

December 2020

Final

Proposed Development of FISH Myalup Karla Waanginy at
Lot 1 Forrest Highway, Myalup, WA

Prepared For:
Foundation for Indigenous
Sustainable Health



Foundation for Indigenous
Sustainable Health

Transport Impact Statement
Report

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1. INTRODUCTION

1.1 BACKGROUND

This Transport Impact Statement has been prepared by Donald Veal Consultants on behalf of the Foundation for Indigenous Sustainable Health, a not-for-profit organisation referred to as FISH. The report focusses on the FISH Myalup Karla Waanginy development on Lot 1 Forrest Highway in Myalup. The service station within the lot will continue to operate as existing, whilst the vacant property around it is proposed to be developed for community use.

1.2 SCOPE OF ASSESSMENT

This Transport Impact Statement has been prepared in accordance with the Western Australian Planning Commission's (WAPC's) *Transport Assessment Guidelines for Developments Volume 4 Individual Developments* (2006).

The intent of this report is to provide the approving authority with sufficient transport information to confirm that the proponent has adequately considered the transport aspects on the development and that it would not have an adverse transport impact on the surrounding area.

The level of transport assessment required is considered to be that of a 'moderate impact' development. A "moderate impact" development is one that generates between 10-100 vehicle trips in the development's peak hour.

2. EXISTING SITE CONDITIONS

2.1 SITE LOCATION

The site is located on the eastern side of the southbound carriageway of Forrest Highway, Myalup within the Shire of Harvey. The site location is shown in a regional context in **Figure 2.1** and in a local context in **Figure 2.2**.

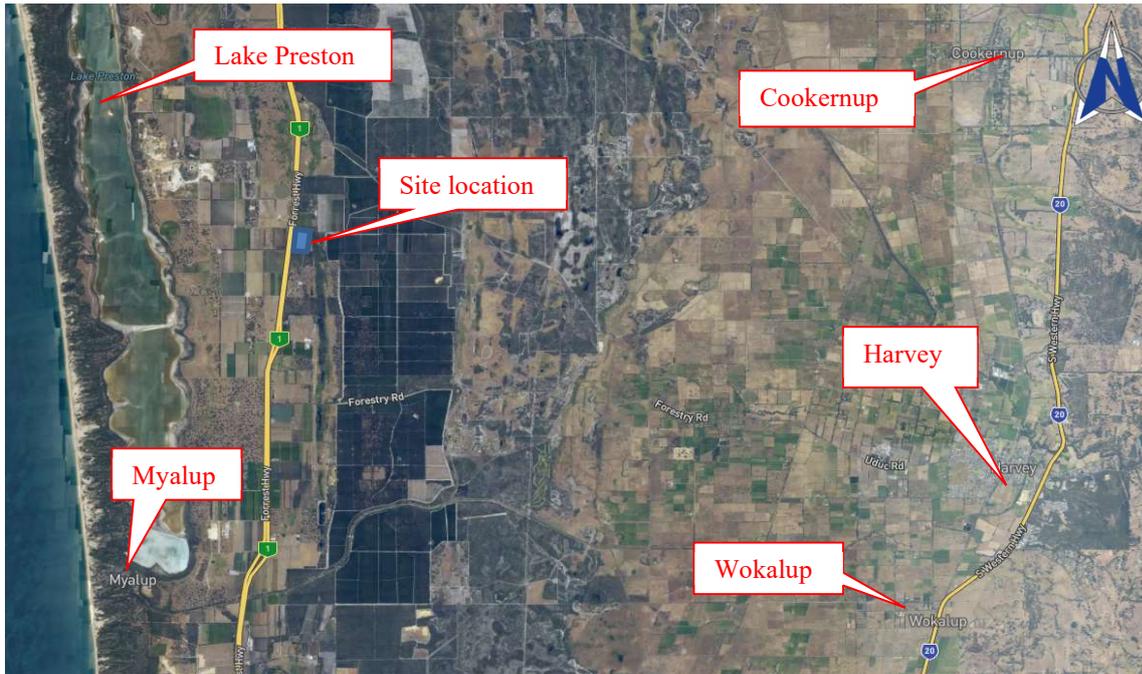


Figure 2.1: Site Location – Regional Context *Source: MetroMap*

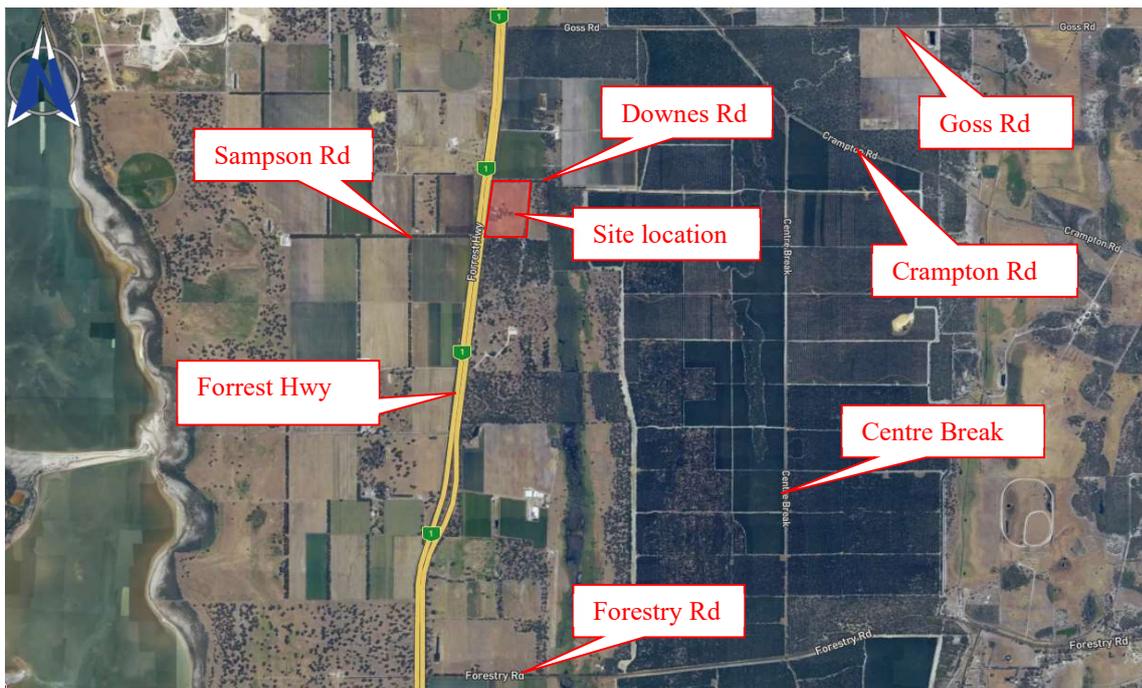


Figure 2.2: Site Location – Local Context *Source: MetroMap*

2.2 CURRENT LAND USES

There is an existing service station with convenience store located on the site. The existing site contains ten (10) refuelling locations for standard vehicles under the main canopy with two (2) diesel refuelling locations under a separate canopy for large vehicles. See **Figure 2.3**.



Figure 2.3: Existing land Use Source: *MetroMap*

2.3 ROAD INFRASTRUCTURE

The western side of the site abuts the southern carriageway of Forrest Highway. Forrest Highway at this location is constructed to a four-lane divided carriageway standard. Full turning movements are permitted into the site via a modified seagull island treatment as shown in **Figure 2.4**. Left and right auxiliary turning lanes are provided at the site entry.



Figure 2.4: Road layout of Forrest Highway in the vicinity of the site Source: MetroMap

2.4 ROAD HIERARCHY

Forrest Highway is classified as a primary distributor road under Main Roads WA's Functional Road Hierarchy. Primary distributor roads "provide for major regional and inter-regional traffic movement and carry large volumes of generally fast-moving traffic."

Forrest Highway is a 95km length of road through the Peel and South West regions. The highway begins at Kwinana Freeway's southern terminus in Ravenswood and continues south to Bunbury. There are a number of at grade intersections with minor roads along the route within the Shires of Murray, Waroona and Harvey. Major settlements located off Forrest Highway in the vicinity of the proposed development include Myalup and Binningup.

Forrest Highway is also known as the National Route 1 and State Route 2. It is controlled and managed by Main Roads Western Australia (MRWA). It is categorised as Primary Distributor road by MRWA Metropolitan Network with the posted speed limit of 110 km/h.

Forestry Road is categorised as Regional Distributor road on the MRWA Metropolitan Network with the posted speed limit of 100 km/h. It links Harvey townsite with Forrest Highway. Other adjacent roads within the immediate vicinity are classed as Access roads with the speed limit of 110 km/h.

Figure 2.5 and **Figure 2.6** outline the road hierarchy classification and legal speed limit of the surrounding road network respectively.

2.5 EXISTING TRAFFIC VOLUMES

The latest available traffic volumes for the surrounding road network were sourced from MRWA. The latest available data for Forrest Highway, north of Forestry Road was in 2019/20.

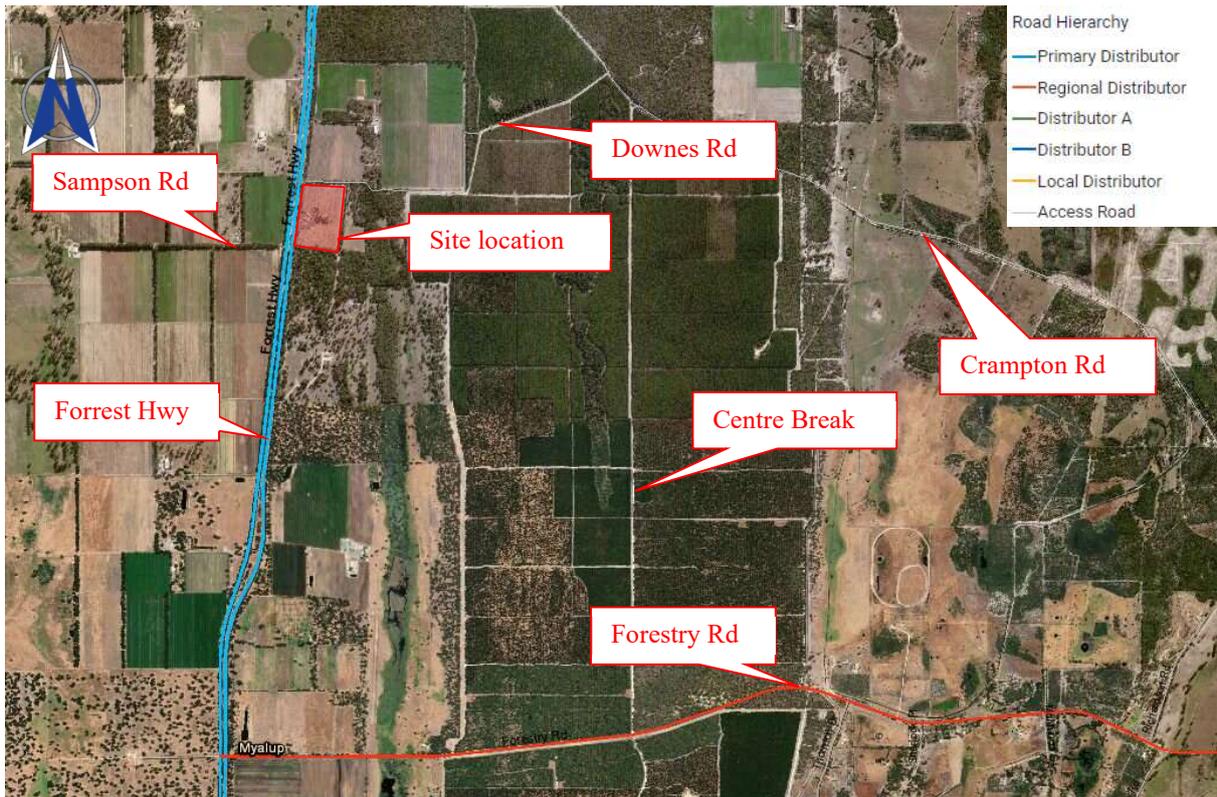


Figure 2.5: Road Hierarchy Source: Crash Map MRWA

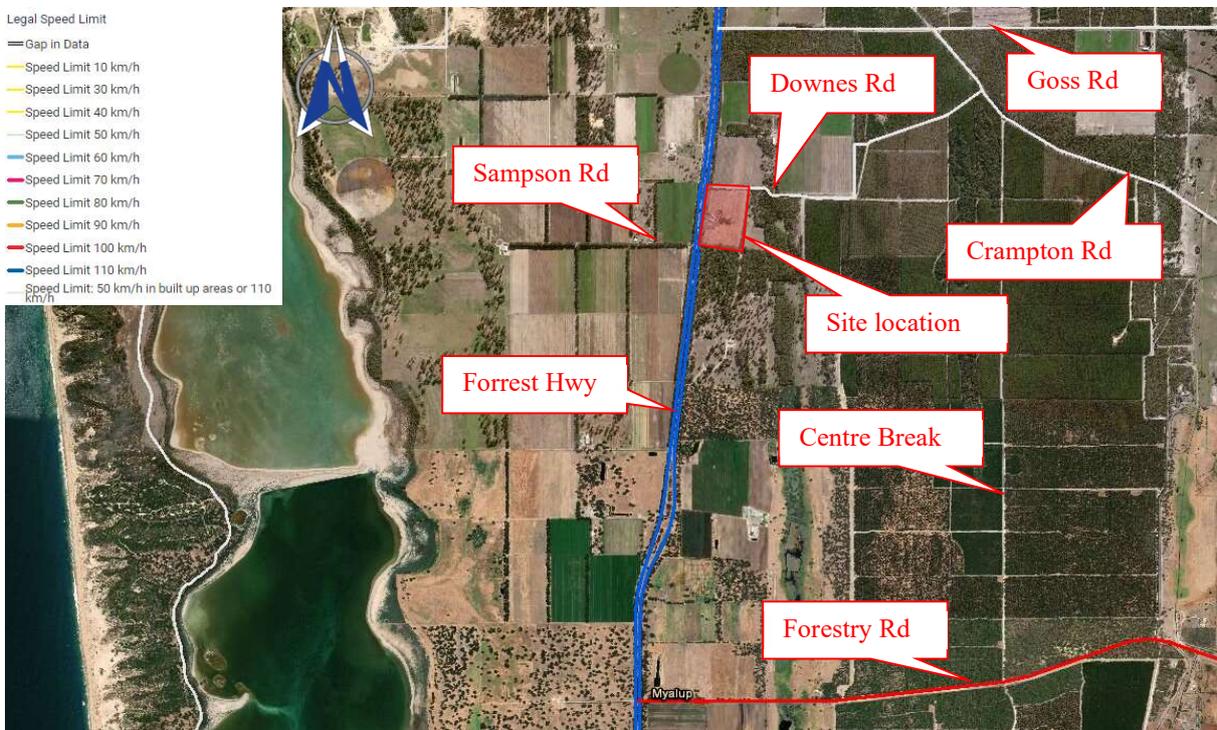


Figure 2.6: Speed Limit Source: Crash Map MRWA

Forrest Highway, north of Forestry Road carries approximately 17,234 vehicles per day (vpd) with 11.5% heavy vehicles. The AM peak is approximately 1,501 vehicles per hour (vph) whilst the PM peak is 1,406vph in both directions.

The busiest weekday is Friday with approximately 17,100vpd and an am peak hour volume of 1,680vph (11.45am-12.45pm) and a pm peak hour volume of 1,750vph (4.15pm-5.15pm).

The traffic flow in both directions on Forrest Highway increases to 19,205vpd during weekend with 6.2% heavy vehicles.

2.6 CRASH HISTORY

A search of the MRWA CARS database showed 6 recorded crashes that occurred in the vicinity of the site between Downes Road (SLK 54.21) and Sampson Road (SLK 54.66) in the latest 5-year recording period, January 2015 to December 2019. Five of the crashes occurred on the southbound side of the median and one on the northbound side. All of the southbound crashes involved major property damage and occurred during day light hours. The northbound crash involved hitting a Kangaroo in the dark. No people were injured in any of the incidents. (See **Table 2.1** and **Figure 2.7**).

Table 2.1: Crash History

Crash Type	Fatal	Hospital	Medical	PDO Major	PDO Minor	Total Crashes
Sideswipe Same Dirn	0	0	0	2	0	2
Right Angle	0	0	0	2	0	2
Hit Animal	0	0	0	1	0	1
Hit Object	0	0	0	1	0	1
Total	0	0	0	6	0	6



Figure 2.7: Crash History

Source: Crash Map MRWA

2.7 PLANNED CHANGES TO THE ROAD NETWORK

DVC is aware that at some time in the future the Forrest Highway will be upgraded to a freeway standard with reduced access and grade separated intersections at key locations. It is understood that this is a long-term plan and to date there is no firm decisions to date regarding interchange locations or potential staging of the construction.

3. DEVELOPMENT PROPOSAL

3.1 PROPOSED LAND USES

The proposed redevelopment does not include any modification to the existing service station. The proposal relates to the surrounding property which will be developed to support sustainable indigenous health initiatives proposed by FISH. These include:

- Aquaculture dams;
- An Aboriginal cuisine café, restaurant and shop;
- Transitional workers accommodation;
- Aquaponics activities and processing (including cool rooms);
- A Wellbeing Centre;
- Panel and Unit Manufacturing activities;
- Parking; and
- Landscaping and gardens.

The activities of FISH are well documented on their website (fish.asn.au). In relation to traffic the proposed development has two aspects: ‘farming’ and manufacturing and café/restaurant and shop. The former attracts little or no external traffic and most staff will be resident on site. The café activity will attract traffic, mostly passing traffic already on the Forrest Highway, including those refuelling and or taking a break from driving.

A copy of the proposed development plan is shown in **Figure 3.1**.

3.2 CONTEXT WITH SURROUNDS

The site is an isolated development surrounded by pastoral and crop farming activities. Other service centres also exist along Forrest Highway that cater for refuelling, the opportunity to purchase convenience goods and a break along this regional route connecting the Perth/Peel region to the Bunbury and the southwest region.

3.3 ACCESS ARRANGEMENTS

The primary access to/from the site is via two crossovers on Forrest Highway; one is an entry only whilst the other is an exit only. The crossovers are separated by approximately 60m. Auxiliary turning lanes are provided for both left and right turning vehicles into the site, allowing vehicles to slow down within the auxiliary lane and minimising disruption to through traffic.

Figure 3.2 shows access arrangements to and from the proposed development and the preferred internal circulation. Access to and circulation within the service station area will remain unchanged.

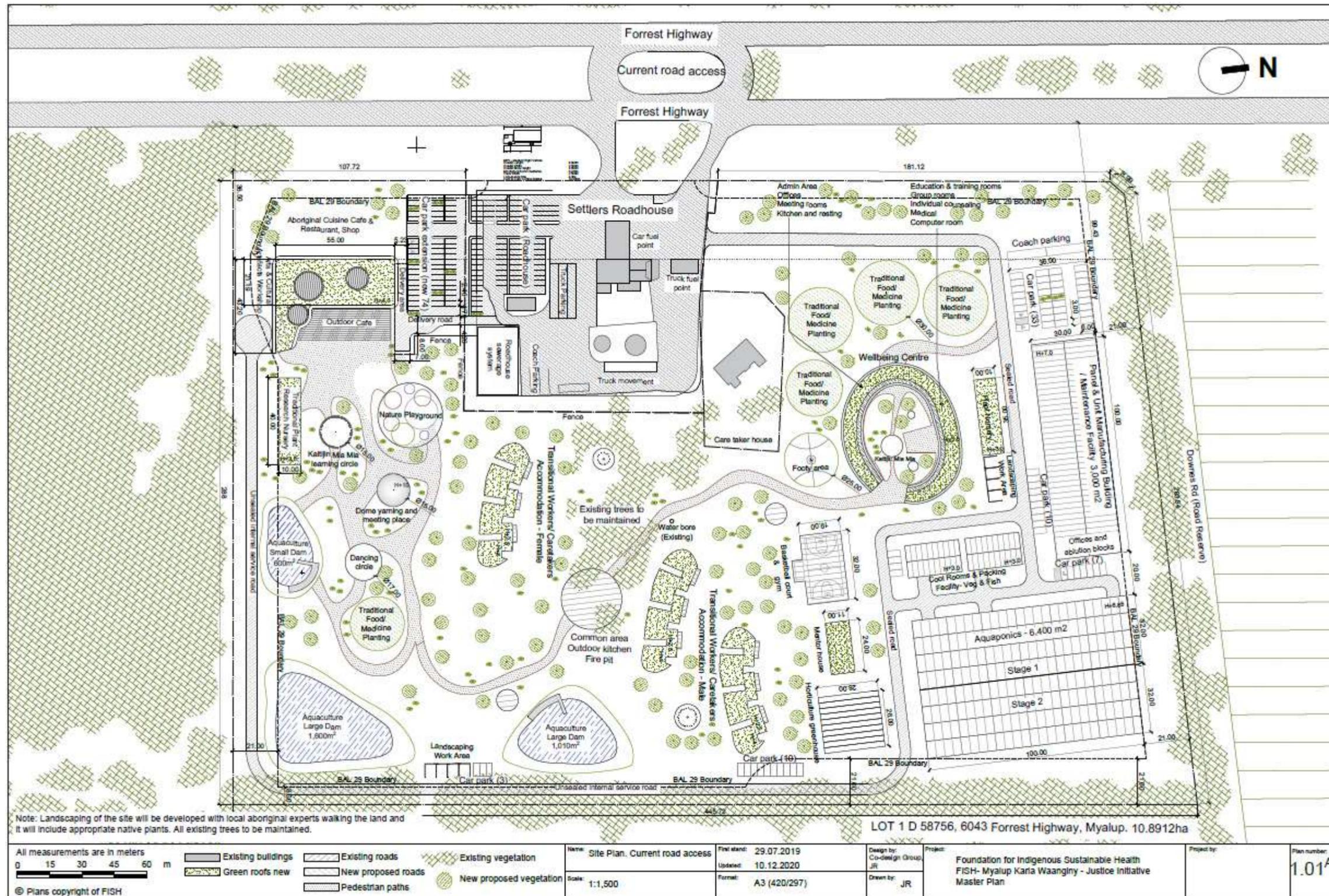


Figure 3.1: Proposed Site Plan Source: Foundation for Indigenous Sustainable Health

Access to the non-public parts of the proposed development (farming, residential, manufacturing) is provided by a service road to the north off the service station apron. It is anticipated that this road will be used mainly by cars, medium rigid heavy vehicles and the occasional minibus accessing these facilities. The service road meanders past the main manufacturing and aquaponics area to the north of the site before heading south along the eastern boundary and again west along the southern boundary of the site. It is anticipated that the boundary roads will not be paved and will only serve site maintenance vehicles and fresh produce delivery vehicles (between the aquaponics packing rooms and Café area).

3.4 PARKING

Parking for light vehicles, coaches and heavy vehicles using the service station also remains unchanged as shown in **Figure 3.1**.

The Shire of Harvey District Planning Scheme requires parking for restaurants to be provided at 1 space per 4 seats and for shops at 1 space per 15m² GFA. **Figure 3.2** shows that there will be approximately 155 seats in the restaurant and that the shop area totals approximately 540m². Based on this, the Scheme would require 39 + 36 = 75 parking spaces.

The proposed layout in **Figure 3.2** indicates an additional 74 spaces. It is clear however that there will be extensive shared use of the parking spaces: visitors to the service station will also visit the restaurant and shop and vice versa. It is therefore misleading to accumulate parking requirements for individual parts of the development. For this reason the proposed parking provision is considered ample for the proposed development and existing service station.

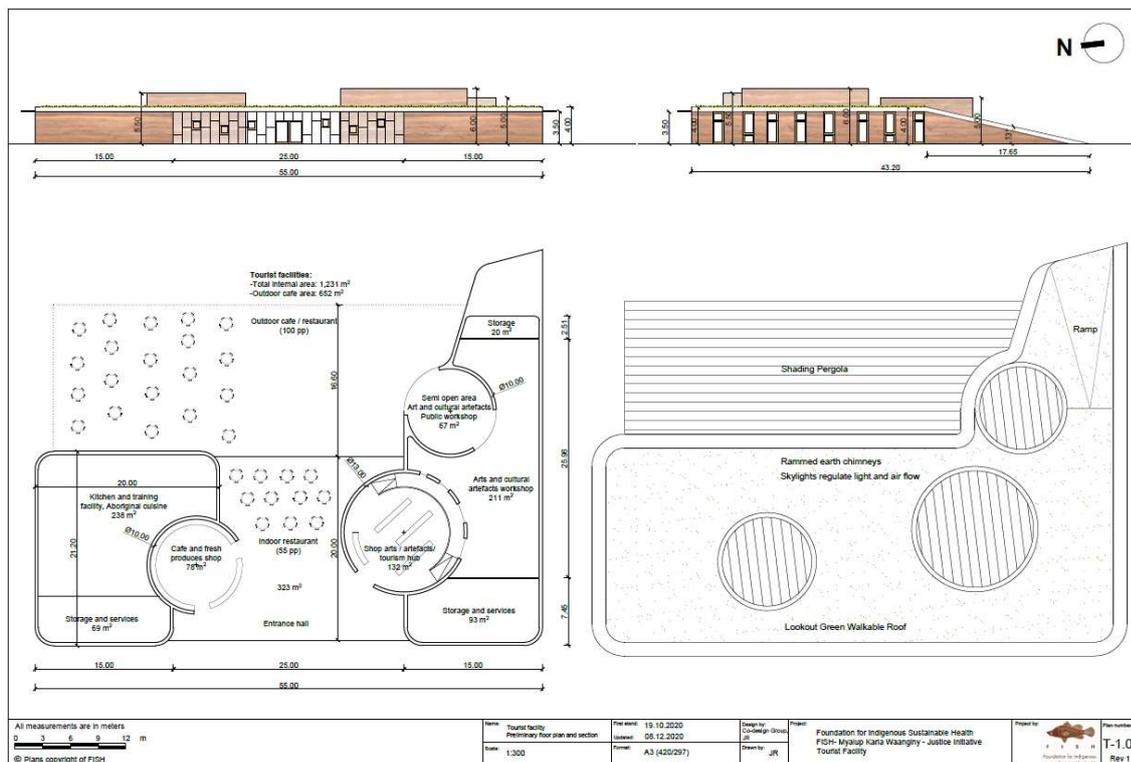


Figure 3.2: Aboriginal Cuisine Café, Restaurant and Shop Layout

Source: FISH

Parking for the non-public facilities is distributed around the site as shown in **Figure 3.1**. In total there are 57 car parking spaces provided (including ACROD spaces) and two coach parking spaces. FISH estimates that there will be approximately 25 staff driving to the site on a daily basis plus a single minibus. Other staff working at the site will be resident and will not require additional parking. Service vehicles entering the site will be collecting produce and delivering materials and will park in suitably located loading bays adjacent to the relevant building.

DVC considers that there is ample parking provided on site for the non-public activities.

3.5 SERVICE VEHICLES

Service activities to the site will include materials delivery, rubbish collection, produce collection and product delivery for the café. DVC understands that service deliveries will be carried out using an 8.8m medium rigid vehicle (MRV) or smaller.

The swept path of an MRV to the northern end of the proposed development is shown in **Figure 3.3**. This shows that the proposed internal road layout can accommodate such a service vehicle. It will require the whole roadway width at the corners but given that this is not a public road and will experience very low volumes of slow-moving traffic, this is seen as acceptable. We do however, recommend that all internal service roads be a minimum of 5.5m wide.

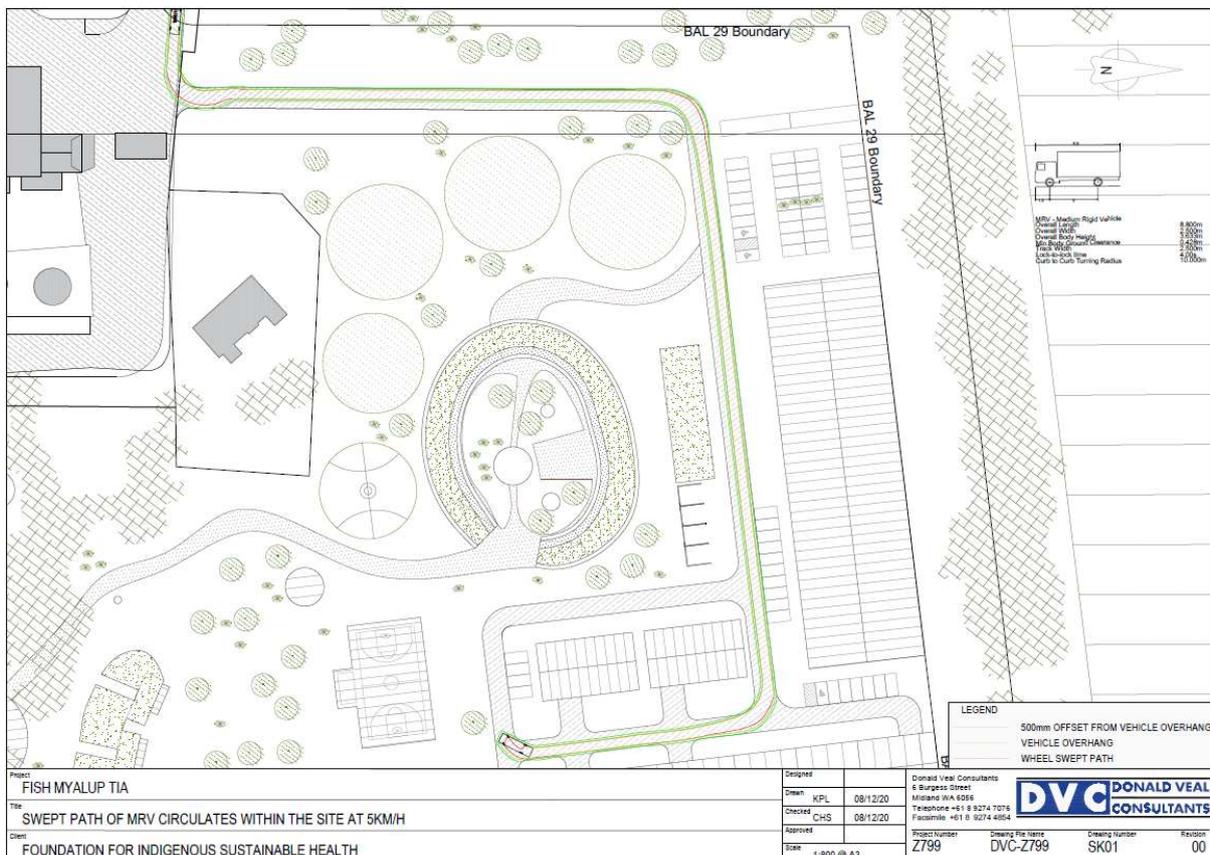


Figure 3.3: Swept Path of an 8.8m MRV on northern service road

Service trucks to the restaurant will use the delivery road indicated on the plan in **Figure 3.4**. Service vehicles will use the truck entrance to the service station to access this road, turn and offload in the delivery area and exit again through the truck access in a forward gear. The turning movement at the delivery area will accommodate an 8.8m MRV identified by FISH as the design service vehicle.

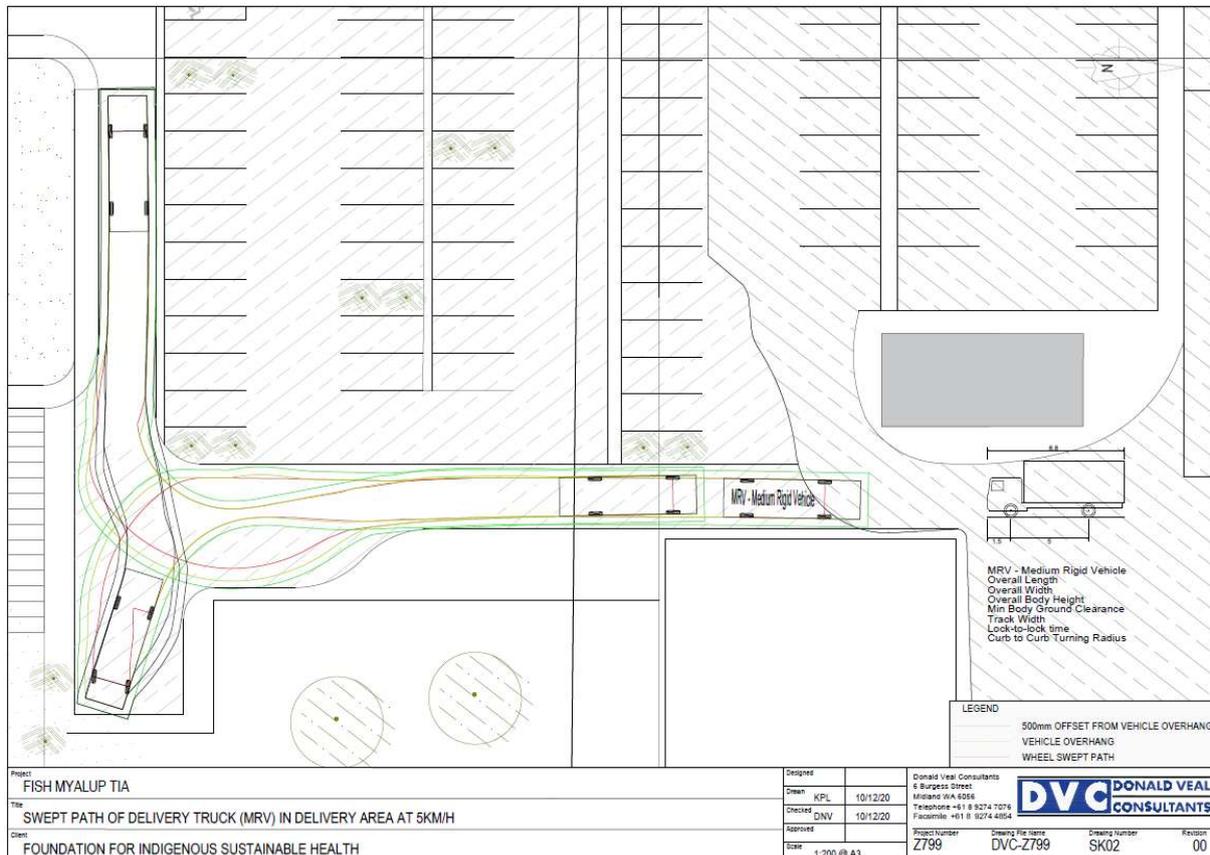


Figure 3.4: Swept Path of an 8.8m MRV at café loading area

3.6 SIGHT DISTANCE

Three different sight distances are generally reviewed for property accesses. These are:

- Approach Sight Distance (ASD);
- Safe Intersection Sight Distance (SISD); and
- Minimum Gap Sight Distance (MGSD).

Table 3.1 summarises the calculations of these various sight distances as determined from Austroads guidelines *“Guide to Road Design, Part 4A Unsignalised and Signalised Intersections”*. The posted speed limit along Forrest Highway adjacent to the site is 110km/h hence a design speed on 120km/h is adopted. The gap acceptance for a left and right turn into traffic is typically 5 seconds.

Table 3.1: Calculation of various Sight Distances

Sight Distance Type	Design Speed	Reaction Time (sec) / Gap Acceptance (sec)	Sight Distance (m)
Approach Sight Distance (ASD)	120km/h	2	224
Safe Intersection Sight Distance (SISD)	120km/h	2	324
Minimum Gap Sight Distance (MGSD)	120km/h	5	153

A desktop analysis, as shown in **Figure 3.5**, demonstrates these sight distances along Forrest Highway to the north and south are adequate, assuming flat terrain and the verge areas are kept clear. **Photos 1 and 2** show the available sight distance along Forrest Highway in each direction. Note that these photos pre-date the intersection upgrades but still illustrate the sight distance available.



Figure 3.5: Sight lines along Forrest Highway *Source: Google Earth*



Photo 1: Sight distance along Forrest Highway looking north from the Exit *Source: DVC 2016*



Photo 2: Sight distance along Forrest Highway looking south from the median break *Source: DVC 2016*

4. TRAFFIC ASSESSMENT

4.1 TRAFFIC GENERATION

Several sources of trip generation information have been reviewed for this assessment. The owners of the Service Station have provided transaction data for a recent week. FISH has provided estimates of staff movements and expected tourist traffic to the restaurant and shop. DVC has reviewed trip generation rates from the New South Wales Road and Transport Authority (RTA) for restaurants and also undertook traffic counts at the nearby Crooked Carrot Café in 2018.

Future staff traffic generated by the manufacturing and farming elements of the development are estimated (by FISH) to be 25 vehicles inbound in the morning and the same number outbound in the afternoon. These would not coincide with the peak hour for the service station or through traffic on Forrest Highway. In any case, the traffic impact from an additional 25 vehicles in any hour is expected to be negligible.

The service station transactions (16/11/2020 to 22/1/2020) as provided by the operator are shown in **Appendix A**. Peak hour transactions occurred around midday with Friday and Sunday exhibiting the highest volumes. The Friday peak of 120 transactions per hour occurred between 12noon and 1:00pm. The Sunday peak of 128 transactions occurred between 11am and 12 noon. Peaks on other days of the week varied between 40 and 100 transactions per hour, which approximates to between 80 and 200 trips per hour (inbound plus outbound). Note that this is existing traffic and not related to the development proposal.

RTA trip generation rates are based on restaurant surveys in urban, evening conditions and are not considered applicable to the rural, midday conditions at the site. The resulting trips estimates using RTA are also lower than other estimates by FISH and traffic counts at the Crooked Carrot.

Tourist traffic to the café and shop is estimated by FISH to be between 60 and 80 vehicles per hour over the lunch time peak hour (say 70vph inbound and 70vph outbound on average).

DVC undertook turning movement surveys at Riggs Street in April 2018 at the site of the Crooked Carrot Cafe. The full turning movement diagrams for the peak hour 11:15am to 12:15pm are shown in **Appendix B**. These surveys showed that the café generated about 106vph with 56vph inbound and 50vph outbound. The Crooked Carrot surveys also showed that only about 10% of generated trips came from the northbound carriageway. At the time of the surveys the new Service Station further south at Taranto Road was not complete and therefore northbound traffic would have used the crooked Carrot as the first opportunity to stop after Bunbury. DVC concludes that northbound traffic would be less than 10% since then.

Based on the FISH estimates and the Crooked Carrot Café surveys (and assuming they are of a comparable size), a stand-alone restaurant café could be expected to generate around 120vph to 140vph

during the peak hour (60-70vph inbound and 60-70vph outbound). Most of this traffic is from the southbound carriageway of the Forrest Highway.

It is clear that much of the site generated traffic will have a double purpose, for example will use both the service station and café. It is reasonable to assume that 25% of service station traffic (0.25x120=30vph) will also use the café, and it can reasonably be assumed that the cultural shop patrons will also be visitors to the restaurant. Therefore, only an additional 40vph inbound will be attracted to the site because of the proposed development. This is summarised in **Table 4.1**.

Table 4.1: Site Trip Generation

Traffic Component	Peak Hour Inbound (vph)	Peak Hour Outbound (vph)	Total
Existing Service Station (A)	120	120	240
Forecast Café Demand (B)	70	70	140
25% of Service Station (A) also using Café (C)	30	30	60
Balance of Café (D) = (B-C)	40	40	80
Total (A+D)	160	160	320
Existing Traffic Volume	120	120	240
Future Traffic Volume	160	160	320
Increase in Traffic	40	40	80

The addition of 40vph inbound to the site represents an increase of 30% over current traffic due to the restaurant.

This estimate is based on the service station transactions on a peak Friday afternoon. During the remainder of the week the demand at the service station is significantly less and marginally higher on a Sunday. There may be some holiday weekends during which demand for the service station is higher.

The increase in traffic to and from the site is therefore estimated as 80 vehicle trips per hour, requiring a Transport Impact Statement.

4.2 IMPACT ON LOCAL ROAD NETWORK

Due to the location of the site and nature of the road network, the traffic generated by the site can all be considered as passing trade and that no new visitor trips will be added to the network because of the proposed development. The only new trips will be staff and the delivery truck movements.

The Service Station at Taranto Road further south on Forrest Highway, provides fuel and restaurant facilities for traffic on the northbound carriageway and therefore only a small number of vehicles can be expected to turn right into the development site.

The existing entry driveway to the site has auxiliary turn lanes to safely accommodate turning traffic slowing down to enter the site. These turning lanes (mainly the southbound lane) will see an increase in traffic due to the proposed restaurant. There is however, adequate capacity in the auxiliary turn lanes to accommodate the increase in traffic.

4.3 IMPACT ON UPGRADED FORREST HIGHWAY

When Forrest Highway is upgraded to freeway standard, the median crossing at the site will be closed and traffic required to use alternative routes and access, possibly by using upstream or downstream interchanges. It is likely too, that appropriately designed off and on ramps into and out of the site will be required for southbound movements. It is important therefore that any improvements to the site do not preclude the future installation of such ramps.

In the meantime, the low impact land use proposed for the site will generate only low volumes of additional traffic which can be accommodated by the existing access configuration.

5. SUMMARY AND RECOMMENDATION

5.1 SUMMARY

The Foundation for Indigenous Sustainable Health, known as FISH, has proposed the FISH Myalup Karla Waanginy development on Lot 1 Forrest Highway located on the east side of the southbound carriageway of Forrest Highway in Myalup. The site currently contains a service station with an existing convenience store and a small restaurant. No changes to these service station facilities are proposed.

The proposed development focusses on catering to the needs of indigenous health services and comprises:

- Aquaculture dams;
- An Aboriginal cuisine café, restaurant and shop;
- Transitional workers accommodation;
- Aquaponics activities and processing (including cool rooms);
- A Wellbeing Centre;
- Panel and Unit Manufacturing activities;
- Parking; and
- Landscaping and gardens.

The farming and manufacturing component of the proposed development will not be open to the general public and will be staffed by workers resident on-site, managed by a contingent of 25 staff commuting on a daily basis.

Access to the farming and manufacturing will be via a service road running north of the existing service station apron. This road caters for site deliveries and produce collection, rubbish collection and staff access. The service road would also extend (unsealed) along the eastern and southern boundaries of the property, providing access to landscaped and aquaculture activities, and to the restaurant on the southern side of the site.

The commuting staff will contribute about 50 vehicle trips daily to traffic entering and exiting the site. These movements will not coincide with peak times for the service station demand and the impact of this traffic is considered negligible.

Ample car parking is provided for staff and visitors as well as for coaches and delivery vehicles.

The Aboriginal cuisine café, restaurant and shop is to be located on the southern side of the property. The existing service station parking will be extended further south to serve the restaurant there. The additional 74 parking spaces provided by the proposed development meet the parking requirements of Shire of Harvey District Scheme when considering the restaurant and shop as stand-alone developments. Much of the parking (existing and proposed) will be shared between service station, restaurant and shop meaning that there will be ample parking provided. Recent transaction records for the service station

indicate that on a peak weekday traffic demand is about 120vph inbound and the same outbound. The peak weekend demand is slightly higher at 128vph.

RTA trip generation rates for restaurants are not applicable at this site. However, estimates made by FISH and counts undertaken by DVC at the Crooked Carrot show that restaurant demand will be about 70vph inbound and 70vph outbound.

Assuming that 25% of service station traffic will also use the restaurant, the site will generate an additional 40vph inbound and outbound, which combined with service station traffic totals 160vph. Given the location of the site this is all passing trade and will not constitute additional trips on the surrounding road network. This level of traffic demand can easily be accommodated by the existing intersection configuration on Forrest Highway at the site.

The long-term plan for Forrest Highway is to upgrade it to freeway standard. This will mean that intersections will be grade separated and that the median crossings at the site will be removed with alternative access being necessary for any northbound demand. Deceleration and acceleration ramps will be required at this stage. It is important therefore that any improvements to the site do not preclude the future installation of such ramps.

In the meantime, the low impact land use proposed for the site will generate only low volumes of additional traffic which can be readily accommodated in the current intersection configuration.

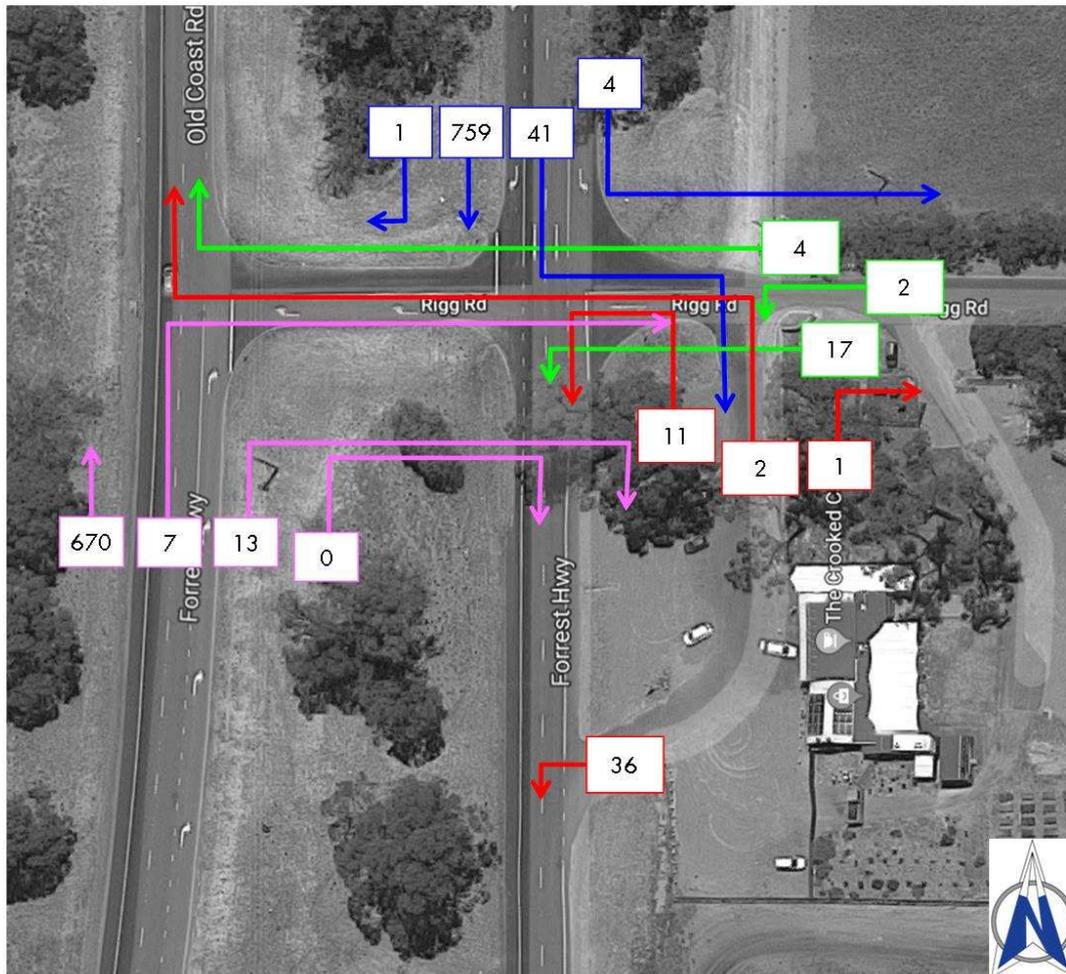
5.2 RECOMMENDATION

Based on the transport impact assessment above DVC fully supports the proposed FISH development at Lot 1 Forrest Highway, Myalup and recommends its approval.

APPENDIX A: SERVICE STATION TRANSACTION SUMMARY

		Mon	Tue	Wed	Thu	Fri	Sat	Sun
		16-Nov	17-Nov	18-Nov	19-Nov	20-Nov	21-Nov	22-Nov
12:00 AM	12:59 AM		2	1		2		1
1:00 AM	1:59 AM	4	1	2				2
2:00 AM	2:59 AM	4			3			
3:00 AM	3:59 AM		1					
4:00 AM	4:59 AM	1	10	3	6	5	3	14
5:00 AM	5:59 AM	43	27	33	37	39	18	29
6:00 AM	6:59 AM	55	43	39	48	37	35	18
7:00 AM	7:59 AM	65	41	60	55	43	57	43
8:00 AM	8:59 AM	68	44	36	47	53	78	37
9:00 AM	9:59 AM	69	45	48	68	58	85	79
10:00 AM	10:59 AM	70	44	51	48	98	103	95
11:00 AM	11:59 AM	70	48	64	68	110	99	128
12:00 PM	12:59 PM	78	39	47	71	120	91	116
1:00 PM	1:59 PM	60	49	59	65	115	80	114
2:00 PM	2:59 PM	68	43	47	64	98	69	115
3:00 PM	3:59 PM	49	45	54	54	101	61	99
4:00 PM	4:59 PM	37	41	54	67	103	42	80
5:00 PM	5:59 PM	38	37	47	67	96	43	58
6:00 PM	6:59 PM	19	32	33	40	94	34	34
7:00 PM	7:59 PM	14	5	16	24	36	18	16
8:00 PM	8:59 PM	10	2	9	17	19	11	8
9:00 PM	9:59 PM	5	4	13	7	14	2	7
10:00 PM	10:59 PM	1	1	3	3	3	2	3
11:00 PM	11:59 PM	1	4		1	5	4	
	Total	829	608	719	860	1249	935	1096

APPENDIX B: THE CROOKED CARROT TURNING COUNTS



Site 1: Intersection of Forrest Hwy & Rigg Rd

Light and Heavy vehicle movements (excluding motor cycles)

Times: PEAK HOUR 1115 - 1215