










SCENIC RIM
AGRICULTURAL INDUSTRIAL PRECINCT

A project by Kalfresh

Appendix A.4 – Justification for Variations to Scenic Rim Planning Scheme 2020 (Version No. 7)

Scenic Rim Agricultural Industrial Precinct
Kalbar, Queensland
BA220050.01
27 September 2023

epic ENVIRONMENTAL

CONTENTS

LIST OF FIGURES

LIST OF TABLES

DOCUMENT CONTROL

Revision	Revision date	Revision details	Author	Editorial review	Technical review	Approver
A	31/07/2023	Draft for Internal Review	Morgan Warnock			Sam Redman
B	28/08/2023	Draft for Client Review	Morgan Warnock			Sam Redman
0	27/09/2023	Final for Issue	Morgan Warnock			Sam Redman

DISTRIBUTION

Revision	Revision date	Issued to
A	28/08/2023	OCG for preliminary review
0	27/09/2023	OCG for RDIAR submission

DOCUMENT INFORMATION

Printed:	27 September 2023
Last saved:	27 September 2023 10:34 AM
File name:	A.4 Justification for Variation to SRPS
Author:	Epic Environmental
Project manager:	Samuel Redman
Client:	Kalfresh
Document title:	Justification for Variation to Scenic Rim Planning Scheme 2020 (Version No. 7)
Project number:	BAA220050.01

1 INTRODUCTION

This document has been prepared to discuss and provide justification for the variations to the Scenic Rim Planning Scheme 2020 (Version no.7) (SRPS) that are proposed within the SRAIP Development Plan (SRAIPDP) in Appendix A.5.

Negotiations and discussions have been ongoing regarding this document between Kalfresh, Epic Environmental, the Office of the Coordinator-General (OCG) and Scenic Rim Regional Council (SRRC). Gaskell Planning Consultants have also been brought onboard by the OCG to assist with finalising the SRAIPDP.

This document represents what has been agreed upon to date throughout these discussions, and any obsolete sections have been removed.

2 USES

2.1 Service Station

2.1.1 Summary of Justification

- Critical to the supply chain servicing the precinct in the short-medium term, supplying petrol and diesel to personnel vehicles and road freight vehicles associated with the precinct
- Long term vision includes EV charging stations, and pumps that supply natural gas produced by the SRAIP, which could be Queensland's first fuel station powered by food and crop waste
- The number of bowsers will be increased gradually over time (to a maximum of 8 bowsers, 16 pumps) to develop a one-of-a-kind service station of the future, which will provide a distinct and unique offering to service stations in Kalbar and Aratula, with a different customer base
- SRAIP introduces increased demand to the area through an increase in new vehicle movements (Cardno 2020)
- At least 25% of net additional fuel demand from SRAIP will be directed to existing service stations in the area (particularly Aratula based centres), leading to a net positive benefit to surrounding service stations
- Proximity to Cunningham Highway is critical to ensure service station traffic does not need to drive through internal SRAIP roads
- Location on Cunningham Highway is important for the commercial viability of short-term and long-term goals for the service station

2.1.2 Discussion

The inclusion of the service station use within the SRAIP is vital to the economic viability and effective operation of the precinct to provide convenient fuel for trucks and other heavy vehicles. The supply chain servicing the precinct is expected to be reliant on petrol and diesel in the short to medium term. In the long-term, the vision is for the service station to support the transition from diesel to clean natural gas and electric charging. The service station will be gradually developed to incorporate EV charging stations, and pumps that supply the natural gas generated within the SRAIP biodigester from food and crop waste produced on the site and locally. This would be the first of its kind in Queensland and would be modelled on the successes seen in the USA and the understanding of what service stations of the future will require.

A service station will ensure the SRAIP's competitiveness in regional and national economies. The operations of the Precinct are, and are expected to continue to be, heavily reliant on road freight vehicles for the transport of both agricultural imports and manufactured outputs. This is reflected in both the importance of the subject site relative to its highway access north and south, as well as the centrality of the precinct in its local farm supply base.

The absence of an in-precinct fuel offering raises serious challenges for the management and movement of road freight vehicles. Forcing vehicles by default to travel out of the precinct to access fuel creates the circumstances where vehicles are required to travel away from their end destination to access fuel. This increases both time and transport costs, with cascading impacts on the precinct competitiveness and underlying food prices. This is particularly the case for trucks travelling northward, which do not have direct access to a service station along the Cunningham Highway until the United Amberley Coachhouse at Willowbank, approximately 35km or 23min.

Instead, trucks may be forced to access fuel south of the site along the Cunningham Highway at Aratula where the majority of regional fuel supplies are located (**Figure 1**). This includes:

- Puma Aratula;
- Shell Aratula; and
- BP Aratula Truckstop.

Of these service stations, the BP Truckstop Aratula caters for road freight vehicles travelling south and is located on the south eastern side of the highway. Shell Aratula also offers dedicated truck fuel points and is

located on the western side of the Cunningham Highway servicing vehicles travelling north (but is located south of the Precinct). Therefore, trucks travelling north from the precinct that require fuel may be forced to travel south to the BP Truckstop Aratula or Shell Aratula before turning back. This represents a 10-13km round trip detour, while also requiring the trucks to then cross southbound lanes to re-enter the highway, raising safety concerns.

Given the volume of additional road freight vehicle trips that is expected to be generate upon completion (an extra 880 non-worker vehicles per day), the failure to provide for a local service station offering in the precinct not only has the potential to impact the competitiveness and effective operation of the precinct but have cascading impacts on the surrounding fuel service providers and other fuel consumers.

In the long-term, the service station will need to adapt to support the decarbonisation of transportation generally. The vision is to realise a true closed-loop model by supplying clean bio-fuels and electricity that are generated from the SRAIP, similar to those already seen in the USA from the company Clean Energy (**Figure 2**). Clean Energy has a network of natural gas stations that offer sustainable fuel derived from organic waste and fuel more than 25,000 vehicles daily with NRG. The SRAIP station will support the growing momentum behind the transition of heavy vehicles, commercial vehicles, and personal vehicles to be powered by renewable energy.

The planning provisions for the SRAIP service station need to be "future proofed" to enable this vision to become a reality, and ensure the long-term commercial viability of the use as transportation evolves to incorporate next-gen technology.

Not including a service station within the SRAIP, nor allowing it to be in close proximity to the Cunningham Highway, would be a missed opportunity for the precinct and for the region to be trailblazers by establishing a renewable energy fuel model that is well advanced overseas.

Figure 1. Aratula Service Stations

Figure 2. Clean Energy Service Station USA

2.1.3 Need Assessment

2.1.3.1 Travel and Fuel Demand

Fuel demand from the precinct supporting the proposed service station will be generated by an increase in new vehicle movements. This has been derived from the Road Impact Assessment: Scenic Rim Agricultural Industrial Precinct prepared by Cardno in October 2020.

From this report, RPS derived the net additional traffic movements above and beyond current movements. These estimates are summarised in **Table 1**.

Table 1. Net Additional VPDs, SRAIP at Completion

Vehicle Movements	VPDs
Trucks Departing Site (Kalfresh)	8
Trucks Arriving Site (Kalfresh)	18
Operational Traffic (Non-Worker)	168
Non-Kalfresh Sites	686
Precinct Workers	262

Additionally, allowance has been made for non-worker, non-operational traffic (i.e. visitors) of 68 VPDs (equivalent to approximately 25,000 VPDs per year).

For industrial and commercial vehicle travel, RPS has applied the average distance travelled from the ABS Survey of Motor Vehicle Use. This is estimated at an average of 147km[1]. In contrast, RPS has assumed that worker (25km) and non-operating, non-worker visitor (35km) travel principally originates from within the local area. All of these travel distances are based on a single trip leg.

Applying these travel distances for 5 days a week for 48 weeks a year (return), RPS estimates that vehicle travel generated by the precinct will equate to 66.1 million kilometres a year (**Table 2**).

[1] ABS (2019) Survey of Motor Vehicle Use, Australia, 30 June 2018, Cat No 9208, Australian Bureau of Statistics.

Table 2. Net Additional KMs travelled, per Year, SRAIP

Indicator	Kms
Workers	3,142,857
Visitors	875,000
Light Commercial Vehicles	15,523,200
Trucks	46,569,600
Total	66,110,657

Note, RPS has assumed that up to 25% of additional "truck" movements to and from SRAIP are actual light commercial vehicles. This is regarded as a conservative assumption, as it reduces the fuel usage associated with the fleet due to high fuel efficiency in light commercial vehicles compared to rigid and articulated trucks.

With this net additional travel estimate, fuel usage and consumption can be calculated. RPS has drawn on fuel efficiency data from BudgetDirect's annual fuel efficiency report for 2020[2]. The results of the survey are summarised in **Table 3**.

Table 3. Fuel Efficiency, by Vehicle

Vehicle Type	Litres per 100 kms
Passenger Vehicles	10.8L
Motorcycles	5.8L
Light commercial vehicles	12.5L
Rigid trucks	28.6L
Articulated trucks	55.2L
Non-freight carrying trucks	21.3L
Buses	28.4L
Average	13.4L

As highlighted above, fuel efficiency is highest among passenger and light commercial vehicles and lowest among articulated trucks (likely those that are expected to service SRAIP). Additionally, the fuel mix of the vehicles differs significantly, with passenger vehicles traditionally reliant on unleaded petrol while light commercial vehicles and particularly trucks using diesel.

RPS has used this data directly to estimate total fuel consumption. However, we have applied a fuel efficiency of 40L per 100km for all truck movements. This is regarded as conservative as it assumes a high proportion of rigid trucks in the fleet than is likely to be the case.

Additionally, it is recognised that not all fuel needs will be required to be met locally. Firstly, fuel demand is likely to be split broadly between places of origin and destination, meaning, at most, the proposed centre and surrounding service stations will only capture 50% of this consumption. RPS has therefore assumed that a maximum 25% of net additional fuel demand from the SRAIP will be met locally. This share has been used to determine the potential size and scale of a service station offering in SRAIP.

This means that at least 25% of net additional fuel demand from SRAIP will be directed to existing service stations in the area (particularly Aratula based centres). This is above and beyond current demand meaning that the fuel consumption requirements of traffic at SRAIP will yield a net positive benefit to surrounding service stations.

RPS has also assumed there is no demand originating from outside of the SRAIP. While it is expected that the establishment of a service station at the precinct will attract some passing traffic (principally given the lack of service stations north of Kalbar on the Cunningham Highway), this demand is expected to be incidental only.

Based on the assumptions above, RPS estimates that a service station at SRAIP will have the potential to meet the needs for up to 5.4m litres of fuel a year. This is primarily driven by truck fuel demand, with light commercial vehicles, worker vehicles and visitor vehicle fuel requirements collectively accounting for 13% of net demand (**Table 4**).

[2] BudgetDirect (2020) Average fuel consumption in Australia 2020, accessed at https://www.budgetdirect.com.au/car-insurance/research/average-fuel-consumption-australia.html

Table 4. Net Additional Fuel Demand (Litres), 25% Share for SRAIP

Indicator	Value
Workers	169,714
Visitor	47,250
Light Commercial	485,100
Trucks	4,656,960
Total	**5,359,024**

2.1.4 Sustainable Service Station Trading Volumes

Total service station fuel trading levels are determined by a range of factors. These include:

- Locational Factors – trading volumes are highest for highway based service stations located within capital city locations. Non-highway and non-capital city (see regional factors below) locations typically trade at a lower level.
- Regional Factors – evidence collated in NSW indicates that regional service stations typically trade at a level approximately 20% below centres within a metropolitan/capital city area;
- Size Factors – trading volumes can be constrained by the size of the service station, namely the number of bowsers, with 6 bowsers being regarded as a minimum sustainable level.
- Trading Hours – with the advent of pay at pump and digital payments, the vast majority of service stations in Australia operate on a 24hour basis. However, some service stations continue to operate on shorter hours impacting duration.

Data collected annually from NSW and Queensland[3] indicates that the minimum sustainable fuel sales level for a service station operating in optimal locational and capacity conditions is approximately 350,000-400,000 L per month, with sales volumes potentially reaching as high as 800,000L per month for some major service centres.

Given the regional location of the site, but accounting for the highway based location, strong fuel mix (through a dedicated truck stop) and the potential 24hour trading, RPS has assumed a sustainable trading volume of 450,000L per month or 5.47mL per year.

2.1.5 Local Need and Station Offering

Based on the sustainable trading level above, RPS confirms that 25% of the net demand for fuel originating from the SRAIP will be sufficient to meet 97.9% of a sustainable service station volumes at the precinct (**Figure 3**).

It is likely that any residual capacity will be utilised by passing traffic, representing only 2.1% of sustainable capacity.

Note this demand/supply profile is based on the demand from SRAIP once completed and occupied. However, it is recommended that fuel offering in the area be delivered to precede the emergence of net additional demand. This more timely approach is critical to ensure that the lack of fuel offering or capacity at any one time does not act as a constraint to either the establishment and growth of SRAIP or to Kalfresh operations.

In terms of format, RPS recommends that a "truck stop" model be adopted for the service station. This model, which is an increasingly common model, combines separate dedicated truck fuelling points with a publicly facing traditional service station model. This format and design solution has the effect of increasing vehicle separation between trucks and private motor vehicles. This is similar with the offering at the BP Truckstop Aratula (**Figure 4**).

The advantage of this approach is that it not only optimises the design and fuel offering of the service station to meet the specific non-residential needs of the SRAIP, it also provides an additional truckstop option located

[3] Queensland Government (2020) Fuel Seller Statistics Accessed at https://www.business.qld.gov.au/industries/manufactoring-retail/retail-wholesale/selling-fuel-qld/qld-biofuels-mandates/fuel-seller-statistics

further north of Aratula to service traffic entering the Cunningham Highway north of Aratula, particularly from Boonah Fassifern Road.

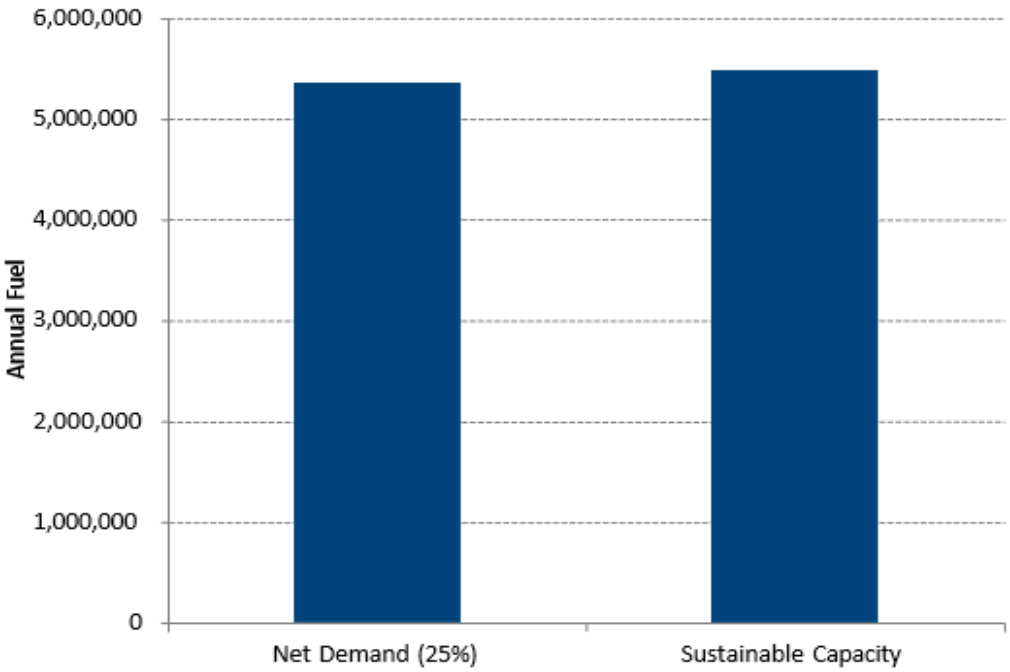

Figure 3. Net Demand Vs Sustainable Capacity, SRAIP Service Station.

Figure 4. BP Truckstop Aratula

2.1.6 Long-term Vision for Future Fuels

2.1.6.1 Service Stations of the Future

In the short term many modes of transportation will continue to rely on traditional fossil fuels, however there is a growing momentum to a shift towards cleaner energy and a general decarbonisation of the transport sector. This is already being realised with increased personal electric vehicles (EV) present on the roads, and more research being undertaken to transition heavy and commercial vehicles to electric, hydrogen, or biofuels.

This shift in fuel types and customer needs puts an impetus on fuel retailers to "future proof" their business models in the context of the energy transition (Deloitte 2023[4]). This means considering alternate fuel and business offering (food and amenities) that will enable an evolution to ensure commercial viability into the future.

In the context of the SRAIP, a perfect opportunity exists to develop a service station that meets the needs of the precinct now, but in the future will be able to easily evolve the product mix to incorporate lower carbon fuels, including gas generated via the SRAIP biodigester. The co-location of industrial and agricultural uses within the precinct allows it to supply its own low carbon fuels to the service station instead of having to import from offsite. This provides an unparalleled opportunity for the region to have a service station that is powered by crop waste and will be able to readily support the transport of the future, creating a unique drawcard for the region.

2.1.6.2 Implications of Electric Vehicles

At present, electric vehicle usage represents a small share of Australia's total vehicle fleet, at less than 1%. However, recent studies by CSIRO for the Australian Electric Market Operator (AEMO) have indicated the potential 60% or more of the fleet to be electric vehicles by 2050, depending on the level of Federal Government incentives and support[5] (**Figure 5**).

Similarly, initiatives in the US and Europe are investigating and piloting the potential for road freight and truck electric vehicles. In Australia, Isuzu undertook a pilot of an electric truck in 2018/19, with a focus on urban truck vehicles with a gross mass of between 6500kg and 14,000kg.

The pilot was in response to projected growth by consulting firm McKinsey that the electric truck market share could reach as high as 15 per cent by 2030[6].

It is therefore recommended that allowance be made in the establishment of the service station for electric vehicle charging points to be included. This will not only help to facilitate that transition of the fleet to electric vehicles over time, but also increase the viability of electric vehicle purchases for local residents.

[4] Deloitte (2023) *The service station of the future: Fuelling the renewable energy transition*, accessed at https://www2.deloitte.com/content/dam/Deloitte/ca/Documents/energy-resources/ca-en-energy-and-resources-the-service-station-of-the-future-AODA.pdf

[5] The Driven (2020) CSIRO says Australia's car fleet could be fully electric by 2050 accessed at https://thedriven.io/2020/06/18/csiro-says-australias-car-fleet-could-be-fully-electric-by-2050/

[6] GoAutoNews (2020) Isuzu Australia to test electric trucks accessed at https://premium.goauto.com.au/isuzu-australia-to-test-electric- trucks/

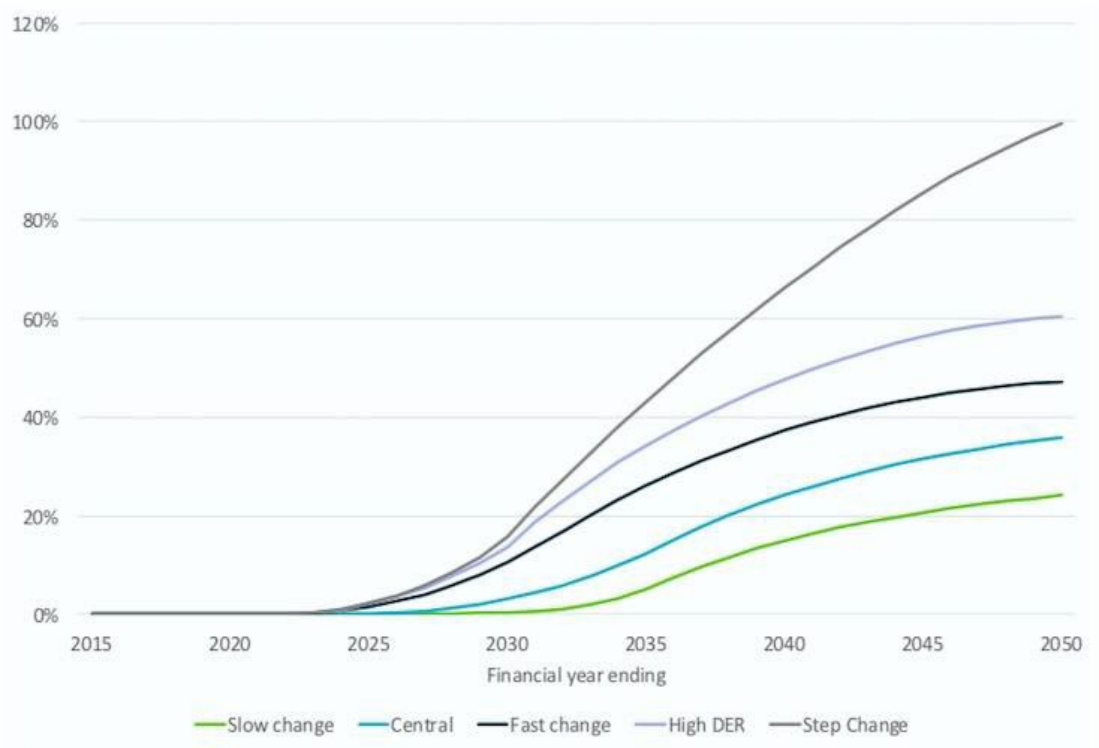

Figure 5-15 Projected electric vehicle shares of fleet

Figure 5. AEMO Integrated System Plan – Electric Vehicle Share Scenarios to 2050

2.1.7 Sustainable Levels of Activity

Based on this assessment, RPS recommends the following levels of floor space/activity be permitted as part of the SRAIP to ensure its commercial and economic viability and competitiveness:

- 8 bowser (16 pumps) 24 hour truck stop service station with secondary private motor vehicle role

In the short term the service station will likely initially implement fewer pumps to account for the petrol and diesel demand generated from the precinct, and will slowly add EV charging stations and pumps for bio-fuels as this need arises and it becomes commercially viable.

2.2 Transport Depot and Vehicle Repair Assessment

This section outlines the importance of transport depo and vehicle repair offerings to the economic viability and effective operation of the precinct and provides analysis supporting the market need for the proposed uses.

2.2.1 Importance for the Economic Viability of the Precinct

The establishment of the SRAIP will generate additional transport and road freight requirements, both to secure inputs from surrounding farming and agricultural areas and to support the distribution of final products to key local and regional markets.

This increased freight movements will not only generate demand for fuel but also vehicle operation and maintenance support services. This will necessitate an increase in both transport depot and vehicle repair services in the region – capacity which is currently concentrated in Boonah and to a lesser degree in Kalbar.

Failure for both depot and repair services to be accommodated within the Precinct raises considerable fleet and supply chain optimisation risks for Kalfresh and other core tenant groups. And these risks are

compounding and interrelated, with a lack of depot capacity (with ongoing vehicle operational support) increasing the likelihood of breakdowns (requirement repair services).

While it is theoretically possible for freight vehicles to utilise existing repair services in Boonah, the majority of current mechanics in Boonah and Kalbar primarily focus on light vehicles, and such activities would likely result in a significant shift in vehicle movements to the town. It will also add time and monetary costs, requiring vehicles to travel up to 30km round trip to access suitable engineering and vehicle repair/maintenance services – costs that impact the competitiveness of the centre. Similarly, while mobile repairs are possible, such activities are limited in scope and are likely cost prohibitive.

Any non-precinct repair support would only be possible for routine maintenance – any breakdowns of vehicles in or near the precinct would need to be towed to Boonah or Kalbar. This creates further transport network and fleet management risks.

The scale of the precinct, and the critical nature of road freight capacity to both up and downstream supply chains mean the inclusion of transport depot and vehicle repair land uses in the SRAIP is critical to the feasibility and viability of its ongoing operation. Failure for these land uses to be included will generate significant fleet and transport network risks and expose operations to additional costs, impacting regional competitiveness.

2.2.2 Need Assessment

RPS has assessed the need for both transport depot and vehicle repair services by estimating operating and maintenance expense profiles for the net additional truck fleet generated by the establishment and operation of the SRAIP. The vehicle movements assumed in this assessment align with those utilised for the service station need assessment in section 2.0. This equates to an estimated 369 truck vpds based on a 5 day week and 48 weeks of the year.

2.2.2.1 Truck Depot

A truck depot is a truck storage and staging area, providing a secure location for vehicles and their loads to be stored, typically over night or between usage. Truck depots play a critical role in fleet management, providing a central point of vehicle storage/holding and are typically located either at key points of origin or destination or major transport routes.

Truck depots can range in format and style from short and long-term truck parking areas (typically on bitumen with secure fencing and security on entry and exit) to hardstand all weather depots with supporting truck wash facilities, fuel and maintenance facilities (**Figure 6**).

RPS has calculated demand for the proposed truck depot to meet the net additional needs of the fleets generated by the SRAIP expansion. As such, this excludes current fleet movements as well as demand from passing traffic.

SRAIP will be both a point of origin and destination for the net additional truck fleet. As such, it is expected that the precinct will be required to accommodate approximately 40% of the total depot requirements of this net additional truck fleet, equivalent to approximately 147 vehicles (with a further 40% at destination and 20% en-route).

Not all of these vehicles will however require the use of a depot at any given day. Some vehicles have separate on site storage allowances while others are in use overnight and therefore do not require depoting.

A review of truck depot and parking requirements for other locations around South East Queensland (including recent proposals at Haigslea[7] and parking impacts for non-depot locations in Yatala), suggest that truck parking allowance should be made for a usage rate of approximate 10% of potential trucks associated with the activity (accounting for the type of depot) (**Table 5**).

This usage rate is likely lower for the Haigslea example as it is proposed as a route-based depot. Instead, a higher allowance of 25% should be assumed for origin and destination-based locations such as SRAIP.

[7] Yourneighbourhood.com (2019) Mega Highway Service Centre – Warrego Highway, Haigslea

Table 5. Truck Parking Need Example, Haigslea, Warrego Highway

Indicators	Values
Truck Parking Capacity	106
Highway Traffic (ypds)	46,478
Heavy Vehicle Share	17.92% or 8,328
Share Potentially Requiring a Depot	20% or 1,665
Depot Usage Rate	10% or 166
Site Specific Market Share	63.8%

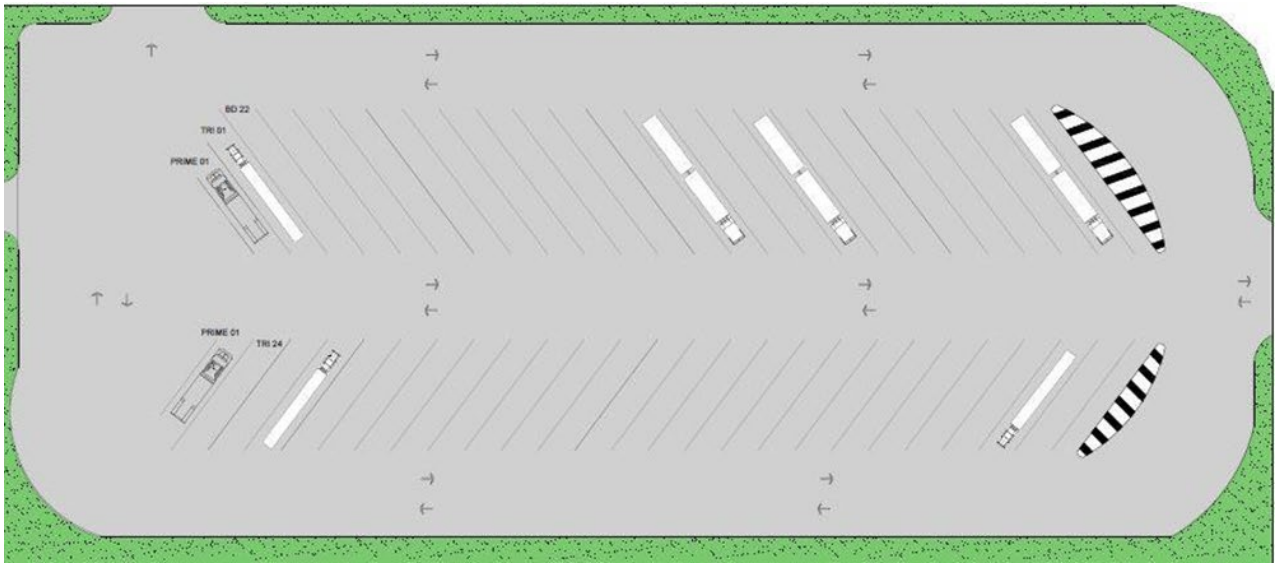

Figure 6. Long-Term Truck Parking Concept Example

Adjusting for a higher usage rate of 25% of vehicles, this suggests a requirement for a truck depot with parking capacity of approximately 40 trucks. Given the vehicle ownership mix is expected to bias heavily towards Kalfresh and trucks servicing the Kalfresh business and other core tenants within the precinct, this is regarded as the sustainable capacity.

The assessment above is based purely on the truck parking capacity requirements. Consideration should also be given to other aligned uses and activities that are increasingly incorporated as part of truck depots including:

- Truck wash facilities;
- Vehicle monitoring and security systems;
- Driver reviver and recovery facilities;

Additionally the location of the subject use should consider co-location opportunities in line with best practice models. Co-location opportunities include:

- Vehicle repair
- Service station/centre

2.2.2.2 Vehicle Repair

Heavy and agricultural vehicle repair services in the western Scenic Rim are principally concentrated in the Boonah township and include (non-exclusive):

- Dixon Diesel Service Tractor & truck Parts and Service;
- Boonah Automatics & Mechanical Repairs
- Boonah Panel Repairs
- Wreck Or Mend Panels

- Dover & Sons Boonah
- Boonah Tyrepower
- GM Mechanical
- M & J Abbott Auto Electrical
- Bunjurgen Mechanical
- Marshall Batteries Boonah
- Mechanics in Boonah Pty Ltd

The vehicle repair services offered in Kalbar include:

- Kalbar Tyre Services;
- Camerons Auto Electrics

These service providers meet the needs of a range of vehicle types within the area including:

- Private motor vehicles
- Light commercial and passenger vehicles
- Medium and heavy vehicles (including trucks)
- Tractors and agricultural vehicles and equipment.

Repair services and products also vary considerably and can include:

- Automatic and agricultural vehicle parts wholesaling
- Mechanical repair and maintenance;
- Panel and body works;
- Batteries and auto electrical;
- Tyres sales, fitting and repair;

For the purposes of this assessment, RPS has assumed that current services and supplies are sufficient to meet existing need originating from the area. This includes residential, commercial, industrial and agricultural vehicle repair requirements.

It also assumes that part of the non-residential demand is met through "in-house" repair and maintenance capabilities.

RPS has estimated vehicle maintenance and repair requirements generated by the precinct on a net additional vehicle basis. This means that current vehicle repair requirements will continue to be met through existing suppliers (both internal and external), meaning there will be no negative impact on existing supply.

RPS has estimated vehicle maintenance requirements for two vehicle classes:

- Net additional agricultural vehicles; and
- Net additional trucks.

Additional vehicle repair and maintenance capacity will be required to support new private motor vehicles (due to additional workers moving to the area) and light commercial vehicles (representing up to 25% of the additional non-private vehicle fleet). Demand from each of these vehicle categories are not expected to be specifically met by vehicle repair and maintenance services proposed for SRAIP, generating new demand for existing service providers in Kalbar and Boonah.

2.2.2.3 Heavy Vehicle Maintenance and Repair

RPS has estimated the per vehicle repair costs for a freight vehicle (i.e. truck) using the Maintenance Cost Calculator from Freight Metrics[8]. Excluding labour costs and based on an average 200km per day travel 5 days per week (48 weeks per year), RPS estimates that the average per vehicle maintenance cost will be $6,154 (exc GST) per year. This is equivalent to $0.17 per km travelled[9].

Based on the net additional 369 additional truck vpds per day for the Precinct, this equates to a truck vehicle maintenance cost of $2.27m in vehicle maintenance and repair each year.

[8] Freight Metrics (2020) Maintenance Cost Calculator accessed at http://www.freightmetrics.com.au/CalculatorsRoad/MaintenanceCalculator/tabid/106/Default.aspx

[9] This is broadly in line with Austroads and Qld TMR CBA Guidelines

Truck repair locations typically have a lower expenditure turnover density than private vehicles, due to the largest size of the vehicles and the requirement for more space for relevant parts and tyres. Based on an expenditure turnover density of $2,000 per sqm, RPS estimates that truck vehicle repair and maintenance will support over 1,100sqm of floor space. This is based on Gross Floor Area and excludes hardstand and open areas necessary for the temporary storage of vehicles.

2.2.2.4 Agricultural Vehicles

In addition to trucks, the additional agricultural land required to support the expansion of the SRAIP will generate a requirement for additional agricultural vehicles and equipment, including tractors. Based on data from Kalfresh, conservative estimates are that the expansion of Kalfresh operations in the SRAIP will necessitate an increase of 9,000ha of agricultural land under crop. Based on the current distribution of farming activity supporting Kalfresh operations, at least 50% of this is likely to be located in the Scenic Rim region (with the remaining 50% spread across Lockyer Valley, Southern Downs, Tenterfield and Whitsundays agricultural regions).

Agricultural vehicle and equipment usage varies considerably between crop types. However, long-term data for Australia indicates an average of 66 agricultural vehicles required per 100ha of arable land[10]. Assuming a conservative rate 40 vehicles per additional 100 ha (based on the likely supporting farm crop mix and current vehicle utilisation), this means that the Scenic Rim will require a net additional 1,800 agricultural vehicles in the region. Note that these vehicles will be associated with additional farming activity, not Kalfresh operations so the vehicle reuse potential and associated efficiencies are likely to be minor.

Advice from NSW Department of Primary Industries recommends that tractor owners allocated a maintenance budget equivalent of 2% of the equipment replacement value. Assuming a conservative replacement value estimate of $250,000 (the example provided by NSW Department of Primary Industries is valued at $256,840[11]), this equates to a maintenance value of approximately $9m per year.

Applying the same expenditure turnover density ratio of $3,000 per sqm compared with heavy vehicle repair), RPS estimates that approximately 3,000sqm of vehicle repair floor space could be supported by maintenance requirements for new agricultural vehicle repair and maintenance.

Assuming 50% of this is met locally within the Precinct (with the remainder representing net additional demand for existing suppliers across the region), then an additional 1,500sqm of vehicle repair floor space could be sustainably accommodated in the SRAIP (in addition to the 1,100sqm for heavy vehicle maintenance).

2.2.3 Sustainable Levels of Activity

Based on this assessment, RPS recommends the following levels of floor space/activity be permitted as part of the SRAIP to ensure its commercial and economic viability and competitiveness:

- A 40 truck capacity transport depot with supporting truck wash and driver recovery facilities

2.3 High Impact Industry

High Impact industry is proposed to be accommodated within the SRAIP where it involves High Impact agriculture industry with food processing or compost manufacturing, particularly for the following industry thresholds as defined under the SRAIP Definitions:

High Impact agriculture industry means the use of premises for High Impact industry involving only:

1. the processing, brewing, smoking, drying, curing, milling, bottling or canning food, beverages or pet food, greater than 500 tonnes per annum
2. vegetable-oil or oilseed processing in works with a design production capacity of greater than 1,000 tonnes per annum; or

[10] FAO (2016) Tractors per 100ha of arable land, Food and Agricultural Organisation of the United Nations.
[11] NSW DPI(2013) Guide to Tractor and Implement Costs accessed at http://www.dpi.nsw.gov.au/data/assets/pdf_file/0005/175496/196-kw-and-242-kw-tractor.pdf

3. distilling alcohol in works producing greater than 2,500 litres of alcohol product per annum and less than 10,000 litres of alcohol product per annum.

The inclusion of the High Impact industry use in the SRAIP is integral to the project's intent of providing a hub for food processing and the project's ability to attract key players within these industries in the future (i.e. the SRAIP will allow for uses which produce large volumes of food / oil / alcohol per annum). The existing Kalfresh operations on the subject site already produce in excess of the nominated production thresholds and would be considered as High Impact agriculture industry. Accordingly, it is appropriate to incorporate this definition into the development permitted on site on the basis that there is an established precedent.

The proposed SRAIP Development Plan has several provisions included to ensure the proposed High Impact industry uses do not impact on uses outside the subject site, for example noise, odour, air quality requirements.

2.4 Sales Office Where Selling of Lots for the SRAIP

A temporary use included as Kalfresh will require a sales office on site during the preliminary stages to enable selling of the lots. This is a provision generally permitted in relation to any kind of subdivision to permit the erection of a temporary structure which can be used for sales purposes during the establishment phase of the project.

3 BUILDING HEIGHTS

3.1 Background

The Scenic Rim Planning Scheme specifies a maximum building height of 15 m in the Industry Zone Code whereas the SRAIPDP proposes a maximum building height in accordance with the proposed Plan of Development (PoD):

- 35 m on proposed Lots 12 or 13, where involving a Warehouse (cold storage facility and/or distribution centre)
- 20 m on proposed Lot 11, for the anaerobic digester
- 15 m for all other instances not specified.

While it is understood that this maximum building height is a variation from the planning scheme, it is warranted to accommodate third party operators who have expressed interest within the precinct. For example, a third-party operator has expressed interest in establishing a fully automated cold storage facility for food produce. By their very nature, fully automated facilities can be up to 10 storeys in building height.

The fully automated sector is rapidly evolving and is an integral part of Asia Pacific's domestic and international supply chains for food products including dairy, seafood, raw and cooked meat, poultry, frozen vegetables and other frozen or chilled foods. Fully automated facilities have many benefits including faster shipment of order, storage optimisation, labour productivity and waste decrease. Hence it is essential that the SRAIP accommodate these fully automated facilities which will play a key role in the future of food processing and therefore the reasoning for why the 35m building height is proposed for limited sites only at the rear of the precinct.

The 35 m buildings on lot 12 and 13 will be approximately 300 m setback from the Cunningham Highway. In addition, the development codes within the Rural Precinct allows for windmills, silos and other rural structures and ancillary to agricultural operations on site to be greater than 15 m. This provision is warranted where, for example when a grain distributor would propose operating from the SRAIP. Silos for the purpose of storage is an integral part of many rural industrial distribution and storage operations.

The LVIA prepared for the Project in Appendix A.3 shows how the SRAIP will appear in the context of the current landscape. An assessment has been undertaken against the relevant sections of the Scenic Rim Planning Scheme (SRPS) that consider landscape and visual amenity in the rural area. This is provided in Appendix B of the LVIA. The LVIA and the planning assessment demonstrate that the Project is largely consistent with the strategic intent of the SRPS around matters relating to rural landscapes, visual and scenic amenity. Where there are inconsistencies, it is noted that they are minimised as far as reasonably practicable using measures to improve the project's integration into the general landscape such as landscaping, variation in building form and design, using colours compatible with the landscape, and minimising glare.

3.2 Proposed Code Provisions

Table 6 provides the proposed Performance Criteria and Acceptable Outcomes for building heights within the Precinct:

Table 6.Precinct Building Height PO & AO

Performance Outcome	Acceptable Outcome
PO13 Development has a building height which is consistent with the streetscape, local context and intent for the SRAIP plan area having regard to: (a) the amenity of an adjoining premises in a non-industrial zone or precinct; and (b) the building bulk and scale when viewed from Cunningham Highway.	**AO13.1** The height of the development does not exceed: 1) 35 m where located on lots 12 or 13 and involving a Warehouse (cold storage facility and/or distribution centre) with an agri-focus only; 2) 20 m where located on lot 11 and involving a *renewable energy facility (anaerobic digester)*; 3) 15 m in all other instances.

The codes also contain built form PO's and AO's to ensure the buildings use variation in materials, colours and building shape to reduce bulk and scale, with the inclusion of AO16.3:

Buildings above 8.5m in height:

(a) Provide variation in roof form; and

(b) Use variation in colour, patterns, textures or building materials that differs with each elevation

In addition to the above provisions the setback requirements for buildings above 15 m are greater than buildings 15 m or below. For example the setback provisions for structures greater than 15 m is 10 m from the street frontage and 6 m from the rear and side boundaries. Where as buildings with a height of 15 m or less require 6 m from the frontage and 4 m from the side and rear boundary, where the boundaries do not abut a transport or Haulage Rout or adjoins the SRAIP Industry periphery.

4 SETBACKS

4.1 Background

We note that the proposed SRAIP PoD does propose reduced setbacks to those specified in the Scenic Rim Planning Scheme Industry Zone Code. That is, the SRAIP PoD proposes a minimum primary frontage setback of 6 m (for buildings less than 15 m in height) and 10m (for buildings greater than 15 m in height).

Given no reduction to the planning scheme setbacks are proposed and additional requirements are imposed, the proposed SRAIP Code will:

- Reduce the visual dominance of buildings and structures as viewed from the street
- Allow for landscaping along street frontages
- Provide separation between built form on proposed allotments to protect the amenity within the SRAIP.

4.2 Proposed Code Provisions

The proposed code provisions for the relevant setbacks are set out in **Table 7**. The proposed setback requirements also allow for sufficient space for aesthetic or screen landscaping at the front, side or rear boundary.

Table 7.Precinct Setbacks PO & AO

<table>
<tr><th>Performance Outcome</th><th>Acceptable Outcome</th></tr>
<tr><td>PO12

Development is of a bulk and scale that is consistent with the intended form and character of the area having regard to:
(a) the visual dominance of buildings and structures when viewed from the Cunningham Highway ;
(b) the visual dominance of buildings and structures when viewed from adjoining premises
(c) landscaping buffers along street frontages and Cunningham Highway.</td><td>AO12.1

Building and structures setbacks are as follows:

<table><tr><th>Setback</th><th>Minimum Distances Measured in Metres (m)</th></tr><tr><td>Front</td><td>6 m where building height is less than 15 m;
Otherwise, 10 m</td></tr><tr><td>Side and rear boundaries for buildings/structures with a height greater than 15 m</td><td>4m where building height is less than 15 m;
Otherwise, 6 m</td></tr></table></td></tr>
</table>

5 ANCILLARY USES

5.1 Gross Floor Area (GFA) for Ancillary Uses

5.1.1 Background

To allow for the reasonable needs of larger premises for office space to house their administrative activities, which are a consequence of the core use of their site, alternative wording has been agreed upon for this section of the code, which the following provides justification for.

Following discussions with OCG and Council, it has been agreed that the provision for small-scale ancillary uses (office and retail) will be stipulated as:

Ancillary small scale uses do not exceed 20% of the total gross floor area (GFA) of the primary use.

It is understood that a key consideration for non-industrial uses established within the SRAIP is that they not adversely impact the primacy or economic sustainability of commercial premises within nearby townships. Additionally, the uses established within the SRAIP must have a demonstrably beneficial impact on the local economy and facilitating growth and sustainability of agricultural business in the region which offsets the loss of some farming land for the construction of the precinct. Ancillary office space established within the industrial premises within the precinct meets both of these requirements.

The proposed ancillary office space is not a stand-alone activity which would otherwise be located within office buildings within townships, but rather a necessary supporting element to the agricultural industrial uses.

The successful operation of the agricultural industrial business within the SRAIP, which is required to achieve the objective of providing improvements to the agricultural supply chain and value add to the production farm goods in the locality, relies on those businesses having sufficient and appropriate space on site to accommodate the staff running their financial and ordering systems, IT, workplace health and safety, administration, and other supporting functions. The sustainability and connectivity of the business relies on co-locating staff from all facets of the business on the site.

5.1.2 Proposed Code Provisions

Within the purpose and overall outcomes of the code the land use provisions note that they may include:

i. *small scale, ancillary and subordinate retailing either indoors or outdoors for the display and sale of goods manufactured on site as a part of an industrial activity;*

ii. *small scale, ancillary and subordinate office space for the administrative, financial, management or secretarial functions.*

The proposal to nominate a maximum of 20% of the total GFA, rather than a particular area of GFA as the upper limit, is related the requirements for administration space within an industrial/ warehouse business varying significantly based on the scale of that business. The administrative and office space requirements within a small premises with limited staff will be significantly smaller than that associated with a major logistics warehouse or manufacturing business.

5.1.3 Analysis of Similar Developments

Nominating a specific GFA cap can result in a significant under sizing of the administrative space within a business premises. **Table 8** provides examples of industrial approvals in Brisbane City Council and Ipswich City Council (on similar sized parcels to those proposed in the SRAIP) with ancillary office spaces that illustrate a proportional increase in area of office space in larger buildings reflective of the larger numbers of employees working there. **Figure 7** shows a correlation between warehouse GFA and ancillary office GFA. It is generally shown that the larger a warehouse is, the larger office space is required.

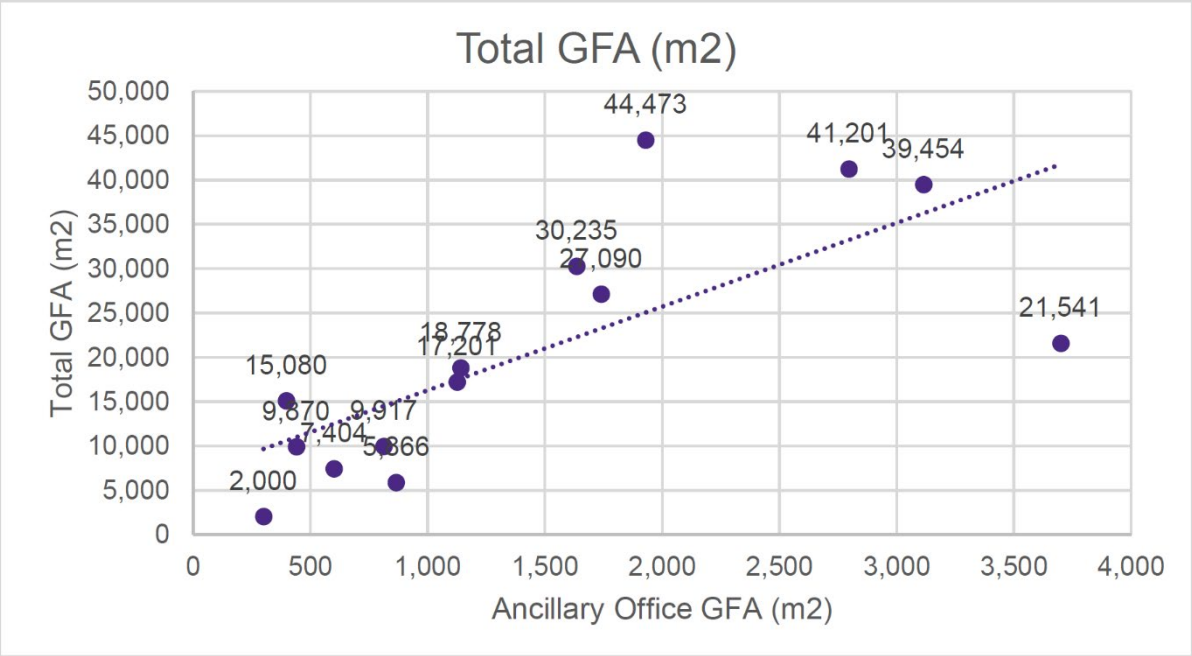

Figure 7. Graph displaying a correlation between warehouse GFA and office size.

Table 8. Examples of Industrial Approvals with ancillary office space

Project & Address	LGA	DA ref	Site area (m^2)	Warehouse and Industrial use GFA (excluding office) (m^2)	Office space (GFA m^2)	Total GFA (m^2)	Percentage of GFA for ancillary office use
50 Northcott Place, 70 and 100 Weedman Street, REDBANK	ICC	15092/2021/MCU	71,262	42,543	1930	44473	4.34%
Woolworths cold store, 30 Seeana Place, Heathwood (L1/2 SP279936, L803 SP289880)	BCC	A005834316	121,939	38,405	2796	41,201	6.79%
Hilton Foods, 22 Seeana Place, Heathwood (Lot 802 on SP289880)	BCC	A005108380	78,360	36,339	3115	39,454	7.90%
40 Barracks Rd, Wacol (Lot 2400 on SP290100)	BCC	A005489090	57,829	28,600	1635	30,235	5.41%
Linfox, 280 Sherbrooke Road & 48 Camden Road, Willawong (Lot 282 on S3122)	BCC	A005408344	87,007	25,350	1740	27,090	6.42%

41 William Farrior Place, Eagle Farm (L313 SP297872)	BCC	A005983709	54,917	17,841	3700	21,541	17.18%
Asahi, 14 Seeana Place, Heathwood (Lot 900 on SP289868)	BCC	A004451742	45,928	17,637	1141	18,778	6.47%
40 Charles Ulm Place, Eagle Farm (L41 SP253398 part)	BCC	A005954291	31,667	16,076	1125	17,201	6.54%
36 Masterpanel Lane, Bundamba (Lot 50 on SP294550)	ICC	7074/2021/MCU	161,100	14,683	397	15,080	2.63%
45 Hume Dr, Bundamba (Lot 3041 on SP316687)	ICC	10146/2021/MCU	22,094	9,104	813	9,917	8.20%
10 Moreshead Court, Redbank (Lot 5 on SP277759)	ICC	5088/2015/MAMC/A	16,092	9,430	440	9,870	4.46%
40 Clyde Gessel Place, Eagle Farm (L32 SP253447)	BCC	A005840089	16,821	6,804	600	7,404	8.10%
56 Whiteclaw Pl, Richlands (Lot 112 on SP278932)	BCC	A004619484	12,190	5,000	866	5,866	14.76%
40 Clyde Gessel Place, Eagle Farm (L34 SP253447)	BCC	A005840089	7,873	1,700	300	2,000	15.00%

Consistently on sites where the GFA of the warehouse is larger than 10,000 m^2, the ancillary office spaces exceed 1,000 m^2. There are only two developments with an ancillary office GFA of less than 500 m^2 and these developments have a relatively small warehouse size (9,439 m^2 and 1,700 m^2). All of the ancillary office spaces approved are over 150 m^2 illustrating the unsuitability of this cap for industrial /warehouse premises of the scale proposed in the SRAIP.

The percentage of GFA used by the offices tends to be smaller in the majority of the larger premises, but the percentage increases in the smaller premises indicating a need to retain the flexibility for smaller businesses to have a larger percentage of space. In all cases the proportion of ancillary office space remains a small-scale part of the overall development consistent with the purpose of an area/use being “ancillary”.

5.1.4 Conclusion

The removal of the GFA cap and adoption of a percentage only rule (for example maximum of 20% GFA) for ancillary uses, is considered to be an appropriate and practical approach for managing the extent of ancillary uses within the industrial premises for the SRAIP project, each with their own unique operational and staff requirements. By comparison with other like developments of a similar scales, all cases required substantially more than 150 m^2. For this reason, Kalfresh proposes 20% GFA cap is more amenable to be adopted in the SRAIP Development Plan.

6 SUBDIVISION

6.1 Less than 100ha

6.1.1 Background

The SRPS provides a minimum lot size of 100 ha for lots located within the rural zone (excluding the Rural Protection Escarpment Precinct and Tamborine Mountain Rural Precinct). The subdivision of lots smaller than 100 ha are otherwise prohibited due to provisions of the Planning Regulation in relation to regional landscape and rural production area (RLRPA) land.

The minimum lot size proposed within the proposed SRAIP is 6,000 m^2. As a part of this report, detailed justification for the proposed variation request has been provided.

Schedule 10, part 16 of the Planning Regulations 2017 determine that reconfiguring a lot in South East Queensland (SEQ) RLRPA is prohibited development if each lot created by the reconfiguration is less than 100ha. As the proposal is prohibited development due to the proposed reconfiguring a lot for the 16 industrial precinct lots, which are less than 100ha, therefore section 41A and 41B of the Planning Regulation 2017 is applicable to determine whether development is required to be outside SEQ urban footprint and whether there is an overriding need in the public interest for development. The SRAIP Planning & Locational Assessment Report (Appendix A.1 of the Revised Draft Impact Assessment Report (RDIAR)) provides an assessment against sections 41A and 41B of the Planning Regulation 2017, which determines that there is a need for the proposed SRAIP to be located outside of the SEQ urban footprint and that there is an overriding need in the public interest for the development.

A key consideration is ensuring that further subdivision to create additional developable lots does not occur following the creation of the lots within the Industry Precinct by Kalfresh. Accordingly, the provisions in the relevant parts of the Development Code establish that no more than 16 industry lots can be created within the SRAIP.

The subdivision design was prepared in response to several elements including:

- The position of the existing Kalfresh premises
- The single point of access to Cunningham Highway (approved in conjunction with the adjacent Frazerview Quarry)
- The topography best suited to medium to large industrial lots
- Avoiding areas of substantial ecological constraint
- Design to avoid flood inundation
- The desire to retain rural land within the development precinct
- The need to provide a range of lot sizes that will address differing demand from large scale food processing and distribution activities to smaller businesses.

6.1.2 Proposed Code Provisions

The minimum lot sizes that have been included in the SRAIPDP are supplied below in **Table 9**, however it is noted that the proposed SRAIP development will only contain 16 industrial lots and the minimum lot sizes are for the purpose of any future boundary realignment, creation of access or infrastructure easements, and long term leases. Therefore, while the proposed lot sizes are less than 100 ha the SRAIP development will not contain any more than 16 industrial lots in the industry precinct, 2 rural lots in the rural precinct, 1 volumetric lot, and future provisions for infrastructure easements.

Table 9. Minimum Lot Size and Design for SRAIP Development

Precinct	Minimum Lot Size	Minimum Width of Access Easements (Metres)	Minimum Lot Frontage (Metres) to a Private Road	Minimum Width of Access for Rear Lots (Metres)
SRAIP Industry Precinct	6,000 m^2	8	-	Not permitted
SRAIP Rural Precinct	15ha	10	-	10

6.2 Volumetric Lots and Easements

A volumetric lot is an 'airspace' subdivision which uses three dimensionally located points to identify position, shape and dimensions of each bounding surface.

The SRAIP is seeking to create a volumetric allotment underneath the Wagner's access road (which divides the site) connecting either side of the SRAIP site, allowing services to run through it.

We note that the proposed volumetric lot is not an additional useable industrial lot, rather that the lot created is future common property that will contain service connections between Lot 17 (Sewer treatment plant and Water treatment plant) and the balance of the site.

Any future lots required for infrastructure or access between sites or from a constructed road will be dealt with as easements, including infrastructure easements which will allow for any needed development of conveyors or similar to move material between lots. This will act as a proxy for a volumetric lot without requiring the creation of any future volumetric lots beyond the one underneath Wagner's access road.

As such, the proposed SRAIP Development Plan and Plan of Development (PoD) will allow for the creation of this volumetric lot, and any future easements for infrastructure or giving access as Code assessable development.

7 MINOR UTILITY INSTALLATION

In RPS's testing of the provisions within an earlier version of the SRAIP Development Plan, they realised that due to interactions with definitions of the SRPS there was a risk that unchanged, proposed construction of key project infrastructure would become impact assessable. This was because such activities would constitute the definition of "Utility Installation" which is impact assessable when not "Minor Utility Infrastructure". Minor Utility installation is accepted development, however currently the definition specifies that only works carried out by or on behalf of the Local Government or other public sector entity can access this provision. This current definition in the SRPS does not apply to the SRAIP (as Kalfresh or the eventual body corporate are not public entities).

To ensure construction and maintenance of necessary infrastructure associated with the Project is not Impact assessable, the project team proposes changes to the definition which is indicated in **Table 10**.

Table 10. Definition of Minor utility installation

Definition	Current SRPS Definition	Proposed SRAIP Development Code
Minor utility installation	Means a Utility Installation: 1) carried out by or on behalf of the Local Government or other public sector entity for the reticulation or conveyance of water, sewage, stormwater and recycled water, including ancillary maintenance and storage depots, pumping stations and other facilities for the operation of the use; or 2) being activities and associated facilities to support the effective management of a State Forest, National Park or Conservation Park; or 3) being network infrastructure, linear in nature, and used for the conveyance of a product to the public, including data and internet services; or 4) involving the reconstruction or alteration of an existing Utility installation building where the design and external appearance is not materially altered; or 5) being the following network infrastructure: a) Rising main; b) Water reservoir; c) Sewerage or water mains; d) Booster pumps or pump stations; e) Storm or flood water drainage infrastructure; f) Stormwater retention basins; g) Gas mains providing gas directly to consumers; h) Bus stops; and 6) not being the following: a) Water treatment plant; or b) Sewage treatment plant; or c) Waste management or disposal facility; or d) Groundwater extraction.	Means a Utility Installation: 1) Carried out within the plan area for the reticulation or conveyance of water, sewage, stormwater and recycled water, including ancillary maintenance and storage depots, pumping stations and other facilities for the operation of the use; or 2) Being activities and associated facilities to support the effective management of the SRAIP Project; or 3) Being infrastructure, linear in nature, and used for the conveyance of a product to tenants within the plan area, including data and internet services; or 4) Involving the reconstruction or alteration of an existing Utility installation building where the design and external appearance is not materially altered; or 5) Being the following infrastructure within the plan area: a) Rising main; b) Water reservoir; c) Sewerage or water mains; d) Booster pumps or pump stations; e) Storm or flood water drainage infrastructure; f) Stormwater retention basins; g) Gas mains providing gas directly to consumers; h) Bus stops; and 6) Not being the following: a) Water treatment plant; or b) Sewage treatment plant; or c) Waste management or disposal facility; or d) Groundwater extraction.

To compliment the proposed definition and to ensure the proposed Water treatment plant and Sewage treatment plant within the SRIAP do not constitute impact assessment, SRAIP Development Code proposes to reduce the levels of assessment for these specific uses from Impact to Code.

8 SUMMARY

In summary, the proposed SRAIP development will contain the following variations against the SRPS, as discussed above:

(1) Uses
- Service Station
- Transport Depot and Vehicle Repair Assessment

(2) Building Heights
(3) Setbacks
(4) Ancillary uses GFA
(5) Subdivision
- Less than 100ha
- Volumetric lots and Easements

(6) Minor utility installation

While the above variations provide different code provisions and outcomes from the SRPS, the performance outcomes and acceptable solutions provided within the Variation Approval Package will continue to support rural values for the proposed agriculture industrial businesses, including the proposed mitigation measures for screen/buffer and aesthetic landscaping provisions where appropriate.

CONTACT US

www.epicenvironmental.com.au
https://www.linkedin.com/company/epic-environmental-pty-ltd/
1800 779 363
enquiries@epicenvironmental.com.au