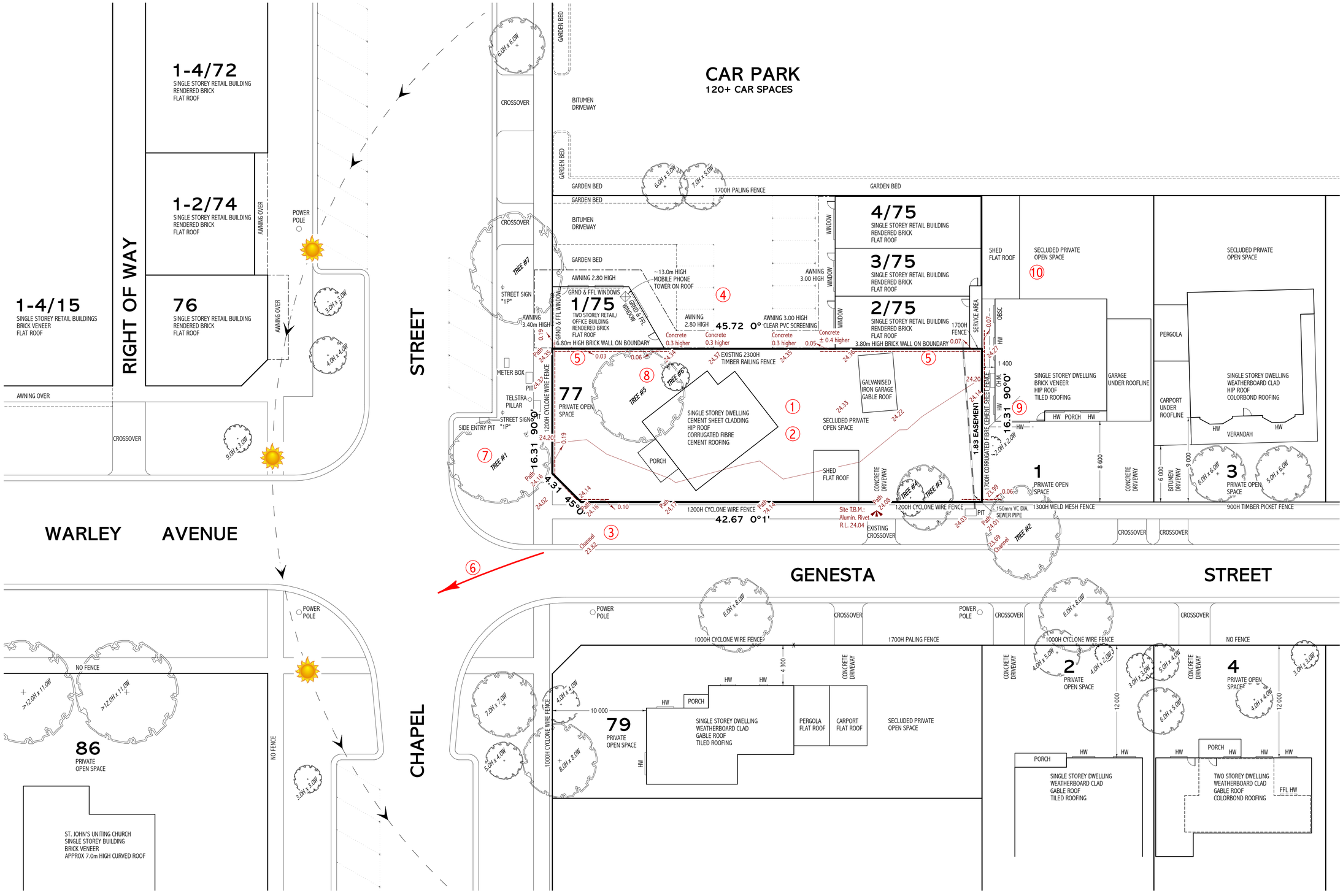


FLETCHER DEVELOPMENT CONSULTANTS PTY LTD
TRADING AS
NEIL fletcher DESIGN
Building Design & Planning Consultants

PROPOSED: PROPOSED MIXED USED DEVELOPMENT
AT: 77 CHAPEL STREET COWES
FOR: COLLISH CAPITOL PTY. LTD.



NEIGHBOURHOOD & SITE DESCRIPTION PLAN

EXISTING VEGETATION SCHEDULE			
No.	HEIGHT x WIDTH	BOTANICAL NAME	COMMON NAME
1	9.0 x 11.0	Fraxinus angustifolia	Desert Ash
2	8.0 x 10.0/8.0	Eucalyptus leucoxylon	Yellow Gum
3	7.0 x 7.0/6.0	Olea europaea	Olive
4	5.0 x 4.0/3.0	Pittosporum undulatum	Sweet Pittosporum
5	11.0 x 10.0	Syzygium paniculatum	Lilly Pilly
6	4.0 x 3.0	Camellia sp.	Camellia
7	12.0 x 10.0	Eucalyptus nicholii	Peppermint Gum

OPPORTUNITIES & CONSTRAINTS

1 OPPORTUNITY. SITE LOCATED IN COMMERCIAL 1 ZONE

2 OPPORTUNITY FOR FURTHER DEVELOPMENT ON A SITE PROVIDED WITH FULL SERVICE FACILITIES.

3 OPPORTUNITY. CORNER ALLOTMENT.

4 OPPORTUNITY. COMMERCIAL PREMISES & PUBLIC CARPARK ON ADJACENT ALLOTMENT.

5 OPPORTUNITY. BRICK WALLS LOCATED ON EASTERN BOUNDARY.

6 OPPORTUNITY. POTENTIAL SEA VIEWS AVAILABLE.

7 OPPORTUNITY. WIDE NATURE STRIP WITH MATURE TREE.

8 CONSTRAINT. MATURE VEGETATION REQUIRES CONSIDERATION.

9 CONSTRAINT. NORTH FACING WINDOW ON ADJACENT ALLOTMENT.

10 CONSTRAINT. NEIGHBOURS' SECLUDED PRIVATE OPEN SPACE & HABITABLE ROOM WINDOWS REQUIRE PROTECTION FROM UNDUE OVERLOOKING & OVERSHADOWING.

LEGEND

- ×2.55 — DENOTES LEVELS TO AUSTRALIAN HEIGHT DATUM
- HW — DENOTES HABITABLE ROOM WINDOWS
- FFL HW — DENOTES FIRST FLOOR HABITABLE ROOM WINDOWS
- DENOTES EXISTING VEGETATION
- DENOTES VEGETATION TO BE REMOVED

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STAGE
2. TOWN PLANNING

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1759	30.08.21	1 of 10	1:250	B

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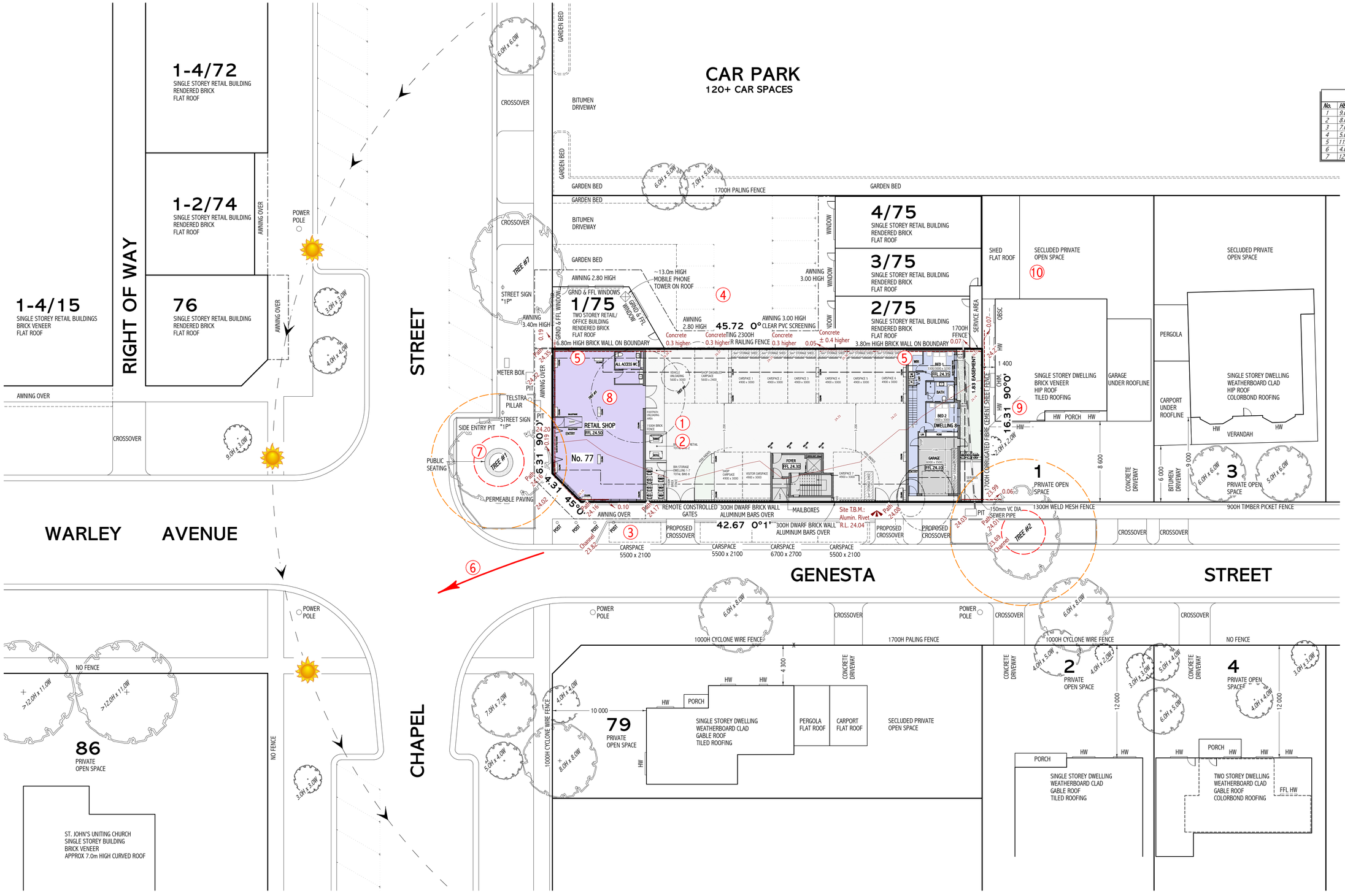

DESIGN RESPONSE PLAN

EXISTING VEGETATION SCHEDULE				
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4	5.0 x 4.0/3.0	Pittosporum undulatum	Sweet Pittosporum	Removed
5	11.0 x 10.0	Syzygium paniculatum	Lilly Pilly	Removed
6	4.0 x 3.0	Camellia sp.	Camellia	Removed
7	12.0 x 10.0	Eucalyptus nicholii	Peppermint Gum	Retained

DESIGN RESPONSE

1 PROPOSAL RESPONDS WITH MIXED USE DEVELOPMENT.

2 PROPOSAL RESPONDS WITH SHOP & EIGHT DWELLINGS OVER GROUND LEVEL CARPARK.

3 PROPOSAL RESPONDS WITH SHOP & DWELLINGS ORIENTATED TO CHAPEL & GENESTA STREET RESPECTIVELY .

4 PROPOSAL RESPONDS WITH WALLS ON BOUNDARIES ADJACENT TO EXISTING WALLS.

5 PROPOSAL RESPONDS WITH DWELLINGS OVERLOOKING ADJACENT COMMERCIAL PREMISES & CARPARK.

6 PROPOSAL RESPONDS WITH DWELLINGS ORIENTATED TOWARDS POTENTIAL SEA VIEWS.

7 PROPOSAL RESPONDS WITH PARK BENCH AROUND STREET TREE PLUS PAVING.

8 PROPOSAL RESPONDS WITH ARBORISTS REPORT ON EXISTING VEGETATION.

9 PROPOSAL RESPONDS WITH DWELLING 8 SITUATED AT GROUND LEVEL TO ALLOW NEIGHBOURS WINDOW CLEAR ACCESS TO NORTHERN LIGHT.

10 PROPOSAL RESPONDS TO LIMIT UNDUE OVERLOOKING AND OVERSHADOWING OF NEIGHBOURS' SECLUDED PRIVATE OPEN SPACE AND HABITABLE ROOM WINDOWS.

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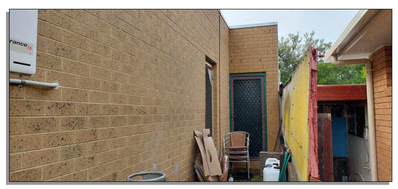

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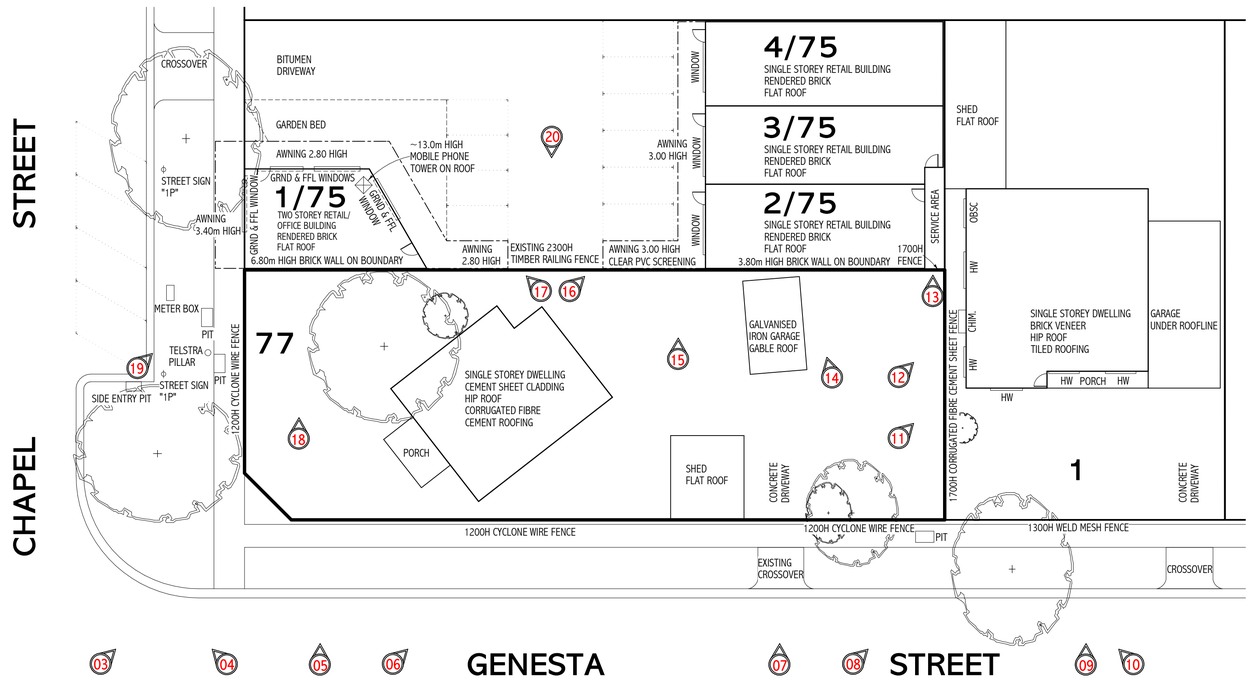

NEIGHBOURHOOD PHOTO SURVEY

LEGEND

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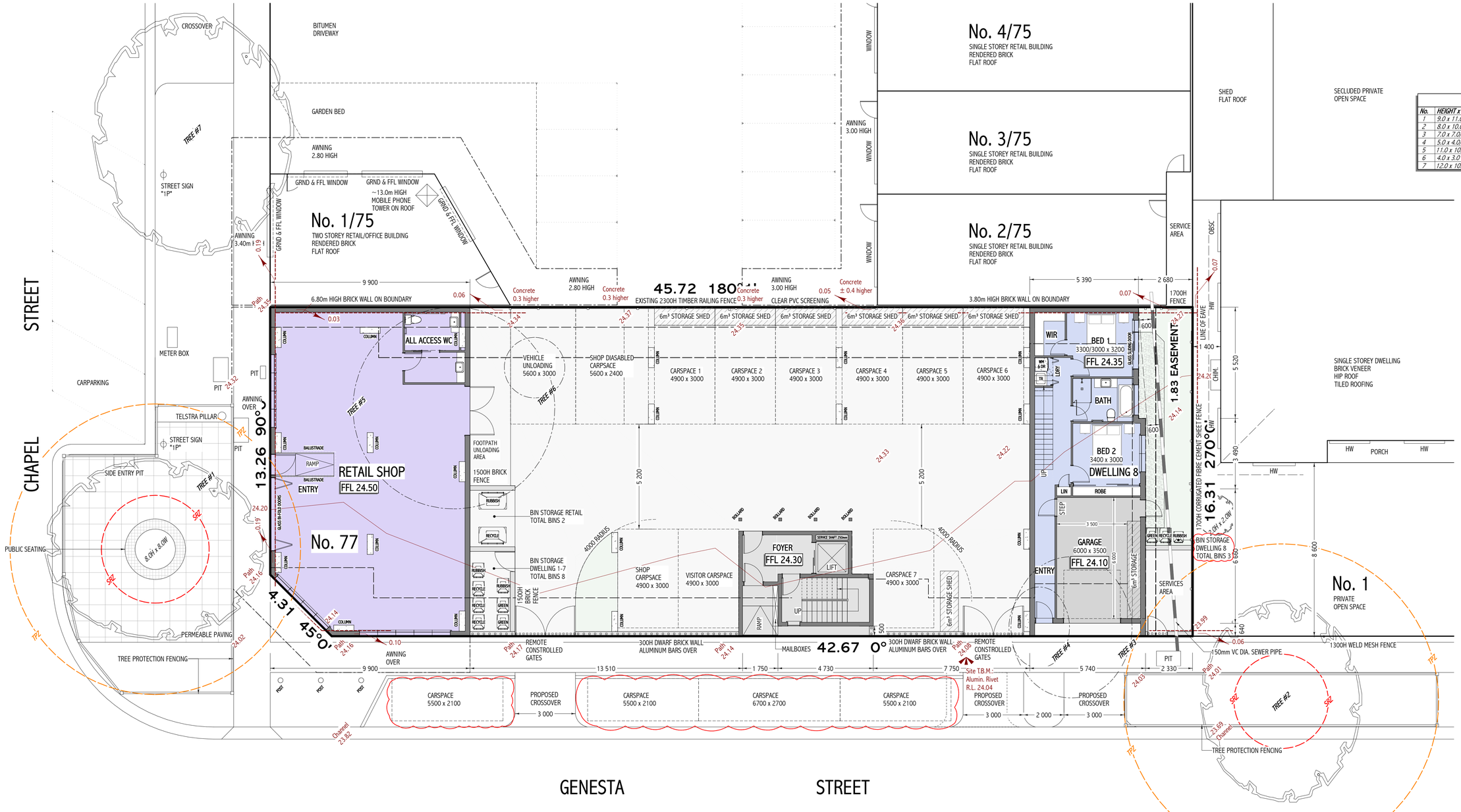

GROUND FLOOR SITE LAYOUT PLAN

EXISTING VEGETATION SCHEDULE

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SITE ANALYSIS

SHOP

FLOOR AREA	157.0m²	(16.9sq)

DWELLING 1

FIRST FLOOR	67.0m²	(7.2sq)
SECOND FLOOR	58.0m²	(6.2sq)
TOTAL	**125.0m²**	**(13.4sq)**

DWELLINGS 2-5,7

FIRST FLOOR	58.0m²	(6.2sq)
SECOND FLOOR	50.0m²	(5.4sq)
TOTAL	**108.0m²**	**(11.6sq)**

DWELLING 6

FIRST FLOOR	58.0m²	(6.2sq)
SECOND FLOOR	55.0m²	(5.9sq)
TOTAL	**113.0m²**	**(12.1sq)**

DWELLING 8

FIRST FLOOR	56.0m²	(6.0sq)
SECOND FLOOR	66.0m²	(7.1sq)
TOTAL	**122.0m²**	**(13.1sq)**

SITE AREA	740.9m²
SITE COVERAGE	672.0m² or 90.7%
PAVED AREAS (IMPERVIOUS)	492.0m²
PERMEABILITY	60.0m² or 8.1%

LEGEND

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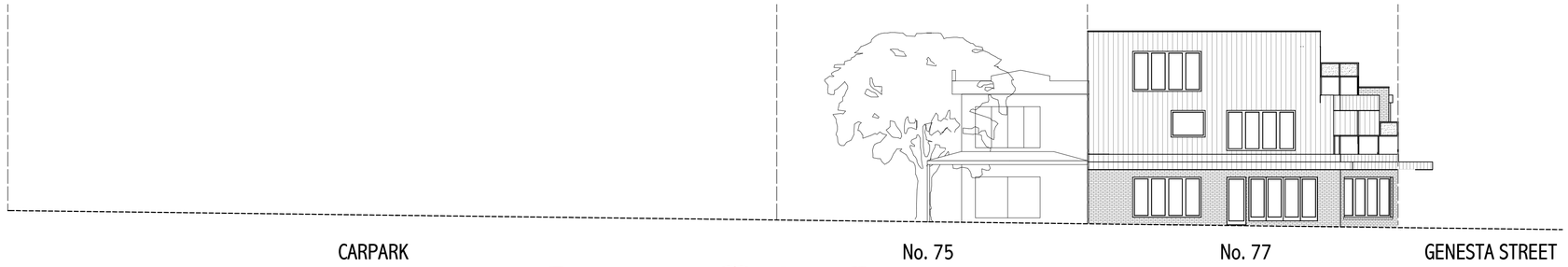

CHAPEL STREET

STREETSCAPE ELEVATION 1:150



SITE ANALYSIS

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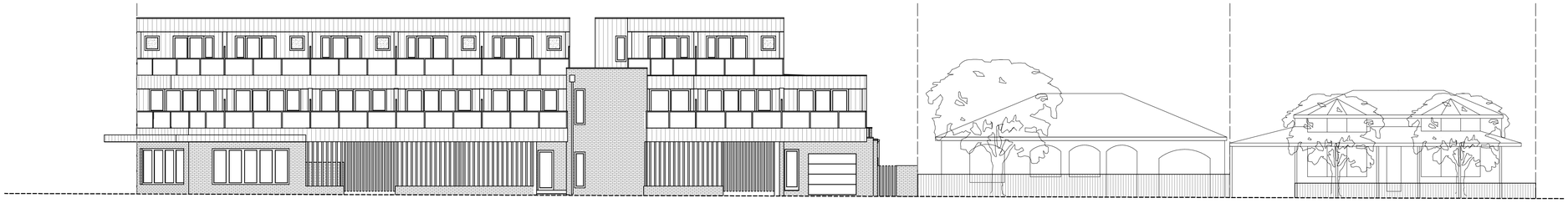
FIRST FLOOR SITE LAYOUT PLAN



GENESTA STREET

STREETSCAPE ELEVATION 1:150



GENESTA STREET

SECOND FLOOR SITE LAYOUT PLAN

SITE ANALYSIS

SHOP

FLOOR AREA	157.0m²	(16.9sq)

DWELLING 1

FIRST FLOOR	67.0m²	(7.2sq)
SECOND FLOOR	58.0m²	(6.2sq)
TOTAL	**125.0m²**	**(13.4sq)**

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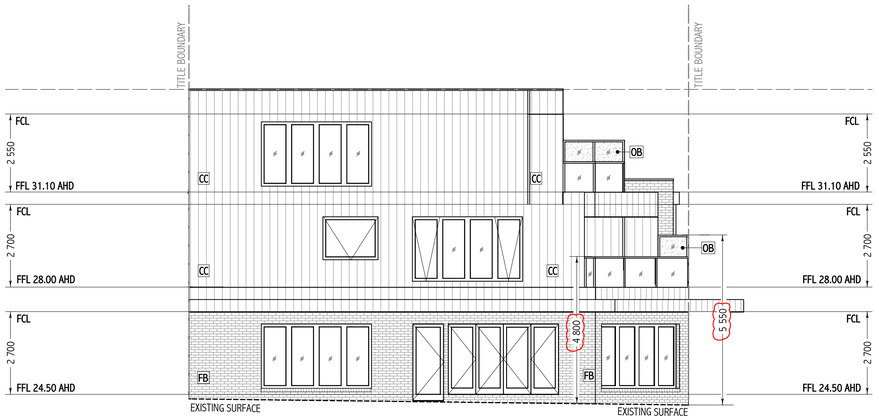
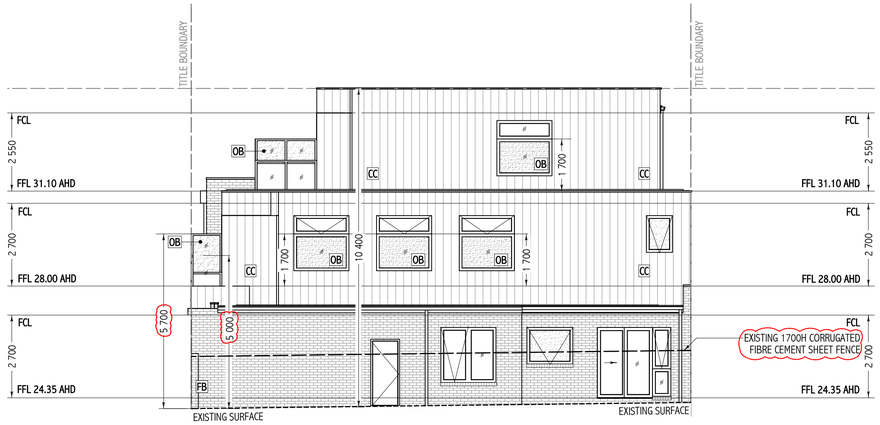
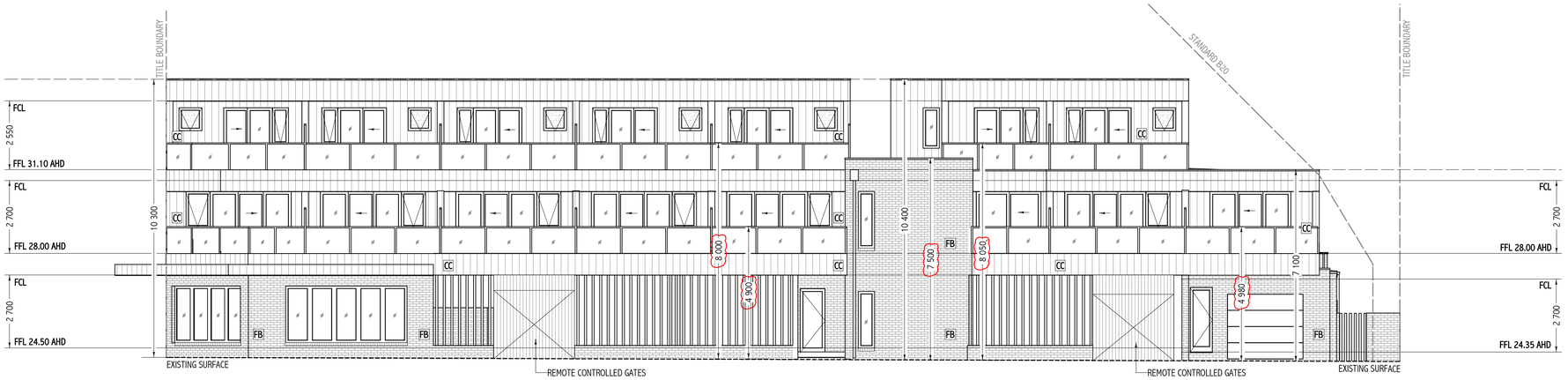


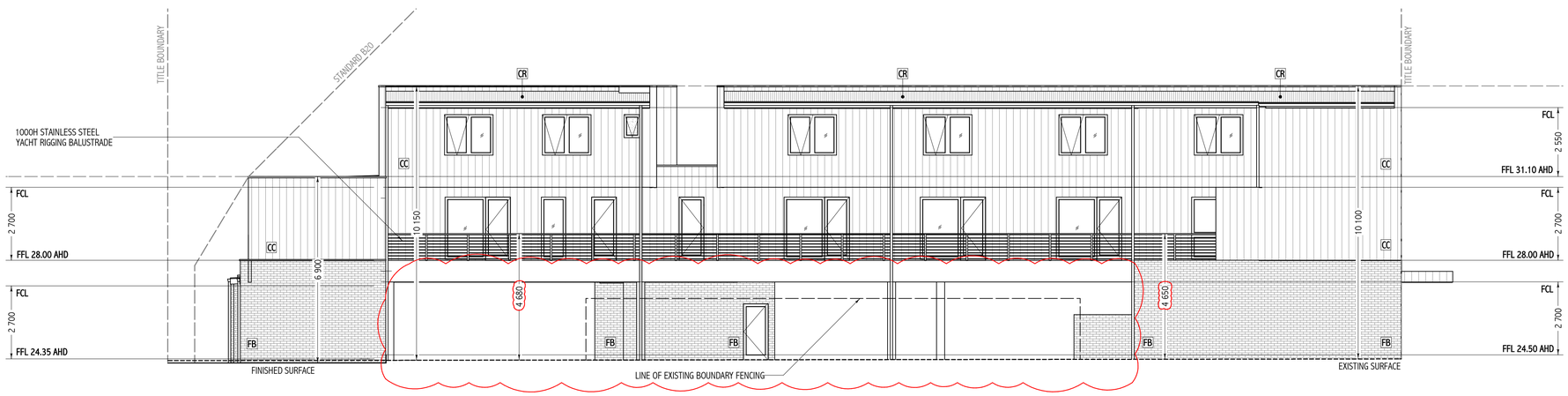
NORTH ELEVATION



SOUTH ELEVATION



WEST ELEVATION



EAST ELEVATION

MATERIALS AND FINISHES SCHEDULE

FB FACE BRICKWORK	Red (white morter) or similar	
CC COLORBOND CLADDING	Black or similar	
CR COLOROND ROOFING	"Zincalume" or similar	
OB OBSCURE GLAZING	Obscure glass (Windows and balustrades)	
WINDOW FRAMES & CAPPING	Black or similar	
RAINHEADS, DOWNPIPES	Black or similar	
DRIVEWAY PAVING	Coloured concrete sealcoat (dark grey) or similar	

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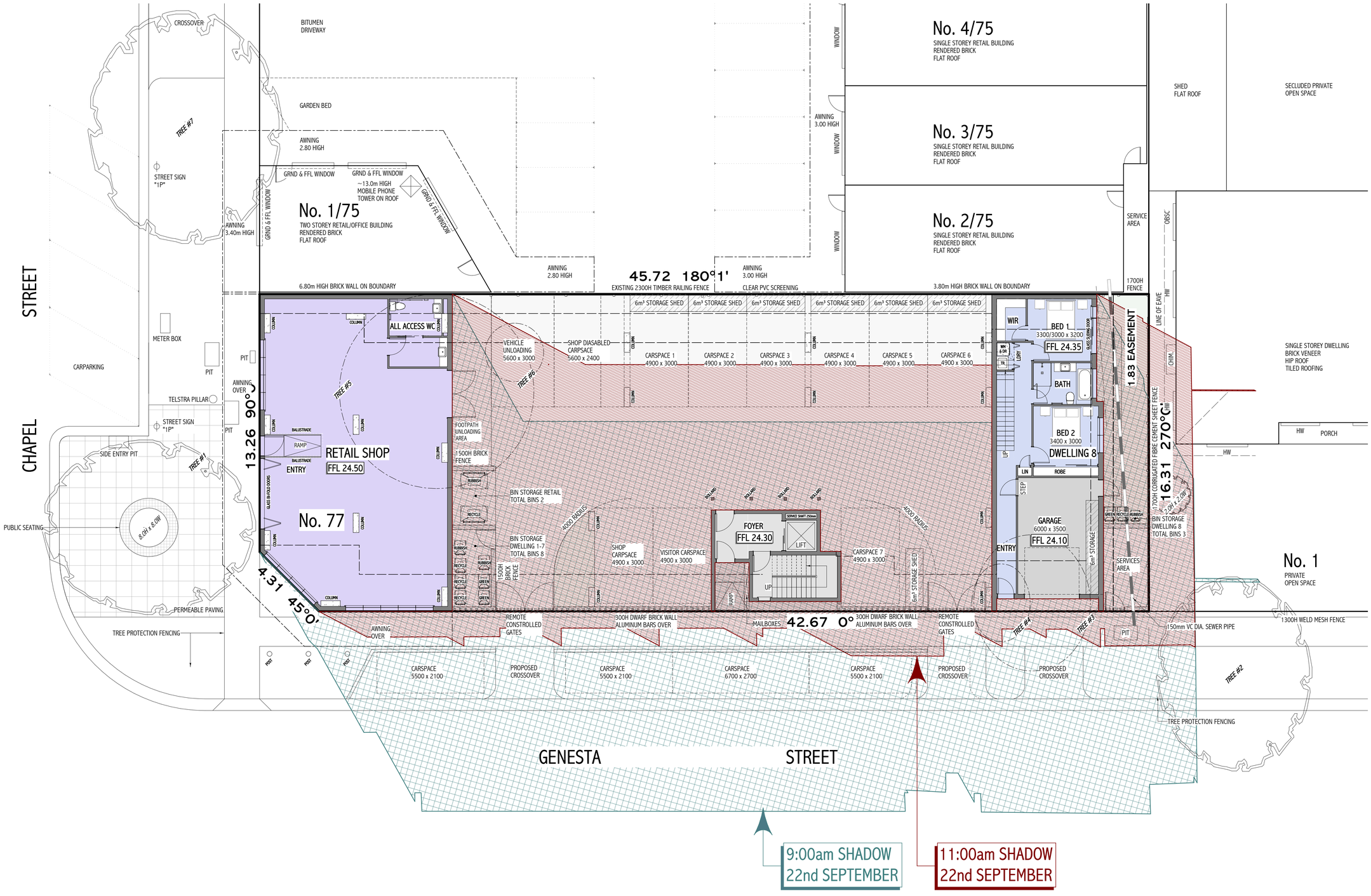

AM SHADOWS

LEGEND

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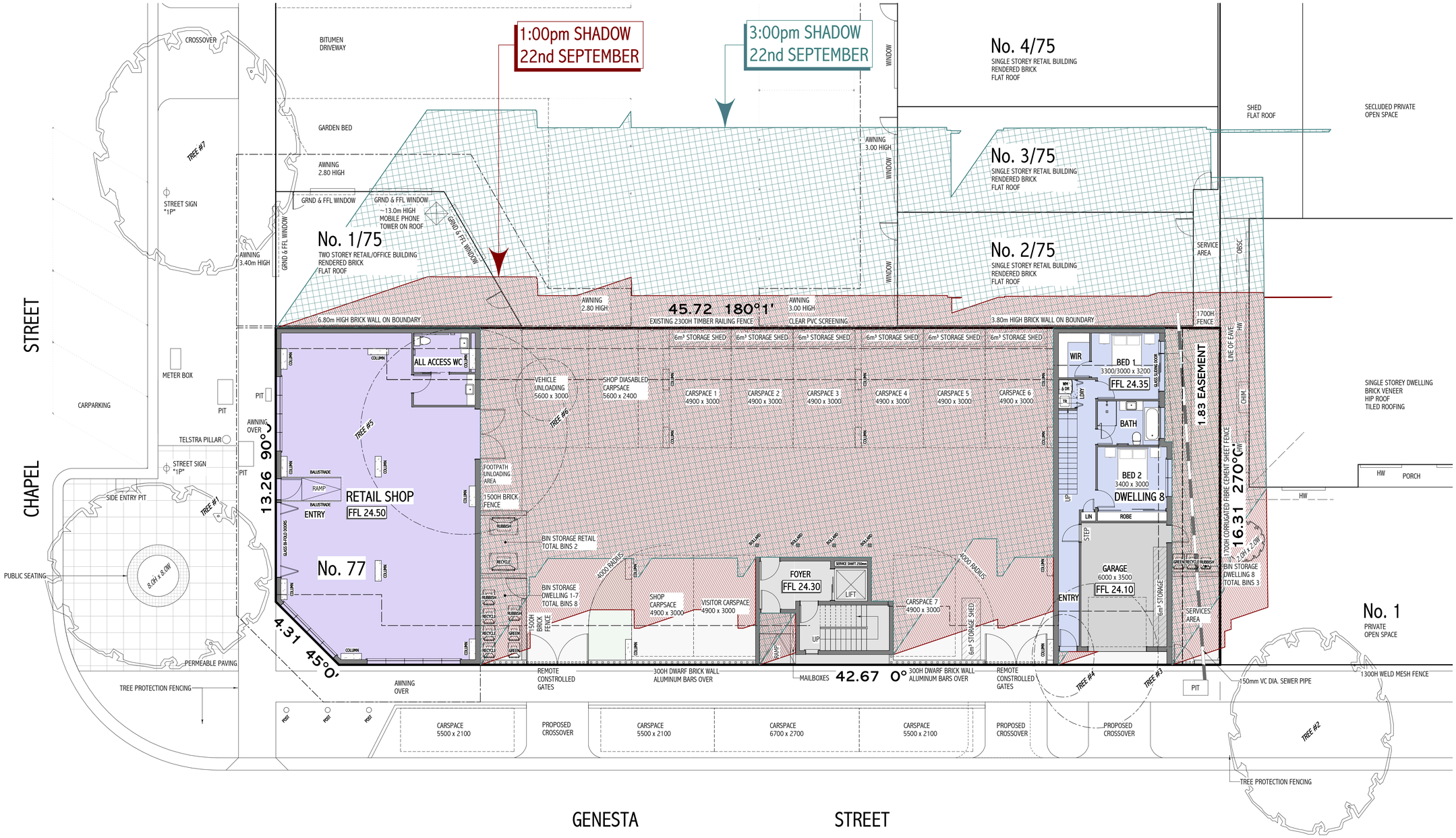

PM SHADOWS

LEGEND

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1. MYRTLE WATTLE
INDIGENOUS SMALL SHRUB



2. PALE FLAX LILY
INDIGENOUS BOARDER PLANT



3. PALE FLAX-LILY
INDIGENOUS BOARDER PLANT



PLANTING LEGEND

No.	Generic name	Common name	Height mm	Width mm	Pot mm	No	Origin	Shade
1.	Acacia myrtifolia	Myrtle Wattle	2000	1500	N/A	3	I	FSN/PSD
2.	Lomandra filiformis	Wattle Mat-rush	700	700	140	7	I	FSN
3.	Lomandra Longifolia	Spiny-headed Mat-Lily	700	700	140	6	I	FSN

FSN=Full Sun, PSH=Part Shade, N=Native, I=Indigeneous,E=Exotic

LANDSCAPE SPECIFICATION

1 Site Preparation
Where site is grassed or heavily weeded, the area shall be spray poisoned with Roundup (or similar product), using a red coloured dye in the mix. Two applications, 3 weeks apart will be required to totally remove unwanted vegetation.

2 Grading for Garden Beds and Grassed Areas
Existing subgrade shall be excavated or filled to 175mm below finished grade in garden beds to allow for 75mm topsoil and 100mm mulch.
Allow for 50mm soil cover in lawn areas , for imported loam to finish flush with edge and instant lawn to sit over.
Any imported fill to be free of builders rubble, logs, weeds or any other foreign material over 50mm diameter.
All fill material to be compacted in layers of 150mm to properly consolidate subgrade, avoiding ongoing settlement.

3 Tree Protection
Where existing trees have been identified, both within the property and on adjacent properties, for retention within the overall landscape development they shall be protected in accordance with specification separately attached if required.

4 Lawn Areas
Subgrade to be cultivated to a depth of 100mm following application of Gypsum to clay soils at rate of 2kg/square metre. Soil to be spread to an even thickness of 50mm and will be:-
- Free from extraneous material greater than 25mm diameter
- Free from perennial weeds and their roots, bulbs or rhizomes
- Ph. to be 6.0-7.0
-Texture to be light, friable sandy loam not packing sand and/or its derivative
- Free from silt or clay material
Lawn areas to be edged with 12 x 70mm Jarrah edging held in place with 50 x 50 x 450mm hardwood stakes at 1500mm centres.
Place instant lawn (Sapphire Buffalo), over prepared areas and fertilize/water in accordance with growers' instructions.

5 Shrub Areas
Subgrade to be rotary hoed to a depth of 100mm. Gypsum added if clay present. Soil as per above description added to a depth of 75 mm then covered with fine shredded pine mulch to a depth of 100mm.

6 Planting
Plant materials to be of the species, quantity and container size as shown in the planting schedule. Plants will not be substituted without the consent of the designer and Responsible Authority. Plants to be healthy nursery stock, free from disease, injury, insects, all weeds and roots of weeds.
Planting to be carried out in accordance with standard drawings as shown on landscape plan.

7 Lilydale Topping Areas
Lilydale Toppings to be used in narrow and/or highly trafficked areas in preference to lawn. Toppings to be laid on 75mm depth consolidated crushed rock to a depth of 50mm. Surface to be compacted using a vibrating plate.

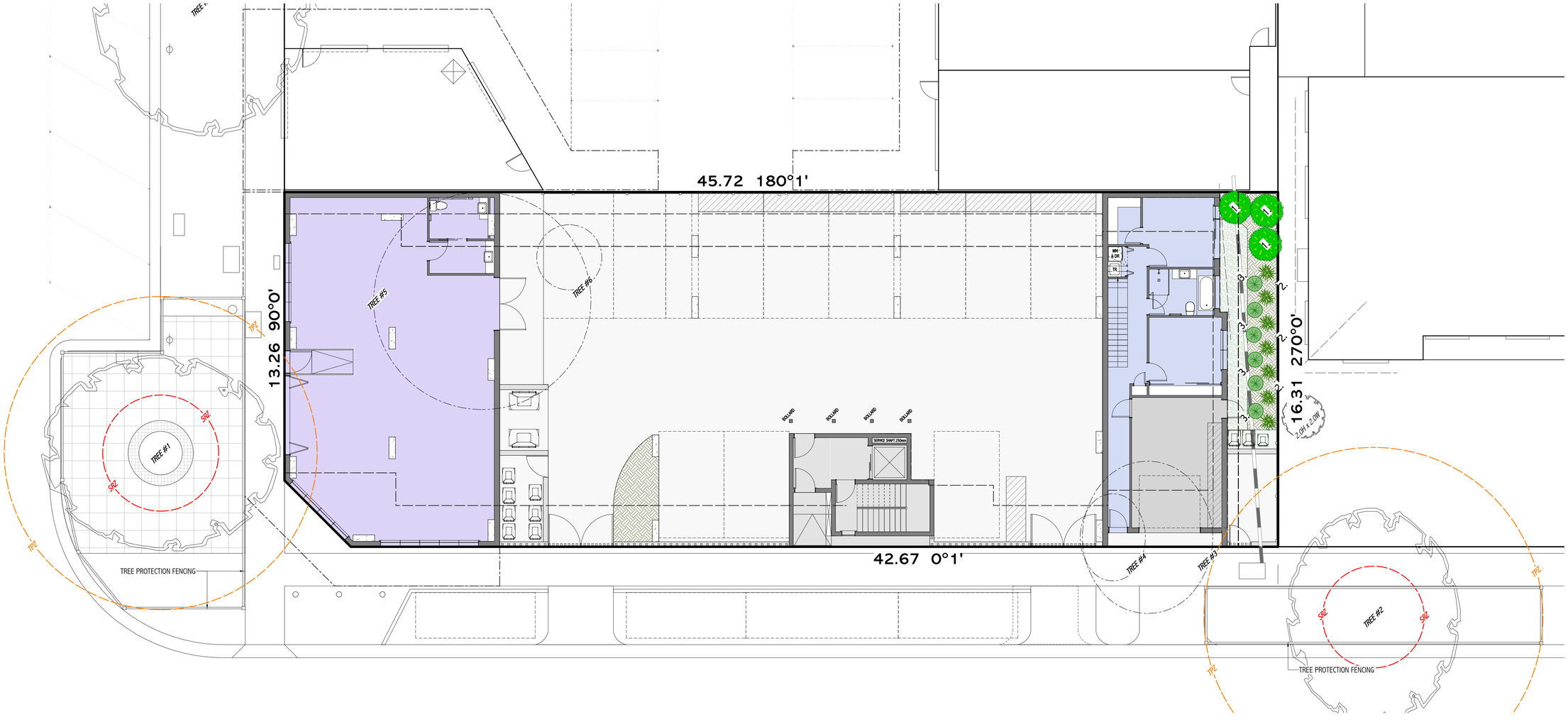
8 Paved Areas
Large pavers 600 x 400 x 40mm to be laid on mortar over 75mm thickness reinforced concrete base. Colour and make as specified. Pavers to be graded to ensure water is directed towards lawn and/or grassed areas and absorbed.

9 Irrigation
Should irrigation of the site be required by the Responsible Authority, then the following will apply for private open spaces and common areas:-
- 19mm polypipe to be connected to water timer and 2 way tap
- polypipe to be minimum 150mm below ground level
-ratchet clamps to be used to connect fittings to pipe
- Teflon tape to be used on threaded risers
- fully adjustable Hunter popups to be used in lawn areas, arcs must overlap
-in wide shrub areas adjustable shrub sprays on 13mm threaded risers to be used
- in narrow shrub areas <500mm width, adjustable flow drippers connected to 19mm pipe with flexible 4mm polypipe laid to each plant
- system to be fully checked and operational before handover

10 Maintenance Schedule
The following maintenance schedule shall apply to all landscaped areas for 12 months following Practical Completion. Work to be carried out by owner or body corporate:-
- plants, including grass, to be regularly checked for pests and diseases and appropriate treatments applied where necessary
- pruning to ensure good shape and remove dead limbs shall be undertaken at 3 month intervals
- additional applications of Osmocote to be applied in accordance with manufacturers recommendations
- all plants to be regularly watered during summer months and periods of dryness
- mowing to be carried out regularly, mower blade height to be set at 50mm above ground height

LEGEND

- Coloured concrete paving
- "Riverina" 40mm-100mm pebbles
- Tree Protection Zone
- Mulched garden bed/area
- Trees to be removed
- Proposed trees and shrubs
- Existing trees to be retained



LEGEND

- 2.35 — DENOTES LEVELS TO AUSTRALIAN HEIGHT DATUM
- HW — DENOTES HABITABLE ROOM WINDOWS
- FFL HW — DENOTES FIRST FLOOR HABITABLE ROOM WINDOWS
- DENOTES EXISTING VEGETATION
- DENOTES VEGETATION TO BE REMOVED

No.	DATE	AMENDMENT
A	09.09.21	BIN STORAGE UPDATED
B	21.10.21	COUNCIL REQUEST FOR FURTHER INFORMATION

PROJECT
PROPOSED MIXED USED DEVELOPMENT
77 CHAPEL STREET COWES

FOR
COLLISH CAPITOL PTY. LTD.

STAGE
2. TOWN PLANNING

JOB No.	DATE	SHEET No.	SCALE	AMEND. No.
1759	30.08.21	10 of 10	1:100	B

NEIL fletcher DESIGN
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Building Designer - Architectural DP-AD 363

CONCEPT LANDSCAPE PLAN



TRAFFIC IMPACT ASSESSMENT

PROPOSED MIXED-USE DEVELOPMENT

77 CHAPEL STREET, COWES

10 DECEMBER 2021

77 CHAPEL STREET, COWES

CLIENT: Fletcher Development Consultants Pty Ltd

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1 INTRODUCTION

O'Brien Traffic has been engaged by Fletcher Development Consultants Pty Ltd to undertake a traffic impact assessment of a proposed mixed-use development at 77 Chapel Street, Cowes.

In the course of preparing this report:

- Plans prepared by Neil Fletcher Design (Job No. 1759, Rev B dated 21/10/2021) and relevant documentation have been examined;
- The subject site and surrounding area have been inspected;
- A parking survey has been undertaken and the results analysed; and
- The traffic and parking implications of the proposal have been assessed.

2 EXISTING CONDITIONS

2.1 LOCATION AND LAND USE

The subject site is located on the south eastern corner of Chapel Street and Genesta Street in Cowes. The location of the subject site and the surrounding road network is shown in **Figure 1.**

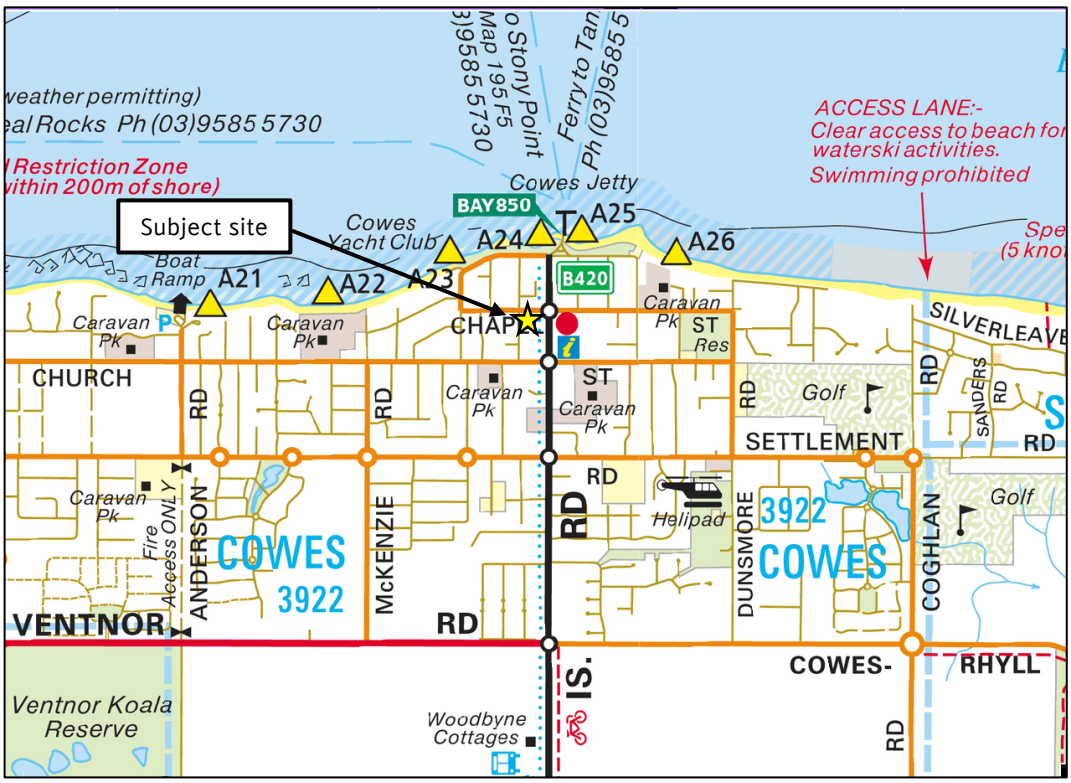

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FIGURE 1: LOCATION OF SUBJECT SITE

A recent aerial photograph of the subject site and surrounds is shown in **Figure 2.**



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FIGURE 2: AERIAL PHOTO OF SUBJECT SITE (APPROX 10:30AM, TUESDAY 28 SEPTEMBER 2021)

The site, which is zoned Commercial 1, has a frontage of approximately 15 metres to Chapel Street and 45 metres to Genesta Street, comprising an area of approximately 740 square metres.

The site was is currently occupied by a single storey dwelling with off-street car parking. Vehicle access is provided via a crossover to Genesta Street.

A view of the site frontage from Chapel Street is provided in **Figure 3**.



FIGURE 3: SUBJECT SITE FRONTAGE TO CHAPEL STREET

2.2 SURROUNDING LAND USE

Land use to the north and east of the site is primarily commercial in nature, and towards the south and west is predominately residential. The site is directly abutted by a group of shops to the east (as shown in **Figure 2** and **Figure 3**) and a residential dwelling to the south.

2.3 ROAD NETWORK

Chapel Street is an Urban Access 1 road under the management of Bass Coast Shire Council. In the vicinity of the subject site, it provides a pavement width of approximately 19.5 metres, facilitating a carriageway width of 9.7m and 4.9m wide angled parking bays on both sides of the road. There are two angled parking bays directly in front of the subject site. The parking bays are generally restricted to 1P duration 9am to 5pm with unrestricted parking further to the west.

Chapel Street is subject to the default urban speed limit of 50km/h.

Views of Chapel Street adjacent to the subject site are shown in **Figure 4** and **Figure 5**.



FIGURE 4: CHAPEL STREET (FACING WEST)



FIGURE 5: CHAPEL STREET (FACING EAST)

Genesta Street is an Urban Access 2 road under the management of Bass Coast Shire Council. It provides a carriageway width of approximately 6.4m in the vicinity of the site. Unrestricted kerbside parking is available on the eastern side of the street adjacent to the subject site. The available kerb length would allow for five cars to park directly in front of the subject site. The western side of the road is subject to a No Stopping restriction.

Genesta Street is subject to the default urban speed limit of 50km/h.

Views of Genesta Street adjacent to the subject site are shown in **Figure 6** and **Figure 7**.



FIGURE 6: GENESTA STREET (FACING NORTH)



FIGURE 7: GENESTA STREET (FACING SOUTH)

2.4 CASUALTY CRASH HISTORY

A review of Department of Transport's crash database revealed one casualty crash within 50m of the site within the last 5 years of available data. The accident was coded as an 'Other injury', 'Other on path' incident likely involving a vehicle striking a parked vehicle or other carriageway obstruction.

This incident is not indicative of any inherent safety issue associated with the subject site.

2.5 SUSTAINABLE TRANSPORT

2.5.1 Public Transport

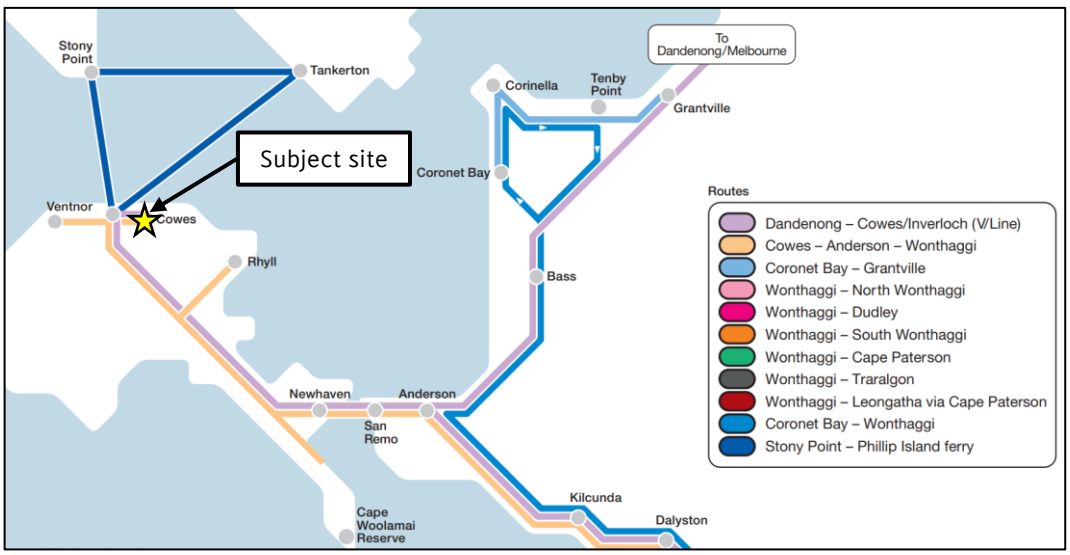
The site is reasonably well served by public transport. There is a two two-space taxi zone within 80 metres of the subject site on the northern side of Chapel Street.

In addition, the Cowes Transit Centre is located an approximate 350m walk to the southeast of the subject site, serviced by the following bus routes:

- Dandenong – Cowes/Inverloch (V/Line); and
- Cowes – Anderson – Wonthaggi.

The Stony Point – Phillip Island ferry also stops an approximate 600m walk to the north of the subject site.

The public transport services in the northern Bass Coast region are shown in **Figure 8**.



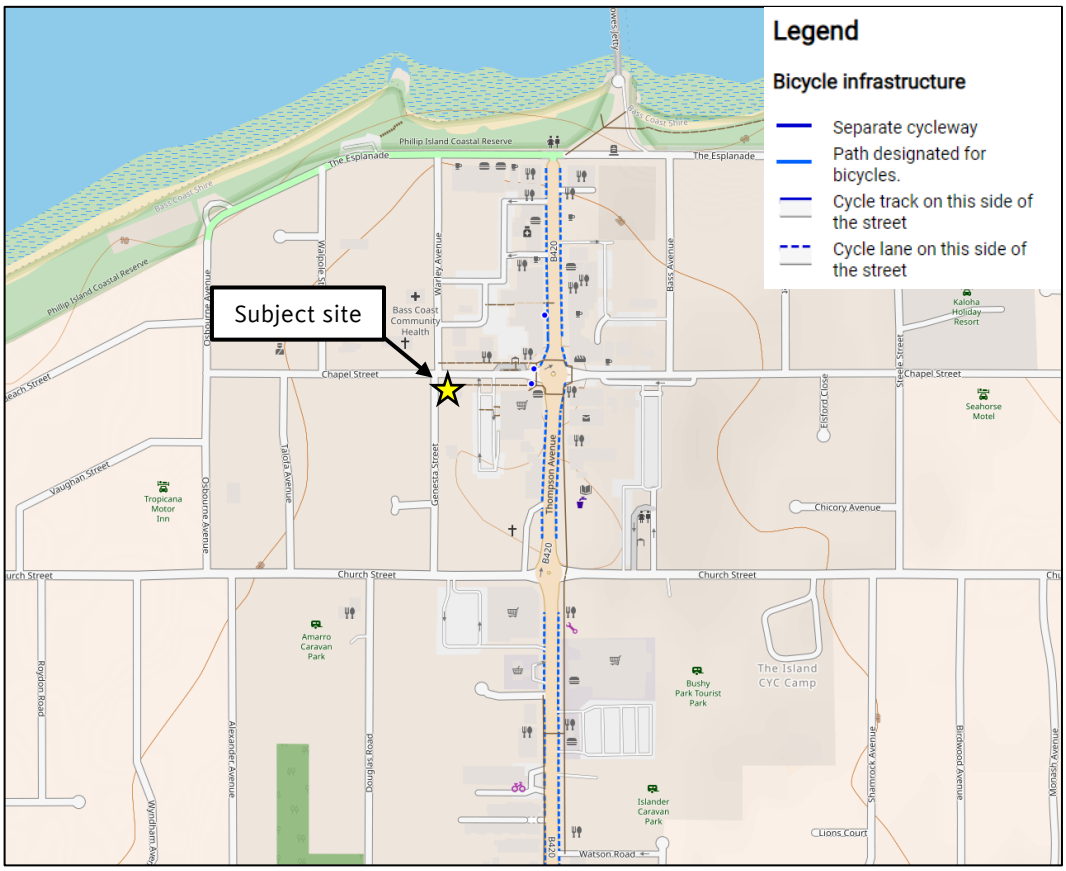
SOURCE: PUBLIC TRANSPORT VICTORIA (PTV) WEBSITE

FIGURE 8: PUBLIC TRANSPORT SERVICES

2.5.2 Bicycle Network

Thompson Avenue provides bicycle lanes in both directions in the vicinity of the site. This provides connection to the Phillip Island Bike Path to the south.

The bicycle network in the vicinity of the subject site is shown in **Figure 9**.



SOURCE: CYCLOSM.ORG

FIGURE 9: BICYCLE NETWORK

2.6 AVAILABILITY OF PARKING IN THE LOCALITY

O'Brien Traffic prepared an inventory of on-street and public off-street parking within a 150-metre walk of the subject site, revealing a total of 131 spaces (including 3 disabled spaces). This comprises 77 unrestricted spaces and 54 spaces subject to a time restriction longer than 1P at certain times.

A spot parking survey was conducted for the above spaces on a typically busy weekday in fine weather, Wednesday 10 November 2021 at 1:30pm. The survey revealed a parking occupancy of 35% with a total of 85 vacant spaces within convenient walking distance of the site, including 58 spaces that were unrestricted. Details of the parking survey results are provided in **Appendix A**.

3 THE PROPOSAL

It is proposed to demolish the existing dwelling and construct a mixed-use development on the subject site including a shop and 8 dwellings as follows:

- 157m^2 leasable floor area Shop; and
- 8 x two-bedroom dwellings.

A total of 11 car spaces are proposed on-site, including;

- 8 resident spaces;
- 1 residential visitor space; and
- 2 Shop spaces, including one disabled space.

Given that the Shop is allocated less than 5 spaces, it is proposed that the disabled space not be signed and that the shared area will also be utilised for unloading.

Vehicle access to the car park is provided via two x 3.0m wide crossovers to Genesta Street. The northern access will operate as entry only and the southern access will operate as exit only. An additional 3.0m wide crossover provides access to a single garage for Dwelling 8.

It is proposed to indent a section of the kerb adjacent to the site to provide four indented parallel spaces for public use. The amount of on-street parking adjacent to the site in Genesta Street will reduce from 6 spaces to 4 spaces.

The current proposed ground floor plan is provided in **Appendix B**.

4 CAR PARKING

4.1 PLANNING SCHEME CAR PARKING REQUIREMENT

Parking policy and requirements applicable to the proposed development are specified in Clause 52.06 of the Planning Scheme.

The purpose of Clause 52.06 is:

- *To ensure that car parking is provided in accordance with the Municipal Planning Strategy and the Planning Policy Framework.*
- *To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.*
- *To support sustainable transport alternatives to the motor car.*
- *To promote the efficient use of car parking spaces through the consolidation of car parking facilities.*
- *To ensure that car parking does not adversely affect the amenity of the locality.*
- *To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.*

The Planning Scheme parking requirement for the proposal is shown in **Table 1**.

USE	SIZE	PLANNING SCHEME PARKING RATE	CAR PARKING REQUIREMENT
Dwelling (resident)	8 x 2-bedroom	1 space to each 1 or 2-bedroom dwelling; 2 spaces to each 3 or more-bedroom dwelling;	8 resident spaces
Dwelling (visitor)	8 x 2-bedroom	1 space for visitors to every 5 dwellings in developments of 5 or more dwellings	1 visitor space
Shop	157m^2 leasable floor area	4 spaces to each 100m^2 of leasable floor area	6 spaces
		TOTAL	**15 SPACES**

TABLE 1: PLANNING SCHEME CAR PARKING REQUIREMENT

On this basis, the proposed development has a Planning Scheme car parking requirement of 9 spaces associated within the Dwellings and 6 spaces associated with the Shop.

Given eight (8) resident spaces and one (1) resident visitor space is provided on-site, the proposal meets the residential Planning Scheme parking requirement.

However, given only two (2) spaces are proposed for the shop, a reduction of four (4) spaces is required.

4.2 CAR PARKING DEMAND ASSESSMENT

Before a requirement for car parking is reduced, Clause 52.06-7 of the Planning Scheme requires a Car Parking Demand Assessment, which must assess the parking demand *likely* to be generated by the proposed use.

The Car Parking Demand Assessment must address a number of specified matters to the satisfaction of the responsible authority. These are discussed as follows.

CRITERIA	RESPONSE
The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use	Given the location of the subject site, it is anticipated that the majority of trips associated with the Shop component of the development will be multi-purpose in nature. As such, many of the customers to the proposed development will likely comprise diverted linked trips (i.e. customers that were previously visiting other shops along Chapel Street and Thompson Avenue that will also walk to the development).
The variation of car parking demand likely to be generated by the proposed use over time	The Shop component of the development is likely to generate a peak parking demand during typical business hours Monday to Friday.
The short-stay and long-stay car parking demand likely to be generated by the proposed use	Short-stay parking demand is likely to be generated by customers, with staff generating a long-stay car parking demand.
The availability of public transport in the locality of the land	There is some availability of public transport in the vicinity of the site.
The convenience of pedestrian and cyclist access to the land	Genesta Street provides a footpath on the eastern side and Chapel Street provides footpaths on both sides in the vicinity of the site, facilitating convenient access to the land for pedestrians. Cyclists can conveniently access the site via the existing bike lanes on Thompson Avenue.
The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land	There are two public bicycle hoops on the corner of Chapel Street and Thompson Avenue an approximate 80m walk from the site, providing a total of four bicycle parking spaces. It is anticipated that customers who elect to cycle to the site would readily use these spaces.
The anticipated car ownership rates of likely or proposed visitors to or occupants of the land	It is anticipated that most staff and visitors will own a car, however this does not mean that they will use them to access the site.
Any empirical assessment or case study	Considering the site's location and the high proportion of multi-purpose trips by customers it is likely that the peak car parking rate would be in the range of 2-3 spaces per 100m^2. This would equate to a likely peak parking demand for 3-4 spaces.

TABLE 2: CAR PARKING DEMAND ASSESSMENT - SHOP

The Car Parking Demand Assessment indicates a likely peak parking demand of 3-4 spaces associated for the shop component of the proposed development.

4.3 ADEQUACY OF PARKING SUPPLY

Clause 52.06-7 of the Planning Scheme states that before granting a permit to reduce the number of spaces, the responsible authority must consider a number of issues which include:

CRITERIA	RESPONSE
The Car Parking Demand Assessment	The Car Parking Demand Assessment indicates a peak parking demand of 3-4 spaces for the shop component.
The availability of alternative car parking in the locality of the land, including: • *Efficiencies gained from the consolidation of shared car parking spaces* • *Public car parks intended to serve the land.* • *On street parking in non-residential zones.* • *Streets in residential zones specifically managed for non-residential parking*	As discussed in **Section 2.6**, the spot parking occupancy survey indicated 85 vacant spaces within a 150m walk of the site, of which 58 were unrestricted. It is clear that there is more than sufficient parking availability in the vicinity to cater for the likely excess parking demand of up to two spaces associated with the shop.

TABLE 3: ADEQUACY OF CAR PARKING SUPPLY

Due to the availability of on-street and public off-street parking in the vicinity of the site and the likelihood that up to two parking spaces will be occasionally required, the reduction of 4 on-site car parking spaces is readily justified in this case.

5 CAR PARK ACCESS & LAYOUT

The following comments are made in relation to the proposed car park layout and vehicle access:

- Vehicle access is proposed via three x 3.0m wide crossovers meeting the requirement of Clause 52.06-9 of the Planning Scheme;
- The internal radii of the accessway changes of direction are 4m, in accordance with Clause 52.06-9 of the Planning Scheme;
- All car spaces are 3m wide and a minimum of 4.9m long, accessed via a 5.2m or wider aisle, meeting the requirements of Clause 52.06-9 of the Planning Scheme;
- The proposed disabled space and adjacent shared area meet the requirements of AS2890.6-2009. Given the space will not be marked as accessible, a bollard will not be placed in the shared area to allow for vehicle unloading; and
- Access to the car parking area and the single garage will be via remote control gates and roller doors. There is no Planning Scheme requirement to have these gates and roller doors setback more than proposed.

6 BICYCLE FACILITIES

Bicycle parking requirements applicable to the proposed development are specified in Clause 52.34 of the Planning Scheme.

Given the development is less than four storeys and the Shop leasable floor area is less than 1,000m^2, the proposal does not trigger a statutory bicycle parking requirement.

7 LOADING

Clause 65.01 of the Planning Scheme states that before deciding on an application, the responsible authority must consider the adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.

It is proposed to utilise the 5.6m x 3.0m shared area adjacent to the unmarked accessible space for loading and unloading purposes. This would be utilised by vans, utes and small trucks. Any occasional large trucks would need to utilise on-street parking.

The proposed loading arrangements are therefore considered adequate to accommodate the loading needs of the proposed development.

8 TRAFFIC GENERATION & IMPACT

It expected that each two-bedroom dwelling will generate an average of 5 vehicle trips per dwelling per day. For the proposed 8 dwellings, this equates to an anticipated total of 40 vehicle trips per day. Of these, only 10% (up to 4 trips) would occur in each of the AM and PM peak hours.

The Shop component is expected to generate approximately 5-6 trips per 100 square metres in the PM peak (50% to and 50% from the site). This equates to approximately 5 inbound and 5 outbound trips in the PM peak.

It is noted the existing dwelling on the subject site would currently generate around 8 vehicle trips per day, with up to 1 trip in each of the AM and PM peak hours.

Overall, conservatively assuming that the peak traffic generation from each use would align, the additional traffic generated by the proposed development would be in the order of 13 additional trips in the PM peak hour, equating to one trip (on average) every 4-5 minutes.

This level of additional traffic generated is anticipated to have no significant adverse impact on Genesta Street, Chapel Street or the surrounding road network.

9 CONCLUSION

Based on the considerations outlined above, it is concluded that:

- The proposal has a Planning Scheme parking requirement of 15 spaces;
- As it is proposed to provide 11 spaces, the proposal requires justification for a reduction of 4 spaces associated with the Shop component;
- A Car Parking Demand Assessment indicates that the Shop component of the proposal is likely to generate a peak parking demand of 3-4 spaces;
- The reduction in the car parking requirement for the Shop component is readily justified in this case based on the provision of two spaces for the shop use on site and the availability of on-street parking in the locality to absorb an additional parking demand of up to two spaces on occasions;
- The proposed car park layout and vehicle access arrangement meet the design standards of Clause 52.06 of the Planning Scheme and relevant Australian Standard requirements;
- The proposal does not trigger a bicycle parking requirement under Clause 52.34 of the Planning Scheme;
- The loading arrangements are considered to be appropriate; and
- The traffic generated by the proposal is anticipated to have no significant adverse impact on the safety or operation of Genesta Street, Chapel Street or the surrounding road network.

We therefore find no parking or traffic related grounds to prevent the proposed mixed-use development proceeding.

APPENDIX A

PARKING SURVEY RESULTS



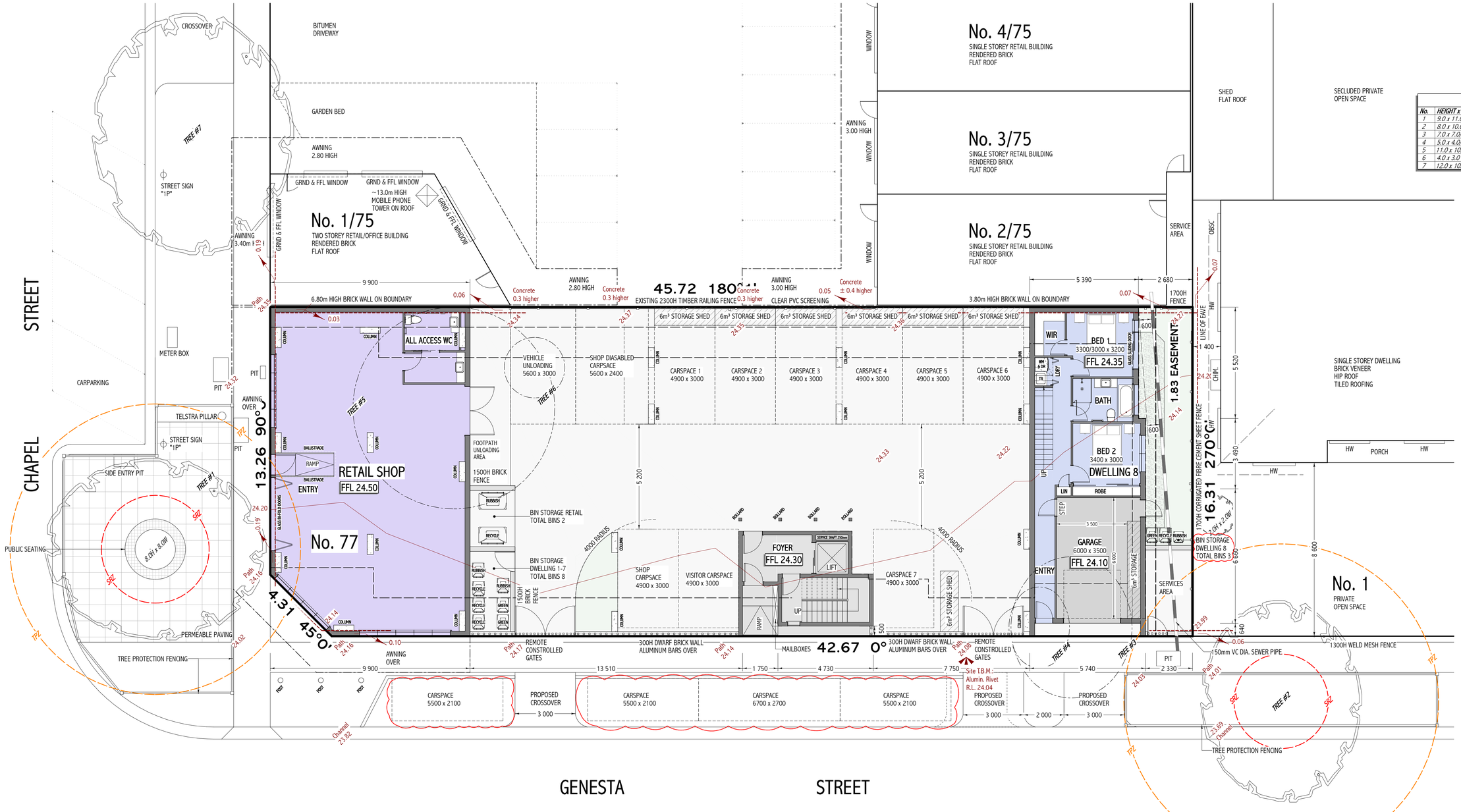
FIGURE A1: PARKING SURVEY MAP

Date: 10/11/2021 Time: 1:30-2:30pm						Weather: Overcast, cool
Location	**Map Ref**	**Side**	**Parking Restriction**	**Supply**	**Number of parked cars**	**Number of spaces unoccupied**
Chapel Street						
Walpole Street to Warley Avenue	A2	North	Unrestricted	18	8	10
Warley Avenue to Thompson Avenue	A3	North	1P 9am-5pm	9	6	3
Talofa Avenue to Genesta Street	A6	South	Unrestricted	12	2	10
Genesta Street to Off-Street Car Park	A7	South	1P 9am-5pm	4	2	2
Off-Street Car Park to Thompson Avenue	A8	South	1P 9am-5pm	7	6	1
Thompson Avenue to Service Road exit	A9	South	Loading Zone	1	0	1
			1P 9am-5pm	5	5	0
Warley Avenue						
Crossover mid-block of vacant lot to Chapel Street	D2	West	P Disabled Only, No Stopping 12:30-8am	1	0	1
			2P 9am-5pm, No Stopping 12:30-8am	3	2	1
			P Disabled Only, No Stopping 12:30-8am	2	0	2
			2P 9am-5pm, No Stopping 12:30-8am	2	1	1
			1/2P 9am-5pm, No Stopping 12:30-8am	2	0	2
			2P 9am-5pm, No Stopping 12:30-8am	7	3	4
Crossover at #7 to Chapel Street	D4	East	1P 9am-5pm, No Stopping 12:30-8am	5	0	5
			2P 9am-5pm, No Stopping 12:30-8am	9	2	7
Genesta Street						
Chapel Street to Church Street	E1	East	Unrestricted	19	0	19
Off-Street Car Parks						
Public Car Park accessed via Warley Avenue (south)	H		Scope Customer Parking	2	0	2
			Unrestricted	28	9	19
			Total 1P+ (Within 150m walk of subject site, excluding ALDI)	**131**	**46**	**85**

FIGURE A2: SPOT PARKING OCCUPANCY SURVEY – 1:30-2:30PM, WEDNESDAY 10 NOVEMBER 2021

APPENDIX B

PROPOSED GROUND FLOOR PLANS



GROUND FLOOR SITE LAYOUT PLAN

EXISTING VEGETATION SCHEDULE

No.	HEIGHT x WIDTH	BOTANICAL NAME	COMMON NAME	ACTION
1	9.0 x 11.0	*Fraxinus angustifolia*	Desert Ash	Retained
2	8.0 x 10.0/8.0	*Eucalyptus leucoxylon*	Yellow Gum	Retained
3	7.0 x 7.0/6.0	*Olea europaea*	Olive	Removed
4	5.0 x 4.0/3.0	*Pittosporum undulatum*	Sweet Pittosporum	Removed
5	11.0 x 10.0	*Syzygium paniculatum*	Lilly Pilly	Removed
6	4.0 x 3.0	*Camellia sp.*	Camellia	Removed
7	12.0 x 10.0	*Eucalyptus nicholii*	Peppermint Gum	Retained

SITE ANALYSIS

SHOP

FLOOR AREA	157.0m²	(16.9sq)

DWELLING 1

FIRST FLOOR	67.0m²	(7.2sq)
SECOND FLOOR	58.0m²	(6.2sq)
TOTAL	**125.0m²**	**(13.4sq)**

DWELLINGS 2-5,7

FIRST FLOOR	58.0m²	(6.2sq)
SECOND FLOOR	50.0m²	(5.4sq)
TOTAL	**108.0m²**	**(11.6sq)**

DWELLING 6

FIRST FLOOR	58.0m²	(6.2sq)
SECOND FLOOR	55.0m²	(5.9sq)
TOTAL	**113.0m²**	**(12.1sq)**

DWELLING 8

FIRST FLOOR	56.0m²	(6.0sq)
SECOND FLOOR	66.0m²	(7.1sq)
TOTAL	**122.0m²**	**(13.1sq)**

SITE AREA	740.9m²
SITE COVERAGE	672.0m² or 90.7%
PAVED AREAS (IMPERVIOUS)	492.0m²
PERMEABILITY	60.0m² or 8.1%

LEGEND

- 2.35 — DENOTES LEVELS TO AUSTRALIAN HEIGHT DATUM
- HW — DENOTES HABITABLE ROOM WINDOWS
- FFL HW — DENOTES FIRST FLOOR HABITABLE ROOM WINDOWS
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FOR
COLLISH CAPITOL PTY. LTD.

STAGE
2. TOWN PLANNING

JOB No.	DATE	SHEET No.	SCALE	AMEND. No.
1759	30.08.21	4 of 10	1:100	B

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Building Designer - Architectural DP-AD 363

Dobbs Doherty

Fire Safety | Acoustics | Access

77 Chapel Street, Cowes

Fire Engineering Preliminary Report

77 Chapel Street, Cowes

Fire Engineering Preliminary Report

Prepared for:

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Revision History

Doc.	Rev.	Date	Purpose	Prepared by:	Reviewed by:
PR	0	24/08/2021	Stakeholder Review	Chee Hong Thang	Laurence Fok

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1 Introduction & Background

Fletcher Development Consultants has appointed Dobbs Doherty Pty Ltd to undertake a preliminary fire engineering review for a 3 storey (rise in storeys of 3) building containing apartments, retail and carparking at 77 Chapel Street, Cowes.

The purpose of this Preliminary Review (PR) is to outline the likely fire engineering requirements for the potential design options being:

- Design Option 1 – Provide a sprinkler system throughout the building;
- Design Option 2 – Do not provide a sprinkler system throughout the building.

Given FRV consent is likely required, the respective approvals risk of each of the above mentioned fire safety strategies will also be provided.

1.1 Relevant Fire Engineering Guidelines

In accordance with the IFEG, the following stages will be completed in the development and acceptance of the fire safety design:

- Preliminary Fire Engineering Report – This Preliminary Fire Engineering Report will outline the benefits and issues associated with the proposed design, and outline concept strategies that are to be further developed in the subsequent stages (FEB & FER) to address the fire safety issues identified.
- Fire Engineering Brief (FEB) – The FEB will be prepared after the Preliminary Report and is required to include a trial design, the framework for evaluation and acceptance criteria for proposed Performance Solutions. Approval by stakeholders indicates acceptance of proposed trial designs, calculation methods, assumptions, and acceptance criteria for use in the FER. Unless advised otherwise by the RBS, Fire Rescue Victoria (FRV) is considered a stakeholder for all BCA Volume 1 projects with fire engineering Performance Solutions. FRV require an "Application for Consultation Pursuant to BCA Volume 1 Part A2.2(4)(a)" regardless of whether there is an application for consent under Regulation 129 or not.
- Fire Engineering Report (FER) – A detailed FER will be prepared after the FEB is approved. The FER contains all relevant information from the FEB as well as final calculations, justification and evaluations to demonstrate that proposed Performance Solutions satisfy the agreed acceptance criteria and therefore comply with the Performance Requirements of the BCA.

1.2 Relevant Legislation

It has been assumed that the primary legislation applicable to the development is the Building Code of Australia 2019 (BCA) Volume One Amendment 1 (ABCB, 2020). The applicable version of the BCA for this development will require confirmation from the Relevant Building Surveyor.

The BCA provides a set of Performance Requirements which must be complied with. The prescriptive deemed-to-satisfy (DTS) Provisions are also described in the BCA. A design that complies with the DTS Provisions is deemed to comply with the Performance Requirements. A Performance Solution is a design that does not comply with the DTS Provisions however is shown to comply with the Performance Requirements by way of an evaluation.

1.3 Reference Documentation

This high-level review has considered the following background information:

Table 1 Reference Documentation

Document	Prepared by	Issue
Architectural Drawings 77 Chapel Street, Cowes Job No: 1759 Sheet No: 1 of 3 Ground Floor Site Layout Plan 2 of 4 First Floor Site Layout Plan 3 of 4 Second Floor Site Layout Plan 4 of 4 Elevations	Neil Fletcher Design	13/07/2021

1.4 Report Limitations

It is important to note the following key limitations of this report:

- This report is not a formal fire safety engineering report for the support of the building under the Victorian Building Regulations and / or National Construction Code – Building Code of Australia.
- This report is not a full compliance review of the building or conformance audit for any fire safety systems.
- This report is based on information provided by others and we have not verified the accuracy and/or completeness of this information.
- The proposed fire safety strategy has been prepared on the basis that fire brigade consent may be required under VBR R129. Following fire brigade consultation (at FEB stage), additional fire safety requirements may be applicable based on feedback received.

2 Building Characteristics

The project comprises of a 3 storey (rise in storeys of 3) building containing apartments, retail and carparking.

Table 2 Building Parameters

BCA Parameter	
Occupancy	Apartments, Retail, Carpark
BCA Classification	Class 2, Class 6, Class 7a
Rise in Storeys	3
Number of Storeys Contained	3
Effective Height	6.6m
Type of Construction	Type A

The building is shown in Appendix B.

3 Fire Engineering Preliminary Design Criteria

The purpose of this Preliminary Review (PR) is to outline the likely fire engineering requirements for the potential design options being:

- Design Option 1 – Provide a sprinkler system throughout the building;
- Design Option 2 – Do not provide a sprinkler system throughout the building.

The FRV approvals risk associated with Design Option 1 is considered to be ***lower*** relative to Design Option 2, given the provision of sprinklers throughout the building. The provision of sprinklers will be viewed favourably by the FRV and is also expected to assist in addressing any minor non-compliances with the fire hydrant design.

Based on our high-level fire engineering review, the following non-compliances with the Deemed-to-Satisfy Provisions of the Building Code of Australia (BCA) have been identified as potentially benefiting from a fire engineering evaluation:

Table 3 Proposed Performance Solutions and Reference Criteria

Proposed Performance Solution	Building Code of Australia		IFEG Subsystem
	DTS Provision	Performance Requirement	
Applicable to Design Options 1 and 2			
To provide technical justification for unprotected openings in external walls within 3m of a fire source feature being the property boundary.	C3.2	CP2	C
To provide technical justification for travel distances to be exceeded as follows: - Ground Floor Level - 23m in lieu of 20m to the single exit from the most remote point.	D1.4	DP4, EP2.2	A, B, D, E & F
To provide technical justification for travel distances to be exceeded at Residential Level(s) as follows: ▪ First Floor Level – 32m in lieu of 6m to the single exit from the most remote apartment entry door.	D1.4	DP4, EP2.2	A, B, D, E & F
To provide technical justification for door swing against the direction of egress travel.	D2.20	DP2(b)	E
To provide technical justification for the deletion of the fire hose reels from the retail tenancy.	E1.4	EP1.1	E

Proposed Performance Solution	Building Code of Australia		IFEG Subsystem
	DTS Provision	Performance Requirement	
To provide technical justification for reduced FRLs to the following: ▪ Ground Floor retail tenancy – 90/90/90 in lieu of 180/180/180. Ground Floor carpark – 90/90/90 in lieu of 120/120/120.	C1.1 / Spec C1.1	CP1, CP2	C
Applicable to Design Option 1 Only			
To provide technical justification for the deletion of sprinkler protection from the top of the lift shaft.	E1.5	EP1.1	E
To provide technical justification for the sill of highlight windows facing an open egress to be less than 1.5m above the level of the pedestrian walkway.	C3.11	CP2	E
Applicable to Design Option 2 Only			
To provide technical justification for reduced FRLs to the following: ▪ Residential SOUs – 60/60/60 in lieu of 90/90/90.	C1.1 / Spec C1.1	CP1, CP2	C

The non-compliance with the Deemed-to-Satisfy Provisions of the BCA identified above can generally be addressed with a Fire Engineered Performance Based Solution. The proposed Performance Solution will be evaluated for compliance with the BCA Performance Requirements with the inclusion of the following required fire safety measures:

Table 4 Specification of Required Fire Safety Measures

System	Performance Standard in addition to the BCA DTS Provisions
Automatic Fire Suppression	**Applicable to Design Option 1 Only** An Automatic Fire Sprinkler System will be provided throughout in accordance with AS2118.1 with the following variations: ▪ Fast response sprinkler heads will be provided throughout the carpark (RTI ≤ 50(m.s)^{½}). ▪ The carpark entrance doors will be interfaced with the sprinkler system and will be configured to open upon detection of fire. ▪ A heat detector may be provided as appropriate in lieu of a sprinkler head at the top of the lift shaft.
	Applicable to Design Option 2 Only An Automatic Fire Sprinkler System will not be provided. Not required by the BCA DTS Provisions.

System	Performance Standard in addition to the BCA DTS Provisions
Automatic Fire Detection and Alarm	**Applicable to Design Option 1 and 2** Smoke alarms in accordance with AS3786 will be installed inside Class 2 SOUs in accordance with BCA DTS Provisions. A building occupant warning system will be provided in accordance with BCA Specification E2.2a Clause 7 and AS1670.1 Clause 3.22.3. The following requirements/variations also apply to the system: ▪ Speakers will be provided throughout (i.e. sounders are not permitted) ▪ Pre-recorded voice messages will be provided in accordance with AS4428.16:2015. ▪ Additional speakers are to be provided inside SOUs and are to be designed to arouse sleeping occupants in accordance with AS1670.1 Clause 3.22.3 with a minimum sound pressure level of the signal shall be 75 dB(A) at the bedhead, with all doors closed. ▪ The occupant warning system shall be configured so that no single fault within a SOU shall inhibit the speakers within the common areas/corridor.
	Applicable to Design Option 2 Only A smoke detection and alarm system in accordance with AS1670.1 will be provided in public corridors and other internal public spaces, complying with the requirements of BCA Spec E2.2a Clause 4. The following requirements/variations also apply to the detection and alarm system: ▪ A single heat detector will also be located inside each SOU within 1.5m of the SOU entry door. Activation of such heat detectors shall trigger the occupant warning system throughout the building. ▪ The detection system is to be extended throughout the retail tenancy. ▪ A heat detection and alarm system in accordance with AS1670.1 will be provided throughout the Ground Floor carpark on reduced spacing of 6.6m x 6.6m (in lieu of AS1670.1 spacing of 7.0m x 7.0m). ▪ The carpark entrance doors will be interfaced with the fire detection system and will be configured to open upon detection of fire.
Emergency lighting	Emergency lighting will be provided in accordance with the BCA DTS Provisions.
Exit signs	Exit signage will be provided in accordance with the BCA DTS Provisions.
Fire hose reel systems	Fire hose reels will be provided where required, in accordance with BCA DTS Provisions, with the following exceptions: ▪ A fire hose reel will not be provided to the retail tenancy. A 2.5kg Dry Chemical Powder type fire extinguishers with minimum rating of 3A:40B:E will be provided in lieu.

System	Performance Standard in addition to the BCA DTS Provisions
Fire hydrant systems	Fire Hydrant(s) will be provided in accordance with BCA DTS Provisions or to satisfy brigade requirements.
Portable fire extinguishers & fire blankets	Portable fire extinguishers will be provided in accordance with the BCA DTS Provisions, with the following additions: ▪ 2.5kg Dry Chemical Powder type fire extinguishers with a minimum rating of 3A:40B:E will be provided within 4m of an exit of the retail tenancy.
Construction Requirements	**Applicable to Design Options 1 and 2** External walls will be non-combustible and will have non-combustible cladding to the outside. Openings in external walls within 3m of adjacent property boundaries will be protected in accordance with Table 5, and as shown in Appendix B. Travel distance from the most remote point in the carpark to the nearest exit will be 23m. The travel distance from the most remote apartment entry door to the exit stair at First Floor Level may be up to 32m in lieu of 6m. The openness of the First Floor walkway will be maintained as shown in architectural drawings i.e. will remain generally open to the surroundings as currently shown. Apartment entry doors will be self-closing -/60/30 fire doors fitted with medium temperature smoke seals meeting the smoke leakage rates specified in AS6905 Pt. 2.4 parts (a) & (b). A fire-rated lobby will also be provided outside of the First Floor exit stair. The door into the fire-rated lobby will be a self-closing -/60/30 fire door fitted with medium temperature smoke seals meeting the smoke leakage rates specified in AS6905 Pt. 2.4 parts (a) & (b). No SOU doors may open directly into the lobby and the maximum travel distance from the most remote SOU entry door to the lobby door will be 21m. The Ground Floor fire isolated stair discharge door and the doors leading to the outside from the Ground Floor foyer and retail tenancy will swing inwards. Additional signage will be provided on the inside face of the door to clearly indicate “PULL”. Alternatively, the doors may be altered to swing in the direction of egress.

System	Performance Standard in addition to the BCA DTS Provisions
	Applicable to Design Option 1 Only Loadbearing elements, fire resisting walls and floors associated with the retail tenancy and carpark at Ground Floor which required to be fire rated by BCA C1.1 Specification C1.1 Table 3 may have a reduced FRL of 90/90/90. All other elements within the building will be fire rated in accordance with the BCA DTS Provisions. The openings facing the First Floor walkway may have a sill lower than 1.5m from the adjacent external walkway. The carpark entrance doors will be interfaced with the sprinkler system and will be configured to open upon detection of fire.
	Applicable to Design Option 2 Only Loadbearing elements, fire resisting walls and floors associated with the Class 2 parts of the building which required to be fire rated by BCA C1.1 Specification C1.1 Table 3 may have a reduced FRL of 60/60/60. All other elements within the building will be fire rated in accordance with the BCA DTS Provisions. The openings facing the First Floor walkway will be protected in accordance with BCA C3.11(g). The carpark entrance doors will be interfaced with the fire detection system and will be configured to open upon detection of fire.

Other than the abovementioned requirements and the specifically addressed deviations from the DTS provisions in this report, it is assumed that all other parts of the building's passive and active fire safety system will be installed and maintained as required by the BCA DTS Provisions.

A mark-up of the non-compliances and their corresponding trial designs have been provided in Appendix B.

4 Conclusion

We trust that this Preliminary Report provides sufficient preliminary advice on construction requirements for the proposed development and for the client / design team to determine a suitable course of action towards the fire engineering documentation phase. If you have any questions, please call or email our office.

Appendix A BCA C3.2 – Protection of Openings

Openings in external walls within 3m of adjacent property boundaries will be protected in accordance with Table 5, and as shown in Appendix B.

Table 5 Receiving Radiant Heat Flux – Protection Requirements

Orientation	Distance to Allotment Boundary	Received Radiant Heat Flux	Protection Required (Note 1)
Parallel	0m to 1m	≤80kW/m^2 >40kW/m^2	Option 5, or Option 6, or Option 7, or BCA C3.4
	1m to 1.7m	≤40kW/m^2 >33kW/m^2	Option 1, or Option 5, or Option 6, or Option 7, or BCA C3.4
	1.7m to 3m	≤33kW/m^2 >20kW/m^2	Option 1, or Option 2, or Option 3, or Option 5, or Option 6, or Option 7, or BCA C3.4
	3m and above	≤20kW/m^2	None
Perpendicular	0m to 0.3m	≤40kW/m^2 >33kW/m^2	Option 1, or Option 4, or Option 5, or Option 6, or Option 7, or BCA C3.4
	0.3m to 0.95m	≤33kW/m^2 >20kW/m^2	Option 1, or Option 2, or Option 3, or Option 4, or Option 5, or Option 6, or Option 7, or BCA C3.4
	0.95m and above	≤20kW/m^2	None

Note 1: Refer Table 6 for Description of Methods of Protection (Click Here)

Table 6 Methods of Protection Summary

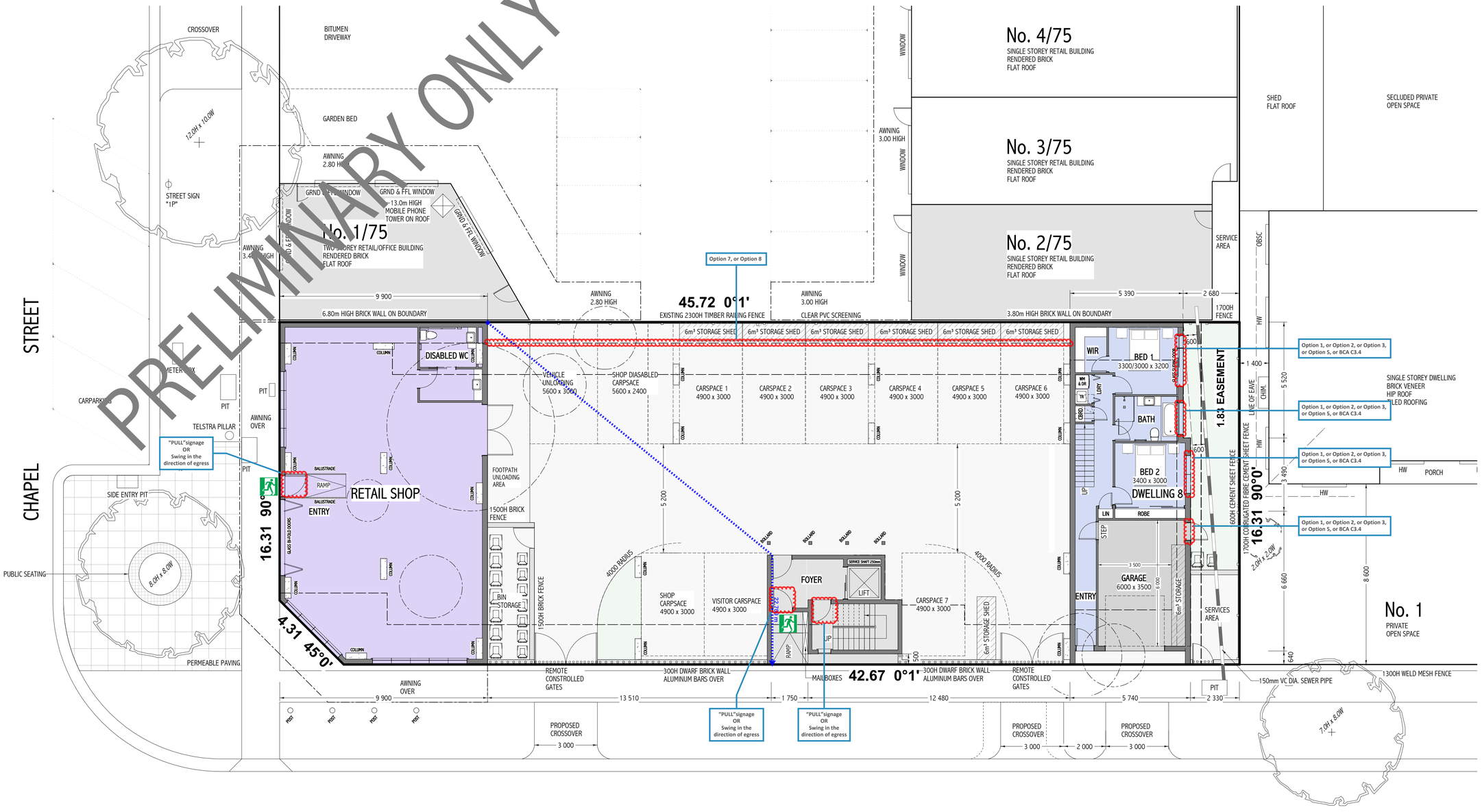
Protection Option	Description	
Option 1 – 6mm Toughened Glazing (+ 50% Fire Attenuation Screen)	Windows	**Doors**
	▪ Seals to stiles, head and sills or thresholds to have a flammability index of not more than 5 or be of silicone. ▪ Metal frames and hardware. **Fixed Glazing** ▪ 6mm toughened glazing (provided to outside pane if double glazed). **Openable Glazing** ▪ 6mm toughened glazing and automatic closing / self-closer.	▪ Seals to stiles, head and sills or thresholds to have a flammability index of not more than 5 or be of silicone. ▪ Metal frames and hardware. ▪ The door leaf is to comprise of 6mm toughened glazing (provided to outside pane if double glazed). ▪ For swing and sliding doors, automatic closing / self-closers will be provided.

Protection Option	Description
Option 2 – 6mm Toughened Glazing (+ 40% Fire Attenuation Screen)	Same specification as Option 1 above, except that operable glazing (windows and doors) may be used in lieu of automatic or self-closing devices subject to the following requirements: ▪ For windows, fitted with a fire attenuation screen in accordance with Option 3 (fire attenuation of 40%). ▪ For sliding doors, a separate self-closing, fire attenuation screen in accordance with Option 3 (fire attenuation of 40%) will be provided.
Option 3 – Fire Attenuation	A fire attenuation screen must satisfy the following features: ▪ Minimum 40% of heat flux attenuated. ▪ Tested based on AS 1530.4 Appendix B7. ▪ Examples of such screens include, but are not limited to: o Greene Fire MicroLouvre™ The selection and installation of attenuation screens must be in accordance with the respective manufacturers' requirements and further reflect a tested system. An attenuation screen is required to be fitted over the entire opening except when used in conjunction with Option 1 listed above.
Option 4 – Wing Walls	A wing wall must satisfy the following criteria: ▪ A minimum FRL of 30/-/-. ▪ A minimum length of 400mm. ▪ Be non-transparent and non-translucent. ▪ Extend the full height of the opening.
Option 5 – Automatic Closing Fire Shutter (-/60/-) on Sliding Doors	An automatic closing fire shutter (-/60/-) may be installed to protect a sliding door. The selection and installation of the fire shutter must be in accordance with the respective manufacturers' requirements and further reflect a tested system. The functionality of the fire shutter must not be interfered by the door hardware. The automatic closing fire shutter will be activated by external heat sensing devices/elements (e.g. fusible link). This option may not be adopted for doors in a required exit, forming part of a required exit, or in the path of travel to a required exit. The intent is that this protection option is only adopted for personal/private sliding doors, such as residential sliding balcony doors.
Option 6 – Non-Combustible Louvres	Where protection is required for a ventilation opening, a non-transparent, non-combustible and non-translucent covering that still allows ventilation will be provided. The horizontal blades must overlap by a minimum of 10mm.

Protection Option	Description
Option 7 – Sprinkler Protection at Carpark Openings (*Fire Services Engineer to confirm that sufficient water pressure and flow is available*)	**<u>Sprinkler Protected Building</u>** A row of sprinkler heads will be provided to the Ground Floor Carpark openings and designed in accordance with AS2118.1 Clause 3.2 with the following additional requirements: ▪ The sprinklers are to discharge at least 14.3L/min/m^2 of opening area; and; ▪ Sprinkler heads must be provided within 500mm of the edge of the floor slab above. **<u>Non-sprinkler Protected Building</u>** A row of sprinkler heads will be provided to the Ground Floor Carpark openings and designed in accordance with AS2118.2 with the following additional requirements: ▪ Horizontal sidewall sprinklers must be provided as described in AS2118.2 Section 2.5(d); ▪ The sprinklers are to discharge at least 14.3L/min/m^2 of opening area; and; ▪ Sprinkler heads must be provided within 500mm of the edge of the floor slab above.
Option 8 – Shield Wall	Non-combustible, non-transparent and non-translucent shield walls with an FRL of 30/-/- will obstruct radiant heat in accordance with BCA Spec C1.1 Clause 2.1(a). Where a compliant shield wall is used to obstruct an opening from a fire source feature, it must extend to the full height of the opening. Where the BCA DTS separation distances are not met when measured in a horizontal straight line, calculations will be used to determine the length of the shield wall required for the radiant heat on the unexposed opening to be less than 20kW/m^2, which represents the ignition of combustible materials for the normal ignition range of materials (ICC, NRC, DBH, ABCB, 2005).
BCA C3.4	**Doorways:** ▪ <u>external</u> wall-wetting sprinklers used with doors that are self-closing or automatic closing; or ▪ –/60/30 fire doors that are self-closing or automatic closing. **Windows** ▪ <u>external</u> wall-wetting sprinklers used with windows that are automatic closing or permanently fixed in the closed position; or ▪ –/60/– fire windows that are automatic closing or permanently fixed in the closed position; or ▪ –/60/– automatic closing fire shutters.

Protection Option	Description
	Other openings ▪ excluding voids — external wall-wetting sprinklers; or ▪ construction having an FRL not less than –/60/–. **Conditions** ▪ Fire doors, fire windows and fire shutters must comply with Specification C3.4. ▪ Internal wall-wetting sprinklers are not permitted as outlined in BCA C3.2.

Appendix B Annotated Drawings – Fire Safety Preliminary Mark-up Drawings



GROUND FLOOR SITE LAYOUT PLAN

LEGEND

- Fire Rated Construction
- Extended Travel Distance to Single Exit
- Exit
- Additional Fire Extinguisher

SITE ANALYSIS

SHOP

FIRST FLOOR	157.0m²	(16.9sq)

DWELLING 1

FIRST FLOOR	67.0m²	(7.2sq)
SECOND FLOOR	58.0m²	(6.2sq)
TOTAL	**125.0m²**	**(13.4sq)**

DWELLINGS 2-5,7

FIRST FLOOR	58.0m²	(6.2sq)
SECOND FLOOR	50.0m²	(5.4sq)
TOTAL	**108.0m²**	**(11.6sq)**

DWELLING 6

FIRST FLOOR	58.0m²	(6.2sq)
SECOND FLOOR	55.0m²	(5.9sq)
TOTAL	**113.0m²**	**(12.1sq)**

DWELLING 8

FIRST FLOOR	56.0m²	(6.0sq)
SECOND FLOOR	66.0m²	(7.1sq)
TOTAL	**122.0m²**	**(13.1sq)**

SITE AREA	740.9m²
SITE COVERAGE	672.0m² or 90.7%
PAVED AREAS (IMPERVIOUS)	492.0m²
PERMEABILITY	60.0m² or 8.1%

LEGEND

- +2.35 — DENOTES LEVELS TO AUSTRALIAN HEIGHT DATUM
- HW — DENOTES HABITABLE ROOM WINDOWS
- FFL HW — DENOTES FIRST FLOOR HABITABLE ROOM WINDOWS
- DENOTES EXISTING VEGETATION
- DENOTES VEGETATION TO BE REMOVED

No.	DATE	AMENDMENT

PROJECT
PROPOSED MIXED USED DEVELOPMENT
77 CHAPEL STREET COWES

FOR
PRATON DEVELOPMENTS P/L

STAGE
2. TOWN PLANNING

JOB No.	DATE	SHEET No.	SCALE	AMEND. No.
1759	13.07.21	1 of 3	1:100	

Dobbs Doherty — Fire Safety Consultants	Date: 24/08/2021	Scale: NTS
Project: 77 Chapel Street, Cowes	Drawn By: CHT	Revision: PR-R0
Title: Fire Safety Engineering - Annotated Drawings	Drawing No.: 25917-SK01	
Note: These mark-ups do not contain all the BCA DTS requirements. They cover the proposed fire safety requirements to support the proposed Performance Solutions and shall be read in conjunction with the Fire Engineering Preliminary Report.		

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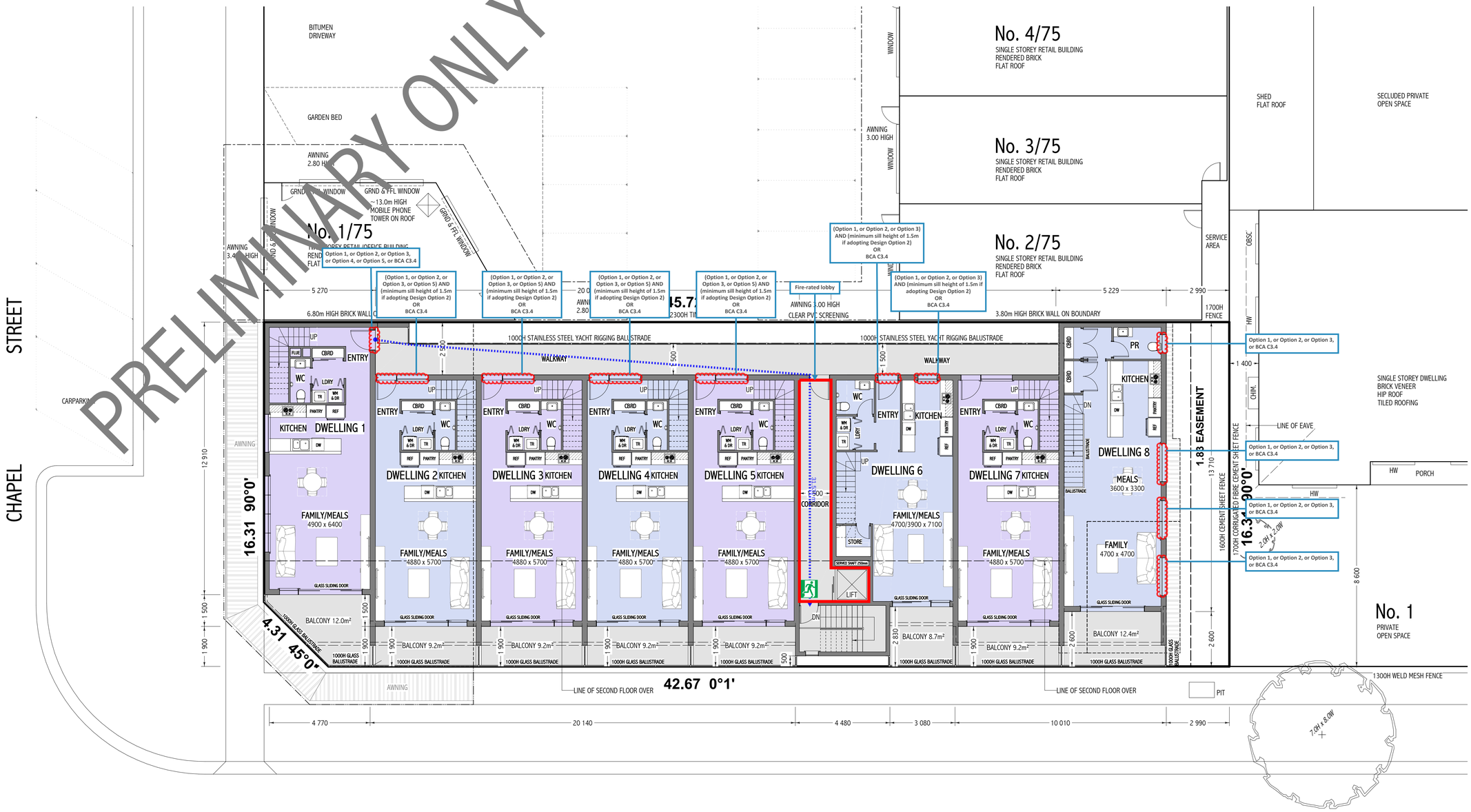

FIRST FLOOR SITE LAYOUT PLAN

LEGEND

- Fire Rated Construction
- Extended Travel Distance to Single Exit
- Exit
- Additional Fire Extinguisher

SITE ANALYSIS

SHOP

FIRST FLOOR	157.0m²	(16.9sq)

DWELLING 1

FIRST FLOOR	67.0m²	(7.2sq)
SECOND FLOOR	58.0m²	(6.2sq)
TOTAL	**125.0m²**	**(13.4sq)**

DWELLINGS 2-5,7

FIRST FLOOR	58.0m²	(6.2sq)
SECOND FLOOR	50.0m²	(5.4sq)
TOTAL	**108.0m²**	**(11.6sq)**

DWELLING 6

FIRST FLOOR	58.0m²	(6.2sq)
SECOND FLOOR	55.0m²	(5.9sq)
TOTAL	**113.0m²**	**(12.1sq)**

DWELLING 8

FIRST FLOOR	56.0m²	(6.0sq)
SECOND FLOOR	66.0m²	(7.1sq)
TOTAL	**122.0m²**	**(13.1sq)**

SITE AREA	740.9m²
SITE COVERAGE	672.0m² or 90.7%
PAVED AREAS (IMPERVIOUS)	492.0m²
PERMEABILITY	60.0m² or 8.1%

LEGEND

- ± 1.35 — DENOTES LEVELS TO AUSTRALIAN HEIGHT DATUM
- HW — DENOTES HABITABLE ROOM WINDOWS
- FFL HW — DENOTES FIRST FLOOR HABITABLE ROOM WINDOWS
- DENOTES EXISTING VEGETATION
- DENOTES VEGETATION TO BE REMOVED

No.	DATE	AMENDMENT

PROJECT
PROPOSED MIXED USED DEVELOPMENT
77 CHAPEL STREET COWES

FOR
PRATON DEVELOPMENTS P/L

STAGE
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JOB No.	DATE	SHEET No.	SCALE	AMEND. No.
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Dobbs Doherty	Date: 24/08/2021	Scale: NTS
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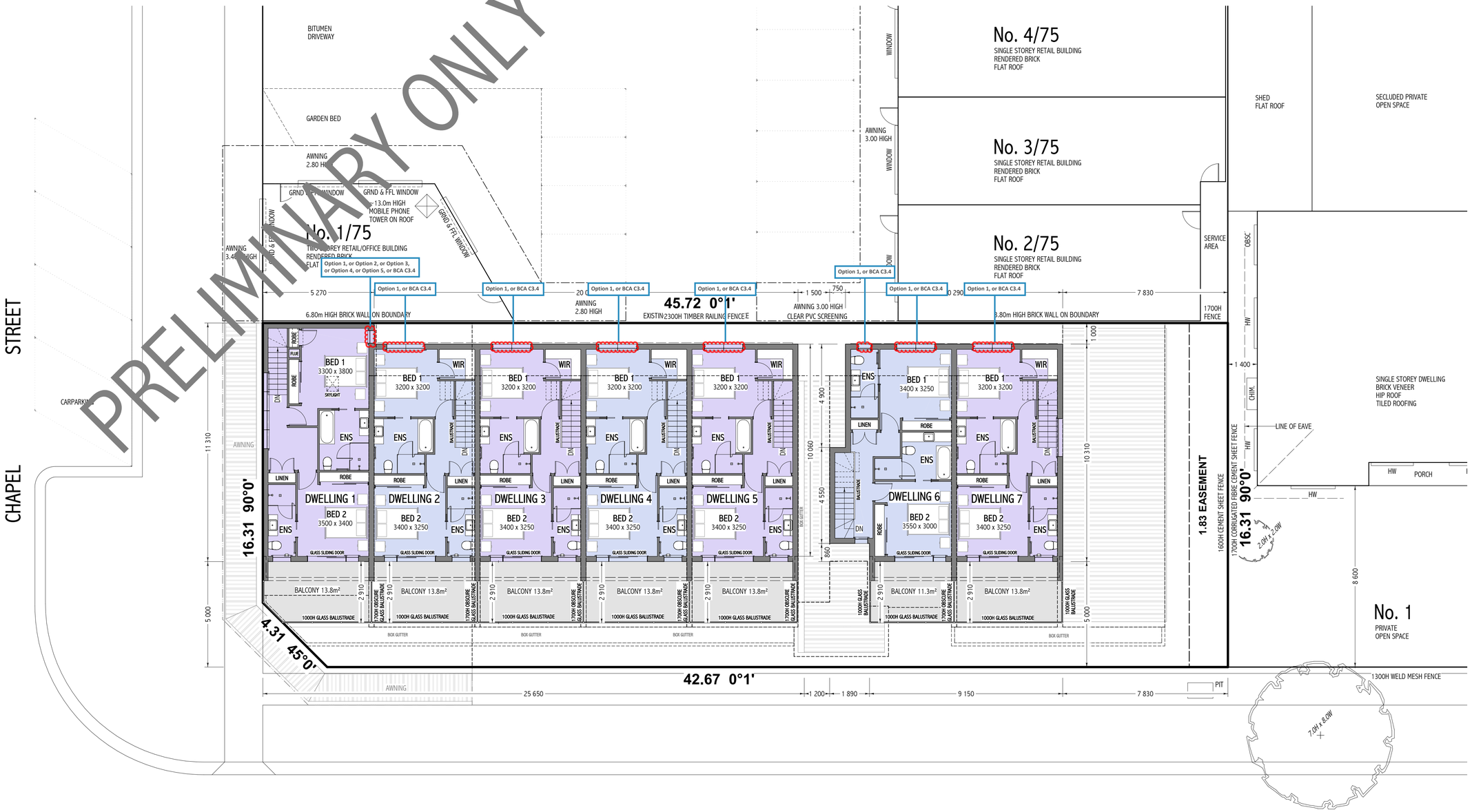

PRELIMINARY ONLY

SECOND FLOOR SITE LAYOUT PLAN

LEGEND

- Fire Rated Construction
- Extended Travel Distance to Single Exit
- Exit
- Additional Fire Extinguisher

SITE ANALYSIS

SHOP

FIRST FLOOR	157.0m²	(16.9sq)

DWELLING 1

FIRST FLOOR	67.0m²	(7.2sq)
SECOND FLOOR	58.0m²	(6.2sq)
TOTAL	**125.0m²**	**(13.4sq)**

DWELLINGS 2-5,7

FIRST FLOOR	58.0m²	(6.2sq)
SECOND FLOOR	50.0m²	(5.4sq)
TOTAL	**108.0m²**	**(11.6sq)**

DWELLING 6

FIRST FLOOR	58.0m²	(6.2sq)
SECOND FLOOR	55.0m²	(5.9sq)
TOTAL	**113.0m²**	**(12.1sq)**

DWELLING 8

FIRST FLOOR	56.0m²	(6.0sq)
SECOND FLOOR	60.0m²	(6.5sq)
TOTAL	**116.0m²**	**(12.5sq)**

SITE AREA	740.9m²	
SITE COVERAGE	672.0m² or 90.7%	
PAVED AREAS (IMPERVIOUS)	492.0m²	
PERMEABILITY	60.0m² or 8.1%	

LEGEND

- 2.35 — DENOTES LEVELS TO AUSTRALIAN HEIGHT DATUM
- HW — DENOTES HABITABLE ROOM WINDOWS
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Dobbs Doherty — Fire Safety | Acoustics | Access	Date: 24/08/2021	Scale: NTS
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CONSTRUCTIVE ARBORICULTURE

TREE MANAGEMENT AND CONSULTANCY

ARBORIST REPORT

Pre Development Vegetation Impact Assessment
77 Chapel Street
Cowes, VIC 3922

Prepared for

Fletcher Development Consultants Pty Ltd

August, 2021
(Amended October, 2021)

Prepared by

Adam Hamilton Dip. Arboriculture

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Disclaimer

This information paper is provided to Fletcher Development Consultants Pty Ltd on a confidential basis and is provided to the recipient strictly on the understanding that its contents will be kept confidential and will not be disclosed to any other party without Constructive Arboriculture giving prior permission in writing. In accepting the proposal the recipient acknowledges that Constructive Arboriculture will suffer consequential loss or damage if the confidential information is disclosed whether directly or indirectly or used in any way by the recipient without the consent of Constructive Arboriculture.

This report paper contains recommendations made by Constructive Arboriculture, which are in relation to only those trees provided within this report.

Due to the nature of trees and the practical limitations in accurately assessing the limitations and structural integrity of all parts of a tree it is not possible to make a completely accurate assessment of the condition of a tree. The recommendations in this report are based on visual assessments and external indicators and there is also some degree of subjectivity. This report is intended to be used as a tool to assist the management of trees located within and surrounding the site. It should be noted that any tree near any structure or property or person(s) poses a risk.

To this extent, Constructive Arboriculture gives no warranty as to the reliability or accuracy of the information nor accepts any responsibility arising in any other way (including by reason of negligence) for errors or omissions herein nor accepts liability for any loss or damage suffered by any person or any other persons placing any reliance on, acting on the basis of, the contents hereof. No party shall be entitled to raise any claim or suit of action on the basis of the contents of this report.

Introduction

1.1 Brief

The purpose of this report is to provide an assessment of significant trees located at and surrounding areas of proposed construction at 77 Chapel Street, Cowes.

This report has been prepared by Constructive Arboriculture at the request of Fletcher Development Consultants Pty Ltd and is based on the following instructions:

1. To inspect and document significant trees within and surrounding the proposed areas of construction.

2. To provide an objective appraisal of the trees regarding their health, structural stability and suitability for retention.

3. To provide methods of protection for trees, where necessary, in the event of their retention.

4. To provide a list of native and indigenous vegetation to assist with selecting species for proposed landscape plan.

2 Overview

The construction of apartments and a shop-front is proposed at 77 Chapel Street, Cowes. The existing dwelling is to be demolished.

A total of six (6) trees were assessed for the purpose of this report. They consist of four (4) trees located within the site and two (2) Council trees.

Trees assessed within the site are proposed for removal to facilitate the construction proposal.

Tree protection measures have been provided for the Council trees assessed, where necessary, in the event that they are retained.

3 Vegetation survey

3.1 Site visit: Adam Hamilton of Constructive Arboriculture inspected the site on Wednesday the 4th of August, 2021.

3.2 Methodology

- Each individually assessed tree has been allocated a unique number followed by an alphabetical reference which identifies ownership and responsibility. S = Tree within site boundaries, N = Tree on neighbouring property, C = Council tree.

- All trees are assessed by visual observations made from ground level only and limited to accessible components without dissection, excavation or probing. Height and canopy spreads are estimated.

- Trunk Diameter at Breast Height (DBH) is measured in metres at 1.4m above ground level; multi-stemmed trees are measured immediately above the root flare.

- Methodology of determining Health, Structure, Age, Retention Suitability and SULE has been provided as an appendix (*Appendix 2*).

- Photographs have been taken and are stored on file. They can be viewed upon request.

3.3 Tree Survey Schedule: The following table is a summary of the data collected for the trees individually assessed.

Tree no.	*Botanical name* Common Name	Height (m)	Canopy spread (m)	DBH (m)	CAB (m)	Health	Structure	Age	Origin	Retention Suitability	SULE	Comments	Arborist's Recommendation
1-C	*Fraxinus angustifolia* Desert Ash	9	11	0.6	2.6	Fair	Below average	Mature	Exotic	Low	Ex	This tree is located within the road reserve at the front of the site. The tree is of fair health with below average structure. The construction proposal (shop front), located at its closest point approximately 5.4m from the base of the tree, will encroach upon approximately 3% of the tree's TPZ (7.2m); an encroachment not considered significant (<10% AS 4970-2009). The tree is suitably distanced from areas of proposed construction and will not be adversely impacted upon in the event that it is retained. Furthermore, due to existing conditions and hard landscaping constraints (footpath), the tree's root system is not expected to be present within the site or within areas of proposed construction. It is further proposed that seating be facilitated beneath the tree in a ring formation around the base of the tree. Such works, if undertaken, must be of root sensitive configuration. Any anchorage points must be selectively placed to avoid severance or damage to any roots that may be present. *Fraxinus angustifolia* is not a highly regarded species and is often considered an invasive weed. Its removal is encouraged by many municipalities, including the Bass Coast Shire (Common Weeds of Gippsland). **NB: This tree is more than 5m from proposed works**.	Tree management considerations have been provided for this tree in the Tree Protection Schedule (*section 4.3*) in the event of its retention.
2-C	*Eucalyptus leucoxylon* Yellow Gum	8	10 x 8	0.44	1.6	Poor	Below average	Mature	Native	Low	<10	This tree is located within the road reserve at the front of the southern adjoining neighbouring property (1 Genesta Street). The tree is of poor health with below average structure. The tree's canopy has died-back considerably. The tree is suitably distanced from areas of proposed construction and will not be adversely impacted upon in the event that it is retained. The tree's TPZ (5.28n) is impacted by the construction proposal. **NB: This tree is more than 5m from proposed works**.	Tree management considerations have been provided for this tree in the Tree Protection Schedule (*section 4.3*) in the event of its retention.

Tree no.	*Botanical name* Common Name	Height (m)	Canopy spread (m)	DBH (m)	CAB (m)	Health	Structure	Age	Origin	Retention Suitability	SULE	Comments	Arborist's Recommendation
3-S	*Olea europaea* Olive	7	7 x 6	0.25	1.8	Poor	Below average	Mature	Exotic	Low	<10	This fruit tree is located in the rear set-back of the site close to the western boundary. It is within areas of proposed construction and its retention cannot be facilitated. The tree is of poor health with below average structure and possesses limited retention viability. The tree's canopy is considerably sparse and has died-back in part.	Removal recommended. The tree's remvoal is required to facilitate the construction proposal.
4-S	*Pittosporum undulatum* Sweet Pittosporum	5	4 x 3	0.2	0.8	Fair	Below average	Semi mature	Native	Low	Ex	This small tree is located within the rear set-back of the site close to the western boundary. The tree is of fair health with below average structure but is not suitable for retention. Due to the invasive habit of this species, the tree's removal should be considered regardless of the progression of construction. *Pittosporum undulatum* is not a highly regarded species and is often considered an invasive weed. Its removal is encouraged by many municipalities, including the Bass Coast Shire (Common Weeds of Gippsland).	Removal recommended. The tree's remvoal is required to facilitate the construction proposal.
5-S	*Syzygium paniculatum* Lilly Pilly	11	10	0.46	1.9	Fair	Below average	Mature	Native (NSW)	Medium	≤20	This tree is located in the front set-back of the site. It is within areas of proposed construction (shop-front) and its retention cannot be facilitated. The tree is of fair health with below average structure. The tree's trunk is deeply bifurcated at approximately 1.6m above ground level.	The tree's remvoal is required to facilitate the construction proposal.
6-S	*Camellia sp.* Camellia	4	3	0.2	0.8	Fair	Fair	Mature	Exotic	Low	<20	This small tree/shrub is located in the front set-back of the site towards the eastern boundary. It is within areas of proposed construction (shop-front) and its retention cannot be facilitated. The tree is of fair health and structure. Due to its small stature, the tree's remvoal will not impact significantly upon the streetscape.	The tree's remvoal is required to facilitate the construction proposal.

CAB=Circumference At Base; DBH=Diameter at Breast Height; SULE=Safe Useful Life Expectancy; Est=Estimated

4 Vegetation protection survey

4.1 Overview

The survey includes trees assessed and provide tree protection measures, where necessary, in the event of their retention.

4.2 Protection zone determination

4.2.1 Structural Root Zone (SRZ): The SRZ is the critical area around a tree's trunk required for tree stability. The measurement is given in metres as a radius from the centre of a tree's trunk and is calculated with reference to the Australian Standard – Protection of trees on development sites AS 4970-2009.

4.2.2 Tree Protection Zone (TPZ): 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. The measurement is given in metres as a radius from the centre of a tree's stem at ground level and is calculated with reference to the Australian Standard – Protection of trees on development sites AS 4970-2009.

4.3 Tree Protection Zone Schedule:

Tree no.	*Botanical name* Common Name	Single or Multi-stemmed	Species Tolerance	Diameter Above Root Flare (m)	Structural Root Zone radius AS4970-2009 (m)	DBH (m)	Tree Protection Zone AS4970-2009 (m)	Arborist's recommended placement of TPZs	Comments and recommendations
1-C	*Fraxinus angustifolia* Desert Ash	M	Good	0.6	**2.67**	0.6	**7.2**	Establish tree protection fencing at the edge of the tree's defined TPZ that extends within the road reserve.	TPZ fencing must be established prior to the commencement of demolition and construction and must be maintained until the completion of construction. Proposed seating must be of root sensitive configuration. The points of any below-grade anchorage must be excavated prior using non invasive means (by hand, air-spade or hydro-extraction). Any anchorage pints must be positioned so to avoid damage or severance to any significant root (>40mm n diameter) that may be present.
2-C	*Eucalyptus leucoxylon* Yellow Gum	M	Good	0.44	**2.34**	0.44	**7.8**	Establish tree protection fencing at the edge of the tree's defined TPZ that extends within the road reserve.	TPZ fencing must be established prior to the commencement of demolition and construction and must be maintained until the completion of construction.

Tree no.	*Botanical name* Common Name	Single or Multi-stemmed	Species Tolerance	Diameter Above Root Flare (m)	Structural Root Zone radius AS4970-2009 (m)	DBH (m)	Tree Protection Zone AS4970-2009 (m)	Arborist's recommended placement of TPZs	Comments and recommendations
3-S	*Olea europaea* Olive	S	Good	0.36	**2.16**	0.25	**3.0**	N/A	Tree to be removed.
4-S	*Pittosporum undulatum* Sweet Pittosporum	M	Good	0.2	**1.68**	0.2	**2.4**	N/A	Tree to be removed.
5-S	*Syzygium paniculatum* Lilly Pilly	S	Good	0.58	**2.63**	0.46	**5.52**	N/A	Tree to be removed.
6-S	*Camellia sp.* Camellia	M	Good	0.2	**1.68**	0.2	**2.4**	N/A	Tree to be removed.

4.4 Recommendations for methods of construction within TPZs

Proposed foundations (if encroaching upon greater that 10%) within the defined TPZs must consist of pier and beam construction or other root sensitive construction methods, such as suspended slab or bridged footings. Floor levels are to be elevated on piers to allow for oxygenation of the soil profile. Strip footings are to be avoided within a tree's defined TPZ.

Piers and/or supports must be selectively placed with consideration for any significant tree roots that may be present within the soil profile. Minor excavation by hand to 0.5m deep should be undertaken at the points of pier placements to determine if any significant roots are present. Roots greater than 40mm in diameter are deemed significant. If such roots are encountered the positioning of the foundations supports must be altered to provide at least 0.3m of clearance from the roots. An arborist is to be present when any excavation is undertaken within the TPZs, or if any tree roots are uncovered. Any root pruning must be undertaken by a qualified and experienced arborist.

Below-grade construction should not be undertaken within the defined SRZs of trees to be retained and must not encroach upon more than 10% of a tree's TPZ unless pre-existing site conditions negate the spread of a tree's root system.

Any underground services must be diverted around the trees' TPZs where possible, suspended from the undercarriage of the construction or laid beneath the root profile by method of directional boring.

Internal paths and driveways must be constructed above grade where located within a tree's defined TPZ, and must consist of permeable materials of a pH neutral composition.

5 Tree Protection Plan

5.1 Site meeting: It is recommended that a pre development site meeting takes place for the purpose of tree protection awareness, which should be attended by the following people:

- Arboricultural Consultant
- Clients (Developers) Site Manager/Foreman
- Clients Architect and Landscape Architect
- Local Authority Tree Officer
- Local Authority Planning Officer

5.2 Establishment of Tree Protection Zones (TPZs):

5.2.1 The protective fencing barriers must be established prior to any site clearance, soil grading or demolition work taking place and before the following:

- Contractor's site occupancy
- Plant and materials delivery
- Demolition of any existing structures
- Construction phase of works
- Utility services installation
- Recommended tree removal and pruning

5.2.2 The area within the TPZs is to be regarded of high importance and tree protection fencing shall not be taken down or relocated at any time without the prior documented approval of the arboricultural consultant or local authority arborist, unless this has already been agreed as part of the planning application consent process and is documented. A layer of organic mulch 10 – 15cm thick should be spread over tree protection zones.

5.2.3 The fencing shall comprise of interlocked wire mesh panels, well braced by attachment to a scaffolding framework by means of wires or scaffold clamps. It should have top and bottom horizontal bars, with uprights set into the ground or concrete supports at no greater interval than 3m spacing. For larger lengths of tree protection fencing angled bars should be located behind the fencing to act as braces and should be firmly clamped to the top rail and set into the ground, braced as necessary; these shall be spaced at intervals no greater than 6m. All-weather notices should be erected on tree protection fencing with words such as **"Tree Protection Zone Keep Out"**.

5.2.4 Inside the TPZs which are defined by the line of protective fencing, the following should NOT occur:

- Mechanical digging or grading
- Storage of plant equipment and materials
- Vehicular or plant access
- Fire lighting or burning off (should be maintained at more than 20m from any canopy edge)
- Refuelling of machinery, discharge or spillage of any chemical substance
- Construction of hard surfaces

5.2.5 In accordance with water restrictions supplementary watering should be provided to the trees through any dry periods during and after the construction process on a weekly basis when required.

5.2.6 Consideration should be given for appropriate cultural operations. These may include irrigation, or measures to enhance the soil structure and organic nitrogen levels. This should be made the responsibility of landscape contractors and supervised by a qualified horticulturalist.

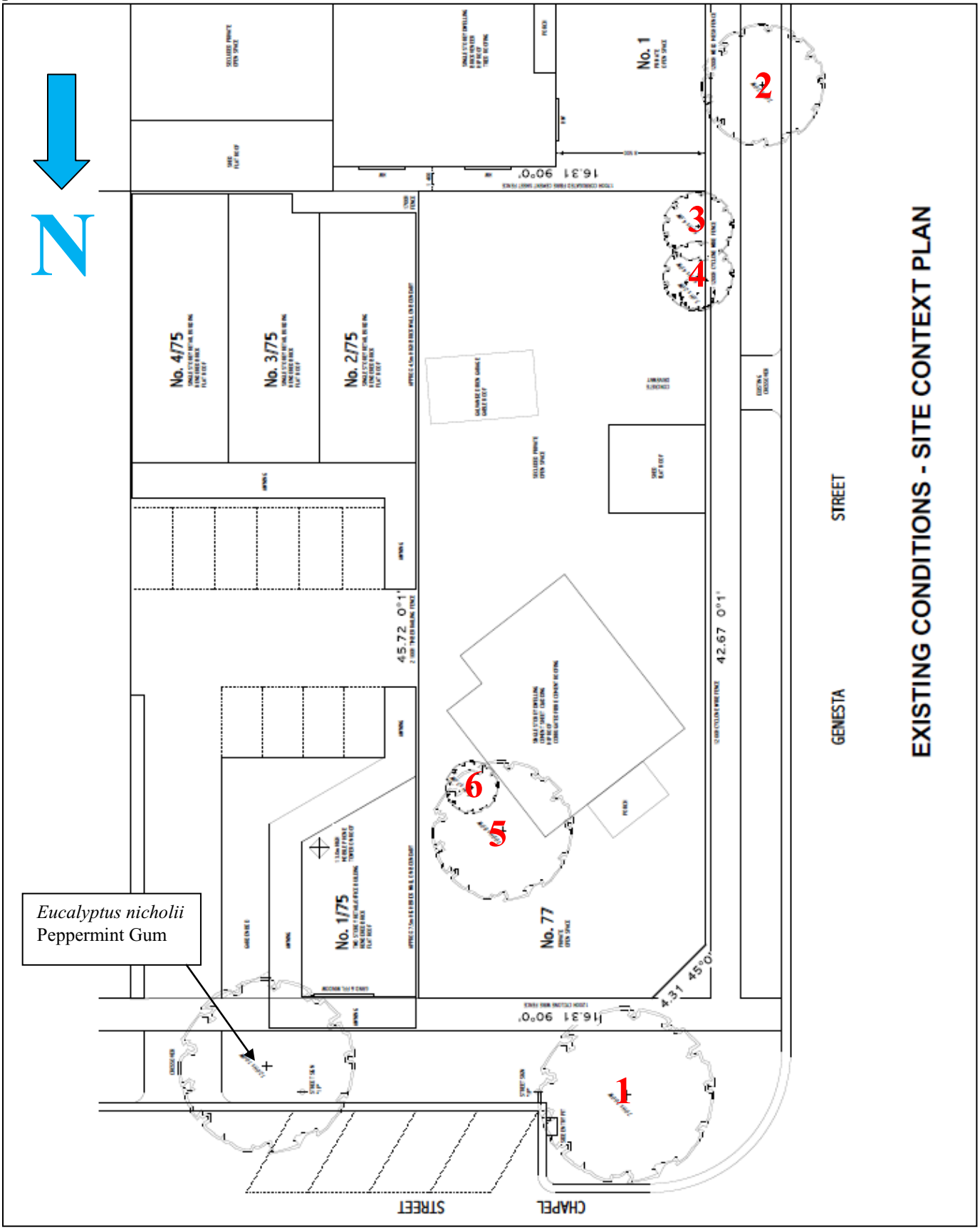
6 Post development vegetation management

6.1 Existing trees

6.1.1 Trees growing on a site before development takes place may, if adversely affected, be in decline over a period of several years before they die. This varies greatly depending on the age, species and condition of individual tree, soil conditions, climate and the extent of damage incurred during construction. A program of inspections and necessary work for the treatment of symptoms as they develop should be undertaken in conjunction with an arborist. This program may include recommendations for frequency of inspection and beneficial tree work.

Appendix 1 – Tree location map

Map not to scale. Location of the trees assessed.



Appendix 2 - Provided floor plan



Appendix 3 - Tree Descriptor

AGE

Category	Description
Young	Juvenile or recently planted approximately 1-7 years.
Semi Mature	Tree actively growing.
Mature	Tree has reached expected size in situation.
Senescent	Tree is over mature and has started to decline.

HEALTH

Category	Description
Excellent	Foliage of tree is entire, with good colour, no sign of pathogens and of good density. Growth indicators are excellent ie. Extension growth of twigs and wound wood development. No canopy die back (deadwood) is evident.
Fair /Good	Foliage of tree is entire, with good colour, very little sign of pathogens and of good density. Growth indicators are good ie. Extension growth of twigs and wound wood development. Minimal die back (deadwood).
Below average	Tree is showing one or more of the following symptoms; < 25% dead wood, minor canopy die back, foliage generally with good colour though some imperfections may be present. Minor pathogen damage present, with growth indicators such as leaf size, canopy density and twig extension growth typical for the species in this location.
Poor	Tree is showing one or more of the following symptoms of tree decline; > 25% deadwood, canopy die back is observable, discoloured or distorted leaves. Pathogens present, stress symptoms are observable as reduced leaf size, extension growth and canopy density.
Dead or dying	Tree is in severe decline; > 55% deadwood, very little foliage, possibly epicormic shoots, minimal extension growth.

STRUCTURE

Category	**Description**
Good	Trunk and scaffold branches show good taper and attachment with minor or no structural defects. Tree is a good example of the species with a well-developed form showing no obvious root problems or pests and diseases.
Fair	Tree shows some minor structural defects or minor damage to trunk eg. bark missing. There could be cavities present and/or minimal damage to structural roots. Tree could be seen as typical for this species.
Below average	Tree shows many minor or several moderate structural defects, or damage to trunk eg. bark missing, heartwood exposed and newly established decay present, there could be cavities present and/or moderate damage to structural roots.
Poor	There are major structural defects, damage to trunk or bark missing. Co-dominant stems could be present or poor structure with likely points of failure. Girdling or damaged to major roots obvious. Tree is structurally problematic.
Hazardous	Tree is an immediate hazard with potential to fail, this should be rectified as soon as possible.

RETENTION SUITABILITY

Significance is rated into three levels; **LOW, MEDIUM** and **HIGH**.

LOW	The tree is recommended for removal.
MEDIUM	The tree may be retained if it does not hamper the design intent.
HIGH	The tree must be retained and the design must accommodate its long term retention.

SAFE USEFUL LIFE EXPEECTANCY - SULE.

LONG SULE: Trees that appear to be retainable with an acceptable level of risk for more than 40 years.

1. Structurally sound trees located in positions that can accommodate future growth.
2. Storm damaged or defective trees that could be made suitable for retention in the long term by remedial tree surgery.
3. Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.

MEDIUM SULE: Trees that appear to be retainable with an acceptable level of risk for 15 to 40 years.

1. Trees that may only live between 15 and 40 years.
2. Trees that may live for more than 40 years but would be removed to allow the safe development of more suitable individuals.
3. Trees that may live for more than 40 years but would be removed during the course of normal management for safety and nuisance reasons.
4. Storm damage or defective trees that can be made suitable for retention in the medium term by remedial work.

SHORT SULE: Trees that appear to be retainable with an acceptable level of risk for 5 to 15 years.

1. Trees that may live for 5 to 15 years.
2. Trees that may live for more than 15 years but would be removed to allow the safe development of more suitable individuals.
3. Trees that may live for more than 15 years but would be removed during the course of normal management for safety and nuisance reasons.
4. Storm damaged or defective trees that require substantial remedial work to make safe and are only suitable for retention in the short term.

EXCEEDED: Trees with a high level of risk that would need removal within the next 5 years.

1. Dead trees.
2. Dying or suppressed and declining trees through disease or inhospitable conditions.
3. Dangerous trees through instability or recent loss of adjacent trees.
4. Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.
5. Damaged trees that are considered unsafe to retain.
6. Trees that will become dangerous after removal of other trees for the above reasons.
7. Invasive or environmental weed species.

Appendix 4 – Native and Indigenous species list

Common Name	***Scientific name***
Acacia melanoxylon	Blackwood
Allocasuarina littoralis	Black She-oak
Allocasuarina verticillata	Drooping She-oak
Banksia marginata	Silver Banksia
Eucalyptus viminalis	Manna Gum
Eucalyptus pryoriana	Coastal Manna Gum
Eucalyptus ovata	Swamp Gum
Eucalyptus radiata	Narrow-leaved Peppermint
Eucalyptus cephalocarpa	Silver-leaf Stringybark
Eucalyptus pauciflora	Snow Gum
Indigofera australis	Austral Indigo
Daviesia latifolia	Bitter-Pea Hop
Bossiaea cineria	Showy Bossiaea
Kunzea ericoides	Burgan
Bursaria spinosa	Sweet Bursaria
Correa reflexa	Common Correa
Correa alba	White Correa
Leucophyta brownii	Cushion Bush
Platyloium obtusangulum	Common Flat Pea
Viminaria juncea	Golden Spray
Hibbertia prostrata	Bundled Guinea-flower
Hibbertia stricta	Erect Guinea-flower
Epacris impressa	Common Heath
Allocasuarina pusilla	Dwarf She-oak
Leptospermum myrsinoides	Silky Tea-tree

Appendix 5 – Common Terms

Canopy: The part of the crown composed of leaves and small twigs.

Central leader: The main stem or bole of the tree.

Co-dominant: Equal in size and relative importance, usually associated with either trunks or scaffold branches in the crown.

Crown: The leaves and branches of a tree measured from the lowest branch on the trunk to the top of the tree.

Decay: Process of degradation of wood tissue by fungi and bacteria through the decomposition of cellulose and lignin.

Diameter at Breast Height (DBH): The DBH of a tree is measured at 1.5m above ground level or in the case of multi-stemmed trees, measured at ground level or above a root flare if present. This measurement assists with establishing Tree Protection Zones (TPZs) for vegetation to be retained.

Dieback: Progressive death of twigs and small branches, generally from tip to base.

Drip line: The width of the crown, as measured by the lateral extent of the foliage.

Epicormic growth: Branch development that arises from latent or adventitious buds that occur on stems and branches and as suckers produced at the base of the tree.

Grading: Altering natural terrain and elevation of land, usually through the action of large equipment.

Included Bark: Pattern of development at branch junction where bark is turned inward rather than pushed out.

SULE: Safe Useful Life Expectancy.

TPZ: Tree Protection Zone

Appendix 6 – Table of Tree: significance, risk and risk abatement

Tree no.	*Botanical name* Common Name	Location	Size	Species	Habitat	Risk	Hazard abatement requirements
1-C	*Fraxinus angustifolia* Desert Ash	High	Medium	Low	Low	Low	None presently required
2-C	*Eucalyptus leucoxylon* Yellow Gum	High	Medium	Medium	Medium	Medium	formative prune and remove deadwood. Council tree. Council responsibility.
3-S	*Olea europaea* Olive	Low	Low	Low	Low	Low	N/A - Tree to be removed
4-S	*Pittosporum undulatum* Sweet Pittosporum	Low	Low	Low	Low	Low	N/A - Tree to be removed
5-S	*Syzygium paniculatum* Lilly Pilly	Medium	Medium	Medium	Medium	Low	N/A - Tree to be removed
6-S	*Camellia sp.* Camellia	Low	Low	Low	Low	Low	N/A - Tree to be removed

References

1. Tree Protection Zone. The Australian Standard AS 4970-2009 – *Protection of trees on construction sites.*

2. R. W. Harris, J. R. Clark & N. P. Matheny., (2004) Arboriculture – Integrated Management of Landscape Trees, Shrubs and Vines.

3. J. Coombes., (2000) Trees.

4. Botanica's Pocket (1999) Trees and Shrubs.

End of report

SEPTEMBER 2021
AMENDED DECEMBER 2021

PLANNING APPLICATION

PROPOSAL : MIXED USE DEVELOPMENT

APPLICANT : FLETCHER DEVELOPMENT CONSULTANTS PTY. LTD.

ADDRESS : 77 CHAPEL STREET COWES

OUR REF No. : 1759COLLISH CAPITOL PTY. LTD.

ZONE : COMMERCIAL ZONE (C1Z)

PLANNING SCHEME : BASS COAST SHIRE COUNCIL



NEIL fletcher DESIGN
FLETCHER DEVELOPMENT CONSULTANTS PTY LTD

Phone 9772 9533
Mobile 0414 545 988
Email mail@fletcherdesign.com.au
Website fletcherdesign.com.au

This statement has been prepared to describe how the development is consistent to any relevant state or local policy for housing.

The following policies have been considered in the preparation and design of this proposal:-

BASS COAST SHIRE PLANNING SCHEME

State Planning Policy Framework

Clause 11	Settlement
Clause 15	Built Environment and Heritage
Clause 16	Housing

Local Planning Policy Framework

Clause 21.01-1	Municipal Profile
Clause 21.08	Moderate Growth Settlement
Clause 22.08	Neighbourhood Character Policy

Zones and Overlays

Clause 34.01	General Residential Zone and schedule
Clause 43.02	Design and Development Overlay and schedule

Particular Provisions

Clause 52.06	Car Parking
Clause 55	Two or more dwellings on a lot and residential buildings
Clause 55.07	Apartment Developments
Clause 58	Apartment Developments

1.0 The State Planning Policy Framework

The proposed development has regard to and is consistent with the State Planning Policy Framework on:-

SETTLEMENT (Clause 11)

Provides direction for planning to anticipate and respond to the needs of existing and future communities through provision of zoned and serviced land for housing, employment, recreation and open space, commercial and community facilities and infrastructure.

11.01 VICTORIA

11.01-1S Settlement

Objective

To promote the sustainable growth and development of Victoria and deliver choice and opportunity for all Victorians through a network of settlements.

Response

The proposal is not located in a major regional centre.

11.01-1R Settlement - Gippsland

Strategies

Support urban growth in Latrobe City as Gippsland's regional city, at Bairnsdale, Leongatha, Sale, Warragul/Drouin and Wonthaggi as regional centres, and in sub-regional networks of towns.

Support new urban growth fronts in regional centres where natural hazards and environmental risks can be avoided or managed.

Support the continuing role of towns and small settlements in providing services to their districts, recognising their relationships and dependencies with larger towns.

Create vibrant and prosperous town centres that are clearly defined and provide commercial and service activities that respond to changing population and market conditions.

Provide regional social infrastructure in the regional city and regional centres.

Plan for increased seasonal demand on services and infrastructure in towns with high holiday home ownership.

11.02 MANAGING GROWTH

11.02-1S Supply of urban land

Objective

To ensure a sufficient supply of land is available for residential, commercial, retail, industrial, recreational, institutional and other community uses.

Response

The proposal will contribute to the sufficient supply of land within existing well service urban areas.

11.02-2S Structure Planning

Objective

To facilitate the orderly development of urban areas.

Response

The proposal will contribute to the sustainability and liveability of the surrounding area and provide greater housing choice and diversity.

11.02-3S Sequencing of development

Objective

To manage the sequence of development in areas of growth so that services are available from early in the life of new communities.

Response

The proposal aims to ensure that planning for water supply, sewerage and drainage works receives high priority in early planning for new developments.

11.03 PLANNING FOR PLACES

11.03-1S Activity centres

Objective

To encourage the concentration of major retail, residential, commercial, administrative, entertainment and cultural developments into activity centres that are highly accessible to the community.

Response

The proposal responds with a higher density development in and around the activity centre while providing continued growth in retail which in turn creates a wide range of goods and services and local employment.

11.03-1L Cowes activity centre

Objective

To strengthen the Cowes Activity Centre's dual role as a tourist and community hub.

Response

The proposal responds with higher residential densities on upper levels, catering for a mix of visitors and residents, while integrating housing, work and shopping that provides a level of activity that attracts people, creates a safe environment, stimulates interaction and provides a lively community focus.

11.03-2S Growth areas

Objective

To locate urban growth close to transport corridors and services and provide efficient and effective infrastructure to create sustainability benefits while protecting primary production, major sources of raw materials and valued environmental areas.

Response

The proposal is not located in an urban growth area.

BUILT ENVIROMENT AND HERITAGE (Clause 15)

Provides direction for planning to ensure all new land use and development appropriately responds to its landscape, valued built form land cultural context and protect places and sites with significant heritage, architectural, aesthetic, scientific and cultural value.

The proposal responds to and is consistent with Clause 15 objectives as follows:-

15.01 BUILT ENVIRONMENT

15.01-1S Urban design

Objective

To create urban environments that are safe, healthy, functional and enjoyable and that contribute to a sense of place and cultural identity.

Response

The proposal further enhances the local environments that are safe, functional and provide good quality environments with a sense of place and cultural identity.

The proposal contributes positively to local urban character by including contemporary, site responsive, sustainable dwellings addressing the streetscape.
The proposal has been designed to limit detrimental impact on neighbouring properties by incorporating respectful overall building heights.
The proposal includes revegetation of the site making a significant contribution to the streetscape.

15.01-1L-01 Urban Design in Bass Coast

Strategies

Design development to reflect the coastal setting and coastal architecture through built form and materiality.
Ensure that view lines and vistas are protected and shared between the public and private realm.
Encourage development of active retail frontages within the commercial area of the town centres.
Site and design buildings and works adjacent to heritage places to be sympathetic to the significance, context and character of the heritage place and its setting.

Response

The proposal has been designed to settle into the streetscape setting by respecting the existing and surrounding site context with respect to amenity impact, building height and neighbourhood character.

The proposal promotes community safety by incorporating passive surveillance of the public realm in Genesta and Chapel Streets.

Dwellings are designed to improve efficient energy use and to support low energy forms of transport such as walking and cycling.
The proposal has been designed with passive solar design principles as a major influence by providing all dwellings with direct and protected solar gain enhancing sustainable energy efficient living.

The proposal includes contemporary architectural features, colours and rooflines that respect the existing and original beach side housing stock while making a positive contribution to emerging contemporary neighbourhood character.

15.01-2S Building design

Objective

To achieve building design outcomes that contribute positively to the local context and enhance the public realm.

Response
The proposal makes a positive contribution to an existing urban area that is liveable, walkable, cyclable, diverse and sustainable.

15.01-3S Subdivision design

Objective
To ensure the design of subdivisions achieves attractive, safe, accessible, diverse and sustainable neighbourhoods.

Response
The proposal promotes community safety by incorporating passive surveillance of the public realm in both in Chapel & Genesta Streets.

15.01-4S Healthy neighbourhoods

Objective
To achieve neighbourhoods that foster healthy and active living and community wellbeing.

Response
The proposal is located within a safe and direct walking distance to transport and local amenities.

15.01-5S Neighbourhood character

Objective
To recognise, support and protect neighbourhood character, cultural identity, and sense of place.

Response
The proposal contributes to neighbourhood character by providing a site responsive design that is respectful to and contributes to distinctive local built form and landscape values and identity.

15.02 SUSTAINABLE DEVELOPMENT

15.02-1S Energy and resource efficiency

Objective
To encourage land use and development that is energy and resource efficient, supports a cooler environment and minimises greenhouse gas emissions.

Response
The proposal aims to reduce energy consumption by including a thermal design response. Passive solar design principles will further enhance the sustainability of the homes.
The proposal promotes walking and cycling as it is located in a well serviced urban area close to amenities and public transport hubs.

15.03 HERITAGE

15.03-1S Heritage conservation

Objective
To ensure the conservation of places of heritage significance

Response
The proposal aims to make a positive contribution to the existing natural and built form heritage characteristics of the area.

15.03-2S Aboriginal cultural heritage

Objective
To ensure the protection and conservation of places of Aboriginal cultural heritage significance.

Response
The proposal is not located in an area of cultural heritage.

HOUSING (Clause 16)

Planning should provide for housing diversity, and ensure the efficient provision of supporting infrastructure.
Planning should ensure the long term sustainability of new housing, including access to services, walkability to activity centres, public transport, schools and open space.
Planning for housing should include the provision of land for affordable housing.

The proposal responds to and is consistent with Clause 16 objectives as follows:-

16.01 RESIDENTIAL DEVELOPMENT

16.01-1S Housing supply

Objective
To facilitate well-located, integrated and diverse housing that meets community needs.

Response
The development increases the supply of housing in an existing urban area by increasing housing yield in an appropriate location on an under-utilised site. The development is both water and energy efficient.

16.01-2S Housing affordability

Objective
To deliver more affordable housing closer to jobs, transport and services.

Response
The development is located within an established urban area within walking distance to an activity centre providing good access to services and transport.

16.01-3S Rural residential development

Objective
To identify land suitable for rural residential development.

Response
This clause is not applicable.

16.01-4S Community care accommodation

Objective
To deliver more affordable housing closer to jobs, transport and services.

Response
This clause is not applicable.

16.01-5S Residential aged care facilities

Objective
To facilitate the development of well-designed and appropriately located residential aged care facilities.

Response
This clause is not applicable.

LOCAL PLANNING POLICY FRAMEWORK (Clause 20)

Clause 21.01-1 of the Bass Coast Shire's Municipal Strategic Statement provides an outline of the Municipal Profile.

Bass Coast Shire is located in the West and South Gippsland region of Victoria, 52 kilometres south east of Dandenong and an hour and a half drive from central Melbourne.
Bass Coast Shire covers approximately 800 square kilometres. It is predominantly a coastal municipality defined by the unique foreshore habitats of Bass Strait, the Bunurong Coast, Western Port and Anderson Inlet. The coastal areas are complemented by rural hinterland, river flats, and the Strzelecki Foothills.
Bass Coast Shire was created on 2 December 1994 by the amalgamation of the former municipalities of Bass, Phillip Island and Wonthaggi, as well as including parts of the former municipalities of Cranbourne, Korumburra and Woorayl.

21.08 MODERATE GROWTH SETTLEMENTS

21.08-5 Cowes & Silverleaves

The Cowes & Silverleaves Strategic Framework Plan establishes a clear direction for the future physical form of Cowes & Silverleaves and the foreshore precinct. This plan defines a town boundary for residential development, appropriate locations for open space and precincts for consolidated commercial development.
The Cowes Activity Centre Framework Plan provides further direction with respect to land use and development within the primary commercial areas of the township. It seeks to consolidate the town centre, strengthen its qualities as a place, and facilitate development which aligns with planning strategies.

Cowes

Cowes is the largest settlement on Phillip Island. It has two distinct roles as the main holiday town, and as a community and retail service centre. Over half of the existing building stock is unoccupied for the majority of the year, however Cowes does have the highest permanent resident population on the Island.

Thompson Avenue is the location for the majority of commercial, retail, community, tourism, and health services. Much of the larger scale holiday accommodation including apartments, hotels and motels are located in proximity to the northern section of Thompson Avenue and along the Cowes Foreshore.

Away from Thompson Avenue, more typical residential land use patterns begin to emerge. However, these are interspersed by caravan parks and other forms of tourist accommodation. The residential areas east and west of Thompson Avenue have distinct characteristics which are defined by the period of development, vegetation, and proximity to the foreshore.

The character of Cowes is also defined by a number of different vegetation types. The vegetation located around the foreshore and Thompson Avenue has historical and cultural importance. The Golden Cypress Avenue that leads along Thompson Avenue is an iconic feature important to the town's identity. The established urban areas and streets within Cowes and Cowes Central are primarily planted with mature native trees and significant coastal vegetation closer to the foreshore areas.

Objective 1
To strengthen the Activity Centre's dual role as a tourist and community hub.

Response
The proposal responds with a commercial premise and public seating area ensures the development contributes towards the town's character.

Objective 2
To consolidate the Activity Centre and intensify land uses to contribute towards street activity, vibrancy, and patronage.

Response
The proposal responds with a commercial premise and eight dwellings. The proposal will encourage integration of housing, shopping, recreation, and community services in Central Cowes, to provide a mix and level of activity that attracts people, creates a safe environment, stimulates interaction, and provides a lively community focus.

Objective 3
To guide new development so that it strengthens Cowes' sense of place as a coastal holiday and lifestyle destination.

Response
The proposal responds with a contemporary designed development with an active frontage and zero setbacks.

Objective 4
To require the redevelopment of key sites to occur in a manner that contributes to Cowes' identity as a tourist town and regional centre.

Response
Not applicable.

Objective 5
To facilitate the reconfiguration of car parking areas within the Activity Centre in accordance with planned land uses, built form, and activation objectives.

Response
Not applicable.

ZONES AND OVERLAYS (Clause 30 and Clause 40)

The proposal is located in a Commercial 1 Zone (C1Z).

The site is in a Design and Development Overlay.
Clause 34.01 provides the Commercial 1 Zone (C1Z) and Schedule. This zone provides for residential uses at densities complementary to the role and scale of the commercial centre.

PARTICULAR PROVISIONS (Clause 50)

Clause 52.06 – Car Parking

Objective
To ensure that car parking is provided in accordance with the Municipal Planning Strategy and the Planning Policy Framework.

To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.

To support sustainable transport alternatives to the motor car.

To promote the efficient use of car parking spaces through the consolidation of car parking facilities.

To ensure that car parking does not adversely affect the amenity of the locality.

To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.

Response
The proposal responds with the following allowances:-

Dwelling 1
Two bedrooms (One car space required).
One car space located in the ground floor lockup car park.

Dwelling 2
Two bedrooms (One car space required).
One car space located in the ground floor lockup car park.

Dwelling 3
One bedroom (One car space required).
One car space located in the ground floor lockup car park.

Dwelling 4
Two bedrooms (One car space required).
One car space located in the ground floor lockup car park.

Dwelling 5
Two bedrooms (One car space required).
One car space located in the ground floor lockup car park.

Dwelling 6
Two bedrooms (One car space required).
One car space located in the ground floor lockup car park.

Dwelling 7
Two bedrooms (One car space required).
One car space located in the ground floor lockup car park.

Dwelling 8
One bedroom (One car space required).
One car space located in the ground floor lockup car park.

Retail shop
Three car spaces located in the ground floor lockup car park.

Visitor
One visitor car space required.
One car space located in the ground floor lockup car park.

Clause 52.06-9

Design standard 1 – Accessways
The proposal responds with accessways at least 3.0m in width and includes site line areas clear of visual obstructions to ensure a clear view of pedestrians on the footpaths.
Design standard 2 – Car parking spaces
Car space lengths and widths in single garages comply with this standard.
Design standard 3 – Gradients
The proposal does not include gradients in excess of 1:10. This standard is not applicable.
Design standard 4 – Mechanical parking
The proposal does not include any mechanical parking bays.
Design standard 5 – Urban design
Ground level car parking, garage doors and accessways do not visually dominate public space.

Design standard 6 – Safety
The proposal responds with well lit, open & visible car park and driveways.
Design standard 7 – Landscaping
Not applicable.

Clause 55 of the planning scheme is to be used to assess applications for two or more dwellings on an allotment, for the purpose:-
To implement the Municipal Planning Strategy and the Planning Policy Framework.
To achieve residential development that respects the existing neighbourhood character or which contributes to a preferred neighbourhood character.

To encourage residential development that provides reasonable standards of amenity for existing and new residents.
To encourage residential development that is responsive to the site and the neighbourhood.

To encourage residential development that is responsive to the site and the neighbourhood.

The proposal responds to and is consistent with Clause 55 of the Municipal Strategic Statement in the following manner:-

55.02 NEIGHBOURHOOD CHARACTER AND INFRASTRUCTURE

55.02-1 Neighbourhood character objectives (Standard B1)
Objective
To ensure that the design respects the existing neighbourhood character or contributes to a preferred neighbourhood character.
To ensure that development responds to the features of the site and the surrounding area.

Response
The proposal is consistent with the neighbourhood character and responds to the features of the site and the submitted Neighbourhood & Site Description Plan.

55.02-2 Residential policy objectives (Standard B2)
Objective
To ensure that residential development is provided in accordance with any policy for housing in the State Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.

To support medium densities in areas where development can take advantage of public transport and community infrastructure and services.

Response
Refer to State Planning Policy Framework and Local Planning Policy Framework sections in this report for our response to this objective.

55.02-3 Dwelling diversity objective (Standard B3)

Objective
To encourage a range of dwelling sizes and types in developments of ten or more dwellings.

Response
The proposal responds with a retail shop, area of 157.0m² and eight dwellings which vary in area from 108.0m² through to 125.0m². Balconies vary from 9.2m² to 13.8m².

55.02-4 Infrastructure objectives (Standard B4)

Objective
To ensure development is provided with appropriate utility services and infrastructure.

To ensure development does not unreasonably overload the capacity of utility services and infrastructure.

Response
Being located in a well established urban environment with full facilities, services and infrastructure, it is contended that the proposal is not large enough to overload the capacity of these services.

55.02-5 Integration with the street objective (Standard B5)

Objective
To integrate the layout of development with the street.

Response
The proposal meets council requirements for integration with the street with the main entry to the building orientated towards the street.
All dwellings are provided with adequate vehicle and pedestrian links that maintain, or enhance, local accessibility.

Clause 55.03 SITE LAYOUT AND BUILDING MASSING

55.03-1 Street setback objective (Standard B6)

Objective

To ensure that the setbacks of buildings from a street respect the existing or preferred neighbourhood character and make it efficient use of the site.

Response

The proposal responds with a zero front street setback to Genesta Street and Chapel Street.

55.03-2 Building height objective (Standard B7)

Objective

To ensure that the height of buildings respects the existing or preferred neighbourhood character.

Response

The proposal responds with retail shopfront and an apartment building comprising of eight dwellings with four rooftop decks.
The overall building height of the development is 10.40m.

55.03-3 Site coverage objective (Standard B8)

Objective

To ensure that the site coverage respects the existing or preferred neighbourhood character and responds to the features of the site.

Response

The proposal responds with a site coverage of 90.7%.

55.03-4 Permeability and stormwater management objectives (Standard B9)

Objective

To reduce the impact of increased stormwater run-off on the drainage system.
To facilitate on-site stormwater infiltration.

Response

The proposal responds with a site permeability of 8.1%.

55.03-5 Energy efficiency objectives (Standard B10)

Objective

To achieve and protect energy efficient dwellings and residential buildings.

To ensure the orientation and layout of development reduce fossil fuel energy use and make appropriate use of daylight and solar energy.

Response
The proposal responds with dwellings being designed where practical, with living areas generally referring to north west orientated balconies via large windows and glass sliding doors, allowing solar penetration in the cooler months. All dwellings are provided with large glass windows and sliding doors for the full width of the balconies.

55.03-6 Open space objective (Standard B11)
Objective
To integrate the layout of development with any public and communal open space provided in or adjacent to the development.

Response
This clause is not applicable.

55.03-7 Safety objective (Standard B12)
Objective
To ensure the layout of the development provides for the safety and security of residents and property.

Response
The proposal responds with dwellings being readily visible and identifiable from the street. Dwelling layouts ensure accessways and entrances are visible, safe and will not be used inappropriately.

55.03-8 Landscaping objective (Standard B13)
Objective
To encourage development that respects the landscape character of the neighbourhood.

To encourage development that maintains and enhances habitat for plants and animals in locations of habitat importance.
To provide appropriate landscaping.

To encourage the retention of mature vegetation on the site.

Response
The proposal responds with the removal of most vegetation on the site to cater for the proposed development. An arborist report is included. The street tree on Chapel Street is to be retained and provided with permeable paving and public seating.

55.03-9 Access objective (Standard B14)

Objective

To ensure the number and design of vehicle crossovers respects the neighbourhood character.

Response

The subject site has two street frontages. The proposal will have a total crossover width of 21.1% (9.00m) to Genesta Street which is within council requirements.

55.03-10 Parking location objectives (Standard B15)

Objective

To provide convenient parking for resident and visitor vehicles.

To protect residents from vehicular noise within developments.

Response

The proposal responds with convenient and secure parking located in a remote controlled access carpark. Parking and traffic difficulties have been avoided with all vehicles provided with two accessways and the ability to leave the carpark in a forward motion. With these allowances, residents to dwellings are protected from vehicular noise within the development.

Clause 55.05 ON-SITE AMENITY AND FACILITIES

55.05-1 Accessibility objective (Standard B25)

Objective

To encourage the consideration of the needs of people with limited mobility in the design of developments.

Response

The proposal responds with a three level building. The inclusion of an internal lift servicing all dwellings will assist persons of limited mobility to access the development.

55.05-2 Dwelling entry objective (Standard B26)

Objective

To provide each dwelling or residential building with its own sense of identity

Response
The proposal responds with eight separate dwellings in an apartment building. This building has been provided with a central entry and a covered foyer which directly addresses the street. Separation of dwellings is easily identified once inside.

55.05-3 Daylight to new windows objective (Standard B27)

Objective
To allow adequate daylight into new habitable room windows.

Response
The proposal responds to ensure habitable room windows in the new dwellings face private open spaces and balconies. North facing windows to the dwellings at ground and first level are provided with an unrestricted light court open to the sky.

55.05-4 Private open space objective (Standard B28)

Objective
To provide adequate private open space for the reasonable recreation and service needs of residents.

Response
The minimum requirement for private open space, must be in accordance with ResCode Standard B28. This standard consists of:

• an area of 40 square metres, with one part of the private open space to consist of secluded private open space at the side or rear of the dwelling or residential building with a minimum area of 25 square metres, a minimum dimension of 3 metres and convenient access from a living room, or
• a balcony of 8 square metres with a minimum width of 1.6 metres and convenient access from a living room, or
• a roof-top area of 10 square metres with a minimum width of 2 metres and convenient access from a living room.

The proposal responds with the following open space allowances:

Dwelling 1
*A west orientated balcony of **12.0m²**.*
Minimum width of 1.60m.
Convenient access from a living area.

Dwelling 2
*A west orientated terrace of **9.2m²**.*
Minimum width of 1.90m.
Convenient access from a living area.

Dwelling 3
*A west orientated terrace of **9.2m²**.*
Minimum width of 1.90m.
Convenient access from a living area.

Dwelling 4
*A west orientated terrace of **9.2m²**.*
Minimum width of 1.90m.
Convenient access from a living area.

Dwelling 5
*A west orientated terrace of **9.2m²**.*
Minimum width of 1.90m.
Convenient access from a living area.

Dwelling 6
*A west orientated terrace of **8.0m²**.*
Minimum width of 2.73m.
Convenient access from a living area.

Dwelling 7
*A west orientated terrace of **9.2m²**.*
Minimum width of 1.90m.
Convenient access from a living area.

Dwelling 8
*A west orientated terrace of **12.4m²**.*
Minimum width of 2.60m.
Convenient access from a living area.

55.05-5 Solar access to open space objective (Standard B29)
Objective
To allow solar access into the secluded private open space of new dwellings and residential buildings.

Response
The proposal responds with the provision of solar access into the walkways and balconies of each dwelling.

55.05-6 Storage objective (Standard B30)
Objective
To provide adequate storage facilities for each dwelling.

Response
The proposal responds with the inclusion of 6m³ lockup storage shed for each dwelling located in the carpark. This provision complies with council requirements.

Clause 55.06 DETAILED DESIGN

55.06-2 Front fences objective (Standard B32)
Objective
To encourage front fence design that respects the existing or preferred neighbourhood character.

Response
The proposal responds with a low brick fence and open vertical aluminium bars over.

55.06-3 Common property objectives (Standard B33)
Objective
To ensure that communal open space, car parking, access areas and site facilities are practical, attractive and easily maintained.
To avoid future management difficulties in areas of common ownership.

Response
The proposal responds with areas of common ownership limited to the carpark, foyer, access hallways. These areas are easily identified which will ensure management difficulties are minimised.

55.06-4 Site services objectives (Standard B34)
Objective
To ensure that site services can be installed and easily maintained.
To ensure that site facilities are accessible, adequate and attractive.

Response
The proposal responds with a design which provides sufficient space for the installation and maintenance of services. Garbage and recycling bins will be stored in an enclosed area in the carpark. Mailboxes are located at an accessible position near the building/dwelling entries.

Clause 55.07 APARTMENT DEVELOPMENTS

55.07-1 Energy efficiency objectives (Standard B35)
Objective
To achieve and protect energy efficient dwellings and buildings.

To ensure the orientation and layout of development reduce fossil fuel energy use and make
appropriate use of daylight and solar energy.
To ensure dwellings achieve adequate thermal efficiency.

Response
The proposal responds with orientation maximised to make appropriate use of solar energy. Adjacent dwellings have not been impacted by the proposal.

55.07-2 Communal open space objective (Standard B36)
Objective
To ensure that communal open space is accessible, practical, attractive, easily maintained and integrated with the layout of the development.

Response
The proposal includes less than 40 dwellings. This clause is not applicable.

55.07-3 Solar access to communal outdoor open space objective (Standard B37)
Objective
To allow solar access into communal outdoor open space.

Response
The proposal does not include communal outdoor open space. This clause is not applicable.

55.07-5 Integrated water and stormwater management objectives (Standard B39)
Objective
To encourage the use of alternative water sources such as rainwater, stormwater and recycled water.
To facilitate stormwater collection, utilisation and infiltration within the development.
To encourage development that reduces the impact of stormwater run-off on the drainage system and filters sediment and waste from stormwater prior to discharge from the site.

Response
The proposal responds with a design to collect rainwater for non-drinking purposes such as flushing toilets, laundry appliances and garden use.

Upon planning approval, the proposal will be designed to meet the current best practice performance objectives for stormwater quality as contained in the Urban Stormwater – Best Practice Environmental Management Guidelines (Victorian Stormwater Committee 1999)

55.07-6 Noise impacts objectives (Standard B40)

Objective

To contain noise sources in developments that may affect existing dwellings.

To protect residents from external and internal noise sources.

Response

The proposal responds in the following manner:-

- *Entry located on Genesta Street, well away from nearby residential dwellings and commercial buildings.*
- *East orientated walkways overlook adjacent car park and retail outlets.*
- *All windows and glass sliding doors will be double glazed.*
- *Pedestrian movement is fully contained within the building.*
- *Mechanical plants located on roof of building.*

55.07-7 Accessibility objective (Standard B41)

Objective

To ensure the design of dwellings meets the needs of people with limited mobility**.**

Response

The proposal responds in the following manner:-

- *All person entry ramp included off Genesta Street*
- *Lift access provided to all dwellings from carpark*

At least 50% of the dwellings have been designed to accord with Standard B41, accessibility for people with limited mobility.

55.07-8 Building entry and circulation objectives (Standard B42)

Objective

To provide each dwelling and building with its own sense of identity.

To ensure the internal layout of buildings provide for the safe, functional and efficient movement of residents.

To ensure internal communal areas provide adequate access to daylight and natural ventilation.

Response
The proposal responds to ensure all dwellings are provided with its own sense of identity. Noise sources, such as mechanical plants are not located near bedrooms of immediately adjacent existing dwellings.

55.07-9 Private open space above ground floor objective (Standard B43)

Objective
To provide adequate private open space for the reasonable recreation and service needs of residents.

Response
The proposal responds with balconies at first & second level of 8.0m² through to 13.8m².

55.07-10 Storage objective (Standard B44)

Objective
To provide adequate storage facilities for each dwelling.

Response
Each dwelling has been provided with convenient access to usable and secure storage space in accordance with Table B9 Storage.
These areas are included in a table, repeated on all floor plans.

55.07-11 Waste and recycling objectives (Standard B45)

Objective
To ensure dwellings are designed to encourage waste recycling.
To ensure that waste and recycling facilities are accessible, adequate and attractive.
To ensure that waste and recycling facilities are designed and managed to minimise impacts on residential amenity, health and the public realm.

Response
The proposal responds with adequate waste and recycling facilities located in the basement carpark. Refer Waste Management Plan included in the application.

55.07-12 Functional layout objective (Standard B46)

Objective
To ensure dwellings provide functional areas that meet the needs of residents.

Response
The proposal responds with the following minimum internal room dimensions:-

- *Main bedroom 3.4m width x 3.25m depth*
- *Second bedroom 3.2m width x 3.2m depth*
- *Living room 4.7m width & 22.0 sq.m floor area*

55.07-13 Room depth objective (Standard B47)
Objective
To allow adequate daylight into single aspect habitable rooms.

Response
The proposal responds with adequate daylight into single aspect habitable rooms.

55.07-14 Windows objective (Standard B48)
Objective
To allow adequate daylight into new habitable room windows.

Response
The proposal responds with adequate daylight into new habitable room windows.

55.07-15 Natural ventilation objectives (Standard B49)
Objective
To encourage natural ventilation of dwellings.
To allow occupants to effectively manage natural ventilation of dwellings.

Response
The proposal responds with natural ventilation provided to all dwellings, via openable windows and glass sliding doors.

Clause 58 of the planning scheme is to be used to assess applications for Apartment developments, for the purpose:-

To implement the Municipal Planning Strategy and the Planning Policy Framework.

To implement the Municipal Planning Strategy and the Planning Policy Framework. To encourage apartment development that provides reasonable standards of amenity for existing and new residents.

To encourage apartment development that is responsive to the site and the surrounding area.

The proposal responds to and is consistent with Clause 58 of the Municipal Strategic Statement in the following manner:-

Clause 58.01 URBAN CONTEXT REPORT AND DESIGN RESPONSE

58.01-1 Application requirements

Objective

An application must be accompanied by:

- An urban context report.
- A design response.

Response

Submission to Council includes both an urban context report & design response.

58.01-2 Urban context report

Response

Urban context report includes site plan and photographs together with a design response of the site and proposal.

58.01-3 Design response

Objective

The design response must explain how the proposed design:

- Responds to any relevant planning provision that applies to the land.
- Meets the objectives of Clause 58.
- Responds to any relevant housing, urban design and landscape plan, strategy or policy set out in this scheme.
- Derives from and responds to the urban context report.

Response

The subject site is located in a Commercial 1 Zone (C1Z) and is covered by a Design and Development Overlay (DDO)

Purpose of the Commercial 1 Zone is to create a vibrant mixed use centre for retail, office, business, entertainment and community uses. The zone also provides for residential uses at densities complementary to the role and scale of the commercial centre.

The proposal responds with a mixed use development that includes a large retail premises located ideally on the corner of Chapel and Genesta Streets. Dwellings 1-8 inclusive, are all orientated towards Genesta Street.

These dwellings provide an ideal mirror reflection to the residential dwellings located on the opposite of the road (Residential 1 Zone – GRZ1).

Schedule 11 to Clause 43.02 Design and Development Overlay.

The proposal meets the following design objectives that apply to the Cowes Activity Centre:

- *Creates and supports a coherent coastal village character with each precinct.*
- *Creates development in a commercial area which facilitates street activation.*
- *Creates a greater diversity and density and accommodation.*

Development features quality architecture, highly articulated built form and distinctive facades which create visually interesting interfaces with each streetscape.

Schedule 11 includes the preferred built form for Precinct 2, location of the subject site.
Table 1 – Preferred built form

- *Preferred height – 11 metres (3 storeys)*
  - *Proposal responds with a 10.4m high building of 3 storeys.*
- *Preferred street wall height – 8 metres (2 storeys)*
  - *Chapel Street. Proposal responds with a three storey wall of 10.3m. The upper levels are located above the shopfront awning.*
  - *Genesta Street. Proposal responds with a wall height of 5.7m.*
- *Preferred street level setbacks – 0 metres.*
  - *Proposal responds with zero street level setbacks.*
- *Preferred upper level setbacks (above preferred street wall) – 5 metres*
  - *Proposal responds with 5 metre upper level setbacks*

Clause 58.02 URBAN CONTEXT

58.02-1 Urban context objectives

Objective

To ensure that the design responds to the existing urban context or contributes to the preferred future development of the area.

To ensure that development responds to the features of the site and the surrounding area.

Standard D1

The design response must be appropriate to the urban context and the site.

The proposed design must respect the existing or preferred urban context and respond to the features of the site.

Response
The proposal is located on the perimeter of the Commercial 1 Zone is Chapel and Genesta Streets. An established commercial development is to the east of the site, while a General Residential area is to the west.

The proposal includes a shopfront development facing Chapel Street and residential dwellings facing Genesta Street, thereby supporting the existing urban context and directly contributing to the future development of the area.

58.02-2 Residential policy objectives

Objective
To ensure that residential development is provided in accordance with any policy for housing in the Municipal Planning Strategy and the Planning Policy Framework.

To support higher density residential development where development can take advantage of public and community infrastructure and services.

Standard D2
An application must be accompanied by a written statement to the satisfaction of the responsible authority that describes how the development is consistent with any relevant policy for housing in the Municipal Planning Strategy and the Planning Policy Framework.

Response
The proposal includes a higher density mixed use, infill development, which will support the adjacent commercial district.

58.02-3 Dwelling diversity objective

Objective
To encourage a range of dwelling sizes and types in developments of ten or more dwellings.

Standard D3
Developments of ten or more dwellings should provide a range of dwelling sizes and types, including dwellings with a different number of bedrooms.

Response
The proposal is limited to eight dwellings. This Standard is not applicable.

58.02-4 Infrastructure objectives

Objective

To ensure development is provided with appropriate utility services and infrastructure.

To ensure development does not unreasonably overload the capacity of utility services and infrastructure.

Standard D4

Development should be connected to reticulated services, including reticulated sewerage, drainage, electricity and gas, if available.

Development should not unreasonably exceed the capacity of utility services and infrastructure, including reticulated services and roads.

In areas where utility services or infrastructure have little or no spare capacity, developments should provide for the upgrading of or mitigation of the impact on services or infrastructure.

Response

The subject site is provided with full service facilities. The development does not unreasonably exceed the capacity of those services.

58.02-5 Integration with the street objective

Objective

To integrate the layout of development with the street.

Standard D5

Developments should provide adequate vehicle and pedestrian links that maintain or enhance local accessibility.

Development should be oriented to front existing and proposed streets.

High fencing in front of dwellings should be avoided if practicable.

Development next to existing public open space should be laid out to complement the open space.

Response

The proposal responds with adequate vehicle and pedestrian links that maintain or enhance local accessibility.

Clause 58.03 SITE LAYOUT

58.03-1 Energy efficiency objectives

Objective

To achieve and protect energy efficient dwellings and buildings.

To ensure the orientation and layout of development reduce fossil fuel energy use and make appropriate use of daylight and solar energy.

To ensure dwellings achieve adequate thermal efficiency.

Standard D6

Buildings should be:

- Oriented to make appropriate use of solar energy.
- Sited and designed to ensure that the energy efficiency of existing dwellings on adjoining lots is not unreasonably reduced.

Living areas and private open space should be located on the north side of the development, if practicable.

Developments should be designed so that solar access to north-facing windows is optimised.

Dwellings located in a climate zone identified in Table D1 should not exceed the maximum NatHERS annual cooling load specified in the following table.

Table D1 Cooling load

NatHERS climate zone	NatHERS maximum cooling load MJ/M² per annum
Climate zone 21 Melbourne	30
Climate zone 22 East Sale	22
Climate zone 27 Mildura	69
Climate zone 60 Tullamarine	22
Climate zone 62 Moorabbin	21
Climate zone 63 Warrnambool	21
Climate zone 64 Cape Otway	19
Climate zone 66 Ballarat	23

Note: Refer to NatHERS zone map, Nationwide House Energy Rating Scheme (Commonwealth Department of Environment and Energy).

Response

Subject to allotment orientation, the proposal responds with solar access to the west side of the development.

58.03-2 Communal open space objective

Objective

To ensure that communal open space is accessible, practical, attractive, easily maintained and integrated with the layout of the development.

Standard D7
Developments with 40 or more dwellings should provide a minimum area of communal open space of 2.5 square metres per dwelling or 250 square metres, which ever is lesser.

Response
The proposal is limited to eight dwellings. This Standard is not applicable.

58.03-3 Solar access to communal outdoor open space objective
Objective
To allow solar access into communal outdoor open space.

Standard D8
The communal outdoor open space should be located on the north side of a building, if appropriate.

Response
The proposal does not include communal open space.

58.03-4 Safety objective
Objective
To ensure the layout of development provides for the safety and security of residents and property.

Standard D9
Entrances to dwellings should not be obscured or isolated from the street and internal accessways.

Planting which creates unsafe spaces along streets and accessways should be avoided.

Developments should be designed to provide good lighting, visibility and surveillance of car parks and internal accessways.

Private spaces within developments should be protected from inappropriate use as public thoroughfares.

Response
The proposal responds with a convenient and safe entrance, to all dwellings, at ground level.

58.03-5 Landscaping objectives

Objective

To encourage development that respects the landscape character of the area.

To encourage development that maintains and enhances habitat for plants and animals in locations of habitat importance.

To provide appropriate landscaping.

To encourage the retention of mature vegetation on the site.

To promote climate responsive landscape design and water management in developments that support thermal comfort and reduces the urban heat island effect.

Standard D10

The landscape layout and design should:

- Be responsive to the site context.
- Protect any predominant landscape features of the area.
- Take into account the soil type and drainage patterns of the site and integrate planting and water management.
- Allow for intended vegetation growth and structural protection of buildings.
- In locations of habitat importance, maintain existing habitat and provide for new habitat for plants and animals.
- Provide a safe, attractive and functional environment for residents.
- Consider landscaping opportunities to reduce heat absorption such as green walls, green roofs and roof top gardens and improve on-site stormwater infiltration.
- Maximise deep soil areas for planting of canopy trees.

Response

The proposal is located in a Commercial 1 Zone. Planning controls allow for up to 100% site coverage. The proposal responds with landscaping adjacent to the boundary with No. 1 Genesta Street. Further, public seating and paving is included to the street in Chapel Street.

58.03-6 Access objective

Objective

To ensure the number and design of vehicle crossovers respects the urban context.

Standard D11

The width of accessways or car spaces should not exceed:

- 33 per cent of the street frontage, or

- if the width of the street frontage is less than 20 metres, 40 per cent of the street frontage.

No more than one single-width crossover should be provided for each dwelling fronting a street.

The location of crossovers should maximise the retention of on-street car parking spaces.

The number of access points to a road in a Road Zone should be minimised.

Developments must provide for access for service, emergency and delivery vehicles.

Response
The proposal responds with accessways limited to 14% of the Genesta Street frontage.

58.03-7 Parking location objectives
Objective
To provide convenient parking for resident and visitor vehicles.

To protect residents from vehicular noise within developments.

Standard D12
Car parking facilities should:
- Be reasonably close and convenient to dwellings.
- Be secure.
- Be well ventilated if enclosed.
-

Shared accessways or car parks of other dwellings should be located at least 1.5 metres from the windows of habitable rooms. This setback may be reduced to 1 metre where there is a fence at least 1.5 metres high or where window sills are at least 1.4 metres above the accessway.

Response
The proposal responds with convenient parking at ground level for all resident and visitor vehicles.

58.03-8 Integrated water and stormwater management objectives
Objective
To encourage the use of alternative water sources such as rainwater, stormwater and recycled water.

To facilitate stormwater collection, utilisation and infiltration within the development.

To encourage development that reduces the impact of stormwater run-off on the drainage system and filters sediment and waste from stormwater prior to discharge from the site.

Standard D13
Buildings should be designed to collect rainwater for non-drinking purposes such as flushing toilets, laundry appliances and garden use.

Buildings should be connected to a non-potable dual pipe reticulated water supply, where available from the water authority.

The stormwater management system should be:

- Designed to meet the current best practice performance objectives for stormwater quality as contained in the *Urban Stormwater - Best Practice Environmental Management Guidelines* (Victorian Stormwater Committee, 1999).
- Designed to maximise infiltration of stormwater, water and drainage of residual flows into permeable surfaces, tree pits and treatment areas.

Response
The proposal responds with Water Sensitive Urban Design (WSUD) assessment.

Clause 58.04 AMENITY IMPACTS

58.04-1 Building setback objectives

Objective
To ensure the setback of a building from a boundary appropriately responds to the existing urban
context or contributes to the preferred future development of the area.

To allow adequate daylight into new dwellings.

To limit views into habitable room windows and private open space of new and existing dwellings.
To provide a reasonable outlook from new dwellings.

To ensure the building setbacks provide appropriate internal amenity to meet the needs of residents.

Standard D14
The built form of the development must respect the existing or preferred urban context and respond to the features of the site.

Buildings should be set back from side and rear boundaries, and other buildings within the site to:

- Ensure adequate daylight into new habitable room windows.
- Avoid direct views into habitable room windows and private open space of new and existing dwellings. Developments should avoid relying on screening to reduce views.
- Provide an outlook from dwellings that creates a reasonable visual connection to the external environment.
- Ensure the dwellings are designed to meet the objectives of Clause 58.

Response
The subject site is located in a Commercial 1 Zone. Adjacent property at 75 Chapel Street is located in the same zone. As such, planning controls allow for construction on the east, north and west boundaries. Development on the southern boundary is in accordance with Clause 55.04.4. North facing windows objective of the Bass Coast Planning Scheme.

58.04-2 Internal views objective
Objective
To limit views into the private open space and habitable room windows of dwellings within a development.

Standard D15
Windows and balconies should be designed to prevent overlooking of more than 50 per cent of the private open space of a lower-level dwelling directly below and within the same development.

Response
The proposal responds to limit views into the private open space and habitable room windows of dwelling within a development.

58.04-3 Noise impacts objectives
Objective
To contain noise sources in developments that may affect existing dwellings.

To protect residents from external and internal noise sources.

Standard D16
Noise sources, such as mechanical plants should not be located near bedrooms of immediately adjacent existing dwellings.

The layout of new dwellings and buildings should minimise noise transmission within the site.

Noise sensitive rooms (such as living areas and bedrooms) should be located to avoid noise impacts from mechanical plants, lifts, building services, non-residential uses, car parking, communal areas and other dwellings.

New dwellings should be designed and constructed to include acoustic attenuation measures to reduce noise levels from off-site noise sources.

Response
The proposal responds to limit and contain noise sources within the development.

Clause 58.05 ON-SITE AMENITY AND FACILITIES

58.05-1 Accessibility objective
Objective
To ensure the design of dwellings meets the needs of people with limited mobility.

Standard D17
At least 50 per cent of dwellings should have:
- A clear opening width of at least 850mm at the entrance to the dwelling and main bedroom.
- A clear path with a minimum width of 1.2 metres that connects the dwelling entrance to the main bedroom, an adaptable bathroom and the living area.
- A main bedroom with access to an adaptable bathroom.
- At least one adaptable bathroom that meets all of the requirements of either Design A or Design B specified in Table D4.

Table D4 Bathroom design

	Design option A	Design option B
Door opening	A clear 850mm wide door opening.	A clear 820mm wide door opening located opposite the shower.
Door design	Either: ▪ A slide door, or ▪ A door that opens outwards, or ▪ A door that opens inwards that is clear of the circulation area and has readily removable hinges.	Either: ▪ A slide door, or ▪ A door that opens outwards, or ▪ A door that opens inwards and has readily removable hinges.
Circulation area	A clear circulation area that is: ▪ A minimum area of 1.2 metres by 1.2 metres. ▪ Located in front of the shower and the toilet. ▪ Clear of the toilet, basin and the door swing. The circulation area for the toilet and shower can overlap.	A clear circulation area that is: ▪ A minimum width of 1 metre. ▪ The full length of the bathroom and a minimum length of 2.7 metres. ▪ Clear of the toilet and basin. The circulation area can include a shower area.
Path to circulation area	A clear path with a minimum width of 900mm from the door opening to the circulation area.	Not applicable.
Shower	A hobless (step-free) shower.	A hobless (step-free) shower that has a removable shower screen and is located on the furthest wall from the door opening.
Toilet	A toilet located in the corner of the room.	A toilet located closest to the door opening and clear of the circulation area.

Response

The proposal responds with both Waste Management and Traffic Engineering Plans.

58.05-2 Building entry and circulation objectives

Objective

To provide each dwelling and building with its own sense of identity.

To ensure the internal layout of buildings provide for the safe, functional and efficient movement of residents.

To ensure internal communal areas provide adequate access to daylight and natural ventilation.

Standard D18

Entries to dwellings and buildings should:

- Be visible and easily identifiable.
- Provide shelter, a sense of personal address and a transitional space around the entry.

The layout and design of buildings should:

- Clearly distinguish entrances to residential and non-residential areas.
- Provide windows to building entrances and lift areas.
- Provide visible, safe and attractive stairs from the entry level to encourage use by residents.

- Provide common areas and corridors that:
  - Include at least one source of natural light and natural ventilation.
  - Avoid obstruction from building services.
  - Maintain clear sight lines.

Response
The proposal responds with each residential building and dwelling being provided with its own sense of identity.

Dwellings 1-7 are accessed via the front door and ground floor foyer accessed directly from street level on Genesta Street.
Dwelling 8 is a separate building, again accessed directly off the same street.

All dwellings are visible and easily identifiable. Dwellings provide safe, functional and efficient movement of residents.

58.05-3 Private open space objective
Objective
To provide adequate private open space for the reasonable recreation and service needs of residents.

Standard D19
A dwelling should have private open space consisting of:
- An area of 25 square metres, with a minimum dimension of 3 metres at natural ground floor level and convenient access from a living room, or
- An area of 15 square metres, with a minimum dimension of 3 metres at a podium or other similar base and convenient access from a living room, or
- A balcony with an area and dimensions specified in Table D5 and convenient access from a living room, or
- A roof-top area of 10 square metres with a minimum dimension of 2 metres and convenient access from a living room.

If a cooling or heating unit is located on a balcony, the balcony should provide an additional area of 1.5 square metres.

Table D5 Balcony size

Dwelling type	Minimum area	Minimum dimension
Studio or 1 bedroom dwelling	8 square metres	1.8 metres
2 bedroom dwelling	8 square metres	2 metres
3 or more bedroom dwelling	12 square metres	2.4 metres

Response
The proposal includes eight, two bedroom dwellings.

Provision of private open space to each dwelling exceeds minimum requirements of Standard D19 and Table D5 balcony size.

In summary:-

First floor	*Dwelling 1*	*12.0m²*	*Avg. width 2.2m*
	Dwellings 2-5	*9.2m²*	*Min. width 1.9m*
	Dwelling 6	*8.0m²*	*Min. width 2.83m*
	Dwelling 7	*9.2m²*	*Min. width 1.9m*
	Dwelling 8	*12.4m²*	*Min. width 2.6m*
Second Floor	*Dwellings 1-5*	*13.8m²*	*Min. width 2.9m*
	Dwelling 6	*11.3m²*	*Min. width 2.9m*
	Dwelling 7	*13.8m²*	*Min. width 2.9m*

Allowances are in excess of requirements.

58.05-4 Storage objective
Objective
To provide adequate storage facilities for each dwelling.

Standard D20
Each dwelling should have convenient access to usable and secure storage space.

The total minimum storage space (including kitchen, bathroom and bedroom storage) should meet the requirements specified in Table D6.

Table D6 Storage

Dwelling type	Total minimum storage volume	Minimum storage volume within the dwelling
Studio	8 cubic metres	5 cubic metres
1 bedroom dwelling	10 cubic metres	6 cubic metres
2 bedroom dwelling	14 cubic metres	9 cubic metres
3 or more bedroom dwelling	18 cubic metres	12 cubic metres

Response
The proposal responds with an average of 17.5m³ of storage facilities to each dwelling. The volume is almost twice the minimum requirements detailed in Table D6 Storage.

Clause 58.06 DETAILED DESIGN

58.06-1 Common property objectives

Objective

To ensure that communal open space, car parking, access areas and site facilities are practical, attractive and easily maintained.

To avoid future management difficulties in areas of common ownership.

Standard D21

Developments should clearly delineate public, communal and private areas.

Common property, where provided, should be functional and capable of efficient management.

Response

The proposal responds with communal car parking, access areas and site functions which are practical and functional. These common areas are capable of efficient management.

58.06-2 Site services objectives

Objective

To ensure that site services can be installed and easily maintained.

To ensure that site facilities are accessible, adequate and attractive.

Standard D22

The design and layout of dwellings should provide sufficient space (including easements where required) and facilities for services to be installed and maintained efficiently and economically.

Mailboxes and other site facilities should be adequate in size, durable, waterproof and blend in with the development.

Mailboxes should be provided and located for convenient access as required by Australia Post.

Response

With an open car park at ground level, the proposal provides for site services that will be accessible and adequate.

58.06-3 Waste and recycling objectives

Objective

To ensure dwellings are designed to encourage waste recycling.

To ensure that waste and recycling facilities are accessible, adequate and attractive.

To ensure that waste and recycling facilities are designed and managed to minimise impacts on residential amenity, health and the public realm.

Standard D23
Developments should include dedicated areas for:

- Waste and recycling enclosures which are:
  - Adequate in size, durable, waterproof and blend in with the development.
  - Adequately ventilated.
  - Located and designed for convenient access by residents and made easily accessible to people with limited mobility.

- Adequate facilities for bin washing. These areas should be adequately ventilated.
- Collection, separation and storage of waste and recyclables, including where appropriate opportunities for on-site management of food waste through composting or other waste recovery as appropriate.
- Collection, storage and reuse of garden waste, including opportunities for on-site treatment, where appropriate, or off-site removal for reprocessing.
- Adequate circulation to allow waste and recycling collection vehicles to enter and leave the site without reversing.
- Adequate internal storage space within each dwelling to enable the separation of waste, recyclables and food waste where appropriate.

Waste and recycling management facilities should be designed and managed in accordance with a Waste Management Plan approved by the responsible authority and:

- Be designed to meet the better practice design options specified in *Waste Management and Recycling in Multi-unit Developments* (Sustainability Victoria, 2019).
- Protect public health and amenity of residents and adjoining premises from the impacts of odour, noise and hazards associated with waste collection vehicle movements.

Response
The proposal responds with waste and recycling facilities readily identifiable and accessible at ground level. The proposal also includes submission of a Waste Management Plan.

Clause 58.07 INTERNAL AMENITY

58.07-1 Functional layout objective

Objective

To ensure dwellings provide functional areas that meet the needs of residents.

Standard D24

Bedrooms should:

- Meet the minimum internal room dimensions specified in Table D7.
- Provide an area in addition to the minimum internal room dimensions to accommodate a wardrobe.

Table D7 Bedroom dimensions

Bedroom type	Minimum width	Minimum depth
Main bedroom	3 metres	3.4 metres
All other bedrooms	3 metres	3 metres

Living areas (excluding dining and kitchen areas) should meet the minimum internal room dimensions specified in Table D8.

Table D8 Living area dimensions

Dwelling type	Minimum width	Minimum area
Studio and 1 bedroom dwelling	3.3 metres	10 sqm
2 or more bedroom dwelling	3.6 metres	12 sqm

Response

The proposal responds with dwellings that include functional areas that meet the needs of residents. All dwellings are provided with bedroom dimensions that are in excess of Table D7 Bedroom Dimensions and Living Area Dimensions in excess of Table D8. Living areas are in excess of twice the minimum area required.

58.07-2 Room depth objective

Objective

To allow adequate daylight into single aspect habitable rooms.

Standard D25

Single aspect habitable rooms should not exceed a room depth of 2.5 times the ceiling height.

The depth of a single aspect, open plan, habitable room may be increased to 9 metres if all the following requirements are met:

- The room combines the living area, dining area and kitchen.

- The kitchen is located furthest from the window.
- The ceiling height is at least 2.7 metres measured from finished floor level to finished ceiling level. This excludes where services are provided above the kitchen.

The room depth should be measured from the external surface of the habitable room window to the rear wall of the room.

Response
The proposal responds with adequate daylight provided into single habitable rooms. Room dimensions on the proposal are in excess of the minimum requirement.

58.07-3 Windows objective
Objective
To allow adequate daylight into new habitable room windows.

Standard D26
Habitable rooms should have a window in an external wall of the building.

A window may provide daylight to a bedroom from a smaller secondary area within the bedroom where the window is clear to the sky.

The secondary area should be:
- A minimum width of 1.2 metres.
- A maximum depth of 1.5 times the width, measured from the external surface of the window.
-

Response
The proposal responds with all habitable room windows located in an external wall of the building.

58.07-4 Natural ventilation objectives
Objective
To encourage natural ventilation of dwellings.

To allow occupants to effectively manage natural ventilation of dwellings.

Standard D27
The design and layout of dwellings should maximise openable windows, doors or other ventilation devices in external walls of the building, where appropriate.

At least 40 per cent of dwellings should provide effective cross ventilation that has:

- A maximum breeze path through the dwelling of 18 metres.
- A minimum breeze path through the dwelling of 5 metres.
- Ventilation openings with approximately the same area.

The breeze path is measured between the ventilation openings on different orientations of the dwelling.

Response

The proposal responds with natural, cross flow ventilation provided to all dwellings. Full cross flow ventilation occurs on both the first and second floor to Dwellings 1-7 inclusive.

STORM Rating Report

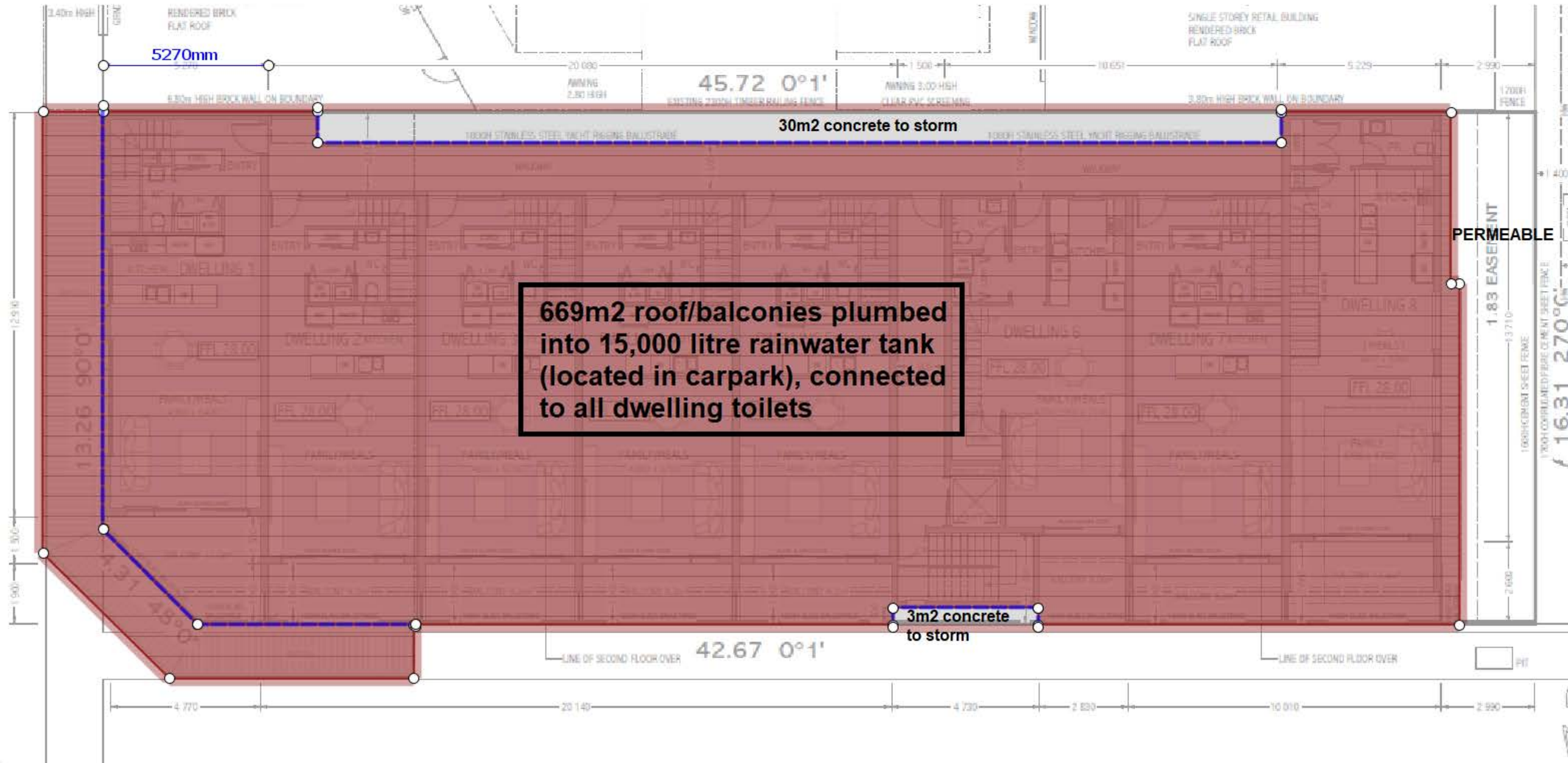
TransactionID:	1292113	
Municipality:	BASS COAST	
Rainfall Station:	BASS COAST	
Address:	77 Chapel St	
	Cowes	
	VIC	3922
Assessor:	Green Rate	
Development Type:	Residential - Mixed Use	
Allotment Site (m2):	740.90	
STORM Rating %:	104	

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roof & Balconies	669.00	Rainwater Tank	15,000.00	15	109.40	94.60
Concrete	33.00	None	0.00	0	0.00	0.00

Date Generated: 13-Dec-2021 Program Version: 1.0.0

WSUD Plan

77 Chapel St, Cowes





Maintenance Checklist

The property owner is responsible for checking the maintenance items in this checklist at the recommended frequency at the bottom of the table. The maintenance log at the bottom of the page should be filled in once each maintenance check is complete. Upkeep of this maintenance log should continue throughout the life of the rainwater tank.

Item	Rainwater tank element	Inspection item	Y/N	Likely maintenance task
1	Roof gutters and downpipes	Is there leaf litter or debris in the gutters?		Remove by hand and dispose responsibly.
2	First flush diverter	Is there anything blocking the first flush diverter (leaves etc)?		Remove by hand and dispose responsibly.
3	Potable mains back up device	Is the potable mains back up switch operating correctly?		Repair or replace device. Consider a manual switching device.
4	Mesh cover	Has the mesh cover deteroriated or have any holes in it?		Replace mesh cover.
5	Tank volume	Is there large amounts of sediment or debris sitting in the bottom of the tank, reducing the volume available in the tank to store water?		Remove sediment and dispose responsibly.
6	Pump	Is the pump working effectively? Have you heard it on a regular basis?		Check the potable mains back up is not permanently on. Repair or replace pump.
7	Pipes and taps	Are pipes and taps leaking?		Repair as needed.
8	Overflow	Is the overflow clear and connected to the stormwater network?		Remove blockages and/or restore connections to stormwater network.
9	Supporting base	Are there any cracks or movement of pavers?		Empty the tank to reduce weight then repair any damage to the base.

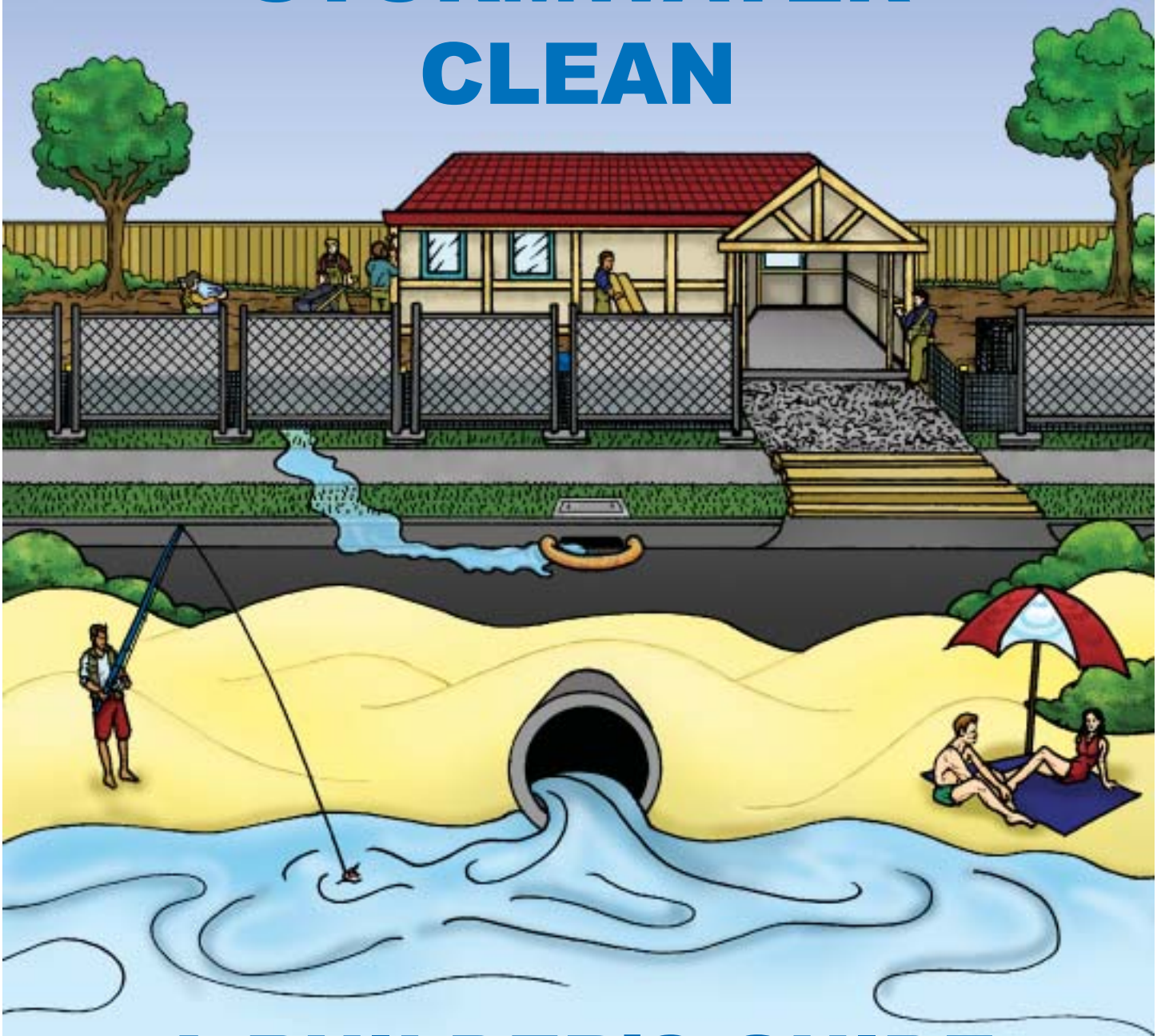
Maintenance frequency												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
All tasks	x			x			x			x		

Regular maintenance will improve the water quality and extend the life of your system. A well maintained tank isn't likely to need to be cleaned out for up to ten years (when there is more than 20mm of accumulated sediment).

Maintenance Log

Maintenance date	Maintenance undertaken

KEEPING OUR STORMWATER CLEAN



A BUILDER'S GUIDE

Information to help you control sediment and litter from your building site and comply with Council and State regulations

Melbourne Water

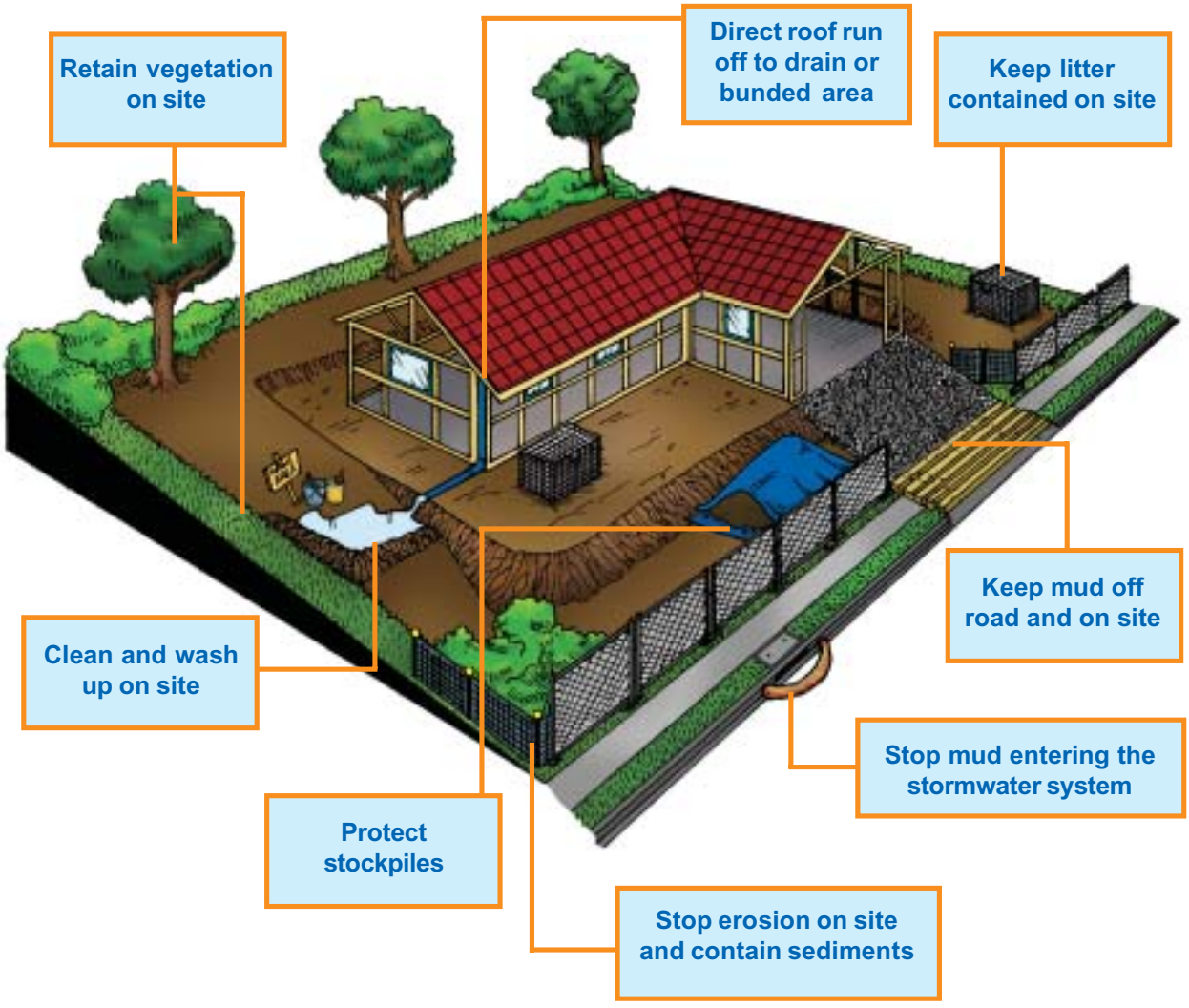
Victoria The Place To Be

EPA VICTORIA

ACKNOWLEDGEMENTS

This revised booklet was originally produced with the support of the Victorian EPA, Melbourne Water, Cities of Kingston, Casey, Hume, Melbourne, Moreland and Moonee Valley.

Check Council requirements and plan before you start work on site



Supplier information for sediment & erosion control on page 3

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6 SITE RULES TO KEEP STORMWATER CLEAN



SITE RULE 1 — Check Council requirements and plan before you start work on site. ..... Page 4



SITE RULE 2 — Stop erosion onsite and contain sediments. ..... Page 6



SITE RULE 3 — Protect stockpiles. ..... Page 12



SITE RULE 4 — Keep mud off road and on site. ..... Page 16



SITE RULE 5 — Keep litter contained on site. ..... Page 18

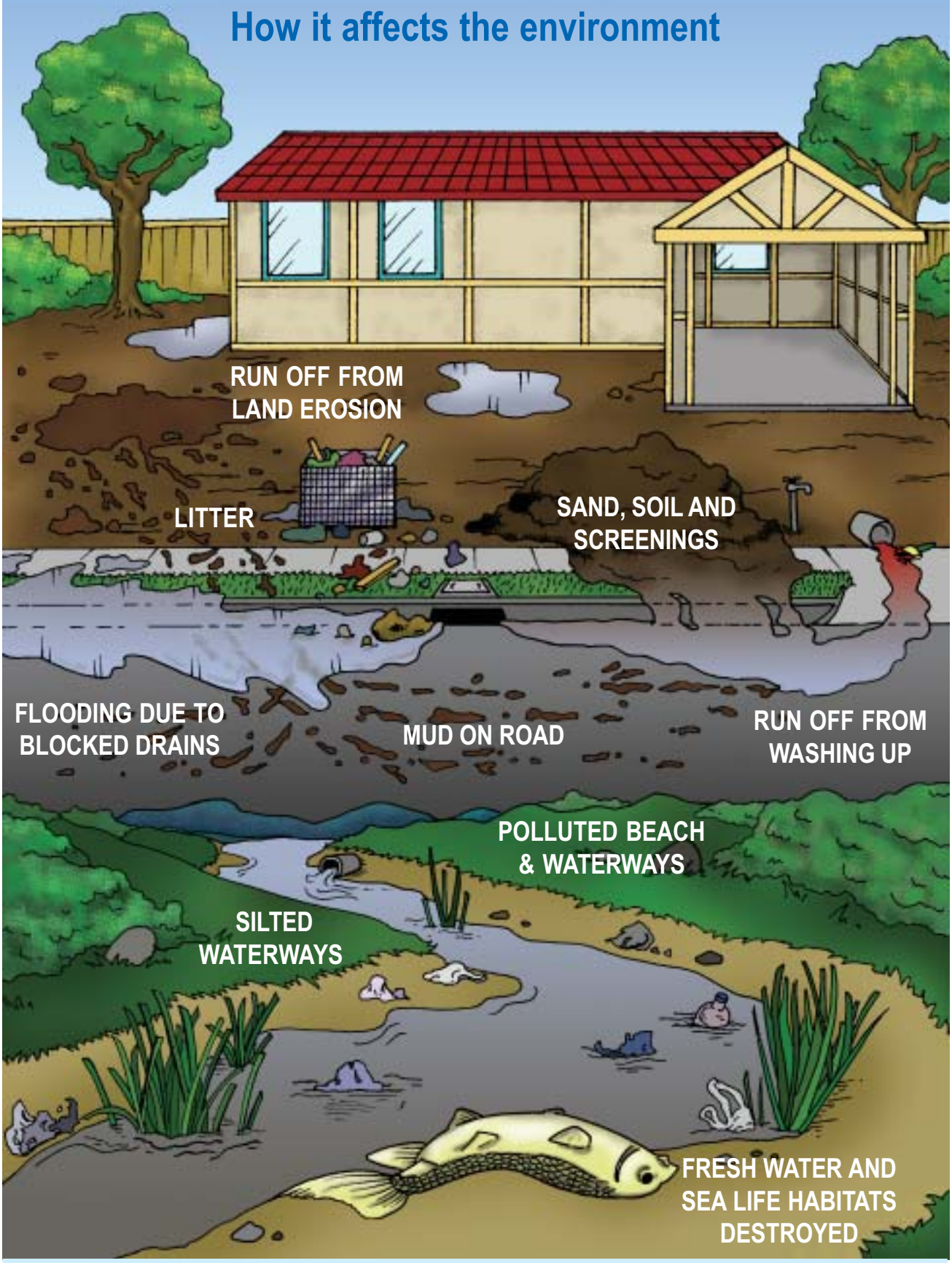


SITE RULE 6 — Clean and wash up on site. ..... Page 21

Use the Site Management Plan..... Page 23

PROBLEMS ON OUR BUILDING SITES

How it affects the environment



WHY DO I NEED TO PROTECT OUR ENVIRONMENT?

It's the law!

Sediment from building sites can pollute stormwater. There are State and local council laws which make this an offence.

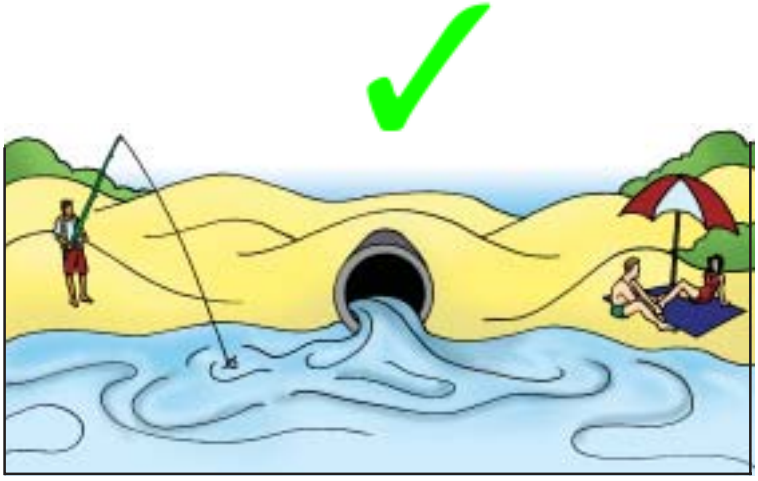
The developer or person managing the building site has the responsibility of making sure that the stormwater is not polluted.



Penalties apply for polluting stormwater.

To enjoy using our environment - now and in the future





Stormwater is not treated and carries pollution to local waterways and bays. Pollution in our stormwater can lead to short and long term damage to our environment.

To benefit builders

The site looks good (which is good for attracting new customers) **and you'll be helping to protect our environment**.

The site has fewer hazards. A well organised site has less loose material lying around causing a hazard. This reduces health and safety issues on a building site.

Downtime is reduced. A well managed and organised site is more efficient. This saves time and money.



USEFUL SUPPLIER INFORMATION



This information is provided for helpful contact details only. The companies are not listed in any particular order and are not necessarily recommended over others that may provide similar services.

SEDIMENT CONTROL

Approximate Price:
Geofabric fencing
100 m roll from $55 to $130
stakes $12 for 10
Filter socks unfilled: 2 m $4.50 filled $8 - $25

Geofabrics Australasia
03 8586 9111 www.geofabrics.com.au
Products: silt fencing

Southern Geosynthetics Supplies
0419 478 238 www.geosynthetics.com.au
Products: Silt fences, Silt Sausages

Statewide River & Stream Management
03 9702 9757 www.stateplanthire.com
Products: silt fence, stakes, silt logs
Installation service and site kits
Approx cost: $220 for 20 m frontage installed, $88 self installation

Treemax
03 98787 4111 www.treemax.com.au
Products:filter fence, silt worm, silt sock

Zerosion
0408 351 566 www.zerosion.com.au
Products: silt fence installation
Approx cost: $215 for up to 20 m frontage

STABILISED DRIVEWAYS

For aggregate look under sand, soil and gravel in the Yellow Pages
Recycled aggregate available from major suppliers.

TEMPORARY DOWNPIPE

Available from major plumbing suppliers

Art Plastic 25 m rolls of temporary plastic downpipe approx: $25

Temporary Flexible Downpipe
03 9786 3711 www.tfd.com.au
$135 per kit - does 2-3 16 sq houses

OTHER EQUIPMENT

Coates Shorco Sykes 131994
Supply : silt fence $125 100 m
Hire: Rumble Grids $180 p/week for 2 panels
Hire: Environmental settlement tanks 4 m tank $542 p/week

PORTABLE TOILETS

See Toilets – Portable in the Yellow Pages

TEMPORARY FENCING

See Fencing Contractors in the Yellow Pages
Australian Temporary Fencing 131716
Victorian Temporary Fencing 03 9484 4000

BRICK AND TILE CUTTING

Slop Mop Recycling Products
www.slopmop.com.au 0418 825 301 Brikasaurus: capture and recycle waste water for brick and tile cutting operations.
Slopmop: water delivery & waste clean up system for use behind concrete saws and grinders.

Useful information is available from:

Master Builders Green Living Builders
www.mbav.com.au
HIA GreenSmart Program
www.greensmart.com.au
Keep Australia Beautiful Victoria – CleanSites Program
http://www.kabv.org.au/
Victorian Litter Action Alliance
http://www.litter.vic.gov.au
Environment Protection Agency Victoria
www.epa.vic.gov.au
See Publication 981 – Reducing stormwater pollution from construction sites
Melbourne Water
www.melbournewater.com.au



SITE RULE 1

Check Council requirements and plan before you start work on site.



Questions to ask BEFORE you start

Planning, BEFORE you start a job, will make a big difference to how well you manage your site. Check Council requirements for site management. Complete a site management plan (one can be found at the back of this booklet).

Where is the lowest point on the site?

Water always runs to the lowest point. It is important to know where this point is when planning your site. It will affect where you put your crossover, stockpile materials and sediment fence. Leave a buffer of vegetation along the lowest boundary.

Where will I put the crossover?

Try to put the crossover as far away from the lowest point as possible. As water runs to the lowest point it is more likely to be wet and muddy. [See Page 16.]

Where will I keep my stockpile?

Stockpiles are best kept on site, as far away from the lowest point as practical. [See Page 12.]

Where will I build my sediment control fence?

Sediment control fences should be built on the lowest side/s of a site prior to erecting a temporary fence. A flat site may not need sediment control fences. [See Page 9.] These are a primary management measure to keep sediment on site.

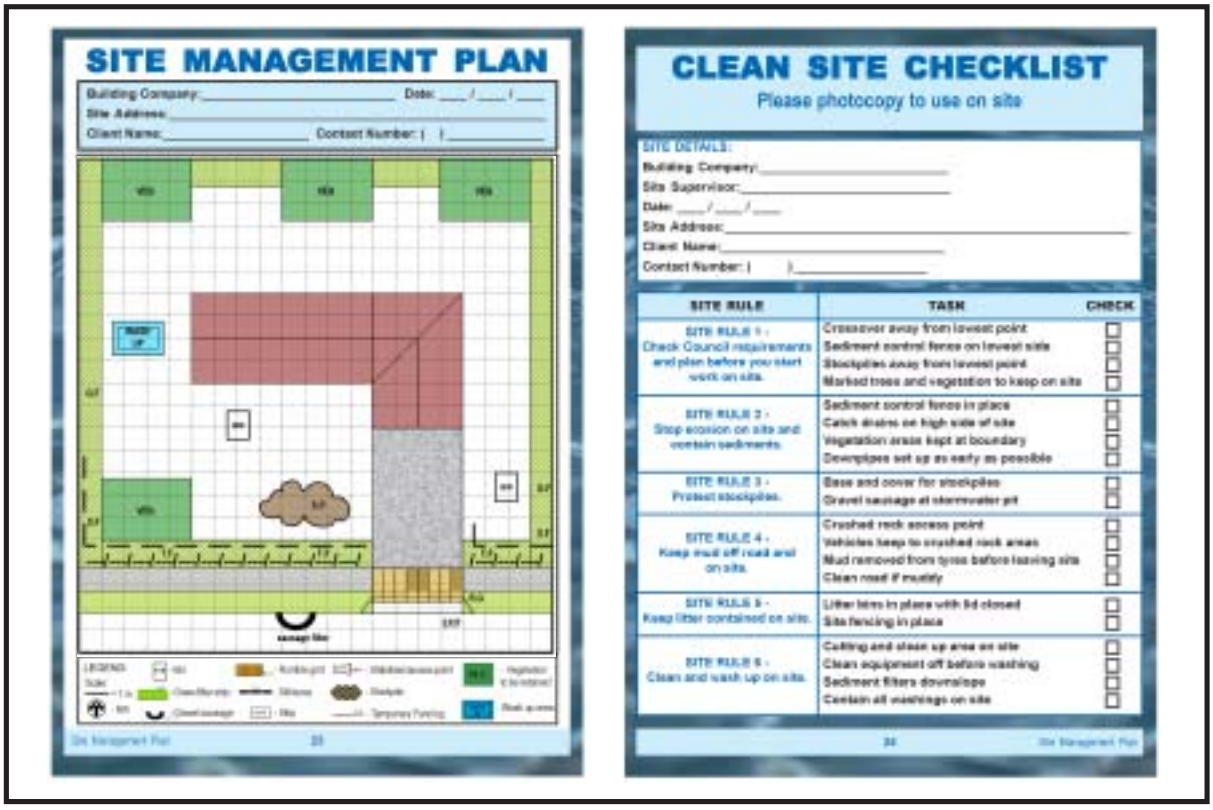
Which trees and vegetation will be kept on site?

Rope or fence off the areas you are going to keep. Keeping vegetation such as grassed areas will help to prevent damage to the surface of the site later on and may trap sediment. [See Page 7.]

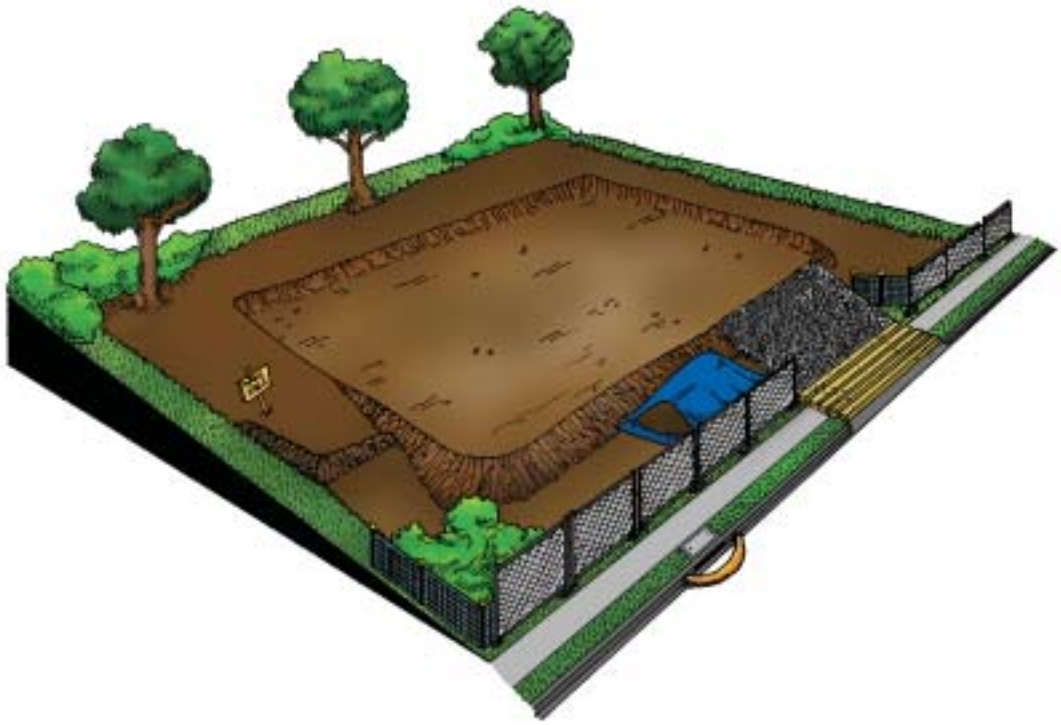
Why fence my site?

Many councils require sites to be fenced. Site fencing helps to keep building activities to the site, helps stop movement of litter, and helps to keep a site safe by stopping members of the public wandering on site. [See Page 20.]

SITE READY TO START JOB



For copy of plan & checklist photocopy pages 23 & 24.





SITE RULE 2

Stop erosion and keep sediment on site

Why is erosion a problem?

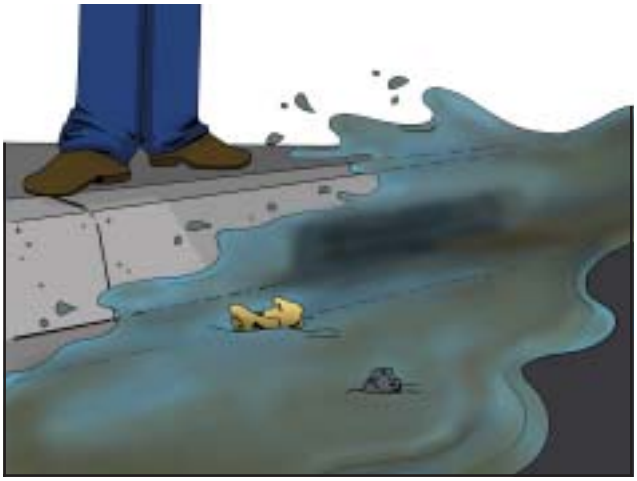
Sediment escaping from building sites can:



1. Make roads and footpaths slippery for vehicles and pedestrians, increasing public liability risk.



2. Enter the stormwater system and make stream and river water cloudy which can kill plants and animals in creeks and the bay.



3. Cause blockages to the stormwater system including the side entry pit and pipes, increasing the chance of flooding and requiring regular cleaning.

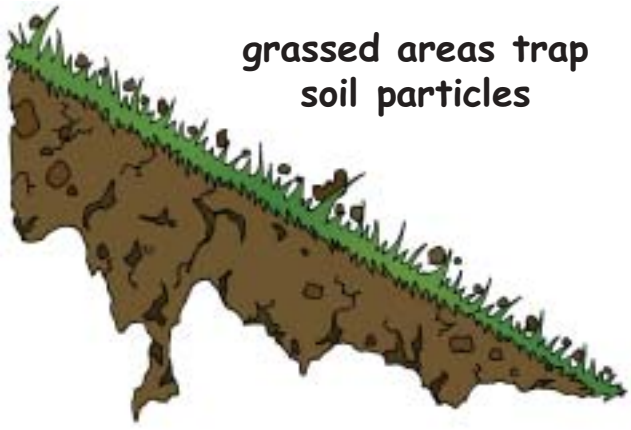


4. Overload and clog local stormwater filtration systems such as raingardens and swales.

METHODS TO CONTROL EROSION

Control Method 1 - Keep areas of vegetation as a buffer strip at the site boundary.

To prevent sediment leaving site use existing grassed areas and a sediment control fence.



Vegetation helps protect the soil from the effects of rain and surface water by:

- Slowing the flow of water across the ground. Fast water is able to carry more soil particles off site
- Holding the soil together and minimising erosion
- Acting as a filter to trap soil particles.

Decide what areas of vegetation you are going to keep on site. Mark and protect trees, shrubs and grassed areas that you are keeping. Then apply for the relevant permits to remove vegetation.



Protect areas close to the boundary, drains and gutters, and where surface water flows may carry sediment off site.

Control Method 2 - Early downpipe connection



Connecting downpipes to the stormwater or onsite detention system has a number of benefits:

- Less drainage problems on site
- Less mud on site after rain
- A safer site
- Reduce damage to building foundations
- Less downtime after storms
- Projects get finished sooner.

Aim to have the downpipes connected as soon as the roof is installed (temporary or permanent).

Control Method 3 - Pipe roof water onto a grassed or bunded area.

If you cannot connect to the stormwater system, pipe the water away from the building onto a vegetated area where there is good ground cover or to a bunded area.

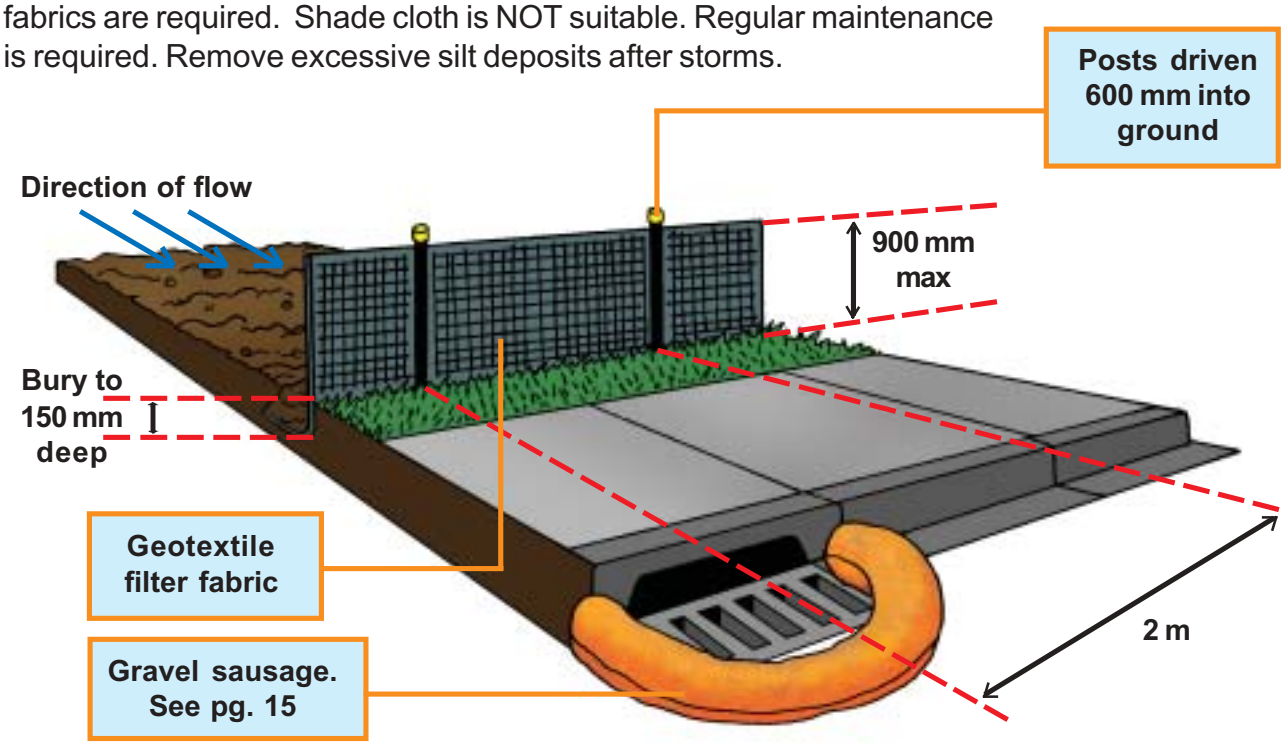


This lets water seep into the ground with less damage to the surface of the soil.

METHODS TO CONTAIN SEDIMENT ON SITE

Method 1 - Sediment Control Fences

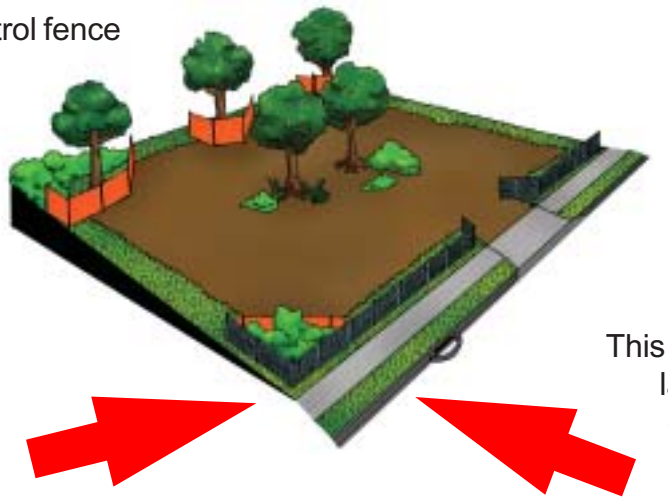
Sediment control fences stop sediment from being washed off site. The fence allows muddy water to pond behind it and for sediment to settle as the water slowly filters through. Geotextile fabrics are required. Shade cloth is NOT suitable. Regular maintenance is required. Remove excessive silt deposits after storms.



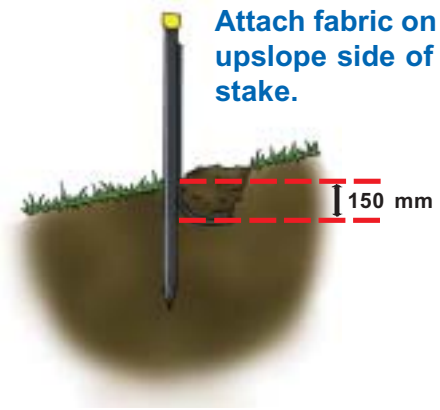
TO BUILD A SEDIMENT CONTROL FENCE:

a) Identify the low point of site.

Place sediment control fence along boundaries where the low point is.



This is the point where the land will allow water to carry sediment off the building site.



b) Dig a trench along the fence line before temporary site fencing is installed.

The trench will be used to bury the base of the sediment control fabric.

The trench should be 150 mm deep.



c) Put in 1500 mm wooden posts (38 mm) or star pickets.

Put 1.5 m star pickets at a maximum of 2 m apart and 600 mm deep.

Put 1.5 m wooden posts (38 mm) at 1.2 m intervals (max 2 m) and 600 mm deep.



d) Fix geotextile to posts

Geotextile material allows water to pass through but traps sediments.

Use cable ties or staples to attach the geotextile to the upslope side of the fence posts.

Only join fabric at the pickets with a 150 mm overlap (wrap around post).



e) Spread volume of water.

Put a star picket 1.5 m upslope of the others every 20 m (if the fence is longer than 20 m). This spreads the volume of water that flows through each section of fence.

Turn ends up slope to allow for ponding.

Method 2 - Control dust and slurry from cutting

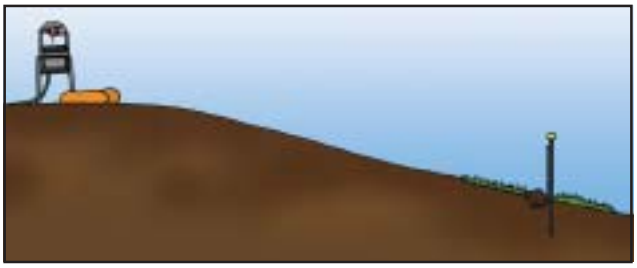
A large amount of dust can be made from cutting materials such as concrete, bricks and tiles. When mixed with water this material can be turned into slurry and washed into waterways. Cement changes the acidity of water which may then kill water plants and animals. The following methods will help keep this waste on site and out of the waterways:



a) Cut materials on site

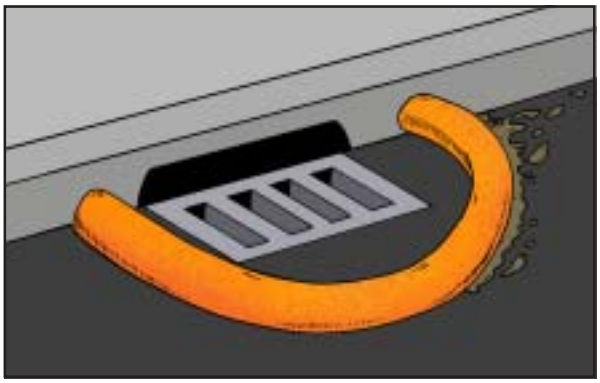
Choose a set area to do all your cutting. This area should be on the building site and away from all stormwater drains.

Equipment is available that captures water used in the cutting process (see page 3).



b) Put sediment control filters downslope

Sediment logs should be placed downslope to catch cutting slurry. A back-up sediment fence may also be used.



c) Use a gravel sausage or sediment log

When cutting must take place near stormwater drains, use gravel sausages or sediment logs.

Alternatively, you can buy sleeves from geotextile companies and fill these with sand.

Always clean up and correctly dispose of captured sediment.



d) Clean up when finished

When you have finished cutting, clean up your equipment in the cutting area.

Use a broom to clean up and get rid of the slurry where it can't get into the stormwater system. Dispose of in waste container

DO NOT HOSE THE SLURRY AWAY



SITE RULE 3
Contain stockpiles on site

Why are sand, soil and screenings a problem?

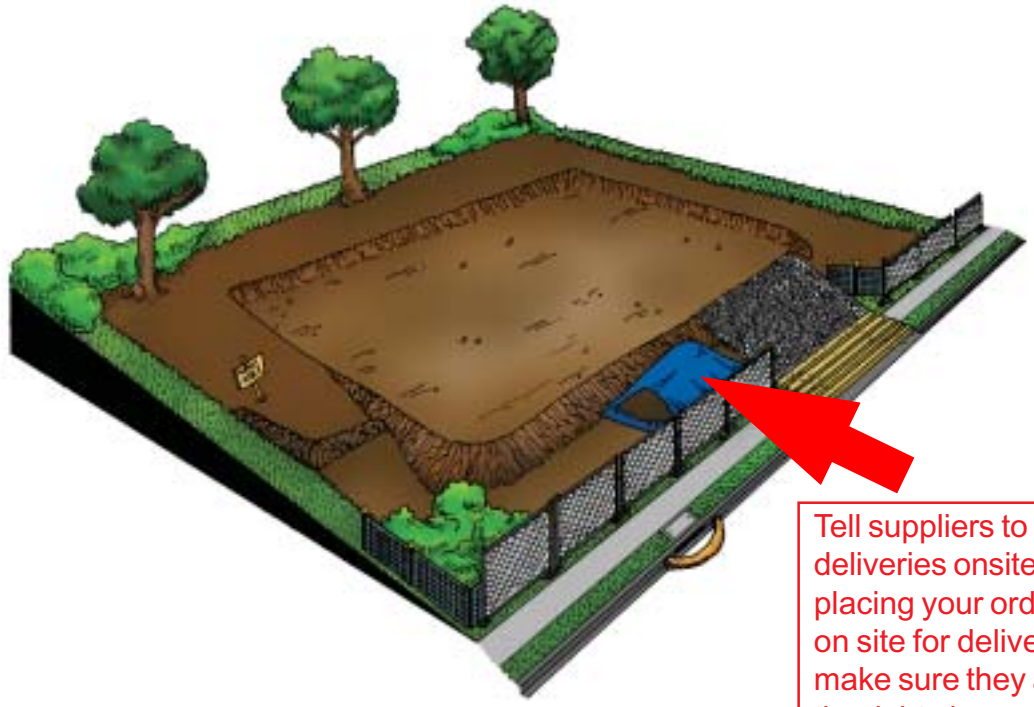


Sand, soil, screenings, dust or sludge from concrete and brick cutting, and other materials escaping from building sites can cause many problems.

Putting stockpiles such as sand, gravel, topsoil and mulch across footpaths and roads will cause a hazard to both vehicles and pedestrians.

Sediment can smother stormwater filtering systems including swales and raingardens.

Stockpiles should be stored on site, not on footpaths or roads.



Tell suppliers to place deliveries onsite when placing your order or be on site for deliveries to make sure they are put in the right place.

Stockpiles not stored properly can get washed or blown away and pollute the stormwater.

This is particularly true of stockpiles that:

- Are high
- Have steep sides
- Are put on hard surfaces where they can be blown or washed away.





KEEPING STOCKPILES ON SITE

Place the stockpile in a designated area on site, and upslope of the sediment control fence.

If exposed for some time, stockpiles should be covered with a tarp.



In some cases it may be impossible to store stockpiles on site. In this case, a different set of control methods will be used.

WHEN UNABLE TO STORE STOCKPILES ON SITE

You may have to store a stockpile off site (although never on the footpath, gutter or road). Contact the council to make sure that you have the appropriate council permits.

The council will tell you how stockpiles stored off site are to be managed. Materials may be stored on tarps or on pallets. Containers such as rubbish skips with opening sides that you can get into easily are a good idea.



Material must not get into drains, gutters or the stormwater system

The following control methods can be used when storing materials or working off site.

Method 1 - Cover Stockpile

a) Place a tarp, plastic or bunded pallet under the area where the stockpile will be placed.

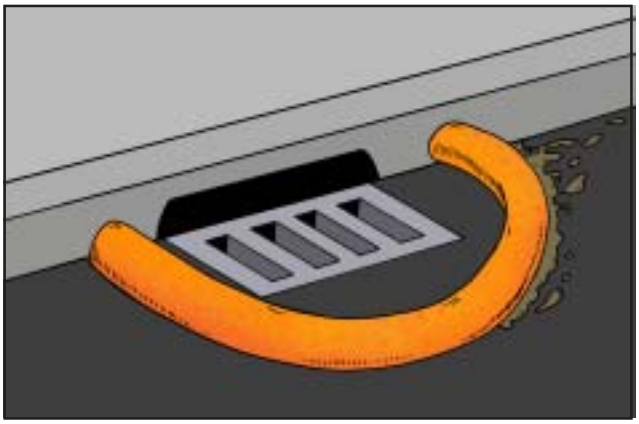
b) Place a secured covering over the stockpile.

c) Then place sediment control logs around the downslope base of the stockpile.



Method 2 - Protect Downstream Stormwater Pit with a Gravel Sausage or Sediment Log

A gravel sausage or sediment log is a temporary collection device that can be used when stockpiles are stored or cutting is done off site.
It is also a useful precautionary measure at all sites.

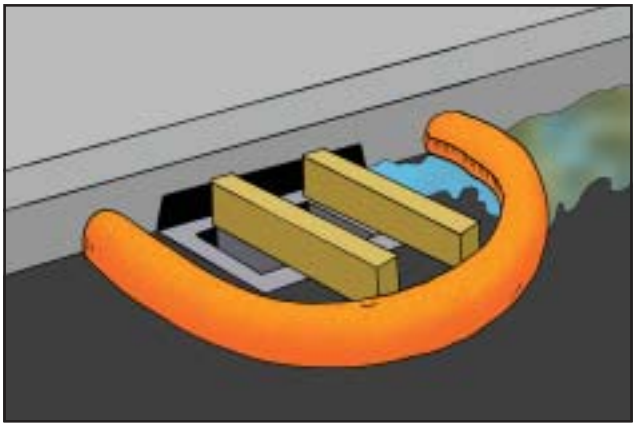


TO BUILD A GRAVEL SAUSAGE:

a) Make the sausage sleeve

A gravel sausage is made from a geotextile sleeve filled with 25 - 50 mm gravel.

The gravel sausage should be 150 mm high.



b) Put the gravel sausage across the opening of the inlet pit

Make sure that the sausage is tight with the kerbing on the upslope side of the inlet pit and extends beyond the grate.

There should be a 100 mm gap between the front of the pit and sausage. Use wooden blocks to keep the 100 mm gap.



c) Clean out gravel sausage regularly

When soil and sand builds up around the gravel sausage, this should be collected and disposed of on site.

Regular maintenance is required.

DO NOT HOSE SEDIMENT DOWN THE GUTTER



SITE RULE 4

Keep mud off road and on site

Why is mud a problem?

Two things happen when vehicles go on and off the site:

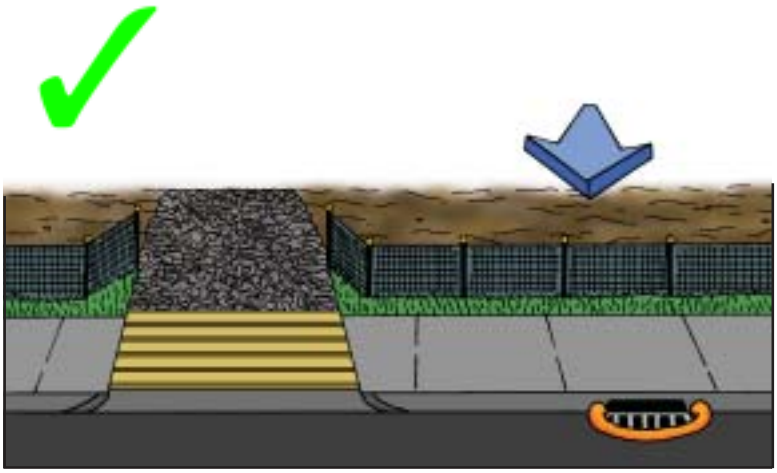
1. The surface area of the site is damaged making it dangerous.

2. Mud is carried back onto the roads and footpaths, and washes into the stormwater system.



METHODS TO CONTROL MUD

The following simple methods will help you to protect the surface of your site and help stop vehicles from dropping mud on the road from their wheels. The best way to do this is to put crushed rock on the crossover or access point of your building site.



Putting crushed rock on the access point of your site is a good way to prevent damage and provide a dry access point for vehicles. Where possible park vehicles off site.

Make sure gravel does not collect in the gutter or on the footpath.

Control Method 1: Build a crushed rock crossover



Remove a 3m or greater strip of soil from road (or where concrete crossover ends) to nearest building point or a minimum of 5 m.

Use road base or 40 mm aggregate or crushed rock to a depth of 200 mm.

Restrict vehicle access to this point.

Control Method 2: Keep to crushed rock path



Only drive where you need to. Keep to a set path (preferably on crushed rock).

Control Method 3: Remove mud from tyres



Use a shovel to remove mud from truck tyres before leaving site.

Control Method 4: Clean road



If mud goes on road, remove as much as possible and put it back on site.

Use a broom or a shovel.
DO NOT USE A HOSE.



SITE RULE 5

Keep litter contained on site

Why is litter a problem?





Many building sites have both building rubble and other rubbish spread across them.



This causes many problems:

You may now have an **UNSAFE WORK ENVIRONMENT!**
This could increase the chance of legal and public liability problems



Litter blowing off site can block stormwater drains.



Litter may spoil local creeks and eventually find its way to the coast.

METHODS TO CONTROL LITTER

The following simple methods will help you to stop litter leaving your site or being a hazard on site.

Control Method 1: Litter bins or covered skips

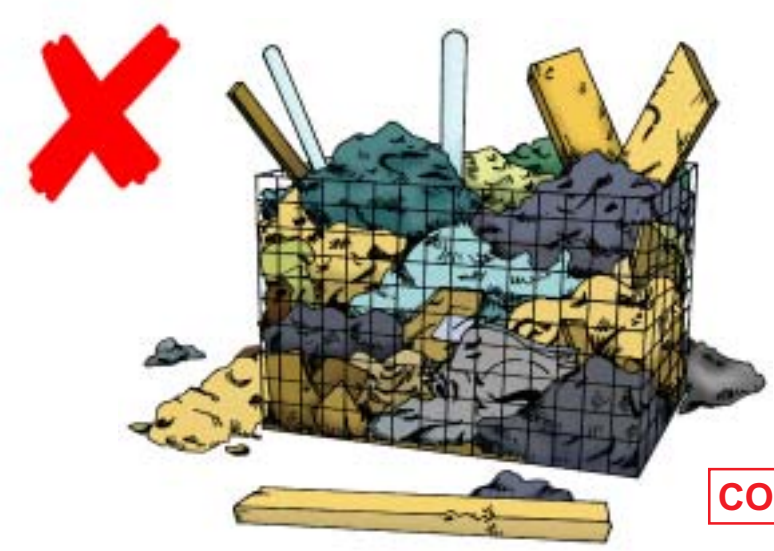
A mesh bin with a closeable lid is suitable for larger items like cardboard boxes, plastic wrapping and polystyrene.

Mesh to be 50 mm or smaller





A smaller bin is okay for smaller rubbish like paper, food wrapping and drink containers that may be blown off site. Council bins may be restricted from building sites.



Empty the litter bin regularly. Don't allow overflow. Where possible, collect the materials from the litter bin for recycling and /or keep different materials in separate bins.

CONSIDER A RECYCLING BIN

Control Method 2: Site fencing

Site fencing will help to keep litter from being carried off site by wind or water and provide security.

A FENCE DOES NOT NEGATE THE NEED FOR A BIN.



Check council requirements for temporary fencing and avoid trip hazards on footpath.



Remember to install a sediment control fence prior to installation of the temporary fence.



SITE RULE 6

Clean and wash up on site

Why is washing up a problem?





When cleaning up after painting, plastering or concreting it's most important to keep the wash water out of the stormwater system.

Problems to the environment include:

1. Oil based paints form a thin film over the surface of the water. This starves water plants and animals of oxygen

2. Paints and petrol chemicals can contain toxic compounds

3. Concrete changes the acidity of waterways which can kill water plants and animals. Concrete washings can harden and block drains

4. Roads around a building site can become dirty, slippery and dangerous.



METHODS TO CONTROL WASHING UP

The following simple methods will help you to stop the contamination of stormwater from paint, plaster or concrete washings.



Control Method 1: Have a set washing up area

Choose a set area to do all your washing up. This area should be on the building site and away from all stormwater drains. It should be bunded and contain wash out barrels.

You could use the same area you have chosen for tile and brick cutting.
Contain chemicals and slurry onsite.
Put sediment control fences downslope.

NOTE: SEDIMENT CONTROL FENCES WILL NOT STOP CHEMICALS

Control Method 2: Get rid of concrete slurry on site

Collect wash water from concrete mixers and pumps in a wheel barrow and get rid of it in your wash area. You can also safely get rid of concrete slurry by tipping small amounts in a ditch lined with plastic or geotextile liners. When the water evaporates or soaks into the surface the solids can then be put into a skip bin or recycled in construction or as road base.



Control Method 3: Clean equipment off before washing

Brush dirt and mud off equipment before you wash it. Spin rollers and brushes to remove paint before you wash them in a wash out bin.

You will then need less water to clean this equipment.



Control Method 4: Clean painting tools carefully

Use one container to wash the brush and another to rinse it. Let the first container stand overnight to let solids settle. Then pour out the water on to the ground if it is not too dirty and put settled solids in a bin.

Wash oil based paints in solvent baths until clean. DO NOT PUT THE SOLVENT ON THE GROUND. Contact a waste disposal company for removal.

CLEAN SITE CHECKLIST

Please photocopy to use on site

SITE DETAILS:

Building Company:_____ **Date:** ____ / ____ / ____

Site Supervisor:_____

Site Address:_____

Client Name:_____ **Contact Number:** ( ) _____

SITE RULE	TASK	CHECK
SITE RULE 1 - Check Council requirements and plan before you start work on site.	Crossover away from lowest point	☐
	Sediment control fence on lowest side	☐
	Stockpiles away from lowest point	☐
	Marked trees and vegetation to keep on site	☐
SITE RULE 2 - Stop erosion on site and contain sediments.	Sediment control fence in place	☐
	Catch drains on high side of site	☐
	Vegetation areas kept at boundary	☐
	Gravel sausage at storm water pit	☐
	Downpipes set up as early as possible	☐
SITE RULE 3 - Protect stockpiles.	Base and cover for stockpiles	☐
	Gravel sausage at stormwater pit	☐
SITE RULE 4 - Keep mud off road and on site.	Crushed rock access point	☐
	Vehicles keep to crushed rock areas	☐
	Mud removed from tyres before leaving site	☐
	Clean road if muddy	☐
	Clean stormwater pit and maintain gravel sausage	☐
SITE RULE 5 - Keep litter contained on site.	Litter bins in place with lid closed	☐
	Site fencing in place	☐
SITE RULE 6 - Clean and wash up on site.	Cutting and clean up area on site	☐
	Clean equipment off before washing	☐
	Sediment filters downslope	☐
	Contain all washings on site	☐

6 RULES FOR A CLEAN WORKSITE

SITE RULE 1 -

Check Council requirements and plan before you start work on site.

SITE RULE 2 -

Stop erosion on site and contain sediments.

SITE RULE 3 -

Protect stockpiles.

SITE RULE 4 -

Keep mud off road and on site.

SITE RULE 5 -

Keep litter contained on site.

SITE RULE 6 -

Clean and wash up on site.

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Waste Management Plan

Report No: 2021-2577-WMP

WMP

Date: 10th September 2021

Address: 77 Chapel Street, Cowes, VIC 3922

Pages: 17

Your EcoResults Consultant: Luana Linke

Questions?

We have answers.

Call : 1300 66 45 32

Email : info@ecoresults.com.au

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Legal Statement

Tracking	Date	Issue	Description
	10th September 2021	1	Original Report Issue

Purpose & Scope of Report

EcoResults has been engaged as Waste Management Consultants for the proposed development at 77 Chapel Street, Cowes to ensure that the development meets current best practice and/or Local Council requirements with regards to waste management for general residential and commercial waste and recycling only.

- In preparing the Waste Management Plan (WMP), EcoResults has consulted with the Bass Coast Shire Council Website regarding waste management aspects of the design. Other sources of guidance include:
    - Sustainability Victoria's Commercial & Industrial Facilities Guide (June 2020)
    - Sustainability Victoria's Waste & Recycling in MUD's Better Practice Guide (2019)
    - Sustainability Victoria's Multi-unit and Commercial Development Waste and Recycling Generation Rates Calculator
- This WMP outlines how the Apartments within the development will meet The Waste & Recycling Objectives of Clause 55.07-11 (Standard B45) during its occupation and operation.
- This WMP outlines how the development will manage waste during its occupation and operation.
- The Operator is responsible for waste management and collection in accordance with the Local Law, this WMP and any planning permit conditions.
- If circumstances in the area change, such as OH&S, road construction, inappropriate use, excessive waste, etc., a review of the Waste Management Plan and collection process may be required by the Responsible Authority and an updated Waste Management Plan will be required for approval.
- This report is limited to an assessment of the proposed development as drawn and specified by Neil Fletcher Design, dated 30.08.21 (A), provided to EcoResults.

Project Information

Project Info	Property Address	77 Chapel Street, Cowes, VIC 3922
	Project Description	Mixed use development consisting of 1 x Retail & 8 x Dwellings
	Local Authority	Bass Coast Shire Council
	Operator	Body Corporate/ Manager
	Street Frontage	Corner of Chapel Street & Genesta Street
	Client Contact	Neil Fletcher Design

Summary of Findings

Project Info

Waste Systems	Section
The residential Dwellings (x8) will generate an estimated 520L of general waste, 800L of recycling and 280L of food waste per week	1
The Retail shop will generate an estimated 550L of general waste and 550L of recycled waste per week	1
Residential Dwellings 1-7 will have shared bin infrastructure stored in ground floor residential bin storage area (3 x 240L general waste bins, 3 x 240L recycling bins and 2 x 240L food + green waste bins)	2
Residential Dwelling 8 will have their own bin infrastructure stored within their POS (1 x 120L general waste, 1 x 240L recycling bin and 1 x 120L food + green waste bin)	2
The Retail Shop will have 2 x 660L bins (1 x 660L general waste and 1 x 660L recycling bin)	2
A shared residential bin storage area has been provided at the northern end of the ground floor carpark. Residential Dwelling 8 will store their own bin infrastructure within their POS	3
A bin storage area for the Retail Shop bins has been provided at the northern end of the ground floor carpark	3
Bin Users are responsible to sort their own waste streams and place within their correct assigned bins	4
All residential general waste, recycling, and food + green waste will be collected weekly by private collection company	5
All commercial general waste and recycling will be collected weekly by private collection company	5
Residential Dwelling bins will be placed kerbside on Genesta St for collection	5
Commercial bins will be placed kerbside on Genesta St for collection	5
Waste Reduction Strategy	6
Plan Implementation	7
Clause 55-07-11 Waste and Recycling Objectives Response	8

Section 1 | Estimated Waste Generation Rates

Waste	Dwellings (x 8)	
	Estimated Weekly General Waste	520L
	Estimated Weekly Recycling	800L
	Estimated Food Waste*	280L

The above figures are based on Sustainability Victoria's Multi-unit and Commercial Development Waste and Recycling Generation Rates Calculator at:

- 2-bedroom apartments will generate a total of 100L of general waste and 100L of recycling per week:
    - There is a total of 8 x 2-bedroom apartments, generating an estimated 800L of general waste and 800L of recycling, contributing to the above weekly generation rates.

*It is estimated 35% of general waste is made up of food waste (800L of general waste x 35% = 280L food waste).

Waste	Retail	
	Estimated Weekly General Waste	550L
	Estimated Weekly Recycling	550L

The above figures are based on Sustainability Victoria's Multi-unit and Commercial Development Waste and Recycling Generation Rates Calculator at:

- A Shop (non-food) will generate an estimated 50L/100m² floor area/day of general waste and 50L/100m² floor area/day of recycling:
    - The Retail Shop has a floor area of 157m^2, operating 7 days a week, generating an estimated 550L of general waste and 550L of recycling per week, contributing to the above weekly generation rates.

Any landscaping will be maintained by a private contractor arranged by the Operator. The private contractor will be responsible to remove any generated green waste. Therefore, no green bin infrastructure will be included.

Section 2 | Bin Infrastructure & Size

Bin Info

Waste Stream	No of bins	Vol (L)	Type Bin Size (mm)*	Bin Lid Colour
Dwellings 1-7				
General Waste	3	240	580W x 735D x 1080H	Red
Commingled Recycling	3	240	580W x 735D x 1080H	Yellow
Food + Green Waste	2	240	580W x 735D x 1080H	Green
TOTAL No. BINS:	**8**			
Dwelling 8				
General Waste	1	120	485W x 560D x 940H	Red
Commingled Recycling	1	240	580W x 735D x 1080H	Yellow
Food + Green Waste	1	120	485W x 560D x 940H	Green
TOTAL No. BINS:	**3**			
Retail Shop				
General Waste	1	660	1370W x 850D x 1250H	Red
Commingled Recycling	1	660	1370W x 850D x 1250H	Yellow
TOTAL No. BINS:	**2**			

*Please note: Bin dimensions will slightly differ according to manufacturer.

Bin infrastructure as outlined:

- is to be provided by a private waste collection company contracted by the Operator.
- will be in accordance with mobile garbage bin best practice.
    - Wheeled bins are to feature rubber castors to minimize noise during transfers.
- must be clearly labelled, colour coded and have signage explaining service use and placement

Section 3 | Bin Storage Areas

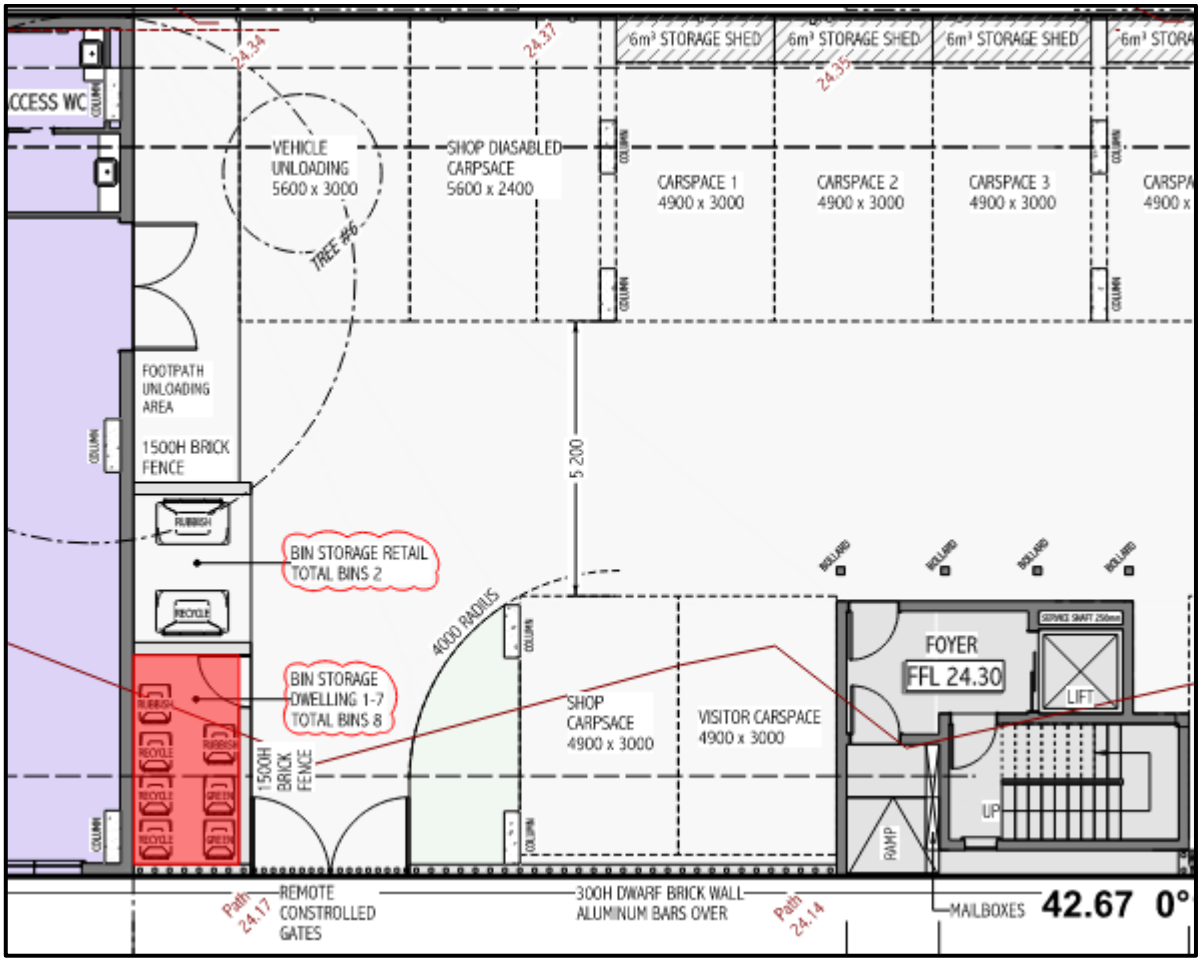
Dwellings 1-7

An 8m^2 bin storage area to store shared bin infrastructure used by dwellings 1-7 has been provided on the ground floor at the northern end of the carpark and is noted on the plans (Refer to Floorplans and Figure 1 below). The area should be well-lit and have adequate ventilation to help prevent any unwanted odours.

Residents can easily access the shared bin storage area from their dwelling either via the stairs or lift.

- Each dwelling should have ample internal storage space within the kitchen to encourage the separation of general waste, recyclables, and food waste where appropriate.

Figure 1 – Shared bin storage area for Dwellings 1-7

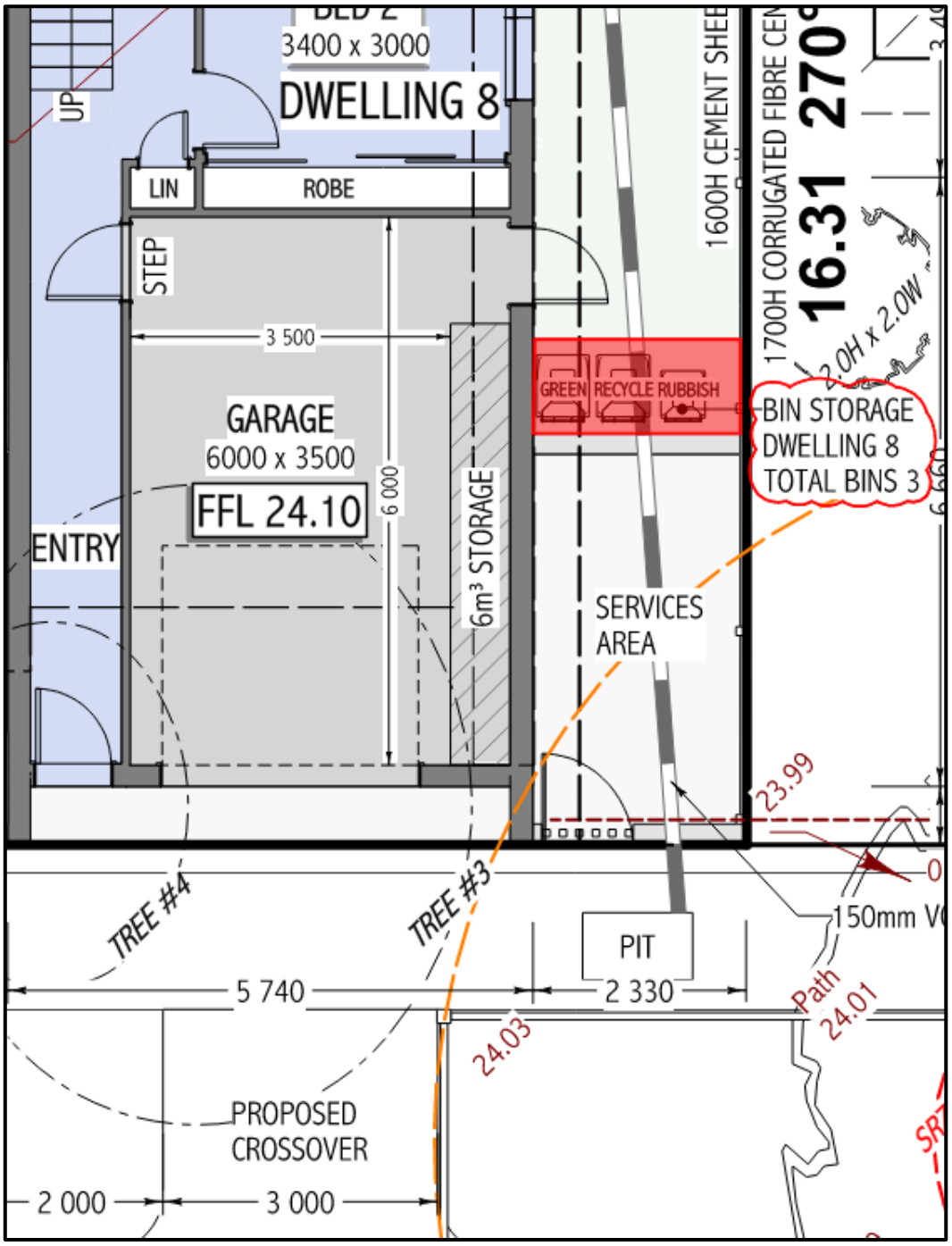


Dwelling 8

Dwelling 8 will store their bins within their private open space located on the ground floor at the southern end of the development and is noted on the plans (Refer to Floorplans and Figure 2 below). The area should be well-lit and have adequate ventilation (if enclosed) to help prevent any unwanted odours.

- The dwelling should have ample internal storage space within the kitchen to encourage the separation of general waste, recyclables, and food waste where appropriate.

Figure 2 – Dwelling 8 bin storage location within POS



Retail Shop

A 6m^2 bin storage area for both 660L retail shop bins has been provided on the ground floor at the northern end of the carpark (Refer to Floorplans and Figure 3 below). The area should have sufficient space for employees to easily access and manoeuvre bins, should be well-lit and if enclosed have adequate ventilation to help prevent any unwanted odours.

Figure 3 – Retail Shop bin storage area within ground floor carpark.



Section 4 | Waste Sorting

The Operator and/or persons assigned by them will be responsible to:

- keep bins and bin storage areas neat and tidy.
- arrange for regular cleaning of the bins by a private contractor.
- secure the bin storage areas, prevent over filling of bins and removing any site litter or spillages.
- ensure that adequate lighting is installed and maintained.
- ensure adequate precautions are taken to prevent attracting vermin.
- arrange a minimum of one e-waste/hard waste collection per year for the development through a private company, and well inform tenants of the dates and collection details. No hard waste shall be placed kerbside, unless permission/permit is obtained from Council.
    - E-waste is banned from landfill and must not be put in general garbage or recycling bins. E-waste must be taken to a local drop-off point or collection arranged. All e-waste items are accepted at any local transfer station and Cowes Recycle Bank. For more information please visit: https://www.basscoast.vic.gov.au/services/waste-rubbish/recycling#e-waste-never-in-your-bins
- provide training to commercial staff in regard to waste management and systems as outlined in this WMP.

Bin Users will be responsible to:

- sort their own waste streams and place within their correct assigned bins:
    - Commingled recycling (mixed recycling) includes plastics coded 1-7, glass, aluminium, tin cans, milk and juice cartons, paper including magazines and newspaper, cardboard in small amounts and folded down. No plastic bags are to be deposited in the recycle bins.
    - Food waste should be transported from each dwelling in a bin caddy to prevent any spills.
- sort and separate waste items such as e-waste, white goods, domestic volumes of household paints, household batteries, florescent tubes and mixed globes.
- e-waste and hard waste items must not be put in the garbage or recycling bins these items should be kept aside and will be privately collected in a collection arranged by the Operator.

Section 5 | Collection Arrangements

Collection	Waste Stream	Collection Frequency	Collection Method
	Dwellings 1-8		
	General Waste	Weekly	Private Collection
	Commingled Recycling	Weekly	Private Collection
	Food + Green Waste	Weekly	Private Collection
	Retail Shop		
	General Waste	Weekly	Private Collection
	Commingled Recycling	Weekly	Private Collection

The Operator and/or person assigned by them will be responsible to:

- arrange a private waste collection contractor to collect waste streams as outlined in the above table.
- ensure all bins are placed kerbside on Genesta Street for collection and returned to bin storage areas once emptied (Refer to Figure 4 on next page for bin collection locations).
    - The resident of Dwelling 8 will be responsible to place their own bins out on Genesta St kerbside for collection and return once emptied (Refer to Figure 4 on next page for bin collection location).
- ensure that the frequency of collection is adequate to prevent overfilling of bins.
    - Bin collection frequency can be increased or decreased to suit development's need when in full operation.

The Private Waste Collection Company will be responsible to:

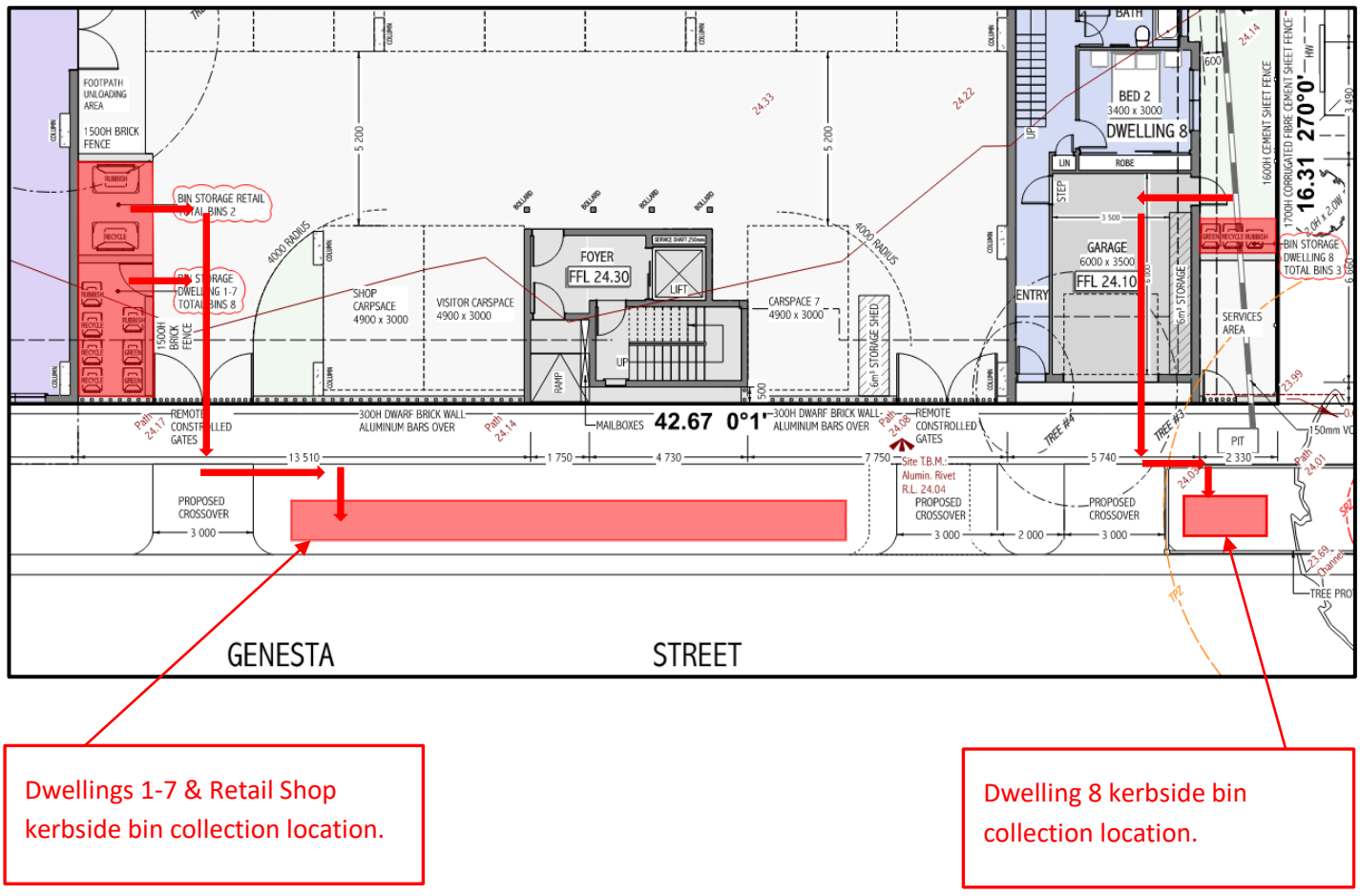
- arrange an appropriate waste truck (medium ridged vehicle) to collect waste streams as outlined in the above table from Genesta Street kerbside.
    - The waste truck should have sufficient safety equipment to ensure it can manoeuvre in a safe manner without harm to pedestrians or property.
- ensure that collection takes place out of peak traffic times.
- endeavour not to block the road at any time and ensure the waste truck is parked in a safe manner.
- clean up any spillage that may occur as a result of collection.
- complete a JSA (Job Safety Analysis) before collection commences.
- this JSA will be provided to all contract staff who are assigned to collect waste from the site.
- observe Section 5 of the Victorian EPA Noise Control Guideline Publication 1254 (see below) to protect the acoustic amenity of the development and surroundings.

Victorian EPA Noise Control Guideline Publication 1254 October 2008 (excerpt)

The main annoyance produced by domestic refuse collections occurs in the early morning (i.e. before 7:00am). Therefore, if possible, routes should be selected to provide the least impact on residential areas during that time. Collection of refuse should be restricted to the following criteria:

- Collection occurring once a week should restrict to: 6am to 6pm Monday to Saturday
- Collections occurring more than once a week should be restricted to the hours: 7am to 6pm Monday to Saturday
- Compaction should only be carried out while on the move
- Bottles should not be broken up at the point of collection
- Routes which service entirely residential areas should be altered regularly to reduce early morning disturbance
- Noisy verbal communication between operators should be avoided where possible

Figure 4 – Bin collection locations on Genesta Street



Dwellings 1-7 & Retail Shop kerbside bin collection location.

Dwelling 8 kerbside bin collection location.

Section 6 | Waste Reduction Strategy

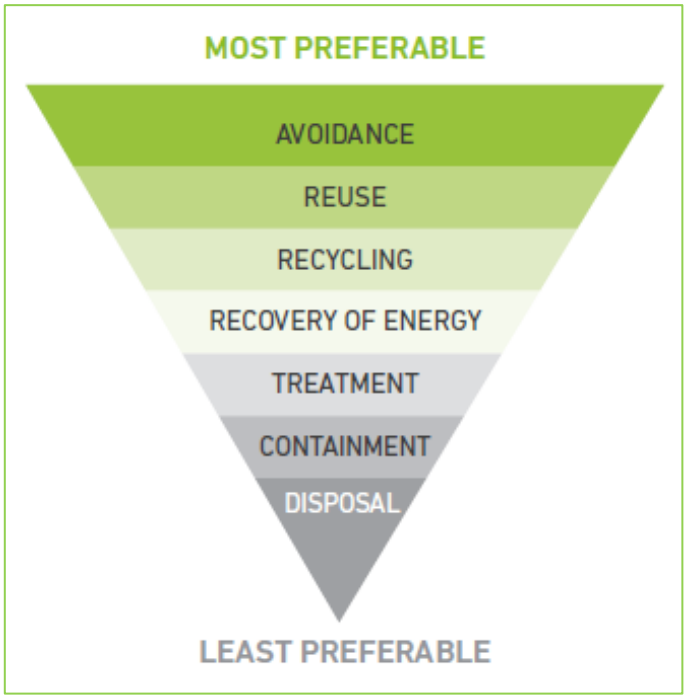
Sustainability Victoria is a Victorian Government statutory authority used as a lead agency by The Environment Protection Act 1970. Their role includes planning and promoting environmentally sustainable resource use through the delivery of the State-wide Waste & Resource Recovery Infrastructure Plan (SWRRIP Victoria 2018). Sustainability Victoria is taking the lead in monitoring, demonstrating, and educating the community on the impact waste and resource recovery can have on the community, environment, and public health now and in the future.

The Operator is responsible to promote and educate staff/residents to plan ahead, minimise waste, and use resources wisely thereby creating a more sustainable community.

The Operator is to promote the observance of the principle of waste hierarchy identified in the Environment Protection Act 1970 and Sustainability Victoria's guidelines including:

- Participating in council programs for waste minimisation.
- Establishing waste reduction and recycling targets; including periodic waste audits, keeping records, and monitoring of the quantity of recyclables found in general waste bins.
- Sharing results of these audits/targets with staff/residents.
- Waste management rules or guidelines should be prepared outlining relevant components of the Waste Management Plan. These should be adopted by the Operator and displayed at the point(s) where staff/residents access disposal facilities. They should include safe operation policies and procedures.

Principle of Waste Hierarchy



Source: Sustainability Victoria's Waste Management & Recycling in MUD's (2019)

Section 7 | Plan Implementation

The Operator will be responsible to implement this Waste Management Plan. It is recommended that the Operator review this WMP six months after occupancy, and each year thereafter to incorporate any changes to legislation or the local law.

A revision of the plan may also be required if it is not being implemented to the satisfaction of council with respect to:

- Compliance with planning permit conditions or the General Local Law; or
- The maintenance of health and amenity standards.

Section 8 | Clause 55-07-11 Waste & Recycling Objectives

Clause 55-07-11 | Objectives

- To ensure dwellings are designed to encourage waste recycling.
- To ensure that waste and recycling facilities are accessible, adequate and attractive.
- To ensure that waste and recycling facilities are designed and managed to minimise impacts on residential amenity, health and the public realm.

Clause 55-07-11 | Standard B45

Under Clause 55.07-11 (Waste and recycling objectives), Standard B45 applies, which includes the following requirements:

- Waste and recycling enclosures which are:
    - Adequate in size, durable, waterproof and blend in with the development.
    - Adequately ventilated.
    - Located and designed for convenient access by residents and made easily accessible to people with limited mobility.
- Adequate facilities for bin washing. These areas should be adequately ventilated.
- Collection, separation and storage of waste and recyclables, including where appropriate opportunities for on-site management of food waste through composting or other waste recovery as appropriate.
- Collection, storage and reuse of garden waste, including opportunities for on-site treatment, where appropriate, or off-site removal for reprocessing.
- Adequate circulation to allow waste and recycling collection vehicles to enter and leave the site without reversing.
- Adequate internal storage space within each dwelling to enable the separation of waste, recyclables and food waste where appropriate.

Waste and recycling management facilities should be design and managed in accordance with a Waste Management Plan approved by the responsible authority and:

- Be designed to meet the best practice waste and recycling management guidelines for residential development adopted by Sustainability Victoria.
- Protect public health and amenity of residents and adjoining premises from the impacts of odour, noise and hazards associated with waste collection vehicle movements.

Compliance Statement

This WMP includes all requirements of Standard B45, and therefore complies with Clause 55.07-11.

The Development will comply if this WMP is fully implemented

Legal Statement

This Waste Management Plan (WMP) has been prepared by EcoResults as part of a Planning Permit Application or a Condition of a Planning Permit and is to be used strictly for Town Planning purposes. It is not to be used as part of any feasibility study or costing process, to document safety or operation procedures, or to forecast operational costs. The purpose of the report is to assess waste management during the operation of the development once complete and does not include waste management during the demolition and construction stage.

The waste production estimates given herein, and the actual waste production may vary, depending on a variety of factors beyond the control of the developer, designer or EcoResults, which factors include but are not limited to occupant disposition toward waste and recycling, and the residents handling of waste management. If actual waste volumes are greater than those estimated herein, the number of bins and/or collections per week should be increased accordingly. Any variation to the design or construction of the development will deem this WMP void unless the variations are assessed by EcoResults. Please contact EcoResults if there are any questions or variations that are required.

This WMP is limited to general waste and recycling from residential uses only. This WMP does not provide advice in relation to the storage, disposal or collection of toxic chemicals, liquids or gases, hazardous materials, contaminants, or pollutants, including but not limited to the storage, disposal or collection of sharps, or surgical, clinical, anatomical, cytotoxic, pharmaceutical, or hazardous waste. For advice regarding waste streams of this nature, the commercial operator of the facility will need to consult a Waste Contractor who is qualified and/or accredited to store, collect and/or dispose of the relevant waste stream, as well as any relevant state and local regulations, standards and laws.

EcoResults is not responsible for any loss or damage arising directly or indirectly from the use of this WMP:

in circumstances where there has been a variation to the design or construction of the development which has not been assessed by EcoResults; or as advice in relation to the storage, disposal or collection of toxic chemicals, liquids or gases, hazardous materials, contaminants, or pollutants, including but not limited to the storage, disposal or collection of sharps, or surgical, clinical, anatomical, cytotoxic, pharmaceutical, or hazardous waste.

To the extent permitted by law, EcoResults excludes all liability, including any liability for negligence or for any loss including indirect or consequential damages, arising directly or indirectly from the use of this WMP: in circumstances where there has been a variation to the design or construction of the development which has not been assessed by EcoResults; or as advice in relation to the storage, disposal or collection of toxic chemicals, liquids or gases, hazardous materials, contaminants, or pollutants, including but not limited to the storage, disposal or collection of sharps, or surgical, clinical, anatomical, cytotoxic, pharmaceutical, or hazardous waste.

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