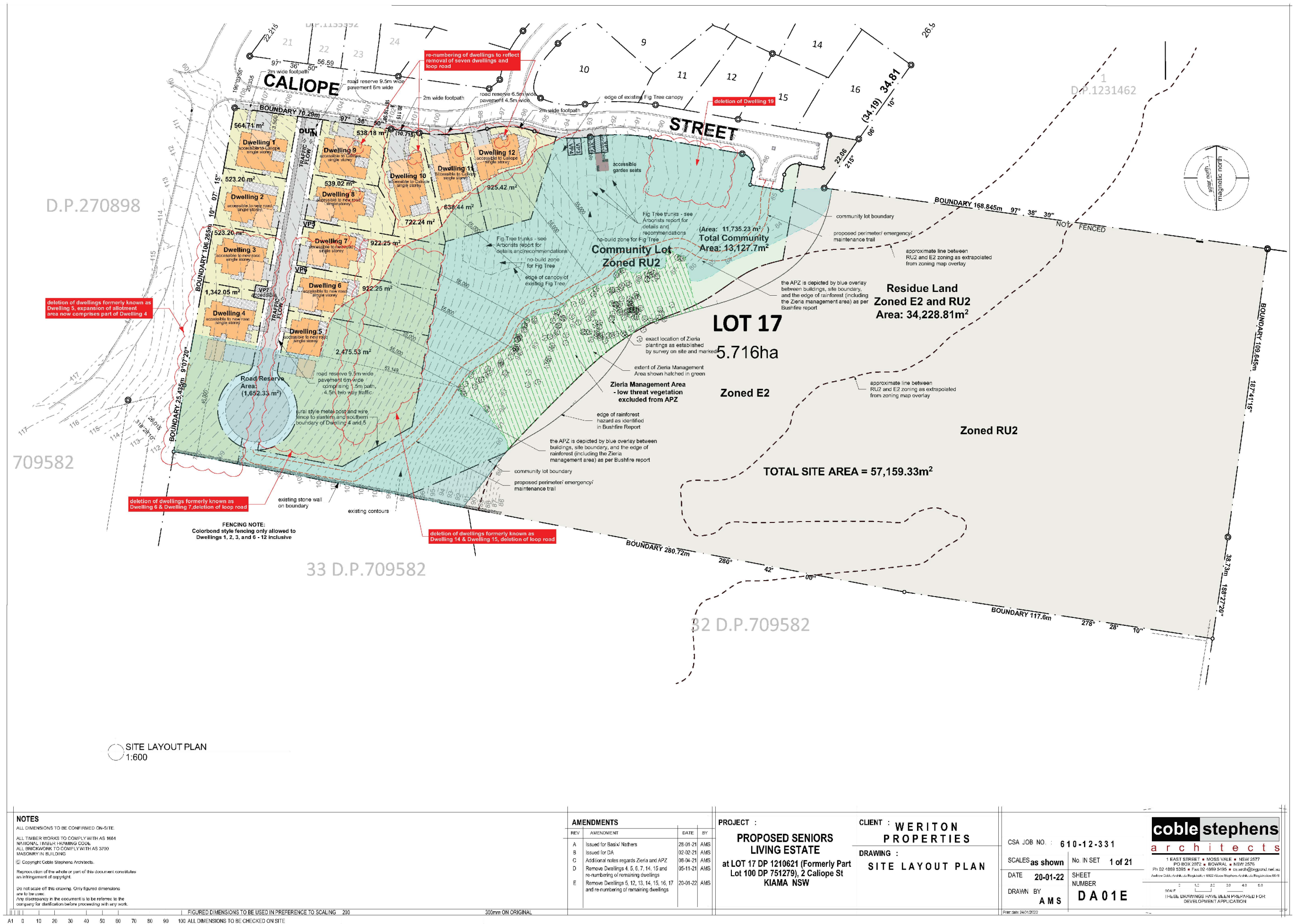


Figure 2. Layout of the project



- Legend**
- Subject Site
 - Study Area
 - Subject Property
 - Biodiversity Values Map

Image Source:
Image © NearMap 2021
Dated: 31/12/2022

Data Source:
NSW Government Spatial Services
SIX Maps 'Clip and Ship'
Kiama LGA

Coordinate System: MGA Zone 56 (GDA 94)



cumberland
ecology

0 50 100 150 200 m

Figure 3. Biodiversity Values Map



- Legend**
- Subject Site
 - Study Area
 - Subject Property
 - BAM Plot Locations
 - Threatened Flora Searches
 - Threatened Flora Quadrats

Image Source:
Image © NearMap 2021
Dated: 31/12/2022

Data Source:
NSW Government Spatial Services
SIX Maps 'Clip and Ship'
Kiama LGA

Coordinate System: MGA Zone 56 (GDA 94)



Figure 4. Survey Locations

0 40 m



Legend

Subject Site

Study Area

Subject Property

Vegetation Community

PCT 1300 - Illawarra Subtropical Rainforest

Exotic Dominated Vegetation

Image Source:
Image © NearMap 2021
Dated: 31/12/2022

Data Source:
NSW Government Spatial Services
SIX Maps 'Clip and Ship'
Kiama LGA

Coordinate System: MGA Zone 56 (GDA 94)



Figure 5. Vegetation communities within the study area





- Legend**
- Subject Site
 - Study Area
 - Subject Property
 - Daphnandra johnsonii Records
 - Zieria granulata Records (Cumberland Ecology)**
 - Mature Shrub
 - Seedling
 - Zieria granulata Records (From Client)**
 - Applicant Records
 - Respondent Records

Image Source:
Image © NearMap 2021
Dated: 31/12/2022

Data Source:
NSW Government Spatial Services
SIX Maps 'Clip and Ship'
Kiama LGA

Coordinate System: MGA Zone 56 (GDA 94)



Figure 6. Threatened flora recorded within the study area





Legend

- Subject Site
- Study Area
- Subject Property

Habitat Feature

- Hollow-bearing Tree
- Old Shed

Image Source:
Image © NearMap 2021
Dated: 31/12/2022

Data Source:
NSW Government Spatial Services
SIX Maps 'Clip and Ship'
Kiama LGA

Coordinate System: MGA Zone 56 (GDA 94)



Figure 7. Habitat features recorded within the study area

0 40 m