

Our Ref: 23-04/001249  
DSC Ref: CA 2023\_5309/1  
Date: 17 May 2023

Attn: Ms Jenny Elphinstone  
Chief Executive Officer  
Douglas Shire Council  
PO Box 723  
MOSSMAN QLD 4873

Via email: [jenny.elphinstone@douglas.qld.gov.au](mailto:jenny.elphinstone@douglas.qld.gov.au)

Dear Jenny,

**RE: RESPONSE TO INFORMATION REQUEST IN RELATION TO AN APPLICATION FOR MATERIAL CHANGE OF USE FOR FOUR (4) MULTIPLE DWELLINGS AND / OR SHORT-TERM ACCOMMODATION, SHOP, OFFICE, FOOD AND DRINK OUTLET (NOT PROVIDING A DRIVE-THROUGH FACILITY) AND HEALTH CARE SERVICES AND RECONFIGURATION OF A LOT (2 INTO 5 LOTS AND COMMON PROPERTY)**

Planning Plus QLD Pty Ltd acts on behalf of NV & JS Pty Ltd (the 'applicant') in relation to the above-described matter.

We hereby provide the following information in response to Council's Information Request dated 22 March 2023.

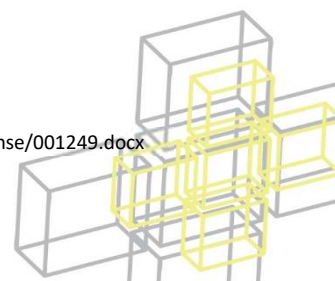
**Disability Access and Car Parking Spaces for Disability Vehicles**

*Onsite parking needs to be provided for at least one disability driver car parking space for the commercial use component. Access for disabled persons must be provided between the road boundary and the entry to each of the commercial floorspace entities. Similar access must be provided between the disability car parking space and the entry to the commercial floorspaces.*

*1. Please provide a plan that demonstrates compliance in accordance with the required Australian Standards. Please also compliment the design plan with a written statement prepared by a suitably qualified person that the car parking and access meet the Australian standards in respect to disability access and parking. Note that accessibility needs to be both from the street and from the disability car parking spaces to the entrance to the Commercial premises and the Short-term accommodation entries. Disability access may require a handrail and separate pedestrian access area marked on the ground if utilising the driveway area.*

Please see attached response from CivilWalker included as **Annexure 1** and updated proposal plans included as **Annexure 2**.

*2. Please nominate on the site plan the bicycle parking as per the Planning Scheme requirements.*





Please see attached response from CivilWalker included as **Annexure 1** and updated proposal plans included as **Annexure 2**.

**3. Please nominate the external lighting for the car parking area.**

Please see attached response from CivilWalker included as **Annexure 1** and updated proposal plans included as **Annexure 2**.

**Refuse Area**

**3. Please provide a plan detailing details for the refuse collection facilities for the commercial tenancies.**

Please see attached response from CivilWalker included as **Annexure 1** and updated proposal plans included as **Annexure 2**.

**Street Integration Design**

**4. Please provide a sketch design of the proposed on-street works including on-street parking, footpath etc for the whole of the street frontage from the property boundary to the centre line of the road.**

*The design needs to include any required relocation of stormwater inlet pits, inclusion of landscaped islands to protect the remaining street trees, sealed and line marked angle parking. The on-street works should reflect the design at the south-east corner of Grant and Warner Streets.*

*Note – the design does not need to be fully detailed, but sufficient to determine suitability with integrating the development with Council’s infrastructure and existing on-street works.*

*Note – a condition of the approval is likely to require a vegetation report on street trees to determine a “No Go Zone” for root ball disturbance, bollards or similar placed at perimeter of zone with mulch or decorative stone infill.*

Please see attached response from CivilWalker included as **Annexure 1** and updated proposal plans included as **Annexure 2**. An Arborist Report is also included as **Annexure 3** which includes the recommendation for removal of the street trees.

**Roof Plan**

**5. Please provide a roof plan or clarify this attribute on the upper levels of the unit development. Council is wanting to ensure the window openings have suitable weather protection to enable the windows to be opened and gain air flow during rain events in the wet season.**

To clarify this matter, we note that the only windows in the proposed development without eve/overhang protection are circled below in Figure 1.

These windows are louvres which are designed for the tropical environment by allowing airflow while providing protection from the weather due to their adjustability. It is further noted that the internal space which these windows service is a secondary living space only which is also served by a large central void which provides light and airflow.

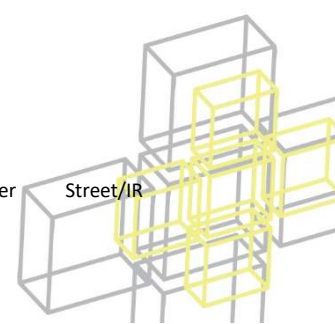
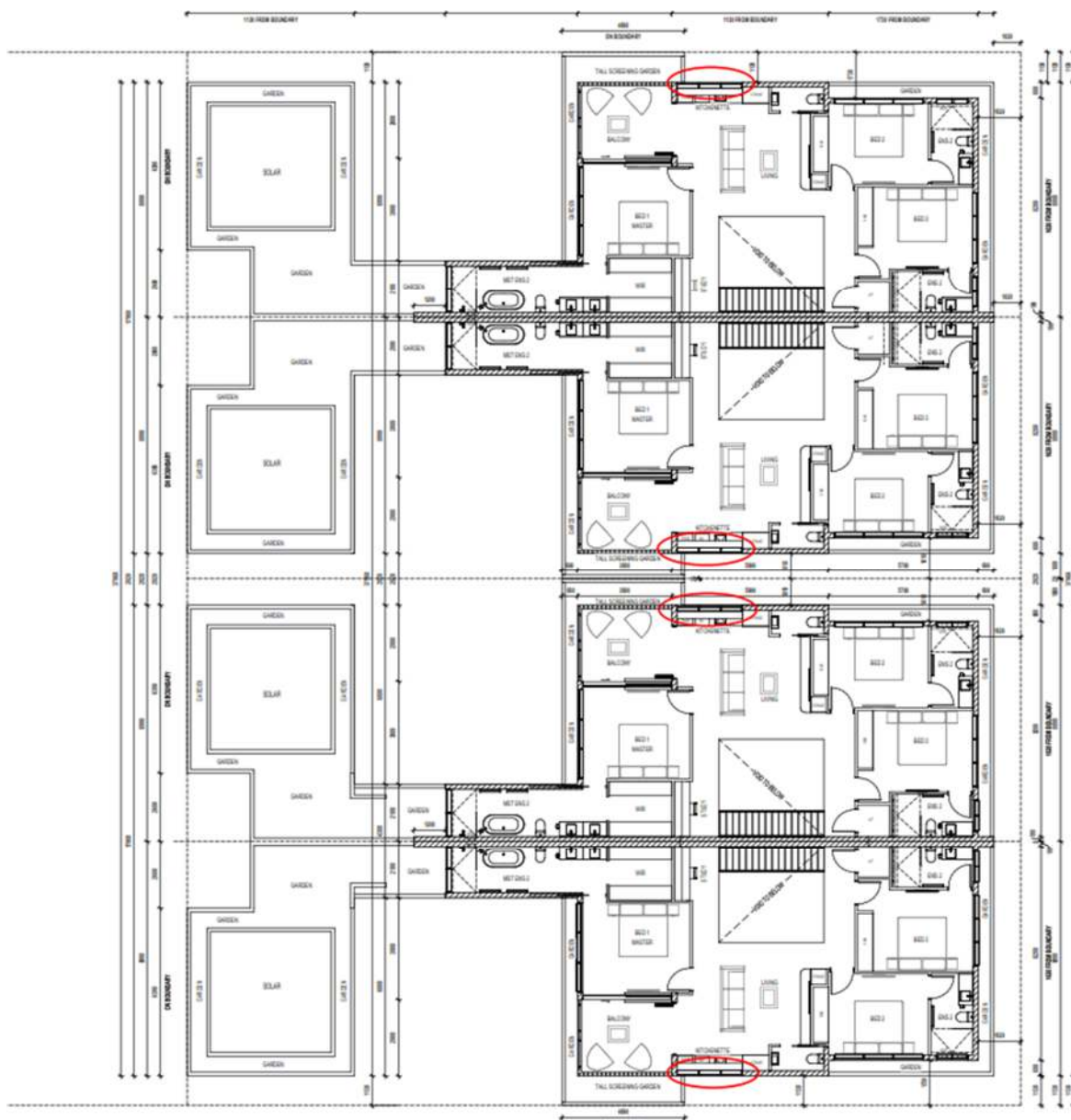




Figure 1

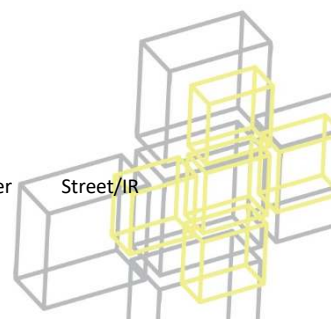


### Landscape Plan

*Landscaping is an integral part of the development to ensure a resultant tropical design. There are opportunities for trees within the unit courtyards as well as at the front of each unit. Concern is raised with the proposed roof gardening, nominate don the artist impressions, as there is no accessibility to this area for maintenance. There may also be opportunity for vertical landscaping in part of the front elevation that can green this area and reduce the impact of heat reflected from paved surfaces.*

**6. Please provide a detailed landscape plan that incorporates tropical design and meets the Planning Scheme outcomes. Please advise how maintenance access is gained to the roof garden areas, including that for the commercial premises.**

Please see attached Landscape Plans included as **Annexure 4**.





## **Water and Waste Water Considerations**

**7. Please provide a plan of the proposed water and sewer services and connection points for the new development having regard that only one service connection for water and one service connection for sewerage will be permitted by Council. The service details should indicate the capacity sought. Please also provide indicative hydraulic and sanitary drainage plans and proposed of sewer and water augmentation.**

Please see attached Hydraulic Services Plan included as **Annexure 5**.

**8. There is a sewer on the adjacent lot at the rear of the property. Please provide advice that the development will not encroach on or place any additional load on the sewer.**

**Note - As the property is a premises group, the water service connection point will also be the location for the master meter. It is noted that the water services from the property master meter to each meterable premises meter will be the property and responsibility of the owner. The water meters for each premises will be sourced from and remain the property of Douglas Shire Council. The water meters must be always accessible for maintenance and repair or replacement by DSC, it is suggested that the meterable premises meters be no further than 1 meter from the property master meter.**

**Note - All premises will need to comply with any trade waste and backflow prevention requirements.**

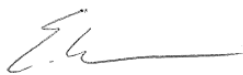
Please see attached Hydraulic Services Plan included as **Annexure 5**.

The applicant interpreted the above reference to "additional load" on the sewer as being additional sewerage load and has designed the infrastructure to avoid any connection to the existing sewer at the rear of the site. It is likely however that this reference was to structural load. The applicant advises that their preference would be to be able to connect the villas to this existing sewer and requests Council feedback on that proposal.

In relation to structural load, the applicant advises that a suitably designed retaining wall which does not place any load on the sewer will be implemented along the rear boundary and details of this will be confirmed at Building Approval stage.

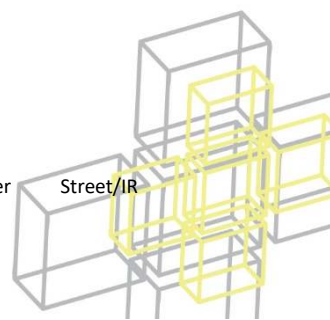
We trust this information is sufficient for your purposes; however should you require any further details or clarification, please do not hesitate to contact the undersigned.

Yours Faithfully



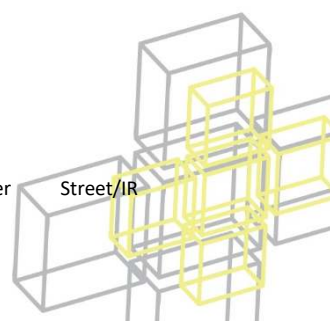
**Evan Yelavich**  
**Director / Planner**  
**Planning Plus QLD Pty Ltd**

enc.	Annexure 1:	Engineering Response
	Annexure 2:	Updated Proposal Plans
	Annexure 3:	Arborist Report
	Annexure 4:	Landscape Plans
	Annexure 5:	Hydraulic Services Plan





# Annexure 1: Engineering Response





Ref: 227-002-002L2

12 May 2023

Nathan Verri Pty Ltd  
2/84 Veivers Road  
Palm Cove Qld 4879  
via email: [info@nathanverri.com](mailto:info@nathanverri.com)

### **30-32 Warner Street, Port Douglas Council Information Request Response**

We refer to the above development and in particular, Council's information request dated 22 March 2023. This correspondence responds to Items 1, 2, 3 and 4 within that information request.

#### **Item 1**

##### Council Request

Please provide a plan that demonstrates compliance in accordance with the required Australian Standards. Please also compliment the design plan with a written statement prepared by a suitably qualified person that the car parking and access meet the Australian standards in respect to disability access and parking. Note that accessibility needs to be both from the street and from the disability car parking spaces to the entrance to the Commercial premises and the Short-term accommodation entries. Disability access may require a handrail and separate pedestrian access area marked on the ground if utilising the driveway area.

##### Response

Reference is made to CivilWalker Consulting Engineers' drawing 227-001-SK02 which provides detailed commentary on the proposed car parking arrangement referencing appropriate clauses, tables and figures within Australian / New Zealand Standard AS/NZS 2890.1 "Parking Facilities Part 1: Off-Street Car Parking", Australian Standard AS 2890.5 "Parking Facilities Part 5: On-Street Parking" and Australian / New Zealand Standard AS/NZS 2890.6 "Parking Facilities Part 6: Off-Street Parking for People with Disabilities".

As I suitably qualified person (being a Registered Professional Engineer of Queensland) I confirm that the car parking arrangements documented on drawing 227-002-SK02 Revision 1 (both on- and off-street) meet the relevant Australian Standards, being AS/NZS 2890.1 and AS 2890.5.

#### **Item 2**

##### Council Request

Please nominate on the site plan the bicycle parking as per the Planning Scheme requirements.

##### Response

Reference is made to CivilWalker Consulting Engineers' drawing 227-001-SK02 which provides details of the proposed bicycle parking arrangement. Commentary is provided on the drawing detailing compliance with Australian Standard AS2890.3 "Parking Facilities Part 3: Bicycle Parking". The number of bicycle parks has been calculated in accordance with 1 park per 100m<sup>2</sup> of gross floor area.

#### **Item 3**

##### Council Request

Please provide a plan detailing refuse collection facilities for the commercial tenancies.



Response

Reference is made to CivilWalker Consulting Engineers' drawing 227-001-SK02 which details the proposed arrangement for commercial tenancy refuse facilities. A total of four (4) 600 litre wheelie bins are proposed with two separate enclosures housing two bins each. Details of the enclosure sizing are provided on drawing SK02.

**Item 4**

Council Request

Please provide a sketch design of the proposed on-street works including on-street parking, footpath etc for the whole of the street frontage from the property boundary to the centre line of the road. The design needs to include any required relocation of stormwater inlet pits, inclusion of landscaped islands to protect the remaining street trees, sealed and line marked angle parking. The on-street works should reflect the design at the south-east corner of Grant and Warner Streets.

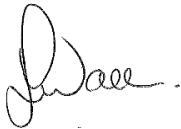
Response

Reference is made to CivilWalker Consulting Engineers' drawing 227-001-SK02 which responds to this item.

We trust that that above satisfies your requirements, however if you need any further advice, please contact me on 0427 515 177.

Yours faithfully

**CivilWalker Consulting Engineers**



**Daryl Walker**

Director | Principal Engineer

BE(Hons) ME DipPM RPEQ 19806 RPEng 15

cc. Evan Yelavich – Planning Plus

enc. CivilWalker Consulting Engineers' Drawings 227-001-SK01 Revision 3, SK02 Revision 2 and SK03 Revision 2.



EXISTING PAINTED ROAD EDGE LINE

WARNER STREET

APPROPRIATE CLEARANCE TO GARDEN

VEHICLE BODY DOES NOT ENCROACH ON ADJACENT ALLOTMENT WHEN ACCESSING DRIVEWAY

APPROPRIATE CLEARANCE TO 150mm HIGH KERB

THIS LINE IS 150mm CLEARANCE TO VEHICLE BODY SWEEP PATH (WHICH IS REQUIRED FOR ANY OBSTACLE UP TO 150mm HIGH EG KERBING)

THIS LINE IS VEHICLE BODY SWEEP PATH

APPROPRIATE CLEARANCE TO PAVED AREA

APPROPRIATE CLEARANCE TO PAVED AREA

APPROPRIATE CLEARANCE TO PAVED AREA

APPROPRIATE CLEARANCE TO PARKED VEHICLES

TRAFFICKABLE PAVERS WHERE VEHICLE CROSSES OR ADJUSTED GARDEN EXTENT

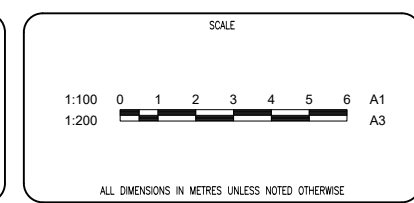
410mm CLEARANCE TO PROPOSED ROOF LINE (NOT SHOWN) WHICH MEETS REQUIREMENTS OF AS/NZS2890.1

APPROPRIATE CLEARANCE TO 150mm HIGH KERB

REVISIONS				
NO.	DATE	DESCRIPTION	DESIGN	APPROVED
3	12.05.23	CLIENT COMMENTS	CW	DJW
2	11.05.23	MINOR AMENDMENT	CW	DJW
1	28.02.23	INITIAL ISSUE		

CLIENT

**NATHAN VERRI PTY LTD**



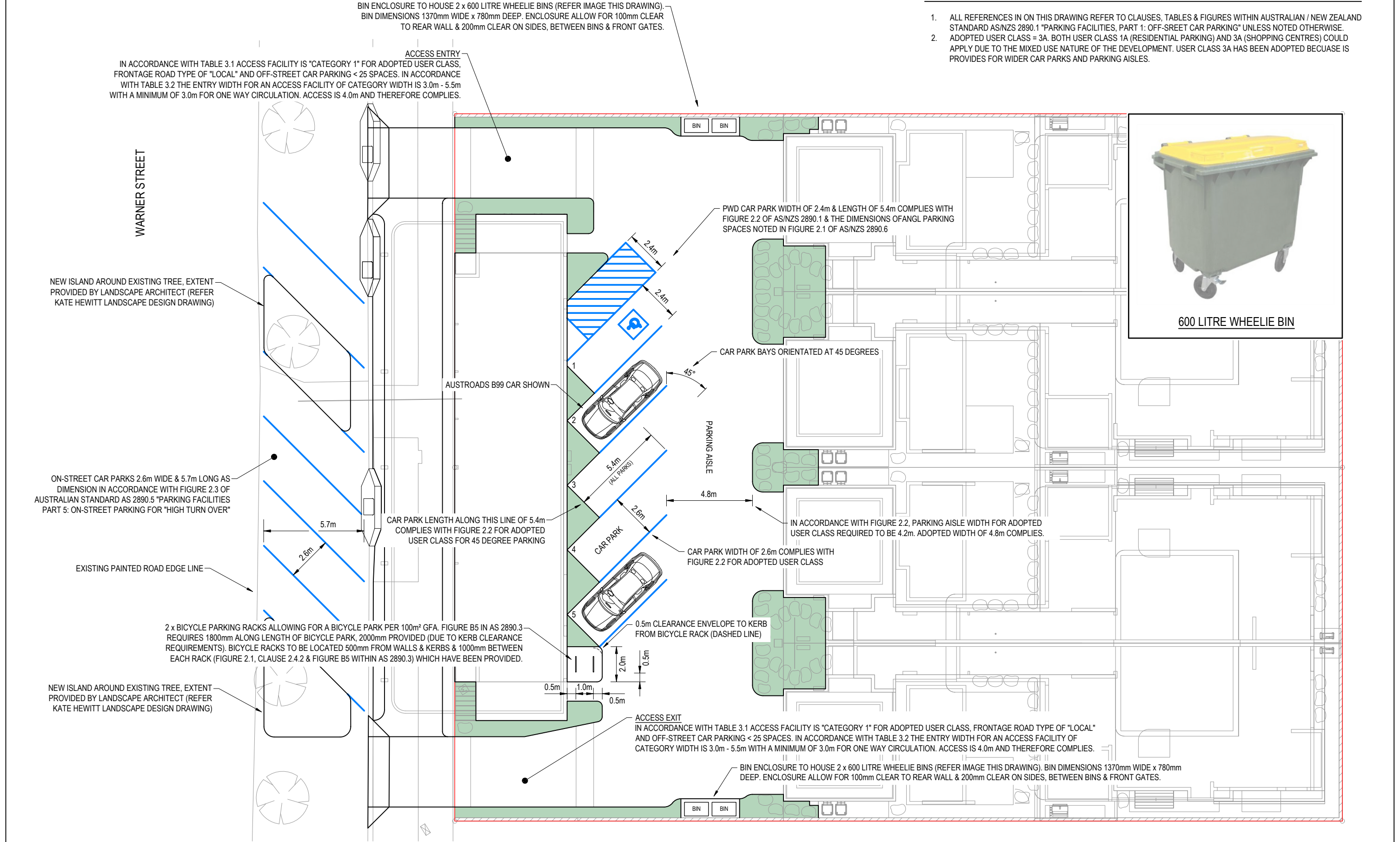
DRAWN	CW	CHECKED	DJW
DESIGNED	CW	CHECKED	DJW
APPROVED			
DATE:		RPEQ:	

30-32 WARNER STREET, PORT DOUGLAS		
VEHICLE SWEEP PATH ANALYSIS		
AUSTROADS 8.8m LONG SERVICE VEHICLE		
DRAWING NO.	227-002-SK01	REVISION
		3



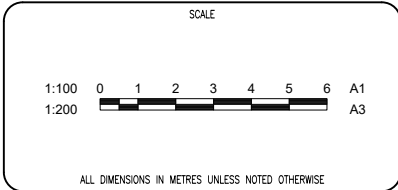
DESIGN PARAMETERS ASSOCIATED WITH AS/NZS 2890.1 FOR ON-STREET CAR PARKING

1.
- ALL REFERENCES IN ON THIS DRAWING REFER TO CLAUSES, TABLES & FIGURES WITHIN AUSTRALIAN / NEW ZEALAND STANDARD AS/NZS 2890.1 "PARKING FACILITIES, PART 1: OFF-SREET CAR PARKING" UNLESS NOTED OTHERWISE.
2.
- ADOPTED USER CLASS = 3A. BOTH USER CLASS 1A (RESIDENTIAL PARKING) AND 3A (SHOPPING CENTRES) COULD APPLY DUE TO THE MIXED USE NATURE OF THE DEVELOPMENT. USER CLASS 3A HAS BEEN ADOPTED BECUASE IS PROVIDES FOR WIDER CAR PARKS AND PARKING AISLES.



REVISIONS						
	NO.	DATE	DESCRIPTION	DESIGN	APPROVED	
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	1	11.05.23	INITIAL ISSUE			

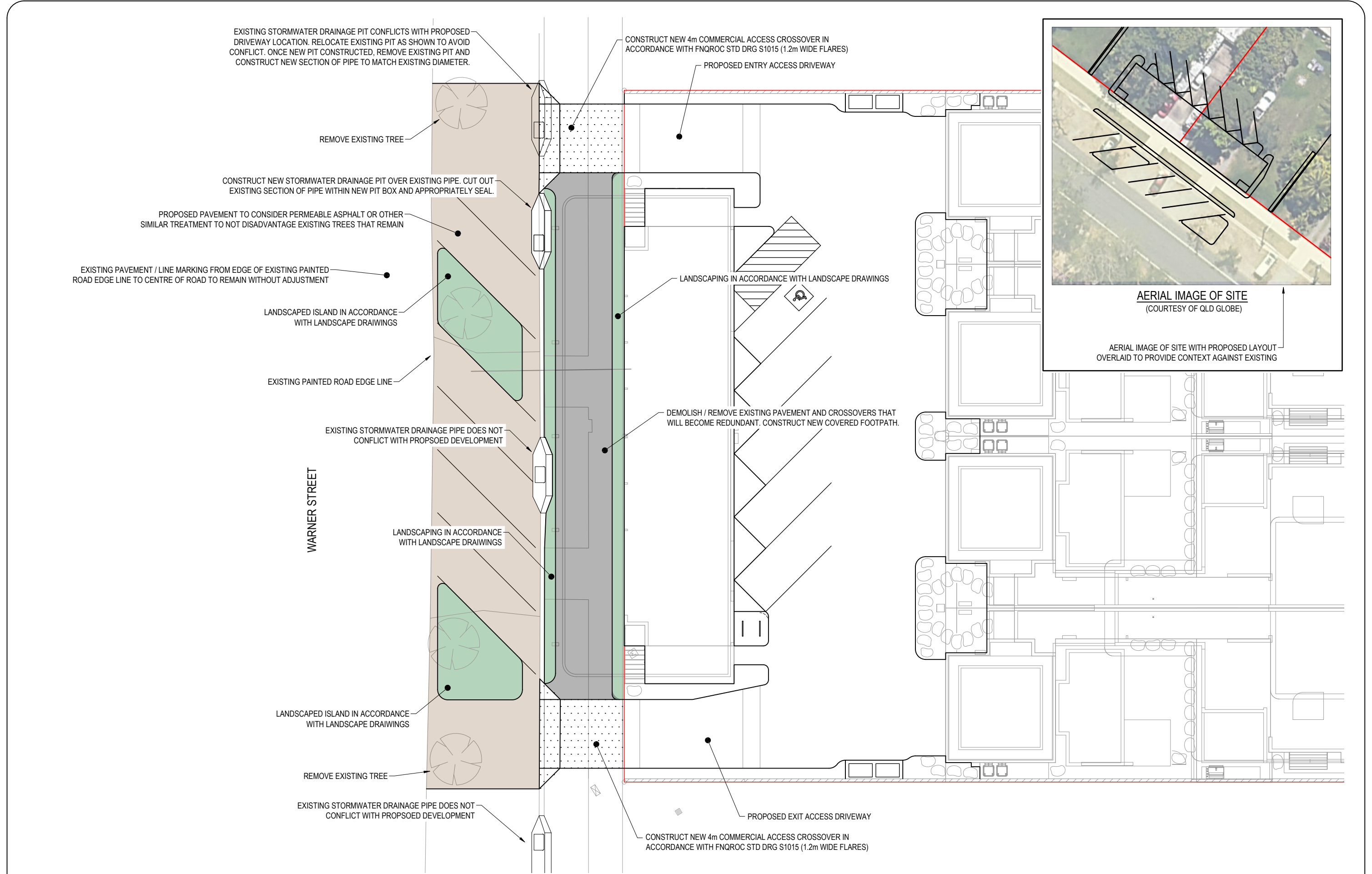
CLIENT
NATHAN VERRI PTY LTD



DRAWN	CW	CHECKED	DJW
DESIGNED	CW	CHECKED	DJW
APPROVED			
DATE:		RPEQ:	

30-32 WARNER STREET, PORT DOUGLAS		
CAR PARK & SITE ACCESS PLAN		
AUSTRALIAN STANDARD COMPLIANCE		
DRAWING NO.	227-002-SK02	REVISION 2





REVISIONS	NO.	DATE	DESCRIPTION	DESIGN	APPROVED
	2	12.05.23	CLIENT COMMENTS	CW	DJW
	1	11.05.23	INITIAL ISSUE		

CLIENT
NATHAN VERRI PTY LTD

SCALE
1:100 0 1 2 3 4 5 6 A1
1:200 A3
ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE

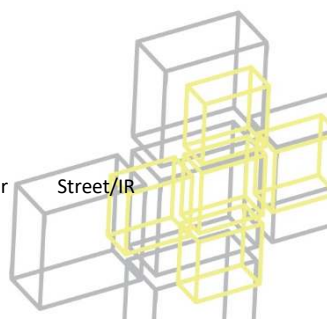


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DESIGNED	CW	CHECKED	DJW
APPROVED			
DATE:		RPEQ:	

30-32 WARNER STREET, PORT DOUGLAS	
ON-STREET WORKS	
GENERAL ARRANGEMENT	
DRAWING NO.	227-002-SK03
REVISION	2

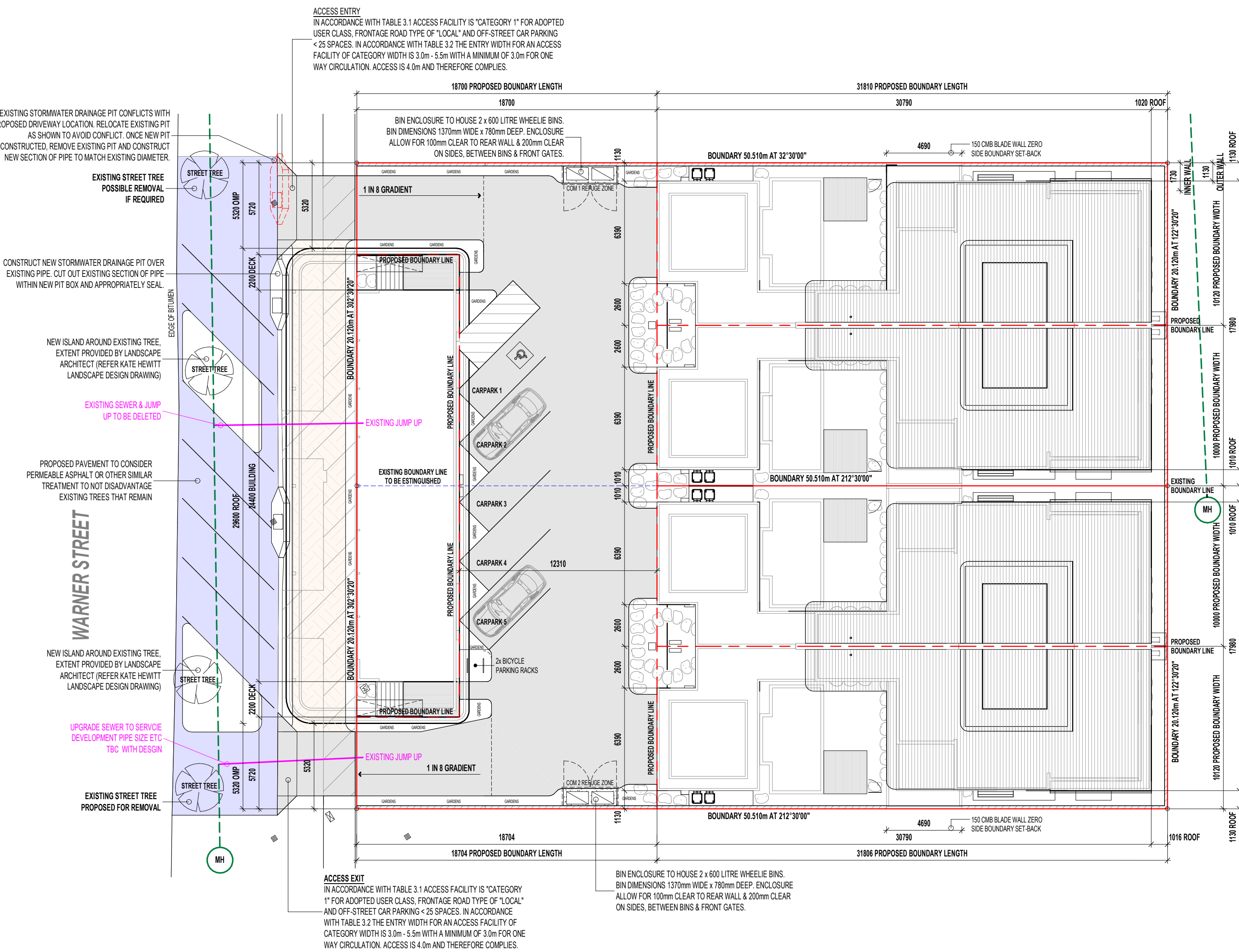


## Annexure 2: Updated Proposal Plans



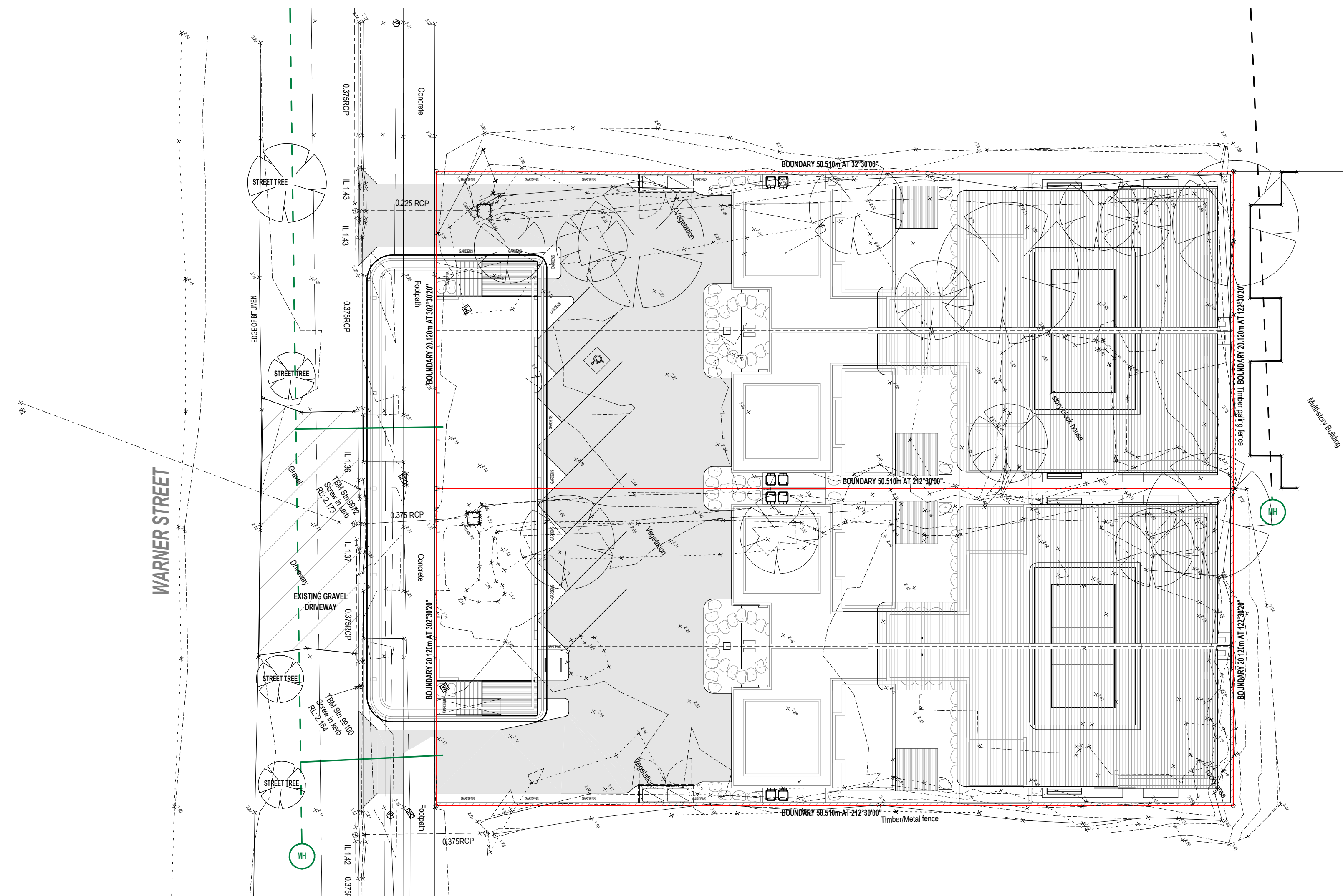


# LOT 418 #32 & LOT 419 #30 WARNER ST PORT DOUGLAS



## SITE PLAN

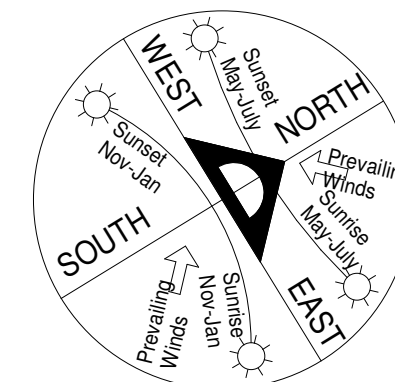
1 : 200



## EXISTING CONTOUR PLAN

1 : 200

FLOOR AREAS PER VILLA A & D		FLOOR AREAS PER VILLA B & C		FLOOR AREAS PER COMMERCIAL LOT 1 & 2		FLOOR AREAS PER COMMON AREA LOT	
LOT AREA	2032.52m <sup>2</sup>	LOT AREA	2032.52m <sup>2</sup>	LOT AREA	2032.52m <sup>2</sup>	LOT AREA	2032.52m <sup>2</sup>
GARAGE ENCLOSED	42.48m <sup>2</sup>	GARAGE ENCLOSED	42.48m <sup>2</sup>	INTERNAL	77.96m <sup>2</sup>	DRIVEWAYS & CARPARKS	465m <sup>2</sup>
LOWER LEVEL INTERNAL	127.65m <sup>2</sup>	LOWER LEVEL INTERNAL	127.65m <sup>2</sup>	EXTERNAL	7.70m <sup>2</sup>	SITE AREA	568.59m <sup>2</sup>
LOWER EXTERNAL	36.63m <sup>2</sup>	LOWER EXTERNAL	36.63m <sup>2</sup>	GROSS FLOOR AREA	85.66m <sup>2</sup>	COVERAGE %	81.80%
UPPER LEVEL INTERNAL	134.66m <sup>2</sup>	UPPER LEVEL INTERNAL	134.66m <sup>2</sup>				
UPPER LEVEL EXTERNAL	10.44m <sup>2</sup>	UPPER LEVEL EXTERNAL	10.44m <sup>2</sup>	COVERAGE AREA	85.66m <sup>2</sup>	SITE AREA	92m <sup>2</sup>
GROSS FLOOR AREA	354.45m <sup>2</sup>	GROSS FLOOR AREA	354.45m <sup>2</sup>	COVERAGE %	93.10%		
COVERAGE AREA	227.46m <sup>2</sup>	COVERAGE AREA	227.46m <sup>2</sup>				
SITE AREA	321.91m <sup>2</sup>	SITE AREA	318.10m <sup>2</sup>				
COVERAGE %	70.65%	COVERAGE %	71.50%				

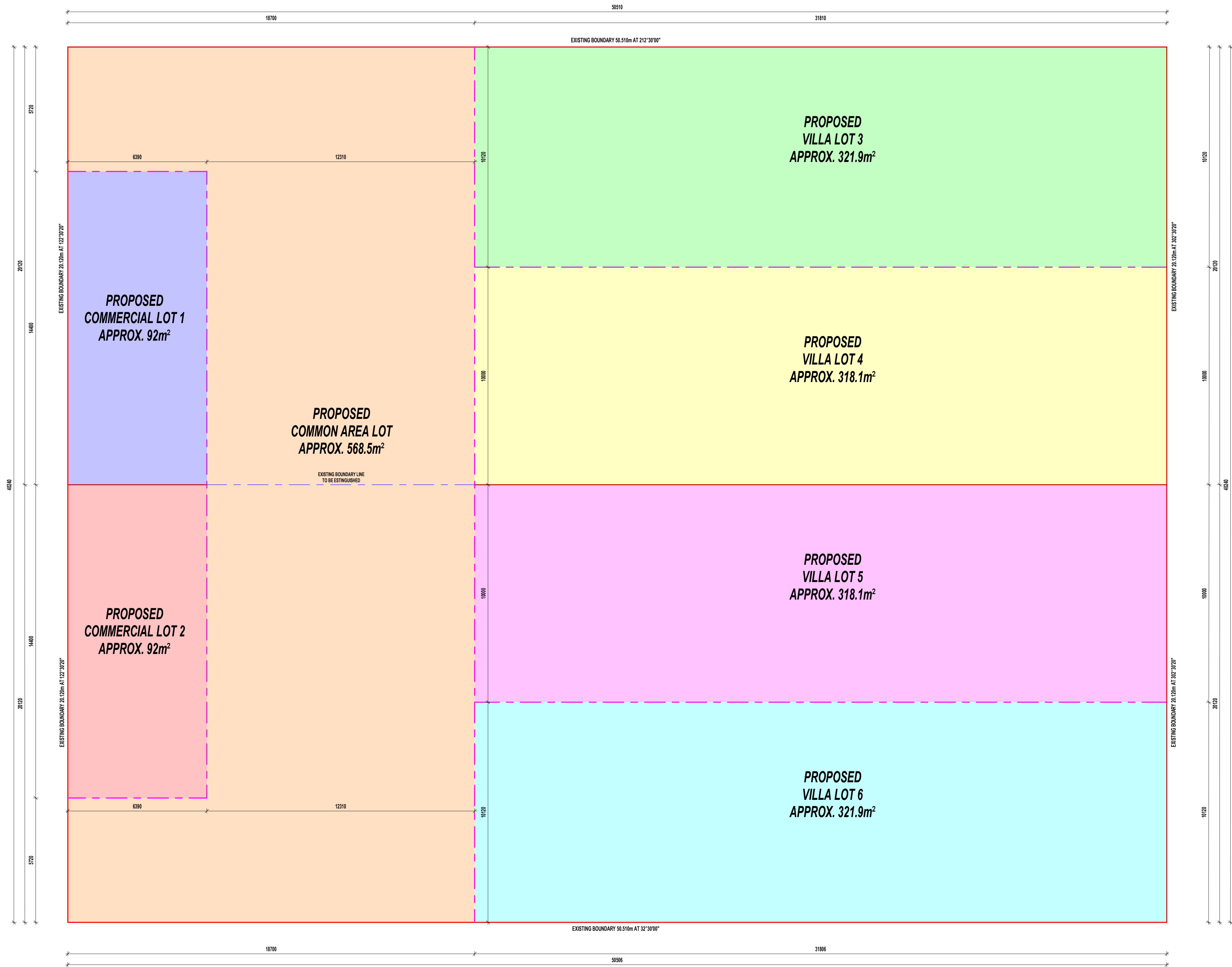


**RPD :**  
**LOTS 418 - 419**  
**PTD2091**  
**LOCALITY: PORT DOUGLAS**  
**AREA 2032.52m2**

ULTIMATE & SERVICEABILITY LIMIT STATE DESIGN WIND PRESSURES						
WIND CLASS	DESIGN GUST WIND SPEED (m/s)		DESIGN PRESSURES (kPa)			
	V <sub>10m</sub>	V <sub>15</sub>	GREATER THAN 1.2m FROM CORNERS		UP TO 1.2m FROM CORNERS	
			ULS	SLS	ULS	SLS
C2	61	39	±2.68	±0.88	-4.02	-1.23



LOT 418 #32 & LOT 419 #30 WARNER ST PORT DOUGLAS

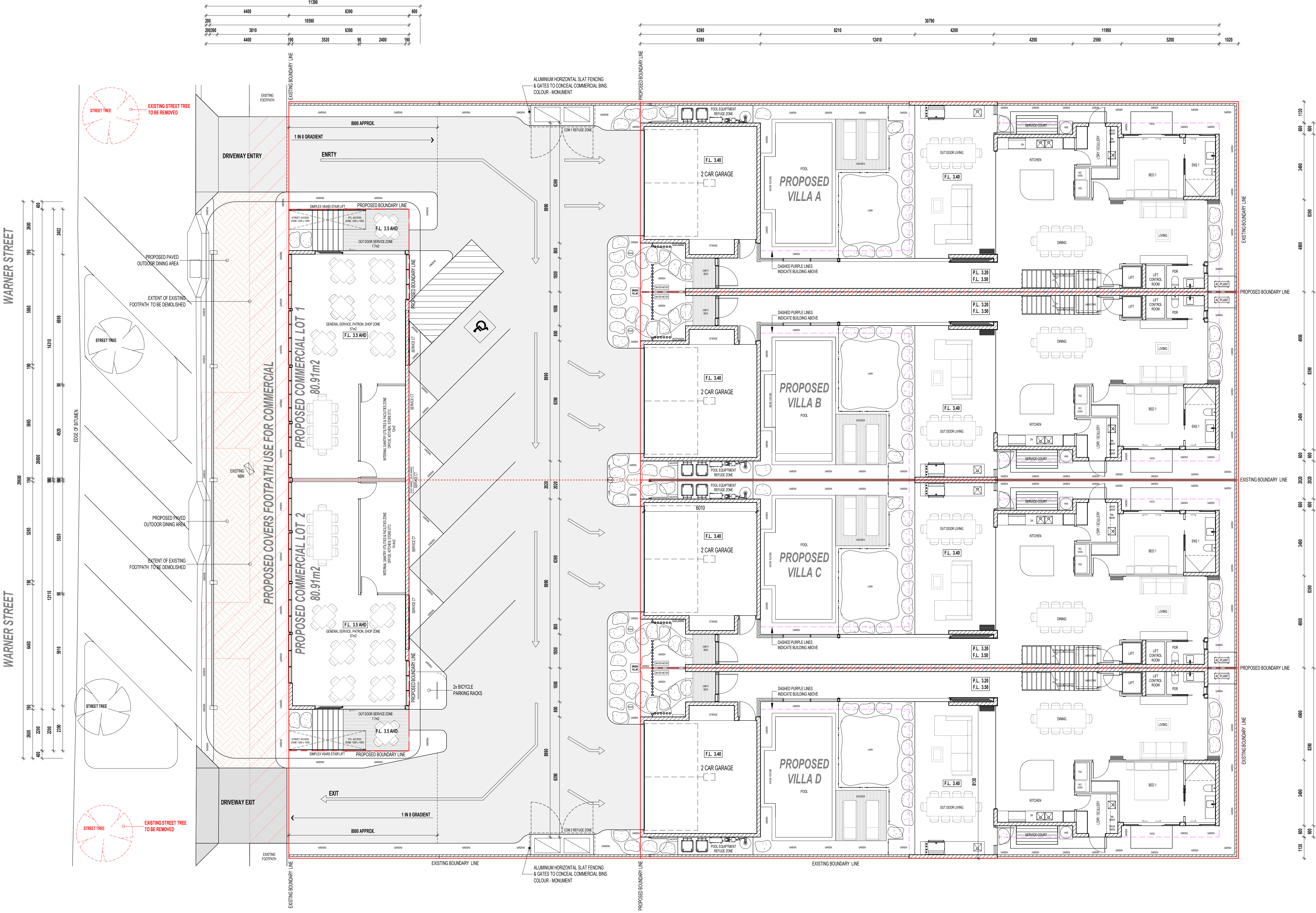


PROPOSED LOT PLAN  
1 : 100

ULTIMATE & SERVICEABILITY LIMIT STATE DESIGN WIND PRESSURES						
WIND CLASS	DESIGN GUST WIND SPEED (m/s)		DESIGN PRESSURES (kPa)			
	V <sub>h</sub>	V <sub>h,s</sub>	GREATER THAN 1.2m FROM CORNERS		UP TO 1.2m FROM CORNERS	
			U <sub>L</sub>	S <sub>L</sub>	U <sub>L</sub>	S <sub>L</sub>
C2	61	39	-2.68	-0.88	-4.02	-1.23



LOT 418 #32 & LOT 419 #30 WARNER ST PORT DOUGLAS



VILLA AREA SCHEDULE

VILLA A' AREA SCHEDULE		
Name	Area	
FL1 ALFRESCO	34.70 m²	
FL1 LIVING	127.65 m²	
FL2 BALCONY	10.44 m²	
FL2 LIVING	134.66 m²	
GARAGE	42.48 m²	
PORCH	1.93 m²	
TOTAL	351.87 m²	

VILLA B' AREA SCHEDULE		
Name	Area	
FL1 ALFRESCO	34.70 m²	
FL1 LIVING	127.65 m²	
FL2 BALCONY	10.44 m²	
FL2 LIVING	134.66 m²	
GARAGE	42.48 m²	
PORCH	1.93 m²	
TOTAL	351.87 m²	

VILLA C' AREA SCHEDULE		
Name	Area	
FL1 ALFRESCO	34.70 m²	
FL1 LIVING	127.65 m²	
FL2 BALCONY	10.44 m²	
FL2 LIVING	134.66 m²	
GARAGE	42.48 m²	
PORCH	1.93 m²	
TOTAL	351.87 m²	

VILLA D' AREA SCHEDULE		
Name	Area	
FL1 ALFRESCO	34.70 m²	
FL1 LIVING	127.65 m²	
FL2 BALCONY	10.44 m²	
FL2 LIVING	134.66 m²	
GARAGE	42.48 m²	
PORCH	1.93 m²	
TOTAL	351.87 m²	

COMMERCIAL AREA SCHEDULE

COMMERCIAL LOT 1 AREA SCHEDULE		
Name	Area	
GENERAL SERVICE, PATRON, SHOP ZONE	77.96 m²	
OUTDOOR SERVICE ZONE	7.70 m²	
TOTAL	85.66 m²	

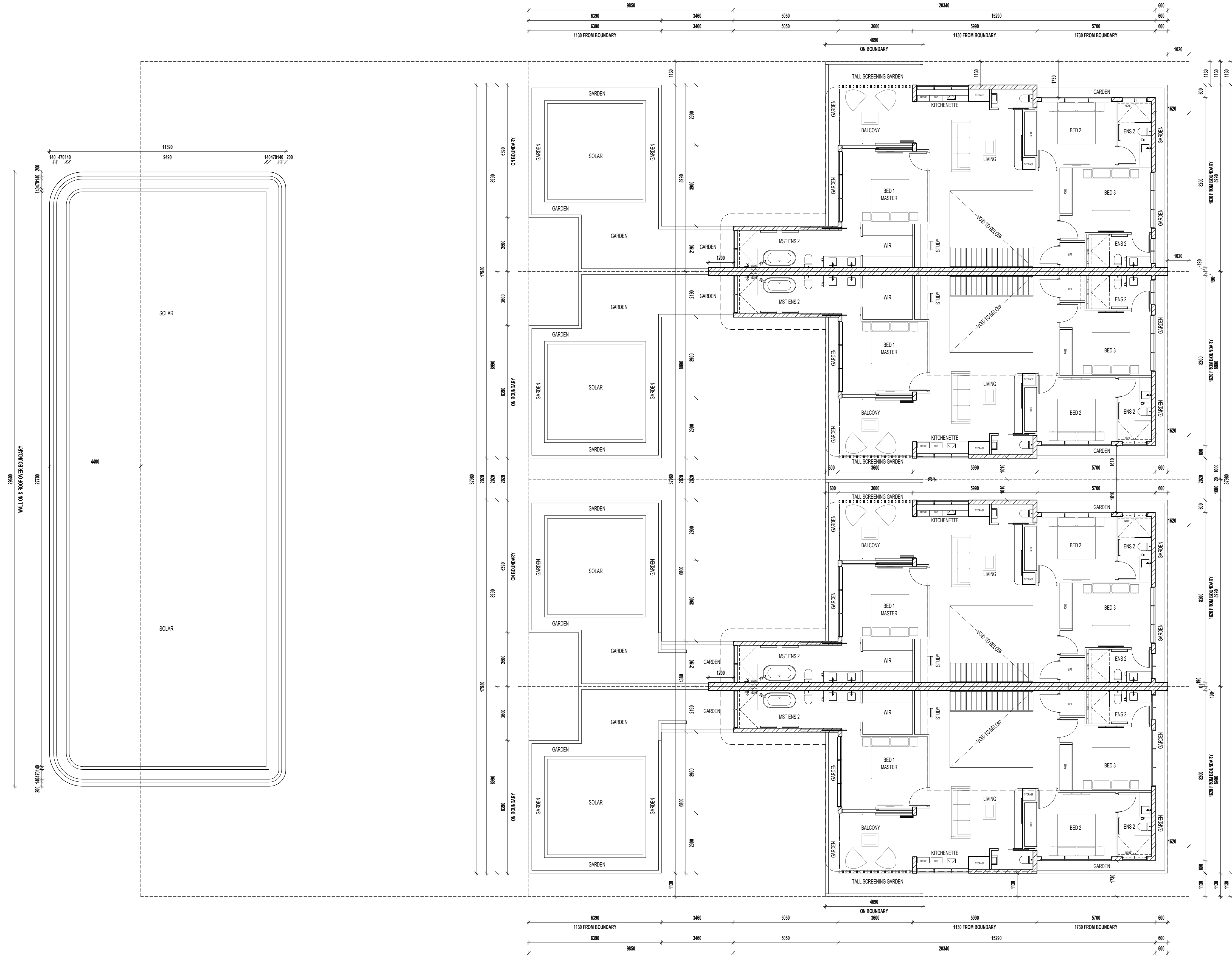
COMMERCIAL LOT 2 AREA SCHEDULE		
Name	Area	
GENERAL SERVICE, PATRON, SHOP ZONE	77.96 m²	
OUTDOOR SERVICE ZONE	7.70 m²	
TOTAL	85.66 m²	

FLOOR PLAN - LEVEL 1  
1 : 100

ULTIMATE & SERVICEABILITY LIMIT STATE DESIGN WIND PRESSURES						
WIND CLASS	DESIGN GUST WIND SPEED (m/s)		DESIGN PRESSURES (kPa)			
	V <sub>h,z</sub>	V <sub>h,s</sub>	GREATER THAN 12m FROM CORNERS		UP TO 12m FROM CORNERS	
	U <sub>LS</sub>	S <sub>LS</sub>	U <sub>LS</sub>	S <sub>LS</sub>	U <sub>LS</sub>	S <sub>LS</sub>
C2	61	39	+2.68	+0.88	-4.02	-1.23



LOT 418 #32 & LOT 419 #30 WARNER ST PORT DOUGLAS



FLOOR PLAN - LEVEL 2  
1:100

VILLA AREA SCHEDULE

"VILLA A" AREA SCHEDULE	
Name	Area
FL1 ALFRESCO	34.70 m²
FL1 LIVING	127.65 m²
FL2 BALCONY	10.44 m²
FL2 LIVING	134.66 m²
GARAGE	42.48 m²
PORCH	1.93 m²
TOTAL	351.87 m²
"VILLA B" AREA SCHEDULE	
Name	Area
FL1 ALFRESCO	34.70 m²
FL1 LIVING	127.65 m²
FL2 BALCONY	10.44 m²
FL2 LIVING	134.66 m²
GARAGE	42.48 m²
PORCH	1.93 m²
TOTAL	351.87 m²
"VILLA C" AREA SCHEDULE	
Name	Area
FL1 ALFRESCO	34.70 m²
FL1 LIVING	127.65 m²
FL2 BALCONY	10.44 m²
FL2 LIVING	134.66 m²
GARAGE	42.48 m²
PORCH	1.93 m²
TOTAL	351.87 m²
"VILLA D" AREA SCHEDULE	
Name	Area
FL1 ALFRESCO	34.70 m²
FL1 LIVING	127.65 m²
FL2 BALCONY	10.44 m²
FL2 LIVING	134.66 m²
GARAGE	42.48 m²
PORCH	1.93 m²
TOTAL	351.87 m²

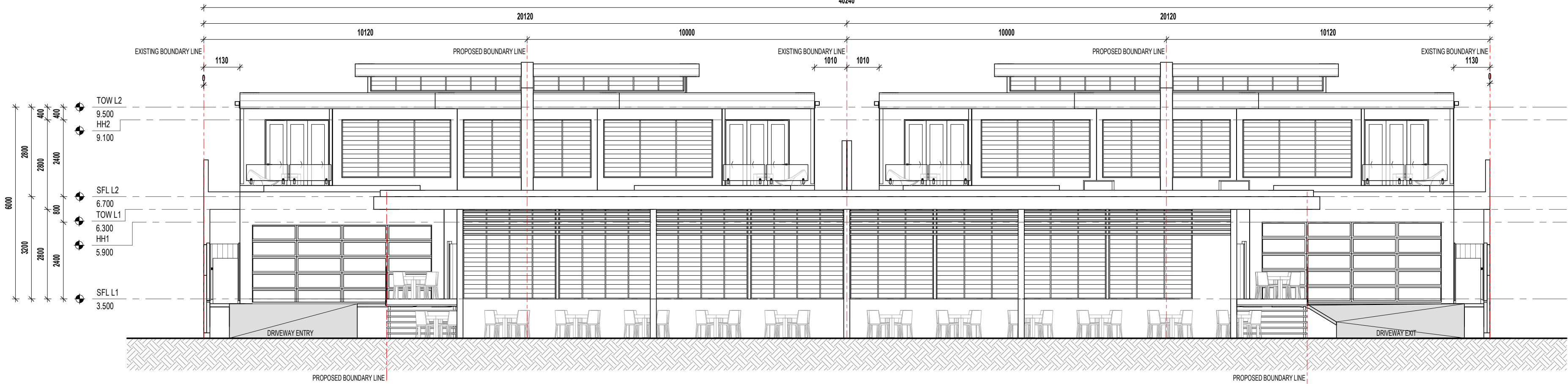
COMMERCIAL AREA SCHEDULE

COMMERCIAL LOT 1 AREA SCHEDULE	
Name	Area
GENERAL SERVICE, PATRON, SHOP ZONE	77.96 m²
OUTDOOR SERVICE ZONE	7.70 m²
TOTAL	85.66 m²
COMMERCIAL LOT 2 AREA SCHEDULE	
Name	Area
GENERAL SERVICE, PATRON, SHOP ZONE	77.96 m²
OUTDOOR SERVICE ZONE	7.70 m²
TOTAL	85.66 m²

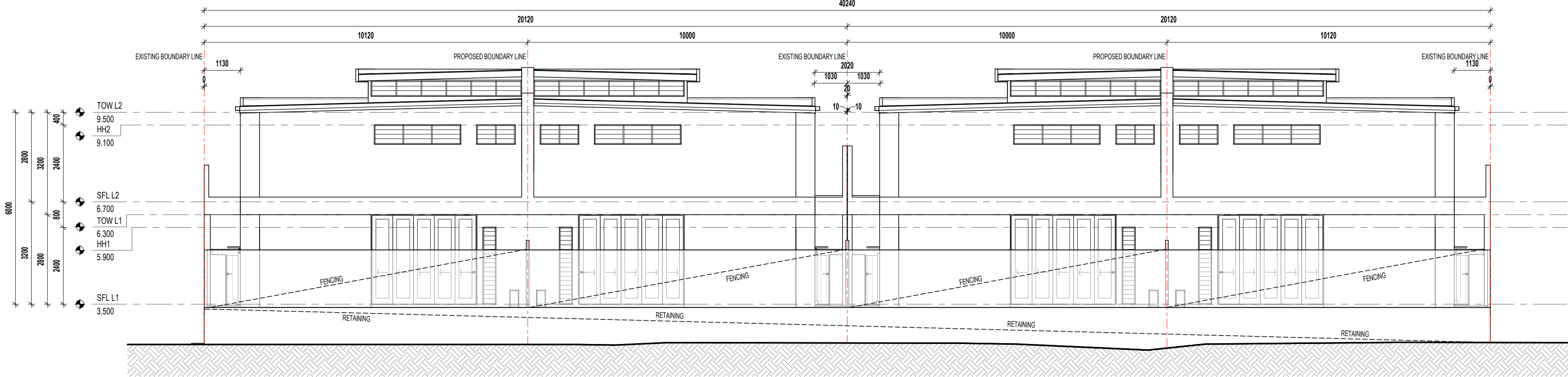
ULTIMATE & SERVICEABILITY LIMIT STATE DESIGN WIND PRESSURES						
WIND CLASS	DESIGN GUST WIND SPEED (m/s)		DESIGN PRESSURES (Pa)			
	V <sub>h</sub>	V <sub>h,s</sub>	GREATER THAN 1.2m FROM CORNERS		UP TO 1.2m FROM CORNERS	
	ULS	SLS	ULS	SLS	ULS	SLS
C2	61	39	+2.68	+0.88	-4.02	-1.23



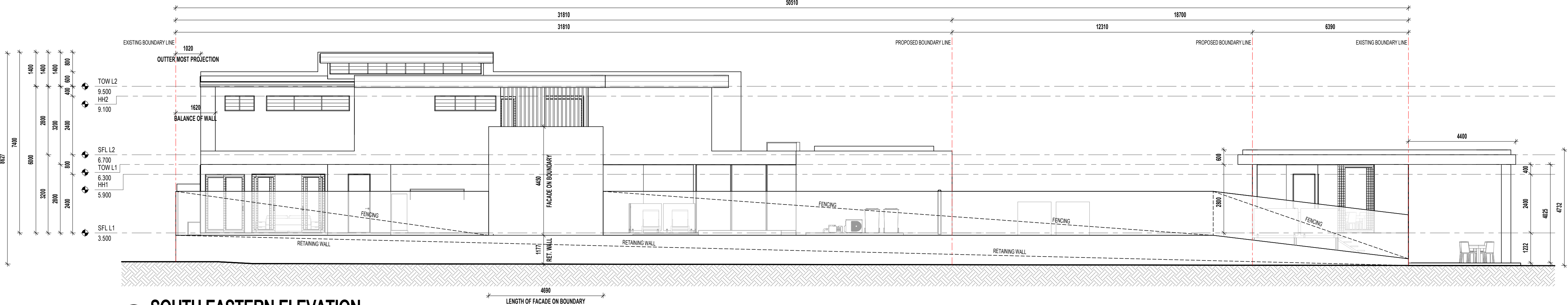
LOT 418 #32 & LOT 419 #30 WARNER ST  
PORT DOUGLAS



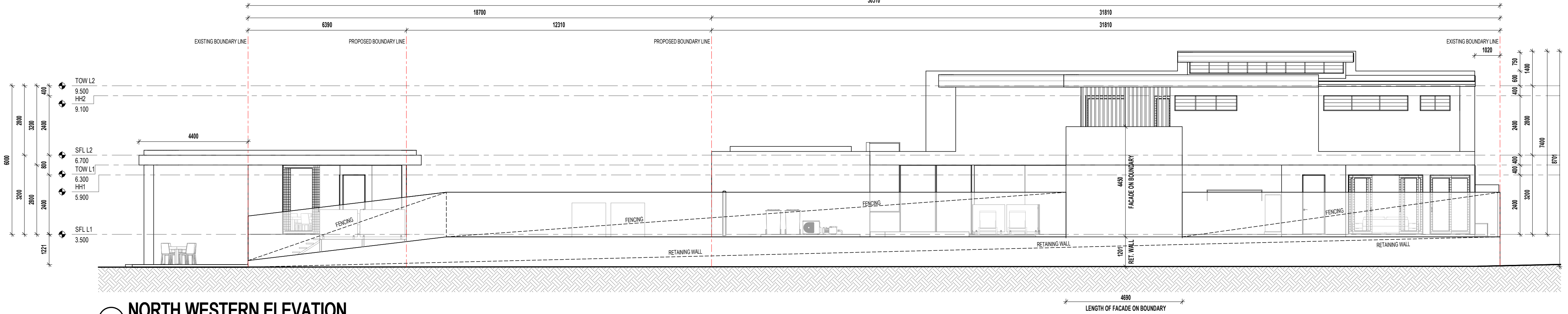
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1 : 100



**SOUTH WESTERN ELEVATION**  
1 : 100



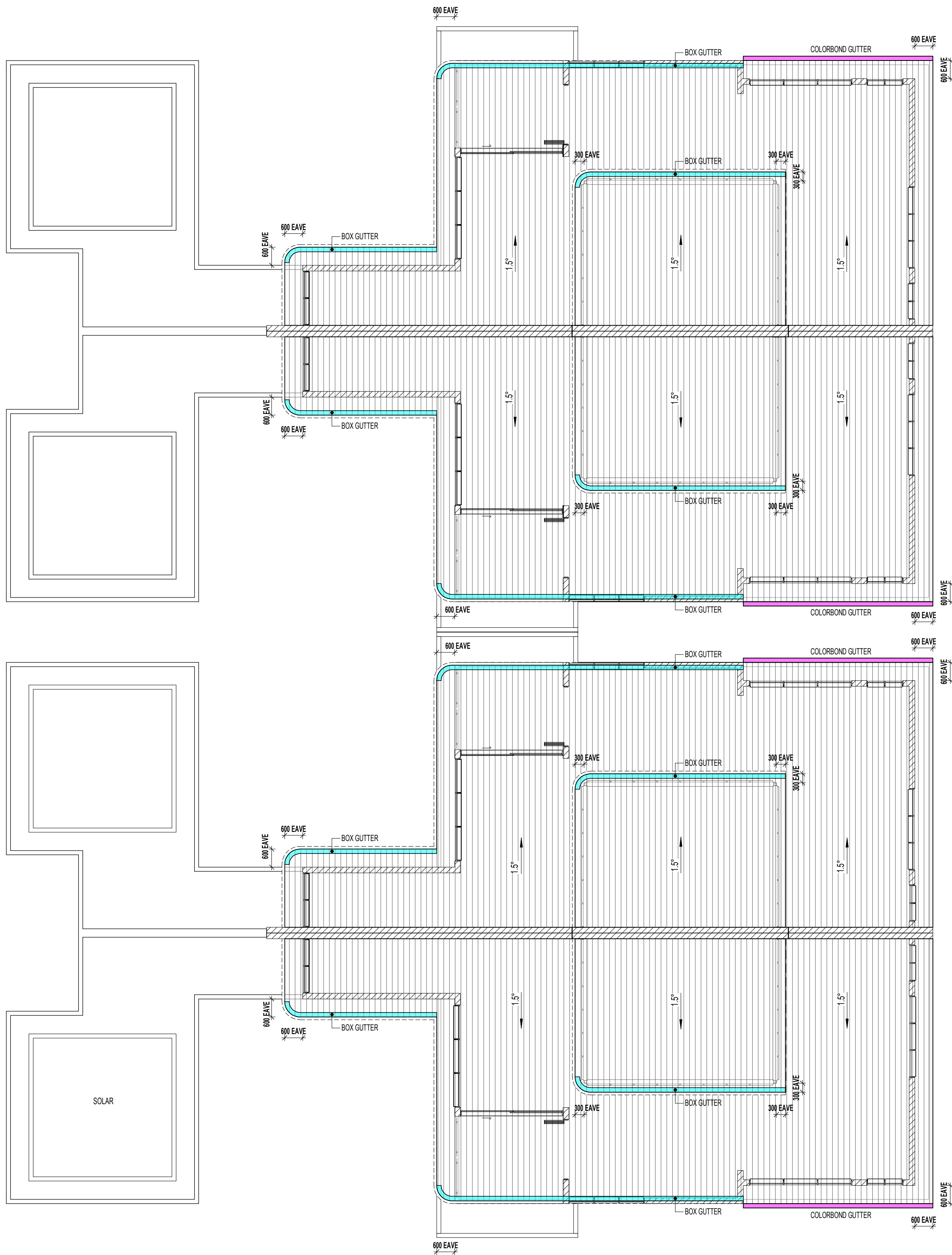
**SOUTH EASTERN ELEVATION**  
1 : 100



**NORTH WESTERN ELEVATION**  
1 : 100

ULTIMATE & SERVICEABILITY LIMIT STATE DESIGN WIND PRESSURES						
WIND CLASS	DESIGN GUST WIND SPEED (m/s)		DESIGN PRESSURES (kPa)			
	V <sub>10</sub>	V <sub>15</sub>	GREATER THAN 1.2m FROM CORNERS		UP TO 1.2m FROM CORNERS	
	ULS	SLS	ULS	SLS	ULS	SLS
C2	61	39	+2.68	+0.88	-4.02	-1.23

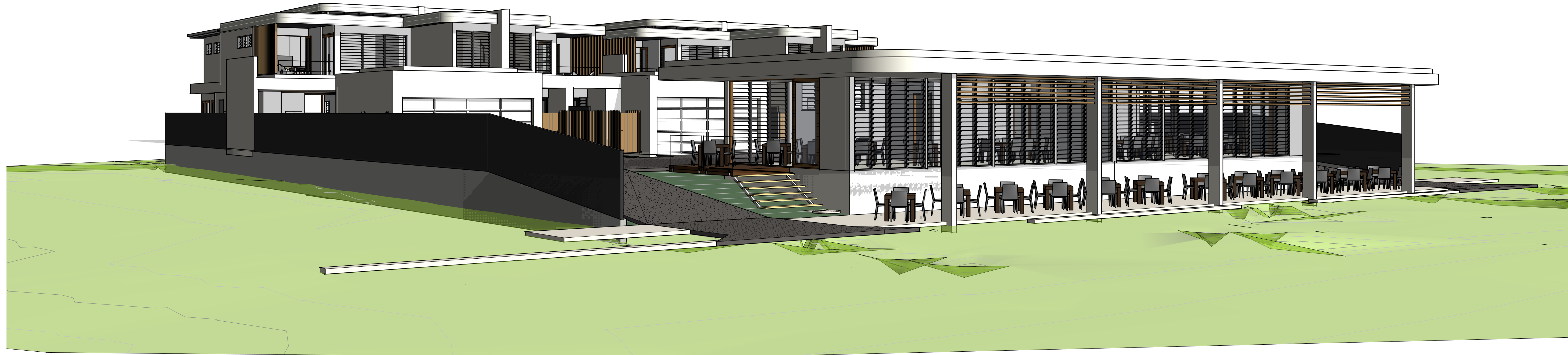
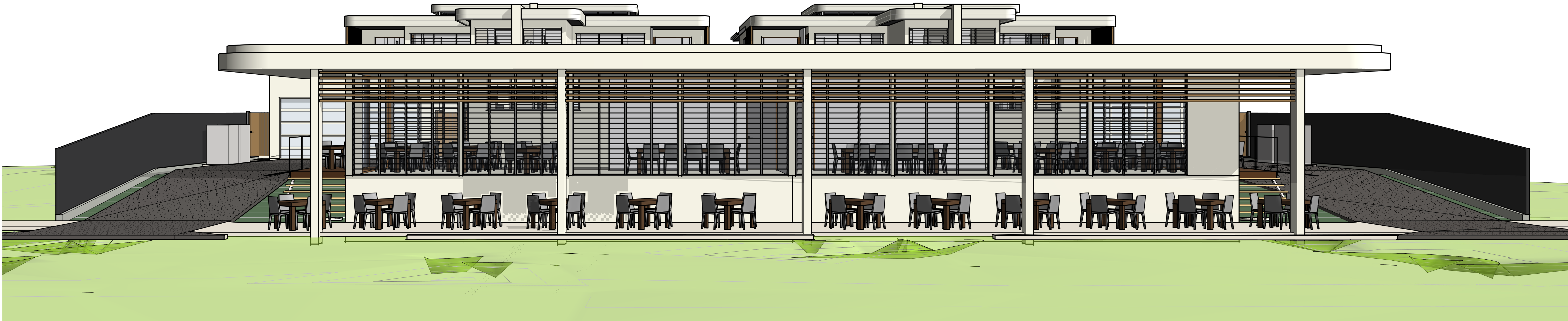




ROOF LAY-OUT PLAN - LEVEL 2  
1 : 100



LOT 418 #32 & LOT 419 #30 WARNER ST PORT DOUGLAS



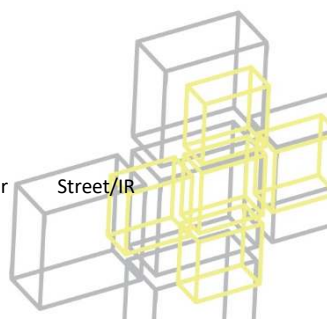


LOT 418 #32 & LOT 419 #30 WARNER ST PORT DOUGLAS





## Annexure 3: Arborist Report





## **Verri Constructions – 30-32 Warner St Port Douglas**

### **Indian Rosewoods Tree Assessment**





# Tree Report - Verri Constructions – 30-32 Warner St Port Douglas – Indian Rosewoods

**Diploma of Arboriculture: *Billy Quaid***

**E: [sales@mpdt.com.au](mailto:sales@mpdt.com.au)**

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## 1. Introduction

MPDT Pty Ltd, has been commissioned to assess the long-term viability and safety of two Indian Rosewood trees along the Warner St.

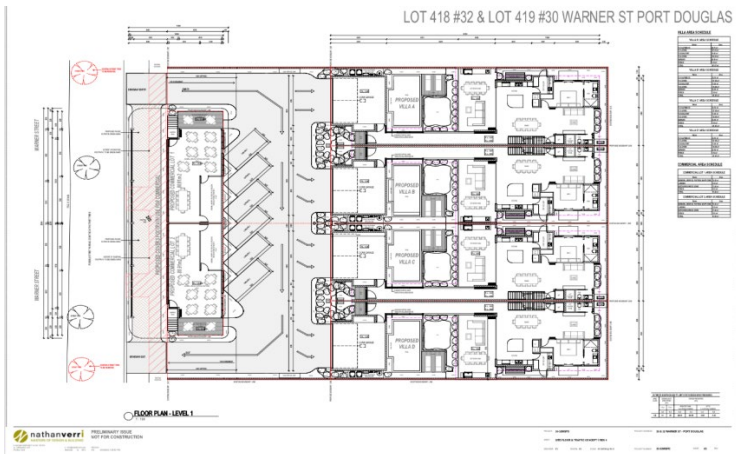
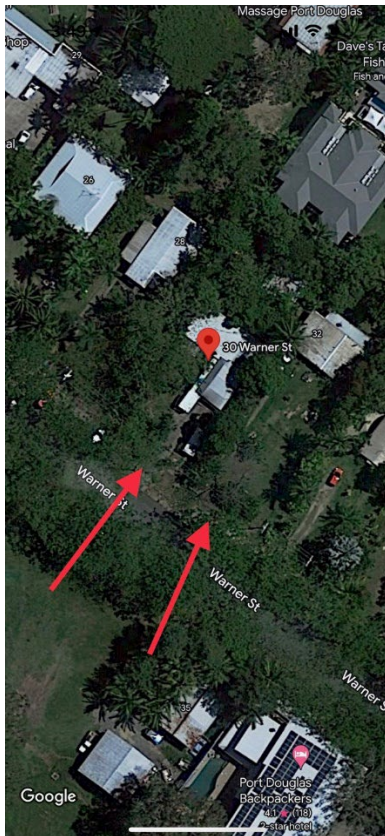
The objectives of this report are:

- 1) Assess the Health of the Trees
- 2) The Aesthetic value both now and in the future
- 3) The suitability of these trees long term for where they are situated.
- 4) The implementation of Tree Protection Plan

## 2. Information and Documentation Provided

Information and Documentation Provided Maps have been supplied, and also have had an onsite inspection.

## 3. Site Survey





### 3.1 Site Description

30 and 32 Warner St Port Douglas are situated along a Road that has been streetscaped with Indian Rosewood trees. Gravel and parking areas currently surround the base area of these trees and are on Douglas Shire Council Property

## 4. Materials & Methodology

The following is a description of elements included in the tree assessment.

- Species: the tree's botanical or common name as is most appropriate.
- Age: an estimation of the tree's age
  - Young (Y): from establishment, up to one third expected life span
  - Semi-mature (SM): between one and two thirds expected life span
  - Mature (M): between two thirds expected life span up to full maturity
  - Over mature (OM): trees older than expected life span or veteran trees
- Condition: the tree's overall health and condition
  - Good: good form, typical of species with no major defects present. Long safe useful life expectancy
  - Reasonable: Good or reasonable form. Any defects are easily rectifiable or can be managed
  - Poor: Poor form. Major defects present.
  - Dead
- DBH: the diameter of the tree in centimetres, measure at a height of approximately 1.5m. Used as a means of identification and gauge of future growth.
- Height: the height of the tree in metres, estimated using surveyor's own judgement (no measuring instruments were used in this survey).
- Spread: the crown spread in one direction only
- Comments: comments relating to the general health and condition of the tree.
- Recommendations: recommendations for remedial work or other relevant advice.
- Priority: Priority of recommended works
  - High (H): action required within one month
  - Medium (M): action advised within 3 months
  - Low (L): action not critical but advisable for longer term health of the tree/amenity value

The process of risk identification and controls have been carried out in accordance with AS/NZS 4360:2004 – Risk Management

Tree heights were determined with the use of a range finder

Biomechanical stability of the examined trees and tree components were determined utilising VTA (Mattheck and Breloer 1994).



## 5. Collection of Data

The data collected for this tree health and condition report was done so of a preliminary nature. All data was collected from visible access points at ground level. No climbing or use of elevated work platforms was utilised. Due to the visual nature of this assessment, there may be other issues that remain undetected.

## 6. Tree Protection Zone

All plants consist of three main sections, a crown (leaves), a stem or trunk and a root system. Each one of these sections carries out specific functions necessary for the survival of the tree as all parts interact. Above ground and below ground these sections if damaged the entire tree will suffer and symptoms may appear in any part of the tree. Therefore, any demolition and construction operations that occur around trees must be carried out in such a way as to minimize the impact on the health of the tree.

The principles of a tree protection zone are the combination of root area and crown area requiring protection. It is an area isolated from construction disturbance, so the tree remains viable. This needs to be incorporated before and during works carried out to minimise the impact of encroachment to surrounding trees. We work to the recommendations of the Australian Standards (AS 4970-2009).

If required, we will utilise temporary protection measures to avoid any damage to surrounding vegetation. This will include the use of barrier tape, signage and star pickets to keep people out of the encroachment area. These will remain in place until all works are completed and your project manager is satisfied and requests us to remove it.

Other considerations within the TPZ include temporary watering to maintain soil moisture levels which need to be regularly monitored, the application of mulch around base of trees at a uniform cover of 150mm in depth (using coarse organic materials which comply with AS 4454-2003 - Soil conditioner, Compost and Mulches) and the supervision of any other activities within the TPZ such as landscaping etc.

As head arborist, I will be inspecting the site to ensure exclusion zones are in place and not encroached by other contractors.

## 7. Tree Protection Plan

A tree protection plan must be available on site prior to commencement of and during works. This must be accessible to the site manager, project arborist and contractors at all times so they are aware of its requirements.



<b>Development Stage - Planning</b>	<b>Considerations</b>	<b>Actions to be taken</b>
Detail surveys	<ul style="list-style-type: none"> <li>• Council plans &amp; policies</li> <li>• Heritage</li> <li>• Threatened species</li> </ul>	<ul style="list-style-type: none"> <li>• Existing trees to be accurately plotted on survey plan</li> </ul>
Preliminary tree assessment	<ul style="list-style-type: none"> <li>• Hazard/Risks</li> <li>• Tree retention value</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate trees suitable for retention and mark on plan</li> <li>• Provide preliminary arboricultural report &amp; indicative TPZs to guide development layout</li> </ul>
Preliminary development design	<ul style="list-style-type: none"> <li>• Condition of trees</li> <li>• Proximity to buildings</li> <li>• Location of services</li> <li>• Roads</li> <li>• Level changes</li> <li>• Building operations space</li> <li>• Long term management</li> </ul>	<ul style="list-style-type: none"> <li>• Planning section of trees for retention</li> <li>• Design modifications to minimize impact to trees</li> </ul>
Development submission	<ul style="list-style-type: none"> <li>• Identify trees for retention through comprehensive arboricultural impact assessment of proposed construction</li> <li>• Determine tree protection measures</li> <li>• Landscape design</li> </ul>	<ul style="list-style-type: none"> <li>• Provide arboricultural impact assessment including tree protection plan and specification</li> </ul>
Development approval	<ul style="list-style-type: none"> <li>• Development controls</li> <li>• Conditions of consent</li> </ul>	<ul style="list-style-type: none"> <li>• Review consent conditions relating to trees</li> </ul>

<b>Development Stage - Pre-construction</b>	<b>Considerations</b>	<b>Actions to be taken</b>
Initial site preparation	<ul style="list-style-type: none"> <li>• State based OHS requirement for tree work</li> </ul>	<ul style="list-style-type: none"> <li>• Compliance with conditions of consent</li> </ul>



	<ul style="list-style-type: none"> <li>• Approved retention/removal, pruning of amenity trees as per AS 4373</li> <li>• Specifications for tree protection measures</li> </ul>	<ul style="list-style-type: none"> <li>• Tree removal/tree retention/transplanting</li> <li>• Tree pruning</li> <li>• Certification of tree removal and pruning</li> <li>• Establish TPZs</li> <li>• Install protective measures</li> <li>• Certification of tree protection measures</li> </ul>
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<b>Development Stage - Construction</b>	<b>Considerations</b>	<b>Actions to be taken</b>
Site Establishment	<ul style="list-style-type: none"> <li>• Temporary infrastructure</li> <li>• Demolition</li> <li>• Bulk earthworks</li> <li>• Hydrology</li> </ul>	<ul style="list-style-type: none"> <li>• Locate temporary infrastructure to minimize impact on retained trees</li> <li>• Maintain protective measures</li> <li>• Certification of tree protection measures</li> </ul>
Construction work	<ul style="list-style-type: none"> <li>• Liaison with site manager</li> <li>• Compliance</li> <li>• Deviation from approved plan</li> </ul>	<ul style="list-style-type: none"> <li>• Protection measures in place as per arborist report and in the correct locations</li> <li>• TPZ's inspected &amp; certified by onsite arborist</li> <li>• Does tree protection plan need modification</li> </ul>
Implement hard and soft landscape works	<ul style="list-style-type: none"> <li>• Installation of irrigation services, control of compaction work</li> <li>• Installation of pavement and retaining walls</li> </ul>	<ul style="list-style-type: none"> <li>• Remove selected protective measures as necessary</li> <li>• Remedial tree works</li> <li>• Supervision and monitoring</li> </ul>
Practical completion	<ul style="list-style-type: none"> <li>• Tree vigour and structure</li> </ul>	<ul style="list-style-type: none"> <li>• Remove all remaining tree protection measures</li> <li>• Certification of tree protection</li> </ul>



Development Stage - Post construction	Considerations	Actions to be taken
Defects liability/maintenance period	<ul style="list-style-type: none"> <li>Tree vigour and structure</li> </ul>	<ul style="list-style-type: none"> <li>Maintenance and monitoring</li> <li>Final remedial works</li> <li>Final certification of tree condition</li> </ul>

## 9

## Survey Schedule

## Tree 1 – Northern

**Species:** Indian Rosewood (*Dalbergia sissoo*)

**Age:** Semi - Mature

**Condition:** Poor and structural issues so indicating decline

**Comments:** This tree has been severely cut beyond Australian Standards under the direction of Douglas Shire council Head Arborist, Jim Scott, as they had a severe issue with the trees dying due to suspected poisoning. Crews were asked to cut back to live wood, not growth points, to try mitigate the severity of the cuts. Please see pictures below of what the tree previously looked like using google street view. Figure 1.

Epicormic Growth is evident even at the lower trunk level which shows that the tree has been under stress and this growth, as it will be growing out from the bark initially will be weaker growth and there is powerlines nearby.

**DBH:** 1460mm

**DRF:** 1.95mm

**Spread:** 8m

**Height:** 12m

**SRZ:** 4.38m

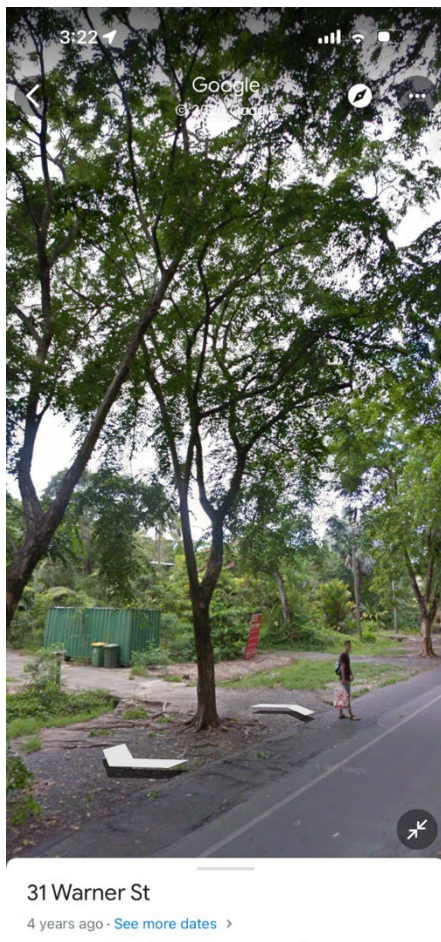
**TPZ:** 15m



**Recommendation Comments:** Remove and stump grind. Trees could be replaced with same species to tie in with the surrounding streetscape and be a better option than persevering with trees in decline that will need to be removed and replaced in the future. This tree will not regain its vitality and vigour to grow into a suitable, safe tree for this streetscape.

**Priority:** Medium as no immediate risk

**Figure 1.**





## Tree 2 - Southern

**Species:** Indian Rosewood (*Dalbergia sissoo*)

**Age:** Semi Mature

**Condition:** Poor and structural issues so indicating decline

**DBH:** 1580mm

**DRF:** 1.95mm

**Spread:** 8m

**Height:** 8m

**SRZ:** 4.38m

**TPZ:** 15m

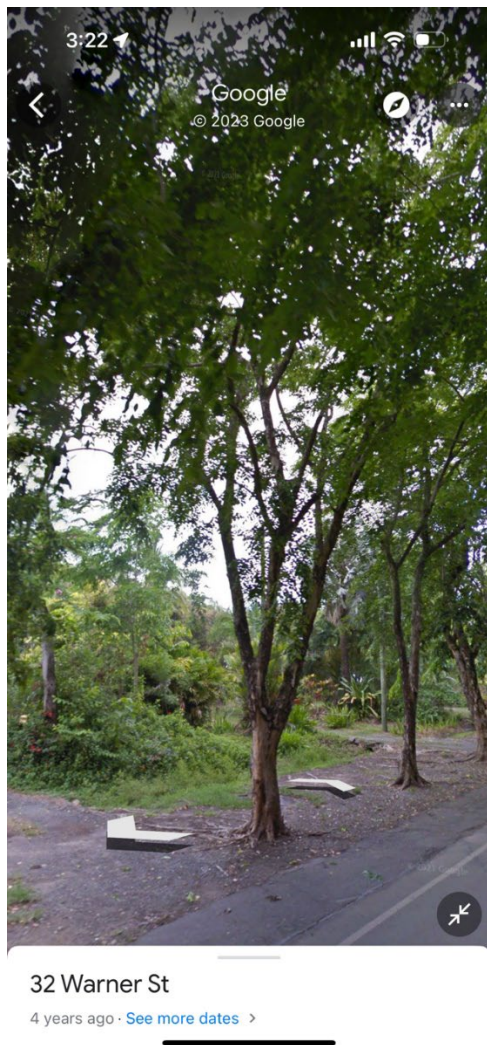
**Comments:** This tree has been severely cut beyond Australian Standards under the direction of Douglas Shire council Head Arborist, Jim Scott, as they had a severe issue due to suspected poisoning. Crews were asked to cut back to live wood, not growth points, to try mitigate the severity of the cuts. This has left large leaders as you can see in the photos below, dying back and bark continuing to peel off the whole way down the tree. Note in the picture below the heavy die back on lead branch. Please see pictures below of what the tree previously looked like using google street view. Figure 2.

Epicormic Growth is evident even at the lower trunk level which shows that the tree has been under stress and this growth, as it will be growing out from the bark initially will be weaker growth and there is powerlines nearby.

**Recommendation Comments:** Remove and stump grind. Trees could be replaced with same species to as tie in with the surrounding streetscape and be a better option then persevering with trees in decline that will need to be removed and replaced in the future. This tree will not regain its vitality and vigour to grow into a suitable, safe tree for this streetscape.



Figure 2.







### Appendix 1: Index of Arboricultural terms used.

Amenity	The quality of being pleasant or agreeable
Arboriculture	The culture and management of trees as groups and individuals, primarily for amenity and other non-forestry purposes
Assessment	In relation to tree hazards, the process of estimating the risk that a tree or group of trees poses to persons or property
Basal Area	Area of tree around stem base, including visible buttress roots
Bifurcated	A tree with two main stems
Biomechanics	Mechanical loading of the tree's structure
Branch collar	A swelling at the base of a branch
Buttress roots	Angled roots at stem base
Cable braces	Branch or stem supporting system



Clean out	Removal process of dead, dying and diseased branches
Crown	The part of the tree comprising of limbs, branches and foliage
Crown lifting	Remove lower branches to a specified height
Crown reduction	Reduce the overall size of the crown proportionally
Crown spread	Distance from stem to crown edge
Crown thinning	The reduction of the volume of a crown without changing the overall height and spread. Often referred to as reducing the "sail area". The extent of thinning is dependent on tree species, tree health and site requirements
D.B.H	Tree diameter measured at breast height (approximately 1.5m)
Dead wood	Dead branches and stubs
Decline	A deterioration of a tree's general condition and vigour
Defect	In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of stress
Dieback	The death of part of a tree, often progressive
D.R.F	Diameter of root flare, diameter measured immediately above root buttress
Epicormic growth	Growth arising on mature stems, often following previous pruning or injury.
Failure	In relation to tree hazards, a partial or total fracture of wood or loss of cohesion between tree and soil
Formative Pruning	Selective pruning to promote good future shape and integrity
Included Bark	Branch union where there is bark to bark contact which results in a structural weakness.
Leader	Dominant Stem
Lopping	Removal of branches, now generally applied to heavy or excessive trimming
Multi stemmed	A tree with many main stems
Phototropic lean	Lean due to a tree's growth towards available light.
Root Plate	The base of the tree stem with major support roots
Slime Flux	Liquid exudation from the tree, bacterial based
S.R.Z	Structural root zone (the woody root growth and soil cohesion in this area for structural stability)
Sucker Growth	Growth from stem base and/or exposed roots
Topping	The removal of all or a large portion of a tree's canopy
T.P.O	Tree Preservation Order
T.P.Z	Tree Protection Zone (specified area for the protection of roots and crown for viability and stability)
Trifurcated	A tree with three main stems

## Appendix 1: Index of Arboricultural terms used

V.T.A	Visual Tree Assessment
Vigour	Ability of a tree to sustain its life processes
Widow maker	Dead unattached branches in tree
Witch's Broom	Foliage disorder resulting in clustered and dense area of twigs
Q.T.R.A	Quantified tree risk assessment
P.O.F	Probability of failure
R.O.H	Risk of acceptable harm



## Appendix 2: Tree Protection Zone Summary

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.

When determining potential impacts of encroachment into the TPZ, we should consider the following:

- a) Location and distribution of the roots to be determined through non-destructive investigation methods (pneumatic, hydraulic, hand digging or ground penetrating radar). Photographs should be taken, and a root zone map prepared.
- b) Potential loss of root mass resulting from the encroachment: number and size of roots.
- c) Tree species and tolerance to root disturbance
- d) Age, vigour and size of tree
- e) Lean and stability of the tree
- f) Soil characteristics and volume, topography and drainage
- g) The presence of existing or past structures or obstacles affecting root growth
- h) Design factors

Tree sensitive construction measures such as pier and beam, suspended slabs, cantilevered building sections, screw piles and contiguous piling can minimize the impact of encroachment.

When siting a structure near to a tree, the future growth of the tree, both above and below ground should be considered. Precautions should be taken at the planning and design stage to minimize potential conflict between trees and new structures.

When the reach structure is reactive clay, techniques such as localised pier and beam (bridged), screw pile footings or root and soil moisture control barriers may be appropriate to minimize effects on structures.

The structural root zone (SRZ) is the area required for tree stability. A larger area is required to maintain a viable tree.

Some factors of the SRZ are tree height, crown area, soil type and soil moisture. These may influence built structures such as rocks and footings. The most common cause of damaged trees on development sites is root damage, as roots are far more extensive and closer to the surface than commonly thought. When using heavy machinery it is important to take due care not only to not damage the tree directly, but to avoid soil compaction as this will suffocate the tree.

### Crown Protection

Tree crowns may be injured by machinery and the removal of surrounding trees. Where crown protection is required, it will be usually located at least one metre outside the drip line of the crown. Crown protection may include pruning, tying back of branches or other measures. If pruning is required, this should be undertaken before the establishment of the tree protection zone.



The TPZ is a restricted area usually delineated by protective fencing. This is installed prior to site establishment and retained intact until completion of work.

Some works and activities within a TPZ may be authorised by the determining authority. These may be supervised by the project arborist. Any additional encroachment that becomes necessary as the site works progress must be reviewed by the project arborist and be acceptable to the determining authority before being carried out.

Approved tree removal and pruning should be carried out before the installation of tree protection measures.

Activities restricted within the TPZ include but are not limited to –

- a) Machine excavation including trenching
- b) Excavation for silt fencing
- c) Cultivation
- d) Storage
- e) Preparation of chemicals, including preparation of cement products
- f) Parking of vehicles and plant
- g) Refuelling
- h) Dumping of waste
- i) Wash down and cleaning of equipment
- j) Placement of fill
- k) Lighting of fires
- l) Soil level changes
- m) Temporary installation of utilities and signs
- n) Physical damage to the tree

Protective fencing should be erected before any machinery or materials are brought onto the site and before the commencement of works including demolition. Once erected, protective fencing must not be removed or altered without approval from the project arborist. The TPZ should be secured to restricted access.

The negative impacts of inadequate development design, planning and supervision are cumulative and very difficult to remediate after development is completed. The best way to ensure the long-term retention of established trees is to follow the guidelines of the Australian Standards AS 4970-2009. (Reference material in Tree Protection Zone taken from AS 4970-2009).

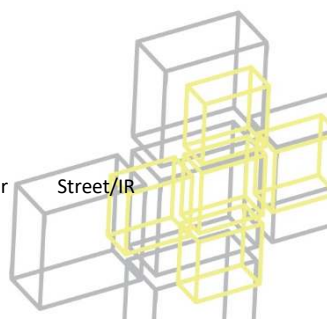


**References:**

- Pirones Tree maintenance 7<sup>th</sup> addition
- Dr Alex Shigo – Pruning amenity trees
- Plants of Cape York – John Beasley
- AS 4373-2007 Pruning of amenity trees
- AS 4970-2009 – Tree protection on construction sites
- Diagnosis of Ill health in trees By R.G Strouts and T.G Winter (Forestry commission)
- The body language of trees (A handbook for failure analysis) by Claus Mattheck and Helge Breloer, edited by David Lonsdale from a translation by Robert Strouts

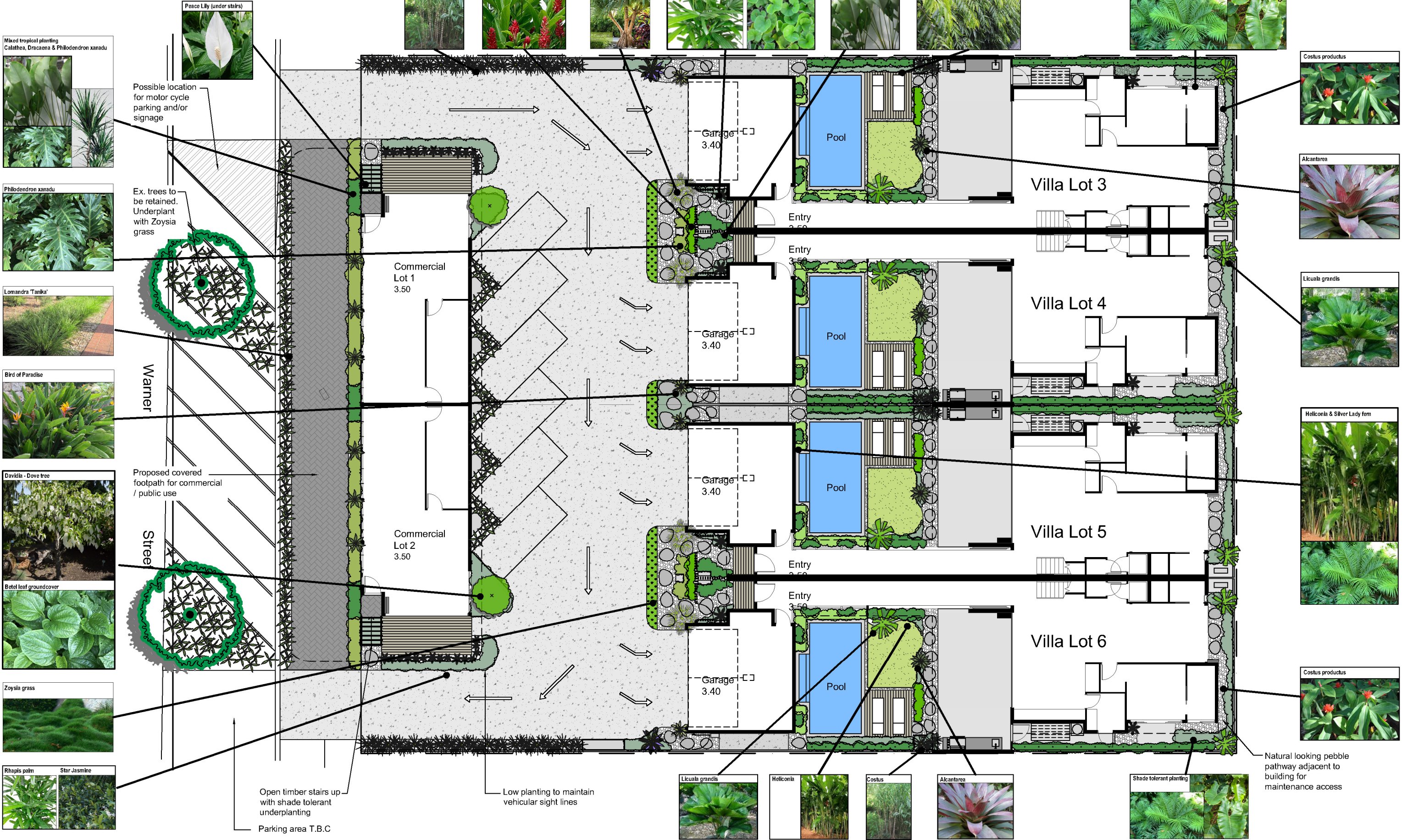


## Annexure 4: Landscape Plans

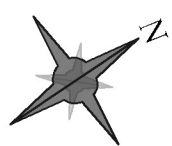




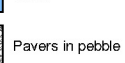
Landscape concept plan - Ground floor 1:100 @ A1



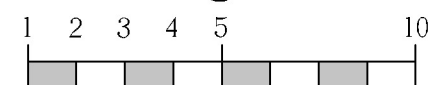
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Date: 25.4.23 Issue no: B  
Scale: 1:100@A1 Page: 1 of 4



Legend



Scale: 1:100 @ A1



kate hewitt

LANDSCAPE DESIGN

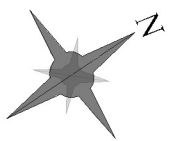
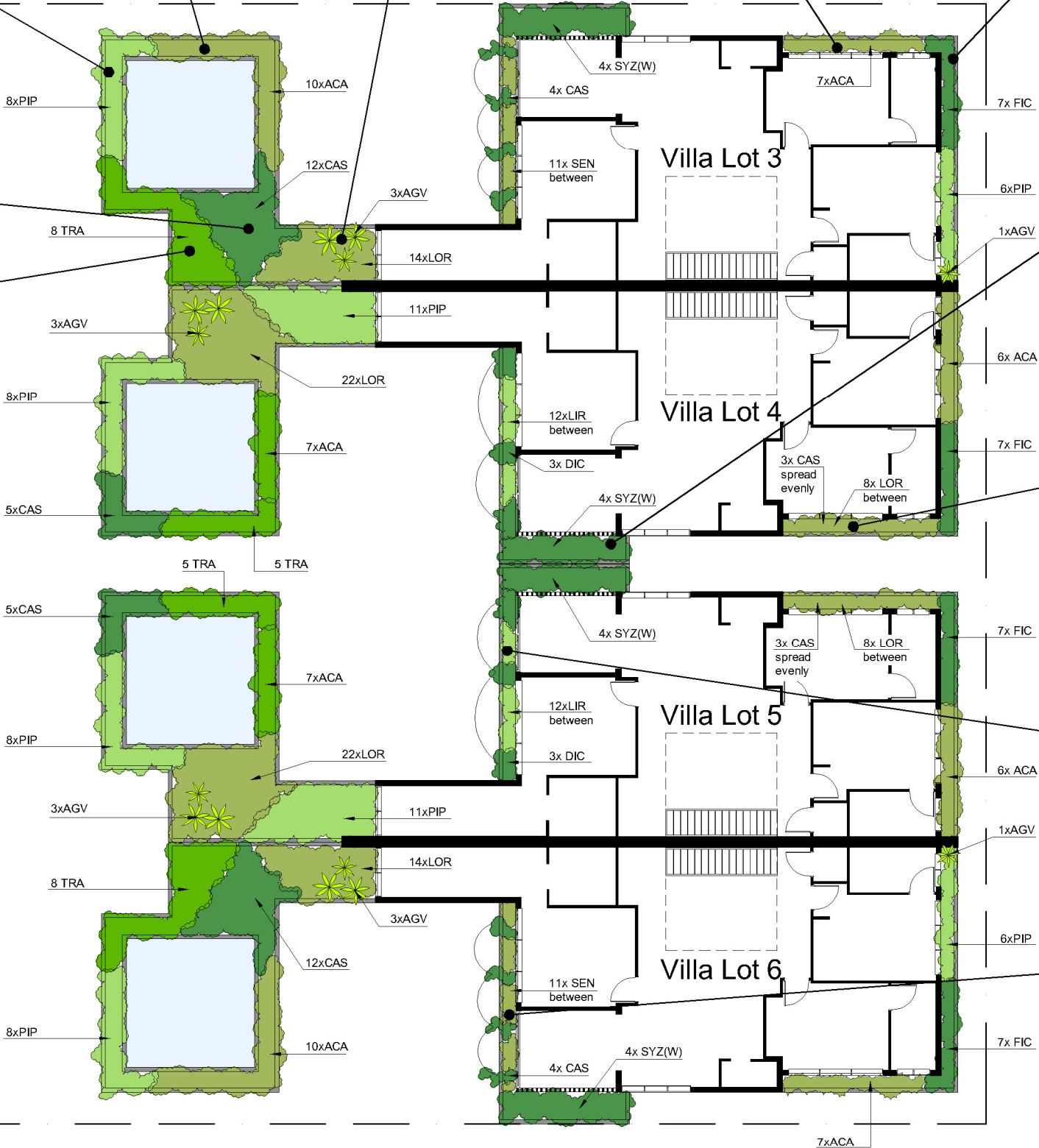
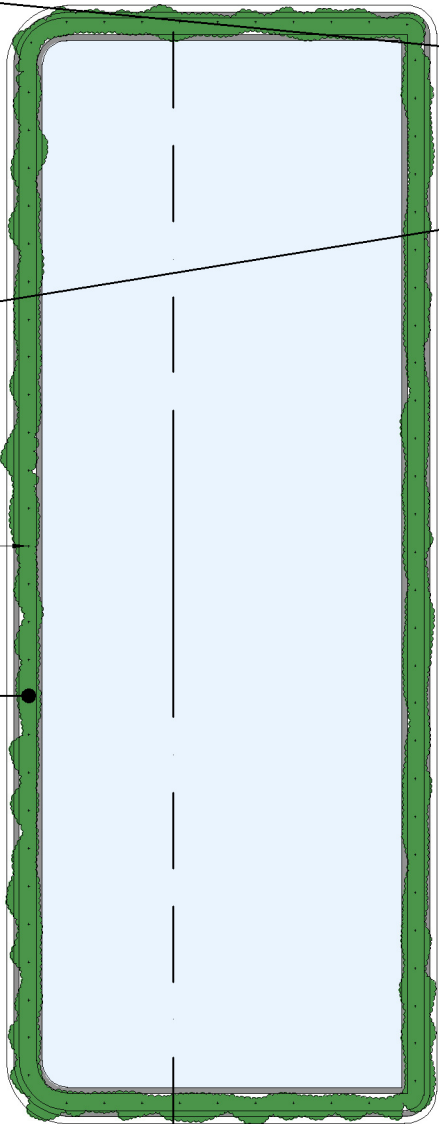




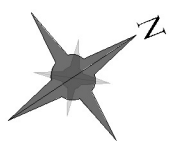
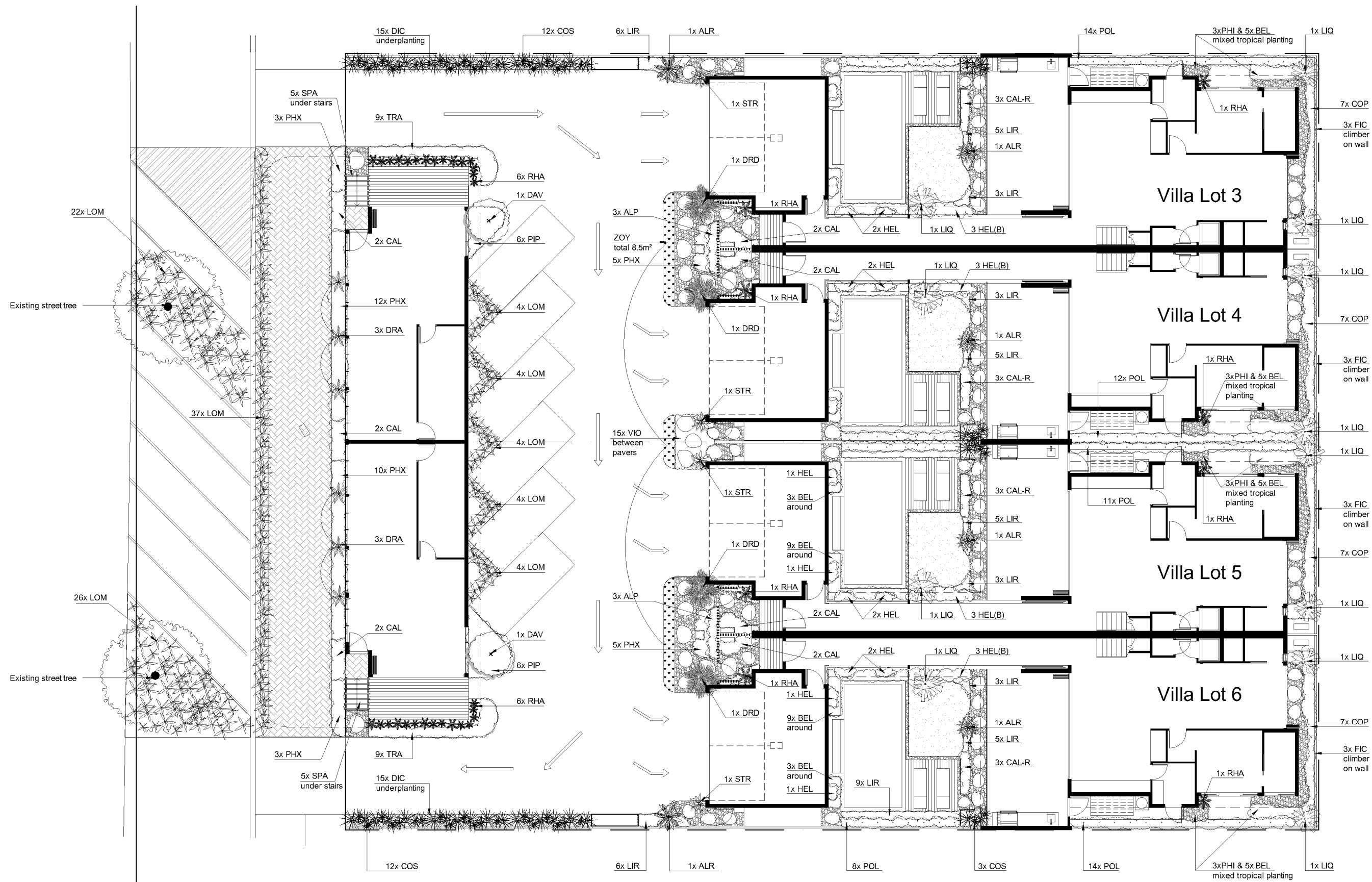
Typical level 1 planting 1:100 @ A1



74x GAR









Planting schedule – Ground floor

Symbol	Botanical name	Common name	Cont. size	Mature height	Spacing	No req.
Shrubs/ / Palms / Accent Plants						
AGV	Agave attenuata	Century plant	Medium	0.5M	1000mm	0
ALR	Alacanatarea 'Rubra'	Giant Bromeliade	Medium	1.0M	As shown	0
ALP	Alpinia purpurata	Red Ginger	Medium	2-2.5M	1000mm	0
CAL	Calathea lutea	Cuban Cigar plant	Medium	2-3M	1000mm	0
CAL-R	Calathea lancifolia	Rattlesnake plant	Medium	1-2M	800mm	0
COS	Costus stenophyllus	Cobra Costus	Medium	1.5-2M	800mm	0
COP	Costus productus	Spiral ginger	Medium	1M	800mm	0
COR	Cordyline fruticose	Cordyline 'Purple Prince'	Medium	1M	As shown	0
DAV	Davidia involucrate	Handkerchief tree	Large	8-10M	As shown	2
DRA	Draceana marginata	Draceana	Medium	1.5M	As shown	0
DRD	Draceana draco	Dragon Tree	Large	2.5-3.5M	As shown	0
HEL	Heliconia chartacea	Heliconia 'Sexy Pink'	Medium	1.5-2M	800mm	0
HEL-B	Heliconia bihai	Heliconia 'Hot Rio Nights'	Medium	2-3M	800mm	0
LIQ	Licuala grands	Fan Palm	Large	2M	As shown	0
MP	Murraya paniculata	Orange Jessamine (flowering screening plant)	Medium	2-3.0M	As shown	0
POL	Polyalthia longifolia	Indian Mast tree	Large	10-12M	As shown	0
PLU	Plumeria acutifolia	Frangipani	Large	3-4.0M	As shown	0
RHA	Raphis excelsor	Lady Finger Palm	Medium	2-2.5M	As shown	0
STR	Strelitzia reginea	Bird of Paradise (Strappy leaved flowering accent plant)	Medium	1-1.2M	As shown	0
Groundcovers / Climbers / Ferns						
BEL	Belchnum 'Silver Lady'	Silver Lady Fern	Small	1.0M	600mm	0
FIC	Ficus pumila	Creeping fig Ficus	Small	climber	As shown	0
GAR	Gardenia psidioides	Gardenia 'Glennie River'	Small	0.6M	1000mm	0
PHI	Philodendron Imperial green	Imperial Green	Small	0.5-0.8M	800mm	0
PIP	Piper betle	Betal leaf	Small	0.2-0.4M	800mm	0
TRA	Trachelospermum jasminoides	Chinese Star Jasmine	Small	0.5M	800mm	0
VIO	Viola hederacea	Native Violets	Small	0.3M	400mm	0
Ornamental grasses/strappy leaved plants						
DIC	Dianella 'Little Jess'	Blue Flax Lily 'Little Jess'	Small	0.4M	600mm	0
LIR	Liriope muscari	Lily turf	Small	0.6M	800mm	0
LOM	Lomandra 'Tanika'	Lomandra	Small	0.8M	800mm	0
SPA	Spathiphyllum	Peace Lilly	Small	0.4M	600mm	0
PHX	Philodendron 'Xanadu'	Xanadu (shade tolerant understory / border plant)	Medium	0.5M	700mm	0
Grass						
ZOY	Zoysia grass	No-mow grass	per m2			8.5m2
Planting schedule species to be sourced from local nurseries supplying plants of local provenance wherever possible. Numbers are exact. If unsure please contact Landscape Designer. Container sizes may vary due to availability, in most cases please ensure a size that will work for this site.						

Planting schedule – Upper level

Symbol	Botanical name	Common name	Cont. size	Mature height	Spacing	No req.
<b>Screening plants / Palms / Accent Plants</b>						
AGV	Agave attenuata	Century plant	Medium	0.5M	1000mm	0
PHX	Philodendron 'Xanadu'	Xanadu (shade tolerant understory / border plant)	200mm	0.4M	600mm	0
RHA	Raphis excelsor	Lady Finger Palm	Medium	2-2.5M	As shown	0
SYZ(VV)	Syzygium wilsonii	Powder puff Lilly Pilly	Medium	2-4M	1000mm	0
<b>Small shrubs / Groundcovers / Climbers</b>						
ACA	Acalypha reptans	Summer Love	Medium	0.5M	600mm	0
CAS	Casuarina glauca Çousin It'	Cousin It	Small	0.15M	400mm	0
DIA	Dianella caerulea	Blue Flax Lily	Small	0.6M	600mm	0
DIC	Dicondra 'Silver Falls'	Silver Falls	Medium	sprawling	As shown	0
FIC	Ficus mcrocarpa	Green Island Fig	Small	0.5-1M	600mm	0
LIR	Liriope muscari	Lilly Turf	Small	0.6M	600mm	0
LOR	Loropetalum chinense	Purple pixie	Small	0.3M	400mm	0
PIP	Piper betle	Betal leaf	Small	0.2-0.4M	800mm	0
SEN	Senicia serpens	Blue Chalk Sticks (silver blue low succulent groundcover)	Small	0.2M	300mm	0
TRA	Trachelospermum jasminoides	Chinese Star Jasmine	Small	0.5M	800mm	0
Planting schedule species to be sourced from local nurseries supplying plants of local provenance wherever possible. Numbers are exact. If unsure please contact Landscape Designer. Container sizes may vary due to availability, in most cases please ensure a size that will work for this site.						

Notes

1. Soil preparation
- All proposed plant beds to be stripped of 150mm of soil and topped with at least 200mm of soil (preferably local)
2. New plantings
- Newly planted trees and large shrubs should be secured to stakes to prevent any damage.  
Planting holes for plant material should be large enough in size to take root ball with additional space to take back filling of good quality planting mix.
- Mature heights of planting as shown on planting schedule show the greatest height possible in ideal conditions.  
These heights may vary and are subject to particular site conditions, possible container environments and intended hedging or pruning for functional requirements such as available planting width, intended access under branches and solar access.
3. Turf / lawn
- Lay turf on prepared leveled soil. Ensure drainage is correct.  
Use locally available suitable turf mix.  
Curved steel edging (or similar) to be confirmed and chosen by owner.

4. Stepping stones
- Stepping stones in (10-20mm river gravel) pebble. Laid to a depth of 150mm over a thin layer of geo-textile.  
Refer to Architects details for stepping stones specifications and details
5. Mulching
- All planting areas to be mulched with a minimum 75mm thick cover of recycled hardwood mulch and then all plant areas to be thoroughly soaked with water. All mulch shall be free of all weed species

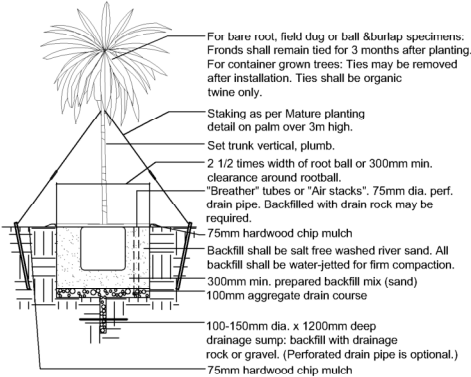
6. Fertiliser
- All planting areas to be fertilised with slow release fertiliser.

7. Engineering
- All structural and hydraulic details whatsoever to Architects details.

8. Maintenance
- The Landscape Contractor shall maintain the contract areas by accepted horticultural practices as well as rectifying any defects that become apparent in the works under normal use.  
Mow the turf when it is established at regular intervals to maintain an average height of 50mm.

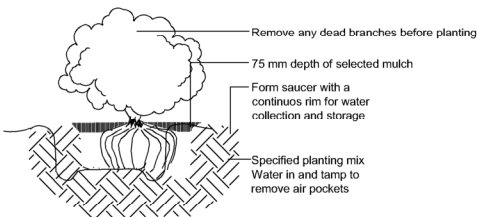
Detail 1.

Palm planting detail n.t.s



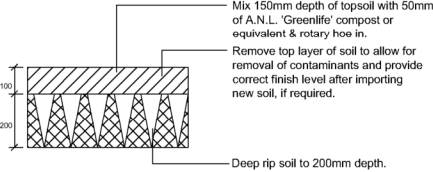
Detail 2.

Shrub planting detail n.t.s



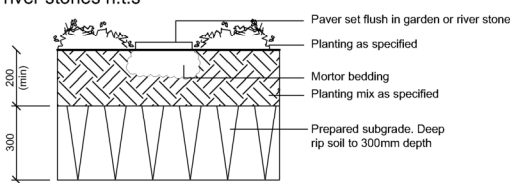
Detail 3.

Soil preparation detail n.t.s.



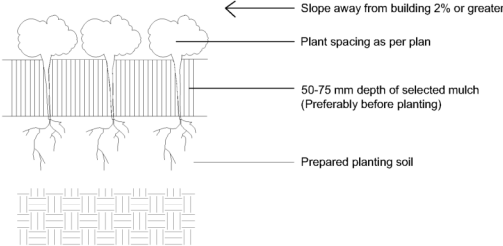
Detail 4.

Stepping stones in garden & river stones n.t.s



Detail 5.

Groundcover planting detail n.t.s



Name: Details & Notes

Job: 30-32 Warner St, Port Douglas

Date:25.4.23 Issue no: B

Scale: - Page: 4 of 4

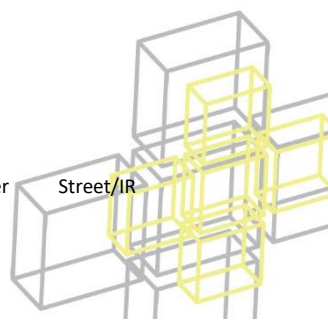
kate hewitt

LANDSCAPE DESIGN





# Annexure 5: Hydraulic Services Plan



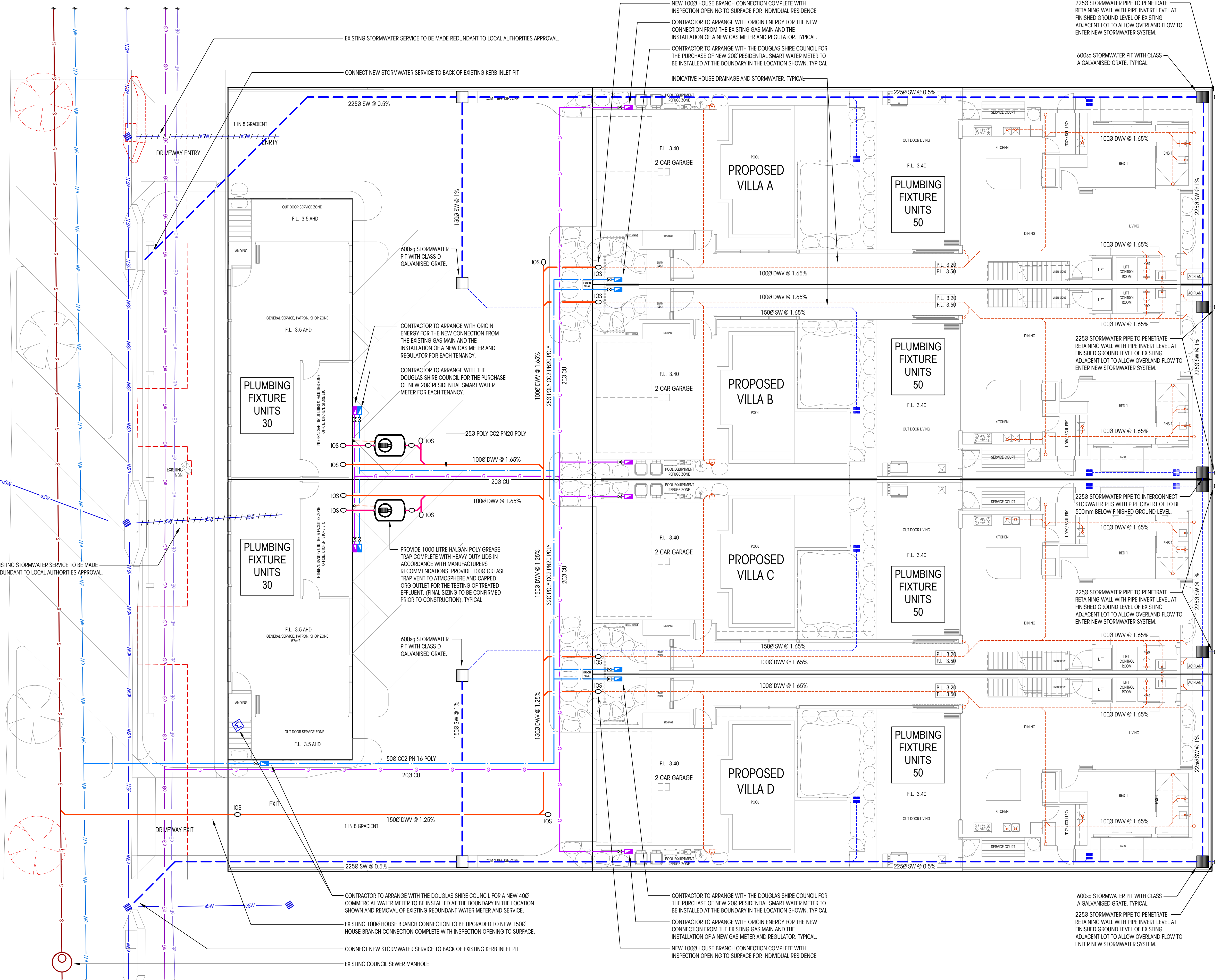


LEGEND:

- EXISTING COUNCIL WATER
- COLD WATER
- EXISTING COUNCIL SEWER
- SANITARY PLUMBING AND DRAINAGE
- EXISTING STORMWATER DRAINAGE
- STORMWATER PLUMBING AND DRAINAGE
- TRADEWASTE PLUMBING AND DRAINAGE
- VENT
- EXISTING GAS SERVICE
- LP GAS
- INDICATIVE SANITARY DRAINAGE
- INDICATIVE STORMWATER DRAINAGE
- EXISTING ELECTRICAL
- STOP VALVE
- WATER METER
- GAS METER
- INSPECTION OPENING TO SURFACE (IOS)

WARNER STREET

WARNER STREET



PRELIMINARY ISSUE

DATE	REV	AMENDMENT	CHKD
02.05.23	P1	PRELIMINARY ISSUE	
05.05.23	P2	PRELIMINARY ISSUE	
16.05.23	P3	PRELIMINARY ISSUE	

REFERENCE COORDINATION DRAWINGS			
DESCRIPTION	DRAWING NO.	REV	CHKD
ARCHITECTURAL DRAWING	X	.	SB

HYDRAULIC ENGINEER - QBCC 745052

H2O consultants

PROJECT  
**Lot 418 #32 & Lot 419 #30**  
Warner Street, Port Douglas

CLIENT  
Nathan Verri

DATE	OCT 2022	DRAWN	SB
SCALE	1:500	CHECKED	SB
SHEET SIZE	A1	APPROVED	SB
CAD FILE	1Drive/Projects/23071 - 30-32 Warner St.dwg		

TITLE HYDRAULIC SERVICES SITE PLAN & LEGEND		
PROJECT NO.	DRAWING NO.	REVISION
23071	H01	P3