COWES

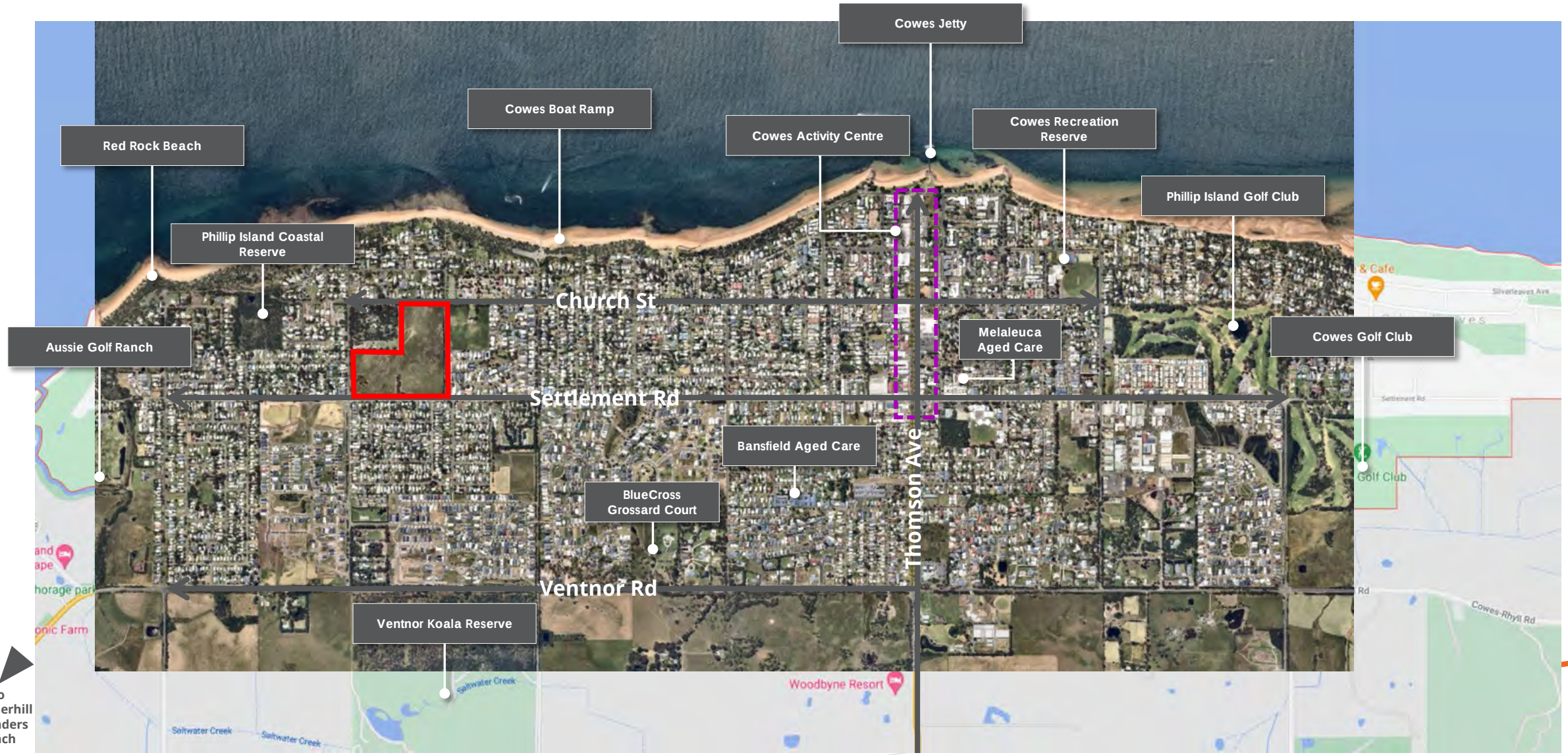
Neighbourhood Character Assessment (Desktop)



Lifestyle Communities

mesh

Part 1 Cowes Context



Part 2 Cowes Character

- *Cowes is the primary residential growth area in Phillip Island*
- *It is defined as rural coastal village that has a rich fishing history*
- *Landscape consists of dispersed mature native plantings (Eucalyptus & She-oak) connected by newer native landscaping*
- *Existing development consist of low-scale, cladded beach units that are well setback from the street*
- *Newer development areas achieve low-scale development with a modern approach to built form using mixed material facades (brick, render & weatherboard) and slanted roofs*



‘Rural coastal village characterised with mature native vegetation and beach unit homes’



Part 3 Character Precincts

ACTIVITY CENTRE (THOMPSON AVE)

EMPLOYMENT / INDUSTRIAL PRECINCT

COASTAL SETTLEMENT & ACCOMMODATIONS

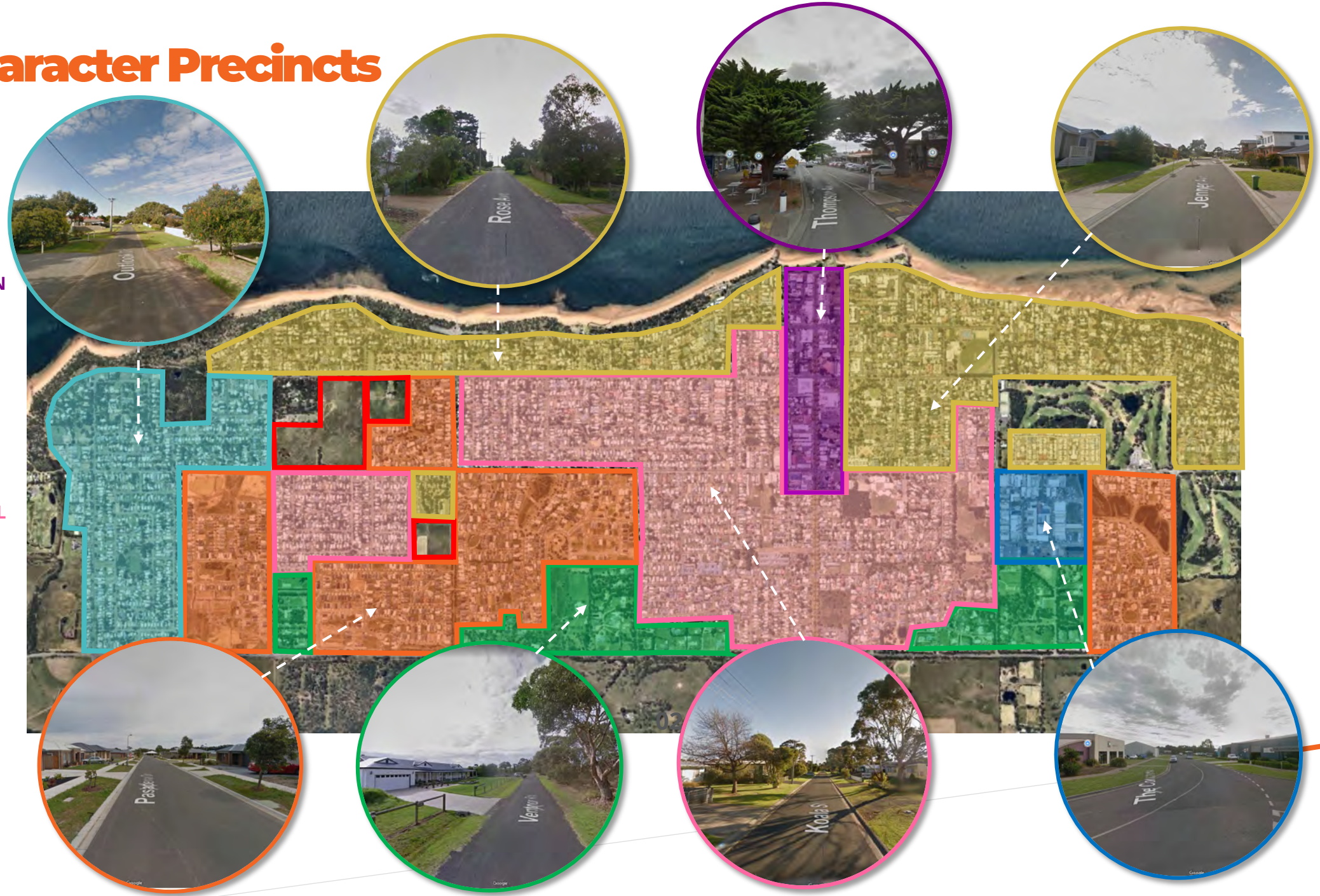
COASTAL URBAN RESIDENTIAL

COASTAL RESIDENTIAL

GROWTH RESIDENTIAL

LOW DENSITY RESIDENTIAL

UNDEVELOPED LAND



Activity Centre Precinct

The Activity Centre precinct is the core retail and commercial centre for Cowes and Phillip Island. It is bounded by the commercial uses along Thompson Avenue from Settlement Road down to the Foreshore. Commercial buildings within the precinct are predominantly single story with some second story businesses and second story redevelopment throughout.

The activity centre can be characterised as eclectic, demonstrating the organic and gradual development of the Cowes township. Thompson Ave is a 30m wide road consisting of on-street angled parking and large canopy Horizontal Golden Cypress plantings.







Employment & Industrial Precinct

The primary employment area in Cowes is located to the south-west of the activity centre and is at the confluence of Coastal Urban, Growth and Low Density Residential Areas. Fronting towards Settlement Road, the employment precinct has an internalised road network of 20m wide road reserves consisting large road pavements and double-sided footpaths although has minimal street planting.







Coastal Settlement & Accommodations

Early Settlement in Cowes has focused primary on the frontage to the northern foreshore and as such has become the key attractor for Tourism-based/short-stay accommodation. This precinct stretches the length of the northern foreshore with a southern boundary along Church Street (east of Dunsmore Road) and Settlement Road (west of Dunsmore Road). Short-term accommodations consist of Airbnb house rentals or in the case of caravan parks/ resort accommodation are often screened by fencing or heavy vegetation.

Road Reserves & Pavements – 20 – 14m reservations with narrow pavements and role over kerbs or no kerb

Verges – Wide grassed verge often presenting as front yard

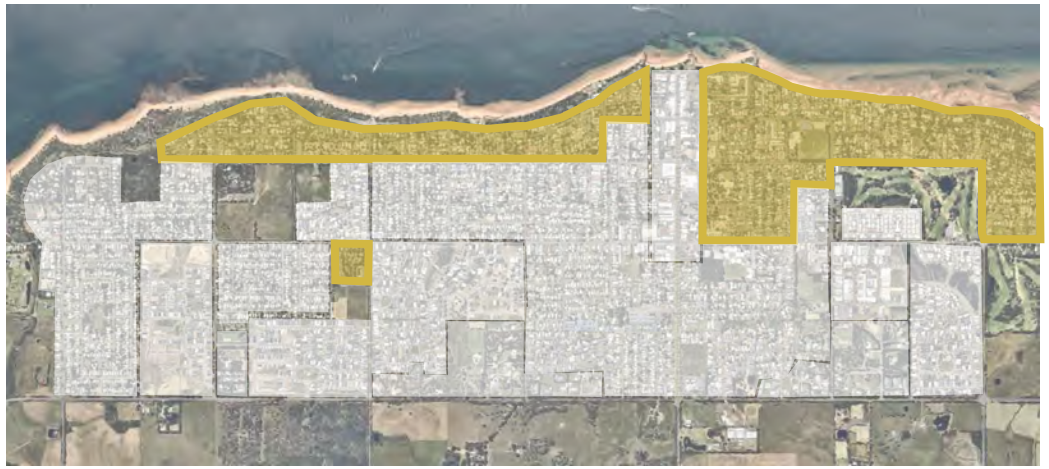
Landscaping (Public) – Irregular, often native tree plantings

Footpaths – Irregular and disconnected footpaths. Single sided footpaths more apparent around the activity centre precinct.

Setbacks & Fencing – Generous front setbacks with no front fencing

Landscaping (Private) – Native gardens beds with low shrubs & trees

Builtform – Single / Double Storey Coastal Contemporary (more prominent to west) or Single / Double Storey Post War (more prominent to east)











Coastal Urban Residential

Similar to the earlier settlement areas, the Coastal Urban Residential Precinct contains a mix of single and double storey beach shacks and occasional Coastal Contemporary dwellings. This precinct extends east and west from the Activity Centre, and is contained by Church Street and Settlement Road.

Road Reserves & Pavements – Approx 15m with narrow pavements

Verges – Wide grassed verge often presenting as front yard

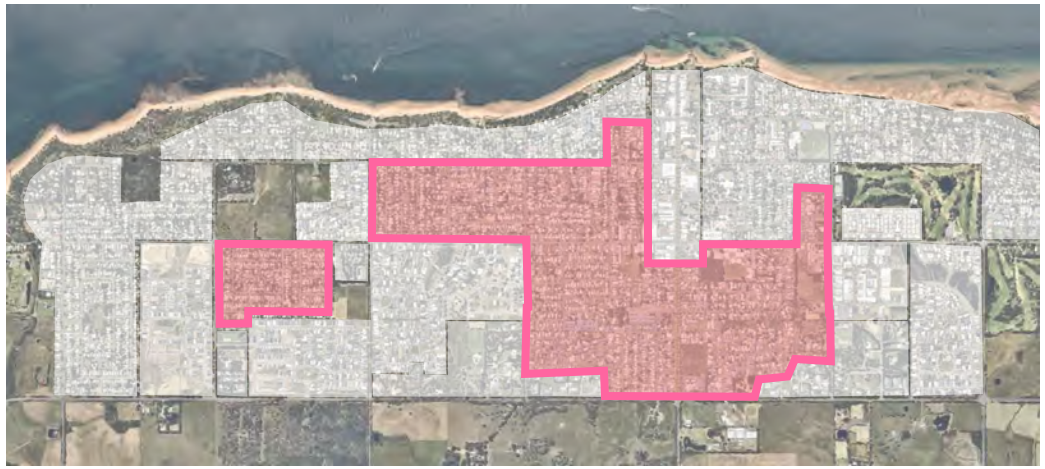
Landscaping (Public) – Grass & irregular tree planting

Footpaths – Irregular and disconnected footpaths

Setbacks & Fencing – Generous setbacks with timber paling or no front fencing

Landscaping (Private) – Native gardens beds with low shrubs & trees

Builtform – Single / Double Storey Weatherboard Beach Shacks or Two Storey Coastal Contemporary











Coastal Residential

Located on the western edge of Cowes, this precinct has an almost rural character with swale drains and no kerb edges. This is balanced with the landscape plantings and beach shack dwelling types which are characteristic of the township.

Road Reserves & Pavements – Approx 15m with narrow pavements and no kerbs

Verges – Wide grassed verge with shallow swale drains

Landscaping (Public) – No street tree planting

Footpaths – No footpaths

Setbacks & Fencing – Generous setbacks no front fencing

Landscaping (Private) – Native gardens beds with low shrubs & trees

Builtform – Single / Double Storey Weatherboard Beach Shacks











Growth Residential

Acknowledged as a township that can accommodate growth, Cowes has seen an increase of newer developments over the past decade. These development attempt to achieve a coastal characteristic in the built form types and private landscaping, however present as a more urban outcome with footpaths, narrow verges and wide road pavements.

Road Reserves & Pavements – Approx 16m-18m with standard pavements and roll over kerbs

Verges – narrow grassed verge

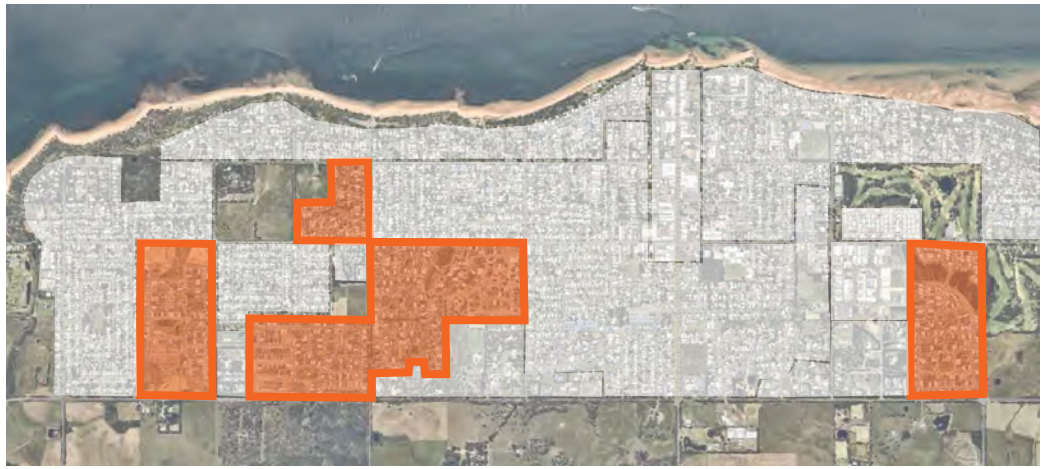
Landscaping (Public) – Consistent immature street tree planting

Footpaths – Single or double-sided footpaths

Setbacks & Fencing – Small setbacks and no front fencing

Landscaping (Private) – Mix of native and exotic coastal themed garden beds

Built form – Single Storey Modern and Single / Double Storey weather board or rendered Coastal Contemporary











Low Density Residential

As Cowes has transitioned from a rural township to one experiencing more growth, a few pockets of low density residential development has remained. These precincts provide a positive interface and transition to the rural land south of Ventnor Road.

Road Reserves & Pavements – Approx 28m wide interfacing Ventnor Road with no direct access

Verges – narrow grassed verge

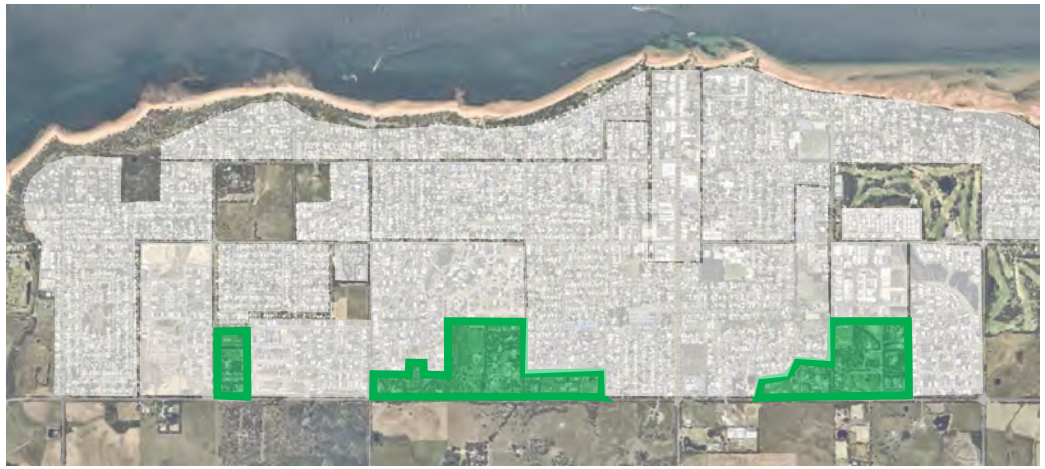
Landscaping (Public) – Native mature tree planting

Footpaths – No footpaths

Setbacks & Fencing – Large setbacks with post & wire fencing or timber post & beam fencing

Landscaping (Private) – Minimal landscaping with larger native or exotic tree planting varieties

Built form – Single Storey Ranch Style and Single / Double Storey Modern







Part 3a Landscape Character

LANDSCAPING (PRIVATE)

- Mature Vegetation
- Established native gardens
- Occasionally heavily planted side gardens to achieve screening





LANDSCAPING (STREETSCAPE)

- Inconsistent street tree planting
- Diverse tree plantings consisting of mostly native varieties
- Dense native planting interfacing holiday parks or large rural parcels
- Predominately single sided footpaths – double sided footpaths closer to the town centre
- Roll over kerb and channel within urban core and along key roads
- No kerb & swale drain towards the eastern and western edge of township





Part 3b Built form Character

OLDER DEVELOPMENT

- *Cladding material, generally weatherboard*
- *Gently sloping / low pitched roofline*
- *Generous front setbacks*
- *Minimal Built form site coverage*
- *Predominantly single storey with some double storey mixed throughout*
- *Single storey - on stilts if on sloping lot*
- *Second storey with a smaller footprint and deep full frontage balconies **OR** with a larger footprint and undercroft parking*
- *No front fencing or low scale wood paling*







Part 3c Built form Character

NEWER DEVELOPMENT

- *Mix of materials, generally brick and render*
- *Low pitched or slanted rooflines*
- *Moderate front setbacks with formal landscaping*
- *Greater built form site coverage*
- *Predominantly single storey with double storey homes dispersed throughout*
- *No front fencing, but standard paling side fencing*









Part 4 Cowes & Site Vision

Subject Site – Aerial Plan



Subject Site – Panoramic View



1

Development that supports life

To encourage development that will benefit the people of Cowes and provide a vibrant and attractive place in which people can live, work and holiday

2

Accommodating all stages of life

To encourage development that benefits people of all life stages and abilities

3

Enhance connections and accessibility

To improve pedestrian circulation and safety

4

Sympathetic Development Outcomes

To sensitively develop key sites so that they make a positive contribution to the urban environment and do not impinge on views

5

Best practice slope responsive housing design

To develop and improve the public spaces of Cowes

6

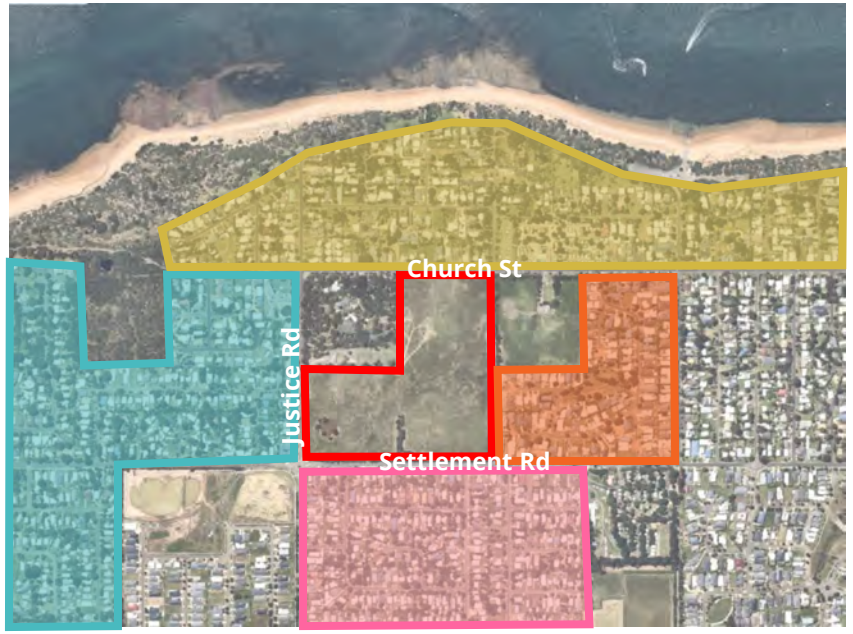
Best practice and sustainable development

To encourage development that is environmentally sustainable

Phillip Island and San Remo Design Framework (2003)

Part 4a Church St

- Site is interfaced by 4 different Character Precincts
- Site is bound by Church Street (north) and Settlement Road (South) which provide a direct connection into the Town Centre
- Site will need to provide a suitable transition from Coastal Residential to the west to Urban and Growth Residential
- Site currently has heavy coastal planting along Church Street, Justice Road & Settlement Road.





Settlement Road



Church Street



Justice Road

Part 4b Design Principles

The development plan MUST achieve;

- ✓ A sense of high quality landscaping within the urban form
- ✓ Necessary protections for mature native landscaping
- ✓ Diversity of interfaces and interactions to open space and Belle Vista Pedestrian Link
- ✓ A non intrusive development from the external local road network

The development plan MUST avoid;

- × Direct views to built form from Church Street, Settlement Road or Justice Road
- × Repetition in built form interfaces along streetscape
- × Extensive hard surface areas such as footpaths, road pavements or other public space



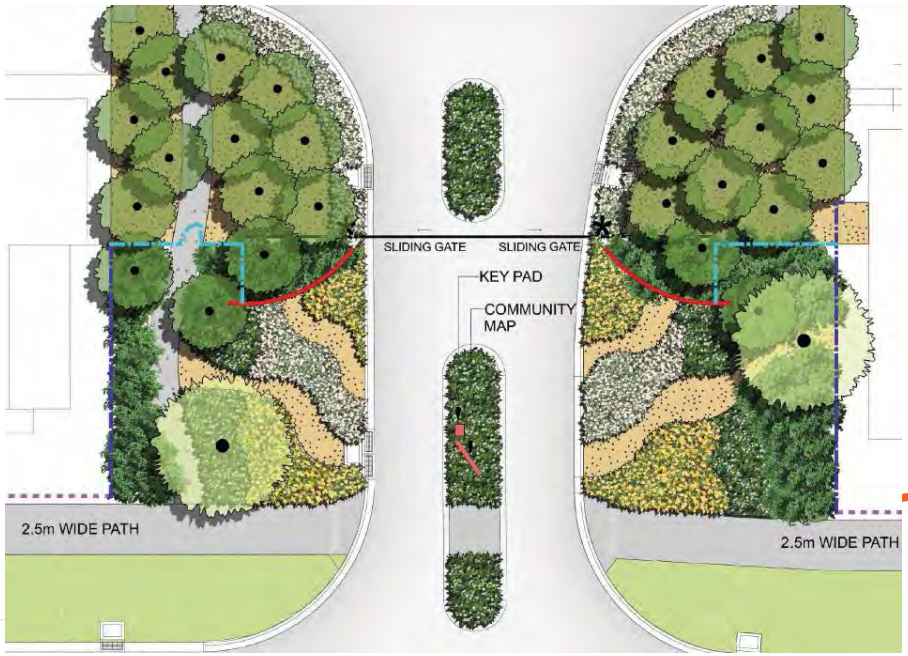


Part 4c Landscape Response

Cowes Character		Lifestyle Response
Mature Vegetation	✓	Retaining existing vegetation along entry and edges
Established native gardens	✓	Retention and planting of native plant species on-site.
Occasionally heavily planted side gardens to achieve screening	✓	Existing vegetation within streetscapes to be retained where possible
Inconsistent street tree planting in older precincts, and consistent tree planting in newer developments	✓	Development looks to achieve consistent tree planting within development
Diverse tree plantings consisting of mostly native varieties	✓	Landscape to consist of a variety of shrubs, trees and other ground covers
Dense native planting interfacing holiday parks or large rural parcels	✓	Screening achieved with existing vegetation along site boundaries within streetscape
Predominately single sided footpaths – double sided footpaths closer to the town centre	✓	Key footpaths through the site to provide east-west and north-south movement
Roll over kerb and channel within urban core and along key roads	✓	Roll-over kerb achieved within the development
No kerb & swale drain towards the eastern and western edge of township	✓	Drainage design to be piped within streetscapes







Part 4d Built form Response

Cowes Character		Lifestyle Response
Cladding material, generally weatherboard	✓	Weatherboard dwellings representative of a modern coastal beach shack
Gently sloping / low pitched roofline	✓	Low profile pitched roof
Double pitched roofs more predominant with some single pitch roofs scattered through	✓	Contemporary double pitch roofs
Generous front setbacks	✓	Smaller setbacks within village that achieve full landscaping. More significant builtform setbacks utilising edge roads and double fronted homes.
Minimal Built form site coverage	✓	Across entire village there is generous landscaping and permeable surfaces
Predominantly single storey with some double storey mixed throughout	✓	Single storey with large window frontages to provide passive surveillance and activation
No front fencing or low scale wood paling	✓	No front fencing for each dwelling. A visually discrete perimeter fence that is transparent









Indicative view facing west along Settlement Road



Indicative view facing west along Settlement Road



mesh

Level 2, 299 Clarendon Street, South Melbourne, VIC 3205
phone. +61 3 9070 1166 meshplanning.com.au



LIFESTYLE COMMUNITIES

COWES, PHILLIP ISLAND

Illustrative Masterplan

VERSION 4

Date: 14/09/2022

1:750 SCALE @ A1

0 7.5 15 22.5 30 37.5

mesh

Lifestyle COMMUNITIES



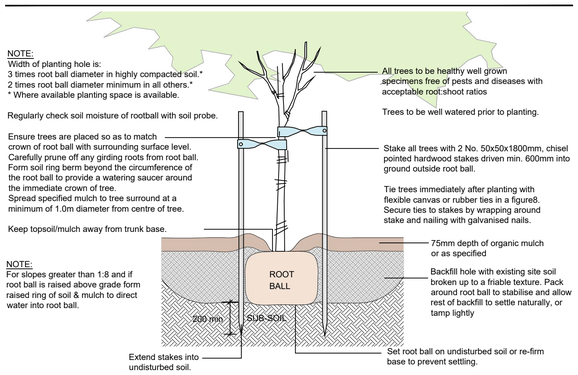
MASTER MASTER PLANTING SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	D/E N/Ex*	HEIGHT X WIDTH AT MATURITY	MIN SUPPLY SIZE	QTY
TREES						
Al	*Allocasuarina littoralis*	Black Sheoak	E/N	8 x 5m	30cm/1.5mH	11
Am	*Acacia melanoxylon*	Blackwood	E/N	12 x 8m	30cm/1.5mH	4
Bi	*Banksia integrifolia*	Coast Banksia	E/N	10 x 6m	30cm/1.5mH	42
Bm	*Banksia marginata*	Silver Banksia	E/N	6 x 4m	30cm/1.5mH	7
Ce	*Corymbia eximia*	Bloodwood	E/N	10 x 8m	50cm/2.0mH	183
Cs	*Callistemon salignus*	Willow Bottlebrush	E/N	6 x 4m	30cm/1.2mH	7
Ec	*Eucalyptus camaldulensis*	River Red Gum	E/N	18 x 12m	30cm/1.5mH	2
Eov	*Eucalyptus ovata*	Swamp Gum	E/N	18m x 10m	52L/2.5mH	23
Ep	*Eucalyptus pauciflora*	Snow Gum	E/N	14 x 8m	30cm/1.5mH	20
Ev	*Eucalyptus viminalis ssp. pryoriana*	Coast Manna Gum	E/N	14 x 10m	30cm/1.5mH	65
Me	*Melaleuca ericifolia*	Swamp Paperbark	E/N	5 x 3m	30cm/1.5mH	6
SfS	*Syzygium floribundum 'Sweeper'*	Sweeper Weeping Lilly-pilly	E/N	10 x 5-8m	50cm/2.0mH	3
Tl	*Tristaniopsis laurina*	Kanooka/Water Gum	E/N	8 x 6m	30cm/1.5mH	178
					TOTAL	**551**
ORCHARD						
PaM	*Prunus armeniaca 'Moorpark'*	Moorpark Apricot	D/Ex	4 x 4m	27L/1.5mH	2
MPL	*Malus 'Pink Lady'*	Pink Lady Apple	D/Ex	4 x 4m	27L/1.5mH	2
PcBB	*Pyrus communis 'Beurre Bosc'*	Beurre Bosc Pear	D/Ex	4 x 3m	27L/1.5mH	2
CIE	*Citrus limon 'Eureka'*	Eureka Lemon	E/Ex	4 x 3m	27L/1.5mH	2
CsV	*Citrus sinensis 'Valencia'*	Valencia Orange	E/Ex	4 x 3m	27L/1.5mH	2
					TOTAL	**10**
SHRUBS						
Aa	*Acacia acinacea*	Gold Dust Wattle	E/N	1.5-2 x 2-4m	200mm pot	
AcMC	*Acacia cognata 'Mini Cog'*	Dwarf River Wattle 'Mini Cog'	E/N	0.8 x 1.8m	200mm pot	
Bs	*Banksia spinulosa*	Hairpin Banksia	E/N	3 x 2m	200mm pot	
Ca	*Correa alba*	White Correa	E/N	1-1.5 x 1-1.5m	200mm pot	
Cr	*Correa reflexa*	Common Correa	E/N	1 x 1 m	200mm pot	
Cyr	*Cycas revoluta*	Sago Palm	E/Ex	2 x 2m	200mm pot	
De	*Doryanthes excelsa*	Gymea Lily	E/N	2.5 x 1.5m	200mm pot	
Dv	*Dodonaea viscosa*	Sticky Hop-bush	E/N	1.5-4 x 1-3m	200mm pot	
Hi	*Helichrysum italicum*	Curry Plant	E/N	0.3-0.5 x 0.3m	200mm pot	
Lb	*Leucophyta brownii*	Cushion Bush	E/N	0.8 x 0.8m	200mm pot	
Lc	*Leptospermum continentale*	Prickly Tea-tree	E/N	1-4 x 1-2m	200mm pot	
Ll	*Leptospermum lanigerum*	Woolly Tea-tree	E/N	2-4 x 1-3m	200mm pot	
Pm	*Philotheca myoporoides*	Wax Flower	E/N	1.5 x 1.5m	200mm pot	
Wf	*Westringia fruticosa*	Coastal Roasemary	E/N	2 x 2-3m	200mm pot	
					TOTAL	
GROUNDCOVERS						
AAV	*Anigozanthos 'Amber Velvet'*	Kangaroo Paw	E/N	0.5 x 0.4m	140mm pot	
AYG	*Anigozanthos 'Yellow Gem'*	Kangaroo Paw	E/N	1 x 1 m	140mm pot	
BsBC	*Banksia spinulosa 'Birthday Candles'*	Birthday Candles Banksia	E/N	0.5 x 0.75-0.9m	140mm pot	
Cb	*Carex breviculmis*	Common Sedge	E/N	0.5 X 0.5m	140mm pot	
Car	*Carpobrotus rossii*	Karkalla	E/N	Spreading	140mm pot	
Lf	*Lomandra filiformis*	Wattle Mat-rush	E/N	0.3 x 0.3m	140mm pot	
Mp	*Myoporum parvifolium*	Creeping Boobialla	E/N	0.2 x 1-3m	140mm pot	
Pl	*Poa labillardieri*	Tussock Grass	E/N	0.8 x 0.8m	140mm pot	
Po	*Patersonia occidentalis*	Long-leaf Purple Flag	E/N	0.3 x 0.5m	140mm pot	
Ps	*Poa sieberiana*	Grey Tussock Grass	E/N	0.5 x 0.5m	140mm pot	
RsFB	*Rhagodia spinescens 'Flat Bush'*	Flat Bush Creeping Saltbush	E/N	0.3-0.5 x 1m	140mm pot	
Ll	*Lomandra longifolia*	Spiny-headed Mat-rush	E/N	1 x 1-1.5m	140mm pot	
Tt	*Themeda triandra*	Kangaroo Grass	E/N	0.6-1 x 0.5m	140mm pot	
Scv	*Scaevola 'Mauve Clusters'*	Mauve Clusters Fan Flower	E/N	0.3 x 0.6m	140mm pot	
HvM	*Hardenbergia violacea 'Meema'*	Meema Purple Coral Pea	E/N	0.3-0.45 x 1-2m	140mm pot	
Dr	*Dianella revoluta*	Black Anther Flax Lily	E/N	1 x 1-1.5m	140mm pot	
					TOTAL	

*D/E = Deciduous/Evergreen N/Ex = Native/Exotic

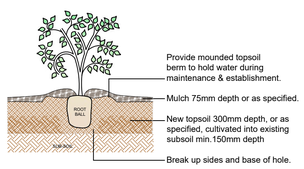
TO LATER DETAIL

TYPICAL PLANTING DETAILS



D1 TYPICAL TREE PLANTING DETAIL

Scale N.T.S.



NOTE:
1. Dig hole twice as deep as root ball and allow at least 200mm around sides for backfilling with topsoil.
2. Apply fertiliser in base of hole, cover with topsoil (type & rate as per spec.). Avoid root contact.
3. Place plant in centre of hole, backfill with specified topsoil, firming progressively.
4. Water well into saucer around crown of plant.
5. Stake larger shrubs where necessary using 50x50x1200mm hardwood stakes.

D2 TYPICAL SHRUB PLANTING DETAIL

Scale N.T.S.

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admin@johnpatrick.com.au
www.johnpatrick.com.au

REVISION		DATE	BY
A	To Architectural Updates	18.03.2022	SA
B	Pedestrian paths removed	30.03.2022	SA

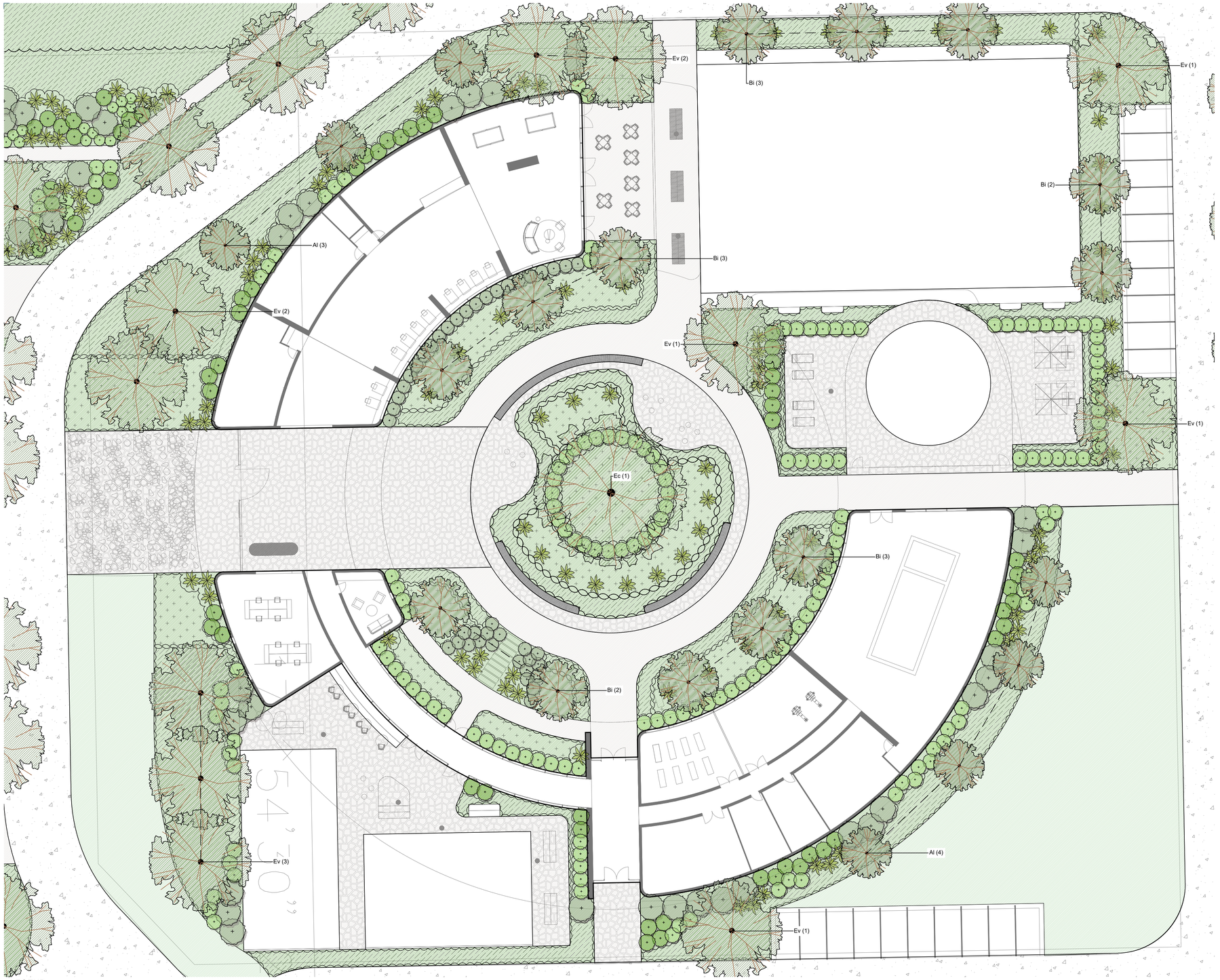
CLIENT
LIFESTYLE COMMUNITIES

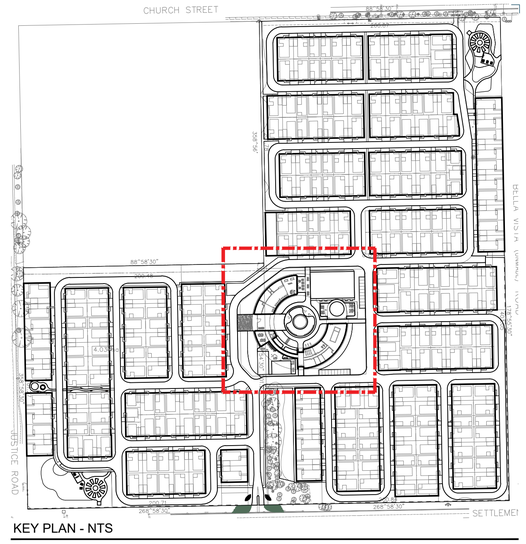
PROJECT
PROPOSED COMMUNITY

299-325 CHURCH STREET, COWES

DRAWING
Landscape Masterplan for Town Planning

SCALE	1:1000 @A1
DATE	SEP 2021
DRAWN	PK
CHECKED	JP
JOB NO	21-544-L-REVB
DWG NO	L-TP01
CAD FILE	





KEY PLAN - NTS

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Dv	*Dodonaea viscosa*	Sticky Hop-bush	E/N	1.5-4 x 1-3m	200mm pot	
Hi	*Helichrysum italicum*	Curry Plant	E/N	0.3-0.5 x 0.3m	200mm pot	
Lb	*Leucophyta brownii*	Cushion Bush	E/N	0.8 x 0.8m	200mm pot	
Lc	*Leptospermum continentale*	Prickly Tea-tree	E/N	1-4 x 1-2m	200mm pot	
Ll	*Leptospermum lanigerum*	Woolly Tea-tree	E/N	2-4 x 1-3m	200mm pot	
Pm	*Philotheca myoporoides*	Wax Flower	E/N	1.5 x 1.5m	200mm pot	
Wf	*Westringia fruticosa*	Coastal Roasemary	E/N	2 x 2-3m	200mm pot	
					TOTAL	
GROUNDCOVERS						
AAV	*Anigozanthos 'Amber Velvet'*	Kangaroo Paw	E/N	0.5 x 0.4m	140mm pot	
AYG	*Anigozanthos 'Yellow Gem'*	Kangaroo Paw	E/N	1 x 1 m	140mm pot	
BsBC	*Banksia spinulosa 'Birthday Candles'*	Birthday Candles Banksia	E/N	0.5 x 0.75-0.9m	140mm pot	
Cb	*Carex breviculmis*	Common Sedge	E/N	0.5 X 0.5m	140mm pot	
Car	*Carpobrotus rossii*	Karkalla	E/N	Spreading	140mm pot	
Lf	*Lomandra filiformis*	Wattle Mat-rush	E/N	0.3 x 0.3m	140mm pot	
Mp	*Myoporum parvifolium*	Creeping Boobialla	E/N	0.2 x 1-3m	140mm pot	
Pl	*Poa labillardieri*	Tussock Grass	E/N	0.8 x 0.8m	140mm pot	
Po	*Patersonia occidentalis*	Long-leaf Purple Flag	E/N	0.3 x 0.5m	140mm pot	
Ps	*Poa sieberiana*	Grey Tussock Grass	E/N	0.5 x 0.5m	140mm pot	
RsFB	*Rhagodia spinescens 'Flat Bush'*	Flat Bush Creeping Saltbush	E/N	0.3-0.5 x 1m	140mm pot	
Ll	*Lomandra longifolia*	Spiny-headed Mat-rush	E/N	1 x 1-1.5m	140mm pot	
Tt	*Themeda triandra*	Kangaroo Grass	E/N	0.6-1 x 0.5m	140mm pot	
Scv	*Scaevola 'Mauve Clusters'*	Mauve Clusters Fan Flower	E/N	0.3 x 0.6m	140mm pot	
HvM	*Hardenbergia violacea 'Meema'*	Meema Purple Coral Pea	E/N	0.3-0.45 x 1-2m	140mm pot	
Dr	*Dianella revoluta*	Black Anther Flax Lily	E/N	1 x 1-1.5m	140mm pot	
					TOTAL	

*D/E = Deciduous/Evergreen N/Ex = Native/Exotic

TO LATER DETAIL

LEGEND

- Proposed Trees — Refer to Plant Schedule
- Proposed Shrubs — Refer to Plant Schedule
- Proposed Groundcovers & Grasses — Refer to Plant Schedule
- Proposed Shared Driveway Surface — To Architects Detail
- Proposed Lawn Area — Refer to Specification (TP04)
- Proposed Paving — To Later Detail
- Proposed Feature Paving — To Later Detail

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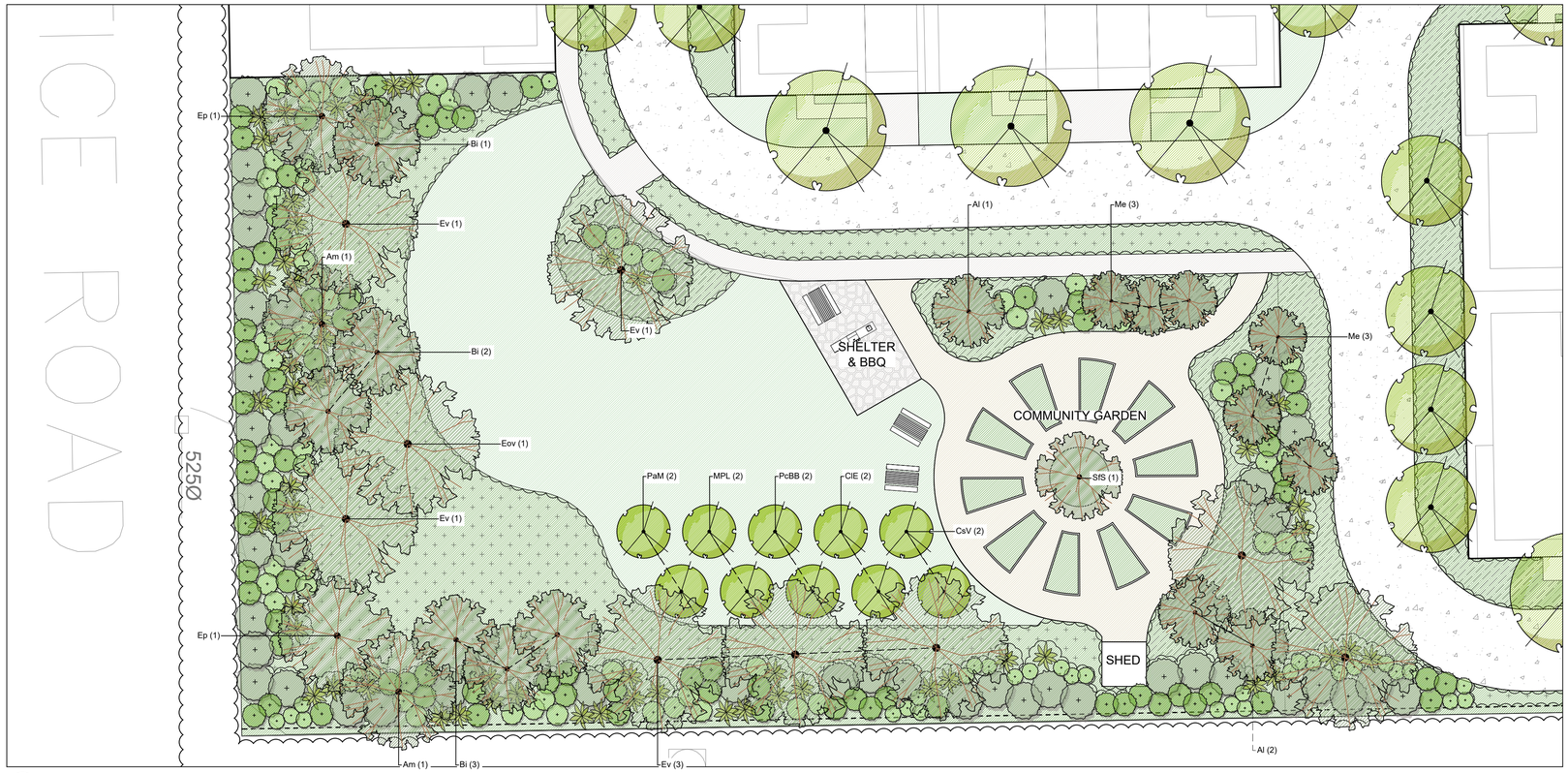
REVISION		DATE	BY
A	To Architectural Updates	18.03.2022	SA
B	Pedestrian paths removed	30.03.2022	SA

CLIENT
LIFESTYLE COMMUNITIES

PROJECT
PROPOSED COMMUNITY
299-325 CHURCH STREET, COWES

DRAWING
Clubhouse Facility Landscape Plan for Town Planning

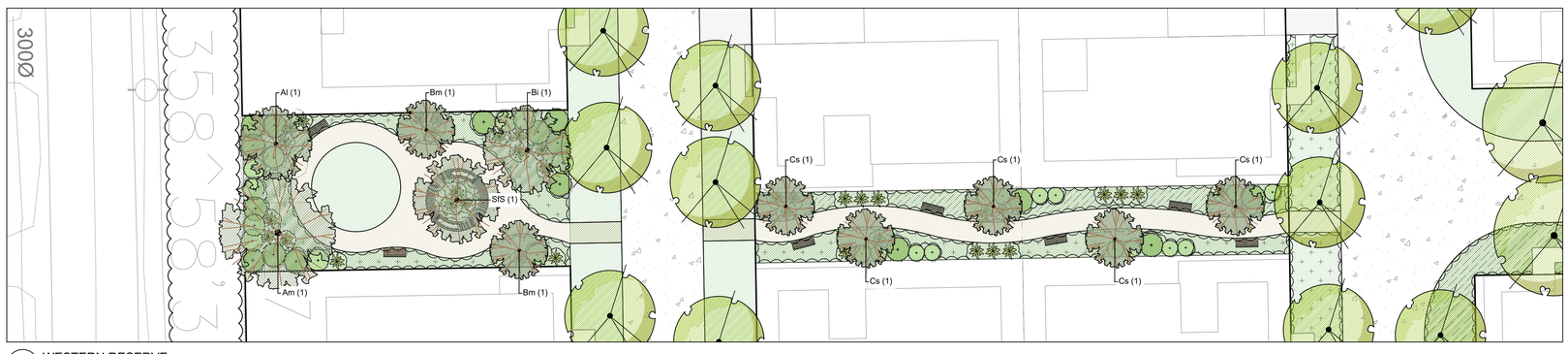
SCALE	1:100 @A1
DATE	SEP 2021
DRAWN	PK
CHECKED	JP
JOB NO	21-544-L-REVB
DWG NO	L-TP02
CAD FILE	



SOUTH-WESTERN DRAINAGE RESERVE
1:200@A1

MOOD IMAGES





WESTERN RESERVE
1:200@A1

LEGEND

- Proposed Trees Refer to Plant Schedule
- Proposed Shrubs Refer to Plant Schedule
- Proposed Groundcovers & Grasses Refer to Plant Schedule
- Proposed Shared Driveway Surface To Later Detail
- Proposed Gravel Surface To Architects Detail
- Proposed Lawn Area Refer to Specification (TP04)
- Proposed Paving & Driveways To Later Detail
- Proposed Feature Paving To Later Detail



KEY PLAN - NTS

MASTER PLANTING SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	D/E N/Ex*	HEIGHT X WIDTH AT MATURITY	MIN SUPPLY SIZE	QTY
TREES						
Al	*Allocasuarina littoralis*	Black Sheoak	E/N	8 x 5m	30cm/1.5mH	11
Am	*Acacia melanoxylon*	Blackwood	E/N	12 x 8m	30cm/1.5mH	4
Bi	*Banksia integrifolia*	Coast Banksia	E/N	10 x 6m	30cm/1.5mH	42
Bm	*Banksia marginata*	Silver Banksia	E/N	6 x 4m	30cm/1.5mH	7
Ce	*Corymbia eximia*	Bloodwood	E/N	10 x 8m	50cm/2.0mH	183
Cs	*Callistemon salignus*	Willow Bottlebrush	E/N	6 x 4m	30cm/1.2mH	7
Ec	*Eucalyptus camaldulensis*	River Red Gum	E/N	18 x 12m	30cm/1.5mH	2
Eov	*Eucalyptus ovata*	Swamp Gum	E/N	18m x 10m	52L/2.5mH	23
Ep	*Eucalyptus pauciflora*	Snow Gum	E/N	14 x 8m	30cm/1.5mH	20
Ev	*Eucalyptus viminalis ssp. pryoriana*	Coast Manna Gum	E/N	14 x 10m	30cm/1.5mH	65
Me	*Melaleuca ericifolia*	Swamp Paperbark	E/N	5 x 3m	30cm/1.5mH	6
StS	*Syzygium floribundum 'Sweeper'*	Sweeper Weeping Lilly-pilly	E/N	10 x 5-8m	50cm/2.0mH	3
Tl	*Tristaniopsis laurina*	Kanooka/Water Gum	E/N	8 x 6m	30cm/1.5mH	178
					TOTAL	**551**
ORCHARD						
PaM	*Prunus armeniaca 'Moorpark'*	Moorpark Apricot	D/Ex	4 x 4m	27L/1.5mH	2
MPL	*Malus 'Pink Lady'*	Pink Lady Apple	D/Ex	4 x 4m	27L/1.5mH	2
PcBB	*Pyrus communis 'Beurre Bosc'*	Beurre Bosc Pear	D/Ex	4 x 3m	27L/1.5mH	2
CIE	*Citrus limon 'Eureka'*	Eureka Lemon	E/Ex	4 x 3m	27L/1.5mH	2
CsV	*Citrus sinensis 'Valencia'*	Valencia Orange	E/Ex	4 x 3m	27L/1.5mH	2
					TOTAL	**10**
SHRUBS						
Aa	*Acacia acinacea*	Gold Dust Wattle	E/N	1.5-2 x 2-4m	200mm pot	
AcMC	*Acacia cognata 'Mini Cog'*	Dwarf River Wattle 'Mini Cog'	E/N	0.8 x 1.8m	200mm pot	
Bs	*Banksia spinulosa*	Hairpin Banksia	E/N	3 x 2m	200mm pot	
Ca	*Correa alba*	White Correa	E/N	1-1.5 x 1-1.5m	200mm pot	
Cr	*Correa reflexa*	Common Correa	E/N	1 x 1 m	200mm pot	
Cyr	*Cycas revoluta*	Sago Palm	E/Ex	2 x 2m	200mm pot	
De	*Doryanthes excelsa*	Gymea Lily	E/N	2.5 x 1.5m	200mm pot	
Dv	*Dodonaea viscosa*	Sticky Hop-bush	E/N	1.5-4 x 1-3m	200mm pot	
Hi	*Helichrysum italicum*	Curry Plant	E/N	0.3-0.5 x 0.3m	200mm pot	
Lb	*Leucophyta brownii*	Cushion Bush	E/N	0.8 x 0.8m	200mm pot	
Lc	*Leptospermum continentale*	Prickly Tea-tree	E/N	1-4 x 1-2m	200mm pot	
Ll	*Leptospermum lanigerum*	Woolly Tea-tree	E/N	2-4 x 1-3m	200mm pot	
Pm	*Philotheca myoporoides*	Wax Flower	E/N	1.5 x 1.5m	200mm pot	
Wf	*Westringia fruticosa*	Coastal Roasemary	E/N	2 x 2-3m	200mm pot	
					TOTAL	
GROUNDCOVERS						
AAV	*Anigozanthos 'Amber Velvet'*	Kangaroo Paw	E/N	0.5 x 0.4m	140mm pot	
AYG	*Anigozanthos 'Yellow Gem'*	Kangaroo Paw	E/N	1 x 1 m	140mm pot	
BsBC	*Banksia spinulosa 'Birthday Candles'*	Birthday Candles Banksia	E/N	0.5 x 0.75-0.9m	140mm pot	
Cb	*Carex breviculmis*	Common Sedge	E/N	0.5 X 0.5m	140mm pot	
Car	*Carpobrotus rossii*	Karkalla	E/N	Spreading	140mm pot	
Lf	*Lomandra filiformis*	Wattle Mat-rush	E/N	0.3 x 0.3m	140mm pot	
Mp	*Myoporum parvifolium*	Creeping Boobialla	E/N	0.2 x 1-3m	140mm pot	
Pl	*Poa labillardieri*	Tussock Grass	E/N	0.8 x 0.8m	140mm pot	
Po	*Patersonia occidentalis*	Long-leaf Purple Flag	E/N	0.3 x 0.5m	140mm pot	
Ps	*Poa sieberiana*	Grey Tussock Grass	E/N	0.5 x 0.5m	140mm pot	
RsFB	*Rhagodia spinescens 'Flat Bush'*	Flat Bush Creeping Saltbush	E/N	0.3-0.5 x 1m	140mm pot	
Ll	*Lomandra longifolia*	Spiny-headed Mat-rush	E/N	1 x 1-1.5m	140mm pot	
Tt	*Themeda triandra*	Kangaroo Grass	E/N	0.6-1 x 0.5m	140mm pot	
Scv	*Scaevola 'Mauve Clusters'*	Mauve Clusters Fan Flower	E/N	0.3 x 0.6m	140mm pot	
HvM	*Hardenbergia violacea 'Meema'*	Meema Purple Coral Pea	E/N	0.3-0.45 x 1-2m	140mm pot	
Dr	*Dianella revoluta*	Black Anther Flax Lily	E/N	1 x 1-1.5m	140mm pot	
					TOTAL	

*D/E = Deciduous/Evergreen N/Ex = Native/Exotic

TO LATER DETAIL

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REVISION		DATE	BY
A	To Architectural Updates	18.03.2022	SA
B	Pedestrian paths removed	30.03.2022	SA

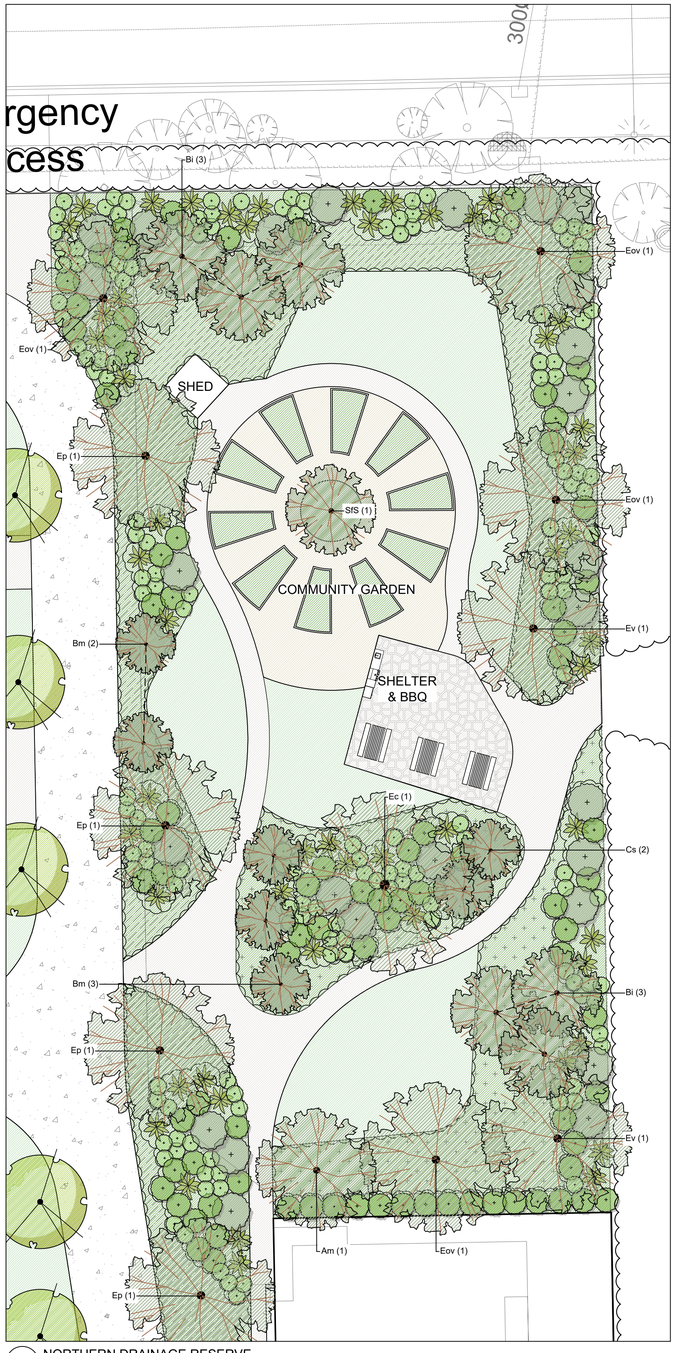
CLIENT
LIFESTYLE COMMUNITIES

PROJECT
PROPOSED COMMUNITY

299-325 CHURCH STREET, COWES

DRAWING
South Western Drainage Reserve & Eastern Reserve for Town Planning

SCALE	1:100 @A1
DATE	SEP 2021
DRAWN	PK
CHECKED	JP
JOB NO	21-544-L-REVB
DWG NO	L-TP03
CAD FILE	



NORTHERN DRAINAGE RESERVE
1:200@A1

MASTER PLANTING SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	D/E N/Ex*	HEIGHT X WIDTH AT MATURITY	MIN SUPPLY SIZE	QTY
TREES						
Al	*Allocasuarina littoralis*	Black Sheoak	E/N	8 x 5m	30cm/1.5mH	11
Am	*Acacia melanoxylon*	Blackwood	E/N	12 x 8m	30cm/1.5mH	4
Bi	*Banksia integrifolia*	Coast Banksia	E/N	10 x 6m	30cm/1.5mH	42
Bm	*Banksia marginata*	Silver Banksia	E/N	6 x 4m	30cm/1.5mH	7
Ce	*Corymbia eximia*	Bloodwood	E/N	10 x 8m	50cm/2.0mH	183
Cs	*Callistemon salignus*	Willow Bottlebrush	E/N	6 x 4m	30cm/1.2mH	7
Ec	*Eucalyptus camaldulensis*	River Red Gum	E/N	18 x 12m	30cm/1.5mH	2
Eov	*Eucalyptus ovata*	Swamp Gum	E/N	18m x 10m	52L/2.5mH	23
Ep	*Eucalyptus pauciflora*	Snow Gum	E/N	14 x 8m	30cm/1.5mH	20
Ev	*Eucalyptus viminalis ssp. pryoriana*	Coast Manna Gum	E/N	14 x 10m	30cm/1.5mH	65
Me	*Melaleuca ericifolia*	Swamp Paperbark	E/N	5 x 3m	30cm/1.5mH	6
SfS	*Syzygium floribundum 'Sweeper'*	Sweeper Weeping Lilly-pilly	E/N	10 x 5-8m	50cm/2.0mH	3
Tl	*Tristaniopsis laurina*	Kanooka/Water Gum	E/N	8 x 6m	30cm/1.5mH	178
					TOTAL	**551**
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PaM	*Prunus armeniaca 'Moorpark'*	Moorpark Apricot	D/Ex	4 x 4m	27L/1.5mH	2
MPL	*Malus 'Pink Lady'*	Pink Lady Apple	D/Ex	4 x 4m	27L/1.5mH	2
PcBB	*Pyrus communis 'Beurre Bosc'*	Beurre Bosc Pear	D/Ex	4 x 3m	27L/1.5mH	2
CIE	*Citrus limon 'Eureka'*	Eureka Lemon	E/Ex	4 x 3m	27L/1.5mH	2
CsV	*Citrus sinensis 'Valencia'*	Valencia Orange	E/Ex	4 x 3m	27L/1.5mH	2
					TOTAL	**10**

SYM	BOTANICAL NAME	COMMON NAME	D/E N/Ex*	HEIGHT X WIDTH AT MATURITY	MIN SUPPLY SIZE	QTY
SHRUBS						
Aa	*Acacia acinacea*	Gold Dust Wattle	E/N	1.5-2 x 2-4m	200mm pot	
AcMC	*Acacia cognata 'Mini Cog'*	Dwarf River Wattle 'Mini Cog'	E/N	0.8 x 1.8m	200mm pot	
Bs	*Banksia spinulosa*	Hairpin Banksia	E/N	3 x 2m	200mm pot	
Ca	*Correa alba*	White Correa	E/N	1-1.5 x 1-1.5m	200mm pot	
Cr	*Correa reflexa*	Common Correa	E/N	1 x 1 m	200mm pot	
Cyr	*Cycas revoluta*	Sago Palm	E/Ex	2 x 2m	200mm pot	
De	*Doryanthes excelsa*	Gymea Lily	E/N	2.5 x 1.5m	200mm pot	
Dv	*Dodonaea viscosa*	Sticky Hop-bush	E/N	1.5-4 x 1-3m	200mm pot	
Hi	*Helichrysum italicum*	Curry Plant	E/N	0.3-0.5 x 0.3m	200mm pot	
Lb	*Leucophyta brownii*	Cushion Bush	E/N	0.8 x 0.8m	200mm pot	
Lc	*Leptospermum continentale*	Prickly Tea-tree	E/N	1-4 x 1-2m	200mm pot	
Ll	*Leptospermum lanigerum*	Woolly Tea-tree	E/N	2-4 x 1-3m	200mm pot	
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Wf	*Westringia fruticosa*	Coastal Roasemary	E/N	2 x 2-3m	200mm pot	
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GROUNDCOVERS						
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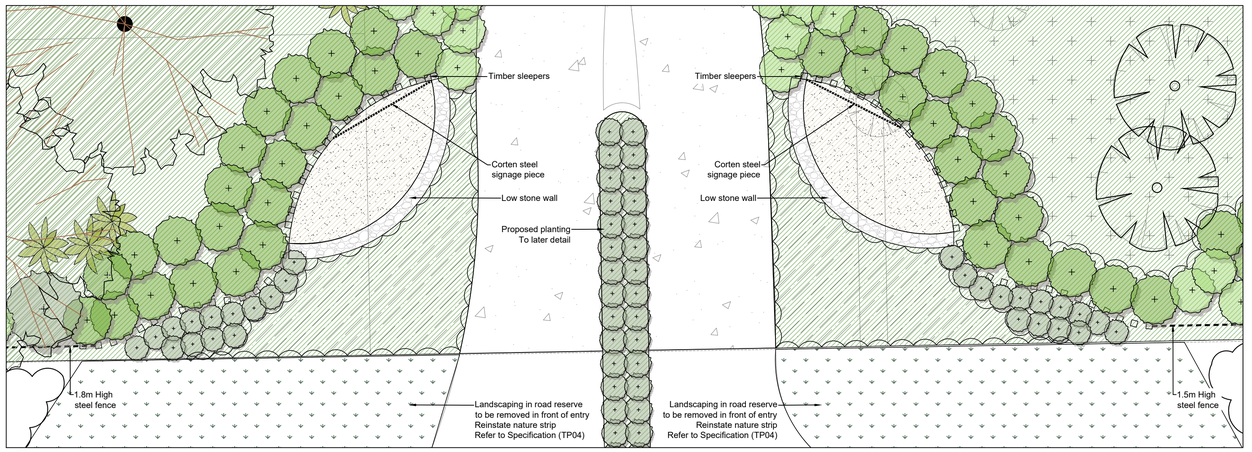
Cb	*Carex breviculmis*	Common Sedge	E/N	0.5 X 0.5m	140mm pot	
Car	*Carpobrotus rossii*	Karkalla	E/N	Spreading	140mm pot	
Lf	*Lomandra filiformis*	Wattle Mat-rush	E/N	0.3 x 0.3m	140mm pot	
Mp	*Myoporum parvifolium*	Creeping Boobialla	E/N	0.2 x 1-3m	140mm pot	
Pl	*Poa labillardieri*	Tussock Grass	E/N	0.8 x 0.8m	140mm pot	
Po	*Patersonia occidentalis*	Long-leaf Purple Flag	E/N	0.3 x 0.5m	140mm pot	
Ps	*Poa sieberiana*	Grey Tussock Grass	E/N	0.5 x 0.5m	140mm pot	
RsFB	*Rhagodia spinescens 'Flat Bush'*	Flat Bush Creeping Saltbush	E/N	0.3-0.5 x 1m	140mm pot	
Ll	*Lomandra longifolia*	Spiny-headed Mat-rush	E/N	1 x 1-1.5m	140mm pot	
Tt	*Themeda triandra*	Kangaroo Grass	E/N	0.6-1 x 0.5m	140mm pot	
Scv	*Scaevola 'Mauve Clusters'*	Mauve Clusters Fan Flower	E/N	0.3 x 0.6m	140mm pot	
HvM	*Hardenbergia violacea 'Meema'*	Meema Purple Coral Pea	E/N	0.3-0.45 x 1-2m	140mm pot	
Dr	*Dianella revoluta*	Black Anther Flax Lily	E/N	1 x 1-1.5m	140mm pot	
					TOTAL	

TO LATER DETAIL

*D/E = Deciduous/Evergreen N/Ex = Native/Exotic



COMMUNITY ENTRY PLAN
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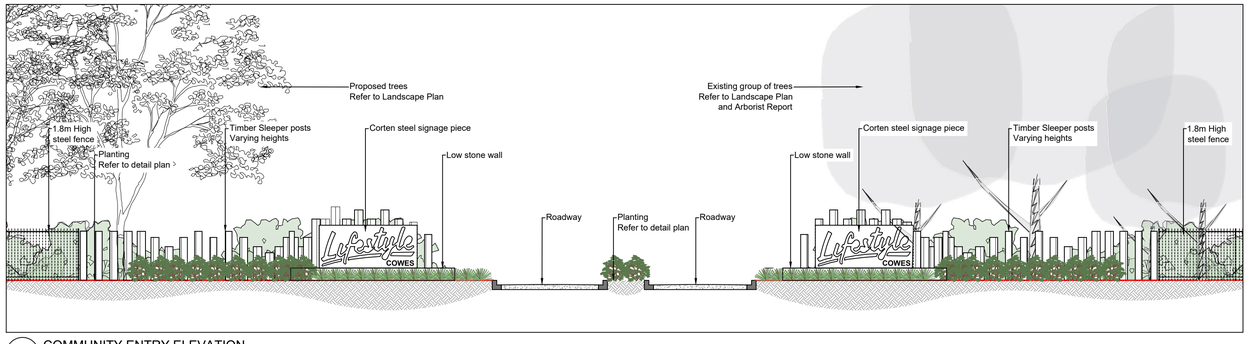

COMMUNITY ENTRY ELEVATION
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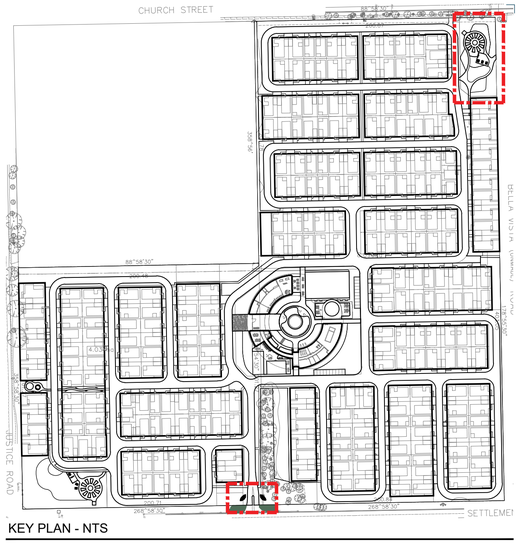

KEY PLAN - NTS

LEGEND

Existing Tree to be Retained

Proposed Trees
Refer to Plant Schedule

Proposed Shrubs
Refer to Plant Schedule

Proposed Groundcovers
& Grasses
Refer to Plant Schedule

Proposed Lawn Area
Refer to Specification
(TP04)

Proposed Paving & Crossovers
To Later Detail

Proposed Feature Paving
To Later Detail

Proposed Shared
Driveway Surface
To Architects Detail

Proposed Gravel Surface
To Architects Detail

Proposed Low Stone Wall
To Later Detail

SPECIFICATION NOTES

Soil Preparation
Crushed rock, concrete spillage and any other material restrictive to plant growth (e.g. large rocks) shall be removed from the site of any planting beds and semi-advanced trees. All trees to be removed shall be stump ground and all rubbish/vegetative spoil is to be removed from site. Existing top soil in planting areas is to be preserved so that it does not receive additional compaction from site machinery and so that no rubble or building supplies are stored in these areas.

No imported top soil is to be used within the root zones of trees to be protected. Any preparation of existing soil for planting within these areas is to be done by hand only. Holes (e.g. as the result of plant removal) and uneven soil levels may be patched using topsoil as specified below. Any imported topsoil is to be free of weeds, rubble and other materials damaging to plant growth and is to be of a medium texture (sandy loam) with a pH of 6.0-7.0. Top soil is to be laid over a prepared sub-base which has had any materials damaging to plant growth (e.g. rubble and large rocks) removed, spread to the appropriate depth and cultivated into the existing site soil to a minimum depth of 150mm. Imported top soil is to be lightly and uniformly compacted in 150mm layers to a minimum depth of 100mm on lawn areas and 300mm on excavated planting beds.

Weed Removal
All weeds shall be thoroughly removed. All vegetative material, including roots and rhizomes of non-woody perennials and woody suckering weeds, is to be removed or appropriately controlled using chemical means. The stumps of non-suckering woody perennials are to be stump ground. All vegetative material shall be appropriately disposed of off site in a manner which will not allow their re-establishment elsewhere. Any chemical controls are to be used in accordance with manufacturer's instructions and standard occupational health and safety procedures.

Care must be taken to ensure that all trees to be retained are not damaged during weed removal. This also implies that any herbicides used are suitable for use around the vegetation to be retained.

Planting
Planting shall be carried out using accepted horticultural practices with all plants conforming to the species, size and quantities indicated on the Landscape Plan and Plant Schedule. Plants shall be thoroughly soaked through immersion in water prior to planting and if the planting soil is very dry then the planting hole is also to be filled with water and allowed to drain completely. All plants shall be appropriately hardened off in the nursery. Use plants with the following characteristics: Large healthy root systems with no evidence of root curl or pot bound restriction or damage, vigorous, well established, free from disease and pests and of good form, consistent with the species or variety. Planting holes for shrubs and groundcovers are to be of minimum size 75mm larger than the planting pot in all directions. Semi-advanced tree planting holes are to be the same depth as the rootball and 2-3 times its diameter, with the top of the rootball being at grade. A 75mm high berm is to be constructed at edge of root-ball to hold water. All plants are to be thoroughly watered after planting and slow release fertiliser added at the quantities specified by the manufacturer.

Mulch
Mulch is to be supplied to all garden beds and is to be an organic type laid to a minimum depth of 75mm, consisting of fine dark coloured chipped or shredded pine bark or hardwood with not more than 5% fines content by volume (preferably zero fines). The average size of the woodchip must be approximately 10mm x 20mm x 5mm and the maximum length is not to exceed 30mm. Mulch shall be free of damaging matter such as soil, weeds and sticks and is to be stockpiled and thoroughly weathered prior to delivery. Mulch is to be kept back 100mm from the stems of all plants to prevent collar rot.

Granitic Gravel Surface
Granitic gravel is to be installed where shown comprising of a 50mm layer of gravel (Tuscan Toppings or similar) over a base course of 75mm deep gently compacted Fine Crushed Rock. Each layer, including the subgrade is to be appropriately compacted.

Timber Edges
Provide 75 x 25mm treated pine edges to all borders between gravel mulch paths and garden beds using 75x25x300mm long treated pine stakes at 1200mm maximum centres. An additional stake is to be provided at joins in the plinth.

Irrigation
An approved drip irrigation system is to be supplied to all landscape areas. An approved pop-up spray system is to be supplied to all lawn areas. It is the responsibility of the contractor to ensure that all irrigation meets manufacturers specifications. The system is to be connected to mains supply and include a rain-shut off device. All dripline is to be buried with approx. 50mm of topsoil cover and shall be anchored at regular intervals to ensure the tubing cannot be dislodged.

Lawn - Turf
'Sapphire' Soft Leaf Buffalo turf (or similar) is to be supplied to lawn areas as shown. Turf is to be supplied by a specialist grower and is not to be allowed to dry out between cutting and laying. Turf should be laid in a stretcher pattern so that joints are staggered and is to be lightly tamped following laying. All lawn areas are to be thoroughly watered following planting and fertilised with an appropriate lawn starter at the quantities recommended by the manufacturer.

Repair/Restoration of damaged Nature-strips
Nature strips are to be restored to current grades with any depressions filled with topsoil to specifications above and lightly compacted in 150mm layers. Areas are then to be re-seeded

using an appropriate and matching turf type and the area fenced off to allow the re-establishment of lawn. Re-seeded areas are to be well irrigated and the area supplied with a slow release fertiliser at the quantities recommended by the manufacturer.

Any areas of lawn which have failed to germinate (achieve an evenly green 95% covering of a consistent height) are to be re-seeded within one month of original sowing date.

Plant Establishment Period
There shall be a 13 weeks Plant Establishment Period following the approval of Practical Completion by the responsible authority. During this period the landscape contractor shall make good all defects in his/her scope of works. Maintenance and Establishment means the care and maintenance of the contract area by accepted horticultural practices, as well as rectifying any defects that become apparent in the work under normal use. This shall include, but shall not be limited to watering, fertilising, weeding, pruning, pest and disease control, cultivation, re-staking and replacement of any plants that fail with plants of the same species and size.

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REVISION		DATE	BY
A	To Architectural Updates	18.03.2022	SA
B	Pedestrian paths removed	30.03.2022	SA

CLIENT
LIFESTYLE COMMUNITIES

PROJECT
PROPOSED COMMUNITY

299-325 CHURCH STREET, COWES

DRAWING
Northern Drainage Reserve
& Community Entry
for Town Planning

SCALE	1:100 @A1
DATE	SEP 2021
DRAWN	PK
CHECKED	JP
JOB NO	21-544-L-REVB
DWG NO	L-TP03
CAD FILE	

COWES

Interface Perspective Images (3D Renders)

Lifestyle Communities



mesh

Indicative view facing west along Settlement Road



Indicative view facing west along Settlement Road



mesh

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phone. +61 3 9070 1166 meshplanning.com.au

Version: Council Submission
Date: October 2021

Sustainable Management Plan

Cowes Lifestyle Communities Residential Village

HIP V. HYPE

WHO WE ARE

HIP V. HYPE Sustainability provides advice that is commercially grounded, yet ambitious. We pursue exceptional outcomes that are socially, economically and environmentally sustainable and enable action across government, institutions and organisations.

We seek to partner with those who are willing to think strategically to achieve better. We lead, collaborate and support others to deliver impact and build Better Cities and Regions, Better Buildings, and Better Businesses.

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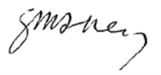
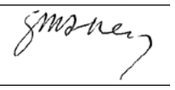
HIP V. HYPE

REV	DATE	DETAILS	NAME, POSITION	SIGNATURE
1.0	SEP 2021	For Client Review	Gavin Ashley, Lead	
2.0	OCT 2021	Council Submission	Gavin Ashley, Lead	

Introduction

This Sustainable Management Plan (SMP) has been prepared by HIP. V HYPE on behalf of Lifestyle Communities for the Lifestyle Cowes development, located at 299-325 Church Street, Cowes.

The SMP provides an overview of the sustainable initiatives proposed for the site. The Sustainable Subdivision Framework (SSF) which is currently being trialled by Bass Coast Shire and several other local governments has been used as a framework for assessment and documentation of range of initiatives relevant to this scale of precinct development.

WHAT IS A SUSTAINABLE MANAGEMENT PLAN?

A SMP is a detailed sustainability assessment of a proposed residential community design at the planning stage. This SMP demonstrates best practice and:

- Provides a detailed assessment of the development
- Identifies achievable environmental outcomes having regard to relevant metrics
- Demonstrates that the residential community has the design potential to achieve the relevant environmental performance outcomes, having regard to the site's opportunities and constraints
- Documents the means by which the performance outcomes can be achieved

Sustainability Framework

The Sustainable Subdivisions Framework was developed in collaboration between 16 regional Victorian councils, CASBE and the VPA - and aims to provide a robust framework and process for the assessment of sustainability within residential communities at the planning stage.

The SSF was developed for residential subdivision, but has been adapted for use to demonstrate the sustainability credentials of this residential village. It is built around 7 key categories:

1. Site Layout & Liveability
2. Streets & Public Realm
3. Energy
4. Ecology
5. Integrated Water Management
6. Urban Heat
7. Circular Economy (Materials & Waste)

To demonstrate to Bass Coast Shire Council the sustainability initiatives committed to in the proposed development, the project will adopt the above framework, reflected in this report.



Cowes Beach. Photography by Visit Victoria

BASS COAST CLIMATE CHANGE ACTION PLAN

Bass Coast Shire Council has declared a climate emergency, and recently released the Climate Change Action Plan 2020-2030.

One of the primary objectives of the CCAP is for the community to reach net zero emissions by 2030.

Lifestyle Communities supports this target by proposing an all-electric, zero net residential community for Cowes. With no gas provision, energy efficient dwellings, solar PV and a community battery, the overall energy demand within the community is lowered, with residual power procured from renewable sources.

More about the net zero energy approach is on page 6 and 14.

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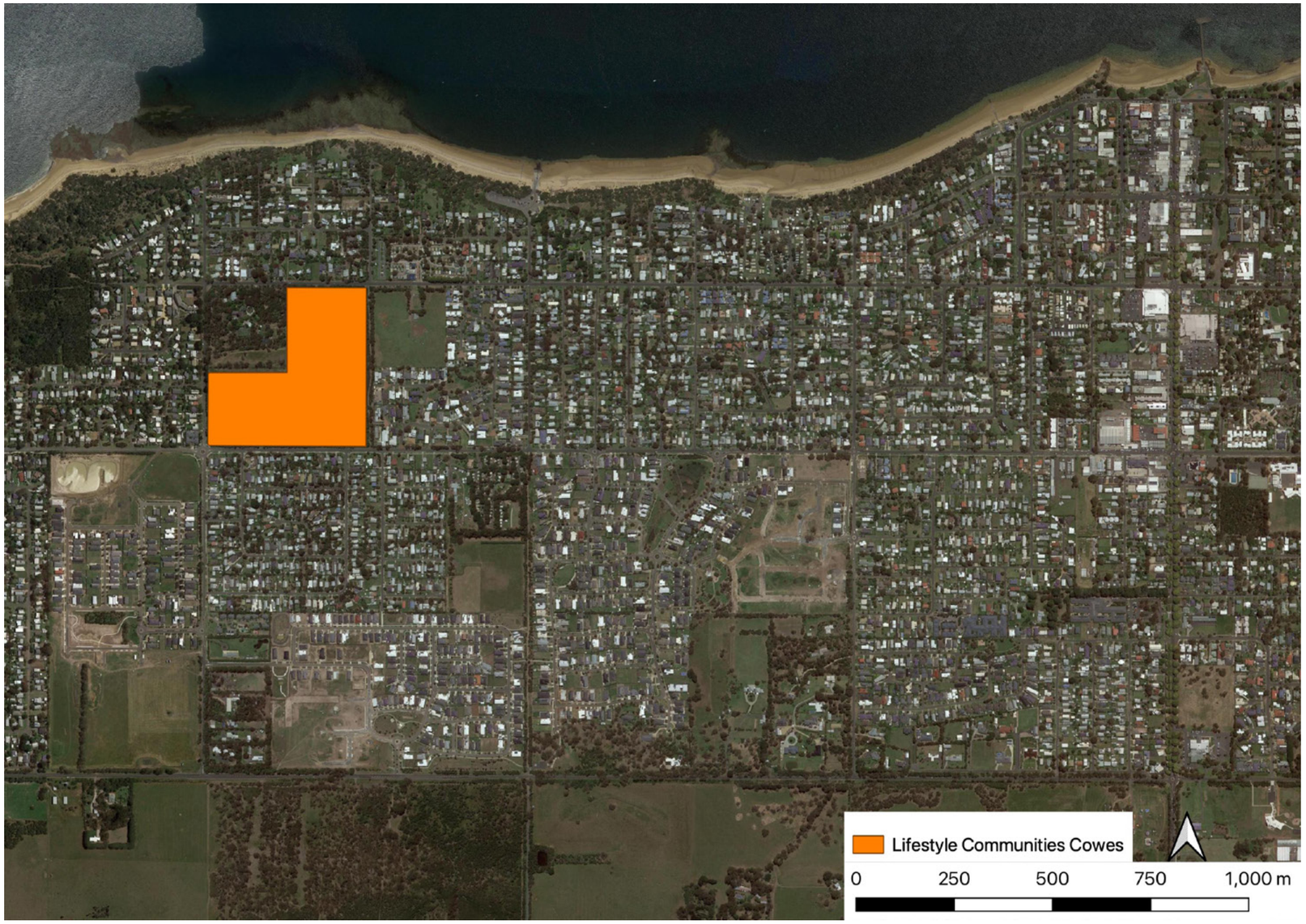
Introduction

PROJECT OVERVIEW

This Sustainability Management Plan has been prepared for Lifestyle Communities to communicate precinct-wide sustainability opportunities and preliminary commitments for the proposed Residential Community 299-235 Church Street, Cowes.

The site is located to the north-west corner of Cowes, on Phillip Island, approximately 75km South-East from the Melbourne CBD. The site is bound by Church Street to the North, Settlement Road to the South, and Justice Road to the west (with a dirt trail, Bellavista Road, to the East). The site is largely surrounding by residential and holiday/lifestyle accommodation, with a Local Convenience Centre and retail strip 2km east on Thompson Avenue. It is approximately 300m from the beach facing Western Port Bay.

Located within the Bass Coast Shire Council, The development will consist of 281 individual residential living dwellings, a manager's residence and a clubhouse that will provide a range of facilities for the residents.



Site location (orange) within Cowes. Image by HV.H / QGIS

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Introduction

LIFESTYLE COMMUNITIES

Lifestyle Communities develops, owns and manages affordable independent living residential land lease communities. Each resident owns their own home and the land it sits on is leased to them under a long term lease agreement between the resident and Lifestyle Communities. This approach allows flexibility in home ownership and management and, importantly, affords the resident access to significant property rental concessions under the legislative framework that contribute towards the affordability of the property.



The Lifestyle Communities Housing Model

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Headline Commitments

A number of commitments have been made by the Project team, categorised within the seven framework categories.

Five headline commitments have been elevated to communicate the project's overarching commitment to sustainability.

NET ZERO ENERGY

The village has an overarching commitment to zero net energy in operation. This means over the course of a calendar year the energy consumption on site is equal to or less than the amount of energy generated on site or purchased from a renewable electricity sources. Additionally the development does not use gas, avoiding lock in of fossil fuels, resulting in zero net emissions for stationary energy.

This strategy is made possible by an investment in energy efficiency within street lighting, the community facility and individual dwellings; a site-wide integrated solar PV network and community scale battery system and a commitment to purchase any residual electricity from renewable sources.



Cape Patterson by Kim Landy

RE-USABLE/RECYCLABLE CONSTRUCTION MATERIALS

The dwellings within the Lifestyles Community Cowes village will be constructed using modular components. This has several sustainability benefits, including reduced construction time, reduction in construction waste and the ability to be recycled at the dwellings end-of-life.

The dwellings will be partially constructed off-site, then moved on site where the final phase of construction will occur. Through the use of modular construction, the dwellings will be able to be deconstructed and re-used when the development is retired. The construction itself avoids glues and other adhesives, therefore improving design for disassembly.



Ruskin Elwood by Sunlyt Studios

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Headline Commitments

HEAT ISLAND EFFECT REDUCTION STRATEGIES

Lifestyle Communities have committed to reducing the effects of Urban Heat Island effect through a combination of initiatives. UHI is created when urbanised areas absorb more heat from the sun compared to the surrounding rural areas.

The village will reduce the amount of non-permable area across the site, increasing landscaping and overall greenery while reducing concrete/hard surfaces. Furthermore, the dwellings will all have a high Solar Reflective Index (SRI) roof colour, which will reduce the amount of heat the development will retain from the sun.

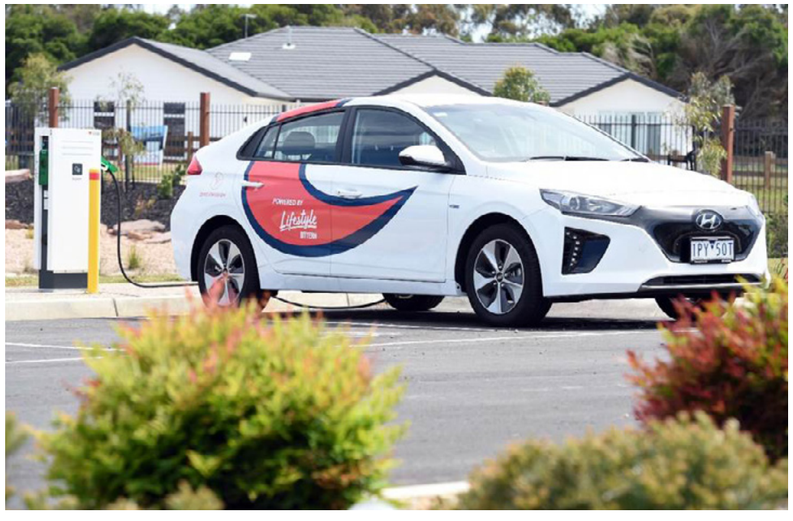


Light (high SRI) finishes and permeable driveway by Hydropavers

SUSTAINABLE TRANSPORT OPTIONS

The development has made a commitment to develop and promote the use of sustainable transport options for residents. By offering the community more sustainable options to travel both within and to nearby amenity, the need for more carbon intensive modes of transport will be reduced.

Several sustainable alternatives to travelling have been implemented. These include a communal Electric Vehicle (EV), a community bus, designated walking circuits, EV charging options for dwellings, electric bicycle and EV charging stations and connection to the local bicycle network.



Lifestyle Communities Communal EV

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Headline Commitments

SHARING ECONOMY

In each of their developments, Lifestyles Community incorporate several community initiatives, such as communal facilities, transport and amenities. By providing these services, the overall well-being of residents improves through increased social activity and engagement.

The Cowes village will include several communal transport initiatives as outlined above, but will also include shared tool and book libraries.



Revival workshop by HIP V. HYPE

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Site Layout & Liveability

The development of the residential village presents a significant opportunity to influence the urban structure of the village itself and integrate the development into the broader neighbourhood - how residents are connected to local amenity, community infrastructure and a range of transport modes.

The Lifestyle Community Cowes development has considered and implement a wide range of strategies to improve access and the ability to connect via sustainable transport modes. Key initiatives include response to the following criteria:

- Location of Community Infrastructure
- Lot Diversity
- Connectivity of Street Network
- Integration with Natural Features
- Active Transport
- Public Transport
- Electric Transport



Elmwood

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Site Layout & Liveability

The objectives of the Site Layout and Liveability category include:

Community infrastructure accessible to all residents, generally within a short walking radius

A range of lots provided to cater for singles and couples with varying space requirements

The street network should be designed in a way that facilitates movement and connectivity with local amenity

Existing natural features should be retained and integrated into public open space

The community should be supported by the provision of permeable pedestrian network, priority routes (over vehicles) and strong connections to surrounding amenity

The community is supported by strong public transport connections to a suite of local destinations

Provision should be made for the adoption of electric vehicles and other electric personal transportation devices

KEY INITIATIVES

Location of community infrastructure

- 100% lots are within 300m of community infrastructure
- A community facility at the site entrance provide residents social and physical activity opportunities
- Additional community infrastructure includes an EV charging stations, electric bicycle charging stations and a community battery storage facility
- A communal workshop and tool library will be available to residents at the club house
- A 2km designated walking track and internal walkways are available to promote exercise

Lot diversity

- The masterplan provides for four variations (A to C) to accommodate a range of living circumstances and budgets

Connectivity of Street Network

- The proposed road network features a variety of street typologies, is legible, promotes connectivity and avoids the use of ‘cul-de-sacs’

Integration with natural features

- Existing natural vegetation will be retained, with only the removal of two small scattered trees and a small area of Swamp Scrub at the Settlement Road Entrance
- The site layout respects existing topography to minimise cut and fill (earthworks)

Active Transport

- Roads within the site will be designed to allow for shared access for cyclists, with external connections to the road/ pedestrian network of Cowes where available
- A dedicated walkway circuit around the community to allow exercise and easy movement between dwellings and infrastructure
- End of Trip (EoT) facilities will be included in the Club House, to promote active transport to/from the community (for visitors)
- Rest nodes and canopy coverage will be included throughout the community to promote walking

Public Transport

- A community bus will be included to provide residents with transport to local amenity, and to entertainment outside the development

Electric Transport

- A communal EV is provided, to promote sustainable transport to local amenity and other destinations outside the immediate community
- EV charging stations will be included to promote EV usage of residents
- EV charging purchaser options for resident’s dwellings will be offered
- Undercover outdoor charging for electric cycles will be included, to promote use of personal electric transport by residents within and outside the community

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Street & Public Realm

Designing streets and public realm with a focus on people is seen as one of the most influential contributors to sustainable communities with flow-on benefits to broader sustainability outcomes.

Public Realm should be designed as inviting, vibrant places that support local community and economy, and drive biodiversity, urban cooling, and integrated water management outcomes.

- Key initiatives include response to the following criteria:
- Street Diversity
- Accessible and Continuous Cycling and Pedestrian Network
- Maximum Street Block Length
- Density of Street Trees & Vegetation
- Density of Rest Nodes and Landscape Features



Ecco Riply Path & Vegetation

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Street & Public Realm

The objectives of the Street & Public Realm category include:

- Ensuring a diversity of road typologies, treatments and vegetation to create a more diverse public realm
- Support the prioritisation of pedestrian and cycling movements through design of the street network
- Increase the legibility and directness of the street network by limiting the length of street blocks
- Provide pedestrian amenity through the provision of street trees to provide ecosystem services and reduce the UHI effect
- Create pockets of nature with seats for resting and shade trees to improve comfort, amenity and biodiversity
- Improve passive surveillance of public realm and private built form through incorporation of crime prevention through environmental design (CPTED).

KEY INITIATIVES

Street Diversity

- The street network design incorporates alternative treatments such as varied tree placement, footpath or other elements to achieve boulevard effect

Accessible and Continuous Cycling and Pedestrian Network

- Pedestrian and cyclist movements are prioritised through low speed (15km/h speed limit) and shared streets throughout
- Connection to a two lane bicycle path to the West of the site
- Connection to a pedestrian/cycle path to the north of the site along the gas easement
- Pedestrian walking loop connecting local amenity to residential dwellings

Maximum Street Block Length

- The street network design has a maximum street block distance of 150m, and all dwellings are located within 300m of on-site amenity

Density of Street Trees & Vegetation

- Street trees have an average planting frequency of 10 per 100m in order to deliver a range of ecosystem services

Density of Rest Nodes & Landscape Features

- Small rest nodes are incorporated into principal access routes to the village entrance and community facility as well as within the internal walking loop

Safety

- Designed interfaces between dwellings and pedestrian routes create passive surveillance and reduce perception of gated community
- Dwellings will not have front fences, further increasing connectivity to each other and passive surveillance



Lifestyle Communities

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Energy

The Lifestyles Community represents a significant opportunity to influence improved energy productivity outcomes in the built environment, from how streets are designed to maximise solar access for future dwellings through to allocating space for on-site renewable energy generation and/ or storage.

Key initiatives include response to the following criteria:

- **Energy Efficiency**
- **Renewable Energy**
- **Energy Storage**



Rooftop Solar at the Davison Street Collective. Photography by HIP V. HYPE

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Energy

The objectives of the Energy category include:

- Energy efficiency supported through the provision of efficient street lighting, lot orientation to maximise solar access and Environmentally Sensitive Design (ESD) considerations at the dwelling-scale
- Renewable energy to support a further reduction in operational stationary energy and reduced carbon footprint of the development
- Maximising the benefit of renewable energy (i.e. rooftop solar) through the provision of energy storage (i.e. battery)

KEY INITIATIVES

Energy Efficiency

- The majority of dwellings run E-W to maximise solar access to longest edge
- Street lighting is LED and connects to precinct renewables
- The community facility meets a high level of thermal performance and employs energy efficient HVAC, lighting and hot water systems
- Dwellings will include energy efficient air conditioning and heat pump domestic hot water systems
- Dwellings will operate gas free - meaning no lock-in fossil fuel usage
- Dwellings incorporate insulation and double glazing window systems will be included in all habitable spaces within dwellings

Renewable Energy

- The community will have a combined Solar PV system of at least 350kW, coupled with appropriate battery storage to meet the peak energy usage of the site.
- The panels will be distributed across the resident's rooftops as appropriate.
- Any remaining energy requirements will be met by green energy, through a Power Purchase Agreement (PPA). Based on this, the site will be Net Zero Energy, meaning that there are no carbon emissions associated with stationary energy in the operation of the village.

Energy Storage

- A community sized battery will be incorporated into the site wide solar PV system



Cape Patterson. Photography by Kim Landy

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Ecology

Enhanced ecology begins with the site design process. By assessing existing conditions, recognising existing natural features and biodiversity, the design process can then seek to protect and enhance.

This will not only provide a positive environmental outcome, but offer significant liveability benefits to residents and capture the economic benefit of healthy ecosystems.

These benefits are known as ecosystem services. Key ecosystem services include: habitat for wildlife, urban temperature regulation, runoff mitigation, food supply and recreational and aesthetic benefits[1].

Key initiatives include response to the following criteria:

- Canopy Cover
- Biodiversity Conservation
- Enhanced Biodiversity Value



Warralily restoration by Australian Ecosystems

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Ecology

The objectives of the Ecology category include:

- Where possible, existing vegetation to be retained and new plantings should form a rapid canopy cover
- Providing a net gain in biodiversity, through conserving land for biodiversity where there are significant assets, and supporting the development of new native and climate resilient vegetation

KEY INITIATIVES

Canopy Cover

- Street tree selection to favour climate resilient, native species with have a projected canopy cover width of 4m or more
- The community facility precinct supports a range of species types including larger canopy trees
- A ‘cool route’ (pictured right) will be incorporated into the village, where larger vegetation will be provided to ensure additional canopy cover that allow residents to continue to walk to local amenity in the hotter months

Enhance Biodiversity Value

- The planting palette chosen for interfaces with the west and north provides for enhanced habitat connectivity
- A maintenance schedule that continues to enhance ecological values will be developed including management of invasive weed species and other pest management



Indicative location of the cool route (blue line) through the site. Image by Lifestyle Communities

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Integrated Water Management (IWM)

Integrated Water Management (IWM) is a collaborative approach to the way we plan for and manage all elements of the water cycle. This includes managing and protecting the health of waterways, wastewater management, alternative and potable water supply and stormwater management[1].

The Stormwater Strategy for the site will aim to maintain post-development flows at pre-development levels, mitigate any flooding risks and meet the best practice for environmental management (BEPM) water quality requirements.

Key initiatives include response to the following criteria:

- Stormwater Harvesting and Reuse
- Water Supply
- Water Efficiency
- Stormwater Treatment and Flood Management
- Water Sensitive Urban Design
- Site Permeability



Rainwater capture and reuse at Cape Patterson. Photography by Kim Landy

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Integrated Water Management (IWM)

The objectives of the Integrated Water Management category include:

- New communities should provide for rainwater and stormwater reuse on site
- Potable water use is minimised through water efficient fixtures and appliances and xeriscape vegetation
- The development does not adversely affect the site's capacity to manage flood risk and stormwater quality is enhanced through meeting of best practice environmental management guidelines
- The design of the streetscape and public realm supports stormwater treatment and provides passive irrigation to vegetation
- Increasing the area of permeable surfaces within the public realm to mitigate stormwater runoff and assist with urban heat

KEY INITIATIVES

Stormwater Harvesting and Reuse

- The community facility will incorporate a 25kL rainwater tank, which will feed the facilities toilets and irrigation demand

Water Supply

- As well as a potable water supply, the development will be provided with a non-potable water reticulation network, providing all lots with non-drinking water which can be used for toilets, washing machines and irrigation
- Fire hydrants and fire house reels will also be connected to the non-potable reticulation network

Water Efficiency

- The dwellings and community faciity will commit to the following WELS ratings
  + Kitchen taps, 6 star (flow 4.5l/min flow)
  + Bathroom taps, 6 star (flow 3.5l/min flow)
  + Shower head set, 3 star (flow 7l/min)
  + Toilet Suite, 4-star (flow 4.5/3L with average 3.4l flush)
  + High-efficiency dishwashers (5-star, 11.8l per wash) are specified and high efficiency washing machines are made available to residents as part of an appliance upgrade package

Stormwater Treatment and Flood Management

- An integrated Water Management Strategy report has been completed by KLM Spatial

Water Sensitive Urban Design

- The site will employ the use of two stormwater detention tanks with proprietary treatment filters prior to LPD. Landscaping, permeable areas and on-lot rainwater tanks ensure stormwater discharge is lower than pre-development levels

Site Permeability

- Consideration of landscaping, shared use of paths/roads and reduction in street parking have all reduced the site's non-permeable surfaces, reducing stormwater run-off
- Shared low speed streets allow for increased permeable areas within the public realm



WSUD at Cape Patterson. Photography by Kim Landy

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Urban Heat

With the changing climate, Victoria is expected to have more days of extreme heat as well as higher average temperatures of at least 1.5 degrees by 2070. Studies show that air temperature in built up areas, particularly after sunset, can be as much as 7 degrees warmer than the air in neighbouring, less built up regions.

The negative impacts of urban heat extend from general discomfort, and health issues to disruption of transport systems, increased energy demand (from air-conditioning, damage to infrastructure, degradation of vegetation and wildlife, and has even shown to have a negative influence on crime rates[1].

Key initiatives include response to the following criteria:

- Access to Shelter
- Urban Heat Island Mitigation



Mature canopy cover at Warralily

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Urban Heat

The objectives of the Urban Heat category include:

- Pedestrians are protected from the elements and are provided safe transportation in extreme weather events
- Urban cooling strategies are adopted to reduce the urban heat island effect

KEY INITIATIVES

Access to Shelter

- The landscape plan identifies a ‘cool route’ which offers increased protection from heat from dwellings to the community facility
- Community bus pick up and drop off will include seating and weather protection

Urban Heat Mitigation

- Residents are provided information in their welcome pack to maintain good health on hot days
- The community facility provides an informal refuge function, with increased thermal performance and back up power to maintain cooler temperatures during heat related power outages
- The development is has been designed to maximise urban heat mitigating surfaces, including vegetation, water bodies, permeable surfaces and roofs with high solar reflectance etc)
- At least 80% of dwelling roofs are of a high solar reflectance index (SRI)



Public realm planting at Cape Patterson. Photography by Kim Landy

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Circular Economy (Materials & Waste)

Circular economy shifts the traditional linear economy of ‘take, make, waste’ to one where the value of resources is maintained in a circular process. It looks at how resources that are now traditionally seen as waste can be reused, ultimately extracting more value.

Although waste only contributes about 2% of Victoria’s overall operational emissions, the embodied emissions are significant (included in high emissions sectors such as manufacturing). Lower emissions through the product life cycle will be a significant contributor to Victoria’s target of net zero greenhouse gas emissions by 2050 and is strongly encouraged through Recycling Victoria - Victoria’s Circular Economy Policy and Action Plan[1].

Key initiatives include response to the following criteria:

- Low Embodied Carbon
- Recycled Content
- Local Sourcing
- Future Recyclability
- Durable Materials
- Resource Recovery
- Resource Sharing



Davison Street Collective, which used SIPs and targeted 95% waste to landfill diversion. Photography by HIP V. HYPE

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Circular Economy (Materials & Waste)

The objectives of the Circular Economy category include:

- Low embodied carbon materials to included where possible
- Recycled content should be incorporated where possible
- Procurement of materials should be sourced locally where possible to support the community
- The encouragement of both re-use, and selection of building materials with a high recycled content and end-of-life recyclability in the construction process
- Operational waste management should promote resource recovery
- Goods and services should be shared where possible to reduce unnecessary consumption

KEY INITIATIVES

Low Embodied Carbon

- The development has committed to a trailing the use of a range of low embodied carbon materials including recycled aggregate in concrete, reconophalt for road base and responsible steel
- If successful this will be adopted for future stages and in other Lifestyle Communities projects

Recycled Content

- The use of recycled materials for outdoor furniture within rest nodes will be included

Local Sourcing

- Construction tender requirements will favour the sourcing of local materials and labour where possible (e.g. road base, landscape materials, employment of local tradespeople, excavated content reused on site where possible etc.)

Future Recyclability

- The dwellings will be constructed using modular components, that can be deconstructed and recycled at the end of life of the development

Durable Materials

- Procurement of materials to also consider durability and upgrade costs
- The use of modular components allows simpler process of replacing and repairing dwellings

Resource Recovery

- Organic composting will be co-located near community gardens near the stormwater detention tanks, promoting composting at a site-wide scale
- Soft plastics will be collected within the village and delivered to the appropriate recycling facility (e.g. redcyle) as required
- Residents will be provided with kitchen caddies, promoting the easy use and disposal of organics
- Welcome packs will be given to all residents, educating them on the communities waste treatment

Resource Sharing

- The community facility will incorporate a communal workshop, which will promote the use and contribution of a tool library
- A communal EV and bus is available for resident use
- A book library in the Club House will be available for residents to donate and share books



Construction at Davison Collaborative. Photography by Sunlyt Studios

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We respectfully acknowledge that every project enabled or assisted by HIP V. HYPE in Australia exists on traditional Aboriginal lands which have been sustained for thousands of years.

We honour their ongoing connection to these lands, and seek to respectfully acknowledge the Traditional Custodians in our work.

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For additional information, questions unturned, collaboration opportunities and project enquiries please get in touch.

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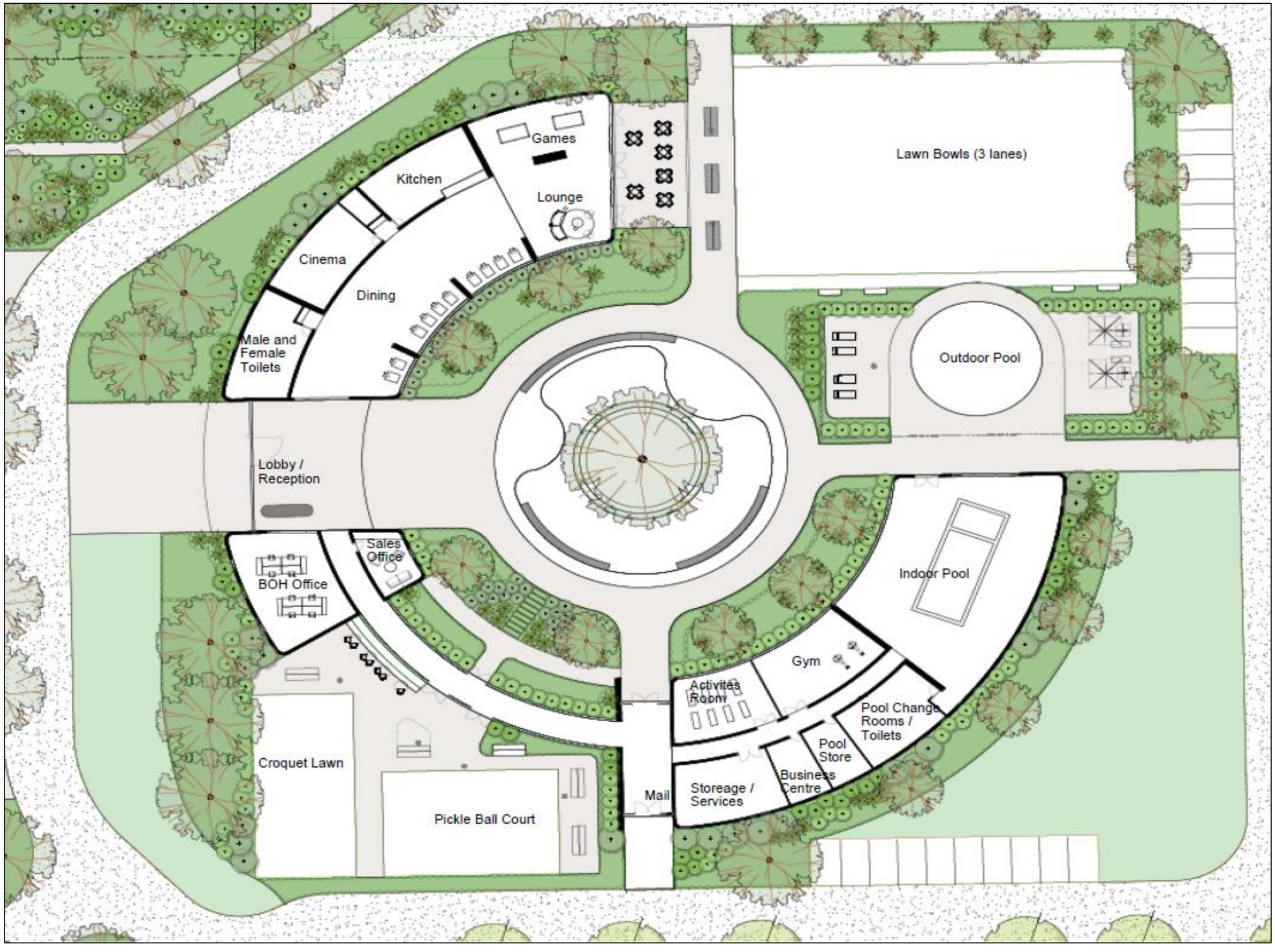
LIFESTYLE COWES

CLUBHOUSE DESIGN

TOWN PLANNING

SEPTEMBER 2021





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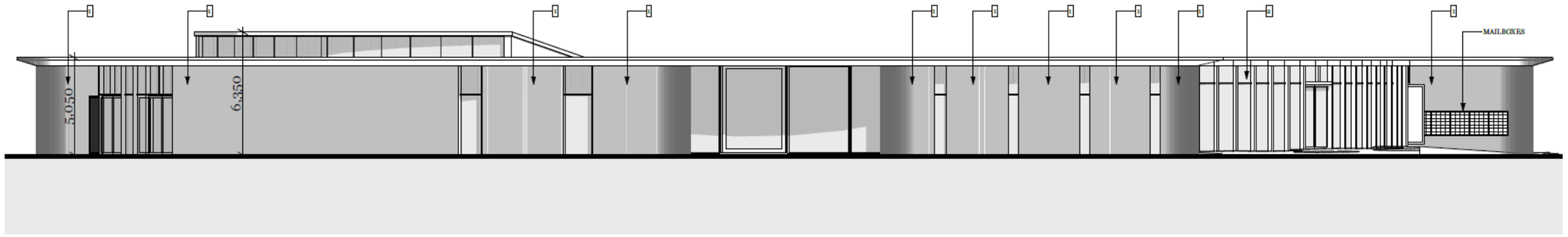
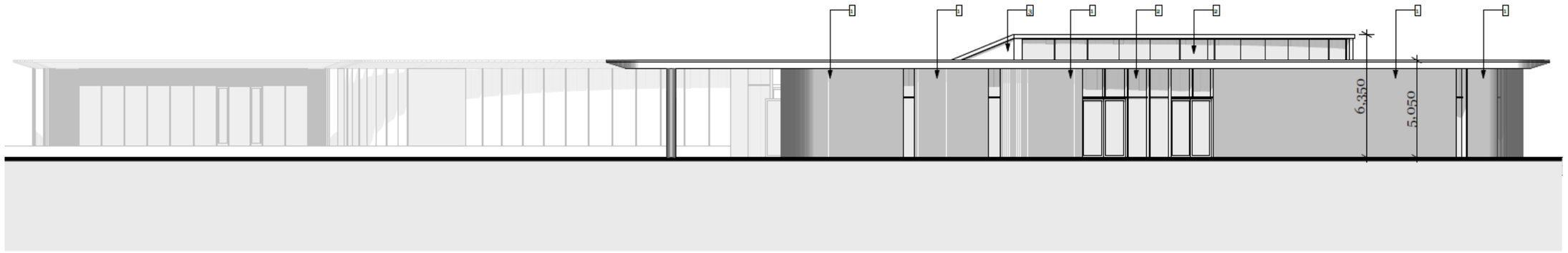


01 - West Elevation



01 - North Elevation



1. Board and Batten

2. Clear Glass



3. Black Metal Cladding

DKO Architecture (VIC) Pty Ltd
69-71 Kerferd Street
Camberwell, VIC 3124
T +61 3 8801 0000
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ABN: 64113938630
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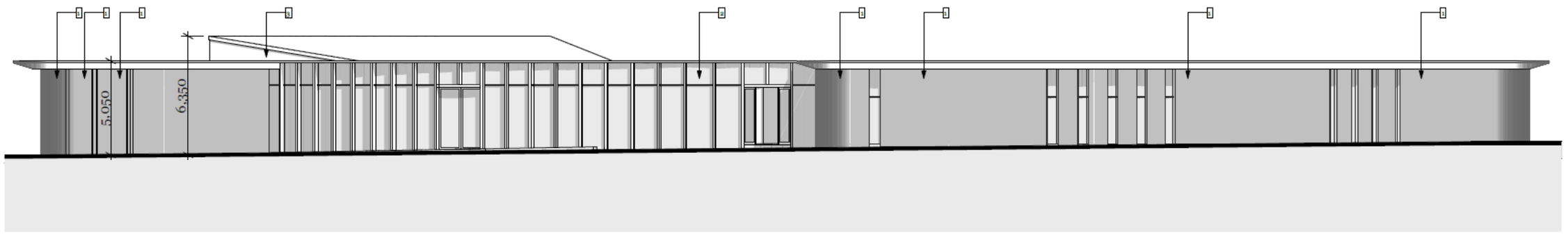
01 - East Elevation



01 - South Elevation



1. Board and Batten

2. Clear Glass



3. Black Metal Cladding

DKO Architecture (VIC) Pty Ltd
60-64 Kerferd Street
Collingwood, VIC 3066
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www.DKO.com.au
ABN: 91113936936

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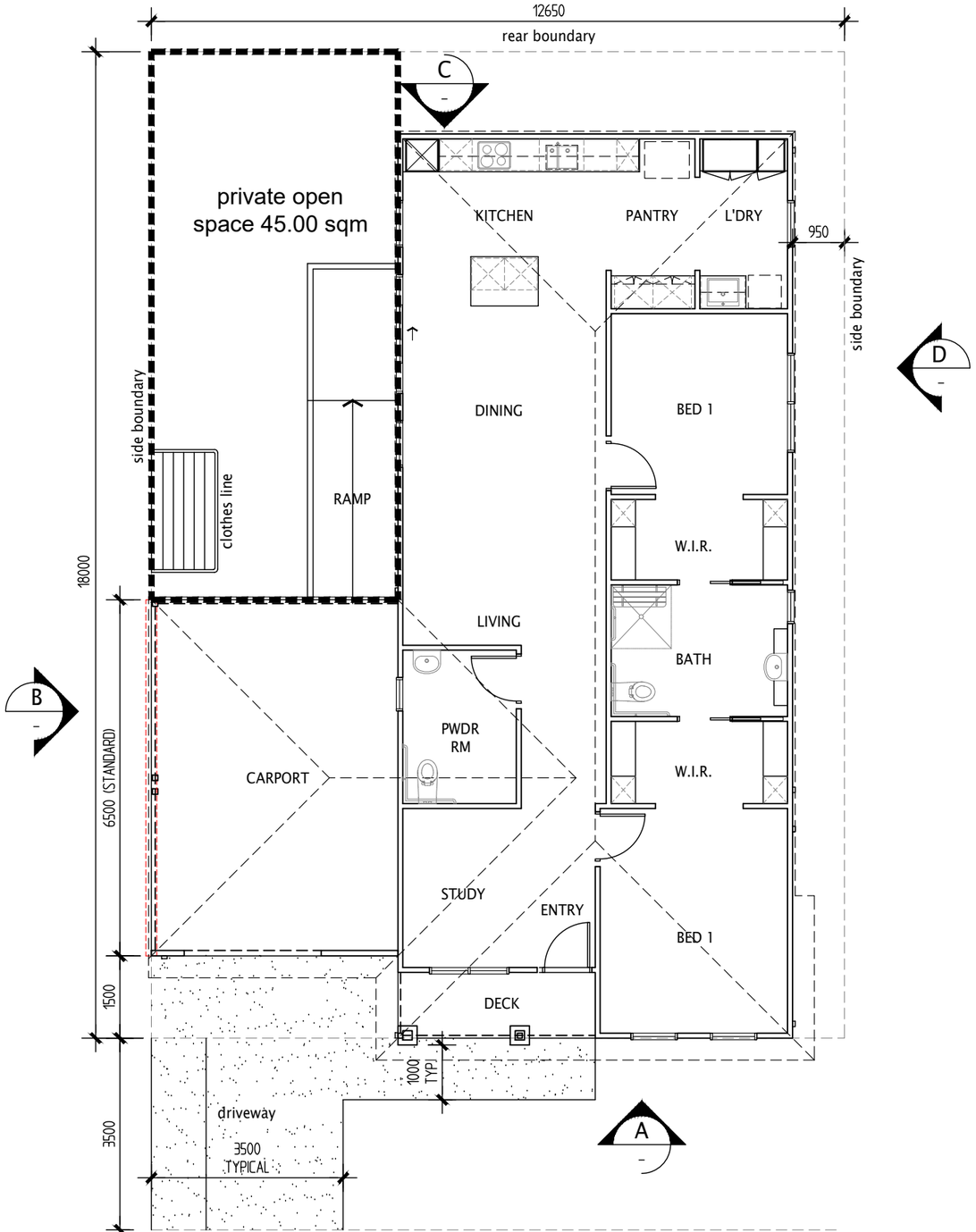
Lifestyle
MERIDIAN



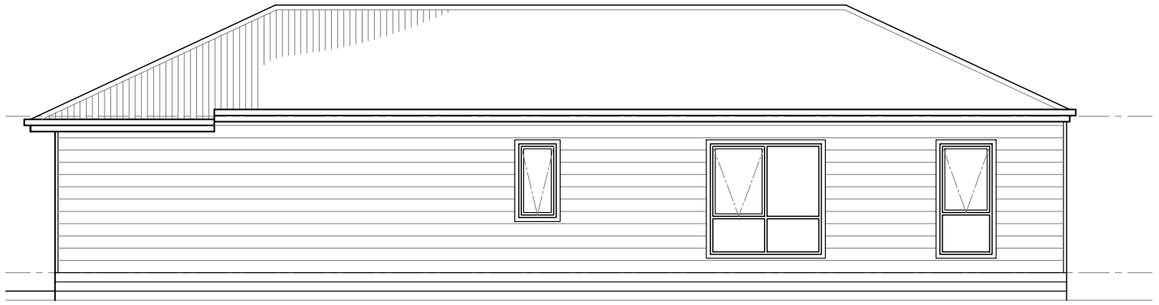




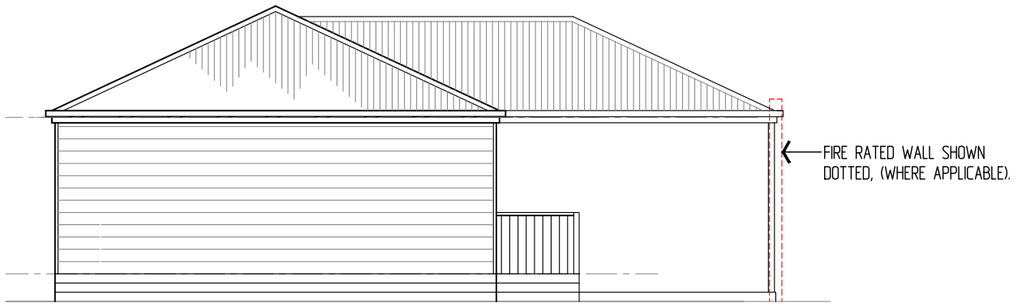




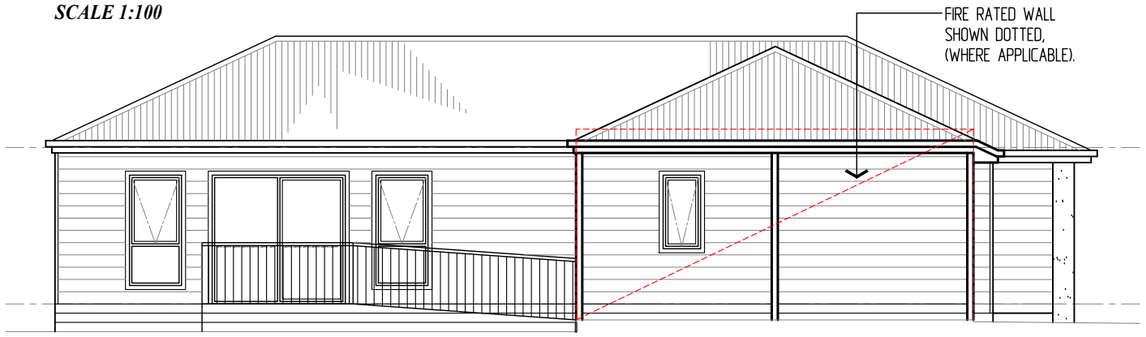
A1 SIZE SITE
FLOOR PLAN
SCALE 1:100



ELEVATION D
SCALE 1:100



ELEVATION C
SCALE 1:100



ELEVATION B
SCALE 1:100



ELEVATION A
SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

SITE PERMEABILITY 'A1' SIZE SITE	MET SQ.
TOTAL SITE AREA	227.70
TOTAL BUILDING AREA	148.10
CONCRETE DRIVEWAY & PATH	24.15
TOTAL BUILDING & CONCRETE AREAS	172.25
IMPERMEABLE SURFACES - MAX. 80%	76%

SITE COVERAGE 'A1' SIZE SITE	MET SQ.
TOTAL SITE AREA	227.70
TOTAL BUILDING AREA	148.10
SITE COVERAGE - MAX 60%	65%

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ALEXIS

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COWES

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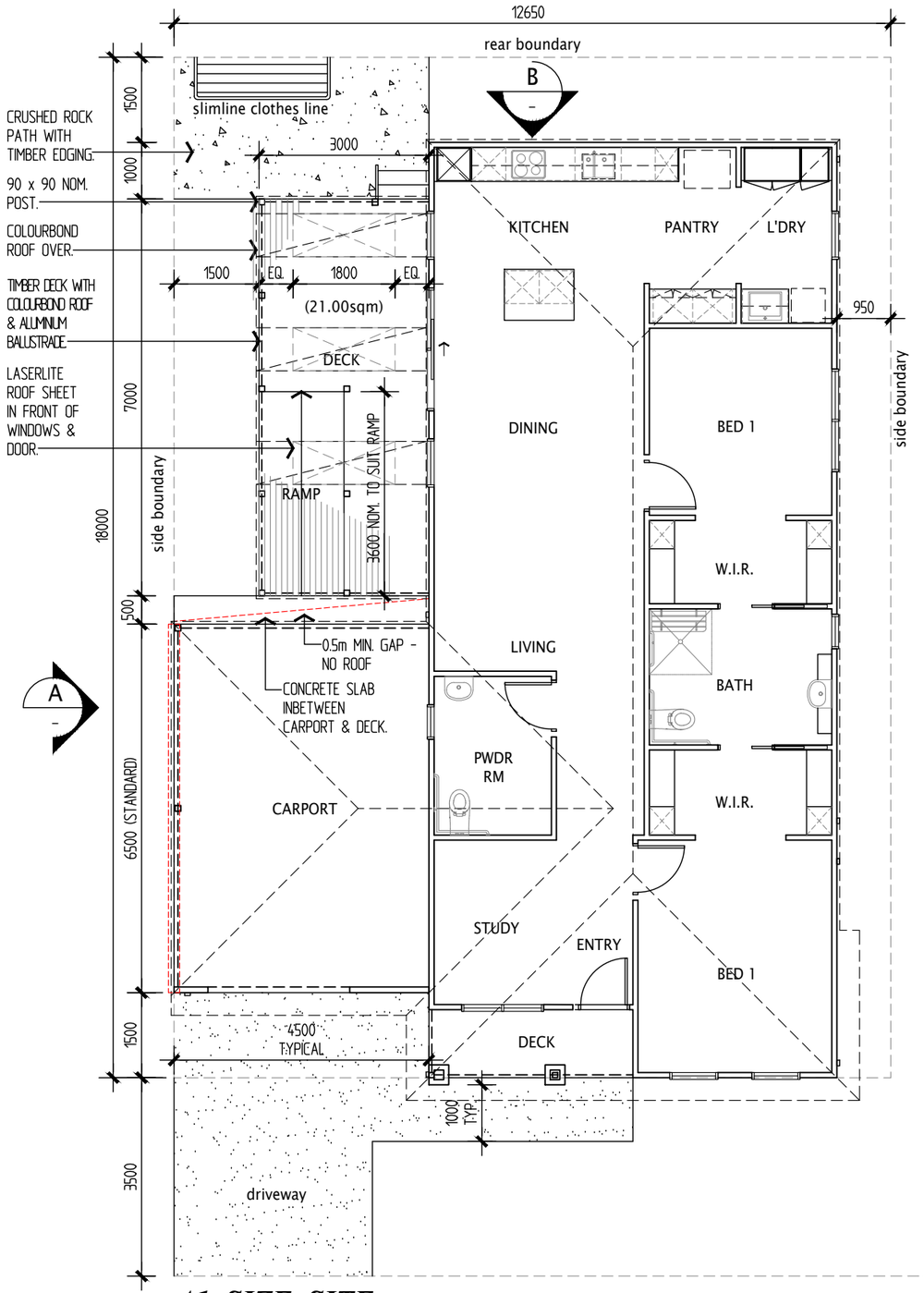
DATE: 19.05.20 | SCALE: 1:100 @ A3 | DRAWN: KB | CHECKED:

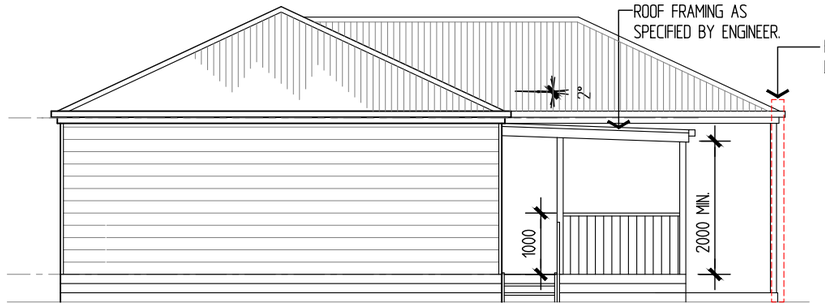
DRAWING No: LCO-S3 1 OF 62



A1 SIZE SITE

FLOOR PLAN - PROPOSED SIDE DECK W/ RAMP

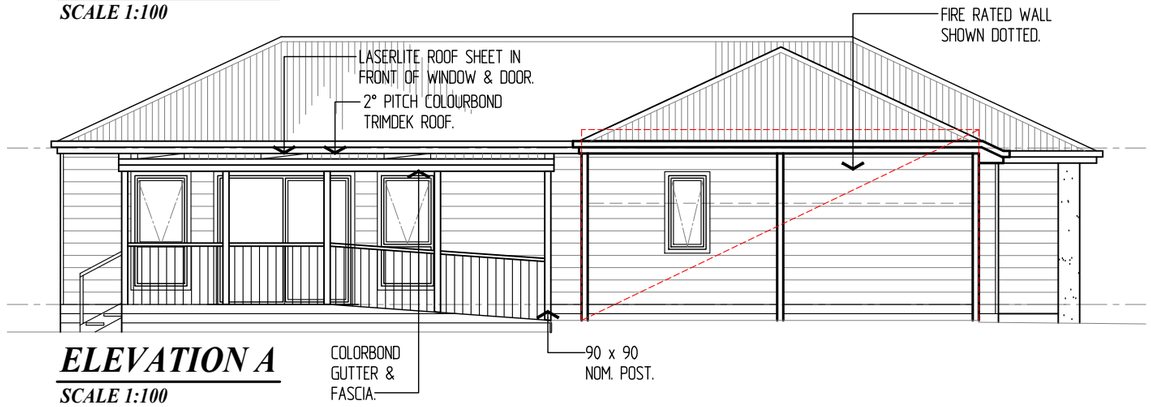
SCALE 1:100



ELEVATION B

SCALE 1:100

NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.



ELEVATION A

SCALE 1:100

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

THESE DRAWINGS TO BE READ IN-CONJUNCTION WITH RELEVANT STRUCTURAL ENGINEERS DRAWINGS.

FRAMING SUPPLY & INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS & RELEVANT AUSTRALIAN STANDARDS.

ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

INFORMATION ONLY

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ALEXIS
PROPOSED SIDE DECK
WITH RAMP

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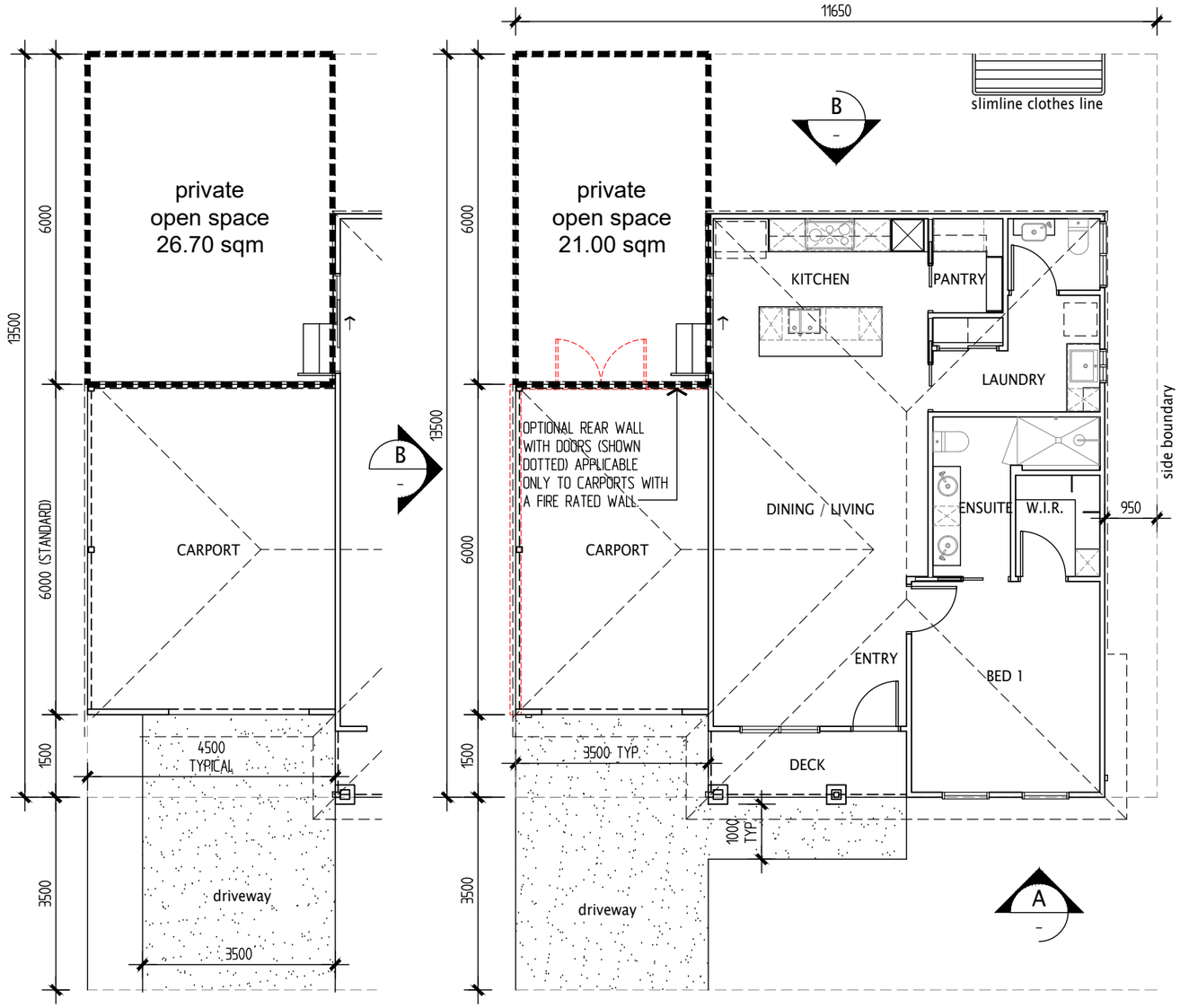
DRAWING No: LCO-S3 2 OF 62

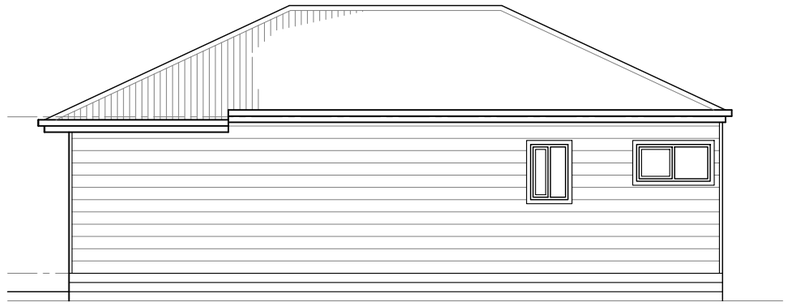


A1 SIZE SITE

A SIZE SITE

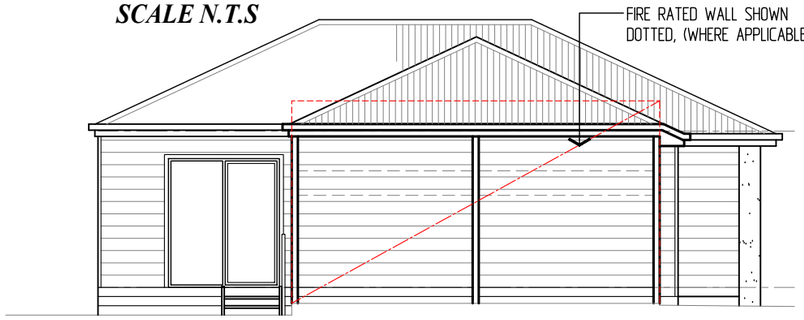
FLOOR PLAN - NO CARPORT EXTENSION & VERANDAH AVAILABLE

SCALE N.T.S.



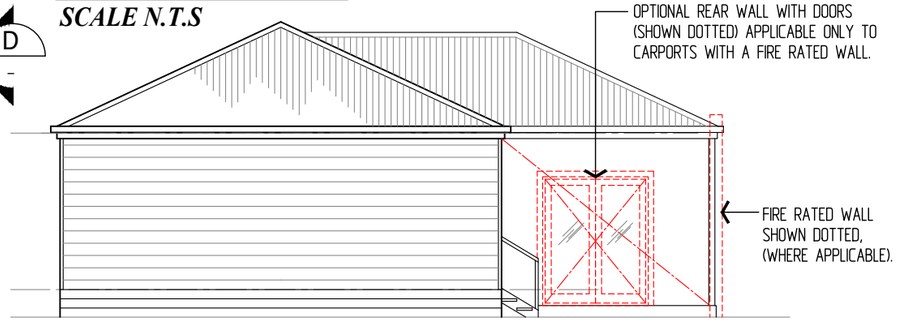
ELEVATION D

SCALE N.T.S



ELEVATION C

SCALE N.T.S



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE N.T.S

INFORMATION ONLY

SITE PERMEABILITY 'B' SIZE SITE	MET SQ.
TOTAL SITE AREA	157.30
TOTAL BUILDING AREA	97.30
CONCRETE DRIVEWAY & PATH	21.55
TOTAL BUILDING & CONCRETE AREAS	118.85
IMPERMEABLE SURFACES - MAX. 80%	76%

SITE COVERAGE 'B' SIZE SITE	MET SQ.
TOTAL SITE AREA	157.30
TOTAL BUILDING AREA	97.30
SITE COVERAGE - MAX 60%	62%

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ALLYN

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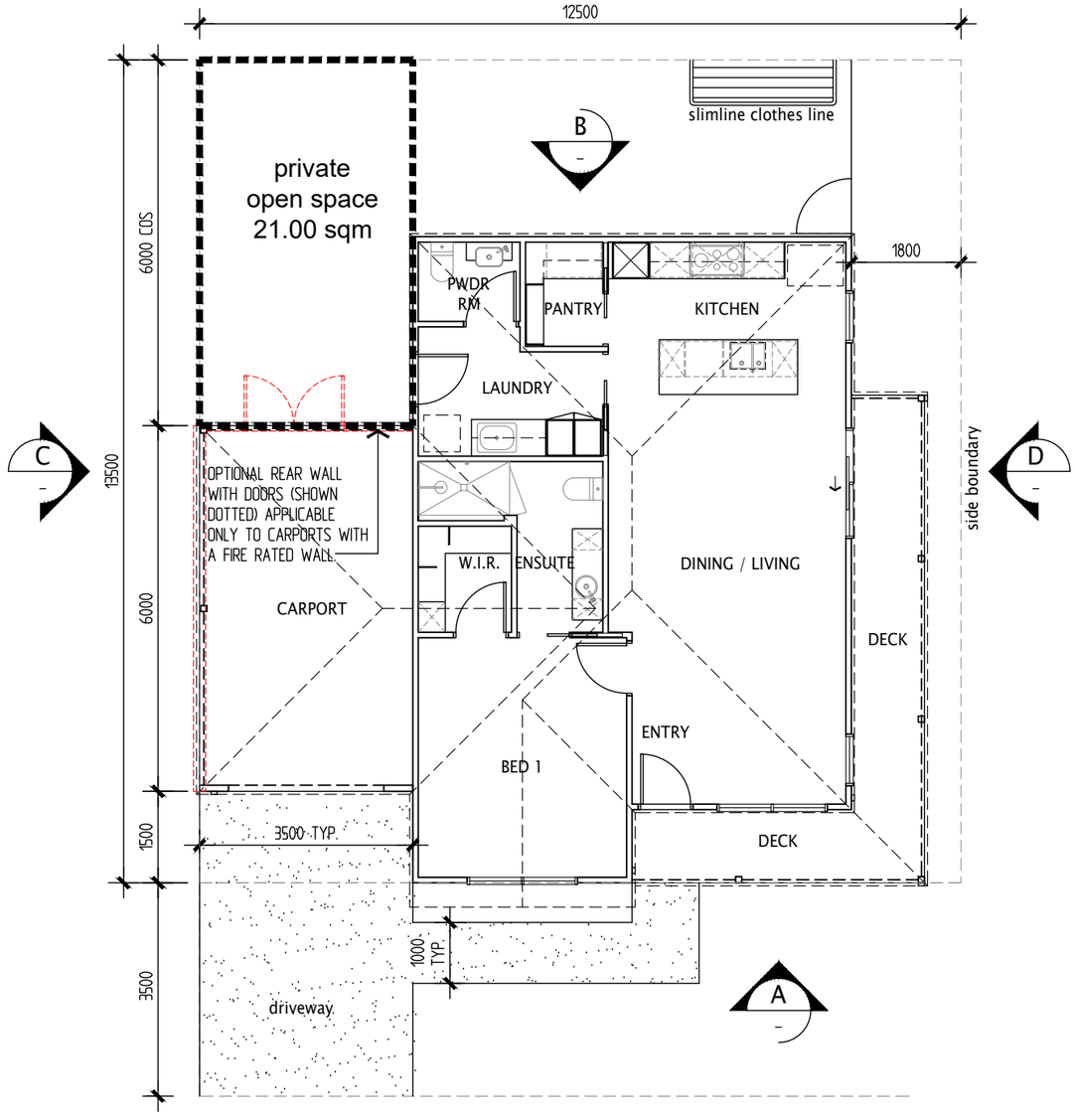
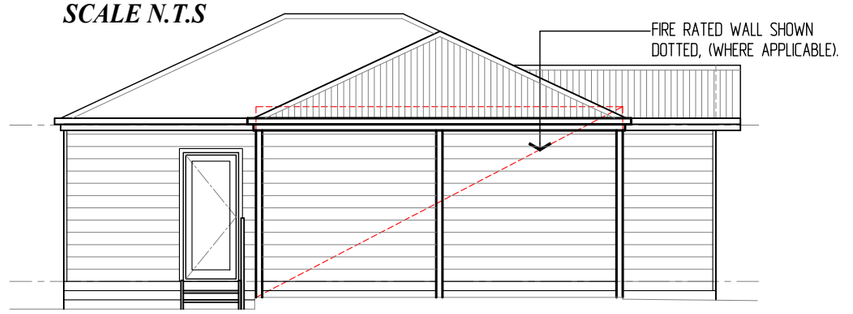


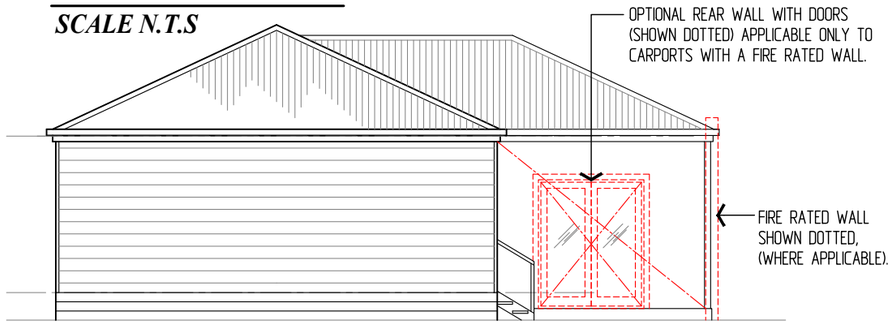
A SIZE SITE
FLOOR PLAN - NO CARPORT EXTENSION & VERANDAH AVAILABLE



ELEVATION D
SCALE N.T.S



ELEVATION C
SCALE N.T.S



ELEVATION B
SCALE 1:100



ELEVATION A
SCALE N.T.S

INFORMATION ONLY

SITE PERMEABILITY 'B' SIZE SITE	MET SQ.
TOTAL SITE AREA	168.75
TOTAL BUILDING AREA	106.90
CONCRETE DRIVEWAY & PATH	22.90
TOTAL BUILDING & CONCRETE AREAS	129.80
IMPERMEABLE SURFACES - MAX. 80%	77%

SITE COVERAGE 'B' SIZE SITE	MET SQ.
TOTAL SITE AREA	168.75
TOTAL BUILDING AREA	106.90
SITE COVERAGE - MAX 60%	63%

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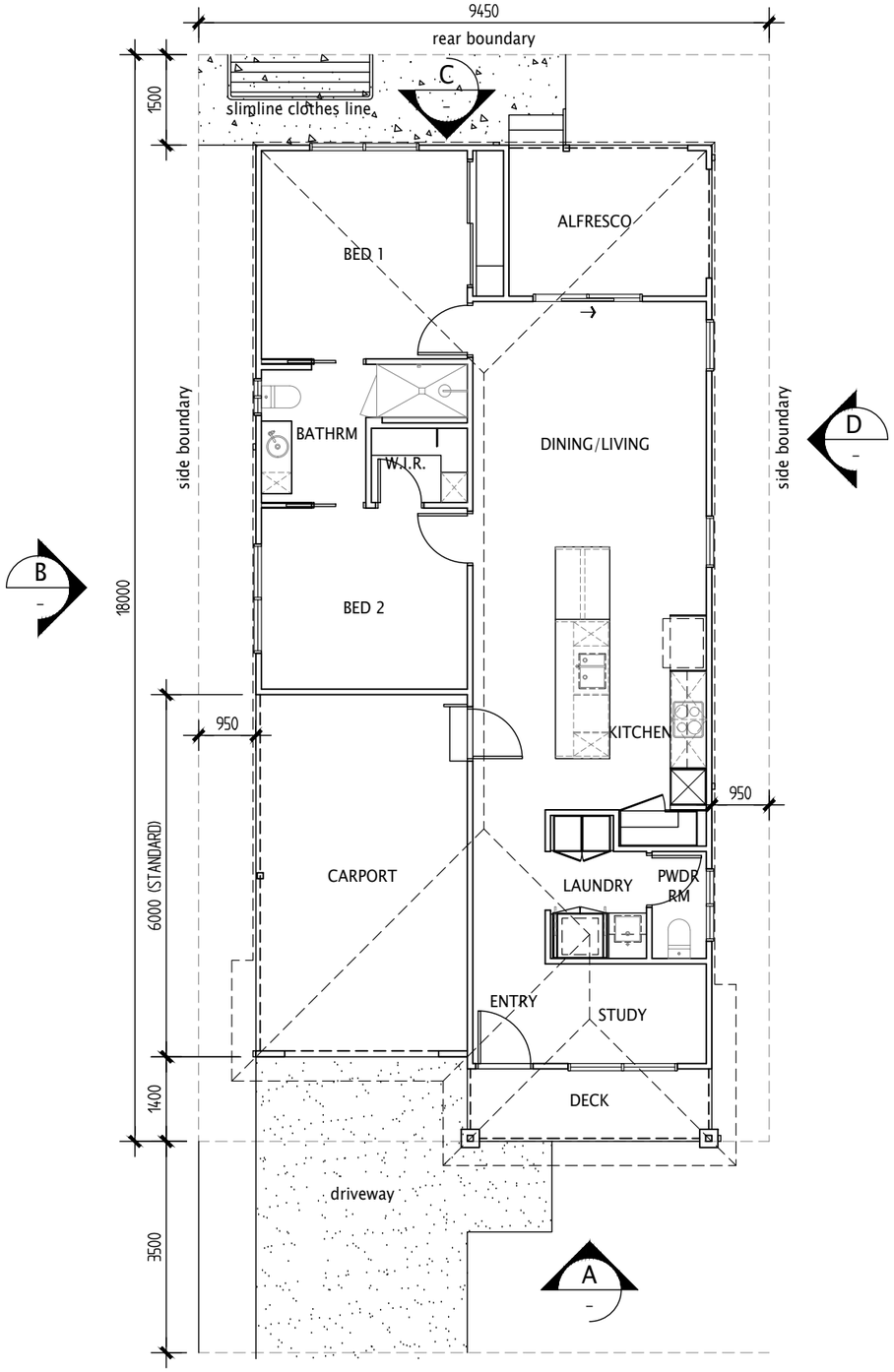
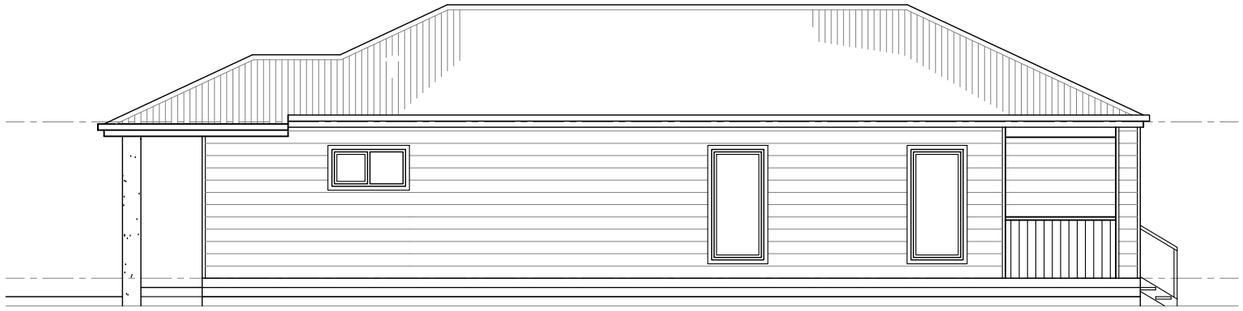
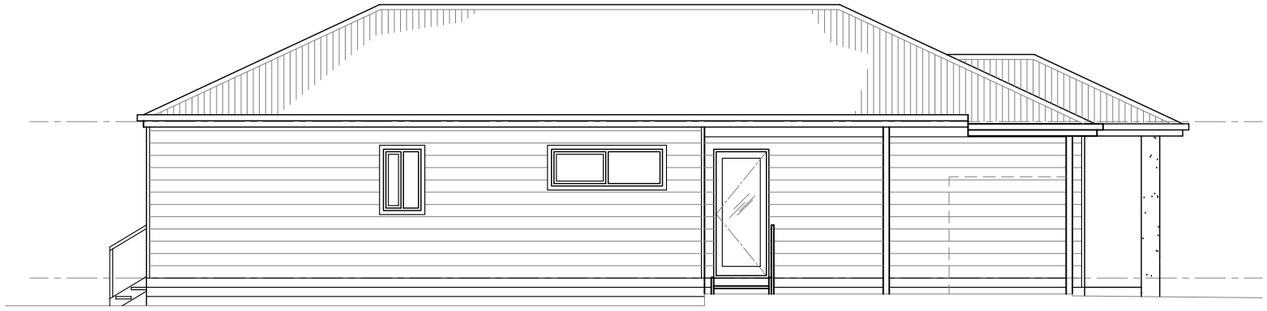




ELEVATION D
SCALE 1:100



ELEVATION C
SCALE 1:100



ELEVATION B
SCALE 1:100



ELEVATION A
SCALE 1:100

FLOOR PLAN - NO FIRE RATED WALL, CARPORT EXTENSION & VERANDAH AVAILABLE
SCALE 1:100

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Web: www.lifestylecommunities.com.au

SITE PERMEABILITY 'C' SIZE SITE	MET SQ.
TOTAL SITE AREA	170.10
TOTAL BUILDING AREA	119.65
CONCRETE DRIVEWAY & PATH	19.25
TOTAL BUILDING & CONCRETE AREAS	138.90
IMPERMEABLE SURFACES - MAX. 80%	82%

SITE COVERAGE 'C' SIZE SITE	MET SQ.
TOTAL SITE AREA	170.10
TOTAL BUILDING AREA	119.65
SITE COVERAGE - MAX 60%	70%

ARCHER

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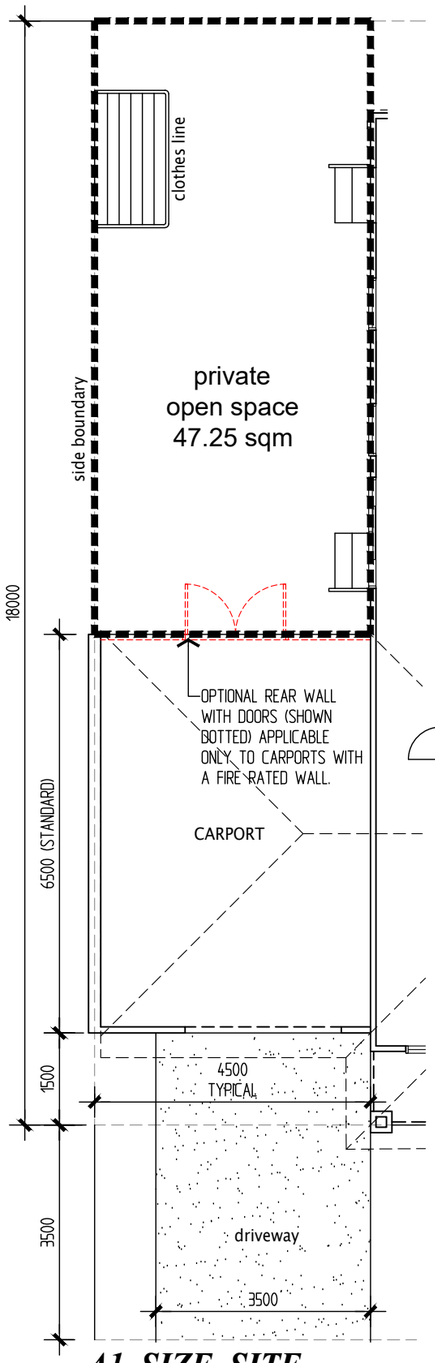
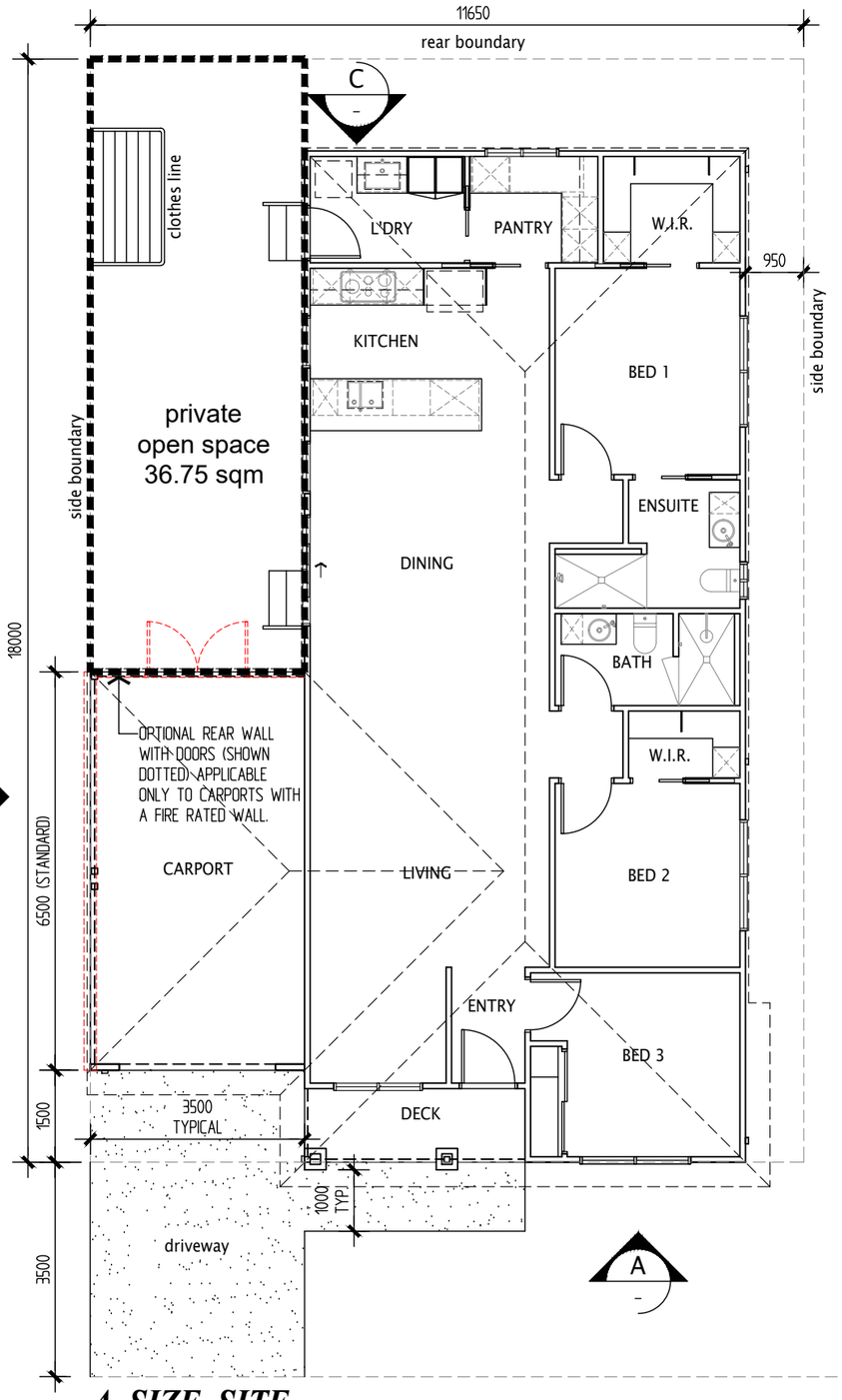


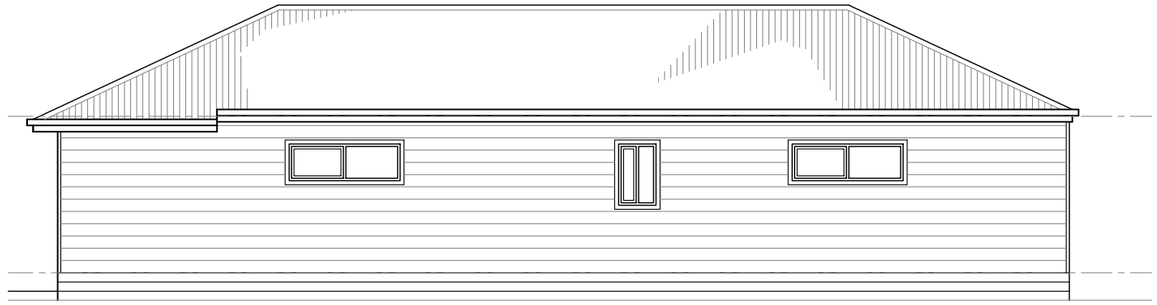


A1 SIZE SITE

A SIZE SITE

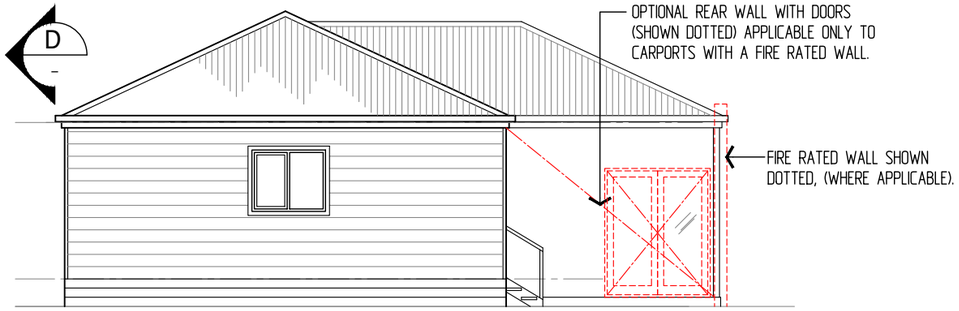
FLOOR PLAN

SCALE 1:100



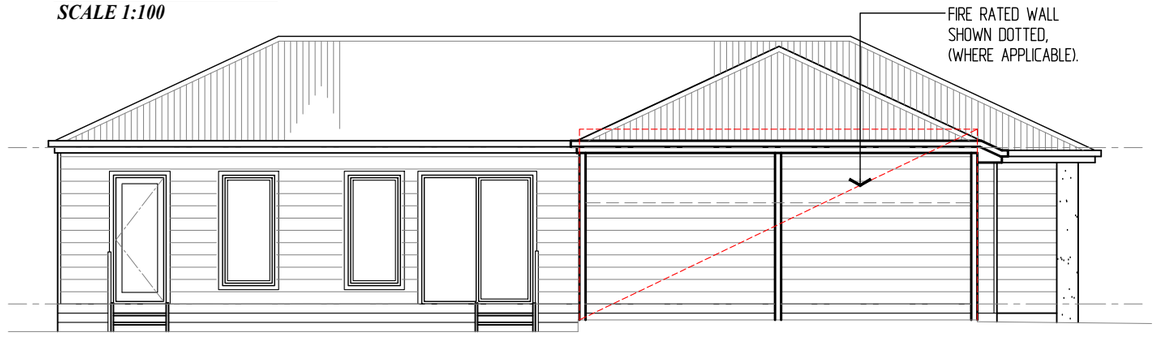
ELEVATION D

SCALE 1:100



ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

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Web: www.lifestylecommunities.com.au

SITE PERMEABILITY 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	141.60
CONCRETE DRIVEWAY & PATH	21.55
TOTAL BUILDING & CONCRETE AREAS	163.15
IMPERMEABLE SURFACES - MAX. 80%	78%

SITE COVERAGE 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	141.60
SITE COVERAGE - MAX 60%	67%

BARKER

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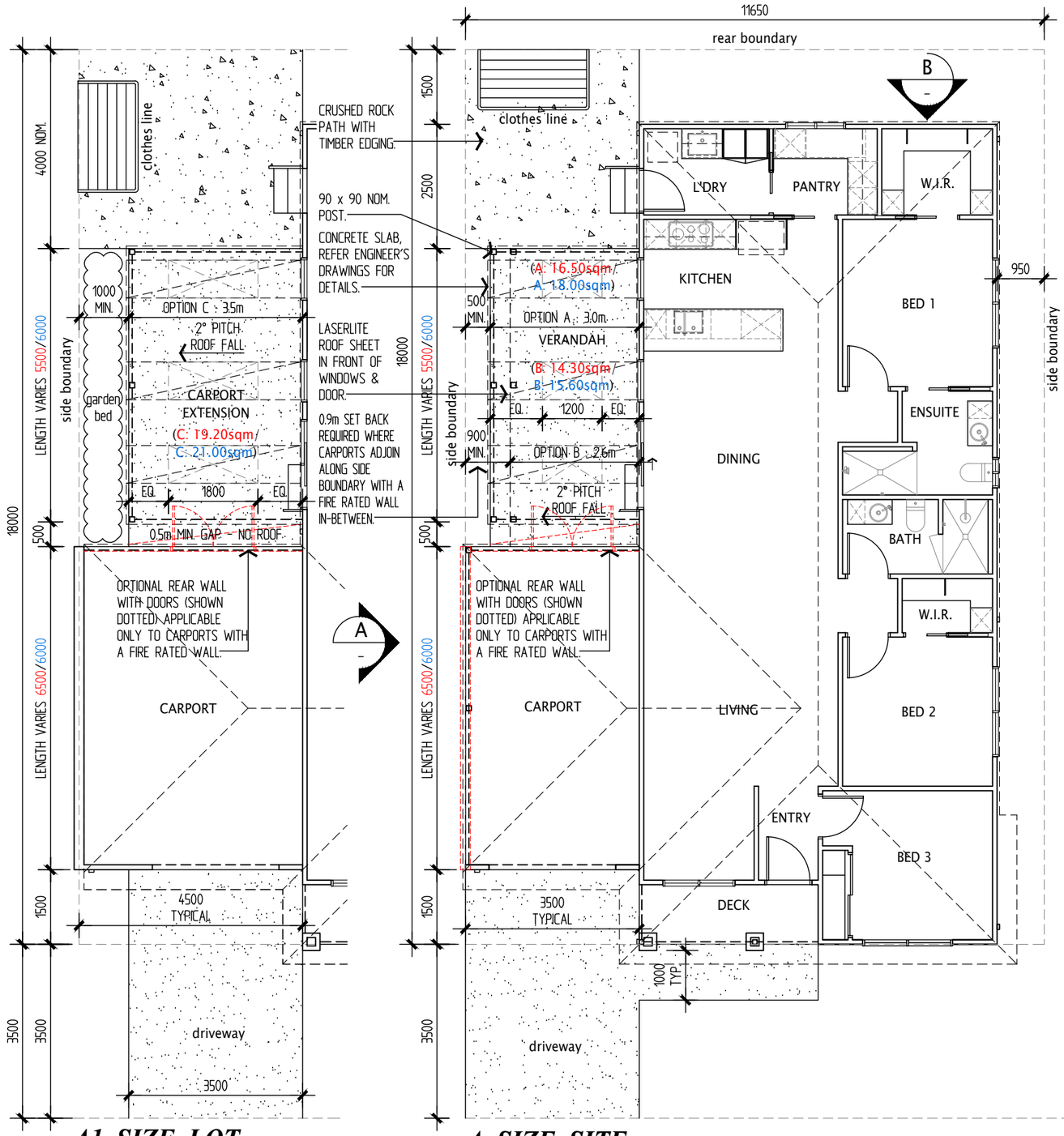
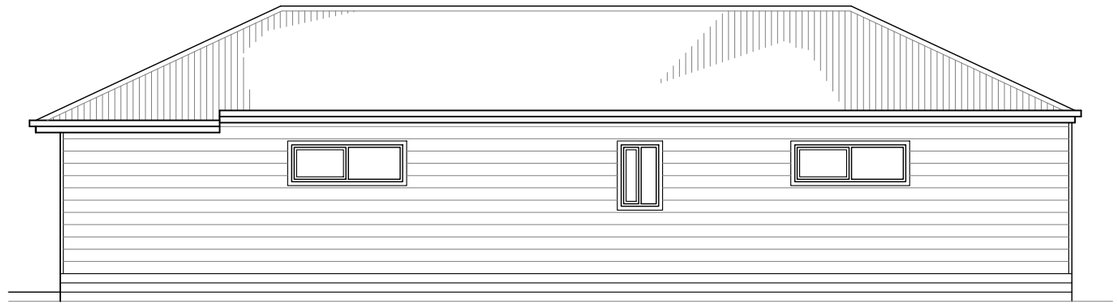


A1 SIZE LOT — **A SIZE SITE**

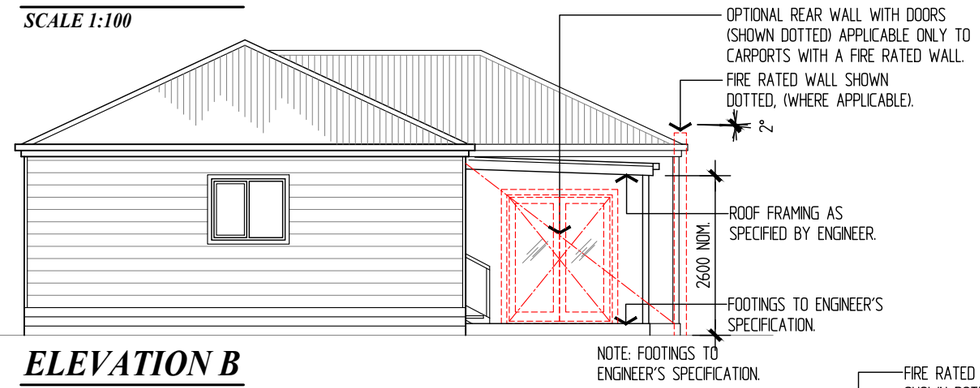
FLOOR PLAN - PROPOSED CARPORT EXTENSION & VERANDAH

SCALE 1:100



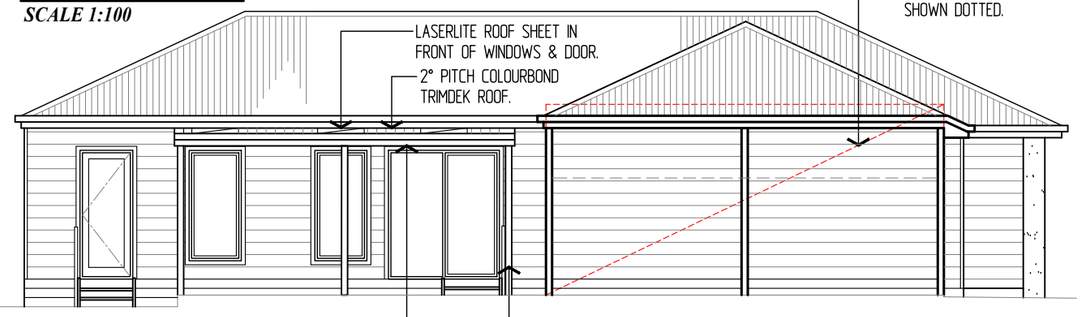
ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES

ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

THESE DRAWINGS TO BE READ IN-CONJUNCTION WITH RELEVANT STRUCTURAL ENGINEERS DRAWINGS.

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ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

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PROPOSED CARPORT EXT. & VERANDAH

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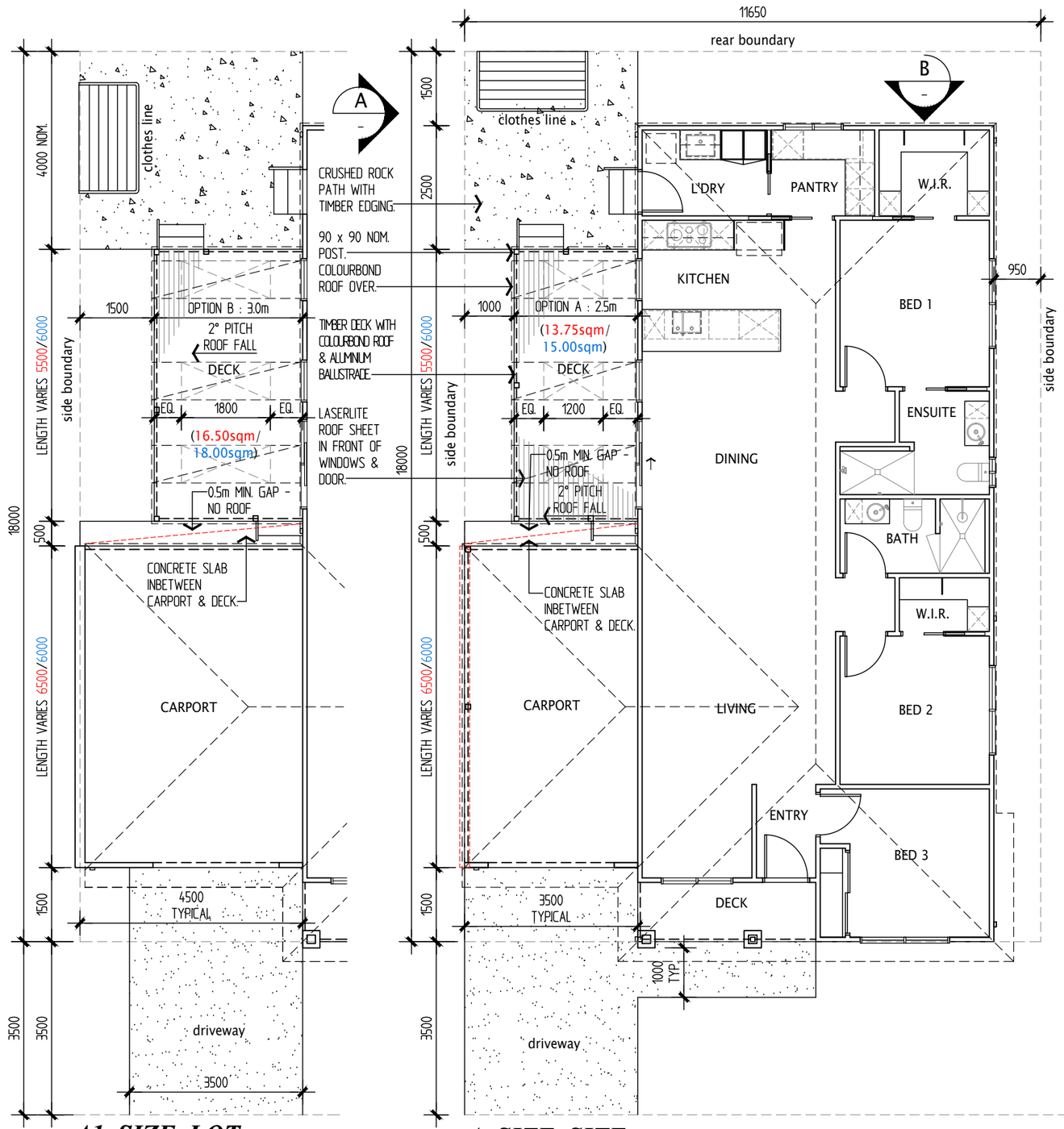


A1 SIZE LOT

A SIZE SITE

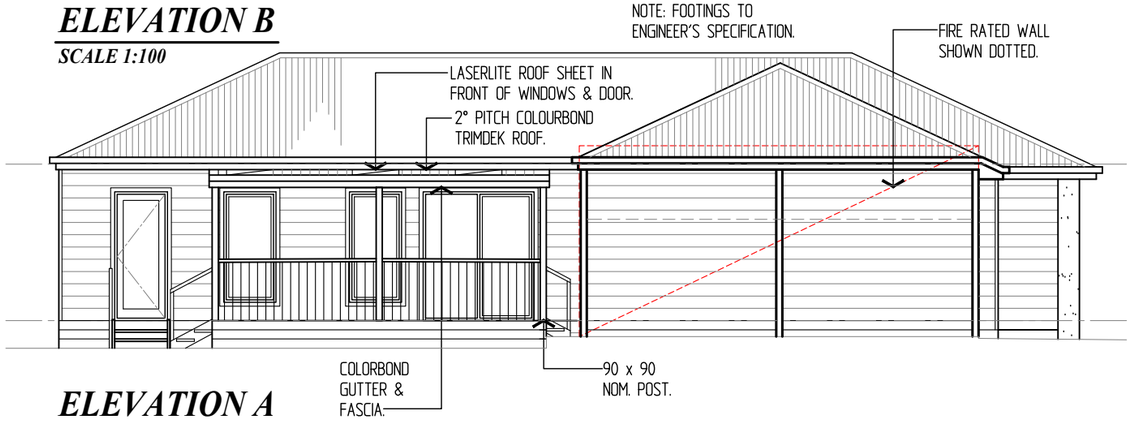
FLOOR PLAN - PROPOSED SIDE DECKS

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

THESE DRAWINGS TO BE READ IN-CONJUNCTION WITH RELEVANT STRUCTURAL ENGINEERS DRAWINGS.

FRAMING SUPPLY & INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS & RELEVANT AUSTRALIAN STANDARDS.

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email: info@lifestylecommunities.com.au
Web: www.lifestylecommunities.com.au

BARKER
PROPOSED SIDE DECKS

LIFESTYLE COMMUNITIES
COWES

NORTH:

AMENDMENTS:
REVISION - 30.09.21

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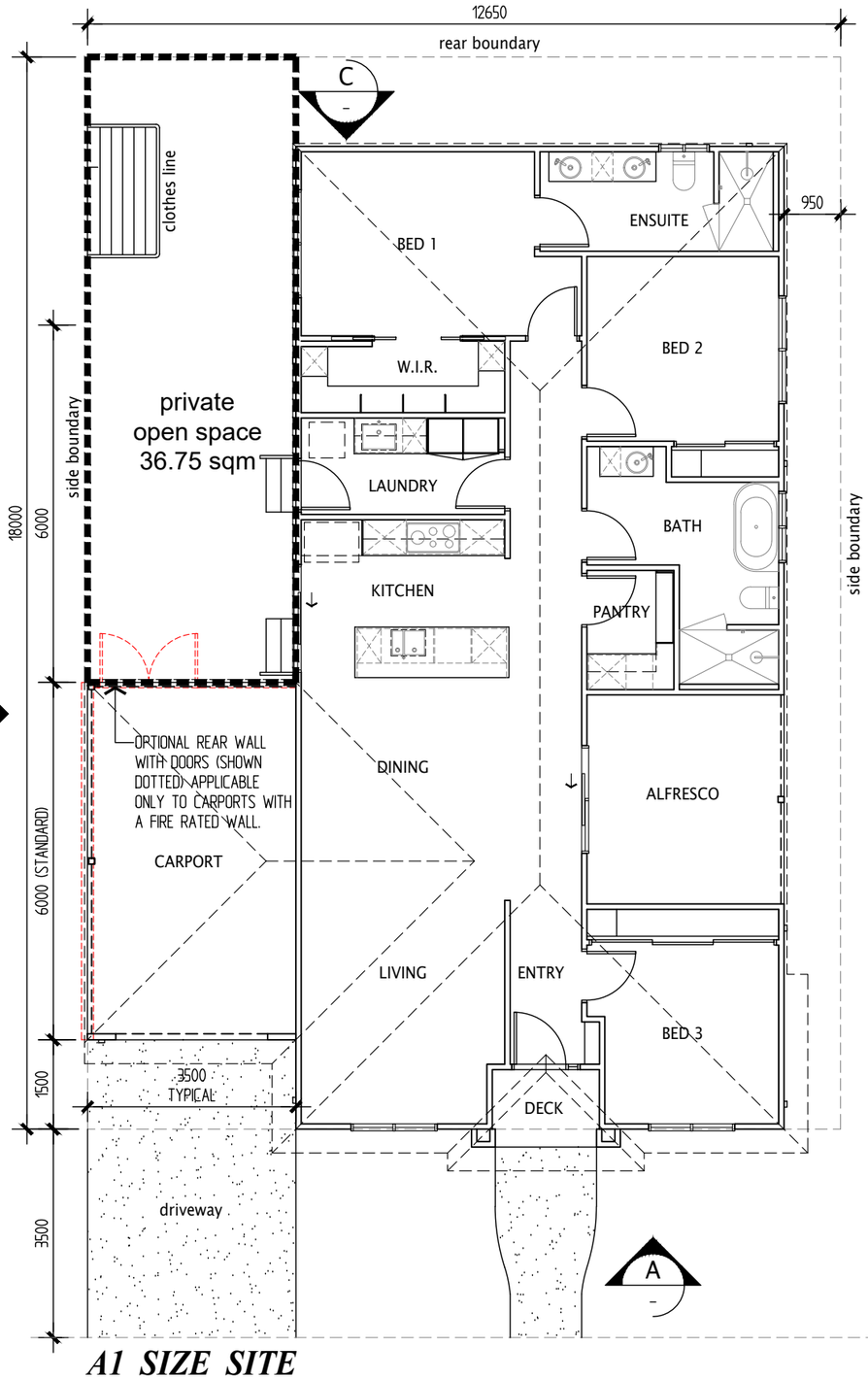
DATE: 19.05.20 | SCALE: 1:100 @ A3 | DRAWN: KB | CHECKED:

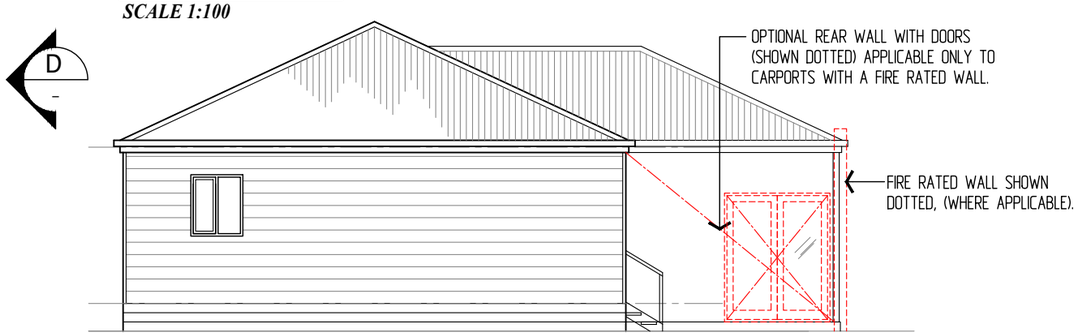
DRAWING No: LCO-S3 8 OF 62



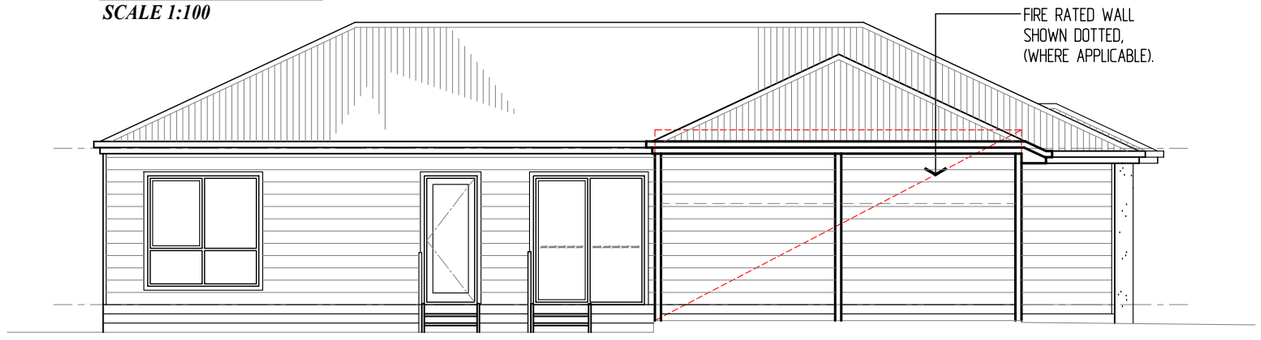
A1 SIZE SITE
FLOOR PLAN
SCALE 1:100



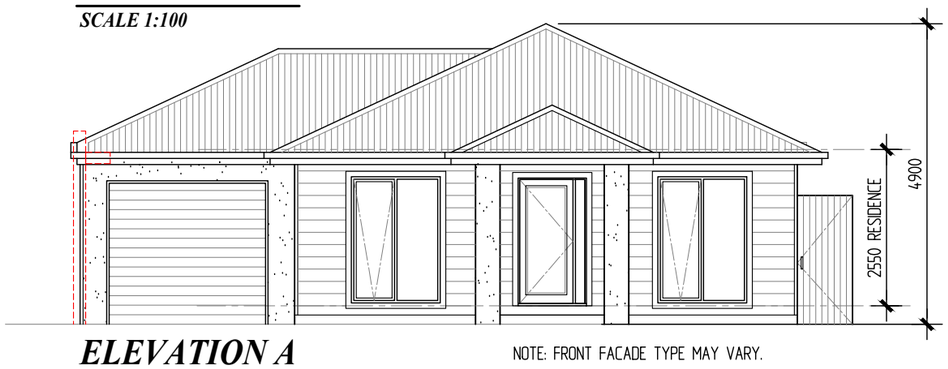
ELEVATION D
SCALE 1:100



ELEVATION C
SCALE 1:100



ELEVATION B
SCALE 1:100



ELEVATION A
SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

Lifestyle COMMUNITIES
Tel: (03) 9682 2249 Fax: (03) 9682 1236
email: info@lifestylecommunities.com.au
Web: www.lifestylecommunities.com.au

SITE PERMEABILITY 'A1' SIZE SITE	MET SQ.
TOTAL SITE AREA	227.70
TOTAL BUILDING AREA	156.30
CONCRETE DRIVEWAY & PATH	22.30
TOTAL BUILDING & CONCRETE AREAS	178.60
IMPERMEABLE SURFACES - MAX. 80%	78%

SITE COVERAGE 'A1' SIZE SITE	MET SQ.
TOTAL SITE AREA	227.70
TOTAL BUILDING AREA	156.30
SITE COVERAGE - MAX 60%	69%

BARRINGTON

LIFESTYLE COMMUNITIES
COWES

NORTH:

AMENDMENTS:
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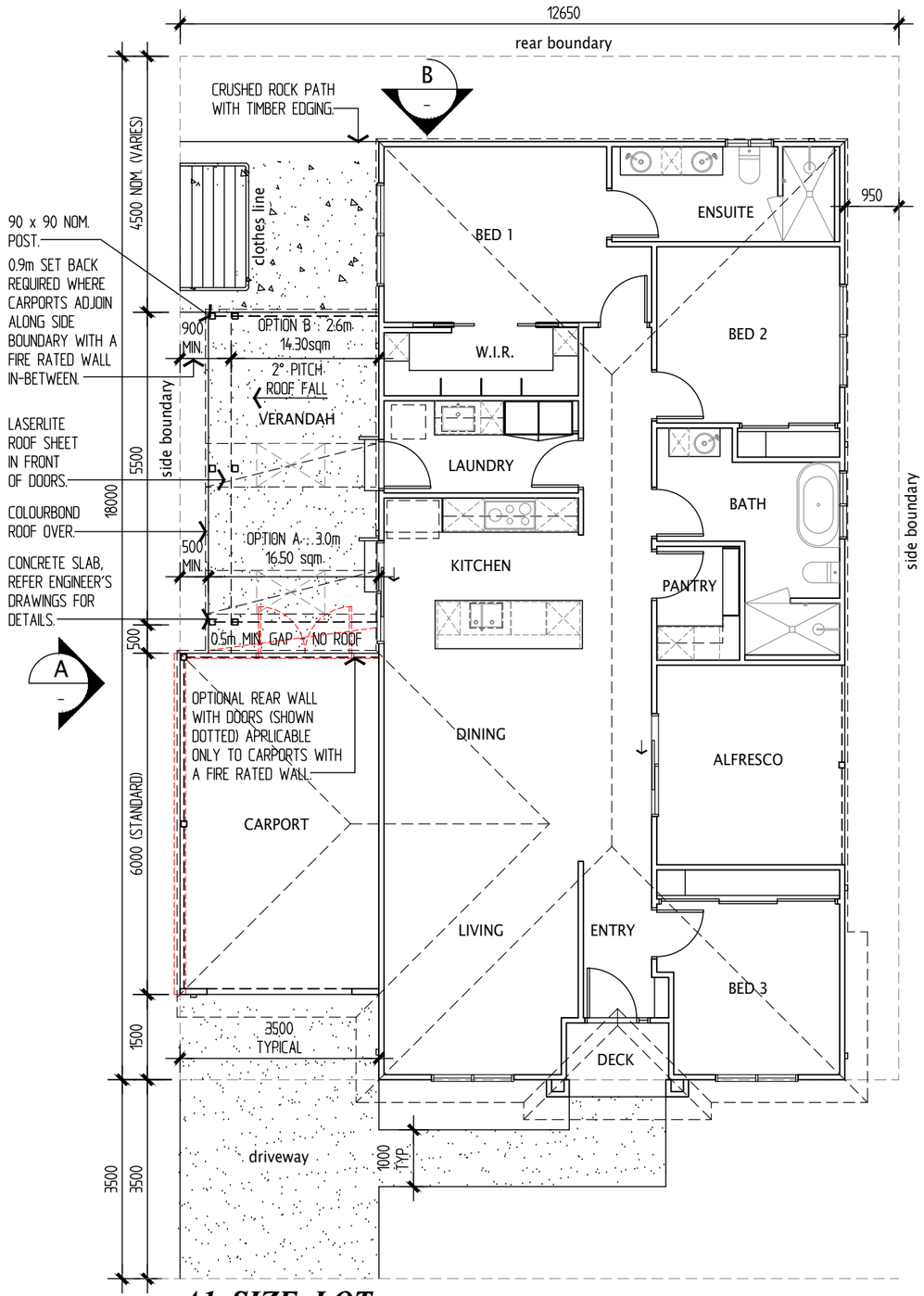
DRAWING No: LCO-S3 9 OF 62



A1 SIZE LOT

FLOOR PLAN - PROPOSED VERANDAH

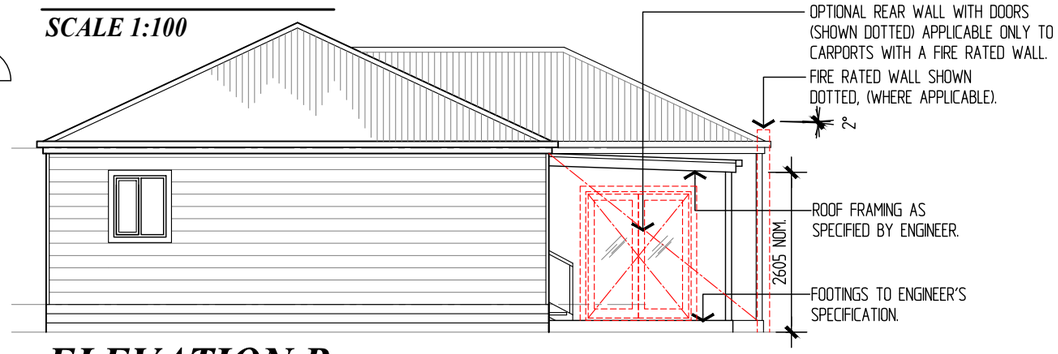
SCALE 1:100



ELEVATION C

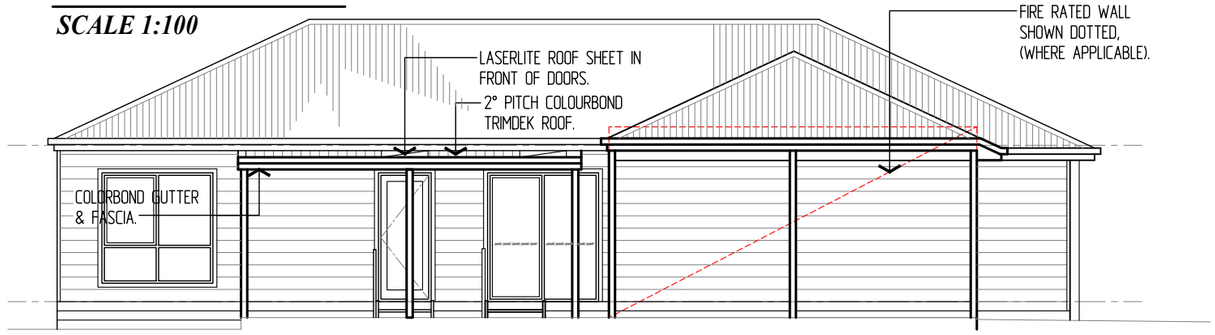
SCALE 1:100

C



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S

- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION

REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES

ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

THESE DRAWINGS TO BE READ IN-CONJUNCTION WITH RELEVANT STRUCTURAL ENGINEERS DRAWINGS.

FRAMING SUPPLY & INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS & RELEVANT AUSTRALIAN STANDARDS.

ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

INFORMATION ONLY

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BARRINGTON
PROPOSED VERANDAH

LIFESTYLE COMMUNITIES
COWES

NORTH:

AMENDMENTS:
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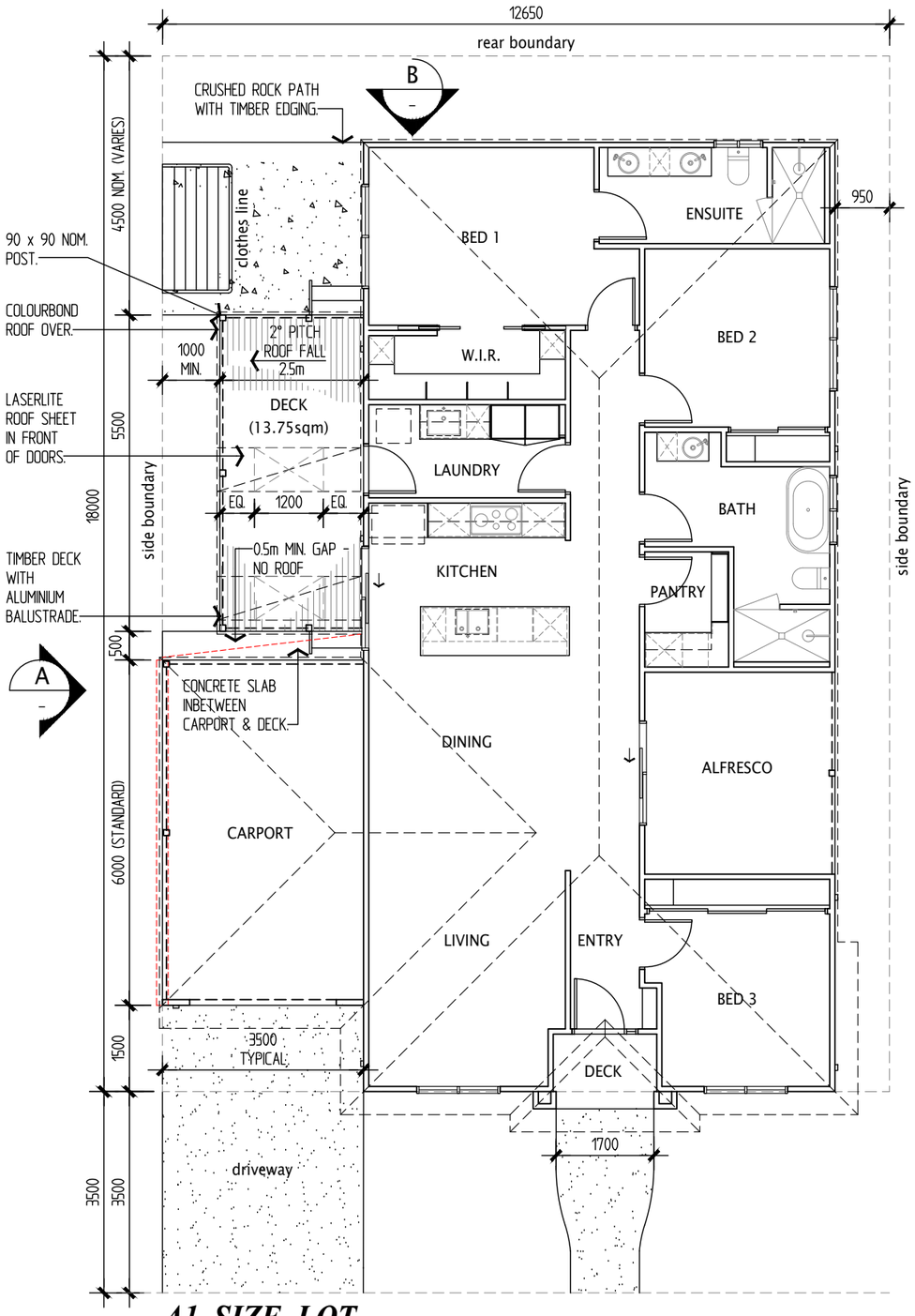
DATE: 19.05.20 | SCALE: 1:100 @ A3 | DRAWN: KB | CHECKED:

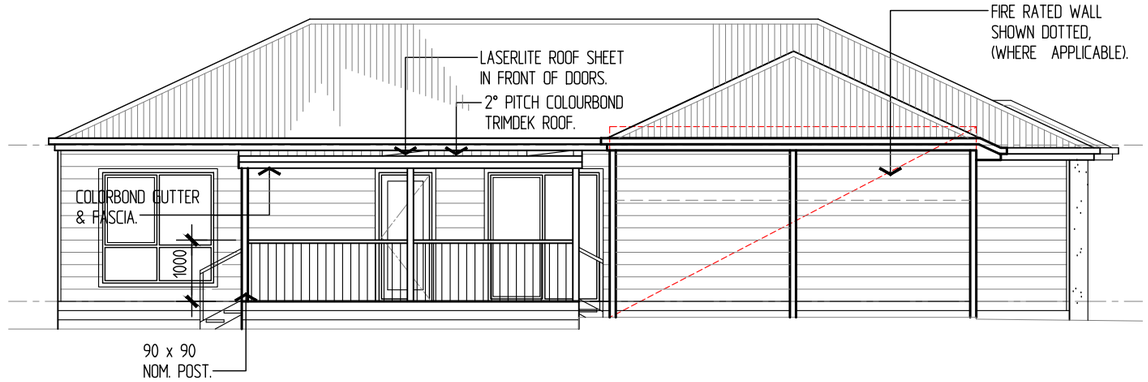
DRAWING No: LCO-S3 10 OF 62



A1 SIZE LOT

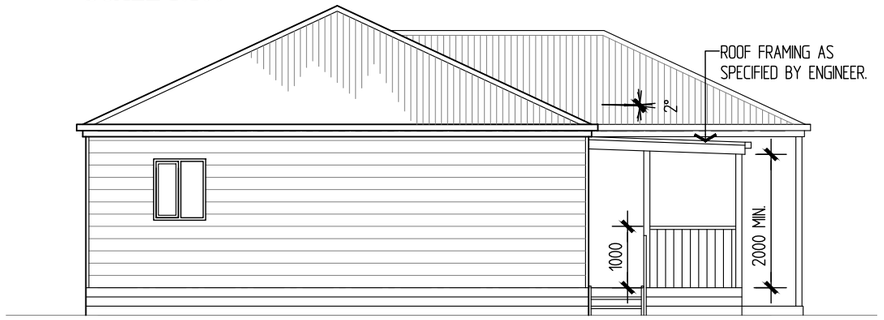
FLOOR PLAN - PROPOSED SIDE DECK

SCALE 1:100



ELEVATION A

SCALE 1:100



NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.

ELEVATION B

SCALE 1:100

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

THESE DRAWINGS TO BE READ IN-CONJUNCTION WITH RELEVANT STRUCTURAL ENGINEERS DRAWINGS.

FRAMING SUPPLY & INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS & RELEVANT AUSTRALIAN STANDARDS.

ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

INFORMATION ONLY

Lifestyle COMMUNITIES
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email: info@lifestylecommunities.com.au
Web: www.lifestylecommunities.com.au

BARRINGTON
PROPOSED SIDE DECK

LIFESTYLE COMMUNITIES
COWES

NORTH:

AMENDMENTS:
REVISION - 30.09.21

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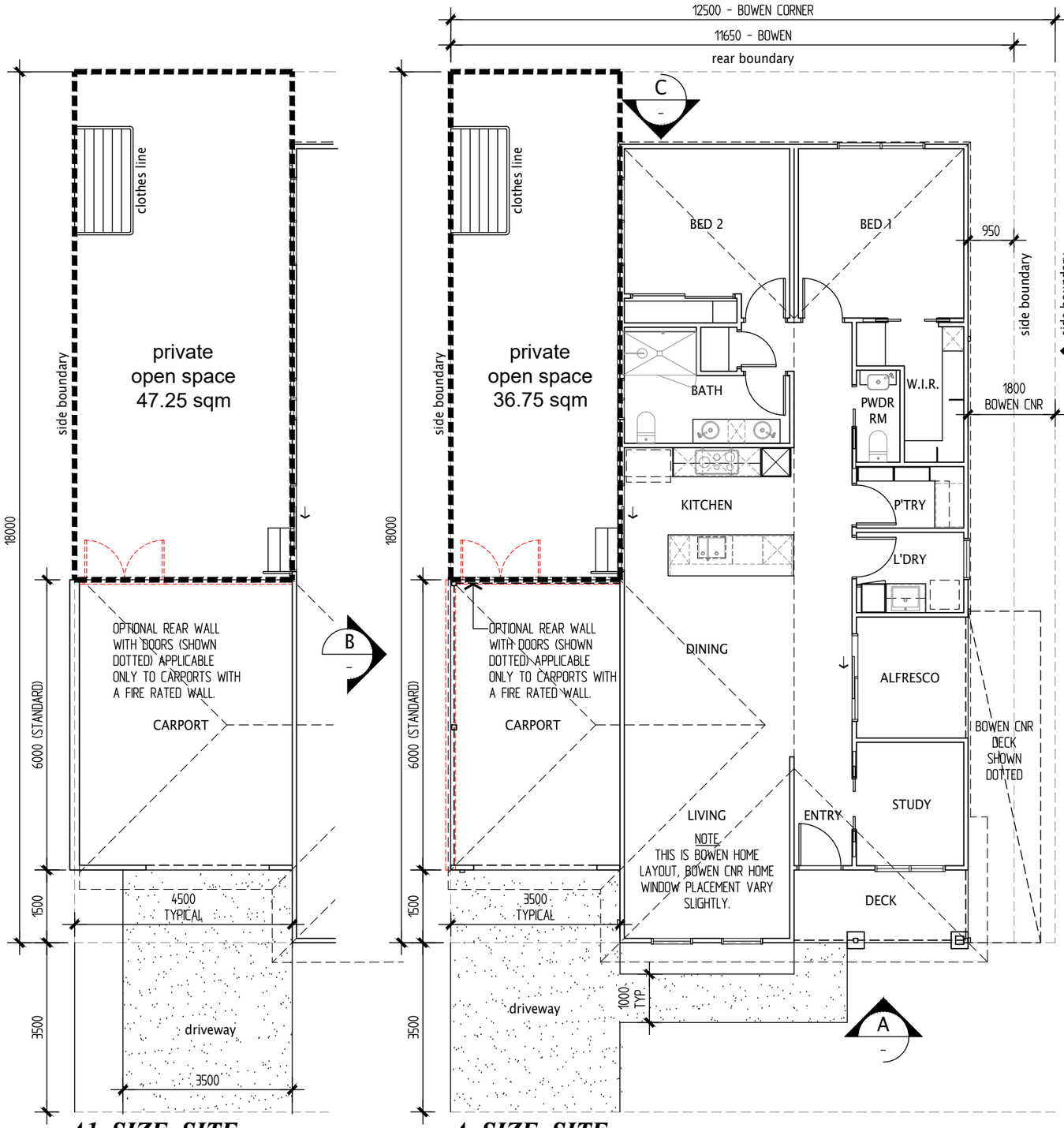
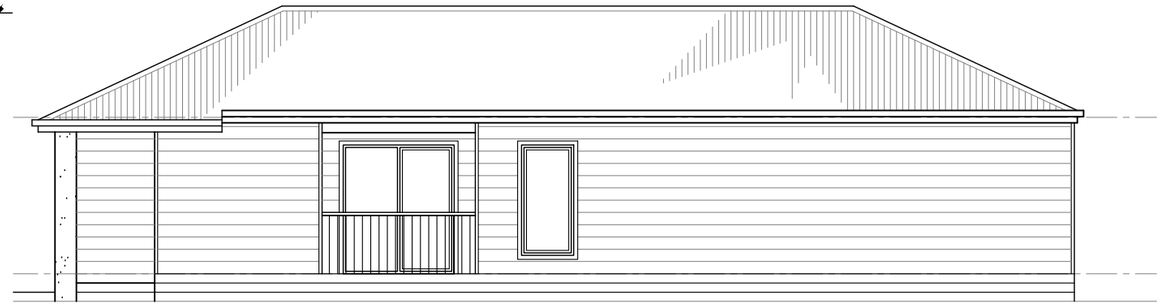
DRAWING No: LCO-S3 11 OF 62

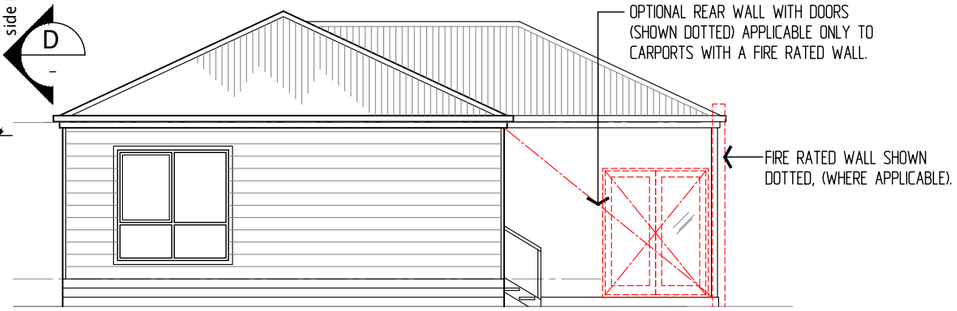


A1 SIZE SITE
FLOOR PLAN
SCALE 1:100

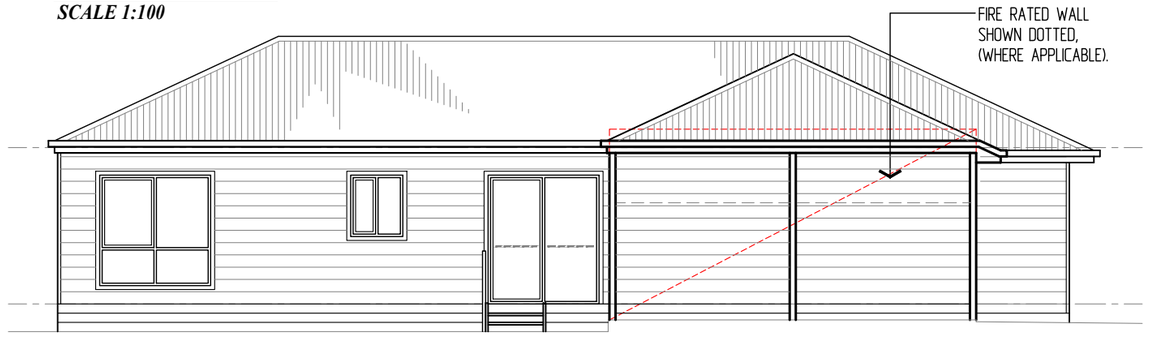
A SIZE SITE



ELEVATION D
SCALE 1:100



ELEVATION C
SCALE 1:100



ELEVATION B
SCALE 1:100



ELEVATION A
SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

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email: info@lifestylecommunities.com.au
Web: www.lifestylecommunities.com.au

SITE PERMEABILITY 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	139.85
CONCRETE DRIVEWAY & PATH	22.90
TOTAL BUILDING & CONCRETE AREAS	162.75
IMPERMEABLE SURFACES - MAX. 80%	78%

SITE COVERAGE 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	139.85
SITE COVERAGE - MAX 60%	67%

BOWEN/CNR

LIFESTYLE COMMUNITIES
COWES

NORTH:

AMENDMENTS:
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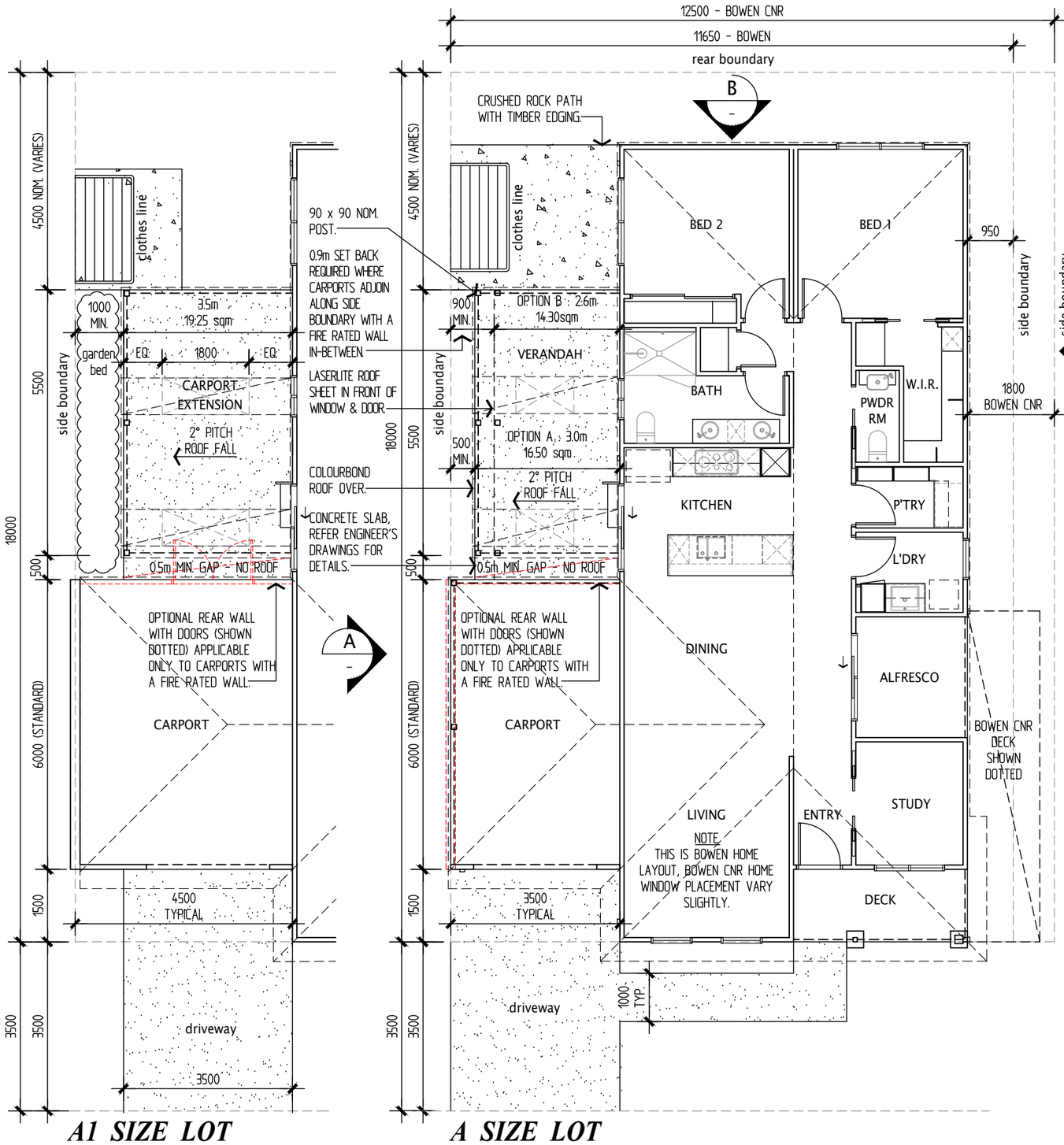
DRAWING No: LCO-S3 12 OF 62



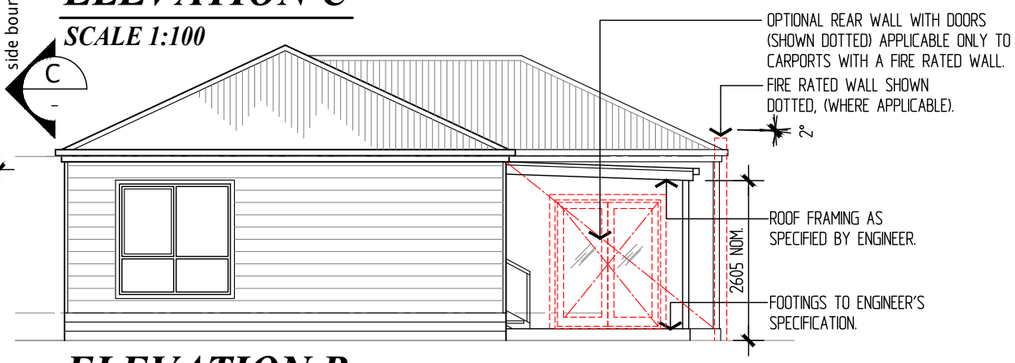
FLOOR PLAN - PROPOSED CARPORT EXTENSION & VERANDAH

SCALE 1:100



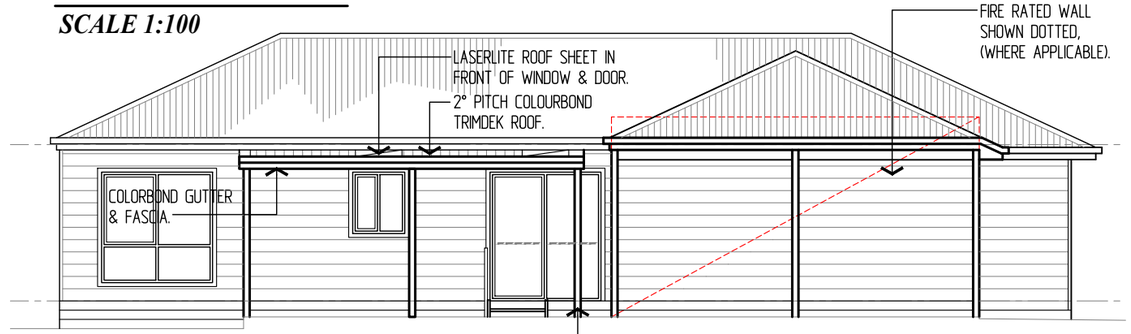
ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

THESE DRAWINGS TO BE READ IN-CONJUNCTION WITH RELEVANT STRUCTURAL ENGINEERS DRAWINGS.

FRAMING SUPPLY & INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS & RELEVANT AUSTRALIAN STANDARDS.

ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

INFORMATION ONLY

Lifestyle COMMUNITIES
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email: info@lifestylecommunities.com.au
Web: www.lifestylecommunities.com.au

BOWEN/CNR PROPOSED CARPORT EXT. & VERANDAH

LIFESTYLE COMMUNITIES
COWES

NORTH:

AMENDMENTS:
REVISION - 30.09.21

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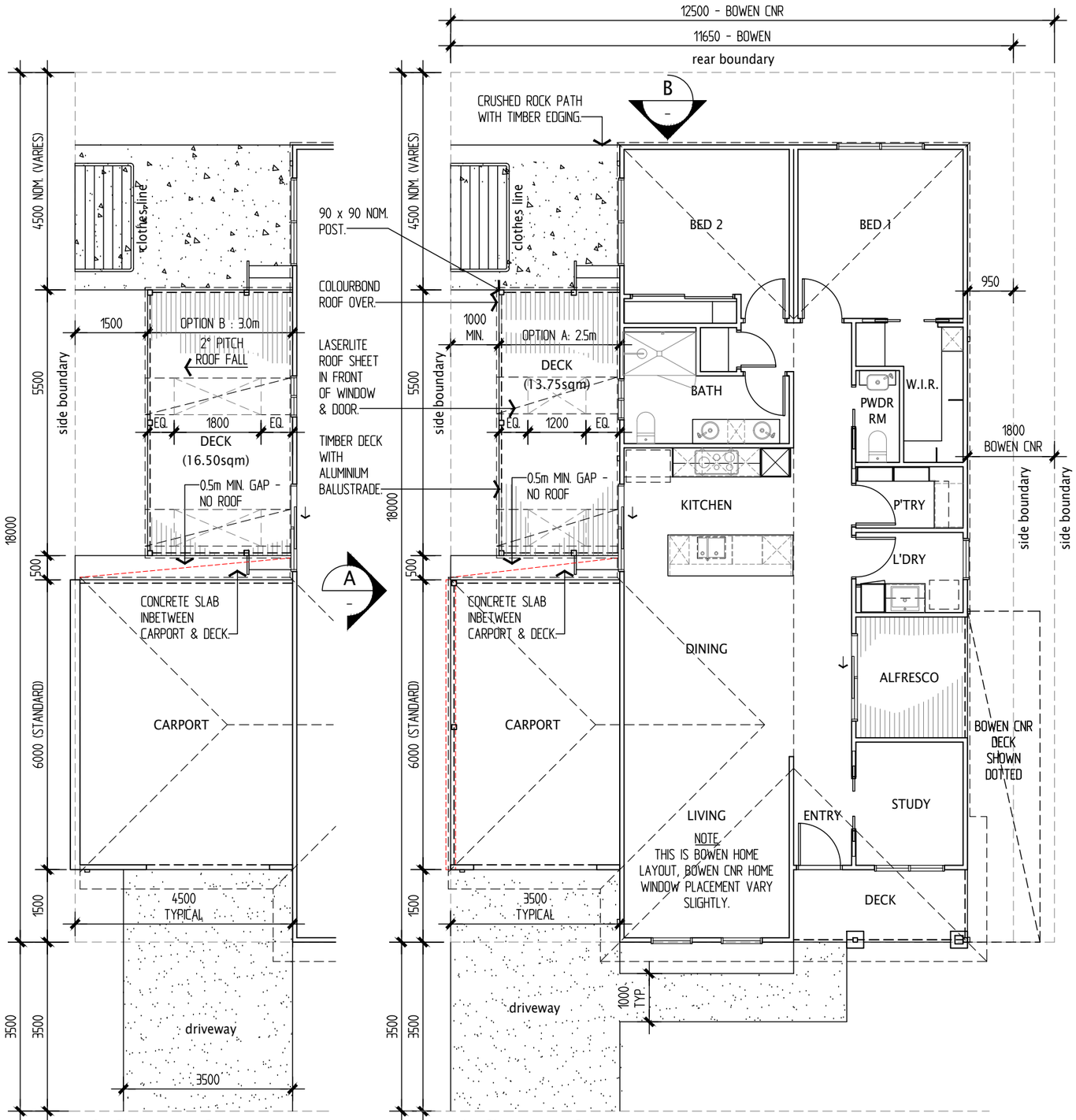
DATE: 19.05.20 | SCALE: 1:100 @ A3 | DRAWN: KB | CHECKED:

DRAWING No: LCO-S3 13 OF 62

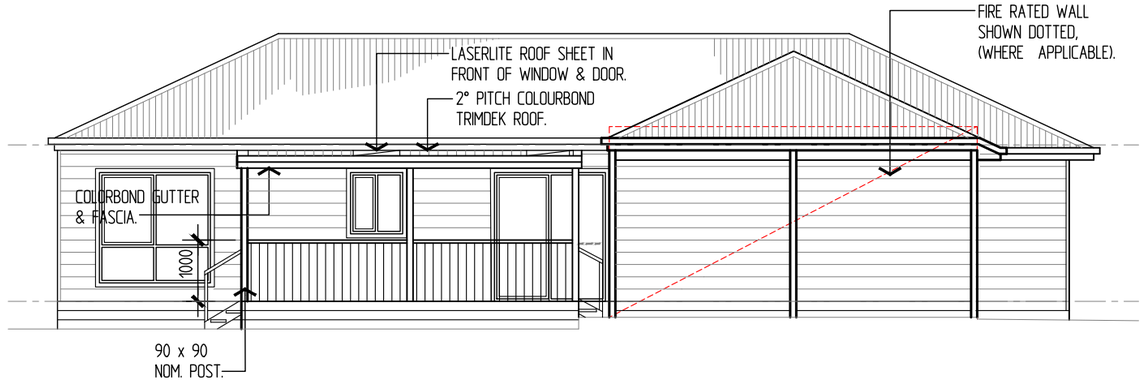


A1 SIZE LOT

A SIZE LOT

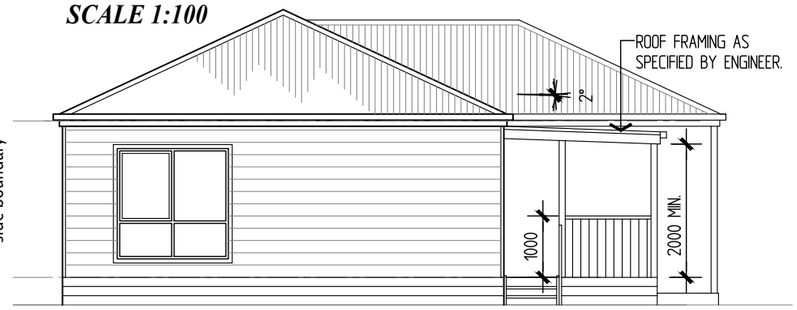
FLOOR PLAN - PROPOSED SIDE DECKS

SCALE 1:100



ELEVATION A

SCALE 1:100



NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.

ELEVATION B

SCALE 1:100

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

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ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

INFORMATION ONLY

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Web: www.lifestylecommunities.com.au

BOWEN/CNR
PROPOSED SIDE DECKS

LIFESTYLE COMMUNITIES
COWES

NORTH:

AMENDMENTS:
REVISION - 30.09.21

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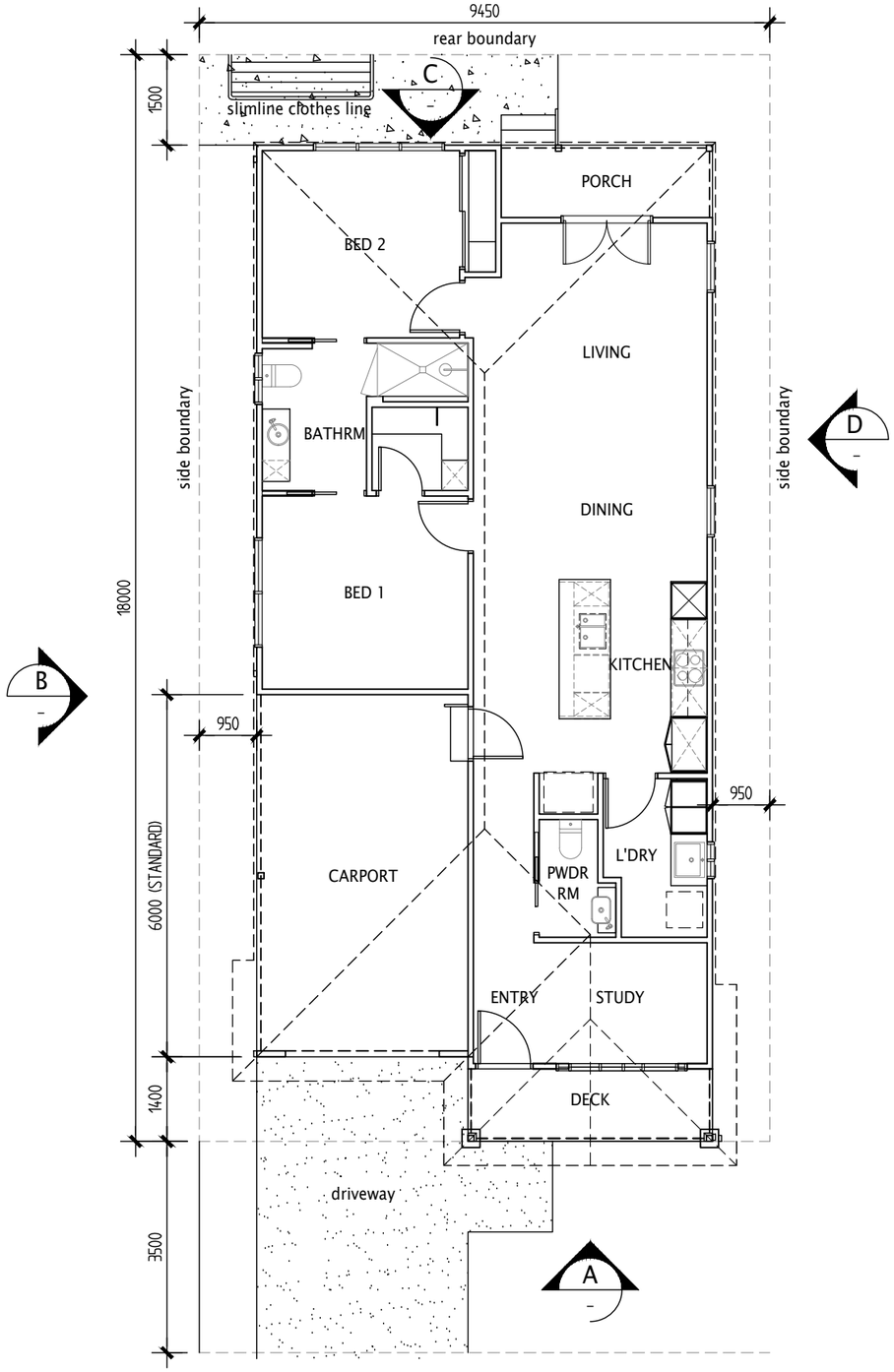
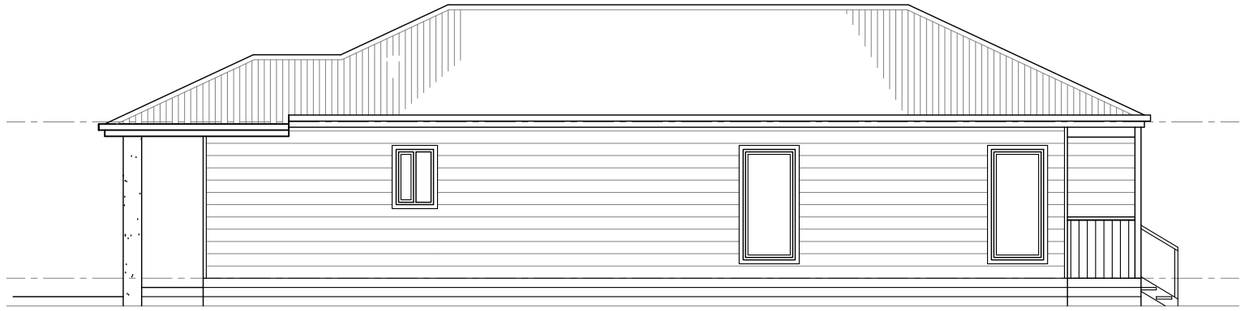
DRAWING No: LCO-S3 14 OF 62



FLOOR PLAN - NO FIRE RATED WALL, CARPORT EXTENSION & VERANDAH AVAILABLE

SCALE 1:100



ELEVATION D

SCALE 1:100



ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

INFORMATION ONLY

Lifestyle COMMUNITIES

Tel: (03) 9682 2249 Fax: (03) 9682 1236
email: info@lifestylecommunities.com.au
Web: www.lifestylecommunities.com.au

SITE PERMEABILITY 'C' SIZE SITE	MET SQ.
TOTAL SITE AREA	170.10
TOTAL BUILDING AREA	119.65
CONCRETE DRIVEWAY & PATH	19.25
TOTAL BUILDING & CONCRETE AREAS	138.90
IMPERMEABLE SURFACES - MAX. 80%	82%

SITE COVERAGE 'C' SIZE SITE	MET SQ.
TOTAL SITE AREA	170.10
TOTAL BUILDING AREA	119.65
SITE COVERAGE - MAX 60%	70%

CONNER

LIFESTYLE COMMUNITIES
COWES

NORTH:

AMENDMENTS:
REVISION - 30.09.21

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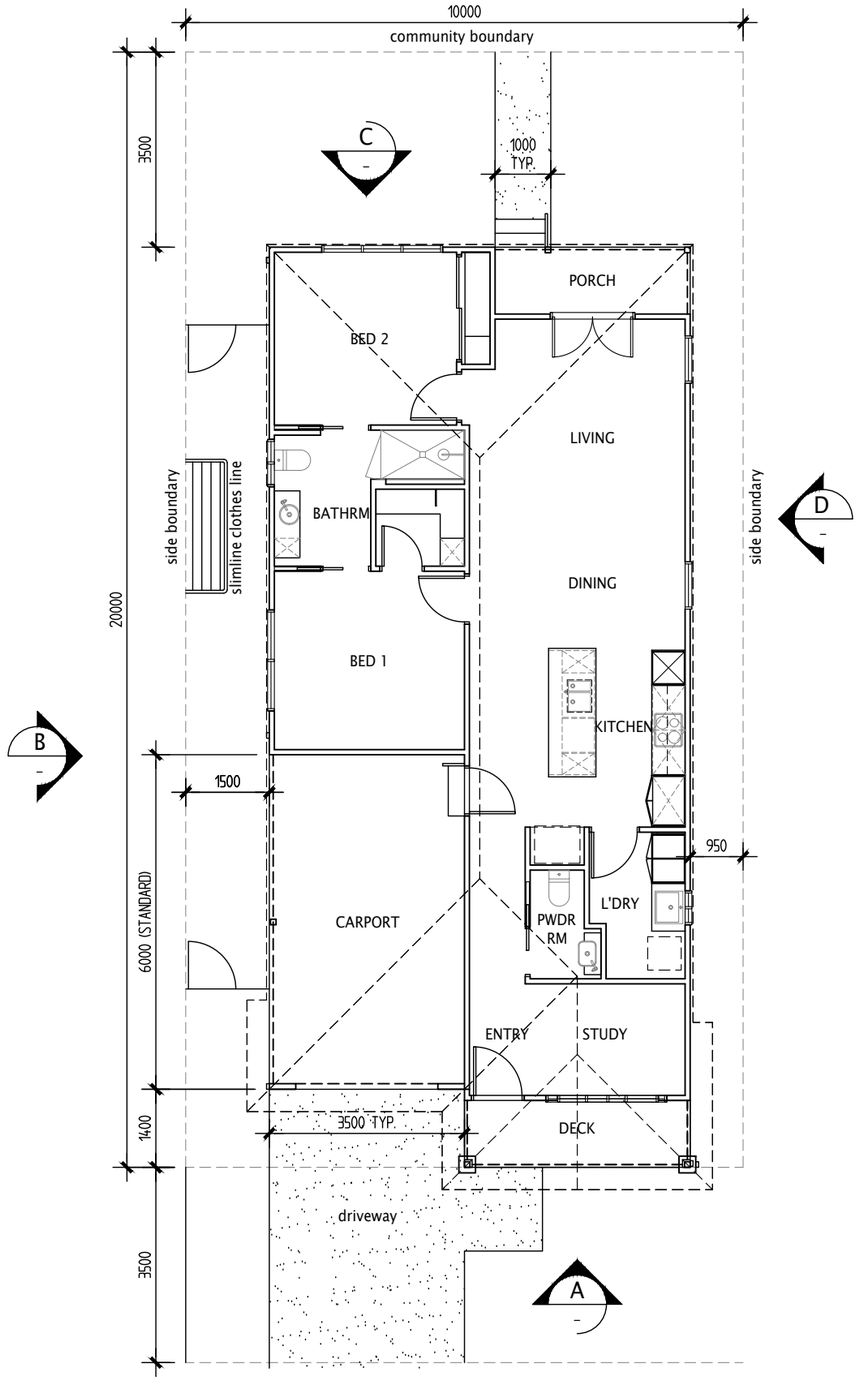
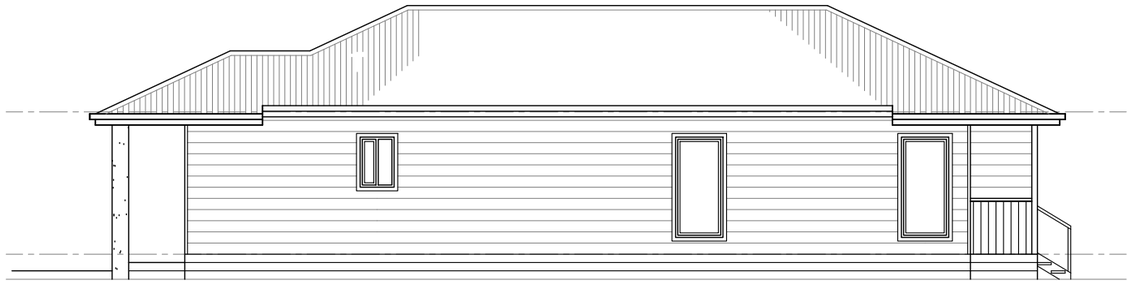
DRAWING No: LCO-S3 15 OF 62



FLOOR PLAN - NO FIRE RATED WALL, CARPORT EXTENSION & VERANDAH AVAILABLE

SCALE 1:100



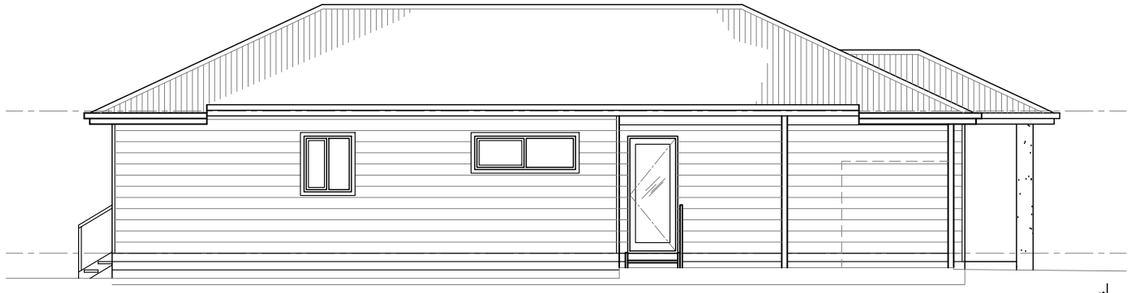
ELEVATION D

SCALE 1:100



ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

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email: info@lifestylecommunities.com.au
Web: www.lifestylecommunities.com.au

SITE PERMEABILITY 'C' SIZE SITE	MET SQ.
TOTAL SITE AREA	200.00
TOTAL BUILDING AREA	119.65
CONCRETE DRIVEWAY & PATH	19.25
TOTAL BUILDING & CONCRETE AREAS	138.90
IMPERMEABLE SURFACES - MAX. 80%	69%

SITE COVERAGE 'C' SIZE SITE	MET SQ.
TOTAL SITE AREA	200.00
TOTAL BUILDING AREA	119.65
SITE COVERAGE - MAX 60%	60%

CONNER DS

LIFESTYLE COMMUNITIES
COWES

NORTH:

AMENDMENTS:
REVISION - 30.09.21

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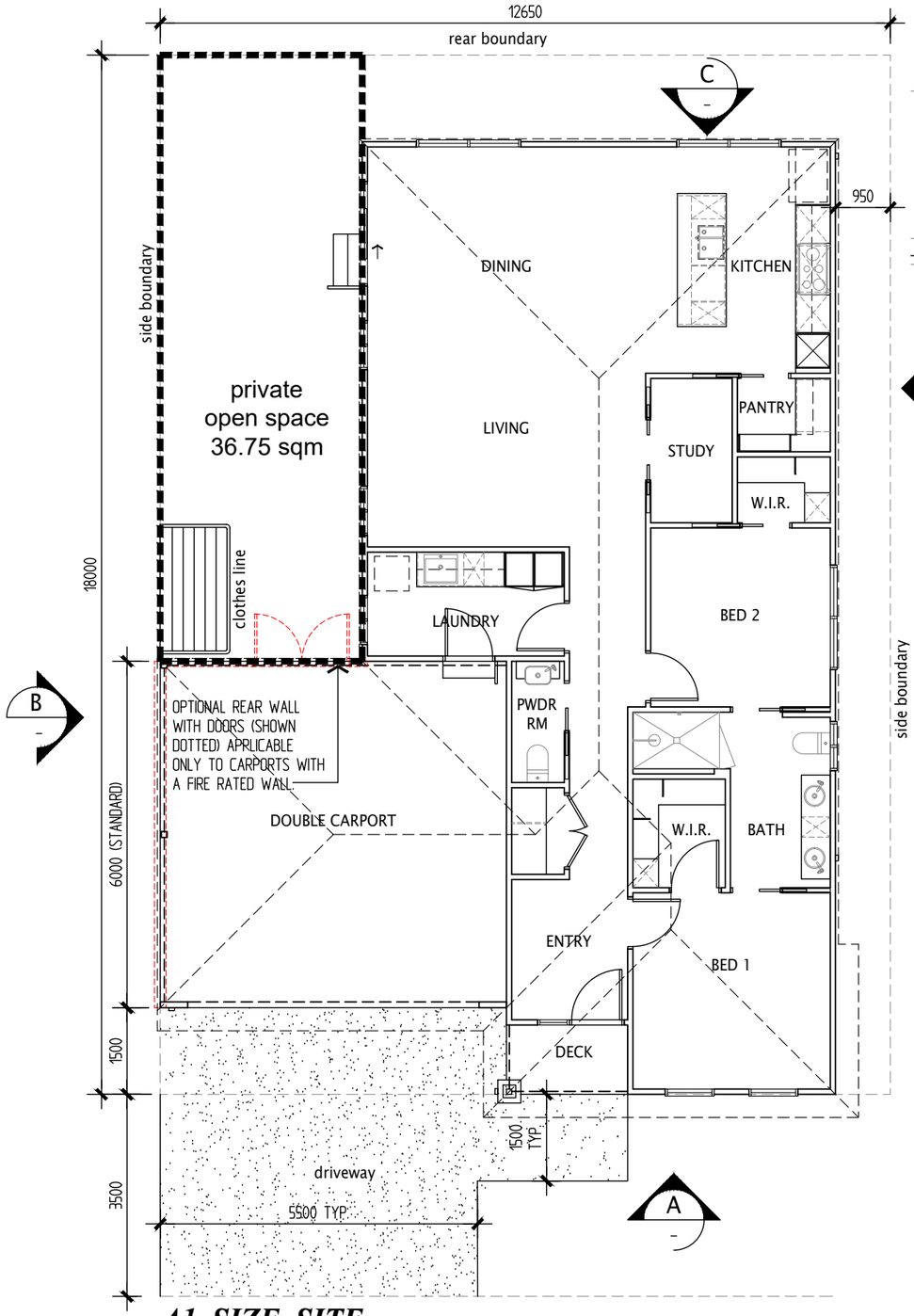
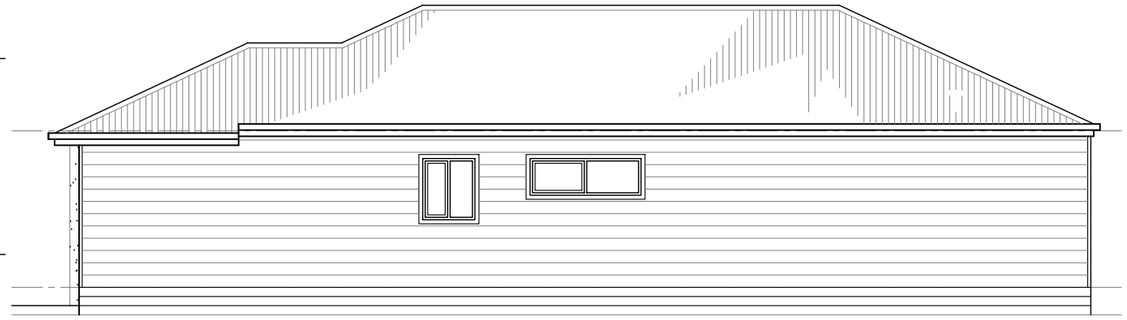
WITHOUT NOTICE.

DATE: 19.05.20 | SCALE: 1:100 @ A3 | DRAWN: KB | CHECKED:

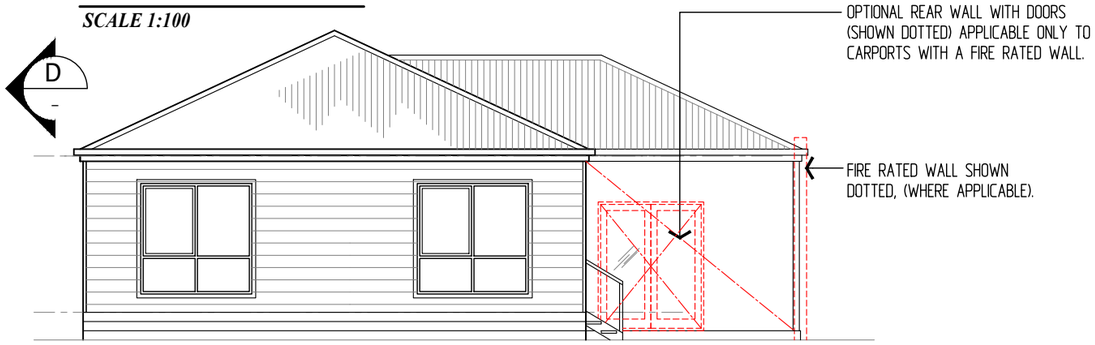
DRAWING No: LCO-S3 16 OF 62



A1 SIZE SITE
FLOOR PLAN
SCALE 1:100



ELEVATION D
SCALE 1:100



ELEVATION C
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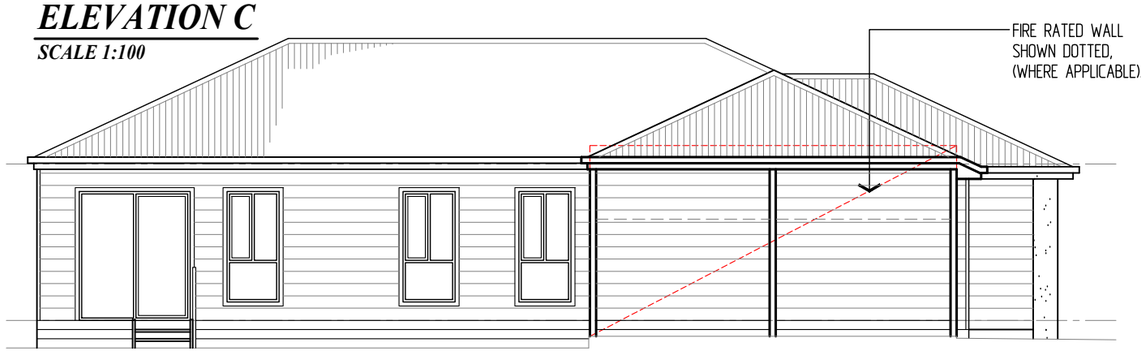

ELEVATION B
SCALE 1:100



ELEVATION A
SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

SITE PERMEABILITY 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	227.70
TOTAL BUILDING AREA	152.55
CONCRETE DRIVEWAY & PATH	32.15
TOTAL BUILDING & CONCRETE AREAS	184.70
IMPERMEABLE SURFACES - MAX. 80%	81%

SITE COVERAGE 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	227.70
TOTAL BUILDING AREA	152.55
SITE COVERAGE - MAX 60%	67%

Lifestyle COMMUNITIES
Tel: (03) 9682 2249 Fax: (03) 9682 1236
email: info@lifestylecommunities.com.au
Web: www.lifestylecommunities.com.au

EDWARD

LIFESTYLE COMMUNITIES
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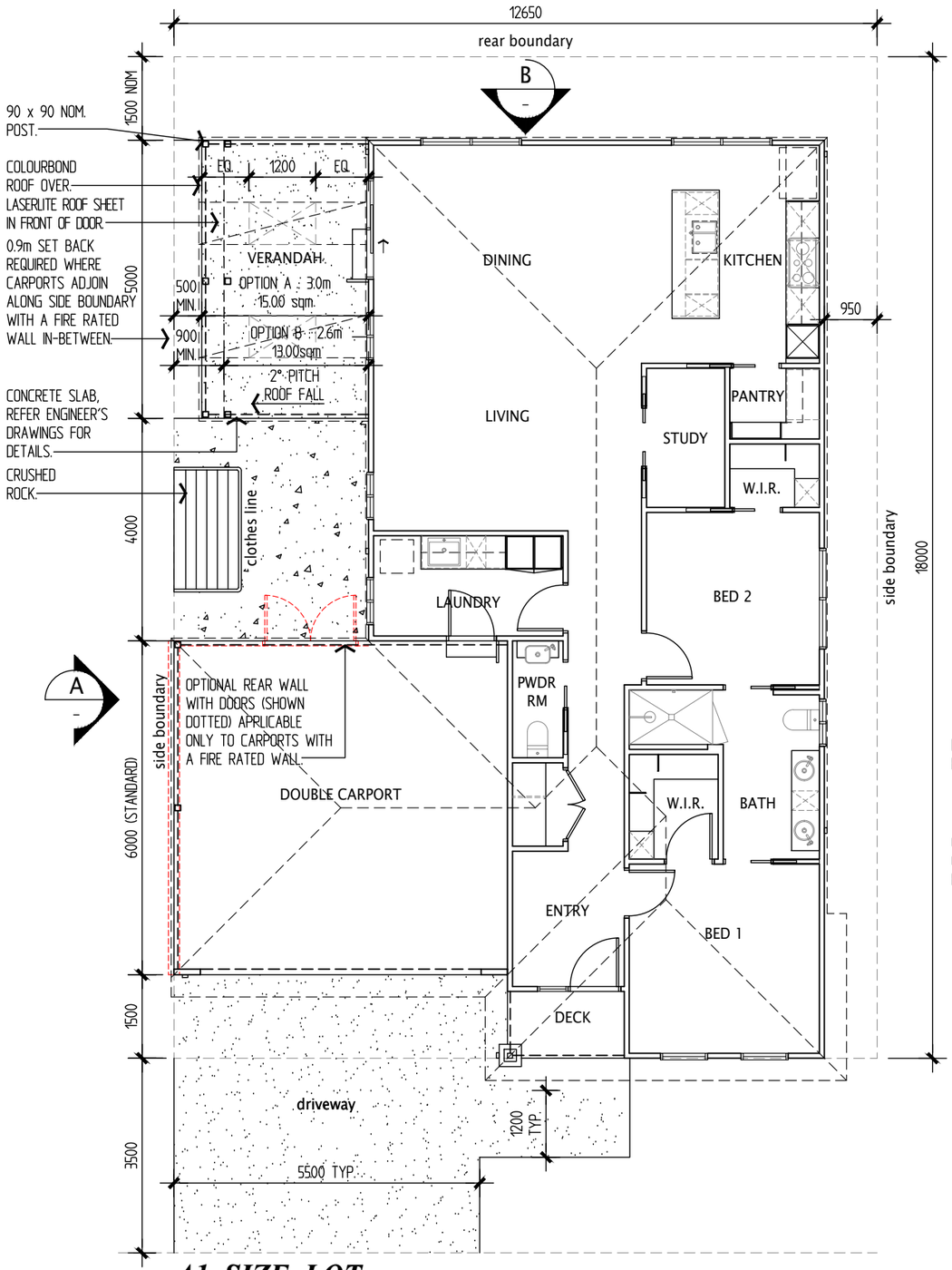
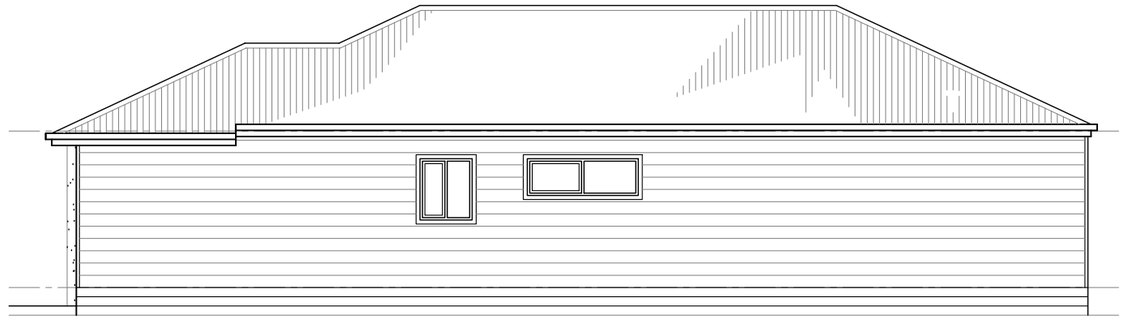


A1 SIZE LOT

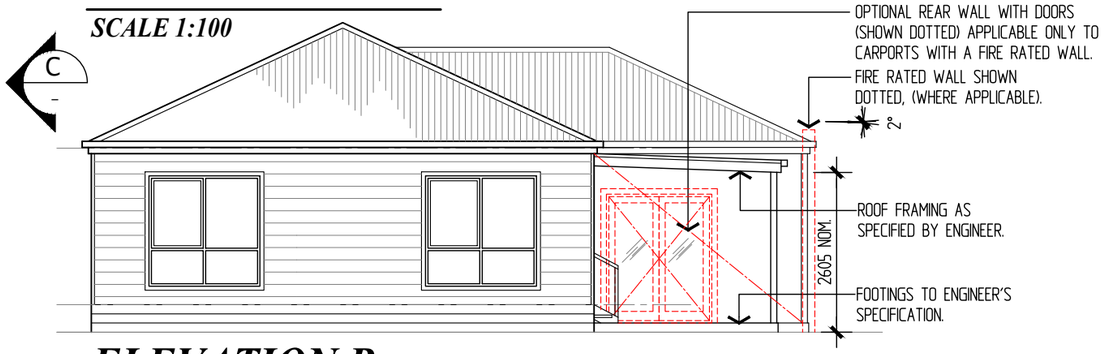
FLOOR PLAN - PROPOSED VERANDAH

SCALE 1:100



ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

THESE DRAWINGS TO BE READ IN-CONJUNCTION WITH RELEVANT STRUCTURAL ENGINEERS DRAWINGS.

FRAMING SUPPLY & INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS & RELEVANT AUSTRALIAN STANDARDS.

ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

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EDWARD
PROPOSED VERANDAH

LIFESTYLE COMMUNITIES
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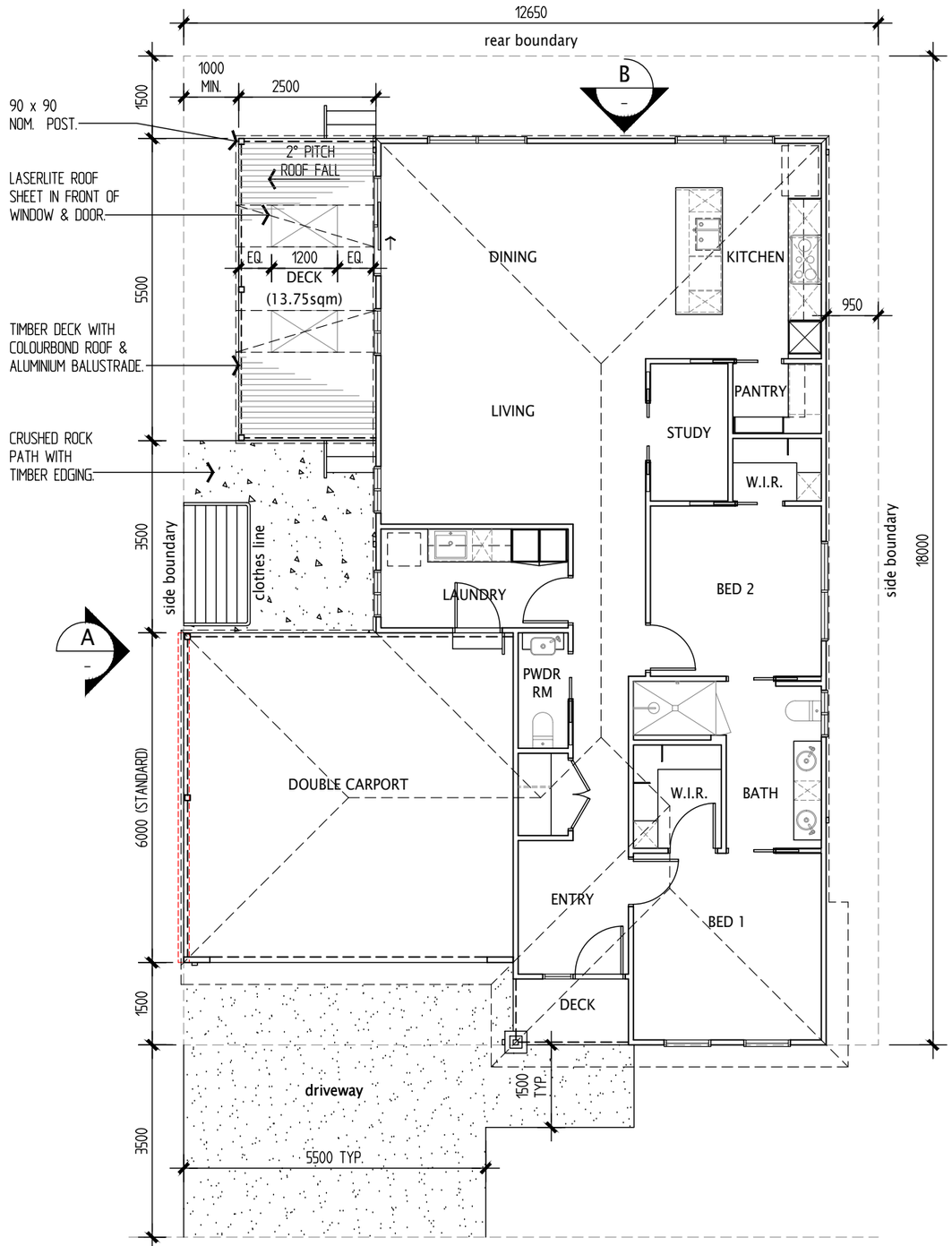
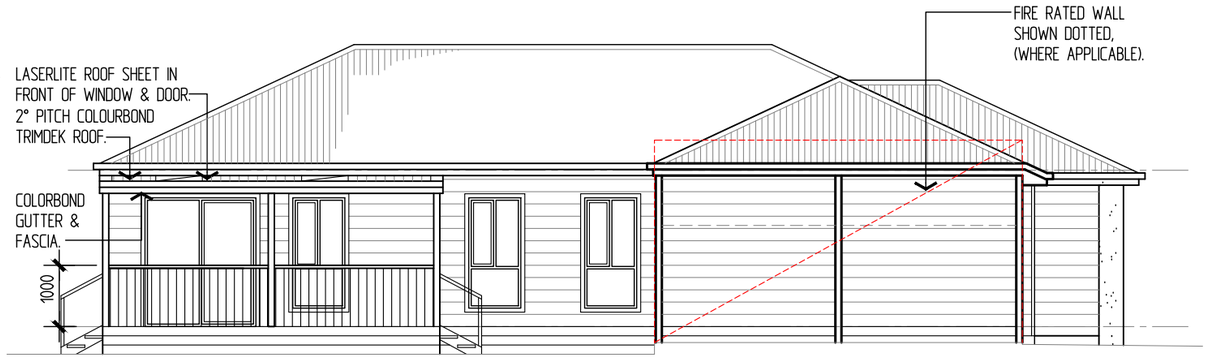


A1 SIZE LOT

FLOOR PLAN - PROPOSED SIDE DECK

SCALE 1:100



ELEVATION A

SCALE 1:100



ELEVATION B

SCALE 1:100

NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
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EDWARD
PROPOSED SIDE DECK

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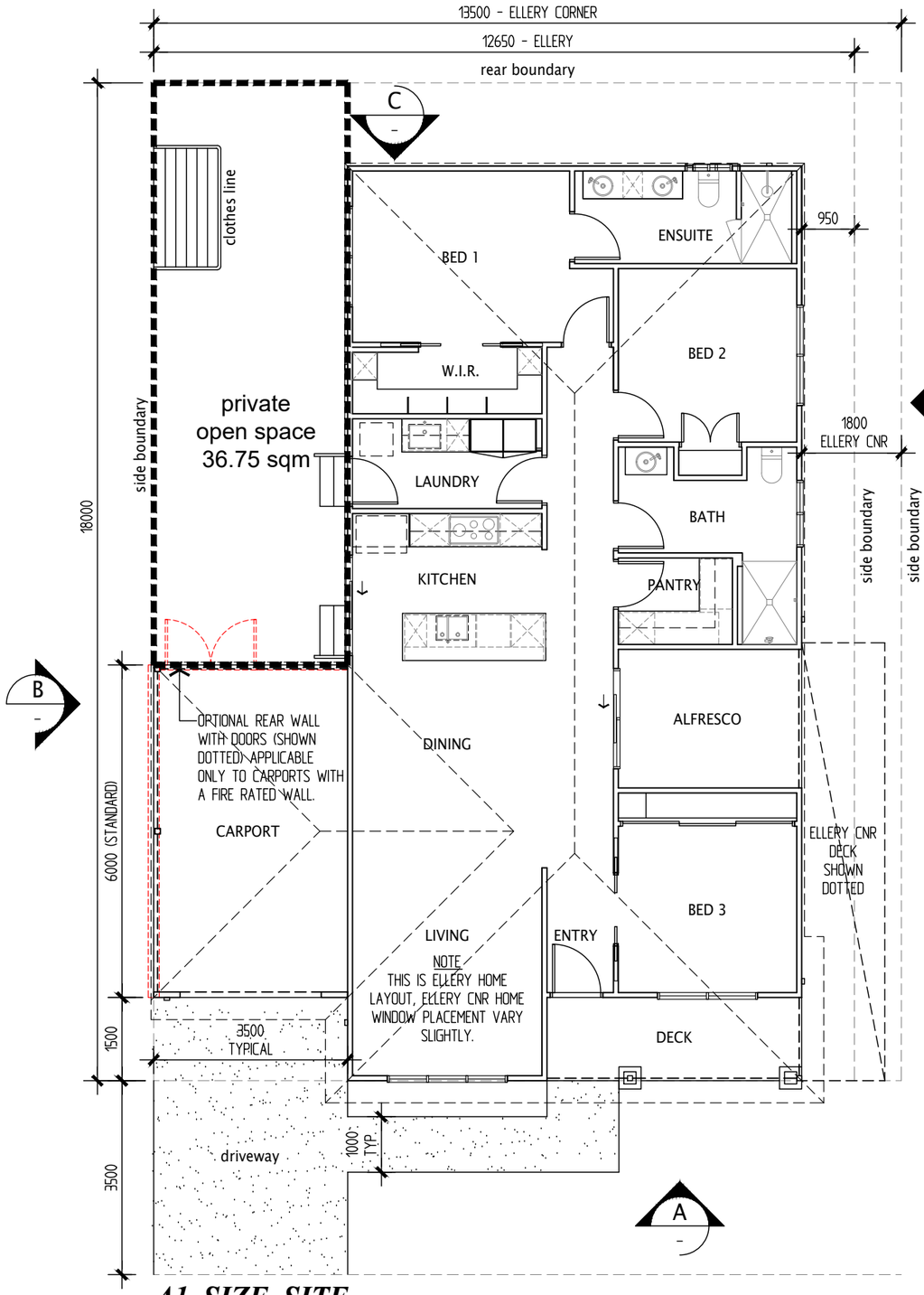


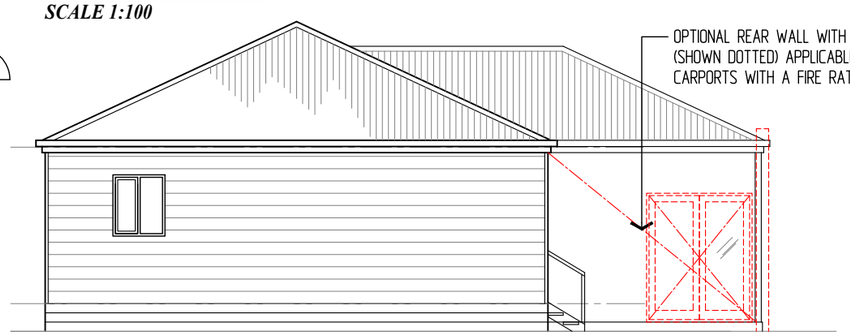
A1 SIZE SITE FLOOR PLAN

SCALE 1:100



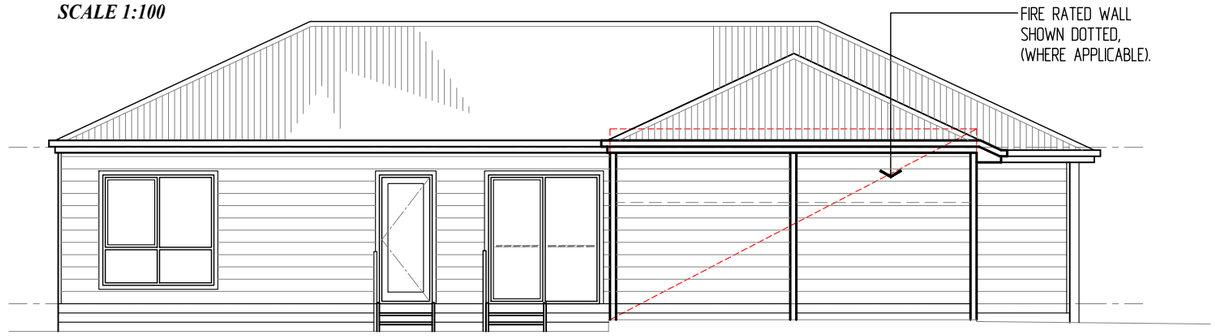
ELEVATION D

SCALE 1:100



ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

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SITE PERMEABILITY 'A1' SIZE SITE	MET SQ.
TOTAL SITE AREA	227.70
TOTAL BUILDING AREA	156.30
CONCRETE DRIVEWAY & PATH	23.25
TOTAL BUILDING & CONCRETE AREAS	179.55
IMPERMEABLE SURFACES - MAX. 80%	79%

SITE COVERAGE 'A1' SIZE SITE	MET SQ.
TOTAL SITE AREA	227.70
TOTAL BUILDING AREA	156.30
SITE COVERAGE - MAX 60%	69%

ELLERY/CNR

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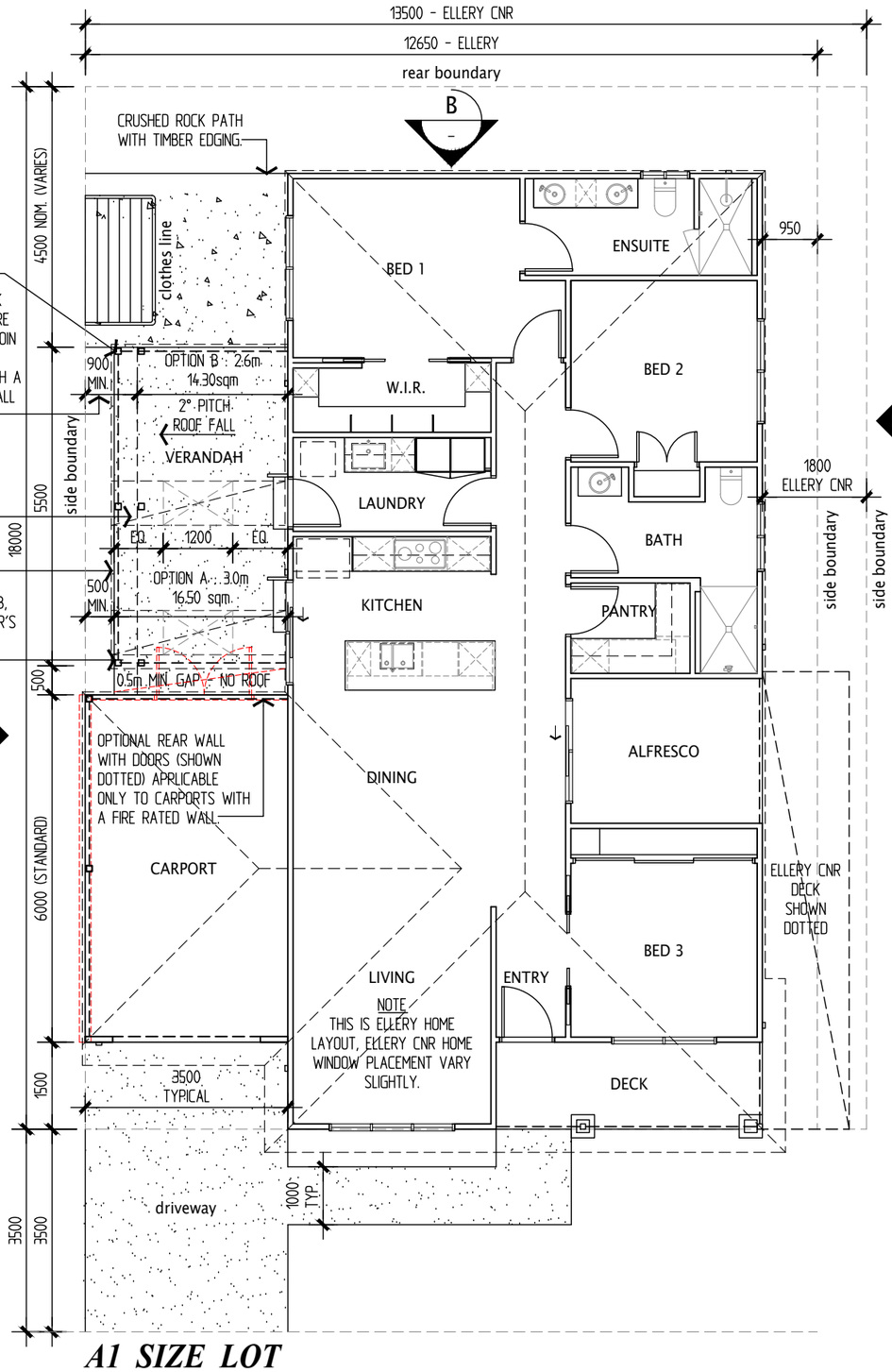


A1 SIZE LOT

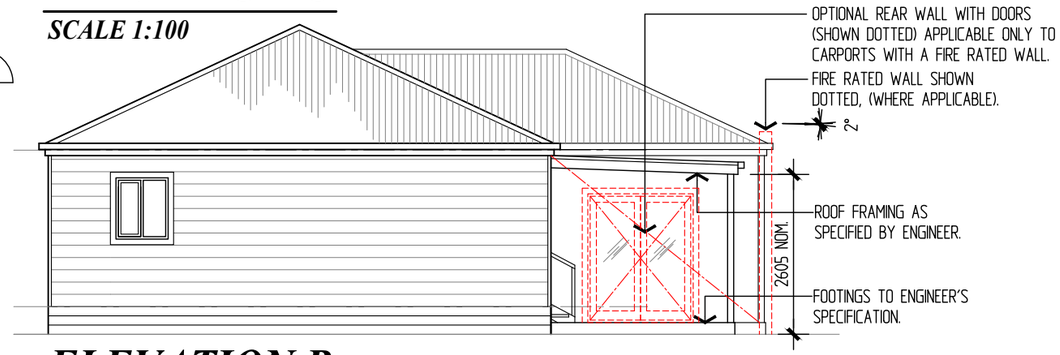
FLOOR PLAN - PROPOSED VERANDAH

SCALE 1:100



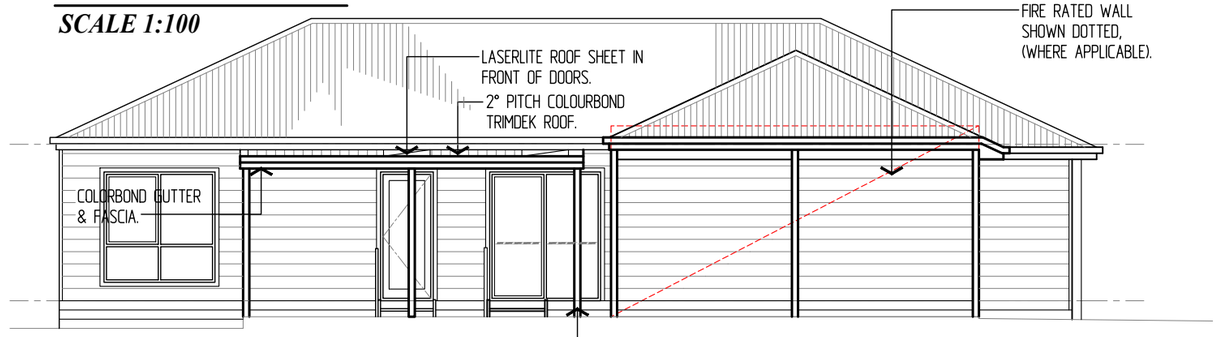
ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
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ELLERY/CNR PROPOSED VERANDAH	LIFESTYLE COMMUNITIES COWES				NORTH: AMENDMENTS: REVISION - 30.09.21
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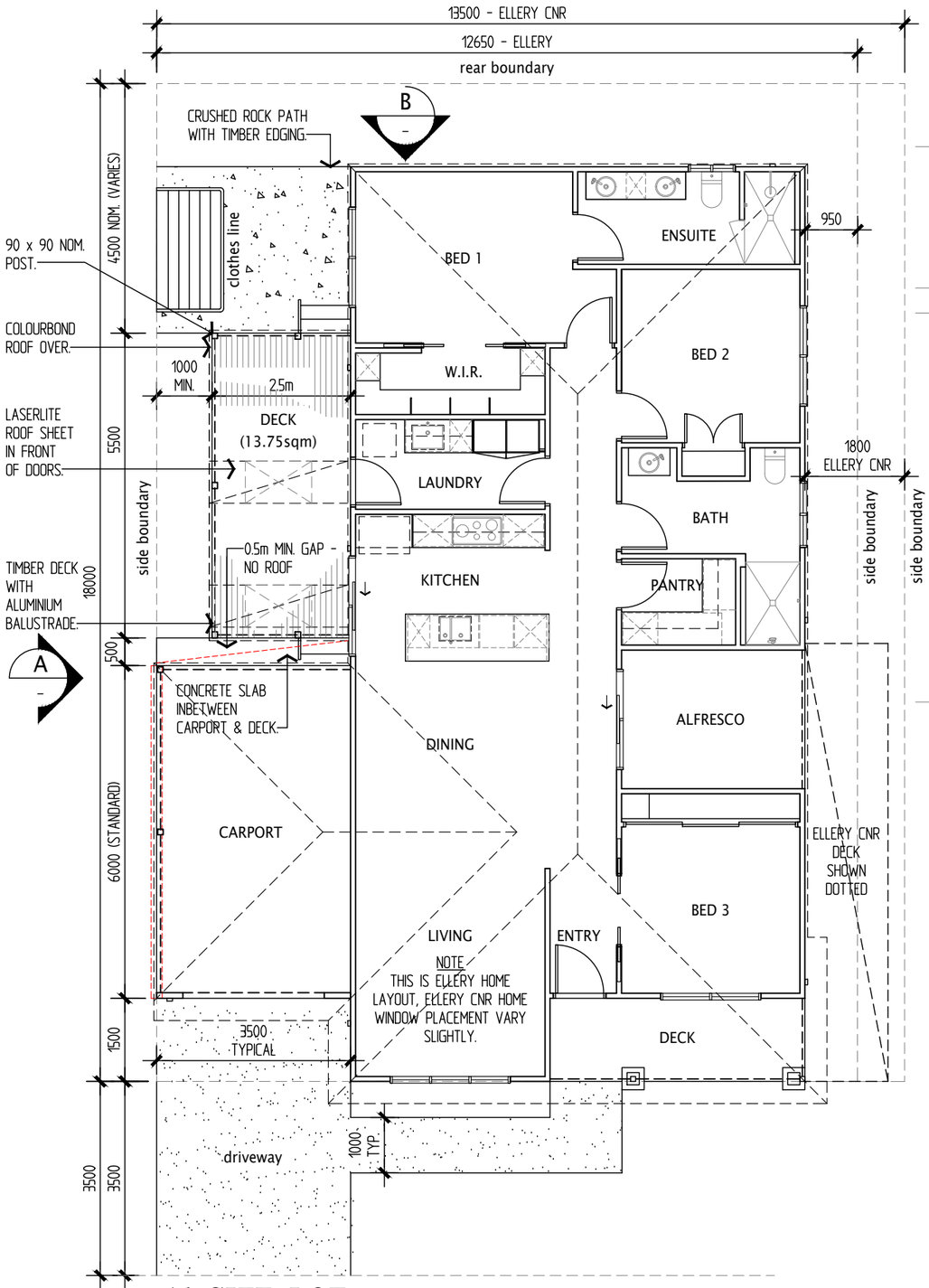
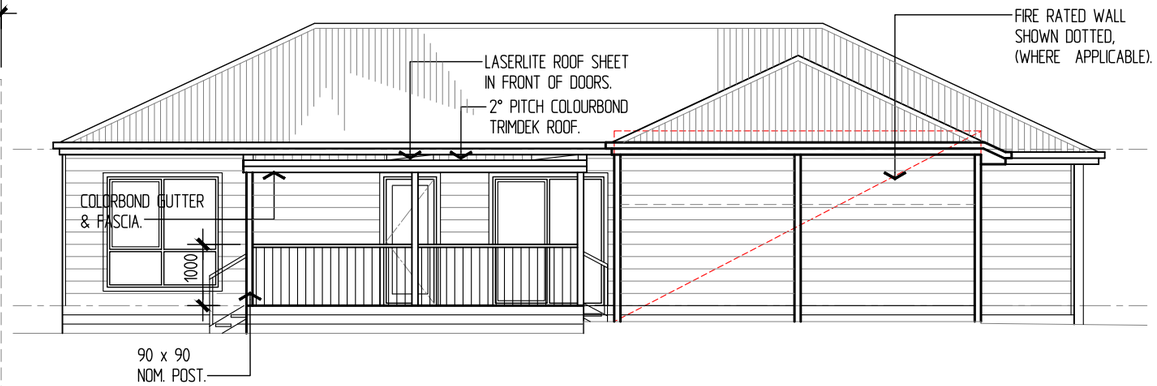


A1 SIZE LOT

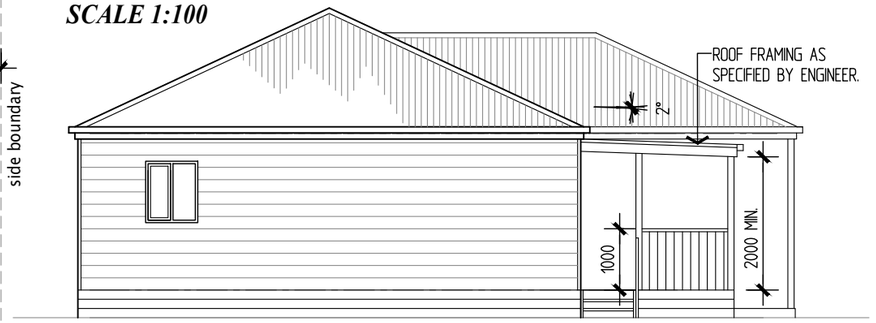
FLOOR PLAN - PROPOSED SIDE DECK

SCALE 1:100



ELEVATION A

SCALE 1:100



NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.

ELEVATION B

SCALE 1:100

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
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- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
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INFORMATION ONLY

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ELLERY/CNR
PROPOSED SIDE DECK

LIFESTYLE COMMUNITIES
COWES

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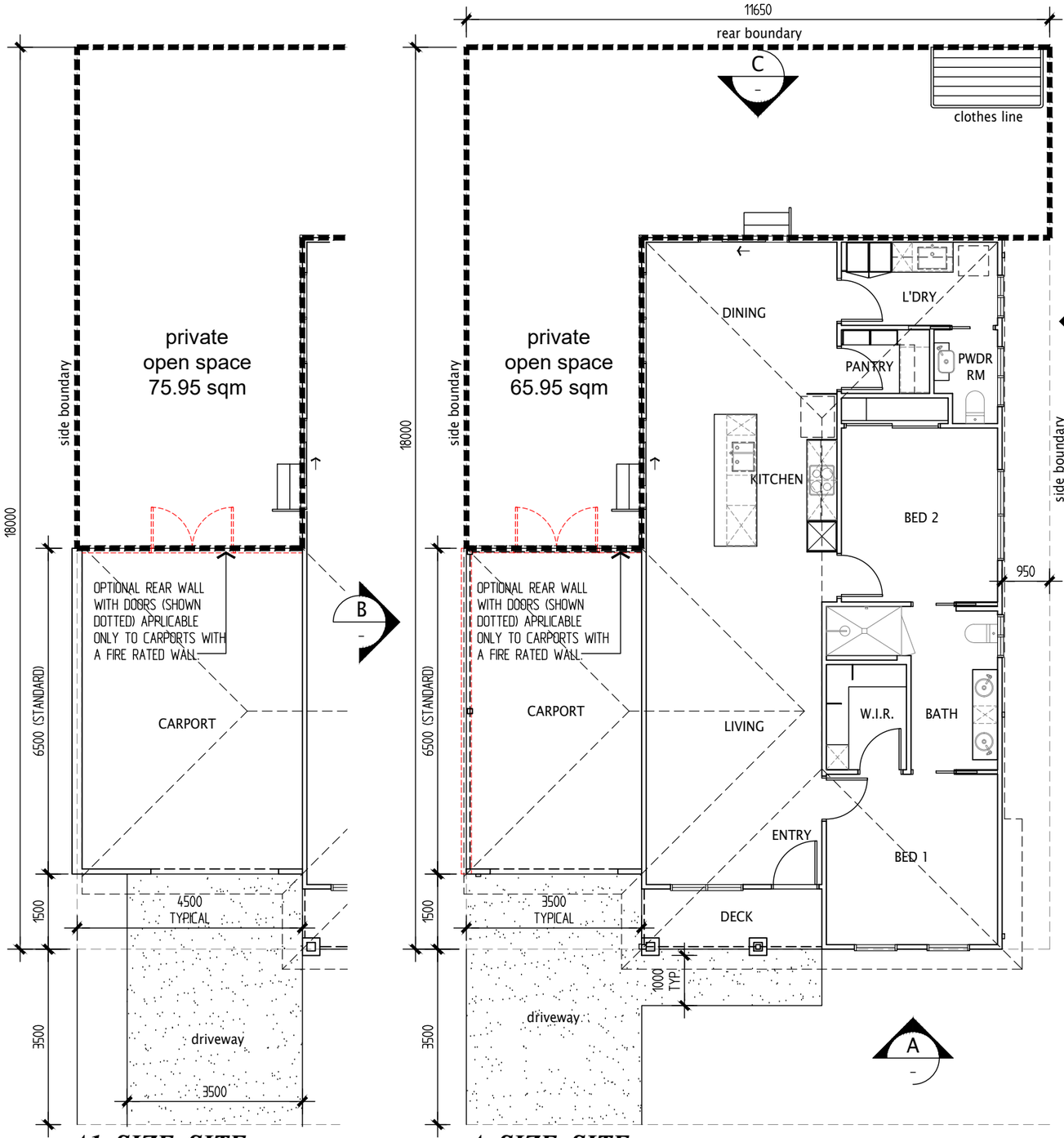
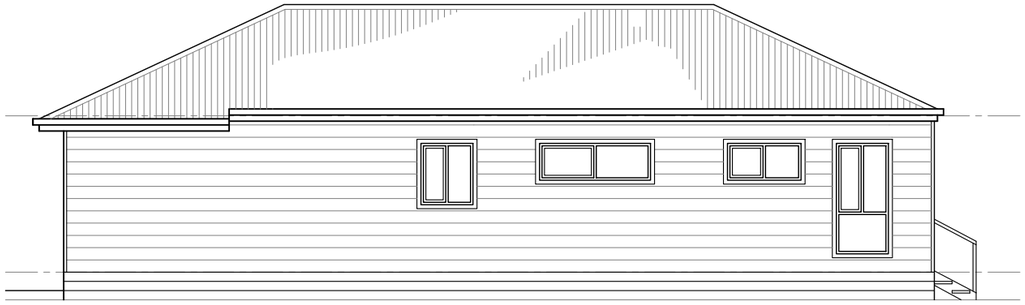


A1 SIZE SITE

A SIZE SITE

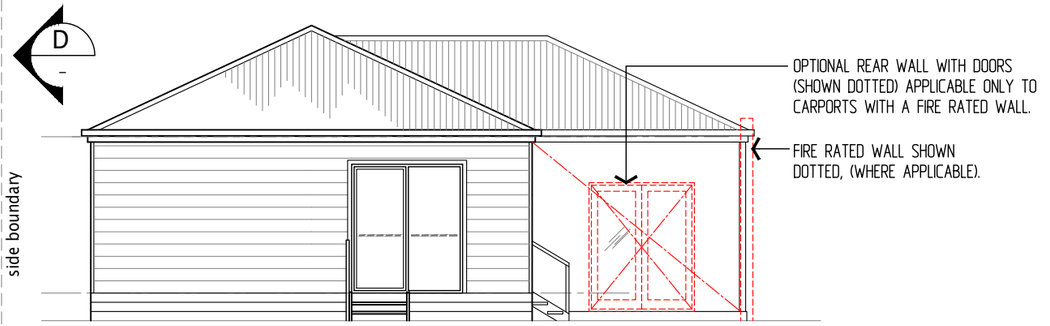
FLOOR PLAN

SCALE 1:100



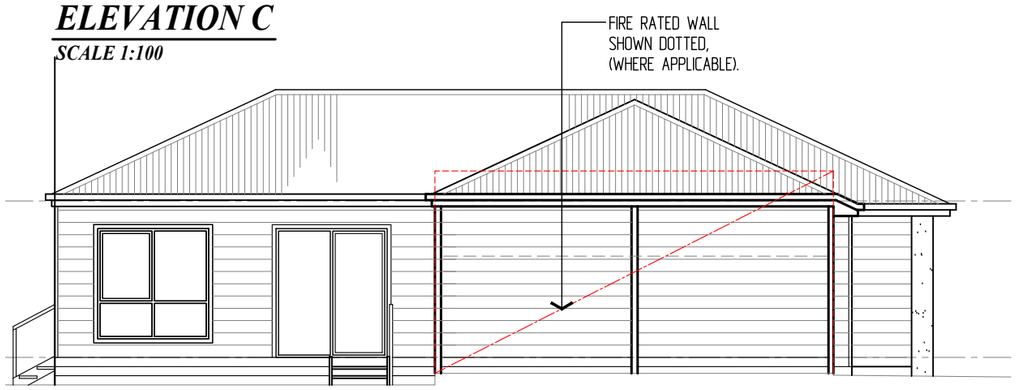
ELEVATION D

SCALE 1:100



ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

SITE PERMEABILITY 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	122.25
CONCRETE DRIVEWAY & PATH	21.55
TOTAL BUILDING & CONCRETE AREAS	143.80
IMPERMEABLE SURFACES - MAX. 80%	69%

SITE COVERAGE 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	122.25
SITE COVERAGE - MAX 60%	58%

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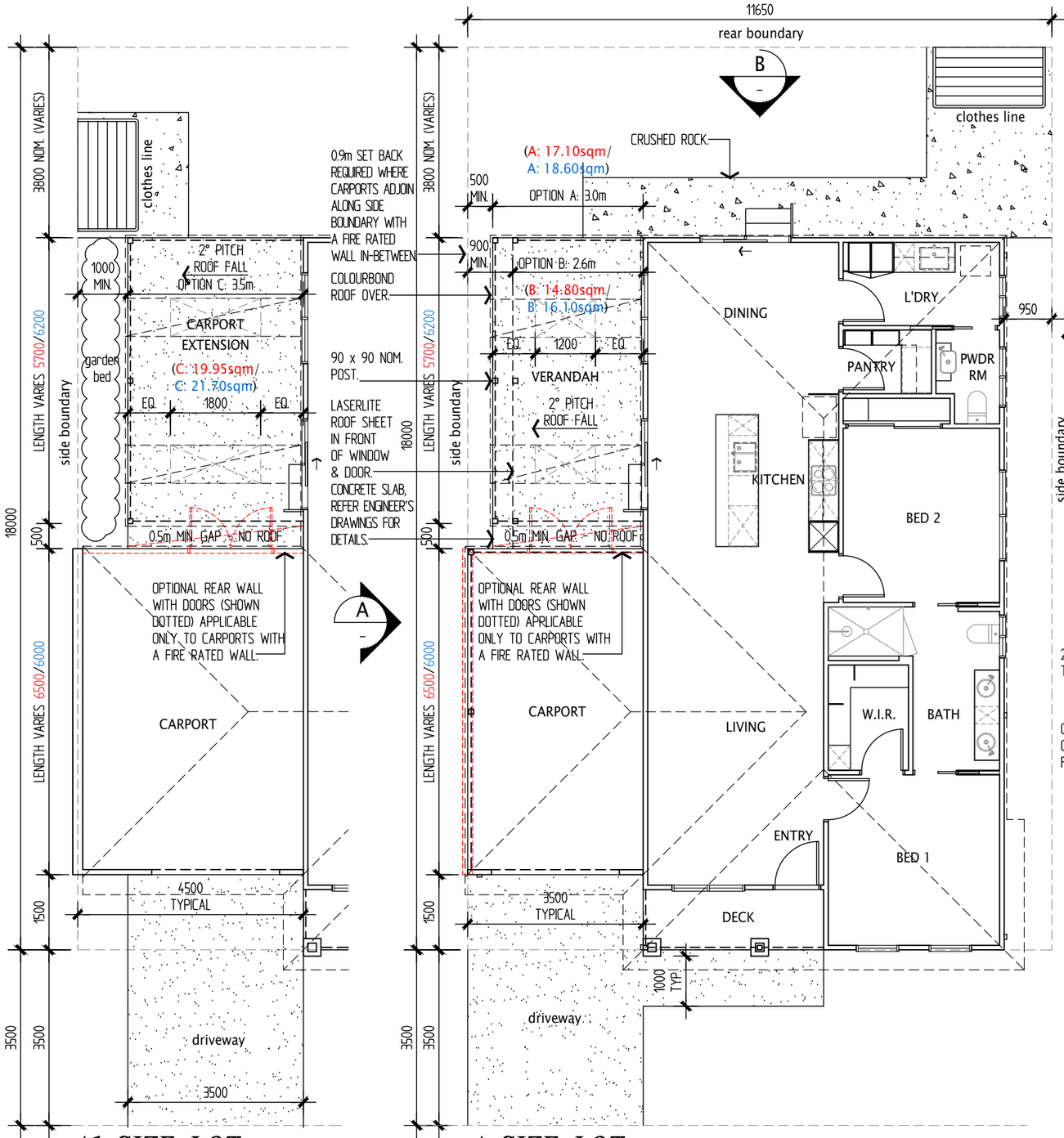
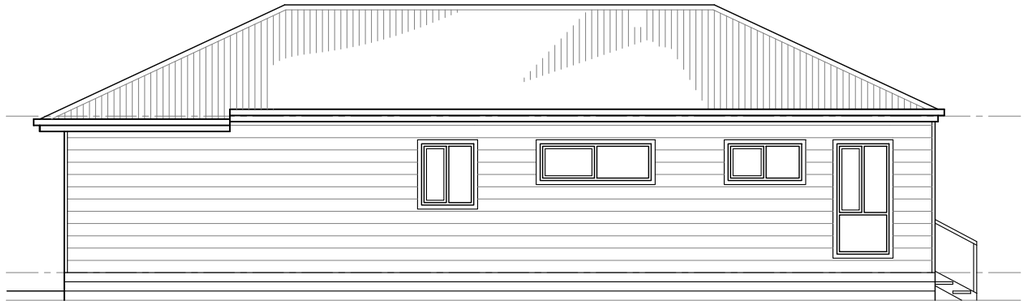


A1 SIZE LOT

A SIZE LOT

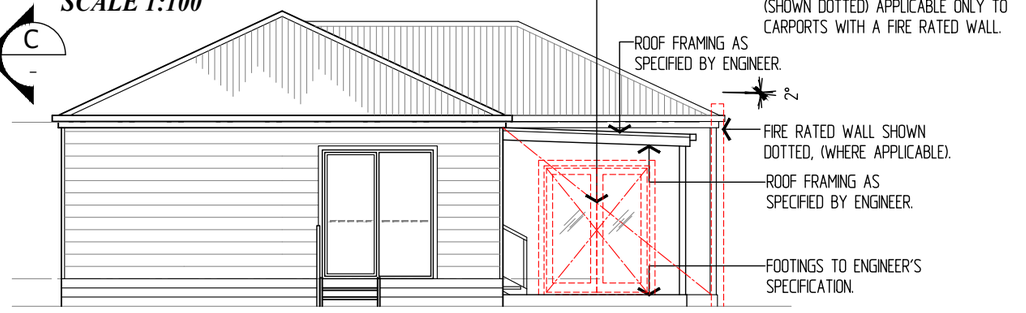
FLOOR PLAN - PROPOSED CARPORT EXTENSION & VERANDAH

SCALE 1:100



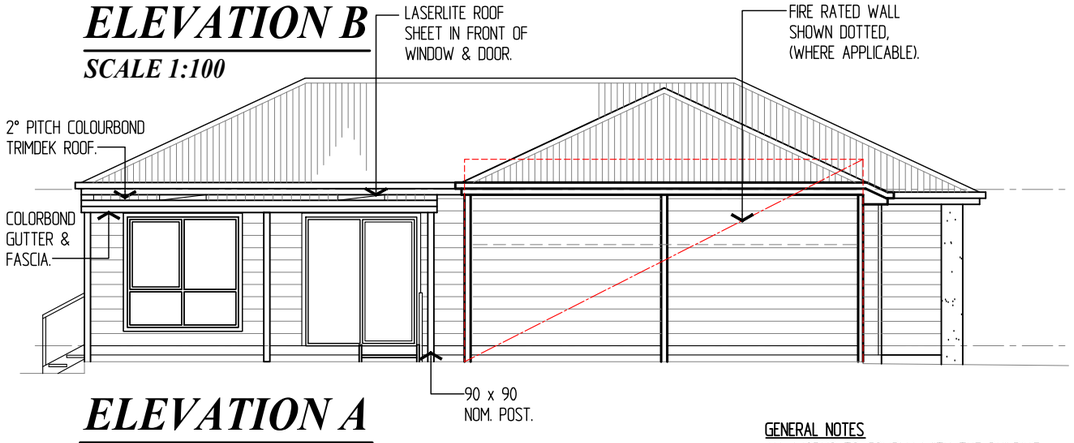
ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

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- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
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- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
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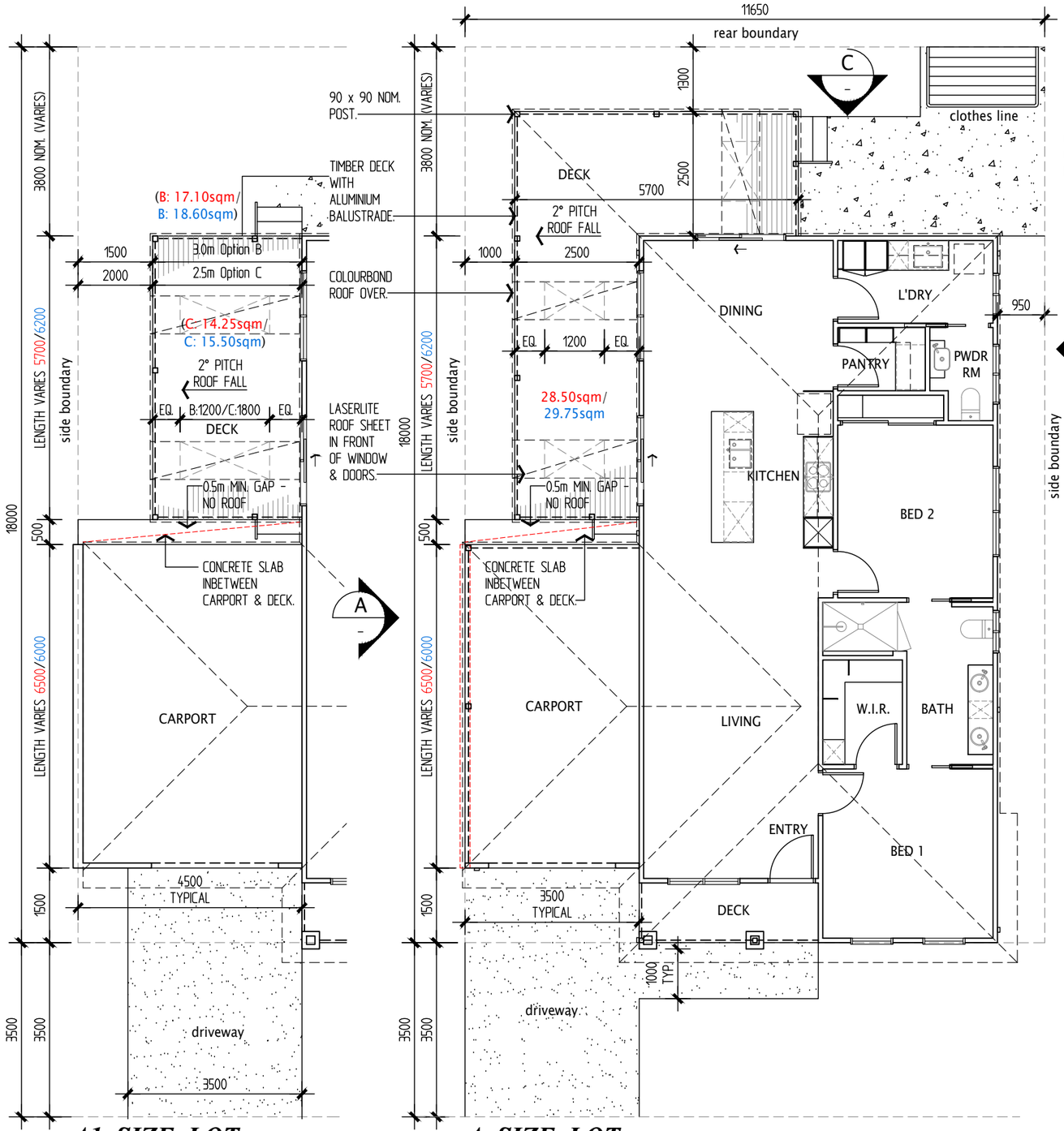
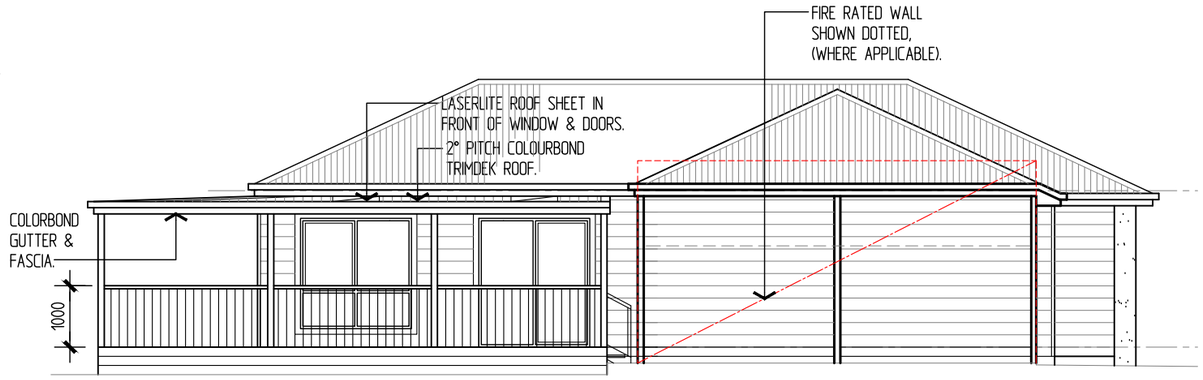


A1 SIZE LOT

A SIZE LOT

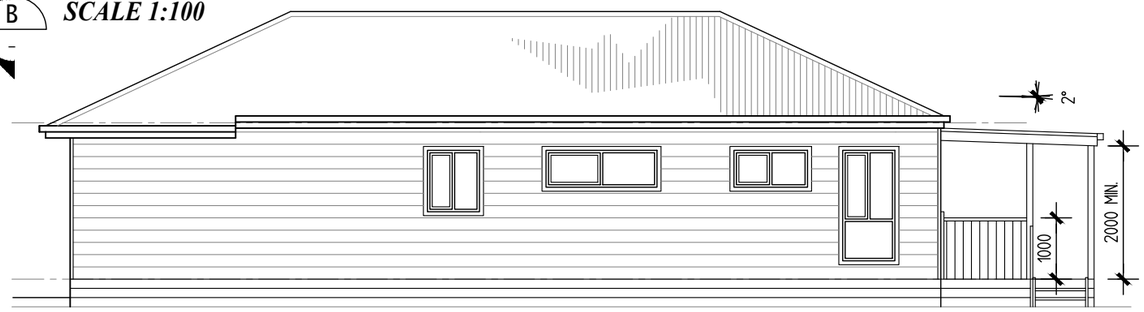
FLOOR PLAN - PROPOSED SIDE DECKS & 'L' SHAPED DECK

SCALE 1:100



ELEVATION A

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION C

SCALE 1:100

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MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

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FRASER
PROPOSED DECKS

LIFESTYLE COMMUNITIES
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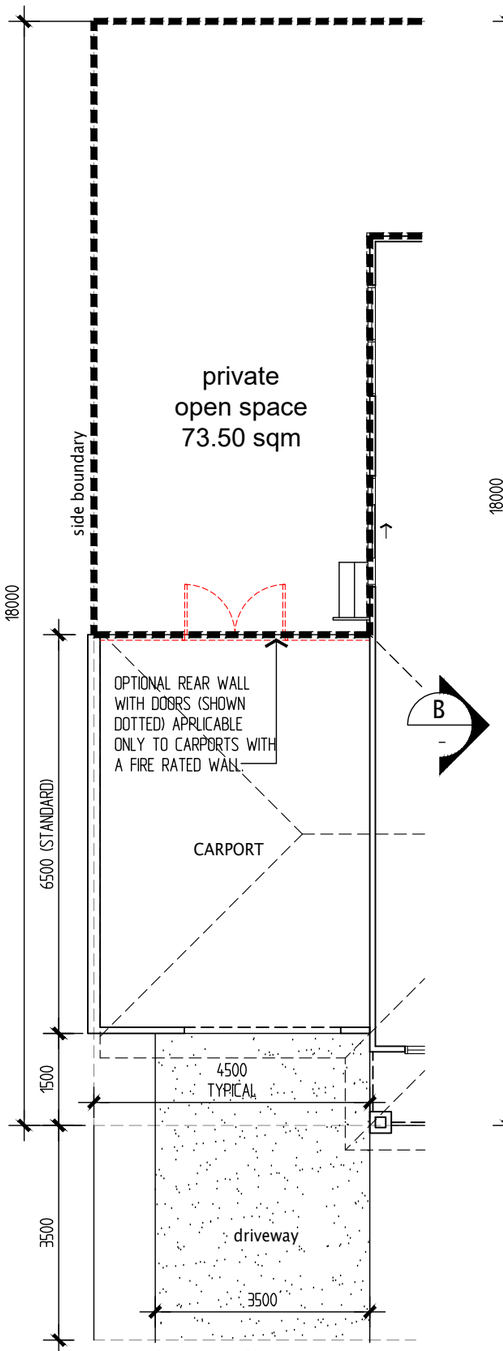
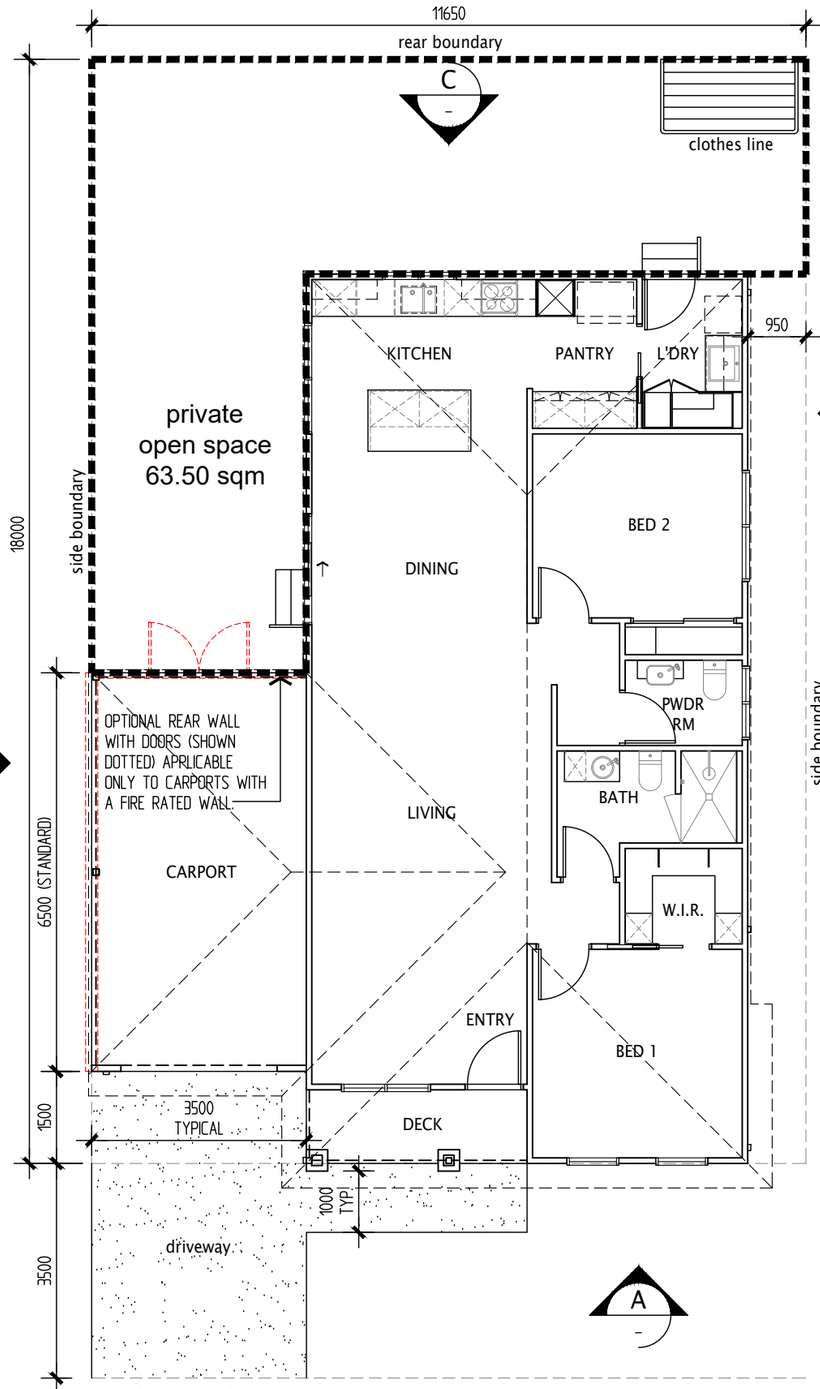
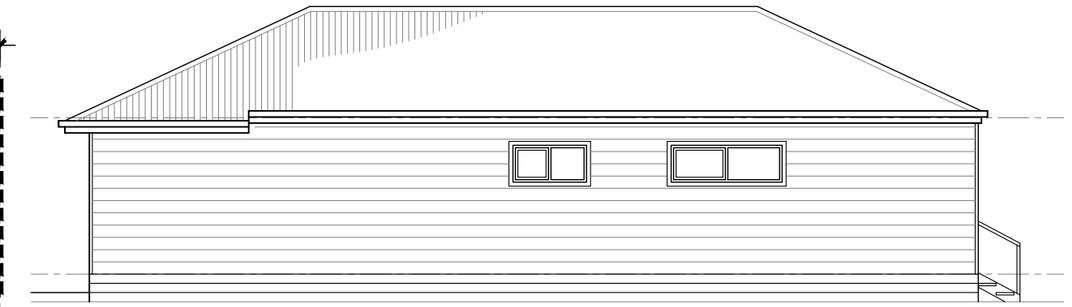


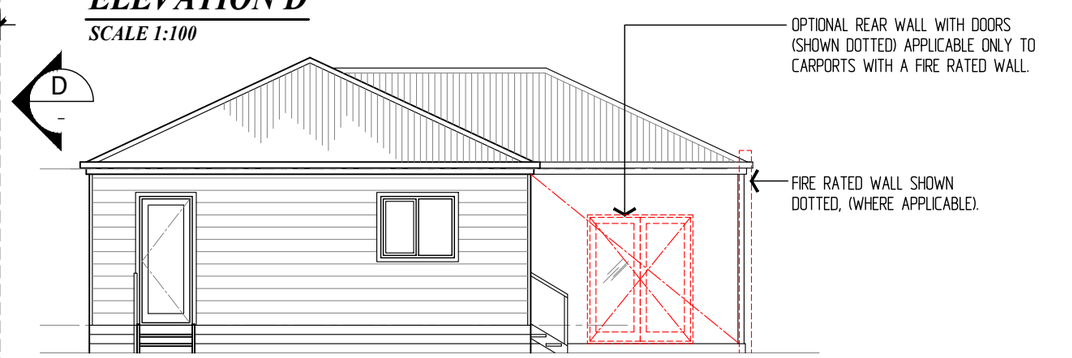


A1 SIZE SITE
FLOOR PLAN
SCALE 1:100

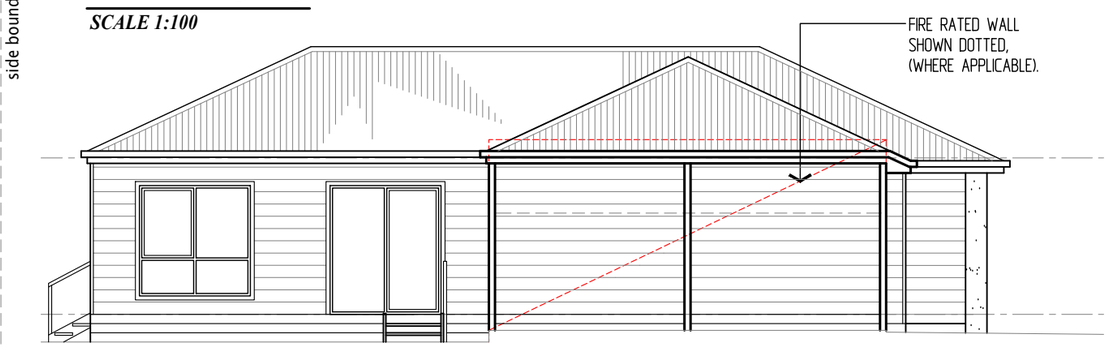
A SIZE SITE



ELEVATION D
SCALE 1:100



ELEVATION C
SCALE 1:100



ELEVATION B
SCALE 1:100



ELEVATION A
SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

SITE PERMEABILITY 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	127.20
CONCRETE DRIVEWAY & PATH	21.55
TOTAL BUILDING & CONCRETE AREAS	148.75
IMPERMEABLE SURFACES - MAX. 80%	71%

SITE COVERAGE 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	127.20
SITE COVERAGE - MAX 60%	61%

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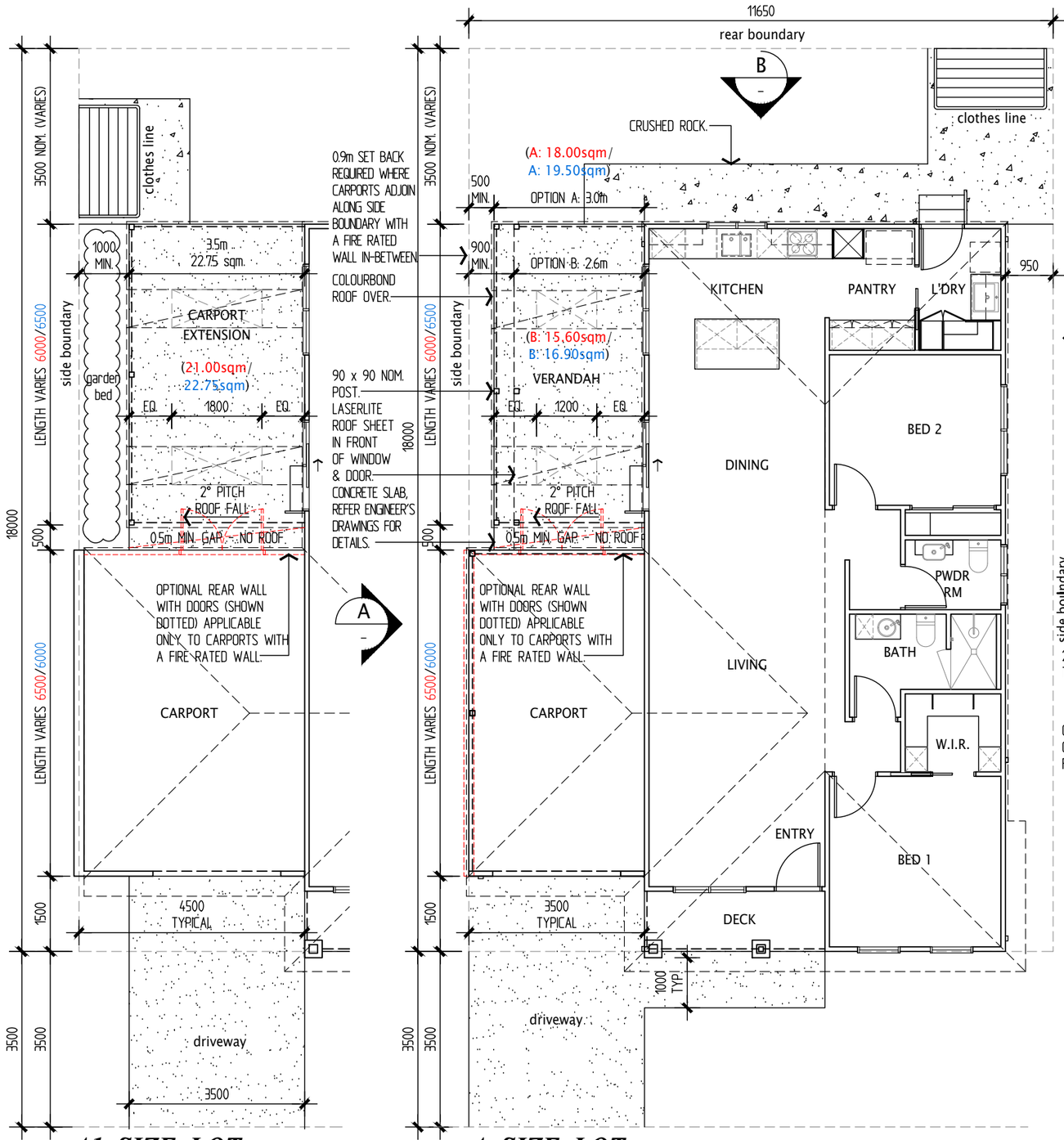
DRAWING No: LCO-S3 26 OF 62

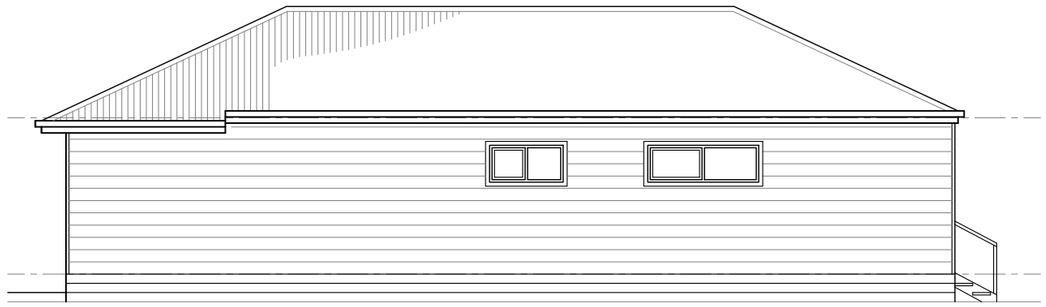


A1 SIZE LOT

A SIZE LOT

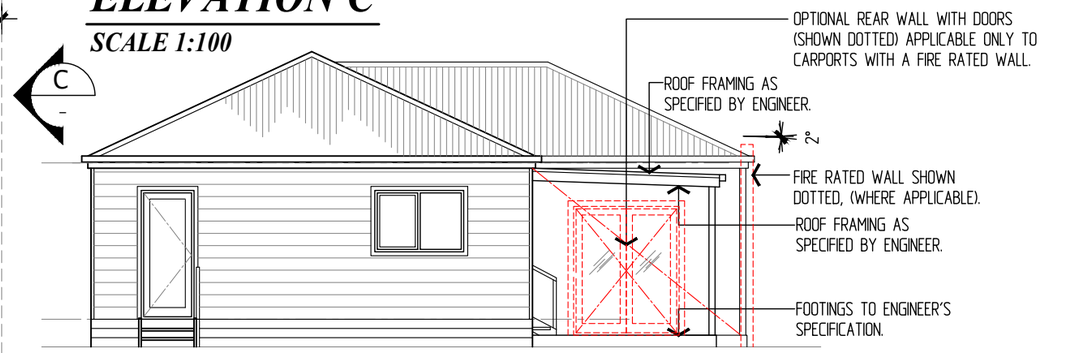
FLOOR PLAN - PROPOSED CARPORT EXTENSION & VERANDAH

SCALE 1:100



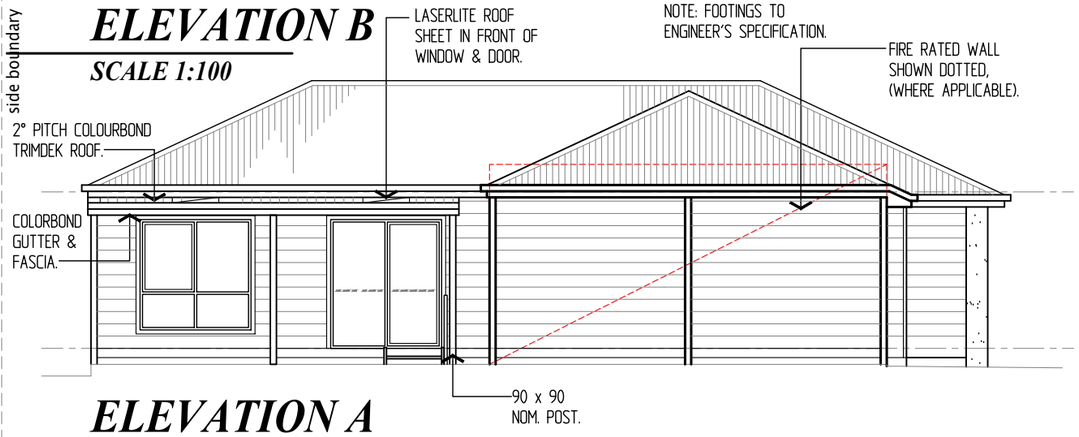
ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

THESE DRAWINGS TO BE READ IN-CONJUNCTION WITH RELEVANT STRUCTURAL ENGINEERS DRAWINGS.

FRAMING SUPPLY & INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS & RELEVANT AUSTRALIAN STANDARDS.

ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

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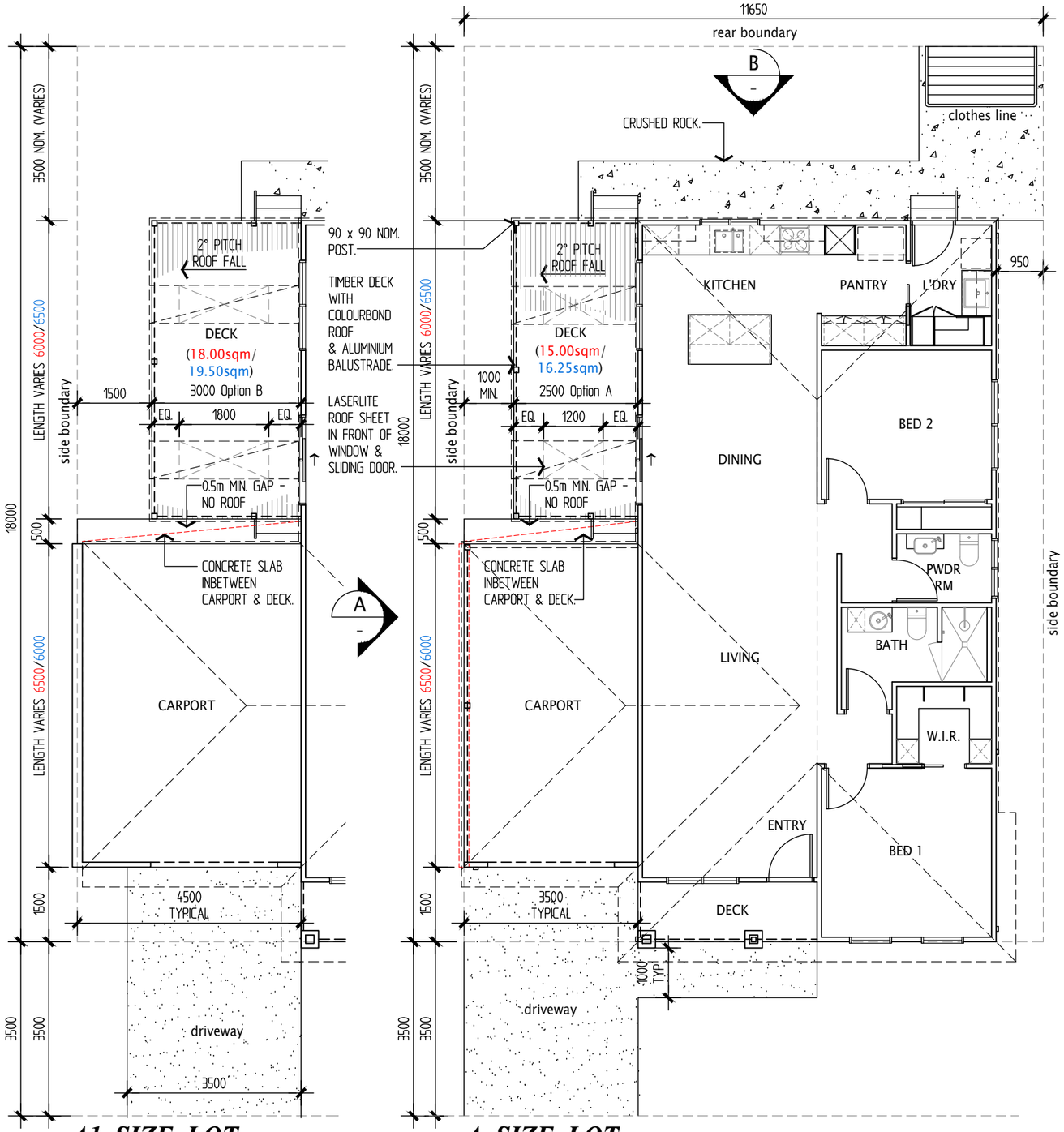
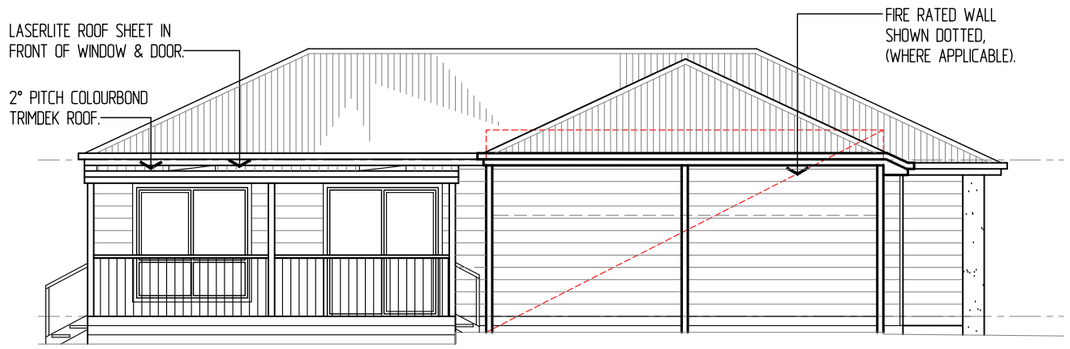


A1 SIZE LOT

A SIZE LOT

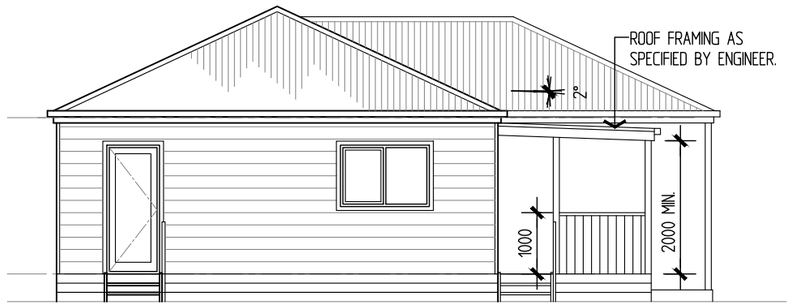
FLOOR PLAN - PROPOSED SIDE DECKS

SCALE 1:100



ELEVATION A

SCALE 1:100



ELEVATION B

SCALE 1:100

NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

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ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

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Web: www.lifestylecommunities.com.au

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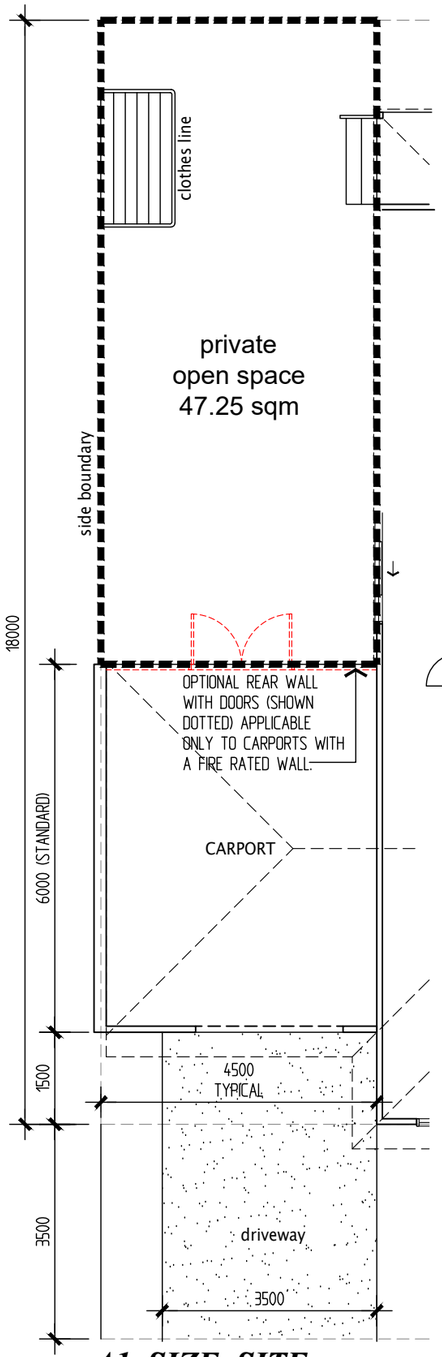
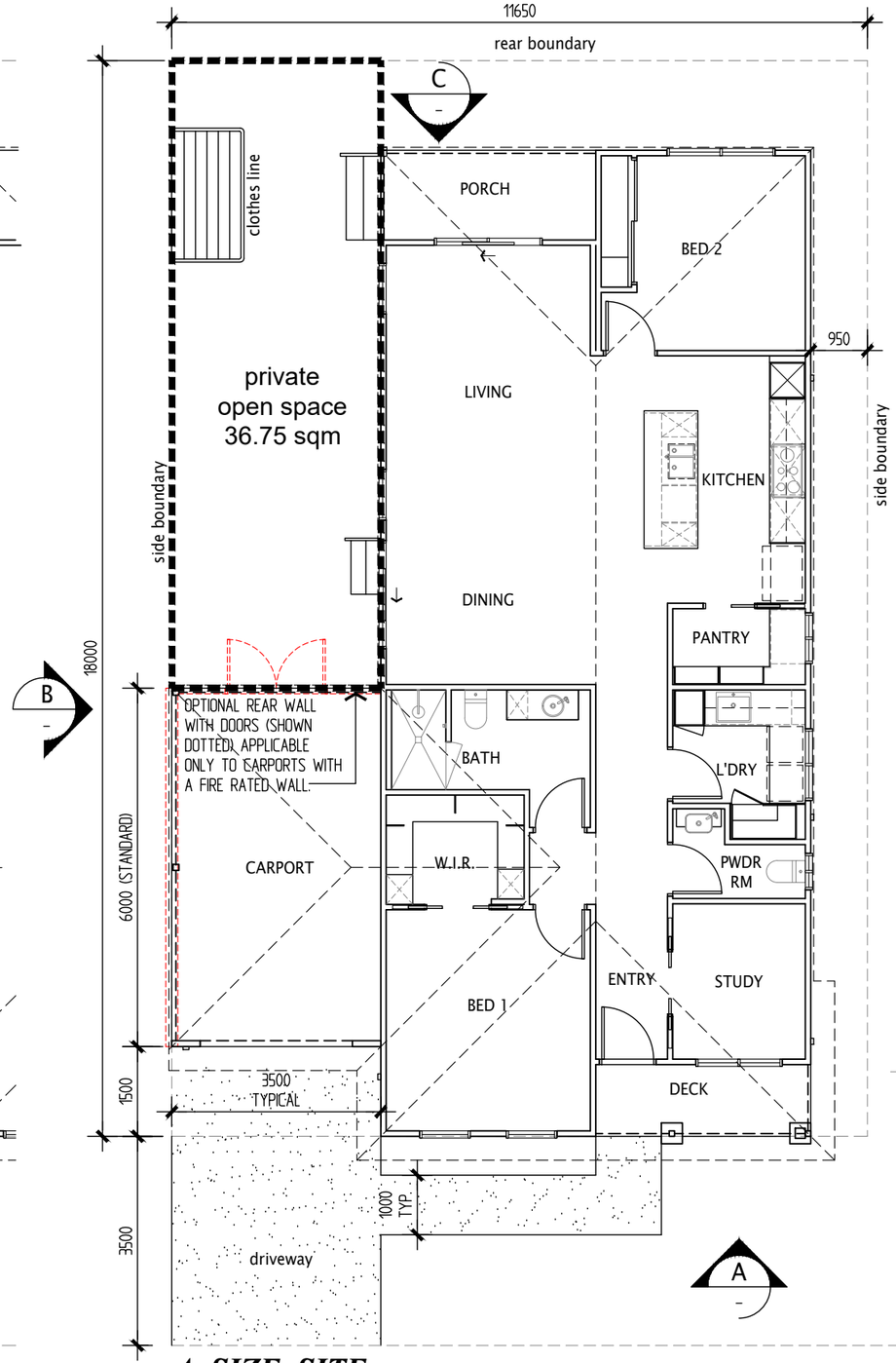
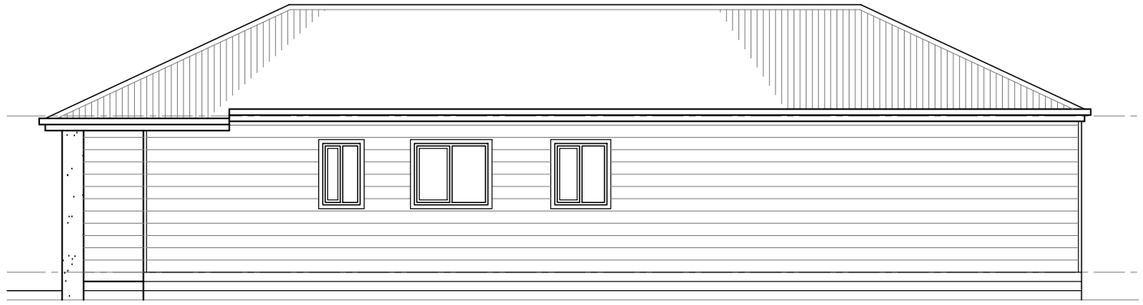


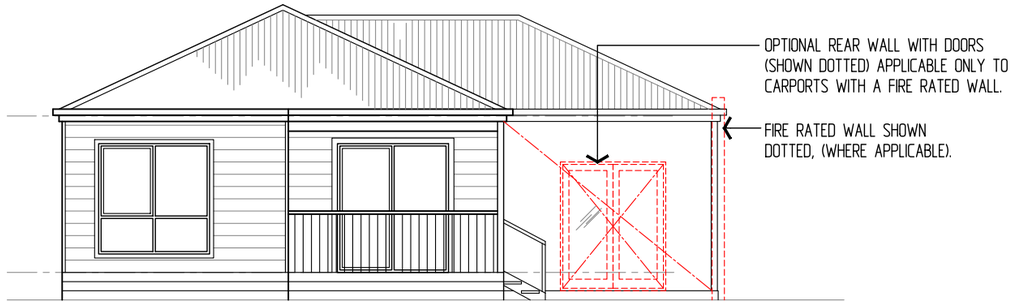


A1 SIZE SITE
FLOOR PLAN
SCALE 1:100

A SIZE SITE



ELEVATION D
SCALE 1:100



ELEVATION C
SCALE 1:100

ELEVATION B
SCALE 1:100



ELEVATION A
SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

SITE PERMEABILITY 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	139.80
CONCRETE DRIVEWAY & PATH	22.90
TOTAL BUILDING & CONCRETE AREAS	162.70
IMPERMEABLE SURFACES - MAX. 80%	78%

SITE COVERAGE 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	139.80
SITE COVERAGE - MAX 60%	67%

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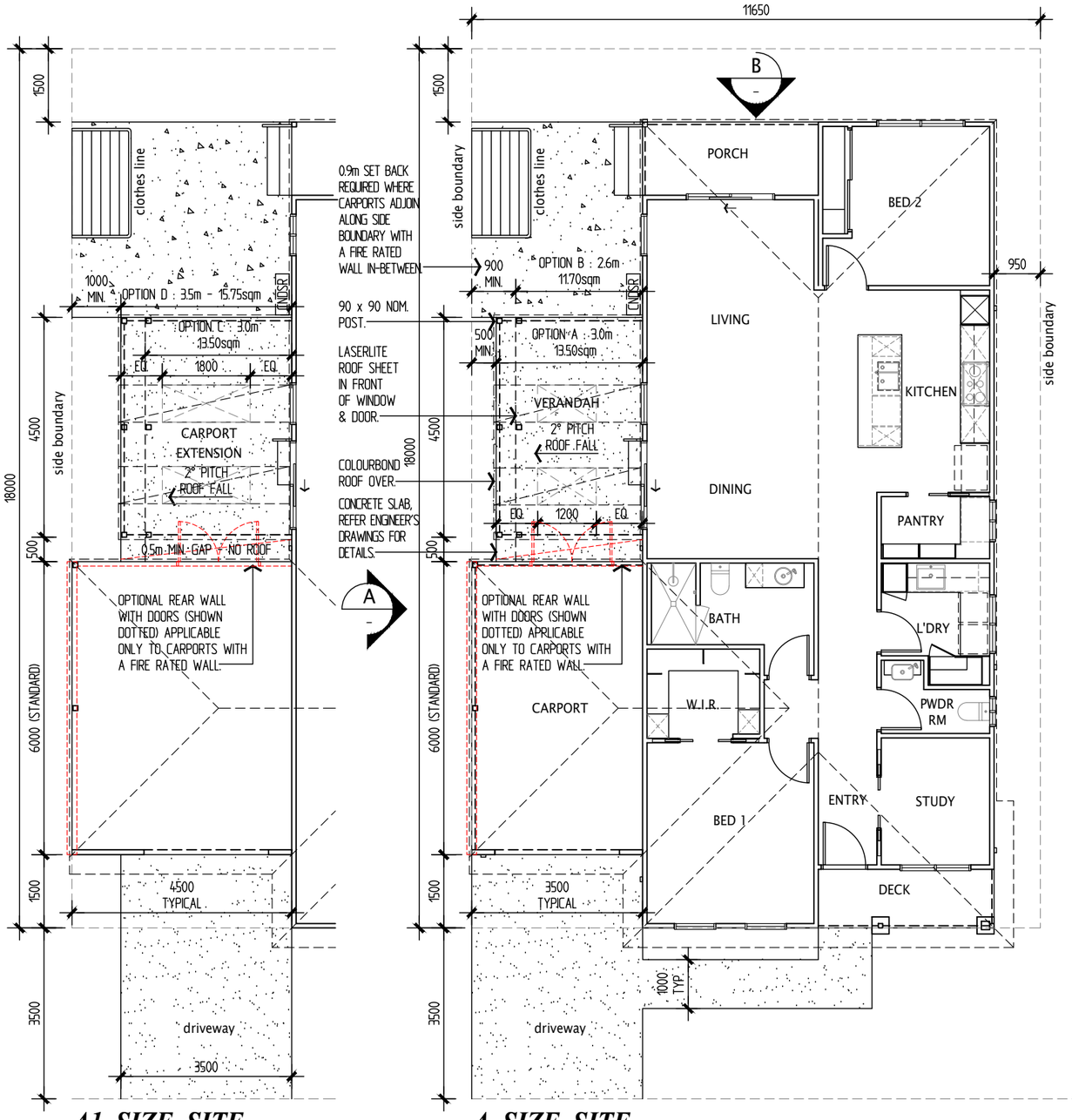
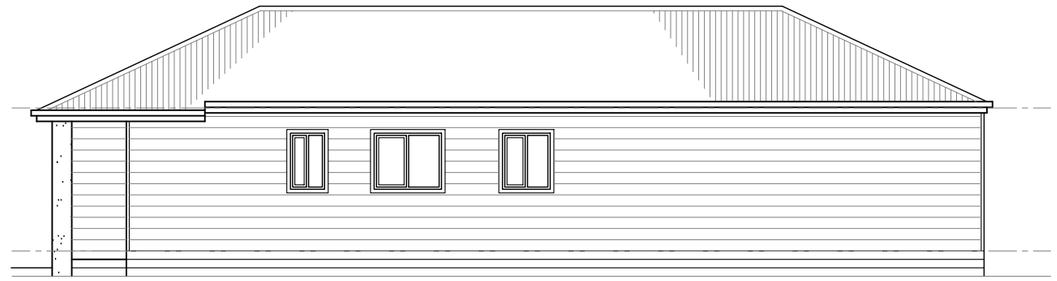


A1 SIZE SITE

A SIZE SITE

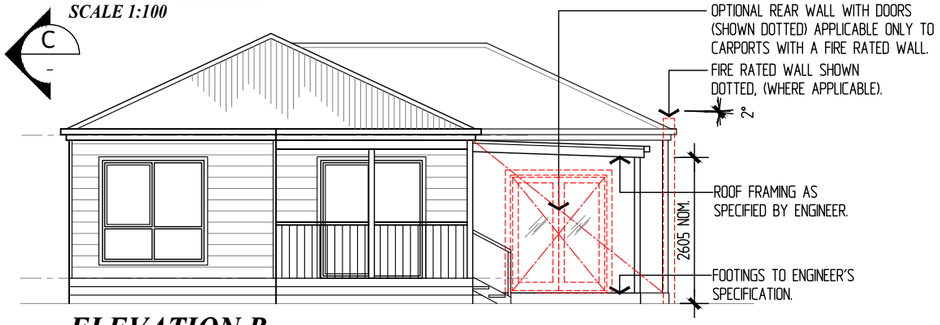
FLOOR PLAN - PROPOSED CARPORT EXTENSION & VERANDAH

SCALE 1:100



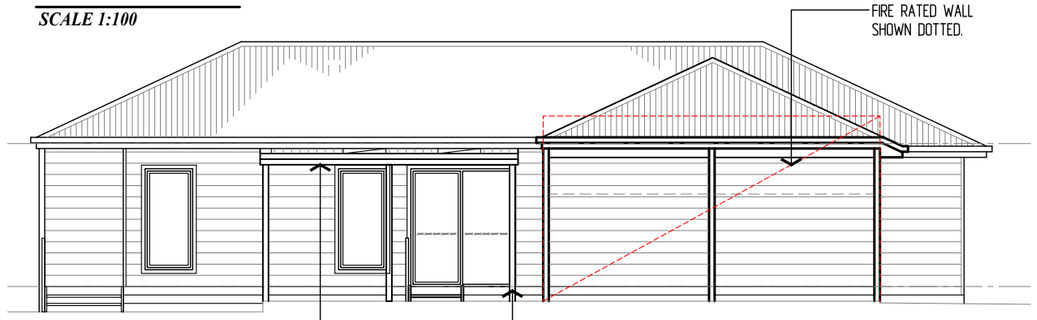
ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

COLORBOND GUTTER & FASCIA.

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

THESE DRAWINGS TO BE READ IN-CONJUNCTION WITH RELEVANT STRUCTURAL ENGINEERS DRAWINGS.

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ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

INFORMATION ONLY

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Web: www.lifestylecommunities.com.au

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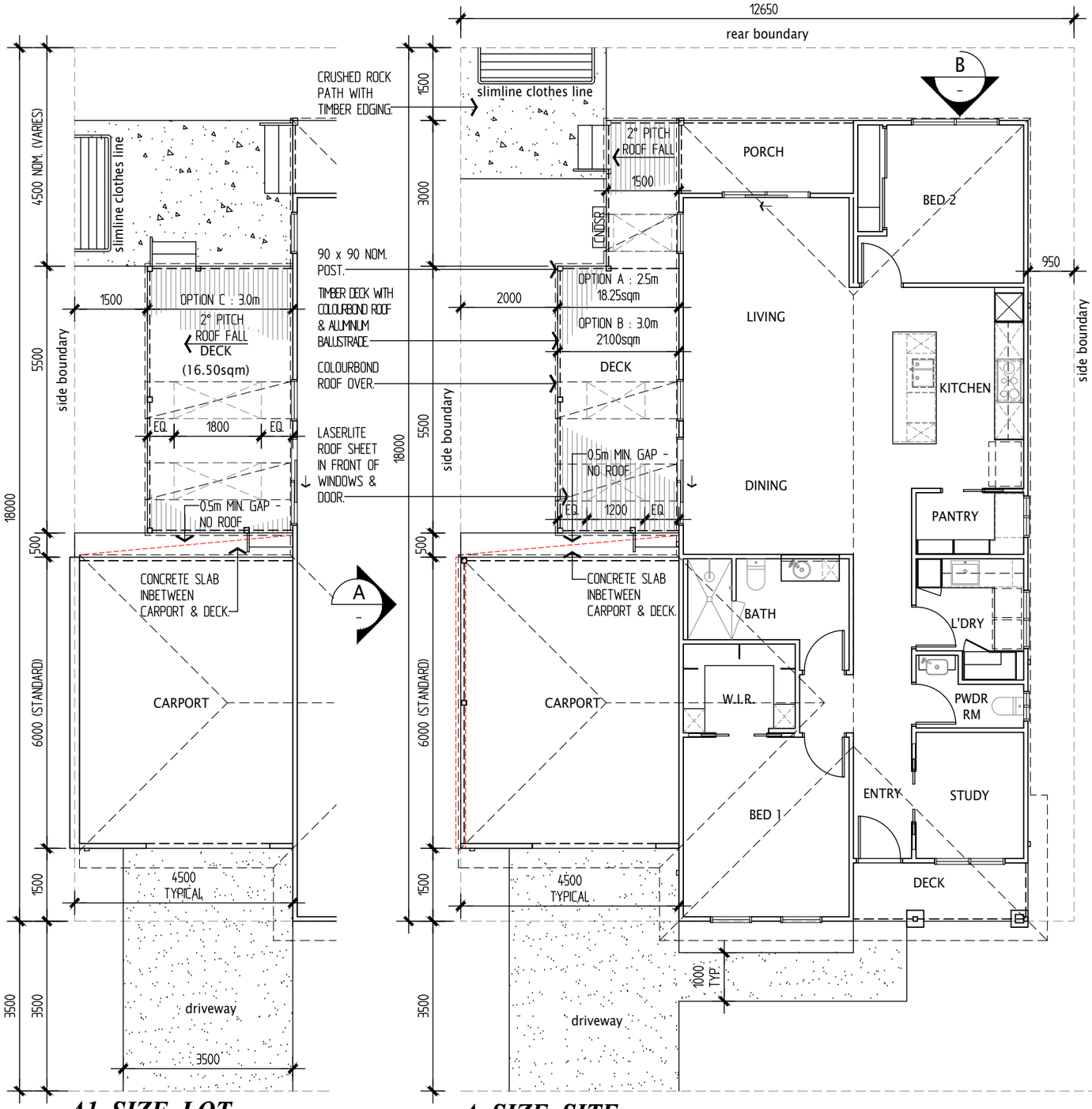
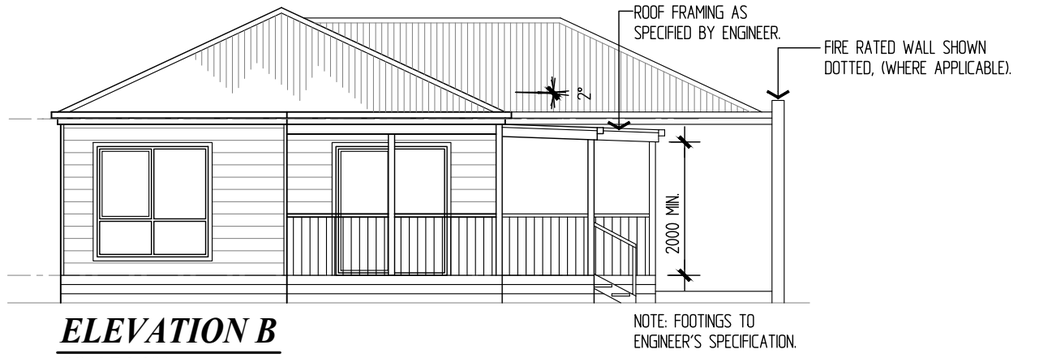


A1 SIZE LOT
A SIZE SITE

FLOOR PLAN - PROPOSED SIDE DECKS

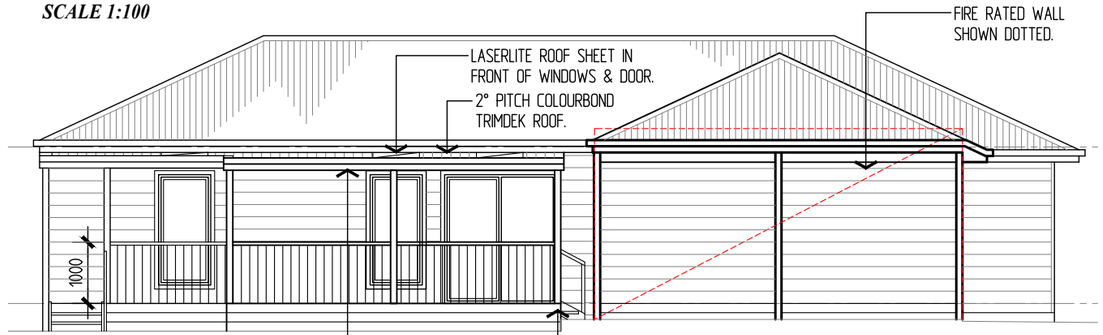
SCALE 1:100



ELEVATION B

SCALE 1:100

NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.



ELEVATION A

SCALE 1:100

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

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ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

INFORMATION ONLY

Lifestyle COMMUNITIES
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email: info@lifestylecommunities.com.au
Web: www.lifestylecommunities.com.au

LAWSON
PROPOSED SIDE DECKS

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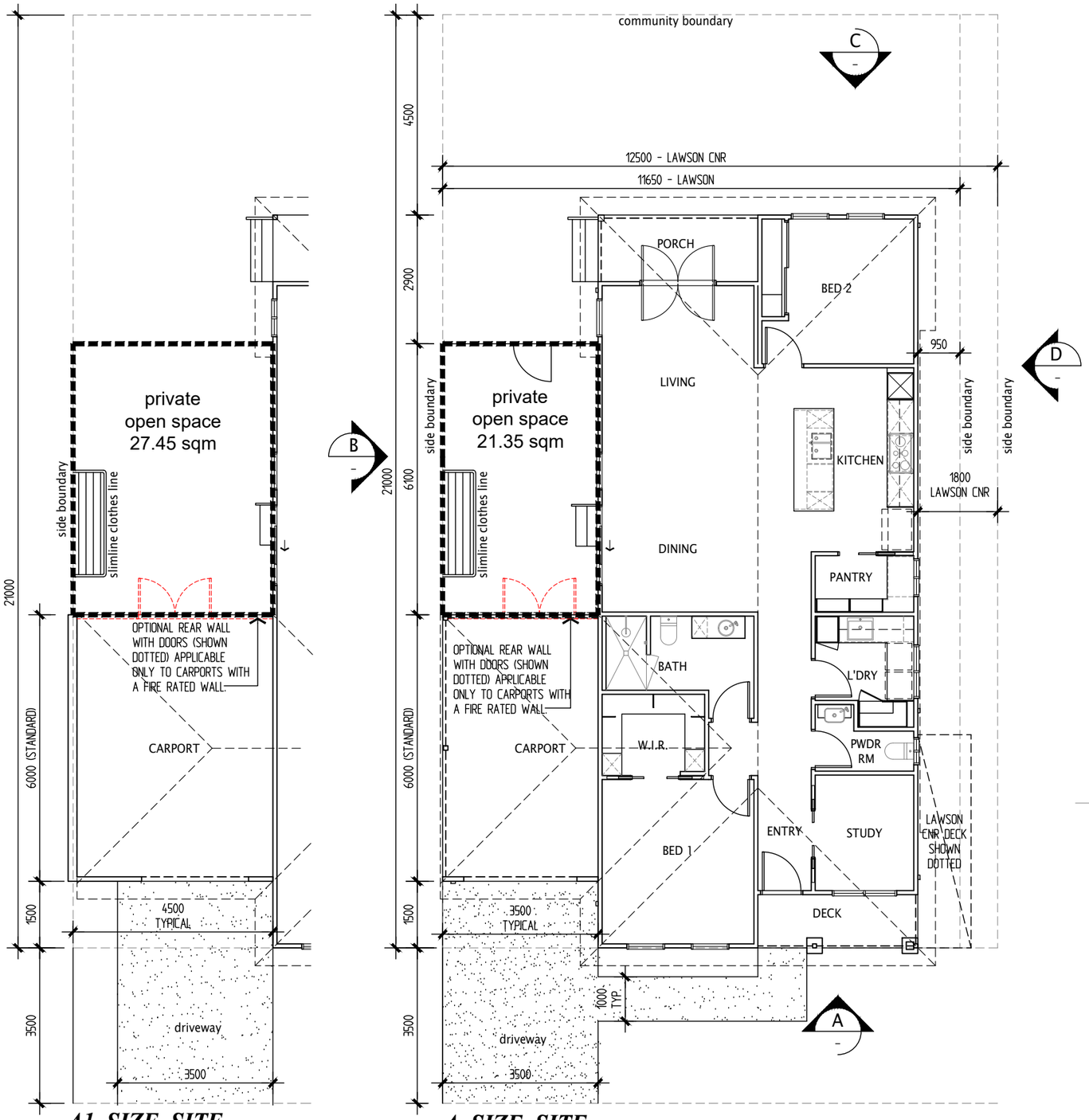


A1 SIZE SITE FLOOR PLAN

SCALE 1:100

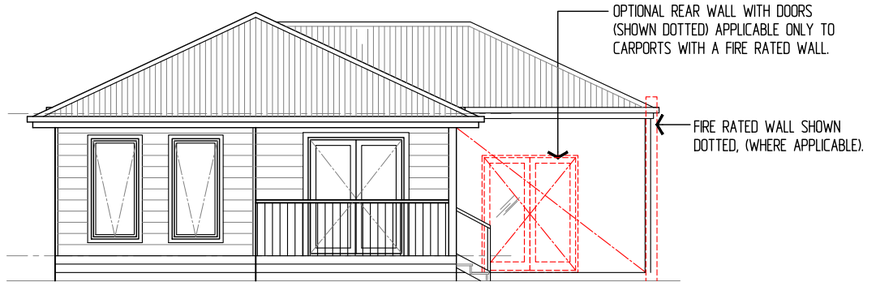
A SIZE SITE FLOOR PLAN

SCALE 1:100



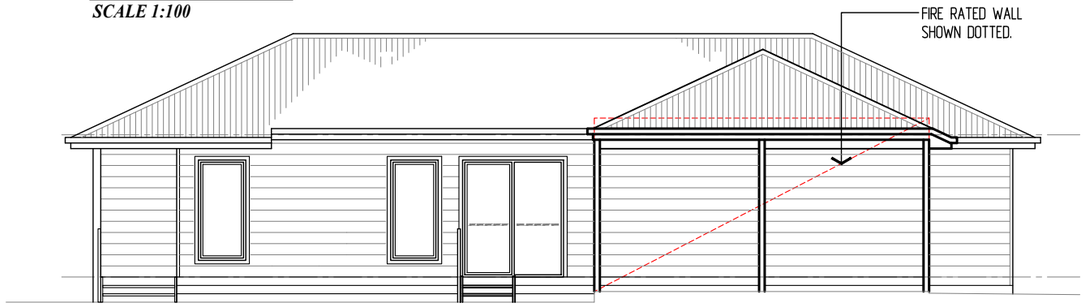
ELEVATION D

SCALE 1:100



ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

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SITE PERMEABILITY 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	244.65
TOTAL BUILDING AREA	139.80
CONCRETE DRIVEWAY & PATH	22.90
TOTAL BUILDING & CONCRETE AREAS	162.70
IMPERMEABLE SURFACES - MAX. 80%	67%

SITE COVERAGE 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	244.65
TOTAL BUILDING AREA	139.80
SITE COVERAGE - MAX 60%	57%

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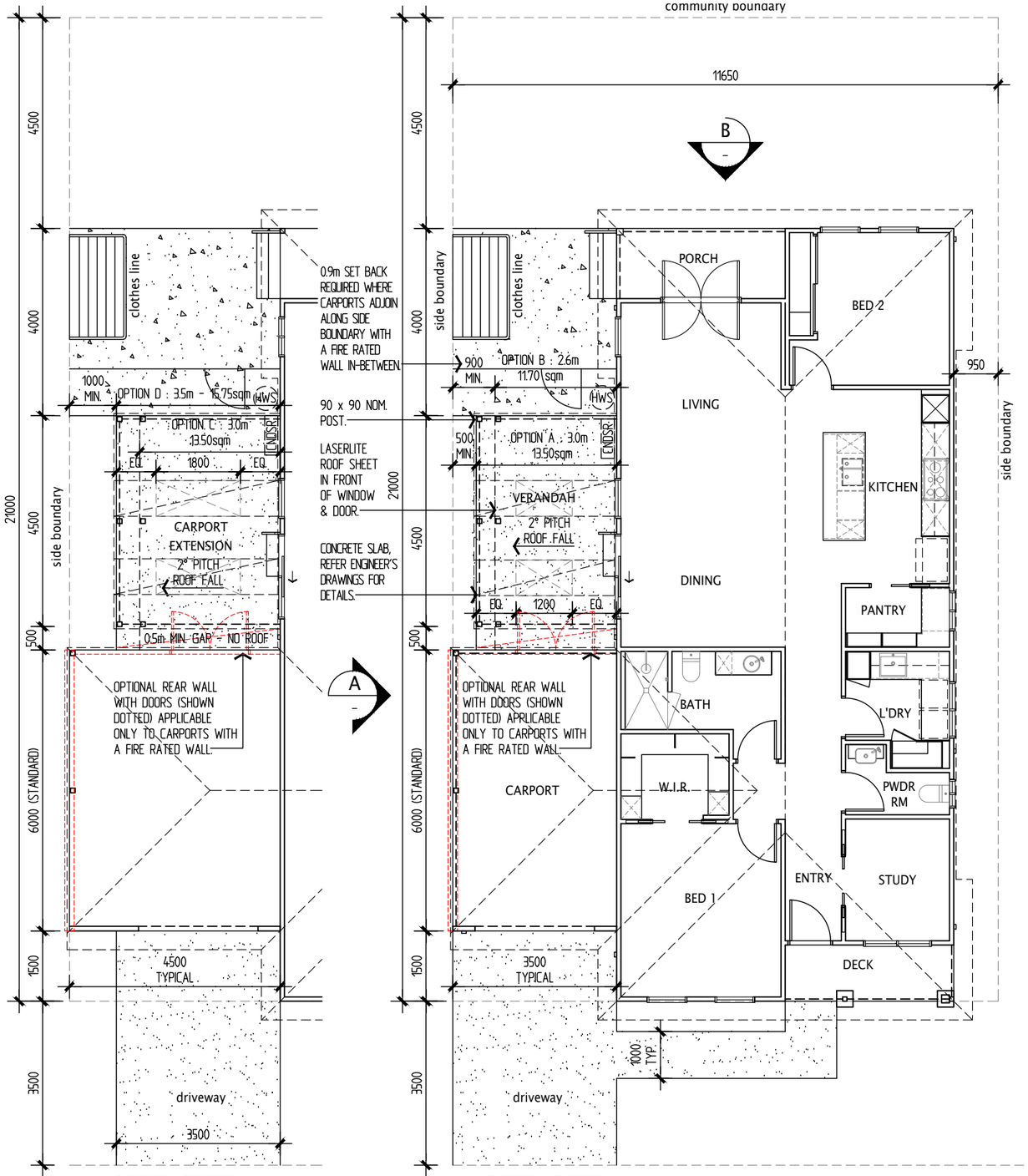
DRAWING No: LCO-S3 32 OF 62

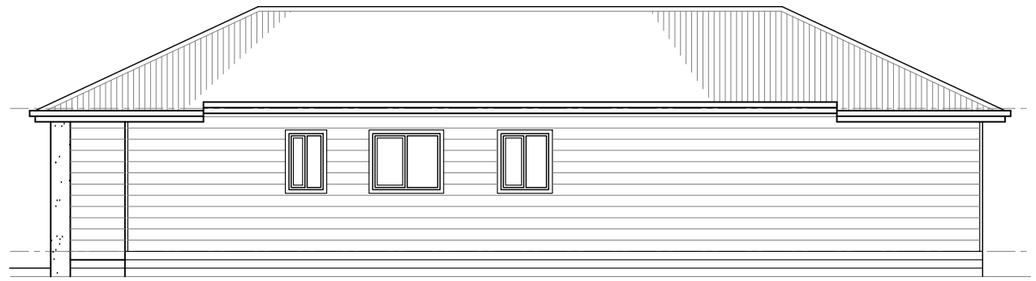


A1 SIZE SITE

A SIZE SITE

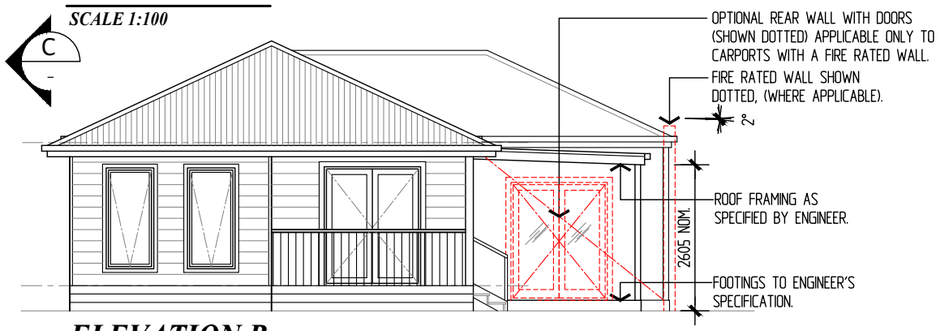
FLOOR PLAN - PROPOSED CARPORT EXTENSION & VERANDAH

SCALE 1:100



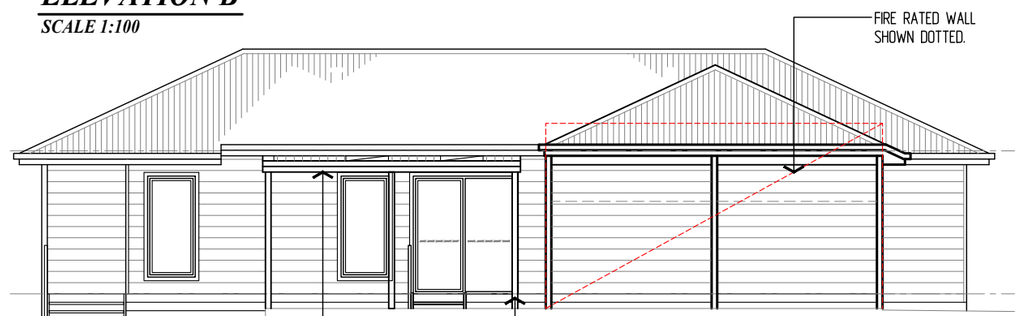
ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

COLORBOND GUTTER & FASCIA.

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
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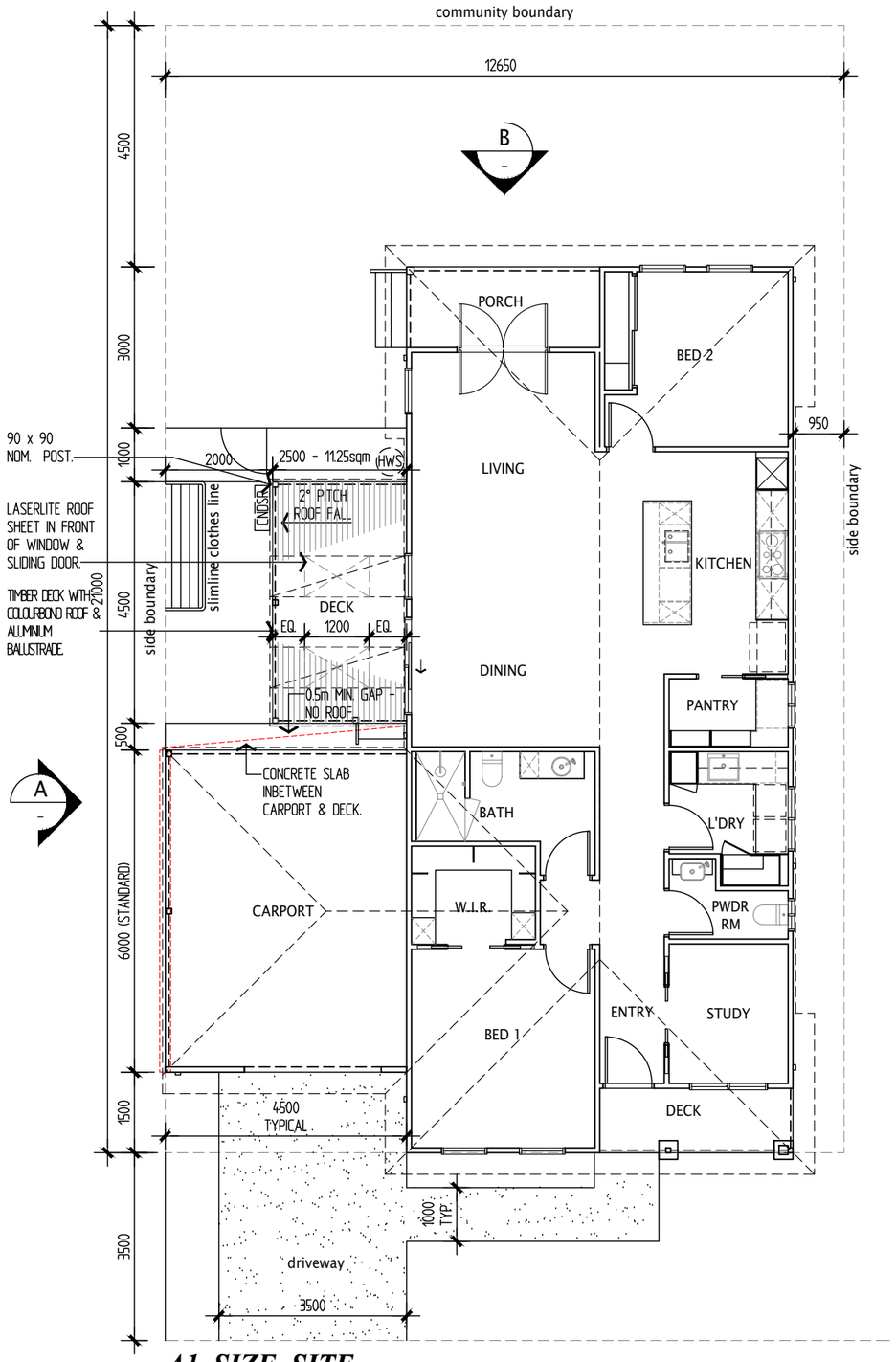
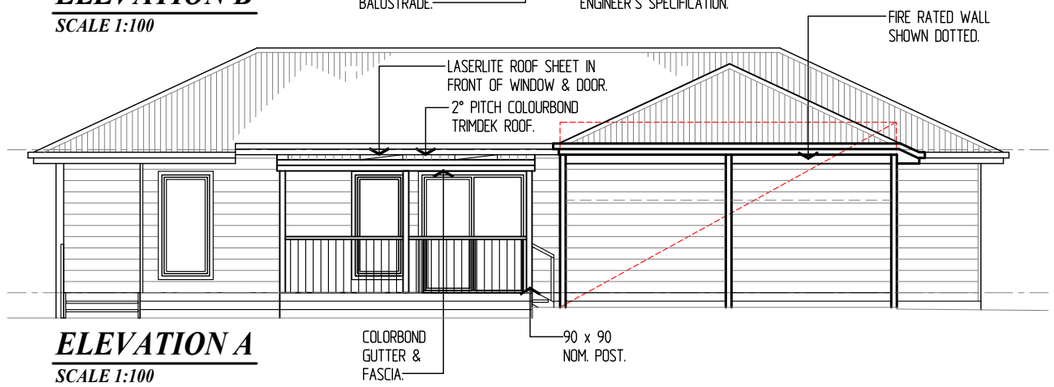


A1 SIZE SITE
FLOOR PLAN - PROPOSED SIDE DECK
SCALE N.T.S.



ELEVATION B
SCALE 1:100



ELEVATION A
SCALE 1:100

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

THESE DRAWINGS TO BE READ IN-CONJUNCTION WITH RELEVANT STRUCTURAL ENGINEERS DRAWINGS.

FRAMING SUPPLY & INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS & RELEVANT AUSTRALIAN STANDARDS.

ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

INFORMATION ONLY

Lifestyle COMMUNITIES
Tel: (03) 9682 2249 Fax: (03) 9682 1236
email: info@lifestylecommunities.com.au
Web: www.lifestylecommunities.com.au

LAWSON DS PROPOSED SIDE DECK	LIFESTYLE COMMUNITIES COWES				NORTH:	AMENDMENTS: REVISION - 30.09.21
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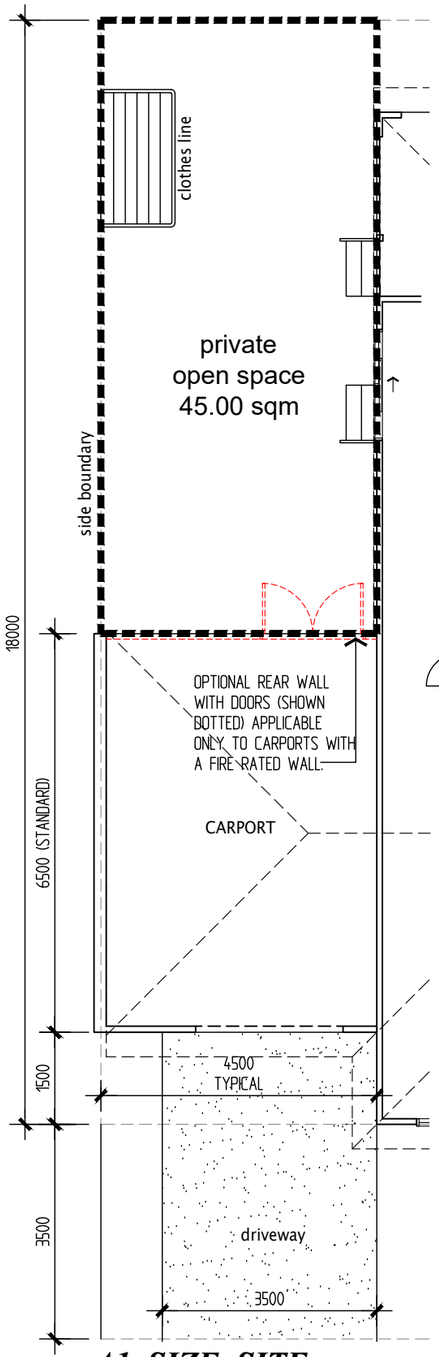
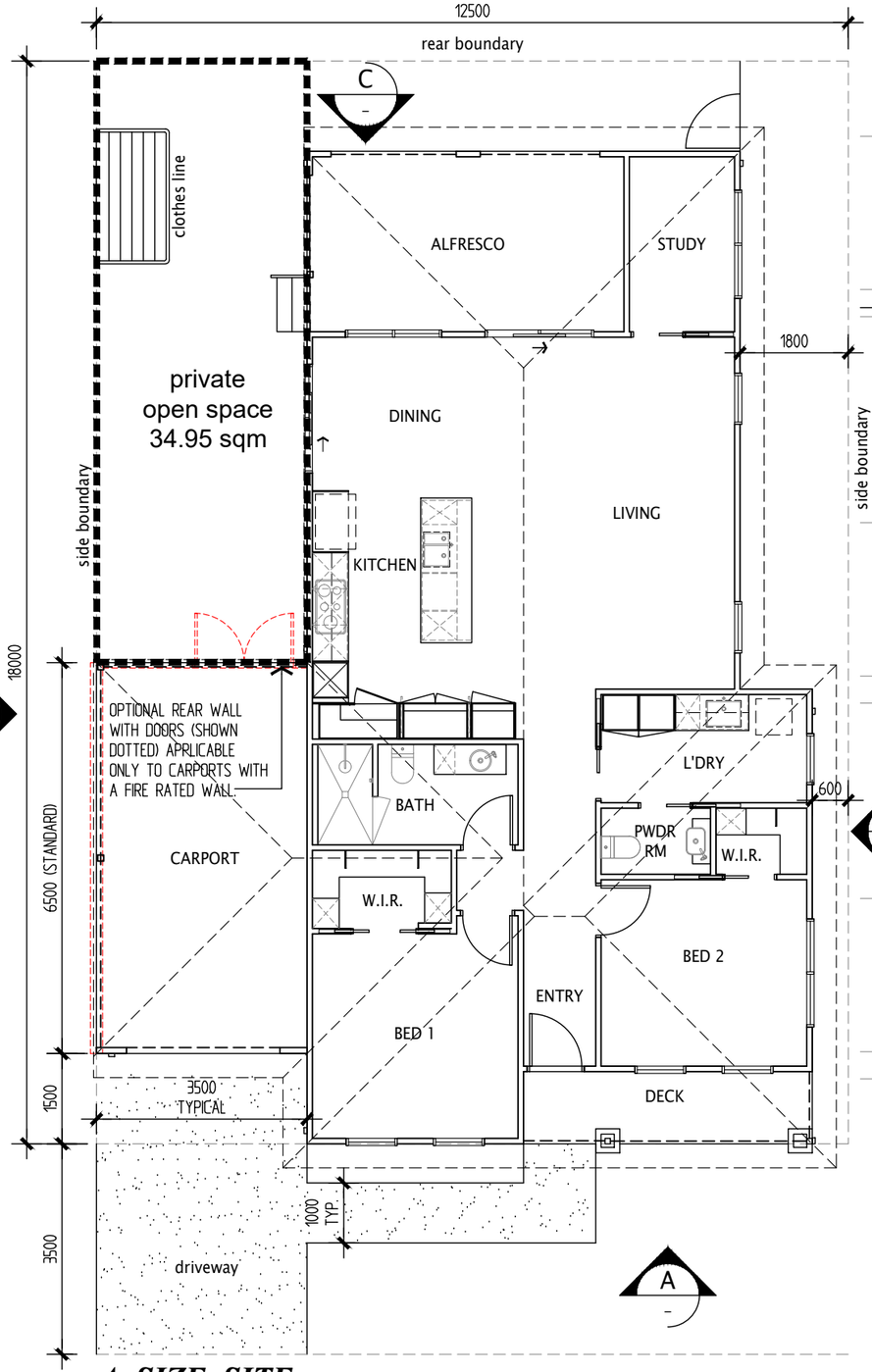


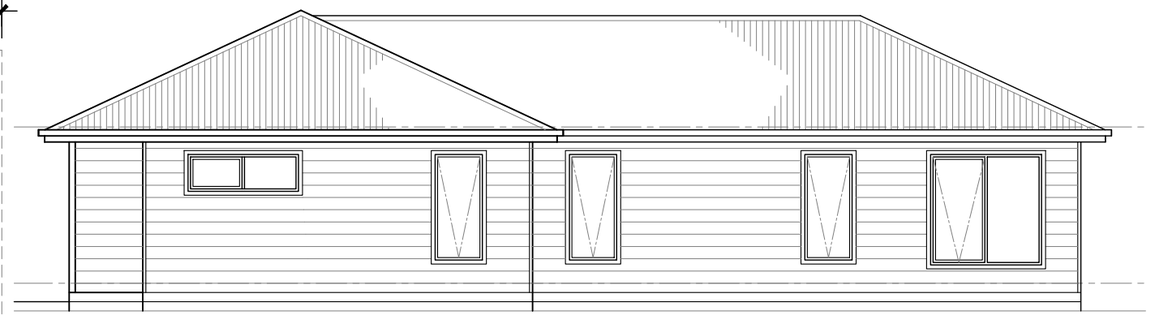
A1 SIZE SITE

FLOOR PLAN

SCALE 1:100

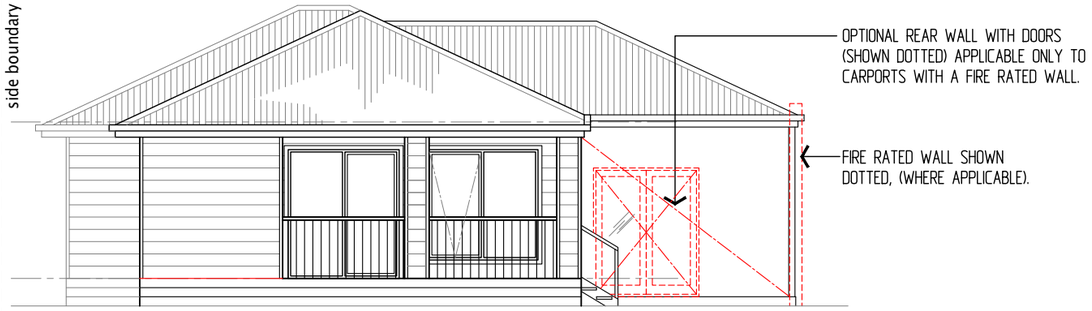


A SIZE SITE



ELEVATION D

SCALE 1:100



ELEVATION C

SCALE 1:100

ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

SITE PERMEABILITY 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	225.00
TOTAL BUILDING AREA	150.60
CONCRETE DRIVEWAY & PATH	23.10
TOTAL BUILDING & CONCRETE AREAS	173.70
IMPERMEABLE SURFACES - MAX. 80%	77%

SITE COVERAGE 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	225.00
TOTAL BUILDING AREA	150.60
SITE COVERAGE - MAX 60%	67%

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LEWIS CNR

LIFESTYLE COMMUNITIES
COWES

NORTH:

AMENDMENTS:
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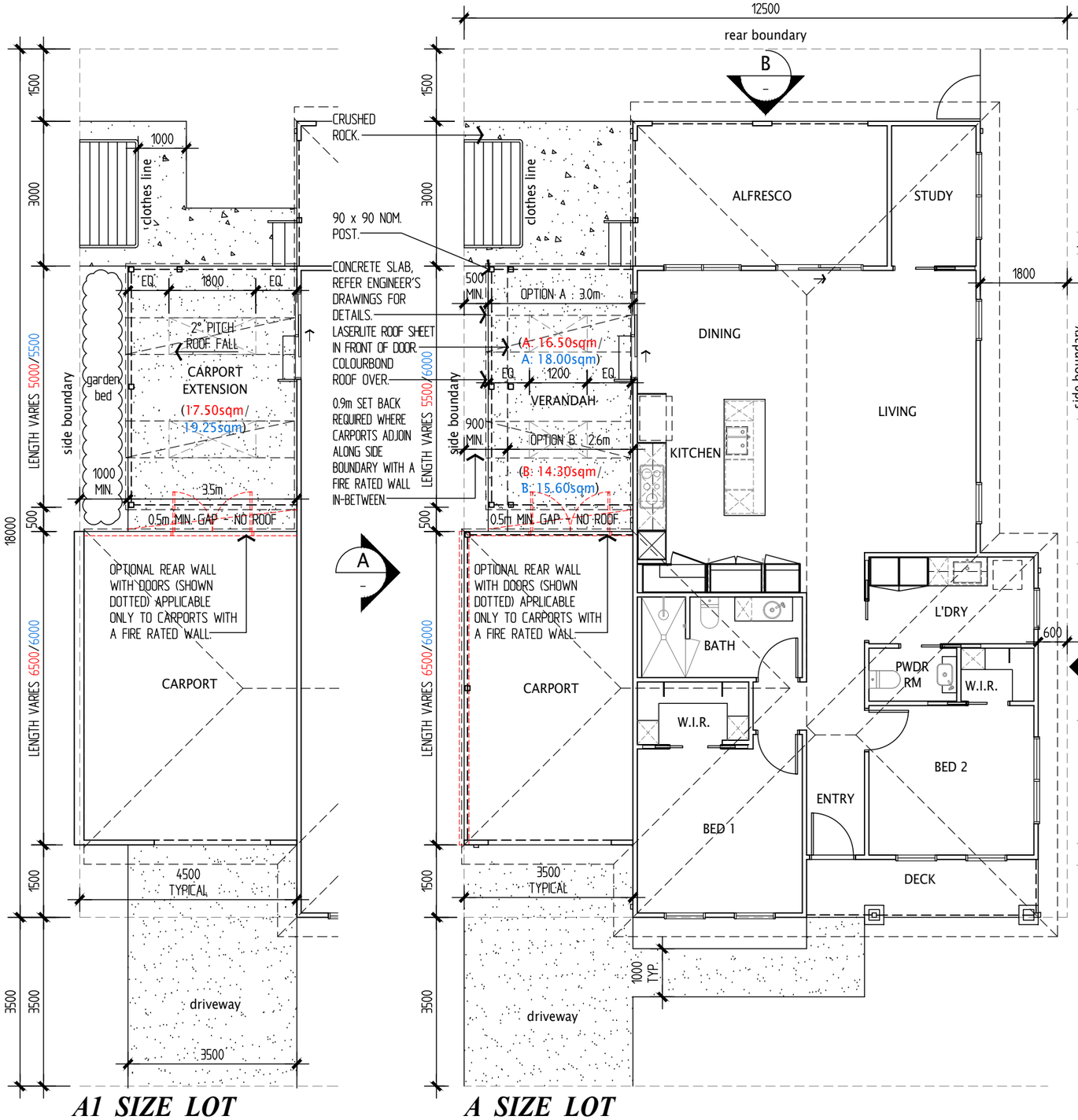
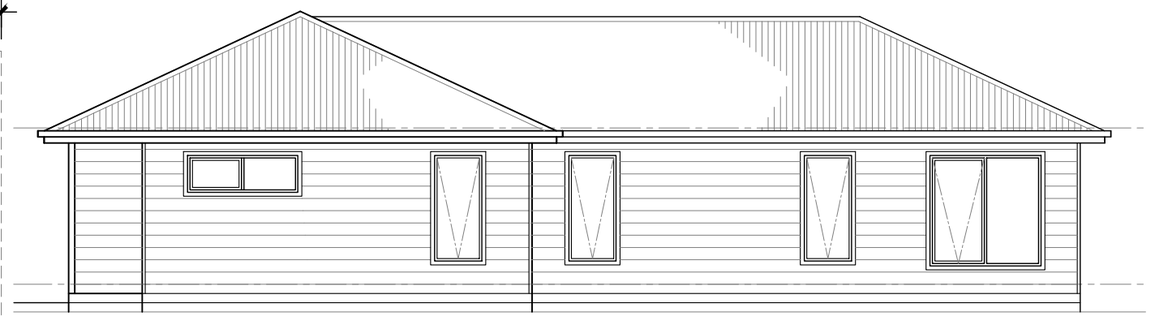


A1 SIZE LOT

A SIZE LOT

FLOOR PLAN - PROPOSED CARPORT EXTENSION & VERANDAH

SCALE 1:100



ELEVATION C

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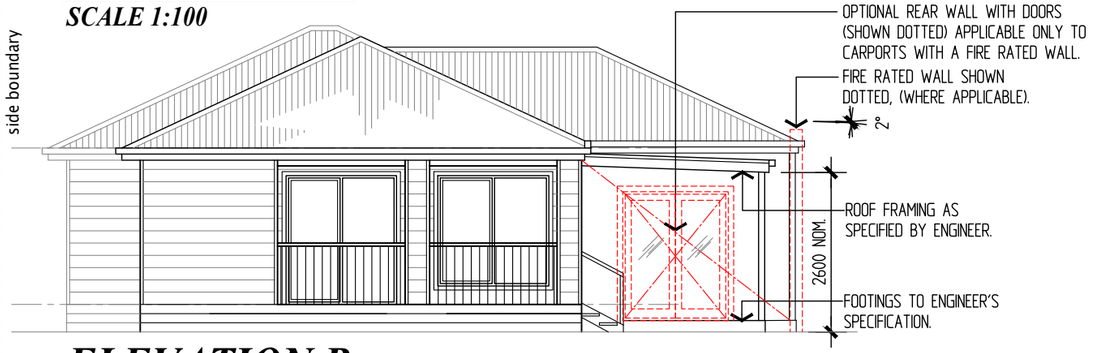
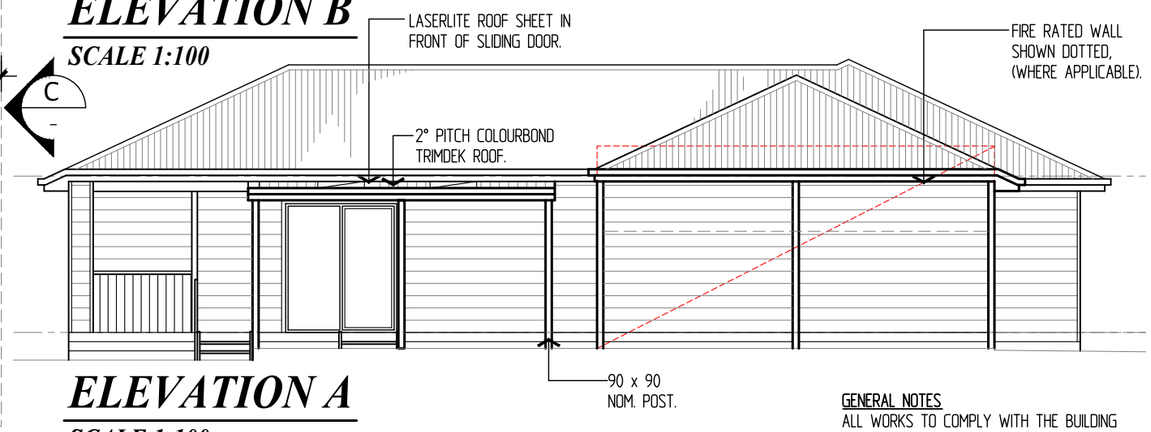


ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

THESE DRAWINGS TO BE READ IN-CONJUNCTION WITH RELEVANT STRUCTURAL ENGINEERS DRAWINGS.

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ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

INFORMATION ONLY

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LEWIS CNR
PROPOSED CARPORT
EXT. & VERANDAH

LIFESTYLE COMMUNITIES
COWES

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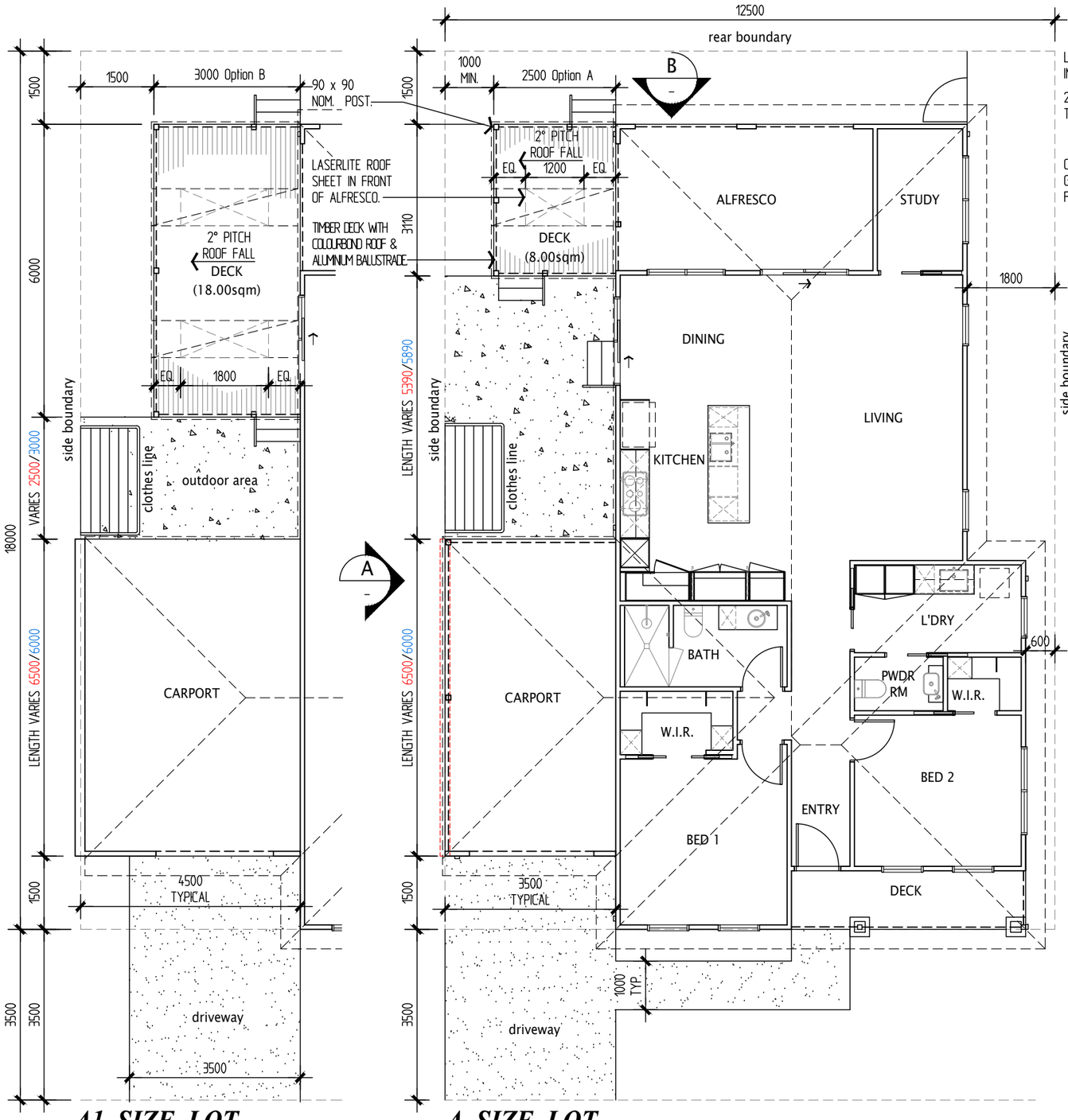
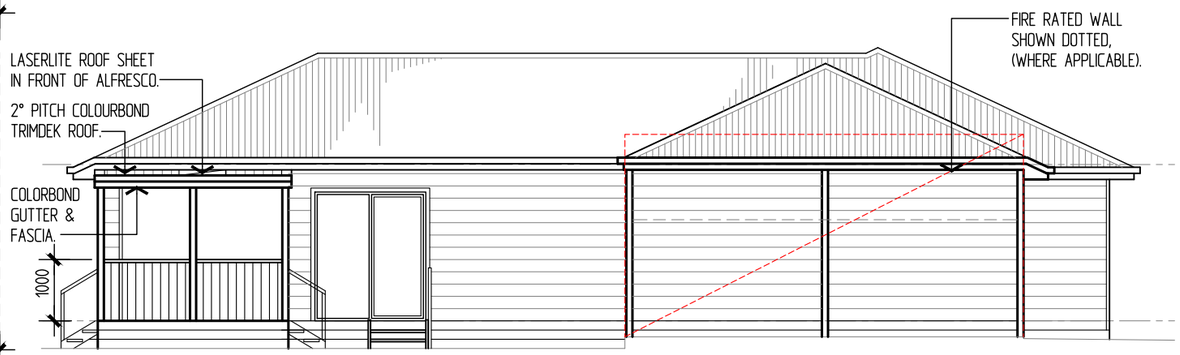


A1 SIZE LOT

A SIZE LOT

FLOOR PLAN - PROPOSED SIDE DECKS

SCALE 1:100



ELEVATION A

SCALE 1:100



ELEVATION B

SCALE 1:100

NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
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LEWIS CNR
PROPOSED SIDE DECKS

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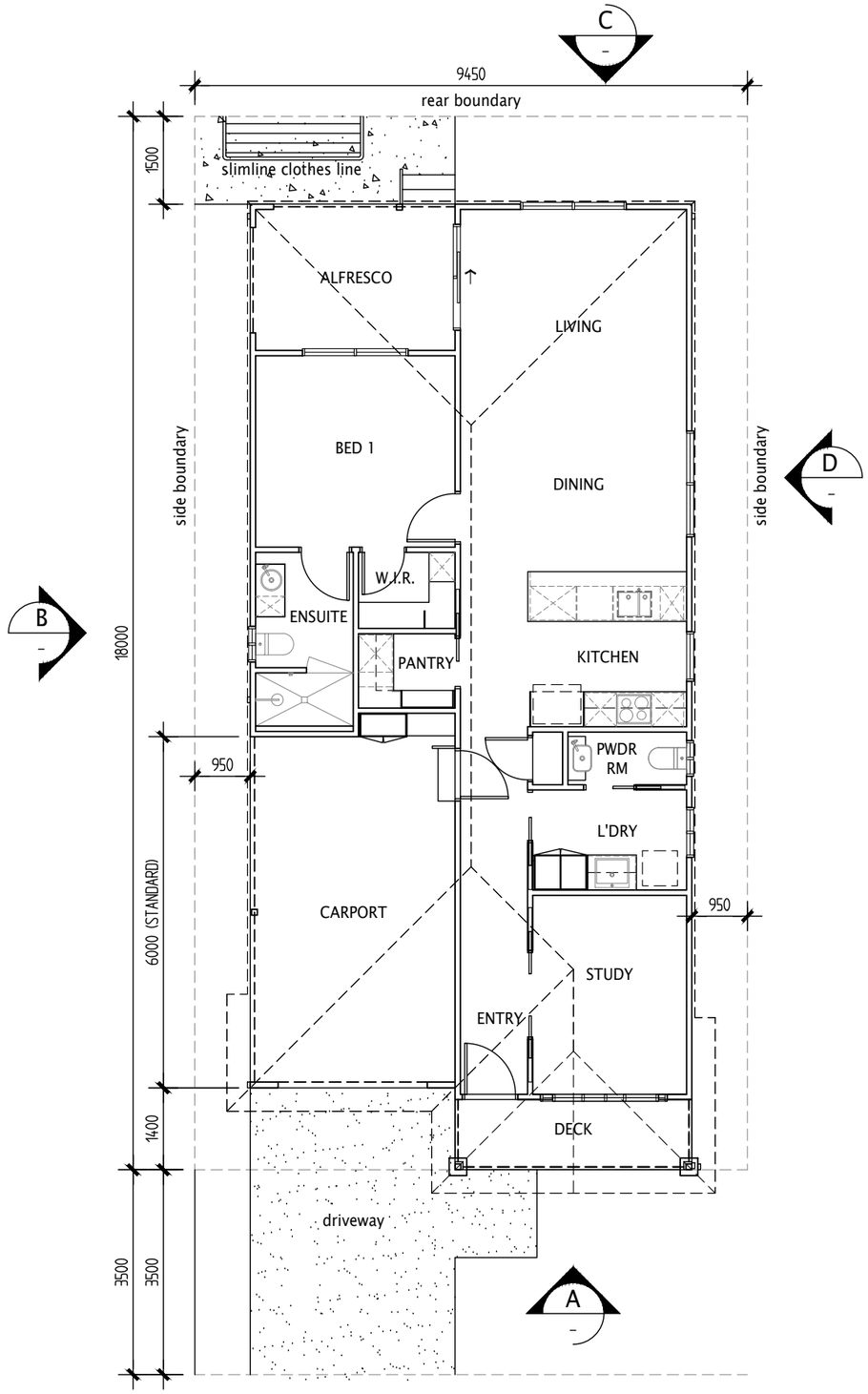
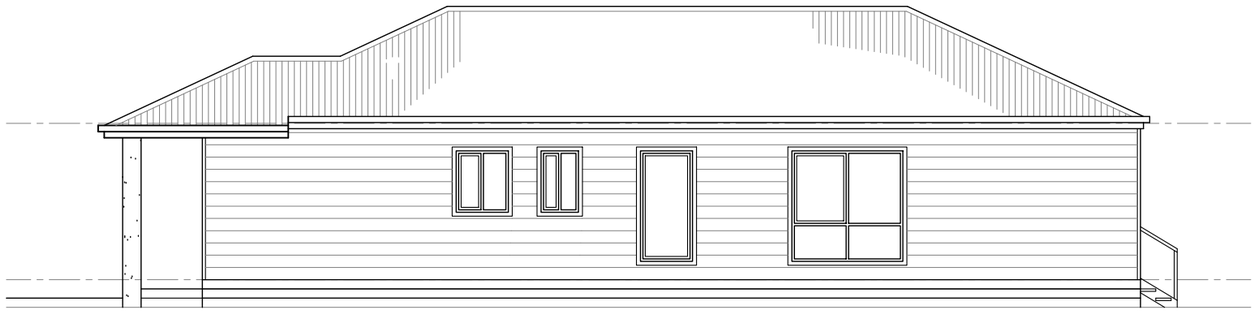


FLOOR PLAN - NO FIRE RATED WALL, CARPORT EXTENSION & VERANDAH AVAILABLE

SCALE 1:100



ELEVATION D

SCALE 1:100



ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

INFORMATION ONLY

Lifestyle COMMUNITIES

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SITE PERMEABILITY 'C' SIZE SITE	MET SQ.
TOTAL SITE AREA	170.10
TOTAL BUILDING AREA	119.65
CONCRETE DRIVEWAY & PATH	19.25
TOTAL BUILDING & CONCRETE AREAS	138.90
IMPERMEABLE SURFACES - MAX. 80%	82%

SITE COVERAGE 'C' SIZE SITE	MET SQ.
TOTAL SITE AREA	170.10
TOTAL BUILDING AREA	119.65
SITE COVERAGE - MAX 60%	70%

MANNING

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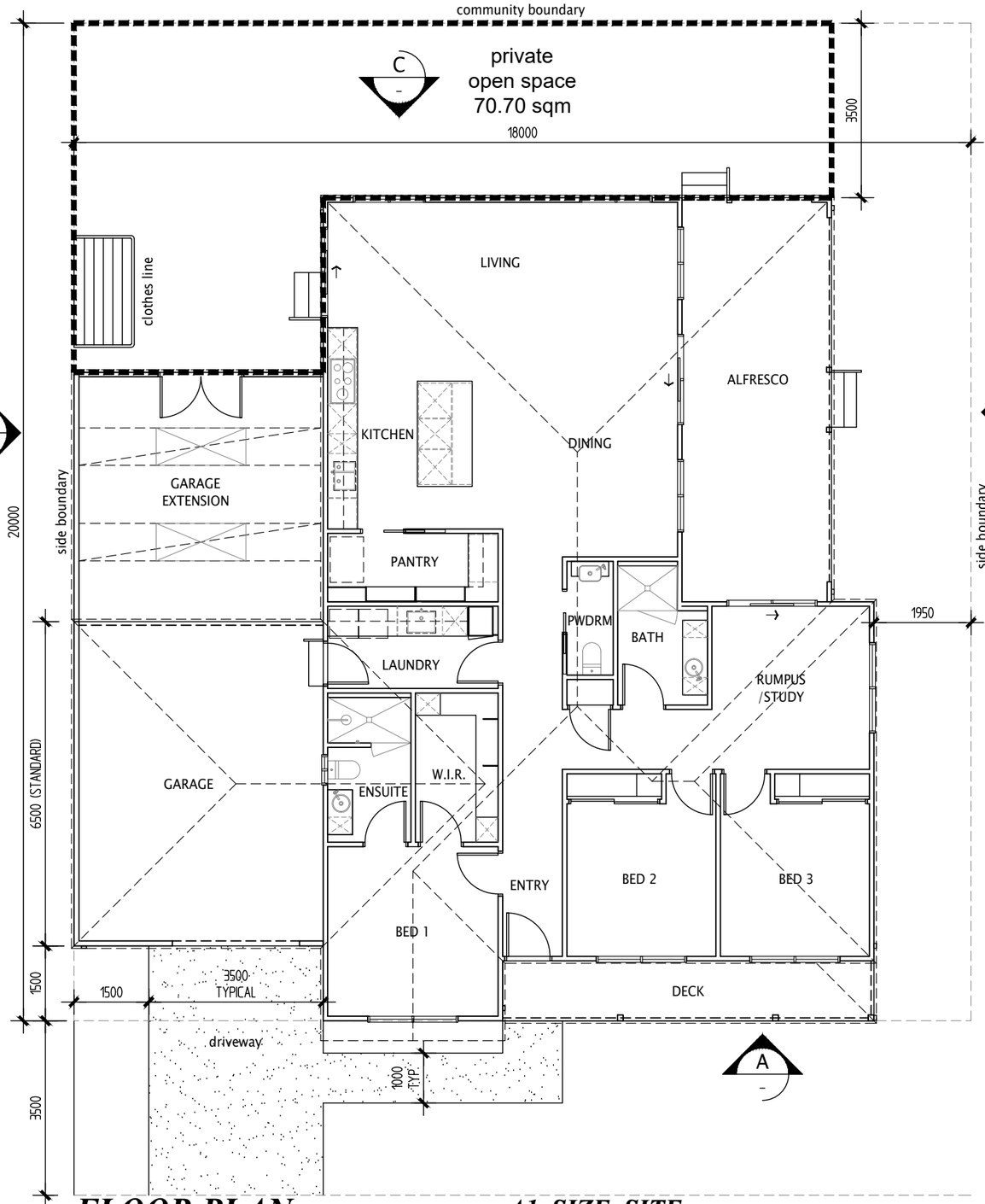
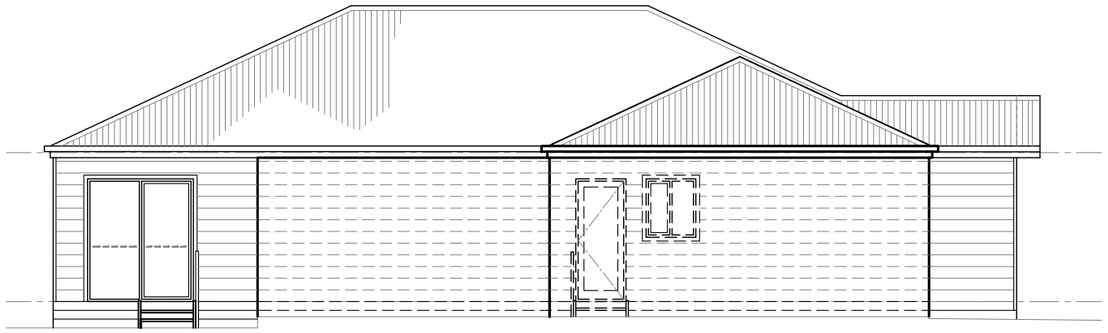


FLOOR PLAN

SCALE 1:100

A1 SIZE SITE



ELEVATION D

SCALE 1:100



ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

INFORMATION ONLY

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Web: www.lifestylecommunities.com.au

SITE PERMEABILITY 'A1' SIZE SITE	MET SQ.
TOTAL SITE AREA	357.00
TOTAL BUILDING AREA	237.30
CONCRETE DRIVEWAY & PATH	23.10
TOTAL BUILDING & CONCRETE AREAS	260.40
IMPERMEABLE SURFACES - MAX. 80%	73%

SITE COVERAGE 'A1' SIZE SITE	MET SQ.
TOTAL SITE AREA	357.00
TOTAL BUILDING AREA	237.30
SITE COVERAGE - MAX 60%	66%

MANANGER'S RESIDENCE

LIFESTYLE COMMUNITIES
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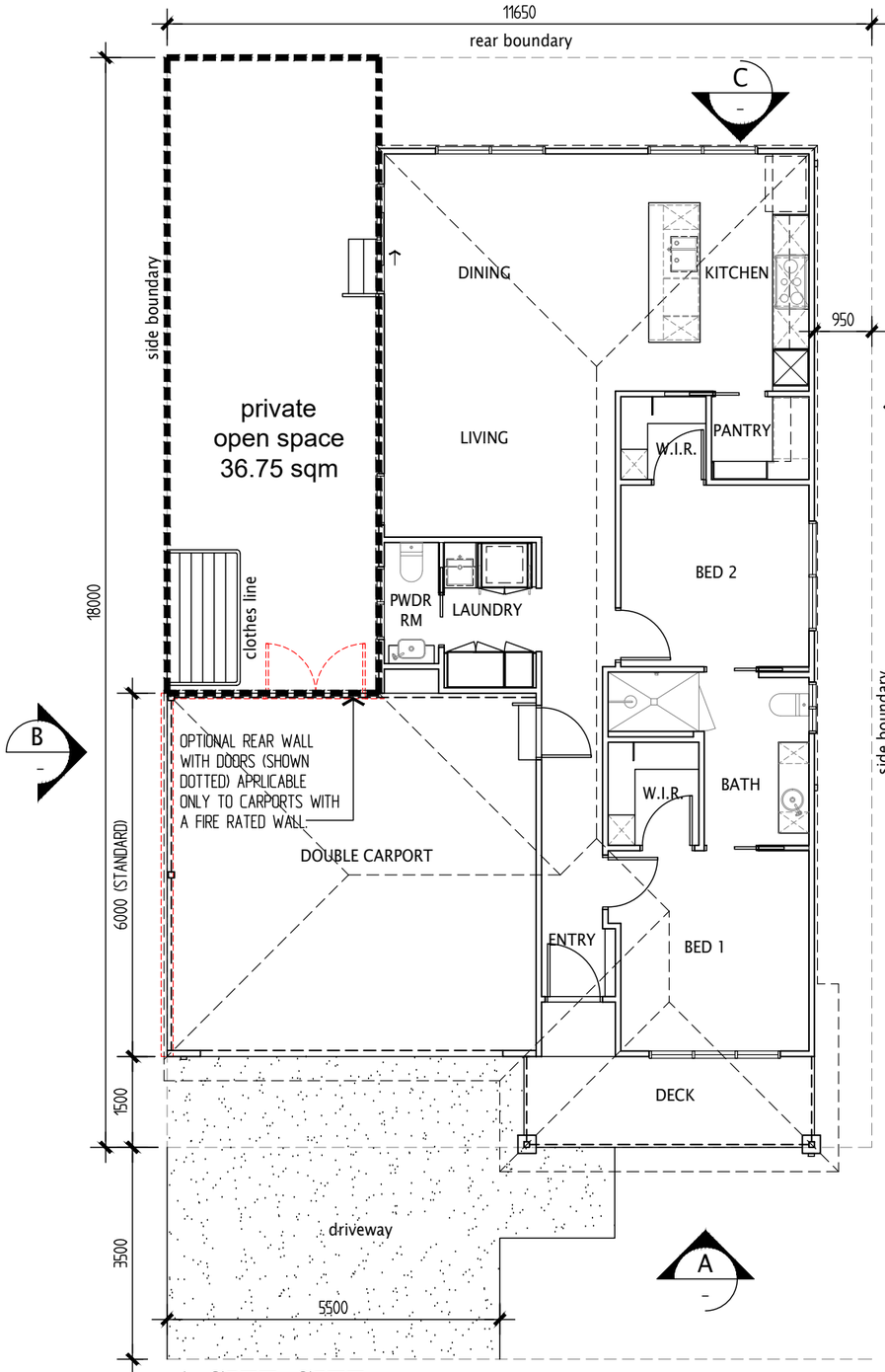
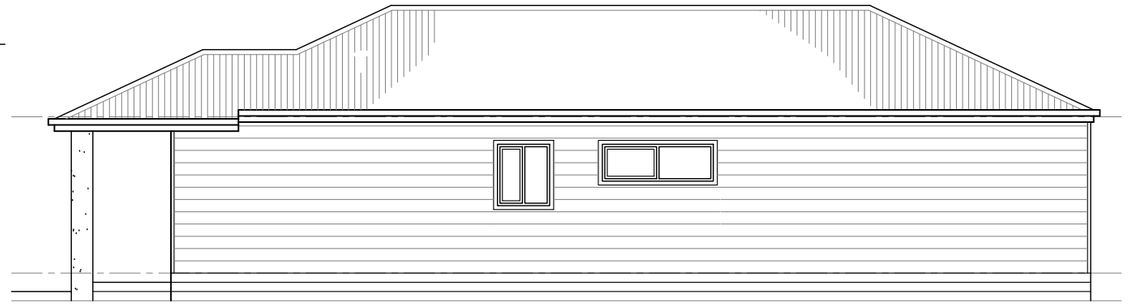
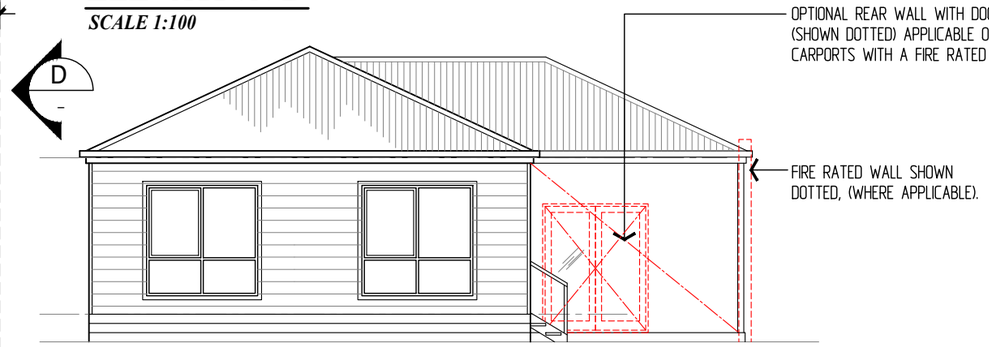


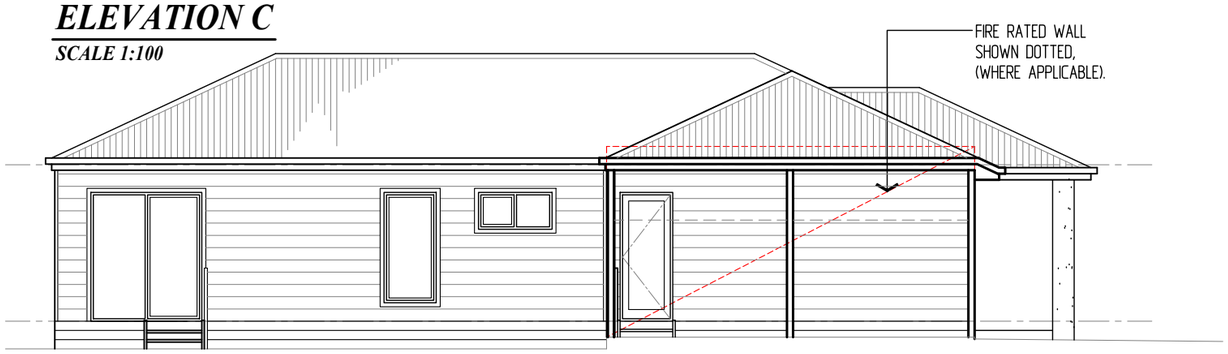
A SIZE SITE
FLOOR PLAN
SCALE 1:100



ELEVATION D
SCALE 1:100



ELEVATION C
SCALE 1:100



ELEVATION B
SCALE 1:100



ELEVATION A
SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

SITE PERMEABILITY 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	136.20
CONCRETE DRIVEWAY & PATH	30.95
TOTAL BUILDING & CONCRETE AREAS	167.15
IMPERMEABLE SURFACES - MAX. 80%	80%

SITE COVERAGE 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	136.20
SITE COVERAGE - MAX 60%	65%

Lifestyle COMMUNITIES
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OXLEY

LIFESTYLE COMMUNITIES
COWES

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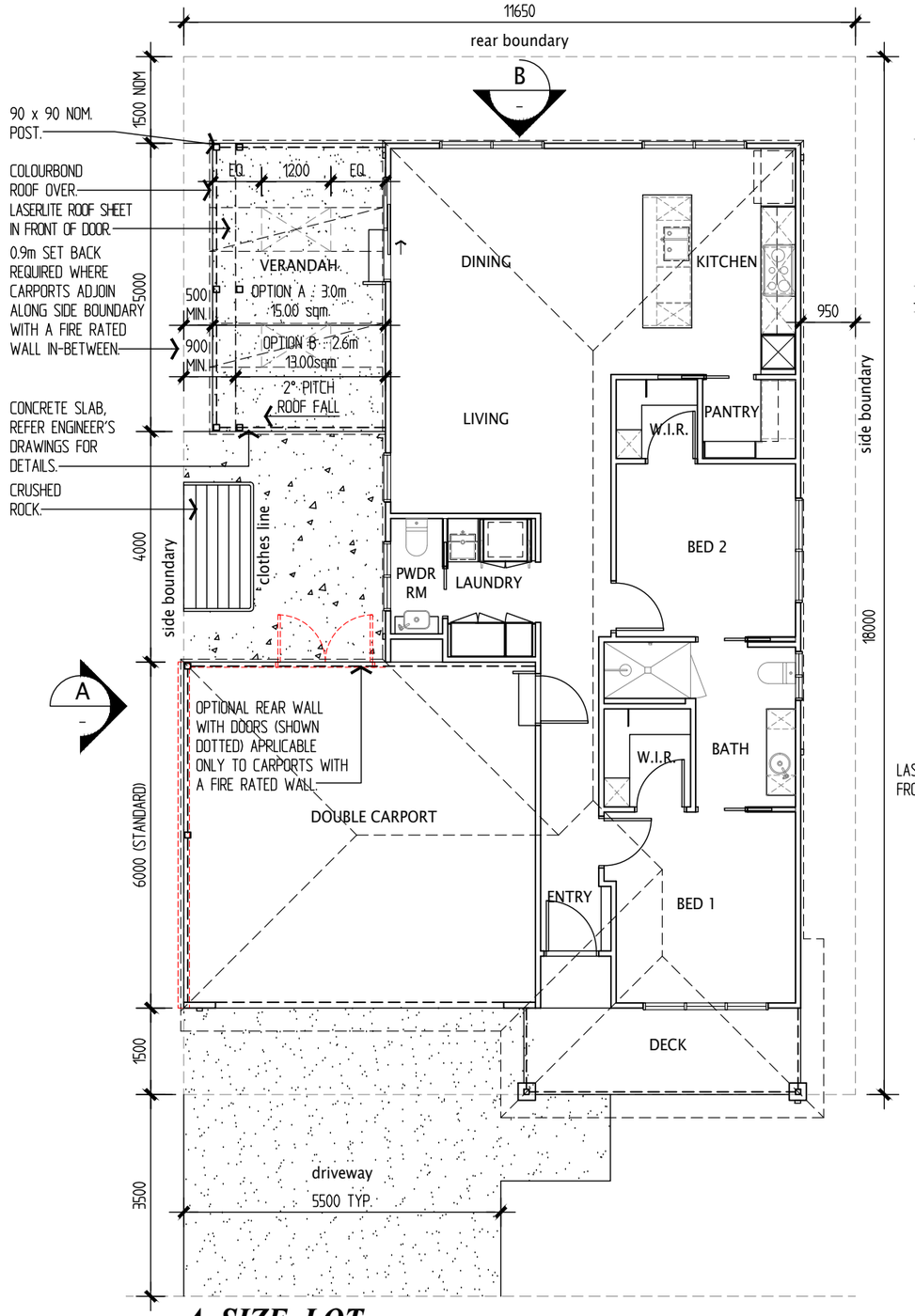
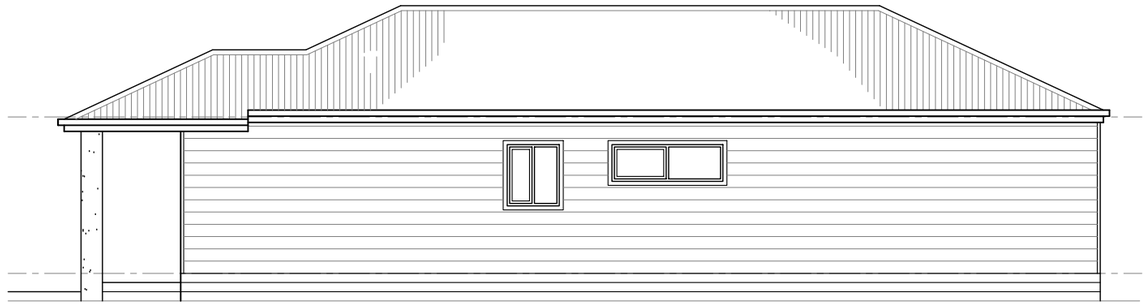


A SIZE LOT

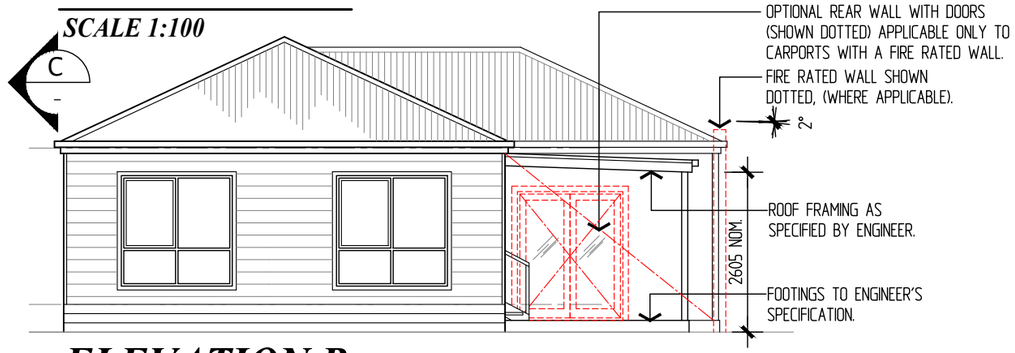
FLOOR PLAN - PROPOSED VERANDAH

SCALE 1:100



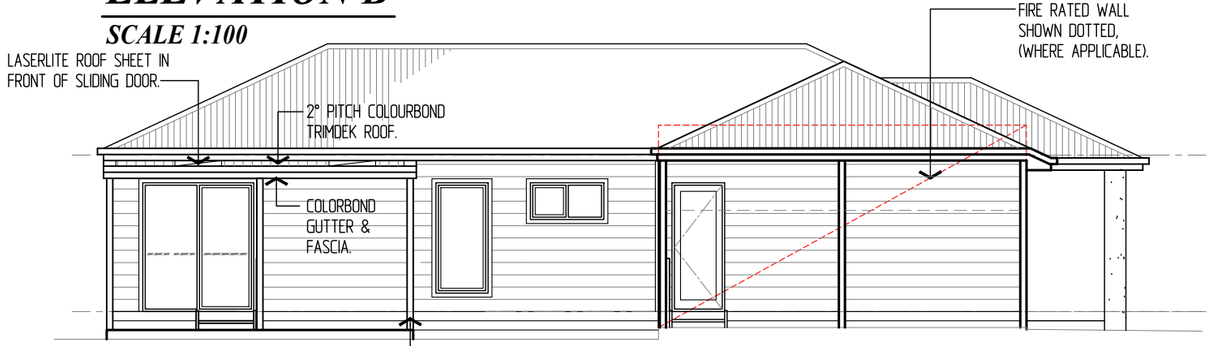
ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
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OXLEY
PROPOSED VERANDAH

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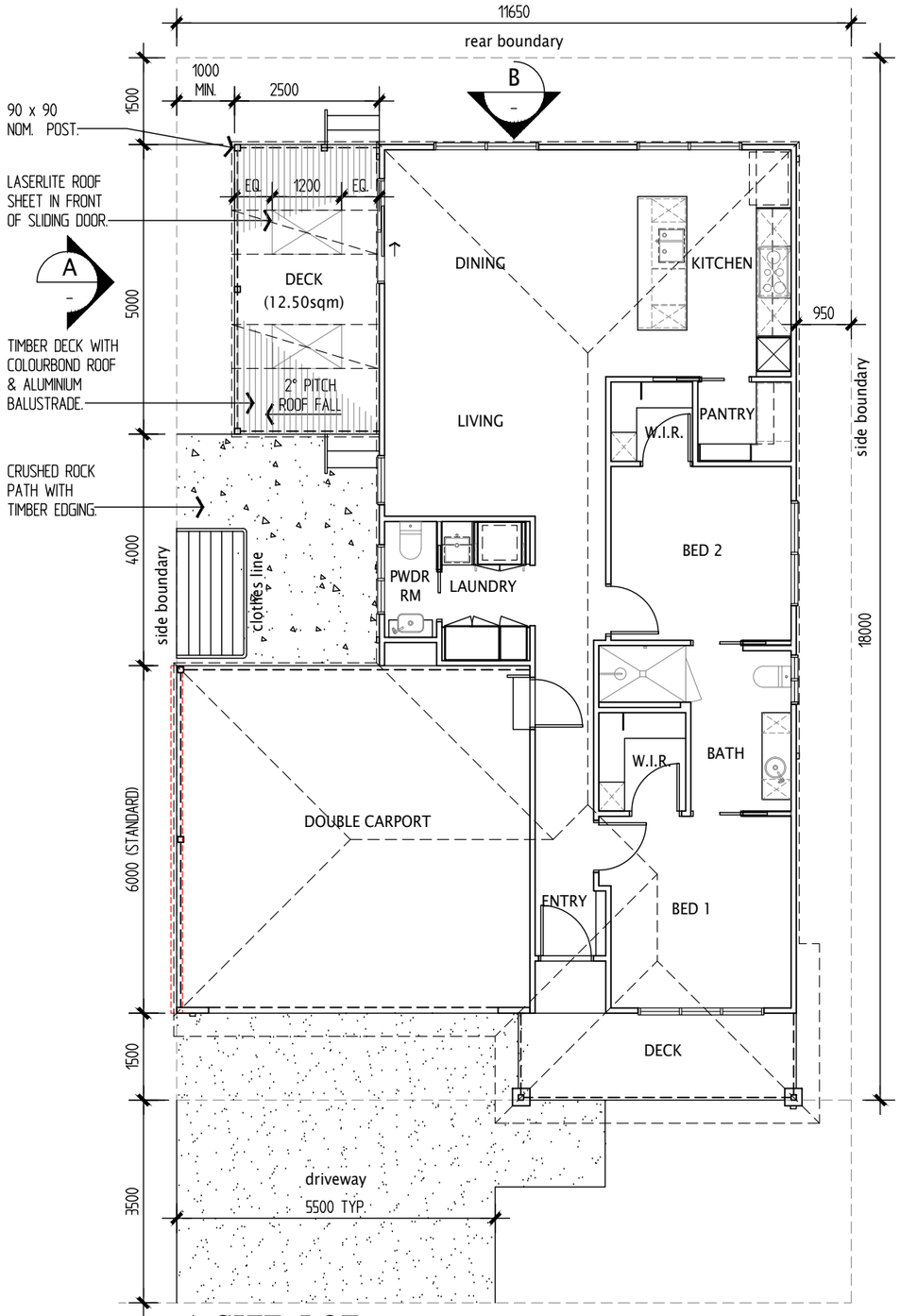
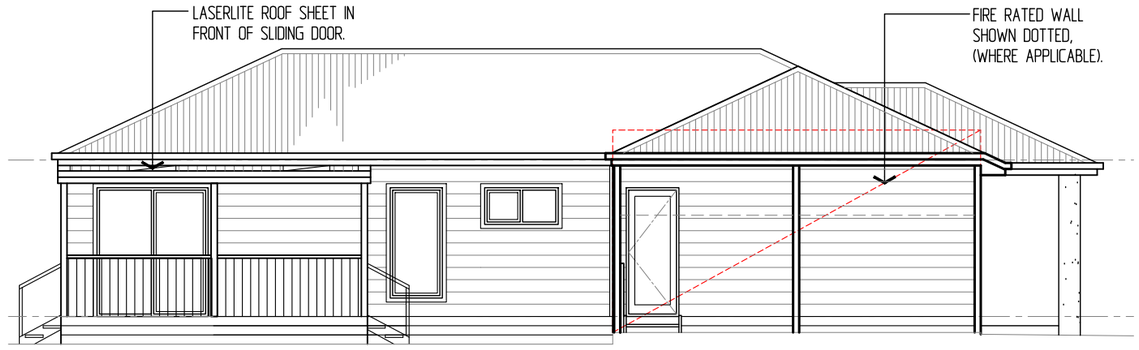
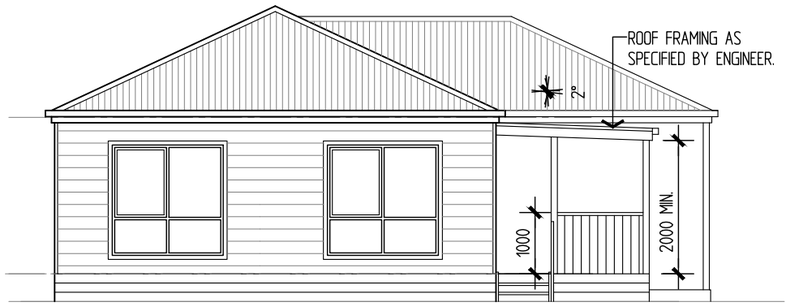




ELEVATION A

SCALE 1:100



NOTE: FOOTINGS TO
ENGINEER'S SPECIFICATION.

ELEVATION B

SCALE 1:100

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
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- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
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A SIZE LOT

FLOOR PLAN - PROPOSED SIDE DECK

SCALE 1:100

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OXLEY
PROPOSED SIDE DECK

LIFESTYLE COMMUNITIES
COWES

NORTH:

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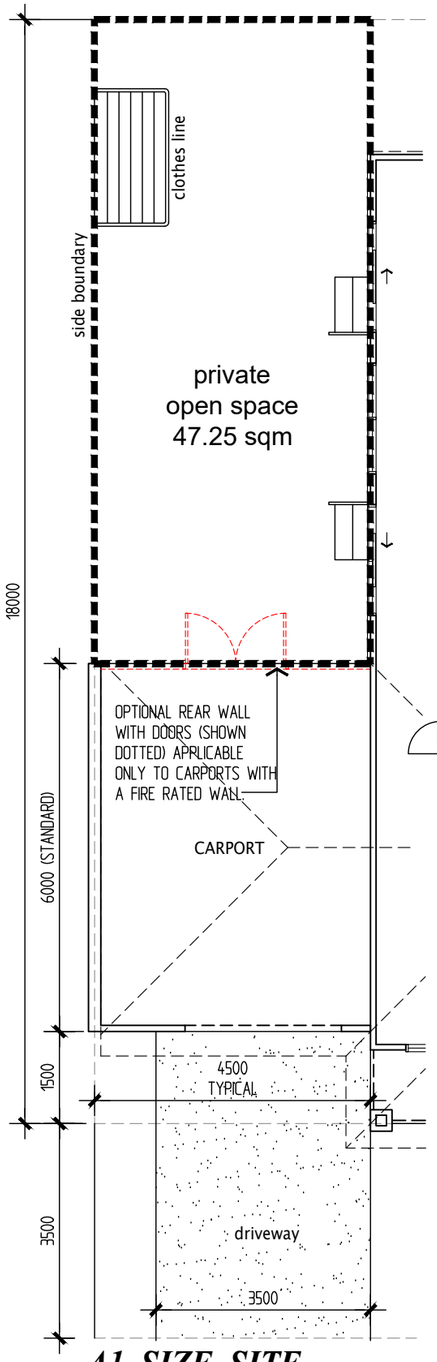
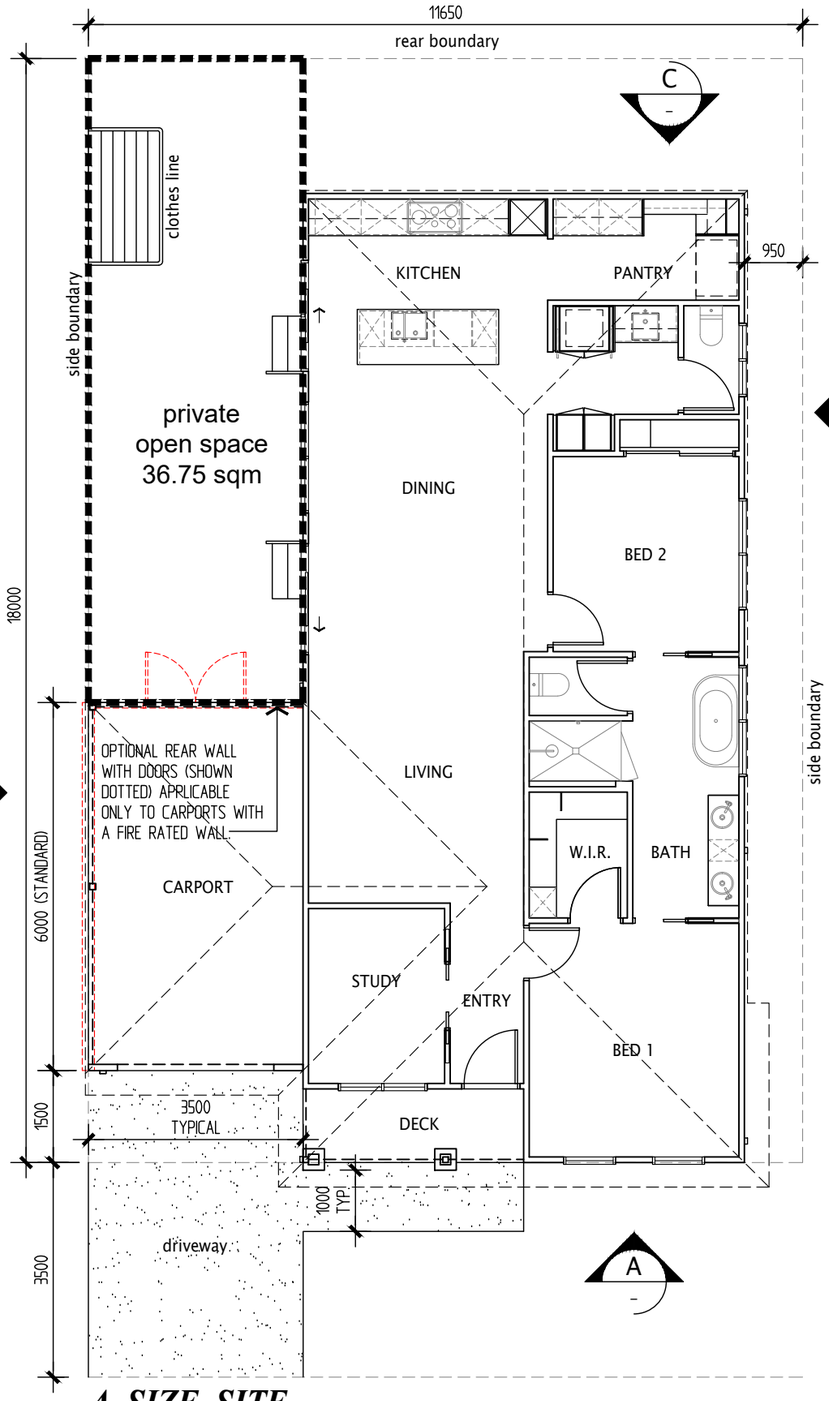


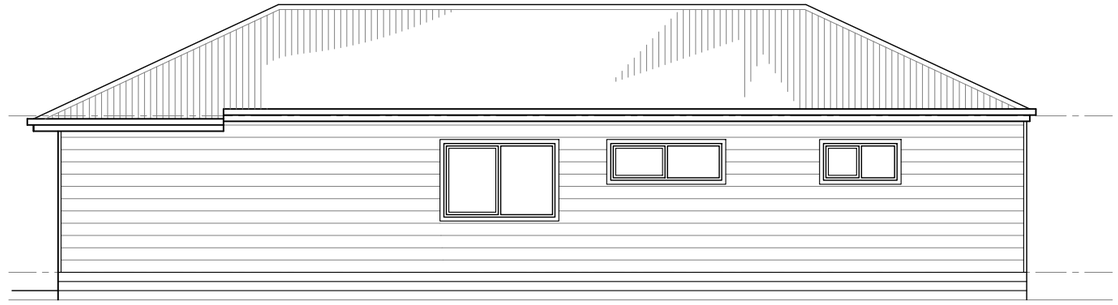
A1 SIZE SITE

FLOOR PLAN

SCALE 1:100

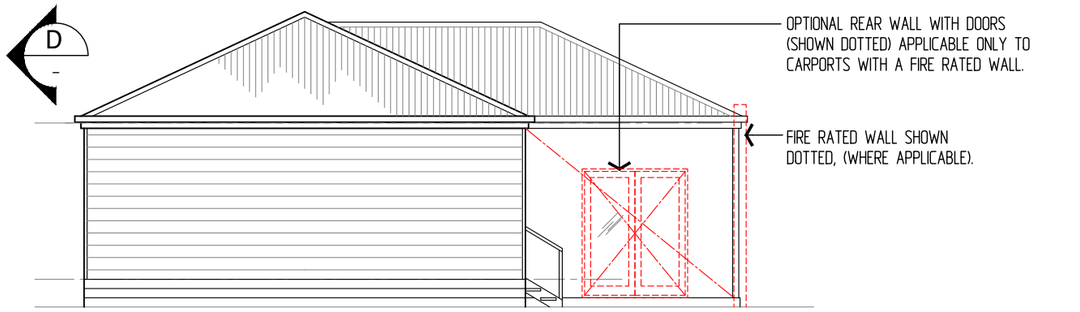


A SIZE SITE



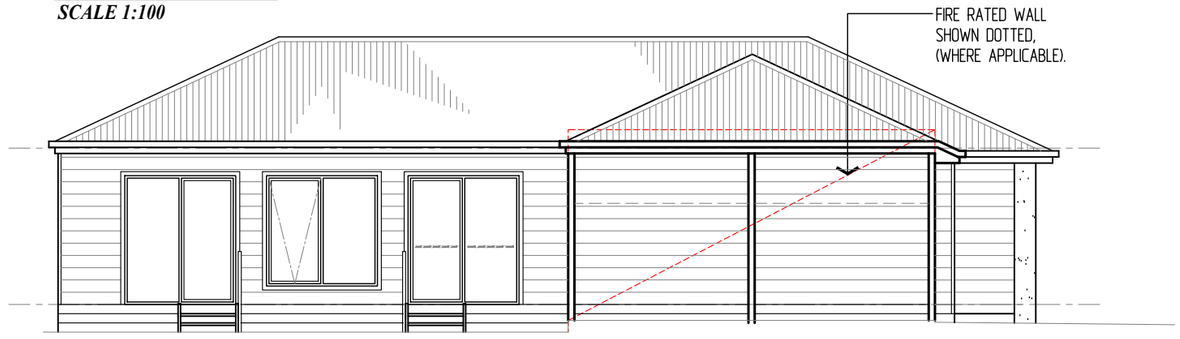
ELEVATION D

SCALE 1:100



ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

Lifestyle COMMUNITIES

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email: info@lifestylecommunities.com.au
Web: www.lifestylecommunities.com.au

SITE PERMEABILITY 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	134.80
CONCRETE DRIVEWAY & PATH	21.55
TOTAL BUILDING & CONCRETE AREAS	156.35
IMPERMEABLE SURFACES - MAX. 80%	75%

SITE COVERAGE 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	134.80
SITE COVERAGE - MAX 60%	64%

ROWAN

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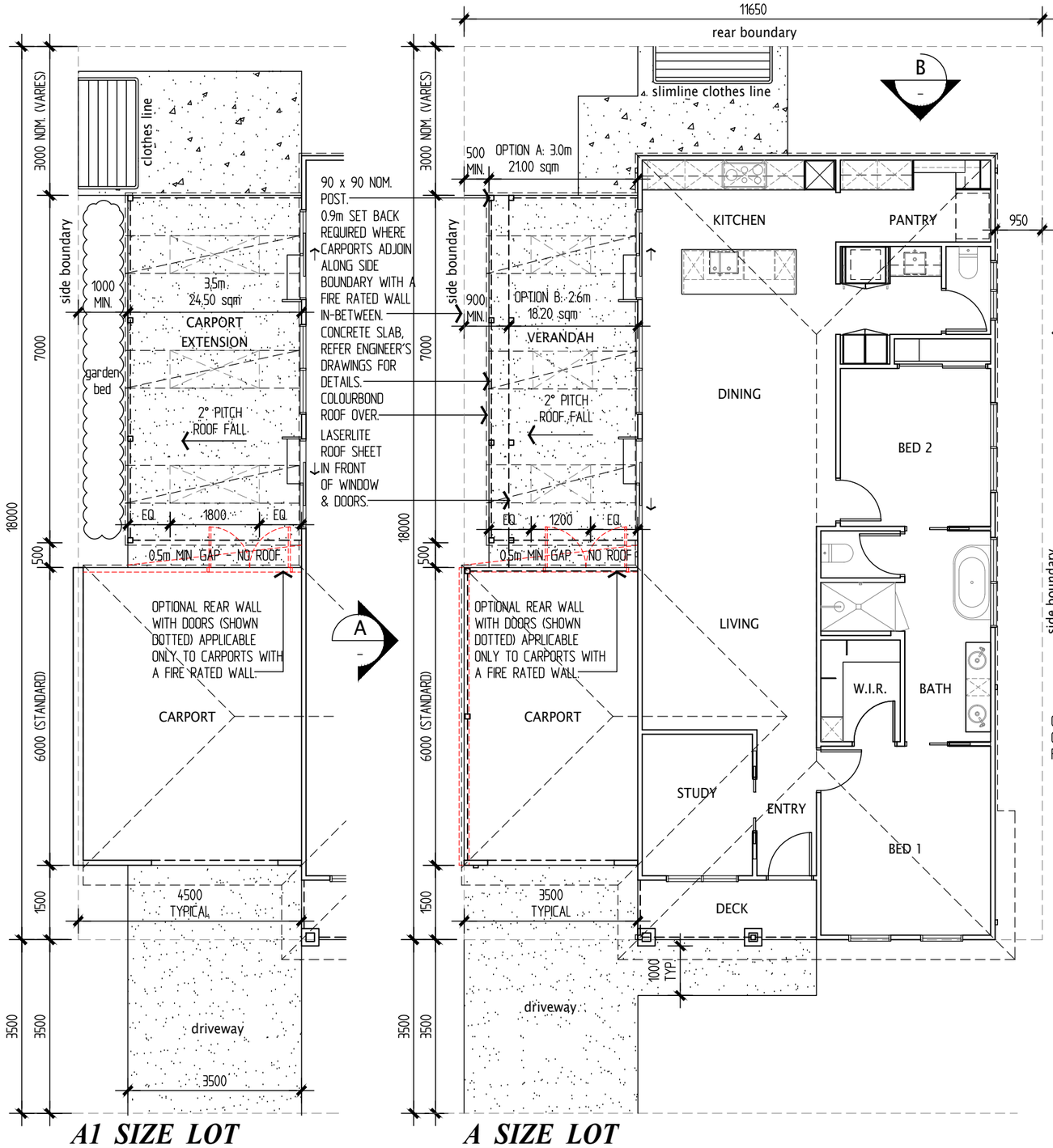
DRAWING No: LCO-S3 43 OF 62

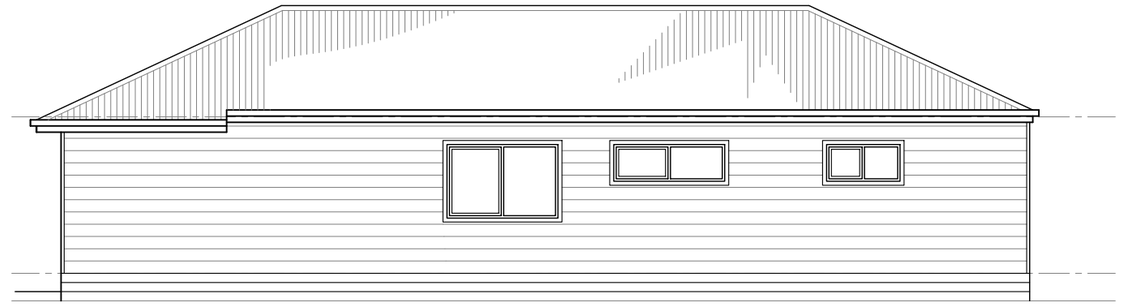


A1 SIZE LOT

A SIZE LOT

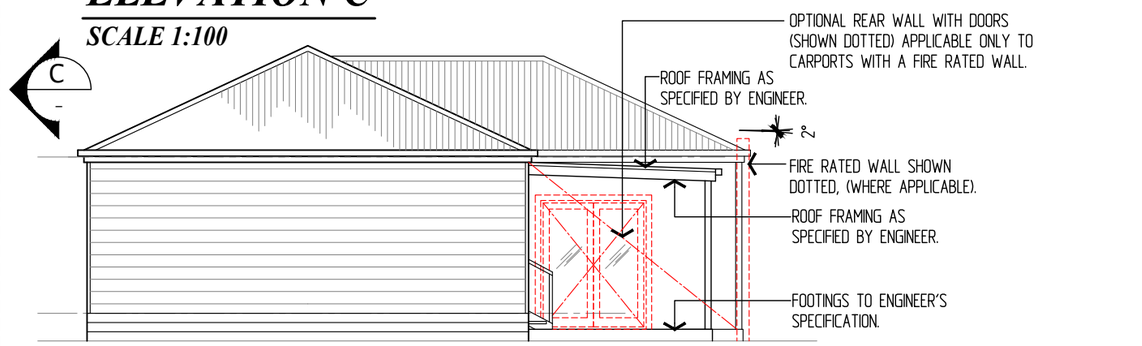
FLOOR PLAN - PROPOSED CARPORT EXTENSION & VERANDAH

SCALE 1:100



ELEVATION C

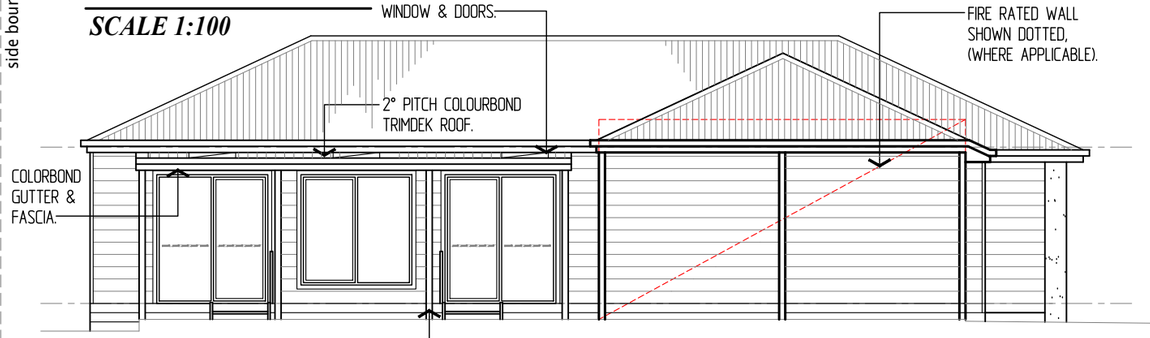
SCALE 1:100



NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.

ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

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ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

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ROWAN
PROPOSED CARPORT EXT. & VERANDAH

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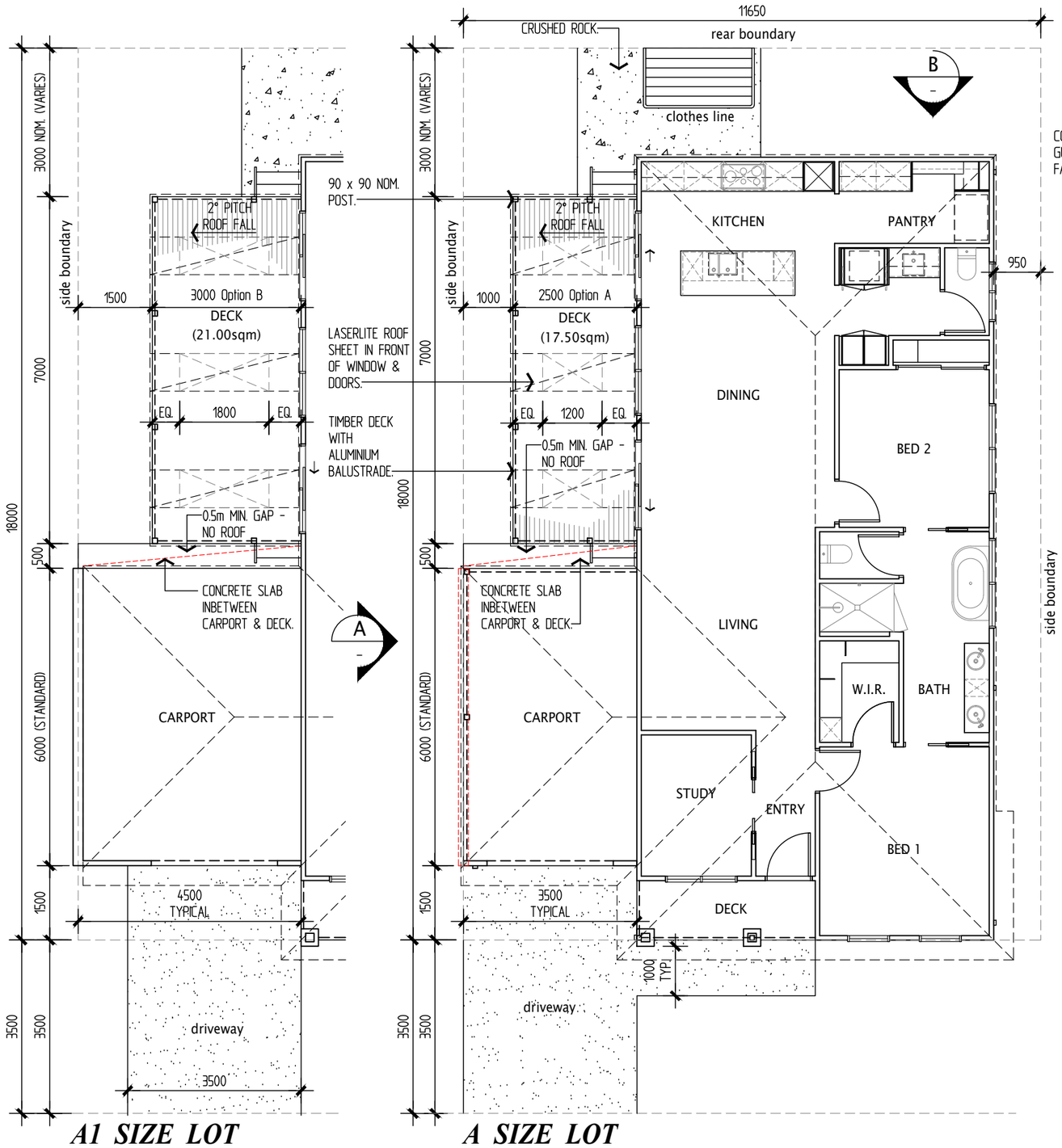
DRAWING No: LCO-S3 44 OF 62

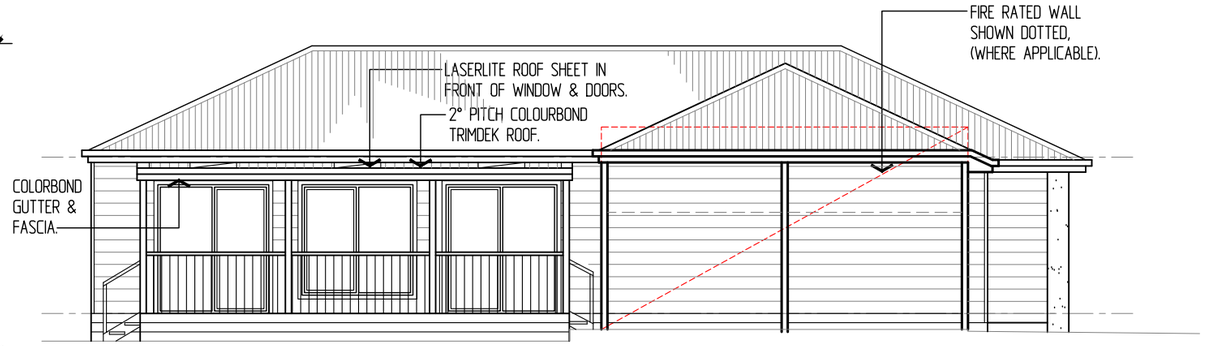


A1 SIZE LOT

A SIZE LOT

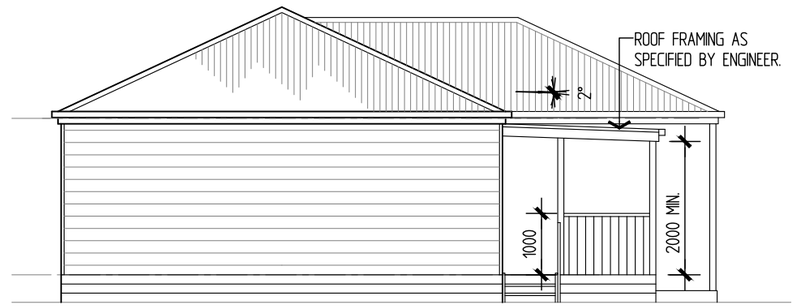
FLOOR PLAN - PROPOSED SIDE DECKS

SCALE 1:100



ELEVATION A

SCALE 1:100



NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.

ELEVATION B

SCALE 1:100

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

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ROWAN
PROPOSED SIDE DECKS

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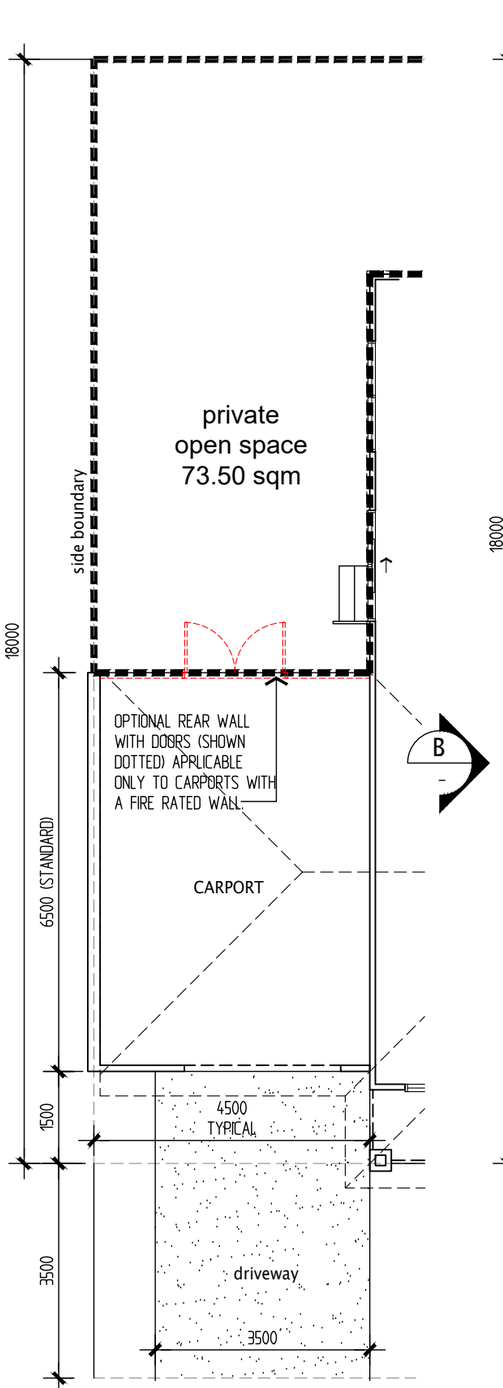
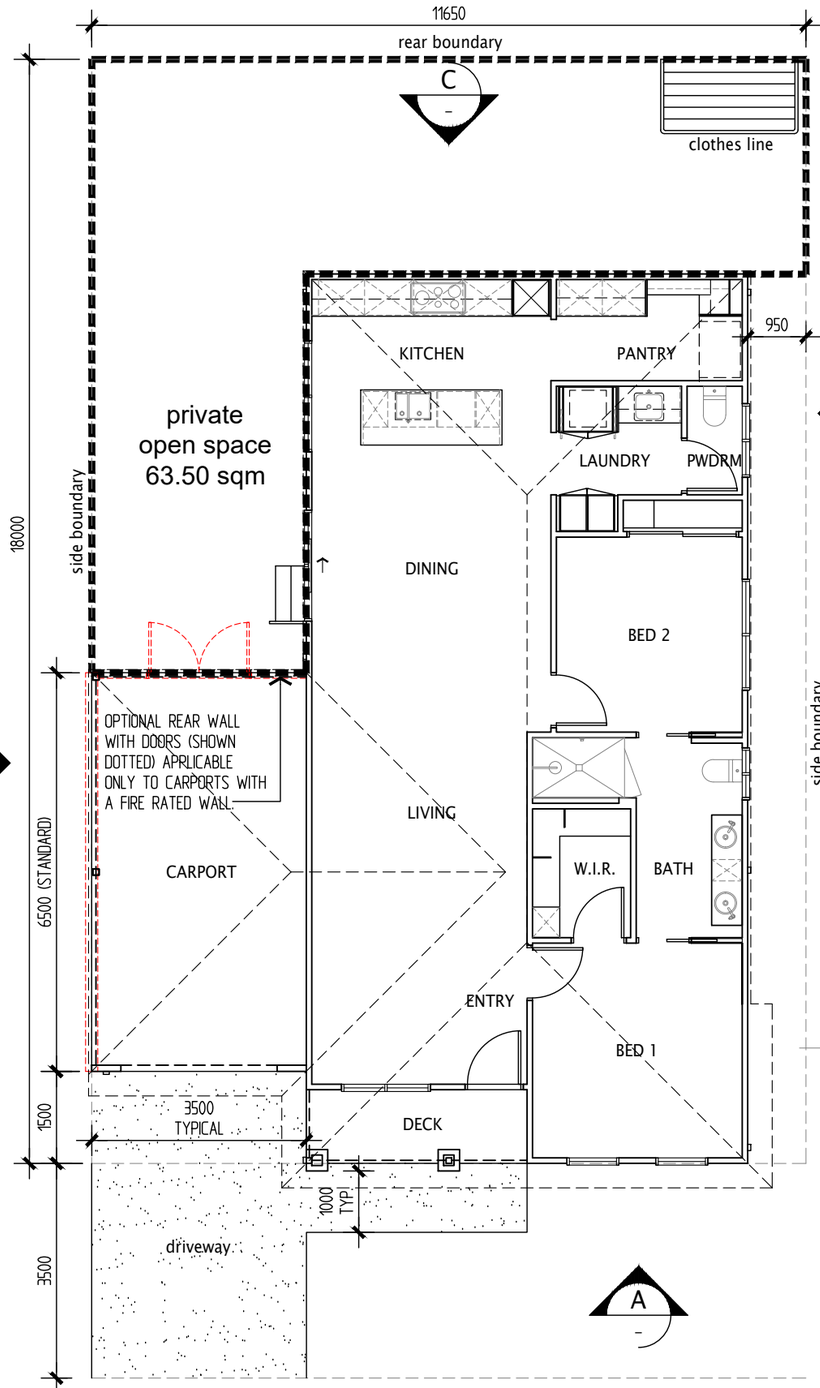
DRAWING No: LCO-S3 45 OF 62



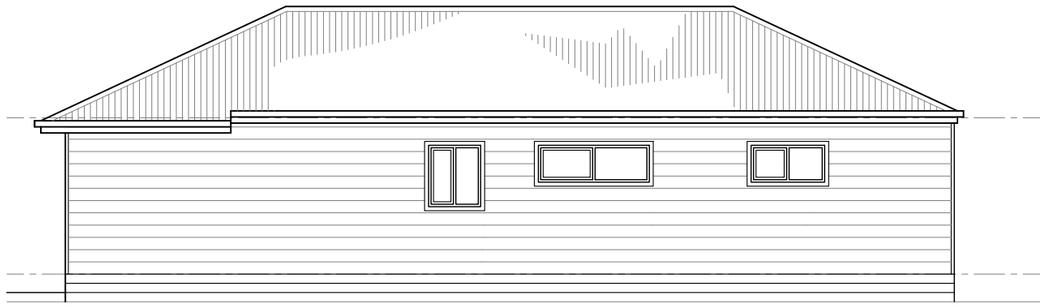
A1 SIZE SITE



A SIZE SITE

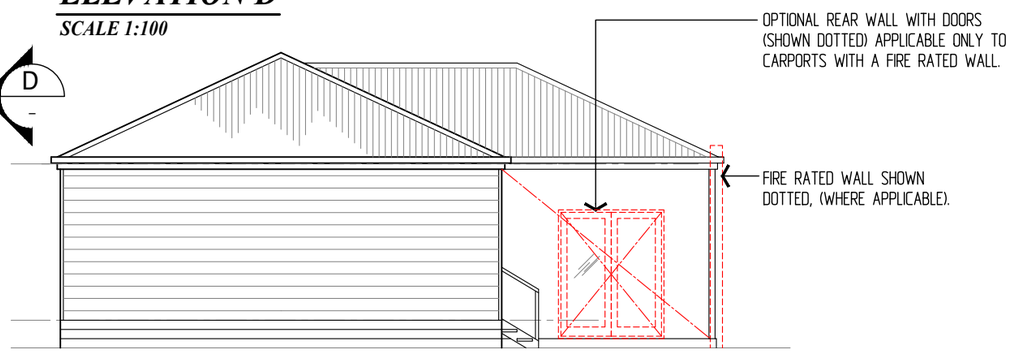
FLOOR PLAN

SCALE 1:100



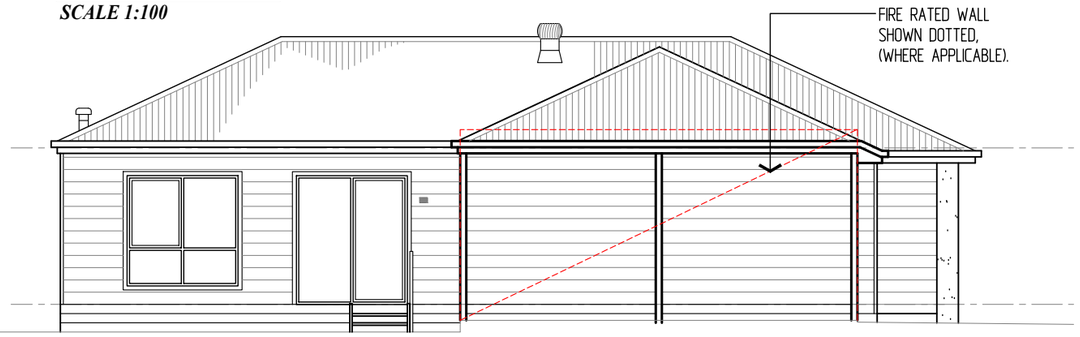
ELEVATION D

SCALE 1:100



ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

SITE PERMEABILITY 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	127.20
CONCRETE DRIVEWAY & PATH	21.55
TOTAL BUILDING & CONCRETE AREAS	148.75
IMPERMEABLE SURFACES - MAX. 80%	71%

SITE COVERAGE 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	127.20
SITE COVERAGE - MAX 60%	61%

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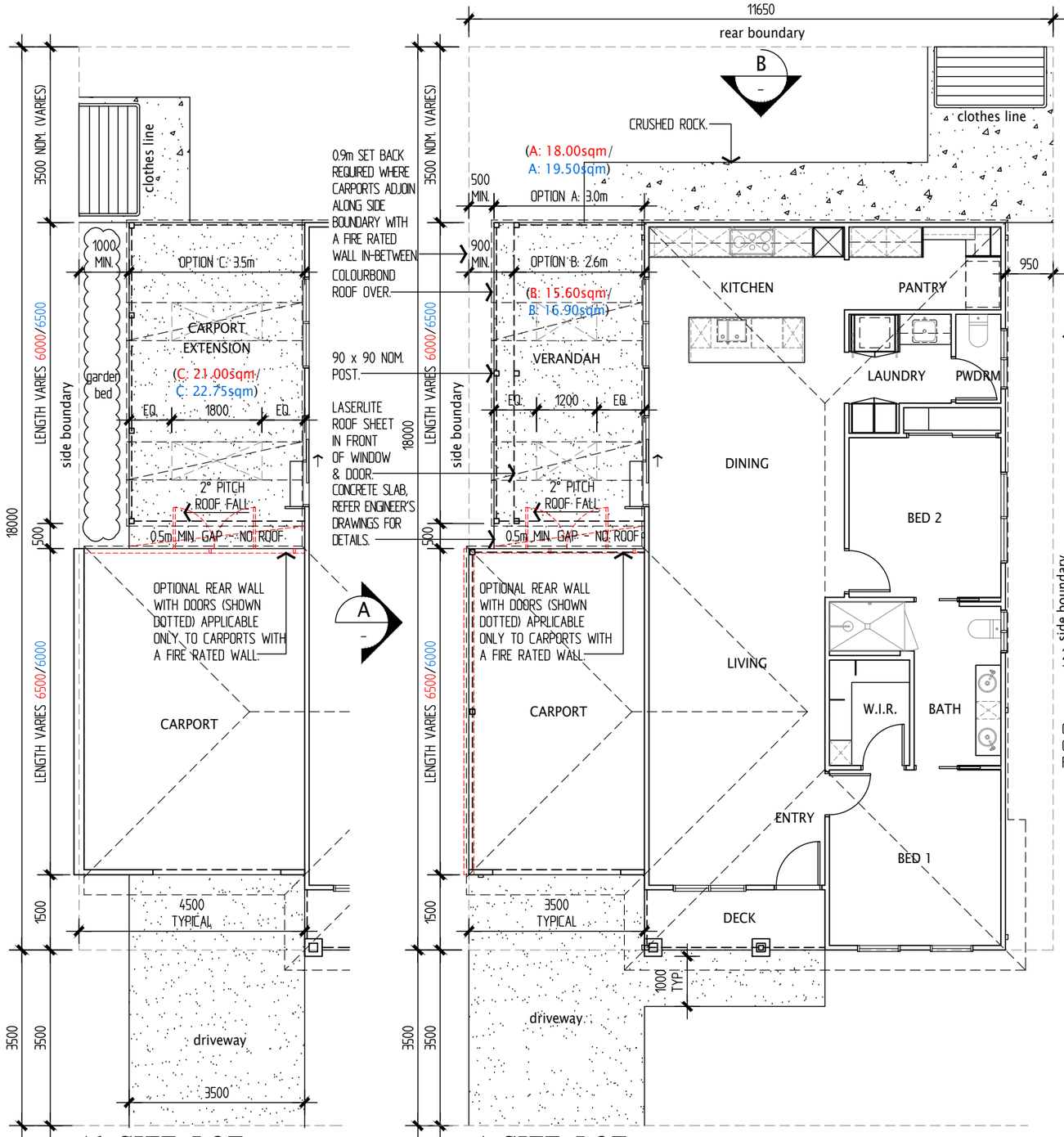
DRAWING No: LCO-S3 46 OF 62

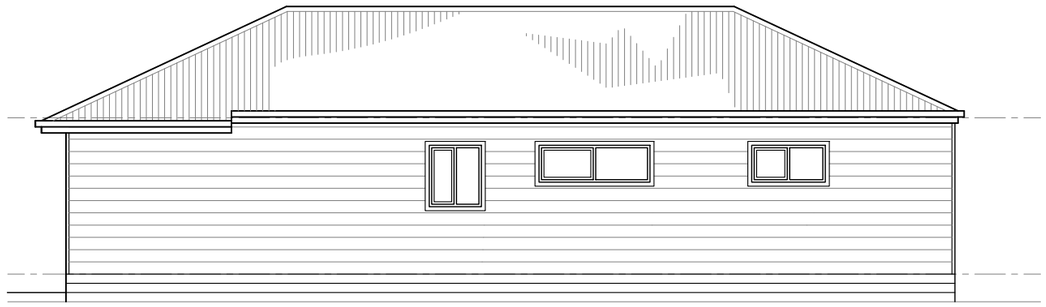


A1 SIZE LOT

A SIZE LOT

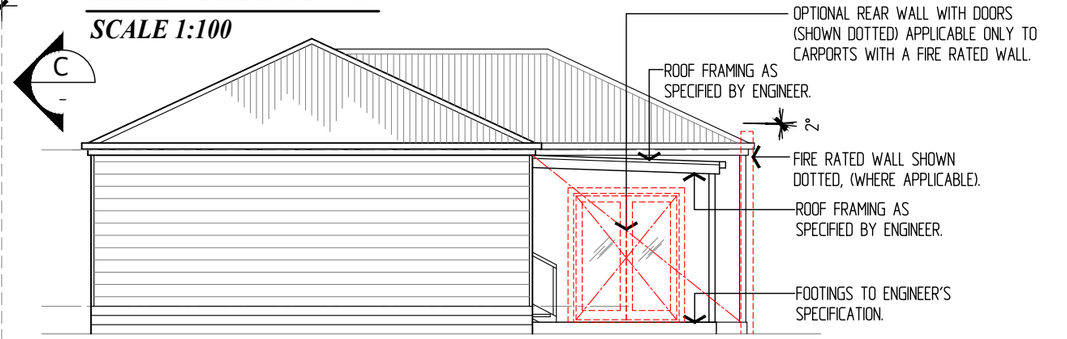
FLOOR PLAN - PROPOSED CARPORT EXTENSION & VERANDAH

SCALE 1:100



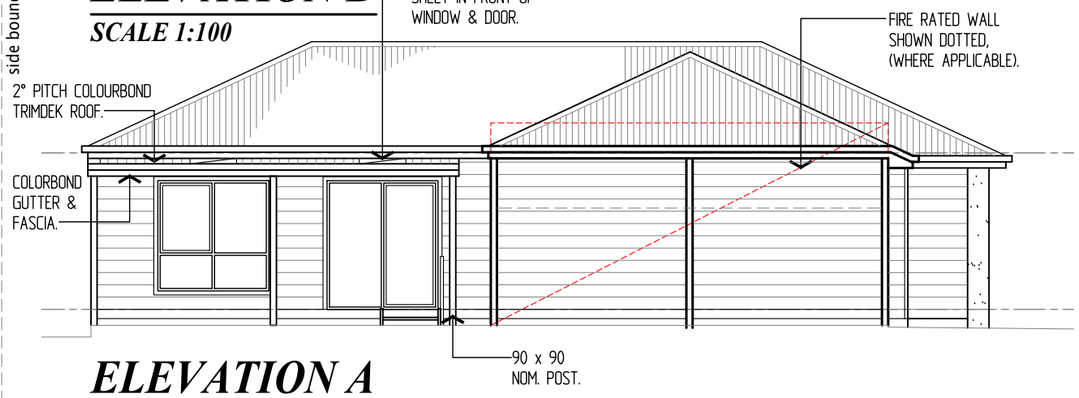
ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

THESE DRAWINGS TO BE READ IN-CONJUNCTION WITH RELEVANT STRUCTURAL ENGINEERS DRAWINGS.

FRAMING SUPPLY & INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS & RELEVANT AUSTRALIAN STANDARDS.

ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

INFORMATION ONLY

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Web: www.lifestylecommunities.com.au

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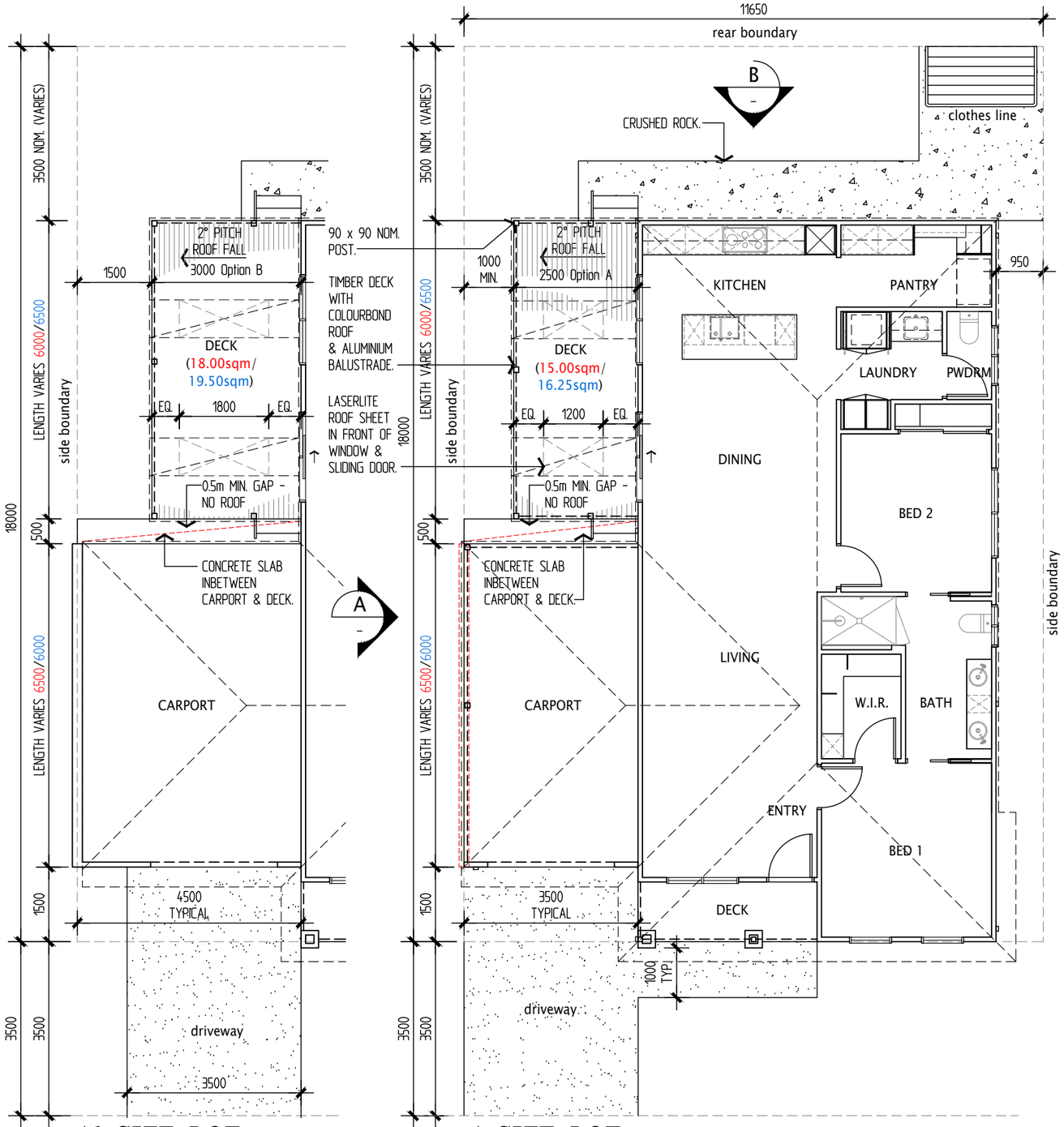
DRAWING No: LCO-S3 47 OF 62

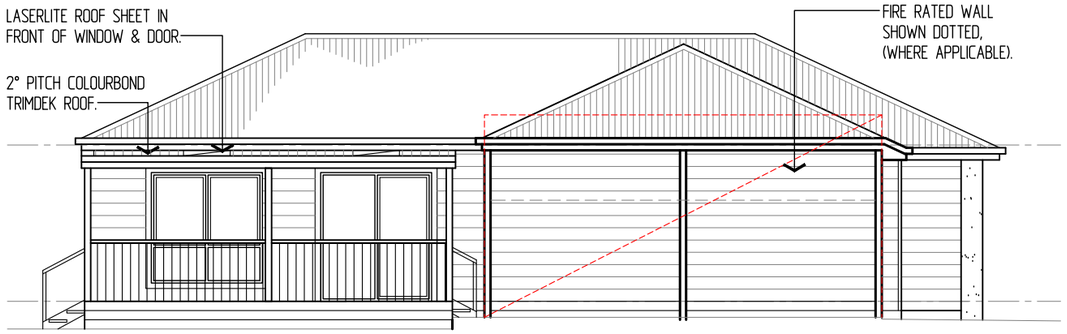


A1 SIZE LOT

A SIZE LOT

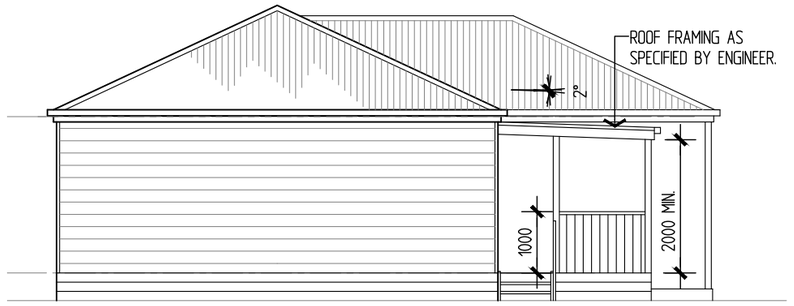
FLOOR PLAN - PROPOSED SIDE DECKS

SCALE 1:100



ELEVATION A

SCALE 1:100



ELEVATION B

SCALE 1:100

NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

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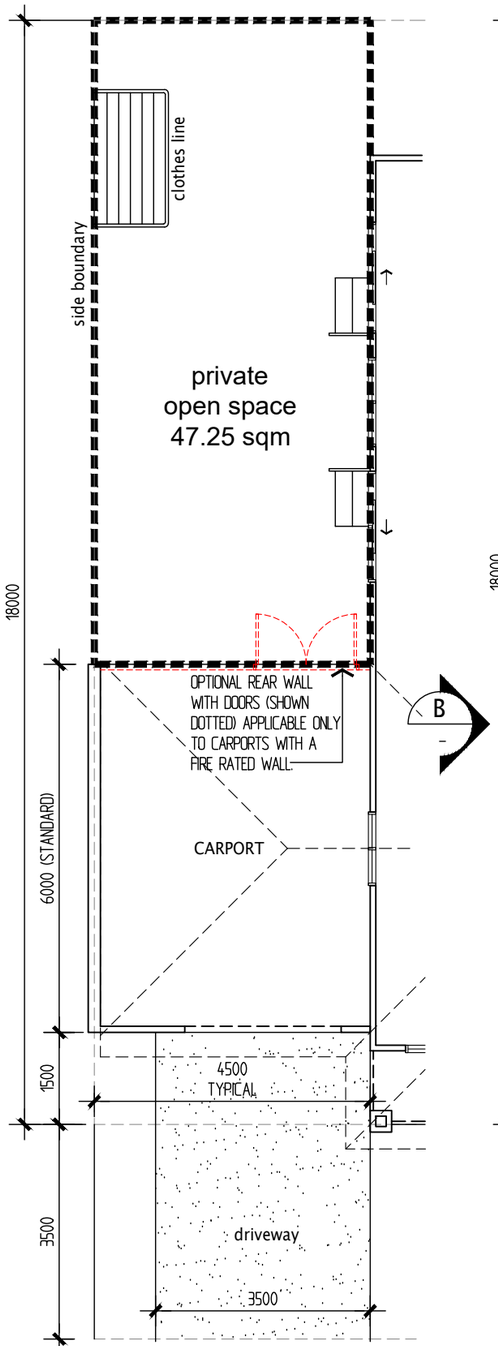
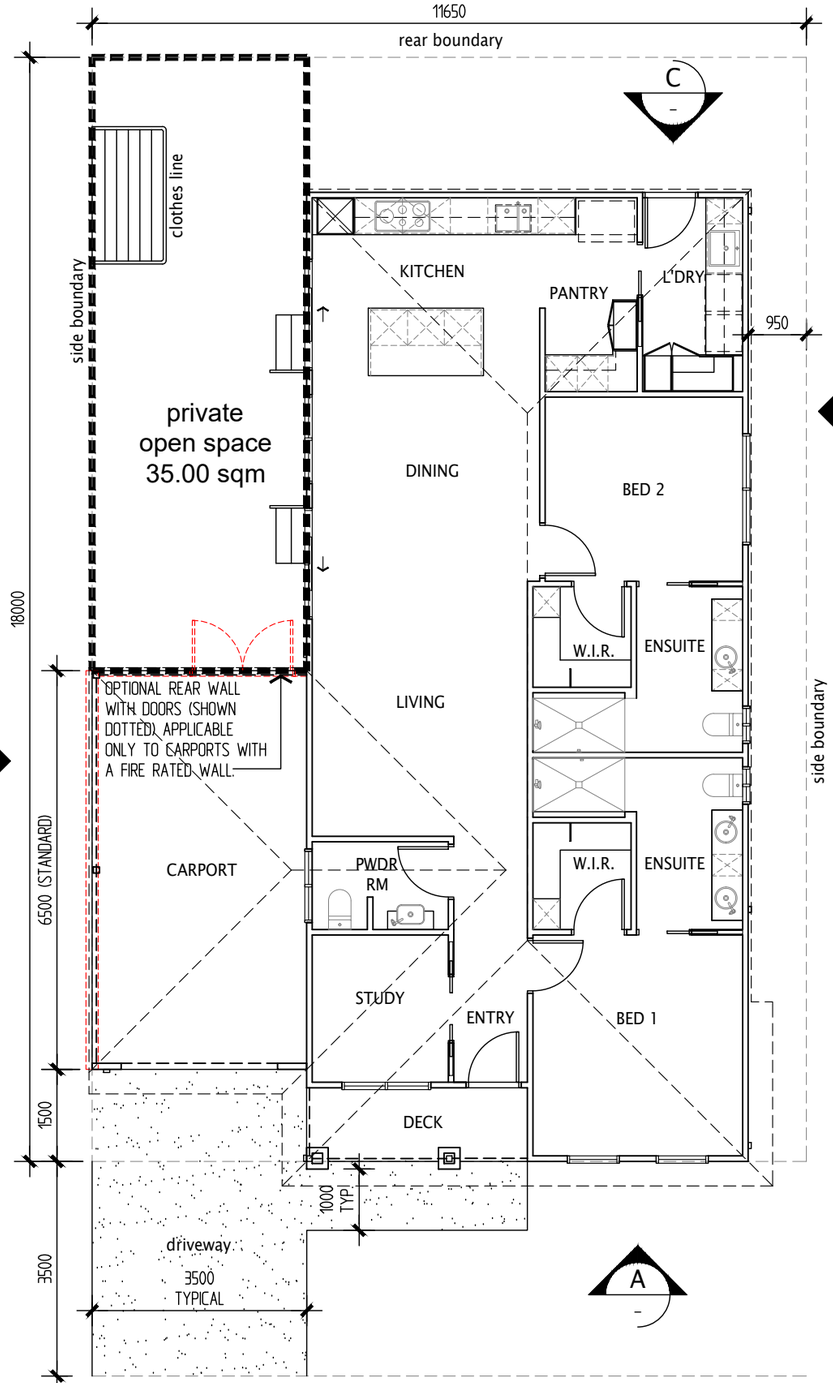
DRAWING No: LCO-S3 48 OF 62



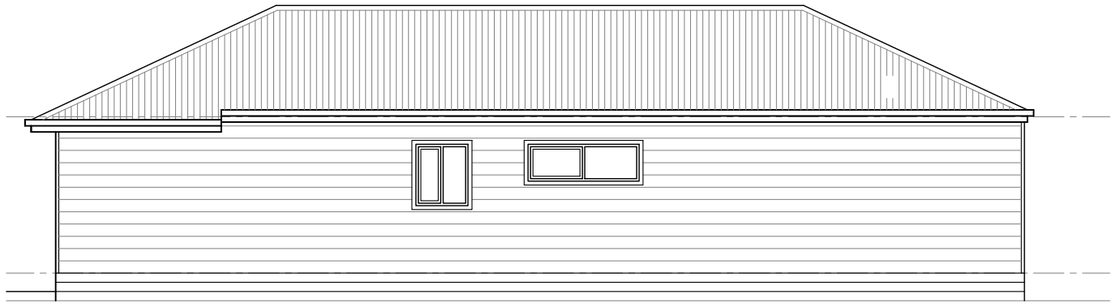
A1 SIZE SITE

FLOOR PLAN

SCALE 1:100

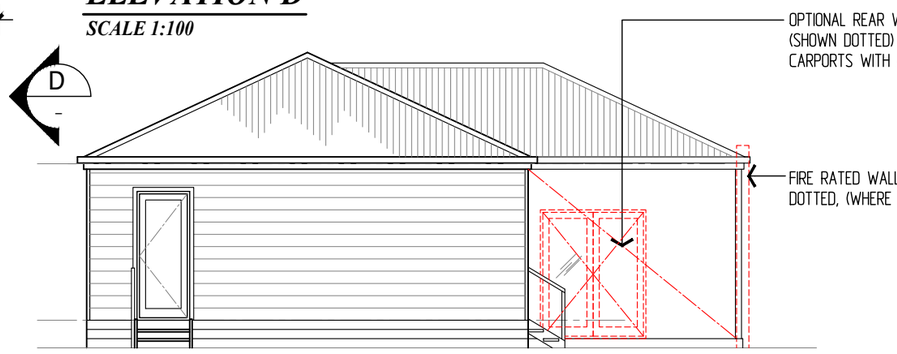


A SIZE SITE



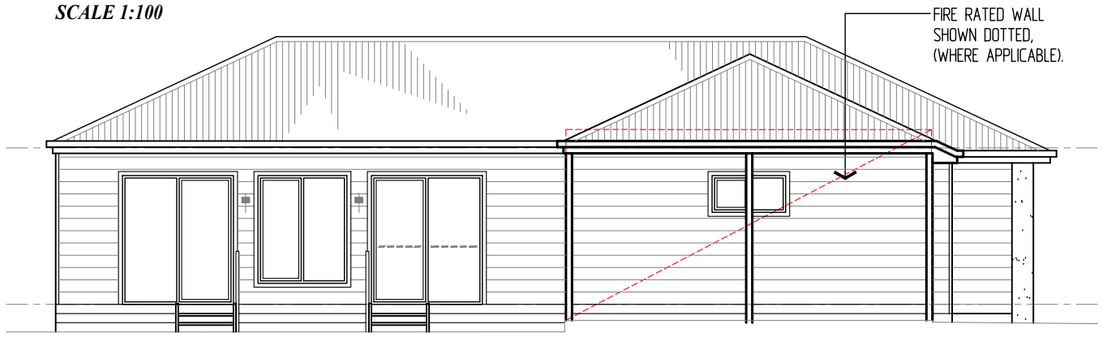
ELEVATION D

SCALE 1:100



ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

SITE PERMEABILITY 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	136.50
CONCRETE DRIVEWAY & PATH	21.55
TOTAL BUILDING & CONCRETE AREAS	158.05
IMPERMEABLE SURFACES - MAX. 80%	75%

SITE COVERAGE 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	136.50
SITE COVERAGE - MAX 60%	65%

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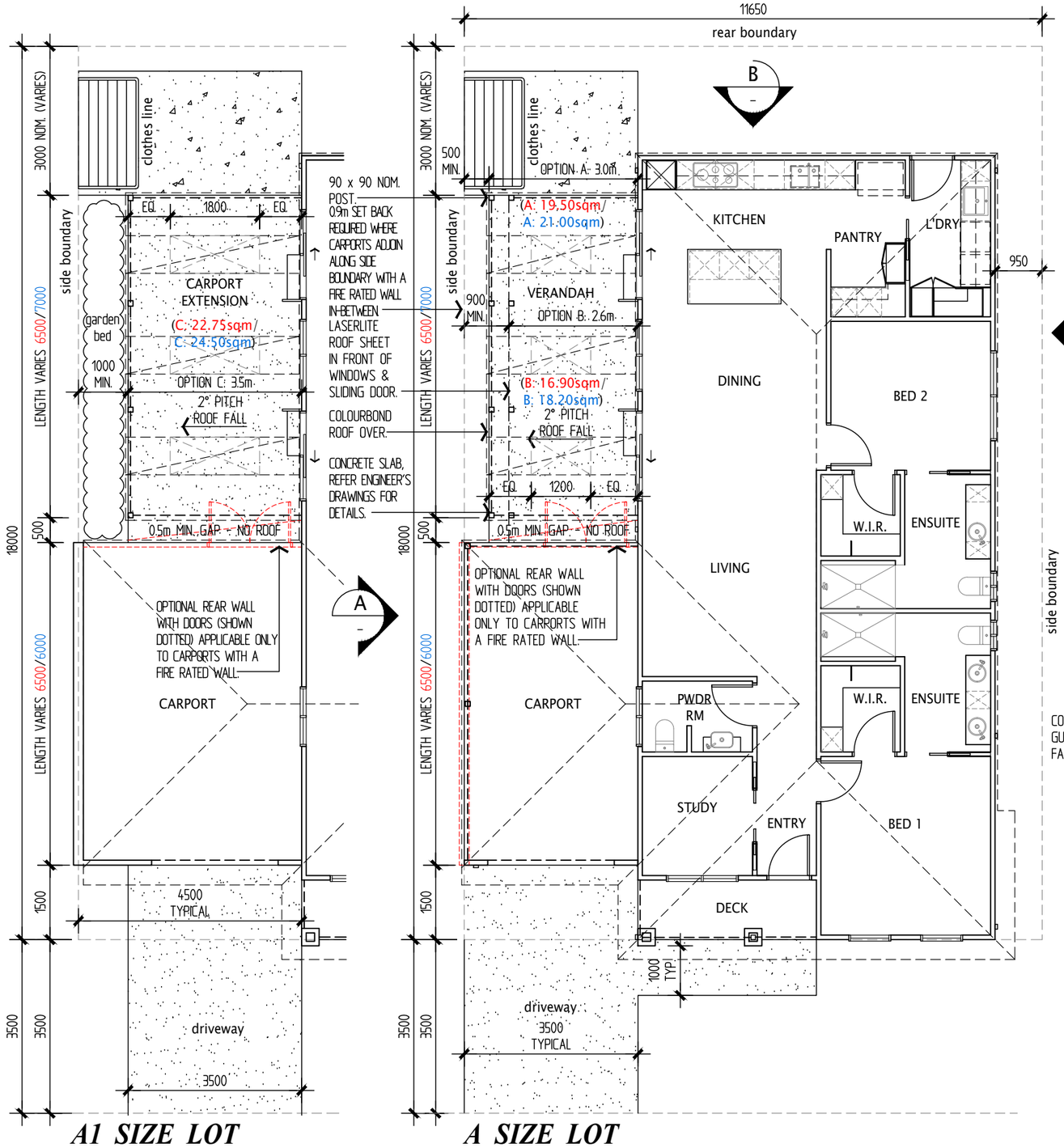
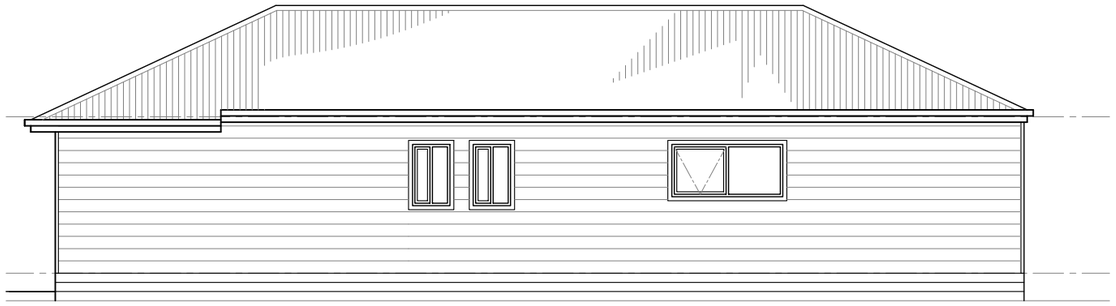


A1 SIZE LOT

A SIZE LOT

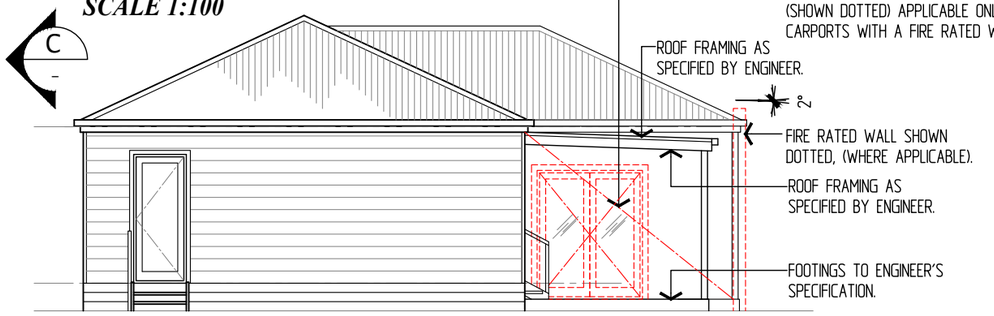
FLOOR PLAN - PROPOSED CARPORT EXTENSION & VERANDAH

SCALE 1:100



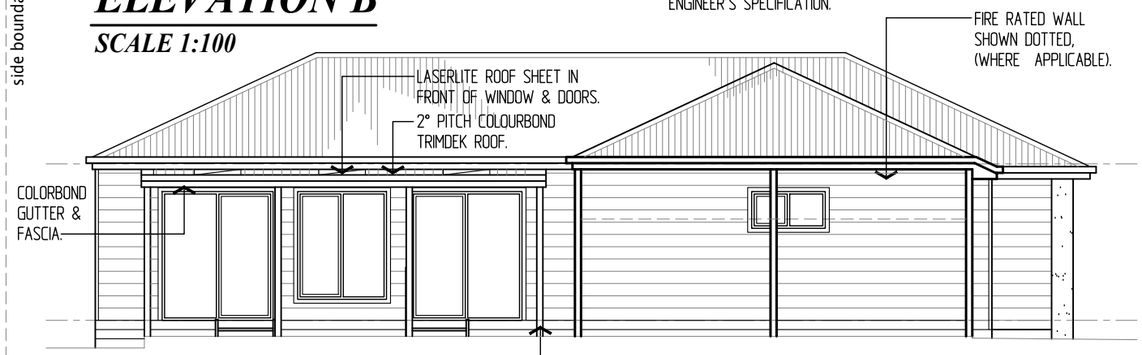
ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
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- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

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ALL CONCRETE WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

INFORMATION ONLY

Lifestyle COMMUNITIES
Tel: (03) 9682 2249 Fax: (03) 9682 1236
email: info@lifestylecommunities.com.au
Web: www.lifestylecommunities.com.au

STIRLING
PROPOSED CARPORT EXT. & VERANDAH

LIFESTYLE COMMUNITIES
COWES

NORTH:

AMENDMENTS:
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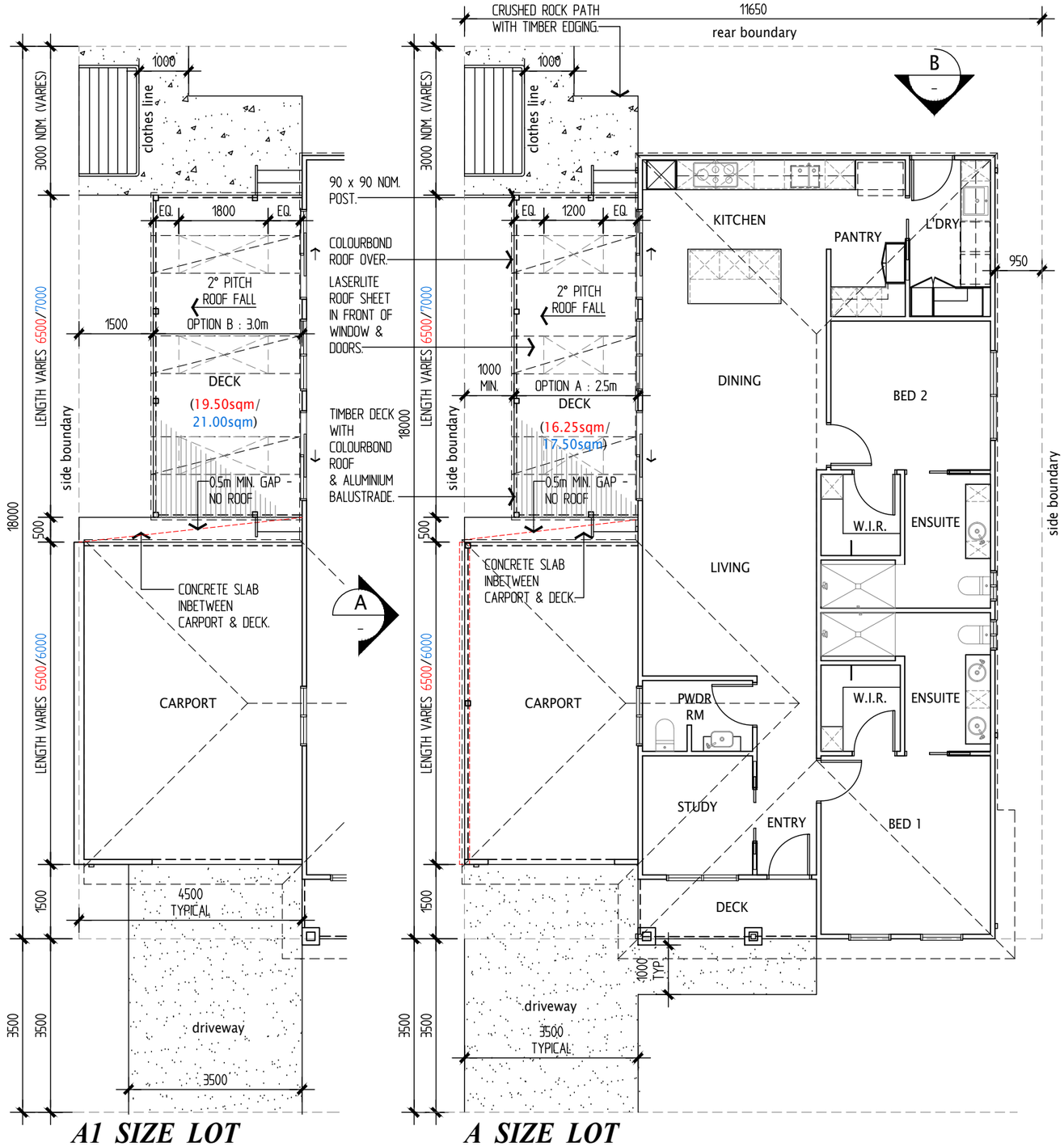
DRAWING No: LCO-S3 50 OF 62

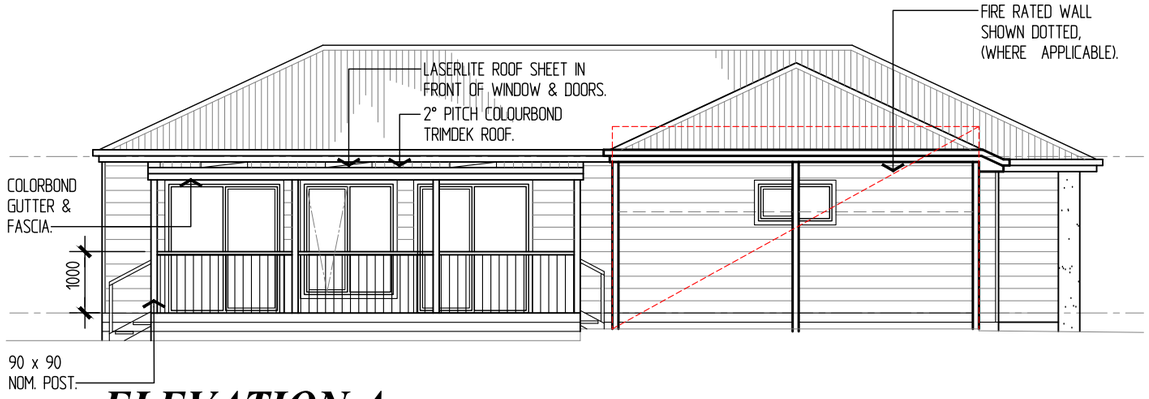


A1 SIZE LOT

A SIZE LOT

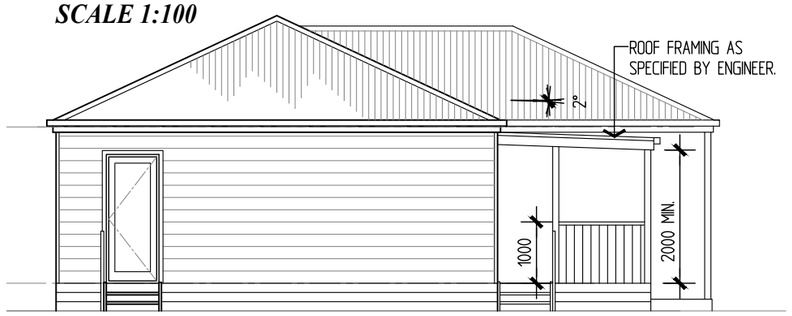
FLOOR PLAN - PROPOSED SIDE DECKS

SCALE 1:100



ELEVATION A

SCALE 1:100



NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.

ELEVATION B

SCALE 1:100

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

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STIRLING
PROPOSED SIDE DECKS

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NORTH:

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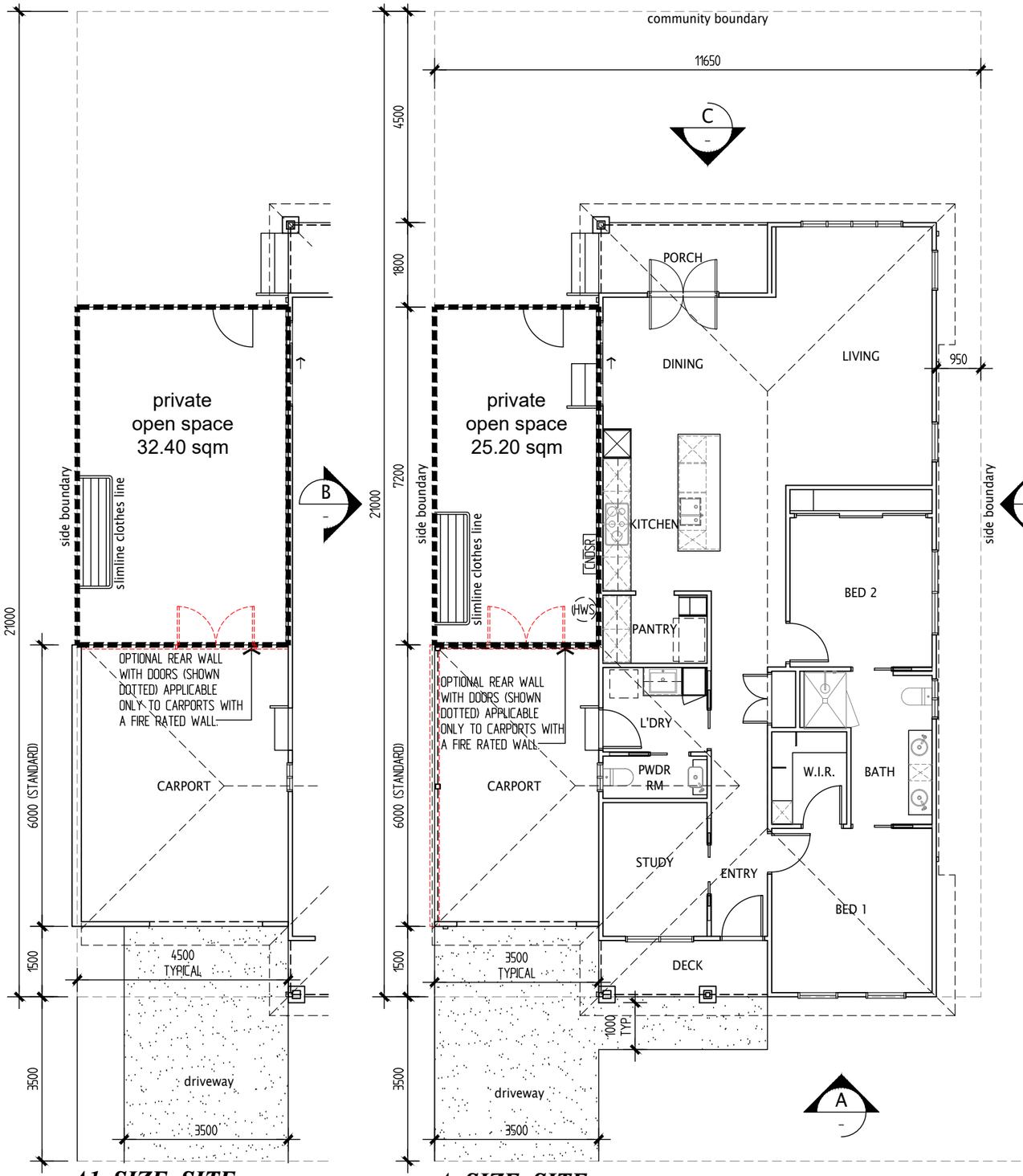
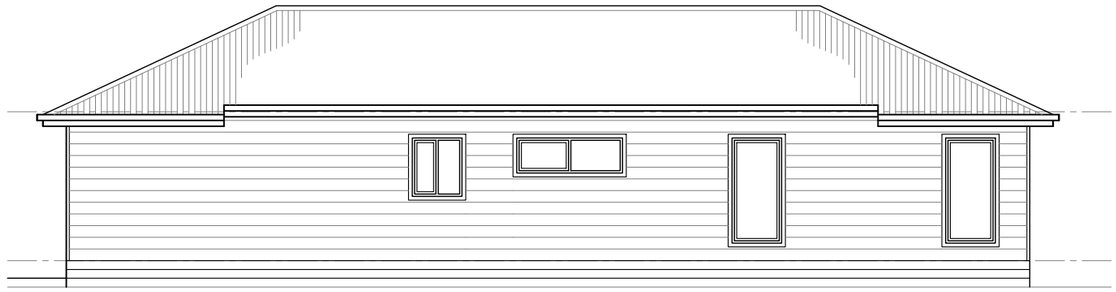


A1 SIZE SITE

A SIZE SITE

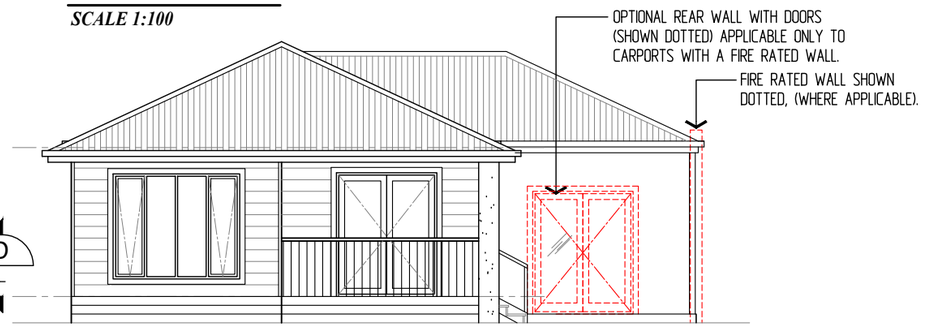
FLOOR PLAN - NO CARPORT EXTENSION & VERANDAH AVAILABLE

SCALE 1:100



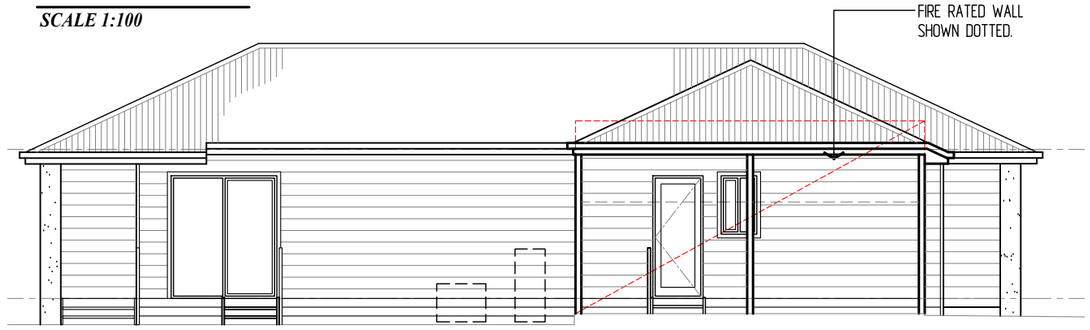
ELEVATION D

SCALE 1:100



ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

SITE PERMEABILITY 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	244.65
TOTAL BUILDING AREA	145.75
CONCRETE DRIVEWAY & PATH	21.55
TOTAL BUILDING & CONCRETE AREAS	167.30
IMPERMEABLE SURFACES - MAX. 80%	68%

SITE COVERAGE 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	244.65
TOTAL BUILDING AREA	145.75
SITE COVERAGE - MAX 60%	60%

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TATE

LIFESTYLE COMMUNITIES
COWES

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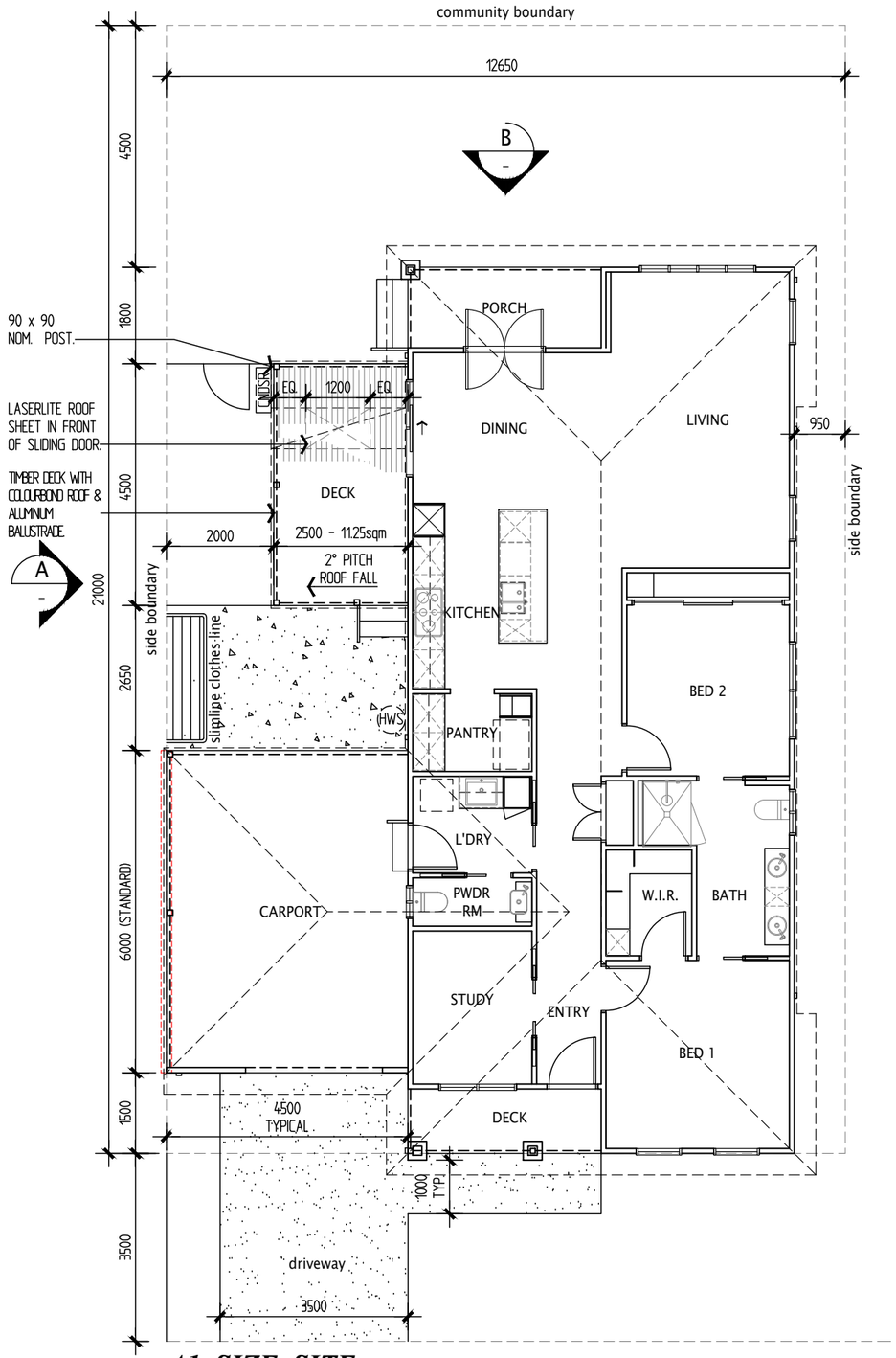
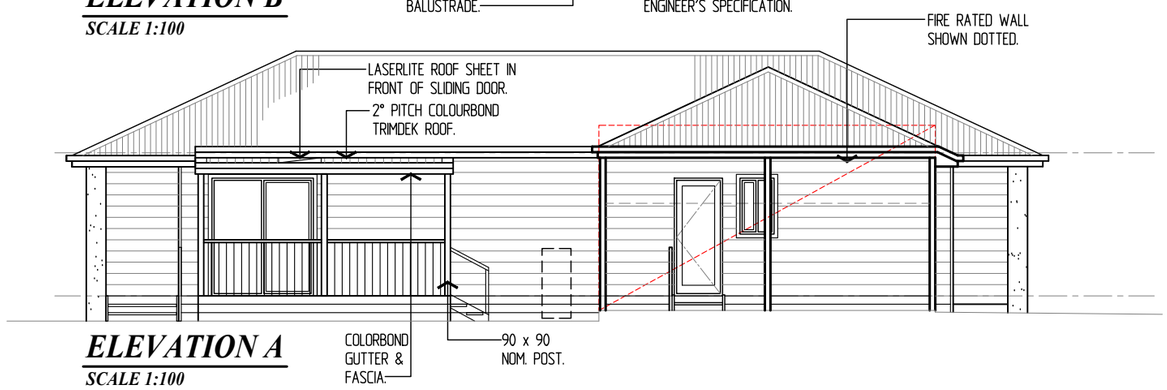
DRAWING No: LCO-S3 52 OF 62



A1 SIZE SITE
FLOOR PLAN - PROPOSED SIDE DECK
SCALE N.T.S



ELEVATION B
SCALE 1:100



ELEVATION A
SCALE 1:100

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
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TATE
PROPOSED SIDE DECK

LIFESTYLE COMMUNITIES
COWES

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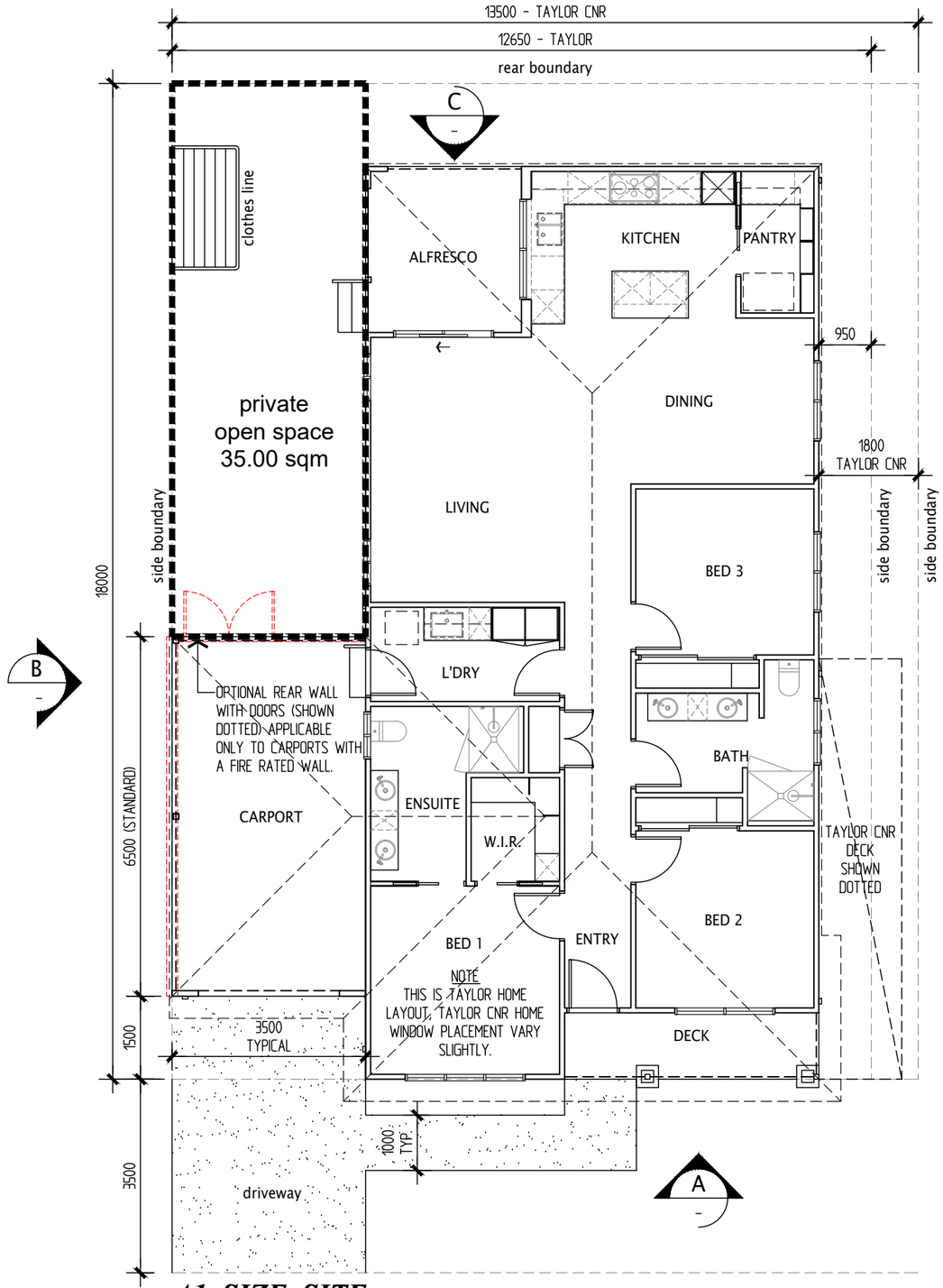
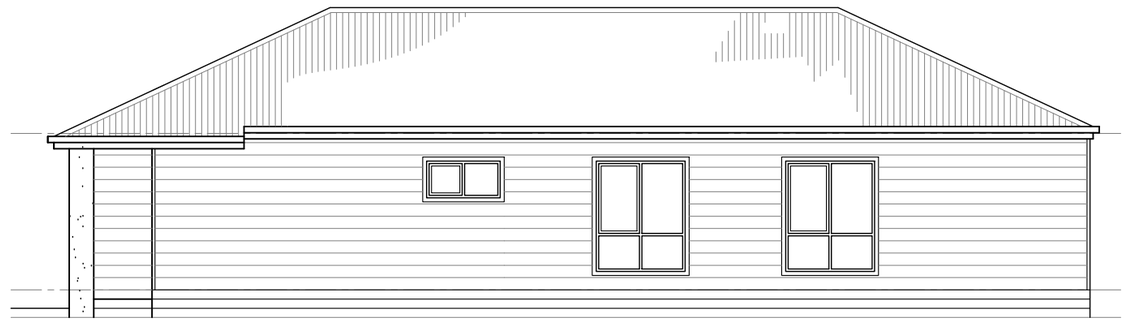
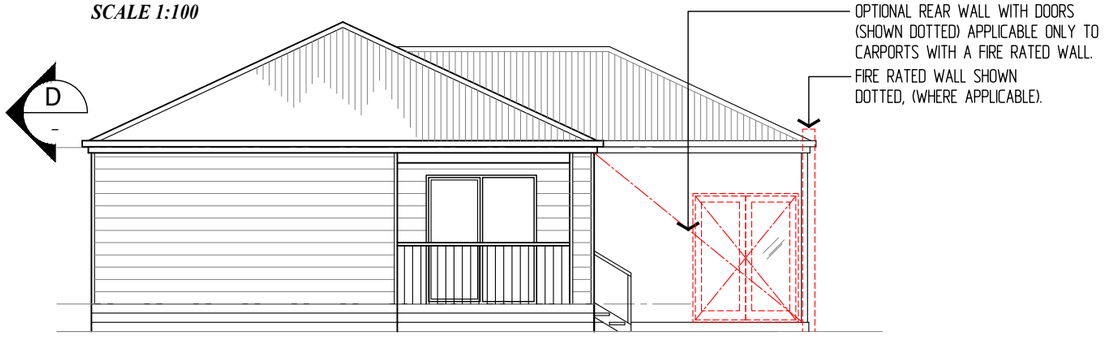


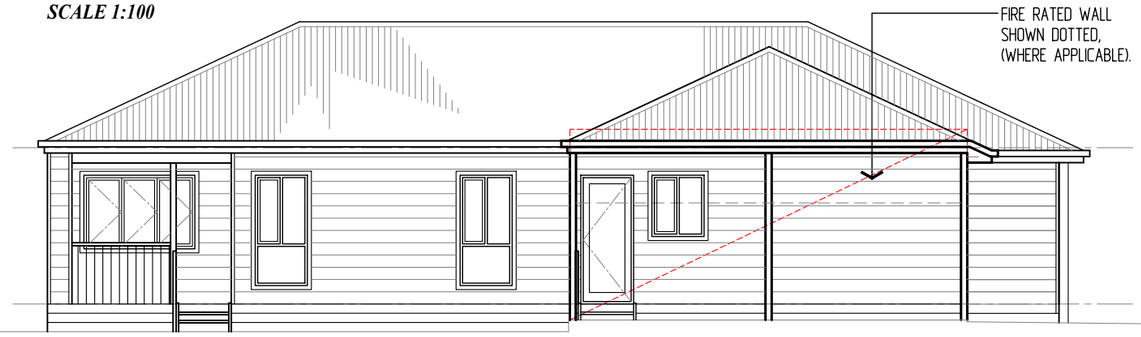
A1 SIZE SITE
FLOOR PLAN
SCALE 1:100



ELEVATION D
SCALE 1:100



ELEVATION C
SCALE 1:100



ELEVATION B
SCALE 1:100



ELEVATION A
SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

SITE PERMEABILITY 'A1' SIZE SITE	MET SQ.
TOTAL SITE AREA	227.70
TOTAL BUILDING AREA	158.05
CONCRETE DRIVEWAY & PATH	23.25
TOTAL BUILDING & CONCRETE AREAS	181.30
IMPERMEABLE SURFACES - MAX. 80%	80%

SITE COVERAGE 'A1' SIZE SITE	MET SQ.
TOTAL SITE AREA	227.70
TOTAL BUILDING AREA	158.05
SITE COVERAGE - MAX 60%	69%

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TAYLOR/CNR

LIFESTYLE COMMUNITIES
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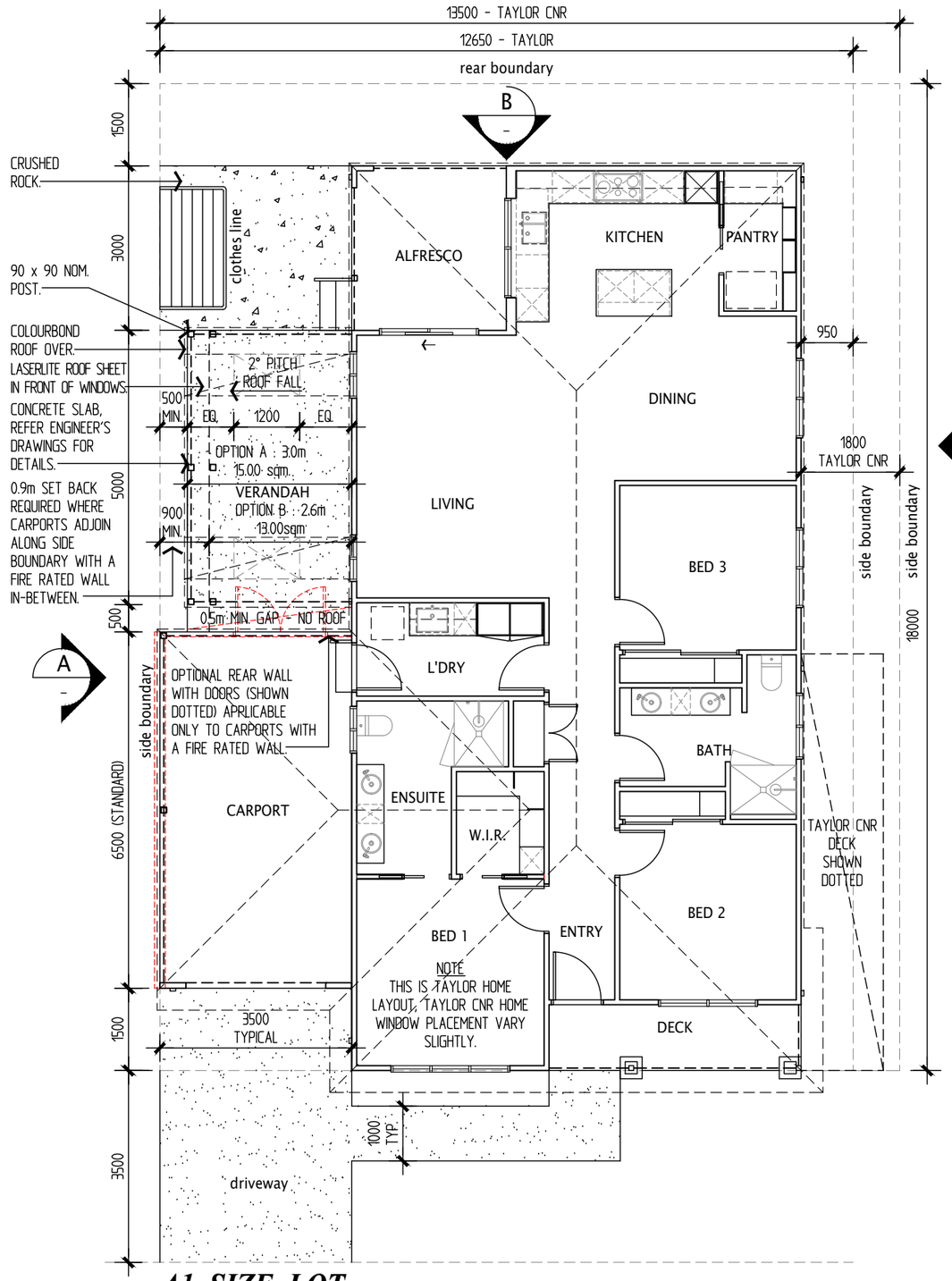
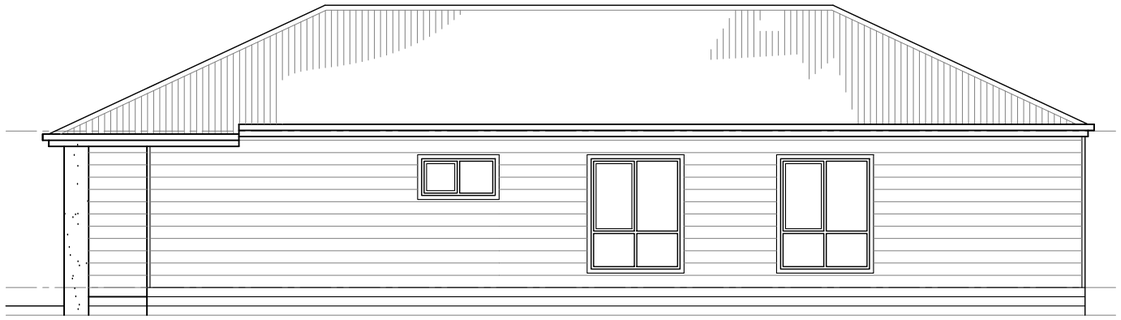


A1 SIZE LOT

FLOOR PLAN - PROPOSED VERANDAH

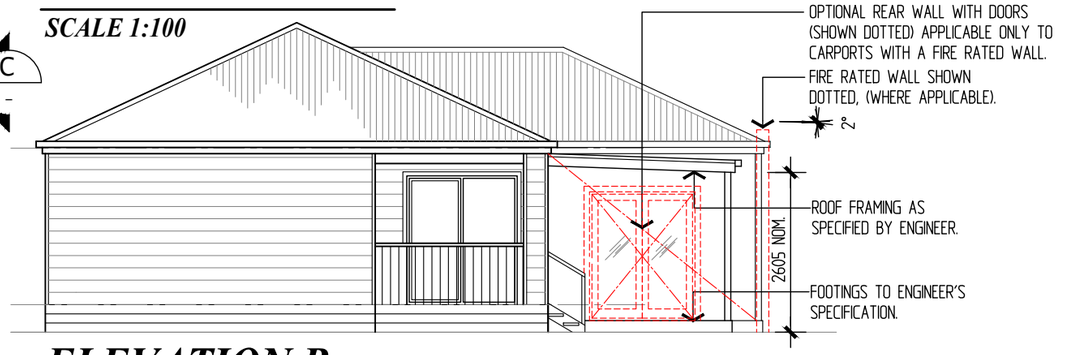
SCALE 1:100



ELEVATION C

SCALE 1:100

C



ELEVATION B

SCALE 1:100

ELEVATION A

SCALE 1:100

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
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TAYLOR/CNR PROPOSED VERANDAH	LIFESTYLE COMMUNITIES COWES				NORTH: AMENDMENTS: REVISION - 30.09.21
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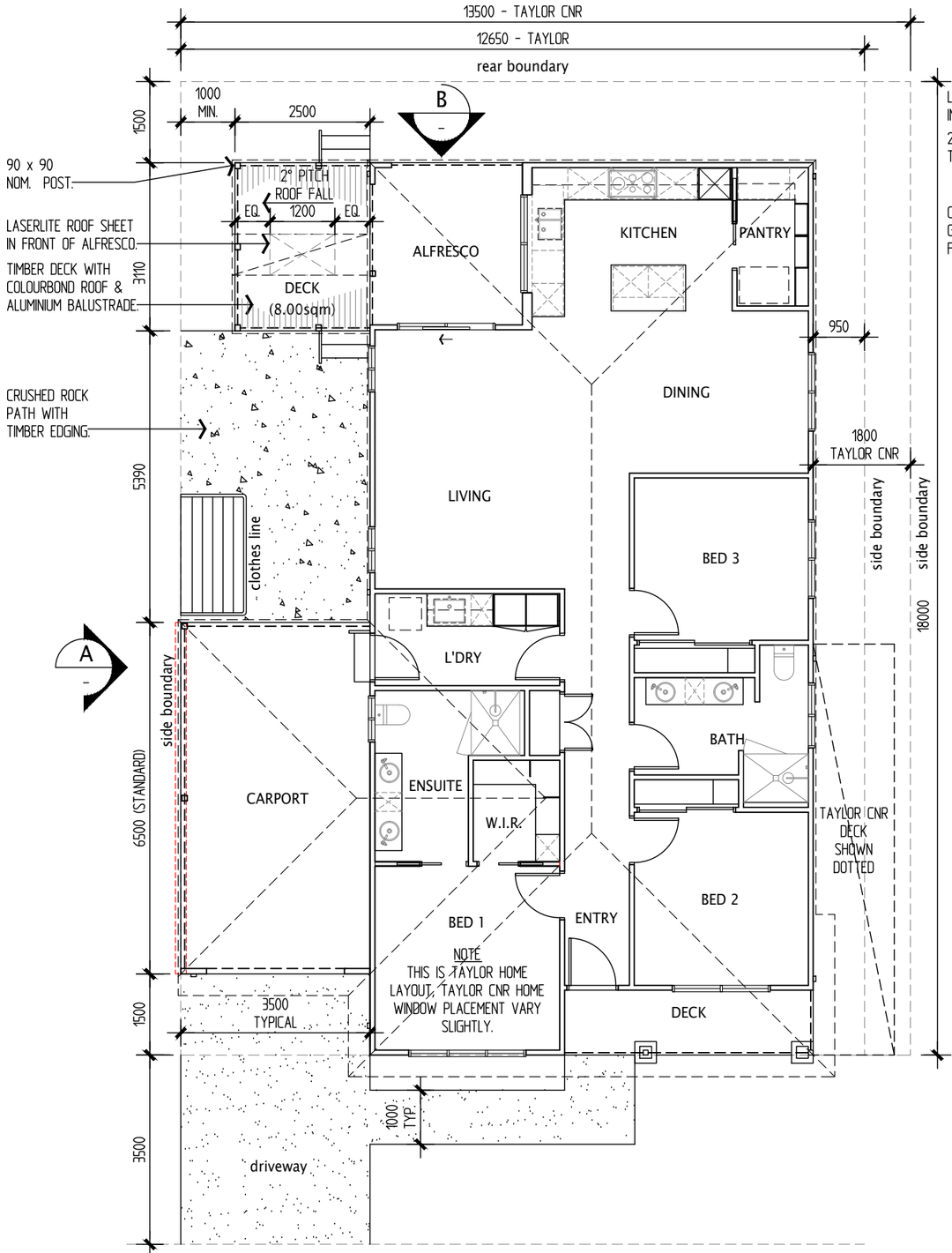
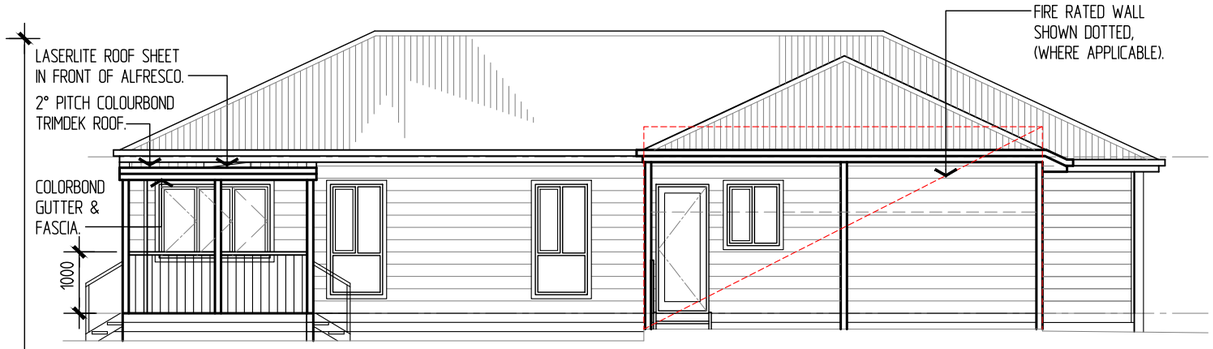


A1 SIZE LOT

FLOOR PLAN - PROPOSED SIDE DECK

SCALE 1:100



ELEVATION A

SCALE 1:100



ELEVATION B

SCALE 1:100

NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
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TAYLOR/CNR PROPOSED SIDE DECK	LIFESTYLE COMMUNITIES COWES				NORTH: AMENDMENTS: REVISION - 30.09.21
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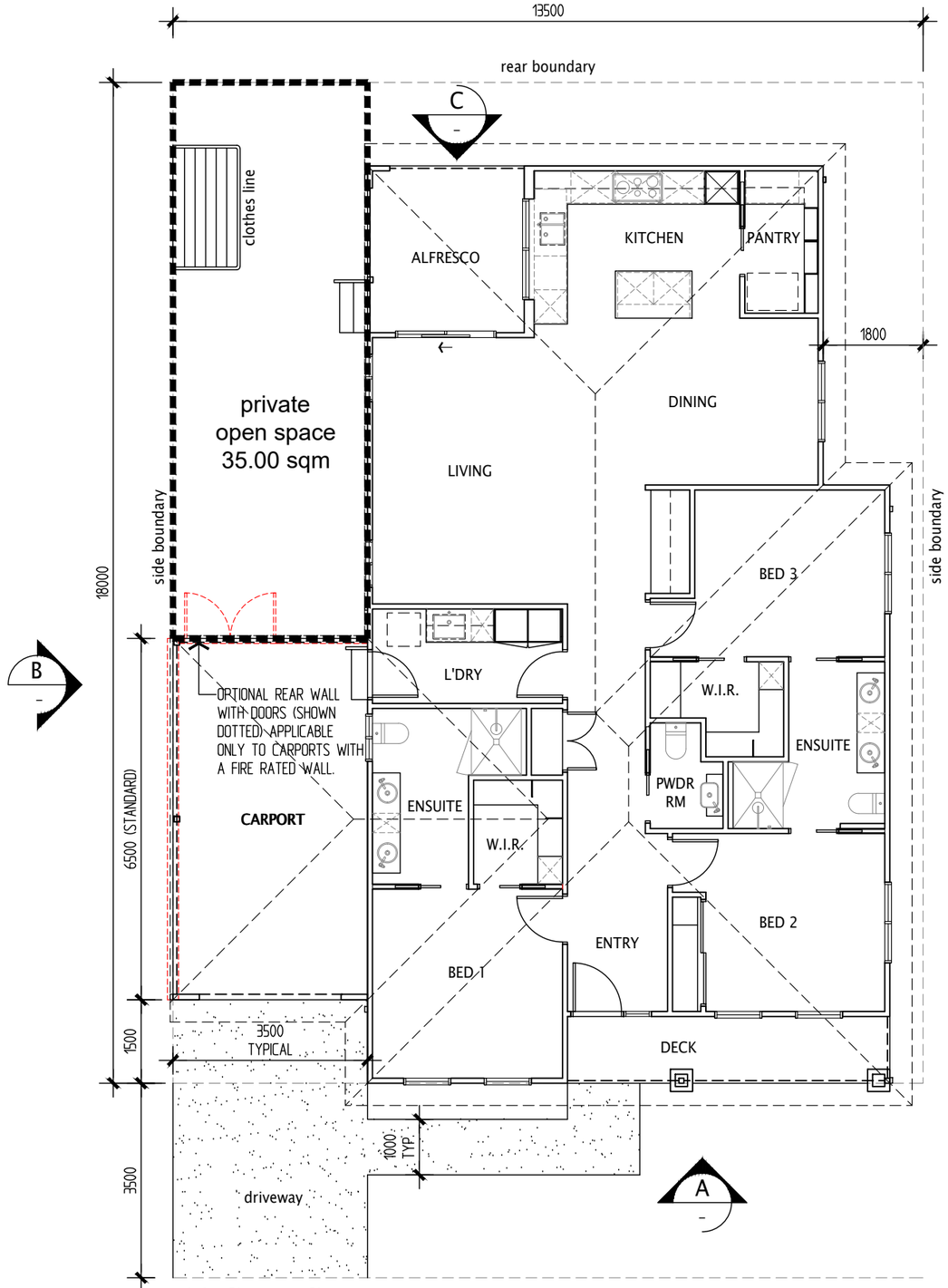
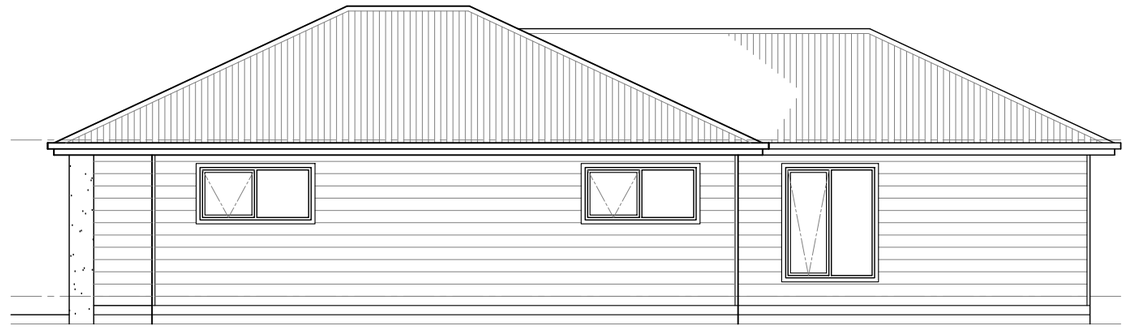
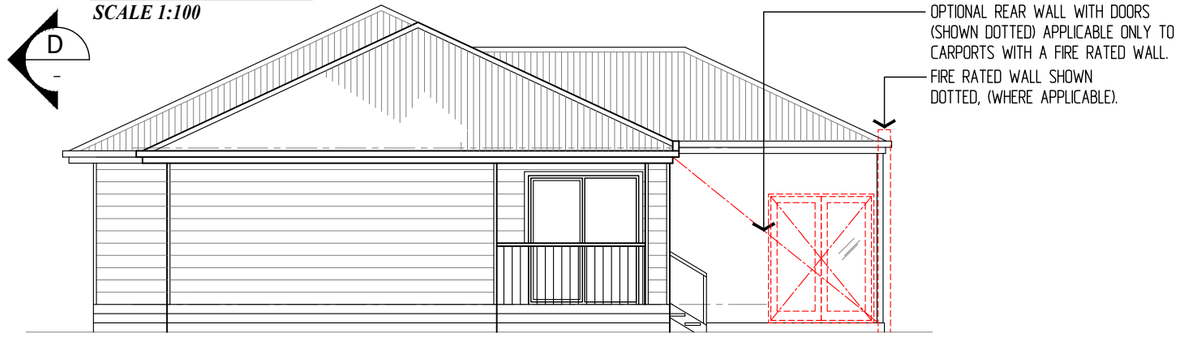


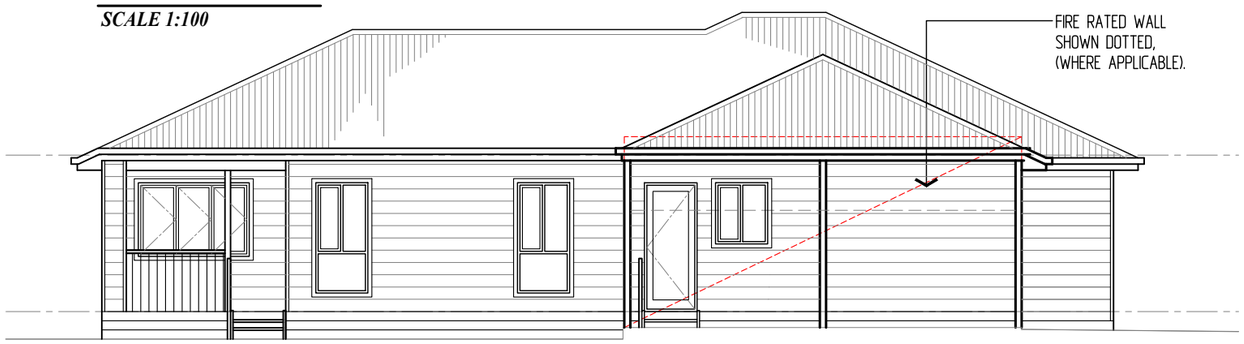
A1 SIZE SITE
FLOOR PLAN
SCALE 1:100



ELEVATION D
SCALE 1:100



ELEVATION C
SCALE 1:100



ELEVATION B
SCALE 1:100



ELEVATION A
SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

INFORMATION ONLY

SITE PERMEABILITY 'A1' SIZE SITE	MET SQ.
TOTAL SITE AREA	243.00
TOTAL BUILDING AREA	170.60
CONCRETE DRIVEWAY & PATH	23.25
TOTAL BUILDING & CONCRETE AREAS	193.85
IMPERMEABLE SURFACES - MAX. 80%	80%

SITE COVERAGE 'A1' SIZE SITE	MET SQ.
TOTAL SITE AREA	243.00
TOTAL BUILDING AREA	170.60
SITE COVERAGE - MAX 60%	70%

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WATTS CNR

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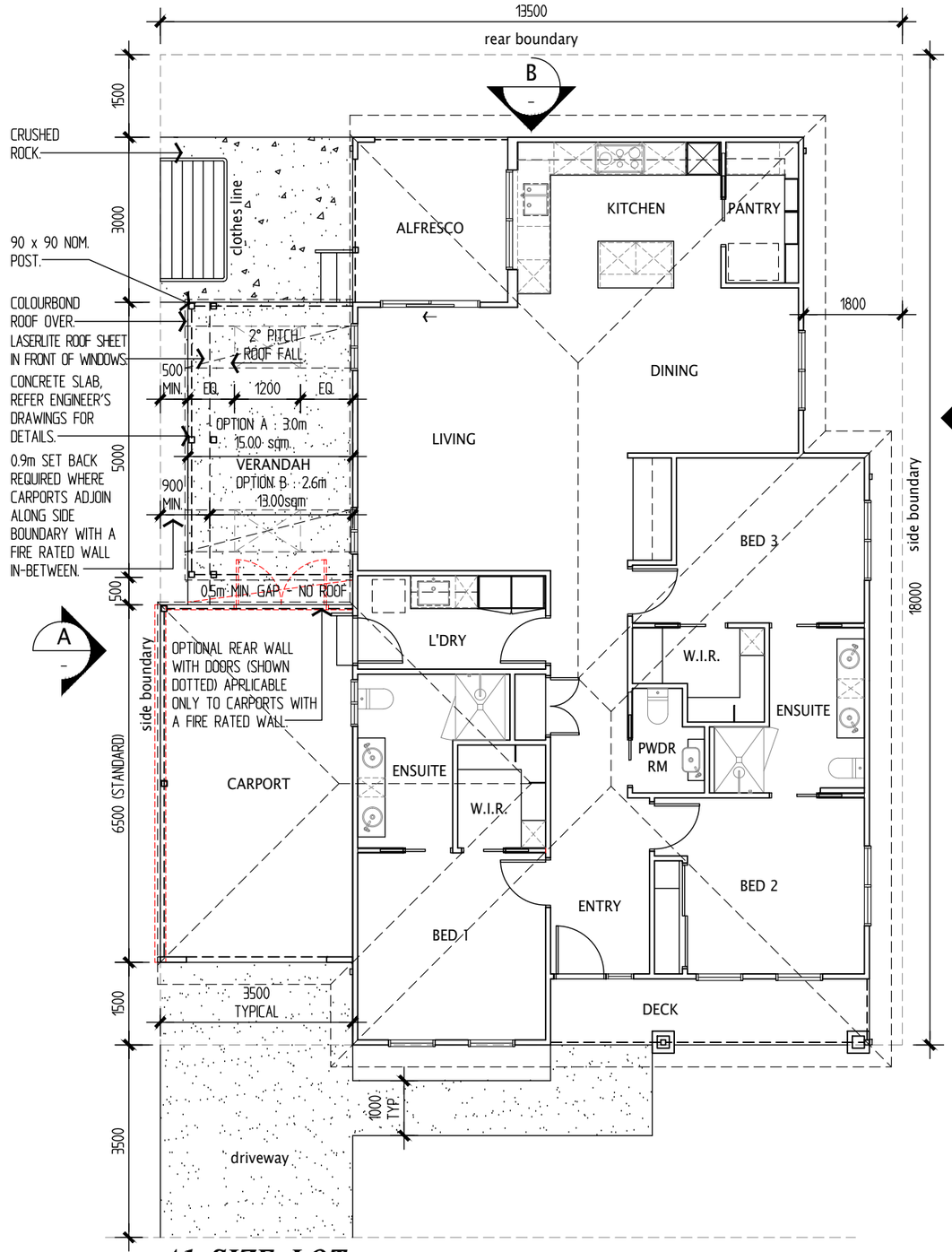
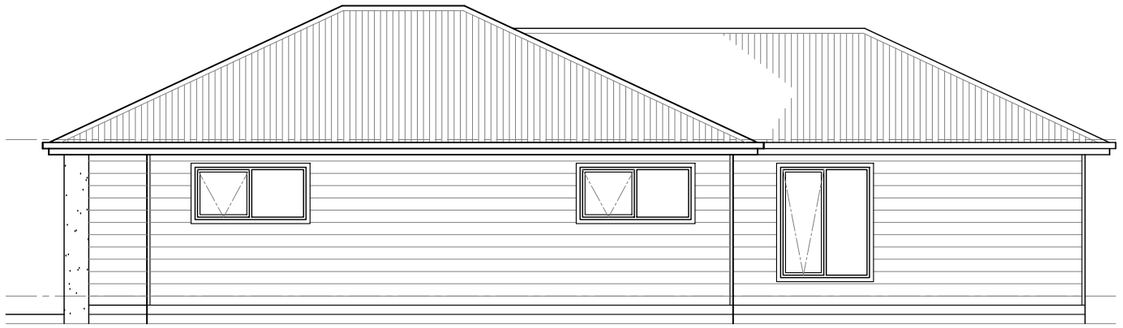
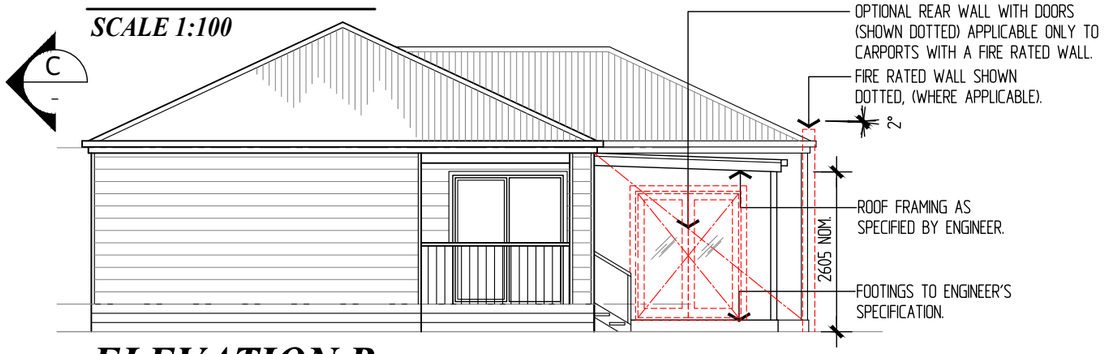




ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100

ELEVATION A

SCALE 1:100

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
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A1 SIZE LOT

FLOOR PLAN - PROPOSED VERANDAH

SCALE 1:100

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WATTS CNR
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LIFESTYLE COMMUNITIES
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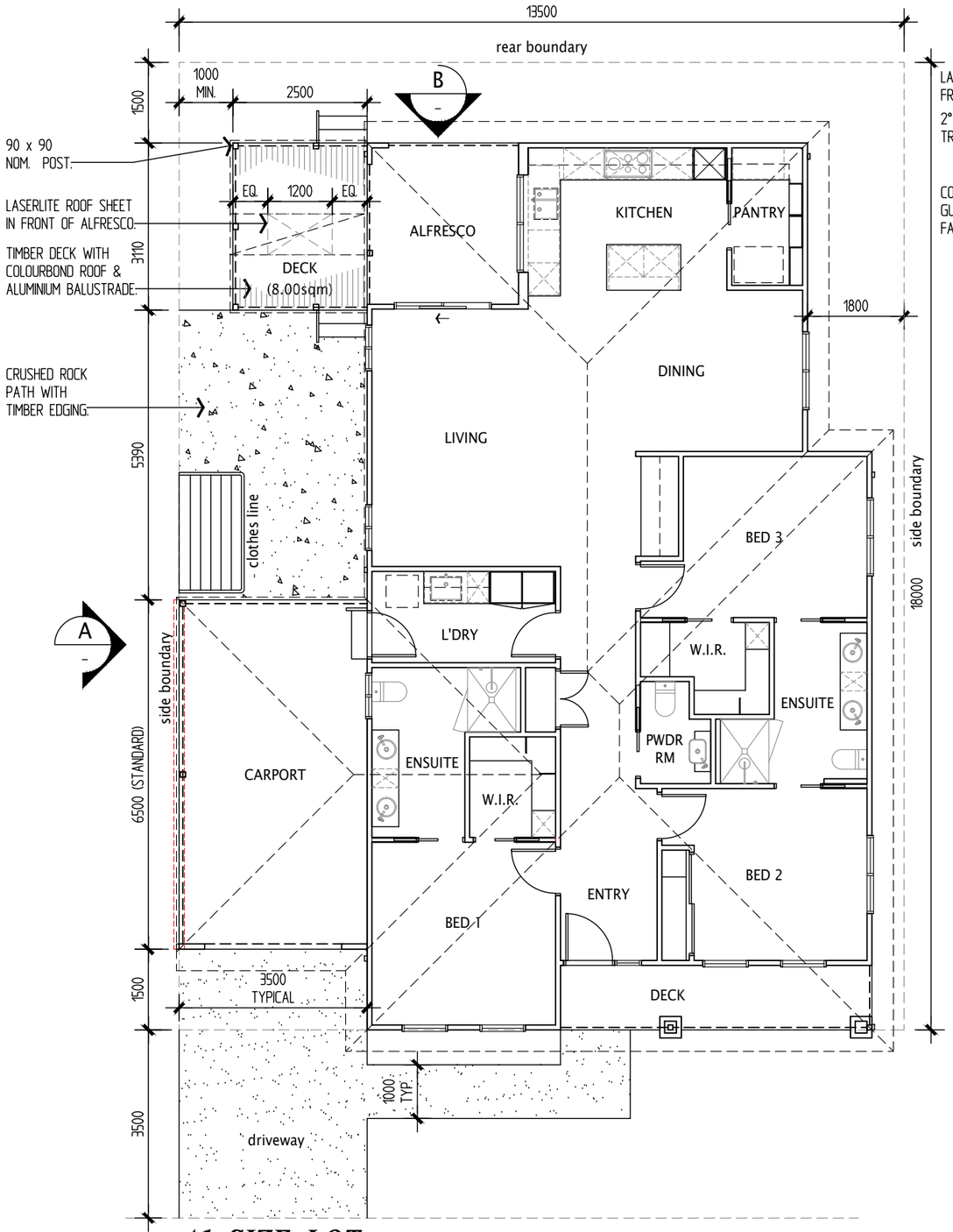
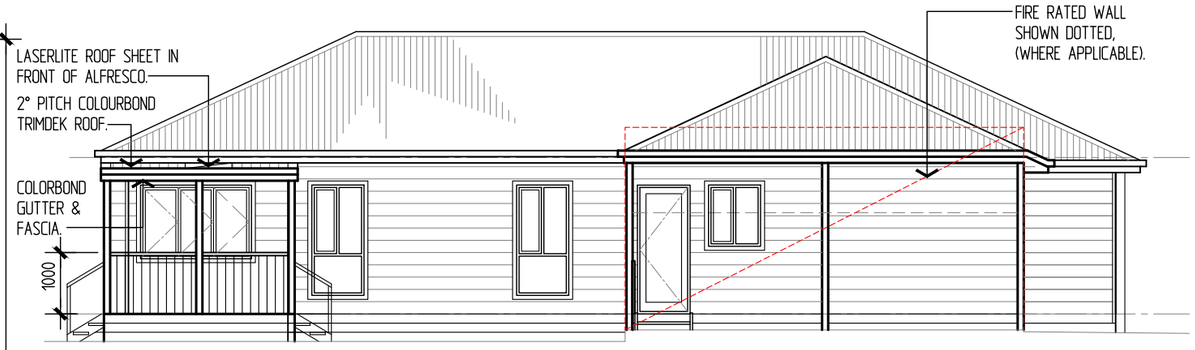


A1 SIZE LOT

FLOOR PLAN - PROPOSED SIDE DECK

SCALE 1:100



ELEVATION A

SCALE 1:100



ELEVATION B

SCALE 1:100

NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.

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- ALL DECK ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW DECK
REFER TO ENGINEER'S DRAWING FOR SUB FLOOR FRAMING & FOOTING SPECIFICATION

MINIMUM 150mm CLEARANCE FROM U/S OF NEW TIMBER FLOOR STRUCTURE TO GROUND LEVEL.

90 x 22mm THICK TREATED PINE DECK FLOORING.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
ALL WORKS TO COMPLY WITH THE BUILDING REGULATIONS 1994 & THE BUILDING CODE OF AUSTRALIA VOLUME 2.

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INFORMATION ONLY

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email: info@lifestylecommunities.com.au
Web: www.lifestylecommunities.com.au

WATTS CNR
PROPOSED SIDE DECK

LIFESTYLE COMMUNITIES
COWES

NORTH:

AMENDMENTS:
REVISION - 30.09.21

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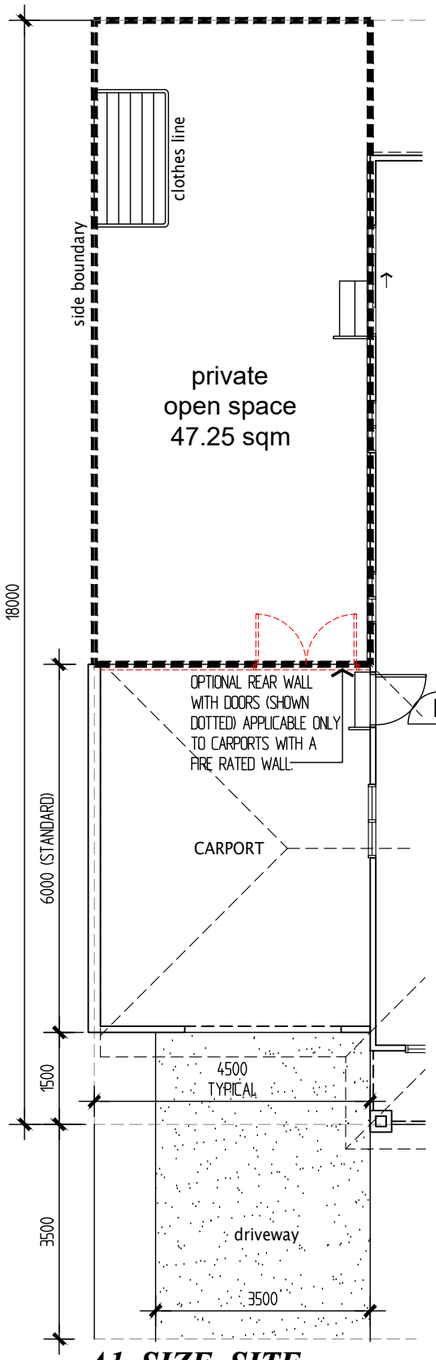
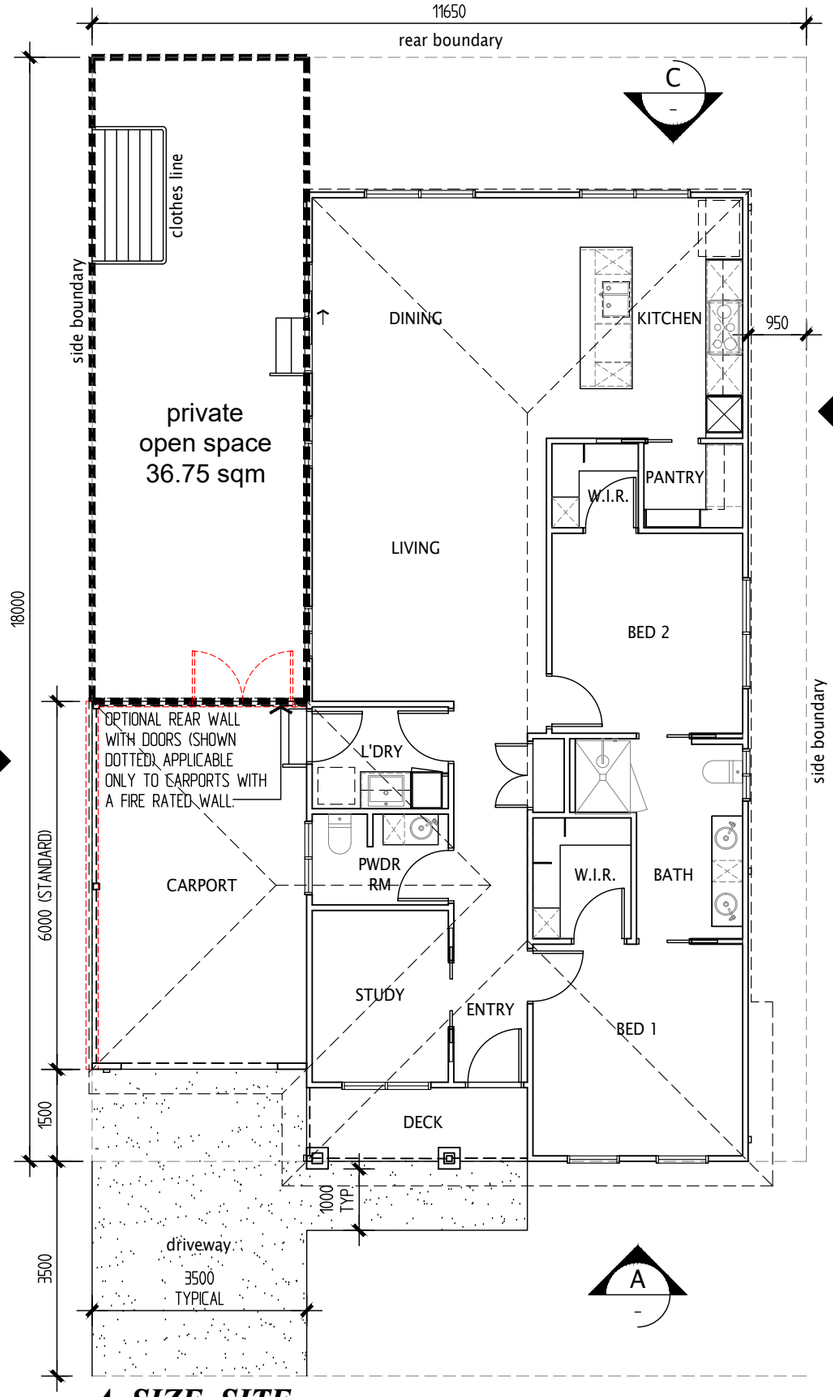
DRAWING No: LCO-S3 59 OF 62



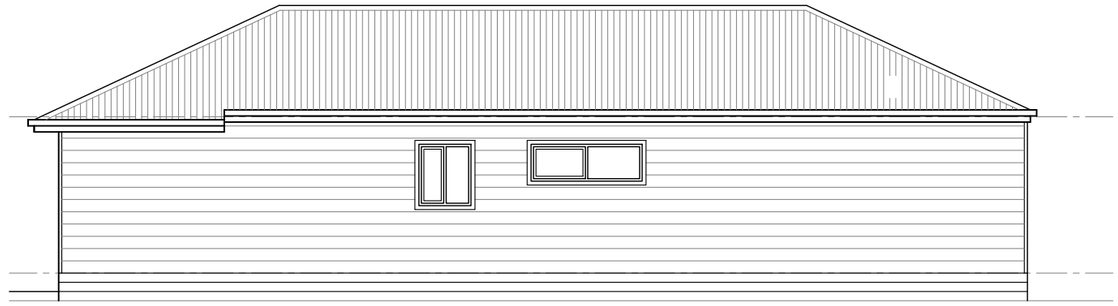
A1 SIZE SITE



A SIZE SITE

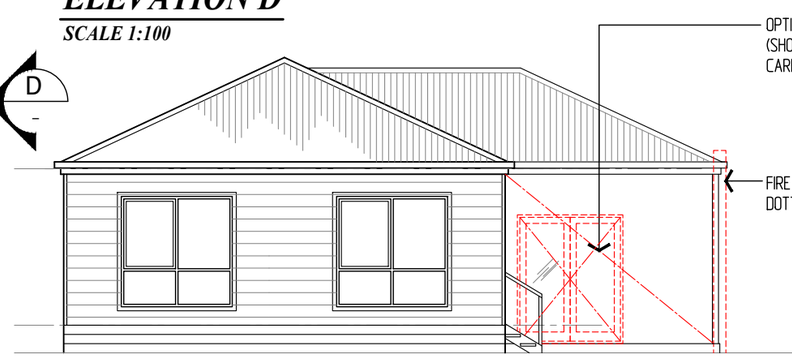
FLOOR PLAN

SCALE 1:100



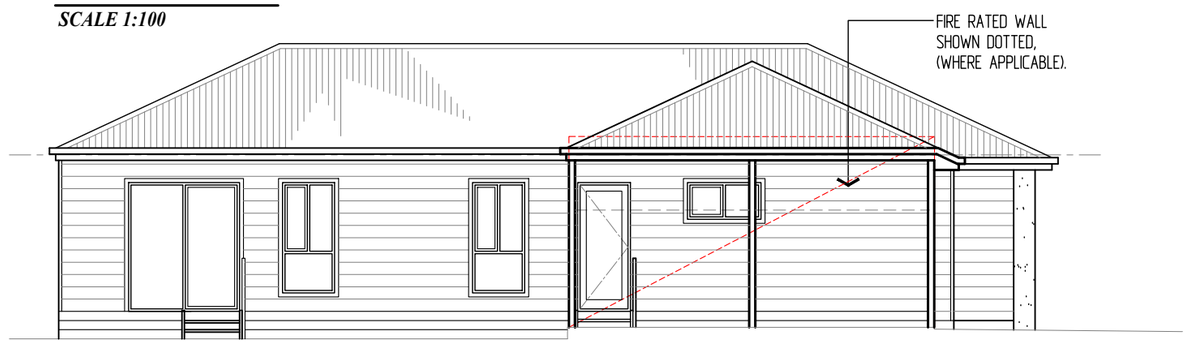
ELEVATION D

SCALE 1:100



ELEVATION C

SCALE 1:100



ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

NOTE: FRONT FACADE TYPE MAY VARY.

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Web: www.lifestylecommunities.com.au

SITE PERMEABILITY 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	134.80
CONCRETE DRIVEWAY & PATH	21.55
TOTAL BUILDING & CONCRETE AREAS	156.35
IMPERMEABLE SURFACES - MAX. 80%	75%

SITE COVERAGE 'A' SIZE SITE	MET SQ.
TOTAL SITE AREA	209.70
TOTAL BUILDING AREA	134.80
SITE COVERAGE - MAX 60%	64%

YORK

LIFESTYLE COMMUNITIES
COWES

NORTH:

AMENDMENTS:
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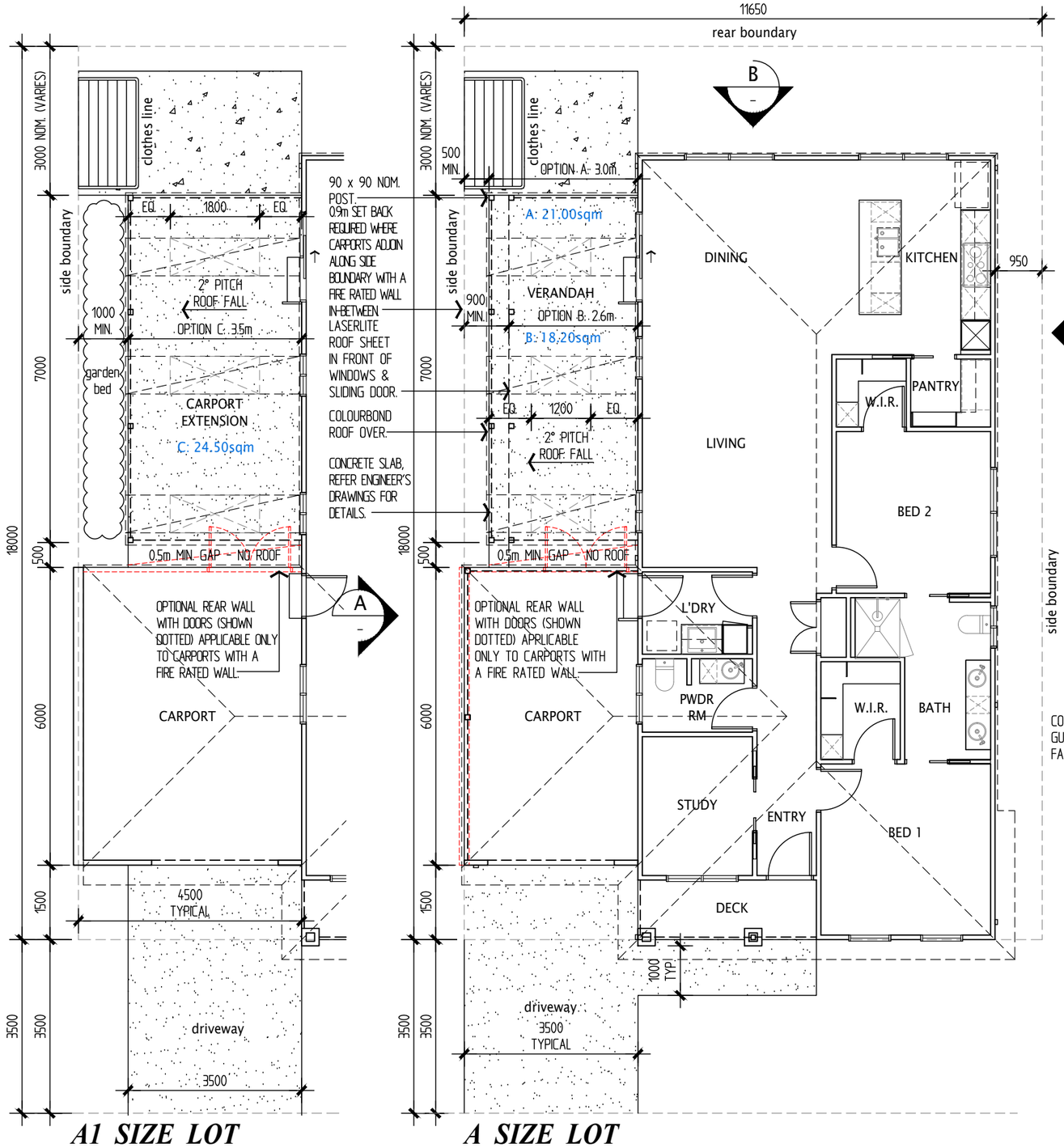
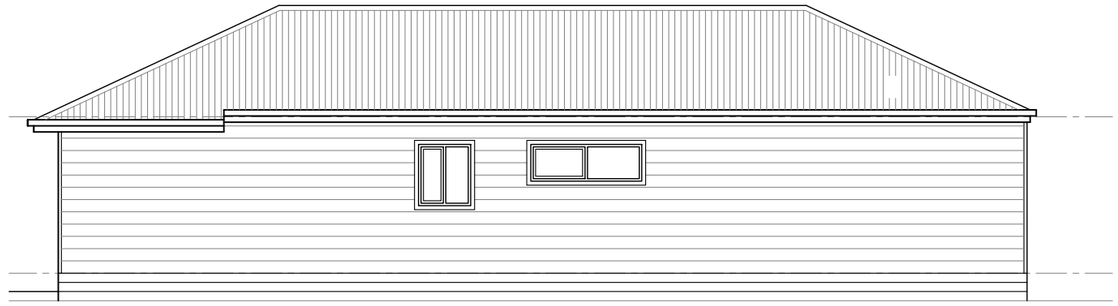


A1 SIZE LOT

A SIZE LOT

FLOOR PLAN - PROPOSED CARPORT EXTENSION & VERANDAH

SCALE 1:100



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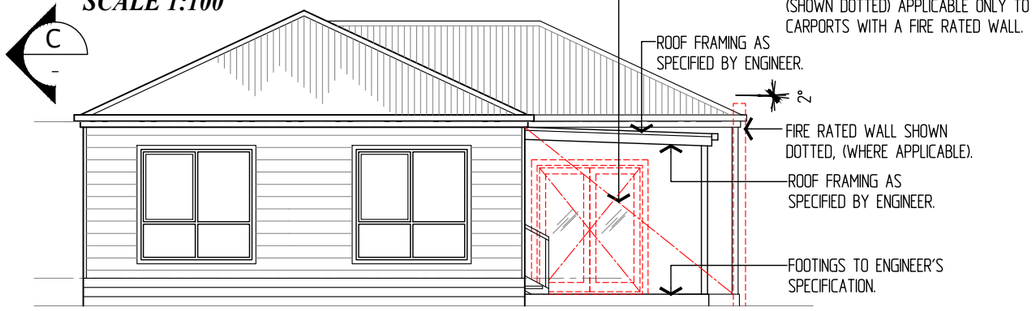
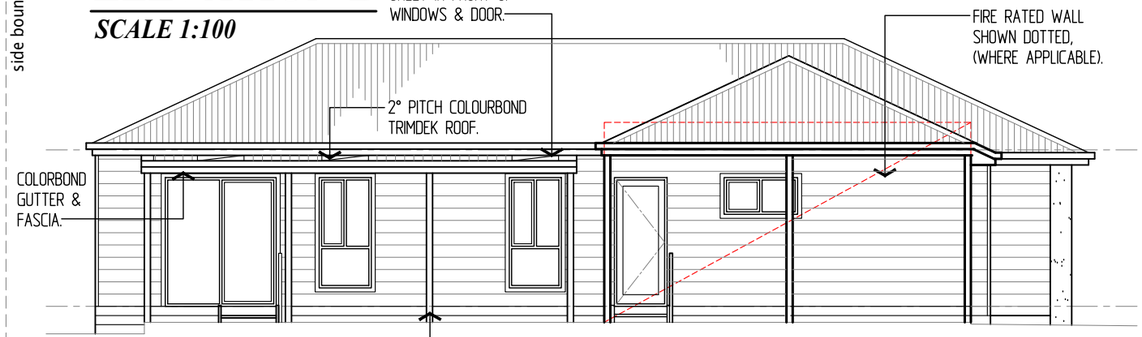


ELEVATION B

SCALE 1:100



ELEVATION A

SCALE 1:100

VERANDAH OR CARPORT EXTENSION INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
- ALL TIMBER FRAMING ie. BEAMS & RAFTERS TO BE LOSP PRE-PRIMED PINE.
- ALL ROOF TIMBER FRAMING & CEILING LINING TO BE PAINTED.

PROPOSED NEW VERANDAH OR CARPORT EXTENSION
REFER TO ENGINEER'S DRAWING FOR CONCRETE SLAB.

ALL TIMBER FRAMING TO BE IN ACCORDANCE WITH AS 1684.

GENERAL NOTES
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Web: www.lifestylecommunities.com.au

YORK
PROPOSED CARPORT
EXT. & VERANDAH

LIFESTYLE COMMUNITIES
COWES

NORTH:

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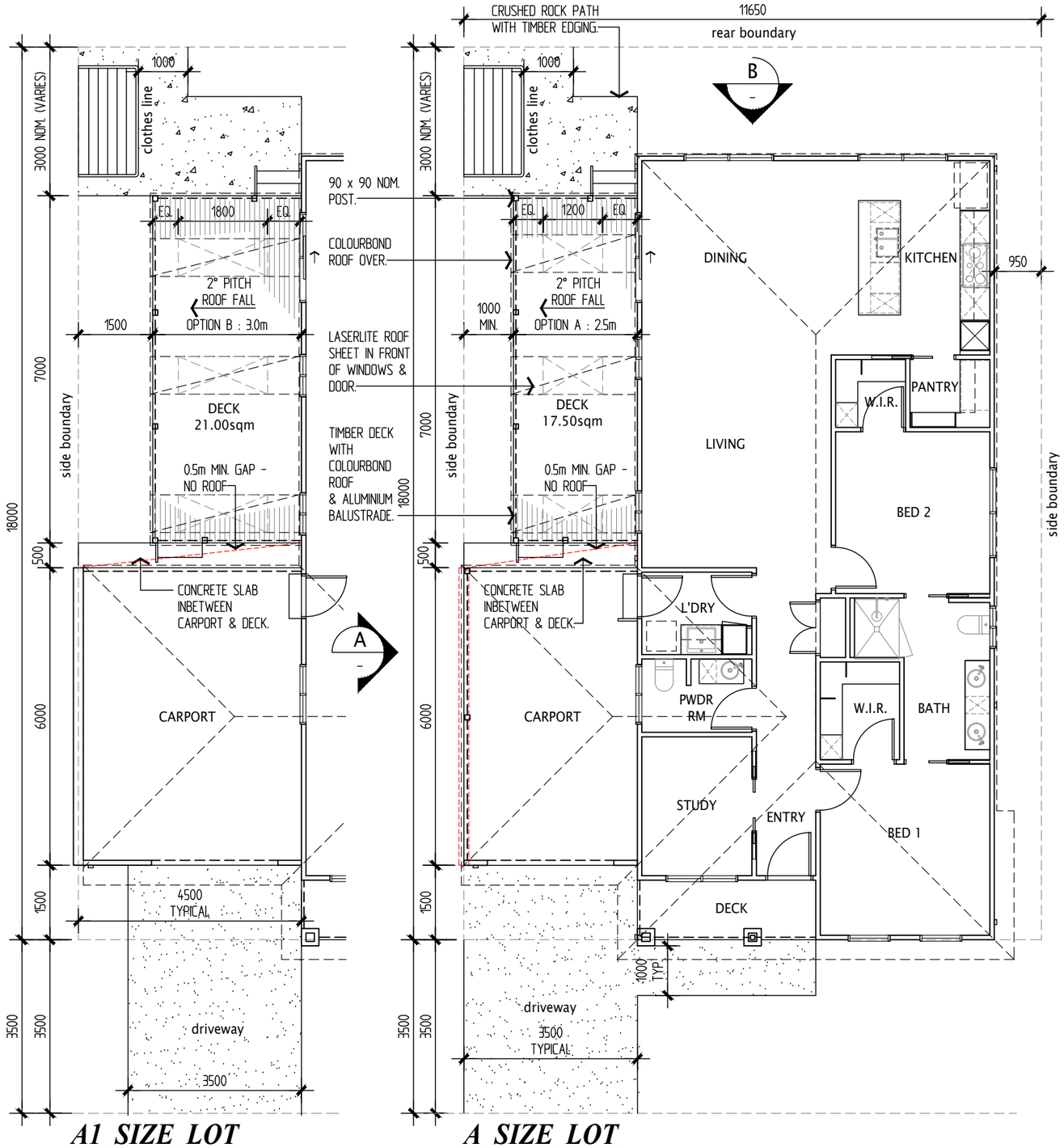
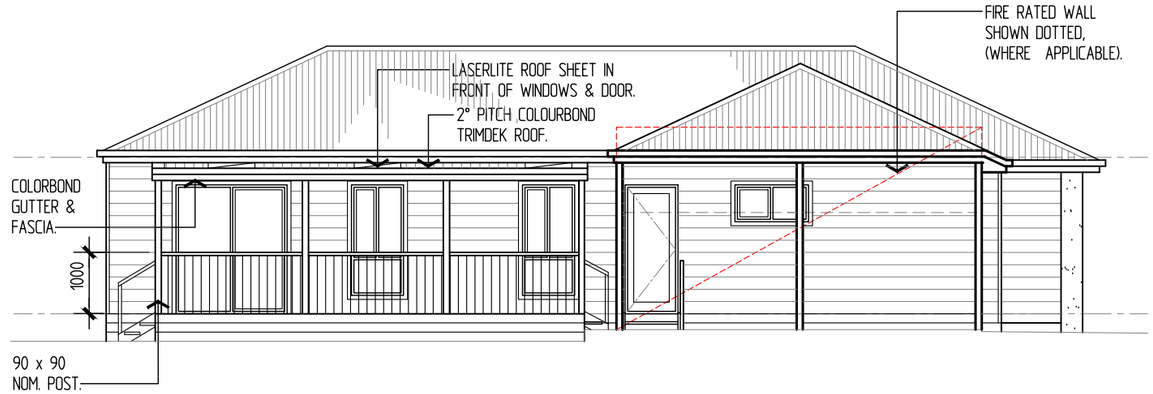


A1 SIZE LOT

A SIZE LOT

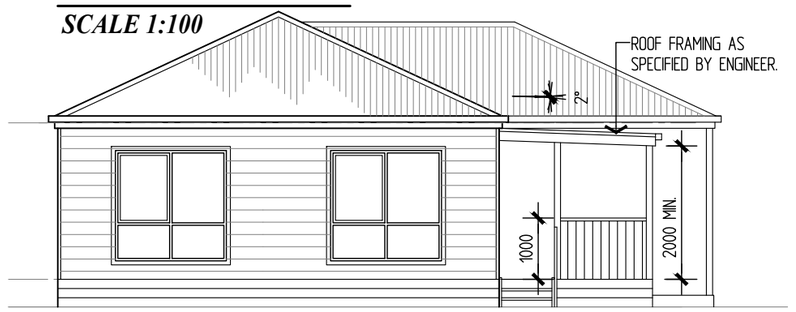
FLOOR PLAN - PROPOSED SIDE DECKS

SCALE 1:100



ELEVATION A

SCALE 1:100



NOTE: FOOTINGS TO ENGINEER'S SPECIFICATION.

ELEVATION B

SCALE 1:100

DECK INCLUDES CEILING LINING WITH BOXED OUT SKYLIGHT/S
- CEMENT SHEET LINING IN-BETWEEN RAFTERS WITH QUAD TRIM TO ALL EXPOSED SHEET EDGING.
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YORK PROPOSED SIDE DECKS	LIFESTYLE COMMUNITIES COWES				NORTH: AMENDMENTS: REVISION - 30.09.21
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ArborCon

Arboricultural Consulting

Preliminary Vegetation Assessment

299-325 Church Street

Cowes

3922

Report prepared by:

Sam Ross GCertArb

0488 996 223

Arborcon.info@gmail.com

26/10/2020

Report Commissioned by

Whiteman Property & Associates

Document

IACHU261020

Amended 25/11/20

Executive Summary

A preliminary design assessment of vegetation was undertaken at 299-325 Church Street, Cowes to facilitate future subdivisions and design proposals. The assessment details any significant vegetation considered likely to be impacted if development of the site were to go ahead. Tree protection zones have been calculated in order to facilitate future designs and tree protection.

Table 1: Assessed species totals

Assessed Vegetation	Origin	Totals
Melaleuca ericifolia	Indigenous	2661
Bursaria spinosa	Indigenous	124
Coprosma repens	Exotic	78
Pittosporum undulatum	Vic Native	42
Melaleuca armillaris	Vic Native	40
Allocasuarina verticillata	Indigenous	32
Eucalyptus cladocalyx	Aus Native	26
Acacia mearnsii	Indigenous	23
Corymbia ficifolia	Aus Native	22
Eucalyptus ovata	Indigenous	20
Acacia melanoxylon	Indigenous	18
Subtotal		**3086**
Other	Vic Native	91
Other	Indigenous	62
Other	Aus Native	62
Other	Exotic	37
Subtotal		**251**
Total		**3338**

Table 2: Origin of species totals

Origin	Total
Indigenous	2940
Vic Native	173
Aus Native	103
Exotic	115
Total	**3338**

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Supplementary Documentation 2
Introduction 3
Methodology 4
Observations 5
Conclusions & Recommendations 8
Appendix A: Glossary of terms 9
Appendix B: Tree protection guidelines 13
Appendix C: Limitations 19
References 20

Supplementary Documentation

1. Tree Protection Plans & Tree Inventory, Document No. DRWCHU261020

Introduction

A preliminary assessment is conducted using data collected and scaled plans of the existing conditions, provided by the design company or property owner. The data and plans are used detail tree protection zones in order to facilitate tree retention and protection with AS4970-2009 used as a guide.

Relevant data includes a diameter at breast height (DBH) measurement (1.4m from ground level), if 'major' encroachment is likely then a further measurement of the Structural root zone (SRZ) is taken, this includes a measurement compliant with AS4970. The relevant formulas are then applied to accurately plot the radius of either the TPZ or the SRZ.

Tree Retention

Where trees are to be retained within the development site and are considered significant, protection measures will be required in order to ensure the retained trees remain viable and protected from direct and residual impacts associated with the proposal.

Tree retention may be subject to a tree management plan and protection procedures, which may form part of the conditions of planning approval and therefore must be adhered to.

Trees are assessed as retainable and may be subject to protection measures if:

- Tree is considered significant under local or planning law therefore must be retained; and
- Has a ULE of Medium or Long, or where a reduced ULE maybe increased through applying arboricultural techniques; and
- Encroachments or impacts are less the 10% area of the TPZ and will remain viable; or
- Encroachments or impacts are considered major but justified through design changes or root investigation and the tree is considered to remain viable as a result.

Tree Removal

Where trees are allocated for removal, this does not grant the adequate permissions for removal. Tree removal may be subject to local or state planning laws and therefore permission must be sort from the relevant authority in order to remove trees allocated as to be removed and will likely form part of the planning approval.

Trees are allocated to be removed if they are assessed as not retainable; if

- Encroachments or impacts exceed 10% of the total are of the TPZ or directly impact the SRZ and cannot be adequately reduced to insure long term viability; or
- If and only all avenues for retention have been explored the tree may be allocated for removal; or
- The tree has a short ULE due to defects that cannot be rectified by applied arboricultural techniques and therefore pose a risk to safety; or
- If the tree is considered an environmental weed species within the municipality

Methodology

1. The report identifies the species, origin of species, calculated tree protection zones (TPZ), health and structure.
2. Data was collected by Sam Ross using a Samsung tablet in conjunction with Jotform application
3. Tree numbering is plotted manually whilst onsite, using X Y data collected onsite using a tape measure and range finder, drawings and plans are provided by Line Studio.
4. All vegetation within the site and surrounding areas that was assessed as having a dimeter at breast height (DBH) 0.15 m or greater was assessed individually.
5. Where vegetation was assessed as having a DBH of less than 0.15 m but has a height greater than 2 meters or a diameter greater than 0.10 m measured at 30 cm above ground therefore considered significant pursuant to schedule 2 of the Vegetation Protection Overlay, this vegetation was counted and grouped.
6. Location of grouped vegetation is approximated using high resolution aerial imagery and is plotted to illustrate the species numbers and density only.
7. All grouped vegetation has the minimum required calculated tree protection zone (TPZ) as per AS4970-2009.
8. Trees were identified using arboricultural knowledge and gathering samples, though not all key characteristics of any particular sample are prevalent all year round.
9. Identification of both the Genus and Species may not always be possible and any vegetation identification within this report may only be as far accurate as the Genus.
10. In cases where the species epithet is identified the (sp.) will appear after the genus or where multiples of the same genus cannot be identified then (spp.) will appear after the genus.
11. Where vegetation assessed is less than 150 mm in diameter at 1.4 meters high, the minimum TPZ radius (2.00 m) and SRZ radius (1.5 m) as per AS4970-2009 will apply. Maximum TPZ radius is 15 meters.
12. Existing encroachments into TPZ's is not calculated as a percentage of the any encroachment and therefore is not considered as a percentage of encroachment.
13. SRZ's are calculated as required, where the encroachment is considered major and the tree is to be retained.
14. Where access to neighbouring properties is restricted, DBH measurements are estimates.

Observations

299-325 Church Street, Cowes is currently used as farm land supporting live stock. Vegetation assessed within the site consists of large canopy *Eucalyptus* spp. located around the dam area and Settlement Road (Internal). Other species located within the site include *Acacia* spp., *Melaleuca* spp. and some Exotic spp. located in the Justice Road (Internal) section.

Two Gippsland Plain bioregion, Pre-1750 Ecological Vegetation Classes cover the site. Species listed in the EVC are considered significant and indigenous to that bioregion. These species are considered to contribute significantly to biodiversity and ecology of the site and therefore should be considered to be of high retention value.

1. **EVC 55: Plains Grassy Woodland large and immature canopy tree species**
    a. *Eucalyptus tereticornis ssp. mediana*
    b. *Eucalyptus camaldulensis*
    c. *Allocasuarina littoralis*
    d. *Acacia mearnsii*
    e. *Acacia melanoxylon*
2. **EVC 53: Swamp Scrub large and immature canopy tree species**
    a. *Leptospermum lanigerum*
    b. *Melaleuca ericifolia*

Planning Overlays & Local Law (Protecting Vegetation)

A Vegetation Protection Overlay is current for the site whereby the following applies.

A permit is required to remove, destroy or lop any tree or shrub with a girth greater than 30 centimetres (when measured 30 centimetres above ground level) or a height of at least two metres.

This does not apply to introduced species of ornamental shrubs or fruit trees or to species identified as being weeds; or to pruning.

All vegetation assessed is considered significant pursuant to schedule 2 of the vegetation protection overlay. Exemptions include weed species and dead trees.

Table 6: Assessed weed species (Bass Coast Shire)

Species	Status	Origin
Coprosma repens	Weed	Exotic
Crataegus monogyna	Weed	Exotic
Fraxinus angustifolia	Weed	Exotic
Genista sp.	Weed	Exotic
Pittosporum undulatum	Weed	Vic Native

Church Street (Page 4 -9 Doc: DRWCHU261020)

a. The Church Street section has both external and internal areas of assessed vegetation. The vegetation located on the road verge and within the site is defined as a mix of Indigenous, Victorian and Australian Native species with some Exotic species scattered throughout.

b. This vegetation is considered to offer high amenity value to the streetscape and contributes to the species ecology of the site with some indigenous species.

Bellavista Road (West) (Page 22 -21 Doc: DRWCHU261020)

a. This area is dominated by *Melaleuca ericifolia*, this species is indigenous to the area and appears in EVC 53. Some *Acacia* mearnsii were assessed throughout this area which appear in the Pre 1750 Ecological Vegetation Class 55 (EVC 55).

b. Some weed species were assessed throughout this area though considered to be in relatively low numbers, these species include *Coprosma repens* (Exotic), *Crataegus monogyna* (Exotic and *Pittosporum undulatum* (Vic Native).

c. This area is considered to offer significant amenity value to the regularly used walking path and represents ecological value with its indigenous species.

d. This area was noticeably wet under foot during the assessment, these conditions are considered indicative of EVC 53 Swamp Scrub and an ideal environment for *Melaleuca ericifolia,* this must be a consideration for future proposals.

Bellavista Road (East) (Page 22 -33 Doc: DRWCHU261020)

a. This area is dominated by *Melaleuca ericifolia* this species is considered indigenous to the area and appear in EVC 53. Pockets of *Eucalyptus* spp. were assessed throughout this area including *Eucalyptus ovata* (Indigenous), *Eucalyptus botryoides* (Vic Native), *Eucalyptus cladocalyx* (Aus Native). *Bursaria spinosa* also appears throughout this area, this species is considered indigenous to the area.

b. Some weed species were assessed throughout this area though considered to be in relatively low numbers, these species include *Coprosma repens* (Exotic), *Crataegus monogyna* (Exotic and *Pittosporum undulatum* (Vic Native).

c. This area is considered to offer significant amenity value with large canopy species to the regularly used walking path and represents ecological value with its indigenous species.

Settlement Road (Page 34 -41 Doc: DRWCHU261020)

a. This area is dominated by *Melaleuca ericifolia*, this species is indigenous to the area and appears in EVC 53. Some *Acacia* mearnsii were assessed throughout this area which appear in the Pre 1750 Ecological Vegetation Class 55 (EVC 55). Bursaria spinosa are scattered throughout as well as some Acacia spp. and Eucalyptus spp.

b. Some weed species were assessed throughout this area though considered to be in relatively low numbers, these species include *Coprosma repens* (Exotic), *Crataegus monogyna* (Exotic and *Pittosporum undulatum* (Vic Native).

Justice Road (Page 42 -47 Doc: DRWCHU261020)

a. This area is dominated by *Melaleuca ericifolia*, this species is indigenous to the area and appears in EVC 53. Some *Acacia* mearnsii were assessed throughout this area which appear in the Pre 1750 Ecological Vegetation Class 55 (EVC 55). *Bursaria spinosa* are scattered throughout as well as some *Acacia* spp. and *Eucalyptus* spp. Large mature *Cupressus macrocarpa* (Exotic) were also assessed within this area.

b. Some weed species were assessed throughout this area though considered to be in relatively low numbers, these species include *Coprosma repens* (Exotic), *Crataegus monogyna* (Exotic and *Pittosporum undulatum* (Vic Native).

Justice Road (Internal) (Page 48 -51 Doc: DRWCHU261020)

a. This area is dominated by Indigenous species including *Ozothamnus ferruguneus*, *Bursaria spinosa* and *Acacia melanoxylon* with Victorian native *Melaleuca* spp. scattered throughout. *Acacia melanoxylon* appears in EVC 55. No weed species were assessed within this area, though a small pocket of *Populus nigra* (Exotic) were assessed which may be considered to have weed like tendencies.

Justice Road (Internal 2) (Page 52 -53 Doc: DRWCHU261020)

a. This area of vegetation is considered to be generally in poor condition, if development of open space areas, dwellings and public space are to be constructed within close proximity to these trees, hazard mitigation works are highly recommended.

Church Street (Internal) (Page 54 -55 Doc: DRWCHU261020)

b. This area is located within the adjacent private property, and characterised by mature *Eucalyptus* spp. and *Allocasuarina* sp. with some Exotic species. These trees are considered to be of high retention value as they are owned by other.

Settlement Road (Internal) (Page 56 -58 Doc: DRWCHU261020)

c. This area within the subject site is characterised by a mix Indigenous, Victorian and Australian Native species. Large canopy *Eucalyptus* and *Corymbia* spp. are located within this area with *Casuarina cunninghamiana* and *Bursaria spinosa* scattered throughout. Species within this area are considered to offer significant amenity value to the site.

Dam (Internal) (Page 59 -60 Doc: DRWCHU261020)

a. This area is dominated by large canopy Eucalyptus spp. and Bursaria spinosa in varying condition. Retention of these trees may be present increased risk of harm if the area developed and occupied. The species in this area while mature and large canopy, do not represent high retention value specimen.

Centre (Internal) (Page 61 -62 Doc: DRWCHU261020)

a. This area located in the centre of the site has two large dead *Pinus radiata* and two low retention value ornamental fruit trees. These trees contribute very little in the way of amenity value and would be considered a safety concern for any future development.

Conclusions & Recommendations

1. 3337 trees were assessed at 299-325 Church Street, Cowes in order to facilitate the design of future subdivision and design proposals.
    a. Assessed vegetation consists of Church street roadside verge, both sides of Bellavista Road, Settlement Road verge, Justice Road verge, vegetation within the property of 347 Church Street and all internal vegetation.
    b. 499 trees were individually assessed where DBH was assessed as 0.15 m or greater.
    c. 2839 trees were individually counted and grouped where their DBH was assessed as less the 0.15 m and had a height 2 meters or greater or where diameter at 0.30 m above ground was assessed as greater than 0.10 m.
2. Majority of the species assessed are considered indigenous to the area with 2940 indigenous trees and *Melaleuca ericifolia* the dominant species with *Bursaria spinosa* scattered throughout.
3. All vegetation assessed is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay unless dead or is considered a weed within Bass Coast Shire.
    a. A permit is required to remove significant vegetation.
4. The Bellavista Road West & East areas were considerably more damp than other areas, these conditions are considered to be part of EVC 53 Swamp Scrub and the ideal environment for indigenous species and in particular *Melaleuca ericifolia*. A change in these conditions may result in significant decline of the tree population within the Bellavista Road areas.
5. In order to facilitate and increase the retention of significant species within the site and surrounds, it is recommended a suitably qualified arborist consult at all stages of the proposal.
6. Areas that will require particular attention in future proposals.
    a. Trees assessed within the roadside verge of Church Street
    b. Where large canopy trees along Bellavista Road may be impacted.
    c. Where large canopy trees along Justice Road may be impacted
    d. Where Species assessed within the private property of 347 Church Street may be impacted.
7. Drainage and the change of conditions within the Bellavista Road areas must be considered in future developments.
8. Future designs must use the tree protection zone data provided where impacts with significant vegetation is considered likely.
9. Proposed crossover locations must consider surrounding vegetation and have the flexibility to be moved where conflict may result in loss of significant vegetation.

Appendix A: Glossary of terms

Health

Good

- A tree that exhibits little to no signs of distress, pest or pathogen attack. Tree should exhibit normal levels of deadwood for the species with no areas of dieback and good uniformed foliage density

Fair

- Tree shows some signs of significant pest or pathogen attack with minor signs of distress or decline and is expected to remain viable in the medium to long term.

Poor

- A tree that shows significant signs of decline or distress with poor foliage density, significant pest or pathogen attack or large areas of deadwood or die back and is expected to continue to decline and may only be retained if safe to do so.

Dead

- A tree that is completely dead with no function or growth and may be retained as habitat if safe to do so.

Structure

Good

- A tree that exhibits good form and structural properties with few structural defects, the tree is considered to remain viable with low likelihood of failure in the long term.

Fair

- A tree that exhibits some defects that may result in failure in the short to medium term that may be remediated through applied arboricultural techniques.

Poor

- A tree that exhibits significant defects that are considered likely to lead to failure in the short term, risk of failure is unlikely to be remediated through applied arboricultural techniques.

Dead

- A tree that is dead with no function or growth, structurally the tree may be compromised and may be retained for habitat value if deemed safe to do so.

Landscape Significance

High

- An indigenous, native or exotic species of tree that contributes to the site and surrounding landscape with significant amenity value or a significant native or exotic species in a prominent location with cultural significance or heritage.

Moderate

- A common native or exotic species tree of moderate size that contributes to the site and surrounding landscape with some amenity value or native significance.

Low

- A common native or exotic species of tree of small to moderate size that has little to no amenity contribution to the surrounding area.

None

- A common native or exotic species of small size that has no amenity value and does not contribute to the local area and surrounds.

Arboricultural Significance

High

- An indigenous, significant native or exotic species of moderate or large size that exhibits good form exceptional structural properties with no detrimental defects and exceptional health.

Moderate

- An indigenous, native or exotic species of any size that exhibits reasonable form with fair to good structural properties and fair to good health, structural defects are present but maybe remediated through applied arboricultural techniques.

Low

- A native or exotic species of moderate or small size that exhibits fair structural properties and or fair health, structural defects are present but maybe remediated through applied arboricultural techniques.

None

- A native or exotic species of small size that exhibits poor structural properties and or poor health, structural defects are present with failure considered likely, the tree is unlikely to safely be retained in the short term.

Long Useful Life Expectancy:

- Trees that appear to be retainable with an acceptable level of risk for more than 40 years and will have a retention value of high.
- Structurally sound trees located in positions that can accommodate future growth.
- Storm damaged or defective trees that could be made suitable for retention in the long term by remedial tree surgery.
- Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.

Medium Useful Life Expectancy

- Trees that appear to be retainable with an acceptable level of risk for 15 to 40 years and will have a retention value of moderate.
- Trees that may only live between 15 and 40 years.
- Trees that may live for more than 40 years but would be removed to allow the safe development of more suitable individuals.
- Trees that may live for more than 40 years but would be removed during the course of normal management for safety and nuisance reasons.
- Storm damage or defective trees that can be made suitable for retention in the medium term by remedial work

Short Useful Life Expectancy

- Trees that appear retainable with an acceptable level of risk for 5 to 15 years and will have retention value of low.
- Trees that may live for 5 to 15 years.
- Trees that may live for more than 15 years but would be removed to allow the safe development of more suitable individuals.
- Trees that may live for more than 15 years but would be removed during the course of normal management for safety and nuisance reasons.
- Storm damaged or defective trees that require substantial remedial work to make safe and are only suitable for retention in the short term.

No Useful Life Expectancy

- A tree that is not retainable under any circumstance.
- A tree that poses an immediate threat to safety and must be removed immediately.
- A tree with significant structural faults that cannot be rectified through applied arboricultural techniques.

Planning Overlays

Significant Landscape Overlay (SLO)

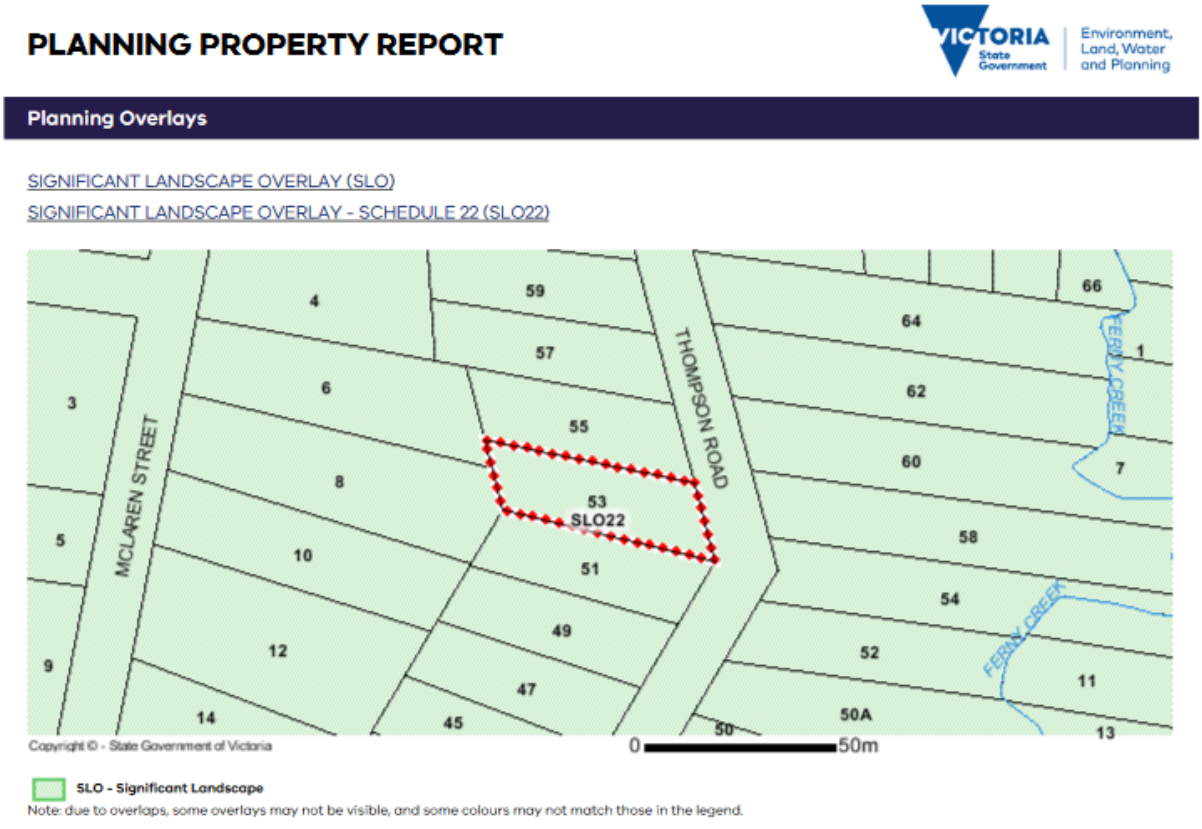
As defined by www.planning.vic.gov.au The Significant Landscape Overlay (SLO) is the most appropriate planning scheme tool for protecting and managing significant landscapes. Its purpose is to identify significant landscapes, and conserve and enhance their character. The SLO can require a permit to construct a building or construct or carry out works, construct a fence, and remove, destroy or lop any vegetation.

Vegetation Protection Overlay (VPO)

A VPO provides a framework for local authorities to protect significant areas of vegetation within its municipality, requirements for permits to remove or destroy vegetation within a VPO may defined by individual councils and is generally in the form of a measurement of the trunk taken at prescribed height and may also incorporate tree height.

Information regarding planning overlays can be found by following the link below and entering the subject site details.

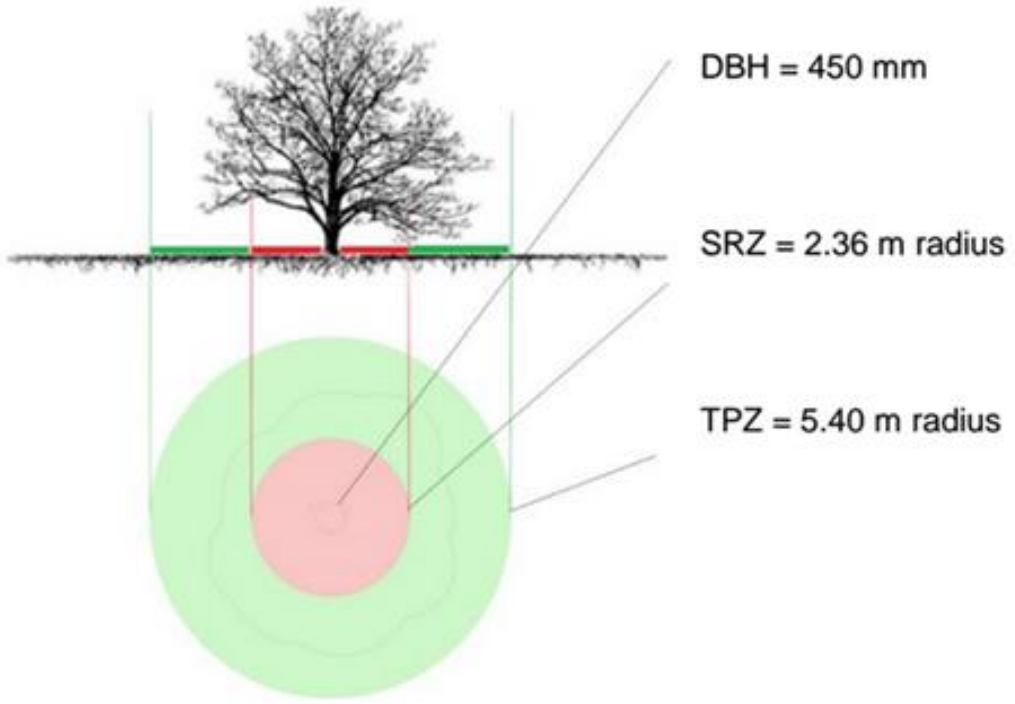
http://services.land.vic.gov.au/maps/imf/map.jsp?site=old-pmo



Example of Planning Overlay

Appendix B: Tree protection guidelines (Example)

The tree protection zone (TPZ) is the principal means of protecting trees on development sites. The TPZ is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable.



Major encroachment

If the proposed encroachment is greater than 10% of the TPZ or inside the SRZ, the project arborist must demonstrate that the tree(s) would remain viable. It may be possible to encroach into or make variations to the standard TPZ.

The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. This may require root investigation by non-destructive methods and consideration of relevant factors.

If major encroachment occurs, non-evasive root excavation using an Air Knife or similar will be required to ensure the protection of the trees root system, this is to be done under the supervision of the project arborist.

If roots need to be cut it is recommended roots no bigger than 25 mm are cut, and any roots that exceed 15 mm should be cut with sharp tools such as root cutting machine or secateurs and done with close supervision by the project Arborist.

Tree Protection Zones (TPZ) should be implemented for all trees on site, the TPZ can be encroached upon by no more than 10% if it can be justified by the project arborist.

Protection must be implemented for all remaining trees on the site, mulching, irrigation, fencing where necessary, advise all contractors that the tree roots are to be protected, no traffic, paint or waste, no storing of goods.

Minor encroachment

If the proposed encroachment is less than 10% of the area of the TPZ and is outside the SRZ, detailed root investigations should not be required. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ.

Variations must be made by the project arborist considering relevant factors, and demonstrate some examples of possible encroachment into the TPZ up to 10% of the area Major encroachment.

Where minor encroachment occurs and the protection measures are required, the loss of protection due to encroachment must be accounted for elsewhere and the dimensions of the TPZ adjusted accordingly.

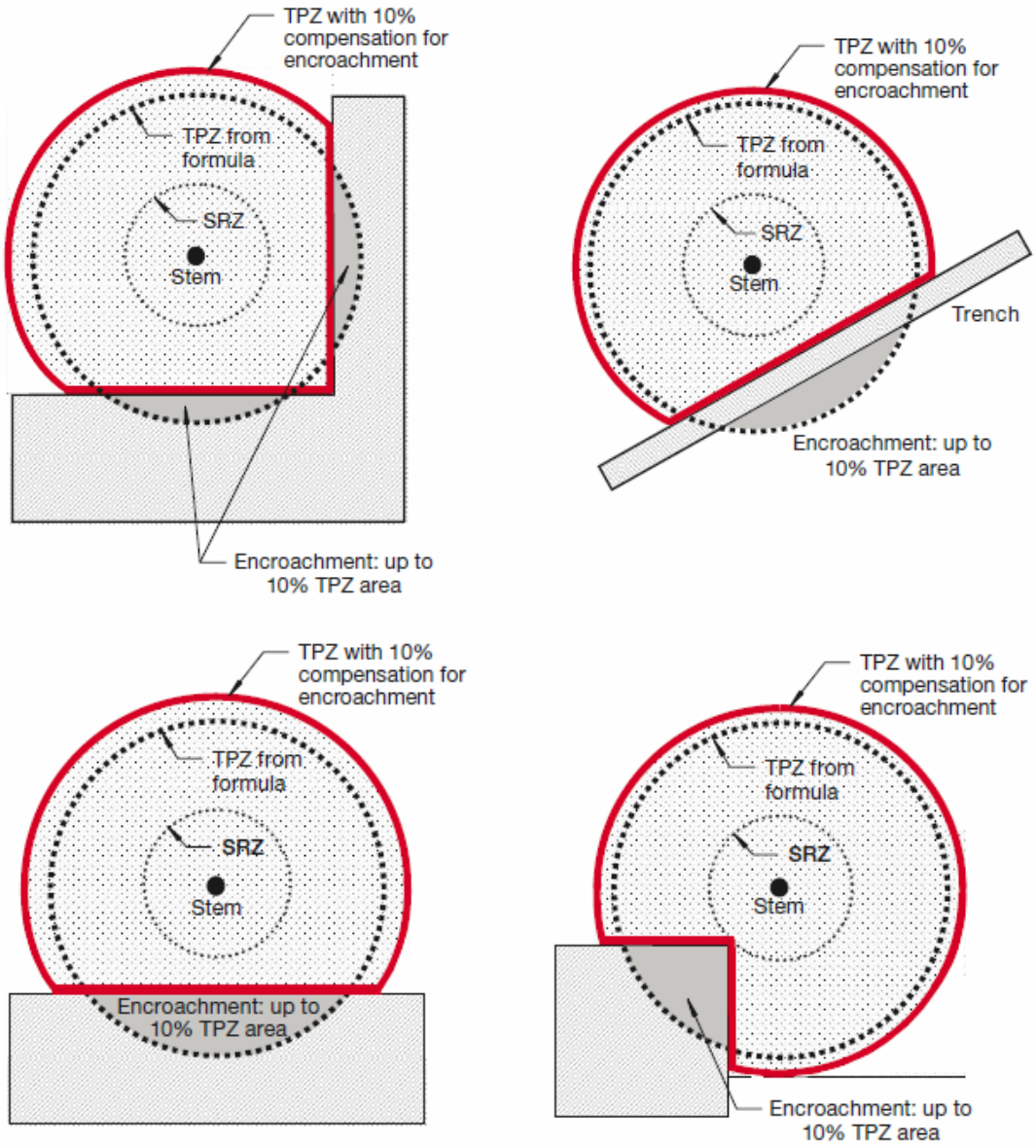


Figure 1: Encroachment and TPZ compensation examples (AS4970)

Tree Protection

Retained trees will require protection measures that must comply with AS4970 and may be subject to conditions detailed in a tree protection management plan (TPMP).

A tree is required to be protected when, but not limited to:

- Where any works are to be undertaken within close proximity to retained vegetation; or
- Where works are to be undertaken within a tree protection zone, modified protection measures may be required; or
- Where residual impacts from construction or activity within the site may impact retained vegetation, including but not limited to:
    i. Vehicle access and parking
    ii. Storage of materials
    iii. Site facility installation
    iv. Overflow or drainage from hazardous materials
    v. Water pooling or poor drainage
- Where protection measures are required, they **must** be in the form of; but not limited to:
- Temporary fencing, 1.8-meter-Long chain wire mesh
- Ground protection in the form of 100mm layer of mulch with rumble or ply board laid over the top.
- Branch or stem protection, to be determined by the project arborist
- Signage **must** be displayed detailing the arborist contact details and must be clearly displayed on at least 2 cardinal points of the TPZ.

The following activities are strictly prohibited within the TPZ.

- Machine excavation including trenching
- Excavation for fencing
- Cultivation
- Storage
- Preparation of chemicals, including preparation of cement
- Parking of vehicles and plant
- Refuelling
- Dumping of waste
- Wash down and cleaning of equipment
- Placement of fill
- Lighting of fires
- Soil level changes
- Temporary or permanent installation of utilities and signs


TPZ SIGN
TPZ SIGN
1.8 m
2
3
1


Tree Protection Zone
NO ACCESS
Contact:


Tree Protection Zone
KEEP OUT
ArborCon
Arboricultural Consulting
Contact: ArborCon Melbourne
0488 996 223

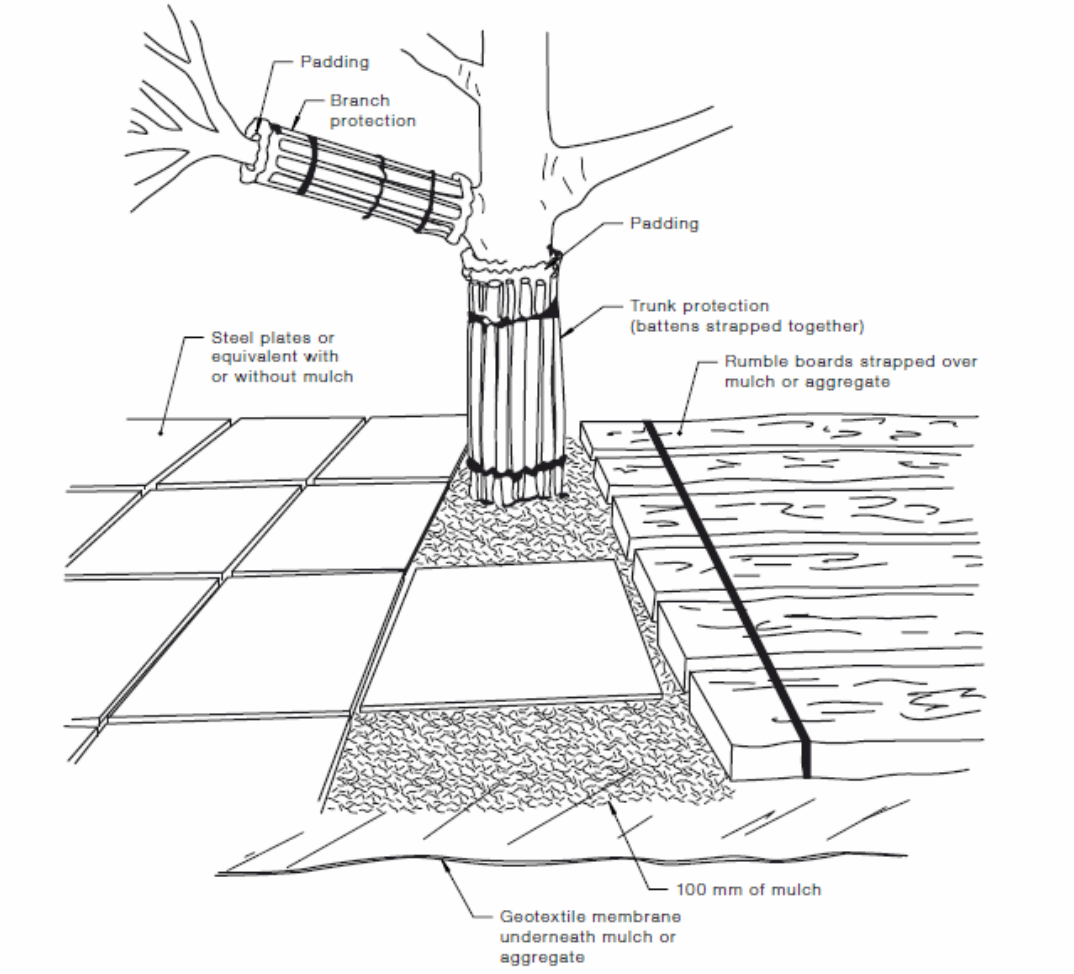
TPZ Access

Access within the a TPZ is strictly prohibited without the permission of the project arborist. If access is required, consultation with the project arborist or a suitably qualified arborist must be sort.

If temporary access by machinery through a TPZ is required the project arborist must be contacted, modifications to TPZ's must be supervised or undertaken by the project arborist.

Where access is required the following measures will be required:

- The project arborist must be onsite to supervise
- If vehicle or machinery access is required, ground protection need to be installed to reduce the risk of compaction and damage to the soil environment.
- Ground protection for machinery access must be in the form of 100mm layer of mulch with rumble boards over the top must be installed within the area of access in the TPZ.
- Pedestrian access must be in in the form of track mats or steels plates that allow for dissipation of applied forces.



Branch and Stem Protection

Where conflict with part or parts of the tree are likely to occur due to construction activities such as crane operations or similar, part or parts of the tree may require protection to reduce the risk of damage through blunt force.

Required protection measures

- Protection measures must be certified by the project arborist
- Protection measures must provide adequate protection against impacts from large machinery.
- Protection must include padding in conjunction with battens or pickets.
- Protection measures must be kept in a functional and satisfactory condition through the construction process.

Installation of Services

Where services are required to be installed and associated works conflict with any TPZ, installation must be undertaken sympathetic to roots. Trenching and excavation must be routed around TPZ's where possible to avoid significant root loss or damage.

If routing around TPZ's is not achievable, the following must be adhered to:

- Excavation or trenching must be undertaken with non-destructive digging such as hydro excavation or the use of an airspade.
- A suitably qualified person with arboricultural industry experience must be engaged to either conduct the excavation or supervise.
- Roots not greater than 25 mm may be cut by anyone other than a suitably qualified arborist must be undertaken with root cutting shears or secateurs.
- Where TPZ's have been modified to undertake works, the remaining area of protection must remain isolated from the construction site.
- Upon completion of work within the TPZ to the satisfactory authority, the TPZ must be reinstated to its full limits.

Site access & Facilities

Site access must not conflict with a TPZ unless strictly justified by the project arborist and adequate protection measures are installed to mitigate the risk of damage. Site access should be determined prior to any activity being undertaken within the site.

Installation of temporary site facilities and storage areas must not conflict with TPZ's, such areas should be allocated prior to any activity being undertaken within the site.

Construction and Works

Where works such as footing installation, driveway or crossover installation are required and the encroachment has been assessed as major, non-destructive digging may be required in order to map a trees root system and quantify the likely loss of roots as a result.

Where works or installations are required within a TPZ, design and construction methods sympathetic to roots will be required unless justified through exploratory root investigation. Works undertaken may be required to be undertaken with hand tools only with sympathy to root retention.

It may be a requirement of the responsible authority to produce a tree protection management plan outlining the procedures required in order to protect retained trees at different stage of the proposal.

Tree protection Management Plan (TPMP)

Upon endorsement of plans by the responsible authority, a TPMP may form part of the conditions of the planning permit and will be required prior to any activity being undertaken within the site.

The TPMP will detail all protection measures and procedures in chronological order which must be adhered to throughout the construction process. The TPMP may involve a strict timeline of inspection of protection measures and will detail when the project arborist is required to be on site to supervise works.

Pruning

Where pruning works are required, they must be undertaken by a suitably qualified arborist with minimum qualification of level 3. Pruning works must comply with AS4373 Pruning of Amenity Trees.

Pruning works may be subject to local law or planning overlays and may require permissions to be undertaken. Permission must be sort from the responsible authority prior to any works being undertaken.

Duty of Care

Where damage to a tree or parts of a tree occurs that is protected or protection is breached through excavation or failure to adhere to protection guidelines, it is the responsibility of site management to inform the responsible authority and or the project arborist.

Failure to inform, may result in tree decline or a compromised structure, creating increased risk to trades people, the public or property. If the breach or damage is reported in a timely manner a management plan may be formulated to increase the likely of tree survival or to mitigate the risk of potential failure.

Appendix C: Limitations

- This report has been produced in accordance with AS4970 Protection of tree on development sites.
- All trees are inspected using Visual Tree Assessment (VTA) procedures.
- Inspection is limited to from ground perspective unless stated otherwise.
- Access restrictions may hinder the acquisition of accurate measurements and therefore may be estimates only
- Assessment is limited to above ground parts of the tree only unless stated otherwise and is not TPZ or SRZ calculations.
- Tree removal schedule does not permit or give approval for trees to be removed, permissions must be sort from the responsible authority.
- Care has been taken to obtain all information from reliable sources. All data has been verified in so far as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of the information provided by others.
- Sketches, diagrams are not to scale unless stated otherwise and may be used as a visual aid only.
- Encroachments and impacts are calculated based on the existing site conditions at the time of assessment and any changes as result of the proposal.
- Upon submission and endorsement of the proposal and therefore the acceptance of the impact assessment, the producer of this report is not responsible for protection of trees within the site. Unless stated as a requirement and condition of the planning permit and a TPMP is hereby requested by the responsible authority and ArboCon has been engaged to as such.

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ArborCon

Arboricultural Consulting

Preliminary Vegetation Assessment

Tree Protection Plans
&
Tree Inventory

299-325 Church Street

Cowes

3922

Report prepared by:
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26/10/2020

Report Commissioned by
Whiteman Property & Associates

Document No. DRWCHU261020

Amended 25/11/20

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Site Overview



Fig 1: Site Overview including all trees assessed and tree protection zones

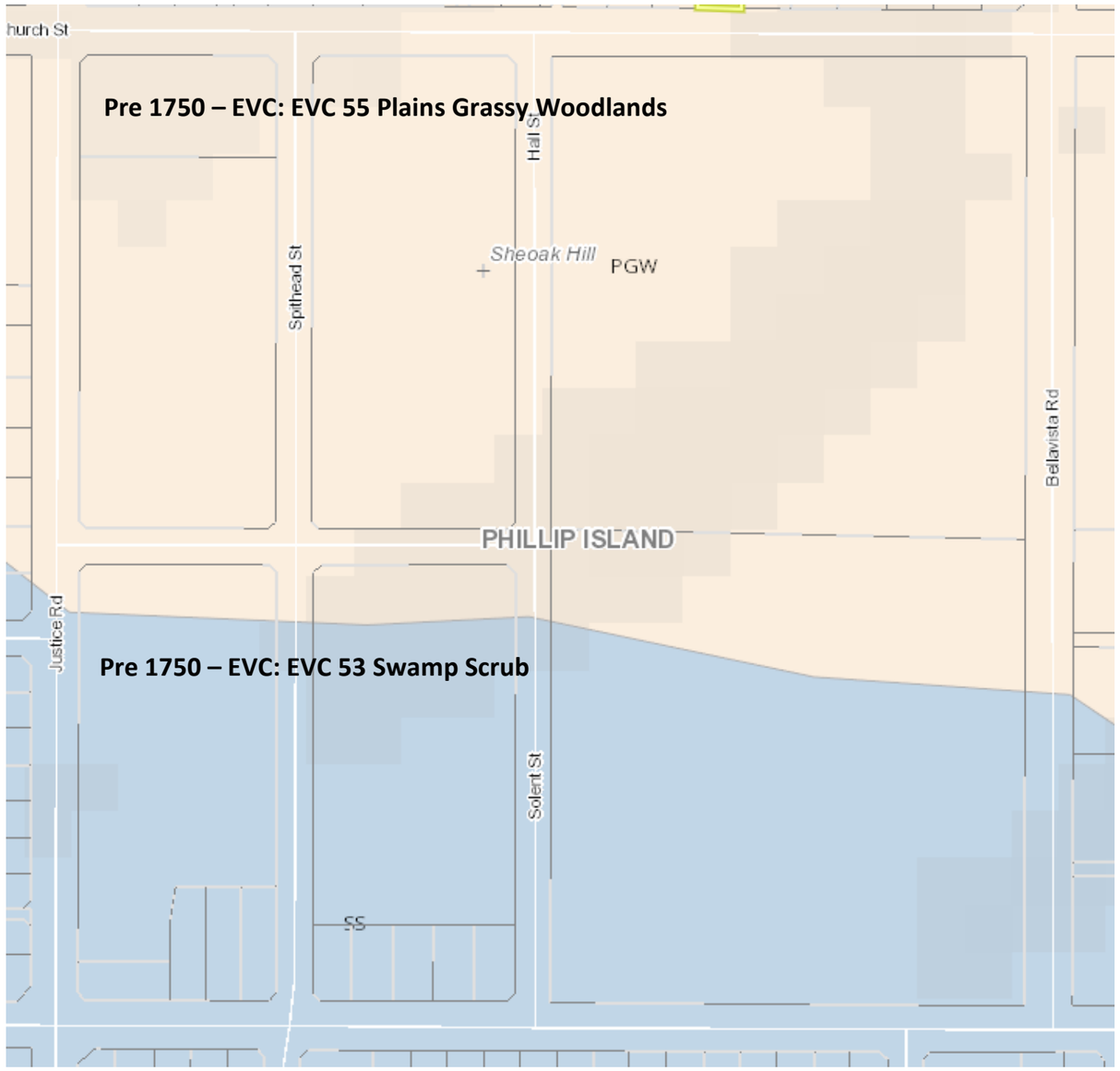


Fig 2: Site Overview including Pre 1750 Ecological Vegetation Class

Church Street: Sections A, B, C, D, E, F, G

Key Points

- Vegetation assessed in this area is defined as a mix of Victorian and Australian native species with many species indigenous to the Bass Coast Shire.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- This area is considered to offer high amenity value to the streetscape with a diverse range of species.
- No groups of vegetation were assessed in these sections.

Assessed species appearing in Pre-1750 EVC 55: Plains Grassy Woodland

- *Acacia melanoxylon*
- Some species may appear in the adjacent EVC 53: Swamp Scrub.

GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

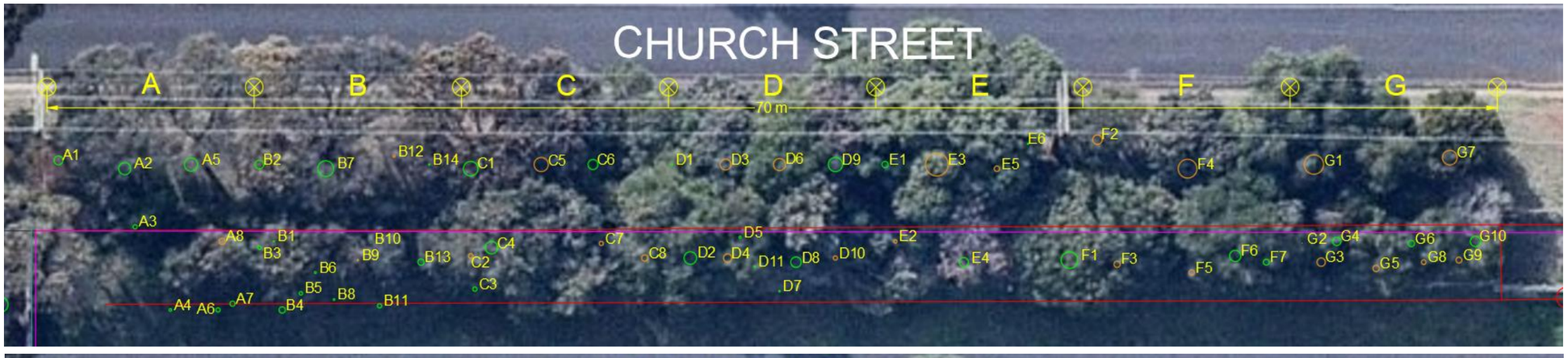
Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

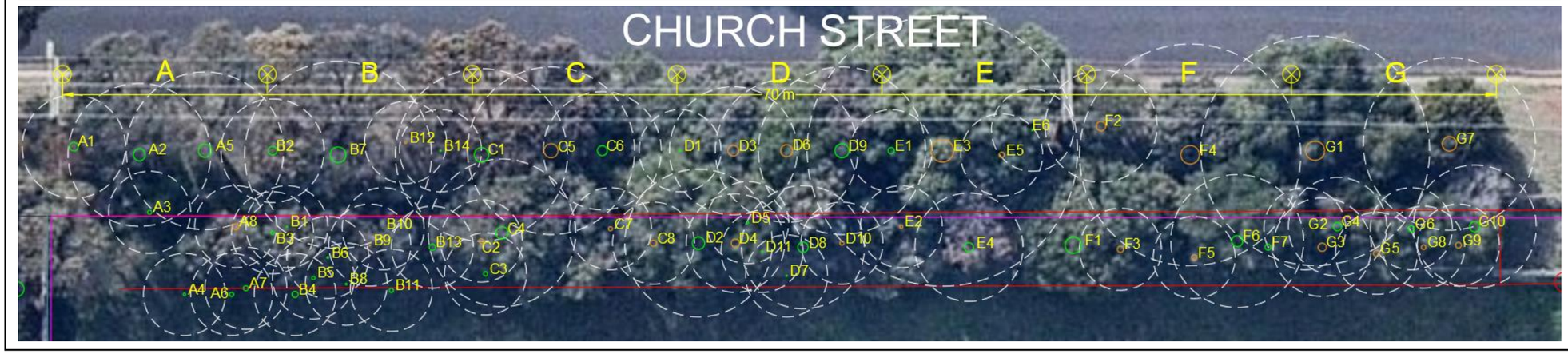
- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone





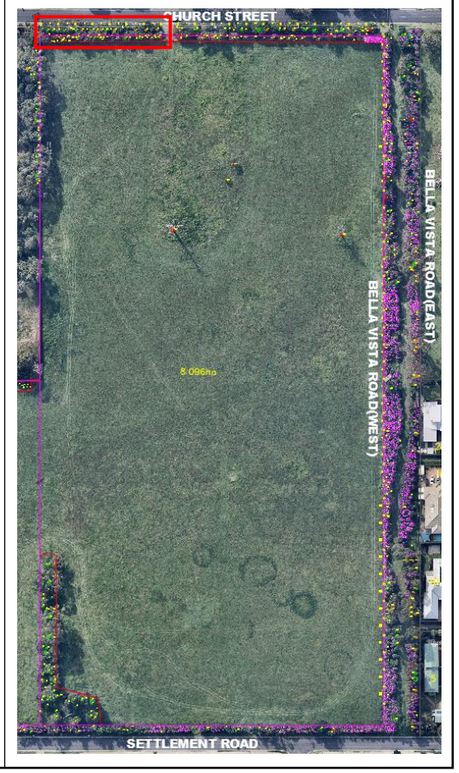


Table 1: Assessed Trees, Church St (Sections A, B, C, D, E, F, G)

Section	Tree	Species	Significance	Origin	Height	Canopy	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
A	**1**	*Allocasuarina verticiallata*	VPO2	Indigenous	5	2	Fair	Fair	0.23	1.79	0.21	2.52
A	**2**	*Allocasuarina verticiallata*	VPO2	Indigenous	5	5	Fair	Fair	0.37	2.18	0.29	3.48
A	**3**	*Allocasuarina verticiallata*	VPO2	Indigenous	4	3	Poor	Fair	0.11	1.50	0.10	2.00
A	**4**	*Allocasuarina verticiallata*	VPO2	Indigenous	4	3	Fair	Fair	0.07	1.50	0.06	2.00
A	**5**	*Allocasuarina verticiallata*	VPO2	Indigenous	6	5	Fair	Fair	0.35	2.13	0.32	3.84
A	**6**	*Allocasuarina verticiallata*	VPO2	Indigenous	5	2	Fair	Fair	0.11	1.50	0.10	2.00
A	**7**	*Melaleuca squarossa*	VPO2	Indigenous	4	2	Fair	Fair	0.15	1.50	0.12	2.00
A	**8**	*Melaleuca nesophila*	VPO2	Aus Native	2	3	Good	Fair	0.15	1.50	0.15	2.00
B	1	*Allocasuarina verticiallata*	VPO2	Indigenous	4	1	Fair	Good	0.04	1.50	0.03	2.00
B	2	*Allocasuarina verticiallata*	VPO2	Indigenous	5	6	Poor	Fair	0.22	1.75	0.21	2.52
B	3	*Allocasuarina verticiallata*	VPO2	Indigenous	5	3	Good	Good	0.10	1.50	0.08	2.00
B	4	*Allocasuarina verticiallata*	VPO2	Indigenous	6	4	Good	Fair	0.00	1.50	0.15	2.00
B	5	*Allocasuarina verticiallata*	VPO2	Indigenous	5	2	Good	Poor	0.10	1.50	0.08	2.00
B	6	*Allocasuarina verticiallata*	VPO2	Indigenous	5	2	Good	Good	0.06	1.50	0.04	2.00
B	7	*Allocasuarina verticiallata*	VPO2	Indigenous	5	6	Poor	Fair	0.40	2.25	0.38	4.56
B	8	*Allocasuarina verticiallata*	VPO2	Indigenous	5	2	Fair	Fair	0.06	1.50	0.04	2.00
B	9	*Agonis flexuosa*	VPO2	Aus Native	3	2	Good	Good	0.05	1.50	0.03	2.00
B	10	*Allocasuarina verticiallata*	VPO2	Indigenous	4	1	Good	Good	0.03	1.50	0.02	2.00
B	11	*Allocasuarina verticiallata*	VPO2	Indigenous	6	2	Good	Good	0.12	1.50	0.10	2.00
B	12	*Agonis flexuosa*	VPO2	Aus Native	2	2	Fair	Fair	0.07	1.50	0.05	2.00
B	13	*Melaleuca armillaris*	VPO2	Vic Native	2.5	2	Fair	Fair	0.15	1.50	0.15	2.00
B	14	*Corymbia maculata*	VPO2	Vic Native	3	1	Good	Good	0.04	1.50	0.03	2.00
C	**1**	*Allocasuarina verticiallata*	VPO2	Indigenous	6	7	Fair	Fair	0.38	2.20	0.35	4.20
C	**2**	*Allocasuarina torulosa*	VPO2	Aus Native	2.5	2	Good	Good	0.13	1.50	0.11	2.00
C	**3**	*Melaleuca armillaris*	VPO2	Vic Native	2	2	Dead	Dead	0.15	1.50	0.10	2.00
C	**4**	*Acacia melanoxylon*	VPO2	Indigenous	8	8	Fair	Fair	0.42	2.30	0.30	3.60
C	**5**	*Corymbia ficifolia*	VPO2	Aus Native	4	5	Good	Good	0.35	2.13	0.34	4.08
C	**6**	*Melaleuca armillaris*	VPO2	Vic Native	4	4	Fair	Fair	0.26	1.88	0.24	2.88
C	**7**	*Leptospermum petersonii*	VPO2	Aus Native	4	3	Good	Fair	0.11	1.50	0.10	2.00
C	**8**	*Allocasuarina torulosa*	VPO2	Aus Native	6	3	Good	Fair	0.17	1.57	0.15	2.00

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
D	1	*Callistemon citrinus*	VPO2	Vic Native	4	2	Good	Good	0.05	1.50	0.04	2.00
D	2	*Melaleuca armillaris*	VPO2	Vic Native	5	7	Good	Good	0.34	2.10	0.30	3.60
D	3	*Corymbia ficifolia*	VPO2	Aus Native	4.5	5	Good	Good	0.30	2.00	0.26	3.12
D	4	*Agonis flexuosa*	VPO2	Aus Native	3	3	Good	Fair	0.04	1.50	0.03	2.00
D	5	*Melaleuca armillaris*	VPO2	Vic Native	2.5	2	Poor	Fair	0.06	1.50	0.05	2.00
D	6	*Allocasuarina torulosa*	VPO2	Aus Native	5	4	Good	Fair	0.21	1.72	0.20	2.40
D	7	*Melaleuca armillaris*	VPO2	Vic Native	5	5	Good	Fair	0.31	2.02	0.29	3.48
D	8	*Callistemon citrinus*	VPO2	Vic Native	3	2	Fair	Fair	0.04	1.50	0.03	2.00
D	9	*Acacia melanoxylon*	VPO2	Indigenous	6	3	Good	Fair	0.27	1.91	0.25	3.00
D	10	*Hakea laurina*	VPO2	Aus Native	6	6	Fair	Fair	0.37	2.18	0.34	4.08
D	11	*Leptospermum lanigerum*	VPO2	Vic Native	2.5	3	Dead	Dead	0.10	1.50	0.10	2.00
E	1	*Melaleuca armillaris*	VPO2	Vic Native	4	2	Fair	Fair	0.21	1.72	0.16	2.00
E	2	*Melaleuca nesophila*	VPO2	Aus Native	2.5	3	Poor	Poor	0.10	1.50	0.08	2.00
E	3	*Eucalyptus lehmanni*	VPO2	Aus Native	6	7	Good	Good	0.70	2.85	0.55	6.60
E	4	*Acacia melanoxylon*	VPO2	Indigenous	6	5	Dead	Dead	0.25	1.85	0.22	2.64
E	5	*Allocasuarina torulosa*	VPO2	Aus Native	4	2	Good	Good	0.15	1.50	0.13	2.00
E	6	*Banksia integrifolia*	VPO2	Vic Native	2.8	2	Good	Good	0.04	1.50	0.03	2.00
F	1	*Melaleuca armillaris*	VPO2	Vic Native	5	6	Fair	Fair	0.40	2.25	0.40	4.80
F	2	*Agonis flexuosa*	VPO2	Aus Native	4	3	Fair	Fair	0.30	2.00	0.23	2.74
F	3	*Allocasuarina torulosa*	VPO2	Aus Native	3.5	3	Fair	Fair	0.17	1.57	0.15	2.00
F	4	*Corymbia ficifolia*	VPO2	Aus Native	5	5	Good	Good	0.45	2.37	0.45	5.40
F	5	*Allocasuarina torulosa*	VPO2	Aus Native	4	3	Good	Fair	0.15	1.50	0.13	2.00
F	6	*Melaleuca armillaris*	VPO2	Vic Native	5	6	Fair	Fair	0.30	2.00	0.27	3.24
F	7	*Acacia melanoxylon*	VPO2	Indigenous	5	4	Good	Fair	0.17	1.57	0.14	2.00
G	1	*Angophora costata*	VPO2	Aus Native	6	8	Good	Good	0.80	3.01	0.47	5.59
G	2	*Melaleuca sp.*	VPO2	Aus Native	3	1	Fair	Good	0.03	1.50	0.02	2.00
G	3	*Allocasuarina torulosa*	VPO2	Aus Native	5	1	Good	Good	0.22	1.75	0.20	2.40
G	4	*Melaleuca armillaris*	VPO2	Vic Native	4	3	Fair	Fair	0.20	1.68	0.20	2.40
G	5	*Agonis flexuosa*	VPO2	Aus Native	4	4	Good	Good	0.16	1.53	0.15	2.00
G	6	*Melaleuca armillaris*	VPO2	Vic Native	3	3	Fair	Fair	0.15	1.50	0.15	2.00
G	7	*Allocasuarina torulosa*	VPO2	Aus Native	4	3	Good	Good	0.35	2.13	0.35	4.20
G	8	*Agonis flexuosa*	VPO2	Aus Native	4	2	Good	Good	0.12	1.50	0.11	2.00
G	9	*Agonis flexuosa*	VPO2	Aus Native	3	3	Good	Fair	0.15	1.50	0.14	2.00
G	10	*Melaleuca armillaris*	VPO2	Vic Native	3	3	Dead	Dead	0.25	1.85	0.25	3.00

Church Street: Sections H, I, J, K, L, M, N, O, P, Q, R, S, T

Key Points

- Vegetation assessed in this area is defined as a mix of Victorian and Australian native species with some exotic species scattered throughout, many species are considered indigenous to Bass Coast Shire.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- This area is considered to offer high amenity value to the streetscape with a diverse range of species.

Assessed species appearing in Pre-1750 EVC 55: Plains Grassy Woodland

- No vegetation assessed in this area appears in EVC 55.
- Some species may appear in the adjacent EVC 53: Swamp Scrub.

GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone







Table 2: Church St, Assessed Trees (Sections H, I, J, K, L, M, N, O, P, Q, R, S, T)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
H	1	*Ulmus sp.*	VPO2	Exotic	4	3	Good	Good	0.20	1.68	0.13	2.00
I	1	*Ulmus sp.*	VPO2	Exotic	4	3	Good	Good	0.30	2.00	0.20	2.37
I	2	*Corymbia ficifolia*	VPO2	Aus Native	4	5	Fair	Fair	0.30	2.00	0.22	2.58
I	3	*Ulmus sp.*	VPO2	Exotic	5	2	Good	Good	0.07	1.50	0.07	2.00
I	4	*Ulmus sp.*	VPO2	Exotic	5	4	Good	Good	0.40	2.25	0.12	2.00
I	5	*Ulmus sp.*	VPO2	Exotic	5	2	Good	Good	0.10	1.50	0.08	2.00
I	6	*Pittosporum undulatum*	Weed	Vic Native	5	6	Good	Good	0.40	2.25	0.26	3.13
I	7	*Melaleuca nesophila*	VPO2	Aus Native	3	5	Fair	Fair	0.18	1.61	0.18	2.16
I	8	*Ulmus sp.*	VPO2	Exotic	5	4	Good	Fair	0.16	1.53	0.09	2.00
J	1	*Melaleuca nesophila*	VPO2	Aus Native	5	7	Fair	Fair	0.00	1.50	0.40	4.80
J	2	*Grevillea rosmarinfolia*	VPO2	Vic Native	2	4	Fair	Fair	0.15	1.50	0.15	2.00
J	3	*Ulmus sp.*	VPO2	Exotic	5	3	Good	Good	0.30	2.00	0.15	2.00
J	4	*Corymbia ficifolia*	VPO2	Aus Native	3	7	Good	Good	0.35	2.13	0.32	3.84
J	5	*Ulmus sp.*	VPO2	Exotic	4	2	Good	Good	0.15	1.50	0.15	2.00
J	6	*Callistemon citrinus*	VPO2	Vic Native	2	1	Fair	Fair	0.06	1.50	0.06	2.00
J	7	*Ulmus sp.*	VPO2	Exotic	4	2	Good	Good	0.04	1.50	0.03	2.00
J	8	*Ulmus sp.*	VPO2	Exotic	5	2	Good	Good	0.15	1.50	0.15	2.00
K	1	*Corymbia ficifolia*	VPO2	Aus Native	5	4	Poor	Good	0.23	1.79	0.22	2.64
K	2	*Melaleuca sp.*	VPO2	Vic Native	3	3	Dead	Dead	0.15	1.50	0.15	2.00
K	3	*Agonis flexuosa*	VPO2	Aus Native	3	3	Dead	Dead	0.20	1.68	0.20	2.40
K	4	*Eucalyptus leucoxylon*	VPO2	Vic Native	9	8	Good	Fair	0.48	2.43	0.45	5.40
K	5	*Melaleuca armillaris*	VPO2	Vic Native	4	4	Good	Fair	0.22	1.75	0.09	2.00
K	6	*Grevillea rosmarinfolia*	VPO2	Vic Native	3	4	Fair	Fair	0.21	1.72	0.21	2.52
L	1	*Eucalyptus leucoxylon*	VPO2	Vic Native	5	4	Poor	Poor	0.17	1.57	0.16	2.00
L	2	*Melaleuca sp.*	VPO2	Aus Native	3	3	Poor	Fair	0.15	1.50	0.15	2.00
L	3	*Ulmus sp.*	VPO2	Exotic	3	2	Good	Good	0.25	1.85	0.24	2.88
L	4	*Corymbia ficifolia*	VPO2	Aus Native	6	5	Fair	Good	0.25	1.85	0.23	2.76
L	5	*Ulmus sp.*	VPO2	Exotic	5	4	Good	Good	0.28	1.94	0.22	2.59
L	6	*Melaleuca hypericifolia*	VPO2	Aus Native	2.5	3	Good	Fair	0.15	1.50	0.15	2.00
L	7	*Grevillea rosmarinfolia*	VPO2	Vic Native	2.5	3	Fair	Fair	0.15	1.50	0.15	2.00
L	8	*Melaleuca armillaris*	VPO2	Vic Native	5	8	Fair	Fair	0.50	2.47	0.46	5.48
L	9	*Corymbia ficifolia*	VPO2	Aus Native	4	3	Good	Good	0.17	1.57	0.16	2.00
M	1	*Allocasuarina torulosa*	VPO2	Aus Native	4	2	Good	Fair	0.15	1.50	0.13	2.00
M	2	*Corymbia ficifolia*	VPO2	Aus Native	3	4	Good	Fair	0.15	1.50	0.15	2.00
M	3	*Melaleuca armillaris*	VPO2	Vic Native	6	9	Fair	Fair	0.72	2.88	0.70	8.40

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
N	1	*Corymbia ficifolia*	VPO2	Aus Native	3.5	1	Fair	Good	0.05	1.50	0.04	2.00
N	2	*Allocasuarina torulosa*	VPO2	Aus Native	5	3	Fair	Fair	0.35	2.13	0.35	4.20
N	3	*Buddleja sp.*	VPO2	Exotic	6	3	Good	Good	0.15	1.50	0.15	2.00
N	4	*Corymbia ficifolia*	VPO2	Aus Native	7	4	Fair	Good	0.21	1.72	0.20	2.40
N	5	*Melaleuca armillaris*	VPO2	Vic Native	4	6	Fair	Poor	0.57	2.61	0.27	3.22
O	1	*Melaleuca sp.*	VPO2	Aus Native	2.5	3	Good	Good	0.15	1.50	0.15	2.00
O	2	*Allocasuarina torulosa*	VPO2	Aus Native	5	4	Good	Fair	0.32	2.05	0.31	3.72
O	3	*Melaleuca sp.*	VPO2	Aus Native	3	3	Good	Good	0.15	1.50	0.15	2.00
O	4	*Corymbia ficifolia*	VPO2	Aus Native	2.5	1.5	Good	Good	0.11	1.50	0.10	2.00
O	5	*Melaleuca sp.*	VPO2	Aus Native	3	3	Good	Good	0.15	1.50	0.15	2.00
O	6	*Melaleuca armillaris*	VPO2	Vic Native	6	7	Fair	Fair	0.55	2.57	0.50	6.00
O	7	*Corymbia ficifolia*	VPO2	Aus Native	4	3	Good	Fair	0.16	1.53	0.14	2.00
O	8	*Melaleuca quinquanevra*	VPO2	Aus Native	3	2	Good	Fair	0.11	1.50	0.10	2.00
P	1	*Melaleuca quinquanevra*	VPO2	Aus Native	4	3	Good	Fair	0.13	1.50	0.12	2.00
P	2	*Callistemon citrinus*	VPO2	Vic Native	3	2	Poor	Fair	0.10	1.50	0.05	2.00
P	3	*Corymbia ficifolia*	VPO2	Aus Native	2.5	2	Good	Good	0.13	1.50	0.13	2.00
P	4	*Melaleuca armillaris*	VPO2	Vic Native	6	6	Fair	Fair	0.39	2.23	0.37	4.44
Q	1	*Melaleuca armillaris*	VPO2	Vic Native	6	7	Fair	Fair	0.53	2.53	0.53	6.36
Q	2	*Corymbia ficifolia*	VPO2	Aus Native	5	3	Good	Good	0.22	1.75	0.21	2.52
Q	3	*Melaleuca sp.*	VPO2	Aus Native	3.5	4	Dead	Dead	0.15	1.50	0.15	2.00
Q	4	*Agonis flexuosa*	VPO2	Aus Native	3.5	2	Good	Good	0.05	1.50	0.04	2.00
Q	5	*Pinus radiata*	VPO2	Exotic	7	7	Good	Fair	0.47	2.41	0.47	5.64
R	1	*Agonis flexuosa*	VPO2	Aus Native	6	3	Good	Good	0.17	1.57	0.15	2.00
R	2	*Pittosporum undulatum*	Weed	Vic Native	6	4	Good	Good	0.17	1.57	0.12	2.00
R	3	*Melaleuca armillaris*	VPO2	Vic Native	5	8	Fair	Poor	0.75	2.93	0.56	6.71
R	4	*Corymbia ficifolia*	VPO2	Aus Native	4	1	Good	Good	0.04	1.50	0.04	2.00
R	5	*Corymbia ficifolia*	VPO2	Aus Native	4.5	3	Fair	Fair	0.20	1.68	0.14	1.68
S	1	*Acacia maidenii*	VPO2	Aus Native	6	7	Fair	Fair	0.29	1.97	0.25	3.00
S	2	*Melaleuca ericifolia*	VPO2	Vic Native	4	1	Fair	Fair	0.05	1.50	0.04	2.00
S	3	*Melaleuca ericifolia*	VPO2	Vic Native	5	2	Fair	Fair	0.15	1.50	0.15	2.00
S	4	*Melaleuca ericifolia*	VPO2	Vic Native	4	1	Fair	Fair	0.05	1.50	0.04	2.00
S	5	*Melaleuca ericifolia*	VPO2	Vic Native	4	1	Fair	Fair	0.03	1.50	0.02	2.00
S	6	*Melaleuca ericifolia*	VPO2	Vic Native	4	1	Fair	Fair	0.05	1.50	0.03	2.00
S	7	*Corymbia ficifolia*	VPO2	Aus Native	4	1	Fair	Fair	0.06	1.50	0.04	2.00
S	8	*Melaleuca ericifolia*	VPO2	Vic Native	4	1	Fair	Fair	0.08	1.50	0.06	2.00
T	1	*Melaleuca ericifolia*	VPO2	Vic Native	5	3	Fair	Poor	0.28	1.94	0.19	2.28
T	2	*Pittosporum undulatum*	Weed	Vic Native	3.5	2	Good	Good	0.05	1.50	0.04	2.00
T	3	*Cupressus torulosa*	VPO2	Exotic	5	1	Fair	Good	0.06	1.50	0.04	2.00
T	4	*Cupressus torulosa*	VPO2	Exotic	5	6	Good	Good	0.57	2.61	0.57	6.84

Table 3: Church St, Grouped Species (Sections H, I, J, K, L, M, N, O, P, Q, R, S, T)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
T	1	*Melaleuca ericifolia*	VPO2	Vic Native	90	3	2	<0.15	1.50	<0.15	2.00

END OF CHURCH STREET SECTIONS

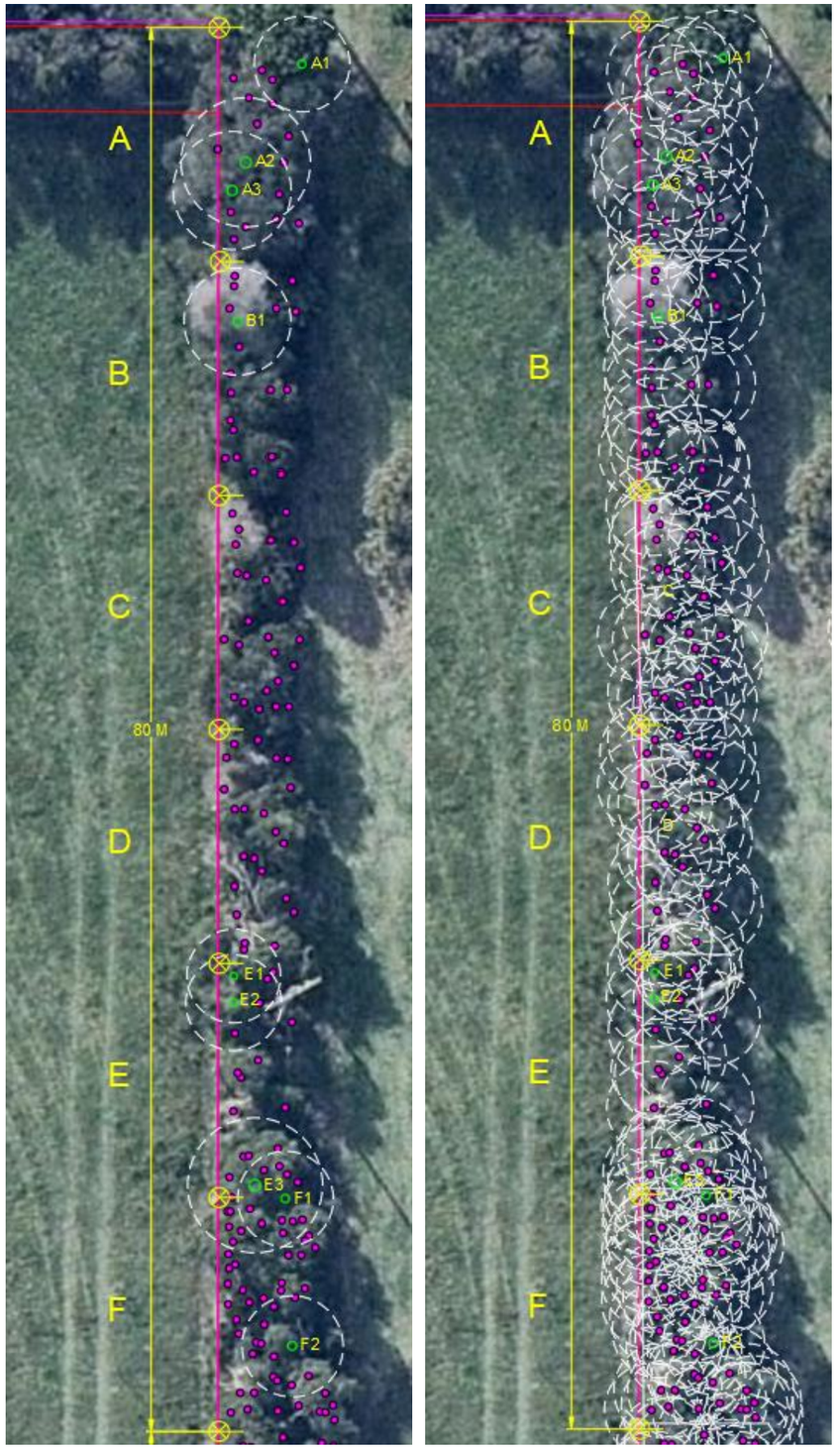
Bellavista Road (West): Sections A, B, C, D, E, F

Key Points

- Vegetation assessed in this area is defined and dominated by large clumps of *Melaleuca ericifolia*.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Bellavista Road walking path.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.

Assessed species appearing in Pre-1750 EVC 55: Plains Grassy Woodland

- *Acacia mearnsii*
- Some species may appear in the adjacent EVC 53: Swamp Scrub.



GROUPED VEGETATAION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



Table 4: Assessed Tress, Bellavista Road (West) (Sections A, B, C, D, E, F)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
A	1	*Acacia mearnsii*	VPO2	Indigenous	8	6	Good	Good	0.24	1.82	0.17	2.04
A	2	*Melaleuca ericifolia*	VPO2	Indigenous	5	3	Poor	Poor	0.27	1.91	0.23	2.76
A	3	*Melaleuca ericifolia*	VPO2	Indigenous	6	4	Poor	Fair	0.27	1.91	0.21	2.52
B	1	*Melaleuca ericifolia*	VPO2	Indigenous	6	4	Dead	Dead	0.25	1.85	0.19	2.28
E	1	*Melaleuca ericifolia*	VPO2	Indigenous	5	2	Fair	Fair	0.22	1.75	0.15	1.80
E	2	*Melaleuca ericifolia*	VPO2	Indigenous	4	3	Fair	Poor	0.26	1.88	0.17	2.04
E	3	*Melaleuca ericifolia*	VPO2	Indigenous	4	3	Fair	Fair	0.26	1.88	0.24	2.88
F	1	Melaleuca ericifolia	VPO2	Indigenous	6	2	Fair	Fair	0.24	1.82	0.17	2.04
F	2	Melaleuca ericifolia	VPO2	Indigenous	6	3	Fair	Fair	0.22	1.75	0.18	2.16

Table 5: Grouped Species, Bellavista Road (West) (Sections A, B, C, D, E, F)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
A	1	*Melaleuca ericifolia*	VPO2	Indigenous	8	3	2	<0.15	1.50	<0.15	2.00
B	1	*Melaleuca ericifolia*	VPO2	Indigenous	10	3	2	<0.15	1.50	<0.15	2.00
C	1	*Melaleuca ericifolia*	VPO2	Indigenous	17	3	2	<0.15	1.50	<0.15	2.00
D	1	*Melaleuca ericifolia*	VPO2	Indigenous	9	4	2	<0.15	1.50	<0.15	2.00
E	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	3	1	<0.15	1.50	<0.15	2.00
F	1	*Melaleuca ericifolia*	VPO2	Indigenous	33	5	2	<0.15	1.50	<0.15	2.00

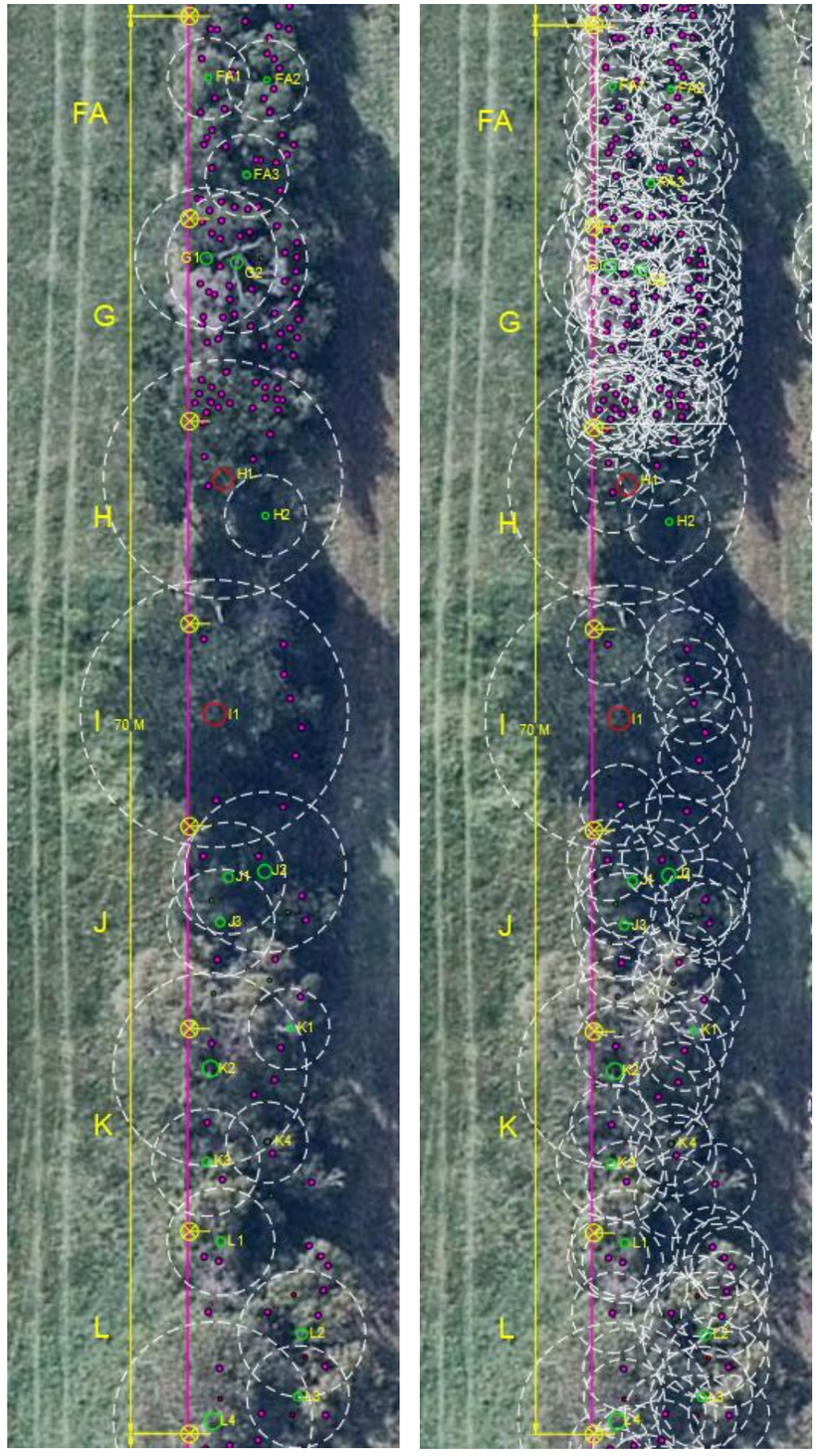
Bellavista Road (West): Sections FA, G, H, I, J, K, L

Key Points

- Vegetation assessed in this area is defined and dominated by large clumps of *Melaleuca ericifolia* with scattered individual species of *Eucalyptus* spp., *Bursaria spinosa* and *Pinus radiata*.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Bellavista Road walking path

Assessed species appearing in Pre-1750 EVC 55: Plains Grassy Woodland

- No vegetation assessed in this area appears in EVC 55.
- Some species may appear in the adjacent EVC 53: Swamp Scrub.



GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



Table 6: Assessed Tress, Bellavista Road (West) (Sections FA, G, H, I, J, K, L)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
FA	1	*Melaleuca ericifolia*	VPO2	Indigenous	4	3	Fair	Fair	0.23	1.79	0.15	2.00
FA	2	*Melaleuca ericifolia*	VPO2	Indigenous	4	3	Fair	Fair	0.20	1.68	0.14	2.00
FA	3	*Melaleuca ericifolia*	VPO2	Indigenous	3	2	Fair	Poor	0.20	1.68	0.17	2.04
G	1	*Melaleuca ericifolia*	VPO2	Indigenous	4	3	Fair	Poor	0.29	1.97	0.29	3.48
G	2	*Melaleuca ericifolia*	VPO2	Indigenous	7	4	Poor	Poor	0.40	2.25	0.29	3.48
H	1	*Pinus radiata*	VPO2	Exotic	12	8	Good	Fair	0.62	2.71	0.49	5.88
H	2	*Bursaria spinosa*	VPO2	Indigenous	9	4	Fair	Fair	0.20	1.68	0.16	1.92
I	1	*Pinus radiata*	VPO2	Exotic	11	11	Fair	Fair	0.66	2.78	0.55	6.60
J	1	*Melaleuca ericifolia*	VPO2	Indigenous	6	3	Fair	Poor	0.23	1.79	0.23	2.76
J	2	*Melaleuca ericifolia*	VPO2	Indigenous	6	4	Fair	Poor	0.33	2.08	0.33	3.96
J	3	*Melaleuca ericifolia*	VPO2	Indigenous	4	4	Fair	Poor	0.22	1.75	0.22	2.64
K	1	*Melaleuca ericifolia*	VPO2	Indigenous	5	3	Poor	Poor	0.22	1.75	0.15	1.80
K	2	*Eucalyptus ovata*	VPO2	Indigenous	8	9	Poor	Poor	0.41	2.28	0.397	4.76
K	3	*Melaleuca ericifolia*	VPO2	Indigenous	4	4	Poor	Poor	0.22	1.75	0.22	2.64
K	4	*Bursaria spinosa*	VPO2	Indigenous	5	5	Fair	Poor	0.22	1.75	0.16	2.00
L	1	*Eucalyptus ovata*	VPO2	Indigenous	7	6	Fair	Poor	0.26	1.88	0.22	2.64
L	2	*Eucalyptus globulus*	VPO2	Indigenous	11	5	Fair	Fair	0.34	2.10	0.26	3.12
L	3	*Eucalyptus globulus*	VPO2	Indigenous	12	5	Fair	Fair	0.35	2.13	0.21	2.52
L	4	*Corymbia maculata*	VPO2	Vic Native	11	8	Poor	Fair	0.48	2.43	0.408	4.90

Table 7: Grouped Species, Bellavista Road (West) (Sections FA, G, H, I, J, K, L)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
FA	1	*Melaleuca ericifolia*	VPO2	Indigenous	11	4	1	<0.15	1.50	<0.15	2.00
G	1	*Melaleuca ericifolia*	VPO2	Indigenous	40	4	2	<0.15	1.50	<0.15	2.00
G	2	*Bursaria spinosa*	VPO2	Indigenous	1	>2	N/A	<0.15	1.50	<0.15	2.00
H	1	*Melaleuca ericifolia*	VPO2	Indigenous	5	3	1	<0.15	1.50	<0.15	2.00
I	1	*Melaleuca ericifolia*	VPO2	Indigenous	8	2	1	<0.15	1.50	<0.15	2.00
J	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	3	1	<0.15	1.50	<0.15	2.00
J	2	*Bursaria spinosa*	VPO2	Indigenous	4	3	2	<0.15	1.50	<0.15	2.00
K	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	4	2	<0.15	1.50	<0.15	2.00
K	2	*Bursaria spinosa*	VPO2	Indigenous	1	>2	N/A	<0.15	1.50	<0.15	2.00
L	1	*Melaleuca ericifolia*	VPO2	Indigenous	13	4	1	<0.15	1.50	<0.15	2.00
L	2	*Eucalyptus globulus*	VPO2	Indigenous	1	4	2	<0.15	1.50	<0.15	2.00
L	3	*Eucalyptus ovata*	VPO2	Indigenous	3	4	2	<0.15	1.50	<0.15	2.00

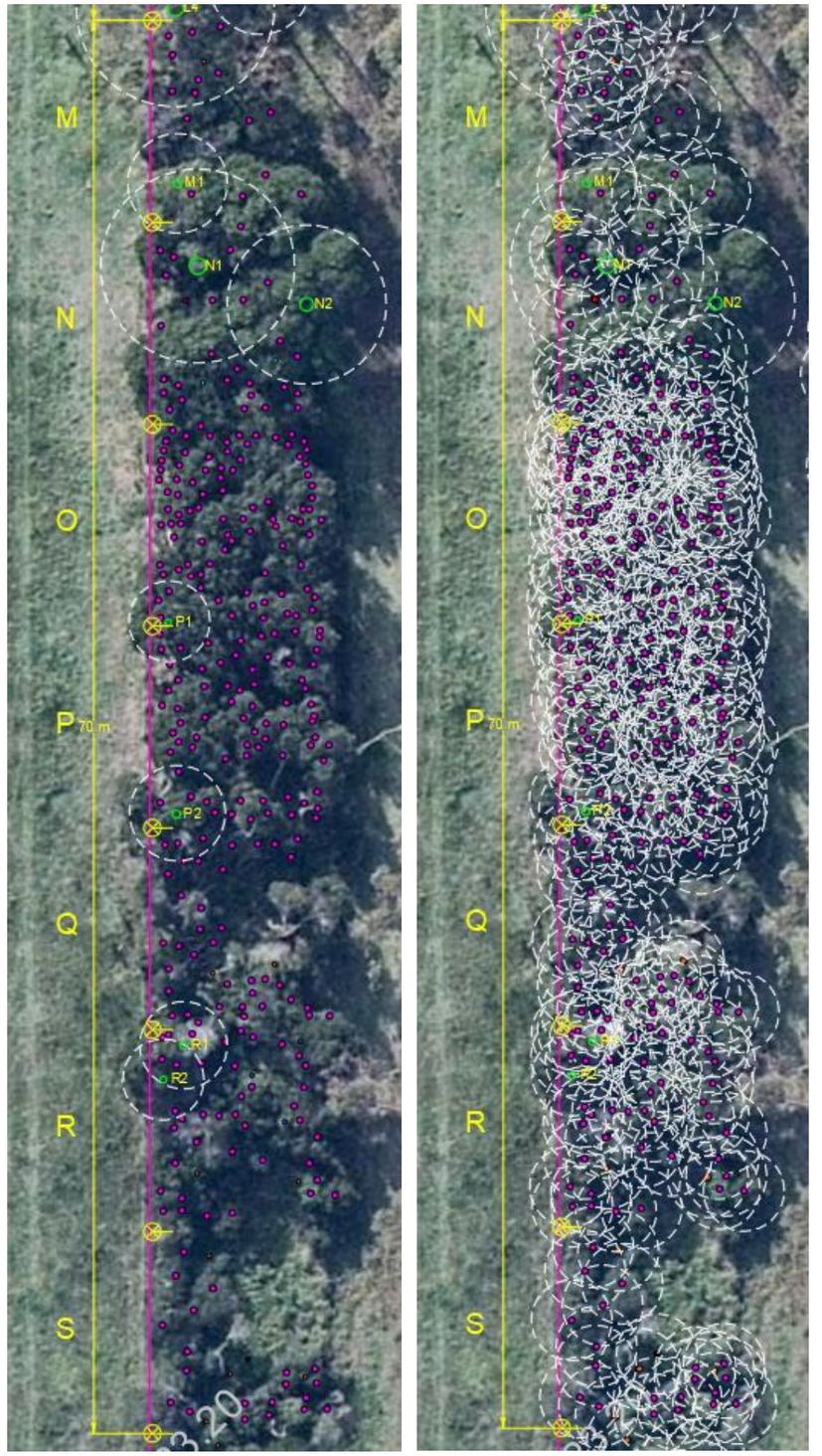
Bellavista Road (West): Sections M, N, O, P, Q, R, S

Key Points

- Vegetation assessed in this area is defined and dominated by large clumps of *Melaleuca ericifolia* with scattered individual species of *Acacia mearnsii*.
- Some weed species were assessed within the section in the form of *Pittosporum undulatum*.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Bellavista Road walking path

Assessed species appearing in Pre-1750 EVC 55: Plains Grassy Woodland

- *Acacia mearnsii*
- Some species may appear in the adjacent EVC 53: Swamp Scrub.



GROUPED VEGETATAION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



Table 8: Assessed Tress, Bellavista Road (West) (Sections M, N, O, P, Q, R, S)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
M	1	*Acacia mearnsii*	VPO2	Indigenous	8	6	Poor	Poor	0.23	1.79	0.205	2.46
N	1	*Acacia mearnsii*	VPO2	Indigenous	7	7	Poor	Poor	0.40	2.25	0.40	4.80
N	2	*Acacia mearnsii*	VPO2	Indigenous	9	9	Poor	Poor	0.55	2.57	0.33	3.94
P	1	*Melaleuca ericifolia*	VPO2	Indigenous	4	3	Fair	Poor	0.16	1.53	0.15	2.00
P	2	*Melaleuca ericifolia*	VPO2	Indigenous	4	4	Fair	Fair	0.20	1.68	0.20	2.36
R	1	*Melaleuca ericifolia*	VPO2	Indigenous	4	4	Fair	Fair	0.22	1.75	0.18	2.16
R	2	*Melaleuca ericifolia*	VPO2	Indigenous	4	3	Fair	Fair	0.19	1.65	0.16	2.00

Table 9: Grouped Species, Bellavista Road (West) (Sections M, N, O, P, Q, R, S)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
M	1	*Melaleuca ericifolia*	VPO2	Indigenous	15	3	1	<0.15	1.50	<0.15	2.00
M	2	*Pittosporum undulatum*	Weed	Vic Native	1	2	1	<0.15	1.50	<0.15	2.00
N	1	*Melaleuca ericifolia*	VPO2	Indigenous	26	8	2	<0.15	1.50	<0.15	2.00
N	2	*Acacia mearnsii*	VPO2	Indigenous	2	>2	N/A	<0.15	1.50	<0.15	2.00
O	1	*Melaleuca ericifolia*	VPO2	Indigenous	90	5	1	<0.15	1.50	<0.15	2.00
O	2	*Acacia mearnsii*	VPO2	Indigenous	2	>2	N/A	<0.15	1.50	<0.15	2.00
O	3	*Eucalyptus spp.*	VPO2	Vic Native	1	>2	N/A	<0.15	1.50	<0.15	2.00
P	1	*Melaleuca ericifolia*	VPO2	Indigenous	72	5	2	<0.15	1.50	<0.15	2.00
Q	1	*Melaleuca ericifolia*	VPO2	Indigenous	38	6	2	<0.15	1.50	<0.15	2.00
Q	2	*Pittosporum undulatum*	Weed	Vic Native	2	>2	N/A	<0.15	1.50	<0.15	2.00
R	1	*Melaleuca ericifolia*	VPO2	Indigenous	40	3	2	<0.15	1.50	<0.15	2.00
R	2	*Coprosma repens*	Weed	Exotic	3	>2	N/A	<0.15	1.50	<0.15	2.00
R	3	*Pittosporum undulatum*	Weed	Vic Native	2	>2	N/A	<0.15	1.50	<0.15	2.00
S	1	*Melaleuca ericifolia*	VPO2	Indigenous	20	3	2	<0.15	1.50	<0.15	2.00
S	2	*Genista* sp.	Weed	Exotic	1	>2	N/A	<0.15	1.50	<0.15	2.00
S	3	*Pittosporum undulatum*	Weed	Vic Native	4	>2	N/A	<0.15	1.50	<0.15	2.00

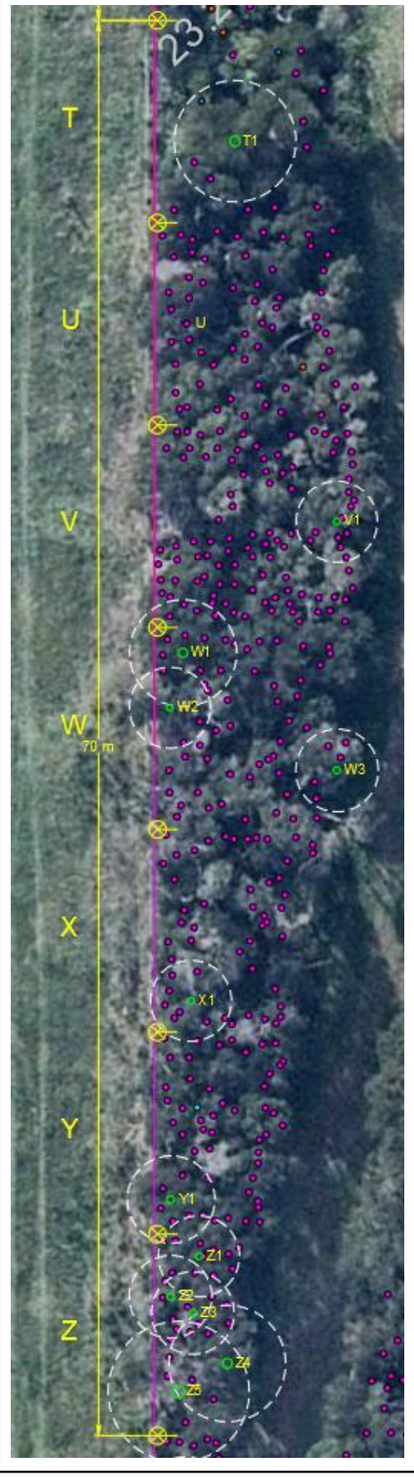
Bellavista Road (West): Sections T, U, V, W, X, Y, Z

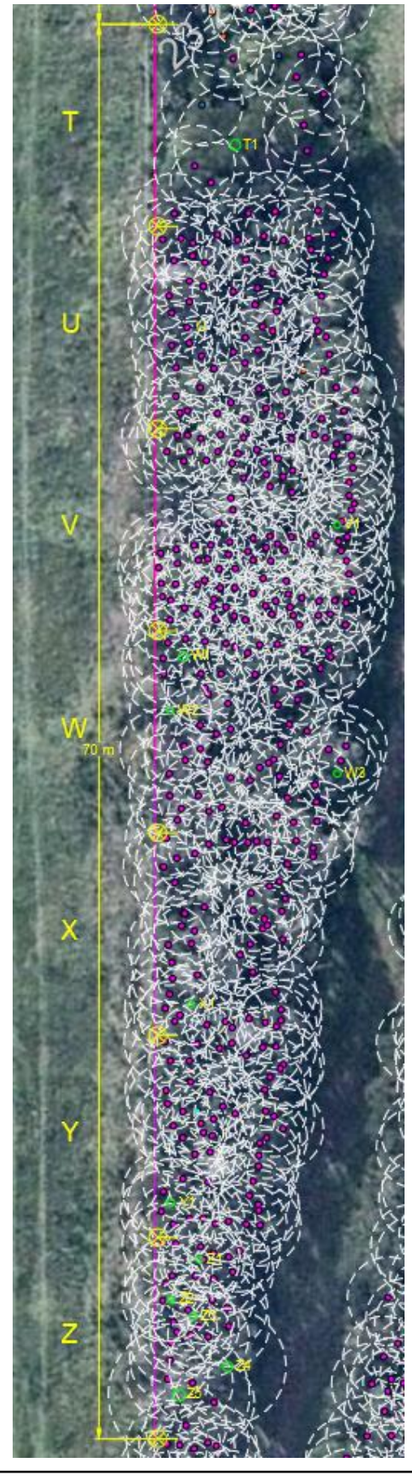
Key Points

- Vegetation assessed in this area is defined and dominated by large clumps of *Melaleuca ericifolia* with scattered individual *Acacia sophorae*.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Bellavista Road walking path

Assessed species appearing in Pre-1750 EVC 55: Plains Grassy Woodland

- No vegetation assessed in this area appears in EVC 55.
- Some species may appear in the adjacent EVC 53: Swamp Scrub.





GROUPED VEGETATAION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone

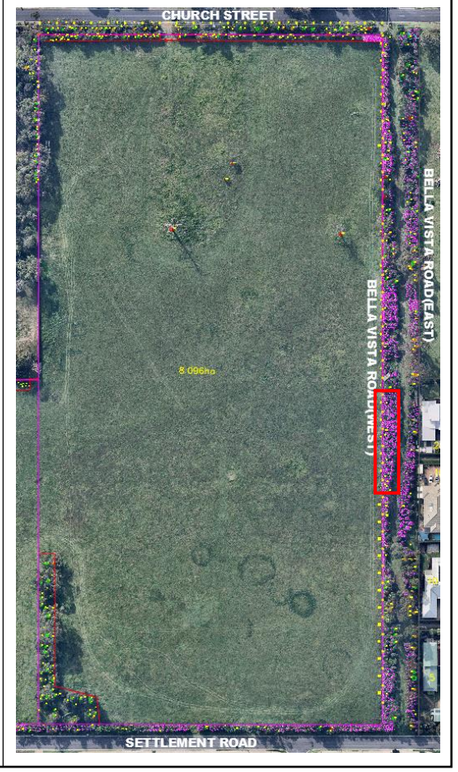


Table 10: Assessed Tress, Bellavista Road (West) (Sections T, V, U, W, X, Y, Z)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
T	1	*Acacia sophorae*	VPO2	Indigenous	6	10	Fair	Poor	0.32	2.05	0.25	3.00
V	1	*Melaleuca ericifolia*	VPO2	Indigenous	10	4	Fair	Poor	0.22	1.75	0.16	2.00
W	1	*Melaleuca ericifolia*	VPO2	Indigenous	5	3	Fair	Fair	0.22	1.75	0.22	2.64
W	2	*Melaleuca ericifolia*	VPO2	Indigenous	6	3	Fair	Fair	0.17	1.57	0.15	2.00
W	3	*Melaleuca ericifolia*	VPO2	Indigenous	7	4	Fair	Fair	0.25	1.85	0.17	2.04
X	1	*Melaleuca ericifolia*	VPO2	Indigenous	10	1	Fair	Poor	0.19	1.65	0.16	2.00
Y	1	*Melaleuca ericifolia*	VPO2	Indigenous	3	3	Fair	Fair	0.21	1.72	0.18	2.16
T	1	*Acacia sophorae*	VPO2	Indigenous	6	10	Fair	Poor	0.32	2.05	0.25	3.00
Z	1	*Melaleuca ericifolia*	VPO2	Indigenous	6	3	Fair	Fair	0.20	1.68	0.16	2.00
Z	2	*Melaleuca ericifolia*	VPO2	Indigenous	6	1	Poor	Poor	0.21	1.72	0.17	2.04
Z	3	*Melaleuca ericifolia*	VPO2	Indigenous	6	3	Fair	Fair	0.23	1.79	0.17	2.04
Z	4	*Melaleuca ericifolia*	VPO2	Indigenous	7	3	Fair	Poor	0.24	1.82	0.24	2.88

Table 11: Grouped Species, Bellavista Road (West) (Sections T, V, U, W, X, Y, Z)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
T	1	*Melaleuca ericifolia*	VPO2	Indigenous	12	4	2	<0.15	1.50	<0.15	2.00
T	2	*Coprosma repens*	Weed	Exotic	2	>2	N/A	<0.15	1.50	<0.15	2.00
T	3	*Pittosporum undulatum*	Weed	Vic Native	2	>2	N/A	<0.15	1.50	<0.15	2.00
U	1	*Melaleuca ericifolia*	VPO2	Indigenous	60	7	2	<0.15	1.50	<0.15	2.00
U	2	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.50	<0.15	2.00
V	1	*Melaleuca ericifolia*	VPO2	Indigenous	100	7	2	<0.15	1.50	<0.15	2.00
W	1	*Melaleuca ericifolia*	VPO2	Indigenous	58	7	2	<0.15	1.50	<0.15	2.00
X	1	*Melaleuca ericifolia*	VPO2	Indigenous	50	4	2	<0.15	1.50	<0.15	2.00
Y	1	*Melaleuca ericifolia*	VPO2	Indigenous	50	6	2	<0.15	1.50	<0.15	2.00
Y	2	*Crataegus monogyna*	Weed	Exotic	1	>2	N/A	<0.15	1.50	<0.15	2.00
Z	1	*Melaleuca ericifolia*	VPO2	Indigenous	28	6	2	<0.15	1.50	<0.15	2.00

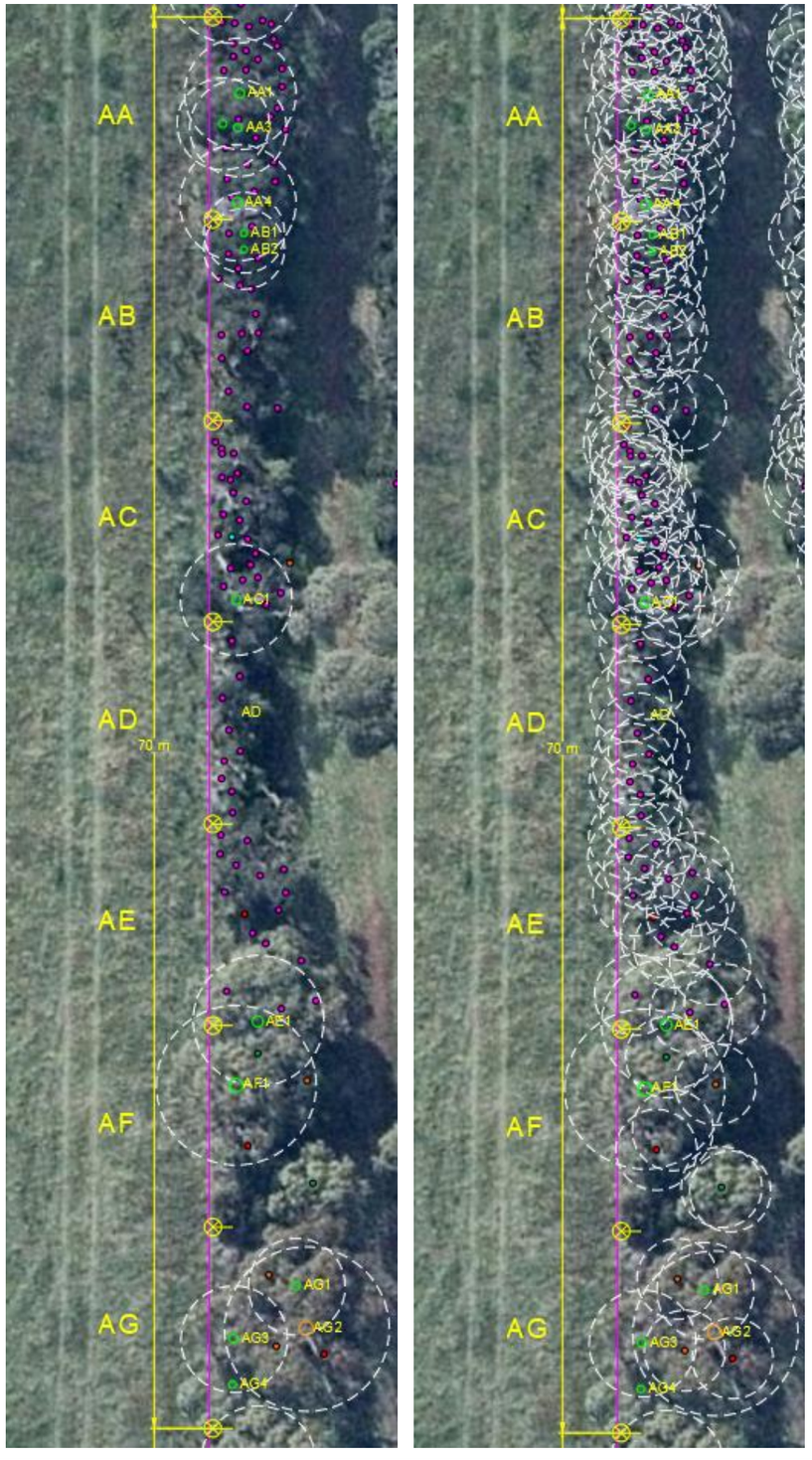
Bellavista Road (West): Sections AA, AB, AC, AD, AE, AF, AG

Key Points

- Vegetation assessed in this area is defined and dominated by large clumps of *Melaleuca ericifolia* and various *Eucalyptus* spp. both Victorian native and indigenous in origin.
- A number of small weed species are located within this area.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Bellavista Road walking path

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodland



GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



Table 12: Assessed Trees, Bellavista Road (West) (Sections AA, AB, AC, AD, AE, AF, AG)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
AB	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	3	Poor	Fair	0.21	1.72	0.16	2.00
AB	2	*Melaleuca ericifolia*	VPO2	Indigenous	8	3	Fair	Fair	0.24	1.82	0.16	2.00
AC	1	*Melaleuca ericifolia*	VPO2	Indigenous	5	4	Poor	Fair	0.23	1.79	0.23	2.76
AE	1	*Eucalyptus viminalis*	VPO2	Vic Native	9	9	Fair	Fair	0.38	2.20	0.27	3.24
AF	1	*Eucalyptus viminalis*	VPO2	Vic Native	9	9	Fair	Fair	0.46	2.39	0.33	3.96
AG	1	*Eucalyptus ovata*	VPO2	Indigenous	11	6	Fair	Poor	0.31	2.02	0.20	2.40
AG	2	*Eucalyptus cladocalyx*	VPO2	Aus Native	13	12	Fair	Fair	0.42	2.30	0.34	4.08
AG	3	*Eucalyptus kitsoniana*	VPO2	Vic Native	7	4	Poor	Poor	0.28	1.94	0.22	2.64
AG	4	*Eucalyptus viminalis*	VPO2	Vic Native	6	5	Fair	Fair	0.26	1.88	0.18	2.16

Table 13: Grouped Species, Bellavista Road (West) (Sections AA, AB, AC, AD, AE, AF, AG)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
AA	1	*Melaleuca ericifolia*	VPO2	Indigenous	28	6	2	<0.15	1.50	<0.15	2.00
AB	1	*Melaleuca ericifolia*	VPO2	Indigenous	17	6	2	<0.15	1.50	<0.15	2.00
AC	1	*Melaleuca ericifolia*	VPO2	Indigenous	22	4	2	<0.15	1.50	<0.15	2.00
AC	2	*Crataegus monogyna*	Weed	Exotic	1	>2	N/A	<0.15	1.50	<0.15	2.00
AC	3	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.50	<0.15	2.00
AD	1	*Melaleuca ericifolia*	VPO2	Indigenous	9	4	2	<0.15	1.50	<0.15	2.00
AE	1	*Melaleuca ericifolia*	VPO2	Indigenous	15	3	2	<0.15	1.50	<0.15	2.00
AE	2	*Eucalyptus viminalis*	VPO2	Vic Native	1	>2	N/A	<0.15	1.50	<0.15	2.00
AF	1	*Myoporum insulare*	VPO2	Indigenous	2	3	4	<0.15	1.50	<0.15	2.00
AF	2	*Eucalyptus viminalis*	VPO2	Vic Native	1	>2	N/A	<0.15	1.50	<0.15	2.00
AF	3	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.50	<0.15	2.00
AG	1	*Pittosporum undulatum*	Weed	Vic Native	2	2	1	<0.15	1.50	<0.15	2.00
AG	2	*Eucalyptus kitsoniana*	VPO2	Indigenous	1	>2	N/A	<0.15	1.50	<0.15	2.00

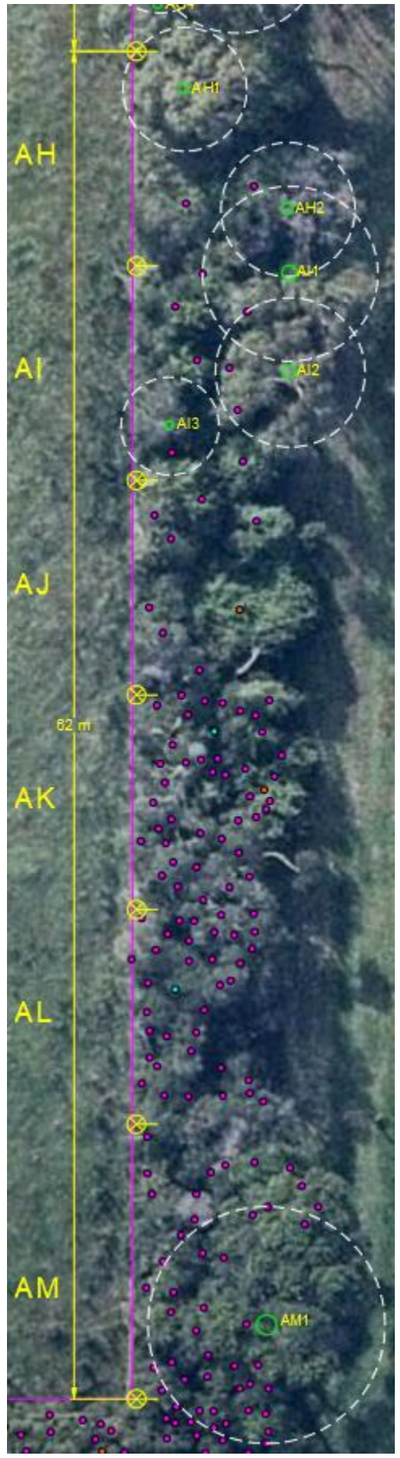
Bellavista Road (West): Sections AH, AI, AJ, AK, AL, AM

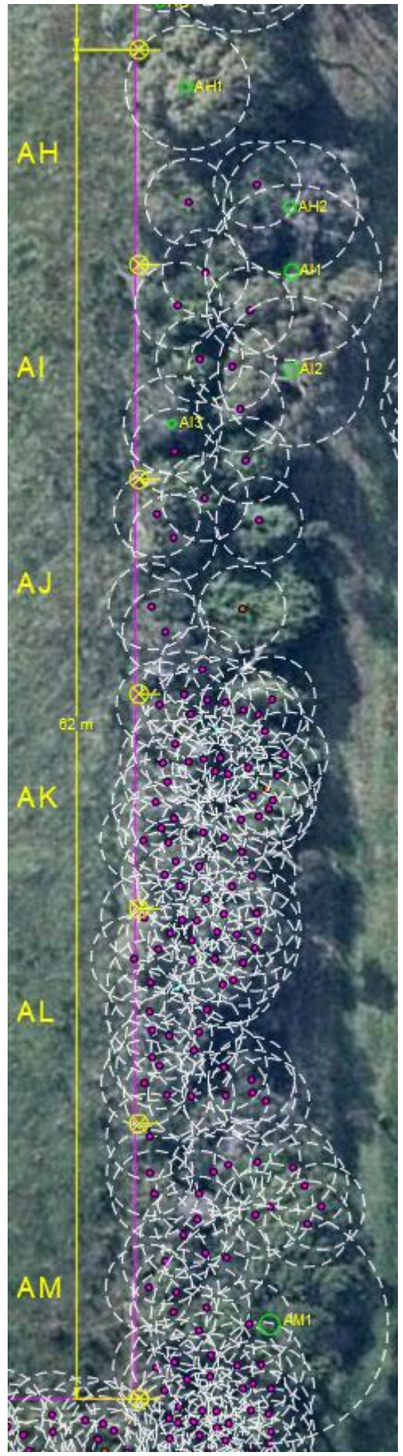
Key Points

- Vegetation assessed in this area is defined and dominated by large clumps of *Melaleuca ericifolia* and various *Eucalyptus* spp. both Victorian native and indigenous in origin.
- A low number of small weed species are located within this area.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Bellavista Road walking path

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodland





GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



Table 14: Assessed Trees, Bellavista Road (West) (Sections AH, AI, AJ, AK, AL, AM)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
AH	1	*Eucalyptus ovata*	VPO2	Indigenous	12	8	Fair	Fair	0.36	2.15	0.24	2.88
AH	2	*Eucalyptus ovata*	VPO2	Indigenous	11	6	Poor	Poor	0.36	2.15	0.26	3.12
AI	1	*Eucalyptus ovata*	VPO2	Indigenous	12	5	Fair	Fair	0.48	2.43	0.34	4.08
AI	2	*Eucalyptus ovata*	VPO2	Indigenous	12	8	Fair	Fair	0.33	2.08	0.29	3.48
AI	3	*Melaleuca ericifolia*	VPO2	Indigenous	5	3	Fair	Fair	0.24	1.82	0.19	2.28
AM	1	*Acacia mearnsii*	VPO2	Indigenous	11	15	Fair	Poor	0.59	2.65	0.46	5.52

Table 15: Grouped Species, Bellavista Road (West) (Sections AH, AI, AJ, AK, AL, AM)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
AH	1	*Melaleuca ericifolia*	VPO2	Indigenous	2	3	2	<0.15	1.50	<0.15	2.00
AI	1	*Melaleuca ericifolia*	VPO2	Indigenous	8	3	2	<0.15	1.50	<0.15	2.00
AJ	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	4	2	<0.15	1.50	<0.15	2.00
AJ	2	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.50	<0.15	2.00
AK	1	*Melaleuca ericifolia*	VPO2	Indigenous	40	6	3	<0.15	1.50	<0.15	2.00
AK	2	*Crataegus monogyna*	Weed	Exotic	1	>2	N/A	<0.15	1.50	<0.15	2.00
AK	3	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.50	<0.15	2.00
AL	1	*Melaleuca ericifolia*	VPO2	Indigenous	35	5	2	<0.15	1.50	<0.15	2.00
AM	1	*Melaleuca ericifolia*	VPO2	Indigenous	35	5	2	<0.15	1.50	<0.15	2.00
AM	2	*Crataegus monogyna*	Weed	Exotic	1	>2	N/A	<0.15	1.50	<0.15	2.00

END OF BELLAVISTA ROAD (WEST) SECTIONS

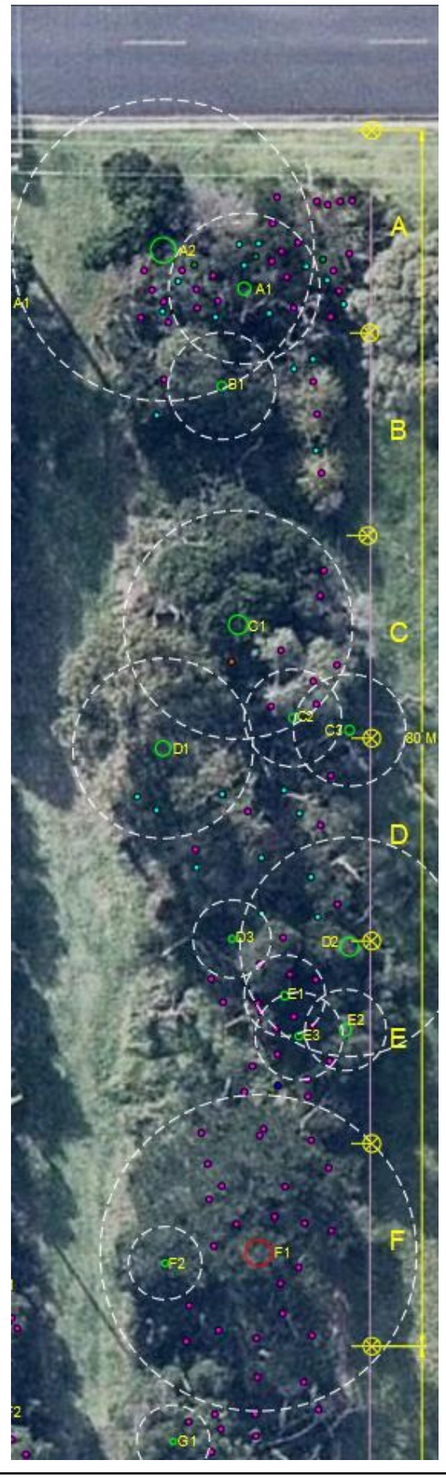
Bellavista Road (East): Sections A, B, C, D, E, F

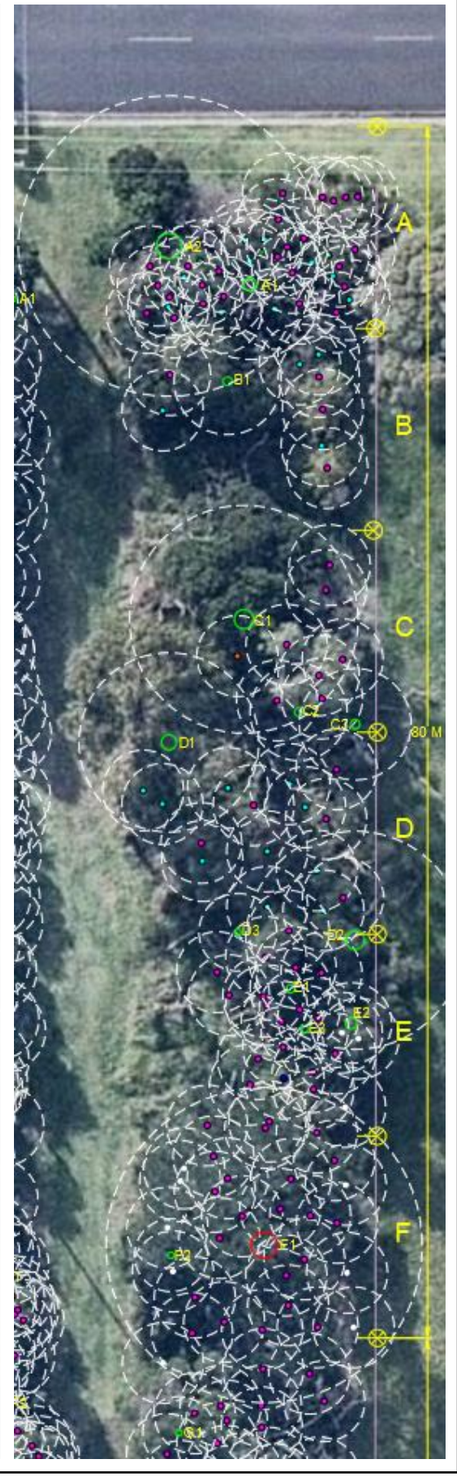
Key Points

- Indigenous medium canopy trees in the form of *Acacia mearnsii*, *Eucalyptus* spp. and *Melaleuca ericifolia* are scattered throughout this section as well as *Myoporum insulare.*
- A significant amount of weed species were assessed throughout this section in the form of *Crataegus monogyna*.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Bellavista Road walking path

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodland





GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone

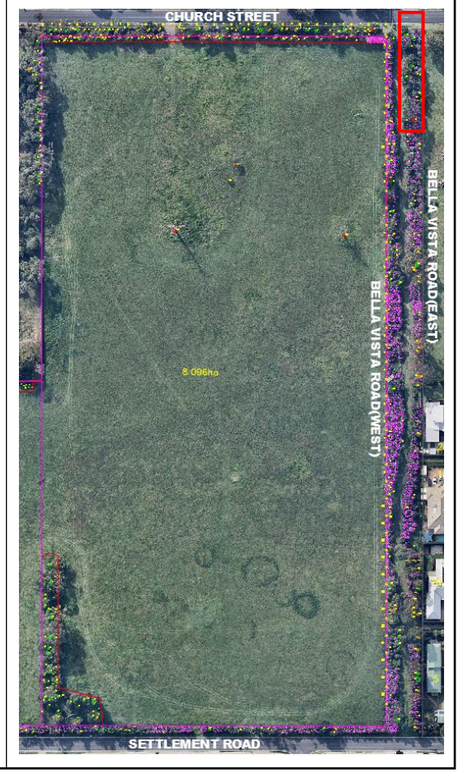


Table 16: Assessed Trees, Bellavista Road (East) (Sections A, B, C, D, E, F)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
A	1	*Acacia mearnsii*	VPO2	Indigenous	7	7	Poor	Poor	0.40	2.25	0.31	3.72
A	2	*Acacia mearnsii*	VPO2	Indigenous	8	7	Poor	Poor	0.62	2.71	0.62	7.44
B	1	*Myoporum insulare*	VPO2	Indigenous	8	4	Fair	Fair	0.22	1.75	0.22	2.64
C	1	*Acacia mearnsii*	VPO2	Indigenous	9	9	Fair	Poor	0.47	2.41	0.47	5.64
C	2	*Eucalyptus ovata*	VPO2	Indigenous	11	4	Fair	Fair	0.22	1.75	0.20	2.40
C	3	*Melaleuca ericifolia*	VPO2	Indigenous	6	3	Poor	Poor	0.27	1.91	0.23	2.76
D	1	*Eucalyptus globulus*	VPO2	Indigenous	13	7	Good	Fair	0.47	2.41	0.37	4.44
D	2	*Melaleuca ericifolia*	VPO2	Indigenous	6	4	Poor	Poor	0.45	2.37	0.45	5.40
D	3	*Melaleuca ericifolia*	VPO2	Indigenous	6	6	Fair	Poor	0.16	1.53	0.16	2.00
E	1	*Melaleuca ericifolia*	VPO2	Indigenous	9	3	Fair	Fair	0.26	1.88	0.20	2.40
E	2	*Melaleuca ericifolia*	VPO2	Indigenous	5	3	Fair	Poor	0.28	1.94	0.28	3.36
E	3	*Melaleuca ericifolia*	VPO2	Indigenous	4	4	Fair	Poor	0.23	1.79	0.18	2.16
F	1	*Pinus radiata*	VPO2	Exotic	12	14	Poor	Fair	0.73	2.90	0.65	7.80
F	2	*Melaleuca ericifolia*	VPO2	Indigenous	6	2	Fair	Fair	0.15	1.50	0.15	2.00

Table 17: Grouped Species, Bellavista Road (East) (Sections A, B, C, D, E, F)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
A	1	*Melaleuca ericifolia*	VPO2	Indigenous	25	6	2	<0.15	1.5	<0.15	2
A	2	*Crataegus monogyna*	Weed	Exotic	10	>2	N/A	<0.15	1.5	<0.15	2
A	3	*Myoporum insulare*	VPO2	Indigenous	3	>2	N/A	<0.15	1.5	<0.15	2
B	1	*Melaleuca ericifolia*	VPO2	Indigenous	4	4	2	<0.15	1.5	<0.15	2
B	2	*Crataegus monogyna*	Weed	Exotic	4	>2	N/A	<0.15	1.5	<0.15	2
C	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	4	2	<0.15	1.5	<0.15	2
C	2	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2
D	1	*Melaleuca ericifolia*	VPO2	Indigenous	6	4	2	<0.15	1.5	<0.15	2
D	2	*Crataegus monogyna*	Weed	Exotic	10	>2	N/A	<0.15	1.5	<0.15	2
E	1	*Melaleuca ericifolia*	VPO2	Indigenous	23	5	2	<0.15	1.5	<0.15	2
E	2	*Acacia measrnsii*	VPO2	Indigenous	1	>2	N/A	<0.15	1.5	<0.15	2

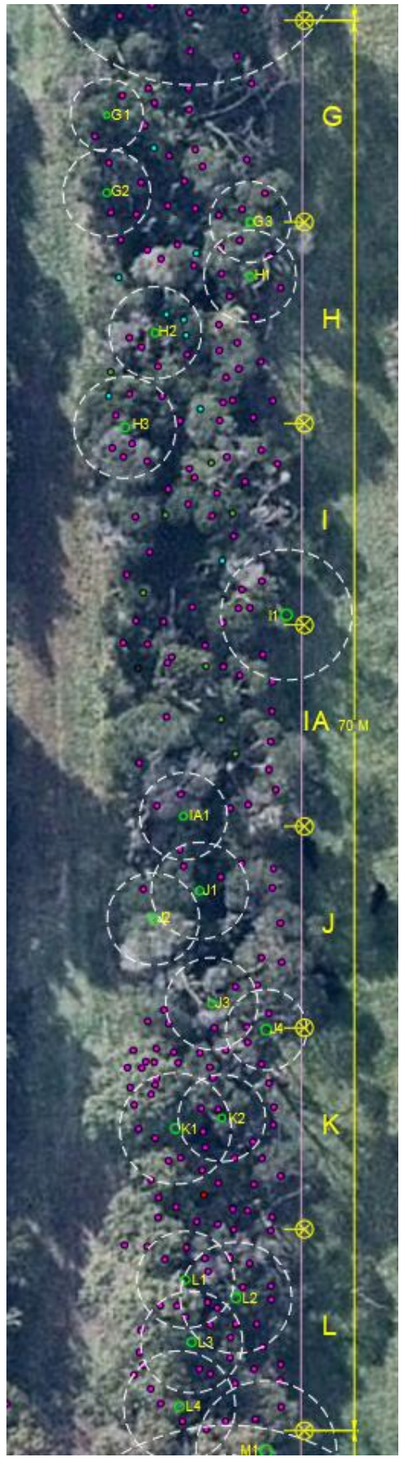
Bellavista Road (East): Sections G, H, I, IA, J, K, L

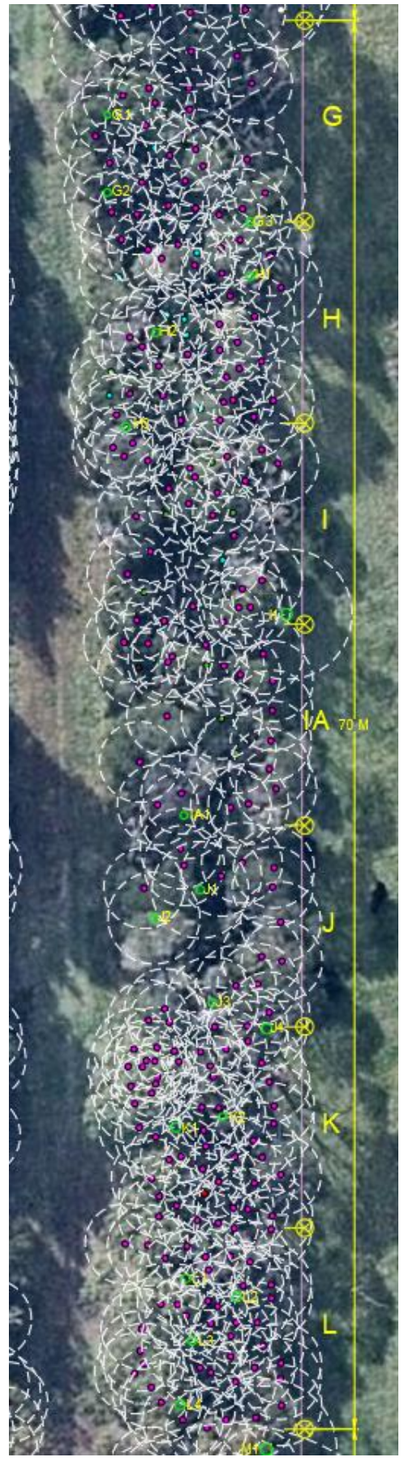
Key Points

- Indigenous medium canopy trees in the form of *Acacia mearnsii* and Victorian native *Eucalyptus botyroides* are scattered throughout, with *Melaleuca ericifolia* as the dominant species and a moderate number of *Bursaria spinosa*.
- A significant amount of weed species were assessed throughout this section in the form of *Crataegus monogyna*.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Bellavista Road walking path

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodland





GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone

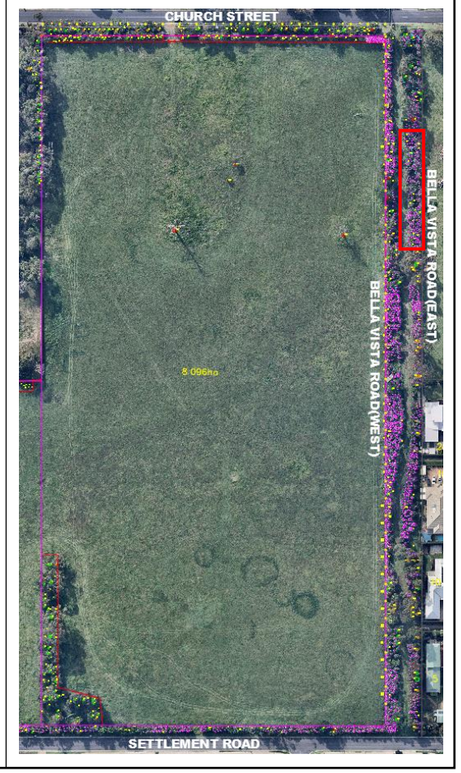


Table 18: Assessed Trees, Bellavista Road (East) (Sections G, H, I, IA, J, K, L)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
G	1	*Melaleuca ericifolia*	VPO2	Indigenous	9	2	Fair	Poor	0.22	1.75	0.19	2.28
G	2	*Bursaria spinosa*	VPO2	Indigenous	7	5	Fair	Fair	0.22	1.75	0.18	2.16
G	3	*Melaleuca ericifolia*	VPO2	Indigenous	6	2	Poor	Fair	0.18	1.61	0.15	2.00
H	1	*Melaleuca ericifolia*	VPO2	Indigenous	0	4	Fair	Fair	0.23	1.79	0.19	2.28
H	2	*Melaleuca ericifolia*	VPO2	Indigenous	9	3	Poor	Fair	0.23	1.79	0.19	2.28
H	3	*Melaleuca ericifolia*	VPO2	Indigenous	5	5	Poor	Poor	0.28	1.94	0.21	2.52
I	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	5	Fair	Poor	0.27	1.91	0.27	3.24
IA	1	*Melaleuca ericifolia*	VPO2	Indigenous	8	4	Fair	Fair	0.24	1.82	0.18	2.16
J	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	4	Fair	Fair	0.25	1.85	0.20	2.40
J	2	*Melaleuca ericifolia*	VPO2	Indigenous	9	4	Poor	Fair	0.23	1.79	0.19	2.28
J	3	*Melaleuca ericifolia*	VPO2	Indigenous	9	4	Poor	Poor	0.22	1.75	0.19	2.28
J	4	*Melaleuca ericifolia*	VPO2	Indigenous	9	5	Fair	Fair	0.28	1.94	0.25	3.00
K	1	*Eucalyptus botryoides*	VPO2	Vic Native	9	6	Fair	Fair	0.30	2.00	0.23	2.76
K	2	*Melaleuca ericifolia*	VPO2	Indigenous	8	4	Fair	Fair	0.24	1.82	0.18	2.16
L	1	*Eucalyptus botryoides*	VPO2	Vic Native	9	7	Fair	Fair	0.29	1.97	0.23	2.76
L	2	*Melaleuca ericifolia*	VPO2	Vic Native	9	3	Fair	Poor	0.28	1.94	0.21	2.52
L	3	*Eucalyptus botryoides*	VPO2	Indigenous	9	4	Poor	Poor	0.26	1.88	0.23	2.76
L	4	*Eucalyptus botryoides*	VPO2	Vic Native	9	6	Fair	Fair	0.30	2.00	0.20	2.40

Table 19: Grouped Species, Bellavista Road (East) (Sections G, H, I, IA, J, K, L)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
G	1	*Melaleuca ericifolia*	VPO2	Indigenous	25	4	2	<0.15	1.5	<0.15	2
G	2	*Crataegus monogyna*	Weed	Exotic	1	>2	N/A	<0.15	1.5	<0.15	2
H	1	*Melaleuca ericifolia*	VPO2	Indigenous	30	4	2	<0.15	1.5	<0.15	2
H	2	*Bursaria spinosa*	VPO2	Indigenous	1	>2	N/A	<0.15	1.5	<0.15	2
H	3	*Crataegus monogyna*	Weed	Exotic	7	>2	N/A	<0.15	1.5	<0.15	2
I	1	*Melaleuca ericifolia*	VPO2	Indigenous	18	5	2	<0.15	1.5	<0.15	2
I	2	*Bursaria spinosa*	VPO2	Indigenous	4	>2	N/A	<0.15	1.5	<0.15	2
I	3	*Crataegus monogyna*	Weed	Exotic	1	>2	N/A	<0.15	1.5	<0.15	2
IA	1	*Melaleuca ericifolia*	VPO2	Indigenous	26	6	2	<0.15	1.5	<0.15	2
IA	2	*Bursaria spinosa*	VPO2	Indigenous	3	>2	N/A	<0.15	1.5	<0.15	2
IA	3	*Pinus radiata*	VPO2	Exotic	1	>2	N/A	<0.15	1.5	<0.15	2
J	1	*Melaleuca ericifolia*	VPO2	Indigenous	18	5	2	<0.15	1.5	<0.15	2
K	1	*Melaleuca ericifolia*	VPO2	Indigenous	45	5	2	<0.15	1.5	<0.15	2
K	2	*Eucalyptus botryoides*	VPO2	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2
L	1	*Melaleuca ericifolia*	VPO2	Indigenous	39	4	11	<0.15	1.5	<0.15	2

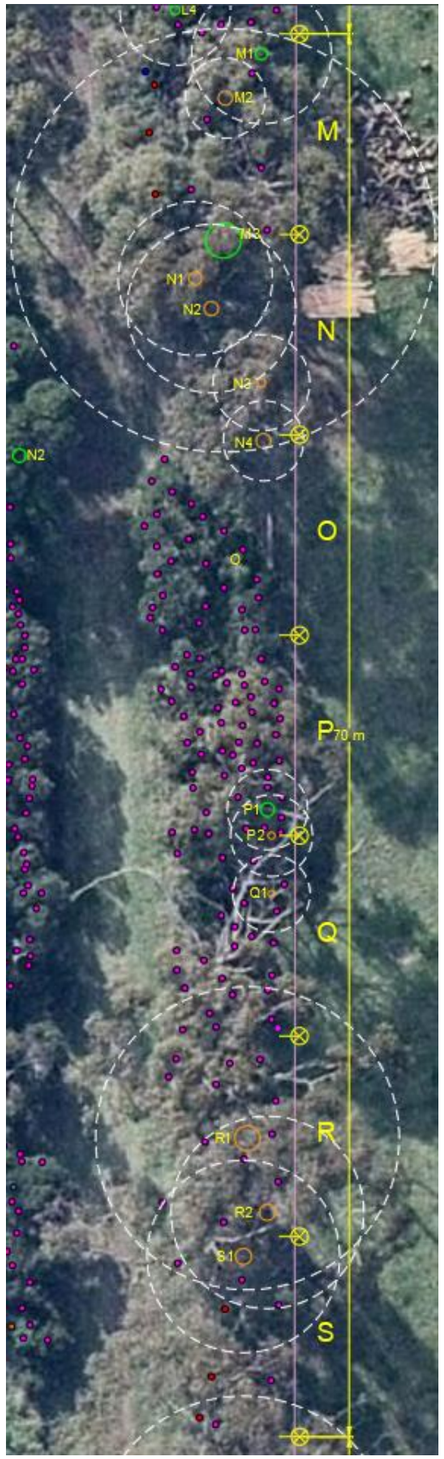
Bellavista Road (East): Sections M, N, O, P, Q, R, S

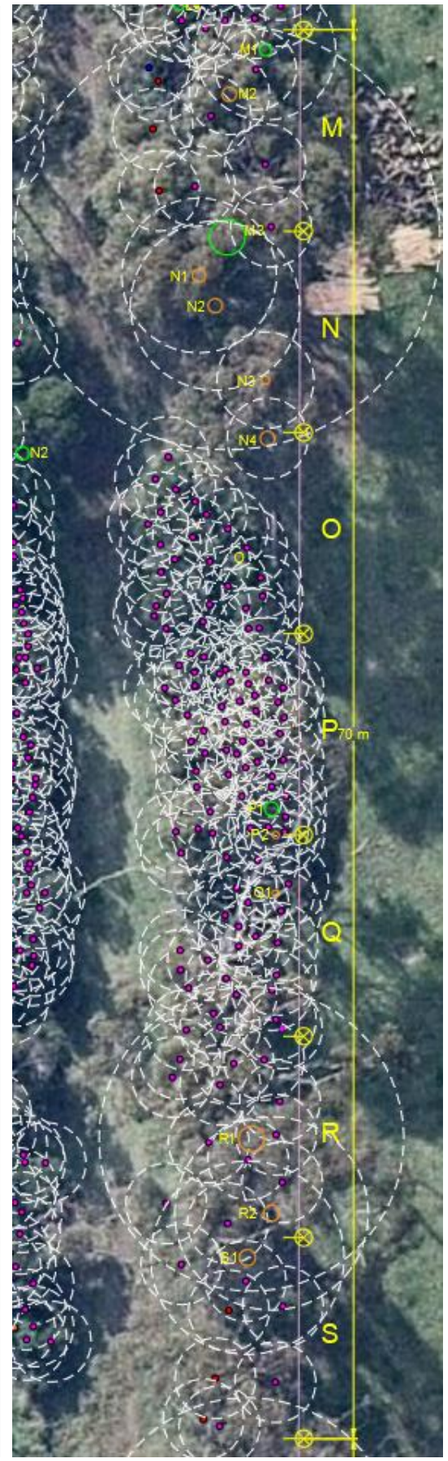
Key Points

- Medium to large canopy trees in the form of *Eucalyptus spp.* scattered throughout, with *Melaleuca ericifolia* as the dominant species.
- No weed species were assessed in this area.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Bellavista Road walking path

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodland





GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



Table 20: Assessed Trees, Bellavista Road (East) (Sections M, N, O, P, Q, R, S)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
M	1	*Eucalyptus viminalis*	VPO2	Vic Native	7	6	Poor	Poor	0.33	2.08	0.29	3.48
M	2	*Eucalyptus robusta*	VPO2	Aus Native	11	5	Poor	Poor	0.35	2.13	0.35	4.20
M	3	*Eucalyptus cladocalyx*	VPO2	Aus Native	10	14	Poor	Poor	0.88	3.14	0.88	10.56
N	1	*Eucalyptus cladocalyx*	VPO2	Aus Native	14	6	Fair	Fair	0.37	2.18	0.32	3.84
N	2	*Eucalyptus cladocalyx*	VPO2	Aus Native	15	8	Fair	Fair	0.42	2.30	0.35	4.20
N	3	*Eucalyptus cladocalyx*	VPO2	Aus Native	8	4	Fair	Fair	0.26	1.88	0.20	2.40
N	4	*Eucalyptus cladocalyx*	VPO2	Aus Native	15	7	Fair	Fair	0.41	2.28	0.36	4.32
P	1	*Eucalyptus cladocalyx*	VPO2	Aus Native	14	8	Fair	Fair	0.40	2.25	0.34	4.08
P	2	*Eucalyptus cladocalyx*	VPO2	Aus Native	9	5	Fair	Fair	0.22	1.75	0.17	2.04
Q	1	*Eucalyptus cladocalyx*	VPO2	Aus Native	8	6	Fair	Fair	0.20	1.68	0.16	2.00
R	1	*Eucalyptus cladocalyx*	VPO2	Aus Native	17	12	Fair	Poor	0.80	3.01	0.63	7.56
R	2	*Eucalyptus cladocalyx*	VPO2	Aus Native	17	8	Fair	Fair	0.50	2.47	0.40	4.80
S	1	*Eucalyptus cladocalyx*	VPO2	Aus Native	15	15	Fair	Fair	0.50	2.47	0.40	4.80

Table 21: Grouped Species, Bellavista Road (East) (Sections M, N, O, P, Q, R, S)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
M	1	*Melaleuca ericifolia*	VPO2	Indigenous	5	3	1	<0.15	1.5	<0.15	2
M	2	*Acacia mearnsii*	VPO2	Indigenous	1	>2	N/A	<0.15	1.5	<0.15	2
M	3	*Eucalyptus botryoides*	VPO2	Vic Native	2	>2	N/A	<0.15	1.5	<0.15	2
O	1	*Melaleuca ericifolia*	VPO2	Indigenous	26	5	1	<0.15	1.5	<0.15	2
P	1	*Melaleuca ericifolia*	VPO2	Indigenous	50	5	1	<0.15	1.5	<0.15	2
Q	1	*Melaleuca ericifolia*	VPO2	Indigenous	25	5	1	<0.15	1.5	<0.15	2
R	1	*Melaleuca ericifolia*	VPO2	Indigenous	12	4	1	<0.15	1.5	<0.15	2
S	1	*Melaleuca ericifolia*	VPO2	Indigenous	5	3	2	<0.15	1.5	<0.15	2
S	2	*Eucalyptus cladocalyx*	VPO2	Aus Native	3	>2	N/A	<0.15	1.5	<0.15	2

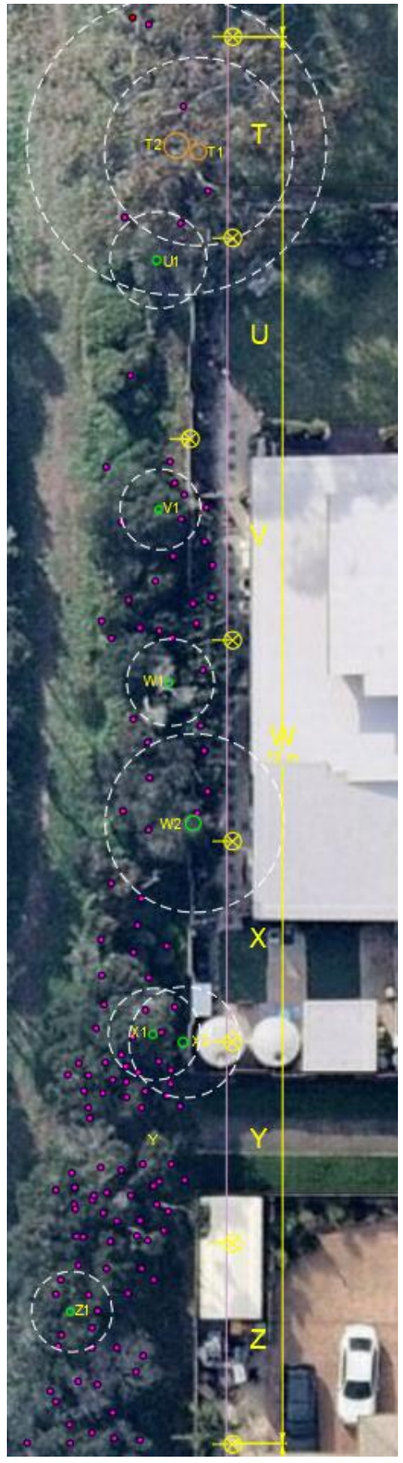
Bellavista Road (East): Sections T, U, V, W, X, Y, Z

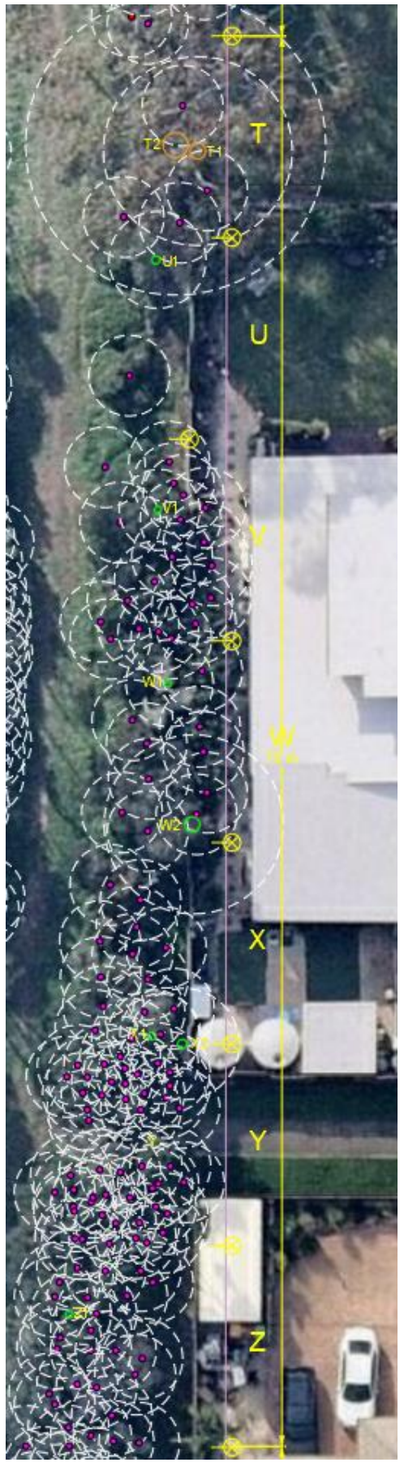
Key Points

- This section is dominated by *Melaleuca ericifolia* with some *Eucalyptus* spp.
- No weed species were assessed in this section.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Bellavista Road walking path

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodland





GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone

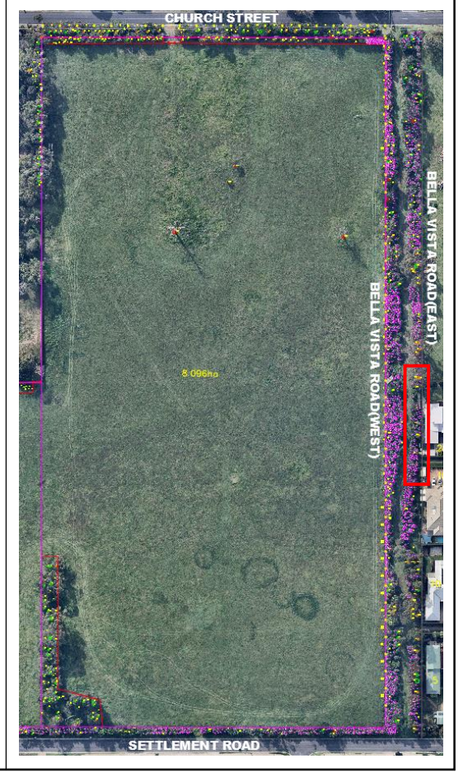


Table 22: Assessed Trees, Bellavista Road (East) (Sections M, N, O, P, Q, R, S)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
T	1	*Eucalyptus cladocalyx*	VPO2	Aus Native	15	15	Poor	Poor	0.54	2.55	0.39	4.68
T	2	*Eucalyptus cladocalyx*	VPO2	Aus Native	16	18	Poor	Fair	0.74	2.92	0.62	7.44
U	1	*Eucalyptus ovata*	VPO2	Indigenous	7	5	Poor	Poor	0.27	1.91	0.20	2.40
V	1	*Melaleuca ericifolia*	VPO2	Indigenous	6	2	Fair	Fair	0.20	1.68	0.17	2.04
W	1	*Melaleuca ericifolia*	VPO2	Indigenous	5	3	Fair	Fair	0.21	1.72	0.18	2.16
W	2	*Melaleuca ericifolia*	VPO2	Indigenous	7	6	Fair	Poor	0.37	2.18	0.37	4.44
X	1	*Melaleuca ericifolia*	VPO2	Indigenous	6	4	Fair	Fair	0.23	1.79	0.19	2.28
X	2	*Melaleuca ericifolia*	VPO2	Indigenous	6	4	Fair	Poor	0.42	2.30	0.23	2.76
Z	1	*Melaleuca ericifolia*	VPO2	Indigenous	5	2	Poor	Fair	0.22	1.75	0.18	2.16

Table 23: Grouped Species, Bellavista Road (East) (Sections M, N, O, P, Q, R, S)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
T	1	*Melaleuca ericifolia*	VPO2	Indigenous	4	4	2	<0.15	1.5	<0.15	2
U	1	*Melaleuca ericifolia*	VPO2	Indigenous	1	3	1	<0.15	1.5	<0.15	2
V	1	*Melaleuca ericifolia*	VPO2	Indigenous	20	5	1	<0.15	1.5	<0.15	2
W	1	*Melaleuca ericifolia*	VPO2	Indigenous	10	5	2	<0.15	1.5	<0.15	2
X	1	*Melaleuca ericifolia*	VPO2	Indigenous	14	4	2	<0.15	1.5	<0.15	2
Y	1	*Melaleuca ericifolia*	VPO2	Indigenous	48	5	2	<0.15	1.5	<0.15	2
Z	1	*Melaleuca ericifolia*	VPO2	Indigenous	27	6	2	<0.15	1.5	<0.15	2

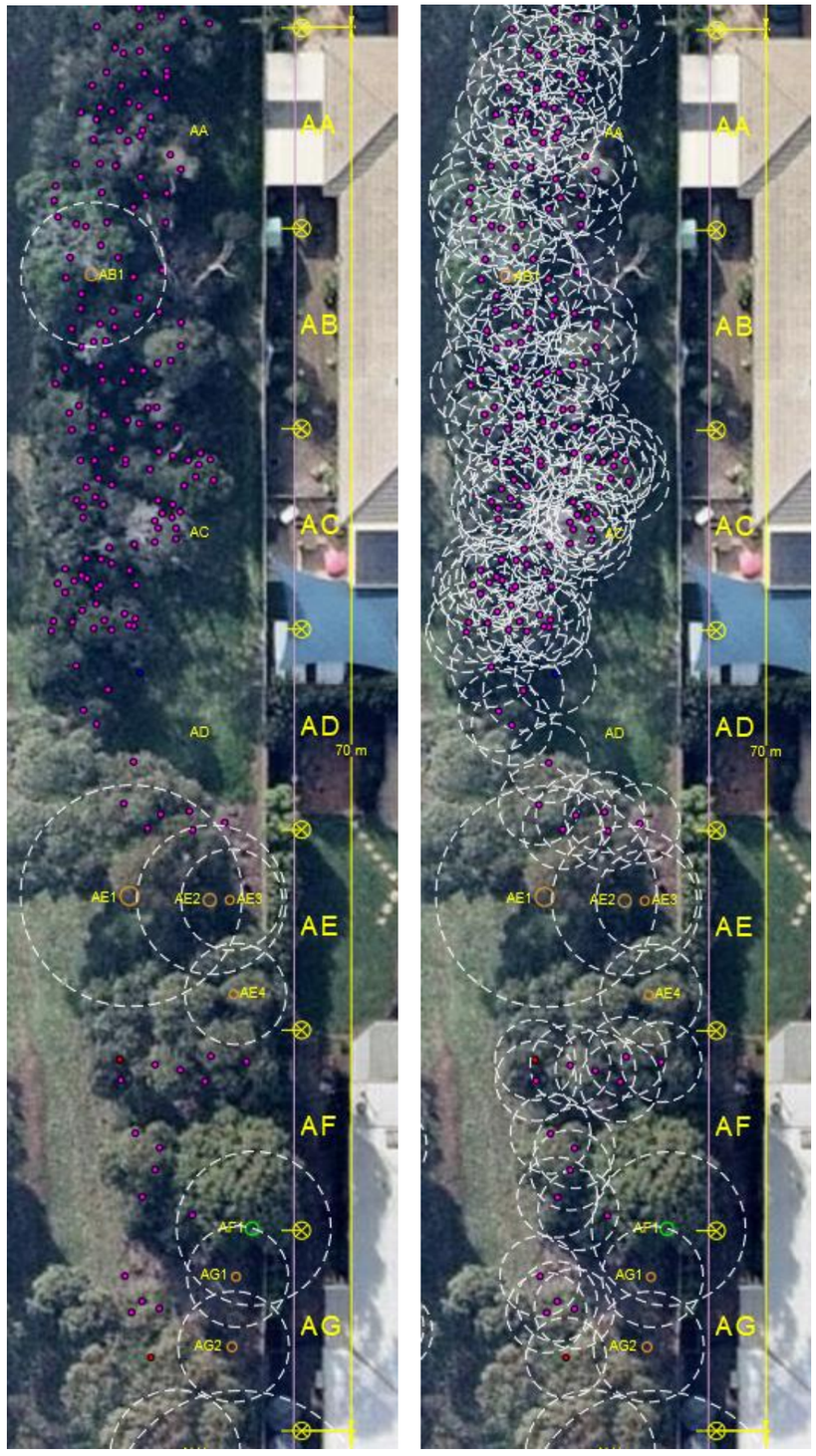
Bellavista Road (East): Sections AA, AB, AC, AD, AE, AF, AG

Key Points

- Medium to large canopy trees in the form of *Eucalyptus spp.* scattered throughout, with *Melaleuca ericifolia* as the dominant species.
- No weed species were assessed in this area.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Bellavista Road walking path

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodland



GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone

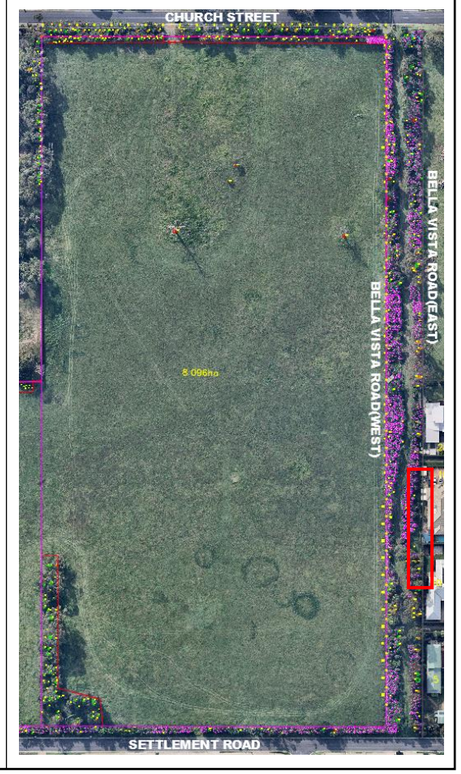


Table 24: Assessed Trees, Bellavista Road (East) (Sections AA, AB, AC, AD, AE, AF, AG)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
AB	1	*Acacia mearnsii*	VPO2	Indigenous	7	7	Poor	Poor	0.30	2.00	0.30	3.60
AE	1	*Eucalyptus cladocalyx*	VPO2	Aus Native	11	8	Fair	Fair	0.52	2.51	0.46	5.52
AE	2	*Eucalyptus cladocalyx*	VPO2	Aus Native	11	7	Fair	Fair	0.40	2.25	0.31	3.72
AE	3	*Eucalyptus sp.*	VPO2	Aus Native	11	4	Fair	Fair	0.28	1.94	0.21	2.52
AE	4	*Eucalyptus cladocalyx*	VPO2	Aus Native	6	5	Fair	Fair	0.29	1.97	0.21	2.52
AF	1	*Eucalyptus botryoides*	VPO2	Vic Native	12	7	Fair	Fair	0.45	2.37	0.32	3.84
AG	1	*Eucalyptus cladocalyx*	VPO2	Aus Native	9	4	Fair	Fair	0.25	1.85	0.21	2.52
AG	2	*Eucalyptus cladocalyx*	VPO2	Aus Native	8	6	Fair	Fair	0.27	1.91	0.23	2.76

Table 25: Grouped Species, Bellavista Road (East) (Sections AA, AB, AC, AD, AE, AF, AG)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
AA	1	*Melaleuca ericifolia*	VPO2	Indigenous	41	5	2	<0.15	1.5	<0.15	2
AB	1	*Melaleuca ericifolia*	VPO2	Indigenous	40	3	2	<0.15	1.5	<0.15	2
AC	1	*Melaleuca ericifolia*	VPO2	Indigenous	60	4	2	<0.15	1.5	<0.15	2
AD	1	*Melaleuca ericifolia*	VPO2	Indigenous	11	4	2	<0.15	1.5	<0.15	2
AD	2	*Acacia mearnsii*	VPO2	Indigenous	1	>2	N/A	<0.15	1.5	<0.15	2
AF	1	*Melaleuca ericifolia*	VPO2	Indigenous	11	4	2	<0.15	1.5	<0.15	2
AF	2	*Eucalyptus botryoides*	VPO2	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2
AG	1	*Melaleuca ericifolia*	VPO2	Indigenous	4	3	2	<0.15	1.5	<0.15	2
AG	2	*Eucalyptus botryoides*	VPO2	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2

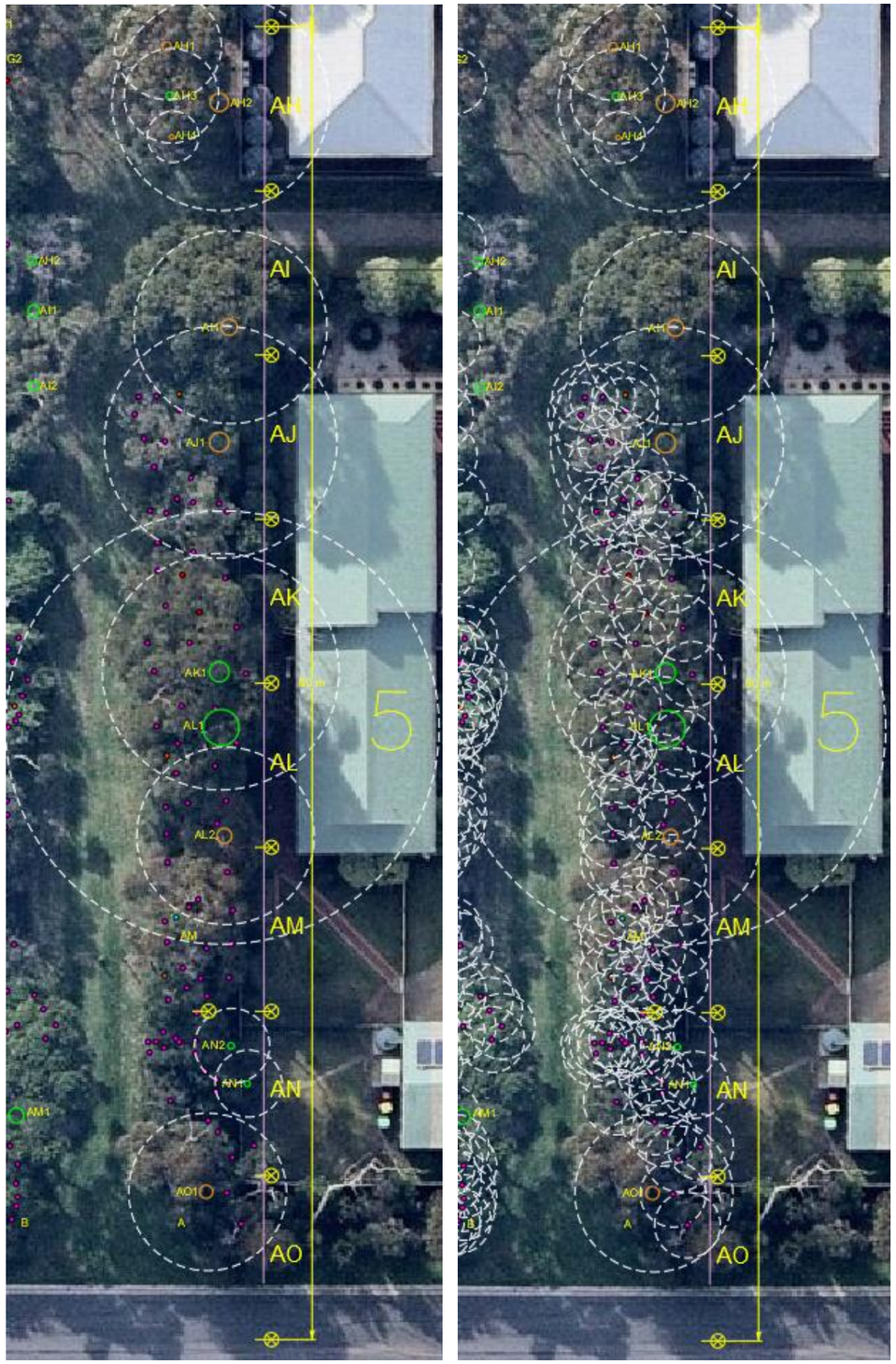
Bellavista Road (East): Sections AH, AI, AJ, AK, AL, AM, AN, AO

Key Points

- Medium to large canopy trees in the form of *Eucalyptus* spp. scattered throughout, with *Melaleuca ericifolia* as the dominant species.
- A significant amount of weed species were assessed throughout this section in the form of *Crataegus monogyna*.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Bellavista Road walking path

Assessed species appearing in Pre-1750 EVC 55: Swamp Scrub

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 53: Plains Grassy Woodland



GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone

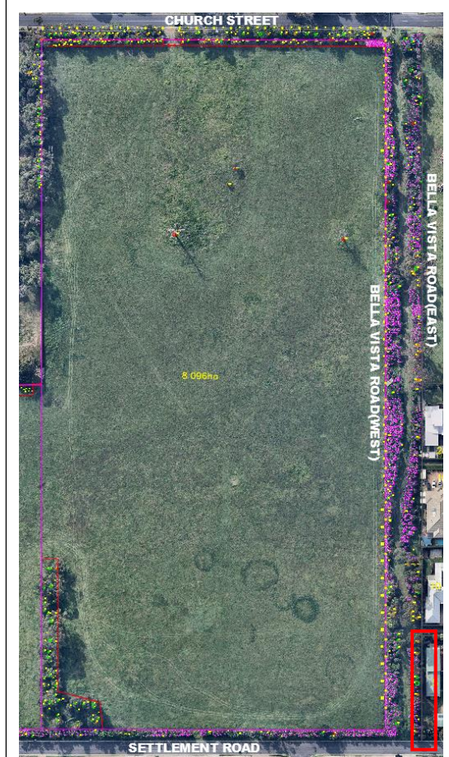


Table 26: Assessed Trees, Bellavista Road (East) (Sections AH, AI, AJ, AK, AL, AM, AN, AO)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
AH	1	*Eucalyptus saligna*	VPO2	Aus Native	9	6	Good	Good	0.32	2.05	0.27	3.24
AH	2	*Eucalyptus cladocalyx*	VPO2	Aus Native	14	9	Good	Fair	0.65	2.76	0.55	6.60
AH	3	*Eucalyptus viminalis*	VPO2	Vic Native	11	6	Fair	Fair	0.30	2.00	0.24	2.88
AH	4	*Eucalyptus saligna*	VPO2	Aus Native	9	4	Good	Good	0.15	1.50	0.13	2.00
AI	1	*Eucalyptus saligna*	VPO2	Aus Native	14	10	Good	Fair	0.53	2.53	0.49	5.88
AJ	1	*Eucalyptus cladocalyx*	VPO2	Aus Native	10	7	Poor	Poor	0.59	2.65	0.59	7.08
AK	1	*Eucalyptus viminalis*	VPO2	Vic Native	15	5	Poor	Poor	0.70	2.85	0.60	7.20
AL	1	*Eucalyptus viminalis*	VPO2	Vic Native	15	10	Fair	Fair	1.30	3.69	1.10	13.20
AL	2	*Eucalyptus cladocalyx*	VPO2	Aus Native	10	10	Fair	Fair	0.50	2.47	0.45	5.40
AN	1	*Melaleuca ericifolia*	VPO2	Indigenous	4	3	Fair	Fair	0.20	1.68	0.17	2.04
AN	2	*Melaleuca ericifolia*	VPO2	Indigenous	5	4	Fair	Fair	0.22	1.75	0.19	2.28
AO	1	*Eucalyptus cladocalyx*	VPO2	Aus Native	7	6	Fair	Poor	0.50	2.47	0.40	4.80

Table 27: Grouped Species, Bellavista Road (East) (Sections AH, AI, AJ, AK, AL, AM, AN, AO)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
AJ	1	*Melaleuca ericifolia*	VPO2	Indigenous	14	3	2	<0.15	1.5	<0.15	2
AJ	2	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2
AK	1	*Melaleuca ericifolia*	VPO2	Indigenous	10	4	2	<0.15	1.5	<0.15	2
AK	2	*Eucalyptus botryoides*	VPO2	Vic Native	2	>2	N/A	<0.15	1.5	<0.15	2
AL	1	*Melaleuca ericifolia*	VPO2	Indigenous	12	3	2	<0.15	1.5	<0.15	2
AL	2	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2
AM	1	*Melaleuca ericifolia*	VPO2	Indigenous	16	5	2	<0.15	1.5	<0.15	2
AM	2	*Crataegus monogyna*	Weed	Exotic	1	>2	N/A	<0.15	1.5	<0.15	2
AM	3	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2
AN	1	*Melaleuca ericifolia*	VPO2	Indigenous	18	4	2	<0.15	1.5	<0.15	2
AO	1	*Melaleuca ericifolia*	VPO2	Indigenous	2	2	1	<0.15	1.5	<0.15	2

END OF BELLAVISTA ROAD (EAST) SECTIONS

Settlement Road: Sections A, B, C, D, E, F, G, H, I, J

Key Points

- *Melaleuca ericifolia* is the dominant species in this section with *Bursaria spinosa* scattered throughout.
- A number of weed species were assessed throughout this section in the form of *Pittosporum undulatum and Coprosma repens*.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Settlement Road verge.

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodland

GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

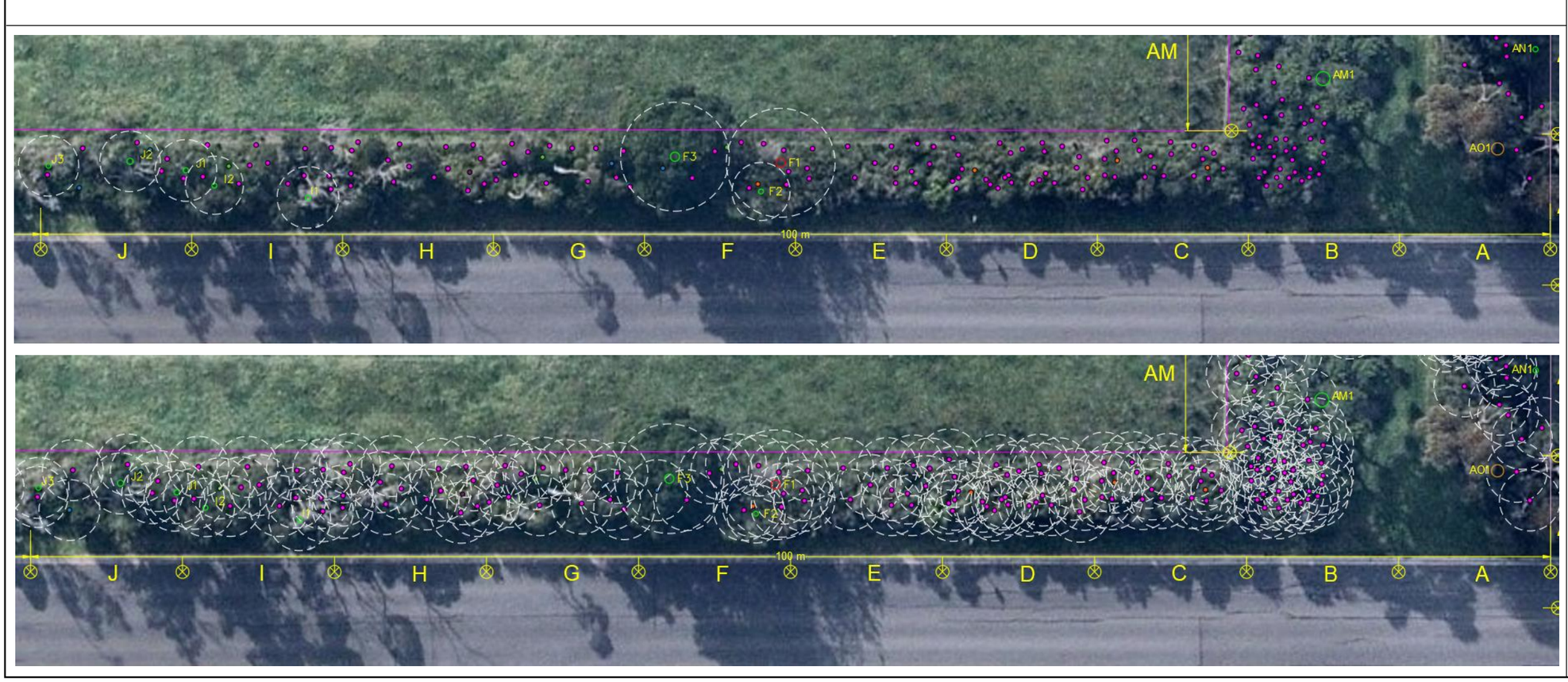
Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



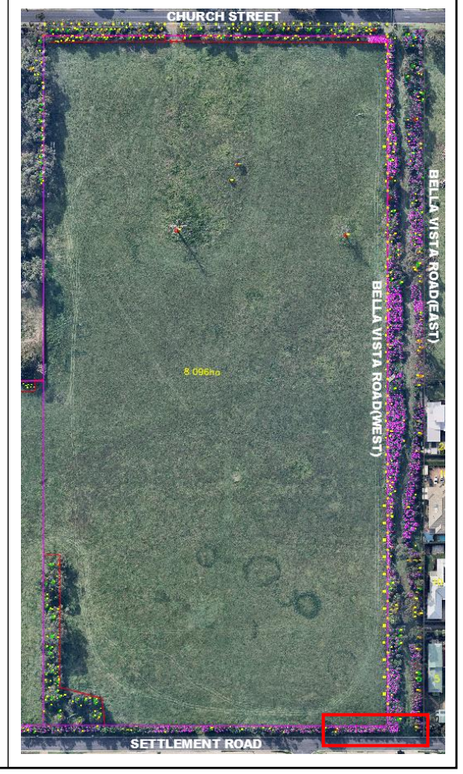


Table 28: Assessed Trees, Settlement Road (Sections A, B, C, D, E, F, G, H, I, J)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
F	1	*Quercus robur*	VPO2	Exotic	6	6	Fair	Fair	0.40	2.25	0.30	3.60
F	2	*Bursaria spinosa*	VPO2	Vic Native	7	4	Poor	Poor	0.20	1.68	0.16	2.00
F	3	*Acacia mearnsii*	VPO2	Vic Native	8	7	Fair	Fair	0.40	2.25	0.30	3.60
I	1	*Melaleuca ericifolia*	VPO2	Vic Native	6	2	Fair	Poor	0.19	1.65	0.17	2.04
I	2	*Melaleuca ericifolia*	VPO2	Vic Native	6	3	Fair	Fair	0.18	1.61	0.16	2.00
J	1	*Bursaria spinosa*	VPO2	Vic Native	8	4	Poor	Poor	0.20	1.68	0.17	2.04
J	2	*Bursaria spinosa*	VPO2	Vic Native	7	4	Fair	Fair	0.22	1.75	0.20	2.40
J	3	*Bursaria spinosa*	VPO2	Vic Native	6	4	Poor	Poor	0.19	1.65	0.16	2.00

Table 29: Grouped Species, Settlement Road (Sections A, B, C, D, E, F, G, H, I, J)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
B	1	*Melaleuca ericifolia*	VPO2	Indigenous	27	4	2	<0.15	1.5	<0.15	2
C	1	*Melaleuca ericifolia*	VPO2	Indigenous	20	4	2	<0.15	1.5	<0.15	2
C	2	*Pittosporum undulatum*	Weed	Vic Native	2	>2	N/A	<0.15	1.5	<0.15	2
D	1	*Melaleuca ericifolia*	VPO2	Indigenous	25	3	2	<0.15	1.5	<0.15	2
D	2	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2
E	1	*Melaleuca ericifolia*	VPO2	Indigenous	14	3	2	<0.15	1.5	<0.15	2
F	1	*Melaleuca ericifolia*	VPO2	Indigenous	8	3	2	<0.15	1.5	<0.15	2
F	2	*Bursaria spinosa*	VPO2	Indigenous	1	>2	N/A	<0.15	1.5	<0.15	2
F	3	*Coprosma repens*	Weed	Exotic	1	>2	N/A	<0.15	1.5	<0.15	2
F	4	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2
G	1	*Melaleuca ericifolia*	VPO2	Indigenous	13	3	2	<0.15	1.5	<0.15	2
G	2	*Bursaria spinosa*	VPO2	Indigenous	2	>2	N/A	<0.15	1.5	<0.15	2
G	3	*Coprosma repens*	Weed	Exotic	1	>2	N/A	<0.15	1.5	<0.15	2
H	1	*Melaleuca ericifolia*	VPO2	Indigenous	15	3	2	<0.15	1.5	<0.15	2
H	2	*Quercus robur*	VPO2	Exotic	1	>2	N/A	<0.15	1.5	<0.15	2
I	1	*Melaleuca ericifolia*	VPO2	Indigenous	13	4	2	<0.15	1.5	<0.15	2
I	2	*Coprosma repens*	Weed	Exotic	2	>2	N/A	<0.15	1.5	<0.15	2
J	1	*Bursaria spinosa*	VPO2	Indigenous	6	5	3	<0.15	1.5	<0.15	2
J	2	*Coprosma repens*	Weed	Exotic	2	>2	N/A	<0.15	1.5	<0.15	2
J	3	*Melaleuca ericifolia*	VPO2	Indigenous	1	>2	N/A	<0.15	1.5	<0.15	2

Settlement Road: Sections K, L, M, N, O, P, Q, R, S, T

Key Points

- *Melaleuca ericifolia* and *Bursaria spinosa* are equally dominant throughout this section.
- Some weed species were assessed throughout this section in the form of *Coprosma repens*.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Settlement Road verge.

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodland

GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

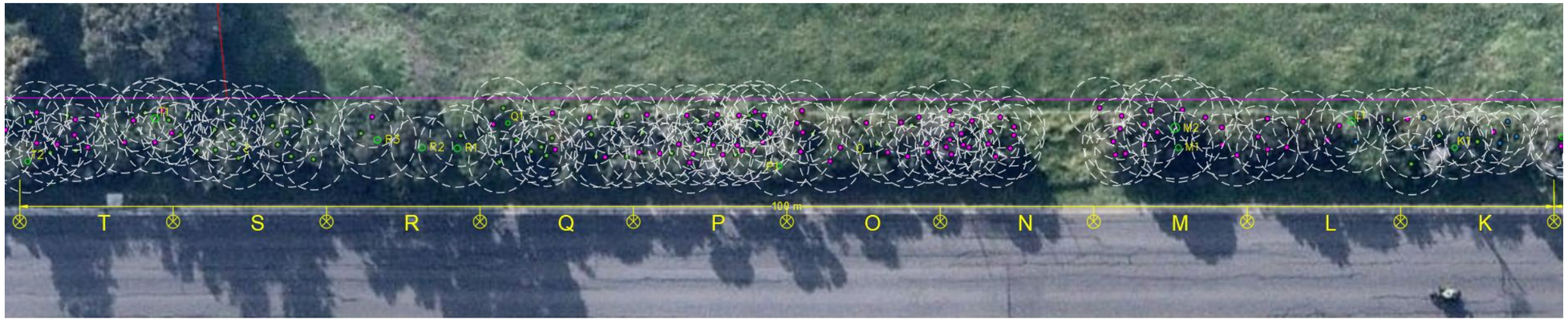
- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone





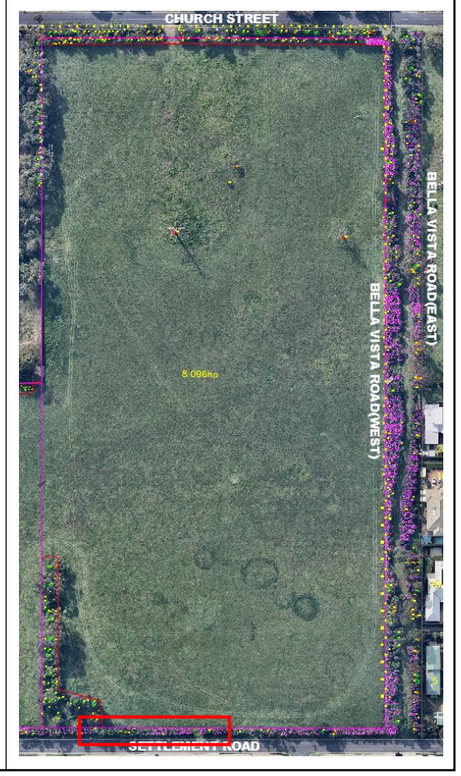


Table 30: Assessed Trees, Settlement Road (Sections K, L, M, N, O, P, Q, R, S, T)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
K	1	*Melaleuca ericifolia*		Vic Native	7	1	Dead	Dead	0.20	1.68	0.17	2.04
L	1	*Bursaria spinosa*		Indigenous	6	4	Fair	Poor	0.27	1.91	0.22	2.64
M	1	*Melaleuca ericifolia*		Vic Native	5	4	Good	Fair	0.20	1.68	0.19	2.28
M	2	*Melaleuca ericifolia*		Vic Native	5	5	Good	Fair	0.30	2.00	0.28	3.36
P	1	*Melaleuca ericifolia*		Vic Native	5	2	Fair	Fair	0.18	1.61	0.16	2.00
Q	1	*Bursaria spinosa*		Vic Native	7	5	Fair	Fair	0.25	1.85	0.14	2.00
R	1	*Acacia mearnsii*		Vic Native	8	7	Fair	Poor	0.25	1.85	0.21	2.52
R	2	*Acacia mearnsii*		Vic Native	8	6	Fair	Fair	0.24	1.82	0.20	2.40
R	3	*Acacia mearnsii*		Vic Native	8	7	Fair	Fair	0.25	1.85	0.21	2.52
T	1	*Bursaria spinosa*		Vic Native	9	7	Fair	Fair	0.28	1.94	0.22	2.64
T	2	*Bursaria spinosa*		Vic Native	9	5	Fair	Fair	0.20	1.68	0.17	2.04

Table 31: Grouped Species, Settlement Road (Sections K, L, M, N, O, P, Q, R, S, T)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
K	1	*Coprosma repens*	Weed	Exotic	6	3	3	<0.15	1.5	<0.15	2
K	2	*Bursaria spinosa*	VPO2	Indigenous	3	>2	N/A	<0.15	1.5	<0.15	2
K	3	*Melaleuca ericifolia*	VPO2	Indigenous	2	>2	N/A	<0.15	1.5	<0.15	2
L	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	4	2	<0.15	1.5	<0.15	2
L	2	*Bursaria spinosa*	VPO2	Indigenous	1	>2	N/A	<0.15	1.5	<0.15	2
L	3	*Coprosma repens*	Weed	Exotic	1	>2	N/A	<0.15	1.5	<0.15	2
M	1	*Melaleuca ericifolia*	VPO2	Indigenous	15	3	2	<0.15	1.5	<0.15	2
N	1	*Melaleuca ericifolia*	VPO2	Indigenous	16	3	2	<0.15	1.5	<0.15	2
O	1	*Melaleuca ericifolia*	VPO2	Indigenous	13	3	2	<0.15	1.5	<0.15	2
O	2	*Bursaria spinosa*	VPO2	Indigenous	3	>2	N/A	<0.15	1.5	<0.15	2
P	1	*Melaleuca ericifolia*	VPO2	Indigenous	20	4	2	<0.15	1.5	<0.15	2
P	2	*Bursaria spinosa*	VPO2	Indigenous	8	>2	N/A	<0.15	1.5	<0.15	2
Q	1	*Bursaria spinosa*	VPO2	Indigenous	12	4	2	<0.15	1.5	<0.15	2
Q	2	*Melaleuca ericifolia*	VPO2	Indigenous	5	>2	N/A	<0.15	1.5	<0.15	2
R	1	*Bursaria spinosa*	VPO2	Indigenous	2	3	3	<0.15	1.5	<0.15	2
R	2	*Bursaria spinosa*	VPO2	Indigenous	1	>2	N/A	<0.15	1.5	<0.15	2
S	1	*Bursaria spinosa*	VPO2	Indigenous	17	6	3	<0.15	1.5	<0.15	2
T	1	*Melaleuca ericifolia*	VPO2	Indigenous	12	3	2	<0.15	1.5	<0.15	2
T	2	*Bursaria spinosa*	VPO2	Indigenous	6	>2	N/A	<0.15	1.5	<0.15	2

Settlement Road: Sections U, V, W, X, Y, Z, AA, AB, AC, AD

Key Points

- *Melaleuca ericifolia* are the dominant species with *Bursaria spinosa* scattered throughout.
- Some weed species were assessed throughout this section in the form of *Coprosma repens and Pittosporum undulatum.*
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Settlement Road verge.

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodland

GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

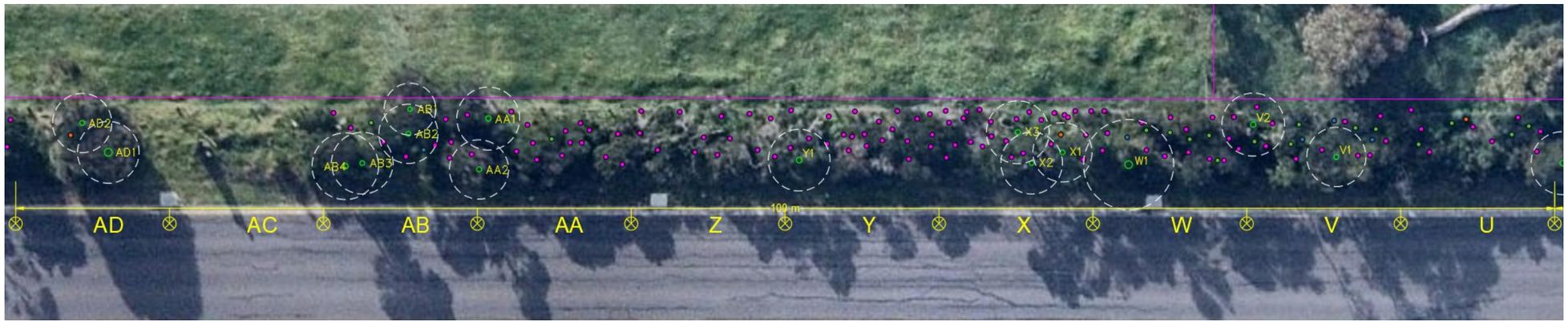
Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



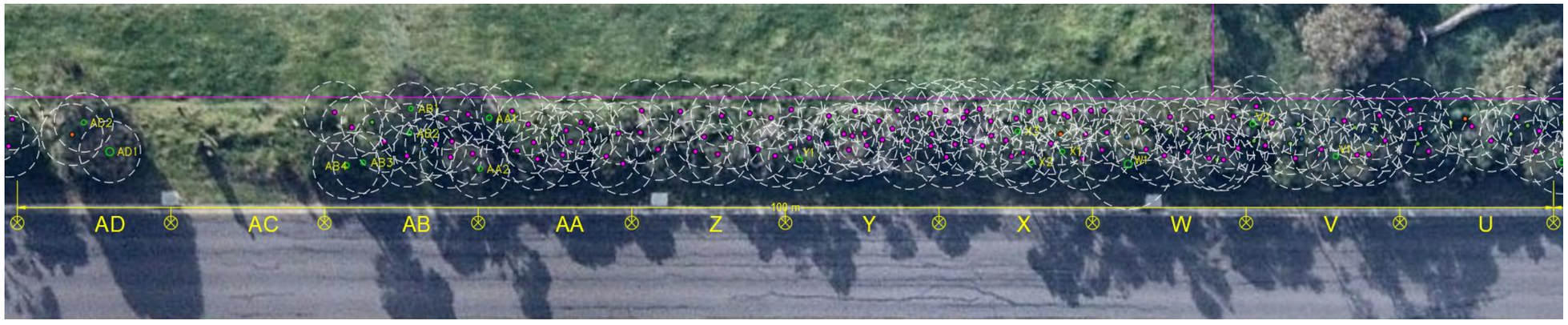




Table 32: Assessed Trees, Settlement Road (Sections U, V, W, X, Y, Z, AA, AB, AC, AD)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
V	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	2	Fair	Fair	0.18	1.61	0.16	2.00
V	2	*Bursaria spinosa*	VPO2	Indigenous	6	4	Poor	Fair	0.22	1.75	0.17	2.04
W	1	*Bursaria spinosa*	VPO2	Indigenous	9	7	Poor	Fair	0.40	2.25	200.00	2.00
X	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	4	Fair	Fair	0.18	1.61	0.16	2.00
X	2	*Melaleuca ericifolia*	VPO2	Indigenous	6	3	Fair	Fair	0.25	1.85	0.15	2.00
X	3	*Melaleuca ericifolia*	VPO2	Indigenous	7	3	Poor	Poor	0.20	1.68	0.17	2.04
Y	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	4	Poor	Poor	0.20	1.68	0.18	2.16
AA	1	*Melaleuca ericifolia*	VPO2	Indigenous	6	4	Fair	Fair	0.19	1.65	0.17	2.04
AA	2	*Melaleuca ericifolia*	VPO2	Indigenous	6	4	Fair	Fair	0.17	1.57	0.16	2.00
AB	1	*Melaleuca ericifolia*	VPO2	Indigenous	6	3	Fair	Fair	0.15	1.50	0.14	2.00
AB	2	*Melaleuca ericifolia*	VPO2	Indigenous	6	3	Fair	Fair	0.17	1.57	0.16	2.00
AB	3	*Melaleuca ericifolia*	VPO2	Indigenous	6	3	Fair	Fair	0.19	1.65	0.15	2.00
AB	4	*Melaleuca ericifolia*	VPO2	Indigenous	6	3	Poor	Fair	0.20	1.68	0.18	2.16
AD	1	*Allocasuarina verticillata*	VPO2	Indigenous	7	6	Fair	Fair	0.27	1.91	0.25	3.00
AD	2	*Melaleuca ericifolia*	VPO2	Indigenous	8	4	Poor	Poor	0.35	2.13	0.16	2.00

Table 33: Grouped Species, Settlement Road (Sections U, V, W, X, Y, Z, AA, AB, AC, AD)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
U	1	*Melaleuca ericifolia*	VPO2	Indigenous	8	3	2	<0.15	1.5	<0.15	2
U	2	*Bursaria spinosa*	VPO2	Indigenous	4	>2	N/A	<0.15	1.5	<0.15	2
U	3	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2
V	1	*Melaleuca ericifolia*	VPO2	Indigenous	10	4	2	<0.15	1.5	<0.15	2
V	2	*Bursaria spinosa*	VPO2	Indigenous	5	>2	N/A	<0.15	1.5	<0.15	2
V	3	*Coprosma repens*	Weed	Exotic	3	>2	N/A	<0.15	1.5	<0.15	2
W	1	*Melaleuca ericifolia*	VPO2	Indigenous	15	4	2	<0.15	1.5	<0.15	2
W	2	*Bursaria spinosa*	VPO2	Indigenous	5	>2	N/A	<0.15	1.5	<0.15	2
W	3	*Coprosma repens*	Weed	Exotic	1	>2	N/A	<0.15	1.5	<0.15	2
X	1	*Melaleuca ericifolia*	VPO2	Indigenous	25	3	2	<0.15	1.5	<0.15	2
Y	1	*Melaleuca ericifolia*	VPO2	Indigenous	21	3	2	<0.15	1.5	<0.15	2
Z	1	*Melaleuca ericifolia*	VPO2	Indigenous	13	4	2	<0.15	1.5	<0.15	2
AA	1	*Melaleuca ericifolia*	VPO2	Indigenous	14	4	2	<0.15	1.5	<0.15	2
AA	2	*Bursaria spinosa*	VPO2	Indigenous	1	>2	N/A	<0.15	1.5	<0.15	2
AB	1	*Melaleuca ericifolia*	VPO2	Indigenous	10	3	2	<0.15	1.5	<0.15	2
AB	2	*Bursaria spinosa*	VPO2	Indigenous	1	>2	N/A	<0.15	1.5	<0.15	2
AB	3	*Coprosma repens*	Weed	Exotic	1	>2	N/A	<0.15	1.5	<0.15	2
AD	1	*Melaleuca ericifolia*	VPO2	Indigenous	10	3	2	<0.15	1.5	<0.15	2
AD	2	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2

Settlement Road: Sections AE, AF, AG, AH, AHA, AI, AIA, AJ, AJA, AK, AL, AM

Key Points

- *Melaleuca ericifolia* is the dominant species in section with scattered *Eucalyptus ovata*.
- A significant number of weed species were assessed throughout this section in the form of *Coprosma repens* and *Pittosporum undulatum*.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Settlement Road verge.

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodland

GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

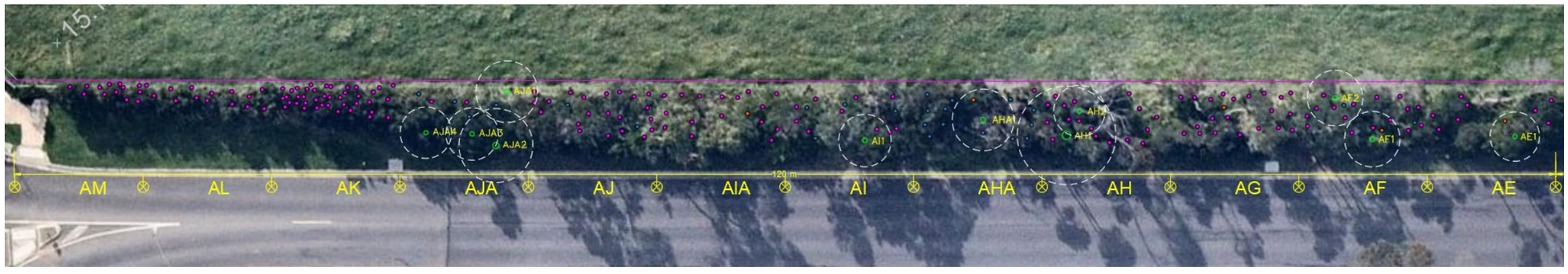
Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



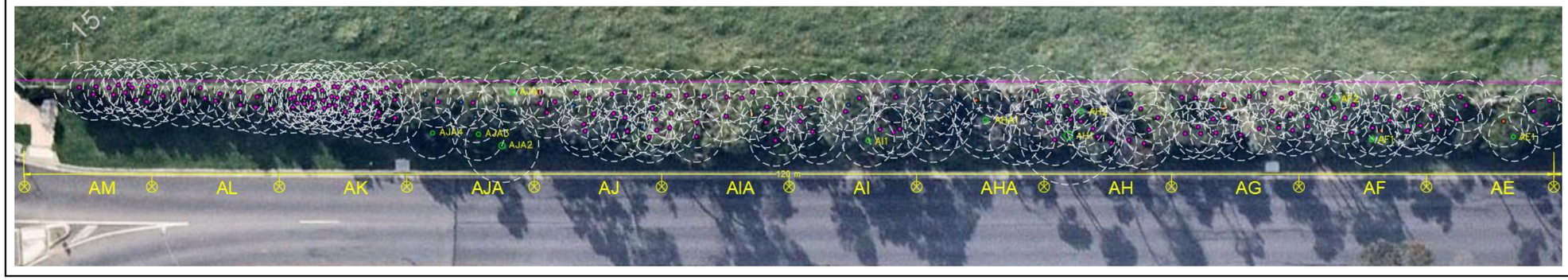




Table 34: Assessed Trees, Settlement Road (Sections AE, AF, AG, AH, AHA, AI, AIA, AJ, AJA, AK, AL, AM)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
AE	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	4	Poor	Poor	0.17	1.57	0.16	2.00
AF	1	*Melaleuca ericifolia*	VPO2	Indigenous	8	1	Dead	Dead	0.20	1.68	0.18	2.16
AF	2	*Melaleuca ericifolia*	VPO2	Indigenous	7	3	Poor	Fair	0.20	1.68	0.18	2.16
AH	1	*Eucalyptus ovata*	VPO2	Indigenous	9	7	Poor	Poor	0.47	2.41	0.32	3.84
AH	2	*Bursaria spinosa*	VPO2	Indigenous	7	4	Fair	Fair	0.21	1.72	0.18	2.16
AHA	1	*Eucalyptus ovata*	VPO2	Indigenous	10	8	Poor	Poor	0.25	1.85	0.20	2.40
AJA	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	3	Poor	Poor	0.24	1.82	0.20	2.40
AJA	2	*Melaleuca ericifolia*	VPO2	Indigenous	8	3	Fair	Fair	0.30	2.00	0.24	2.88
AJA	3	*Leptospermum laevigatum*	VPO2	Indigenous	6	4	Good	Fair	0.19	1.65	0.17	2.04
AJA	4	*Melaleuca ericifolia*	VPO2	Indigenous	8	3	Fair	Fair	0.18	1.61	0.16	2.00

Table 35: Grouped Species, Settlement Road (Sections AE, AF, AG, AH, AHA, AI, AIA, AJ, AJA, AK, AL, AM)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
AE	1	*Melaleuca ericifolia*	VPO2	Indigenous	8	3	2	<0.15	1.5	<0.15	2
AE	2	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2
AF	1	*Melaleuca ericifolia*	VPO2	Indigenous	16	3	2	<0.15	1.5	<0.15	2
AF	2	*Coprosma repens*	Weed	Exotic	1	>2	N/A	<0.15	1.5	<0.15	2
AF	3	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2
AG	1	*Melaleuca ericifolia*	VPO2	Indigenous	21	4	2	<0.15	1.5	<0.15	2
AG	2	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2
AHA	1	*Coprosma repens*	Weed	Indigenous	14	4	3	<0.15	1.5	<0.15	2
AHA	2	*Melaleuca ericifolia*	VPO2	Indigenous	1	>2	N/A	<0.15	1.5	<0.15	2
AHA	3	*Pittosporum undulatum*	Weed	Vic Native	1	>2	N/A	<0.15	1.5	<0.15	2
AH	1	*Melaleuca ericifolia*	VPO2	Indigenous	17	3	2	<0.15	1.5	<0.15	2
AI	1	*Melaleuca ericifolia*	VPO2	Indigenous	10	3	2	<0.15	1.5	<0.15	2
AI	2	*Coprosma repens*	Weed	Exotic	4	>2	N/A	<0.15	1.5	<0.15	2
AIA	1	*Melaleuca ericifolia*	VPO2	Indigenous	16	4	2	<0.15	1.5	<0.15	2
AJ	1	*Melaleuca ericifolia*	VPO2	Indigenous	21	3	2	<0.15	1.5	<0.15	2
AJ	2	*Coprosma repens*	Weed	Exotic	2	>2	N/A	<0.15	1.5	<0.15	2
AJA	1	*Coprosma repens*	Weed	Exotic	4	3	3	<0.15	1.5	<0.15	2
AJA	1	*Melaleuca ericifolia*	VPO2	Indigenous	2	>2	N/A	<0.15	1.5	<0.15	2
AK	1	*Melaleuca ericifolia*	VPO2	Indigenous	40	3	2	<0.15	1.5	<0.15	2
AL	1	*Melaleuca ericifolia*	VPO2	Indigenous	14	3	1	<0.15	1.5	<0.15	2
AM	1	*Melaleuca ericifolia*	VPO2	Indigenous	13	3	1	<0.15	1.5	<0.15	2

END OF SETTLEMENT ROAD SECTIONS

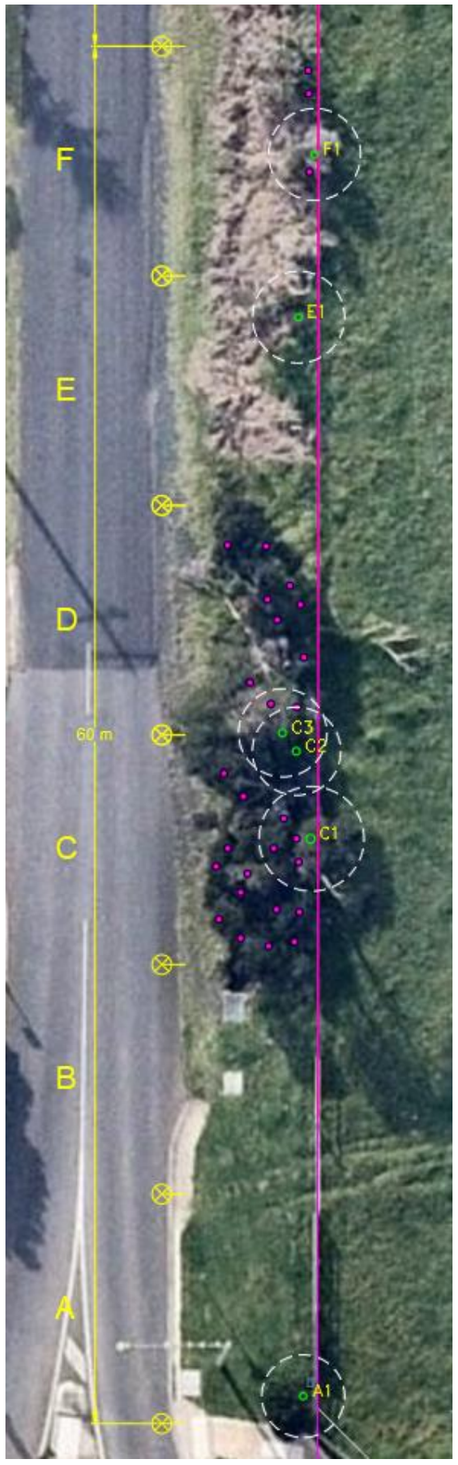
Justice Road: Sections A, B, C, D, E, F

Key Points

- *Melaleuca ericifolia* is the dominant species in section.
- Some weed species were assessed throughout this section in the form of *Coprosma repens*.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Justice Road verge.

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodland





GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



Table 36: Assessed Trees, Justice Road (Sections A, B, C, D, E, F)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
A	1	*Melaleuca ericifolia*	VPO2	Indigenous	3	2	Fair	Fair	0.15	1.50	0.15	2.00
C	1	*Melaleuca ericifolia*	VPO2	Indigenous	8	3	Poor	Poor	0.22	1.75	0.19	2.28
C	2	*Melaleuca ericifolia*	VPO2	Indigenous	7	3	Fair	Fair	0.17	1.57	0.16	2.00
C	3	*Melaleuca ericifolia*	VPO2	Indigenous	6	3	Fair	Fair	0.17	1.57	0.16	2.00
E	1	*Melaleuca ericifolia*	VPO2	Indigenous	5	3	Poor	Poor	0.15	1.50	0.15	2.00
F	1	*Melaleuca ericifolia*	VPO2	Indigenous	5	3	Poor	Poor	0.15	1.50	0.15	2.00

Table 37: Grouped Species, Justice Road (Sections A, B, C, D, E, F)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
C	1	*Melaleuca ericifolia*	VPO2	Indigenous	17	6	3	<0.15	1.5	<0.15	2
D	1	*Melaleuca ericifolia*	VPO2	Indigenous	11	6	3	<0.15	1.5	<0.15	2
F	1	*Coprosma repens*	Weed	Exotic	3	4	2	<0.15	1.5	<0.15	2

Justice Road: Sections FA, G, H, I, J, K, L

Key Points

- *Melaleuca ericifolia* is the dominant species in section.
- A significant number of weed species were assessed throughout this section in the form of *Coprosma repens* and *Pittosporum undulatum*.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Justice Road verge.

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodland





GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



Table 38: Assessed Trees, Justice Road (Sections FA, G, H, I, J, K, L)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
G	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	3	Poor	Fair	0.20	1.68	0.18	2.00
K	1	*Coprosma repens*	Weed	Exotic	4	4	Poor	Poor	0.18	1.61	0.16	2.00
L	1	*Coprosma repens*	Weed	Exotic	4	5	Fair	Fair	0.30	2.00	0.30	2.00

Table 39: Grouped Species, Justice Road (Sections FA, G, H, I, J, K, L)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
G	1	*Melaleuca ericifolia*	VPO2	Indigenous	18	5	3	<0.15	1.5	<0.15	2
G	2	*Bursaria spinosa*	VPO2	Indigenous	1	>2	N/A	<0.15	1.5	<0.15	2
G	3	*Coprosma repens*	Weed	Exotic	1	>2	N/A	<0.15	1.5	<0.15	2
H	1	*Melaleuca ericifolia*	VPO2	Indigenous	25	4	2	<0.15	1.5	<0.15	2
H	2	*Pittosporum undulatum*	Weed	Vic Native	2	>2	N/A	<0.15	1.5	<0.15	2
I	1	*Melaleuca ericifolia*	VPO2	Indigenous	7	4	3	<0.15	1.5	<0.15	2
I	2	*Coprosma repens*	Weed	Exotic	3	>2	N/A	<0.15	1.5	<0.15	2
J	1	*Coprosma repens*	Weed	Exotic	8	4	3	<0.15	1.5	<0.15	2
K	1	*Melaleuca ericifolia*	VPO2	Indigenous	8	4	2	<0.15	1.5	<0.15	2
K	2	*Bursaria spinosa*	VPO2	Indigenous	3	>2	N/A	<0.15	1.5	<0.15	2
K	3	*Coprosma repens*	Weed	Exotic	1	>2	N/A	<0.15	1.5	<0.15	2
L	1	*Coprosma repens*	Weed	Exotic	9	4	3	<0.15	1.5	<0.15	2

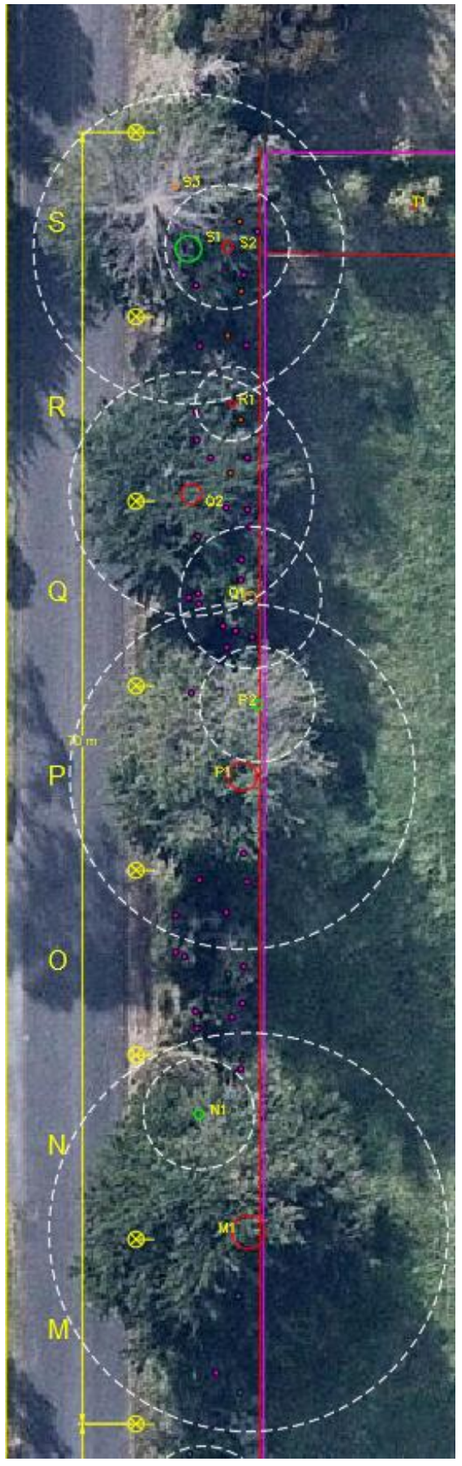
Justice Road: Sections M, N, O, P, Q, R, S

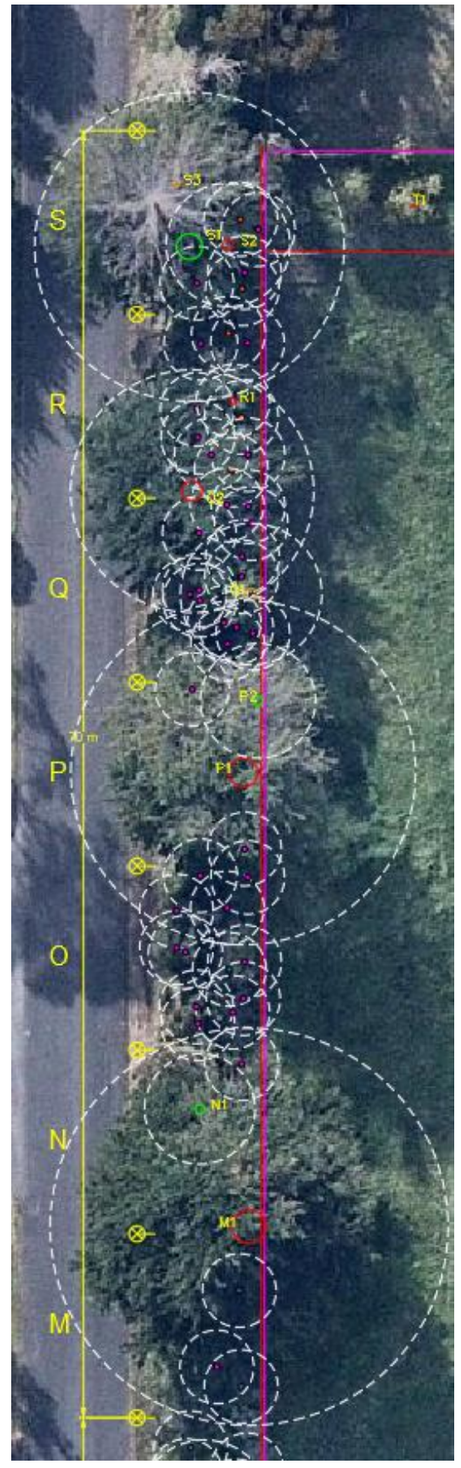
Key Points

- *Melaleuca ericifolia* is the dominant species in section with large mature *Cupressus macrocarpa* and *Allocasuarina* spp.
- A significant number of weed species were assessed throughout this section in the form of *Coprosma repens* and *Pittosporum undulatum*.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Justice Road verge.

Assessed species appearing in Pre-1750 EVC 55: Plains Grassy Woodland

- *Melaleuca ericifolia*
- Some species may appear in the adjacent EVC 53: Swamp Scrub





GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



Table 40: Assessed Trees, Justice Road (Sections M, N, O, P, Q, R, S)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
M	1	*Cupressus macrocarpa*	VPO2	Exotic	15	18	Fair	Fair	1.00	3.31	0.90	2.00
N	1	*Allocasuarina verticillata*	VPO2	Indigenous	6	6	Fair	Poor	0.28	1.94	0.25	3.00
P	1	*Cupressus macrocarpa*	VPO2	Exotic	15	15	Fair	Fair	0.85	3.09	0.78	9.36
P	2	*Melaleuca ericifolia*	VPO2	Indigenous	5	4	Poor	Poor	0.30	2.00	0.26	3.12
Q	1	*Acacia mearnsii*	VPO2	Indigenous	8	7	Poor	Poor	0.32	2.05	0.32	3.84
Q	2	*Cupressus macrocarpa*	VPO2	Exotic	10	12	Fair	Fair	0.65	2.76	0.55	6.60
R	1	*Fraxinus angustifolia*	Weed	Exotic	7	4	Fair	Fair	0.19	1.65	0.16	2.00
S	1	*Cupressus macrocarpa*	VPO2	Exotic	15	12	Poor	Fair	0.85	3.09	0.70	8.40
S	2	*Allocasuarina torulosa*	VPO2	Aus Native	10	7	Poor	Poor	0.40	2.25	0.28	3.36
S	3	*Acacia longifolia*	VPO2	Vic Native	3	5	Fair	Fair	0.15	1.50	0.15	2.00

Table 41: Grouped Species, Justice Road (Internal) (Sections M, N, O, P, Q, R, S)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
M	1	*Melaleuca ericifolia*	VPO2	Indigenous	2	3	2	<0.15	1.5	<0.15	2
M	2	*Coprosma repens*	Weed	Exotic	2	>2	N/A	<0.15	1.5	<0.15	2
N	1	*Melaleuca ericifolia*	VPO2	Indigenous	4	3	2	<0.15	1.5	<0.15	2
O	1	*Melaleuca ericifolia*	VPO2	Indigenous	11	3	2	<0.15	1.5	<0.15	2
O	2	*Coprosma repens*	Weed	Exotic	1	>2	N/A	<0.15	1.5	<0.15	2
P	1	*Melaleuca ericifolia*	VPO2	Indigenous	2	5	3	<0.15	1.5	<0.15	2
Q	1	*Melaleuca ericifolia*	VPO2	Indigenous	13	5	2	<0.15	1.5	<0.15	2
R	1	*Melaleuca ericifolia*	VPO2	Indigenous	6	5	3	<0.15	1.5	<0.15	2
R	2	*Pittosporum undulatum*	Weed	Vic Native	3	>2	N/A	<0.15	1.5	<0.15	2
S	1	*Melaleuca ericifolia*	VPO2	Indigenous	3	3	2	<0.15	1.5	<0.15	2
S	2	*Pittosporum undulatum*	Weed	Vic Native	2	>2	N/A	<0.15	1.5	<0.15	2

END OFJUSTICE ROAD SECTIONS

Justice Road (Internal): Sections A, B, C, D, E, F, G, H, I, J

Key Points

- This area is described as scattered low level vegetation in the form of young *Acacia melanoxylon* and *Melaleuca armillaris*.
- No weed species were assessed in th8is area.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to be of moderate retention value with young species in fair condition.

Assessed species appearing in Pre-1750 EVC 55: Plains Grassy Woodland

- *Acacia melanoxylon*
- Some species may appear in the adjacent EVC 53: Swamp Scrub

GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone

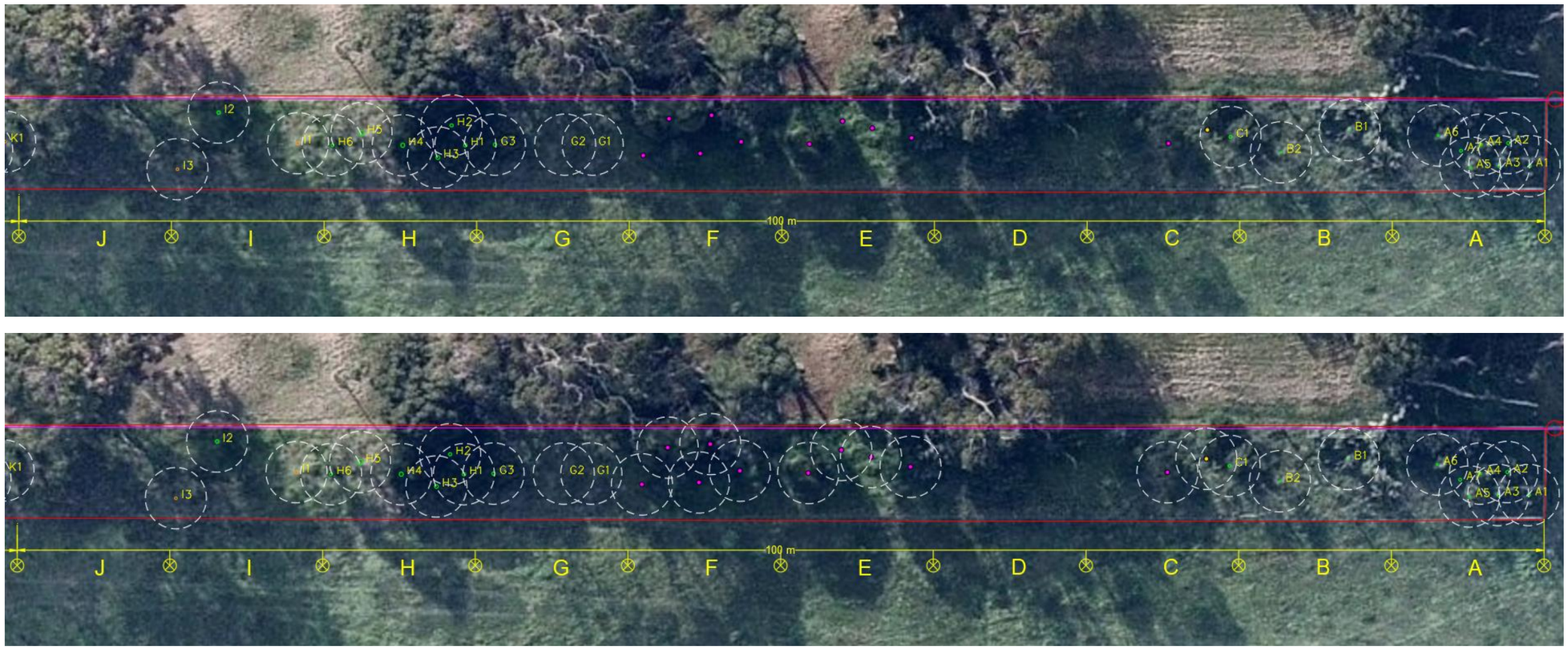




Table 42: Assessed Trees, Justice Road (Internal) (Sections A, B, C, D, E, F, G, H, I, J)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
A	1	*Acacia melanoxylon*	VPO2	Indigenous	4	2	Good	Good	0.12	1.50	0.10	2.00
A	2	*Acacia melanoxylon*	VPO2	Indigenous	4	2	Good	Good	0.11	1.50	0.10	2.00
A	3	*Acacia melanoxylon*	VPO2	Indigenous	5	2	Good	Good	0.08	1.50	0.07	2.00
A	4	*Acacia melanoxylon*	VPO2	Indigenous	4	2	Good	Good	0.10	1.50	0.08	2.00
A	5	*Acacia melanoxylon*	VPO2	Indigenous	4	2	Fair	Good	0.08	1.50	0.06	2.00
A	6	*Acacia melanoxylon*	VPO2	Indigenous	5	1	Fair	Good	0.07	1.50	0.06	2.00
A	7	*Acacia melanoxylon*	VPO2	Indigenous	4	2	Good	Fair	0.10	1.50	0.09	2.00
B	1	*Banksia serrata*	VPO2	Vic Native	2.5	1	Fair	Good	0.05	1.50	0.05	2.00
B	2	*Acacia melanoxylon*	VPO2	Indigenous	5	1	Good	Good	0.09	1.50	0.09	2.00
C	1	*Acacia melanoxylon*	VPO2	Indigenous	5	2	Good	Fair	0.11	1.50	0.09	2.00
G	1	*Agonis flexuosa*	VPO2	Aus Native	2	1	Good	Good	0.02	1.50	0.02	2.00
G	2	*Agonis flexuosa*	VPO2	Aus Native	2	1	Good	Good	0.02	1.50	0.02	2.00
G	3	*Melaleuca armillaris*	VPO2	Vic Native	4	3	Good	Fair	0.12	1.50	0.11	2.00
H	1	*Melaleuca armillaris*	VPO2	Vic Native	4	3	Good	Fair	0.12	1.50	0.11	2.00
H	2	*Melaleuca armillaris*	VPO2	Vic Native	3	2	Good	Fair	0.11	1.50	0.10	2.00
H	3	*Melaleuca armillaris*	VPO2	Vic Native	3	3	Good	Fair	0.13	1.50	0.12	2.00
H	4	*Melaleuca armillaris*	VPO2	Vic Native	4	3	Good	Fair	0.14	1.50	0.13	2.00
H	5	*Eucalyptus viminalis*	VPO2	Vic Native	7	5	Fair	Good	0.22	1.75	0.17	2.04
H	6	*Melaleuca armillaris*	VPO2	Vic Native	4	2	Fair	Fair	0.11	1.50	0.09	2.00
I	1	*Corymbia* sp.	VPO2	Aus Native	4	3	Poor	Good	0.15	1.49	0.12	2.00
I	2	*Acacia melanoxylon*	VPO2	Indigenous	4	2	Good	Good	0.12	1.50	0.11	2.00
I	3	*Eucalyptus* sp.	VPO2	Aus Native	3	2	Fair	Fair	0.10	1.50	0.08	2.00

Table 43: Grouped Species, Justice Road (Internal) (Sections A, B, C, D, E, F, G, H, I, J)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
C	1	*Melaleuca ericifolia*	VPO2	Indigenous	2	2	2	<0.15	1.5	<0.15	2
D	1	*Ozothamnus ferruguneus*	VPO2	Indigenous	4	2.5	2	<0.15	1.5	<0.15	2
E	1	*Melaleuca ericifolia*	VPO2	Indigenous	4	3	2	<0.15	1.5	<0.15	2
F	1	*Melaleuca ericifolia*	VPO2	Indigenous	5	3	2	<0.15	1.5	<0.15	2
N	1	*Ozothamnus ferruguneus*	VPO2	Indigenous	4	3	2	<0.15	1.5	<0.15	2

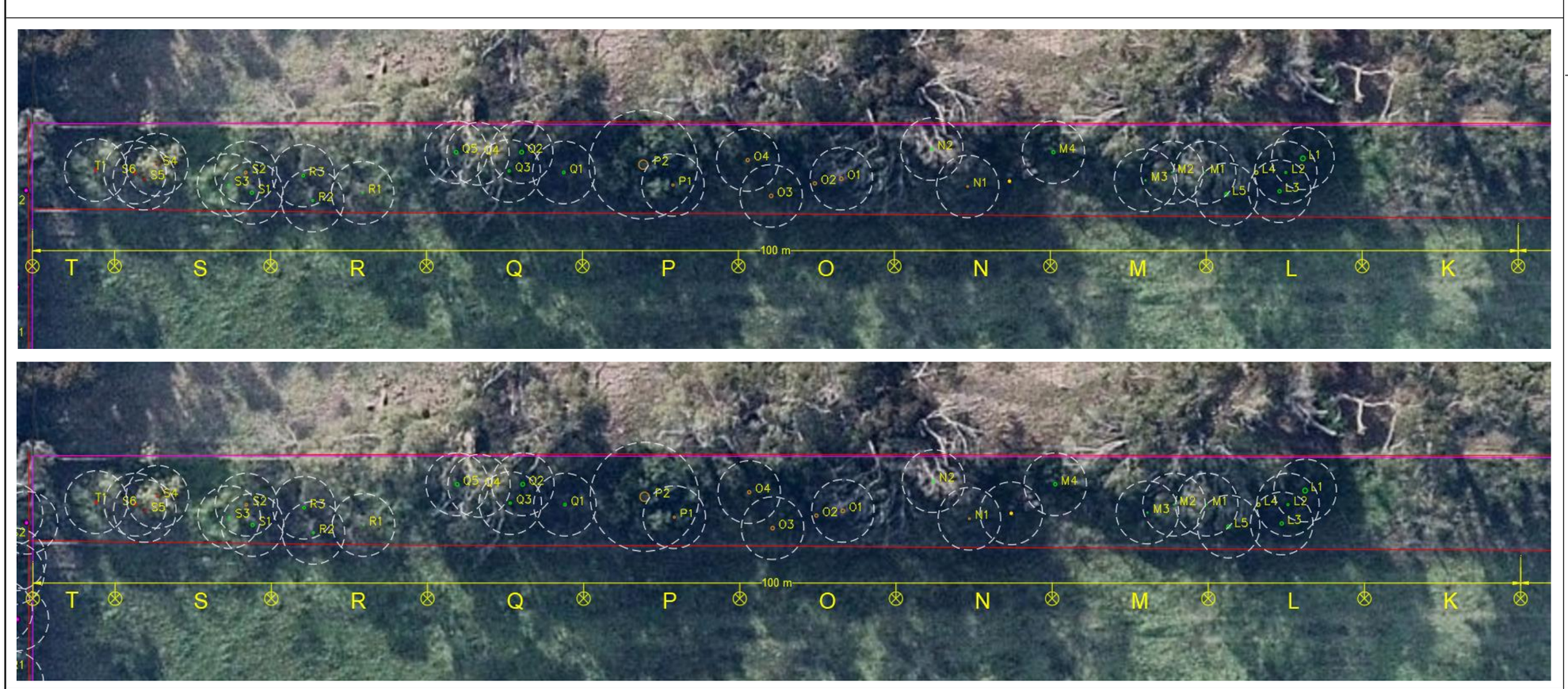
Justice Road (Internal): Sections K, L, M, N, O, P, Q, R, S, T

Key Points

- This area exhibits scattered Indigenous and Victorian native species with an area of exotic *Populus nigra*.
- No weed species were assessed in this area.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer high amenity value and forms part of the Settlement Road verge.

Assessed species appearing in Pre-1750 EVC 55: Plains Grassy Woodland

- *Acacia mearnsii*
- Some species may appear in the adjacent EVC 53: Swamp Scrub



GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



Table 44: Assessed Trees, Justice Road (Internal) (Sections K, L, M, N, O, P, Q, R, S, T)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
L	1	*Melaleuca armillaris*	VPO2	Vic Native	3	3	Good	Fair	0.15	1.50	0.15	2.00
L	2	*Melaleuca armillaris*	VPO2	Vic Native	3	3	Good	Good	0.08	1.50	0.06	2.00
L	3	*Melaleuca armillaris*	VPO2	Vic Native	3	3	Good	Fair	0.10	1.50	0.10	2.00
L	4	*Melaleuca armillaris*	VPO2	Vic Native	3	3	Good	Fair	0.11	1.50	0.11	2.00
L	5	*Melaleuca armillaris*	VPO2	Vic Native	3	3	Good	Good	0.12	1.50	0.11	2.00
M	1	*Bursaria spinosa*	VPO2	Indigenous	2	1	Good	Good	0.03	1.50	0.03	2.00
M	2	*Bursaria spinosa*	VPO2	Indigenous	2	1	Good	Good	0.03	1.50	0.03	2.00
M	3	*Bursaria spinosa*	VPO2	Indigenous	2.5	1	Good	Good	0.04	1.50	0.03	2.00
M	4	*Ozothamnus ferruguneus*	VPO2	Indigenous	3	3	Good	Good	0.10	1.50	0.10	2.00
N	1	*Melaleuca lanceolata?*	VPO2	Indigenous	2	2	Good	Good	0.06	1.50	0.05	2.00
N	2	*Melaleuca lanceolata?*	VPO2	Indigenous	3	2	Good	Good	0.07	1.50	0.07	2.00
O	1	*Ozothamnus ferruguneus*	VPO2	Indigenous	3	3	Good	Good	0.12	1.50	0.11	2.00
O	2	*Ozothamnus ferruguneus*	VPO2	Indigenous	3	3	Good	Good	0.10	1.50	0.10	2.00
O	3	*Ozothamnus ferruguneus*	VPO2	Indigenous	3	3	Fair	Fair	0.12	1.50	0.11	2.00
O	4	*Ozothamnus ferruguneus*	VPO2	Indigenous	3	4	Fair	Fair	0.11	1.50	0.10	2.00
P	1	*Melaleuca lanceolata?*	VPO2	Indigenous	3	2	Good	Fair	0.07	1.50	0.06	2.00
P	2	*Acacia mearnsii*	VPO2	Indigenous	8	8	Good	Poor	0.29	1.97	0.29	3.48
Q	1	*Melaleuca lanceolata?*	VPO2	Indigenous	3	2	Good	Good	0.08	1.50	0.08	2.00
Q	2	*Melaleuca lanceolata?*	VPO2	Indigenous	4	2	Good	Good	0.12	1.50	0.12	2.00
Q	3	*Melaleuca lanceolata?*	VPO2	Indigenous	4	3	Good	Poor	0.15	1.50	0.07	2.00
Q	4	*Melaleuca spp.*	VPO2	Aus Native	3	3	Fair	Fair	0.03	1.50	0.03	2.00
Q	5	*Acacia mearnsii*	VPO2	Indigenous	5	4	Good	Good	0.12	1.50	0.11	2.00
R	1	*Allocasuarina verticillata*	VPO2	Indigenous	2.5	1	Good	Good	0.03	1.50	0.03	2.00
R	2	*Melaleuca lanceolata?*	VPO2	Indigenous	2.5	2	Good	Good	0.06	1.50	0.06	2.00
R	3	*Melaleuca lanceolata?*	VPO2	Indigenous	3	2	Good	Good	0.08	1.50	0.08	2.00
S	1	*Allocasuarina verticillata*	VPO2	Indigenous	2	2	Good	Good	0.10	1.50	0.10	2.00
S	2	*Melaleuca spp.*	VPO2	Indigenous	3	2	Good	Fair	0.08	1.50	0.08	2.00
S	3	*Kunzea ericoides*	VPO2	Indigenous	3	1	Good	Good	0.05	1.50	0.05	2.00
S	4	*Populus nigra*	VPO2	Exotic	4	1	Good	Good	0.03	1.50	0.03	2.00
S	5	*Populus nigra*	VPO2	Exotic	4	1	Good	Good	0.04	1.50	0.04	2.00
S	6	*Populus nigra*	VPO2	Exotic	6	2	Good	Good	0.06	1.50	0.06	2.00
T	1	*Populus nigra*	VPO2	Exotic	7	3	Good	Good	0.07	1.50	0.07	2.00
T	2	*Populus nigra*	VPO2	Exotic	7	3	Good	Good	0.07	1.50	0.07	2.00

Table 45: Grouped Species, Justice Road (Internal) (Sections K, L, M, N, O, P, Q, R, S, T)

Section	Group	Tree Group Species	Significance	Origin	Number of trees in Group	Average Height	Average Canopy Width	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
N	1	*Ozothamnus ferruguneus*	VPO2	Indigenous	4	4	2	<0.15	1.5	<0.15	2

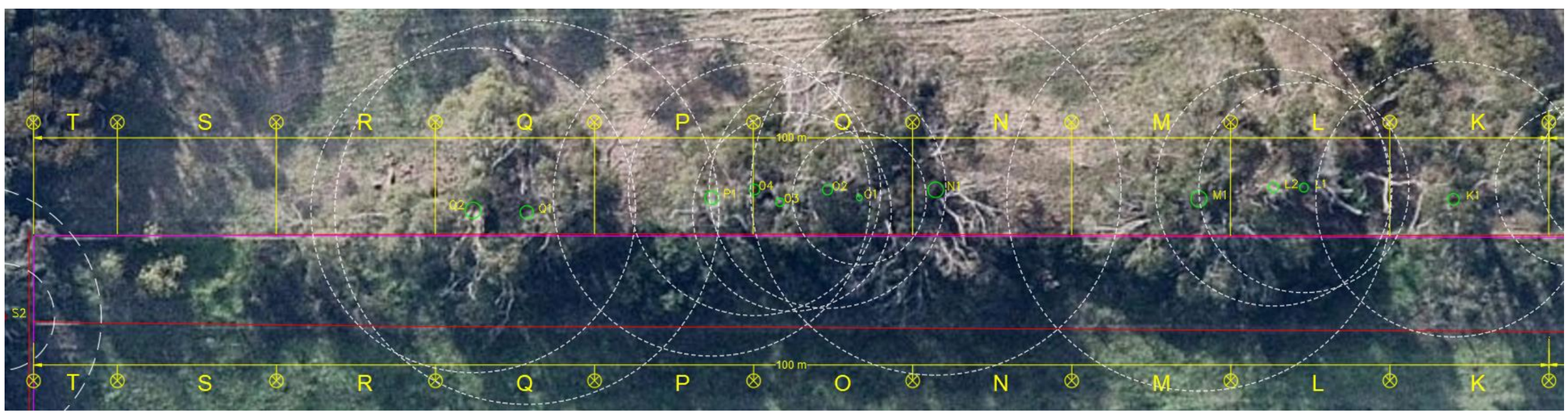
END OF JUSTICE ROAD (INTERNAL) SECTIONS

Justice Road (Internal 2): Sections A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T

Key Points

- This area exhibits a row semi mature and over mature Victorian native and Australian native species.
- No weed species were assessed in this area.
- No indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area has the potential to offer significant amenity value to the area; however, majority of the trees were assessed to be in poor condition.
- A single weed species in the form *Pittosporum undulatum* was assessed in this area





GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



Table 46: Assessed Trees, Justice Road (Internal 2) (Sections A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
A	1	*Melaleuca armillaris*	VPO2	Vic Native	5	4	Good	Poor	0.25	1.85	0.20	2.40
A	2	*Eucalyptus viminalis*	VPO2	Vic Native	6	8	Fair	Poor	0.70	2.85	0.55	6.60
A	3	*Eucalyptus viminalis*	VPO2	Vic Native	13	12	Good	Poor	1.10	3.44	0.88	10.56
D	1	*Eucalyptus viminalis*	VPO2	Vic Native	6	5	Poor	Fair	0.30	2.00	0.26	3.12
D	2	*Eucalyptus viminalis*	VPO2	Vic Native	12	20	Fair	Fair	1.12	3.46	1.12	13.38
E	1	*Melaleuca armillaris*	VPO2	Vic Native	8	10	Fair	Poor	0.42	2.30	0.39	4.68
E	2	*Angophora costata*	VPO2	Aus Native	11	9	Good	Fair	0.45	2.37	0.42	5.04
E	3	*Melaleuca armillaris*	VPO2	Vic Native	8	6	Fair	Fair	0.50	2.47	0.46	5.52
F	1	*Allocasuarina sp.*	VPO2	Vic Native	6	5	Poor	Poor	0.22	1.75	0.22	2.64
F	2	*Melaleuca armillaris*	VPO2	Vic Native	6	6	Fair	Poor	0.48	2.43	0.31	3.72
F	3	*Melaleuca linariIfolia*	VPO2	Vic Native	4	2	Fair	Fair	0.15	1.49	0.12	1.44
G	1	*Melaleuca armillaris*	VPO2	Vic Native	6	6	Fair	Poor	0.30	2.00	0.27	3.24
G	2	*Angophora costata*	VPO2	Aus Native	10	7	Fair	Good	0.20	1.68	0.25	3.00
G	3	*Angophora costata*	VPO2	Aus Native	14	14	Fair	Poor	0.66	2.78	0.66	7.92
G	4	*Corymbia ficifolia*	VPO2	Aus Native	6	5	Fair	Good	0.40	2.25	0.35	4.20
H	1	*Angophora costata*	VPO2	Aus Native	11	5	Poor	Fair	0.27	1.91	0.24	2.88
H	2	*Melaleuca lanceolata*	VPO2	Vic Native	6	6	Fair	Fair	0.42	2.30	0.37	4.44
H	3	*Pittosporum undulatum*	Weed	Vic Native	4	1	Poor	Fair	0.13	1.40	0.11	1.32
J	1	*Angophora costata*	VPO2	Aus Native	14	10	Fair	Good	0.50	2.47	0.43	5.16
J	2	*Angophora costata*	VPO2	Aus Native	15	10	Fair	Fair	0.45	2.37	0.42	5.04
K	1	*Eucalyptus viminalis*	VPO2	Vic Native	14	15	Poor	Fair	0.78	2.98	0.72	8.64
L	1	*Eucalyptus viminalis*	VPO2	Vic Native	5	8	Fair	Poor	0.65	2.76	0.55	6.60
L	2	*Eucalyptus viminalis*	VPO2	Vic Native	14	8	Poor	Poor	0.70	2.85	0.62	7.44
M	1	*Eucalyptus viminalis*	VPO2	Vic Native	15	15	Poor	Poor	1.10	3.44	1.01	12.07
N	1	*Eucalyptus viminalis*	VPO2	Vic Native	16	17	Poor	Poor	1.05	3.38	0.97	11.64
O	1	*Eucalyptus viminalis*	VPO2	Vic Native	10	8	Poor	Poor	0.40	2.25	0.35	4.20
O	2	*Eucalyptus viminalis*	VPO2	Vic Native	13	8	Poor	Poor	0.70	2.85	0.62	7.44
O	3	*Eucalyptus viminalis*	VPO2	Vic Native	11	13	Poor	Poor	0.55	2.57	0.52	6.24
O	4	*Eucalyptus viminalis*	VPO2	Vic Native	12	6	Poor	Poor	0.75	2.93	0.66	7.92
P	1	*Eucalyptus viminalis*	VPO2	Vic Native	14	10	Poor	Poor	0.90	3.17	0.85	10.20
Q	1	*Eucalyptus viminalis*	VPO2	Vic Native	14	8	Fair	Poor	1.01	3.32	1.01	12.07
Q	2	*Eucalyptus viminalis*	VPO2	Vic Native	15	12	Poor	Poor	0.83	3.06	0.83	9.96

END OF JUSTICE ROAD (INTERNAL 2) SECTIONS

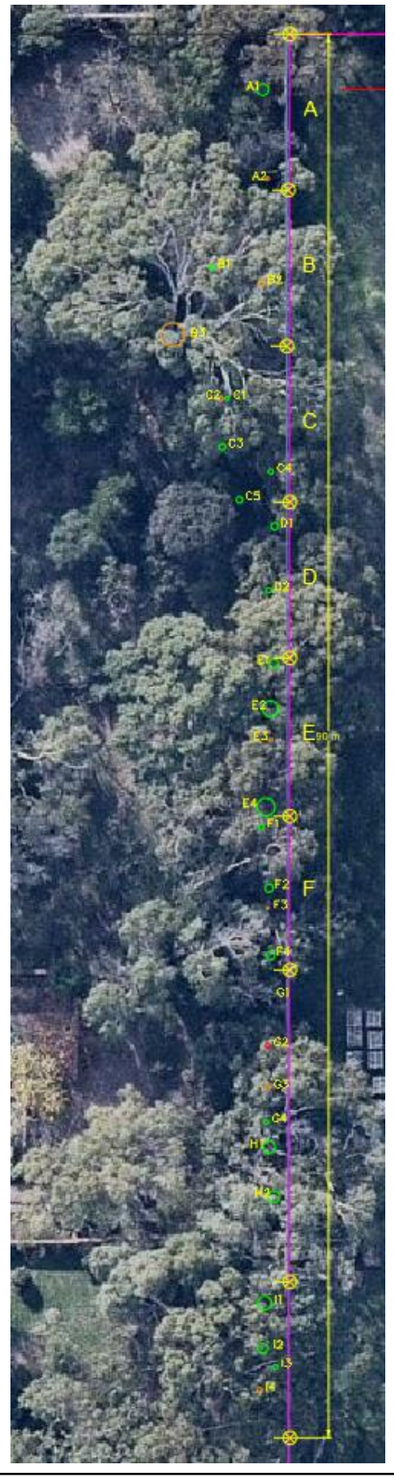
Church Street (Internal): Sections A, B, C, D, E, F, G, H, I

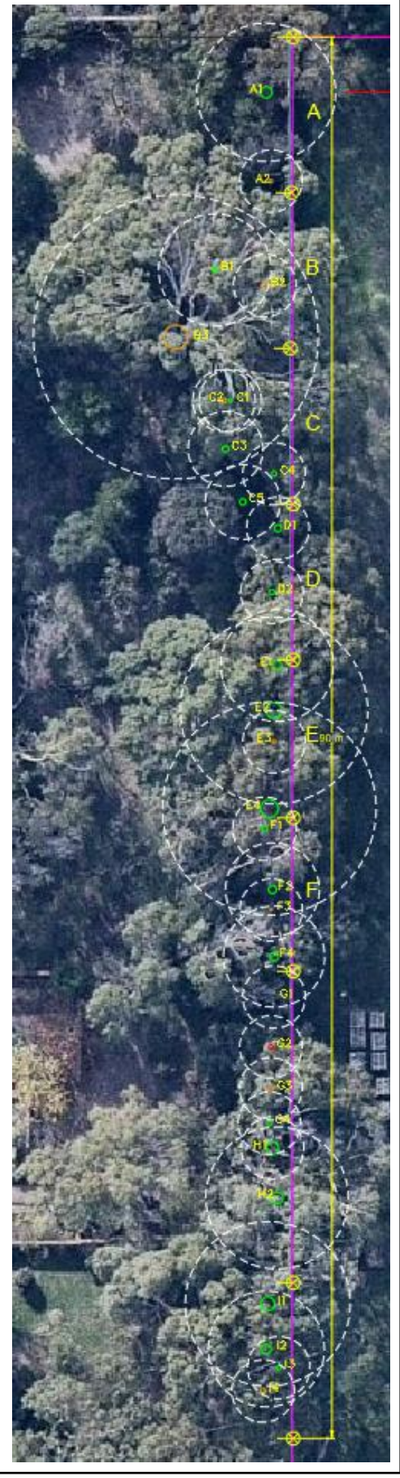
Key Points

- Located within the adjacent private property this is section of predominantly mature Eucalyptus spp. of Indigenous and Victorian Native with semi mature *Allocasuarina verticillate* scattered throughout
- No weed species were assessed in this area.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is located within private property; therefore, vegetation is considered to be of high retention value and must be protected.

Assessed species appearing in Pre-1750 EVC 55: Plains Grassy Woodland

- *Eucalyptus camaldulensis*
- Some species may appear in the adjacent EVC 53: Swamp Scrub





GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



Table 47: Assessed Trees, Church Street (Internal) (Sections A, B, C, D, E, F, G, H, I)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
A	1	*Allocasuarina verticillata*	VPO2	Indigenous	9	8	Poor	Poor	0.42	2.30	0.37	4.44
A	2	*Corymbia ficifolia*	VPO2	Aus Native	3	2	Good	Poor	0.11	1.50	0.10	2.00
B	1	*Allocasuarina verticillata*	VPO2	Indigenous	9	8	Poor	Fair	0.30	2.00	0.30	3.60
B	2	*Corymbia ficifolia*	VPO2	Aus Native	6	2	Fair	Fair	0.14	1.50	0.12	2.00
B	3	*Corymbia citriodora*	VPO2	Aus Native	20	20	Fair	Fair	0.87	3.12	0.76	9.12
C	1	*Allocasuarina verticillata*	VPO2	Indigenous	7	5	Fair	Fair	0.13	1.50	0.11	2.00
C	2	*Corymbia ficifolia*	VPO2	Aus Native	5	4	Good	Fair	0.14	1.50	0.13	2.00
C	3	*Bursaria spinosa*	VPO2	Indigenous	8	4	Fair	Fair	0.20	1.68	0.20	2.40
C	4	*Eucalyptus ovata*	VPO2	Indigenous	6	5	Fair	Fair	0.15	1.50	0.15	2.00
C	5	*Bursaria spinosa*	VPO2	Indigenous	6	7	Fair	Fair	0.20	1.68	0.20	2.40
D	1	*Eucalyptus ovata*	VPO2	Indigenous	8	6	Fair	Poor	0.26	1.88	0.22	2.64
D	2	*Allocasuarina verticillata*	VPO2	Indigenous	8	5	Fair	Fair	0.19	1.65	0.16	2.00
E	1	*Eucalyptus viminalis*	VPO2	Vic Native	9	7	Good	Fair	0.40	2.25	0.30	3.60
E	2	*Eucalyptus viminalis*	VPO2	Vic Native	13	9	Good	Fair	0.60	2.67	0.50	6.00
E	3	*Allocasuarina torulosa*	VPO2	Aus Native	4	4	Good	Fair	0.13	1.40	0.10	2.00
E	4	*Eucalyptus viminalis*	VPO2	Vic Native	15	11	Good	Fair	0.65	2.76	0.57	6.84
F	1	*Allocasuarina verticillata*	VPO2	Indigenous	7	5	Poor	Fair	0.18	1.61	0.17	2.04
F	2	*Allocasuarina verticillata*	VPO2	Indigenous	7	7	Poor	Poor	0.29	1.97	0.25	3.00
F	3	*Eucalyptus ovata*	VPO2	Indigenous	3	3	Fair	Fair	0.10	1.50	0.05	2.00
F	4	*Eucalyptus viminalis*	VPO2	Vic Native	10	7	Poor	Poor	0.30	2.00	0.27	3.24
G	1	*Callistemon citrinus*	VPO2	Vic Native	3	2	Fair	Fair	0.04	1.50	0.03	2.00
G	2	*Ceiba speciosa*	VPO2	Exotic	4	3	Fair	Good	0.17	1.57	0.13	2.00
G	3	*Allocasuarina torulosa*	VPO2	Aus Native	9	4	Fair	Fair	0.18	1.61	0.16	2.00
G	4	*Allocasuarina verticillata*	VPO2	Indigenous	7	4	Fair	Good	0.18	1.61	0.14	2.00
H	1	*Eucalyptus viminalis*	VPO2	Vic Native	14	8	Fair	Fair	0.45	2.37	0.39	4.68
H	2	*Eucalyptus ovata*	VPO2	Indigenous	10	10	Poor	Poor	0.45	2.37	0.38	4.56
I	1	*Eucalyptus camaldulensis*	VPO2	Vic Native	12	8	Fair	Good	0.52	2.51	0.44	5.28
I	2	*Eucalyptus botryoides*	VPO2	Indigenous	14	8	Good	Fair	0.40	2.25	0.31	3.72
I	3	*Banksia* sp.	VPO2	Vic Native	5	4	Good	Fair	0.15	1.50	0.13	2.00
I	4	*Corymbia ficifolia*	VPO2	Aus Native	4	4	Good	Good	0.20	1.68	0.16	2.00

END OF CHURCH STREET (INTERNAL) SECTIONS

Settlement Road (Internal)

Key Points

- This area is dominated by large canopy *Eucalyptus* spp., *Casuarina* spp. and mixed Victorian native species.
- No weed species were assessed in this area.
- Some indigenous or native species not meeting assessment criteria may also be found throughout this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area may be considered significant clump of vegetation with high amenity value that may contribute to the future development of the site.

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- None
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodland



GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone

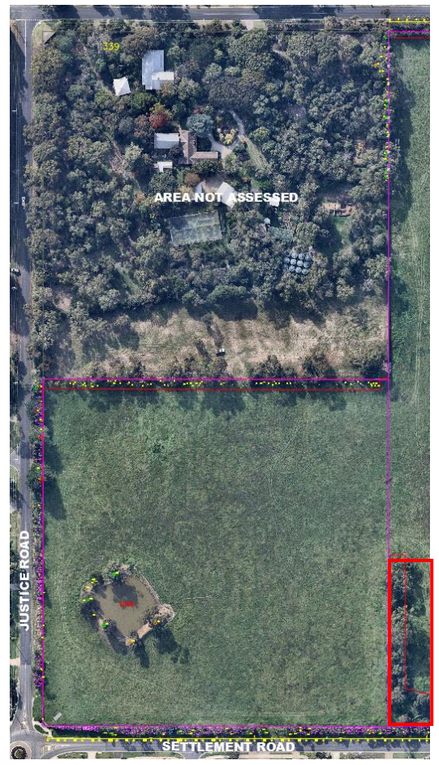


Table 48: Assessed Trees, Settlement Road (Internal)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
SRI	1	*Casuarina cunninghamiana*	VPO2	Indigenous	8	7	Fair	Fair	0.34	2.10	0.30	3.60
SRI	2	*Eucalyptus ovata*	VPO2	Indigenous	15	12	Fair	Fair	0.50	2.47	0.45	5.40
SRI	3	*Bursaria spinosa*	VPO2	Indigenous	7	6	Poor	Fair	0.38	2.20	0.29	3.49
SRI	4	*Acacia melanoxylon*	VPO2	Indigenous	4	2	Poor	Poor	0.08	1.50	0.05	2.00
SRI	5	*Casuarina cunninghamiana*	VPO2	Indigenous	6	4	Good	Good	0.15	1.50	0.13	2.00
SRI	6	*Eucalyptus ovata*	VPO2	Indigenous	13	14	Poor	Poor	0.76	2.95	0.70	8.40
SRI	7	*Casuarina cunninghamiana*	VPO2	Indigenous	9	4	Fair	Good	0.28	1.94	0.22	2.64
SRI	8	*Corymbia maculata*	VPO2	Vic Native	9	7	Good	Fair	0.45	2.37	0.41	4.94
SRI	9	*Angophora costata*	VPO2	Aus Native	7	6	Fair	Fair	0.22	1.75	0.19	2.28
SRI	10	*Melaleuca armillaris*	VPO2	Vic Native	4	3	Fair	Poor	0.30	2.00	0.18	2.15
SRI	11	*Acacia melanoxylon*	VPO2	Indigenous	6	5	Poor	Fair	0.24	1.82	0.20	2.40
SRI	12	*Casuarina cunninghamiana*	VPO2	Indigenous	8	6	Poor	Fair	0.30	2.00	0.27	3.24
SRI	13	*Corymbia maculata*	VPO2	Vic Native	40	7	Good	Fair	0.40	2.25	0.31	3.77
SRI	14	*Allocasuarina verticillata*	VPO2	Indigenous	9	6	Fair	Fair	0.25	1.85	0.25	3.00
SRI	15	*Corymbia maculata*	VPO2	Vic Native	6	4	Fair	Fair	0.15	1.50	0.15	2.00
SRI	16	*Casuarina cunninghamiana*	VPO2	Indigenous	2	1	Fair	Poor	0.12	1.50	0.12	2.00
SRI	17	*Eucalyptus longfolia*	VPO2	Vic Native	15	15	Good	Good	0.80	3.01	0.70	8.40
SRI	18	*Melaleuca ericifolia*	VPO2	Indigenous	3	1	Fair	Fair	0.07	1.50	0.06	2.00
SRI	19	*Eucalyptus ovata*	VPO2	Indigenous	17	17	Poor	Poor	0.90	3.17	0.84	10.08
SRI	20	*Melaleuca ericifolia*	VPO2	Indigenous	4	2	Poor	Poor	0.12	1.50	0.12	2.00
SRI	21	*Casuarina cunninghamiana*	VPO2	Indigenous	5	4	Poor	Fair	0.15	1.50	0.13	2.00
SRI	22	*Allocasuarina verticillata*	VPO2	Indigenous	8	8	Poor	Poor	0.42	2.30	0.42	5.09
SRI	23	*Corymbia maculata*	VPO2	Vic Native	7	6	Fair	Fair	0.30	2.00	0.30	3.65
SRI	24	*Eucalyptus ovata*	VPO2	Indigenous	9	8	Fair	Fair	0.50	2.47	0.43	5.16
SRI	25	*Eucalyptus camaldulensis*	VPO2	Vic Native	7	6	Fair	Good	0.40	2.25	0.23	2.76
SRI	26	*Eucalyptus camaldulensis*	VPO2	Vic Native	7	4	Fair	Good	0.20	1.68	0.18	2.16
SRI	27	*Melaleuca armillaris*	VPO2	Vic Native	4	5	Fair	Poor	0.20	1.68	0.17	2.06
SRI	28	*Eucalyptus camaldulensis*	VPO2	Vic Native	6	5	Fair	Fair	0.30	2.00	0.22	2.64
SRI	29	*Eucalyptus camaldulensis*	VPO2	Vic Native	9	7	Fair	Fair	0.35	2.13	0.31	3.72
SRI	30	*Acacia melanoxylon*	VPO2	Indigenous	8	6	Fair	Poor	0.20	1.68	0.17	2.04
SRI	31	*Melaleuca armillaris*	VPO2	Vic Native	5	5	Fair	Poor	0.25	1.85	0.25	3.00
SRI	32	*Casuarina cunninghamiana*	VPO2	Indigenous	9	5	Fair	Good	0.30	2.00	0.21	2.52
SRI	33	*Melaleuca armillaris*	VPO2	Vic Native	4	3	Poor	Poor	0.11	1.50	0.11	2.00
SRI	34	*Melaleuca armillaris*	VPO2	Vic Native	5	3	Poor	Fair	0.10	1.50	0.07	2.00

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
SRI	35	*Casuarina cunninghamiana*	VPO2	Indigenous	4	1	Fair	Fair	0.15	1.50	0.09	2.00
SRI	36	*Casuarina cunninghamiana*	VPO2	Indigenous	6	3	Fair	Good	0.12	1.50	0.10	2.00
SRI	36	*Casuarina cunninghamiana*	VPO2	Indigenous	10	5	Fair	Fair	0.40	2.25	0.37	4.44
SRI	37	*Casuarina cunninghamiana*	VPO2	Indigenous	6	1	Fair	Fair	0.07	1.50	0.05	0.60
SRI	38	*Casuarina cunninghamiana*	VPO2	Indigenous	8	5	Fair	Good	0.26	1.88	0.21	2.52
SRI	39	*Casuarina cunninghamiana*	VPO2	Indigenous	6	3	Fair	Good	0.09	1.50	0.05	2.00
SRI	40	*Corymbia maculata*	VPO2	Vic Native	9	5	Poor	Fair	0.20	1.68	0.18	2.16
SRI	41	*Agonis flexuosa*	VPO2	Aus Native	6	5	Fair	Fair	0.18	1.61	0.18	2.16
SRI	42	*Melaleuca armillaris*	VPO2	Vic Native	6	6	Fair	Poor	0.28	1.94	0.25	3.00
SRI	43	*Eucalyptus polyanthemos*	VPO2	Vic Native	13	10	Fair	Poor	0.60	2.67	0.51	6.12
SRI	44	*Casuarina cunninghamiana*	VPO2	Indigenous	9	6	Fair	Fair	0.30	2.00	0.26	3.12
SRI	46	*Agonis flexuosa*	VPO2	Aus Native	3	4	Fair	Fair	0.06	1.50	0.04	2.00
SRI	47	*Casuarina cunninghamiana*	VPO2	Indigenous	6	3	Fair	Good	0.15	1.50	0.13	2.00
SRI	48	*Casuarina cunninghamiana*	VPO2	Indigenous	6	3	Fair	Good	0.14	1.50	0.12	2.00
SRI	49	*Bursaria spinosa*	VPO2	Indigenous	4	3	Fair	Poor	0.16	1.53	0.11	2.00
SRI	50	*Bursaria spinosa*	VPO2	Indigenous	7	5	Fair	Fair	0.20	1.68	0.16	2.00
SRI	51	*Eucalyptus polyanthemos*	VPO2	Vic Native	12	7	Fair	Fair	0.40	2.25	0.34	4.08
SRI	52	*Melaleuca armillaris*	VPO2	Vic Native	4	5	Fair	Poor	0.28	1.94	0.28	3.36
SRI	53	*Melaleuca armillaris*	VPO2	Vic Native	5	6	Fair	Poor	0.35	2.13	0.31	3.74
SRI	54	*Acacia melanoxylon*	VPO2	Indigenous	6	5	Poor	Poor	0.30	2.00	0.31	3.66
SRI	55	*Melaleuca ericifolia*	VPO2	Indigenous	4	2	Fair	Poor	0.25	1.85	0.10	2.00
SRI	56	*Bursaria spinosa*	VPO2	Indigenous	8	7	Poor	Poor	0.30	2.00	0.29	3.52
SRI	57	*Corymbia maculata*	VPO2	Vic Native	11	7	Good	Fair	0.45	2.37	0.43	5.16
SRI	58	*Agonis flexuosa*	VPO2	Aus Native	7	5	Poor	Poor	0.40	2.25	0.32	3.84
SRI	59	*Corymbia maculata*	VPO2	Vic Native	9	8	Fair	Good	0.32	2.05	0.29	3.48
SRI	60	*Bursaria spinosa*	VPO2	Indigenous	7	5	Poor	Poor	0.28	1.94	0.22	2.64
SRI	61	*Corymbia maculata*	VPO2	Vic Native	5	5	Good	Poor	0.15	1.50	0.13	2.00
SRI	62	*Corymbia maculata*	VPO2	Vic Native	14	9	Poor	Good	0.45	2.37	0.37	4.44
SRI	63	*Melaleuca armillaris*	VPO2	Vic Native	5	4	Poor	Fair	0.22	1.75	0.22	2.64
SRI	64	*Eucalyptus sp.*	VPO2	Aus Native	7	6	Fair	Fair	0.30	2.00	0.23	2.76
SRI	65	*Corymbia maculata*	VPO2	Vic Native	9	3	Good	Fair	0.25	1.85	0.20	2.41
SRI	66	*Corymbia maculata*	VPO2	Vic Native	14	7	Fair	Fair	0.40	2.25	0.33	3.96
SRI	67	*Corymbia maculata*	VPO2	Vic Native	9	7	Good	Fair	0.20	1.68	0.18	2.16
SRI	68	*Eucalyptus sp.*	VPO2	Aus Native	5	4	Fair	Fair	0.22	1.75	0.18	2.16

END OF SETTLEMENT ROAD (INTERNAL) SECTION

Dam (Internal)

Key Points

- Mixed species of indigenous, Victorian and Australian native origin in varying levels of health and condition.
- No weed species were assessed in this area.
- No additional vegetation can be found in this area.
- All vegetation assessed in this area is considered significant pursuant to schedule 2 of the Vegetation Protection Overlay.
- This area is considered to offer moderate amenity value with large canopy trees scattered throughout.

Assessed species appearing in Pre-1750 EVC 53: Swamp Scrub

- None
- Some species may appear in the adjacent EVC 55: Plains Grassy Woodlands



GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone



Table 49: Assessed Trees, Dam (Internal)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
DM	1	*Eucalyptus cladocalyx*	VPO2	Aus Native	15	17	Fair	Poor	0.80	3.01	0.78	9.36
DM	2	*Eucalyptus cladocalyx*	VPO2	Aus Native	9	9	Poor	Poor	0.62	2.71	0.58	6.96
DM	3	*Allocasuarina verticillata*	VPO2	Indigenous	9	10	Fair	Poor	0.80	3.01	0.73	8.76
DM	4	*Bursaria spinosa*	VPO2	Indigenous	7	4	Fair	Fair	0.21	1.72	0.21	2.52
DM	5	*Bursaria spinosa*	VPO2	Indigenous	7	6	Poor	Fair	0.25	1.85	0.25	3.00
DM	6	*Allocasuarina verticillata*	VPO2	Indigenous	9	9	Poor	Poor	0.60	2.67	0.55	6.60
DM	7	*Bursaria spinosa*	VPO2	Indigenous	3	1	Fair	Fair	0.11	1.50	0.11	2.00
DM	8	*Bursaria spinosa*	VPO2	Indigenous	7	5	Fair	Fair	0.12	1.50	0.12	2.00
DM	9	*Bursaria spinosa*	VPO2	Indigenous	8	5	Fair	Fair	0.24	1.82	0.17	2.04
DM	10	*Acacia longifolia*	VPO2	Vic Native	5	7	Good	Poor	0.32	2.05	0.24	2.88
DM	11	*Eucalyptus ovata*	VPO2	Indigenous	12	14	Fair	Fair	0.80	3.01	0.76	9.12

END OF DAM (INTERNAL) SECTION

Centre (Internal)

Key Points

- Exotic species located in the centre of the site consisting of two large dead *Pinus radiata*, *Prunus* sp. and *Pyrus* sp.
- No weeds were assessed in this area.
- No additional vegetation assessed
- This vegetation is not considered significant pursuant to schedule 2 of the vegetation protection overlay as it either dead or considered an ornamental fruit tree under VPO2.
- These trees are considered to be of low retention value.

Assessed species appearing in Pre-1750 EVC 55: Swamp Scrub

- None
- Some species may appear in the adjacent EVC 53: Plains Grassy Woodland

GROUPED VEGETATION

VEGETATAION PROTECTION OVERLAY (VPO2)

Species assessed to be >2 meters in height or >10 cm at 30 cm above ground

- *Acacia mearnsii* (Indigenous)
- *Bursaria spinosa* (Indigenous)
- *Coprosma repens* (Exotic Weed)
- *Crataegus monogyna* (Exotic Weed)
- *Eucalyptus* spp. (Indigenous)
- *Melaleuca ericifolia* (Indigenous)
- *Myoporum insulare* (Indigenous)
- *Ozothamnus ferrugineus* (Indigenous)
- *Pinus radiata* (Exotic)
- *Pittosporum undulatum* (Native Weed)

ORIGIN OF ASSESSED VEGETATION

- Victorian Native Species
- Australian Native Species
- Exotic Species

Tree protection zone

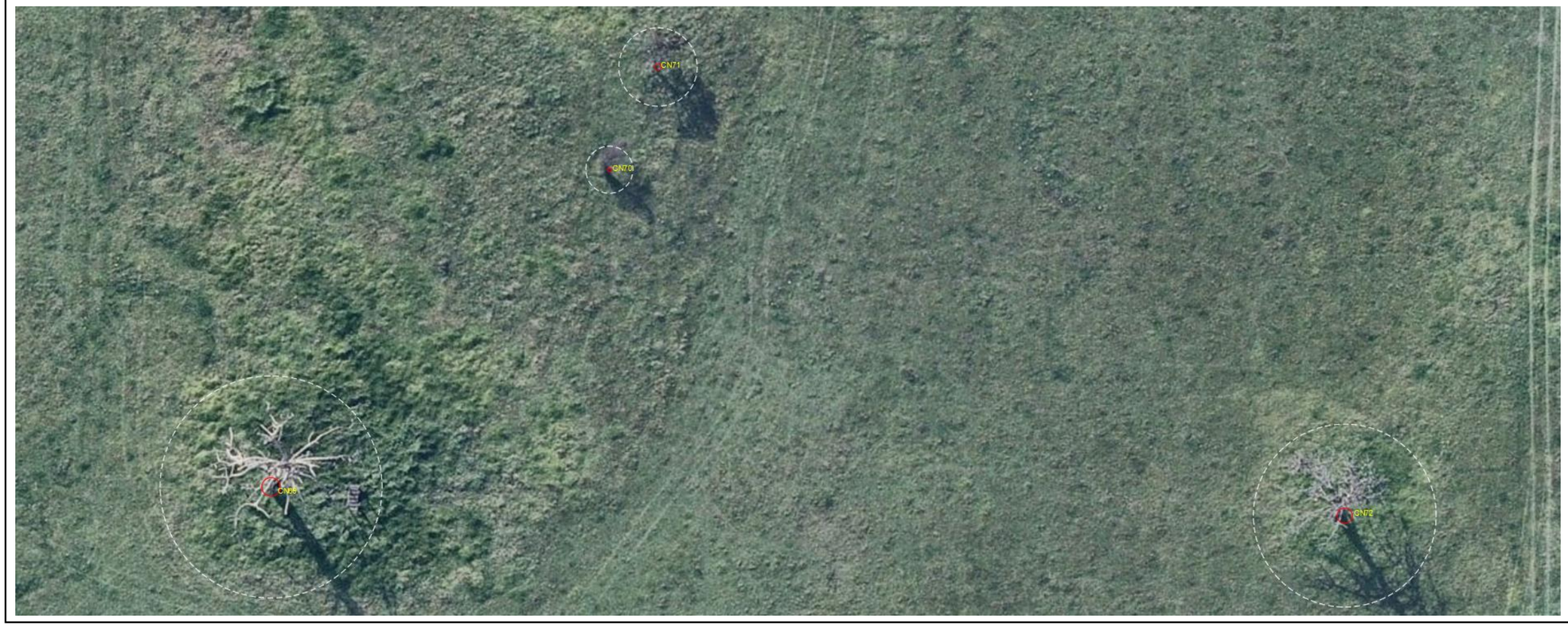




Table 50: Assessed Trees, Centre (Internal)

Section	Tree	Species	Significance	Origin	Height	Canopy Width	Health	Structure	DAB (m)	SRZ (r)(m)	DBH (m)	TPZ (r)(m)
CN	69	*Pinus radiata*	Dead	Exotic	18	14	Dead	Dead	0.90	3.17	0.85	10.20
CN	70	*Prunus* sp.	None	Exotic	3	2	Poor	Fair	0.30	2.00	0.18	2.16
CN	71	*Pyrus* sp.	None	Exotic	5	5	Poor	Poor	0.30	2.00	0.30	3.60
CN	72	*Pinus radiata*	Dead	Exotic	15	11	Dead	Dead	0.75	2.93	0.70	8.40

END OF CENTRE (INTERNAL) SECTION

ecology & heritage partners

Final Report

Biodiversity Assessment for proposed subdivision of 299-325 Church Street, Cowes, Victoria

Prepared for

Lifestyle Communities

July 2022



Ecology and Heritage Partners Pty Ltd

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SUMMARY OF CLAUSE 52.17 APPLICATION REQUIREMENTS

Table S1. Application requirements for a permit to remove native vegetation (Victoria Planning Provisions Clause 52.17; DELWP 2017)

No.	Application Requirement	Response
Application requirements under the Intermediate Assessment Pathway		
1	Information about the native vegetation to be removed, including: The assessment pathway and reason for the assessment pathway; A description of the native vegetation to be removed; Maps showing the native vegetation and property in context; and The offset requirement that will apply if the native vegetation is approved to be removed.	Refer to Section 3.1 and Appendix 3 (NVR Report)
2	Topographic and land information relating to the native vegetation to be removed, showing ridges, crests and hilltops, wetlands and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion, as appropriate.	Refer to Section 1.2 and Figure 1
3	Recent dated photographs of the native vegetation to be removed.	Refer to Section 3.1
4	Details of any other native vegetation that was permitted to be removed on the same property with the same ownership as the native vegetation to be removed, where the removal occurred in the five year period before the application to remove native vegetation is lodged.	No removal of native vegetation has been removed by the proponent within the property within the past five years
5	An avoid and minimise statement. The statement describes any efforts to avoid the removal of, and minimise the impacts on the biodiversity and other values of native vegetation, and how these efforts focussed on areas of native vegetation that have the most value.	Refer to Section 5.1
6	A copy of any Property Vegetation Plan contained within an agreement made pursuant to section 69 of the *Conservation, Forests and Lands Act 1987* that applies to the native vegetation to be removed.	Not applicable
7	Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation is necessary. This statement must have regard to other available bushfire risk mitigation measures. This statement is not required when the creation of defendable space is in conjunction with an application under the Bushfire Management Overlay.	Not applicable as the vegetation clearance is not for defendable space
8	If the application is under Clause 52.16, a statement that explains how the proposal responds to the Native Vegetation Precinct Plan considerations at decision guideline 8.	Not applicable as the application responds to Clause 52.17
9	An offset statement providing evidence that an offset that meets the offset requirements for the native vegetation to be removed has been identified and can be secured in accordance with the Guidelines.	Refer to Section 5.3

1 INTRODUCTION

1.1 Background

Ecology and Heritage Partners Pty Ltd was commissioned by Lifestyle Communities to undertake a Biodiversity Assessment at 299-325 Church Street, Cowes, Victoria.

We understand that Lifestyle Communities is proposing to submit a planning application in order to facilitate future development work. The proposed works include the development of an area approximately 12 hectares in size, which is proposed to be subdivided into approximately 280 lots for future residential development. Areas also within the development are proposed to be set aside for drainage and open space, with the open space located in an area where an existing stand of mixed planted trees and shrubs occur.

The purpose of this assessment was to identify the extent and type of native vegetation present within the study area and to determine the likely presence of significant flora and fauna species and/or ecological communities. This report presents the results of the assessment and discusses the potential ecological and legislative implications associated with the proposed action.

1.2 Study Area

The study area is located at 299-325 Church Street, Cowes and is approximately 143 kilometres south-east of Melbourne's CBD (Figure 1). The study area covers approximately 12 hectares and is bound by the property boundaries of Church street to the north, Settlement road to the south, Bellavista road reserve to the east and Justice road to the west, and generally excludes the road reserves of these adjacent roads. However, a rapid assessment and mapping of some the immediately adjacent vegetation was undertaken.

The study area is currently used for grazing of livestock, and has predominately been cleared of native vegetation, containing a high cover of exotic pasture grasses. The study area gradually slopes from the north eastern corner to the south western corner, with no watercourses present. A dam is located in the south western corner, within the proposed drainage reserve.

According to the Department of Environment, Land, Water and Planning (DELWP) NatureKit Map (DELWP 2020a), the study area is located within the Gippsland Plain bioregion, Port Phillip and Westernport Catchment Management Authority (CMA) and Bass Coast.

2 METHODS

2.1 Desktop Assessment

Relevant literature, online-resources and databases were reviewed to provide an assessment of flora and fauna values associated with the study area. The following information sources were reviewed:

- The DELWP NatureKit Map (DELWP 2021a) and Native Vegetation Information Management (NVIM) Tool (DELWP 2021b) for:
    - Modelled data for location risk, native vegetation patches, scattered trees and habitat for rare or threatened species; and,
    - The extent of historic and current Ecological Vegetation Classes (EVCs).
- EVC benchmarks (DELWP 2021c) for descriptions of EVCs within the relevant bioregion;
- The Victorian Biodiversity Atlas (VBA) for previously documented flora and fauna records within the project locality (DELWP 2020a);
- The Illustrated Flora Information System of Victoria (IFLISV) (Gullan 2017) and Atlas of Living Australia (ALA) (ALA 2020) for assistance with the distribution and identification of flora species;
- Relevant listings under the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act), including the latest Threatened (DELWP 2019a) and Protected (DELWP 2019b) Lists;
- The online VicPlan Map (DELWP 2021d) to ascertain current zoning and environmental overlays in the study area; and,
- Aerial photography of the study area.

2.2 Field Assessment

A field assessment was undertaken on 17 September 2020 and 28 September 2021 to obtain information on flora and fauna values within the study area. The study area was walked, with all commonly observed vascular flora and fauna species recorded, significant records mapped and the overall condition of vegetation and habitats noted. Ecological Vegetation Classes (EVCs) were determined with reference to DELWP pre-1750 and extant EVC mapping (DELWP 2021a) and their published descriptions (DELWP 2021c).

The condition score for native vegetation within the study area is based off the modelled vegetation condition score obtained from NVIM (DELWP 2021b).

2.3 Removal, Destruction or Lopping of Native Vegetation (the Guidelines)

Under the *Planning and Environment Act 1987,* Clause 52.17 of the Bass Coast Planning Scheme requires a planning permit to remove, destroy or lop native vegetation. The assessment process for the clearing of vegetation follows the '*Guidelines for the removal, destruction or lopping of native vegetation*' (the Guidelines)

(DELWP 2017). The *'Assessor's handbook: Applications to remove, destroy or lop native vegetation'* (Assessor's handbook) (DELWP 2018b) provides clarification regarding the application of the Guidelines (DELWP 2017).

2.3.1 *Assessment Pathway*

The Guidelines manage the impacts on biodiversity from native vegetation removal using an assessment-based approach. Two factors – extent risk and location category – are used to determine the risk associated with an application for a permit to remove native vegetation. The location category (1, 2 or 3) has been determined for all areas in Victoria and is available on DELWP's NVIM Tool (DELWP 2021b). Determination of assessment pathway is summarised in Table 1.

Table 1. Assessment pathways for applications to remove, destroy or lop native vegetation (DELWP 2017).

Extent		Location		
		1	2	3
Native Vegetation	Less than 0.5 hectares and not including any large trees	Basic	Intermediate	Detailed
	Less than 0.5 hectares and including one or more large trees	Intermediate	Intermediate	Detailed
	0.5 hectares or more	Detailed	Detailed	Detailed

Notes: For the purpose of determining the assessment pathway of an application to remove native vegetation the extent includes any other native vegetation that was permitted to be removed on the same contiguous parcel of land with the same ownership as the native vegetation to be removed, where the removal occurred in the five year period before an application to remove native vegetation is lodged.

2.3.2 *Vegetation Assessment*

Native vegetation (as defined in Table 2) is assessed using two key parameters: extent (in hectares) and condition.

Table 2. Determination of a patch of native vegetation (DELWP 2017).

Category	Definition	Extent	Condition
Patch of native vegetation	An area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native; OR An area with three or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy; OR any mapped wetland included in the *Current Wetlands map*, available in DELWP systems and tools.	Measured in hectares. Based on hectare area of the native patch.	Vegetation Quality Assessment Manual (DSE 2004). Modelled condition for *Current Wetlands*.

Category	Definition	Extent	Condition
Scattered tree	A native canopy tree that does not form part of a native patch.	Measured in hectares. Each Large scattered tree is assigned an extent of 0.071 hectares (30m diameter). Each Small scattered tree is assigned a default extent of 0.31 hectares (10 metre diameter)	Scattered trees are assigned a default condition score of 0.2 (outside a patch).

Notes: Native vegetation is defined in the Victoria Planning Provisions as 'plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses'.

2.3.3 *Impact Avoidance and Minimisation*

All applications to remove native vegetation must demonstrate the three-step approach of avoid, minimise and offset. This is a precautionary approach that aims to ensure that the removal of native vegetation is restricted to what is reasonably necessary, and that biodiversity is appropriately compensated for any native vegetation removal that is approved.

2.3.4 *Offsets*

Biodiversity offsets are required to compensate for the permitted removal of native vegetation. Offset obligations and offset site criteria are determined in accordance with the Guidelines (DELWP 2017) and are divided into two categories, being General Habitat Units and Species Habitat Units.

The offset requirements for native vegetation removal are calculated by DELWP and presented in a Native Vegetation Removal (NVR) Report, which are based on the vegetation condition scores determined during the biodiversity assessment.

2.4 Assessment Qualifications and Limitations

This report has been written based on the quality and extent of the ecological values and habitat considered to be present or absent at the time of the desktop and/or field assessments being undertaken.

The 'snapshot' nature of a standard biodiversity assessment meant that migratory, transitory or uncommon fauna species may have been absent from typically occupied habitats at the time of the field assessment. In addition, annual or cryptic flora species such as those that persist via underground tubers may also be absent.

Ecological values identified within the study area were recorded using a hand-held GPS or tablet with an accuracy of +/-5 metres. This level of accuracy is considered to provide an accurate assessment of the ecological values present within the study area; however, this data should not be used for detailed surveying purposes.

Targeted flora or fauna surveys were not undertaken, as this was beyond the preliminary scope of the project. Nevertheless, the terrestrial flora and fauna data collected during the field assessment and information obtained from relevant desktop sources is considered to adequately inform an accurate assessment of the ecological values present within the study area.

3 RESULTS

3.1 Vegetation Condition

Several patches of native vegetation and scattered native trees were recorded within and directly surrounding the study area, however the majority of the study area comprised introduced vegetation, primarily present as exotic pasture grasses with areas of planted vegetation.

A list of all flora species recorded during the field assessment are provided in Appendix 1.1.

3.1.1 Patches of Native Vegetation

Native vegetation in the study area is representative of two EVCs: Swamp Scrub (EVC 53) and Plains Grassy Woodland (EVC 55). The presence of these EVCs is generally consistent with the modelled pre-1750s native vegetation mapping (DELWP 2021c). Specific details relating to observed EVCs are provided below.

Swamp Scrub

Swamp Scrub occurred directly adjacent to the eastern, southern and western boarders of the study area, located as linear patches between the roads and boundary fences of the property (Plate 1; Plate 2). No Swamp Scrub was mapped within the study area, however some section of the canopy overhung the fence (Figure 2).

The patches were dominated by Swamp Paperbark *Melaleuca ericifolia*, intermixed with Sweet Bursaria *Bursaria spinosa* subsp. *spinosa*, Seaberry Saltbush *Rhagodia candolleana* subsp. *candolleana* and Slender Dodder-laurel *Cassytha glabella*.



Plate 1. Swamp Scrub located along Settlement road present adjacent to the southern boundary of the study area (Ecology and Heritage Partners Pty Ltd 17/09/2020).



Plate 2. Swamp Scrub located along Bellavista Road (Ecology and Heritage Partners Pty Ltd 17/09/2020).

Plains Grassy Woodland

A small patch of Plains Grassy Woodland was recorded along the eastern boundary of the study area (Figure 2), and several scattered shrubs representative of Plains Grassy Woodland occurred around the dam. These scattered shrubs included Sweet Bursaria, Drooping Sheoak *Allocasuarina verticillata* and Coast Wattle *Acacia*

longifolia. The patches of Plains Grassy Woodland that bordered the study area had sections of overhanging canopy into the study area, however the understorey and bases of trees were located outside of the study area. This patch was characterised by the presence of Black Wattle *Acacia mearnsii* within a slightly more open understory compared to areas of Swamp Scrub (Plate 3; Plate 4). Additional native species recorded within the patch included Small-leaved Clematis *Clematis microphylla* and Sweet Bursaria.



Plate 3. A patch of Plains Grassy Woodland located with the Bellavista road reserve adjacent to the study area (Ecology and Heritage Partners Pty Ltd 17/09/2020).



Plate 4. Bellavista road reserve with Plains Grassy Woodland boarding the unused road (Ecology and Heritage Partners Pty Ltd 17/09/2020).

3.1.2 Large Trees in Patches

No Large Trees within native vegetation patches were recorded within the study area.

3.1.3 Scattered Trees

Three native small scattered trees (two Swamp Gum and one stag) were recorded within the study area (Figure 2; Appendix 1.2). These trees would have once formed part of the Plains Grassy Woodland EVC; however, the understorey vegetation contained predominantly introduced species (mainly exotic pasture grasses) and the trees no longer formed a patch of native vegetation (Plate 5; Plate 6). One tree (Tree 7, Figure 2), is located amongst the mixed planted vegetation located in an area proposed for use as a local park and will be retained.



Plate 5. Small scattered tree located on dam edge within study area (Tree 1 on Figure 2) (Ecology and Heritage Partners Pty Ltd 17/09/2020).



Plate 6. A dead eucalypt stag present on dam edge within the study area (Tree 2 on Figure 2) (Ecology and Heritage Partners Pty Ltd 17/09/2020).

3.1.4 *Introduced and Planted Vegetation*

Areas not supporting native vegetation had a high cover (>95%) of exotic grass species, present as pasture paddocks. Non-native areas were dominated by environmental weeds such as Yorkshire Fog *Holcus lanatus*, Sweet Vernal-grass *Anthoxanthum odoratum* and Cape Weed *Arctotheca calendula* (Plate 7).

Noxious weeds were present within the study area, primarily located within the Swamp Scrub along the eastern, southern and western boarders (Plate 8). Four noxious weeds were recorded, including Angled Onion *Allium triquetrum*, Blackberry *Rubus fruticosus* spp. agg., Gorse *Ulex europeaus*, and Bridal Creeper *Asparagus asparagoides* (Plate 8). Blackberry, Gorse and Bridal Creeper are also listed Weeds of National Significance (WoNS).

Areas of planted vegetation occur within and surrounding the study area, with a mixed planting of trees and shrubs present in the southern area of the study area (within the proposed open space area) (Plate 9), and boarder plantings occur along the northern edges of the study area. Two large planted Sugar Gums *Eucalyptus cladocalyx* occurred at the dam edge.



Plate 7. Exotic pasture grass dominated the study area (Ecology and Heritage Partners Pty Ltd 17/09/2020).



Plate 8. Noxious weeds (Blackberry and Bridal Creeper) present in the understory of Swamp Scrub patches (Ecology and Heritage Partners Pty Ltd 17/09/2020)



Plate 9. Mixed planted vegetation present in the proposed location of the local park (Figure 2) (Ecology and Heritage Partners Pty Ltd 12/04/2020).

3.2 Fauna Habitat

Most of the study area consisted of paddocks, which contained improved exotic pastures, likely to be used as a foraging resource by common generalist bird species that are tolerant of modified open areas. Fauna observed using this habitat included Masked Lapwing *Vanellus miles*, Cape Barren Goose *Cereopsis novaehollandiae*, Purple Swamphen *Porphyrio porphyrio*, Australian Magpie *Cracticus tibicen* and European Rabbit *Oryctolagus cuniculus* (Plate 10).

Several bird species were observed within the scrub surrounding the study area, primarily Eastern Rosella *Platycercus eximius*, Red Wattlebird *Anthochaera carunculata*, and Yellow-tailed Black Cockatoo *Calyptorhynchus funereus*, which were observed feeding on the pine cones from the Radiata Pine trees scattered around the boarder of the study area (Plate 11).



Plate 10. Evidence of European Rabbit activity around dam within study area (Ecology and Heritage Partners Pty Ltd 17/09/2020).



Plate 11. Yellow-tailed Black Cockatoo's feeding on Pinecones located within Swamp Scrub vegetation along Bellavista Road (Ecology and Heritage Partners Pty Ltd 17/09/2020)

3.3 Removal, Destruction or Lopping of Native Vegetation (the Guidelines)

The below clearing scenario is based on the development plan provided by Lifestyle Communities on 16th September 2021. The development plan has sought to maintain any existing vegetation within the study area where able, with the local park located in an area of mixed planted trees and shrubs. Minimal other ecological values were recorded within the study area.

The development includes one access point, located on Settlement road, west of the reserve.

3.3.1 Vegetation proposed to be removed

The study area is within Location 2, with 0.070 hectares of native vegetation proposed to be removed, consisting of two small scattered trees, several native shrubs and a small area of Swamp Scrub at the Settlement Road entrance (Figure 2). As such, the permit application falls under the Intermediate assessment pathway (Table 3).

Condition scores for vegetation proposed to be removed are based on the modelled condition scores (DELWP 2021b).

Table 3. Removal of Native Vegetation (the Guidelines) (DELWP 2017).

Assessment pathway	Intermediate
Location Category	2
Total Extent (past and proposed) (ha)	0.070
Extent of past removal (ha)	0.00
Extent of proposed removal (ha)	0.070
Large Trees (scattered and in patches) to be removed (no.)	0
EVC Conservation Status of vegetation to be removed	Endangered (Swamp Scrub) Endangered (Plains Grassy Woodland)

3.3.2 Offset Targets

The offset requirement for native vegetation removal is 0.012 General Habitat Units.

A summary of proposed vegetation losses and associated offset requirements is presented in Table 4 and the Native Vegetation Removal (NVR) report is presented in Appendix 3.

Table 4. Offset Targets.

General Offsets Required	0.012 General Habitat Units
Large Trees	0
Vicinity (catchment/council)	Port Phillip and Westernport CMA / Bass Coast
Minimum Strategic Biodiversity Value*	0.146

*The minimum Strategic Biodiversity Value is 80% of the weighted average score across habitat zones where a General offset is required.

3.4 Significance Assessment

3.4.1 Flora

The VBA contains records of one nationally significant and 32 State significant flora species previously recorded within 10 kilometres of the study area (DELWP 2020a) (Figure 3). The PMST nominated an additional 10 nationally significant species which have not been previously recorded but have the potential to occur in the locality (DAWE 2021).

No national or State significant flora were recorded during the site assessment, and based on the modified nature of the study area, landscape context and the proximity of previous records, significant flora species are considered unlikely to occur within the study area predominately due to the lack of native vegetation recorded during the field assessment and modified nature of the study area.

3.4.2 Fauna

The VBA contains records of 25 nationally significant and 32 State significant fauna species previously recorded within 10 kilometres of the study area (DELWP 2020a) (Figure 4). The PMST nominated an additional 21 nationally significant species which have not been previously recorded but have the potential to occur in the

locality (DAWE 2021). The majority of significant species recorded are marine species, such as Blue Whale or Albatross species, with no suitable habitat present within the study area.

Based on the modified nature of the study area, landscape context and the proximity of previous records, significant fauna species are considered unlikely to rely on habitat within the study area for foraging or breeding purposes due to the lack of suitable and/or important habitat features (i.e. study area is predominately exotic pasture grass).

3.4.3 Ecological Communities

No national or State-significant communities are present within the study area.

4 LEGISLATIVE AND POLICY IMPLICATIONS

4.1 *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)

The proposed action is highly unlikely to have a significant impact on any matter of NES. As such, a referral to the Commonwealth Environment Minister is not required regarding matters listed under the EPBC Act.

4.2 *Flora and Fauna Guarantee Act 1988* (Victoria)

There are no confirmed records of species or ecological communities listed as threatened and/or protected under the FFG Act being within the study area. A permit under the FFG Act is therefore not required.

4.3 *Planning and Environment Act 1987* (Victoria)

The *Planning and Environment Act 1987* outlines the legislative framework for planning in Victoria and for the development and administration of planning schemes. All planning schemes contain native vegetation provisions at Clause 52.17, which require a planning permit from the relevant local Council to remove, destroy or lop native vegetation, unless an exemption at Clause 52.17-7 on the Victoria Planning Provisions applies.

4.3.1 Local Planning Scheme

The study area is located within the Bass Coast Shire Council. It is zoned General Residential Zone – Schedule 1 (GRZ12) and is covered by a Vegetation Protection Overlay – Schedule 2 (VPO2) (DELWP 2021d).

Vegetation Protection Overlay – Schedule 2 (VPO2)

VPO2 seeks to protect the existing indigenous and larger native species present within the urban areas of Phillip Island. A permit is required to remove, destroy or lop any tree or shrub with a girth greater than 30 centimetres (when measured at 30 centimetres above ground level) or a height of at least two metres. Exemptions apply to ornamental and weed species, as identified in the overlay.

Vegetation triggering VPO2 are shown in Figure 2, located at the southern access point to the development area. Nine shrubs were recorded at the southern access point, mainly Swamp Paperbark and Sweet Bursaria. In addition, one scattered tree within the study area (Tree 1) will trigger a permit. Tree 2 does not require a permit due to being a stag, and dead vegetation being exempt from requiring a permit under VPO2.

4.3.2 The Guidelines

The State Planning Policy Framework and the decision guidelines at Clause 12.01 Biodiversity and Clause 52.17 Native Vegetation require Planning and Responsible Authorities to have regard for the Guidelines (DELWP 2017).

4.3.3 *Implications*

The study area is within Location 2, with 0.070 hectares of native vegetation proposed to be removed. As such, the permit application falls under the Intermediate assessment pathway.

The offset requirement for native vegetation removal is 0.012 General Habitat Units.

A planning permit from the Bass Coast is required to remove, destroy or lop any native vegetation under Clause 52.17 and Clause 42.02 (VPO2) of the Planning Scheme. In this instance, the application is not required to be referred to DELWP.

4.4 *Catchment and Land Protection Act 1994* (Victoria)

Four weeds listed as noxious under the *Catchment and Land Protection Act 1994* were recorded during the assessment, Blackberry, Gorse, Bridal Creeper and Angled Onion. Similarly, there is evidence that the study area is currently occupied by several pest fauna species listed under the CaLP Act (European Rabbit). Listed noxious weeds/pests should be appropriately controlled throughout the study area.

5 MITIGATION MEASURES

5.1 Avoid and Minimise Statement

Limited ecological values were recorded within the study area, with the majority of values present within the vegetation surrounding the boundary of the study area. A stand of planted trees and shrubs, with one native tree, is present in the southern section of the study area. In an effort to retain these trees and minimise loss of wildlife habitat, these trees are situated within a proposed local park, and will be retained.

The remaining impacts to native vegetation are unavoidable, due to the requirement to have access to the development from external roads, which will dissect a patch of Swamp Scrub located along the southern boarder, removing a small section of the patch.

Additionally, two scattered trees and several native shrubs are proposed to be removed, which are located on the edge of the existing dam. One tree is a small stag, and the other a small Swamp Gum. The shrubs include two Drooping Sheoaks, three Sweet Bursarias and one Coast Wattle. The trees are within close proximity to a proposed road, therefore their retention cannot be guaranteed.

In the context of the development, the modified condition of ecological values proposed to be impacted, and the extent of native vegetation proposed to be retained and enhanced within the study area, it is considered that the minimisation measures implemented are appropriate in this instance.

5.2 Best Practice Mitigation Measures

Recommended measures to mitigate impacts upon terrestrial values present within the study area may include:

- Minimise impacts to native vegetation and habitats through construction and micro-siting techniques, including fencing retained areas of native vegetation. If indeed necessary, trees should be lopped or trimmed rather than removed;
- All contractors should be aware of ecologically sensitive areas to minimise the likelihood of inadvertent disturbance to areas marked for retention. Native vegetation (areas of sensitivity) should be included as a mapping overlay on any construction plans;
- Tree Protection Zones (TPZs) should be implemented to prevent indirect losses of native vegetation during construction activities (DSE 2011). A TPZ applies to a tree and is a specific area above and below the ground, with a radius 12 x the DBH. At a minimum standard a TPZ should consider the following:
    - A TPZ of trees should be a radius no less than two metres or greater than 15 metres;
    - Construction, related activities and encroachment (i.e. earthworks such as trenching that disturb the root zone) should be excluded from the TPZ;
    - Where encroachment is 10% or more of the total area of the TPZ, the tree should be considered as lost and offset accordingly (unless an arboricultural report specifies otherwise);

- Directional drilling may be used for works within the TPZ without being considered encroachment. The directional bore should be at least 600 millimetres deep;
- The above guidelines may be varied if a qualified arborist confirms the works will not significantly damage the tree (including stags / dead trees). In this case the tree would be retained, and no offset would be required; and,
- Where the minimum standard for a TPZ has not been met an offset may be required.

- Removal of any habitat trees or shrubs (particularly hollow-bearing trees or trees/shrubs with nests) should be undertaken between February and September to avoid the breeding season for most fauna species. If any habitat trees or shrubs are proposed to be removed, this should be undertaken under the supervision of an appropriately qualified zoologist to salvage and translocate any displaced fauna. A Fauna Management Plan may be required to guide the salvage and translocation process;
- Where possible, construction stockpiles, machinery, roads, and other infrastructure should be placed away from areas supporting native vegetation and Large Trees; and,
- As indigenous flora provides valuable habitat for indigenous fauna, it is recommended that any landscape plantings that are undertaken as part of the proposed works are conducted using indigenous species sourced from a local provenance, rather than exotic deciduous trees and shrubs.

5.3 Offset Impacts and Strategy

According to DELWPs Native Vegetation Offset Register (DELWP 2021e), there are over twenty offset sites within the Port Phillip and Westernport CMA or Bass Coast region that can be used to satisfy the General Habitat Unit offset requirements.

An offset register search statement identifying the relevant offsite sites is provided in Appendix 4.

6 FURTHER REQUIREMENTS

Further requirements associated with development of the study area, as well as additional studies or reporting that may be required, are provided in Table 5.

Table 5. Further requirements associated with development of the study area.

Relevant Legislation	Implications	Further Action
Environment Protection and Biodiversity Conservation Act 1999	The proposed action is highly unlikely to have a significant impact on any matter of NES. As such, a referral to the Commonwealth Environment Minister is not required regarding matters listed under the EPBC Act.	No further action required.
Flora and Fauna Guarantee Act 1988	There are no confirmed records of species or ecological communities listed as threatened and/or protected under the FFG Act being within the study area. A permit under the FFG Act is therefore not required.	No further action required.
Planning and Environment Act 1987	The study area is within Location 2, with 0.070 hectares of native vegetation proposed to be removed. As such, the permit application falls under the Intermediate assessment pathway. The offset requirement for native vegetation removal is 0.012 General Habitat Units. A planning permit from the Bass Coast is required to remove, destroy or lop any native vegetation under Clause 52.17 and Clause 42.02 (VPO2) of the Planning Scheme. In this instance, the application is not required to be referred to DELWP.	Prepare and submit a Planning Permit application to address requirements of clause 52.17 and 42.02.
Catchment and Land Protection Act 1994	Four weed species listed under the CaLP Act were recorded within the study area, Blackberry, Gorse, Bridal Creeper and Angled Onion. To meet requirements under the CaLP Act, listed noxious weeds should be appropriately controlled throughout the study area.	Planning Permit conditions may include a requirement for a Weed and Pest Management Plan.

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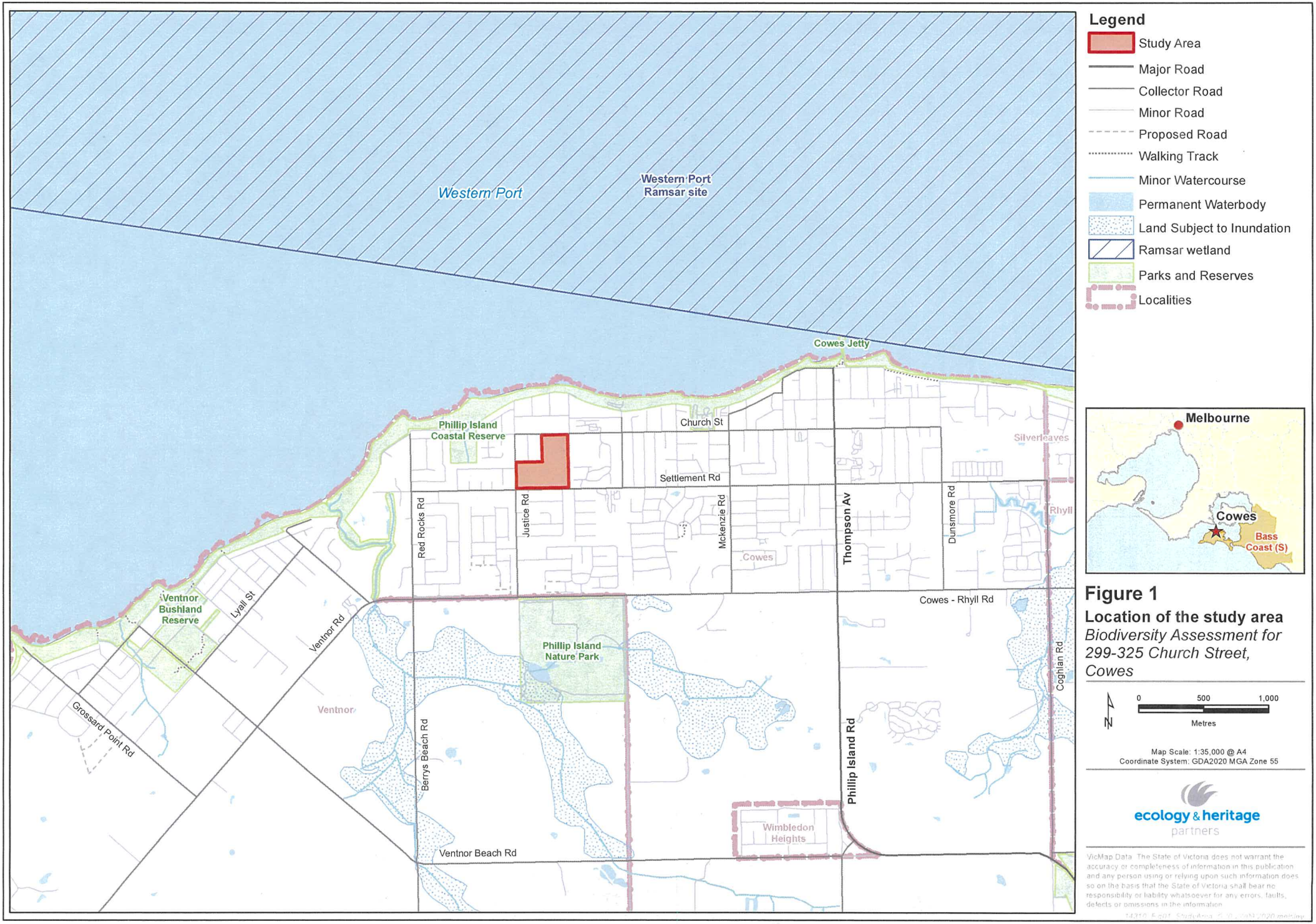

Figure 1

Location of the study area

Biodiversity Assessment for 299-325 Church Street, Cowes

Map Scale: 1:35,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

ecology & heritage partners

VicMap Data. The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.



Legend

- Study Area
- Small Scattered Tree
- Impacted Small Scattered Tree
- Impacted remnant shrub

Ecological Vegetation Class

- Plains Grassy Woodland (EVC 55)
- Swamp Scrub (EVC 53)
- Impacted vegetation

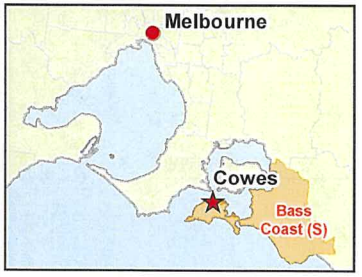

Figure 2

Ecological features

Biodiversity Assessment for 299-325 Church Street, Cowes

0 40 80
Metres

Map Scale: 1:2,300 @ A4
Coordinate System: GDA2020 MGA Zone 55

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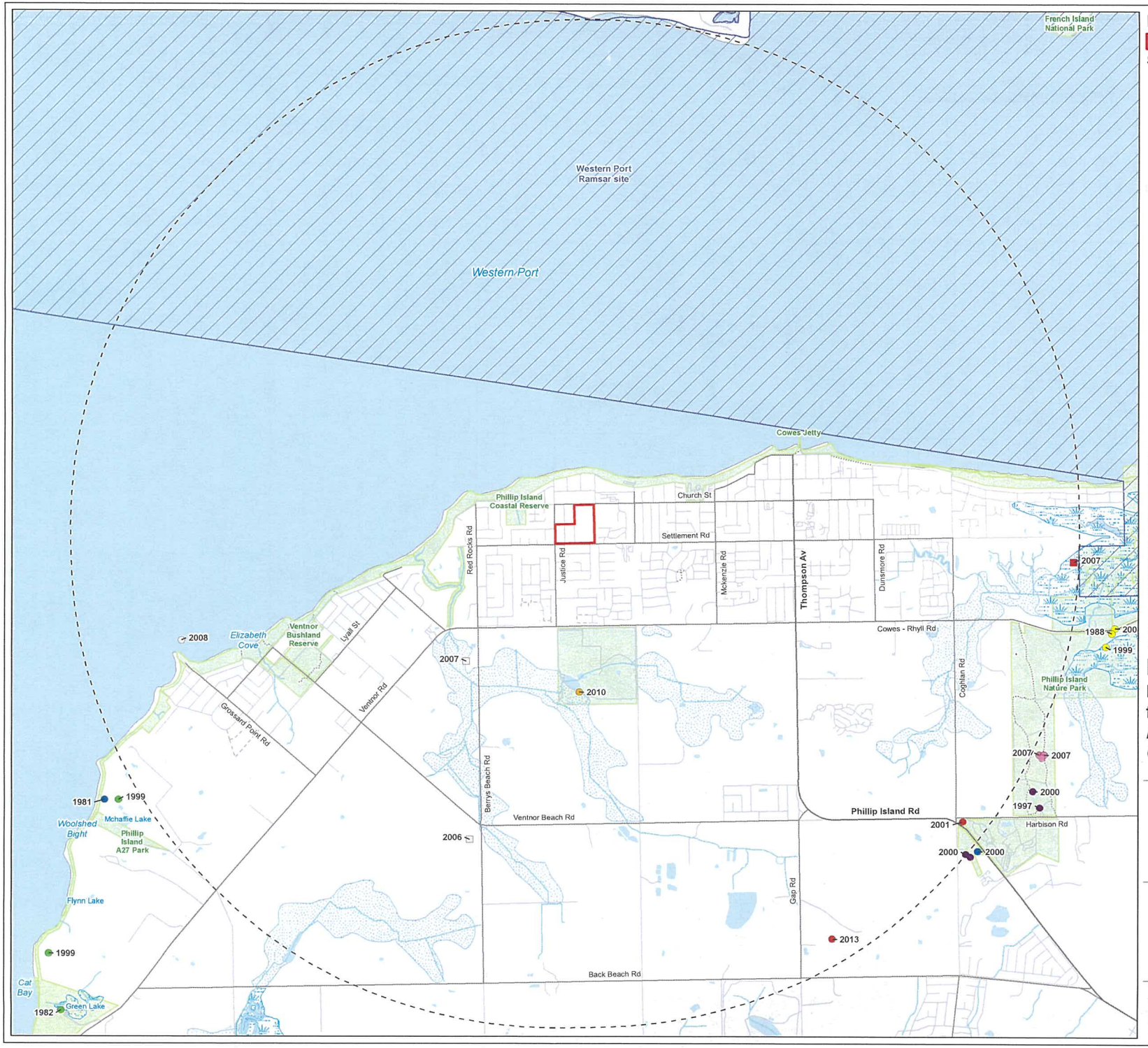
Aerial source: Nearmap 2020



Legend

- Study Area

Significant flora

- Australian Grass-wrack
- Coast Ballart
- Creeping Rush
- Currant-wood
- Dune Wood-sorrel
- Slender Bitter-cress
- Slender Pink-fingers
- Southern Blue-gum
- Wavy Swamp Wallaby-grass
- Yellow Sea-lavender



Figure 3

Previously documented significant flora within 5km of the study area

Biodiversity Assessment for 299-325 Church Street, Cowes

0 1 2

Kilometres

Map Scale: 1:37,000 @ A3
Coordinate System: GDA2020 MGA Zone 55

ecology & heritage partners

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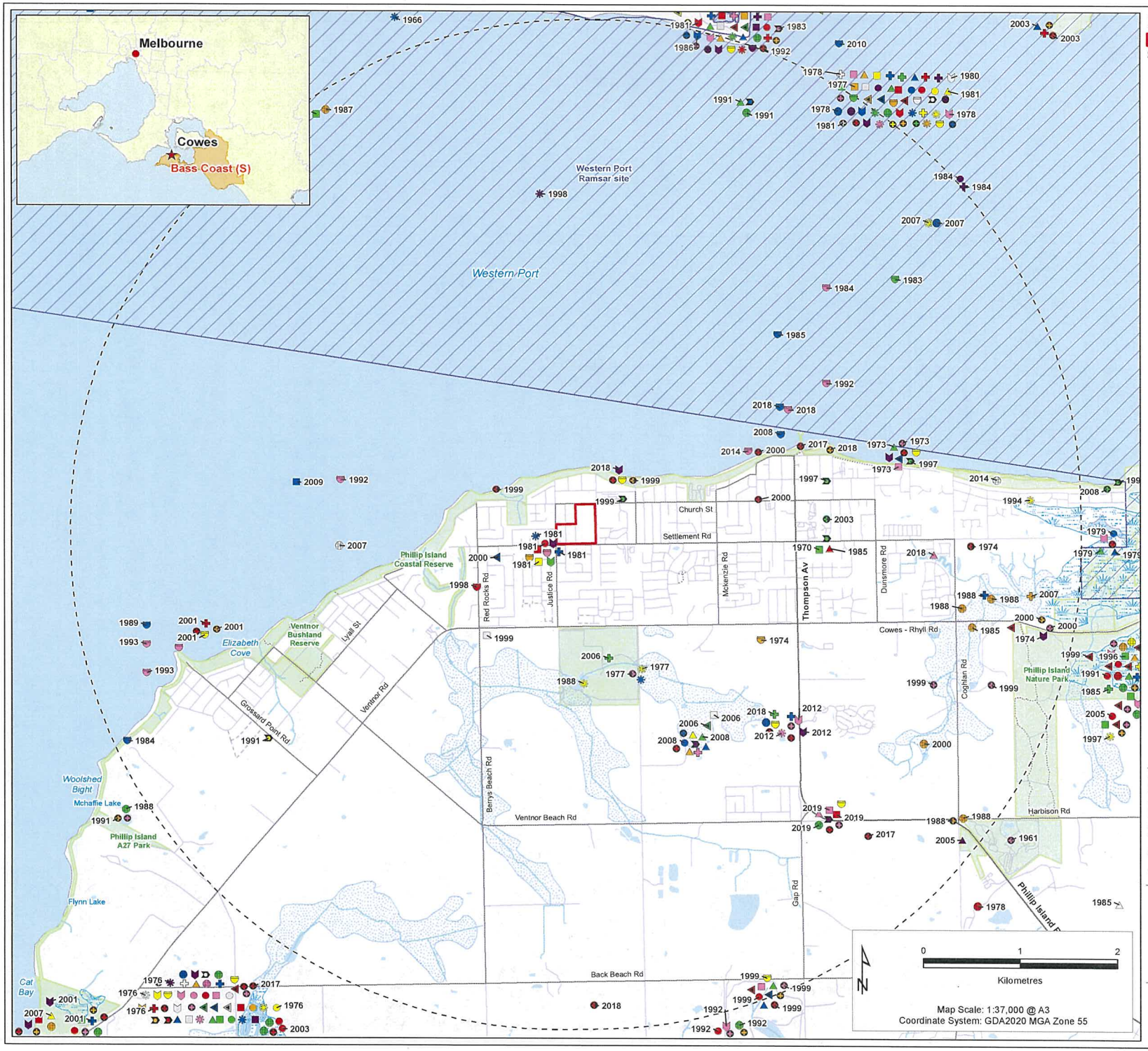

Legend

- Study Area

Signifcant fauna

- Australasian Bittern
- Australasian Shoveler
- Australian Painted-snipe
- Azure Kingfisher
- Baillon's Crake
- Bar-tailed Godwit
- Barking Owl
- Black Falcon
- Black-browed Albatross
- Black-faced Cormorant
- Black-tailed Godwit
- Blue Petrel
- Blue-billed Duck
- Burrunan Dolphin
- Caspian Tern
- Chestnut-rumped Heathwren
- Common Bent-wing Bat
- Common Diving-Petrel
- Common Greenshank
- Common Sandpiper
- Curlew Sandpiper
- Eastern Curlew
- Eastern Great Egret
- Eastern Snake-necked Turtle
- Fairy Prion
- Fairy Tern
- Flatback Mangrovegoby
- Freckled Duck
- Glossy Ibis
- Great Egret
- Great Knot
- Greater Sand Plover
- Grey Goshawk
- Grey Plover
- Grey-crowned Babbler
- Grey-headed Albatross
- Grey-headed Flying-fox
- Grey-tailed Tattler
- Hardhead
- Hooded Plover
- Hooded Robin
- Indian Yellow-nosed Albatross
- King Quail
- Latham's Snipe
- Lesser Sand Plover
- Lewin's Rail
- Little Egret
- Little Tern
- Long-nosed Fur Seal
- Long-nosed Potoroo
- Magpie Goose
- Marsh Sandpiper
- Musk Duck
- Nankeen Night Heron
- Northern Giant-Petrel
- Orange-bellied Parrot
- Pacific Golden Plover
- Pacific Gull
- Pied Cormorant
- Plumed Egret
- Powerful Owl
- Red Knot
- Royal Spoonbill
- Ruddy Turnstone
- Sanderling
- Sea-lion
- Shy Albatross
- Sooty Oystercatcher
- Southern Giant-Petrel
- Southern Humpback Whale
- Southern Right Whale
- Southern Royal Albatross
- Spotted Harrier
- Spotted Quail-thrush
- Square-tailed Kite
- Subantarctic Fur Seal
- Swift Parrot
- Terek Sandpiper
- Wandering Albatross
- Whimbrel
- Whiskered Tern
- White-bellied Sea-Eagle
- White-faced Storm-Petrel
- White-footed Dunnart
- White-fronted Tern
- White-throated Needletail

Figure 4

Previously documented significant fauna within 5km of the study area

Biodiversity Assessment for 299-325 Church Street, Cowes

ecology & heritage partners

Victorian Biodiversity Atlas (VBA) // Sourced from: VBA_FLORA25, VBA_FLORA100, VBA_FAUNA25, and VBA_FAUNA100. Updated August 2020 © The State of Victoria, Department of Environment, Land, Water and Planning. Records prior to 1949 not shown.

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APPENDIX 1 FLORA

Appendix 1.1 Flora Results

Legend:

* Listed as a noxious weed under the CaLP Act;

w Weed of National Significance;

Planted Victorian and non-Victorian species;

+ Planted indigenous species that also occur in native vegetation in the study area;

Table A1.1. Flora within the study area.

Scientific Name	Common Name	Notes
INDIGENOUS SPECIES		
Acacia dealbata	Silver Wattle	-
Acacia longifolia	Sallow Wattle	-
Allocasuarina verticillata	Drooping Sheoak	
Bursaria spinosa	Sweet Bursaria	-
Cassytha glabella	Slender Dodder-laurel	-
Clematis microphylla s.l.	Small-leaved Clematis	-
Eucalyptus viminalis subsp. *pryoriana*	Coast Manna-gum	-
Goodenia ovata	Hop Goodenia	-
Leucopogon parviflorus	Coast Beard-heath	-
Melaleuca ericifolia	Swamp Paperbark	+
Pandorea pandorana subsp. *pandorana*	Wonga Vine	-
Rhagodia candolleana subsp. *candolleana*	Seaberry Saltbush	-
NON-INDIGENOUS OR INTRODUCED SPECIES		
Allium triquetrum	Angled Onion	*
Anthoxanthum odoratum	Sweet Vernal-grass	-
Arctotheca calendula	Cape weed	-
Asparagus asparagoides	Bridal Creeper	*w
Briza maxima	Large Quaking-grass	-
Callistemon spp.	Bottlebrush	#
Coprosma repens	Mirror Bush	-
Crassula multicava subsp. *multicava*	Fairy Crassula	-
Crocosmia spp.	Montbretia	-
Cynodon dactylon	Couch	-

Scientific Name	Common Name	Notes
Dactylis glomerata	Cocksfoot	-
Ehrharta erecta var. *erecta*	Panic Veldt-grass	-
Eucalyptus cladocalyx	Sugar Gum	-
Eucalyptus spp.	Eucalyptus	#
Fumaria bastardii	Bastard's Fumitory	-
Galium aparine	Cleavers	-
Grevillea spp.	Grevillea	#
Holcus lanatus	Yorkshire Fog	-
Hypochaeris radicata	Flatweed	-
Malva parviflora	Small-flower Mallow	-
Pinus radiata	Radiata Pine	-
Pittosporum undulatum	Sweet Pittosporum	-
Plantago lanceolata	Ribwort	-
Poa annua	Annual Meadow-grass	-
Rubus fruticosus spp. agg.	Blackberry	*w
Sonchus asper s.l.	Rough Sow-thistle	-
Ulex europaeus	Gorse	*w

Appendix 1.2 Scattered Trees

Table A1.2. Scattered Trees

Tree # (Figure 2)	Species Name	Common Name	DBH (cm)	Size Class	Scattered / Parch	Status
1	*Eucalyptus ovata*	Swamp Gum	70	Small	Scattered	Removed (TPZ impact)
2	*Eucalyptus sp.*	Stag	30	Small	Scattered	Removed (TPZ impact)
7	*Eucalyptus ovata*	Swamp Gum	76	Small	Scattered	Retained

APPENDIX 3 NATIVE VEGETATION REMOVAL (NVR) REPORT

Native vegetation removal report

A report to support an application to remove, destroy or lop native vegetation in the **Intermediate** Assessment Pathway using the modelled condition score

This report provides information to support an application to remove native vegetation in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation*. The report is not an assessment by DELWP or local council of the proposed native vegetation removal. Biodiversity information and offset requirements have been calculated using modelled condition scores contained in the *Native vegetation condition map*.

Date and time: **27 July 2022 18:28 PM**

Lat./Long.: -38.4556399681257,145.21204327423

Address: Address unknown

9 SPITHEAD STREET COWES 3922

Native vegetation report ID: 304-20220727-016

Assessment pathway

The assessment pathway and reason for the assessment pathway

Assessment pathway	**Intermediate Assessment Pathway**
Extent of past plus proposed native vegetation removal	0.070 hectares
No. large trees	0 large tree(s)
Location category	Location 2 The native vegetation is in an area mapped as an Directory of Important Wetlands of Australia and Endangered Ecological Vegetation Class. Removal of less than 0.5 hectares of native vegetation will not have a significant impact on any habitat for a rare or threatened species.

Offset requirement

The offset requirement that will apply if the native vegetation is approved to be removed

Offset type	General offset
Offset amount	0.012 general habitat units
Offset attributes	
Vicinity	Port Phillip And Westernport Catchment Management Authority (CMA) or Bass Coast Shire Council
Minimum strategic biodiversity value score	0.146
Large trees	0 large tree(s)

Native vegetation removal report

Biodiversity information about the native vegetation

Description of any past native vegetation removal

Any native vegetation that was approved to be removed, or was removed without the required approvals, on the same property or on contiguous land in the same ownership, in the five year period before the application to remove native vegetation is lodged is detailed below.

Permit/PIN number	Extent of native vegetation (hectares)
None entered	0 hectares

Description of the native vegetation proposed to be removed

Extent of all mapped native vegetation	0.070 hectares
Condition score of all mapped native vegetation	0.203
Strategic biodiversity value score of all mapped native vegetation	0.182
Extent of patches native vegetation	0.070 hectares
1	0.007 hectares
2	0.000 hectares
3	0.047 hectares
4	0.008 hectares
5	0.001 hectares
6	0.006 hectares
Extent of scattered trees	0 hectares
No. large trees within patches	0 large tree(s)
No. large scattered trees	0 large tree(s)
No. small scattered trees	0 small tree(s)

Additional information about trees to be removed, shown in Figure 1

Tree ID	Tree circumference (cm)	Benchmark circumference (cm)	Scattered / Patch	Tree size
N/A				

Other information

Applications to remove, destroy or lop native vegetation must include all the below information. If an appropriate response has not been provided the application is not complete.

Photographs of the native vegetation to be removed

Recent, dated photographs of the native vegetation to be removed must be provided with the application. All photographs must be clear, show whether the vegetation is a patch of native vegetation or scattered trees, and identify any large trees. If the area of native vegetation to be removed is large, provide photos that are indicative of the native vegetation.

Ensure photographs are attached to the application. If appropriate photographs have not been provided the application is not complete.

Topographical and land information

Description of the topographic and land information relating to the native vegetation to be removed, including any ridges, crests and hilltops, wetlands and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion, as appropriate. This may be represented in a map or plan. **This is an application requirement and your application will be incomplete without it.**

As provided in Biodiversity Report

Avoid and minimise statement

This statement describes what has been done to avoid the removal of, and minimise impacts on the biodiversity and other values of native vegetation. **This is an application requirement and your application will be incomplete without it.**

As provided in Biodiversity Report

Defendable space statement

Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation is necessary. This statement must have regard to other available bushfire risk mitigation measures. This statement is not required if your application also includes an application under the Bushfire Management Overlay.

not applicable

Offset statement

An offset statement that demonstrates that an offset is available and describes how the required offset will be secured. **This is an application requirement and your application will be incomplete without it.**

Native Vegetation Credit Register search is attached to report

Next steps

Applications to remove, destroy or lop native vegetation must address all the application requirements specified in *Guidelines for the removal, destruction or lopping of native vegetation.* If you wish to remove the mapped native vegetation you are required to apply for a permit from your local council. This *Native vegetation removal report* must be submitted with your application and meets most of the application requirements. The following needs to be added as applicable.

Property Vegetation Plan

Landowners can manage native vegetation on their property in the longer term by developing a Property Vegetation Plan (PVP) and entering in to an agreement with DELWP.

If an approved PVP applies to the land, ensure the PVP is attached to the application.

Applications under Clause 52.16

An application to remove, destroy or lop native vegetation is under Clause 52.16 if a Native Vegetation Precinct Plan (NVPP) applies to the land, and the proposed native vegetation removal is not in accordance with the relevant NVPP. If this is the case, a statement that explains how the proposal responds to the NVPP considerations must be provided.

If the application is under Clause 52.16, ensure a statement that explains how the proposal responds to the NVPP considerations is attached to the application.

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Authorised by the Victorian Government, 8 Nicholson Street, East Melbourne.

For more information contact the DELWP Customer Service Centre 136 186

www.delwp.vic.gov.au

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This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

Obtaining this publication does not guarantee that an application will meet the requirements of Clauses 52.16 or 52.17 of planning schemes in Victoria or that a permit to remove native vegetation will be granted.

Notwithstanding anything else contained in this publication, you must ensure that you comply with all relevant laws, legislation, awards or orders and that you obtain and comply with all permits, approvals and the like that affect, are applicable or are necessary to undertake any action to remove, lop or destroy or otherwise deal with any native vegetation or that apply to matters within the scope of Clauses 52.16 or 52.17 of planning schemes in Victoria.

Figure 1 – Map of native vegetation to be removed, destroyed or lopped

Mapped native vegetation to be removed, lopped or destroyed



Legend

Mapped native vegetation

Property boundary

N

0 10 20 30

Metres

Figure 2 – Map of property in context

Property view of mapped native vegetation

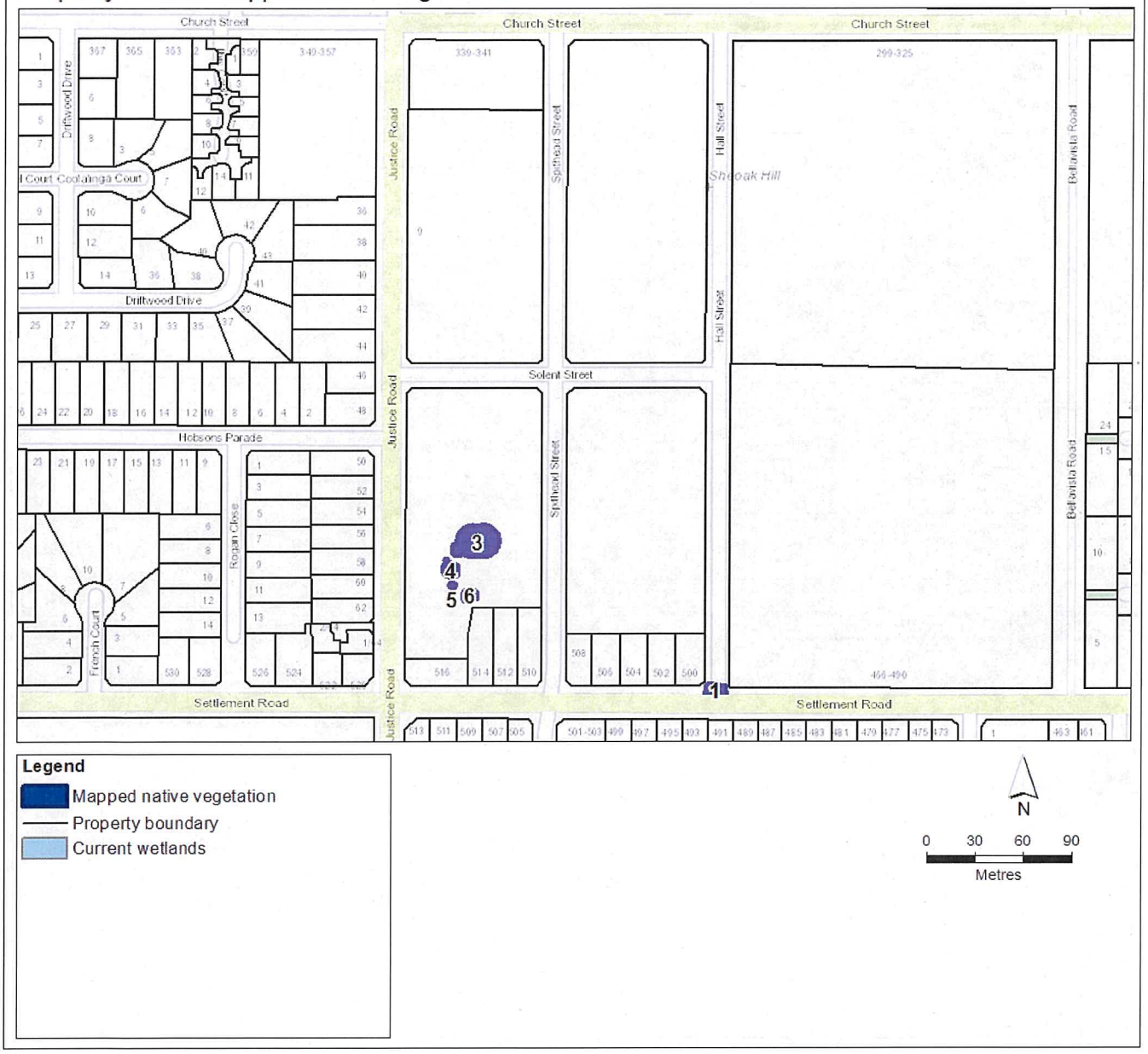


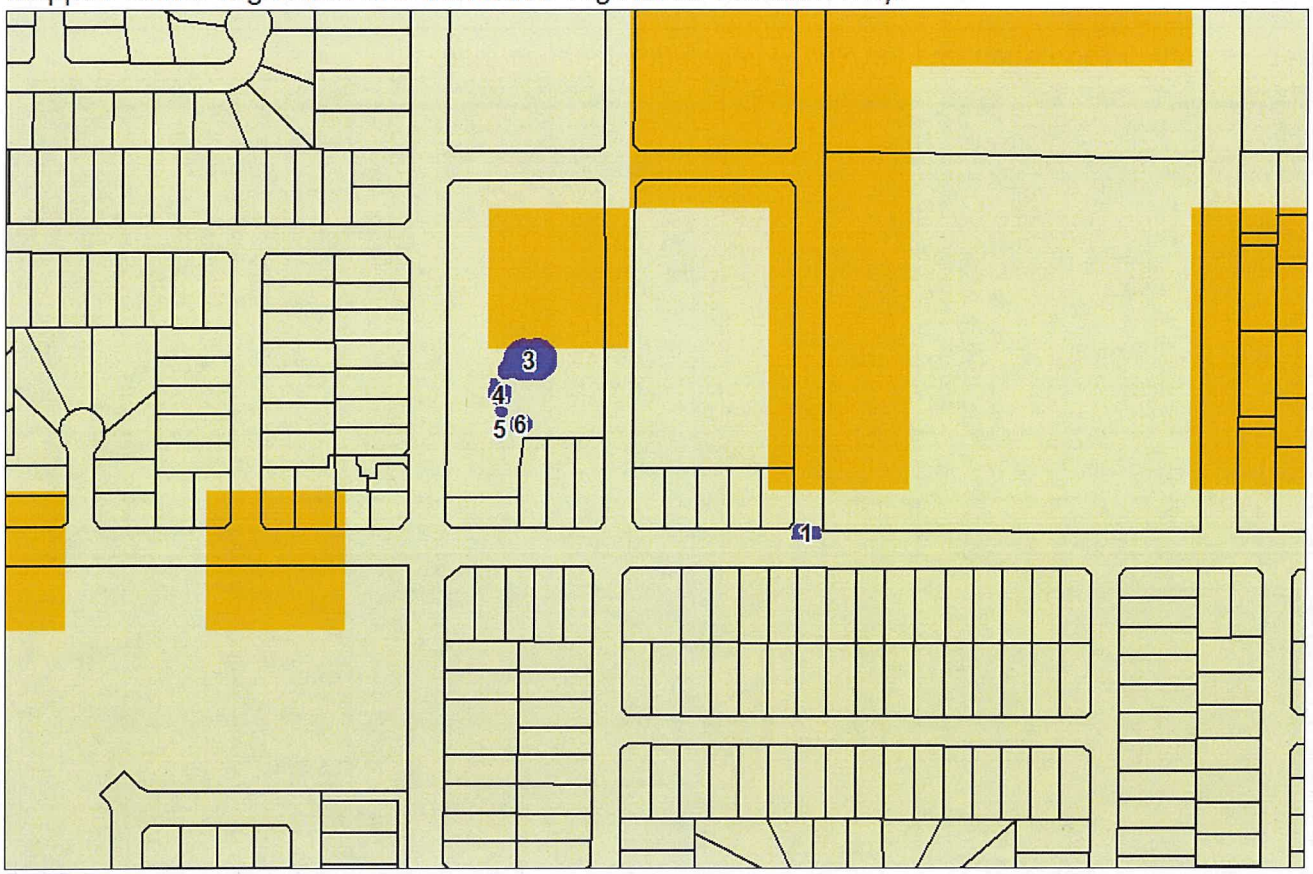
Figure 3 – Biodiversity information maps

Mapped native vegetation and the *Native vegetation location map*



Native vegetation removal report

Mapped native vegetation and the *Native vegetation condition map*



Legend

- Mapped native vegetation
- Property boundary

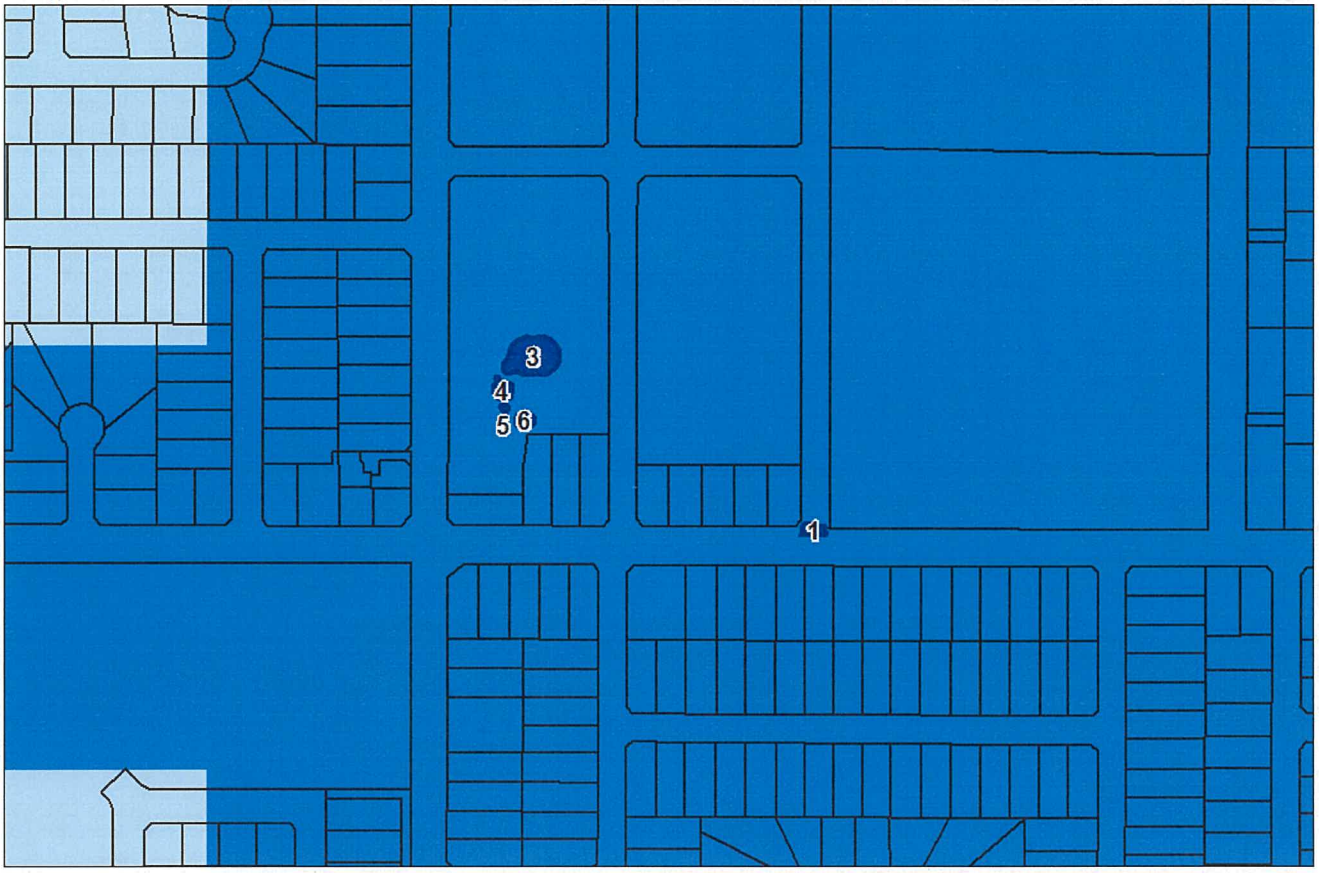
Native vegetation condition*

- 0.81 - 1.00
- 0.61 - 0.80
- 0.41 - 0.60
- 0.21 - 0.40
- 0.00 - 0.20

* These classes are for display purposes only

Native vegetation removal report

Mapped native vegetation and the *Strategic biodiversity value map*



Legend

Mapped native vegetation

Property boundary

Strategic biodiversity value*

0.81 - 1.00

0.61 - 0.80

0.41 - 0.60

0.21 - 0.40

0.00 - 0.20

* These classes are for display purposes only

N

0 30 60 90

Metres

Appendix 1 - Details of offset requirements

Native vegetation to be removed

Extent of all mapped native vegetation (for calculating habitat hectares)	0.070	The area of land covered by a patch of native vegetation and/or a scattered tree, measured in hectares. Where the mapped native vegetation includes scattered trees, each tree is assigned a standard extent and converted to hectares. A small scattered tree is assigned a standard extent defined by a circle with a 10 metre radius and a large scattered tree a circle with a 15 metre radius. The extent of all mapped native vegetation is an input to calculating the habitat hectares.
Condition score*	0.203	The condition score of native vegetation is a site-based measure that describes how close native vegetation is to its mature natural state. The condition score is the weighted average condition score of the mapped native vegetation calculated using the *Native vegetation condition map.*
Habitat hectares	0.014	Habitat hectares is a site-based measure that combines extent and condition of native vegetation. It is calculated by multiplying the extent of native vegetation by the condition score: ***Habitat hectares = extent x condition score***
Strategic biodiversity value score	0.182	The strategic biodiversity value score represents the complementary contribution to Victoria's biodiversity of a location, relative to other locations across the state. This score is the weighted average strategic biodiversity value score of the mapped native vegetation calculated using the *Strategic biodiversity value map.*
General landscape factor	0.591	The general landscape factor is an adjusted strategic biodiversity value score. It has been adjusted to reduce the influence of landscape scale information on the general habitat score.
General habitat score	0.008	The general habitat score combines site-based and landscape scale information to obtain an overall measure of the biodiversity value of the native vegetation. The general habitat score is calculated as follows: ***General habitat score = habitat hectares x general landscape factor***

* **Offset requirements for partial removal:** If your proposal is to remove parts of the native vegetation in a patch (for example only understorey plants) the condition score must be adjusted. This will require manual editing of the condition score and an update to the calculations that the native vegetation removal tool has provided: habitat hectares, general habitat score and offset amount.

Offset requirements

Offset type	General offset	A general offset is required when the removal of native vegetation does not have a significant impact on any habitat for rare or threatened species. All proposals in the Basic and Intermediate assessment pathways will only require a general offset.
Offset multiplier	1.5	This multiplier is used to address the risk that the predicted outcomes for gain will not be achieved, and therefore will not adequately compensate the biodiversity loss from the removal of native vegetation.
Offset amount (general habitat units)	0.012	The general habitat units are the amount of offset that must be secured if the application is approved. This offset requirement will be a condition to any permit or approval for the removal of native vegetation. ***General habitat units required = general habitat score x 1.5***
Minimum strategic biodiversity value score	0.146	The offset site must have a strategic biodiversity value score of at least 80 per cent of the strategic biodiversity value score of the native vegetation to be removed. This is to ensure offsets are located in areas with a strategic biodiversity value that is comparable to the native vegetation to be removed.
Vicinity	Port Phillip And Westernport CMA or Bass Coast Shire Council	The offset site must be located within the same Catchment Management Authority boundary or municipal district as the native vegetation to be removed.
Large trees	0 large tree (s)	The offset site must protect at least one large tree for every large tree removed. A large tree is a native canopy tree with a Diameter at Breast Height greater than or equal to the large tree benchmark for the local Ecological Vegetation Class. A large tree can be either a large scattered tree or a large patch tree.

APPENDIX 4 AVAILABLE NATIVE VEGETATION CREDITS

Report of available native vegetation credits

This report lists native vegetation credits available to purchase through the Native Vegetation Credit Register.

This report is **not evidence** that an offset has been secured. An offset is only secured when the units have been purchased and allocated to a permit or other approval and an allocated credit extract is provided by the Native Vegetation Credit Register.

Date and time: 27/07/2022 06:32 **Report ID: 15151**

What was searched for?

General offset

General habitat units	Strategic biodiversity value	Large trees	Vicinity (Catchment Management Authority or Municipal district)	
0.012	0.146	0	CMA	Port Phillip and Westernport
			or LGA	Bass Coast Shire

Details of available native vegetation credits on 27 July 2022 06:32

These sites meet your requirements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
BBA-0670	17.868	149	Port Phillip and Westernport	Cardinia Shire	No	Yes	No	Abezco, VegLink
BBA-0677	17.765	1527	Port Phillip and Westernport	Whittlesea City	No	Yes	No	Abezco, VegLink
BBA-0678	46.625	2629	Port Phillip and Westernport	Nillumbik Shire	No	Yes	No	VegLink
BBA-0678_2	0.388	59	Port Phillip and Westernport	Nillumbik Shire	No	Yes	No	VegLink
BBA-0931	0.034	2	Port Phillip and Westernport	Moorabool Shire	Yes	Yes	No	Bio Offsets
BBA-2757	0.436	0	West Gippsland	Bass Coast Shire	No	Yes	No	Bio Offsets
BBA-2774	0.020	9	Port Phillip and Westernport	Greater Geelong City	Yes	Yes	No	VegLink
BBA-2789	1.317	14	Port Phillip and Westernport	Baw Baw Shire	Yes	Yes	No	Contact NVOR
BBA-2790	2.911	116	Port Phillip and Westernport	Baw Baw Shire	Yes	Yes	No	Contact NVOR
BBA-2832	0.341	0	Port Phillip and Westernport	Nillumbik Shire	Yes	Yes	Yes	Nillumbik SC
BBA-2870	0.044	0	Port Phillip and Westernport	Yarra Ranges Shire	No	Yes	No	Contact NVOR
BBA-2870	2.544	431	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
BBA-2871	16.335	1668	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
BBA-3030	4.906	0	Port Phillip and Westernport	Moorabool Shire	Yes	Yes	No	VegLink

BBA-3030	0.490	0	Port Phillip and Westernport	Moorabool Shire	Yes	Yes	Yes	VegLink
BBA-3045	0.076	5	Port Phillip and Westernport	Melton City	Yes	Yes	No	Bio Offsets
TFN-C0287	0.158	0	Port Phillip and Westernport	Cardinia Shire	Yes	Yes	No	TFN
TFN-C1650	0.182	20	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	Yes	Yarra Ranges SC
TFN-C1663	0.109	27	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	Yes	Yarra Ranges SC
TFN-C1664	2.570	65	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	Yarra Ranges SC
TFN-C1667	0.028	0	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	Yarra Ranges SC
TFN-C1763_3	11.231	0	Port Phillip and Westernport	Mornington Peninsula Shire	Yes	Yes	No	Ecocentric
TFN-C1962	0.110	10	Goulburn Broken, Port Phillip and Westernport	Macedon Ranges Shire	No	Yes	No	Contact NVOR
TFN-C1980	0.019	0	Port Phillip and Westernport	Mornington Peninsula Shire	Yes	Yes	No	Ecocentric
VC_CFL-0838_01	0.211	705	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3084_01	0.569	413	Port Phillip And Westernport	Cardinia Shire	Yes	Yes	No	VegLink
VC_CFL-3682_01	1.695	0	Port Phillip And Westernport	Nillumbik Shire	Yes	Yes	No	Abezco
VC_CFL-3687_01	0.867	82	Port Phillip And Westernport	Baw Baw Shire	Yes	Yes	No	Baw Baw SC
VC_CFL-3708_01	0.200	534	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3709_01	0.139	395	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3729_01	0.016	6	Port Phillip And Westernport	Melton City	Yes	Yes	No	VegLink
VC_CFL-3740_01	1.756	96	Port Phillip And Westernport	Cardinia Shire, Yarra Ranges Shire	Yes	Yes	No	Bio Offsets
VC_CFL-3740_01	0.425	25	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	Bio Offsets
VC_CFL-3762_01	1.604	129	Port Phillip And Westernport	Moorabool Shire	Yes	Yes	No	VegLink
VC_CFL-3762_01	0.115	0	Port Phillip And Westernport	Moorabool Shire	Yes	Yes	Yes	VegLink

These sites meet your requirements using alternative arrangements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)

There are no sites listed in the Native Vegetation Credit Register that meet your offset requirements when applying the alternative arrangements as listed in section 11.2 of the Guidelines for the removal, destruction or lopping of native vegetation.

These potential sites are not yet available, land owners may finalise them once a buyer is confirmed.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
VC_CFL-3710_01	7.606	322	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3744_01	3.717	384	Port Phillip And Westernport	Macedon Ranges Shire	Yes	Yes	No	VegLink

VC_CFL-3746_01	4.962	563	Port Phillip And Westernport	Macedon Ranges Shire	Yes	Yes	No	VegLink

LT - Large Trees *CMA - Catchment Management Authority* *LGA - Municipal District or Local Government Authority*

Next steps

If applying for approval to remove native vegetation
Attach this report to an application to remove native vegetation as evidence that your offset requirement is currently available.

If you have approval to remove native vegetation
Below are the contact details for all brokers. Contact the broker(s) listed for the credit site(s) that meet your offset requirements. These are shown in the above tables. If more than one broker or site is listed, you should get more than one quote before deciding which offset to secure.

Broker contact details

Broker Abbreviation	Broker Name	Phone	Email	Website
Abezco	Abzeco Pty. Ltd.	(03) 9431 5444	offsets@abzeco.com.au	www.abzeco.com.au
Baw Baw SC	Baw Baw Shire Council	(03) 5624 2411	bawbaw@bawbawshire.vic.gov.au	www.bawbawshire.vic.gov.au
Bio Offsets	Biodiversity Offsets Victoria	0452 161 013	info@offsetsvictoria.com.au	www.offsetsvictoria.com.au
Contact NVOR	Native Vegetation Offset Register	136 186	nativevegetation.offsetregister@delwp.vic.gov.au	www.environment.vic.gov.au/native-vegetation
Ecocentric	Ecocentric Environmental Consulting	0410 564 139	ecocentric@me.com	Not avaliable
Ethos	Ethos NRM Pty Ltd	(03) 5153 0037	offsets@ethosnrm.com.au	www.ethosnrm.com.au
Nillumbik SC	Nillumbik Shire Council	(03) 9433 3316	offsets@nillumbik.vic.gov.au	www.nillumbik.vic.gov.au
TFN	Trust for Nature	8631 5888	offsets@tfn.org.au	www.trustfornature.org.au
VegLink	Vegetation Link Pty Ltd	(03) 8578 4250 or 1300 834 546	offsets@vegetationlink.com.au	www.vegetationlink.com.au
Yarra Ranges SC	Yarra Ranges Shire Council	1300 368 333	biodiversityoffsets@yarraranges.vic.gov.au	www.yarraranges.vic.gov.au

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For more information contact the DELWP Customer Service Centre 136 186 or the Native Vegetation Credit Register at nativevegetation.offsetregister@delwp.vic.gov.au

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Obtaining this publication does not guarantee that the credits shown will be available in the Native Vegetation Credit Register either now or at a later time when a purchase of native vegetation credits is planned.

Notwithstanding anything else contained in this publication, you must ensure that you comply with all relevant laws, legislation, awards or orders and that you obtain and comply with all permits, approvals and the like that affect, are applicable or are necessary to undertake any action to remove, lop or destroy or otherwise deal with any native vegetation or that apply to matters within the scope of Clauses 52.16 or 52.17 of the Victoria Planning Provisions and Victorian planning schemes

onemilegrid
TRAFFIC ENGINEERING

Lifestyle Communities - Cowes

Transport Impact Assessment



210734TIA001C-F

17 March 2022

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Signature		**Signature**	

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APPENDICES

APPENDIX A SWEPT PATH DIAGRAMS

1 INTRODUCTION

onemile**grid** has been requested by Lifestyle Communities to undertake a Transport Impact Assessment of the proposed Residential Village development at 299-325 Church Street, Cowes.

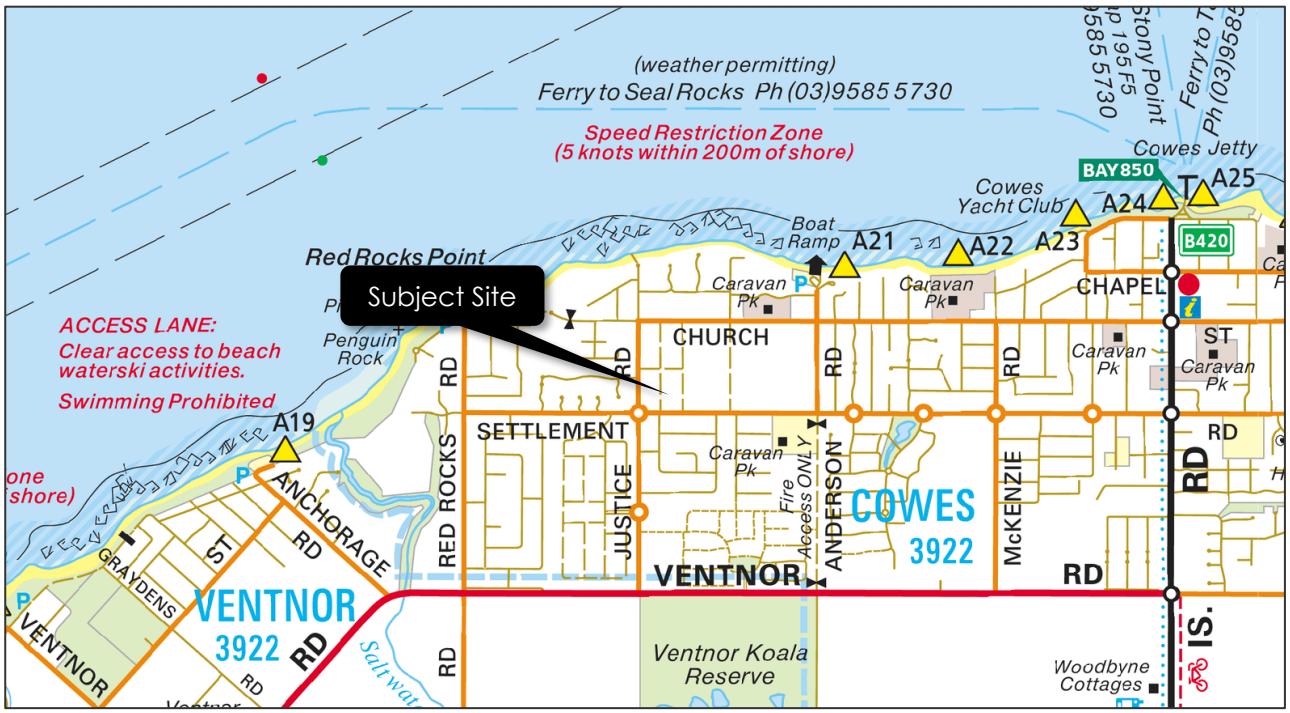
As part of this assessment all relevant background information has been reviewed and traffic and parking data has been sourced.

2 EXISTING CONDITIONS

2.1 Site Location

The subject site is located at the north-eastern corner of the Settlement Road / Justice Road intersection and extends north through to Church Street as shown in Figure 1.

Figure 1 Site Location



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The site is L-shaped and has a frontage to Settlement Road for approximately 402 metres along the southern boundary, a frontage to Justice Road for approximately 201 metres along the western boundary, a frontage to Church Street for 200 metres along the northern boundary and a frontage to Bellavista Road for approximately 400 metres along the eastern boundary, with a total site area of approximately 12.13 hectares.

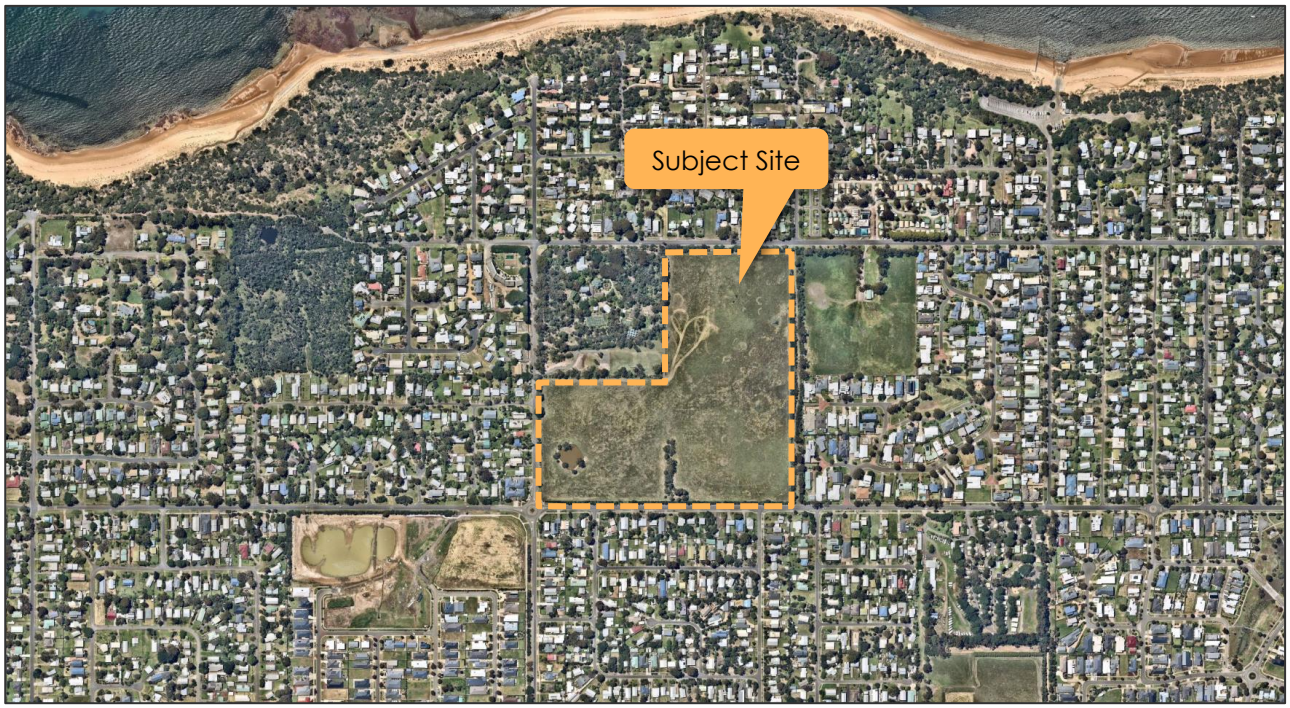
The site is currently vacant.

Informal vehicular access to the site is currently provided via Church Street.

Land use in the immediate vicinity is generally residential in nature, with several vacant properties in the vicinity undergoing standard density residential development. In addition, a rural residential property is located along the site's eastern boundary.

An aerial view of the subject site is provided in Figure 2.

Figure 2 Site Context (19 November 2020)

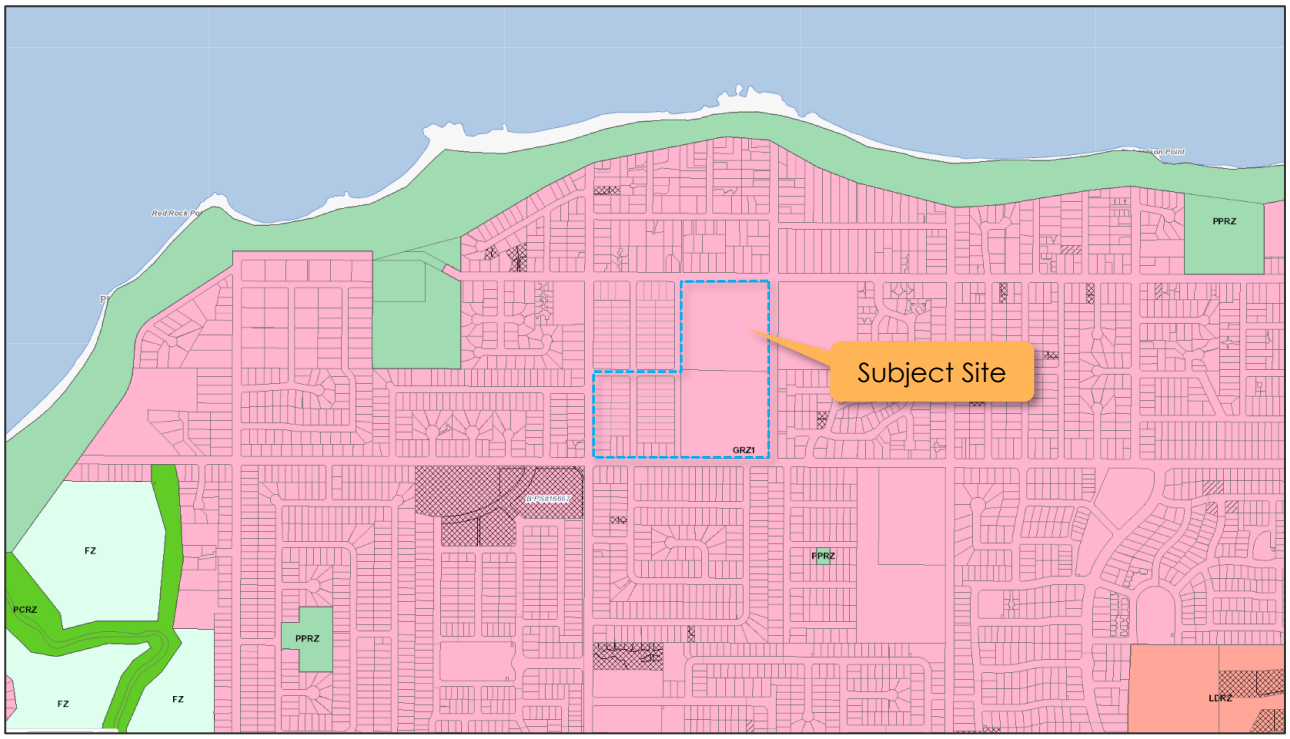


Copyright Nearmap

2.2 Planning Zones and Overlays

It is shown in Figure 3 that the site is located within a General Residential Zone (GRZ).

Figure 3 Planning Scheme Zones



2.3 Road Network

2.3.1 Settlement Road

Settlement Road is a local road generally aligned east-west, and extends west past Red Rocks Road and extends east past Sanders Road. Settlement Road provides a 7.5 metre sealed carriageway that accommodates traffic in both directions. Informal parking is provided on both sides of the road via rollover kerbs. A shared path is provided on the south side of the road opposite the site.

A signed 60km/h speed limit applies to Settlement Road in the vicinity of the site.

2.3.2 Justice Road

Justice Road is a local road generally aligned north-south, running between Ventnor Road and extending north past McRae Avenue. Church Street provides a 6 metre sealed carriageway that accommodates traffic in both directions with grassed shoulders on both sides. No footpath provision is available on either side of Justice Road.

A signed 60km/h speed limit applies to Justice Road in the vicinity of the site.

The intersection of Settlement Road and Justice Road is controlled by a roundabout.

2.3.3 Church Street

Church Street is a local road generally aligned east-west, running between Dunsmore Road and Red Rocks Road. Church Street provides a 7.3 metre sealed carriageway that accommodates traffic in both directions. Informal parking is provided on both sides of the road via rollover kerbs.

No formal footpath provision is available on either side of Church Street.

A signed 60km/h speed limit applies to Church Street in the vicinity of the site.

The intersection of Church Street and Justice Road is an uncontrolled cross intersection with priority provided to Church Street traffic.

2.3.4 Bellavista Road

Justice Road is a local road generally aligned north-south, running between Settlement Road and Von Mueller Way. Along the site's eastern boundary, Bellavista Road is currently unconstructed and acts as a grassed footpath with no vehicular access provided.

North of Church Street, Bellavista Road provides a 6.6 metre sealed carriageway that accommodates traffic in both directions. Informal parking is provided on both sides of the road via rollover kerbs.

2.4 Existing Traffic Volumes

Beveridge Williams commissioned traffic movement counts at the intersections of Bellavista Road / Church Street, and Settlement Road / Justice Road, on Tuesday 1st December 2020, between 7:00am and 7:00pm.

The AM and PM peak hour results of the surveys are shown below.

Figure 4 Existing Traffic Volumes – Settlement Road / Justice Road

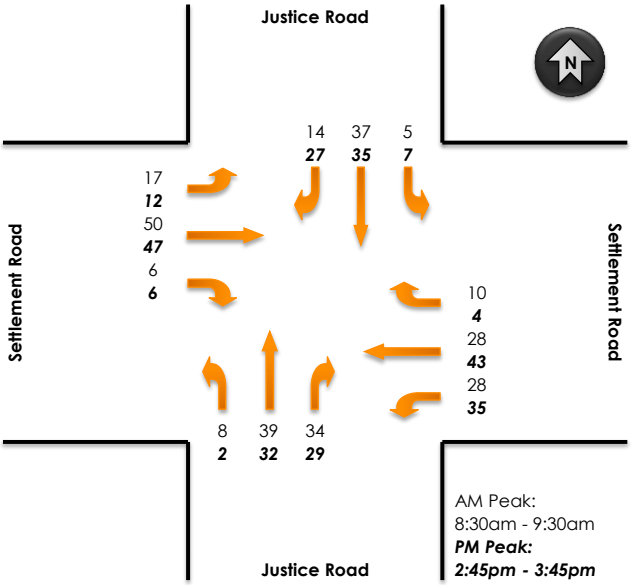
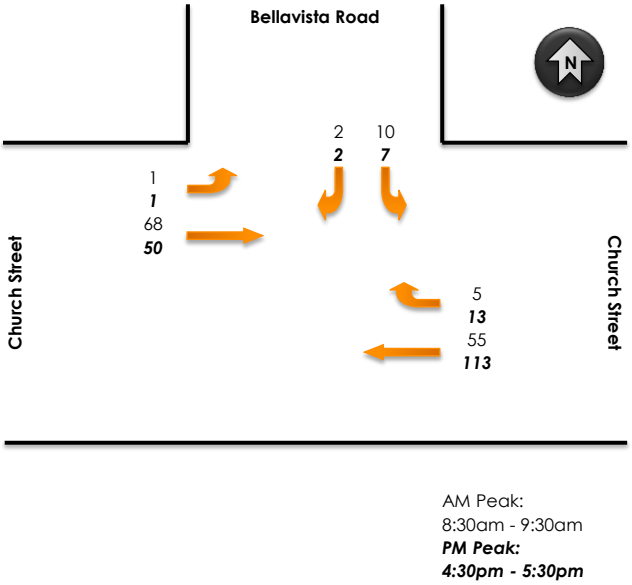


Figure 5 Existing Traffic Volumes – Church Street / Bellavista Road



2.5 Sustainable Transport

Public transport in the vicinity of the site is limited to bus services. The Cowes-Wonthaggi bus service operates along the site's Church Street and Justice Road frontages, with a bus stop located at the intersection of Settlement Road / Justice Road. Additional bus services are provided within the Cowes town centre, which include the Cowes-Melbourne V/Line service and the Cowes-Fountain Gate bus service which both provide access to both Metropolitan Melbourne and V/Line train services, as well as providing access to other V/Line couch services.

3 DEVELOPMENT PROPOSAL

3.1 General

It is proposed to develop the subject site for the purposes of a residential village with 277 dwellings provided on-site. The development will include residential units with one, two or three-bedrooms, with the size of the dwelling selected by the owner at the time of purchase. In addition, a community building with associated outdoor recreational facilities is proposed centrally within the site. The community building will generally be used by residents and visitors of the residents.

The proposed residential village development is shown in Figure 6.

Figure 6 Site Layout



3.2 Vehicle Access & Internal Road Network

Vehicular access to the site is proposed from a single access point along the southern boundary of the site to Settlement Road, with a central island to separate ingress and egress. The access point will allow for fully-directional movements (i.e. left-in, right-in, left-out, right-out) along Settlement Road.

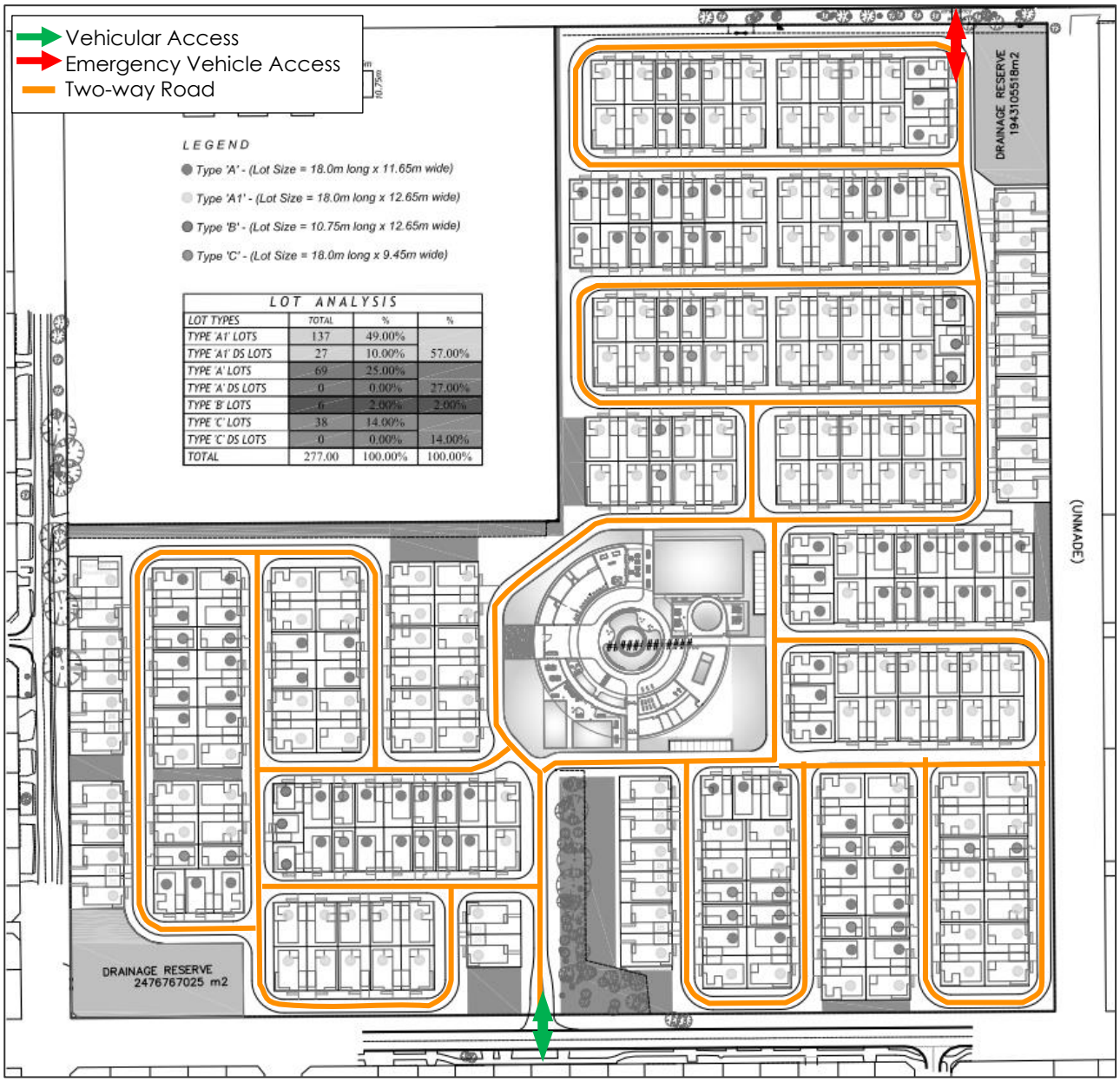
A secondary vehicle access is now provided along the site's northern frontage to Church Street. The vehicle access will be restricted to emergency vehicles only.

The development is proposed to be serviced by roads with a width of between 5.5 and 6.4 metres which will act as a shared zone and accommodate two-way vehicle traffic and pedestrians. It is noted that the 5.5 metre cross section also allows for a vehicle to park at the kerbside, while still allowing one vehicle to pass if required.

All internal intersections are proposed to be t-intersections.

The proposed vehicle access arrangements and internal road network is shown in Figure 7.

Figure 7 Proposed Vehicle Access and Internal Road Network



3.3 Pedestrian Network

The site's access to Settlement Road provides a footpath on one side of the road and provides access to the community building and other east-west pedestrian links.

An additional footpath is provided in the northern portion of the site, provided pedestrian access between Church Street and the community building.

All other roads will act as shared zones with both pedestrians and vehicles utilising the carriageway.

The proposed pedestrian network is shown in Figure 8.

Figure 8 Proposed Pedestrian Network



3.4 Car Parking

All residential units are proposed with a single garage accessed via crossovers from the internal road network. All units are also provided with additional parking for visitors or an additional vehicle if desired within the front driveway setback to the garage (clear of the common road).

Furthermore, the central community building is proposed with an additional 20 spaces surrounding the building.

4 DESIGN ASSESSMENT

4.1 Internal Road Network

All internal roads are to be owned and maintained by the operator of the residential village, Lifestyle Communities.

Roads within the estate are proposed with a carriageway width of no less than 5.5 metres, ensuring two-way traffic can be accommodated throughout the village. It is noted that the 5.5 metre cross section also allows for a vehicle to park at the kerbside, while still allowing one vehicle to pass if required.

4.2 Bass Coast Planning Scheme – Clause 52.06

onemile**grid** has undertaken an assessment of the car parking layout and access for the proposed development with due consideration of the Design Standards detailed within Clause 52.06-9 of the Planning Scheme. A review of those relevant Design Standards is provided in the following section.

4.2.1 Design Standard 1 – Accessways

A summary of the assessment for Design Standard 1 is provided in Table 1.

Table 1 Clause 52.06-9 Design Assessment – Design Standard 1

Requirement	*Comments*
Be at least 3 metres wide	Satisfied
Have an internal radius of at least 4 metres at changes of direction or intersection or be at least 4.2 metres wide	Satisfied – swept paths enclosed in Appendix A demonstrating waste collection vehicle movement along accessway
Allow vehicles parked in the last space of a dead-end accessway in public car parks to exit in a forward direction with one manoeuvre	Satisfied
Provide at least 2.1 metres headroom beneath overhead obstructions, calculated for a vehicle with a wheel base of 2.8 metres	N/A – no overhead obstructions
If the accessway serves four or more car spaces or connects to a road in a Road Zone, the accessway must be designed so that cars can exit the site in a forward direction	Satisfied
Provide a passing area at the entrance at least 6.1 metres wide and 7 metres long if the accessway serves ten or more car parking spaces and is either more than 50 metres long or connects to a road in a Road Zone	Satisfied

Requirement	Comments
Have a corner splay or area at least 50 per cent clear of visual obstructions extending at least 2 metres along the frontage road from the edge of an exit lane and 2.5 metres along the exit lane from the frontage, to provide a clear view of pedestrians on the footpath of the frontage road. The area clear of visual obstructions may include an adjacent entry or exit lane where more than one lane is provided, or adjacent landscaped areas, provided the landscaping in those areas is less than 900mm in height.	N/A – no footpath along site's frontage
If an accessway to four or more car parking spaces is from land in a Road Zone, the access to the car spaces must be at least 6 metres from the road carriageway.	Satisfied

4.2.2 Design Standard 2 – Car Parking Spaces

The garage dimensions are in accordance with the requirements of the Planning Scheme, with all garages a minimum of 6.0m long, and 3.5m wide accommodating a single vehicle. In addition, all garages are setback at least 5.0 metres from the access road, which is considered more than sufficient to accommodate a standard car space.

The 90-degree car parking spaces adjacent to the community building are proposed with a minimum width of 2.6 metres, length of 4.9 metres and are accessed from aisles of no less than 6.4 metres, in accordance with Design Standard 2 of the Planning Scheme.

4.3 Pedestrian Access

The southern pedestrian access point provides access from Settlement Road to a footpath which provides access to community building and other east-west pedestrian links.

An additional footpath is provided in the northern portion of the site, provided pedestrian access between Church Street and the community building.

All roads without adjacent footpaths will act as shared zones for both pedestrians and vehicles with 'Shared Zone' signage showing 15km/h operating speeds to ensure pedestrian priority and lower operating speeds.

4.4 Waste Collection

The internal road network has been designed to accommodate up to a 9.8 metre waste collection vehicle, as per the swept paths shown in Appendix A. The internal road network is therefore considered appropriate to accommodate waste collection.

Bins for the dwellings will be transferred by residents to the internal road network for collection on collection days. Whilst bins for the community building will be transferred by staff to the internal road network.

5 LOADING

Clause 65 (Decision Guidelines) of the Bass Coast Planning Scheme identifies that "*Before deciding on an application or approval of a plan, the responsible authority must consider, as appropriate: The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.*"

It is expected that there will be minimal loading activity associated with the proposed residential village, with any deliveries for the community building occurring via small vans and utility vehicles, which can utilise the adjacent car parking.

The provision for loading is therefore considered appropriate for the proposed use.

6 BICYCLE PARKING

The bicycle parking requirements for the subject site are identified in Clause 52.34 of the Bass Coast Planning Scheme. The Planning Scheme does not specifically refer to parking requirements for residential village uses, therefore, no bicycle parking is required.

Regardless, it is assumed that all residents will store their bicycles within their respective garages.

7 CAR PARKING

7.1 Statutory Car Parking Requirements

7.1.1 Car Parking Requirements – Clause 52.06

The car parking requirements for the subject site are identified in Clause 52.06 of the Bass Coast Planning Scheme, which specifies the following requirements for a residential village.

As mentioned above, all units will be constructed based on the residents' requirements and therefore may contain one, two or three bedrooms. To provide a conservative assessment, it will be assumed that half of the dwellings are either one or two bedroom and the remaining half are three-bedroom dwellings.

Table 2 Clause 52.06 – Car Parking Requirements

Use	*No*	*Rate*	*Car Parking Measure*	*Total*
Residential village	138	1	to each one or two bedroom dwelling, plus	138
	139	2	to each three or more bedroom dwelling (with studies or studios that are separate rooms counted as bedrooms), plus	278
	277	1	for visitors to every five dwellings for developments of five or more dwellings	55
Total				**471**

Based on the above calculations, a total of 471 parking spaces are required for the proposed development.

7.1.2 Proposed Car Parking Provision

It is proposed to provide each dwelling a single width garage setback five metres from the internal road allowing for a second vehicle to be parked in front of the garage, effectively providing 544 parking spaces on-site for residents, in accordance with the Planning Scheme requirements.

With regard to the visitor parking requirements, all dwellings are provided with a garage driveway capable of storing one visitor vehicle behind the garage when not occupied by a residents second vehicle, effectively resulting in up to 277 visitor parking spaces stored within the garage setback. In addition, a total of 20 car parking spaces are provided adjacent to the community building to meet any visitor parking demands not accommodated within the garage setback.

Furthermore, the 5.5 metre width road cross section which is used throughout the development will allow visitors to park on-street (albeit on one side of the road only), ensuring that all visitors will be catered for.

The community building on-site is considered to be an ancillary component to the proposed residential village with all residential and visitor parking demands already accounted for within the residential garages.

It is acknowledged that the community building will be staffed and therefore generate a parking demand. For typical daily use, it is expected that no more than 5 staff will be on-site at any one time. Conservatively assuming that all staff drive to the site, a demand for no more than 5 staff parking spaces may be generated.

Noting the above, the 20 car parking spaces proposed surrounding the community building is anticipated to meet the demands for both staff and visitor parking not accommodated within the garage setback.

Therefore, the provision of parking on the site for all users is considered to be appropriate.

8 TRAFFIC

8.1 Traffic Generation

Reference is made to traffic volume surveys undertaken by Traffix Group at the existing Lifestyle Village in Bittern. The Lifestyle Village in Bittern is very similar to the proposed Lifestyle Village in Cowes, and provides 210 independent living units for over 55s, in addition to private community facilities. The traffic surveys were undertaken between 5th February and 11th February 2020, at the access point to the site, which contained 210 completed dwellings, however only 202 dwellings were occupied at the time of the surveys. The results of the traffic study of the existing Lifestyle Village in Bittern are summarised in Table 3.

Table 3 Surveyed Traffic Generation Rate – Existing Lifestyle Village Site

Period	*Inbound*	*Outbound*	*Total*
AM Peak Hour	0.07	0.15	0.22
PM Peak Hour	0.15	0.07	0.22
Daily	1.72	1.71	3.43

Applying the above rates to the proposed 277 dwellings on-site gives the anticipated traffic generation below.

Table 4 Residential Village Traffic Generation

Period	*Inbound*	*Outbound*	*Total*
AM Peak Hour	20	40	475
PM Peak Hour	41	21	475
Daily	61	61	950

8.2 Traffic Distribution

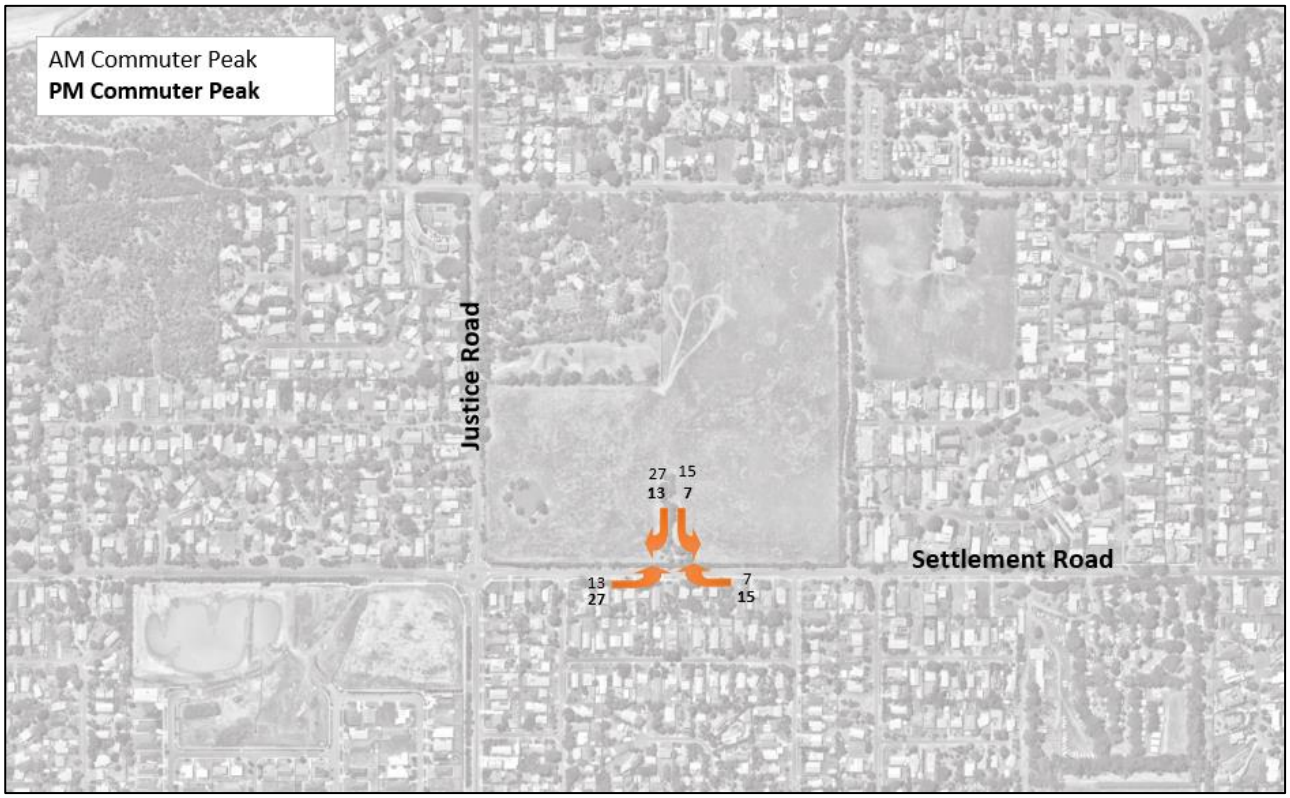
Considering the location of the site in relation to the arterial road network, recreation and retail precincts, the directional distribution shown in Table 5 has been adopted.

Table 5 Adopted Directional Traffic Distribution

Origin / Destination	*Percentage*
Settlement Road – East	65%
Settlement Road - West	35%

Applying the above distribution percentage to the projected traffic movements to be generated by the proposed development produces the following traffic movements as shown below in Figure 9.

Figure 9 Expected Peak Hour Traffic Distribution



8.3 Traffic Impact

Reviewing the generated traffic volumes above, it is expected that a maximum of 27 vehicles movements per hour are expected for any turning movement to Settlement Road, equivalent to less than one movement every two minutes. This amount of traffic is very low and is expected to be easily absorbed into the surrounding road network.

In addition to the above, the site had previously contemplated standard density residential development with 192 lots proposed on-site. Furthermore, it is generally accepted that single dwellings on a lot in outer suburban areas may generate traffic at up to 10 vehicles per day, resulting in 1920 movements per day, with 192 movements occurring during the AM and PM peak hours (10% of the daily traffic).

Based on the above, the proposed residential village is expected to generate approximately 70% less traffic during the peak periods, and 50% less daily traffic than if the site was used for standard density residential development.

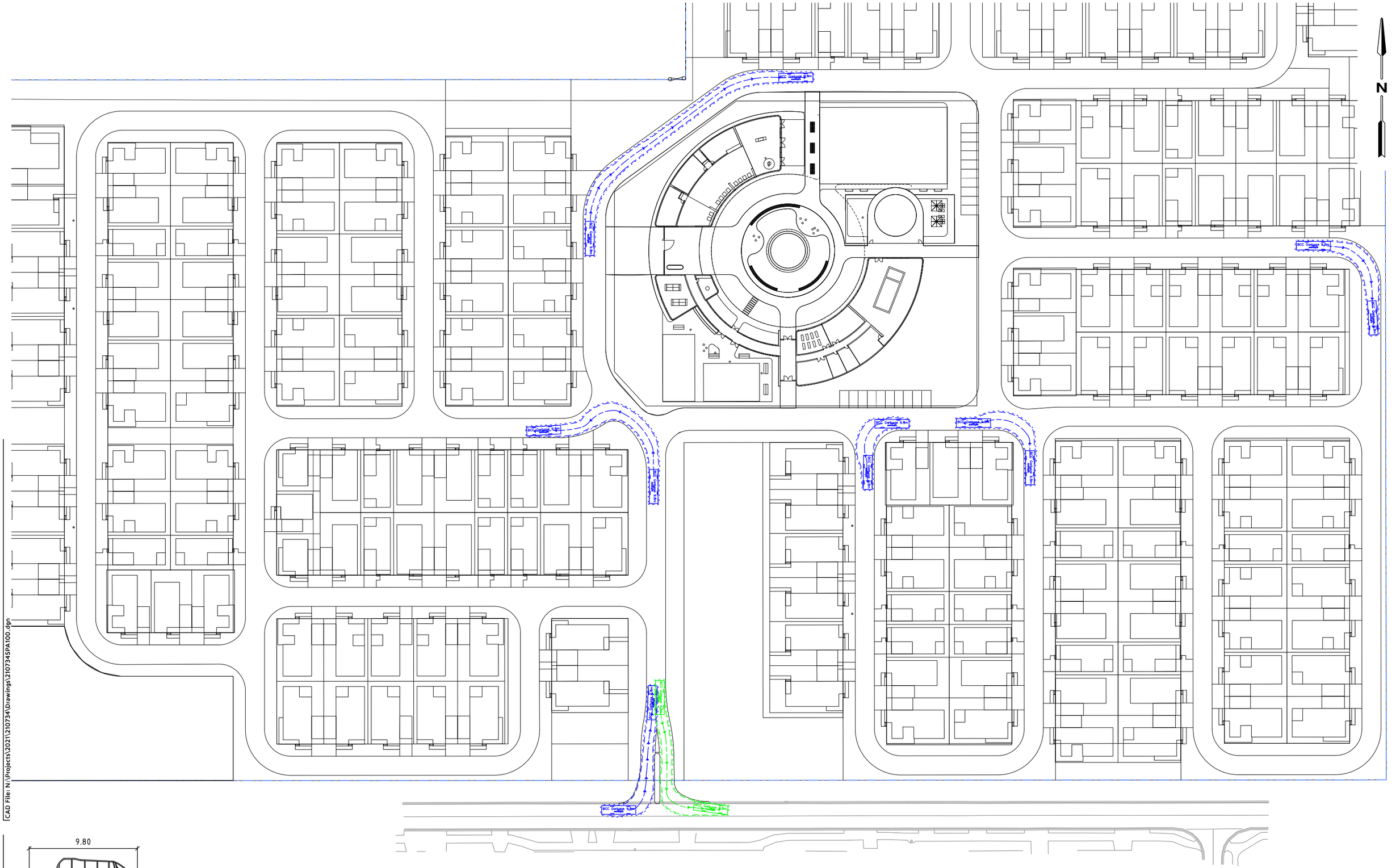
9 CONCLUSIONS

It is proposed to develop the subject site for the purposes of a residential village with 277 units, and an ancillary community building providing various facilities for residents. The residential village is serviced by an internal road network that provides direct access to all dwellings.

Considering the analysis presented above, it is concluded that:

- The proposed car parking and access design is considered appropriate;
- The internal road network has been appropriately designed to accommodate both vehicle and pedestrian movements;
- The proposed provision of parking meets the statutory requirements for resident and visitor car parking and is considered acceptable;
- A total of 20 car parking spaces are provided adjacent to the community building for staff/visitor use, which therefore considered appropriate to meet the demands of staff;
- The site is expected to generate up to 61 vehicles movements during the commuter peaks and is not expected to have an impact on the operation of the surrounding road network; and
- There are no traffic engineering reasons which would preclude a permit from being issued for this proposal.

Appendix A Swept Path Diagrams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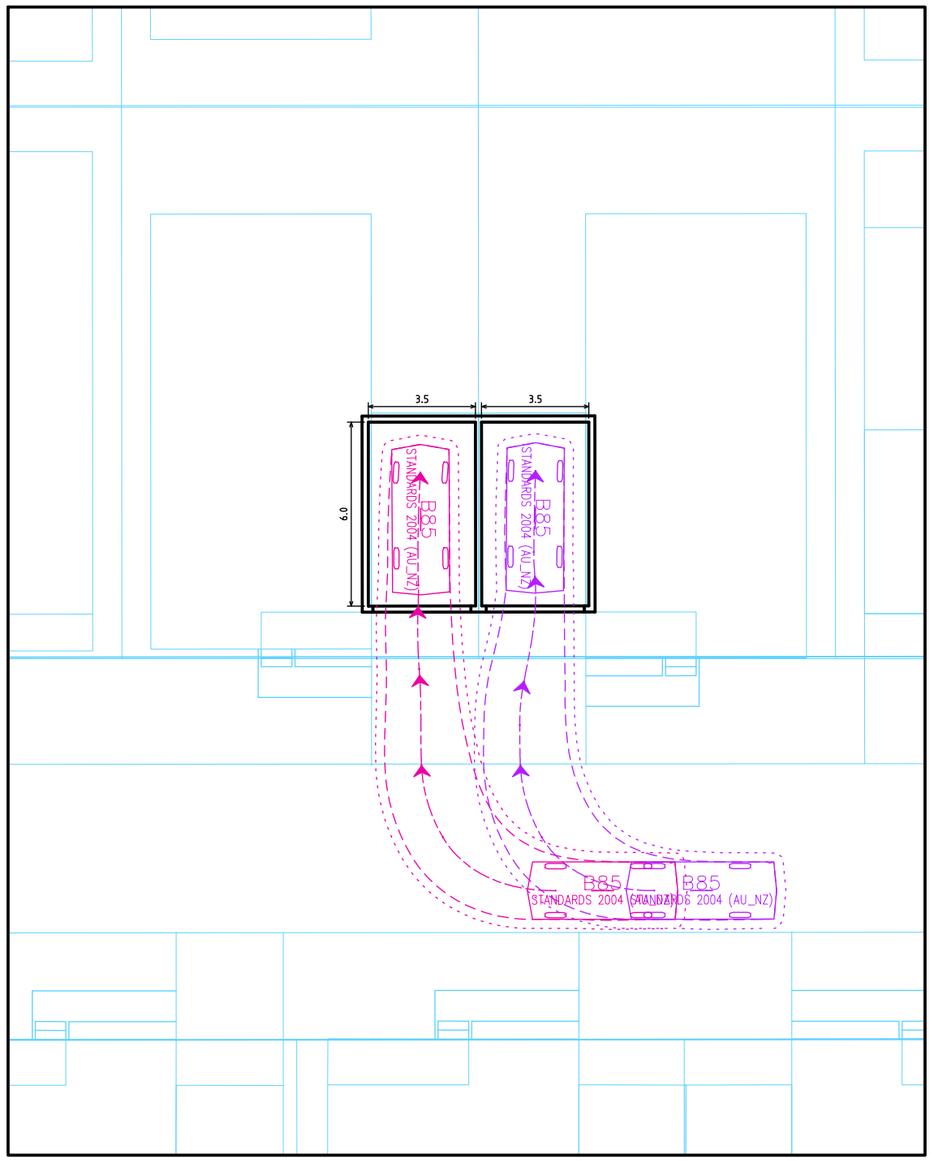
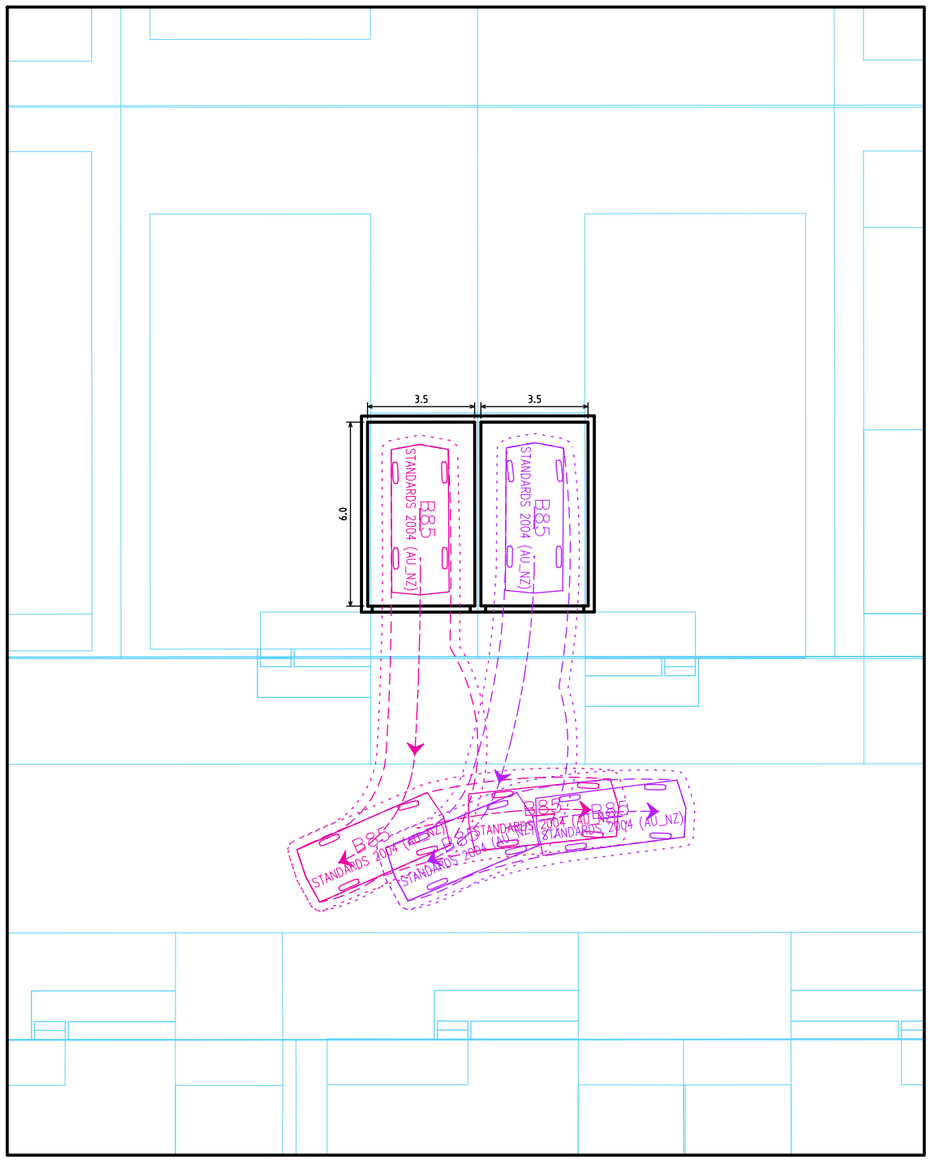


ENTRY MANOEUVRES

- - - - - DESIGN VEHICLE SWEPT PATHS SHOWN DASHED
--------- 300mm CLEARANCE ENVELOPE SHOWN DOTTED



EXIT MANOEUVRES

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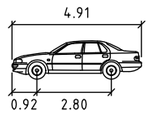
--------- 300mm CLEARANCE ENVELOPE SHOWN DOTTED



B85	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

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Drawing Title
SETTLEMENT ROAD COWES
TYPICAL GARAGE ACCESS
SWEPT PATH ANALYSIS

Designed	Approved	Melway Ref
MOB	VG	

Project Number	Drawing Number	Revision
210734	SPA200	A

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Lifestyle Communities - Cowes

Waste Management Plan



210734WMP001A

1 October 2021

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Signature		**Signature**	

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APPENDIX A SWEPT PATHS

1 INTRODUCTION

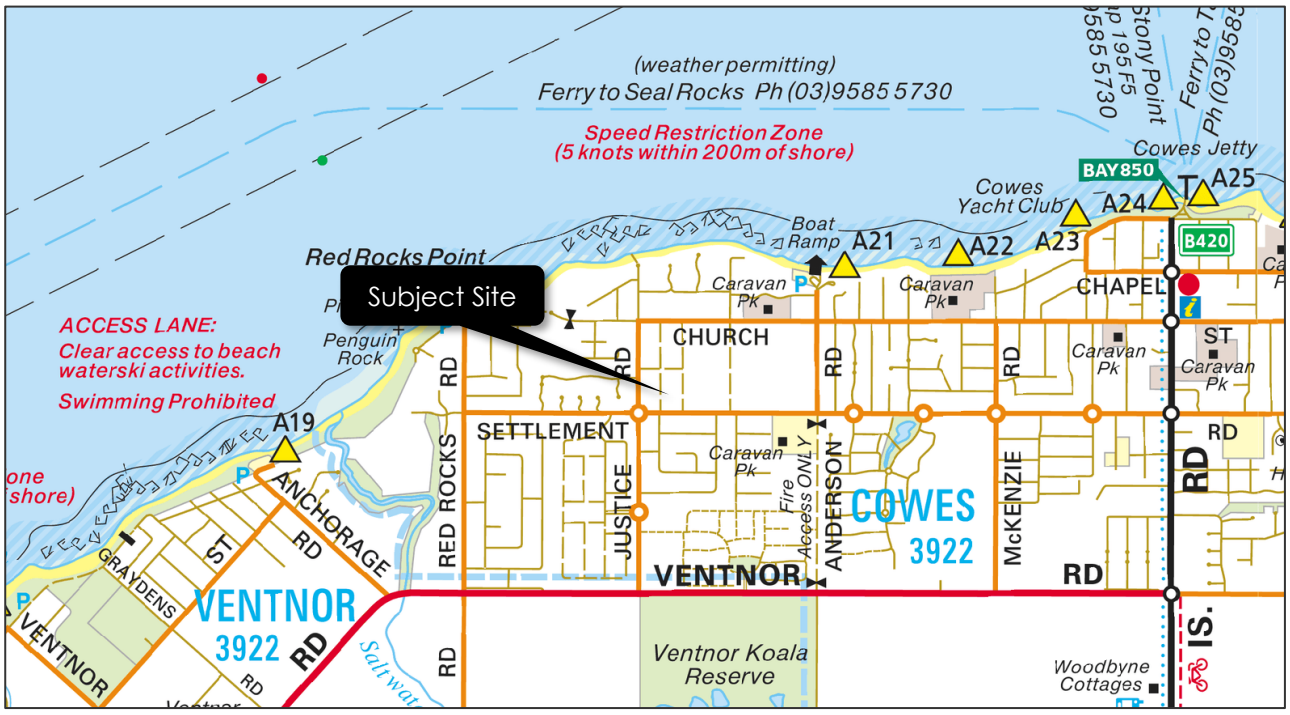
onemile**grid** has been requested by Lifestyle Communities to prepare a Waste Management Plan for the proposed Residential Village development at 299-325 Church Street, Cowes.

The preparation of this management plan has been undertaken with due consideration of the Sustainability Victoria Better Practice Guide for Waste Management and Recycling in Multi-unit Developments and relevant Council documentation.

2 EXISTING SITE CONDITIONS

The subject site is located at the north-eastern corner of the Settlement Road / Justice Road intersection as shown in Figure 1.

Figure 1 Site Location



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The site is L-shaped and has a frontage to Settlement Road for approximately 402 metres along the southern boundary, a frontage to Justice Road for approximately 201 metres along the western boundary, a frontage to Church Street for 200 metres along the northern boundary and a frontage to Bellavista Road for approximately 400 metres along the eastern boundary, with a total site area of approximately 12.13 hectares.

The site is currently vacant.

Land use in the immediate vicinity is generally residential in nature, with several vacant properties in the vicinity undergoing standard density residential development.

3 DEVELOPMENT PROPOSAL

3.1 General

It is proposed to develop the subject site for the purposes of a residential village with 281 x residential units of varying sizes. In addition, a community building with associated outdoor recreational facilities is proposed centrally within the site. The community building will generally be used by residents and visitors of the residents.

It is noted that the community building does not provide any food and drink services for residents, instead the kitchen facilities are to be used by residents who bring in their own food.

3.2 Waste Management

It is proposed to utilise Bass Coast Council's waste collection services to manage the collection and disposal of waste generated for the residential component and the community building.

All dwellings will include a three-bin system to ensure garbage, recyclables and organic waste are sorted at the time of disposal. The bins will be stored within the garages of each unit or within the private open space at the front or rear. Bins will be transferred by residents from their garages or from the POS onto the internal road for collection on the specified collection day. Following collection, the residents will be responsible for returning their bins into their garage or side setback.

Bins for the community building will be stored in the northern portion of the community building. Staff will be responsible for disposing of recyclables, bagged garbage and organics into the appropriate bins located within the bin storage room.

Staff will be responsible for transferring the community building bins from the bin room to the internal road network for collection and then return them into the bin room.

On collection days, the Council waste collection vehicle (nominally a 9.8m rigid truck) will access the site via the proposed access to Settlement Road. It will then circulate the site via the internal road network and dispose of all waste directly into the truck. After collecting all waste, it will exit the site onto Settlement Road in a forward direction.

Swept paths are provided in Appendix A which show up to 9.8m rigid vehicle's are able to circulate the site.

The collection location and expected transfer route is shown in Figure 2.

Figure 2 Bin Storage Room and Collection Details



4 WASTE GENERATION

4.1 Sustainability Victoria Recommended Rates

Waste generation rates published within Sustainability Victoria's "Better Practice Guide for Waste Management and Recycling in Multi-unit Developments" suggest the following rates for multi-unit developments:

Table 1 Sustainability Victoria Recommended Rates – Residential

Dwelling Size	*Garbage*	*Recycling and Paper*
Individual dwelling	120L	120L or 240 L
3-bedroom apartment or greater	120L	120L
2-bedroom apartment	100L	100L
1 bedroom or studio apartment	80L	80L

4.2 Adopted Council Rates

All residents within the Bass Coast Shire are entitled to 1 x 120 litre garbage bin, 1 x 240 litres recycling bin and 1 x 240 litre organics bin.

4.3 Operator Information

The operator has advised that the following bins are provided at another residential village with a similar community building that is proposed on the subject site:

- 4 x 660 litre garbage bins collected weekly; and
- 1 x 660 recycling bin collected weekly.

4.4 Expected Waste Generation

4.4.1 Garbage, Organics and Recycling

It is proposed to provide garbage, organic and recycling bins in accordance with Council's standard bin provision. Council provides a weekly organics waste collection and a fortnightly garbage and recycling waste collection (on alternative weeks).

In regard to the community building, it is expected that a portion of the garbage waste generated by the resident dining/kitchen components will consist of organic (food) waste. Noting that the majority of residents will generally be cooking at home, it is expected that the community building will generate less organics waste than can be expected at homes (40%) and cafes (75%), therefore it is assumed that 25% of all general waste will consist of organics.

Based on Council's adopted waste generation rates and operators waste generation rates, and applying the above organic waste percentages, the following weekly waste generation is expected.

Table 2 Expected Waste Generation – Residential Village

Component – Stream	No of Dwellings	Rate / Dwelling / Week	Total Waste/Week
Garbage	281	60 litres	16,860 litres
Recycling	281	120 litres	33,720 litres
Organics	281	240 litres	67,440 litres

Table 3 Expected Waste Generation – Community Building

Component – Stream	Total Waste/Week
Garbage	1,320 litres
Recycling	660 litres
Organics	1,320 litres

4.4.2 Green Waste

It is expected that any maintenance and gardening undertaken on common property will be managed by a contractor appointed by the operator. The appointed contractor will be responsible for the disposal of any green waste accumulated during the course of their duties.

All residential units will be provided with an organics bin which will also accommodate green waste from their garden/courtyards.

4.4.3 Hard Waste

Bass Coast Shire Council provides one at-call hard waste collection per dwelling per year. Hard waste will not be moved to the kerbside collection location until the evening before the hard waste collection, and the operator will manage the hard waste collections to minimise the number of collections.

Hard waste services for the community will be provided by a private contractor, under the management of the operator. Hard waste will be stored within the community building bin area between collections, with collection to occur along the internal road network.

4.4.4 Electronic Waste (E-Waste)

E-waste includes all manner of electronic waste, such as televisions, computers, cameras, phones, household electronic equipment, batteries and light bulbs.

E-waste contains valuable materials that can be recovered and reused such as tin, nickel, zinc, aluminium, copper, silver and gold.

Two 240 litre E-waste bins will be provided within the bin storage area at the community building. The operator will arrange for the disposal of E-waste as required.

5 BIN REQUIREMENTS

5.1 Bin Provision and Specifications

As outlined in Section 3.2, it is proposed to use Council's municipal waste collection for all waste services for the residential component. All residents will be provided one 120 litre garbage, one 240 litre recycling bin and one 240 litre organics bin per dwelling. The garbage and recycling bins will be collected fortnightly on alternating weeks.

The following bins will be required for the community building.

Table 4 Bin Provision – Community Building

Component – Stream	*Total Waste/Week*	*Bin Size*	*Collection Frequency*	*Bins Required*
Garbage	1,320 litres	660 litres	Fortnightly	4 bins
Recycling	660 litres	660 litres	Fortnightly	2 bins
Organics	1,320 litres	660 litres	Weekly	2 bins
E-Waste	N/A	240 litres	As required	2 bins
Total				**10 bins**

Table 5 Bin Specifications

Stream	*Capacity*	*Width*	*Depth*	*Height*	*Area*
Garbage	120 litres	0.50m	0.55m	0.95m	0.28m²
Garbage	240 litres	0.60m	0.75m	1.10m	0.45m²
Garbage	660 litres	1.25m	0.80m	1.30m	1.00 m²

Bin lids will be colour coded to the standard colour specifications of Council.

5.2 Bin Storage

It is proposed to provide a bin room in the northern portion of the community building, capable of accommodating 2 x 240 litre bins and 8 x660 litre bins. A view of these bin storage areas is provided in Figure 3.

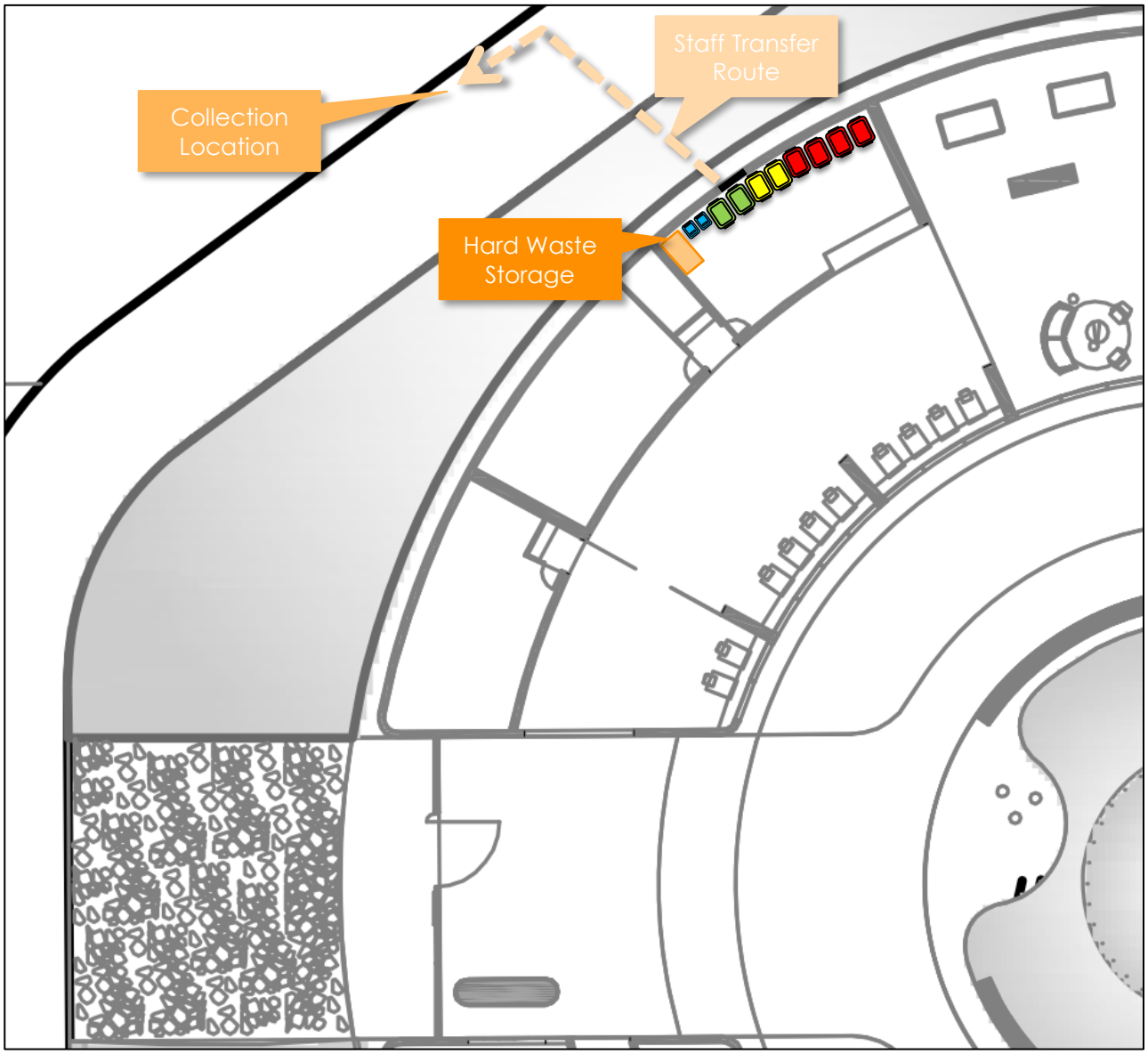
The proposed bin storage room is therefore appropriately sized to accommodate the provision of bins in accordance with the operators' requirements. Some additional area is also provided within the bin storage room to allow for the temporary storage of bulky items and packaging before hard waste collection days.

Furthermore, the bin storage room is located appropriately for access by all staff, and is secured from the common areas.

The bin storage room should be vermin proof, and have appropriate ventilation, lighting and drainage.

Each retirement village dwelling will be responsible for the storage of their individual bins, and sufficient area is provided within each garage or within the POS to accommodate the required bin storage.

Figure 3 Community Centre Bin Storage Area



5.3 Bin Collection

All waste will be collected by Council as per their typical waste collection schedule.

Swept paths are provided in Appendix A which show up to 9.8m rigid vehicles are able to circulate the site.

5.4 Bin Cleaning

Residents are responsible for the maintenance and cleaning of their own bins, through regular cleaning.

The operator shall ensure that the larger bins are kept in a clean state, to minimise odours and to discourage vermin. This may include regular cleaning by staff or by a bin cleaning contractor.

6 WASTE MANAGEMENT

6.1 Best Practice Waste Management

Best Practice Waste Management is an initiative designed to reduce the amount of waste generated through encouraging a change of behaviour and action on waste management and moreover recycling.

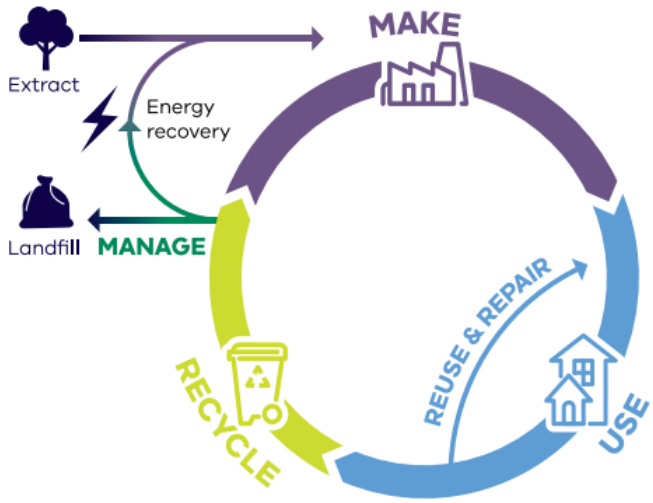
The benefits of reducing waste generation are far reaching and have been identified as significantly important by Council and the Victorian Government.

Recycling Victoria: A New Economy is a policy and 10-year action plan, prepared by the Victoria Government, to "deliver a cleaner, greener Victoria, with less waste and pollution, better recycling, more jobs and a stronger economy".

Four overarching goals have been identified in order to achieve a circular economy in relation to waste, as below:

1. MAKE – Design to last, repair and recycle;
2. USE – Use products to create more value;
3. RECYCLE – Recycle more resources;
4. MANAGE – Reduce harm from waste and pollution.

Figure 4 Resource Flows in a Circular Economy



In relation to the proposed development, recycling is of key importance, and in this regard, the operator shall encourage residents to participate in minimising and reducing solid waste production by:

- Promoting the waste hierarchy, which in order of preference seeks to:
  - Avoid waste generation in the first place;
  - Increase the reuse and recycling of waste when it is generated; and
  - Recover, treat or contain waste preferentially to;
  - Its disposal in Land Fill (which is least desirable).
- Providing information detailing recyclable materials to ensure that non-recyclable materials do not contaminate recycling collections;
- Providing information regarding safe chemical waste disposal methods and solutions, including correct battery and electronics disposal methods;
- Encouraging composting for residents; and

- Providing tips for recycling and reusing waste, including encouraging the disposal of reusable items in good condition via donations to Opportunity Shops and Charities.

6.2 Bin Usage

Residents will bag and dispose of garbage and recycling in the provided bins, located within their garage or behind the building line. Cardboard boxes should be flattened, and containers rinsed and cleaned prior to disposal in the provided bins.

Staff of the community centre will dispose of recyclables and bagged garbage directly into bins within the bin store.

Organics bin for the residential unit and the community centre should be disposed of unbagged or within compostable bags.

6.3 Signage

To avoid contamination between garbage streams, bin lids will be colour coded generally in accordance with Council standards, to ensure the bin type is easily distinguishable. Furthermore, bins should include typical signage (preferably on the bin lid) to reinforce the appropriate materials to be deposited in each bin. Example signage available from Sustainability Victoria is shown below.

Figure 5 Example Waste Signage



6.4 Resident & Staff Information

To ensure all residents and staff are aware of their responsibilities with regard to waste and bin management, an information package should be provided by the operator to all residents and staff, including the following information:

- A copy of this Waste Management Plan;
- Methods and techniques for waste reduction and minimisation;
- Information regarding bin collection days and requirements;
- Resident and staff responsibilities with regard to bin usage, storage, and collection; and
- Resident and staff responsibilities with regard to litter and waste removal from the common property.

6.5 Agreement for Council Collection

To allow access to the site for Council's waste contractor, the operator must enter into an arrangement with Council and its contractor, through the signing of an indemnity agreement in accordance with Council requirements.

6.6 Waste Management Plan Implementation

The implementation, coordination and funding of the Waste Management Plan is the responsibility of the operator, and should be a dynamic document, reflecting changes in on-site and off-site conditions e.g. varying bin requirements, or changing waste collection methodology. As such, the plan should be regularly revisited and amended to provide the most accurate and relevant information to achieve the desired objectives of effectively managing the storage and disposal of waste generated on-site.

Should any significant operational changes occur on-site, a new or amended Waste Management Plan prepared by a suitable qualified and experienced person or firm may be required, detailing changes to the storage and disposal of the general, recyclable and e-wastes, responsibility in management and maintenance of the bins, location and area of bin rooms, etc.

7 OCCUPATIONAL HEALTH & SAFETY RESPONSIBILITIES

The Owners Corporation/site operator shall ensure compliance to all relevant OH&S regulations and legislation, including the following:

- Worksafe Victoria Guidelines for Non-Hazardous Waste and Recyclable Materials

8 CONTACT INFORMATION

8.1 Council

Bass Coast Shire Council

Phone: (03) 5721 2211 (Customer Service)

Web: www.basscoast.vic.gov.au

8.2 Equipment

Eco-Safe Technologies (odour control equipment)

Phone: 0411 335 753

Web: www.eco-safe.com.au

Email: info@eco-safe.com.au

8.3 Others

Sustainability Victoria

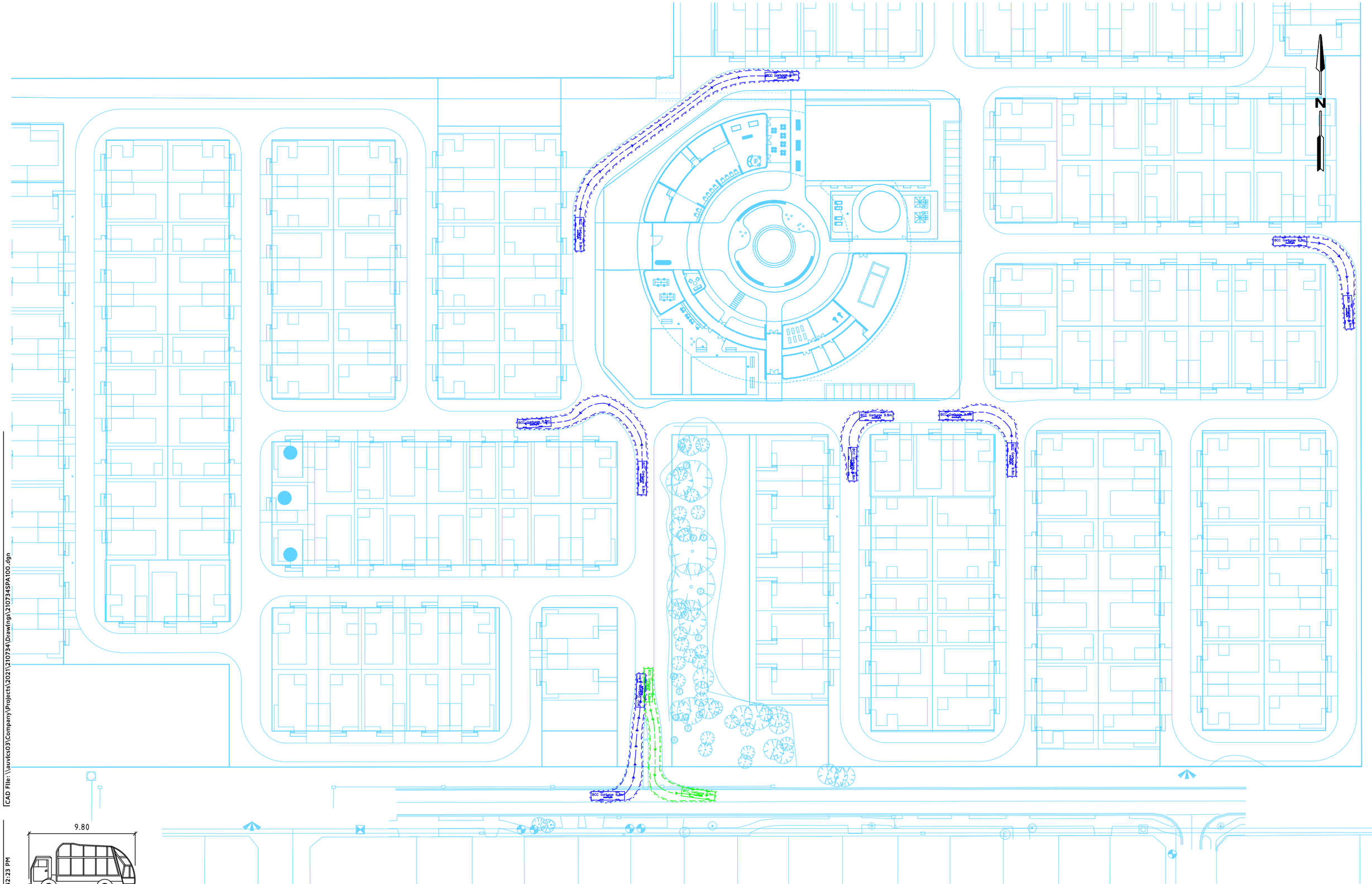
Services: Sustainable Waste Management initiatives and information

Phone: 1300 363 744 (Energy, Waste and Recycling)

Web: www.sustainability.vic.gov.au

Email: info@sustainability.vic.gov.au

Appendix A Swept Paths



BCC GARBAGE 9.8m meters

Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 4.0
Steering Angle	: 35.8

SWEPT PATH LEGEND

– – – – – DESIGN VEHICLE SWEPT PATHS SHOWN DASHED

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SWEPT PATH ANALYSIS

Designed	Approved	Melway Ref
MOB	VG	

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Stormwater Strategy

299-325 Church Street, Cowes

For Lifestyle Developments Pty Ltd

April 2022

KLM SPATIAL

LAND DEVELOPMENT INTELLIGENCE

299-325 Church Street, Cowes

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08/11/21	C	S.Young	W.Armstrong	Internal Client, Council
27/09/21	B	S.Young	W.Armstrong	Internal Client, Council
21/09/21	A	S.Young	W.Armstrong	Internal Client, Council

1.0 Introduction

This report has been prepared by KLM Spatial on behalf of Lifestyle Developments Pty Ltd to assess stormwater management requirements for a proposed mixed-use development at 299-325 Church Street, Cowes.

The assessment has been conducted by experienced engineers from KLM Spatial with consideration to the existing conditions, proposed site usage and layout, surrounding drainage scheme and relevant feedback/advice from Bass Coast Shire Council who are the responsible catchment management authority. Noting, the site is not within a Melbourne Water Drainage Scheme Boundary.

The report considers the following elements of stormwater management relevant to development of the site:

Drainage Catchments and Scheme

Stormwater Quantity & Quality Management

Proposed Drainage Network

In accordance with council requirements primary stormwater objectives for the site are outlined in Clause 53.18 "Stormwater Management in Urban Development" as below:

Clause 53.18-5 Stormwater Management Objectives for Building and Works

- To encourage stormwater management that maximises the retention and reuse of stormwater.
- To encourage development that reduces the impact of stormwater on the drainage system and filters sediment and waste from stormwater prior to discharge from the site.
- To encourage stormwater management that contributes to cooling, local habitat improvements and provision of attractive and enjoyable spaces.
- To ensure that industrial and commercial chemical pollutants and other toxicants do not enter the stormwater system.

Clause 53.18-6 Site Management Objectives

- To protect drainage infrastructure and receiving waters from sedimentation and contamination.
- To protect the site and surrounding area from environmental degradation prior to and during construction of subdivision works.

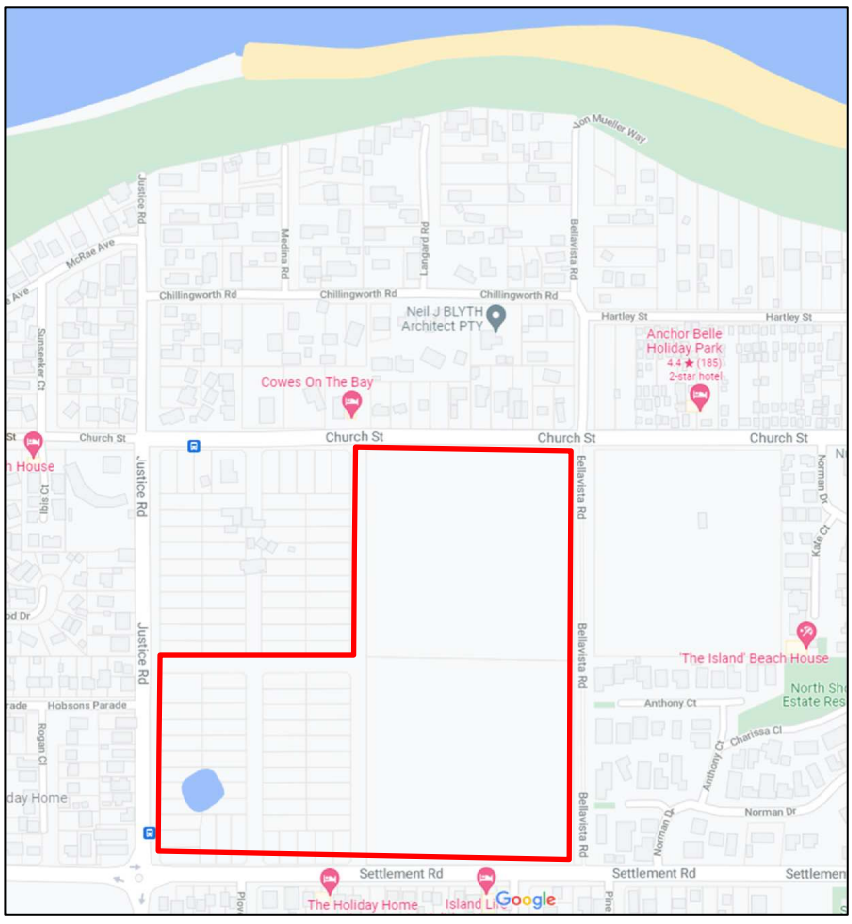
2.0 Site and Surrounds

The subject site is located to the west of Cowes, in southern Victoria approximately 74km from Melbourne. The site is bounded by Settlement Rd to the south, Church Street to the north, Bella Vista Rd to the east and Justice Rd to the west.

Figure 1: Site and Surrounds



Figure 2: Site Map



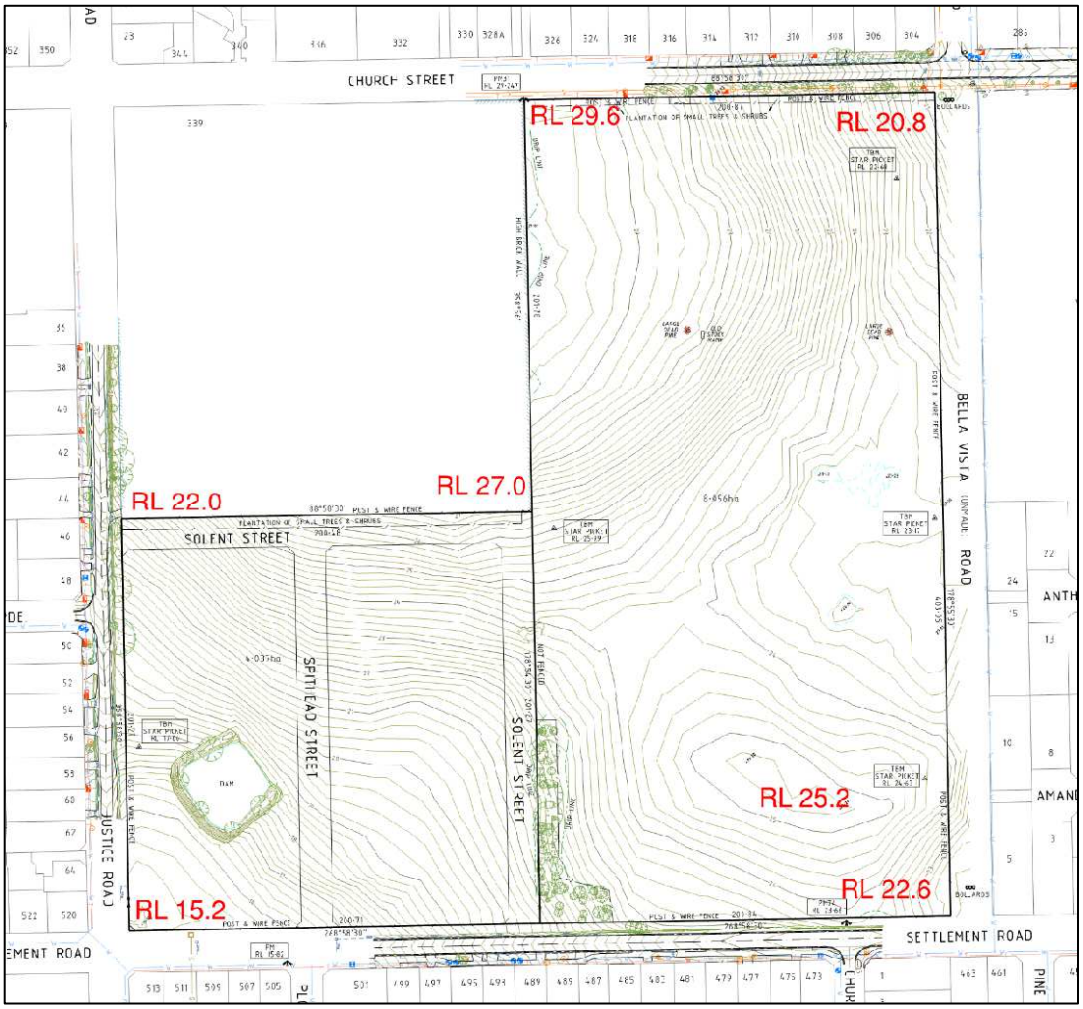
2.1. Topography

The western half slopes to the southwest with the lowest elevation of 15.2m AHD meanwhile the eastern half slopes to the northeast with the lowest elevation of 20.8m AHD. The highest elevation is at the centre of the site at an elevation of 27.0 m AHD.

There is no existing infrastructure on the site other than an existing dam in the south west corner.

The site is approximately 200m south of the beach via. Bellavista Rd.

Figure 2: Feature Survey



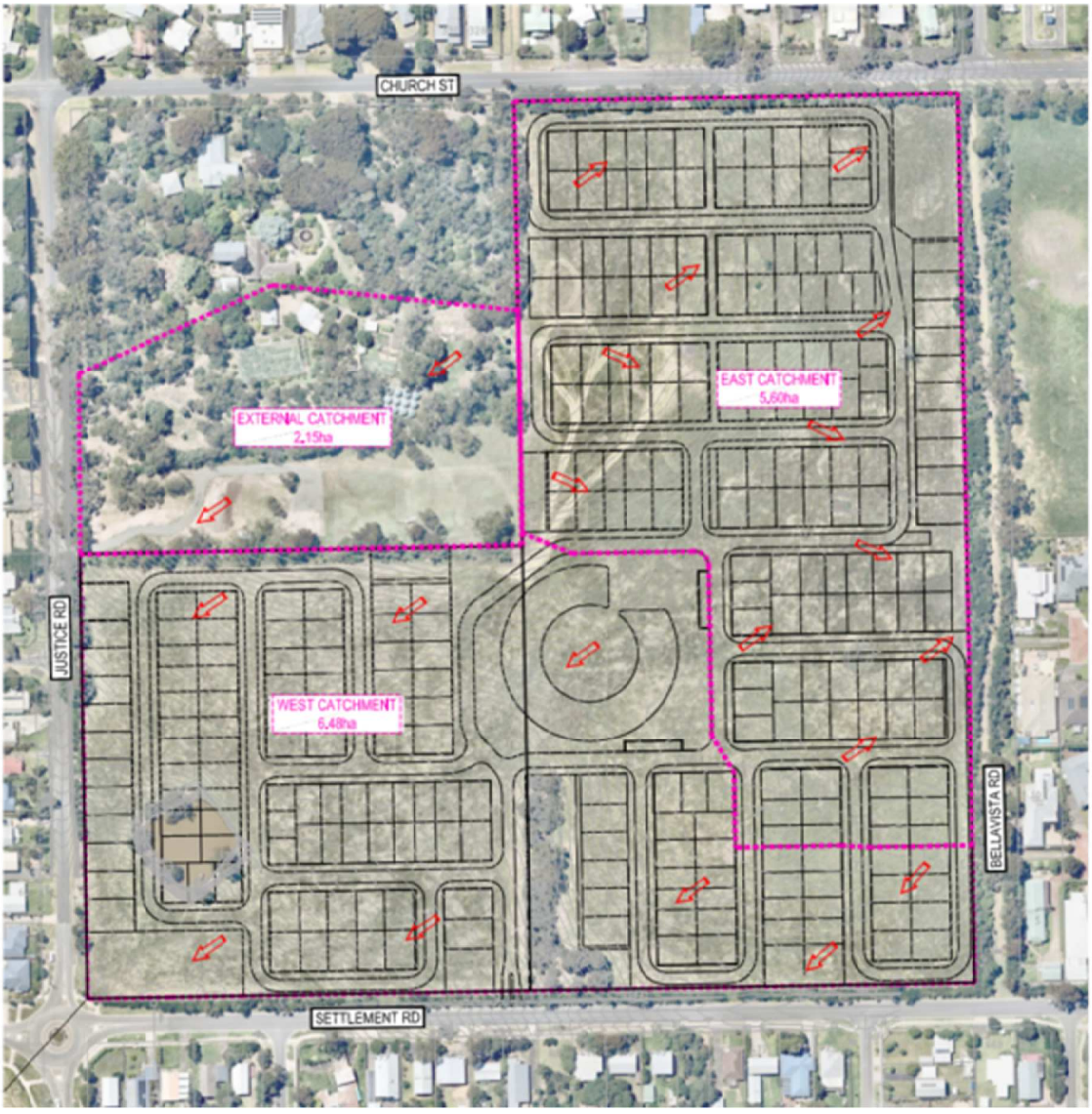
2.2. Existing Drainage Conditions

In existing conditions, the site's runoff flows as sheet flow from the centre of the site. Half flows to the southwest boundary and the other half flows to the northeast boundary. As sheet flow, the grade is 1 in 23 in the east catchment and 1 in 20 in the west catchment. An external area of 2.2 ha to the north of the site also passes through the site which needs to be considered.

The LPD for the west catchment will be an existing 525mm dia. pipe in Justice Road, just north of the Settlement Road intersection.

The LPD for the eastern catchment will be a 300mm dia. pipe in Church St just west of Bella Vista Rd, however, not all of the eastern catchment currently discharges to this point. East Catchment B and C currently flow into neighbouring sites overland with no formal drainage outlet to convey them. It will not be feasible to maintain this arrangement after development, so these catchments will need to be rerouted to the formal LPD in Church St.

Figure 3: Existing Drainage Conditions



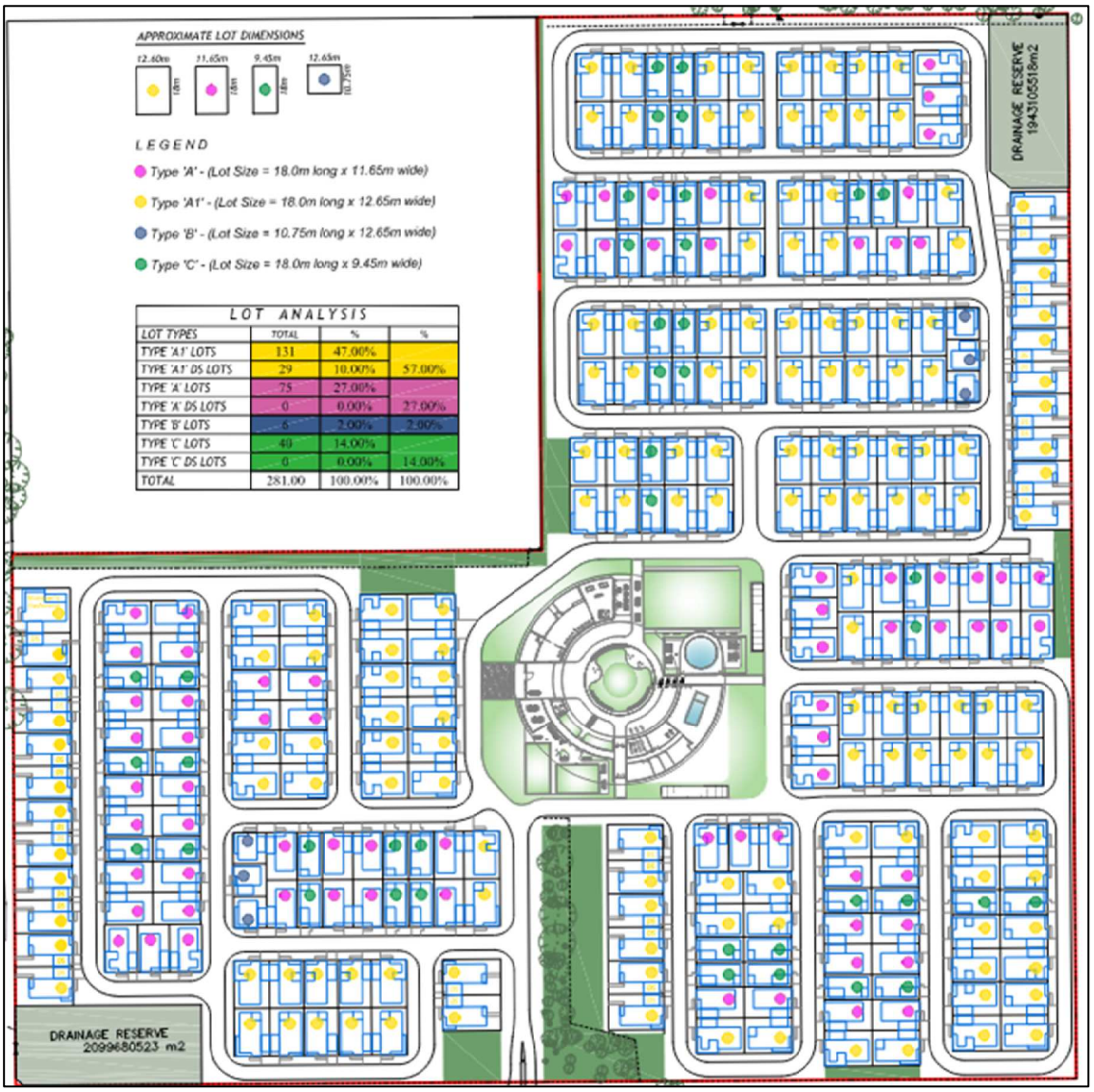
3.0 Proposed Development

3.1. Proposed Development

It is proposed to develop the site as a retirement village comprising 281 dwellings, private access roads, clubhouse and public open space.

The site will be developed as a Residential Village, and as such all internal infrastructure will be owned and maintained privately.

Figure 3: Proposed Layout Plan



4.0 Hydrology

Analysis has been undertaken to calculate existing and developed flows for the subject site in both the minor and major storm events.

Rainfall data has been sourced from the Bureau of Metrology Design Rainfall Data System (ARR2019). Hydrology calculations have been made in accordance with Infrastructure design Manual (IDM) to ensure proposed drainage systems will comply with requirements of the greater surrounding catchment.

Time of concentration for the catchments has been calculated using the sheet flow equation.

$$Tc = (108(n)\ Lf^{1/3}) / S^{1/5}$$

Design flows have been calculated using the rational method.

$$Q = C \times I \times A / 360$$

These methods have been deemed satisfactory to determined flow magnitudes for the strategy phase of design. Refined calculations will be provided in the detailed design phase.

4.1. Minor Storm Event

The minor storm event includes rainfall events up to and including the 20% AEP storm for residential catchments.

Please find below flow calculation for the minor storm event.

Minor (20% AEP) Storm - Existing Flow Calculations								
Catchment	Area (ha)	L (m)	Slope (%)	n	tc (mins)	C	I (mm/hr)	Q (m3/s)
WEST	8.63	450	2.5	0.035	24	0.2	38.4	0.18
EAST	2.19	200	1.1	0.035	22	0.2	40.4	0.05

Minor (20% AEP) Storm - Developed Flow Calculations								
Catchment	Area (ha)	L (m)	Slope (%)	n	tc (mins)	C	I (mm/hr)	Q (m3/s)
WEST	8.63	450	2.5	0.013	9	0.60	64.8	0.93
EAST	5.60	350	1.1	0.013	10	0.80	61.6	0.77

Note:

1. Western catchment developed imperviousness of 60% is the average of 2.19ha of undeveloped external catchment at 0% imperviousness and 6.48ha of developed catchment at 80% imperviousness.
2. In the existing scenario, the eastern catchment only considers the 2.19ha of catchment discharging to the Church Street LPD previously defined as East Catchment A. However, in the ultimate when East Catchment B and C are re-routed to the LPD an additional 3.41ha is added to this catchment.

4.2 Major Storm Event

The major storm event includes rainfall events up to and including the 1% AEP storm for residential catchments.

Calculated flows and key parameters have been included below; detailed computations have been included in *Appendix B.*

Major (1% AEP) Storm - Existing Flow Calculations								
Catchment	Area (ha)	L (m)	Slope (%)	n	tc (mins)	C	I (mm/hr)	Q (m3/s)
WEST	8.63	450	2.5	0.035	24	0.20	66.6	0.319
EAST	2.19	200	1.1	0.035	22	0.20	70.3	0.086

Major (1% AEP) Storm - Developed Flows Calculations								
Catchment	Area (ha)	L (m)	Slope (%)	n	tc (mins)	C	I (mm/hr)	Q (m3/s)
WEST	8.63	450	2.5	0.013	9	0.60	112	1.61
EAST	5.60	350	1.1	0.013	10	0.80	107	1.33

Note:

1. Western catchment developed imperviousness of 60% is the average of 2.15ha of undeveloped external catchment at 0% imperviousness and 6.48ha of developed catchment at 80% imperviousness.
2. In the existing scenario, the eastern catchment only considers the 2.19ha of catchment discharging to the Church Street LPD previously defined as East Catchment A. However, in the ultimate when East Catchment B and C are re-routed to the LPD an additional 3.41ha is added to this catchment.

4.3 Treatment Event

Treatment of flows should be provided for rainfall events up to and including the 4EY storm for residential catchments.

Please find below flow calculation for the treatment event.

Minor (4EY AEP) Storm - Treatment Calculation								
Catchment	Area (ha)	L (m)	Slope (%)	n	tc (mins)	C	I (mm/hr)	Q (m3/s)
WEST	6.48	400	2.5	0.013	9	0.80	26.4	0.38
EAST	5.60	350	1.1	0.013	10	0.80	25.1	0.31

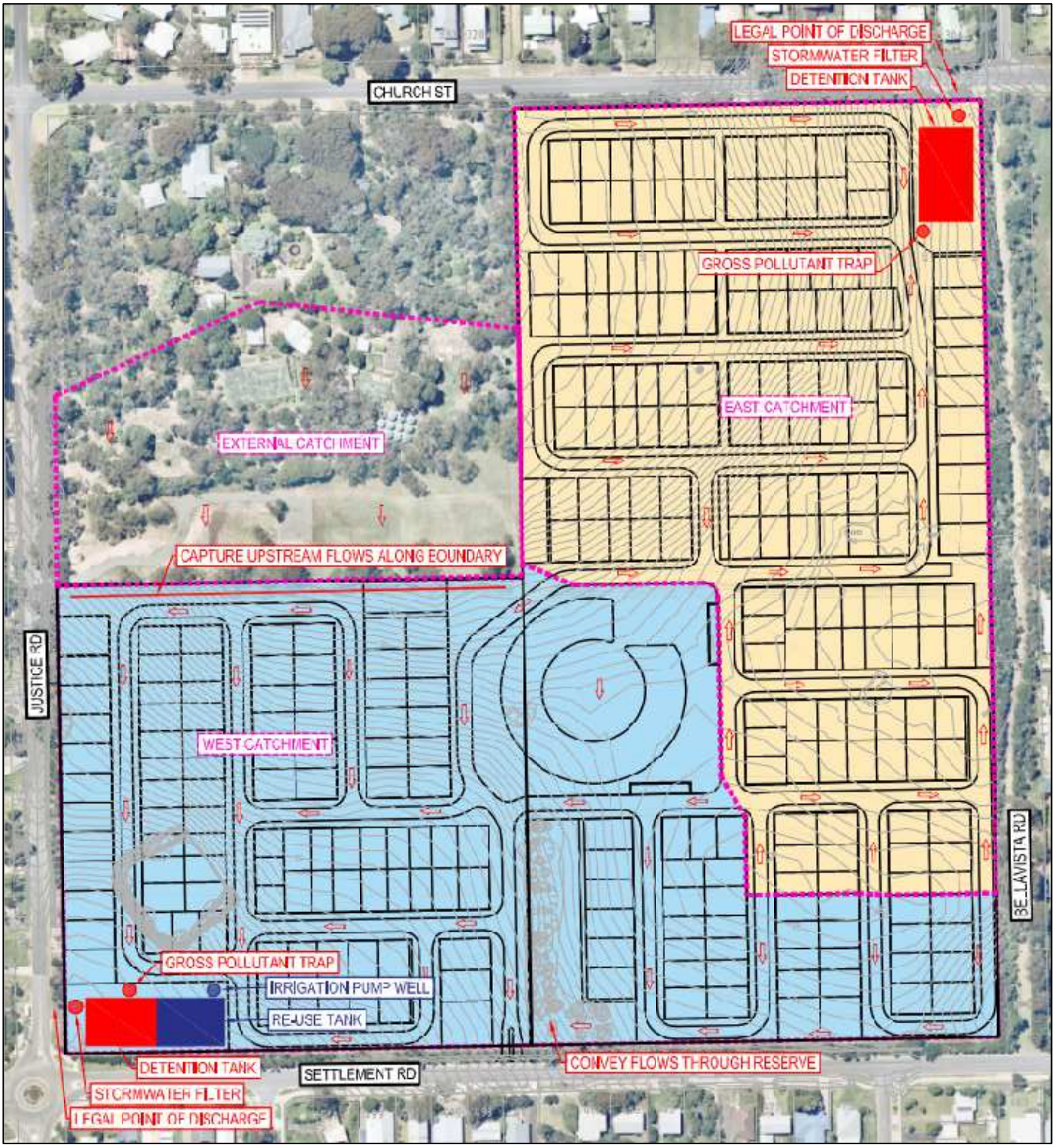
Note:

1. Treatment is not required for the external undeveloped catchment, so the 2.19ha of external catchment has been omitted from the western catchment area in this case.

5 Proposed Drainage Network

The drainage network for the development will be designed to safely convey stormwater runoff and provide protection from flooding in a 1% AEP storm event.

Figure 4: Drainage Strategy



5.2 Minor Drainage Network

The minor drainage system will consist of a subsurface pipe network designed to capture and convey all stormwater runoff generated from the catchment for rainfall events up to and including the 20% AEP storm for residential catchments. The system will be designed in accordance with the AS3500 Plumbing code. All pit and pipe networks will be privately owned and maintained.

The network will capture all stormwater flows up to the design storm from the site including dwellings, clubhouse, roads and open space, conveying them to the previously nominated LPD where they will be discharged.

Stormwater from the existing catchment will be captured into the system along the proposed road fronting this boundary.

5.3 Major Drainage Network

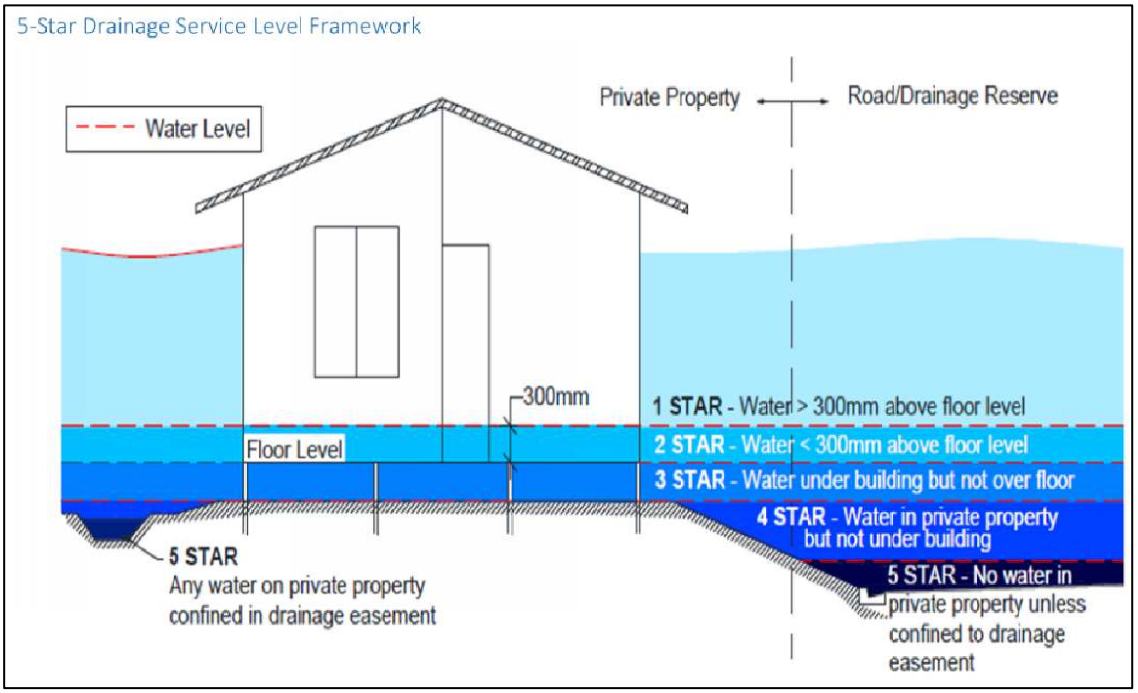
The major drainage system will utilise the roadways and hardstand areas to safely convey gap flows between the minor (20%) and major (1%) AEP storm overland in accordance with Melbourne Water Flood Safety Criteria for industrial streets used as floodway's, which includes the requirements:

- Vav.Dav <= 0.35m2/s
- Dav <=0.30m
- Dmax = 0.42m
- Freeboard > 150mm

Major flows need to be captured into the drainage system before existing the site and will discharge at the proposed LPD.

Furthermore, in accordance with Bass Coast Shire standards, 5-star service level will be provided to all new dwelling with respect to freeboard. In this case, there is no road reserve, however, stormwater flows will be confined to the equivalent private roadways and allocated drainage flow paths.

Figure 5: 5-Star Service Level



5.4 Storage and Detention

The existing LPD is currently at capacity. The increased imperviousness of the proposed development will increase the magnitude of flow from the site and as such, detention must be provided to restrict flow back to existing prior to discharge from the site.

Boyd's formula has been utilised to calculate storage volumes required for storing the developed 1% AEP storm back to the existing 1% AEP storm.

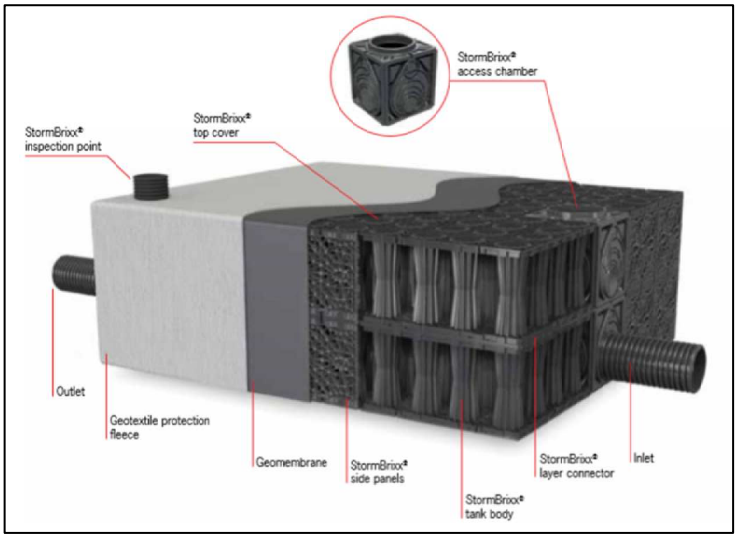
Storage Volume Calculation - 1% AEP Storm Event - Western Catchment					
Area	8.630	Developed C	0.600	CA	5.178
Duration	I	I_p	Q_p	V_1	S_{max}
(mins)	(mm/hr)	(m^3/s)	(m^3/s)	(m^3)	(m^3)
5	137.000	1.971	0.319	591.155	495
10	107.000	1.539		923.410	732
15	87.800	1.263		1136.571	849
18	79.300	1.141		1231.846	887
20	74.500	1.072		1285.870	903
25	64.900	0.933		1400.218	921
27	61.800	0.889		1440.002	923
30	57.600	0.828		1491.264	917
35	51.900	0.746		1567.640	897
40	47.400	0.682		1636.248	870
45	43.600	0.627		1693.206	831
50	40.500	0.583		1747.575	790
55	37.800	0.544		1794.177	740
60	35.500	0.511		1838.190	689
				STORAGE REQUIRED	923
Storage Volume Calculation - 1% AEP Storm Event - Eastern Basin					
Area	5.600	Developed C	0.800	CA	4.480
Duration	I	I_p	Q_p	V_1	S_{max}
(mins)	(mm/hr)	(m^3/s)	(m^3/s)	(m^3)	(m^3)
20	74.500	0.927	0.086	1112.533	1010
25	64.900	0.808		1211.467	1083
30	57.600	0.717		1290.240	1136
35	51.900	0.646		1356.320	1177
40	47.400	0.590		1415.680	1210
45	43.600	0.543		1464.960	1234
50	40.500	0.504		1512.000	1255
55	37.800	0.470		1552.320	1270
60	35.500	0.442		1590.400	1282
90	26.200	0.326		1760.640	1299
120	21.700	0.270		1944.320	1328
180	16.300	0.203		2190.720	1267
				STORAGE REQUIRED	1329

From the above there is some evident spare storage which has been allowed to give flexibility to the detailed design of incoming/outgoing pipe arrangement and the shape and size of modular storage units.

It is proposed to utilise ACO Stormbrixx or a similar product such as SPEL StormChamber or Rocla RainGrid. Please refer example below.

The site is too large to utilise pit and pipe storage to achieve requirements. Below ground tank storage was chosen over a basin as it reduces maintenance requirements, provides a more efficient footprint and allows for usage of land over the top as public open space improving amenity.

Figure 10: ACO Stormbrixx



6 Water Quality

It is required that stormwater quality measures are applied to this site in accordance with the Clause 44 of the State Environmental Protection Policy (SEPP). To meet minimum SEPP requirements, developments should meet the Best Practice Environmental Management Guidelines for Urban Stormwater, available from CSIRO Publishing. Best practice stipulates the following outcomes for both construction, and post-construction phases of the project:

Construction Phase

Pollutant type	Receiving water objective	Current best practice performance objective
Suspended solids	Comply with SEPP	Effective treatment of 90% of daily run-off events (e.g. <4 months ARI). Effective treatment equates to a 50 percentile suspended solids concentration of 50 mg/L. This can be achieved by installing a sediment ponds to remove 95% of sediment down to 125 µm for a 1 year ARI.
Litter	Comply with SEPP	Prevent litter from entering the stormwater system. This requirement extends until 95% of the lots are constructed or a period of two years has passed.
Other pollutants	Comply with SEPP	Limit the application, generation and migration of toxic substances to the maximum extent practicable.

Post-construction Phase

Pollutant type	Receiving water objective	Current best practice performance objective
Suspended solids (SS)	Comply with SEPP (not to exceed the 90th percentile of 80 mg/L) (1)	80% retention of the typical urban annual load
Total phosphorus (TP)	Comply with SEPP (base flow concentration not to exceed 0.08 mg/L) (2)	45% retention of the typical urban annual load
Total nitrogen (TN)	Comply with SEPP (base flow concentration not to exceed 0.9 mg/L) (2)	45% retention of the typical urban annual load
Litter	Comply with SEPP (No litter in waterways) (1)	70% reduction of typical urban annual load (3)
Flows	Maintain flows at pre-urbanisation levels	Maintain discharges for the 1.5 year ARI at pre-development levels

There is no treatment provided for the site externally as part of a larger scheme and as such, treatment will need to be provided on site.

6.2 Proposed Treatment Infrastructure and Modelling

It is proposed to install proprietary treatment pits on the outlet of each catchment prior to discharging from the site. There are several options available which will achieve best practise. ROCLA, SPEL and Ocean Protect all make products suitable for use. Again, treatment models and specifications will be developed and refined through subsequent design phases and provided to council for final approval.

To demonstrate functionality of the proposed strategy, a MUSIC model has been prepared using SPEL products which achieves best practise.

- SPEL Vortceptor – Gross Pollutant Trap – To be installed at the inlet of the aforementioned detention tank.
- SPEL Hydrosystem – Specialist Stormwater Filter – To be installed at the outlet of the aforementioned detention tank, prior to discharge to the LPD.

Please refer back to the previous drainage strategy layout for treatment locations.

The system was modelled in MUSIC as below to demonstrate treatment objectives have been met for the site.

Figure 11: MUSIC Modelling

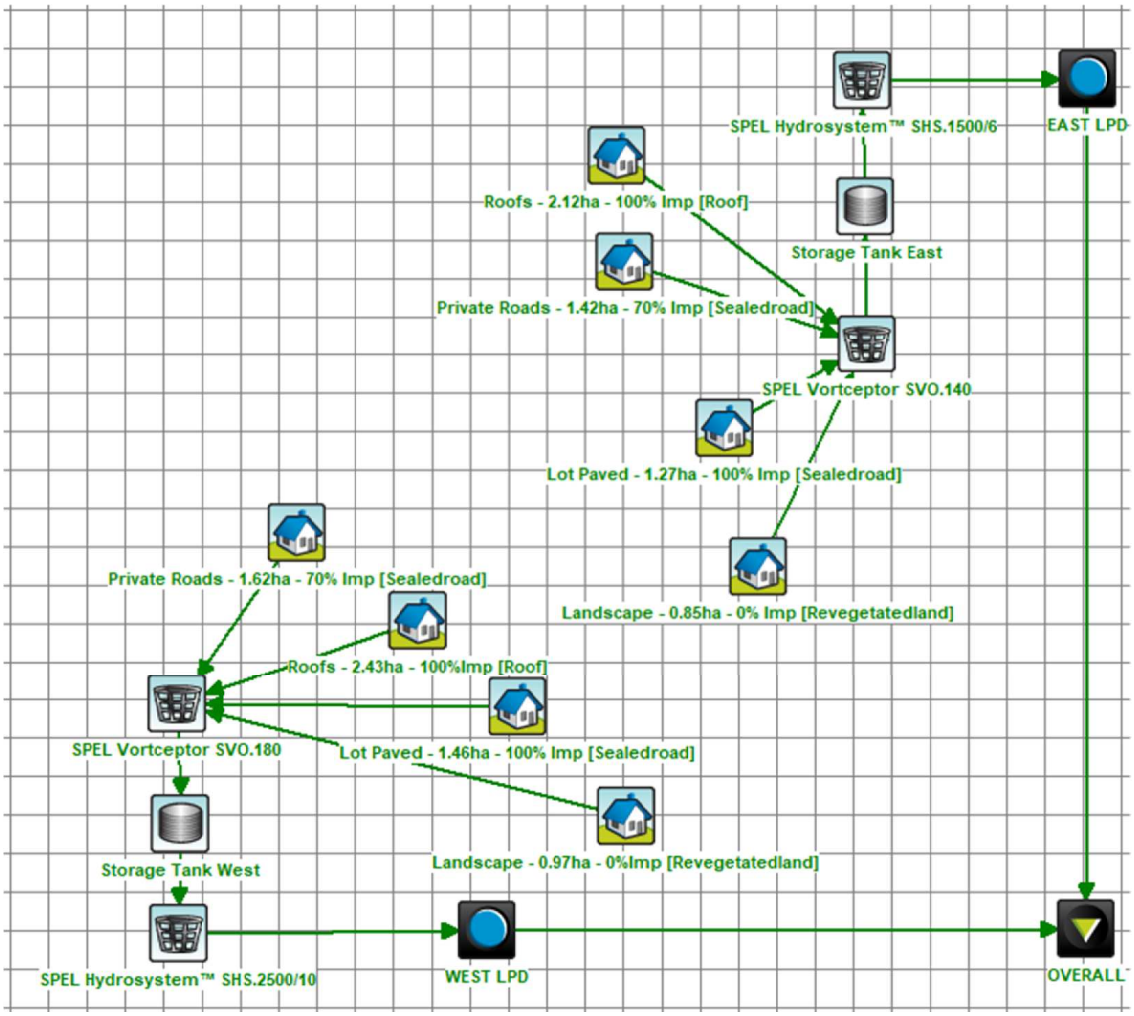


Figure 12: Treatment Train Effectiveness – Western LPD

	Sources	Residual Load	% Reduction
Flow (ML/yr)	33.9	33.8	0.3
Total Suspended Solids (kg/yr)	6360	302	95.3
Total Phosphorus (kg/yr)	13	2.79	78.5
Total Nitrogen (kg/yr)	75.7	39.1	48.4
Gross Pollutants (kg/yr)	1300	0	100

Figure 13: Treatment Train Effectiveness – Eastern LPD

	Sources	Residual Load	% Reduction
Flow (ML/yr)	29.6	29.5	0.3
Total Suspended Solids (kg/yr)	5520	282	94.9
Total Phosphorus (kg/yr)	11.2	2.53	77.5
Total Nitrogen (kg/yr)	66.3	35	47.3
Gross Pollutants (kg/yr)	1130	0	100

Figure 14: SPEL Treatment Pits



6.3 Stormwater Quality During Construction

Construction can often produce higher pollutant loads in stormwater runoff, and in particular will see a higher presence of sediment loading and erosion. It is important that measures are undertaken to mitigate these risks and prevent damage to receiving waterways.

In order to provide controls on site during construction, a Site Environment Management Plan will need to be produced, approved by council and implemented by the contractor to:

- Prevent contaminated stormwater from being discharged from the site.
- Keep mud off of public roads.
- Manage stockpiles and sediment on site.

Measure taken to address these items may include:

- Treatment of stormwater.
- Bunding and/or silt fencing.
- Rock or synthetic bunds.
- Rumble grids or wheel wash systems.

7 Reduction in Potable Water Usage

7.2 Rainwater Harvesting

Development leads to an increase of impervious areas and consequentially an increase in stormwater flow which presents an opportunity to capture and store this stormwater for re-use for activities which do not require potable quality water such as toilet flushing, irrigation and more.

The benefits of rainwater harvesting are:

– Usage of recycled water helps reduce reliability and conserves potable water supplies.
– Reduces peak stormwater flows to help reduce erosion, flooding and poor-quality water entering lakes and streams.
– Cost effective source of water.

The proposed development has suitable characteristics to incorporate a rainwater harvesting system.

The aforementioned tanks are utilised for detention; however, it is proposed to add additional storage volume below the outlet in the south-western tank which can be re-used within the sites irrigation system.

It is proposed to re-use the water for irrigation of the proposed open spaces, nature strips and frontages. 900kL of additional storage will be provided to supply 70% of the required irrigation demand to the site, saving 7,662kL of potable water usage a year.

Location for the tank is shown in *Figure 4* previously. Please refer to *Appendix C* for calculations.

7.3 Water Use Management

The applicant supports the adoption of water-efficient practices in general and - as part of the development's building strategy.

Internally specified fixtures will be provided as water-saving devices.

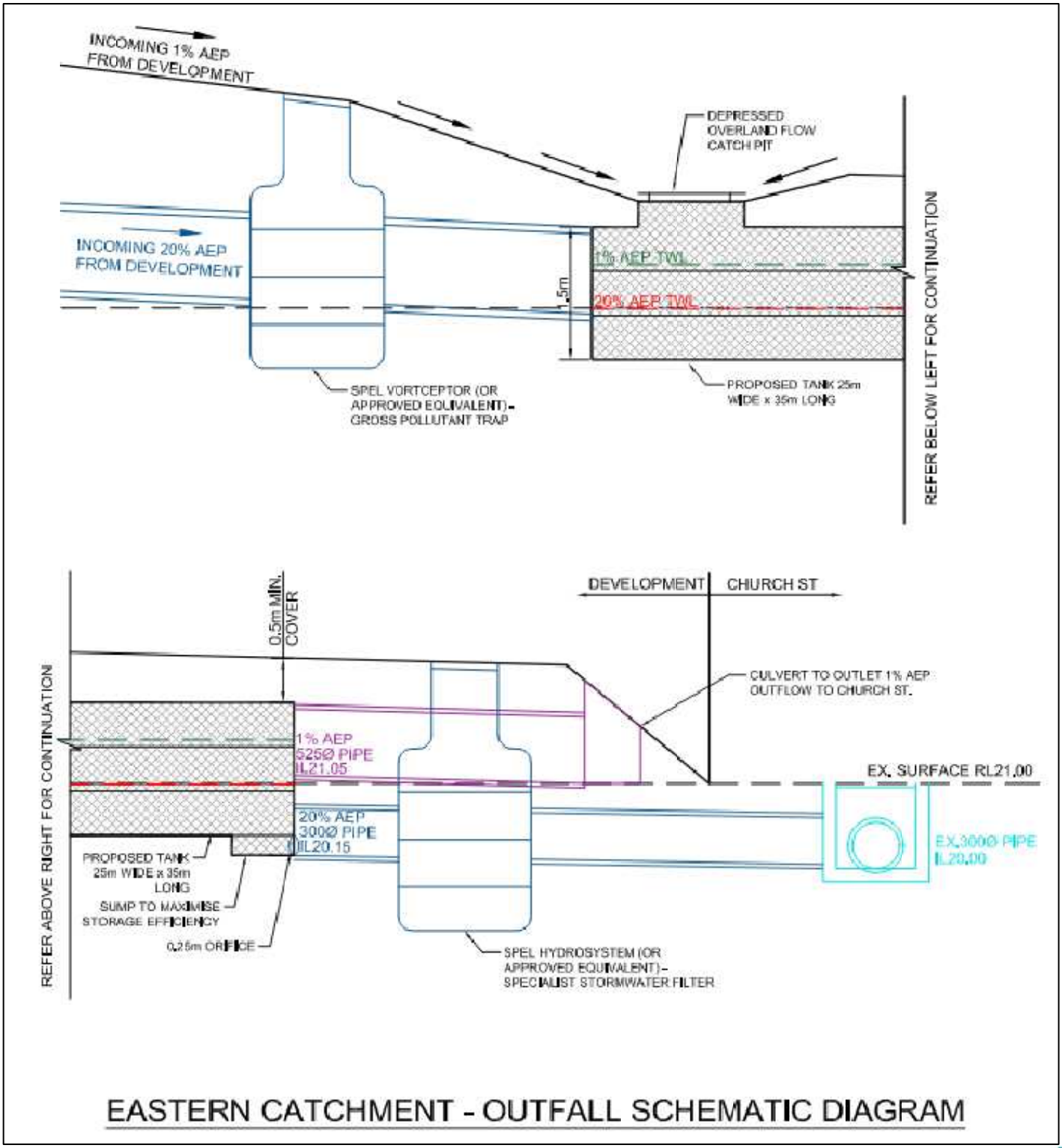
- Kitchen taps, 6 star, WELS rated (flow 4.5l/min flow)
- Bathroom taps, 6 star, WELS rated (flow 3.5l/min flow)
- Shower head set, 3 star rated (flow 7l.min)
- Toilet Suite, 4 star WELS rated (flow 4.5/3L with adg 3.4l flush)

Dishwashers provided to the residences are semi-integrated system and provides a water efficiency rating of 5 star (11.8 litres per wash).

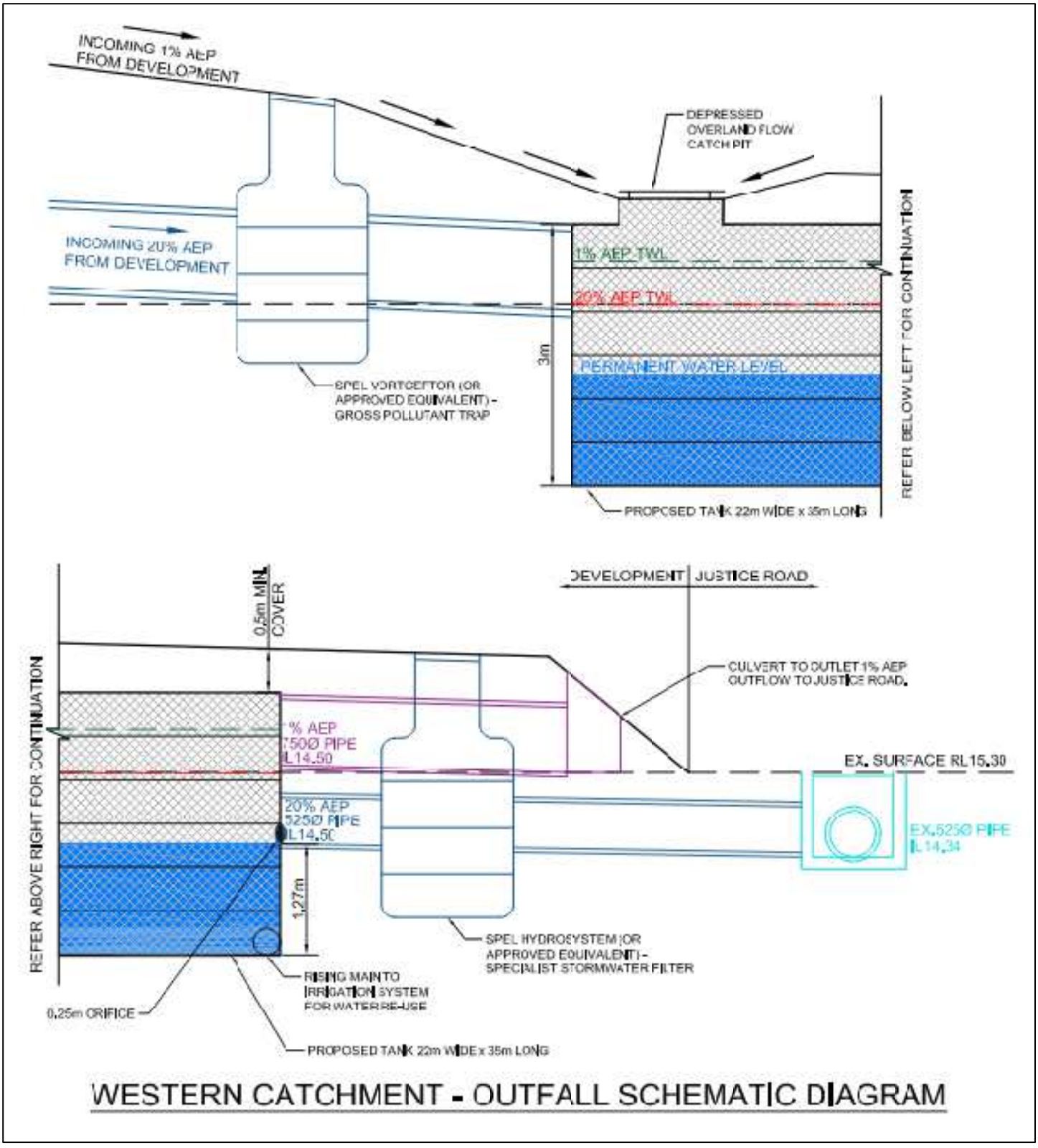
Hot Water units will be provided as the highly efficient Chromagen heat pump units, promoting both energy and water efficiencies by limiting the amount of unheated head-water at each use.

8 Schematic Design

A schematic has been prepared to demonstrate the functionality of each outfall. Further detail of levels and configurations will be provided in detailed design phase.



EASTERN CATCHMENT - OUTFALL SCHEMATIC DIAGRAM



WESTERN CATCHMENT - OUTFALL SCHEMATIC DIAGRAM

9 Conclusion

This report demonstrates that the drainage strategy proposed for the development will safely convey stormwater runoff and provide protection from flooding in storms up to the 1% AEP.

The report has also addressed the requirements of Clause 53.18 as follows:

Clause 53.18-5 Stormwater Management Objectives for Building and Works

To encourage stormwater management that maximises the retention and reuse of stormwater.

A large 900kL tank is to be installed on in the south west corner of the site to capture stormwater from the catchment. This will then be re-used for irrigation of open spaces, nature strips and frontages of the entire site.

The tank provides 70% of the total irrigation demand for the site, reducing potable water use by 7,662kL per year. Please refer to Section 7.1 of the KLM SWMS for details.

To encourage development that reduces the impact of stormwater on the drainage system and filters sediment and waste from stormwater prior to discharge from the site.

Stormwater discharge has been retarded back to existing magnitude by utilizing undergrounds tanks to provide storage at the outlet. Please refer to Section 5.3 for details.

Stormwater will be treated to best practice standards prior to discharge from site. It is proposed to utilize a SPEL Vortceptor (Or Similar GPT) and a SPEL Hydrosystem (Or Similar Filtration Pit) in line with the above-mentioned tanks at the outlet to achieve this treatment. MUSIC modelling has been undertaken to measure reduction in pollutants at both LPDs as below. Please refer to Section 6.0 for further details.

To encourage stormwater management that contributes to cooling, local habitat improvements and provision of attractive and enjoyable spaces.

The utilization of tanks for storage has allowed for the addition of usable open space over the top. The open space will be landscaped and evenly graded making it an aesthetically pleasing green space which is usable for recreation.

To ensure that industrial and commercial chemical pollutants and other toxicants do not enter the stormwater system.

There will be no chemical pollutants or toxicants generated by the proposed site use and as such, no additional measures will be required in this case.

Clause 53.18-6 Site Management Objectives

To protect drainage infrastructure and receiving waters from sedimentation and contamination.

Refer Above. The aforementioned treatment system will remove sediment and contamination prior to discharge from site.

To protect the site and surrounding area from environmental degradation prior to and during construction of subdivision works.

Construction can often produce higher pollutant loads in stormwater runoff, and in particular will see a higher presence of sediment loading and erosion. It is important that measures are undertaken to mitigate these risks and prevent damage to receiving waterways.

In order to provide controls on site during construction, a Site Environment Management Plan will need to be produced, approved by council and implemented by the contractor to:

- Prevent contaminated stormwater from being discharged from the site.
- Keep mud off of public roads.
- Manage stockpiles and sediment on site.

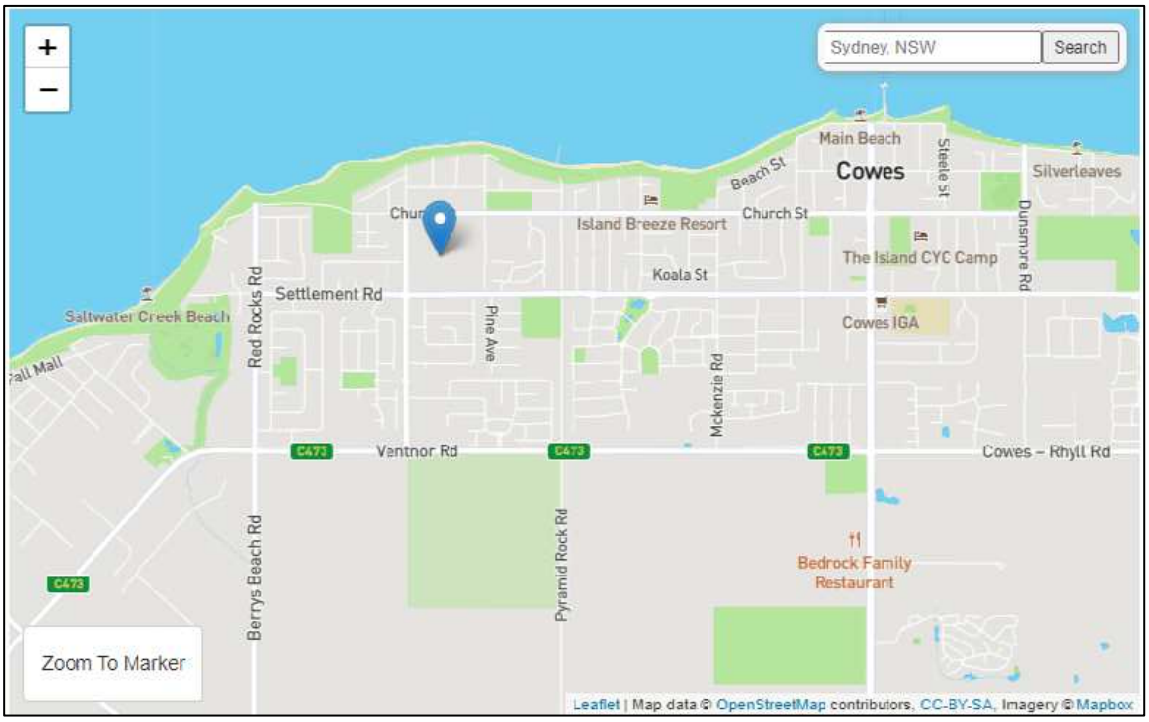
Measure taken to address these items may include:

- Treatment of stormwater.
- Bunding and/or silt fencing.
- Rock or synthetic bunds.
- Rumble grids or wheel wash systems.

Appendix A

Climate Data

Australian Rainfall & Runoff



Data

Temporal Patterns | Download (.zip)

code	SSmainland
Label	Southern Slopes (Vic/NSW)

Layer Info

Time Accessed	14 January 2022 09:30AM
Version	2016_v2

BOM IFDs

Click here to obtain the IFD depths for catchment centroid from the BoM website

Download TXT | Download JSON | Generating PDF...

Layer Info

Time Accessed	14 January 2022 09:30AM

KLM SPATIAL

Australian Government
Bureau of Meteorology

Design Rainfall Data System (2016)

Location

Label: Not provided
Latitude: -38.454 [Nearest grid cell: 38.4625 (S)]
Longitude: 145.213 [Nearest grid cell: 145.2125 (E)]



IFD Design Rainfall Depth (mm)

Issued: 14 January 2022

Rainfall depth for Durations, Exceedance per Year (EY), and Annual Exceedance Probabilities (AEP).
FAQ for New ARR probability terminology

Table | Chart

Unit: mm

	Annual Exceedance Probability (AEP)						
Duration	**63.2%**	**50%#**	**20%***	**10%**	**5%**	**2%**	**1%**
1 min	1.53	1.67	2.14	2.47	2.81	3.28	3.65
2 min	2.64	2.87	3.61	4.14	4.61	5.14	5.55
3 min	3.53	3.84	4.86	5.57	6.23	7.02	7.63
4 min	4.28	4.67	5.92	6.81	7.65	8.73	9.57
5 min	4.92	5.38	6.84	7.88	8.91	10.3	11.3
10 min	7.26	7.95	10.2	11.8	13.5	15.8	17.8
15 min	8.84	9.69	12.4	14.4	16.5	19.4	21.8
20 min	10.1	11.0	14.1	16.4	18.7	22.0	24.7
25 min	11.1	12.1	15.5	17.9	20.4	24.0	26.8
30 min	11.9	13.0	16.6	19.2	21.9	25.6	28.5
45 min	13.9	15.1	19.3	22.2	25.2	29.2	32.3
1 hour	15.4	16.8	21.3	24.5	27.6	31.8	35.1
1.5 hour	17.7	19.3	24.3	27.9	31.3	35.8	39.4
2 hour	19.5	21.2	26.7	30.5	34.2	39.1	42.9
3 hour	22.2	24.2	30.4	34.8	39.0	44.6	48.9
4.5 hour	25.2	27.5	34.8	39.8	44.7	51.5	56.7
6 hour	27.5	30.1	38.4	43.9	49.6	57.5	63.6
9 hour	31.2	34.3	44.1	50.9	57.8	67.8	75.8
12 hour	34.0	37.5	48.8	56.7	64.8	76.8	86.3
18 hour	38.3	42.5	56.3	66.1	76.3	91.5	104
24 hour	41.7	46.4	62.2	73.7	85.7	103	118
30 hour	44.4	49.6	67.0	80.0	93.5	113	129
36 hour	46.8	52.3	71.1	85.4	100	121	139
48 hour	50.7	56.7	77.7	93.9	111	134	154
72 hour	56.6	63.2	86.7	105	125	150	172
96 hour	61.2	68.1	92.4	112	133	159	181
120 hour	64.9	71.9	96.2	115	137	164	186
144 hour	68.2	75.1	98.8	117	139	166	188
168 hour	71.1	77.9	100	117	139	166	188

KLM SPATIAL

Appendix B

Stormwater Harvesting Calculations

STORM WATER STORAGE FOR IRRIGATION PURPOSES

- Fields to be entered by the designer

1. AVERAGE MONTHLY RAINFALL FOR THE AREA (1956 - 2007)

Bureau of Meteorology has provided following monthly rainfall data for the area collected for
86119 Ventnor (Oaklands)

Stn_Num	Year	NameAndUnit	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
86119	Mean	Total Monthly Precipitation (mm)	42.3	42.7	49.7	66	79.4	77.3	81.1	81.3	71.3	73.2	61.9	52.4	778.6

2. MONTHLY IRRIGATION REQUIREMENTS CALCULATOR

Crop	Crop Factor	Irrigated Area (m2)
Open Space	0.5	8700
Nature Strip	0.4	15600

Month	Irrigated Area (m2)	Crop Type	Crop Factor	Evaporation mm	Evapotranspiration (mm)	Water Required (l)	Rainfall (mm)	Rainfall (l)	Irrigation Requirement (l)	
Jan	8700	Open Space	0.50	243.00	121.5	1057050.00	42.3	368010.00	689040.00	REQUIRED
	15600	Nature Strip	0.40	243.00	97.2	1516320.00	42.3	659880.00	856440.00	REQUIRED
Feb	8700	Open Space	0.50	210.00	105	913500.00	42.7	371490.00	542010.00	REQUIRED
	15600	Nature Strip	0.40	210.00	84	1310400.00	42.7	666120.00	644280.00	REQUIRED
March	8700	Open Space	0.50	171.00	85.5	743850.00	49.7	432390.00	311460.00	REQUIRED
	15600	Nature Strip	0.40	171.00	68.4	1067040.00	49.7	775320.00	291720.00	REQUIRED
Apr	8700	Open Space	0.50	114.00	57	495900.00	66	574200.00	-78300.00	NOT REQUIRED
	15600	Nature Strip	0.40	114.00	45.6	711360.00	66	1029600.00	-318240.00	NOT REQUIRED
May	8700	Open Space	0.50	75.00	37.5	326250.00	79.4	690780.00	-364530.00	NOT REQUIRED
	15600	Nature Strip	0.40	75.00	30	468000.00	79.4	1238640.00	-770640.00	NOT REQUIRED
June	8700	Open Space	0.50	54.00	27	234900.00	77.3	672510.00	-437610.00	NOT REQUIRED
	15600	Nature Strip	0.40	54.00	21.6	336960.00	77.3	1205880.00	-868920.00	NOT REQUIRED
July	8700	Open Space	0.50	60.00	30	261000.00	81.1	705570.00	-444570.00	NOT REQUIRED
	15600	Nature Strip	0.40	60.00	24	374400.00	81.1	1265160.00	-890760.00	NOT REQUIRED
Aug	8700	Open Space	0.50	84.00	42	365400.00	81.3	707310.00	-341910.00	NOT REQUIRED
	15600	Nature Strip	0.40	84.00	33.6	524160.00	81.3	1268280.00	-744120.00	NOT REQUIRED
Sept	8700	Open Space	0.50	123.00	61.5	535050.00	71.3	620310.00	-85260.00	NOT REQUIRED
	15600	Nature Strip	0.40	123.00	49.2	767520.00	71.3	1112280.00	-344760.00	NOT REQUIRED
Oct	8700	Open Space	0.50	156.00	78	678600.00	73.2	636840.00	41760.00	REQUIRED
	15600	Nature Strip	0.40	156.00	62.4	973440.00	73.2	1141920.00	-168480.00	NOT REQUIRED
Nov	8700	Open Space	0.50	180.00	90	783000.00	61.9	538530.00	244470.00	REQUIRED
	15600	Nature Strip	0.40	180.00	72	1123200.00	61.9	965640.00	157560.00	REQUIRED
Dec	8700	Open Space	0.50	222.00	111	965700.00	52.4	455880.00	509820.00	REQUIRED
	15600	Nature Strip	0.40	222.00	88.8	1385280.00	52.4	817440.00	567840.00	REQUIRED

3. MONTHLY AVAILABILITY OF WATER FROM ROOF CATCHMENTS

Capacity of the RWT has been calculated as per the recommendations and formulas provided in "Guidance on use of rainwater tanks" by Enhealth- Australian Government 2004 on web site
http://enhealth.nphp.gov.au/council/pubs/documents/rainwater_tanks.pdf
Accordingly,

Maximum amount of rainwater that can be collected for a month for each tank (Run off) = A X (Rainfall -B) x Roof Area

Where, A = Efficiency of collection and value of 0.85 have been used B = Loss associated with absorption and wetting of surface and a value of 2 mm per month has been adopted

Theoretical volume of water remaining in the tank at the end of the month, Vt = Vt-1 + (Runoff - Demand)

(Assuming that at the start of the wetter months the tank is empty)

Month	Rainfall (mm)	Catchment Area (m2)	Run off (L)	Demand (L)	Vt (L)	% of Demand
Jan	42.3	64769	2088153	3477330	0	60%
Feb	42.7	64769	2108879	2669153	0	79%
March	49.7	64769	2471585	1357155	1114430	100%
April	66	64769	3316173	0	4430603	100%
May	79.4	64769	4010496	0	8441099	100%
June	77.3	64769	3901685	0	12342784	100%
July	81.1	64769	4098582	0	16441366	100%
Aug	81.3	64769	4108945	0	20550312	100%
Sept	71.3	64769	3590793	0	24141105	100%
Oct	73.2	64769	3689242	0	27830347	100%
Nov	61.9	64769	3103730	904568	30029510	100%
Dec	52.4	64769	2611486	2424735	30216261	100%
Jan	42.3	64769	2088153	3477330	28827084	100%
Feb	42.7	64769	2108879	2669153	28266810	100%
March	49.7	64769	2471585	1357155	29381240	100%
April	66	64769	3316173	0	32697413	100%

4. SELECTION OF WATER TANKS

Nominated capacity of water tank = 900000 L

Number of Water tanks = 2 No

Available Storage = **1800000** L

Availability of water in Rainwater Tanks for monthly irrigation Demand :

TANK SIZING INFO

Jan	52%	of irrigation demand	1800	kL Re-Used.	1677	kL Balance Required
Feb	67%	of irrigation demand	1800	kL Re-Used.	869	kL Balance Required
March	100%	of irrigation demand	1357	kL Re-Used.	0	kL Balance Required
April	100%	of irrigation demand	0	kL Re-Used.	0	kL Balance Required
May	100%	of irrigation demand	0	kL Re-Used.	0	kL Balance Required
June	100%	of irrigation demand	0	kL Re-Used.	0	kL Balance Required
July	100%	of irrigation demand	0	kL Re-Used.	0	kL Balance Required
Aug	100%	of irrigation demand	0	kL Re-Used.	0	kL Balance Required
Sept	100%	of irrigation demand	0	kL Re-Used.	0	kL Balance Required
Oct	100%	of irrigation demand	0	kL Re-Used.	0	kL Balance Required
Nov	100%	of irrigation demand	905	kL Re-Used.	0	kL Balance Required
Dec	74%	of irrigation demand	1800	kL Re-Used.	625	kL Balance Required
YEARLY	**71%**	**of irrigation demand**	**7662**	**kL Re-Used.**	**3171**	**kL Balance Required**

