

As can be seen from review of the drawings, our client is proposing to construct three (3) new large format retail tenancies, and a vehicle servicing tenancy, comprising four (4) new tenancies in total. Construction will be carried out in two (2) Stages to allow the existing tenant to relocate directly into the new premises. Although staged, it is intended for construction of Stage 2 to immediately follow Stage 1 – there will be no delay.

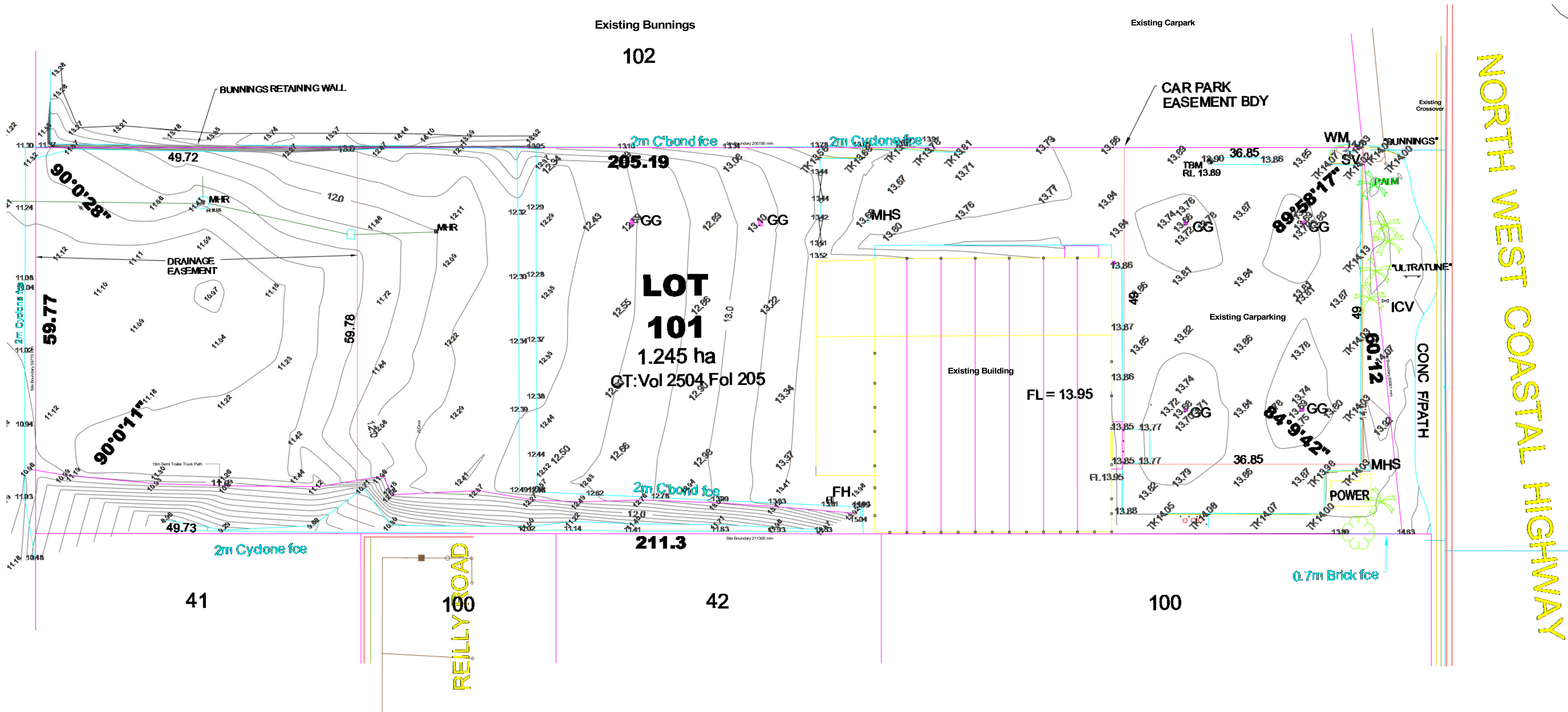
- Stage 1 will consist of construction of Tenancies 1 (vehicle servicing) and 2 (large format retail), and site development works in western (back of house) part of the site to form parking and vehicle manoeuvring. As part of the site development works, modifications to an existing stormwater compensating basin will be made to accommodate the aforementioned parking and manoeuvring, while still achieving sufficient storage capacity to contain stormwater

discharge from a 1 in 10 year ARI event, for this Lot (101) and the adjacent Lot to the north (102) which currently operates as a Bunnings retail premises. This proposed method to comply the City's R-Codes – Stormwater Management Local Planning Policy section 4.2.3, was given special consideration as the basin would need to accommodate Lot 102 as well as Lot 101. At the City's request, we have obtained written permission from the owner of Lot 102 to allow the basin to service Lot 101 as well. The City has indicated acceptance of this in principal. Please refer to the enclosed correspondence.

- Stage 2 will consist of demolition of the existing building, and constructing the remaining tenancies (3 and 4 both being large format retail), and all front of house site development works, including parking and vehicle movement integration with Lot 102.

Please note that this Development Application is NOT a Signage Application. All signage as shown on the drawings is for indicative purposes only, and any required approvals for the signage will be addressed via a separate application(s).





- BL BOLLARD
- SV STOP VALVE
- FH FIRE HYDRANT
- GG GULLY GRATE
- MHS MANHOLE SQUARE
- TBM TEMPORARY BENCH MARK

- GATE
- TREE TRUNK
- TREE TRUNK

- EDGE CONCRETE/BRICK PAVING
- LINE OF LEVELS
- WINDOW
- DOOR

- SEWER GRAVITY (SOURCED FROM ESINET)
- OVERHEAD POWER (SOURCED FROM DBYD)
- WATER (SOURCED FROM ESINET)
- NBN & TELSTRA (SOURCED FROM DBYD)
- BUILDING
- BUILDING EAVES/VERANDAH
- FENCE
- GAS (SOURCED FROM DBYD)
- BOTTOM OF KERB
- TOP OF KERB

EXPLANATORY NOTE

THE TITLE BOUNDARIES AS SHOWN HEREON WERE NOT MARKED AT THE TIME OF SURVEY AND HAVE BEEN DETERMINED FROM LANDGATE DIGITAL DATABASE ONLY AND NOT BY FIELD SURVEY.

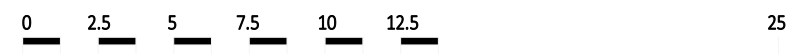
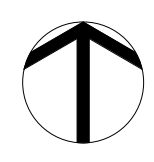
COLUMNS SHOWN ON THE EXISTING BUILDING ARE INDICATIVE ONLY.

SERVICES SHOWN HEREON HAVE BEEN LOCATED WHERE POSSIBLE BY FIELD SURVEY. IF NOT ABLE TO DO SO, LOCATED SERVICES HAVE BEEN PLOTTED FROM THE RECORDS OF RELEVANT AUTHORITIES WHERE AVAILABLE AND HAVE BEEN NOTED ACCORDINGLY ON THIS PLAN.

PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.

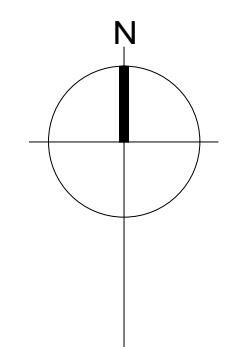
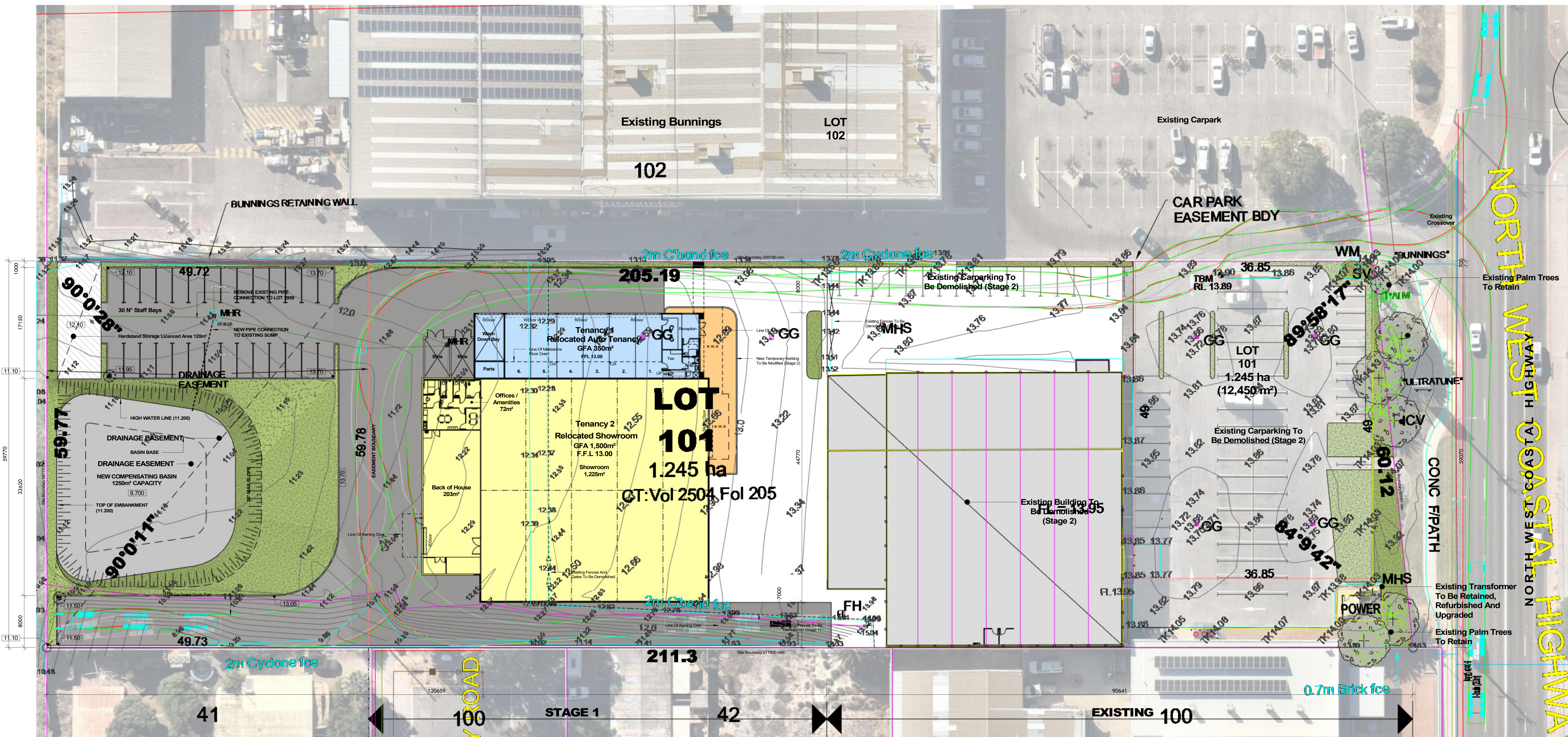
POINTS OR FEATURES WITH Z VALUE = 0 OR -999 ARE TO BE CONSIDERED 2D POINTS OR FEATURES

SITE SURVEY
SCALE 1:250



DATE:	JUNE 2023	PROJECT NUMBER
REVISION:	SK018	8824
SHEET:	As	2
SCALE:	indicated	

© Meyer Shire & Associates ACN 115 189 216
Suite 2, Ground Floor 437 Roberts Road, Subiaco WA 6008
PO Box 1294 Subiaco WA 6904
t: 08 9381 8511 e: ms@meyershircorp.com.au



SITE PLAN - STAGE 1
SCALE: 1 : 250



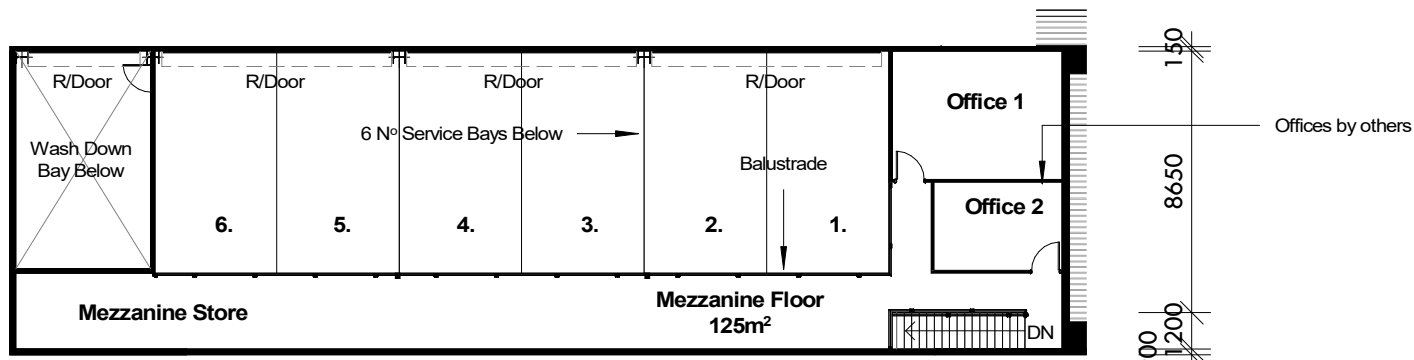
SITE CRITERIA

1. Site Area	12,450m²
2. Landscaping	1,245m²
a. Required 10% of Site Area	
b. Provided	861m²
Soft	440m²
Hard	1,301m²
Total	1,301m²
3. Floor Area (GFA)	3,950m²
a. Showrooms	350m²
b. Auto Tenancy	4,300m²
Total	4,300m²
4. Carparking	Carbays
a. Cars Required	
i. Showrooms	3,950m² @ 1/50m²
ii. Auto Tenancy	350m² @ 1/50m²
Total	79.0
b. Cars Provided	7.0
i. On grade	86.0
	118

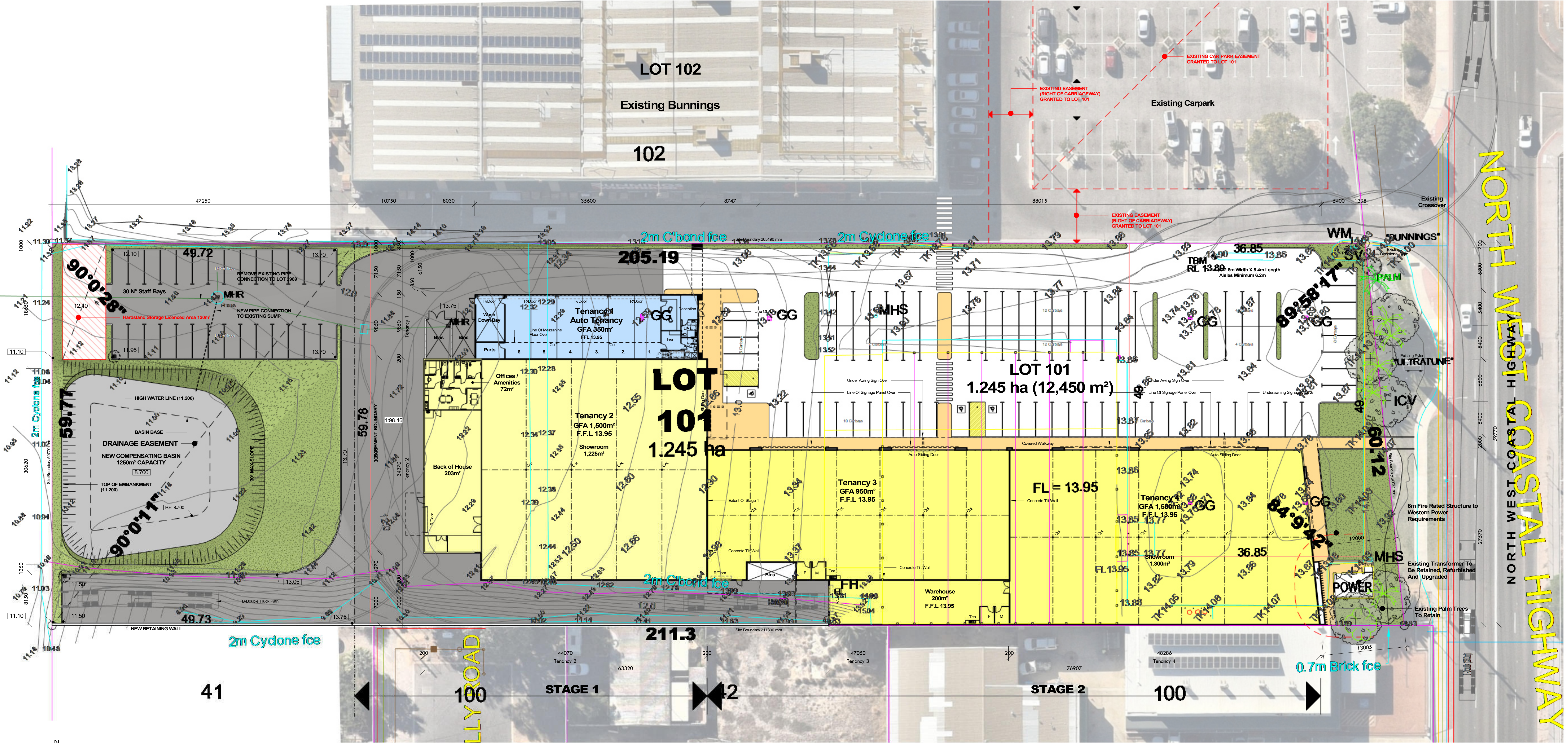
Landscaping
A. Hard Landscaping
Defined as paved walkways either open or covered.
B. Soft Landscaping
Defined as vegetative landscaping.

Gross Floor Area: GFA
A. Net Floor Areas on this plan are shown as GROSS FLOOR AREA.
Unless otherwise noted as Net Floor Area.
B. Definition of Gross Floor Area is defined as:
i. GROSS FLOOR AREA OF TENANCY:
Gross Floor Area of an individual Tenancy is defined as the area contained between the centre line of common tenancy walls and the outside edge of external walls.
ii. GROSS FLOOR AREA OF A BUILDING:
Gross Floor Area of a Building is defined as the total area contained between the outside edge of external walls.

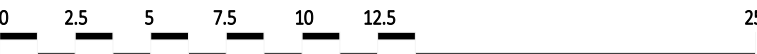
Net Floor Area: NFA
A. Net Floor Area of a Tenancy on this plan is defined as the area between external or tenancy dividing walls.
B. This area is inclusive of toilets if the toilets are exclusive to the Tenancy.

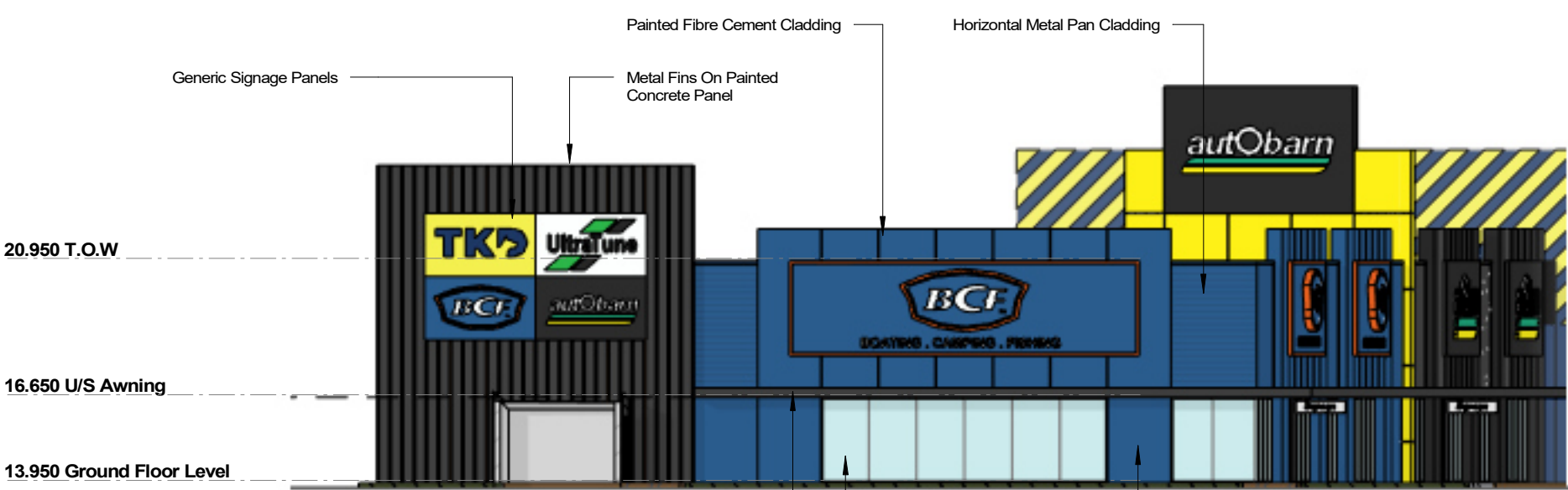


Mezzanine Floor
SCALE: 1 : 250

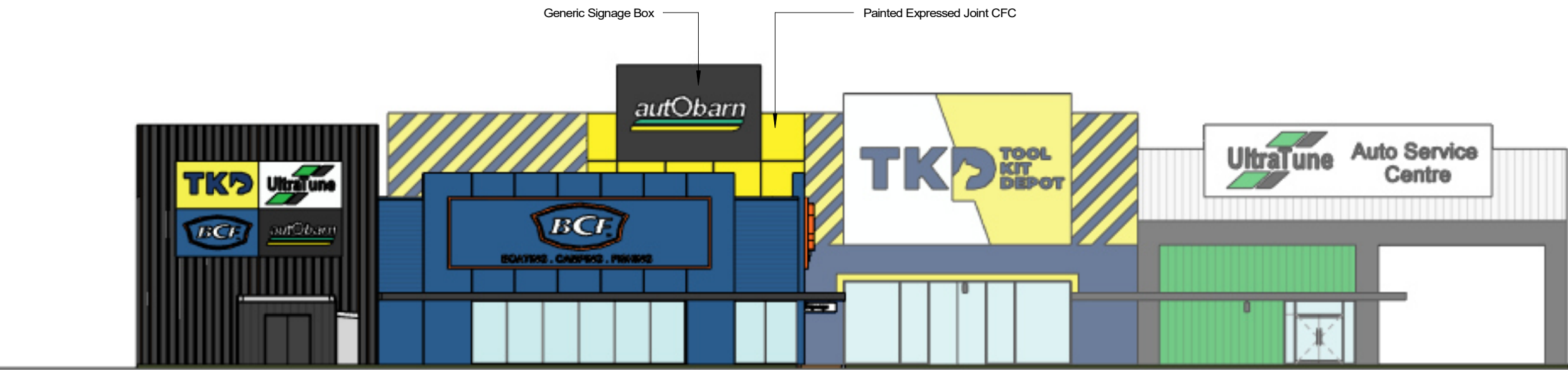


SITE PLAN - STAGE 2
SCALE: 1 : 250

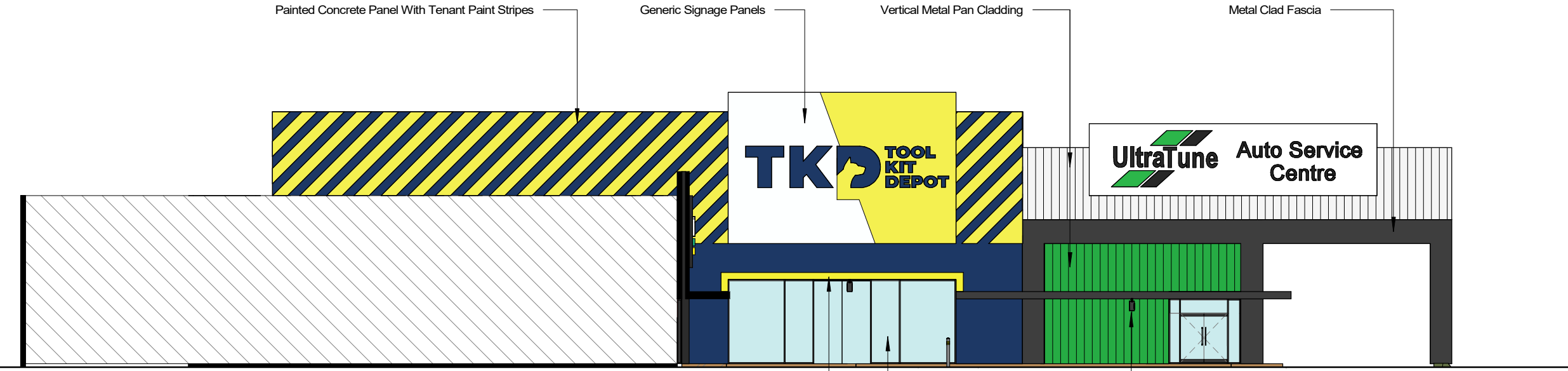




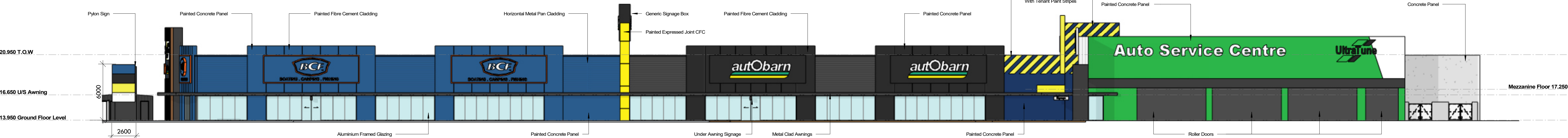
EAST ELEVATION
SCALE: 1 : 200



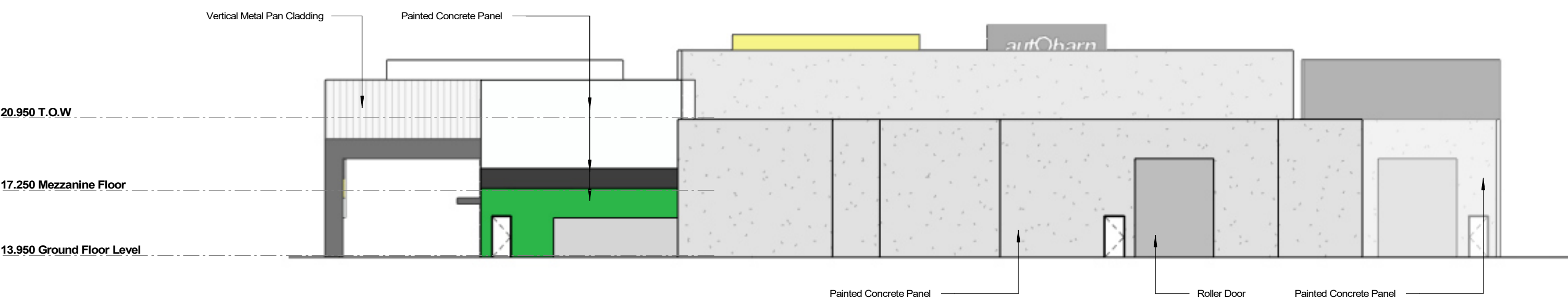
EAST ELEVATION (NW COASTAL HWY)
SCALE: 1 : 200



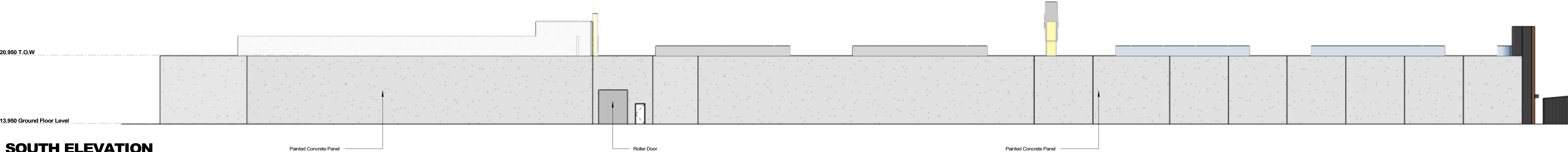
EAST ELEVATION (WITHIN SITE)
SCALE: 1 : 200



NORTH ELEVATION
SCALE: 1 : 200



WEST ELEVATION
SCALE: 1 : 200

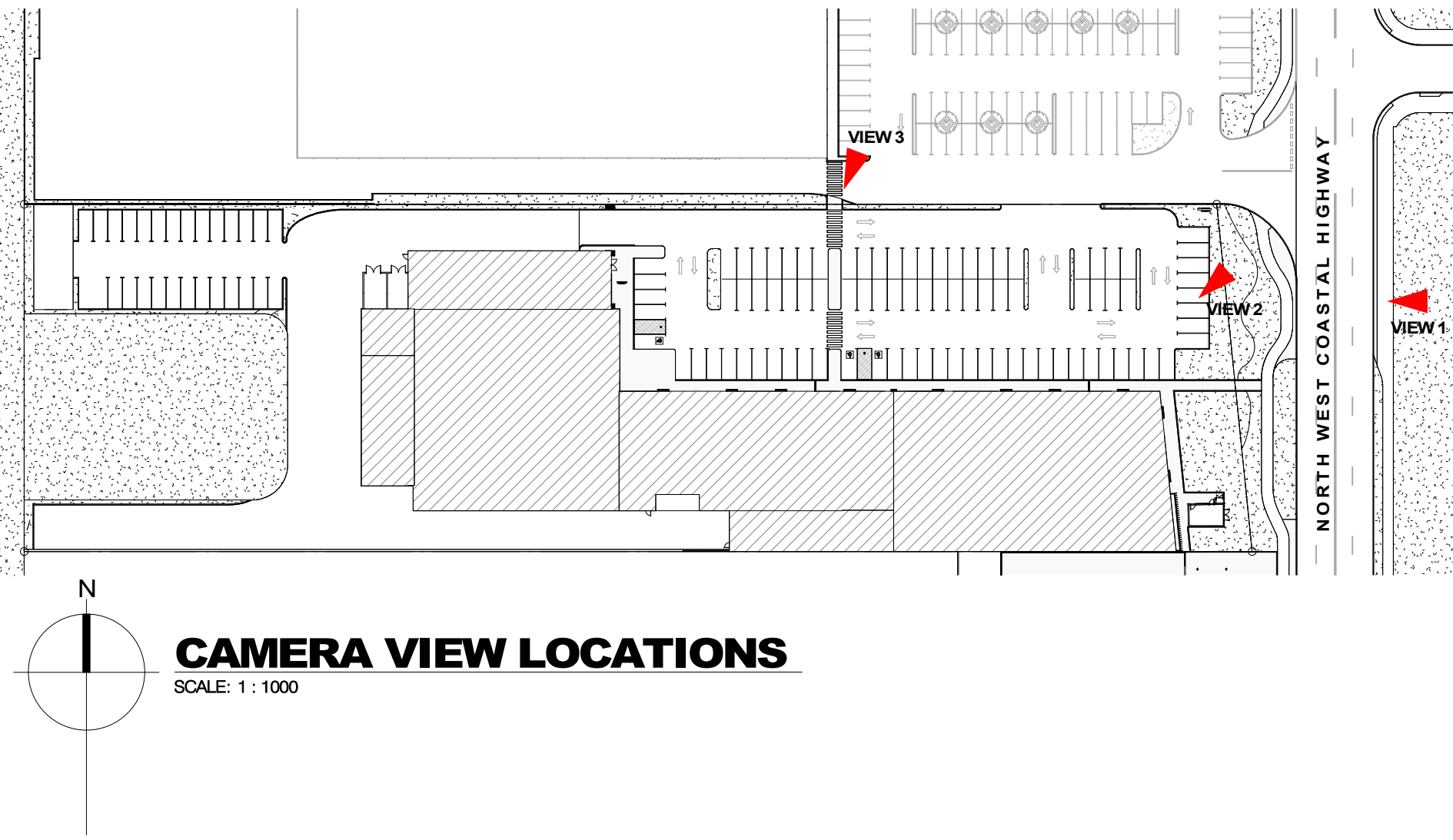


SOUTH ELEVATION
SCALE: 1 : 200

**CORPORATE COLOURS
SHOWN ARE PRELIMINARY
AND REQUIRE CONFIRMATION**



CORPORATE COLOURS
SHOWN ARE PRELIMINARY
AND REQUIRE CONFIRMATION



3D ARTIST IMPRESSION 2 - FRONT VIEW FROM CAR PARKING



3D ARTIST IMPRESSION 3 - TENANT 3 FRONT VIEW FROM ADJ BUNNINGS



Transport Impact Statement

Project: | Proposed Large Format Retail Development
| Lot 101 North West Coastal Highway, Wonthella

Document Status: Minor Plan Update

Version	Prepared By	Reviewed By	Approved By	Date
A	P. Nguyen	R. Needham	P. Nguyen	06/10/2023
B	P. Nguyen	-	P. Nguyen	05/12/2023

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1. Introduction

1.1. Proponent

Shawmac Pty Ltd has been engaged by Meyer Shircore and Associates Architects to prepare a Transport Impact Statement (TIS) for a proposed large format retail development in Wonthella.

This TIS has been prepared in accordance with the Western Australian Planning Commission (WAPC) *Transport Impact Assessment Guidelines Volume 4 – Individual Developments*. The assessment considers the following key matters:

- Details of the proposed development.
- Vehicle access and parking.
- Provision for service vehicles.
- Hours of operation.
- Daily traffic volumes and vehicle types.
- Traffic management on frontage streets.
- Public transport access.
- Pedestrian access.
- Cycle access and end of trip facilities.
- Site specific and safety issues.

1.2. Site Location

The site address is Lot 101, 175 North West Coastal Highway in Wonthella. The local authority is the City of Greater Geraldton.

The general site location is shown in **Figure 1**. An aerial view of the existing site is shown in **Figure 2**.

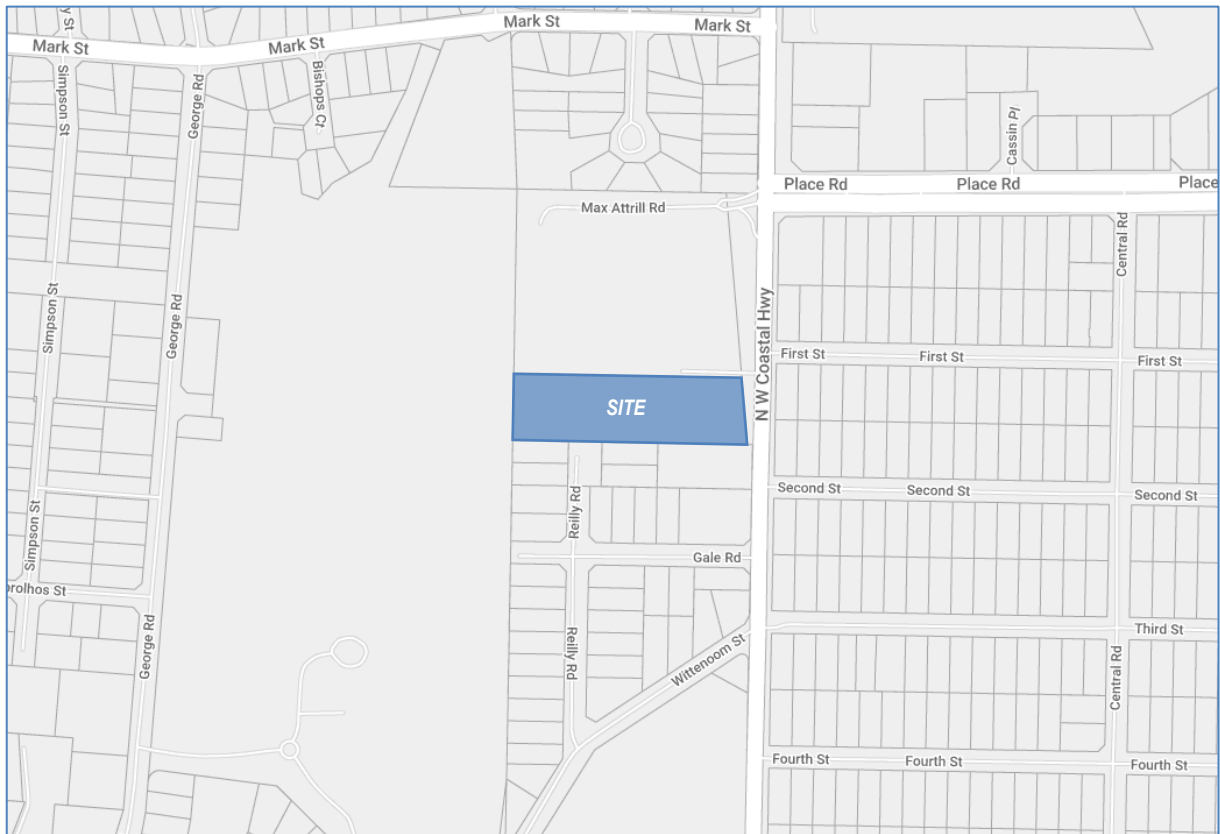


Figure 1: Site Location

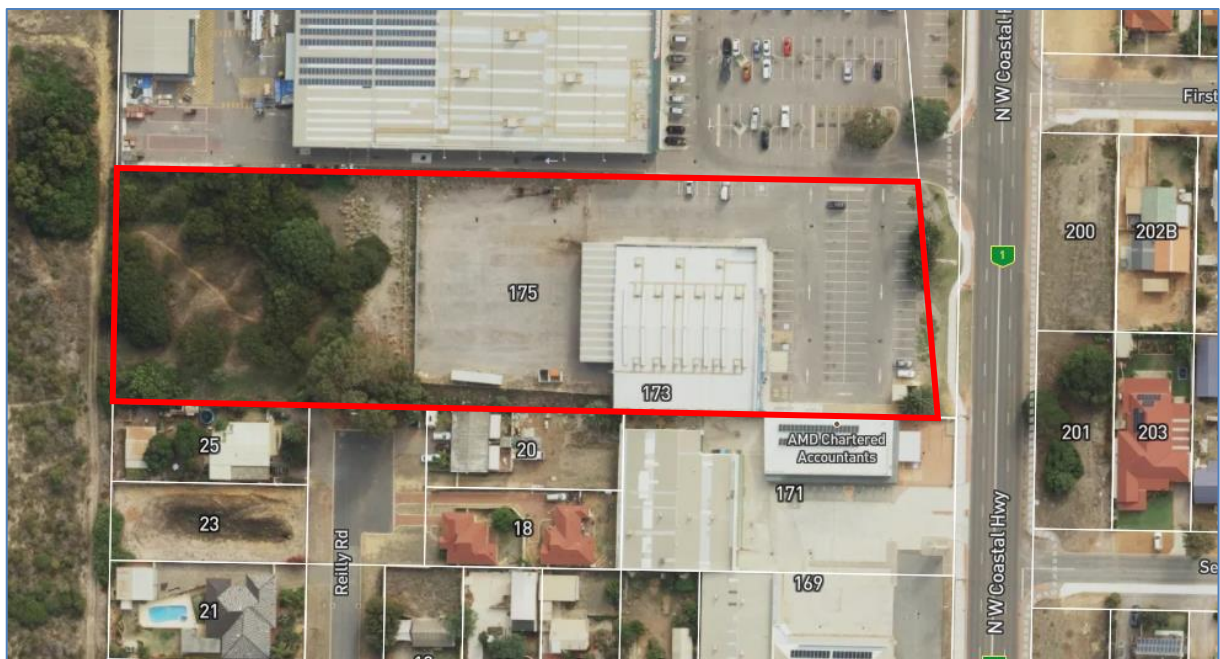


Figure 2: Aerial View (May 2023)

2. Proposed Development

2.1. Land Use

The site is zoned *Service Commercial* under the current local planning scheme. There is an existing large format retail store (BCF) and auto service centre (UltraTune) on the site.

Redevelopment of the site is proposed to occur over two stages. Stage 1 involves constructing a new building behind the existing building to accommodate the existing two tenancies. Stage 2 will involve demolishing the original building, constructing two new tenancies at the front of the site and a drainage basin at the rear of the site.

The staged site plans are shown in **Figure 3** and **Figure 4**.

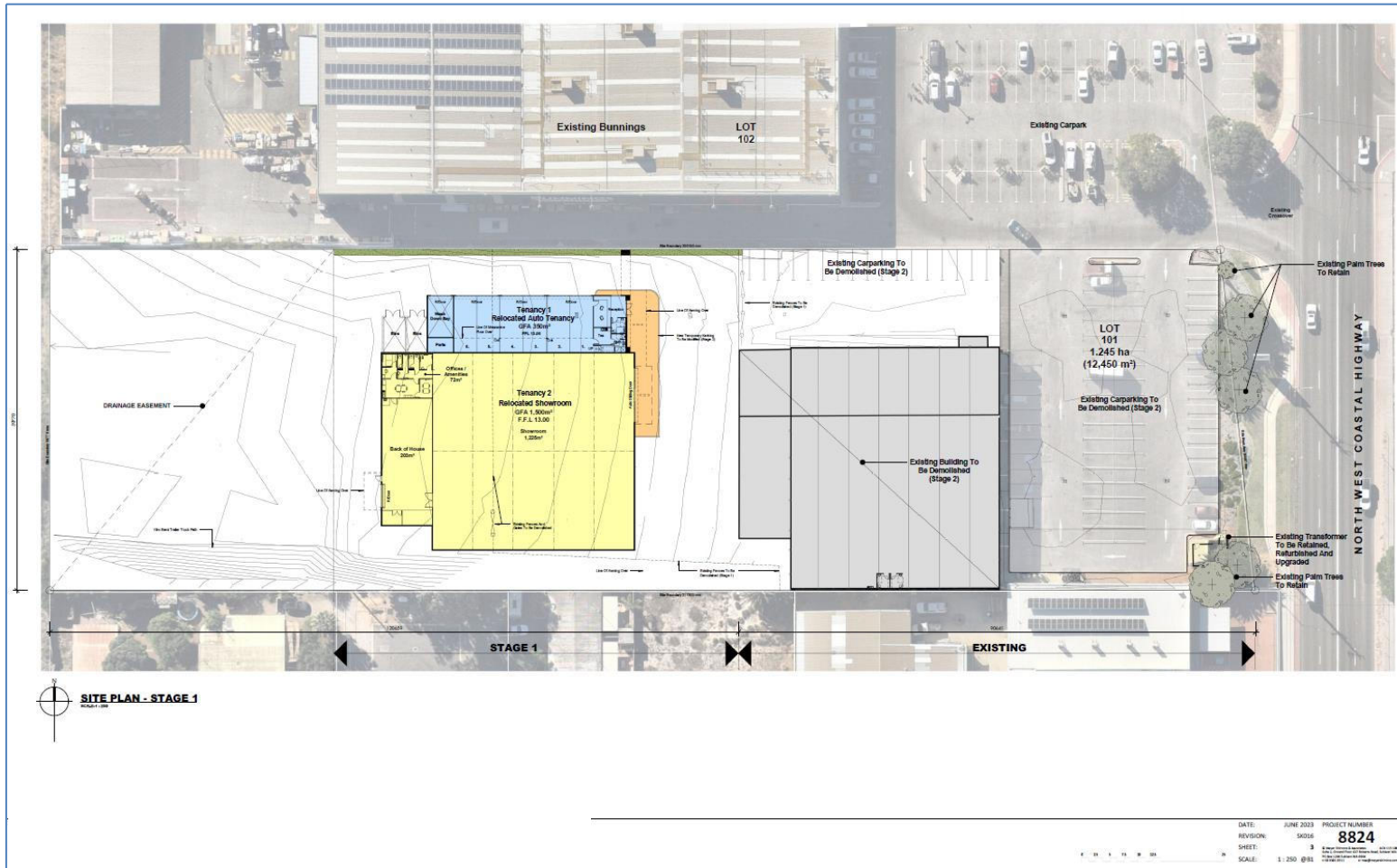
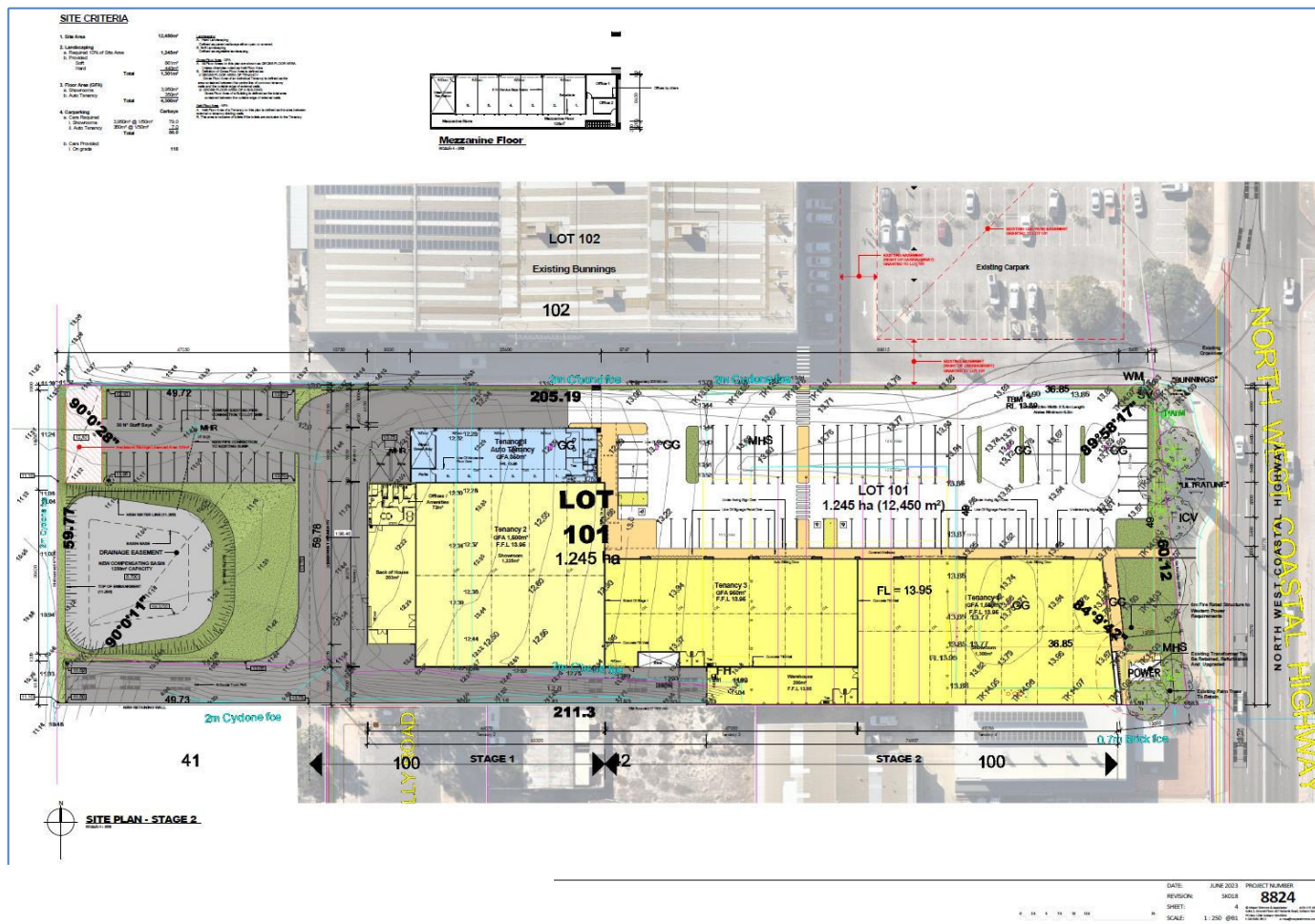


Figure 3: Stage 1 Site Plan



3. Traffic Management on Frontage Streets

3.1. Road Network Layout and Hierarchy

The layout and hierarchy of the existing local road network according to the Main Roads WA *Road Information Mapping System* is shown in **Figure 5**.

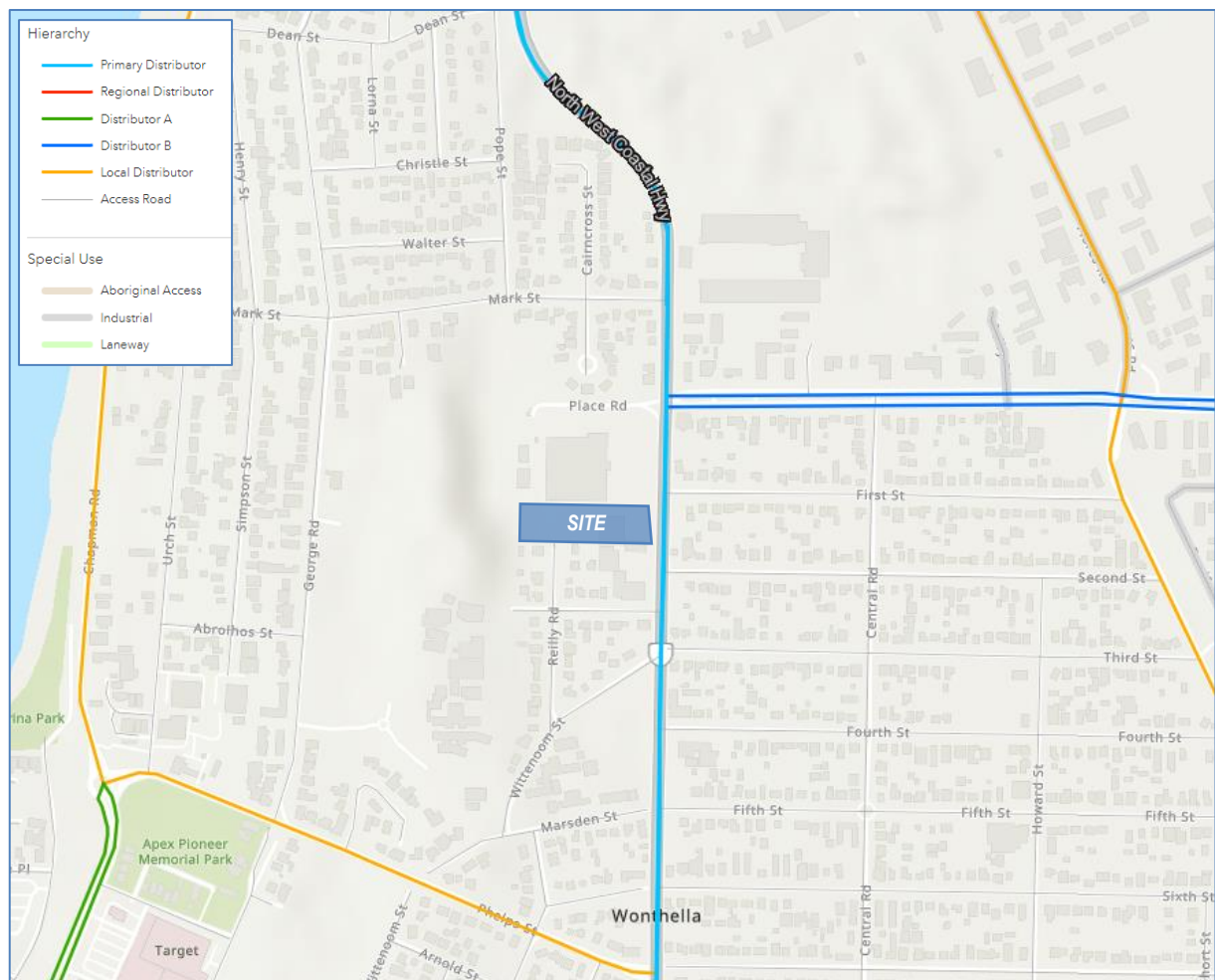


Figure 5: Existing Road Network Hierarchy

As shown, North West Coastal Highway is a Primary Distributor Road which is under the control of Main Roads WA.

3.2. Speed Limit

The existing speed limits are shown in **Figure 6**.

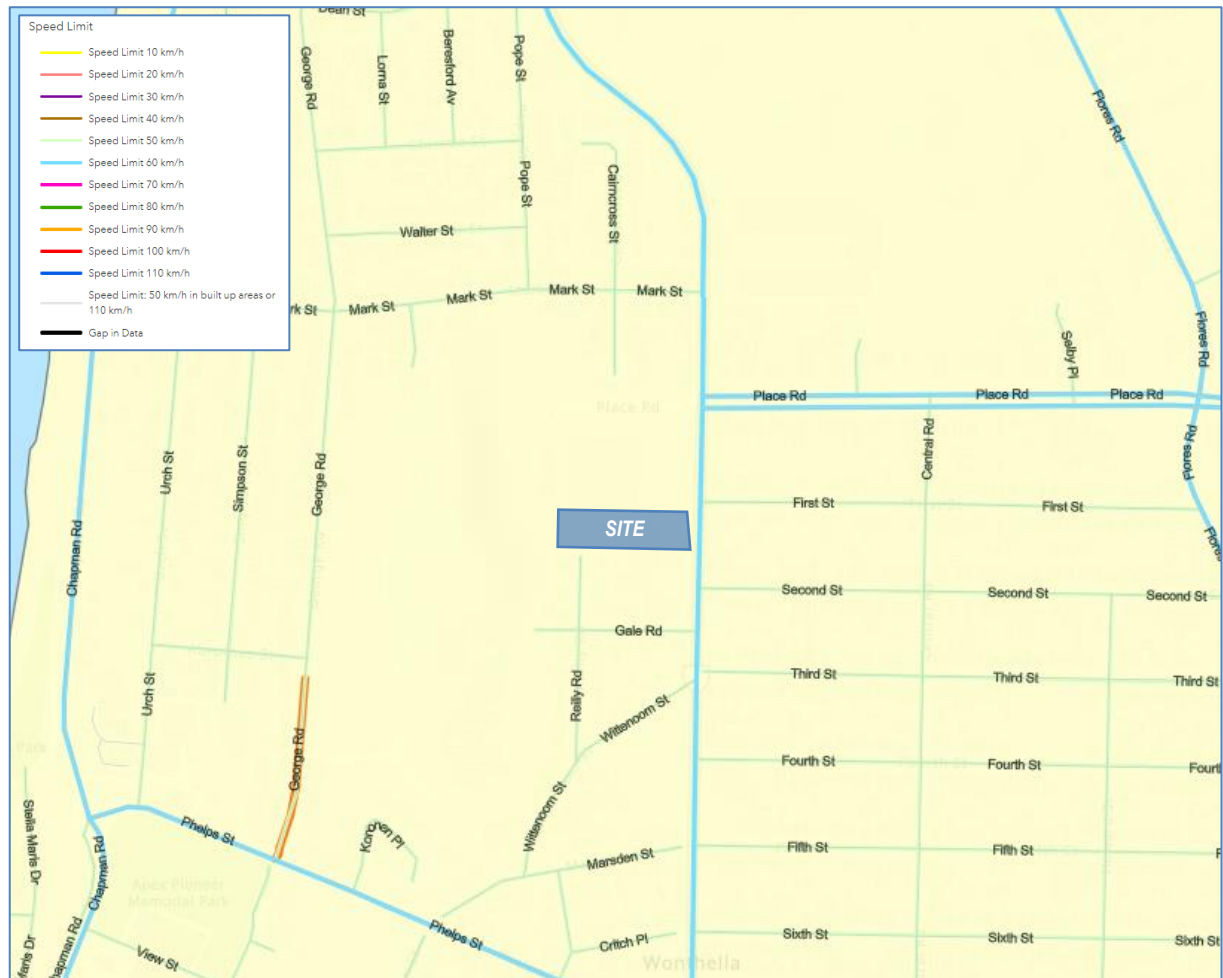


Figure 6: Existing Speed Limits

3.3. Traffic Volumes

The latest traffic volumes along North West Coastal Highway were obtained from Main Roads WA's *Traffic Map* as shown in **Figure 7** and **Figure 8**.

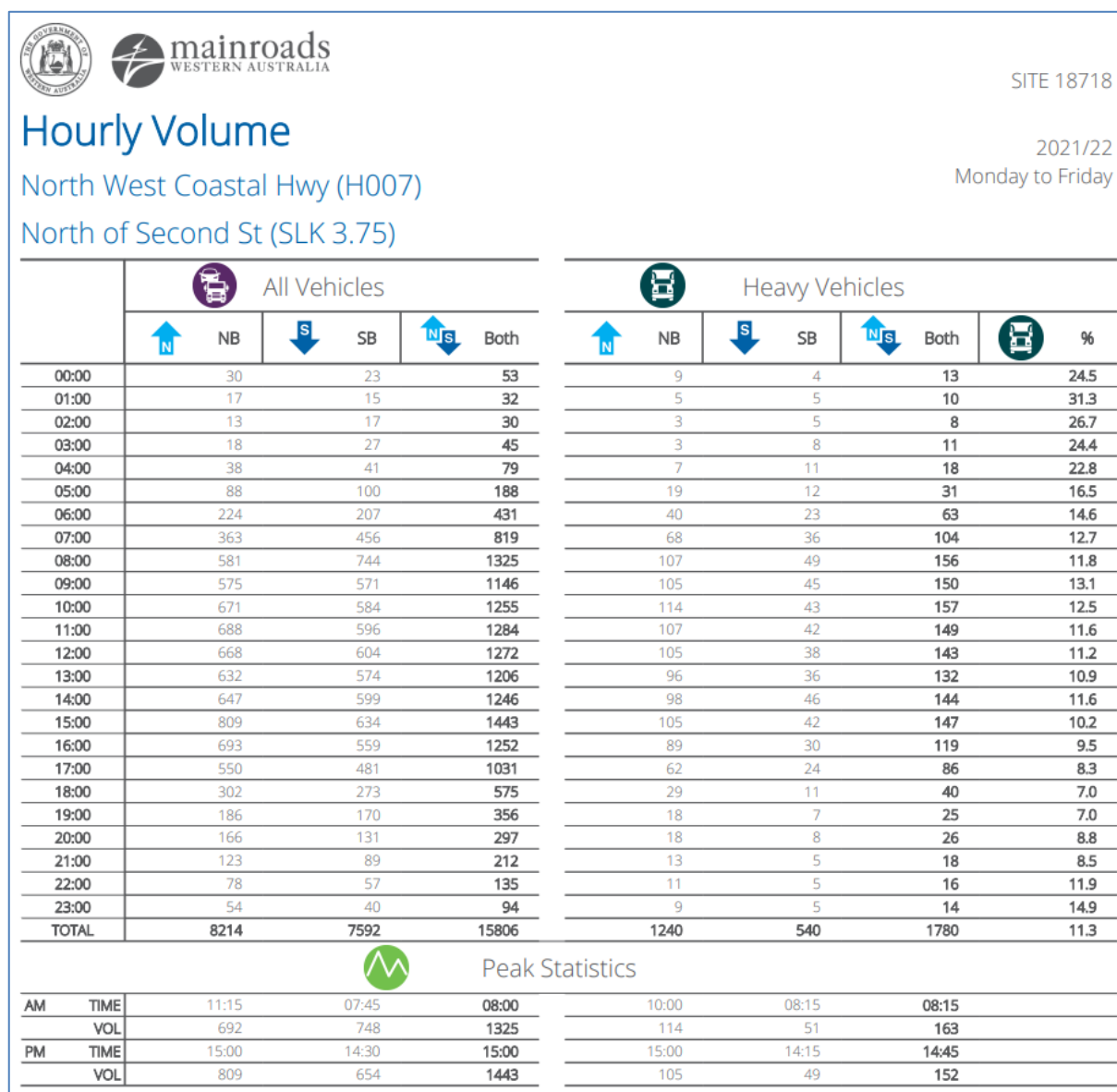


Figure 7: North West Coastal Highway Traffic – Weekday



Hourly Volume

North West Coastal Hwy (H007)

2021/22

Weekend

North of Second St (SLK 3.75)

	 All Vehicles			 Heavy Vehicles				
	 NB	 SB	 Both	 NB	 SB	 Both		%
00:00	56	44	100	8	3	11		11.0
01:00	32	32	64	4	3	7		10.9
02:00	21	20	41	2	3	5		12.2
03:00	19	24	43	3	4	7		16.3
04:00	25	23	48	2	3	5		10.4
05:00	54	43	97	11	2	13		13.4
06:00	90	94	184	12	6	18		9.8
07:00	163	179	342	22	13	35		10.2
08:00	283	342	625	39	17	56		9.0
09:00	511	521	1032	67	28	95		9.2
10:00	692	621	1313	87	25	112		8.5
11:00	708	712	1420	87	27	114		8.0
12:00	662	647	1309	72	26	98		7.5
13:00	588	549	1137	67	26	93		8.2
14:00	534	489	1023	61	20	81		7.9
15:00	472	475	947	51	25	76		8.0
16:00	370	384	754	44	17	61		8.1
17:00	331	326	657	38	14	52		7.9
18:00	223	254	477	22	12	34		7.1
19:00	155	161	316	10	6	16		5.1
20:00	134	135	269	9	7	16		5.9
21:00	105	101	206	9	7	16		7.8
22:00	74	66	140	6	4	10		7.1
23:00	49	45	94	2	2	4		4.3
TOTAL	6351	6287	12638	735	300	1035		8.2

		 Peak Statistics					
AM	TIME	11:15	11:00	11:15	10:45	10:15	10:45
	VOL	715	712	1427	89	29	118
PM	TIME	12:00	12:00	12:00	12:00	12:15	12:15
	VOL	662	647	1309	72	28	98

Figure 8: North West Coastal Highway Traffic – Weekend

4. Vehicle Access and Parking

4.1. Vehicle Access

Vehicle access to the site is currently via a shared crossover from the adjacent site to the north as shown in **Figure 9**. It is proposed to retain the existing access arrangement.

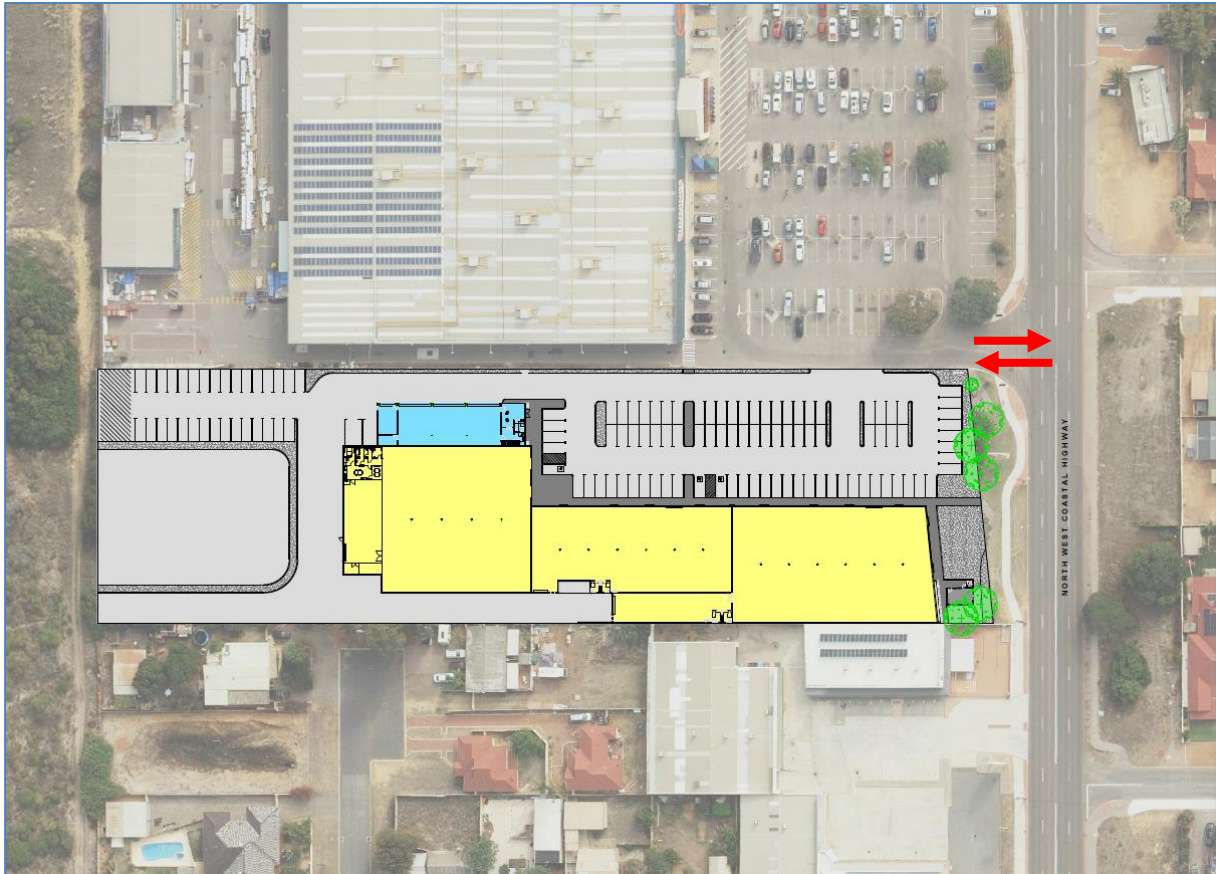


Figure 9: Vehicle Access

4.2. Access Sight Distance

Main Roads WA recommends that driveways to state roads achieve Safe Intersection Sight Distance (SISD). Where SISD is not achievable due to constraints, the absolute minimum requirement is to achieve Stopping Sight Distance (SSD). SISD and SSD are calculated in accordance with Main Roads WA's *Supplement to Austroads Guide to Road Design Part 4A*.

The required SISD is calculated in **Table 1**. Based on 1m contours from the City's IntraMaps, the adjacent section of North West Coastal Highway grades down at approximately 1% from north to south. The 85th percentile speeds obtained from Main Roads WA traffic data were slightly below the speed limit and so the operating speed was taken to be the 60km/h legal speed limit.

Table 1: Calculation of SISD Requirement

Vehicle	85 th Percentile Speed V	Decision Time D _T	Deceleration Coefficient d	Direction	Grade a	Required SISD
Cars	60km/h	5.5s	0.36	North	-1%	132m
				South	+1%	130m
Trucks	60km/h	5.5s	0.29	North	-1%	142m
				South	+1%	139m

As shown in **Figure 10**, the minimum required SISD is achieved in both directions from the existing access location.



Figure 10: Sight Distance Check – North West Coastal Highway

4.3. Car Parking

The car parking requirements have been calculated in accordance with the City's Local Planning Scheme No. 1 (LPS1) as shown in **Table 2** and **Table 3**.

Table 2: LPS1 Car Parking Requirements – Stage 1

Land Use	Requirement	Quantum	Required Bays
Commercial (Bulky Goods Showroom)	1 space per 50m ²	1,500m ²	30
Light Industry (Motor Vehicle Repair)	1 space per 50m ²	350m ²	7
		Total	37

Table 3: LPS1 Car Parking Requirements – Stage 2

Land Use	Requirement	Quantum	Required Bays
Commercial (Bulky Goods Showroom)	1 space per 50m ²	3,950m ²	79
Light Industry (Motor Vehicle Repair)	1 space per 50m ²	350m ²	7
		Total	86

As shown the development requires 37 bays for Stage 1 and 86 bays for Stage 2.

There are currently 74 bays on the site which will remain at the completion of Stage 1. At the completion of Stage 2, there will be approximately 121 car parking bays.

The parking provision exceeds the calculated requirements for both stages and is therefore considered to be adequate.

4.4. Parking Layout

The layout and dimensions of the car bays have been assessed for compliance with AS2890.1 as detailed in **Table 4**. The employee bays are considered to be User Class 1 or 1A as these bays are typically for long-term parking and customer/visitor bays are considered to be User Class 2 for medium-term parking.

Table 4: AS2890.1 Compliance

Dimension	Requirement	Provided
90-degree parking – Class 1A – Employee Parking (Long-term parking)		
Car Bay Width	2.4m	2.5m
Car Bay Length	5.4m	5.4m
Parking Aisle Width	5.8m	6.1m
90-degree parking – Class 2 – Medium-term Parking		
Car Bay Width	2.5m	2.6m
Car Bay Length	5.4m	5.4m
Parking Aisle Width	5.8m	6.2m minimum

As shown, all relevant dimensions are compliant.

4.5. Provision for Service Vehicles

The site will be accessed by a number of service vehicles including delivery vehicles up to a 19m semi-trailer.

A vehicle swept path analysis has been undertaken to check the manoeuvrability of service and delivery vehicles through the site to the loading area at the rear of the retail tenancies. The analysis has been undertaken in AutoTURN software using the Australian Standard 19m Articulated Vehicle (AV) template and the Australian Standard 12.5m Heavy Rigid Vehicle (HRV).

The results of the analysis are attached as **Appendix A** and these demonstrate that the site layout allows satisfactory manoeuvring for the expected truck types.

5. Traffic Impact

5.1. Traffic Generation

The volume of traffic generated by the proposed development has been estimated using standard trip generation rates from the following sources:

- For the retail tenancies, the rates have been derived from the NSW Roads and Maritime Services (RMS) *Guide to Traffic Generating Developments – Updated Traffic Surveys*. The rates used were for *Bulky Goods Retail Stores*.
- For the auto service tenancy, the trip generation rates were derived from the Institute of Transportation Engineers (ITE) *Trip Generation*. The rates used were for *Automobile Parts and Service Center*.

The trip generation is calculated in **Table 5**. The peak periods of assessment are considered to be the weekday PM peak hour and the weekend mid-day peak hour which are likely to be the highest combination of development and background traffic. There were no weekend peak trip generation rates for the auto service component and so it was assumed to be the same as the weekday PM peak.

For simplicity, only Stage 2 has been calculated as this represents the highest traffic generation and Stage 1 comprises the existing tenancies.

Table 5: Trip Generation – Stage 2

Land Use	Units	Quantity	Generation Rate		Number of Trips	
			Weekday PM Peak	Weekend Peak	Weekday PM Peak	Weekend Peak
Large Format Retail	100m ² GFA	2,450m ² GFA	2.7	3.9	66	95

As shown, the proposed development is predicted to generate approximately 66 additional trips during the weekday PM peak hour and 95 additional trips during the weekend peak hour.

According to the WAPC TIA guidelines, an increase of between 10 to 100 peak hour vehicles is considered to have a low to moderate impact and is generally deemed acceptable without requiring detailed capacity analysis.

The estimated 66 to 95 vehicles per hour is at the higher end of this range and so the development traffic is considered to have a moderate impact but can be accommodated within the existing capacity of the road network. It is likely that the actual peak trip generation will lower than indicated above as a proportion of trips may be cross trade trips between the site and the adjacent development, particularly the existing Bunning's Warehouse on the adjacent lot to the north.

6. Pedestrian and Cyclist Access

6.1. Path Network

There are existing footpaths along both sides of North West Coastal Highway. In the broader area, most other roads have at least one footpath. The existing path network is well established and there are no major deficiencies.

The demand for walking and cycling is typically low for the proposed uses and so the provision of new paths is not warranted by the development.

6.2. Bicycle Parking

The bicycle parking requirements are also outlined in the City's LPS1. No bicycle parking is required for commercial or industrial uses.

7. Public Transport Access

7.1. Existing Services

The only existing public transport service in the area is TransGeraldton Bus Route 852 which operates between Geraldton and Spalding via Wonthella. The closest stops for this route are located on Place Road, approximately 300m walking distance from the site.

The demand for public transport is expected to be low and the existing available services are adequate to meet the likely demand.

8. Site Specific Issues and Safety Issues

8.1. Crash History

The crash history of the adjacent road network was obtained from the *MRWA Reporting Centre*. The search included the length of North West Coastal Highway between Place Road and Fourth Street. A summary of the crashes recorded over the five year period from January 2018 to December 2022 is summarised in **Figure 11**.

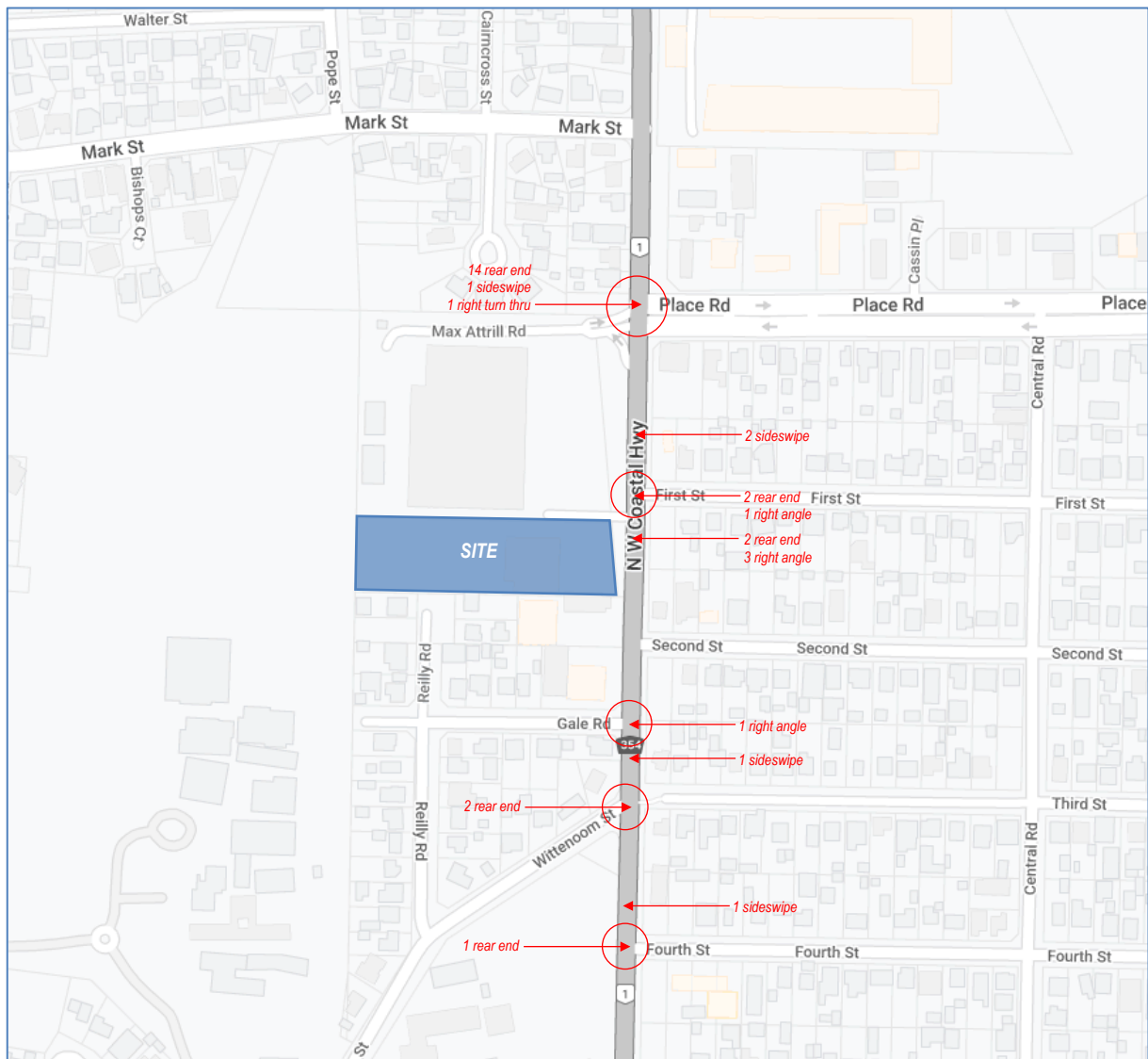


Figure 11: Crash History – 2018-2022

The crash history appears to be relatively typical of the road type and proportional to the volume of traffic.

2 rear ends and 3 right angle crashes have been recorded in the vicinity of the driveway intersection to the site. A review of the detailed crash history indicates that:

- The right angle crashes involved vehicles turning right onto the highway and the rear end crashes involved vehicles turning right from the highway.
- The crashes were not concentrated in any particular year (1 in 2018, 1 in 2019, 2 in 2021 and 1 in 2022).
- All resulted in property damage only except the one crash involving a motorcycle resulted in hospitalisation.

The number and type of crashes appear to be typical of a high volume access intersection on a distributor road.

The proposed redevelopment will only generate a moderate volume of additional traffic as part of the development is existing. On this basis, it is not considered necessary to modify the proposed access arrangement but it is recommended to monitor the crash history in this location.

It is understood that Main Roads WA are proposing to upgrade the North West Coastal Highway / Place Road intersection which will include modifications to the shared access intersection to the Bunnings site. Concept upgrade plans were provided by Main Roads WA as part of a 2022 JDAP application for a proposed service station on the opposite side of North West Coastal Highway. An extract of the concept plans is shown in **Figure 12** which indicates that a proposed median will extend past the Bunnings access and will restrict movements to left turns only.

The timing of implementing the upgrades is unknown. As part of the above JDAP application, Main Roads WA advised that detailed design would commence in September 2022.

Once the upgrade is completed, the risk of crashes at the access intersection would likely reduce significantly due to the removal of right turns.

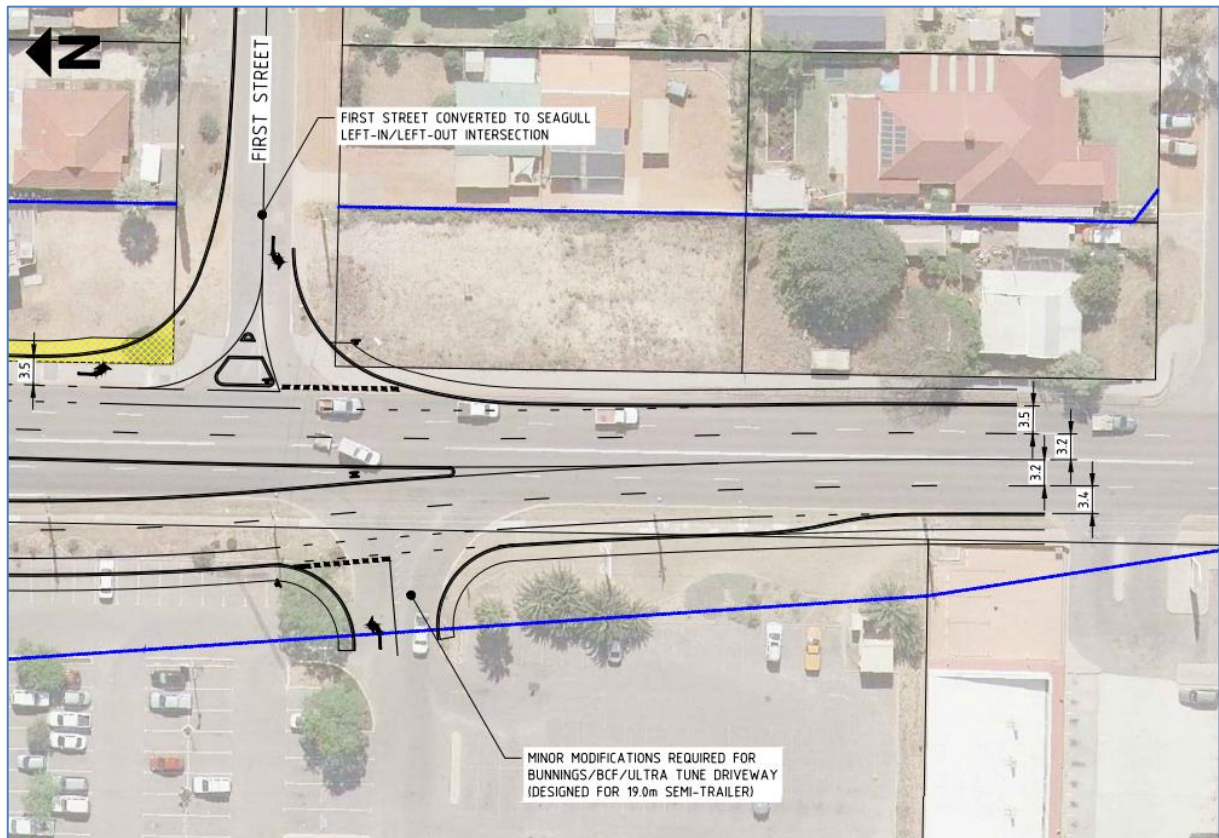


Figure 12: North West Coastal Highway / Place Road Concept Upgrades

9. Conclusion

This Transport Impact Statement for the proposed large format retail development at Lot 101 North West Coastal Highway in Wonthella concluded the following:

- The proposed development is predicted to generate approximately 66 additional trips during the weekday PM peak hour and 95 additional trips during the weekend peak hour. The development traffic is considered to have a moderate impact but can be accommodated within the existing capacity of the road network. It is likely that the actual peak trip generation will lower than indicated above as a proportion of trips may be cross trade trip between the site and the adjacent development, particularly the existing Bunning's Warehouse on the adjacent lot to the north.
- The available sight distance at the existing access point exceeds the minimum required SISD.
- The provision of car parking satisfies the minimum requirements of the City's Local Planning Scheme.
- The proposed development does not require bicycle parking.
- The car parking layout is compliant with AS2890.1.
- A vehicle swept path analysis demonstrates that the site layout allows satisfactory manoeuvring for the expected service vehicles.
- The crash history appears to be relatively typical of the road type and proportional to the volume of traffic. It is not considered necessary to modify the proposed access arrangement, but it is recommended to monitor the crash history in this location.
- It is understood that Main Roads WA are proposing to upgrade the North West Coastal Highway / Place Road intersection which will include modifications to the shared access intersection to the Bunnings site. Once the upgrade is completed, the risk of crashes at the access intersection would likely reduce significantly due to the removal of right turns.
- The existing external path network is considered to be adequate.
- The existing public transport services are considered to be adequate.

Appendix A – Swept Path Analysis

