











SCENIC RIM
AGRICULTURAL INDUSTRIAL PRECINCT

A project by Kalfresh

Revised Draft Impact Assessment Report

Scenic Rim Agricultural Industrial Precinct
Kalbar, Queensland
BA220050.01
14 February 2024

epic ENVIRONMENTAL

CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

Note: The information presented within Appendix C.1 and section 5.1.3 of this report includes confidential material that has been intentionally removed, redacted, or withheld from the public version. This confidential information is provided exclusively for assessment purposes to the Coordinator-General and relevant state and local agencies. Unauthorised access, use, or disclosure of this confidential information is strictly prohibited.

DISTRIBUTION

Revision	Revision date	Issued to
A	29/08/2023	Office of the Coordinator-General
0	27/09/2023	Office of the Coordinator-General for RDIAR submission
1	13/02/2024	Office of the Coordinator-General for RDIAR finalisation
2	14/02/2024	Redacted for Public Release

DOCUMENT INFORMATION

Printed:	14 February 2024
Last saved:	14 February 2024 12:49 PM
File name:	Revised Draft Impact Assessment Report.
Author:	Epic Environmental on behalf of Kalfresh Pty Ltd
Project manager:	Sam Redman
Client:	Kalfresh Pty Ltd
Document title:	Revised Draft Impact Assessment Report
Project number:	BAA220050.01

PREVIOUS REVISIONS

Revision	Revision date	Revision details	Author	Editorial review	Technical review	Approver
1	19/12/2019	Draft for Internal Review	Chiara Towler	Stephen Mason		Stephen Mason
2	6/03/2020	Draft for Internal Review	Chiara Towler	Craig Harte		Craig Harte
3	12/03/2020	Draft for Client Review	Chiara Towler	Client		Craig Harte
4	17/03/2020	Draft for Internal Review	Chiara Towler	Craig Harte		Craig Harte
5	23/03/2020	Final for Issue	Chiara Towler	Craig Harte		Craig Harte
6	14/04/2020	Draft for Internal Review	Chiara Towler	Craig Harte		Craig Harte
7	30/11/2022	Draft for Client Review	Nicole Hartney	Client		
8	23/12/2022	Draft for Client Review	Nicole Hartney/ Joanne Cousins	Sam Redman/ Client		
9	3/02/2023	Revised Final for Issue	Nicole Hartney/ Joanne Cousins	Sam Redman/ Client		
10	28/02/2023	Revised Final for Issue	Joanne Cousins	Sam Redman/Client		
11	27/09/2023	Revised Final for Issue	Sam Redman/ Morgan Warnock	Client		
12	13/02/2024	Revised Final for Issue	Sam Redman	Shaille Hill		Sam Redman

EXECUTIVE SUMMARY

The proposed Scenic Rim Agricultural Industrial Precinct (SRAIP, the Project) is a strategically located and regionally significant specialised agricultural industrial hub located at 6200-6206 Cunningham Highway, Kalbar QLD. The Project will focus on improving the economic and environmental sustainability of agriculture in a key South East Queensland farming region through:

- The production of food (human or animal), fibre and beverages
- Advancing agriculture-related research, innovation and technologies to support the farming and agriculture industries
- Value-adding production and processing of raw materials and co-location of like and complementary manufacturing businesses
- Industries supporting precinct and farming economy such as warehousing and distribution activities supporting agri-businesses
- Realising circular economy, waste reduction and decarbonisation initiatives in industrial processing
- Generating reliable renewable energy by way of Anerobic Digestion.

The SRAIP is located in the rural zone under the Scenic Rim Planning Scheme (SRPS). It is designated within the Regional Landscape and Rural Production Area (RLRPA) under the *South East Queensland Regional Plan 2017 (ShapingSEQ)*. The Project is located outside the Urban Footprint of the ShapingSEQ where subdivision below 100 ha is prohibited and there are restrictions placed on urban uses. As a declared coordinated Project under the *State Development and Public Works Organisation Act 1971* (SDPWO Act), exemptions apply in the SEQ regulatory provisions of the *Planning Regulation 2017* (Planning Regulation), which allows an assessment pathway for subdivision and urban uses, otherwise deemed prohibited development.

The Initial Advice Statement (IAS) dated 30 April 2019 underpinned the Coordinator-General's decision to declare the Project a coordinated Project. In making that decision, the Coordinator-General considered that the information in the IAS adequately demonstrated that the Project warranted evaluation through an Impact Assessment Report (IAR) process, providing an assessment pathway for the Project, rather than it being prohibited. A key element of the subsequent information request was the need for the proponent to present a strong planning argument which justifies development of the Project outside the ShapingSEQ Urban Footprint. This Revised Draft Impact Assessment Report (RDIAR) addresses this overriding planning need and specific Project benefits that are in the public interest.

The Project site is properly described as Lot 1 on RP216694, Lots 2-4 on SP192221, Lot 2 on RP20974, and Lot 2 on RP44024 and has a total area of approximately 250 ha (the site). The proponents, Kalfresh Pty Ltd (Kalfresh), presently operate their vertically integrated horticultural production company on the site (including vegetable farming, processing, and marketing, and supply of fresh produce directly to distribution centres for major supermarkets and food service customers in Australia and overseas).

Eighty-four kilometres from Brisbane City and centrally positioned within the productive agricultural regions of Fassifern Valley, Lockyer Valley, Stanthorpe and Darling Downs, the site is ideally located on the Cunningham Highway enabling ease of access to primary production areas and markets including distribution centres of major Australian retailers, as well as air and seaports to access international markets. The SRAIP will benefit from being anchored by an expansion of the existing Kalfresh factory and warehouse facilities on the subject site and the proposed Anaerobic Digestion (AD) Facility and composting businesses to provide immediate activity and investment within the Project.

While the SRAIP is a Kalfresh initiative, it has been designed in response to the changing landscape faced by Queensland agricultural businesses, and the increased demand from the marketplace for agricultural manufacturers to diversify and value-add their products. The Project will enhance existing agricultural businesses in the local region by providing more outlets for their products, more options to value-add and the opportunity to collaborate, innovate and partner with complementary businesses co-located in the Project.

The existing site is supported and surrounded by company-owned farms and by family-owned farms in the local and broader region which grow the raw ingredients which will be value-added within the Project.

Establishing the SRAIP in this location makes logical, and logistical, sense and will unlock opportunities and efficiencies not available in other industrial locations that are removed from the productive region.

The vision for the SRAIP is to create a place where primary rural activities and secondary rural industry activities are located within close proximity to each other to create opportunities and efficiencies not feasible in the typical food-to-retailer system. Often, food and beverage production starts with the removal of whole crops directly from farms and transports them to urban areas for processing, value-adding and packing for market. The SRAIP will consolidate the spread of these value-adding activities to a smaller geographic region which will be a more environmentally sustainable model (particularly with respect to kilometres travelled) and reduced wastage, as well as facilitating a diverse and expanded local economy that provides for increased local employment. The SRAIP is expected to yield a range of economic and social benefits, including direct economic and supply chain contributions, local accessible employment opportunities, local energy production and seasonal and structural benefits to the region's agriculture.

A unique and significant feature of the SRAIP proposal is the delivery of a new renewable energy system which diverts organic agricultural and food waste and converts them to energy, gas, and soil nutrient, via anaerobic digestion. The facility proposed by Kalfresh is a closed-loop system which directs feedstocks such as energy crops and agricultural waste into an onsite AD Facility. The AD process converts the feedstocks to biogas, electricity and digestate, a by-product which can be used as a synthetic fertiliser replacement. Digestate is now regulated as a 'resource' for use as a soil conditioner under an End of Waste Code gazetted by the Queensland State Government in October 2022.

The system proposed by Kalfresh will provide electricity and gas to the Project businesses and fertiliser to the local farming community in a closed-loop system which value-adds at every part of the process. This process is well established globally for its environmental and socio-economic benefits, including renewable energy and fertiliser, reduction of waste to landfill, and reduction of greenhouse gas (GHG) emissions. Notably the Project is expected to realise GHG emission reductions of up to ~430,000 tCO2-e per annum during operations.

The Project site is located outside of the Urban Footprint in the ShapingSEQ, making the proposed subdivision on the site prohibited under the *Planning Regulations 2017*, however a key driver for the Project is to locate it within the agricultural region that it services. This report undertakes a detailed assessment against the relevant statutory framework and seeks to address the identified conflicts with those planning documents, namely:

- The siting of the SRAIP outside the nominated Urban Footprint of ShapingSEQ
- Potential to detract from the nominated Scenic Rim town centres

To determine there is a compelling overriding planning need to warrant the Project's siting in the RLRPA, a Planning and Location Assessment was undertaken that includes a cost-benefit analysis for locating the Project within the Bromelton State Development Area (SDA). The assessment found that should the Project be located in the Bromelton SDA, or in existing industrial zones in the urban footprint, the net economic contributions of the Project would be reduced by 41% (in net present value terms). This difference is driven by increased freight costs, reduced agglomeration benefits and key elements of the Project such as the AD Facility that would become unviable in an alternate location.

The proposal and the benefits it delivers align with multiple local, state and federal policies and the benefits outweigh any identified, or perceived, conflicts and loss of productive land. Key benefits include:

- Renewable energy generation via the proposed AD Facility and associated production of bio-fertiliser from digestate
- Increased employment for the region resulting in an increase in local population and vitality of the existing Scenic Rim townships
- Promoting collaboration between agricultural and industrial uses
- Improved logistics (reduction in food miles, meaning fresher produce on the shelves, quicker) and more options for processing and sale of locally produced agricultural products
- Enhanced opportunities for value-adding of produce and reuse of waste – reducing agricultural waste and allowing more efficient use of existing production on site

- Recognition of the SRAIP as a 'Strategic Enabling Project' in the *Scenic Rim Regional Prosperity Strategy 2020-2025* based on its potential to facilitate economic growth and advancement of the agriculture industry in the region

The Coordinated Project pathway provides a mechanism to address complex approval requirements, significant infrastructure requirements, and recognition of strategic significance to the locality, region or State, including for the infrastructure, economic and social benefits, capital investment or employment opportunities a proposal may provide. The SRAIP was declared a "Coordinated Project requiring an impact assessment report" by the Coordinator-General on 31 May 2019. The Draft IAR (DIAR) was prepared in response to the requirements and scope of works set out by the Coordinator-General in relation to Project approvals and key information requirements. The original version of the report was submitted in March 2020, and following an adequacy review an amended version was submitted in April 2020.

Following public consultation and stakeholder engagement, the Coordinator-General issued an information request seeking further information in relation to the Project in October 2020 and June 2023. This RDIAR addresses the matters raised in these information requests and the associated key issues raised by submitters during the public consultation process. In addressing the matters raised by the Office of the Coordinator-General and State agencies there have been a number of changes and improvements to the Project which are detailed within this report.

The SRAIP Proposal seeks approval for:

- A Variation Approval (Preliminary Approval) overriding the SRPS that establishes appropriate land uses, associated codes, level of assessment (LoA) tables and a plan of development which facilitates the establishment of two precincts:
    1. **SRAIP Industry Precinct**
    - Facilitate industrial activities located in a specialised industrial hub with an agricultural connection (agri-focus)
    - Leverages co-location with agricultural production and industrial processes to realise waste reduction and a circular economy through the functioning of the AD Facility (As a defined use in the Development Code) (SRAIP biodigestion) and associated infrastructure
    - Does not include uses intended to service the general industrial, retail or commercial needs of surrounding townships and centres
    - Surrounded by a rural setting, the Project is characterised by medium to large-scale buildings and structures that are designed and sited to reduce the impact of the built form and minimise the impact of the amenity on the surrounding rural area and sensitive receivers
    - Avoids or effectively mitigates impacts to ecological health and risks to public safety
    2. **SRAIP Rural Precinct**
    - Provides a buffer and supports functioning of the SRAIP Industry Precinct.
    - Supports low impact rural activities that are compatible with and able to operate near intensive industrial activities
    - High Impact industrial activities are limited to SRAIP composting which supports the functioning of the AD Facility (As a defined use in the Development Code) (SRAIP Bio digestion) and reuse of compostable materials from the SRAIP Industry Precinct
    - Characterised by low-scale rural buildings and structures that are typically associated with rural activities situated on medium sized rural lots
- A Development Permit for a Reconfiguration of a Lot and Operational Works (Earthworks), for a subdivision titled via management scheme over two phases that ultimately creates 16 industrial lots, three rural lots, two balance lots excluded from the SRAIP, an infrastructure lot to accommodate water and sewerage treatment facilities for the Project, a volumetric lot, access easements and common property
- Development Permits for a Material Change of Use for Extension to an Existing High Impact Ag-Industry and Warehouse Use (Ancillary Office) (Lot 9); High Impact Ag-Industry and Warehouse (Lot 8); Warehouse with Ancillary Office and Showroom (Lot 15) and material Change of Use for High-Impact Ag-Industry and Warehouse (Value-add fresh and frozen vegetable facility and cold store) (lot 12)
- Development Permit for Material Change of Use for ERA53a – Organic material processing (by composting the organic material), and ERA 53b – Organic material processing (by anaerobic digestion)

- Environmental authority for environmentally relevant activities (ERAs) (*Environmental Protection Act 1994*):
  - ERA 53a – Organic material processing (by composting the organic material)
  - ERA 53b – Organic material processing (by anaerobic digestion)
  - ERA 63(1)(b)(i) – Sewerage treatment

The Queensland State Government has identified a vision for a "strong, resilient and inclusive Queensland with thriving regional economies and an innovative manufacturing sector" in the *Department of Regional Development and Manufacturing Strategic Plan 2020-24*. The associated purpose is to "generate economic growth and jobs of the future through competitive regional economies and creating a sustainable and innovative manufacturing sector."

The Project embodies this vision and purpose by creating an innovative environmentally and economically sustainable agri-business manufacturing hub in a regional area that will unlock new market opportunities for Queensland farmers, will diversify the local economy and create new, secure employment opportunities in the Scenic Rim.

Additionally, the Project achieves alignment with the Queensland Energy and Jobs Plan which seeks to achieve 70% renewable energy by 2032. Specifically, the incorporation of the AD Facility as part of the Project significantly contributes advancement towards Queensland's bioenergy future. This facility will expand generation from underutilised biomass waste streams in the agricultural industry and act as a catalyst supporting technology innovation in this emerging sector.

Note: The information presented within Appendix C.1 and section 5.1.3 of this report includes confidential material that has been intentionally removed, redacted, or withheld from the public version. This confidential information is provided exclusively for assessment purposes to the Coordinator-General and relevant state and local agencies. Unauthorised access, use, or disclosure of this confidential information is strictly prohibited.

1 INTRODUCTION

1.1 Project Background and Context

The Scenic Rim Agricultural Industrial Precinct (SRAIP, the Project) proposal has been developed by Queensland vegetable farming and production business Kalfresh Pty Ltd (Kalfresh). The genesis of the concept was formed over many years as the owners of Kalfresh realised from their own business experiences, that the Australian agricultural landscape and marketplace was changing.

Market demand for trusted, Australian, value-add food (human or animal), fibre, medicinal and beverage products is strong and growing stronger, particularly in the wake of COVID supply chain challenges. Large Australian retailers are focused on the importance of sustainable supply chains that are immune to border closures, transport delays, rising freight costs and severe weather events.

Value-adding the raw ingredients close to the source is key to the future prosperity of farming communities. It's a concept that enables diversification and opens new markets and opportunities to productive landowners. The approach maximises the use of crops, reduces waste, and increases returns to farms in a more sustainable way.

In addition to their vision for a new way of processing and manufacturing agricultural products, Kalfresh asked, 'What if the Project could be powered by renewable energy?'

Inspired by the growth of an emerging green energy sector in farming communities in Europe and America, Kalfresh could see that electricity and gas created via anaerobic digestion (AD) was a beneficial and symbiotic addition to farming communities.

The AD Facility proposed by Kalfresh for the SRAIP is unique to Australia as it value-adds every part of the energy journey to create green power, green gas and a bio- fertiliser called digestate which will reduce farmers' reliance on expensive synthetic fertilisers.

Location is key to achieving the entire precinct vision. The Project concept works because the manufacturing, value-adding and renewable energy production is co-located in the heart of the agricultural region which provides the raw ingredients. This location unlocks opportunities and delivers transport and operational efficiencies and alignments not achievable in existing industrial areas within the Urban Footprint.

The Kalfresh vision aligns closely with the Queensland Department of Agriculture and Fisheries' (DAF) Strategic Plan for the industry's future, with the Queensland Jobs and Energy Plan, and with the Scenic Rim Regional Council's (SRRC's) new Agri-business and Agritourism 10-Year Roadmap.

Value-adding, diversifying and innovating in the agriculture sector requires significant levels of investment in automation and technology, a new sophisticated calibre of production facility, and a different workforce skill set. Understanding this, the Kalfresh owners created a concept for a precinct where compatible agri-focused businesses could co-locate to work together for the improvement and advancement of Queensland agriculture. The Project concept aims to achieve:

- A place where the facilities and services will be available in one location so agri-food and beverage manufacturing businesses can base themselves and access a wide range of raw agricultural ingredients, including vegetables, beef, dairy, pork, poultry and grain
- A place where the skills and related services required to develop new agri-focused products, from paddock to packet, will be available
- A specialised industrial hub for the value-adding and innovation of products with an agri-focus. A place for advancing agricultural research, innovation, new product development and technologies to support the farming industry.

The proponent believes the proposed SRAIP will achieve these aims in the heart of the fertile Scenic Rim region, Kalbar (refer to **Figure 1**), a region where agriculture has been the leading industry since the 1870s.

Figure 1. Project Location and Regional Context

1.2 Project Overview

The Project is a specialised agricultural industrial hub located at 6200-6206 Cunningham Highway, Kalbar QLD (the site), consisting of a rural and industrial subdivision development. The SRAIP Plan and associated Plan of Development will override specified elements of the Scenic Rim Planning Scheme (SRPS) enabling the subdivision and uses consistent with the intent and purpose of the SRAIP to be established on site.

The Project seeks to improve the economic and environmental sustainability of agriculture in Scenic Rim through:

- Enhancing production of food (human or animal), fibre and beverages
- Supporting agriculture-related research, innovation, and technologies to advance farming and agriculture industries
- Value-adding production and processing of raw materials and co-locating and complementary manufacturing businesses
- Attracting industries to support the Project and farming economy, such as bio-fertiliser, compost production, warehousing and distribution activities supporting agri-focused businesses
- Realising circular economy, waste reduction and decarbonisation initiatives in industrial processes
- Generating reliable renewable energy by way of anerobic digestion (SRAIP Biodigestion).

The Project proposal involves the following elements:

- The SRAIP Development Code seeks to very the SRPS (version No.7) and create bespoke planning provisions including a strategic framework, tables of assessment, SRAIP codes, and definitions. This establishes an Industry and a Rural Precinct within the SRAIP and the specific land use controls for each precinct that facilitates appropriate agri-focused uses and support activities being established on site
- A subdivision that creates 16 industrial allotments, three rural lots, one infrastructure lot, one volumetric lot, access easements and common property within the SRAIP development footprint, and two balance lots excluded from the SRAIP
- Site access provided by 30 m and 40 m wide private roads to be held in a body corporate or alternate precinct governance arrangement facilitated by a management scheme. The private roads will provide access to the Cunningham Highway via a single (previously approved) access point to the highway. This access and the 30 m wide private road is shared with the approved Frazerview Quarry and is designed to an industrial collector standard with additional verge width. The 40 m wide private road has been designed with a central stormwater swale and a one-way traffic movement system
- An AD Facility on Lot 11, that uses organic processes to break down organic agricultural wastes and associated feedstocks (such as chicken manure, paunch, and silage) to create renewable green natural gas which will be used to generate electricity supply for the SRAIP. The by-product of this process is organic digestate which, will be used as a bio-fertiliser in conjunction with the Digestate End of Waste Code
- A composting site (High Impact Industry) on Lot 19 to produce nutrient rich compost, suitable for use on soils and crops. The composter comprises of windrow pads, feedstock holding bay, storage areas, and leachate storage. Access easements connect the composter to the private road and an existing access track maintained from proposed Lot 11 to facilitate deliveries
- Medium sized industrial lots suitable for development in accordance with the SRAIP Plan will be established in the Industry Precinct. Lot 9 is occupied by the existing Kalfresh factories and warehouse activities (and proposed ancillary office space). Lot 11 is the AD Facility, Lot 8 is the site of an additional Kalfresh vegetable factory (High Impact agriculture-industry) and warehouse, and a warehouse with ancillary office and showroom space is proposed on Lot 15. Finally, a value-add frozen and fresh cut vegetable factory and cold storage facility (High Impact ag-industry) is proposed on Lot 12. It is intended the remaining 11 lots within the Industry Precinct will be developed in accordance with the Development Code for a mixture of agriculture industry related uses. Lots 12 and 13 are subject to special provisions which allow buildings up to 35 m in height to be constructed to facilitate the height requirements associated with automated cold store warehousing and stacking of pallets. The Development Code permits a single service station, two food outlets up to 200 square metres (sqm) and a transport depot to be established within the SRAIP to provide essential support services to the transport and logistics operations associated with manufacturing and production at this scale. These uses are intended to service the SRAIP, rather than attract external traffic.
- Private Infrastructure servicing the SRAIP including:
    - Two common property drainage lots containing a stormwater basin and overland flow path
    - An infrastructure lot accommodating the onsite potable and recycled water treatment, sewerage treatment plant and firefighting facilities
    - A volumetric lot created as part of the Phase 1 subdivision to create a connection on either side of the management scheme lands once the access road has moved into separate ownership
    - Overland flow path which ‘wraps’ the SRAIP footprint to provide flood conveyance around the development and the new lawful point of discharge for the SRAIP (located in a drainage easement that burdens Lots 18 and 20)
    - A treated effluent irrigation area with an area of two ha within Lot 18
    - An offline turkey nest water storage dam used pre-treatment to store water pumped to site or sourced from bores to ensure continuity of supply (Lot 20)

It is noted that existing State protected vegetation is located within a balance lot (Proposed Lot 50) which does not form part of the SRAIP and therefore clearing within this lot is not proposed as part of the SRAIP development application.

The proposed development layout is illustrated in **Figure 2** and **Figure 3** (provided in full in **Appendix J** – Plans and Drawings) and further discussed in **Section 5** (Project Description) of this report.

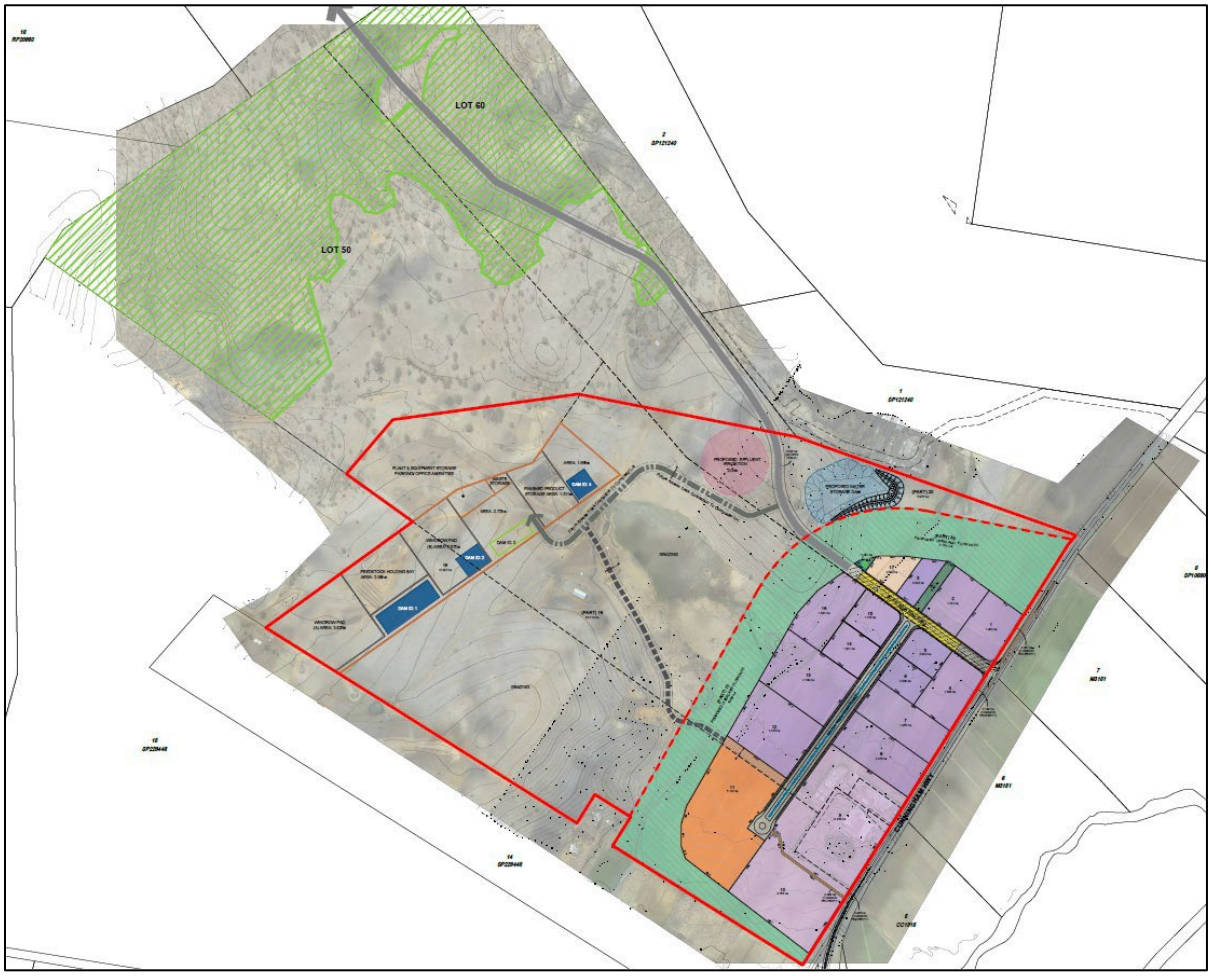


Figure 2. Extract from Overall SRAIP Concept Layout

Figure 3. SRAIP Concept Layout

1.3 Project Proponent

Kalfresh Pty Ltd (ABN 33 060 428 775) is an Australian rural agricultural production company, established in 1992 with the vision of uniting local growers under one brand which has grown to become one of Queensland's leading vegetable production companies, boasting state of the art processing and packing systems at their Kalbar facility.

Kalfresh is a vertically integrated vegetable farming, processing, and marketing business, that controls the entire paddock to plate journey – from seed selection to transport. Kalfresh is run by generational farmers who innovate to remain sustainable and grow healthy, nutrient rich crops with minimal impact on the environment. They grow and supply fresh produce directly to distribution centres for major supermarkets and food service customers in Australia and overseas. Kalfresh employs up to 400 people (directly and indirectly) at peak production times across four growing regions and processes, packs and sells about 49,100 tonnes of vegetables per annum, with 2000 ha under crop, across the Scenic Rim, Lockyer Valley, Southern Downs, and North Queensland. This geographic diversity enables water and weather security and the ability to produce key crops all year round. Kalfresh also exports about 1,300 tonnes of vegetables annually, to New Zealand, Asia, and the Middle East.

Kalfresh grows and sells both conventional and certified organic vegetables (including carrots, onions, pumpkins, green beans, snacking tomatoes, sweet corn, and baby capsicums) utilising four unique growing regions throughout Queensland:

- Fassifern Valley in the Scenic Rim Local Government Area (LGA)
- Lockyer Valley in the Lockyer Valley LGA
- Bowen in Whitsundays LGA
- Clintonvale in the Southern Downs LGA.

Kalfresh, alongside their partners in government, share a mutual goal to continue to strengthen the regional economic and social diversification of the Scenic Rim by seeking opportunities for growth and innovation.

Kalfresh is driven to meet the evolving needs of both customers and consumers in food production which supports the State Government's general intention in the *South East Queensland Regional Plan 2017* (ShapingSEQ); *State Planning Policy 2017*; *Department of Agriculture and Fisheries Strategic Plan 2021-2025*; and Queensland agriculture and food research, development and extension 10-year roadmap and action plan. Kalfresh are also driven to generate additional sustainable jobs and infrastructure in Scenic Rim and encourage regional resilience and ongoing growth, innovation and sustainability of a thriving agricultural industry.

1.4 Project Drivers

The Project was born from a need within the Kalfresh business to expand its production facilities to enable the company to take advantage of new business opportunities, particularly within the rapidly growing value-add processing and certified organic produce space. The Project also seeks to de-risk Kalfresh's investment in new smart factories of the future, featuring industry-leading automated and robotic production equipment, by establishing a fit-for-purpose home for sophisticated food manufacturing in the heart of a productive region.

While Kalfresh's own growth needs were the initial drivers for the Project, the concept has since broadened to respond to industry-wide trends and opportunities to deliver a regional hub that enables agricultural diversification, innovation, differentiation, and long-term sustainability for the industry as a whole. The Project drivers are closely aligned with the SRRC's region-wide vision for agricultural growth, as outlined in the Agri-business 10-year Roadmap, released in 2022. The SRAIP has been deemed a 'Strategic Enabling Project' in the Council's *2020 Prosperity Strategy* and is seen as a regional catalyst Project to grow investment, employment and provide new market access opportunities for regional landholders.

A significant driver, and one which has potential to provide a renewable energy and waste management pathway for many Queensland regional areas, is the SRAIP's proposed bioenergy plant. The plant uses anaerobic digestion to divert food and agricultural waste and value-add it to generate green gas, green power and a bio-fertiliser. This sustainable, closed-loop renewable energy system, together with the other Project drivers are consistent with a wide range of recently emerging State and local government policies which

support growth and development of agriculture, regional economies, and manufacturing businesses within regional Queensland.

Key SRAIP Drivers Include:

- Enable agricultural diversification, innovation, differentiation, and value-adding
- Enable the expansion and growth of existing Kalfresh business to capitalise on new opportunities and improve operations
- De-risk investment in agricultural manufacturing, automation, and advanced technology
- Enable growth and respond to customer demand for more production capacity and new high-value, Australian agri-focus products
- Reduce waste by driving supply chain innovation to find a market for 'wastes' and by-products and realise value-add opportunities
- Maintain and build agricultural competitiveness – domestic and export - by delivering efficient supply chain and logistics
- Secure and grow new markets for the region's farming community
- Enhance supply chain logistics for agricultural and food production
- New, safer Cunningham Highway intersection for Kalfresh and precinct traffic
- Enable QLD agricultural businesses to respond to consumer and retail trends, including ready-to-eat, ready-to-cook products and sustainable sourcing and sustainable supply chains
- Co-location hub for research and development (R and D) that connects the entire supply chain – farmer, packer, processor, and retailer
- Return skilled agricultural and manufacturing jobs to the region. Job creation, opportunities for the region's young people to work with new technologies, automation, and smart manufacturing
- Establish a new, unique closed-loop renewable energy system that diverts food and agricultural waste and value-adds it to generate green gas, green power, and bio-fertiliser
- Provide farmers an assured outlet for their produce, enable agricultural diversity and create local employment opportunities
- Decarbonise food manufacturing and the paddock to plate supply chain.

1.5 Project Benefits

The SRAIP is multi-faceted and will deliver tangible benefits which will have a significant positive impact across agriculture, environment, social and economic spheres.

By establishing the Project within the productive region, the Project can deliver outcomes not possible in an urban setting. The locational benefits are unique to the Project and enable the co-location of production and processing which means a more resilient and competitive Queensland agricultural sector:

- Faster paddock to plate turnaround
- Reduced food miles
- Improved operational efficiencies
- Agricultural diversification and financial sustainability for Queensland farmers
- Better crop recovery, utilisation and subsequent reduced food waste
- Improved collaboration between rural and agri-focused businesses throughout the supply chain
- Greater demand for Australian-grown agricultural products.

At the heart of this proposal is a desire to strengthen and diversify the regional economy and social structure by creating opportunities for growth and innovation.

In addition to being a Strategic Enabling Project in the *Scenic Rim Regional Prosperity Strategy 2020-2025* and the *Scenic Rim Agri-business and Agritourism 10-Year Roadmap 2022-2032*, the SRAIP is aligned with a number of national, State, and regional/local agreements and policies which provide for action on food reliability, climate change and the development of renewable energy infrastructure, namely:

- Australian Government - *Critical Infrastructure Resilience Strategy*
- Australian Government – *Food demand in Australia: Trends and Issues 2018*

- Australian Government – *Clean Energy Innovation Fund*
- Queensland Government – *Powering Queensland Plan*
- Queensland Government – *Growing for Queensland*
- Queensland Government – *Queensland Energy and Jobs Plan*
- Queensland Government – *Queensland Low Emissions Agriculture Roadmap 2022-2032*
- Queensland Government – *Waste Management and Resource Recovery Strategy*
- Queensland Government – *Queensland Organics Strategy 2022-2032*

Benefits flowing from the delivery of government policy through SRAIP are summarised in **Table** 8, and are detailed in the following sections.

1.5.1 Agriculture

The SRAIP concept has been guided by the current and emerging trends in the agricultural and retail food sectors. The Project will create a regional home for the co-location of compatible agricultural businesses. It will deliver multiple benefits in the agricultural sector and will immediately enable Kalfresh and other agri-focused businesses to diversify, grow, adapt, and innovate to remain sustainable and viable well into the future, via investment in new smart factories of the future.

Agricultural innovation and smart food manufacturing presents the following benefits for the agricultural industry:

- Investment in robotics and automation technologies to build a workforce with mechatronic, electrical, and engineering skills
- Co-location and collaboration with industry research and development partners to transfer innovation developments to real world problems
- Overcome barriers to embedding innovation in supply chains, e.g., reducing bioplastics in packaging; improved shelf-life and new product development (NPD) for reduced food waste; traceability for export products; x-ray scanning of produce (better crop recovery); electric truck charging
- New food manufacturing capabilities in the region, including at least two new Kalfresh processing facilities for organics, snacking and value-add vegetables
- Full complement of services in one location to bring NPD to reality – Quality assurance (QA), food science, packaging and branding, marketing, sales, and distribution
- Enhanced opportunities for collaboration and innovation between local growers and precinct tenants
- New low-risk, high return cropping opportunities for local landholders to supply 'energy crop feedstock' for green power generation in the AD Facility ensuring more productive land, and improved returns
- Generating additional demand for ~9,000 high-value cropping hectares representing a ~$33.8m contribution to local farmers in the Fassifern Valley and surrounding growing regions
- Manufacturing efficiencies to enable price-competitive Australian-grown import replacement for value-added products such as frozen vegetables
- Improved revenue per hectare of land and per ML of water in the Scenic Rim and surrounding regions due to new market opportunities

1.5.2 Environment

1.5.2.1 Renewable Energy Generation via Anaerobic Digestion

The renewable power generation model proposed for the Project will create new opportunities for regional communities, enabling them to create their own power and gas by value-adding agricultural waste and energy crops. The AD facility located in the SRAIP will produce green gas and green power and the process will also deliver a new product, an organic bio-fertiliser which will enable farmers to reduce their reliance on synthetic fertilisers and decarbonise the food production process.

The renewable energy system proposed for the SRAIP will be repeatable across regional agricultural areas throughout Queensland and presents a tangible model to realise the objectives of Queensland's Low Emissions Agriculture Roadmap.

The Project has the following benefits:

- Delivers a new 1.6 MW AD Facility (scalable to 10 MW) that will power the Project, repurpose agricultural waste and produce a new bio-fertiliser
- Diverts agricultural waste (manure and food by-products) for use as feedstocks in a circular model that value-adds at every stage. Value streams include:
  - Gate fee for organic waste stream collection
  - Organic fertilisers
  - Power cost offset
  - Improved power reliability in the immediate regional area
  - Dispatchable power
  - Large Scale Generation Certificates (LGCs)
  - Self-sufficient, sustainable energy supply - Key infrastructure for SRAIP
- Produces a new source of green gas, green power, and green fertiliser for the region
  - Electricity will power the Scenic Rim Agricultural Industrial Precinct. Excess can be returned to the grid
  - Gas supply (clean natural gas) can be sold to the national grid, or to gas filling stations. New CNG trucks are proposed to be imported from overseas to realise this initiative in the supply chain servicing the SRIAP. (Note these CNG trucks are more environmentally friendly than electric trucks which require large batteries and require long charging times)
  - Heat generated in the AD process can be utilised by precinct tenants, or to dry harvested products and liquid digestate (fertiliser pellets)
  - Fertiliser will replace reliance on synthetic, high-cost fertilisers in the farming system
- Empowers regional communities to create their own power and gas supplies and will be repeatable across regional agricultural communities
- Provides on farm income opportunities for local farmers to accrue carbon credits for the use and application of digestate (solid and liquid forms) on their crops and a pathway to transition their business to certified organic status if desired
- Provides opportunity for regional landholders to grow a new low-risk, high return energy crop to 'feed' the bioenergy plant. Energy crops are also a beneficial rotational crop for more intensive horticultural crops
- Will create approximately 46 direct and 10 indirect construction jobs, as well as three operational jobs
- Decarbonisation of food processing and manufacturing
- Offers benefits other energy sources don't, including stable, reliable baseload power, waste diversion and additional revenue streams

1.5.2.2 Waste Management and Resource Diversion from Landfills

The predominant food waste management system within Queensland is disposal into landfills. Currently, more than 60% of the State's solid waste (including food waste) is disposed of in this manner. Food waste from vegetables is the second largest source of waste produced from the primary sector. The SRAIP aims to adopt a more sustainable approach to food waste management in the primary sector and proposes a large scale composting and AD facility to divert orgic waste from landfill.

The Project at full scale (AD Facility and composting) is estimated to divert ~250,450 tonnes of waste per annum whilst also creating new products to be utilised by Kalfresh and others within the local area. The Project will create new opportunities regarding food waste management in Australia and will largely help reduce the amount of waste being imported into landfills.

The benefits of the proposed closed loop process enabled from the Project include:

- Reducing GHG emissions (including methane) being emitted into the atmosphere, (in 2020, 1.94 megatons (Mt) of CO_2 emissions were emitted into the atmosphere from food waste)
- Reducing overall food waste while creating new product streams including clean natural gas, electricity, organic fertilisers which will be used to diversity the agricultural industry
- Decreasing both odour and visual pollution especially in communities surrounding landfills

- Reducing soil degradation within landfills, maximising land for other purposes and reducing transport costs of delivering waste to landfills.

The waste management system proposed for the SRAIP will be repeatable across regional agricultural areas throughout Queensland and presents a tangible system to realise the objectives of both the *Waste Management and Resource Recovery Strategy* and the *Queensland Organics Strategy 2022 – 2032*.

1.5.3 Greenhouse Gas Reduction

The Project is expected to achieve significant greenhouse gas (GHG) emission reductions and accrue substantial carbon credits. An assessment undertaken by Carbon Friendly dated 24 May 2023, confirmed that at full scale the renewable energy and circular economy components of the Project have the potential to reduce up to **~430,000 tCO2-e per year** during operations. The key decarbonisation benefits from the Project are expected to be:

- Diverting agricultural waste streams from landfill
- Avoidance of methane from the breakdown of organic waste within the AD Facility
- GHG emission savings from the application of digestate replacing the use of synthetic fertilisers - including the transport of synthetic fertilisers (some of which is produced overseas or trucked from north Queensland)
- GHG emissions savings from the use of digestate and composting products which sequestrates carbon back into the soil where the crops are grown
- GHG emission savings from the generation of green gas (biogas) and renewable energy production. Initially biogas from the AD Facility will be used to generate electricity for use in the Project, with excess electricity exported to the electricity grid
- GHG emission savings from the generation and use of Clean Natural Gas (CNG) in the transport sector to displace the use of diesel in the existing paddock to plate supply chain.
- GHG emission savings from the generation on-selling of compressed CO2. Compressed CO2 is a by-product of biogas which is in high demand in the manufacturing industry

1.5.4 Regional Investment and Employment

Job Creation and Economics

The SRAIP will be positive for the broader Scenic Rim region, delivering construction and ongoing operational jobs locally. The Project will result in:

- **Total construction jobs –** 641 direct and 354 indirect local jobs over 10 years. Of this total Kalfresh contribute 13 direct and 3 new indirect jobs during construction
- **Total operational jobs –** 475 direct and 572 indirect local jobs annually upon full development. Of this total, Kalfresh contribute 80 direct and 84 indirect jobs during operations
- **Construction Gross Value-Add –** $89.5 million contribution to the Scenic Rim economy (+5.3%) and $238.0 million to the Australian Economy over the 10 year construction phase
- **Operational Gross Value-Add –** $140.5 million to the Scenic Rim economy (+8.3%) and $211.9 million contribution to the Australian economy annually upon full development

1.5.5 Export Opportunities

Reduced operating costs and more efficient production systems will enable Queensland food producers and processors to be more competitive in an international marketplace, leading to new export opportunities. The benefits of this include:

- Aligning with Tier 1 retail demand for more Australian grown value-add produce
- Strengthening the Scenic Rim's export capabilities through increased production capacity and product diversity
- Extending export opportunities to surrounding regions, including Lockyer Valley and the Southern Downs which would supplement raw ingredients for processing

1.5.6 Social Benefits

The SRAIP will positively impact the socio-economic environment and structure of the Scenic Rim. It delivers opportunities to catalyse a shift in the Scenic Rim economy to one that is more sustainable, less seasonal, and more diverse, which will in turn enhance attractiveness of the region to younger workers and families.

The SRAIP will transform, diversify, and value-add to the Boonah and Scenic Rim communities by:

- Supporting a more sustainable and diversified economy which will be less volatile
- Providing local farmers with expanded value-adding opportunities in the region
- Benefiting local business in construction and manufacturing support sectors from their involvement in SRAIP supply chains, improving their sustainability and viability
- Increasing the attractiveness of the region to younger workers and households addressing socio-economic and age profile challenges in the region
- Reducing unemployment by providing more sustainable ongoing, permanent opportunities – removing seasonality of local work
- Improving quality of life for local workers through reduced travel times
- Reducing volatility and improving sustainability and dynamism of local communities through more permanent, non-seasonal employment

1.6 Purpose of this Report

This RDIAR has been prepared pursuant to Section 34K of the *State Development and Public Works Organisation Act 1971* (SDPWO Act) and seeks to:

- Address the Coordinator-General's request for additional information dated 1 October 2020
- Address the Coordinator-General's request for additional information dated 26 June 2023
- Respond to submissions from agencies and the community received on the Project during the public submission period
- Assist the Coordinator-General's evaluation of the Project's environmental impacts and propose mitigation measures in the form of an evaluation report
- Provide the information necessary to assist the Coordinator-General making a recommendation to progress with the Project subject to conditions and recommendations designed to ensure the Project's environmental impacts are properly managed
- Facilitate timely progression of required downstream development permits and approvals under the *Planning Act 2016* (Planning Act) and *Environmental Protection Act 1994* (EP Act) should the Coordinator-General's approval be granted.

1.7 Statement of Limitations

Epic Environmental Pty Ltd (Epic) has prepared the following report for the exclusive benefit of Kalfresh Pty Ltd (Client) and for the singular purpose of assisting the Coordinator-General's Evaluation of environmental impacts at the Kalfresh Scenic Rim Agricultural Industrial Precinct at Kalbar. All interpretations, finding or recommendations outlined in this report should be read and relied upon only in the context of the report as a whole.

The following report cannot be relied upon for any other purpose, at any other location or for the benefit of any other person, without the prior written consent of Epic. This report has been prepared based on information provided by the Proponent and other parties. It is assumed all information relied upon for this report is accurate at the time of writing.

In recognition of the limited use of this report, to the maximum extent permitted by law, Epic (including its representatives and related entities) is not liable for any losses, claims, costs, expenses, damages (whether pursuant to statute, in contract or tort, for negligence or otherwise) suffered or incurred by any party as a result of the information, findings, opinions, estimates, recommendations and conclusions provided in this report.

Without limiting the above, Epic (including its representatives and related entities) is not liable, in any way whatsoever:

- For the use or reliance of this report for any purpose other than that for which it has been prepared
- For any use or reliance upon this report by any person other than the Proponent or the Coordinator-General
- Where another person has a different interpretation of the same information contained in the report
- For any consequential or indirect losses, or for loss of profit or goodwill or any loss or corruption of any data, database or software.

1.7.1 Acknowledgement

Epic acknowledges that the initial draft of this report was primarily prepared by RPS Group (RPS). Although RPS no longer claims any responsibility for this report, their initial impact assessment, data, and reporting have been utilised by Epic as the foundation of this RDIAR.

1.7.2 Assumptions

The following assumptions were made in the development of this report:

- Environmental values established through Queensland Government supplied mapping and data has been reviewed in desktop assessments and confirmed by site visits to reflect actual site conditions
- Water requirements for the SRAIP are based on estimates for the proposed land uses and agricultural purposes, as per standard industrial consumption requirements
- Workforce demands for full development of the SRAIP have been estimated based on the proposed land uses
- Gross production value for full development of the SRAIP are based on estimates for the proposed land uses.

1.7.3 Scope of the IAR

The scope of the IAR is for all aspects of the proposed SRAIP on the subject site. The scope of the project is generally confined to the following:

- Detailed information in this report is to provide sufficient information to adequately consider all Tier 1 approvals required for the Project identified at **Table 5** of this report
- For all Tier 1 Project approvals sought, this report seeks to provide sufficient information for the Coordinator-General to 'State' conditions under the SDPWO Act
- Preliminary information only is supplied to support the Tier 2 approvals that are not sought as part of this RDIAR. Tier 2 approvals will be subject to separate approvals processes following release of the Coordinator-General's Evaluation Report
- End of Waste Code (Digestate) was assessed and granted by the Department of Environment and Science separately to the IAR process. The End of Waste Code (Digestate) regulates all digestate on and off the Project site. Matters relating to its use as a fertiliser and management off site is separate to the IAR process
- The acquisition of water allocations has occurred concurrently with, but separate to, the IAR process. Arrangements for transportation of the water from the offtake point on Warrill Creek to the subject site, if requiring approval or partial approval from a regulatory authority will be addressed within the Tier 2 approvals
- The Frazerview Quarry was approved by way of Court Order 3471 of 2020 which included part of the Project land (part of Lot 2 on RP20974) and the intersection with the Cunningham Highway to be shared with the Project, is not included in the scope of the IAR. The SRAIP proposal acknowledges the Frazerview Quarry approval by way of matching the intersection design and quarry access route to the specifications included in the quarry Court Order.

2 STATUTORY PROCESS AND CHANGES TO PROJECT

2.1 Statutory Impact Assessment Report Process

On 31 May 2019, the SRAIP was declared a 'Coordinated Project requiring an impact assessment report' by the Coordinator-General under Part 4 of the *State Development and Public Works Organisation Act 1971* (SDPWO Act).

A Coordinated Project can be declared by the Coordinator-General when a Project comprises one or more of the following criteria:

- Complex approval requirements, involving local, State and Federal government
- Significant environmental effects
- Strategic significance to the locality, region, or State, including for the infrastructure, economic and social benefits, capital investment or employment opportunities it may provide
- Significant infrastructure requirements

The Project was declared as a Coordinated Project because it has:

- Complex approval requirements
- Strategic significance to the locality, region, or State, including for the infrastructure, economic and social benefits, capital investment or employment opportunities it may provide
- Significant infrastructure requirements.

The Coordinated Project impact assessment report (IAR) process for the Project is summarised as follows:

1. Project declared 'coordinated'
2. Proponent prepares draft IAR
3. Draft IAR publicly notified
4. Coordinator-General evaluates draft IAR and public submissions
5. Coordinator-General requests additional information
6. Proponent prepares revised draft IAR
7. Coordinator-General accepts final IAR
8. Coordinator-General releases report on IAR
9. Downstream development approvals obtained

As for Step 3 above, the public were provided the opportunity to comment on the Draft IAR from 16 May 2020 to 26 June 2020. In requesting additional information from Kalfresh in response to submissions and comments raised, the Coordinator-General advised Kalfresh on 1 October 2020 that public consultation on the RDIAR would not be required.

Submission of this RDIAR has been prepared pursuant to Sections 34K and 34 of the SDPWO Act and in response to the Coordinator-General's additional information requests dated 1 October 2020 and June 2023. A response to the information request comments have been addressed in **Appendix H.2** and a comparison table of contents for the various versions of the RDIAR is available in **Appendix H.1**.

On 13 February 2024, minor updates to this document occurred to assist the Coordinator-General's acceptance of the RDIAR as the Final IAR and clarify matters to help inform the evaluation. This included updated mapping to confirm the subdivision staging plans and SRAIP development plan, as well as replacement of the previous landscape design intent with the Landscape Design Plan.

2.2 Outcomes of Public Notification and Submissions Analysis

In accordance with the requirements of the SDPWO Act, the SRAIP Draft IAR was publicly notified for a period of six weeks from 16 May to 26 June 2020. This followed on from various stakeholder and community engagement activities undertaken prior to the submission of the Draft IAR to identify key constraints and matters of concern to be addressed in a development proposal. Full details of the initial community engagement and the elements of the formal public notification period are provided in **Appendix A.7** –Public Notification and Consultation Evidence.

A total of 31 submissions were received during the public notification period comprising:

- 11 from State Government Agencies
- 10 organisations and community groups
- Nine individual submitters
- One from the SRRC

Of the 31 submissions received it is notable that 17 submissions contained comments supportive of the Project, predominantly from private submitters and organisations within the agricultural industry. Within the non-agency/ government submissions, only three expressed concerns with respect to the Project. Primary concerns raised from private submissions included the following:

- Potential of the Project to impact on adjacent properties including noise, air, and odour emissions
- Potential of the Project to alter the existing overland flow paths and cause increased flooding risks to adjacent properties
- Potential of the Project to impact the local and State road networks

Of these, Submission #24 from an adjoining landowner was the most substantive and included amongst other things, commentary regarding the anticipated impact of haulage activities through the SRAIP site resulting from the operation of the Frazerview Quarry both in relation to dust and traffic. It is noted that the quarry use was the subject of a separate approval via Court Order issued to the proponents of that project, who are unrelated to Kalfresh, making it inappropriate to consider the quarry impacts which are outside the scope of this IAR. It is noted that since making the submission, Submitter #24 has sold the adjoining property to Submitter #8 (who made a submission in support of the SRAIP).

Key matters raised in submissions from State and Local Government agencies and an indication of how they were addressed are summarised in **Table 1** below.

Table 1. Key Submission Matters - State and Local Government Agencies

Agency	Key Submission Matters	Responses
Department of Environment and Science	• How digestate (by product from the proposed AD Facility) is proposed to be regulated and the potential to impact land • Further information to support applications for the various ERA's related to the Project • Provision of management plans to inform their assessment environmental impacts • Re-evaluation of impacts on terrestrial ecology to include consideration of the Project's potential to cause a significant residual impact on Koala habitat trees	• Digestate regulated by End of Waste Code (Digestate) issued by DES • Updated reports have been prepared for each of the three ERA applications • Where appropriate at this stage in the development process management plans have been prepared • An updated ecological assessment report has been prepared (noting that the SRAIP now excludes the area of State mapped vegetation on the western side of the subject site)
Planning Group	• Further justification required to establish an overriding planning need in accordance with the *Planning Regulation 2016* • Broader identified Project conflicts within the planning framework including the ShapingSEQ regulatory provisions • Proposed standalone uses within the proposed variation application to detract from the nearby townships of Aratula, Boonah, and Kalbar	• Planning and Location Assessment and additional economic justification prepared demonstrating overriding planning need • Planning and Location Assessment addresses perceived conflicts with Planning Framework • Economic analysis undertaken to ascertain scale of uses appropriate for SRAIP without impacting adversely on nearby townships and most non-ag-industry related uses removed from permitted uses under Development Code
Department of Agriculture and Fisheries	• Support in terms of the Project aligning with various agricultural State interests • Acceptance that Waterway Barrier Works can be suitably conditioned by way of	• Details provided in Planning and Location Assessment confirming alignment with State government policy

Agency	Key Submission Matters	Responses
	'Stated' conditions though the Coordinator-General's Evaluation Report • Further information to describe impacts to strategic cropping land and potential benefits to outweigh those losses	• Waterway Barrier Works requirements noted in design of proposed earthworks, in anticipation of obtaining proposed "Stated" conditions • Details included within the Planning and Location Assessment describing the relatively small area of cropping land foregone to create the SRAIP and the associated benefits that outweigh the loss of cropping land
Department of Transport and Main Roads	• Further information to describe traffic assumptions and calculations underpinning the Road Impact Assessment • Project integration with the then proposed, now approved Frazerview Quarry access road • Clarification regarding proposed pavement contributions to ensure cumulative impacts are considered in the assessment	• Updated documentation has been provided regarding the RIA and anticipated pavement contributions required • The proposal integrates the approved Frazerview Quarry access road by replicating the approved intersection design in the SRAIP and creating the lot/s to be acquired for access to the quarry
Department of Resources / Department of Regional Development, Manufacturing and Water	• Requirement to identify and resolve potential conflicts with the provisions of the Key Resource Areas (Kangaroo Mountain) adjacent to the proposed site • Requirements to confirm a reliable water supply for the Project • Further information required to support the Project for a 300ML dam storage including provision for overland flow capture	• The Project site boundary has been changed to exclude land within the KRA processing area. Further provisions regarding managing impacts of KRA uses included in Development Code • Water supply equivalent to urban standard reliability has been confirmed for the site • The 300 ML storage dam is no longer proposed. A smaller storage dam is proposed in a different location. It is designed in a bunded turkeys nest configuration to ensure overland flow is not captured
Scenic Rim Regional Council	• Proposed variation to align with existing Scenic Rim SRPS codes where appropriate • Requested amendments to level of assessment and uses categorised as being acceptable on the subject site. • Requested further economic analysis and justification of the Project • Building heights greater than 15 m as per the Council's industry code not supported • Additional information regarding traffic, tree clearing and flooding	• The variation documents amended to reference standard Scenic Rim SRPS Codes and requirements where possible and appropriate • Level of Assessment (LoA) Tables amended to reduce extent of uses categorised as "accepted" or "accepted subject to requirements". Numerous proposed uses removed from the SRAIP Plan • Additional economic analysis undertaken and justification of the benefit and uses included in the Project provided • Only three lots now proposed to have buildings greater than 15 m in height within Industry Precinct, and an LVIA has been prepared to demonstrate that their visual impact is acceptable

Following the submissions period, and in consultation with relevant State agencies and the SRRC, the Coordinator-General requested additional information from the proponent to adequately respond to submitter concerns and help the Coordinator-General evaluate the extent to which the Project potentially impacts on environmental values. A detailed response to each item within the submission and the formal information request is provided in **Appendix H** – Information Response Matters.

2.3 Project Revisions and Milestones

Since commencing the Coordinated Project evaluation process in 2019, the Project has been revised to adequately respond to feedback raised during public notification and in collaboration with State and Local Government. These revisions have been made to ensure the Project succeeds and delivers the best outcomes for the local agricultural community, without impacting commercial viability.

Below is a summary of relevant key dates and Project milestones that have occurred to date:

- 30 April 2019 – Application including Initial Advice Statement submitted
- 31 May 2019 – Gazettal of 'Coordinated Project' declaration
- April 2020 – Lodgement of the Draft IAR
- 18 May 2020 to 26 June 2020 – Public Notification period
- 1 October 2020 – Additional information for the IAR requested by Coordinator-General
- 31 March 2022 – Acquisition of water from SEQ Water following a six-week auction period – being 145ML Annual Volumetric Limit of high priority C group water allocation from the Warrill Valley Water Supply Scheme
- 2 September 2022 – Office of Coordinator-General provided additional advice to consider in preparation of a Revised Draft IAR (Planning Matters)
- 14 October 2022 – Gazettal of Digestate End of Waste Code
- 28 February 2023 – Lodgement of the revised IAR
- 26 June 2023 – Additional information and clarification to the revised IAR requested by Coordinator-General

In response to the Coordinator-General's information requests, and subsequent feedback on draft planning, water and environmental materials submitted to the Coordinator-General for preliminary feedback, components from the original Draft IAR have been removed or amended. Key amendments, milestones and steps that have occurred during this process include:

- End of Waste Code – An End of Waste Code has been approved to enable digestate to be used as a resource (as fertiliser or as part of compost or soil conditioner). In gazetting the End of Waste Code for Digestate, the Department of Environment and Science has confirmed that the resource has been demonstrated to have benefits through sustainable use with negligible environmental risks. In this context Digestate is no longer considered a waste product and the requirements for how it is managed and used have changed (**Appendix C.2** – End of Waste Code – Digestate)
    - This removed the need to regulate digestate application to land reducing the scope of the requested Environmental Authority relating to Digestate to the operation of the anerobic AD facility only
    - The onsite digestate irrigation and digestate storage dam area have also been removed and storage of the digestate will now be located within tanks on the Anerobic AD Facility site (**Appendix C.1.2** – AD Facility Design and Process Information)
- Planning matters - Amendments to the requested variation approval documentation (**Appendix A** – Variation Approval) have occurred to align the proposed SRAIP Strategic Intent, Codes, and Level of Assessment with the SRPS and respond to input from SRRC. Examples of this include:
    - Reduction in the number of uses identified as "accepted" or "accepted subject to requirements" within the Level of Assessment (LoA) Tables
    - Reverting various requirements to the provisions within the SRPS codes and formatting the documentation to replicate the format and key content from the SRPS
    - Removal of non-agricultural / industrial related standalone uses from the proposed activity groups as part of the variation approval, including but not limited to:
        - Tourism
        - Agricultural supplies store
        - Office
        - Winery
        - Wholesale Nursery
        - Garden Centre

  - Bulk Landscape Supplies
  - Indoor Sports and Recreation
  - Parking Station
  - Museum
  - Vehicle repair – trucks and agricultural equipment
  - Showroom and other retail uses
- Water supply - Rights to 145 ML annual volumetric limit of high priority water were acquired from the Warrill Creek Water Supply Scheme which resulted in immediate availability of 371 ML per annum at very high security performance (**Appendix B.5** – Water Availability for SRAIP). This allowed associated water infrastructure to be refined and the previously proposed water storage dams were removed. A single 50 ML Turkeys Nest water storage dam is now proposed outside of the KRA processing area. This change also minimised the amount of clearing that was required with the original plan (**Appendix B.3** – Water Storage Dam Design)
- The proposed boundary of the SRAIP was minimised to reduce the potential of the Project from conflicting with the KRA - resource / processing area
- The following further assessment reports were carried out to support the planning justification for the proposed land uses and associated variation approval:
  - Planning and Location Assessment Report, which provided an assessment of the Project against the SEQ Regional Plan and Planning Regulation, and contemplated alternative locations in relation to the proposed subject site and justified the selected location for the SRAIP on the basis of site suitability and proximity to supporting agricultural activities (**Appendix A.1** – Planning and Location Assessment)
  - Social and Economic Assessments to identify appropriate supporting land uses (**Appendix A.2** – Economic and Social Impact Assessment)
  - Landscape and Visual Impact Assessment, which identified two lots suitable for construction of buildings over 15 m in height and up to 35 m in height (required to accommodate large-scale automated warehousing facilities, such as required by a frozen foods factory) (**Appendix A.3** – Landscape Visual Impact Assessment)
  - Greenhouse Gas Emissions Inventory Report dated 24 May 2023 by Carbon Friendly to calculate predicted emission reductions the Project is likely to achieve (this is a confidential report but summarised in this RDIAR)
  - Advice from Wilson Lawyers to clarify the proposed Project governance arrangements to control the SRAIP and support the planning outcomes to be (this is a confidential report but summarised in this RDIAR)
- The subdivision layout has changed to accommodate refinements to the shared infrastructure component of the site and respond to detailed operational engineering design requirements in relation to access and stormwater. The proponent has also adopted a wider road reserve with a central swale in the median that requires one way traffic flow through the cul-de-sac. This arrangement enhances stormwater quantity design outcomes and reduces the potential for traffic conflicts as trucks turn in and out of lots within the Project (**Appendix B.1** – Reconfiguration of a Lot Development Application).

3 PROJECT SITE

3.1 Regional Context

The Project is located at 6200-6206 Cunningham Highway, Kalbar QLD, 65 kilometres south west of Brisbane and 40 kilometres south west of the regional centre of Ipswich. The site is situated in the SRRC local government area and within the fertile agricultural Fassifern Valley. The Fassifern Valley, with fertile alluvial creek flats, coupled with secure, reliable water from the Moogerah Dam, make this a highly productive farming region, which is ideally suited to large scale rural production, and has a history in agricultural production dating from the 1870s. The Scenic Rim is identified in ShapingSEQ as being a priority agricultural area with a reputation as one of the most fertile farmland areas in the world, and its role as Australia's 'food bowl', growing the most diverse range of commercial fruit and vegetables in Australia.

Although located within the locality of Kalbar, the subject site is situated four kilometres west of the township of Kalbar and is not within the Urban Footprint of the township identified in ShapingSEQ. Further information regarding the planning considerations in this instance are provided in **Appendix A.1** – Planning and Location Assessment.

At the time of the 2021 census. Kalbar had a population of 1,246 and contained 509 households. Kalbar offers a range of services including shopping facilities, a civic centre, hotel, showgrounds, school, historic churches and parks and gardens.

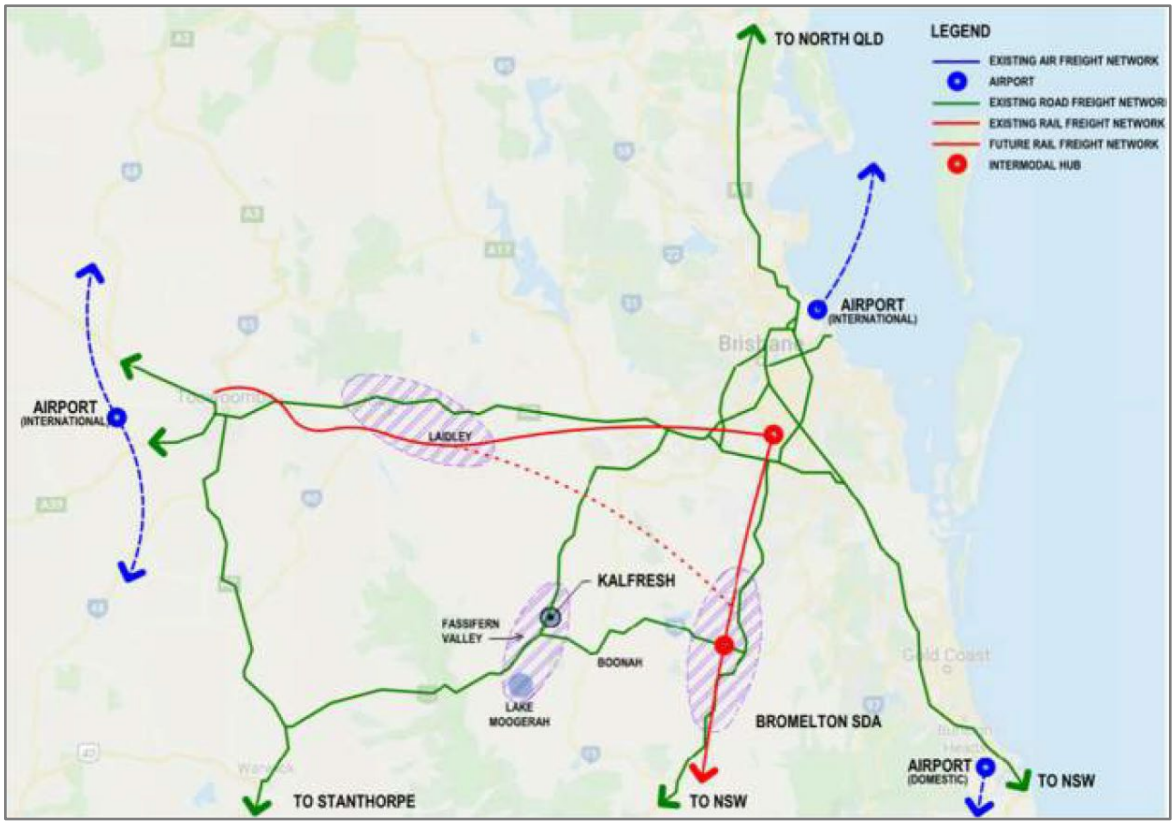


Figure 4. Regional Context and Transport Links

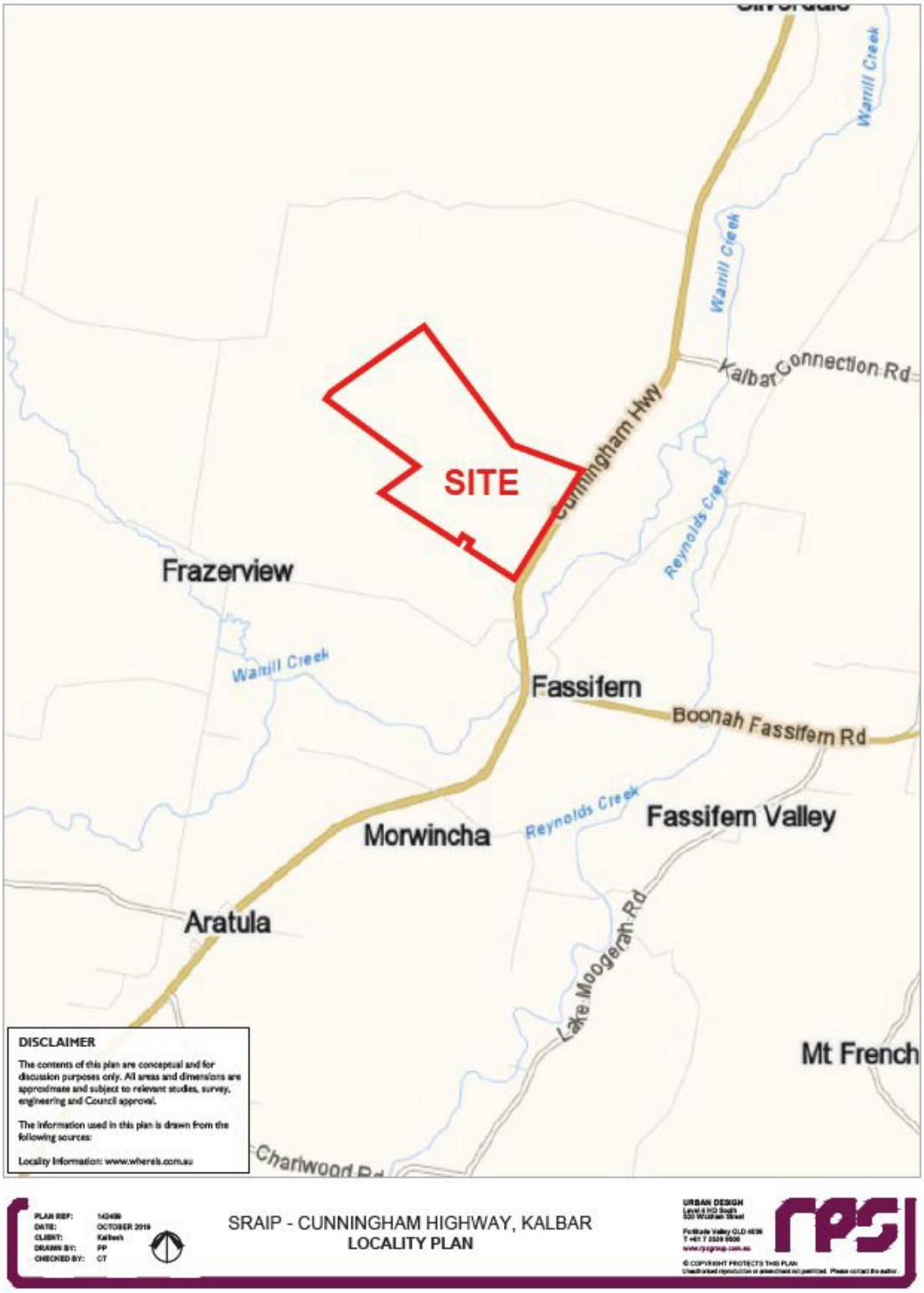


Figure 5. Locality Plan

3.2 Subject Site

3.2.1 Site Particulars

The site particulars are identified in **Table 2** below. The site is shown in **Figure 5** to **Figure 7.**

Table 2. Site Particulars

Site Particulars	
Site Address	6200-6206 Cunningham Highway, Kalbar QLD 4309
Real Property Description	Lot 1 on RP216694, Lots 2-4 on SP192221, Lot 2 on RP20974, and Lot 2 on RP44024
Site Area	246.71 ha
Land Owner(s)	Kallium Pty Ltd (A.C.N. 100 406 157)

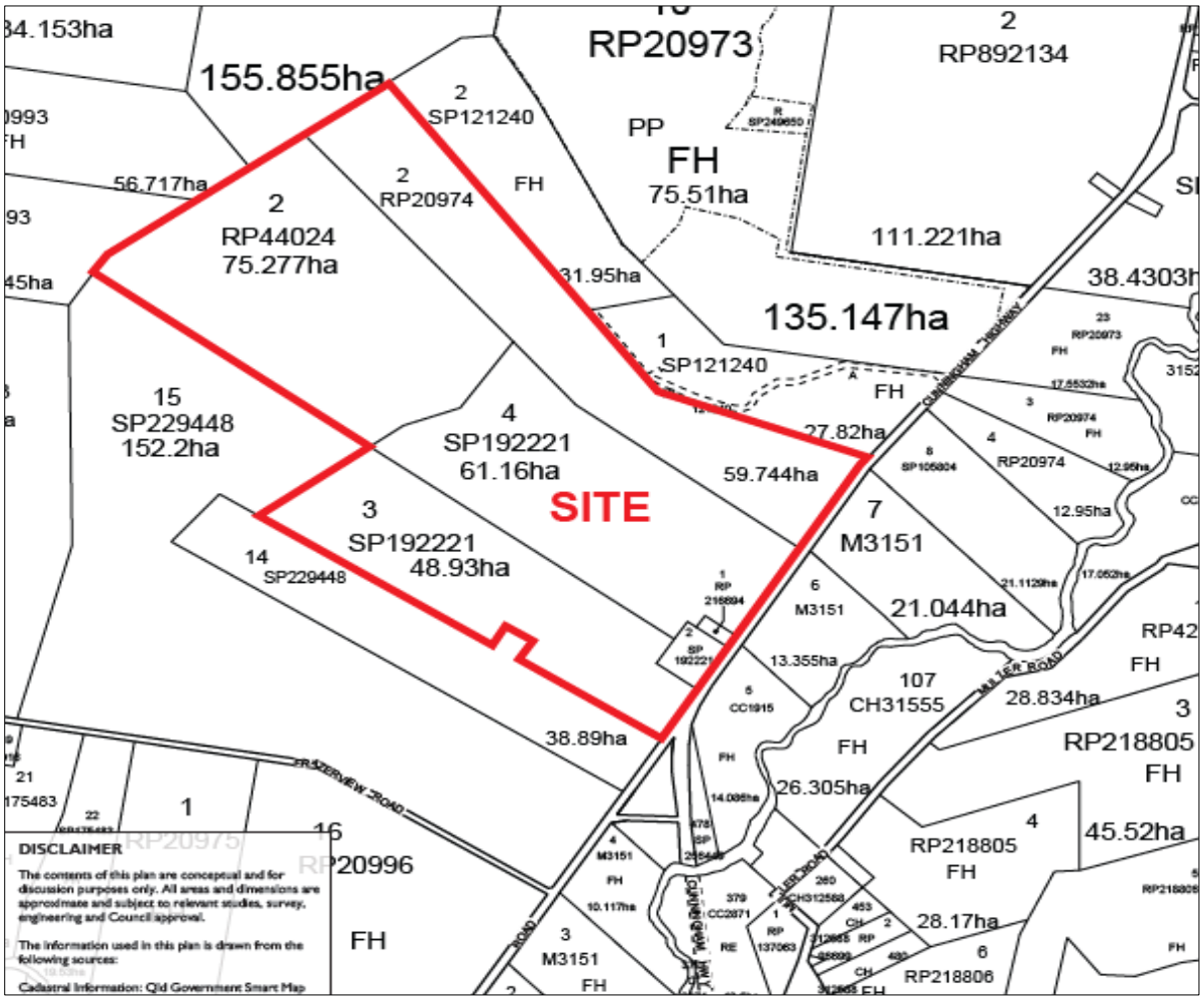


Figure 6. Cadastral Plan

Figure 7. Aerial Photograph

3.2.2 Existing Land Use and Access

The existing Kalfresh facilities are established on Lot 1 on RP216694, Lot 2 on SP192221 and Lot 4 on SP192221 in the form of large factories and warehouses and water tanks servicing the development.

Cropping areas are established towards the Cunningham Highway frontage of the site. Undeveloped land is situated on the remainder of the site moving west from the Cunningham Highway.

The site has been utilised for agricultural production and rural industry since the early 1900s. Kalfresh cropping and processing activities were established on the site in 1992. The existing buildings and facilities have been developed over a period of 30 years from when the business was first established on the site. In 2015, Kalfresh expanded operations to include a value-adding arm to the business, enabling more of the crop to be utilised, while responding to market demand for pre-prepared fresh vegetables.

The site houses over 10,000 m^2 of processing, packing and receival facilities for the handling and value-adding of vegetables from Kalfresh-owned farms, as well as farms owned by several local farming families in the Scenic Rim, Southern Downs, and Lockyer Valley area. The processed products are distributed to domestic and international customers, including major retailers across Australia. The site also features approximately 560 m^2 of staff office and amenities to accommodate the administrative, sales, accounting, dispatch, IT, marketing, and quality assurance staff required to run and operate the existing business. More office space is urgently needed to accommodate the operational team required by a growing, intensive horticultural manufacturing business.

The existing site facilities include:

- Workshop area
- Carrot unloading
- Carrot processing
- Office and staff amenities
- Staff lunchroom and facilities
- Truck loading bays
- Onion packing
- Onion grading
- Onion Drying Warehouse
- Pumpkin Washing and Packing Shed
- Shared Fire and Water Recycled Water IML
- Sweet Corn unloading
- Sweet Corn washing, processing and packing
- Baby Capsicum washing, processing, and packing
- Green Bean washing, processing, and packing
- Green Bean unloading
- High and medium-care vegetable value-adding facilities

Views of the existing conditions on the site from aerial view and the Cunningham Highway are shown below in **Figure 8** to **Figure 11**

The subject site has frontage of approximately 1,215 m to the Cunningham Highway. The following access points exist to the subject site from the Cunningham Highway:

- Northern boundary of Lot 2 on RP20974
- Access across shared boundary of Lot 1 on RP216694 and Lot 2 on SP192221 providing access to Kalfresh's existing facility
- Two accesses on Lot 2 on SP192221 providing access to Kalfresh's existing facility

Figure 8. Aerial view of Existing Kalfresh Operations (Cunningham Highway in foreground)

Figure 9. View of existing structures on site looking west from the Cunningham Highway

Figure 10. View of Existing Structures on site looking south including the awning of the former Green Valley service station

Figure 11. View of site looking west into Lot 3 on SP192221 from Cunningham Highway

3.2.3 Existing (Council) Approvals

Whilst the subject site has been operating as a primary produce processing and packing plant for many years, the existing Kalfresh operations have a number of more recent (existing) SRRC development approval/s and activities issued over subject site (6200 Cunningham Highway KALBAR QLD 4309).

Council's PD Online currently recognises the following development application(s) / approval(s) as having issued over the subject site (noting that not all approvals have been acted upon) –

- RL.Bn RL.Bn/00071 (Submitted: 02/08/2013)
  Code Assessment: Boundary Realignment (Four into Four Lots)
- MC.Bn MCBn16/011 (Submitted: 05/07/2016)
  Request to Change Approval
- MC.Bn MC.Bn13/00007 (Submitted: 05/08/2013)
  Code Assessment: Industry - Low Impact/Service (Industrial Use)
- QMCU MCU18/071 (Submitted: 16/05/2018)
  Extension of Time for Relevant Period

A masterplan was prepared for the Kalfresh factory site that predates the SRAIP IAR process and which illustrates the existing buildings and those approved by the abovementioned MCU approvals (Refer **Figure 12** – Extract from Historical Kalfresh Masterplan).

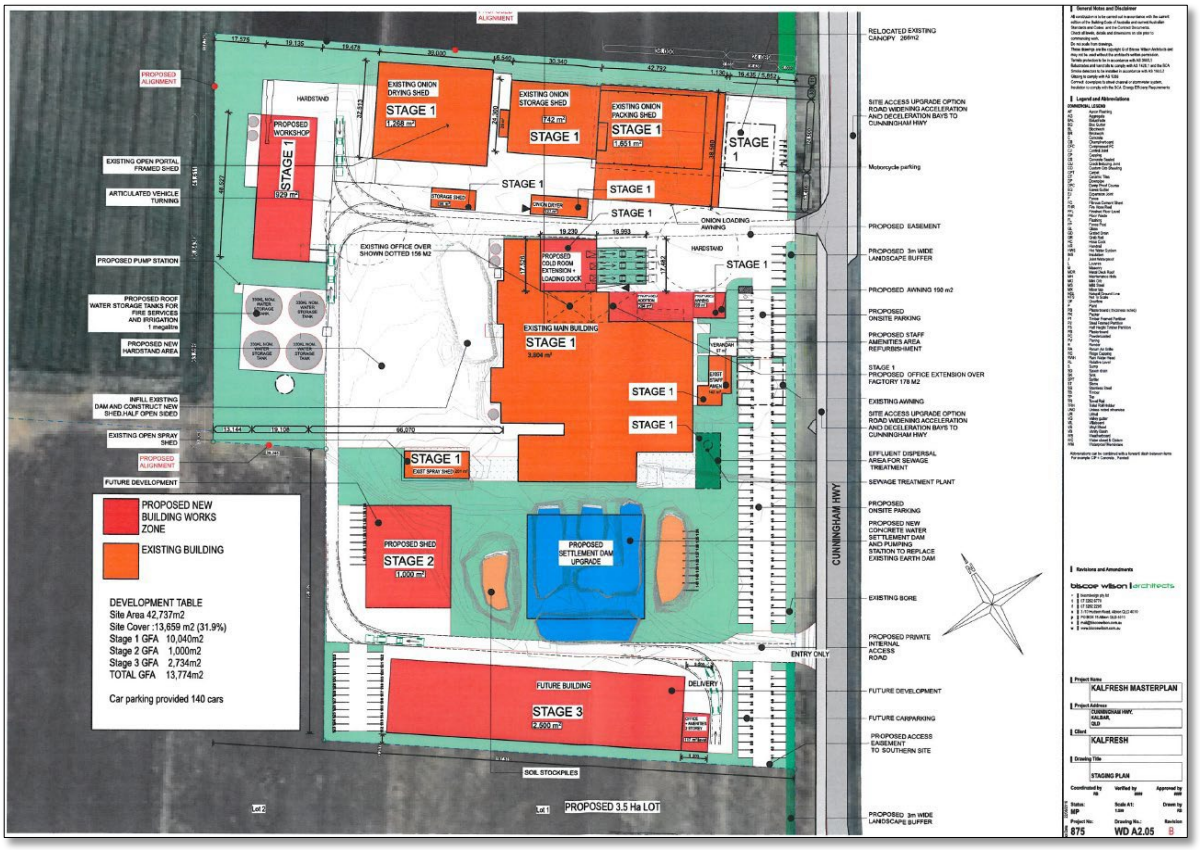


Figure 12. Excerpt from Historical Kalfresh Masterplan

3.2.4 Easements

The following easements currently exist on the site:

- Easement A on Lot 1 on RP216694 for the purposes of right of way benefitting Lot 2 and 4 on SP192221
- Easement B in Lot 2 on SP192221 for the purposes of access benefitting Lot 3 and 4 on SP192221

The existing easements are shown in **Figure 13**. The existing easements will be extinguished as part of the new SRAIP subdivision.

Figure 13. Existing Easements on Site

3.2.5 KRA141 Kangaroo Mountain

The site forms part of the 'separation area' of the Kangaroo Mountain Key Resource Areas (KRA141) as identified in **Figure 14**. The KRA involves the extraction of quarry rock (and minor sand and gravel).

KRA141 is significant as a resource as it is well placed to supply the expansion of urban development in the ShapingSEQ regional place area. It is estimated to be sufficient for 50 years at the current level of demand for the Ipswich and Scenic Rim regions.

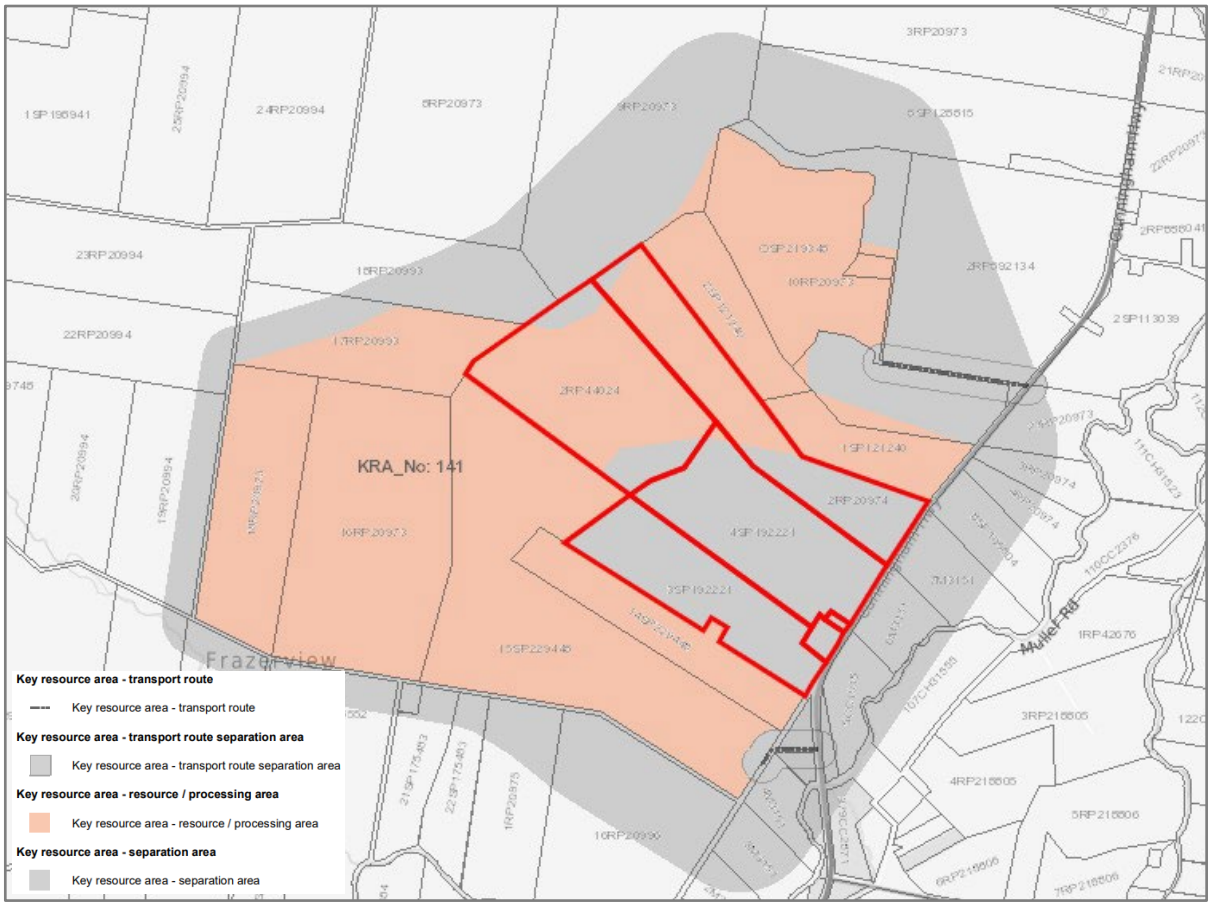


Figure 14. Kangaroo Mountain KRA 141

3.2.6 Environmental Values

The closest sensitive environments to the site as mapped by various regulatory authorities and government agencies are detailed in **Table 3**.

Table 3. Closest Sensitive Environments

Sensitive Environment Element	Distance from site
Warrill Creek (Matters of State Environmental Significance (MSES) defined watercourse)	250 m
State watercourses	Traverses site. Refer to Waterway Barrier Works Technical Report (**Appendix B.8**)
Dam (located on Lot 1 on SP121240)	96 m
Fish habitat and marine parks	None within 5 km radius of site
Wetland protection area	None within 5 km radius of site
Vegetation (Matters of State Environmental Significance (MSES))	Located within the northwest corner of the site
Groundwater dependent ecosystem	The onsite watercourse and nearby Warrill Creek are mapped as moderate confidence alluvial aquifers with near permanent connection between surface water and groundwater
Mining lease permit	18 km northeast of site
National Parks	Moogerah Peaks National Park approximately 5.1 km south east of the site
World Heritage Area	Main Range National Park approximately 13.7 km west of the site
Native Title	Approximately 1 km south of site

The closest sensitive uses (residential) range from being located within 95 m to 1430 m of the site. It is noted that the dwelling closest to the site is currently utilised for industrial purposes and is not a habitable dwelling. Refer to **Appendix E.2 –** Noise Impact Assessment and **Appendix E.3** – Air Quality Assessment for additional information in relation to the closest sensitive land uses.

3.2.7 Topography, Geology and Soils

3.2.7.1 Topography

The site is largely flat at approximately 90 m AHD towards the Cunningham Highway frontage of the site and slopes west upwards towards the rear boundary of the site. The highest point of the site in the northwest corner of Lot 2 on RP20974 is 190 m AHD.

The existing contours of the site are shown on **Appendix J** – Plans and Drawings.

There is an existing overland flow path running along the western extents of the proposed development area which will be reconfigured to cater for the 1% AEP flood event as part of the proposed works. The land towards the rear of the property, outside of the development footprint and on the opposite side of the overland flow path, rises sharply towards the western boundary.

Refer to Engineering (Civil Servicing) Report – **Appendix B.2** and **Appendix B.4** – Integrated Water Management Plan for design of the proposed overland flow path.

3.2.7.2 Geology and Soils

The geology for the site is mapped as Quaternary: Flood plains, river terraces. Local soil mapping (at 1:25,000) shows the site classified as Bromelton (eroded phase) with soils comprising dark clay loam or light clay with natural or alkaline structured clay subsoil. Acid sulfate soils have not been identified for the site. As evidenced by the existing farming use, the soil is particularly fertile and has historically been utilised for cropping activities.

3.2.8 Hydrology and Waterways

3.2.8.1 Flooding

The site is subject to both local and regional flooding. Local flooding is caused by catchments west of the site draining through the northwest portion on the subject site.

Regional flooding from the Warrill Creek catchment is caused from overflow in the Warrill Creek. Warrill Creek is located east of the site. Flooding matters are assessed in **Section 8.4** of this report and the Integrated Water Management Plan provided in **Appendix B.4**.

3.2.8.2 Existing Water Management Processes

The existing water management processes currently operating on site comprise of:

- The existing packing facility currently utilises water from local bores to wash and process produce
- This water is collected, treated, and pumped to a high point west of the existing Kalfresh facility and associated drainage channel where it is discharged into a perched table drain
- The table drain has been cut into a contour of the hill in the west of the site to direct water around the hill to the northwest for polishing as overland flow through the centre of the site
- This sheet flow of treated grey water disperses over a broad and flat basin within the site
- Sheet flow has created a broad, densely vegetated low basin area completely dominated by exotic weed growth which is under graze from stocked cattle which in turn, impacts the soil profile by trampling wet heavy clays
- The sheet flow is then captured by the channelised drain and dispersed northwards with other captured stormwater from the larger catchments to the south and west

3.2.8.3 Onsite Surface Waters

There are several small dams which exist on the site, namely within existing Lot 2 on SP192221, Lot 3 on SP192221, Lot 4 on SP192221 and Lot 2 on RP20974.

There are waterways mapped on the site within the ephemeral gullies. These are expected to flow seasonally or in a heavy rain event – ultimately flowing to Warrill Creek. These waterways are mapped as Queensland waterways – low and moderate risk (Refer **Figure 15**) which are discussed in detail in **Appendix B.8** – Waterway Barrier Works Technical Report.

As part of the Waterway Barrier Works Technical Report a ground truthing assessment was undertaken of onsite waterways. It was determined through this assessment, the mapped on site waterways connect to a large bunded drainage channel extending in a general southwest to northeast direction to the rear of the existing cropping areas. This drainage channel, conveys stormwater and greywater northward through grazing and cropping lands before it enters a more natural water system pumped under the Cunningham Highway and ultimately into Warrill Creek. Coupled with historical cropping and earthworks, this drainage system has altered water drainage across the immediate locality and consequently the mapped moderate risk waterways have been more appropriately classified as low risk waterways.

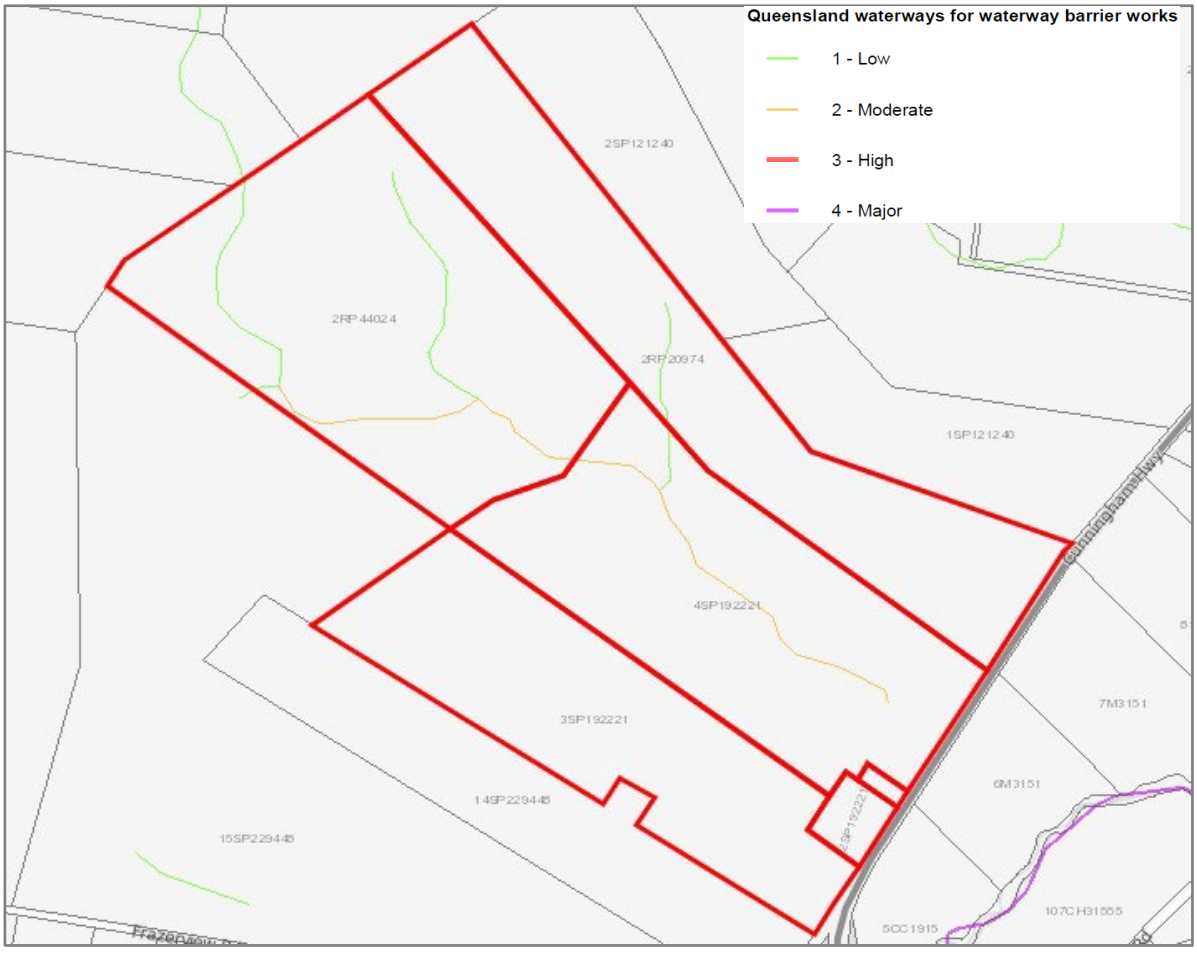


Figure 15. State Planning Policy Waterway Mapping

3.2.8.4 Onsite Groundwater Wells / Bores

There are a number of existing bores on the site:

- A registered sub artesian bore (RN138334) which has historically been used for agricultural purposes
- Five unregistered operational bores within the bounds of Lot 2 SP192221
- One unregistered bore within the bounds of Lot 3 SP192221 which is non-operational.

3.2.8.5 Lawful Point of Discharge

The current lawful point of discharge is the current flow path that exits the site to the north. Refer to the Civil Engineering Report (**Appendix B.2**) for greater detail on the existing lawful point of discharge.

3.2.9 Heritage

While the Cultural Heritage Database and Register hold no records of Aboriginal and Torres Strait Islander cultural heritage matters within the proposed Project area, Kalfresh acknowledges the possibility of undocumented, tangible Aboriginal heritage. This may include ceremonial places, scarred or carved trees, burials, or occupation sites. Kalfresh is committed to consultation with the relevant Cultural Heritage Party, the Yuggera Ugarapul People, and ensuring compliance with the Duty of Care requirements under the *Aboriginal Cultural Heritage Act 2003* (ACH Act 2003).

Under the *Duty of Care guidelines*, activities are categorised based on their potential impact on Aboriginal cultural heritage. The majority of the Project area, having experienced significant ground disturbance, falls under Category 4 activity, presenting a lower risk of harming Aboriginal Cultural Heritage. However, small areas of remnant vegetation within the Project site may be classified as Category 5, as additional surface disturbance is involved, posing a higher risk to Aboriginal cultural heritage.

To minimise and manage potential impacts on Aboriginal cultural heritage and adhere to the *Aboriginal Cultural Heritage Act 2003*'s duty of care provisions, Kalfresh will, in consultation with the Yuggera Ugarapul people, confirm the land categorizations associated with final disturbance footprints before commencing construction. If any works fall under Category 5 activities, a cultural heritage assessment will be prepared. Prior to category 4 activities, Kalfresh will notify the Yuggera Ugarapul people of Project works and identify any instances of residual cultural heritage significance. Additional measures to manage inadvertent disturbance of cultural heritage and ensure compliance with the duty of care will be included in the Construction Environmental Management Plan. Further information regarding cultural heritage can be found within **Appendix B.10**.

3.3 Surrounding Land Uses

The site fronts the Cunningham Highway which is a State controlled road connecting Ipswich with the Darling Downs region. The site is located on the western edge of a strip of croplands that follow the productive floodplain of Warrill Creek. A description of surrounding land uses are summarised in **Table 4**.

Table 4. Surrounding Uses

Direction	Commentary
North	• Directly north of the site is quarrying operations currently owned and operated by Wagners on Lots 1 and 2 on SP121240. Additionally, a new quarry on Lot 9 on RP20973 was approved by way of Court Order 3471 of 2020 on 1 October 2021 that will require a haulage route road connection to the Cunningham Highway through the subject site (Lot 2 on RP20974). • GrowGreen Fertiliser was situated north of the subject site at 6089 Cunningham Highway, Kalbar (Lot 1 on SP121240). Grow Green sold this property in June 2022.
East	• Directly east of the site is the Cunningham Highway with rural / cropping uses beyond. The Kalbar township is situated approximately 4 km east of the site.
South	• Cropping / rural uses exist directly south of the site. • The township of Fassifern is located less than 1km from the subject site with Aratula situated approximately 5 km south. • Warwick is located 64 km southwest of the site.
West	• Quarrying activities also occur on land to the southwest of the subject site on Lots 14 and 15 on SP229448. • Cropping / rural uses exist beyond this to the west of the site. • Clifton is situated approximately 70 km west of the site.

4 APPROVALS AND LEGISLATION

4.1 Project Approvals and Legislative Framework

The Coordinated Project Declaration means the approvals required for the Project under the EP Act or Planning Act can be coordinated as part of the IAR process. Coordination of approvals as part of an IAR process allows for whole of government input to their assessment and waives development assessment stages that would otherwise be required following release of the Coordinator-General's evaluation report (i.e. information, referral, and public notification stages under the Planning Act).

Accordingly, Section 34G (2) of the SDPWO Act requires an IAR to contain a statement about whether any of the following approvals (each of which is a notifiable approval) is required for the Project:

- A development approval if the development application for the approval would otherwise, under the Planning Act require impact assessment
- An environmental authority if the application for the authority would, under the EP Act, chapter 5, part 4, require public notification
- Another approval under an Act if –
    - The application for the approvals requires, other than the Planning Act or the EP Act, chapter 5, an EIS, or a similar Statement to address the environmental effects of the approval
    - The application for the granting of the approval, requires public notification under the relevant Act.

The Project requires various approvals under the Planning Act and EP Act to proceed which constitute 'notifiable activities' in accordance with the SDPWO Act. Potential 'notifiable approvals' pertaining to the Project are identified in **Table 5** and below with a '#'.

When sufficient information is provided as part of an IAR to inform approvals under the EP Act or Planning Act, the Coordinator-General can use powers under the SDPWO Act to 'State' conditions of approval in accordance with Section 34L(3)(b). Although Stated conditions do not constitute approval in and of themselves, once an approval application (subjected to Stated conditions) is lodged by a proponent, the assessment manager is bound to include them.

Tier 1 project approvals are identified in **Table 5** below. Specific planning and assessment reports relevant to the Tier 1 approvals are provided within the appendices of this report, as if those approvals are being sought directly under the Planning Act or EP Act. By providing this information, Kalfresh is seeking for the Coordinator-General to state conditions for all Tier 1 approvals to enable a strategic evaluation and ensure consistency and to expedite the proponent's ability to proceed with the Project.

All Planning Reports have been prepared to inform stated conditions from the Coordinator-general. Detailed design for the SRAIP has yet to occur this process will confirm building approval, plumbing and drainage operational works for each proposed MCU associated with the SRAIP. It is to be noted that responses against the relevant SRPS codes are interim and will need to be further updated prior to being provided to Council for formal assessment. The assessment against the SRAIP Development Plan (SRAIPDP) assessment benchmarks are not intended to change during this process.

Tier 2 Project approvals and other legislative obligations are identified **Table 6**. Kalfresh is not seeking the Coordinator-General's coordination of Tier 2 approvals as these approvals will be progressed separately following release of the Coordinator-General's Evaluation Report in conjunction with the relevant assessment managers.

Section 5.5 of this report provides an overview of the Project staging sought by Kalfresh to deliver the Project, including expected timeframes to progress all approvals for the Project.

Table 5. Tier 1 Project Approvals (within the scope of this IAR)

Authority Legislation	Aspect of development Trigger	Role
Coordinator-General *SDPWO Act 1971*	**Whole of Project** Declaration of Coordinated Project.	**Evaluate IAR and manage State interests**
Council *Planning Act 2016* and Regulation	**Variation of the SRPS #** • A Variation Approval (Preliminary Approval) overriding the SRPS (SRAIP Plan) that establishes appropriate land uses, associated codes, Level of Assessment (LoA) Tables and a plan of development which facilitates the establishment of the SRAIP Industry Precinct and SRAIP Rural Precinct. (See **Appendix A**)	**Assessment manager** SARA, DSDILGP / Material change of use near a State transport corridor
Council *Planning Act 2016* and Regulation	**Reconfiguration of Lot** and **Operational Works (Earthworks) #** • Development Permit for a Reconfiguration of a lot: - Phase 1 –6 Management Lots (2 balance lots and 3 lots within SRAIP site including lot for future private road under management scheme and a volumetric lot. - Phase 2 - Staged subdivision creating 20 lots being 16 industrial lots, three rural lots, an infrastructure lot to accommodate water and sewerage treatment facilities for the Project, access easements and common property. Access to the lots is provide by way of a private road created by access easements and a management scheme. • Development Permit for Operational Works (Earthworks) - Incorporating Waterway Barrier Works (See **Appendix B**)	**Assessment manager** SARA, DSDILGP / Reconfiguring a lot near a State transport corridor and development in excess of the thresholds Stated in Schedule 20; Waterway Barrier Works; Operational work for clearing native vegetation
Council *Planning Act 2016* and Regulation, *Environmental Protection Act 1994* and Regulation	**Lot 11 AD Facility (As a defined use in the Development Code) in the SRAIP Industrial Precinct #** • Development Permit, MCU for an AD Facility (As a defined use in the Development Code) (SRAIP AD Facility). • Development Permit MCU for ERA 53b - Organic material processing (by anaerobic digestion) and Environmental authority (EA) for environmentally relevant activity (ERA 53(b) - Organic material processing by way of anaerobic digestion. (See **Appendix C**)	**Assessment manager** SARA, DSDILGP / Material change of use for an environmentally relevant activity.
Council *Planning Act 2016* and Regulation, *Environmental Protection Act 1994* and Regulation	**Lot 19 Composting Facility in the SRAIP Rural Precinct #** • Development Permit, MCU for High Impact Industry (SRAIP Composting). • Development Permit MCU for ERA 53a – Organic material processing (by composting the organic material) and EA (Environmental Authority) for ERA 53(a) -organic material processing (by composting the organic material). (See **Appendix C**)	**Assessment manager** SARA, DSDILGP / Material change of use for an environmentally relevant activity.
Council *Planning Act 2016* and Regulation, *Environmental Protection Act 1994* and Regulation	**Lot 17 Sewerage Treatment Plant** • ERA 63(1bi) – Sewerage Treatment (ERA 63 (1)(b)(i) – operating a sewage treatment works with a total daily peak design. Capacity of 100 to 1,500 equivalent persons if treated effluent is discharged to an infiltration trench or through an irrigation scheme) and EA (Environmental Authority) for ERA 63 (1)(b)(i). (See **Appendix B.6**)	**Assessment manager** (DES- not concurrence but SRRC does not accept devolved applications).
Council *Planning Act 2016* and Regulation	**Lot 8 Warehouse/ High Impact Industry (High Impact ag-industry) buildings with ancillary office and retail space #** • Development Permit, MCU for Warehouse / High Impact Industry (agriculture industry) buildings with ancillary office.	**Assessment manager**

Authority Legislation	Aspect of development Trigger	Role
	(See **Appendix D.1**)	
Council *Planning Act 2016* and Regulation	**Lot 9 Kalfresh Office – Extension to Existing High Impact Ag-Industry (Ancillary Office) #** • Development Permit, MCU for Extension to Approved Warehouse and High Impact Agriculture Industry (Ancillary office). **(**See **Appendix D.3)**	**Assessment manager**
Council *Planning Act 2016* and Regulation	**Lot 15 Warehouse with ancillary office and retail space #** • Development Permit, MCU for Warehouse / with ancillary office and retail space. (See **Appendix D.2**)	**Assessment manager**
Council *Planning Act 2016* and Regulation	**Lot 12 Value-add processing and cold storage facility#** • Development Permit, MCU for Hight Impact Industry and Warehouse (Value-add fresh and frozen vegetable facility and cold store). (See **Appendix D.4**)	**Assessment manager**

Otherwise notifiable activities if not a Coordinated Project.

Table 6. Tier 2 Project Approvals and Legislative Considerations (outside the direct scope of this IAR)

Authority Legislation	Aspect of development Trigger	Role
Office of Coordinator-General	**Prescribed Project Declaration**	
DTMR *Transport Infrastructure Act 1994*, *Planning Act 2016* and Regulation	**Works within State-controlled road corridor and Road corridor Permits** • Cunningham Highway Intersection works. • Construction of pipes under State-controlled road corridor. • Closure and Reinstatement of existing site access.	**Assessment Manager**
Council *Planning Act 2016* and Regulation	**SRAIP enabling development not listed in Table 1** • Plumbing and drainage works and Operational works required to facilitate construction of the SRAIP subdivision such as tree clearing, private infrastructure construction and external works such as water pipe lines. • Accepted, Code or Impact assessable Development Permits pursuant to the approved variation 'SRAIP Plan'. • Endorsement of Survey Plans in accordance with *Planning Act 2016* (Plan Sealing).	**Assessment Manager**
Council *Planning Act 2016* and Regulation	**Land Use Approvals** • Development permits for SRAIP industrial lots not listed in **Table 5** and associated works approvals for operational works, plumbing and drainage and building works in accordance with the SRAIP Plan and SRPS.	**Assessment manager**
Council / Private Certifier *Building Act 2014*	**Building Work**	**Assessment Manager**
Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships *Aboriginal Cultural Heritage Act 2003*	**Whole of Project – Construction** The ACH Act establishes a 'cultural heritage duty of care', which requires that a person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage.	**Administering Authority**
Department of Environment and Science	**Whole of Project – Construction**	**Administering Authority**

Authority Legislation	Aspect of development Trigger	Role
Queensland Heritage Act 1992	The QH Act establishes ways to identify and assess places of local cultural heritage significance in Queensland including obligations to report archaeological artefact discoveries.	
Department of Agriculture and Fisheries *Biosecurity Act 2014*	**Whole of Project** The Act provides a framework for an effective biosecurity system for Queensland that helps to minimise biosecurity risks and facilitates responding to impacts on a biosecurity consideration. It also seeks to ensure the safety and quality of animal feed, fertilisers and other agricultural inputs and helps align responses to biosecurity risks in the State with national and international obligations.	**Administering Authority**
Department of Energy and Public Works *Electricity Act 1994*	**Authorities to generate, transmit or distribute electricity**	**Administering Authority**
Department of Regional Development, Manufacturing and Water *Water Supply (Safety and Reliability) Act 2008*	**Authority to supply water** • The *Water Supply (Safety and Reliability) Act 2008* applies to all water and sewerage service providers, including organisations which own water infrastructure and intent to charge for the supply. • The service provider must be registered, and is required to prepare and comply with management plans. • The act provides a regulatory framework for providing recycled water and drinking water quality, primarily for protecting public health	**Administering Authority**
Department of Regional Development, Manufacturing and Water *Water Supply (Safety and Reliability) Act 2008*	**Authority to service sewerage** • The *Water Supply (Safety and Reliability) Act 2008* applies to all water and sewerage service providers, including organisations which own water infrastructure and intent to charge for the supply. • The service provider must be registered and is required to prepare and comply with required management plans. • The act regulates sewerage services to ensure that sewage infrastructure, disposal, and management processes are safe and environmentally responsible	**Administering Authority**
Resources Safety and Health Queensland Petroleum and Gas Inspectorate *Petroleum and Gas (Production and Safety) Act 2004*	**Interests under Petroleum and Gas (Production and Safety) Act 2004** • Compliance with Operating Plant requirements under the P&G Act.	**Administering Authority**

4.2 Environmentally Relevant Activities

Prior to progressing Tier 1 approvals following the Coordinator-General's evaluation of the Project, Kalfresh (or related party to be nominated) will register to become a suitable operator under the EP Act. This will allow Kalfresh to carry out environmentally relevant activities (ERAs) as determined by the Department of Environment and Science (DES).

As indicated in **Table 5,** the applicable ERAs sought by the proponent for the SRAIP proposal are:

- ERA 53a – Organic material processing (by composting the organic material)
- ERA 53b – Organic material processing (by anaerobic digestion)
- ERA 63(1bi) – Sewerage treatment (not concurrence, but assessable by DES).

Under Schedule 2, Part 4, Section 16 of the *Environmental Protection Regulation 2019*, the above are prescribed and concurrence ERAs except as noted.

Pursuant to Schedule 10, Part 5, Division 2 of the *Planning Regulation 2017*, application for concurrence ERA is identified as Material Change of Use for a prescribed ERA. Furthermore, in accordance with Section 115(2) of the EP Act, an application for a prescribed ERA is taken to be an application for Environmental Authority (EA). This means the respective ERA can be assessed at the same time as Council is assessing the planning elements of the relevant facility.

While the ERAs are important components of the overall SRAIP concept, with mutually beneficial aspects in the case of the AD facility and composting operations, the ERAs are for all intents and purposes are independent activities.

Ways in which the three ERAs relate are limited to the following:

- **ERA 63(1)(b)(i) (Onsite Wastewater Management):** The STP shall service human (toilet and ablution) and kitchen wastewater for the entire SRAIP. Waste water from other portions of the Project (i.e. other wastes such as leachate or wash-down water from the AD Facility, compost, or other SRAIP activities) will not be discharged to STP. The STP shall be powered by energy produced by the AD Facility (along with the broader proposed uses within the SRAIP)
- **ERA 53a (Composting):** The composting operations shall use digestate (liquid) from the AD Facility for compost wetting, and digestate solids as a small fraction of the overall feedstock (~ 17%), whereas the digestate products will largely be utilised for cropping activities (refer **Appendix C** – Anaerobic Digestion AD Facility and Composting)
- **ERA 53b (Anerobic Digestion):** The AD Facility will potentially receive leachate from the composting activity to reduce volume of leachate in the collection dams. Leachate would be transported via tanker trucks to the AD facility and would only occur should the leachate quality be deemed sufficient for use as a feedstock through testing (refer **Appendix C** – Anaerobic Digestion AD Facility and Composting).

Standalone assessment reports have been prepared as appendices to this IAR to enable considered assessment of each activity by the Coordinator-General and relevant State agencies as part of the IAR process. These reports include:

- **Appendix C.3.3** – ERA 53a (Composting) Report
- **Appendix C.1.3** – ERA 53b (Anerobic Digestion) Report (Confidential)
- **Appendix B.6** – ERA 63(1)(b)(i) (Onsite Wastewater Management) Report

The reports have been prepared as if the ERA's were being applied for directly with the DES and to achieve assessment under the EP Act. As previously indicated, the intention is that the information presented in the abovementioned reports enables the Coordinator-General to include Stated conditions as part of the evaluation report.

Appendix C.3.3 (ERA53a) and **Appendix C.1.3** (ERA53b) have been updated as part of this RDIAR submission to address feedback received on earlier versions of the reports and to incorporate the outcomes of the of the End of Waste Code (Digestate) which was gazetted in October of 2022, and which altered the scope of the digestate regulated under the ERAs.

Appendix B.6 (ERA63) has been updated with current plans however the assumptions underpinning the sewage treatment plant have not changed since the draft IAR dated 2020. The removal of potentially problematic standalone uses from the SRAIP variation has not altered these assumptions as industrial space is to be maximised within the Project.

An overview and description of each of the ERA's is provided in the Project description (**Section 5**) of this report.

4.3 Other Approval Considerations

4.3.1 Management Plans

The key management plans which will be operating throughout the construction and operational phases of the SRAIP are provided in **Table 7**. These plans will be combined to form the overarching Construction Environmental Management (CEMP) and Operational Environmental Management (OEMP) Plans for the life of the Project.

Kalfresh, in conjunction with its delivery partners, commit to preparing and implementing these management plans. Management plans will be updated to reflect final approval conditions from regulating agencies and over time as improvements to management strategies become available.

Table 7. Environmental Management and Monitoring Plans

Management and Monitoring Plan	IAR Location	Relevant Legislation	Status
Construction Environmental Management Plan (CEMP)	**Appendix E.4**		Preliminary version included in RDIAR. Final version to be submitted after the Coordinator Generals Evaluation Report (CGER).
Operations Environmental Management Plan (OEMP)	Not applicable		Proposed to be prepared and submitted after the CGER.
Site Based Management Plan (SBMP) ERA 53(a) Composting	**Appendix C.3.4 SBMP Composting**	*Environmental Protection Act 1994*	Complete.
Site Based Management Plan (SBMP) ERA 53(b) Digestate.	**Appendix C.1.4 SBMP Digestate** (confidential)	*Environmental Protection Act 1994*	Complete.
Site Based Management Plan (SBMP) ERA 63(1)(b)(i)	**Appendix B.6 ERA 63 (Sewerage Treatment Plant) Report**	*Environmental Protection Act 1994*	ERA 63 (1)(b)(i) cannot be prepared until the sewerage treatment plant is procured, and the operating details of the specific plant are available (consistent with standard practice). SBMP to be prepared immediately prior to construction.
Integrated Water Management Plan (IWMP)	**Appendix B.4 – Integrated Water Management Plan**	*State Planning Policy (2016)*	Complete.
Stormwater Management Plan (SMP)	**Appendix B.4 – Integrated Water Management Plan**	*State Planning Policy (2016)*	Complete (within IWMP).
Vegetation management Plan (VMP)	**Appendix E.1**		Complete.
Fauna Management Plan (FMP)	**Appendix E.1**		Complete.
Digestate Management Plan (DMP)	**Appendix C.1.5** (confidential)	*Waste Reduction and Recycling Act 2011*	Complete.
Digestate Quality Management Plan (DMP)	**Appendix C.1.6** (confidential)	*Waste Reduction and Recycling Act 2011*	Complete.
Biosecurity Management Plan (BMP)	Not applicable	*Biosecurity Act 2014*	Proposed to be prepared after CGER.
Erosion and Sediment Control Management Plan (ESCMP)	**Appendix B.13**	*Environmental Protection Act 1994 (EP Act)*	Concept Erosion and Sediment Control Plan provided within RDIAR.

Management and Monitoring Plan	IAR Location	Relevant Legislation	Status
			Final version to be submitted after CGER.
Drinking Water Quality Management Plan (DWQMP)	Not applicable	*Section 95 of the Water Supply (Safety and Reliability) Act 2008*	Proposed to be prepared and submitted after CGER.
Flood Emergency Management Plan (FEMP)	**Appendix B.12**		Complete.

4.3.1.1 Onsite Irrigation Management Plan (OIMP)

Previously, an OEMP was proposed to be prepared as part of the RDIAR process. As the disposal of digestate is now regulated under the provisions of the End of Waste Code, the Coordinator-General have confirmed that this report is no longer required. Once the detailed design phase is completed and the operating details of the specific sewage treatment plant become known, a Contaminant Release Area Management Plan will to be prepared as a subset of the site-based management plan for ERA 63(1)(b)(i).

4.4 Proposed Operational Standards and Relevant Legislation

In conjunction with the relevant environmental management plans identified in **Section 4.3.1**, the proposed development will operate in accordance with the following standards and regulations:

Vegetation Clearing

- Queensland *Nature Conservation Act 1994* – Standard industry recognised measures employed during vegetation clearing to minimise harm and disruption to animals and breeding places

Erosion and Sediment Control

- International Erosion Control Associated (IECA) Australasia *'Best Practice Guidelines and Scenic Rim Council Standards'*

Proposed Haulage Route / SRAIP / Cunningham Highway Intersection

- DTMR Standards
- Road Planning and Design Manual

Car Park Design Parameters

- Australian Standards: *Parking Facilities Part 1 – Off-street Car Parking (AS2890.1) 2004*
- Australian Standards: *Parking Facilities Part 6 – Off-street Parking for People with Disabilities (AS2890.6) 2009*

Servicing Areas

- Australian Standards: *Parking Facilities Part 2 – Off-street Commercial Vehicle Facilities (AS2890.25) 2002*

Wastewater Treatment Plant

- Class A Standard of treatment – *Queensland Water Recycling Guidelines (EPA 2005) and the Public Health Regulation 2005 (Qld)*

Wastewater

- *Guidelines for sewerage systems – Use of reclaimed water* (2000)
- *Planning Guidelines for Water Supply and Sewerage* (DERM 2010)
- *Public Health Regulation 2005* (QPC 2010)
- *Queensland Plumbing and Wastewater Code* (DHPW 2013)
- *Queensland Water Recycling Guidelines* (EPA 2005)
- *Water Quality Guidelines for Recycled Water Schemes* (2008)

Chemical Storage / Hazardous Material

- Australian Standard: *AS1940-2004 The Storage and Handling of Flammable and Combustible Liquids*
- *National Standard for the Storage and Handling of Workplace Dangerous Goods*
- *Australian Code for the Transport of Dangerous Goods by Road and Rail*
- *Managing risks of hazardous chemicals in the workplace – Code of Practice* (SWA 2012)

ERA53(a) and ERA53(b)

- Australian Standard: *ISO 14001: 2016 – Environmental Management Systems*
- Australian Standard: *ISO 31000: 2009 Risk Management – Principles and Guidelines*
- *Guideline: Open windrow composting under environmentally relevant activity 53(a) – Organic material processing by composting* (DES2018c)
- *Guideline: Application requirements for activities with waste impacts* (DES 2019)
- *Guideline: Application requirements for activities with impacts to water* (DES 2017a)
- *Guideline: Application requirements for activities with impacts to land* (DES 2017c)
- *Guideline: Application requirements for activities with impacts to air* (DES 2017d)
- *Guideline: Noise Control – Planning for Noise Control* (DEHP 2015)
- *Guideline: Odour Impact Assessment from Developments* (DEHP 2013c)
- *Compost Guidelines* (EPA 2013)
- *Feedstock and End-Product Quality*
- Australian Standard: *4454-2021: Composts, soil conditioners and mulches*
- *Managing risks of hazardous chemicals in the workplace – Code of Practice* (SWA 2018)

Noise

- *Noise Measurement Manual* (ESR/2016/2195, DEHP 2013a)

Water Quality

- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZG 2018)
- Australian Standard: *AS/NZS 5667-1998: Water quality – Sampling*
- *Monitoring and Sampling Manual* (DES 2018a)
- *Queensland Water Quality Guidelines* (DEHP 2013b)
- *Guideline: Environmental Protection (Water) Policy 2009 – Deciding aquatic ecosystem indicators and local water quality guidelines* (DES2018b)

4.5 Consistency with Government Programs, Policies and Plans

Benefits flowing from the delivery of government policy through the SRAIP are summarised in **Table 8**. The full table and consistency analysis is provided in **Appendix A.1** – Planning and Locational Assessment.

Table 8. Summary Government Policy delivered through the SRAIP

State Government Document	Intent/Desired Outcome	SRAIP Alignment
Planning Regulatory Documents		
Planning Regulation 2017	Refer to **Section 6** and **Appendix A.1** of this report.	Refer to **Section 6** and **Appendix A.1** of this report.
SEQ Regional Plan 2017	Sets the long-term strategic direction for how the region will grow to support economic growth, development and liveable communities, while protecting natural resources. Regional Landscape and Rural Production Area (RLRPA) – ShapingSEQ acknowledges that some parts of the RLRPA may be needed for future urban growth (p100). **Prosper Theme:** Rural areas leverage traditional primary industry strengths to	• Agricultural and rural land that is left dormant or under- utilised can be as detrimental to a rural community as over development, resulting in loss of production, loss of financial benefits within the local community. • Activating productive land with high-value crops to supply to precinct manufacturing businesses has multiple flow-on benefits to the local community and wider rural and regional communities, towns, and villages.

State Government Document	Intent/Desired Outcome	SRAIP Alignment
	expand, diversify and introduce value-adding activities that enhance productivity, resilience, and competitiveness in domestic and global markets. 1. Support rural communities to adapt and build on their strategic advantages to continue the profitability and sustainability of existing rural industry and activities 2. Encourage the intensification or diversification of on-farm agricultural activities and the introduction of new rural value-adding activities such as biotechnology 3. Encourage local government-led rural precinct planning to support rural sustainability and economic growth.	• Providing a precinct to value-add and facilitate new production of rural land delivers new local skilled jobs, invests in the rural area, and returns food manufacturing to the region. • The future of competitive food manufacturing and production requires mechanisation and automation in technology to achieve production efficiencies and enable value-adding (taking raw produce and turning them into something with higher value, whether this be ready-to-eat, juice, baby food, or ingredients for use in other products). • Locating value-adding and processing close to the raw produce source has multiple benefits – cost efficiencies, fewer food miles, more crop utilisation (able to value-add second and third grade product that would be too costly to transport out of the region). • Automation and value-adding facilities require investment of a scale that is no longer compatible with on-farm factories (difficult to secure funding for factories located on farmland). • SRAIP delivers multiple outputs and benefits due to location in the farming region, including the new renewable industries Bio Fertiliser and Bio Gas; reduced food waste (more crop recovery and utilisation); better returns to farmers (more crop utilisation); rural sustainability and agricultural growth – new jobs at scale, new skilled jobs. • Benefits of SRAIP far outweigh any risks or threats and will enable the local community to prosper by responding to changing times and market demands, diversifying the products it sustains and introducing value-adding to enhance productive capacity and improve regional agricultural resilience for the future. • The SRAIP proposal is closely aligned with the intents outlined in the State Government's SEQ Regional Plan, particularly those explained under the Prosper theme. • The Project also contributes to the proposed ShapingSEQ update 2023 – which seeks to identify possible locations for strategic Recycling Enterprise Precincts (REPs). REPs seek to facilitate sustainable economic development based on use and reuse of materials that would otherwise be discarded to landfill. The co-location of complimentary industry

State Government Document	Intent/Desired Outcome	SRAIP Alignment
		activities can develop places that contribute to a circular economy.
	Part C – Sub Regional Outcomes ShapingSEQ divides the region into four sub-regions. The SRAIP site is located within the Western sub-region. The relevant overall outcomes applicable to the Project is rural prosperity. *"The sub-region's principal rural production lands (for horticulture, forestry and grazing) in the Lockyer Valley, Scenic Rim, Somerset and Ipswich areas support one of the nation's most important food bowls; they are extremely important for long- term food security and export opportunities. This land resource and the supporting processing infrastructure will be protected, including preventing further land fragmentation and protecting rural industries and activities from encroachment by incompatible uses. Alternative rural futures will be explored to diversity and increase the productivity of rural activities and strengthen the area's resilience to market cycles and climate change. Maintaining the productive capacity of this land resource will become increasingly important to the region in the face of climate change."* (p133) Alternative rural futures to be explored to diversify and increase the productivity of rural activities, and strengthen the area's resilience to market cycles and climate change.	• It is envisaged that the SRAIP would become home to new value-adding facilities, such as processed and ready to eat vegetables and meals and a frozen vegetable factory. • Value-adding facilities like these enable the local producers to strengthen their resilience and largely remove themselves from the fluctuations of market cycles by finding new high-value markets for crops, particularly during times of plentiful supply. • A central part of the SRAIP vision is to power the Project via renewable energy, created by 'value-adding' food waste and energy crops through anaerobic digestion. The AD delivers multiple value-streams through the process, including a closed-loop, reliable regional power supply; a renewable source of gas (created during the AD process); an organic soil conditioner to replace synthetic fertiliser (liquid and solid digestate). • While the SRAIP will convert 32ha of productive ALC Class A and B land to rural industry, it also unlocks demand for additional ~9,000 ha of productive cropping land in the region and will deliver exceptional benefits of agricultural production to the community and the environment. These benefits will more than offset any loss of productive agricultural land. • The new value created for landowners means they can turn their land to more intensive crops with improved returns. • Maintaining the productive capacity of the region's land will be more important than ever in the years to come in the face of climate change. • More production, more opportunities to service new customers and more market options means more value at a farm level. Value-adding ensures a sustainable financial future for the farming community and responds to what customers and consumers are seeking. In addition to better farm returns, value-add means less food waste and the decarbonisation of food manufacturing.
Queensland Low Emissions Agriculture Roadmap 2022 - 2032	On Farm Energy Opportunities: *a) Promote or develop information and education tools for producers to better understand renewable on-farm energy*	• The Project aims to connect to new energy opportunities involved with anaerobic digestion. The total reduction in greenhouse gas (GHG) emissions from

State Government Document	Intent/Desired Outcome	SRAIP Alignment
	options, including cost and efficiencies, and how to prepare their on-farm infrastructure to connect to new energy opportunities as they become available, for example solar and wind, anaerobic digesters, and hydrogen fuel.	the AD Facility and other onsite initiatives will lead to a reduction of up to -430,000 tCO2-e per annum during operations. • The Project will demonstrate how renewable on-farm energy options work and how they benefit Australian agriculture regarding cost and efficiency. This Project ensures the opportunity to prepare on farm infrastructure, which will allow the land to become a catalyst for agricultural industrial processing and circular economy principles which are key to achieving the objectives of the roadmap. • SRAIP will also become a specialised industrial hub for advancing agricultural research, innovation and new product development and technologies to support the current changing farming industry.
	b) *Engage across the major energy and fuel programs to maximise opportunities for agricultural production and the agricultural supply chain, such as the Queensland Energy and Jobs Plan and Queensland's Zero Emissions Vehicle Strategy 2022 – 2032.*	• The Project achieves alignment with the Queensland Energy and Jobs Plan which seeks to achieve 70% renewable energy by 2032. This is done specifically through the incorporation of the AD Facility which significantly contributes advancement towards Queensland's bioenergy future. • The AD Facility will maximise opportunities for agricultural production and enhance the agricultural supply chain. • Often food and beverage production starts with the transportation of crops from rural farms to urban areas for processing. The SRAIP will consolidate this process to create an efficient agricultural supply chain which carries out these activities to a smaller geographic region which in turn will create a more environmentally sustainable model through: • Reducing the impacts of heavy vehicles and damages to local roads, as well as also reducing carbon emissions into the environment. • If the SRAIP was moved beyond the farming activities the transport element would contribute to additional carbon emissions to the environment and increase the carbon footprint of the SRAIP • The AD system will also provide electricity and gas to the Project businesses and fertiliser to the local farming community in a closed-loop system.
	c) *Maintain active awareness of developments in alternative fuels and electricity infrastructure, including*	• The biogas produced from the biodigester is proposed to be converted into clean natural gas (CNG) to displace diesel in the supply chains associated with the project.

State Government Document	Intent/Desired Outcome	SRAIP Alignment
	substitutability and cost effectiveness at reducing GHG emissions.	Kalfresh is currently exploring the opportunity to purchase new CNG trucks from overseas which can be use within their supply chains. In doing so Kalfresh will eliminate its reliance on diesel and continue to reinforce the onsite closed loop manufacturing system.
	Regions and Supply Chains: a) *Investigate and support the development of financial instruments to unlock global private sector investment into agribusiness.*	• The proposed initiative by Kalfresh is the first of its kind within Australia and will become a catalyst for future agricultural endeavours across the country. This will hopefully encourage other similar initiatives using biofuels, renewable energy, and bio-sequestration of carbon within agricultural soils. With continued expansion of sustainable agriculture, a larger investment will be seen within agribusiness.
	b) *Identify strategies and partner with proactive private business to progress decarbonisation of Queensland flood and fibre supply chains through regional pilot Projects that may include transport, manufacturing, processing and waste management and reuse.*	• The SRAIP aims to decarbonise the food production process. The key decarbonisation benefits from this Project include: • Diverting agricultural waste streams from landfill • Avoidance of methane from the breakdown of organic waste within the AD Facility • Emission savings from the application of digestate replacing the use of synthetic fertilisers – including the transport of synthetic fertilisers • Emission saving from digestate adding carbon to the soil – use of digestate and compost as soil conditioners • Emissions saving from the generation of green gas and renewable energy production (green gas from the AD Facility will be used to generate electricity for use in the Project, with excess electricity exported to the grid) • On site manufacturing • Through this the production of food, fibre and beverages will be enhanced while also reducing the carbon footprint through the SRAIPS circular economy approach.
	c) *Support place-based approaches for the development and planning of zero net emissions precincts and supply chains.*	• The SRAIP will encourage a place-based approach and create a rural location where primary rural activities and secondary rural industry activities are located within close proximity to each other to create new opportunities and efficiencies not typical of food production within Australia. • The SRAIP ensures a closed loop food and beverage manufacturing process and is the first step to creating a zero net

State Government Document	Intent/Desired Outcome	SRAIP Alignment
		emissions precinct within the Australian agricultural sector. It will allow for the surrounding communities in Boonah and the Scenic Rim to benefit including local businesses in construction and manufacturing support sectors whose involvement will improve their sustainability and viability.
State Planning Policy – Agriculture The Agricultural SPP overall intent is to protect the resources on which agriculture depends to support the long-term viability and growth of the agricultural sector. The intent is achieved through the application of several policies relevant to the Project.	**Policy 1** Support long-term viability and growth of the agricultural sector. *"Agriculture and agricultural development opportunities are promoted and enhanced in important agricultural areas (IAAs)."* *"promoting appropriate agricultural development in IAAs will leverage the economies of scale and infrastructure benefits provided by IAAs and enable increased agricultural production"*	• Facilitates access to supply chain infrastructure, storage and processing, and transport and services. • Ensures supply chains are efficient and allows Australian farmers and food manufacturers to remain price competitive in domestic and international markets. • The SRAIP is an agricultural industrial precinct that will utilise local produce, increase manufacturing jobs in agriculture, efficiently deliver value-added processed goods and support future agricultural development. It incorporates existing / approved (agricultural related) operations and proposes an overall expansion which will not result in adverse impacts to existing agricultural land. • SRAIP capitalises on the economies of scale and infrastructure benefits provided by the IAA. SRAIP will receive unprocessed produce from local farms reducing transport costs, process the produce, and transport the value-added products via Cunningham Highway, which enables direct road access to the national highways and associated markets. • In addition to leveraging the provisions of the IAAs, SRAIP proposes to contribute to the economies of scale and infrastructure benefits of the region.
	Policy 2 Protection of ALC Class A and B land but supports operations that contribute to food production and are a valuable component of the agricultural supply chain driving agricultural growth and development.	• Minimal impact on ALC Class A/B land is more than compensated by the overall benefits to agricultural production and future opportunities in a regional community, sustainability benefits and flow-on benefits to other sectors such as transport and agricultural support services in the community. • The removal of 32 hectares of cropping land will result in a loss of approximately $270,560 in cropping income per annum, however, the indicative total revenue that could be generated in the precinct is over $350m. • It is estimated that the Project will generate demand for additional ~9,013 cropping hectares per annum.

State Government Document	Intent/Desired Outcome	SRAIP Alignment
		• The increase in agricultural land demand represents an uplift of $33.8m to the agricultural sector per annum (9,000 hectares ÷ 2 X $8,455) • SRAIP investment will drive and support agricultural growth, ensure a resilient agriculture sector, long-term viability and future sector growth. • The SRAIP supports agricultural production along the value chain. • Leads to increased production by enabling access to new value-added convenience and shelf-stable markets, reducing reliance on seasonal markets and increases local opportunities. • Productivity benefits (composted material for fertiliser). • Improved efficiencies (storage, cold rooms, distribution) close to the production area. Reduced food miles, more crop recovery (less travel and transport costs) and less food waste.
	Policy 4 Facilitation of growth in agricultural production and a strong agricultural production industry by: (d) facilitating opportunities for co- existence with development that is complementary to agricultural uses that do not reduce agricultural productivity (e.g.: on-farm processing, farm gate sales, agricultural tourism) (e) considering the provision of infrastructure and services necessary to support a strong agriculture industry and associated agricultural supply chains	• The proposed non-rural land uses will complement the agricultural uses on land neighbouring the site and developer benefits locally and to communities beyond. • The genesis of the Project concept was formed in recognition of a changing agricultural landscape, in particular the rising cost of inputs, land and labour and consumer trends and retail demands for value-added, ready-to-eat high value products. • Resilient, viable agriculture of the future requires investment and facilities of a more sophisticated scale than previously required, and that comes with a new level of investment in robotics, automation and cutting-edge manufacturing technology. A dedicated agricultural precinct helps to deliver on the market demands and de-risk the sizeable investment in automated factories of the future.
Additional State Government Policies		
Queensland Energy and Jobs Plan – 70% Renewable Energy by 2032	Vision: Clean, reliable, affordable energy providing power for generations • Clean energy economy • Empowered households and businesses • Secure jobs and communities The plan supports industries to modernise bioenergy generation and use waste products for bioenergy. By 2035:	• SRAIP will be a catalyst Project in QLD. It will support the DSDILGP implementation activities (Action 1.9 – Advancing Qld's Bioenergy future), by identifying options and pathways to expand bioenergy generation and support technology innovation in the bioenergy sector. • One of the most significant deliverables of the Project is the realisation of a new bio-power, biogas and bio-fertiliser solution,

State Government Document	Intent/Desired Outcome	SRAIP Alignment
	• No regular reliance on coal-fired generation • 80% renewable energy • 8 x more renewable energy than 2022 • SuperGrid that will provide Queenslanders with clean, reliable, affordable power for generations • 64,000 jobs in clean energy infrastructure, including new skilled direct jobs to build SuperGrid • 36,000 more jobs in green growth opportunities • Lowering bills and more energy Independence • Pathway to zero emissions vehicles	which by its nature is ideally-placed in rural communities. • This closed-loop, circular supply technology has been proven in Europe and the US, where it is widely utilised by regional and rural communities for green power, green gas and bio-fertiliser. • Bioenergy through AD present real opportunities, not only for this region, but for other Queensland rural communities, including: • Food waste diversion • Circular economy for regional power • Less reliance on coal • Empowered regional communities creating their own power and gas supplies • Renewable electricity and gas for food manufacturing (decarbonising food production) • Eventually (with environmental testing) this process could divert landfill and grease trap waste which can be used as feedstocks for the AD process • Grid stabilisation in regional and rural communities • New organic soil conditioning fertiliser product to replace synthetic fertilisers – liquid and solid digestate • All of these outcomes help to build a new clean energy economy to empower rural and regional communities to be their own green gas and green power generators and in turn lower power bills, reduce the cost of fertiliser inputs in agriculture, decarbonise food production and provide a pathway to zero emissions in rural communities.
Advance Queensland Biofutures 10 Year Roadmap and Action Plan	Vison: $1 billion sustainable and export-oriented industrial biotechnology and bioproducts sector attracting significant international investment, and creating regional, high-value and knowledge-intensive jobs. 1. Provide direct support for specific industry development initiatives; 2. Identify and promote the opportunities available for investment in Queensland; and 3. Provide strong government leadership to create and maintain an attractive environment for investment. By 2035: An industrial biotechnology and bioproducts sector could contribute $1.8 billion to Queensland's annual Gross State	• SRAIP proposes an onsite AD Facility, which is a form of biotechnology which produces various bio products from organic waste streams. • Kalfresh meets the roadmap criteria by identifying as a mature and modern agri-business with well-established supply chains from farm gate to Tier 1 supermarkets. • Kalfresh is an early adopter of this technology with established supply chains for feedstock. • Proposed future development of a bio-fertiliser factory.

State Government Document	Intent/Desired Outcome	SRAIP Alignment
	Product and support 6640 full-time jobs in Queensland.	
Department of Agriculture and Fisheries Strategic Plan 2021-2025	Vision: QLD is a world leading provider of high-quality, safe, and sustainably - produced food and fibre. Objectives: 1. Innovative and globally competitive agri-businesses accessing improved practices, data and new technologies to enhance the productivity, profitability and sustainability of food and fibre value chains. 2. Prosperous economies providing business and employment opportunities across regions, diversified markets and value-added products and services. 3. A resilient sector with secure production and value chains that can deal with natural disasters, climate change, biosecurity risks and other emerging challenges. 4. Ethical and sustainable production of food and fibre that meets consumer and community expectations for food safety, a safe and sustainable natural environment and animal welfare and management standards. Changing Markets – provide the opportunity for QLD's food and fibre sector to grow, access new, high-value markets, and provide agri-business and employment opportunities across the value chain.	• At its heart, the SRAIP seeks to create a home for the value- adding and diversification of agricultural businesses in the heart of a productive valley with centuries of farming history. • The SRAIP will provide a hub for the co-location of businesses which value-add raw produce to enable local farmers and landowners to diversify, become financially resilient and secure new production and value chains through new market opportunities. • The Project will deliver on multiple aspects of the DAF Strategic Plan 2021-25, in particular it will create a prosperous regional economy, where landowners can respond and adapt to a changing market and provide new high-value products for new customer and evolving markets. In turn the Project will create new, skilled job opportunities in a regional community. • The SRAIP also places Queensland agriculture at the heart of the new and emerging green power and green gas industries by delivering power to the farming community to create their own electricity, gas, and bio-fertiliser, while repurposing food waste and transforming other waste into renewable energy.
Jobs Now, Jobs for the Future – QLD Government Employment Strategy	The policies and initiatives being implemented under Working Queensland will help grow the State's economy and improve opportunities for Queenslanders to gain employment in the short, medium and longer term. To ensure the State's economy grows for the benefit of all, Working Queensland focuses on: 1. enhancing productivity and efficiency of business 2. improving skills and training 3. fostering emerging and innovative industries 4. growing our regions 5. boosting the delivery of government and social services	• SRAIP offers a solution to improve the short and long-term economic prosperity of a regional community through the growth of a workforce that aligns with global opportunities, meets local food industry and employer needs, and strengthens skills, capabilities and resilience of local employees. • By leveraging significant agricultural production opportunities to increase manufacturing and industry-based value-adding, the SRAIP will help increase employment opportunities, attract new businesses, and help accelerate and diversify the local economy. • Construction jobs created over 10-year development period generating approximately 641 direct and 354 indirect local jobs. • Additional operational Jobs – 475 direct and 572 indirect jobs created annually upon full development. • Construction GVA $89.5M contribution to the Scenic Rim economy (+5.3%) and

State Government Document	Intent/Desired Outcome	SRAIP Alignment
		$238.9M to the Australian economy over the10 year construction phase. • Operational GVA $140.5M contribution to the Scenic Rim economy (+8.3%) and $211.9M contribution to the Australian economy annually upon full development.
Governing for Growth: Economic Strategy and Action Plan – February 2014	The Governing for Growth—Economic Strategy and Action Plan (the Governing for Growth strategy) reaffirms the government's commitment to supercharging the Queensland economy. The government has developed (and is developing) a number of key strategies which provide the direction to the future growth of these pillars including Agriculture, Resources, Construction and Tourism.	• SRAIP operators will contribute to a more competitive business environment in Australia, including infrastructure – better planning, delivery of infrastructure and greater opportunities for private sector investment. • The SRAIP will capitalise on the efficiencies and competitive advantage created through the co-location and scale of the SRAIP alongside one of Australia's largest food producing regions. Growing and attracting further private sector investment in the region Kalfresh can ensure economic returns are realised by the local community through job creation.
Waste Management and Resource Recovery Strategy	The Strategy presents a strategic plan for a better way of managing waste in Queensland, by harnessing the potential value of resources that have traditionally been discarded. The Strategy's three strategic priorities will guide the transition to a more circular economy, reduce the amount of waste disposed of to landfill, or illegally, and provide a more sustainable source of end-of-life products and materials to create new products. Vision: Queensland will become a zero- waste society, where waste is avoided, reused, and recycled to the greatest extent possible. Strategic investment in diverse and innovative resource recovery technologies and markets will produce high-value products and generate economic benefits for the State. • Reducing the impact of waste on the environment. • Transitioning to a circular economy for waste. • Building economic opportunity. By 2050 the Strategy aims to reduce household waste by 25%, recover 90% of waste before it disposed of in landfill and, increase recycling rates to 75% across all waste types.	• Investment in the AD Facility and composting activity will reduce food waste and will divert organic waste streams as a feedstock to generate green power and green gas and organic soil conditioner • The Project creates the necessary opportunity for Kalfresh to invest and innovate its recycling activities to include renewable energy • The SRAIP will exhibit at its completion a zero-waste large scale agricultural system where the generation of waste will be avoided, and will be reused and recycled to the greatest extent possible through a 50,000 tonne composting facility and various other utilisations throughout the site • Once fully developed the AD Facility will divert ~247,250 tonnes per annum of waste from landfills. The composting facility will in total divert ~3,200 tonnes per annum from landfill. This is a potential of ~250,450 tonnes per annum of waste being diverted from landfills. • This depicts that the SRAIP will help Queensland become a zero-waste society where waste is avoided as much as possible. • End of Waste Code (EOWC010001054) enables outputs to be used as fertiliser replacement
Queensland Organics Strategy 2022 – 2032	The Organics Strategy considers community, business, and industry concern about the	• The SRAIP aligns with the Organics Strategy as it ensures a production that

State Government Document	Intent/Desired Outcome	SRAIP Alignment
	amount of organic material that is generated and disposed of in landfill. Poor management and disposal of organic waste can lead to a loss of value of materials, contamination of waterways, odour impacts from sites and contribute to greenhouse gas emissions. The Strategy aims to achieve social, economic, and environmental benefits by harnessing the value from organic materials to the greatest possible extent. The Strategy has a vision to ensure Queensland becomes a zero waste society by transitioning to a circular economy where the value of waste is retained in the economy for as long as possible. Actions that avoid, reduce, reuse, and recycle materials align with the circular economy approach to prevent, capture, and use waste at its highest value. The strategy will ensure 80% of organic material is diverted from landfill and a organics recycling rate of 70%. This will be achieved through three objectives: • Avoidance • Landfill diversion • Recycling These objectives will help achieve the following strategic priorities: • Reduce the impact of waste on the environment and communities • Transition to a circular economy for waste • Build economic opportunity	utilises the circular economy and closed loop processes. • Approval is sought for a 50,000 tonnes per annum composting facility that will reduce the amount of waste generated on site • The facility will utilise typical open windrow composting methods from feedstocks including digestate, green waste, wood chip, vegetable waste, anaerobic digestion solids fraction and, used mushroom substrate • This compost will provide high quality soil conditioner for existing crop production within the immediate region including cropping undertaken by Kalfresh and independent local producers in the local area • At peak capacity the SRAIP will divert approximately 3,200 tonnes per annum of composting waste from landfills. This ultimately proves that the SRAIP will become a closed loop system as it expands which will reduce organic waste output in relation to large scale agricultural processes • Through this the SRAIP will help Queensland ensure an 80% reduction of its organic waste going to landfill by 2032
The Queensland Plan – Queensland's 30-year vision	The Queensland Plan outlines the government's vision for the State's economy, environment, education system, regions, health system, infrastructure, government services and communities over the next 30 years.	Addresses several priorities for how residents see the future for growth in regional communities. The SRAIP does this through: • Collaborating productively and making the most of Kalfresh's comparative economic advantage through working together across industries and sectors and across regions • Working towards becoming the number one reliable and safe food bowl of Asia. QLD leads the Asian region in food production and crop diversification by investing in research and development across the water supply and agricultural sectors • Maximising agricultural production through safe and sustainable farming practices
The Queensland agriculture and food research, development, and	Vision: Queensland's internationally recognised agriculture and food RD and E underpins a productive, profitable, and sustainable sector.	SRAIP contributes to the roadmap by: • Providing high-quality, safe food and agricultural products which are affordable and available year-round.

State Government Document	Intent/Desired Outcome	SRAIP Alignment
extension 10- year roadmap	The roadmap identifies 14 actions, which target the following 3 key areas: • Increase innovation and commercialisation. • Identify and promote agriculture and food RD and E opportunities. • Support the existing sector to grow and develop new business.	• Increasing exports and growth in regional jobs. • Increasing innovation and commercialisation. • Identifying and promoting agriculture and food research, development and extension opportunities. • Supporting the existing sector to grow and develop new business.
Queensland food and fibre policy	The Queensland food and fibre policy's vision is to support a productive and prosperous food and fibre sector. The policy delivers key services across the sector and refocus those services in five priority areas: • Drive growth, efficiency, and sustainability • Support a modern and skilled workforce • Advance research and development • Improve Queensland's biosecurity capability • Deliver service innovation	The SRAIP will align with the Queensland food and fibre policy by: • Providing construction and operational jobs at: • Construction jobs created over 10-year development period approx. 641 direct and 354 indirect local jobs. • Operational Jobs – 475 direct and 572 indirect jobs created annually upon full development. • Identifying and promoting agriculture and food research, development and extension opportunities. • Providing a development with circular economy, waste reduction and renewable energy. • Key Project components include the AD Facility, composting activity and energy generation infrastructure present strong economic drivers underpinning the SRAIP concept. These in turn provides mutually beneficial outcomes for both local farmers in immediate proximity to the facility, as well as the food processing industries who establish in the Project. • Maximising agricultural production through safe and sustainable farming practices. • Supporting the existing sector to grow and develop new business. • Collaborating productively and making the most of Kalfresh's comparative economic advantage through working together across industries and sectors and across regions. • Increasing exports and growth in regional jobs. • Increasing innovation and commercialisation.
Local Government Policies		
Scenic Rim Community Plan 2011-2026	Creation of a sustainable and prosperous economy with agriculture and tourism as the centrepiece with priorities including local investment and supporting local business, diversification of economy and new and rewarding employment opportunities, and developing opportunities to export products and services.	• The SRAIP is a major investment in agri-business in the Scenic Rim and creates opportunity for new business and employment opportunities on the Project site, while also enhancing sustainability and efficiency of local agricultural production activities by increasing

State Government Document	Intent/Desired Outcome	SRAIP Alignment
		processing and distribution capabilities by reducing agricultural waste.
Scenic Rim Regional Prosperity Strategy 2020-2025	Provides specific direction for delivery of the 'Sustainable and Prosperous Economy' pillar of the Community Plan and Corporate Plan and designed to support the creation of valuable local employment for local residents.	• The SRAIP is one of five strategic enabling Projects identified by the Scenic Rim Regional Council in the prosperity strategy – its delivery therefore delivers on a key element of this strategy. • It is recognised because of the value associated with "creating a significant economic precinct and delivering a significant number of jobs to the local economy".
Scenic Rim Agri-business and Agritourism 10-Year Roadmap 2022-2032	Builds on traditional strengths of region – agriculture and agri-business – and looks to emerging and complementary opportunities in the agritourism sector. Building capability and capacity in the region and better promote the Scenic Rim to build a stronger and more resilient economy. Leveraging the region's competitive advantages to drive long-term industry growth and economic development.	Supports sustainable farms, businesses and industries and provides rewarding employment and prosperity for residents through delivery of action plan objectives including: • Creation of a freight and logistics hub for processing and distribution of produce • Increased capacity and extension of agri-business supply and value chains • Industry led investment and employment • Increased local processing and manufacturing capabilities • Planning pathways that support agri-business diversification • Enabling diversification of products, service, and revenue streams for agri-business • Resilient, sustainable, and advanced agri-business • Delivering agri-business sustainability through industry leading sustainability practices and innovation.
Scenic Rim Agri-business and Agritourism Three-Year Action Plan 2022-2025	Agri-business objectives include integrated transport networks, value-add agricultural products and services, diversified and sustainable agri-business es.	

5 PROJECT DESCRIPTION

5.1 Project Components

The SRAIP proposal was established with a view to provide Kalfresh and other agricultural and food and beverage manufacturing businesses an opportunity to expand, diversify and future-proof their operations. The Project incorporates a number of interrelated elements for which planning approval is required. The preliminary approval varies the effect of the development scheme and establishes the SRAIP Plan that permits subsequent development to occur. The reconfiguration of a lot staging creates the SRAIP site and permits the subsequent creation of two rural precinct lots and 16 industry precinct lots.

The SRAIP seeks approval for:

- A Variation Approval (Preliminary Approval) overriding the SRPS that establishes the SRAIP Plan (SRAIPP) incorporating the SRAIP Industry Precinct and SRAIP Rural Precinct
- A Development Permit for a Reconfiguration of a Lot (staged subdivision) and Operational Works (Earthworks), for a subdivision titled via management scheme that creates 16 industrial lots, three rural lots, two balance lots excluded from the SRAIP, an infrastructure lot to accommodate water and sewerage treatment facilities for the Project, a volumetric lot, access easements and common property
- Development Permits for a Material Change of Use for an AD facility (Renewable Energy Facility - SRAIP Biodigestion); High Impact Industry (SRAIP Composting); Lot 9 Extension to an Existing High Impact Ag-Industry and Warehouse Use (Ancillary Office); Lot 8 Material Change of Use for High Impact Agriculture Industry and Warehouse; Lot 15 Material Change of Use for Warehouse with Ancillary Office and Showroom, and Lot 12 Material Change of Use for High Impact Agriculture Industry and Warehouse
- Development Permit for Material Change of Use for ERA53a – Organic material processing (by composting the organic material), ERA 53b – Organic material processing (by anaerobic digestion)
- Environmental authority for environmentally relevant activities (ERAs) (*Environmental Protection Act 1994*):
    - ERA 53a – Organic material processing (by composting the organic material)
    - ERA 53b – Organic material processing (by anaerobic digestion)
    - ERA 63(1bi) – Sewerage treatment.

This Section describes these components in further detail as well as provides an overview of the construction timeframes, staging and expected benefits to be realised by the Project. The overall SRAIP concept layout is depicted in **Appendix B.1.2** of this report.

A key objective of SRAIP is to achieve reduced GHG emissions and realise the principles of circular economy. To this end, **Figure 16** provides a concept diagram of how the various Project components are interconnected and operate as part of a larger closed-loop system. From this diagram, it is clear co-location of agricultural production with processing facilities are critical to realising this system.

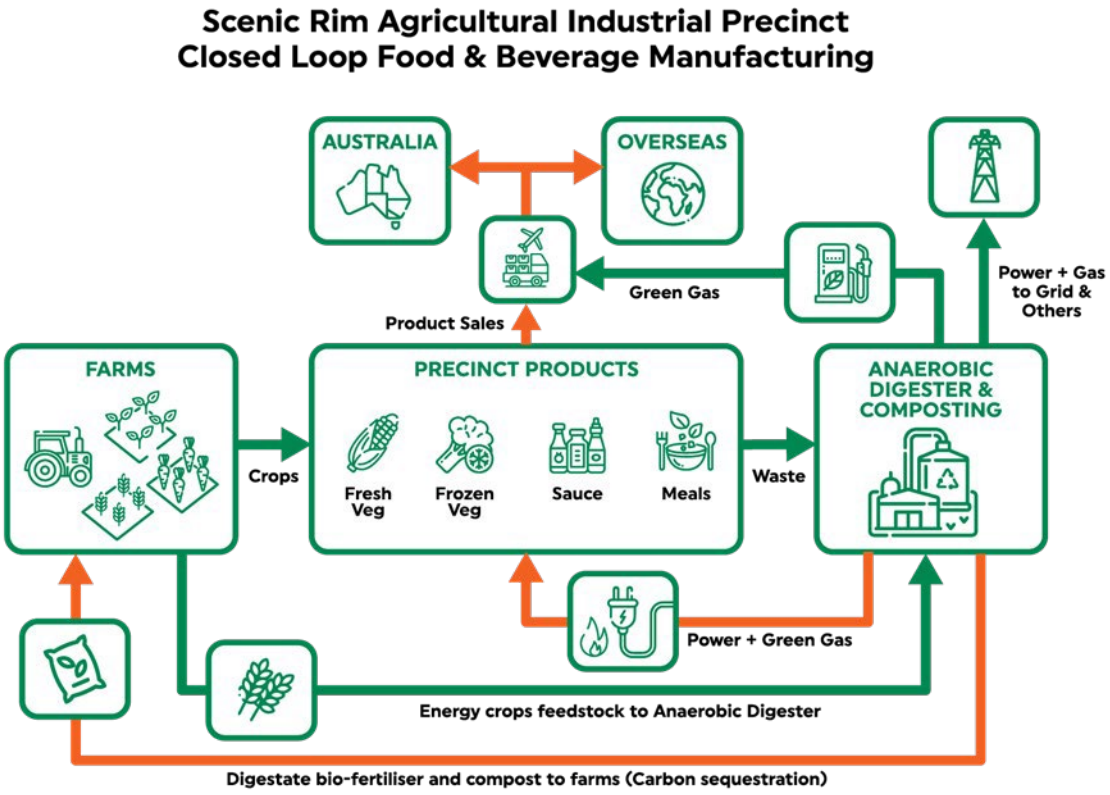


Figure 16. Project alignment with the principles of circular economy

5.1.1 SRAIP Subdivision

The SRAIP is located in the rural zone under SRPS and the RLRPA under ShapingSEQ where subdivision below 100 ha is prohibited and there are restrictions placed on urban uses. As a declared coordinated Project under the SDPWO Act, exemptions apply in the SEQ regulatory provisions of the Planning Regulation, which allows an assessment pathway for subdivision and urban uses, otherwise deemed prohibited development. Further details regarding the planning aspects of this proposal are described and evaluated at **Section 6** of this report.

The SRAIP subdivision will create 16 industrial lots, three rural lots, two balance lots (outside the SRAIP Plan extents), an infrastructure lot to accommodate water and sewerage treatment facilities for the precinct, one volumetric lot, access easements and common property. Road access provided by 30 m and 40 m wide private roads to be held in a body corporate or alternate precinct governance arrangement facilitated by a management scheme. The private roads will provide access to the Cunningham Highway via a single (previously approved) access point to the highway. This access and the 30 m wide private road are shared with the approved Frazerview Quarry. A 40 m wide road configuration has been designed for the cul-de-sac private road that incorporates a central stormwater swale and a one-way traffic movement arrangement. This design serves a dual purpose of managing stormwater quantity in rain events and reducing potential for conflicting traffic movements between vehicles within the Project.

Phase 1 is the initial step that excises the management lots that are not part of the SRAIP

- Lot 60 is a balance lot that covers the area within the adjacent Frazerview Quarry approval for their eventual access. Lot 50 is the balance rural lot which is not part of the SRAIP Plan. These are both located within the KRA processing area.
- Lot 30 and Lot 40 are the lots where the SRAIP is located. Proposed Lot 70 is the future private access road and proposed Lot 80 is the future volumetric lot for the purpose of capturing infrastructure, that will be located within the private access road.

- Lot 60 and Lot 70 will be burdened by access easements which set up the access for Lots 50, 60, and the future SRAIP subdivision over Lots 30 and 40.

Phase 2 is the four-stage subdivision to create the SRAIP lots and subdivision layout.

- Stage 1 will create all the internal roads and infrastructure and the lots where Projects and uses are proposed initially. Stage 1 includes the creation of Lots 18, 19 and 20 (part) within the Rural Precinct and will establish Lot 9 over the existing Kalfresh factories and warehouses.
- Stages 2-4 will be finalised and titled progressively based on demand for the land from purchasers.

Private Infrastructure servicing the Project will need to be established that includes:

- Two common property drainage lots containing a stormwater basin and overland flow path.
- An infrastructure lot accommodating the onsite potable and recycled water treatment, sewerage treatment plant and firefighting facilities (Lot 17)
- Overland flow path which 'wraps' the SRAIP industrial lots to provide flood conveyance around the development and the new lawful point of discharge for the SRAIP (located within a drainage easement within Lots 18 and 20)
- A treated effluent irrigation area with an area of two ha (located on Lot 18)
- An offline turkey's nest water storage dam uses pre-treatment to store water pumped to site or sourced from bores to ensure continuity of supply (located on Lot 20).

It is noted that existing State protected vegetation is located within a balance lot (Proposed Lot 50) which does not form part of the SRAIP. Clearing within this lot is not proposed as part of the SRAIP development application however may relate to the Frazerview Quarry approval.

Figure 17 and **Figure 18** provide an excerpt from the Phase 1 and Phase 2 subdivision proposal. All relevant SRAIP Plans included at Appendix J.

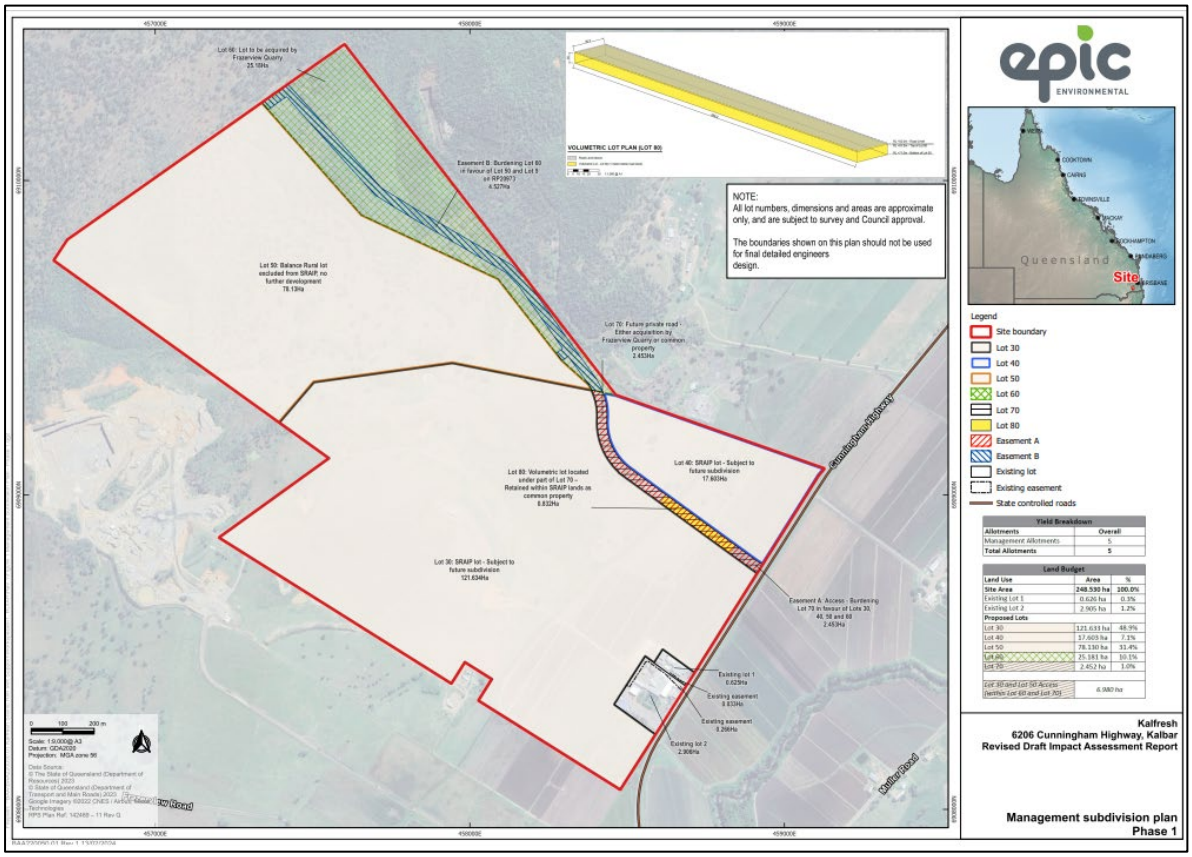


Figure 17. Excerpt from Phase 1 Subdivision Proposal Plan

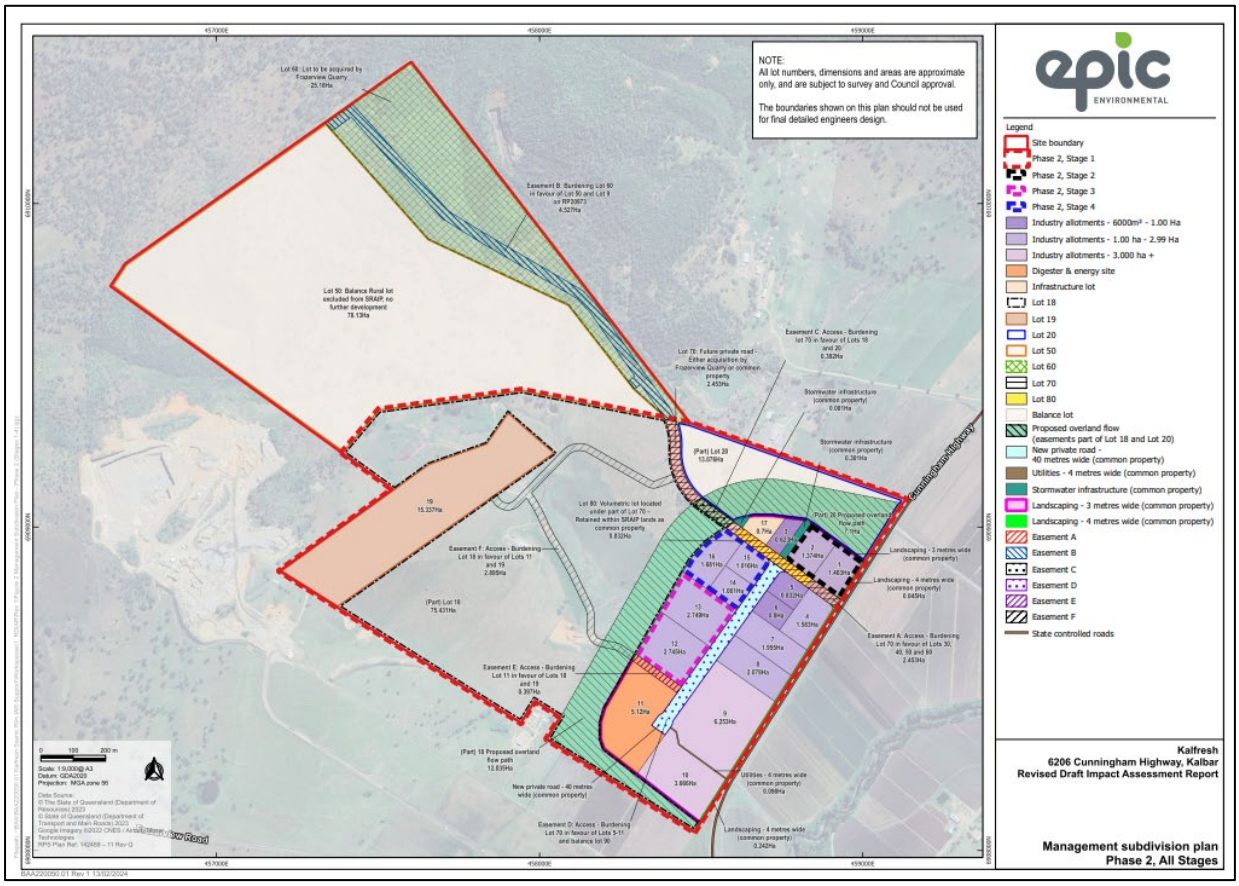


Figure 18. Excerpt from Phase 2 Subdivision Proposal Plan (Stages 1-4)

5.1.2 Proposed Land Uses – Industry and Rural Precincts

The industrial lots created as part of the subdivision will be subject to subsequent development approvals for the establishment of the proposed ag-industry and related uses on the site in accordance with the provisions of the SRAIP Plan (Refer **Appendix A.5**). Applications for a Development Permit for Material Change of Use for five of the proposed lots are included within this submission – refer **Table 9** for details and location of application materials.

Table 9. Anticipated Use and Ownership of Industry Lots

Lot	Anticipated Ownership	Proposed Use
1	Unknown (Expected to be third party investor)	Unknown
2	Unknown (Expected to be third party investor)	Unknown
3	Unknown (Expected to be third party investor)	Unknown
4	Unknown (Expected to be third party investor)	Currently unknown (but earmarked for sale as potential site of Service Station or Transport Depot)
5	Unknown (Expected to be third party investor)	Currently unknown (but earmarked for sale as potential site of Service Station or Transport Depot)
6	Unknown (Expected to be third party investor)	Unknown
7	Unknown	Unknown
8	Kalfresh Entity	High Impact Industry (ag-industry) and Warehouse (Kalfresh Onion Building)

Lot	Anticipated Ownership	Proposed Use
		Application for MCU included within Tier 1 Approvals within this submission (Refer **Appendix D.3**)
9	Kalfresh Entity	High Impact Industry (ag-industry) and Warehouse and Ancillary Uses (Office) (Existing Kalfresh factories and warehouses) Application for MCU for extension to existing use (addition of ancillary office) included within Tier 1 Approvals within this submission (Refer **Appendix D.1**)
10	Unknown	Unknown
11	Kalfresh Entity	AD Facility Application for MCU, ERA and EA included within Tier 1 Approvals within this submission (Refer **Appendix C.1**)
12	Kalfresh and Third Party Partner	High Impact Industry (ag-industry) and Warehouse Value-Add fresh and frozen vegetable and cold store warehousing facility for finished products (requires additional building height up to 35 m) permitted on this lot. Application for MCU included within Tier 1 Approvals within this submission (Refer **Appendix D.4**)
13	Unknown	Unknown, however anticipated to be development for an automated temperature-controlled warehouse that requires the additional building height (up to 35m) permitted on this lot
14	Unknown (Expected to be third party investor)	Unknown
15	Unknown (Expected to be third party investor)	Warehouse and Ancillary Uses (Office and Showroom) Application for MCU included within Tier 1 Approvals within this submission (Refer **Appendix D.2**)
16	Unknown (Expected to be third party investor)	Unknown
17	Body Corporate / Facilities Manager (Kalfresh Entity)	Private infrastructure lot containing uses including water treatment, sewerage treatment works, firefighting facilities
18	Kalfresh Entity	Treated effluent disposal area located on part of this site. The majority of the site is anticipated to be used for rural/agricultural activities including but not limited to grazing and cropping
19	Kalfresh Entity	Composting Site Application for MCU, ERA and EA included within Tier 1 Approvals within this submission (Refer **Appendix C.3**)
20	Facilities Manager / Kalfresh Entity	Water storage dam and drainage easement located on this site. The balance is anticipated to be used for rural/agricultural activities including but not limited to grazing and cropping

5.1.3 AD Facility and ERA 53B

Note: The information presented in this section and accompanying Appendix C.1 includes confidential material that has been intentionally removed, redacted, or withheld from the public version. This confidential information is provided exclusively for assessment purposes to the Coordinator-General and relevant state and local agencies.

A significant benefit of co-locating food processing businesses in close proximity to farmland presents an opportunity for Kalfresh to construct and operate a 1.6 MW (scalable to 10 MW) Anerobic Digestion (AD) Facility. The Tier 1 approvals sought for the AD are:

- Development Permit, MCU for Renewable Energy Facility (SRAIP Biodigestion)
- Development Permit MCU for ERA 53b - Organic material processing (by anaerobic digestion) and Environmental authority (EA) for environmentally relevant activity (ERA 53(b) -organic material processing (by anaerobic digestion). (Refer **Appendix C.1**)

The plant infrastructure for the AD Facility is to be located on proposed Lot 11 of the SRAIP subdivision (**Figure 19**). The AD Facility is proposed to be owned and operated by Kalfresh and another party (yet to be finalised).

The designs for the AD Facility (Refer **Appendix C.1.2**) are shown over two stages: Stage 1 being the initial 1.6 MW facility to which the EA component of the approval relates (**Figure 20**); and Stage 2 being the remaining works and facilities to take the plant to its maximum capacity of 10 MW (**Figure 21**).

The AD Facility is proven technology which will convert food and urban waste into renewable energy. The World Biogas Association reported in 2019 that there were 132,000 small, medium and large-scale AD Facilities operating globally. The AD Facility supports the circular economy, enabling recovery and use of the embodied energy, nutrient and heat values of organic matter. Decomposition of organic matter through the anaerobic digestion process, produces a natural biogas which will be used to generate baseload power. Generated power will be distributed to industrial premises that establish in the SRAIP subdivision with residual power fed back into the local electricity grid.

Currently, feedstocks for the AD Facility will typically consist of corn silage, chicken litter, paunch, recirculated liquid digestate and fresh water as process water, and leachate from the site composting activity (subject to quality parameters being confirmed). As technological advancements allow in the future, additional feedstocks may be considered by Kalfresh where it is deemed advantageous such as food organics garden organics from Council depots or supermarket wastes. The limiting factor for incorporating these waste streams as feedstock now is the inability to separate plastics from the organics.

The engineering flow process diagram for the AD Facility is provided at **Figure 22**.

Figure 19. Render of Proposed AD Facility

Figure 20. Proposed AD Facility – Stage 1

Figure 21. Proposed AD Facility – Stage 2

Figure 22. AD Facility Process Flowchart

For Stage 1 the AD Facility will take approximately 84,000 tonnes per annum of feedstock (including chicken manure and paunch) and will generate 14.3M kWh/a of electrical energy and 12.1M kWh/a of renewable surplus heat. At full capacity after construction of Stage 2 the AD Facility will utilise approximately 388,400 tonnes of feedstock to generate 89.4M kWh/a of electrical energy.

Kalfresh is working with the Australian Renewable Energy Agency (ARENA) towards obtaining a grant for this aspect of the Project. As the AD Facility aims to replace conventional fossil-fuel based products with bioenergy and bioproducts, the Commonwealth has an interest in expanding capability in this type of technology and exploring its potential to be applied elsewhere in Australia. The engagement with ARENA regarding the AD Facility reiterates the importance of the Project as a strategic enabling Project.

5.1.3.1 Application of Digestate

The decomposition of organic matter also produces nutrient-rich digestate. Produced digestate from the AD Facility will be separated in liquid and solid forms and will be used as fertiliser and soil conditioners in accordance with the End of Waste Code (Digestate) (EOWC010001054).

The End of Waste Code (Refer **Appendix C.2**) stipulates strict quality requirements that must be achieved by the operators to ensure the digestate is environmentally friendly and safe to be used as a fertiliser on cropping lands which will ultimately be consumed. In approving the End of Waste Code for Digestate, DES has confirmed that the resource has been demonstrated to have benefits through sustainable use with negligible environmental risks. Without the End of Waste Code, digestate would otherwise be classified as a waste requiring disposal at a licenced waste facility.

It is important to note that the ERA relates to the operation of the AD Facility and creation of digestate only. The subsequent use of solid and liquid digestate is regulated wholly by the End of Waste Code (Digestate).

While not considered in Stage 1, a potential future application of the solid fraction of the digestate will be as a pelletised fertiliser for use onsite and offsite in accordance with the End of Waste Code. The drying and pelletising process will include odour and air quality mitigation measures that will be confirmed if this potential future aspect of the development is realised.

5.1.3.2 Petroleum and Gas Act Compliance

AD facilities produce large quantities of biogas, which comprises of methane and carbon dioxide. The methane fraction will be pressurised and stored in a tank at the proposed site for power generation. As this facility is classed as an "operating plant" under the *Petroleum and Gas (Production and Safety) Act 2004* (P and G Act), it will require compliance with the safety and measurement provisions of the Act, which is administered by Resources Safety and Health Queensland (RSHQ) . The Guideline for operating plant – Biogas, Petroleum and Gas Inspectorate, 1 September 2018, has been acknowledged and will be complied with to govern operations. A proponent commitment has been provided in this regard (Refer **Appendix G**).

Evidence of compliance with the P and G Act in conjunction with the abovementioned guideline will be supplied to the satisfaction of RSHQ prior to commissioning the plant (Refer **Appendix C.1.8**). Kalfresh is committed to meeting its obligations under the P and G Act and consulting with the Petroleum and Gas Inspectorate throughout the planning, construction and operation of the AD Facility in conjunction with the ultimate operator.

5.1.4 Composting Facility (High Impact Industry and ERA 53A)

Approval is also sought for a 50,000 tonnes per annum composting facility in the southwest extent of the subject site, located in the proposed Lot 19 (per the SRAIP Subdivision Staging Plans – **Appendix J.1.3**) on the part of the subject site where Kalfresh already operate a private small scale composting operation for their own needs. The composting facility will be owned and operated by a Kalfresh entity.

The Tier 1 approvals sought for the composting facility (Refer **Appendix C.3.1**) are:

- Development Permit, MCU for High Impact Industry (SRAIP Composting)

- Development Permit MCU for ERA 53a - Organic material processing (by composting the organic material) and EA (Environmental Authority) for ERA 53(a) -organic material processing (by composting the organic material).

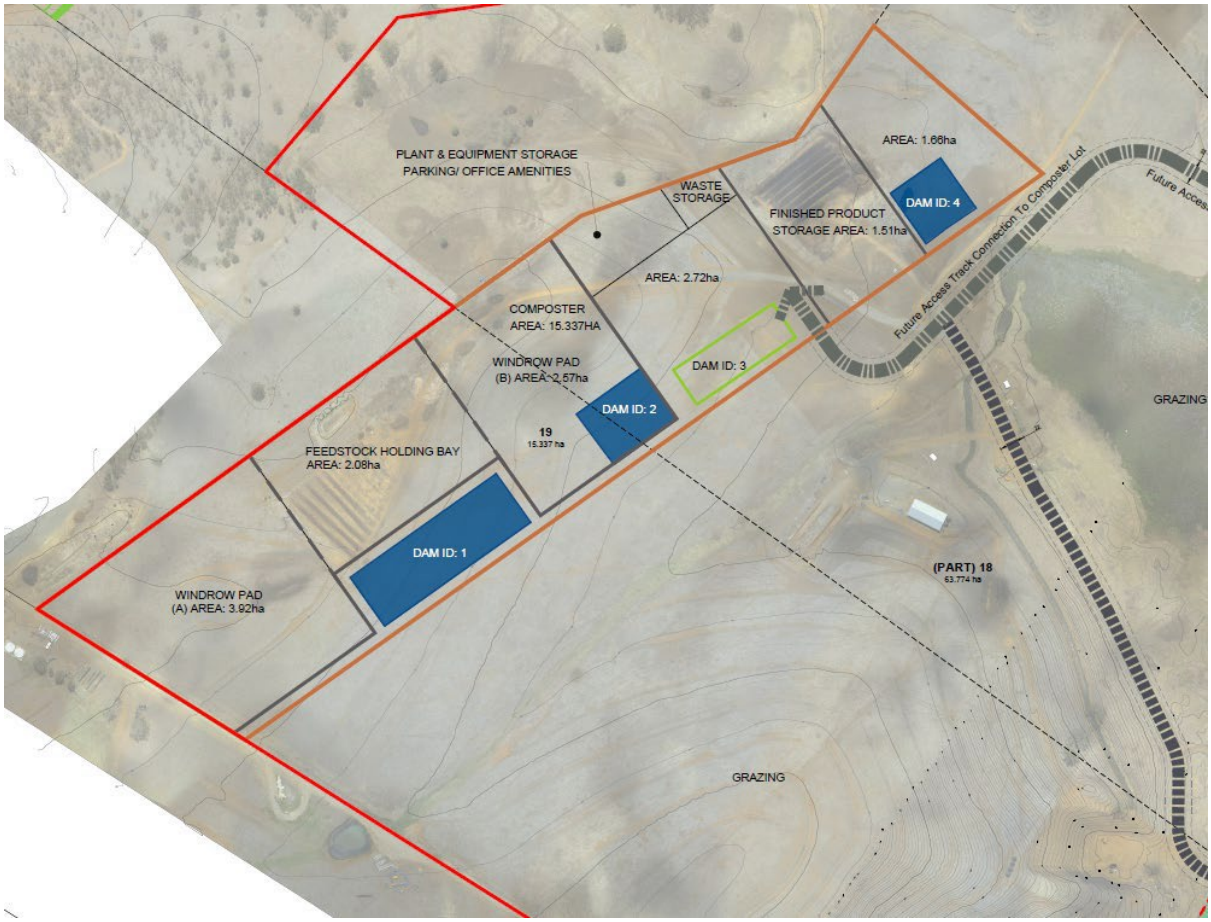


Figure 23. Composting Lot Layout

The activity will utilise typical open windrow composting methods from feedstocks including digestate, green waste, wood chip, vegetable waste, anaerobic digestion solids fraction, and used mushroom substrate. All material that requires shredding or sorting to be suitable for composting shall be imported in pre-processed forms negating the need for onsite shredding or sorting. Details of the proposed management of feedstock is provided in the report prepared for ERA 53(a) and the Site Based Management Plan for Composting (**Appendix C.3.3** and **Appendix C.3.4**).

Under Schedule 1 of the Model operating conditions ERA 53(a)—Organic material processing by composting (ESR/2015/1665 Version 4.00) all proposed feedstock types have a Low or Medium Odour Rating, and do not require to be received and stored in an enclosed system.

Weltec has assessed the odour risk of the solid digestate feedstock and has deemed it to have an Odour Risk Category of 'Low'. This assessment has been provided in **Appendix C.3.5**.

The 50,000 tonnes of produced (finished) compost per annum will provide high quality soil conditioner for existing crop production within the immediate region including cropping undertaken by Kalfresh and independent local producers in the local area. At peak capacity, the activity will produce four to five batches of 10,000 tonnes – 12,500 tonnes per annum based on a typical 12-week composting period per batch.

Table 10. Summary of Anticipated Composting Feedstock Inputs

Feedstock	Approx. Quantity (tpa)	Primary Source	Category – potential environmental impact
Green waste	Up to 46,000	Municipal green waste – tub ground Wood chip – local tree loppers	Low
Digestate solid fraction	Up to 25,000	SRAIP anaerobic digester	Low
Vegetable waste	UP to 9,000	SRAIP processing facilities	Low – Medium
Mushroom substrate	Up to 5,500	Local producers	Low

Table notes: Feedstock category (potential environmental impact) derived from Guideline: Open windrow composting under environmentally relevant activity 53(a) – organic material composting (DES 2018)

It is noted that the composting activity will not be utilising a GORE cover system which was a preliminary design option investigated by the Project team. Whilst a GORE cover can increase the rate of compost production, the organic composting methods described above will better suit Kalfresh's operational requirements. The flow process is described in detail in ERA53(a) Report – **Appendix C.3.3** and shown in **Figure 24**.

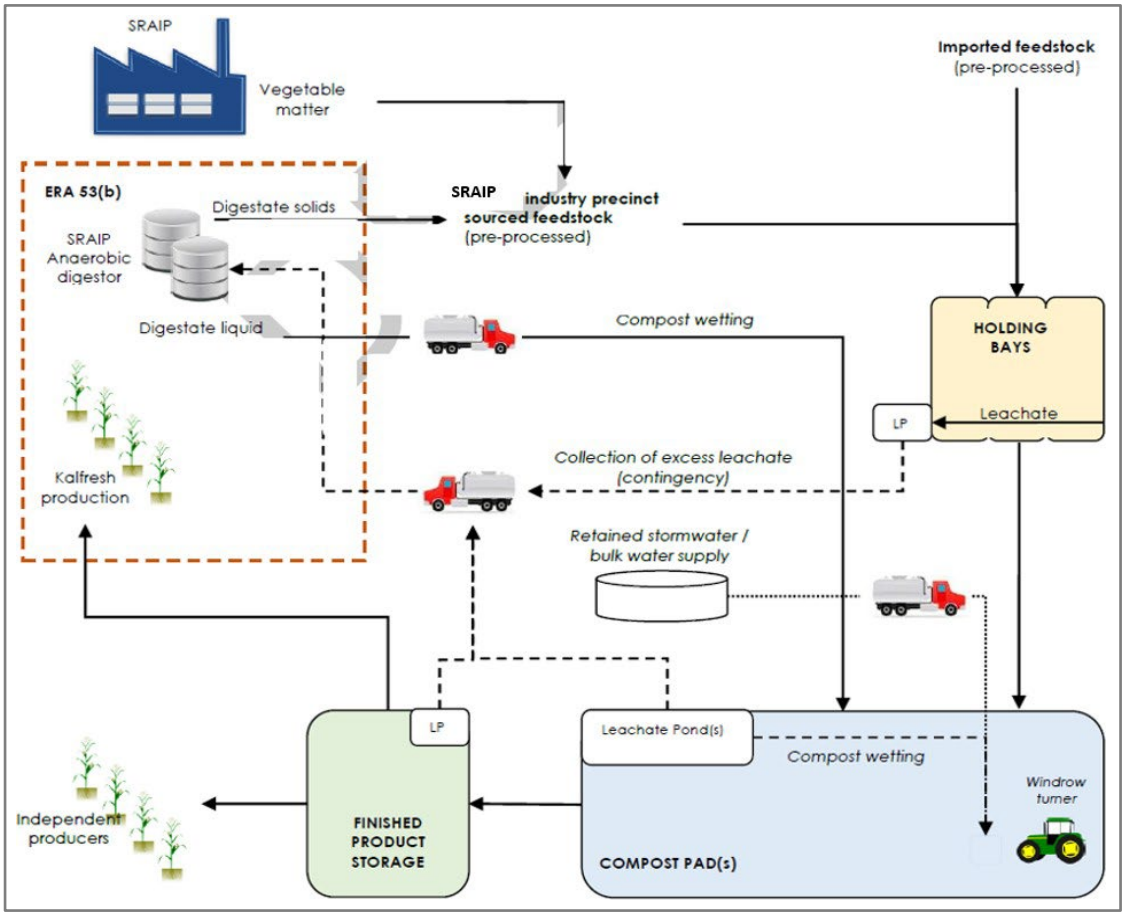


Figure 24. Flow Process – Windrow Composting

5.1.4.1 Vehicular Access

Proposed to be sited in the Rural Precinct of the SRAIP Plan, formalised vehicle access to the composting lot will be constructed and maintained to ensure the safe movement of trucks and emergency vehicles to the site. It will be ensured that the roads are constructed to a to the vehicle access requirements as stipulated in the *Fire Hydrant and Vehicle Access Guidelines for Residential, Commercial and Industrial Lots* and DTMR's *Road Planning and Design Manual*.

An existing access track currently connects processing facilities with existing composting activities on site. As part of the Project, this track will be upgraded with an additional road constructed off the proposed quarry access road. These arrangements will ensure there is all weather access provided at all times whilst maintaining the safe movement of trucks within the precinct.

5.1.5 Sewerage Treatment Plant (ERA63(1bi))

Kalfresh currently treats sewerage on site, but as part of the Project a new 200kL private Sewerage Treatment Plant (STP) is required to service the industrial lots. The proposed STP is to be located on Lot 17 of the SRAIP subdivision as per the SRAIP Concept Plans – **Appendix J.1.2**. The sewerage treatment plant will be constructed and operated by the Kalfresh/Facilities Manager.

The **Appendix B.6** – ERA 63(1)(b)(i) (Waste Water Treatment Plant) Report provides the technical specifications of the proposed STP. All sewage will be treated to Class B standard for the proposed development within the treatment plant prior being discharged to the onsite effluent irrigation area.

The effluent irrigation area is not within 250 m of any bore used for domestic waste supply, 1,000 m of any bored water used for town water supply and is well separated from cropping activities that are consumed by humans. There is potential that energy crops used a feedstock for the AD Facility may be able to be irrigated by the treated effluent as this will not be consumed by humans.

The proposed disposal of effluent to land will be undertaken in a way that ensures:

- Infiltration to groundwater and subsurface flows of contaminants to surface waters are prevented
- Surface pondage and runoff of effluent is prevented
- Degradation of soil structure is minimised
- Soil sodicity and the build-up of nutrients and heavy metals in the soil and subsoil are minimised
- Spray drift or overspray do not carry beyond effluent disposal areas
- Effluent disposal areas are maintained with an appropriate crop in a viable State for transpiration and nutrient uptake
- The crop on the disposal area is harvested and removed from the disposal area.

The sewage treatment plant is described as “Private Infrastructure” under the SRAIP Plan and is categorised as Accepted Development and therefore does not require a land use approval. Additionally as this is not a concurrence ERA, no material change of use approval is required for ERA 63(1b)(i) ‘Sewerage Treatment’ the proposed activity may be directly assessed by DES along with the associated EA (Environmental Authority).

The proposed STP will achieve compliance with the *Queensland Water Recycling Guidelines (EPA 2005)* and the *Public Health Regulation 2005 (QLD).*

5.1.6 Expansion to Existing Facility (Ancillary Office Space) – Lot 9

Kalfresh has lodged a development application which seeks to establish a new ancillary office on Lot 9 to meet the immediate need for additional staff office accommodation space on the existing site (**Figure 25** and **Figure 26**). The new office would front the internal SRAIP road and includes open plan desks, several meeting rooms, a board room, executive offices, a training room, reception, lunch breakout and kitchen spaces.

This proposed 1,900 m^2 office would deliver essential space to house the current administrative workforce, and allow room for future growth of the team required by a large, diversified horticultural farming and production business.

Figure 25. Render of ancillary office building

Figure 26. Site Plan of ancillary office building

5.1.7 New Value-add Fresh and Frozen Vegetable Facility and Cold Store - Lot 12

This facility is earmarked for Lot 12, one of two lots within the SRAIP, where it is proposed to allow building heights of up to 35 m. This height is required to enable the most efficient operation of automated cold-store buildings, as typically utilised in other temperature-controlled food manufacturing of this nature. Without this height, buildings would need to become wider, ultimately reducing the efficiency of cooling systems and increasing internal transport distances for automated robots (increasing power consumption). The height is also required to achieve critical mass of pallet stacking in an automated facility which is in the vicinity of 15- 20 pallets (Refer to **Figure 27** and **Figure 28**).

The production part of this facility will enable the value-adding of fresh vegetables for ready-to-eat fresh and frozen products in an efficient industry-leading system that minimises the time from paddock to packet.

The 12,370 sqm building would house Individual Quick Freezing (IQF) lines, 980 sqm of office space and carparking for 148 cars.

This facility would deliver new diversified market opportunities to regional producers, utilising more of their crops, particularly in times of crop surplus. The design includes a temperature-controlled staging area with direct access to truck loading bays.

This facility would service both domestic and international markets and provide reliable, year-round employment opportunities in the local region.

Fully developed, the facility will have capacity to accept over 100,000 tonnes of produce annually, with space for pallet storage in the automated temperature-controlled cold store.

Figure 27. Render of Value-add Fresh and Frozen Vegetable Facility and Cold Store

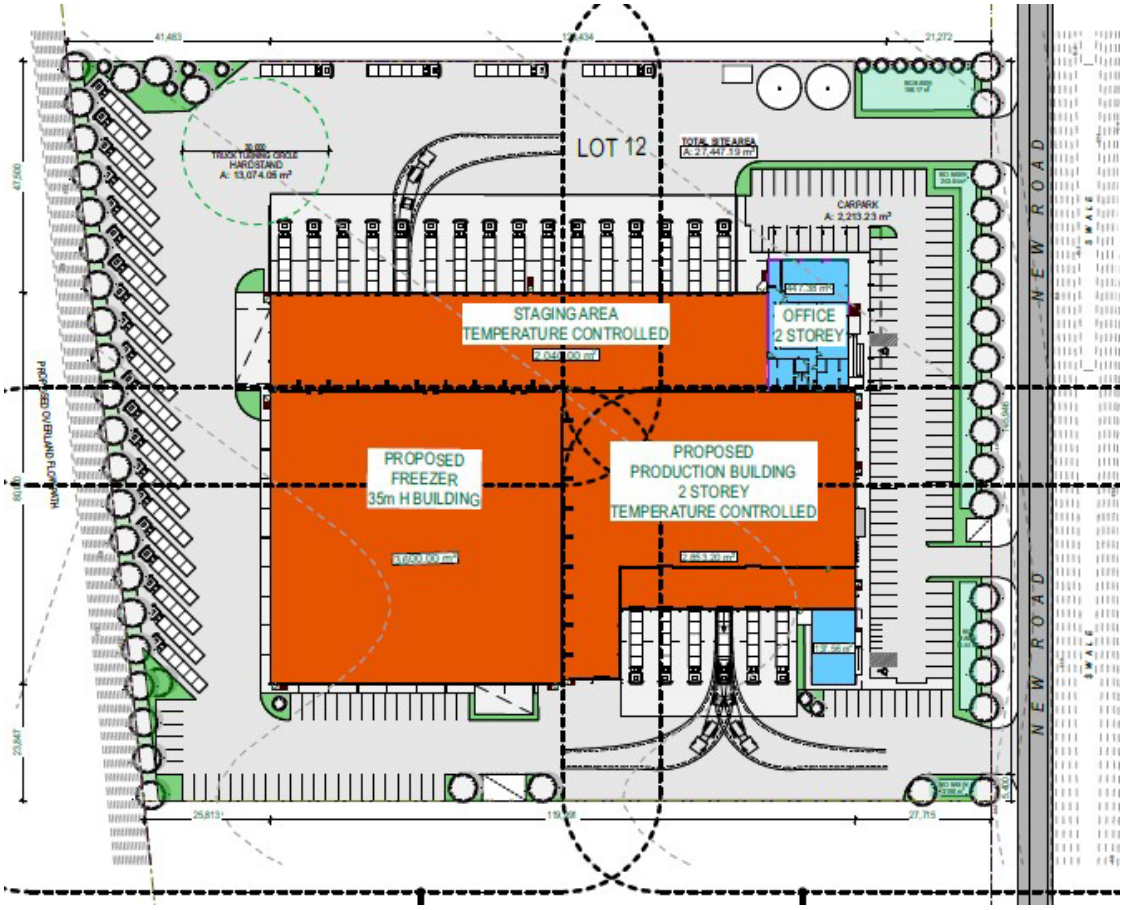


Figure 28. Site Plan of Value-add Fresh and Frozen Vegetable Facility and Cold Store

5.1.8 New Onion Production and Storage Facility – Lot 8

Kalfresh plans to construct a new onion processing, production, and storage facility on Lot 8.

This facility will be approximately 7,000 m^2 in size, with multiple truck loading docks for inbound and outbound goods.

The facility will include new offices for the production, administration dispatch and sales staff to run the onion business.

The onion production facility will feature a drying facility for inbound onions, storage for onions during the curing process and capacity to value-add and pack approximately 10,000 tonnes of onions annually.

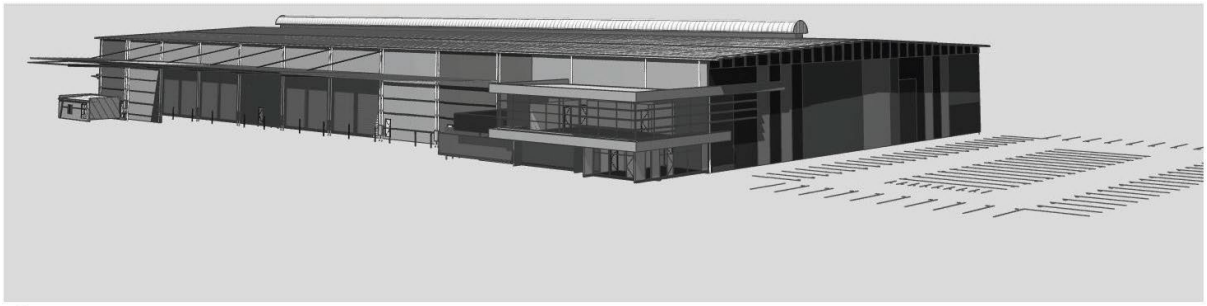


Figure 29. Render of Onion Production and Storage Facility

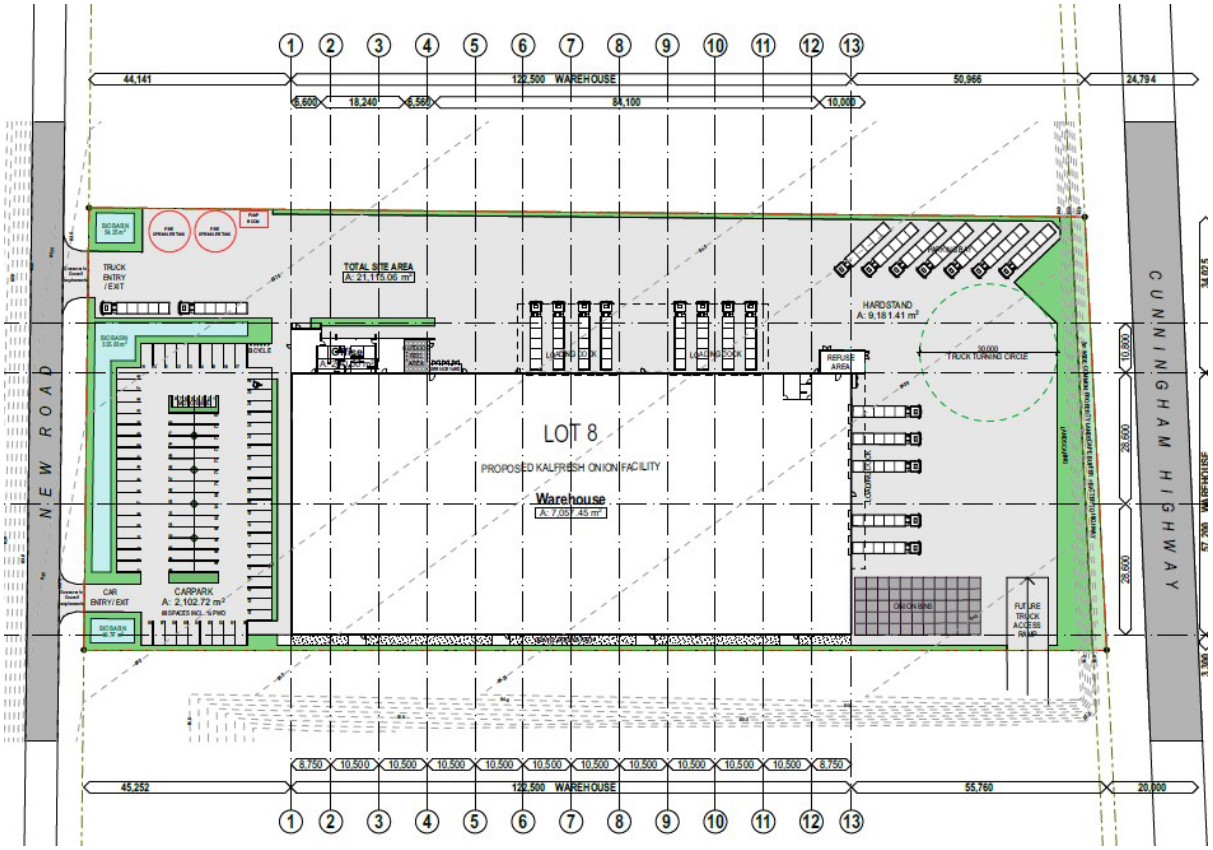


Figure 30. Site Plan of Proposed Onion Production and Storage Facility

5.1.9 New Warehouse, Showroom and Ancillary Office – Lot 15

This fourth development application seeks approval to establish a new 4,507 m^2 warehouse/factory building, with ancillary office and showroom on Lot 15.

This site is likely to be developed by a third-party investor to undertake agriculture related industry.

The design incorporates six truck loading bays, truck parking and carparking for 46 cars and four motorcycles.

Figure 31. Render of Warehouse, Showroom and Ancillary Office

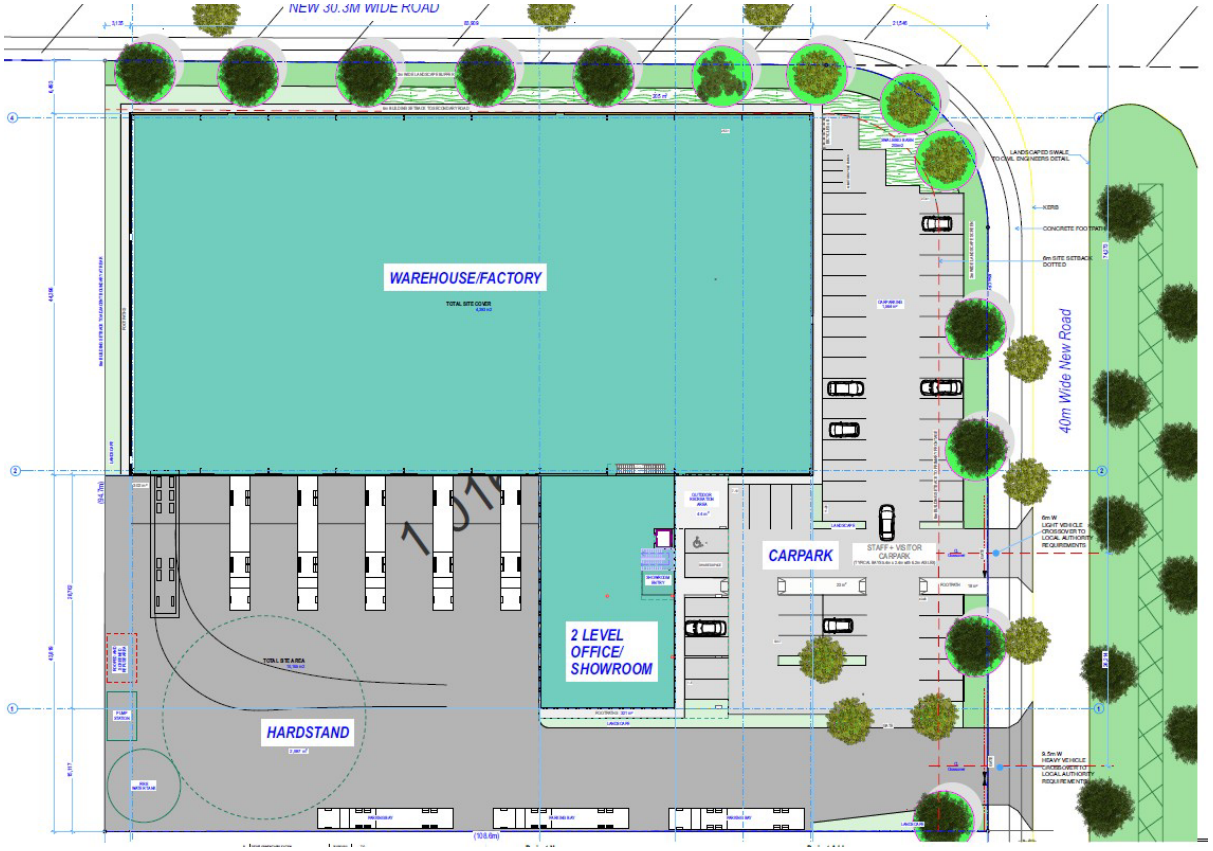


Figure 32. Site Plan of Warehouse, Showroom and Ancillary Office

5.2 Private Infrastructure Requirements

5.2.1 Water Supply

Water is a key resource for the long-term success of the SRAIP, which is why extensive work has been undertaken by the proponent to secure a portfolio of high-priority water, equivalent to what would be available for an equivalent urban industrial subdivision within the urban footprint.

As the SRAIP site is not connected to the existing urban water supply, Kalfresh was required to demonstrate the Project has access to secure, reliable water that can service the Project in perpetuity. Without having a sufficient water supply confirmed, on selling of third party lots cannot occur and any applications for the subdivision component would be refused.

It has always been the intention for the SRAIP to be self-sufficient in relation to potable water and therefore, no agreement or planning approval was sought from Queensland Urban Utilities (QUU) to access the urban water supply. Following further water investigations with the Office of the Coordinator-General, Department of Regional Development, Manufacturing and Water and Seqwater, Kalfresh can now confirm that the water supply for the Project will be sourced from a mixed portfolio comprising:

- Existing underground bore water supply (volcanic aquifer) – 200 ML per annum
- Existing underground bore water supply (alluvial aquifer) – 130 ML per annum
- High priority allocation from Warrill Creek (secured and owned by Kalfresh) – 145 ML per annum
- An onsite 50 ML turkey nest storage dam which will be used to store water from these preceding sources to ensure continuity of supply (Refer **Appendix B.3** – Design of Water Storage Dam).

The RPS and ODHydrology memo provided at **Appendix B.5** confirms that the 371ML water supply is more than sufficient for the 16 industrial lots to be established in the precinct. The memo concludes that the Project has a notional base demand of 103.49 ML/year (based on standard industrial water demands) and therefore

the 371 ML water supply provides the required level of reliability which is equivalent to the typical reliability of allocation held by urban water supply providers.

In this context, the 371ML of water is considered to provide very high security performance for the Project (well over the notional base water demand of 103.49ML/year) and provides sufficient supply for existing and proposed water demands in both the SRAIP industrial and rural precincts. Recycled water is also proposed to be utilised as part of the broader water reticulation system. Recycled water will be captured across the precinct to be reused in bespoke industrial processes within the industrial precinct and by various agricultural activities (ie composting and grazing activities) in the rural precinct. This will further increase the performance of the overall water supply and improve resilience to drought conditions when they occur.

The RPS memo included reference to the various water investigations undertaken for the Project since 2019 which included:

- An initial hydrological assessment undertaken by OD Hydrology which assumed various scenarios to confirm the required reliability to justify approval of an industrial subdivision in this location
- A Groundwater Source Report by Randall Cox to confirm the performance and availability of the water supply obtained by Kalfresh.

These investigations and findings are provided in **Appendix B.5** to provide decision-makers with certainty that the proposed water supply is sufficient to support all Project approvals associated with the Project into the long-term.

It is important that the cumulative Projected demand for water of all the users within the SRAIP does not exceed the total amount of water supply at any given time. To achieve this, Kalfresh is committed to implementing a demand management mechanism through the proposed precinct governance arrangements (refer **Section 5.3** below) to ensure water use does not exceed availability and long-term water supply. The management scheme will be prepared as part of the RoL application and must be finalised immediately prior to plan sealing. This Project commitment is included at **Appendix G**.

As the proponent plans to supply drinking water to third parties, an approved Drinking Water Quality Management Plan (DWQMP) is anticipated to be required and in place, within 12 months of registration as a water service provider with DRDMW. Depending on the final governance arrangements, the proponent may also be required to be registered as a water supply and/or sewage service provider under the *Water Supply (Safety and Reliability) Act 2008*, before commencing the service. The specific arrangements in this regard are subject to finalisation of Kalfresh's finalised business structures and the specific precinct governance arrangements. These matters will be considered during the detailed design phase and are intended to progress as indicated in **Section 5.4** of this report.

The conceptual water reticulation layout has been provided for information only and is illustrated in Stantech sketch 510309-002-CI-1500 (Appendix D of **Appendix B.2**) and is shown in **Figure 33.**

It is proposed that the development will be serviced by various pipelines, consisting of:

- Raw water pipelines connecting the turkey nest storage dam with bores and the Warrill Valley Creek water
- A conventional potable pressure water reticulation system treated to drinking standard
- A recycled watermain network for industrial and/or processing uses
- A sewerage pipeline connecting lots to the STP

The water within the Industrial Precinct of the SRAIP is proposed to be used in the following ways:

- Warrill Creek water allocation will be pumped to the site from the creek via a proposed pump station and rising main
- Water will be bought up from the existing underground bore water supplies
- Both of these water sources will feed into the 50ML turkey nest storage dam before progressing to the water treatment plant
- Water distribution to uses in the SRAIP
- Wastewater from the processing facilities to be reused in relevant industrial process where quality permits or stored in the turkey nest storage dam prior to retreatment and redistribution

- All sewerage treated at the STP before being pumped to the sewerage treatment irrigation area

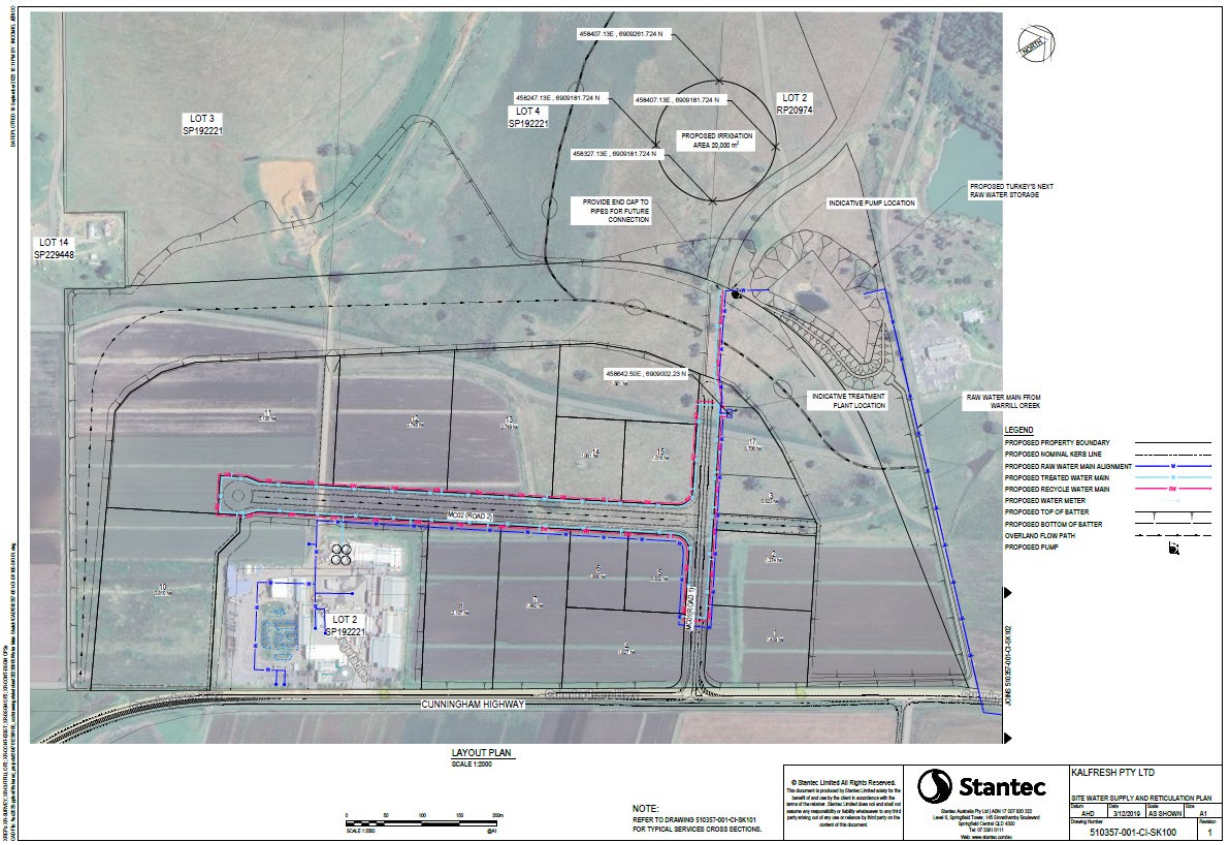


Figure 33. Proposed Water Reticulation Plan

5.2.2 Sewer Reticulation

An internal sewerage network is to be constructed from NuSewer (PE) in accordance with the provisions of the SEQ Code. NuSewer is a Queensland Urban Utility (WUU) sewerage standard comprising fully of welded PE pipes, fittings, and maintenance shafts. The elimination of rubber ring joints minimises ground water infiltration and tree root intrusion reducing maintenance and sewage treatment costs. Where possible all allotments within the development have been graded to allow them to be serviced by a sewer located within the road reserve at the front of the allotments.

It is proposed the wastewater flows generated within the proposed development will be discharged to the on-site wastewater treatment plant (WWTP). Details of the onsite WWTP are provided at **Appendix B.6** - Onsite Wastewater Management Report (ERA 63). The WWTP has been designed to accommodate 200 kL of wastewater flows and will treat sewerage to a Class B standard as per Queensland Water Recycling Guidelines (EPA 2005) and the *Public Health Regulation 2018*. Treated sewerage will then be piped to the proposed irrigation area to the northwest of the industrial precinct.

Fully developed the SRAIP will have up to 800 staff working on site in various precinct businesses. Sewer planning has been undertaken based on this fully-developed Projection. Sewerage generation estimates were based on the 'QLD Department of Energy and Water Supply – Planning Guidelines for Water Supply and Sewerage April 2010 - Chapter 6 amended March 2014: Table A – Indicative average demands/flows from commercial/institutional developments (litres/day)'. This guidance States that the sewage generation rate is 25 to 45 L/d per staff member. Based on maximum rate, the average dry weather flow (ADWF) is 45 x 800 = 36,000 L/d = 0.42 L/s.

As such it has been determined that the proposed development can be entirely serviced via an internal reticulation of 160mm diameter NuSewer PE pipework.

The proposed development will operate self-sufficiently in relation to sewerage reticulation, treatment and disposal. Therefore, no agreement or planning approval will be sought from QUU.

The conceptual sewer reticulation layout has been provided for information only and is illustrated in Stantech sketch 510357-001-CI-1500 (Appendix D of **Appendix B.2**) and shown below at **Figure 34**.

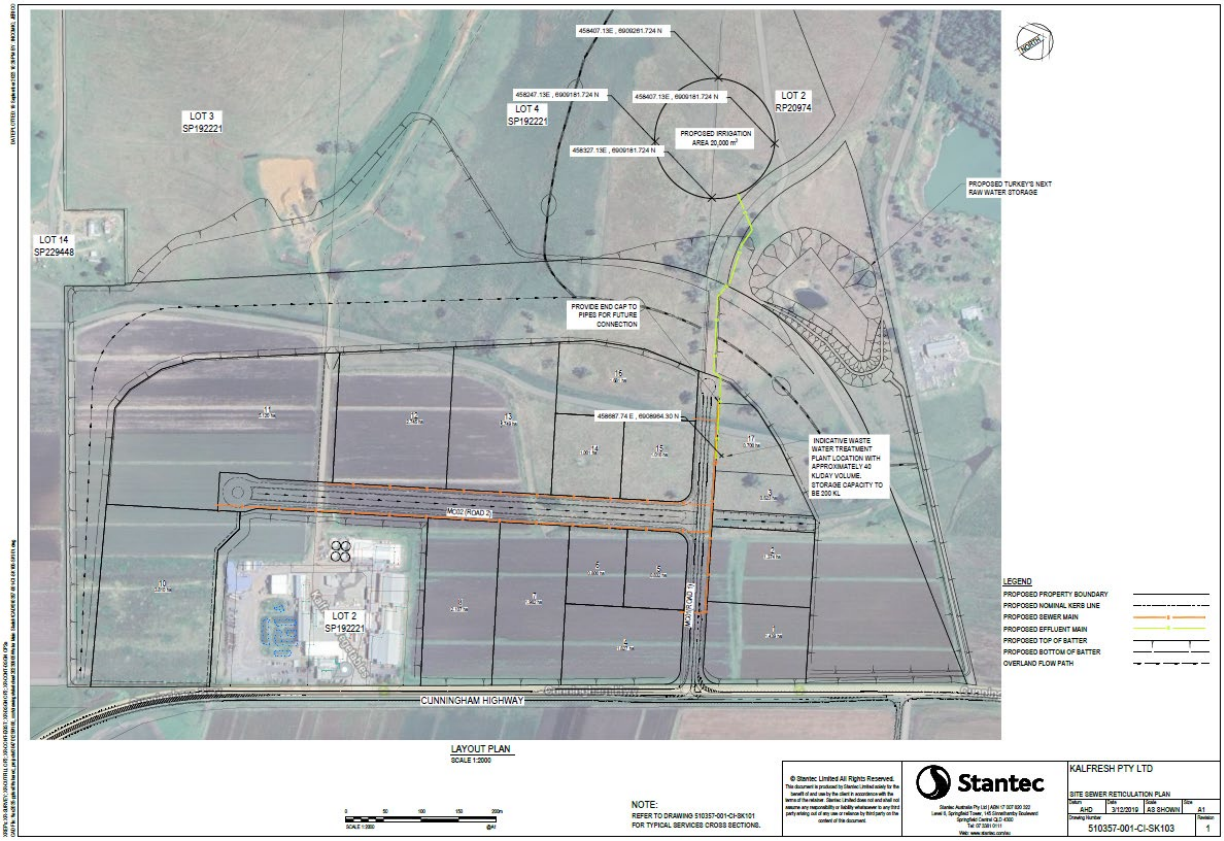


Figure 34. Preliminary Sewer Reticulation Plan

5.2.3 Telecommunications

The site is currently serviced by existing telecommunications infrastructure. This telecommunications infrastructure will be extended to service the Project.

5.2.4 Electricity Generation and Transmission Infrastructure

The site is currently serviced by existing electrical infrastructure. This electrical infrastructure will be extended to service the Project.

Power will be provided by two sources:

- The proposed AD Facility which will produce between 1-2 MW per annum initially with potential to reach a maximum output of 10MW annually (therefore no ERA14 is required as part of this application)
- Existing electrical infrastructure servicing the site.

The power infrastructure will be finalised during detailed design and in conjunction with the final governance structure for the SRAIP management scheme. These final arrangements will inform the parties seeking approval under the Electricity Act to become an energy producer/supplier.

Kalfresh has engaged with Energex in relation to the transmission infrastructure for the proposed SRAIP. Discussions with Energex will continue but in the first instance, an upgrade to the grid is not required for the proposed 1.6MW AD Facility.

5.3 Precinct Governance

Kalfresh is currently exploring various governance arrangements to ensure shared services, including Water, Sewerage, Power, and Roads, are facilitated appropriately across the Project for the long-term. This includes consideration of body corporate structures, management schemes (community management and/or building management schemes) and commercial agreements.

Confidential advice has been received from Wilson Lawyers outlining the proposed Governance arrangement for the Project (**Appendix B.9**). Although the specific governance arrangements are subject to change as the Project planning and approvals phase continues, Kalfresh can confirm that a combination of governance mechanisms is proposed.

At this point in time, Project Lots are proposed to be governed by one, or a combination of both a Community Titles Scheme (CTS) under the *Body Corporate and Community Management Act 1997* (BCCMA), and a Building Management Statement (BMS) under the *Land Title Act 1994* (LTA).

Kalfresh is likely to register a BMS over all lots that form part of the Project. The proposed BMS would detail the rights and obligations of landholders relating to shared infrastructure and services, general cost sharing arrangements, dispute resolution, and water allocation, amongst other items. Some of the Project Lots may also be included in a proposed Community Titles Scheme.

This governance arrangement would allow for Kalfresh to own and manage Project infrastructure, including the AD Facility and associated electricity generation assets and onsite water infrastructure. Kalfresh propose to apply for registration as a Water Supplier and Sewerage treatment provider under the *Water Supply (Safety and Reliability) Act 2008* in order to supply water and sewerage services to the Project Lots.

The operation of the anaerobic digester and related electricity infrastructure will most likely be operated by one or more related entities of Kalfresh, and/or an entity engaged by Kalfresh. The electricity distribution network will also be connected to the grid to provide connection options in the precinct, support any interruption in supply from the generator, and to permit the sale of surplus electricity to the grid.

Lots that do not directly benefit from the services may not be subject to CTS or BMS and are likely to instead be covered under a commercial offtake agreement. (i.e. composting activities and its relationship to the AD Facility)

The governance arrangements for SRAIP must be finalised and confirmed prior to submission of the survey plans for Reconfiguration of Lot for the Phase 2 Stage 1 plan sealing application with SRRC. A proponent commitment has been made with respect to the resolution of the governance arrangements (Refer **Appendix G**).

5.4 Subdivision Staging

The primary Tier 1 approval to establish the Project is the subdivision is proposed to be delivered over two phases. Phase 1 is a management subdivision which seeks to excise parts of the subject lots that do not form part of the SRAIP and establish the access easements required to support the creation of the SRAIP. This Phase will also enable formalised access through the site to the Frazerview quarry.

Phase 2 consists of four stages which establishes the Industry and Rural lots and associated common property and easements that underpin the project. In Phase 2, Stage 1 must occur first, but thereafter Stages 2-4 do not require construction in numerical order and may be delivered concurrently, or out of sequence, depending on commercial demand. For this reason, it is critical that sequential staging is not provided as condition of the RoL approval.

Bulk earthworks and civil works required to create the overland flow path and establish the industrial precinct podium above the 1%AEP CC flood level is proposed to occur as part of Phase 2 Stage 1. These bulk earthworks and civil works will be required to meet the requirements of SRRC prior to the Phase 2 Stage 1 survey plan

being lodged with Council for endorsement (plan sealing). Thereafter, subsequent stages will not require significant earthworks to be undertaken as the civil works supplying services to these lots would have already been established.

The proposed subdivision stages which inform reconfiguration of lot applications to be considered by the Coordinator-General and SRRC are presented in **Table 11** and is illustrated in the series of maps provided at **Appendix J.1.3**.

Table 11. Proposed Subdivision Staging

Phase / Stage	Cancelling	Creating
Phase 1 – Management Subdivision • 4 lots into 6 lot subdivision • Creation of access easements • Retaining Lot 1 on RP216694 • Retaining Lot 2 SP192221	• Lot 2 on RP44024 • Lot 3 on SP192221 • Lot 2 on RP20974 • Lot 4 on SP192221	• Lot 30: SRAIP lot – subject to future subdivision • Lot 40: SRAIP lot – subject to future subdivision • Lot 50: Balance Rural lot excluded from SRAIP, no further development • Lot 60: Lot to be acquired by Frazerview Quarry owners • Lot 70: Future private road – either acquisition by Frazerview Quarry or Common Property • Lot 80: Volumetric lot located under part of Lot 70 – retained within SRAIP lands as common property. • Easement A: Access - Burdening Lot 70 in favour of Lots 30, 40, 50 and 60 • Easement B: Access – Burdening Lot 60 in favour of Lot 50 and Lot 9 RP20973
Phase 2 – Stage 1 Subdivision • 4 into 15 lot subdivision (13 lots plus two balance lot and common property) • Creation of access easements • Creation of Common Property	• Lot 30 • Lot 40 • Burdening Lot 70 with additional easements • Lot 1 RP216694 • Lot 2 SP192221	• Lot 3 • Lot 4 • Lot 5 • Lot 6 • Lot 7 • Lot 8 • Lot 9 • Lot 10 • Lot 11 • Lot 17 • Lot 18 • Lot 19 • Lot 20 • Balance Lot (Lot 90 – balance of Lot 30) • Balance Lot (Lot 91 – balance of Lot 40) • Common Property (internal road, landscaping, detention basin, drainage swale, existing Lot 80 and utilities). • Easement C: Access – Burdening lot 70 in favour of Lots 18 and 20 • Easement D: Access – Burdening Lot 70 in favour of Lots 5-11 and balance lot 90 • Easement E: Access -Burdening Lot 11 in favour of Lots 18 and 19 • Easement F: Access – Burdening Lot 18 in favour of Lots 11 and 19
Phase 2 – Stage 2 Subdivision • 1 into 2 lot subdivision	• Balance Lot (Lot 91)	• Lot 1 • Lot 2
Phase 2 – Stage 3 Subdivision • 1 into 3 lot subdivision (2 lots plus one balance lot)	• Part of balance Lot (Lot 90)	• Lot 12 • Lot 13
Phase 2 – Stage 4 Subdivision • 1 into 3 lot subdivision	• Remaining part of balance Lot (Lot 90)	• Lot 14 • Lot 15

Phase / Stage	Cancelling	Creating
		• Lot 16

5.5 Project and Construction Staging

The sequencing and staging of the SRAIP development has several elements which are summarised in **Table 12**. The first component is obtaining the Tier 1 approvals identified within the RDIAR which includes consideration for proposed subdivision staging discussed above. Within these approvals there are numerous stages and sequences of approvals for each element. **Appendix B.1.3** provides indicative Project staging and associated timeframes to undertake detailed design, obtain approvals, and progress construction of key Project components. These timeframes are estimates only and are subject to progression of downstream approvals and Project risks generally.

Table 12. Project Staging and Key Considerations

Project Component / item	Permit / Approval	Indicative Dates and Timeframes	Critical Path Commentary
1. Coordinator-General's Evaluation Report published	Approval of the IAR under the SDPWO Act	December 2023	
2. Post CGER approvals coordination	Application for Prescribed Project Declaration under the SDPWO Act	Lodgement expected January 2024	
3. Investigations to confirm the presence and extent of potential land contamination	TBC pending results	Commencing January 2024 for 2 months	Ideally prior to #5
4. Kalfresh business restructure to confirm entities to be Registered Suitable Operators for environmentally relevant activities		Expected to be resolved by January 2024	Ideally prior to #5
5. Scenic Rim Regional Council Development Approval	Submit Tier 1 development applications to SRRC: • Variation Approval for SRAIP Plan of Development and Development Code • Development Permit for Reconfiguration of a Lot by Subdivision (all stages) • Development Permit for Carrying Out Operational Works (Earthworks), including Accepted Development WWBW ***Note:*** *Approval for other Tier 1 approvals (i.e AD Facility) could be incorporated at this time however likely to commence after this approval package is cleared*	Lodgement expected February 2024 with decision notice provided April 2024	• Variation Approval, ROL and OPW required SRRC approval prior to commencement of bulk earthworks commencing on site
6. Carry out Phase 1 Management Subdivision	Survey Plan endorsement by SRRC: • Submit survey plan to titles office for registration • Plan Sealing	May 2024	• If no works conditioned within approval can occur at any time after Item #5 on this list (SRRC approval)

Project Component / item	Permit / Approval	Indicative Dates and Timeframes	Critical Path Commentary
7. Procurement: Civil contractor (early works)	Issue tender - procure preferred civil works contractor to undertake bulk earthworks	January to May 2024	• Process can be initiated after #1 but should not be finalised until after #5
8. Water supply pipeline from the Warrill Creek	Works within state-controlled road corridor and associated road corridor permit/s	Application to be lodged in February 2024 and with permit granted ~3 months thereafter. Construction to take 2 weeks.	
9. Undertake detailed design of: • Intersection with Cunningham Highway • Internal Operational Works – Private roads, services, stormwater infrastructure • Sewerage Treatment Plant • Water Treatment Plant • Electrical reticulation and connection to grid • Landscaping and streetscape.		From January 2024 to April 2024	• Required before Tier 2 applications submitted to SRRC and TMR • Design works can commence any time after #1, but cannot be submitted to / finalised with SRRC prior to #5 approvals being granted
10. Procurement: of civil works Construction contractor	Issue tender - procure preferred civil works contractors to undertake subdivision works; intersection construction, STP, WTP	Commencing July 2024 (after design complete)	• Process can be initiated after detailed design at item #8 but should not be finalised until after #11 and #12
11. Bulk Earthworks Construction (Early works) -Tree clearing and associated cut and fill works.		Commencing May 2024 (for 6 months) to November 2024	• Successor of item #6
12. Scenic Rim Regional Council Development Approval	• Prepare and submit to SRRC for assessment and approval Tier 2 development applications. • Development Permit for Carrying out operational Works (Electrical, Plumbing and Drainage, stormwater, internal road, STP, WTP, landscape) and associated STP ERA/EA	May 2024 (for 4 months) to September 2024	• Can occur concurrently with #5 but approvals cannot be acted on until plan sealing at item #18 is achieved.
13. Road intersection upgrade and related matters	• Prepare and submit to TMR for assessment and approval of intersection design and works: • Application for road works approval	Commencing May 2024 (for 4 months) to September 2024	

Project Component / item	Permit / Approval	Indicative Dates and Timeframes	Critical Path Commentary
14. Scenic Rim Regional Council Development Approvals	Submit for assessment and approval Tier 1 development applications to SRRC. DA's associated with Phase 2, Stage 1 subdivision include: • Development Permit for MCU over Lot 11 (Digester) and associated ERA/EA • Development Permit for MCU over Lot 8 (Onion Building) • Development Permit for MCU over Lot 9 (Office) • Development Permit for MCU over Lot 19 (Composter) and associated ERA/EA DA's associated with Phase 2, Stage 3 subdivision include: • Development Permit for MCU over Lot 12 (Value-add fresh and frozen vegetable and cold store warehousing facility) DA's associated with Phase 2, Stage 4 subdivision include: • Development Permit for MCU over Lot 15 (Warehouse)	From September 2024 (for 6 years) to 2030 ***Note:*** *Approvals for MCU can be obtained prior to plan sealing, but construction cannot commence until plan sealing of the relevant subdivision stage is achieved.* ***Note:*** *Timeframes to be confirmed with third party investors and assumes each DA is sought incrementally over time.* ***Note:*** *All secondary approvals (building works and operational works) will occur as required.*	• Can be approved in conjunction with approval of #5 or progressed separated.
15. Civil Works Phase 2, Stage 1– Subdivision Works, Servicing and Road Intersection	• Pre-start meetings and mobilisation • Undertake subdivision construction works including internal water, sewer, recycled water, and electrical reticulation	Commencing November 2024 (for up to 12 months) to November 2025	• Can commence following approval of items #12 and #13, procurement at item #10 and construction at item #11
16. Water supply and sewer reticulation	Authority to supply water and sewage service supplier	Commencing August 2025	• To be obtained prior to plan sealing #18 or 3 months prior to selling of water (whatever is sooner)
17. Electricity supply and distribution	Multiple authorities to generate, transmit or distribute electricity under the *Electricity Act 1994*. Specific permits and authorities to be obtained to be confirmed	Commencing April 2024 to August 2025	• To be obtained to prior to plan sealing of the subdivision item #18
18. Phase 2 Stage 1 Subdivision Plan Sealing	• Prepare Plan sealing submission documenting compliance with all conditions of approval and submit to Council • Survey Plan endorsement by SRRC • Submit survey plan to titles office for registration	Commencing November 2025	• Condition compliance tasks commence following approval of #5 • Plan sealing submission to SRRC may only be made following completion of #16 works and substantial completion of approved #11 works

Project Component / item	Permit / Approval	Indicative Dates and Timeframes	Critical Path Commentary
19. Construction of Digester, Composter and buildings on Lots 8 and 9 associated with Phase 2, Stage 1 subdivision	For each separate use: • Procure construction contractor • Commission relevant detailed construction plans and lodge to Council • Obtain Building approval and plumbing and drainage approval • Obtain building certification.	From September 2024 (for up to 10 years) to 2034	• Construction of each individual approval on these sites maybe undertaken separately, but none can commence until after #18
20. Phase 2 – Stages 2-4 Plan Sealing of subsequent subdivision stages			• Can commence following item #18 ***Note:*** *May be delivered concurrently or sequentially as dictated by progression of Lot 12 and Lot 15 MCU's or third-party investment.*
21.Construction of other development associated with Phase 2, Stage 1-4 subdivisions	For each separate use: • Procure construction contractor • Commission relevant detailed construction plans and lodge to Council • Obtain Building approval and plumbing and drainage approval • Obtain building certification.	From September 2024 (for up to 10 years) to 2034	Construction of each individual approval on these sites maybe undertaken separately, but none can commence until after the relevant stage is sealed in #20.

5.5.1 Lapsing of Coordinator-General's Report

In accordance with Section 35A of the SDPWO Act, the Coordinator-General's Evaluation Report for a Coordinated Project generally lapses either:

1. At the Stated or implied time provided in the Coordinator-General's Evaluation Report, or otherwise,
2. Three years after the day the report is publicly notified under Section 34L(4)(b).

In the event the Coordinator-General decides to approve the IAR for the Project, Kalfresh propose that a date six years following public notification of the report under Section 34L(4)(b) be Stated in the Coordinator-General's Evaluation Report. This timeframe is considered appropriate due to the number and complexity of approvals sought to be guided by the Coordinator-General's Evaluation Report and in consideration of the broader Project delivery schedule, processes and actions outlined in **Table 12**.

The proponent is aware Stated Conditions pertaining to relevant approval generally lapses once the corresponding application has been approved under the Planning Act or EP Act - and each development approval will have its own expiry in the formal development notice issued by the administering authority.

5.6 CAPEX and Gross Production Values

Kalfresh estimates an initial investment of $30m would be required for site development to allow sales (including construction of sewage and water treatment) and $25m for the construction of the bioenergy facility. The proponent plans to expand its own business by investing approximately $130m in three new

facilities for value-add fresh and frozen vegetable production and cold store (in partnership with a third party), ancillary office, and a new onion processing facility. The Project has the potential for further capital investment of up to $291m by the attraction of additional food production and manufacturing businesses to the precinct.

During construction, the Project is expected to contribute $89.5m to the Scenic Rim economy (+5.3%) $238.9m to the Australian economy over the 10-year construction phase.

Once fully developed, the Project is expected to add $140.5m in Gross Value-Add (GVA) (8.3%) to the Scenic Rim economy each year, and $211.9m contribution to the Australian economy annually.

5.7 Estimated Workforce Requirements

As outlined in **Appendix A.2** - Economic and Social Impact Assessment, the Project is expected to have significant employment benefits for the Scenic Rim region including 641 direct and 354 indirect local jobs during the 10-year construction period and 475 direct and 572 indirect local jobs annually during operations (full development scenario). It is noted that these jobs are subject to third party investment and the final scale and intensity of uses proposed.

6 PLANNING FRAMEWORK ASSESSMENT

ShapingSEQ provides the higher order planning framework to manage, amongst other things population growth, land use and development. Under ShapingSEQ, SRAIP is located within the Regional Landscape and Rural Production Area (RLRPA). In conjunction with the *Planning Regulation 2017* (the Planning Regulation) limitations are placed on subdivisions and material change of use applications for urban purposes are prohibited.

The Project has been a declared coordinated Project in recognition that the Project is of strategic significance to the locality and region. In this instance, the effect of the Coordinated Project Declaration provides pathway for the Project to proceed, subject to assessment under the SDPWO Act and the proponent obtaining all necessary approvals.

Although the SRAIP is being assessed by the Coordinator-General, the proponent is still required to demonstrate how the Project aligns with ShapingSEQ and achieves the intent of the RLRPA. Assessment against the relevant state interests, state development assessment provisions and provisions of the local SRPS is also required to enable the Coordinator-General to consider the extent of planning conflicts on balance with the intended Project benefits.

6.1 Planning Needs Assessment

A comprehensive Locational and Planning Assessment Report has been prepared and is included in **Appendix A.1**. It presents a strong planning argument to justify why the SRAIP should proceed outside the ShapingSEQ Urban Footprint (Section 41A of the Planning Regulation) and describes the compelling 'overriding need' in the public interest (social, economic, or environmental benefit) (Section 41B of the Planning Regulation) for the development to progress.

Table 13 summarises the overriding needs test undertaken for the Project at **Appendix A.1** against the Planning Regulation.

Table 13. Summary of overriding needs test pursuant to the Planning Regulation 2017

Planning Regulation 2017	SRAIP Alignment
41A Deciding whether development is required to be outside SEQ Urban Footprint *(1) This Section applies if, under schedule 10, part 16, a referral agency is deciding whether or not the locational requirements or environmental impacts of development require it to be outside the SEQ Urban Footprint.* *(2) The referral agency may decide the locational requirements or environmental impacts of the development require it to be outside the SEQ Urban Footprint only if—*	As an agricultural precinct, with bespoke solutions proposed around the circular economy and broader agri-focus business objectives, the required site characteristics for SRAIP are significantly different to a typical industrial precinct. Due to complex feedstocks and interrelated relationships between required land uses (agricultural and industrial) the Project is proposed to be located within the Regional Landscape and Rural Production Area, outside of the SEQ Urban Footprint – where the required resources are available For example, the AD Facility will serve as critical enabling infrastructure by: • Providing green electricity and subsequently reducing energy costs associated with agricultural processing • Creating green gas for use in agricultural processing as well as providing a viable replacement for diesel in the transport sector • Managing organic waste streams from agricultural processing facilities and cropping activities • Creating a rich organic fertiliser (solid and liquid digestate) that can be applied and irrigated on cropping lands to benefit soil health and increase cropping yields • Sequestering significant amount of carbon to realise low-emissions agriculture in practice whilst generating carbon credits which can be redeployed through the supply chain and realise new opportunities for local farmers (the full-scale Project is expected to reduce up to ~430,000 tCO2-e per annum during operations) These benefits can only be realised when the required feedstocks (waste streams) can be utilised in close proximity to the AD Facility and outputs can be easily returned to agricultural / industrial processes for beneficial reuse.

Planning Regulation 2017	SRAIP Alignment
	The relevant locational considerations for locating the Project in an existing and productive agricultural area are outlined below.
a) the premises have particular characteristics that are necessary for the carrying out of the development; and	**Site Characteristics necessary for the development** <u>Direct co-location with existing productive agricultural land</u> • Circular economy requires waste and product streams to occur in close proximity to enable the most effective utilisation of resources. • Co-location is required to optimise the existing agricultural-industrial ecosystem in the Fassifern Valley. The Project will reduce paddock to processing timeframes and help transition local growers to more contemporary and environmentally friendly ways of doing business. • Co-location will enable economic utilisation of current waste streams in the region and will enable direct application of digestate (organic fertiliser) to cropping lands. • Economically, co-location of the Project within an existing agricultural community will enable diversification of typical farming income streams and reduce dependence on inorganic fertilisers. The Project will ensure greater demand for local produce and establish direct access to market. • Environmentally, co-location will reduce GHG emissions in the current agricultural supply chain by drawing on the principles of Circular Economy and waste reduction to generate GHG reductions by ~430,000 tCO2-e per annum. <u>Transport</u> • Access to the Cunningham Highway provides quick, easy and safe access between the raw produce and the packaging warehouse. • The subject site contains an existing Haulage Route for the proposed quarry to be located on Lot 9 on RP20973 “Frazerview Quarry”. To ensure additional access points to the Highway are not required, the approved access for “Frazerview Quarry” has been nominated for the proposed SRAIP road connection. • The SRAIP will provide packaging facilities in close proximity to existing farming production businesses, decreasing travel distance, time and costs involved in delivering raw products from paddock to plate / packet. • The reduced transport costs enhance the viability of the waste reduction elements in the Project, processing food and crop offcuts that would otherwise go to waste and using it as a feedstock for the AD Facility. The transport cost savings are both financial and environmental <u>Water Supply</u> • The proposed management scheme governance of the subdivision and co- location of the rural and industrial precincts facilitates the water recycling and reuse elements of the proposed development, and allows treated wastewater from the sewerage treatment plan to be used for irrigation of energy crop required for the AD Facility. <u>Land Area.</u> • A minimum site area of 140ha is required to accommodate the SRAIP industrial precinct, AD Facility, composter, and required water storage to service the Project. • Cropping land is required beyond this immediate requirement for irrigation of digestate and for growing energy crops to feed into the AD Facility <u>De-carbonisation.</u> • The AD will be supported by the rural and industrial precinct and proposed agri-businesses of the SRAIP. Without the SRAIP the proposed AD Facility would not be a viable development for the site – it is a key element in the sustainability and carbon reduction objectives of the Project. <u>Project Drivers</u> • Co-location and centralisation. • Emerging market and consumer demands in the food retail system • Proximity to local growing regions. • Circular economy. • A key component, and significant benefit, of the SRAIP is the co-location of food processing businesses with the proposed bioenergy facility, which will convert food and urban waste into renewable energy through the AD.

Planning Regulation 2017	SRAIP Alignment
	• Innovation, Research and Development • Obtainment of carbon credits.
b) the development could not reasonably be located on premises in the SEQ Urban Footprint that have the particular characteristics."	• The agricultural processing and anaerobic digestion need to occur concurrently and within 20kms of farming lands where the digestate is to be applied • Beyond 20kms, transport of agricultural feedstocks and the produced digestate becomes cost prohibitive and fails to achieve the maximum environmental, economic and social benefits. • The minimal size of the SRAIP to operate most efficiently and provide ultimate outcomes for local farmers and Kalfresh is 140ha. • Suitable industrial sites within the existing Urban Footprint allowing for this scale of development are located further than 20kms from local farms that supply to Kalfresh operations (such as the Bromelton State Development Area) and do not have direct access to cropping land • The cost benefit analysis at Appendix A of **Appendix A.1** demonstrates the economic viability of the Project halves should the Project be located in an existing urban area (Note: this CBA considered economic, environmental and social considerations of locating in Bromelton vs the proposed site at Kalbar).
41B Deciding whether there is an overriding need in the public interest for development *(1) This Section applies if, under schedule 10, part 16, a referral agency is deciding whether or not there is an overriding need, in the public interest, for development to be carried out.* *(2) The referral agency may decide there is an overriding need, in the public interest, for the development to be carried out only if the development application demonstrates that—* *(a) the development will have a social, economic or environmental benefit for the community…*	**Benefits** <u>Environmental</u> • At full scale, the AD Facility is expected to achieve carbon reductions of 430,000 tCO2-e per year of operation. • Pursuant the principles of circular economy, waste reduction and decarbonisation, the Project seeks to achieve environmental benefits in an economically viable way. Co-location of uses allows waste streams from the SRAIP to be used as feedstock to the AD Facility and compost activity to produce energy and fertiliser from the AD and soil conditioner. • Treated wastewater from the sewerage treatment plan can be used to irrigate energy crops to be used in the AD Facility. • The use of digestate as a fertiliser provides a safe and sustainably produced local source of fertiliser to the agricultural industry which is suitable for use on cropping land, whilst having low financial and environmental transport costs. • Water can be used efficiently and the return from all water inputs into the Project maximised. The positioning of rural and industrial precincts within the one site facilitates the reuse and recycling of water, where water from manufacturing and processing activities is recycled and reticulated within the Project and to the local farming area through the application of liquid digestate. • The co-location of agricultural processing within the immediate local growing region is the key to unlocking these environmental benefits. Without this nexus, increased transport and operational costs occurs, which reduces the commerciality of constructing and operating these environmental systems. • The proximity of the processing and manufacturing facilities to the farming land also facilitates value-add where crops may have otherwise been sent to land fill. This increases the efficiency of the existing farm production by extracting more saleable crops/product from the existing operations. These environmental and associated economic benefits are lost when these inputs and outputs need to be transported long distances. <u>Social</u> • The SRAIP will support a more sustainable and diversified economy which will be less volatile and provide local farmers with expanded value-add opportunities in the region. • Jobs generated in SRAIP will help to: • Increase the attractiveness of the region to younger workers and households addressing socio-economic and age profile challenges in the region. • Reduce unemployment by providing more sustainable ongoing permanent employment opportunities. • Improve the quality of life of workers by reducing travel times within and outside of the Scenic Rim for work and retail/service access.

Planning Regulation 2017	SRAIP Alignment
	• Reduce the volatility and improve the sustainability and dynamism of local communities through more permanent, non-seasonal employment and economic opportunities. • Attract a more diverse, accessible and less seasonal, permanent workforce in the region. • Local buying - SRAIP will create opportunities for local businesses across the Project life. • Regional Amenity – provide a new and modern industrial environment for workers as well as convenient access to fuel services for workers and visitors. • Filling Gaps in the Community – helping to incentivise local attraction and retention of younger workers and facilities to offset the emerging demographic imbalance in the region. • Community Connections and Social Inclusions – encourages and incentivises increased labour force and economic participation. • Address Social Disadvantage – provide employment opportunities and diversified economic activity and value-add to improve access of households in the region to key Economic Resources and reduce local unemployment. • Ultimately, Project employment will generate increased local household incomes and reduce overall income and economic volatility through greater economic diversification. <u>Economy</u> • Construction jobs – 641 direct and 354 indirect local jobs over 10 years. • Operational Jobs – 475 direct and 572 indirect local jobs annually upon full development. • Create demand for an additional ~9,013 cropping hectares per year representing an uplift of $33.8m to the local agricultural sector per annum. • Construction Gross Value-Add - $89.5m contribution to the Scenic Rim economy (+5.3%) and $238.9m to the Australian economy over the 10 years construction phase.; and Operational Gross Value-Add - $140.5m contribution to the Scenic Rim economy (+8.3%) and $211.9m contribution to the Australian economy annually upon full development. • Approximately 37.5% of the construction impact and 66.3% of the operational impact will be captured by the local economy, with the remainder captured by State and National economies. • Compared to the Gross Regional Product in 2018, the proposed Project will contribute total Gross Value-Add during the construction phase equivalent to 5.3% of the regional economy. • Upon full completion, the operational phase of the Project will contribute the equivalent of 8.3% to the current Scenic Rim economy.
…that outweighs— (i) *any adverse impact of the development on a matter or thing Stated in the SEQ regional plan, Table 11b; and* (ii) *the desirability of achieving the goals, elements and strategies Stated in the SEQ regional plan, particularly the goals, elements and strategies about—* *(A) consolidating urban development in the SEQ Urban Footprint; and* *(B) preventing land fragmentation in the SEQ*	**Conflicts** • The SRAIP is located in the rural zone under the SRPS. It is designated within the RLRPA and outside the Urban Footprint under the ShapingSEQ. As a declared coordinated Project under the SDPWO Act, exemptions apply in the SEQ regulatory provisions of the *Planning Regulation 2017* (Planning Regulation), which allow an assessment pathway for subdivision and urban uses, otherwise deemed prohibited development. • The proposed SRAIP through its agricultural / industrial land uses and proposed subdivision pattern contravenes the above limitations placed on the RLRPA through the regulatory provisions. The SRAIP is predominantly 'urban development' in nature and therefore is typically envisaged to occur within the existing ShapingSEQ Urban Footprint. • It is important to note that as per the ShapingSEQ Rural Precincts Guideline, 'ShapingSEQ aims to assist rural businesses and industries to adapt innovatively to changing technology, business operations, and a growing domestic and global demand market for high quality produce'. • Whilst the SRAIP is not an envisaged proposal within the RLRPA, the SRAIP directly achieves the broader intent of the Regional Plan in providing a precinct where

Planning Regulation 2017	SRAIP Alignment
regional landscape and rural production area; and	agricultural and industrial uses can be co-located directly adjacent to where the raw ingredients are produced to maximise productivity. • With the subject site being situated outside of the Urban Footprint, there is potential for the Project to detract from the existing nominated Scenic Rim town centres and for which the SEQ regulatory provisions seek to protect. The RDIAR contends that the SRAIP proposal will protect the natural assets and regional landscape by diversifying and strengthening the local agriculture sector. **Project revised** • Previously, uses that were commercial in nature were proposed in the SRAIP such as tourism and education, agricultural supplies stores, office, vehicle repair trucks and agricultural equipment. • These standalone uses are no longer proposed, with only uses that achieve an agricultural-industrial nexus now proposed. The revised Project only conflicts to the extent the Project represents urban development outside of the ShapingSEQ Urban Footprint. • By removing the former standalone uses of commercial, tourism and educational uses from this revised proposal – the Project's footprint is maximised for agri-processing and will not detract from the ShapingSEQ regulatory provisions. • Accordingly, the Project is generally consistent with the high-level objectives of the regulatory provisions and will help maximise agriculture production in the region with the Project creating additional demand for up to 9,014 cropping hectares per annum. **Building heights (Scenic amenity impacts)** • Proposed lots 12 and 13 will contain a maximum building height of 35m under the SRAIP Variation Approval. • While this is greater than the existing SRPS provisions, the Landscape and Visual Impact Assessment (Appendix A.3 of the RDIAR) concludes that: - *"With mitigation, all visual impact ratings were revised down to one Low and three Negligible. Mitigation through design has also been incorporated through siting of the 35m tall buildings to the rear of the development (away from the road). This reduces their apparent size and visual dominance from Cunningham Highway, which is a major thoroughfare."* • Appendix B of Appendix A.3, concludes that the project is generally consistent with the strategic framework of the SRPS. It was further noted there is no overlay in the SRPS that specifically addresses landscape values o scenic amenity in the Scenic Rim Region.
(b) there will be a significant adverse economic, social or environmental impact on the community if the development is not carried out.	If the proposed development is not carried out the following adverse impacts could occur: **Economic** • The surrounding farms will see significant costs from not having a close distribution centre available to their produce, including additional transportation costs and increased risk of damaged produce. • The agricultural processing and AD Facility need to occur within close proximity (within 20 km) of productive land to maximise supply chain efficiencies. If the development does not go ahead the economic benefits of the project will be significantly reduced . • Without the investment, government also loses the ability to have a more resilient local supply chain to overcome local supply food shortages which became apparent during COVID. • Economic benefits previously will not be realised. **Social** • The SRAIP represents a community Project whereby local growers rely on Kalfresh to process and deliver their products to market. Without fast, easy access / advancement of the Project – the community will potentially lose the strategic ability to sell more produce to tier one retailers and participate in the Australian agricultural value-add fresh market.

Planning Regulation 2017	SRAIP Alignment
	• Kalfresh is owned and run by local farmers and provides local jobs which ultimately may be threatened in the long-term if Projects like SRAIP are not invested into the future. • Social benefits outlined above in this Table will not be realised. **Environmental** • Decarbonisation of the agricultural industry will not be facilitated if the Project does not go ahead at the SRAIP site. At other locations, digestate is not able to be produced and applied at reasonable cost which makes it cost prohibitive to displace high carbon emitting and environmentally damaging synthetic / non-bio-fertilisers. • Environmental benefits outlined above in this Table will not be realised.

As per the assessment summarised in **Table 13** and **Appendix A.1**, Kalfresh contends there is sufficient justification for the Coordinator-General to approve the proposed development and RaL outside of the Urban Footprint in accordance with to the proposed Development Code and plan of development.

6.2 Assessment of State interests

6.2.1 State Planning Policies

The *Planning Regulation 2017* (Section 26(2)(a)(ii)) requires the assessment manager to assess the application against the assessment benchmarks Stated in the State Planning Policy (SPP), Part E, to the extent Part E of the SPP is not identified as being appropriately integrated into the SRPS.

The SPP matters applicable to the site are as follows:

Table 14. Applicable SPP Matters

Applicable SPP matters	**Agriculture** • Important agricultural areas • Agricultural land classification – class A and B • Waterways providing fish passage **Mining and extractive resources** • Key Resource Areas – resource / processing area • Key Resource Areas – separation area **Biodiversity** • Matters of State Environmental Significance (MSES) – Regulated vegetation (essential habitat) • Matters of State Environmental Significance (MSES) – Regulated vegetation (intersecting a watercourse) **Natural hazards risk and resilience** • Flood hazard area – Level 1 – Queensland floodplain assessment overlay • Flood hazard area – Local Government flood mapping area • Bushfire prone area **Transport infrastructure** • State-controlled road

There are 17 State interests contained within the SPP which convey the State's interests in land use planning and development and are contained within the five themes of liveable communities and housing, economic growth, environment and heritage, safety and resilience to hazards, and infrastructure.

There are several interests which the SRAIP directly complies with including 'Agriculture', 'Mining and extractive resources', 'Energy and water supply', and 'Infrastructure integration'.

The perceived conflicts with the SPP are held within the three State interests of:

- Biodiversity
- Natural hazards, risk, and resilience

- Mining and extractive resources

An assessment of the applicable state interests has been provided in **Appendix A.1**. which concludes that the perceived conflicts are minor and addressed to the extent considered reasonable.

6.2.1.1 State Planning Policy - Biodiversity

The subject site is identified as having significant ecological values present, particularly in the northwestern portion of the site which is mapped as Wildlife habitat (koala habitat areas – core) and Regulated vegetation (essential habitat and intersecting a watercourse).

While development of the subject site for the SRAIP with these values present may be seen as a conflict with the SPP, these ecological values are contained to the northwestern portion of the site where development, is not proposed. Rather, the SRAIP development footprint is sited directly adjacent to the Cunningham Highway where no significant ecological values have been identified.

Additionally, the Project seeks to nominate an 'Environmental Protection Area' over the areas of the site with recognised high ecological significance to prevent any direct broad scale vegetation clearing as part of this IAR proposal.

6.2.1.2 State Planning Policy - Natural Hazards, Risk and Resilience

Flooding

The site is identified as being located in a flood hazard area, and bushfire prone area in accordance with the SPP.

The SRAIP proposes an earthworks solution which creates a flood-free development footprint. Proposed earthworks ensure that there is no significant impact to upstream / downstream properties and hence the flood hazard of the SPP will be addressed as a result of the SRAIP proposal. The flooding and earthworks is discussed further in **Section 8.2**, **Section 8.3** and the updated Engineering Report at **Appendix B.2**.

In existing flooding scenarios greater than the 5% AEP floodwaters cross the highway from east to west, onto the proposed development site.

Post-development, in the 10% and 5% AEP events, increases in flood levels are localised to the north of the subject site. The impacts are up to 60 mm in magnitude and do not appear to encroach on the highway. Flooding adjacent to the highway has decreased in the 5% AEP event by up to 40 mm. There are also decreases of up to 20 mm upstream of the proposed development.

Impacts in the swale drains adjacent to the highway are also noted during the 2% AEP event. These increases occur in locations where the existing 2% AEP flood depth is greater than 500 mm deep.

During the 1% AEP CC event, peak increases shown on the Eastern side of the highway are approximately 60 mm adjacent to the Eastern swale drain. Water depths at this location are up to 700 mm deep during the existing case events with extensive flooded areas surrounding it. No noticeable changes to flood extents are noted as a result of the increases.

While it is acknowledged that the proposed development has minor off site impacts, these impacts do not cause actionable nuisance as summarised herein:

- There has been no change to the frequency or duration of flooding in modelled design events
- Afflux is a marginal increase over significant inundation during design events
- Afflux does not result in any increase to flooding of structures or homes on neighbouring property
- Buildings external to the subject site maintain in excess of 3 m freeboard during the post-development case 1% AEP event adjusted for climate change sensitivity
- Impact to land is confined to rural land (grazing/cropping). The area impacted will not alter the way that land is currently being used and will not constrain or restrict the use of land into the future based on its proposed use
- While there are increased impact on the Cunningham Highway (50 mm during 2% AEP), the road will not be trafficable in existing conditions in those design events as depths in excess of 1 m are predicted

Bushfire

A bushfire hazard assessment was prepared for the SRAIP, provided in **Appendix E.5**, as a result of the mapped bushfire hazard overlay mapping across the northwestern corner of the SRAIP. The bushfire hazard assessment was supported by a site inspection conducted on 21 August 2023 to inform the bushfire hazard for the SRAIP in accordance with the *Scenic Rim Planning Scheme 2020*. The assessment found that:

- The SRAIP has a forest fire danger rating of 61 (extreme)
- With a separation distance of greater than 100 metres, infrastructure located on the proposed site will be exposed to a radiant heat flux of Nil kW/m2 which equates to a Bushfire Attack Level of low

Appropriate mitigation and management measures for minimising bushfire hazard and risk that have been considered in this Project include:

- Ensuring the layout, size and orientation of the Project's roads and buildings are responsive to bushfire hazards
- Inclusion of appropriate firefighting and management infrastructure, including an adequate static water supply, fire breaks and maintenance / access trails that could support the rural fire brigade
- Ensuring building design and construction specifications are in accordance with Australian Standard (AS)3959-2018 Construction of Buildings in Bushfire Prone Areas
- Plans for managing potentially hazardous vegetation to reduce fuel loads where possible, while taking into account the conservation values and role of fire in the functioning of many Australian ecosystems
- Fulfilment of landscape design and property maintenance requirements, including planning of building locations in relation to vegetation and cleared areas for access
- Community awareness, education and training, including development of an Emergency Response Plan

Identification of parties to be responsible for specific bushfire management tasks and actions. Through implementation of these management measures and Project design ensuring the development areas are adequately distance from bushfire risk, the SRAIP has mitigated the risks to people and property to an acceptable level.

6.2.1.3 State Planning Policy – Agricultural

The overall intent of the Agricultural SPP is to protect the resources on which the long-term viability and growth of the agricultural sector depends. The intent is achieved through the application of several policies relevant to the Project. Most importantly, the Project directly helps realise the objectives of the SPP predominantly by creating additional demand for ~9,014 cropping hectares per annum of operations. The project will help support the viability of cropping in the region and contribute significantly to the agricultural sector in the Scenic Rim.

6.3 State Development Assessment Provisions

Schedule 10 of the *Planning Regulation 2017* identifies the matters that the assessment manager and/or referral agency assessment must have regard to. The State Development Assessment Provisions (SDAP) nominate applicable State Codes based on the referral triggers. The State Codes applicable to the Project are identified in **Table 15**. Responses to the full SDAP can be found in **Appendix A.6**.

Table 15. Referral Triggers and Potentially Relevant SDAP State Codes

Schedule 10	Referral Topic	State Code	Relevance
10.3.4.1	Clearing native vegetation Assessable development under s5	State code 16 – Native vegetation clearing	Proposed earthworks / clearing are in an area mapped as "category x" where clearing is exempt and does not require a development approval. The overall site does include remnant vegetation however, so Code 16 has been completed.

Schedule 10	Referral Topic	State Code	Relevance
10.3.4.2	Clearing native vegetation Reconfiguring a lot that is assessable development under s21	State code 16 – Native vegetation clearing	Proposed earthworks/clearing are in an area mapped as "category x" where clearing is exempt and does not require a development approval. The overall site does include remnant vegetation however, so Code 16 has been completed.
10.3.4.3	Clearing native vegetation Material change of use that is assessable development under a local categorising instrument	State code 16 – Native vegetation clearing	Proposed earthworks/clearing are in an area mapped as "category x" where clearing is exempt and does not require a development approval. The overall site does include remnant vegetation however so Code 16 has been completed.
10.4.1.1	Contaminated Land - Material change of use on contaminated land		Not expected to be applicable – the material change of use is not anticipated to involve a sensitive land use or accessible underground facility.
10.5.3.1	Environmentally relevant activities Assessable development under s 8	State code 22 – Environmentally relevant activities	ERA53a and ERA 53b are concurrence ERAs therefore the code has been completed.
10.5.4.1	Environmentally relevant activities Devolved environmentally relevant activities		ERA 63 (1)(b)(i) is devolved to the local government, and they will be the assessment manager for the application.
10.5.4.2	Environmentally relevant activities Non-devolved environmentally relevant activities	State code 22 – Environmentally relevant activities	ERA53a and ERA 53b are concurrence ERAs therefore the code has been completed.
10.6.4.1	Fisheries - Operational Work for Waterway Barrier Works		Applicable – An application for WWBW will need to be prepared and submitted under State code 18 for matters that do not constitute accepted design requirements.
10.7.3.1	Hazardous Chemical Facilities – assessable development under s13	State Code 21 - Hazardous Chemical Facilities	Not Applicable - The gas created and stored on the subject site does not fall within the criteria of hazardous chemical facilities and therefore this code does not apply.
10.9.4.1.1	Infrastructure-related referrals Aspect of development Stated in schedule 20	State code 6 – Protection of State transport networks	The code has been completed.
10.9.4.2.1	Infrastructure-related referrals Reconfiguring a lot near a State-controlled road Intersection	State code 1 – Development in a State- controlled road environment	The code has been completed.
10.9.4.2.4	Infrastructure-related referrals Material change of use of premises near a State transport corridor or that is a future State transport corridor	State code 1 – Development in a State- controlled road environment	The code has been completed.
10.10.3.1	Development interfering with koala habitat in koala habitat areas outside koala priority areas – Assessable Development	State Code 25 – Development in SEQ Koala Habitat Areas	Proposal does not interfere with koala habitat in a koala habitat area.

A response to the State Codes is included in **Appendix F.1**.

Note: The proposed Dam does not trigger State Code 20 (Referrable Dam) and therefore State Code 20 is not assessed

6.3.1 Key State Assessment Matters

Details with respect to key State assessment matters are as follows.

6.3.1.1 Clearing of Regulated Vegetation (State Code 16)

SARA mapping shows that areas defined as Category B and Category C on the Regulated Vegetation Management Map (RVMM) are limited to the northeastern extent of the site, some 500m or more from the proposed earthworks areas of the development footprint.

The balance of the Project Area is mapped as Category X vegetation. The SRAIP will not impact Category B or Category C Regulated Vegetation.

Under the *Planning Regulation 2017* and the *Vegetation Management Act 1999*, a development permit is required for vegetation clearing (operational work and material change of use) unless that clearing is exempt clearing work. Under Schedule 21, Part 2, Section 2 of the Planning Regulation, clearing vegetation on freehold land in a Category X area is 'exempt clearing work'.

Despite no impact to Category B and Category C Regulated Vegetation, the proposed Material Change of Use application is proposed over the whole of the subject site, including the areas mapped to contain this native vegetation. As such, a response has been provided to State Code 16 for completeness.

6.3.1.2 Waterway Barrier Works

Aspects of the Project intersects with waterways that are mapped as 'waterways' as defined and administered for fish passage under the *Fisheries Act 1994*. Within the proposed SRAIP site boundary there is one waterway that is mapped as low risk (green) for impacts to fish passage, and one waterway that is mapped as moderate risk (amber) for impacts to fish passage. There is no connectivity in the mapping between the amber waterway and Warrill Creek, which is the major risk (purple) waterway located to the southeast of the site across the Cunningham Highway. There are two green waterways to the northwest of the site that will not be impacted by the SRAIP development.

The proposed development is anticipated to trigger assessment of waterway barrier works requiring an operational works permit, however there are no significant residual impacts anticipated to be caused by construction of culverts, roads or development of the proposed overland flow path. In this instance, proposed waterway barrier will result in enhanced biodiversity outcomes by creating more permanent water features in the existing diversion channel, providing greater connectivity of fish passage and establishing more suitable aquatic habitats for fish. Where possible, works will be undertaken greater than 50m from the banks of mapped waterways.

It is important to note that the previously proposed 300 ML water storage dam capturing overland flow is no longer proposed. Instead, a smaller 50 ML Turkeys Nest dam is now proposed to be located to the north of the Project site which is offline and does not capture or interfere with overland flow or the waterway. Assessment of waterway barrier works is assessed in **Section 8.5** of this report. Kalfresh propose that the Coordinator-General provide 'Stated conditions' attaching to the relevant operational works permit associated with the Phase 1 subdivision. The updated preliminary design for the water storage dam is provided at **Appendix B.3**.

6.3.1.3 Compatibility with KRA141

The State Planning Policy (SPP) States that KRAs are protected by:

- Maintaining the long-term availability of the extractive resource and access to the KRA
- Avoiding new sensitive land uses and other incompatible land uses within the resource / processing area and the related separation area of a KRA that could impede the extraction of the resource
- Avoiding land uses along the transport route and transport route separation area of a KRA that are likely to compromise the ongoing use of the route for the haulage of extractive materials
- Avoiding new development adjacent to the transport route that is likely to adversely affect the safe and efficient transportation of the extractive resource.

The SRAIP proposal ensures that KRA 141 is protected through the following means:

- The SRAIP development application excludes the part of the subject lots identified as part of the resource area from the SRAIP development site

- The quarry access route approved through Lot 2 on RP20974 as part of the approved Frazerview quarry is being maintained by the SRAIP proposal, ensuring access to the KRA is maintained and a new access point is provided to the Cunningham Highway
- The SRAIP Level of Assessment (LoA) Tables do not allow for 'sensitive land uses' as defined by the *Planning Regulation 2017* (the Regulation) to be established in either the Industry or Rural Precincts of the SRAIP. The proposed uses allowable within the SRAIP are compatible with the KRA as they comprise mainly agricultural / industrial land uses
- The proposed uses within the SRAIP will not compromise the ongoing use of the route for the haulage of extractive materials as they are not 'sensitive land uses'
- The proponent has engaged a suitably qualified engineer to design the water storage turkeys nest dam in a way that minimises the risk of dam failure and accounts for potential vibration associated with the operation of the nearby quarrying activities in the Kangaroo Mountain KRA. Detailed design plans for the proposed dam is provided in **Appendix B.3** of this report. Final construction of the dam design will be subject to geotechnical investigations and engineering recommendations.

Figure 35. KRA - 500m Buffer from Industrial Lots and Location of Processing Area

7 PROPOSED SRAIP DEVELOPMENT PLAN (VARIATION REQUEST)

7.1 Overview of SRAIP variation

The proposed SRAIPDP provided in **Appendix A.5**, underpins a variation approval (preliminary approval) which seeks to vary elements of the SRPS (Amendment No. 7). Should it be approved, the SRAIPDP would become a categorising instrument defined under section 43 of the *Planning Act 2016* as the document:

- *(a) categorises development as prohibited, assessable or accepted development;*
- *(b) specifies the categories of assessment required for different types of assessable development;*
- *(c) sets out the matters (the assessment benchmarks) that an assessment manager must assess assessable development against.*

The intent of the SRAIPDP is not to override or replace the SRPS in its entirety, but rather to introduce categories of development, assessment benchmarks and land uses that are necessary to facilitate the development. In this context the SRAIPDP is a regulation by exception approach, whereby development matters that are routinely contemplated by the SRPS and broader planning framework are still relevant and need to be assessed.

The approval pathway, that allows a preliminary approval for the SRAIPDP to vary the SRPS, allows site-specific development controls to be created and accommodates the unique nature of the SRAIP development. It allows for design and land use controls which are specifically targeted at achieving the land use objectives for the SRAIP and provides a greater level of control than would be achieved by adopting the standard industry provisions within the scheme for the Project. The variation approval mechanism allows site-specific land use definitions and controls to be adopted.

Being located within the Rural Zone of the SRPS, where urban subdivision is prohibited (by ShapingSEQ) and ag-industry uses of the scale proposed are not contemplated, the SRAIPDP will enable the Project to proceed with development proposals regulated in an appropriate manner. The SRAIPDP also establishes two sperate precincts.

- SRAIP Industry Precinct – this new zone and precinct will apply to the SRAIP development footprint to ensure the intent of the SRAIP can be achieved in its fullest sense
- SRAIP Rural Precinct – as the site is currently zoned for rural under the SRPS, this will introduce the new SRAIP Rural Precinct which allows for uses to be established only that service a function to the SRAIP or directly support the agricultural / industrial uses occurring in the Industry Precinct

Having two precincts allows for appropriate industrial uses to be established within the SRAIP Industry Precinct. This will allow for the SRAIP to create an agricultural industrial precinct which supports the local and State economy as efficiently as possible. To ensure this the proposed variation request seeks to vary certain elements of the SRPS key variations include:

- Inclusion of Service Station and Transport Depot uses specifically to service the needs of the precinct
- Allowance for High Impact Agriculture Industry to occur on the site, involving only food processing and compost manufacturing uses
- Increases to maximum building heights within the SRAIP of 35 m on Lots 12 or 13, 18 m on Lot 11, and 15 m for all other instances
- Reductions to primary frontage setbacks
- Changes to the GFA for Ancillary Office and Retail Sales uses

The Variation Approval includes a Development Code (the SRAIP) incorporating the Strategic Intent, Precinct Plan, Plan of Development, Level of Assessment (LoA) Tables, and Precinct and Activity Codes specifically to guide the development of the SRAIP.

7.1.1 SRAIP Plan Area

The Variation Approval sought by this application will set up a framework for subsequent development applications (material change of use, reconfiguring a lot and operational works) over the site. The variation material responds to overriding the Scenic Rim Planning Scheme (the SRPS).

Full details of the variation request are set out in **Appendix A.4** – Justification for Variations to Scenic Rim Planning Scheme, which provides justification for the proposed variations and **Appendix A.5** which contains the SRAIP Development Code. The Proposed Variation Request includes a SRAIP precinct plan (**Figure 36**), Plan of Development, consistent uses, Level of Assessment (LoA) Tables and associated precinct codes and activity codes.

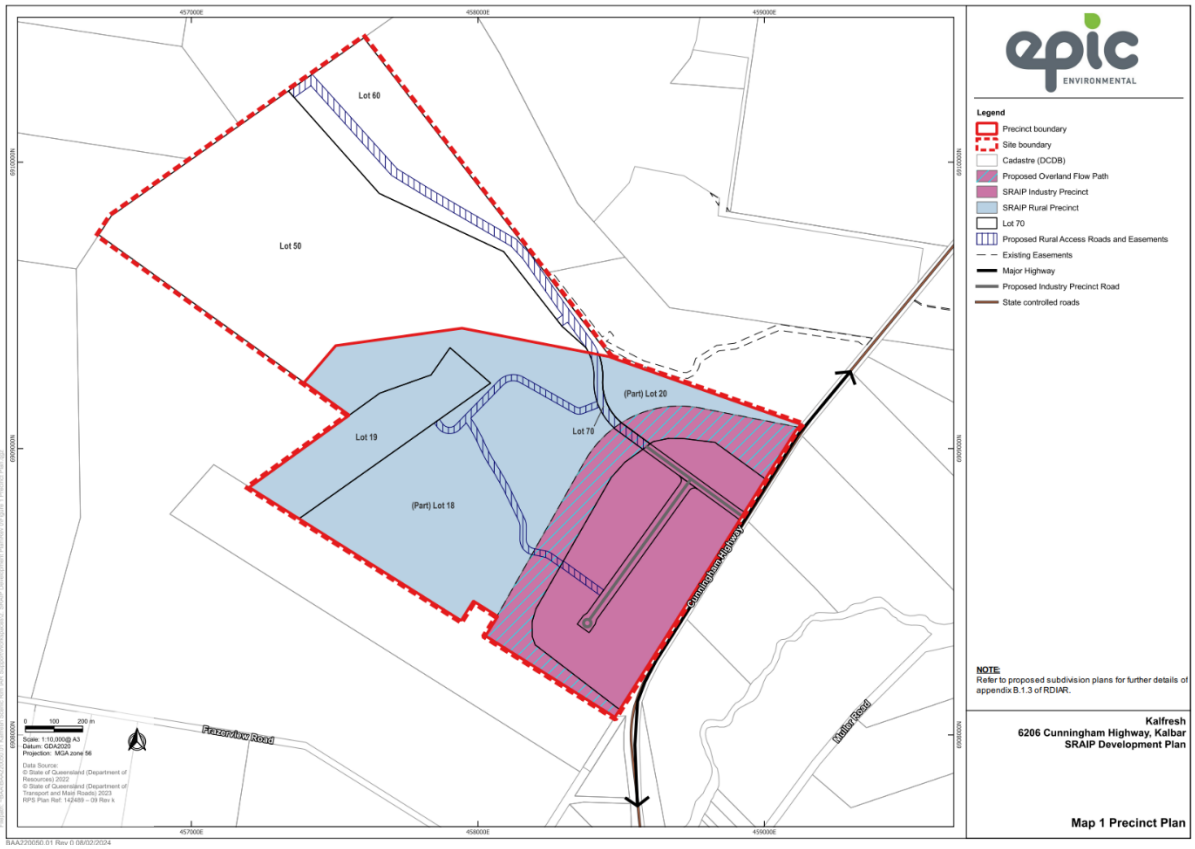


Figure 36. Proposed Precinct Plan

The SRAIPDP as part of the variation request nominates:

- The SRAIP development footprint as the 'SRAIP Industry Precinct'
- The remaining area of the site as the 'SRAIP Rural Precinct'

The SRAIP Rural Precinct is intended to support the SRAIP Industry Precinct and allows for the establishment of the activities and infrastructure required to support the SRAIP including uses such as cropping and bespoke High Impact Industry provisions to allow the proposed composting activity to occur.

7.1.2 Strategic Framework for Plan Area

The SRAIP Industry Precinct is intended to accommodate a wide range of industrial activities located in a specialised industrial hub with an agricultural connection (agri-focus). Supporting activities are also envisaged in this precinct to support the primary uses occurring or to provide services to the future employees of the SRAIP. The SRAIP Industry Precinct leverages co-location with agricultural production and industrial processes to realise waste reduction and a circular economy through SRAIP biodigestion and associated infrastructure. The SRAIP Industry Precinct does not include uses intended to service the general industrial, retail or commercial needs of surrounding townships and centres.

The SRAIP Rural Precinct is intended to provide the area where the infrastructure activities required to support the Industry Precinct are located (e.g., composting facility and dams). The SRAIP Rural Precinct supports Low Impact rural activities that are compatible with and able to operate near intensive industrial activities. High

Impact industrial activities are limited to SRAIP composting to support the functioning of the AD Facility (as a defined use in the SRAIPP) (SRAIP biodigestion) located in the SRAIP Industry Precinct.

The proposed SRAIP Plan of Development (Plan of Development) is held at **Appendix A.5** and is shown in **Figure 37**. The proposed SRAIP Plan of Development will work in conjunction with the SRAIP Plan to specify the provisions for establishing built form within the Project.

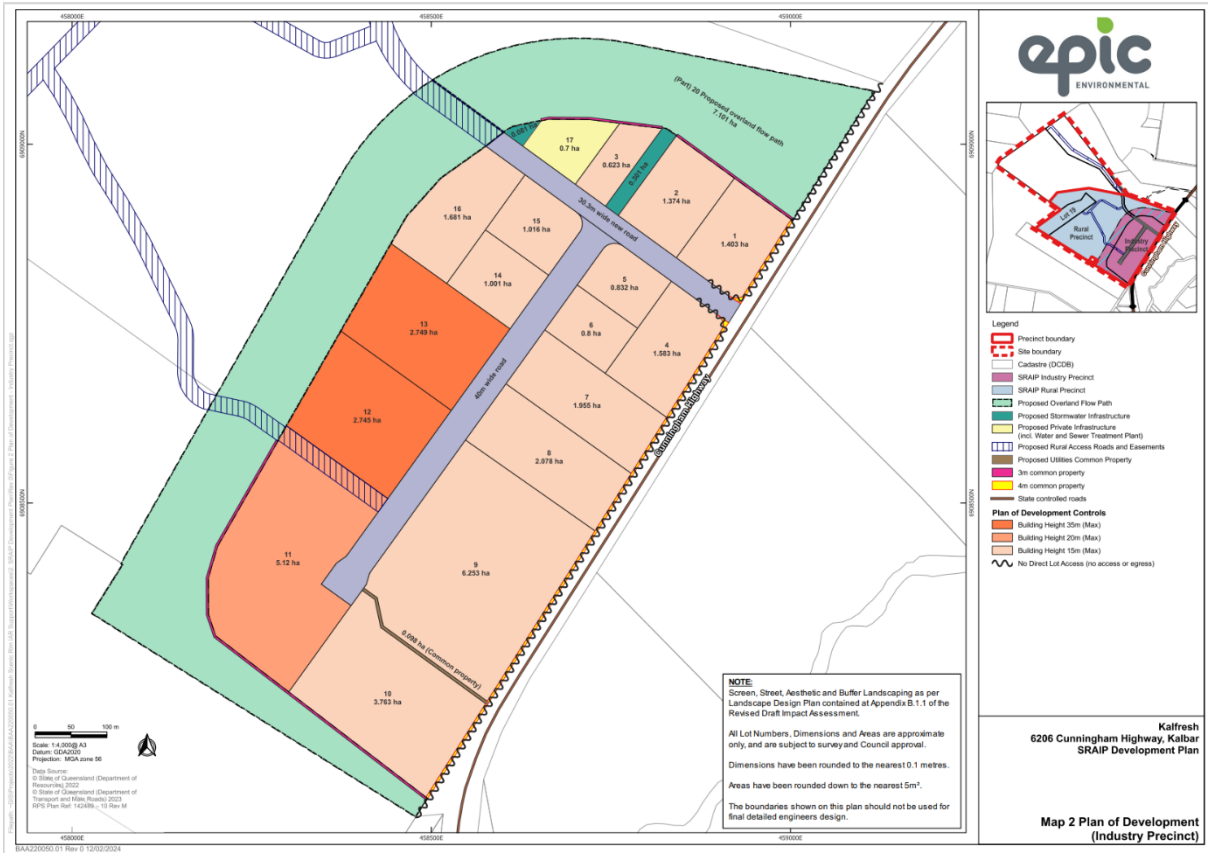


Figure 37. Proposed Plan of Development

7.1.3 Variations Proposed through SRAIPDP

Proposed variations are found in **Table 17** which, outlines the changes proposed to the Scenic Rim SRPS and the alternative variation proposed through the SRAIPDP. Further justification for the proposed changes to the SRPS are presented in **Appendix A.4** which outlines the need for the variations to enhance the functionality of the SRAIP.

Table 16. Proposed Variations to Scenic Rim SRPS

Rural Zone SRPS	Variation Proposed through SRAIPDP
Defines the strategic framework which regulates the land use objectives for the Rural Zone	Defines a new strategic framework for the Plan Area
Presents tables of assessment for which proposed development is to be assessed against	Presents tables of assessment for which proposed development in the Plan Area is to be assessed against
Levels of assessment generally require Impact Assessment for industrial and ancillary uses in the Rural Zone	Reduces levels of assessment from Impact to Code Assessable for envisioned uses in the Plan Area
Prohibits subdivisions less than 40 ha	Allows for reconfiguration of lots less than 40 ha where: • 16 industrial lots with minimum lot size of 0.623 ha are enabled

Rural Zone SRPS	Variation Proposed through SRAIPDP
	• Three rural lots with a minimum lot size of 17.603 ha are enabled • 1 Volumetric lot to house infrastructure • Infrastructure and access easements to service the precinct
Prohibits industrial, commercial, and retail uses	Allows for a range of agricultural/industrial uses such as: • Warehousing • AD Facility • Composting • High Impact Industry • Medium Impact Industry • Low Impact Industry • Research and Technology • Renewable Energy Facility • Rural Industry • Intensive Horticulture Further uses that support the functioning of the above uses being: • Food and Drink Outlet • Service Station • Transport Depot • Sales Office • Utility Installation
Allows for very limited ancillary office and retail space	Allows additional office and retail space that are ancillary to standalone uses listed above and necessary for the functioning of the agricultural industrial precinct and support automation of which do not exceed 20% of the total gross floor area of the primary use
Restrictions on building heights to 15m	Allows for 2 instances (lot 12 and lot 13) where buildings can occur up to 35 m when for distribution centre or cold storage facilities, and 1 instance (lot 11) where buildings can occur up to 20 m when for a renewable energy facility (anaerobic digester)
Restrictions on building setbacks of buildings with heights less and greater than 15 m	Proposes a minimum primary frontage setback of 6 m (for buildings less than 15 m in height) and 10 m (for buildings greater than 15 m in height)

The variations proposed through the SRAIPDP will not replace the Scenic Rim SRPS but will vary its effects. Elements of the Scenic Rim SRPS (definitions, uses, levels of assessment etc.) will still have effect on the SRAIP including development matters where they are deemed applicable. The SRAIP still requires assessment against existing council codes and other applicable planning regulations including both *Major Electricity Infrastructure* and *Minor Electricity Infrastructure*. Any future urban uses not envisioned by the SRAIPDP can be assessed by Council as Exempt, Accepted, Code or Impact Assessable if not otherwise prohibited by the Planning Scheme.

While the variations provide different code provisions and outcomes from the SRPS, the performance outcomes and acceptable solutions 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.

RPS had initially prepared a conceptual landscape design intent to compliment the Landscape and Visual Impact Assessment, offering insights into the scale of proposed landscaping to enhance the aesthetic of the precinct and soften its built form. This preliminary landscape intent plan has now been superseded by a more detailed Landscape Design Plan developed by Andrew Gold Landscape Architecture (refer to **Appendix B.11**). This new plan serves to operationalise the findings of the Landscape and Visual Impact Assessment and align with the prescribed code requirements outlined in the SRAIPDP and the SRPS. The Landscape Design Plan introduces the 4 m wide screen landscaping along the precincts frontage with the Cunningham Highway and 3 m wide screen landscaping along the southern and northern most precinct peripheries.

7.1.4 Levels of Assessment

The proposed level of assessment (LoA) Tables for Material Change of Use, Reconfiguring a Lot, Operational Works applications and Overlays are held within **Appendix A.5**.

It is the intention that the SRAIP LoA Tables will override the Industry and Rural Level of Assessment (LoA) Tables of the SRPS, specifically for development within the site.

7.1.4.1 Material Change of Use

- The proposed Material Change of Use Level of Assessment (LoA) Tables look to establish opportunities to change uses within existing premises by making them accepted subject to requirements, with applications requiring code assessment where that is not the case.
- The level of assessment requirements are drawn from the level of risk attributed to certain activities and uses within the SRPS, and the relatively narrow range of code assessable uses is intended to ensure that only activities appropriate to the purpose and intent of the subject site are established.
- Inconsistent uses will remain Impact assessable.

7.1.4.2 Reconfiguring a Lot (RoL)

The proposed RoL LoA seeks to ensure that no additional lots are created following the subdivision application within this submission, whilst making the following administrative RoL applications Code assessable development:

- Boundary realignment where no new lots are created
- Creation of an access or infrastructure easement
- Volumetric Subdivision (where no new developable lots are created)

The nominated lot sizes of 6,000 m^2 in the SRAIP Industry Precinct and 15 ha in the SRAIP Rural Precinct are reasonable given the nature of the SRAIP for the following reasons:

- 6,000 m^2 in the SRAIP Industry Precinct will allow for uses requiring a smaller area to establish themselves in a feasible way, whilst still being large enough to accommodate medium to large scale ag- industry uses.
- The 15 ha in the SRAIP Rural Precinct is large enough to accommodate the specific uses on the proposed lots and is drawn from a requirement to separate the composter lot from the balance of the Rural Precinct.

7.1.4.3 Operational Works (OPW)

The SRAIP OPW LoA Table seeks to vary the level of assessment for OPW applications in the SRAIP (Refer **Appendix A.5**).

The intent of the variations is to ensure standard requirements to 'ready' the sites for development are Accepted development where complying with the proposed SRAIP Plan. For example, the following would be Accepted:

- Advertising device (where for a local utility)
- Filling and excavation if for minor filling and excavation or where carried out in accordance with a Development Approval.

The above are Code assessable in some circumstances, or where not meeting the Accepted development criteria. In accordance with the SRPS, all other operational work not listed in the SRAIP OPW LoA Table is Accepted development.

7.1.5 Overlays

The SRPS Overlays are being adequately addressed through the SRAIP variation approval assessment. Acceptance/approval of the supporting technical documentation (addressing these overlays) whilst not specifically seeking to alter the level of assessment for relevant overlays, will negate any future need for further overlay provisions to be addressed for future development within the SRAIP.

The SRAIP does not seek to change the LoA for any use through the use of overlay mapping.

7.1.6 Precinct Development Codes

The SRAIP Plans has been structured to accord with other Zone Codes under the SRPS, prescribing:

- Application
- Purpose and Overall Outcomes
- Assessment Benchmarks.

The Project development codes will work in conjunction with the Plan of Development to set the requirements for built form, accepted and assessable development within the SRAIP. Where appropriate the provisions have been drawn in full or in part from the SRPS to make the codes and requirements “user friendly”.

8 ASSESSMENT OF PROJECT SPECIFIC MATTERS

8.1 Agricultural Land

The *Regional Planning Interests Act 2014* (RPI Act) identifies certain areas of Queensland that are of regional interest and seeks to manage the impact and coexistence of resource activities and other regulated activities in those areas. The RPI Act is supported by the *Regional Planning Interests Regulation 2014* (RPI Regulation).

There are four areas of regional interests under the RPI Act:

- Priority agricultural area (PAA)
- Priority living area (PLA)
- Strategic cropping area (SCA)
- Strategic environmental area (SEA).

Each area of regional interest is defined under the RPI Act and has been identified because of its contribution, or likely contribution to Queensland's economic, social and environment prosperity.

The RPI Act has identified the following areas of regional interests for the site:

- **Strategic Cropping Area (SCA)** – an area of land that is, or is likely to be, highly suitable for cropping because of a combination of the land's soil, climate, and landscape features
- **Priority Agricultural Area (PAA)** – strategic areas of regional interest, identified on a regional scale, that contain significant clusters of the region's high-value intensive agricultural land uses.

As identified in the original IAS for the SRAIP, whilst the subject site has been recognised under RPI Act provisions, minimal loss of mapped SCA and /or PAA land has been envisaged. No offsite loss of mapped SCA and/or PAA land has been anticipated because of this proposed SRAIP development.

It is recognised that whilst the site is mapped under State Government provisions, there is only a small area of existing cropping land (currently situated along the Cunningham Highway frontage and equating to approximately 32ha in area) which will be directly impacted by this SRAIP proposal.

An extract from the Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP) SCA mapping is included in **Figure 38**.

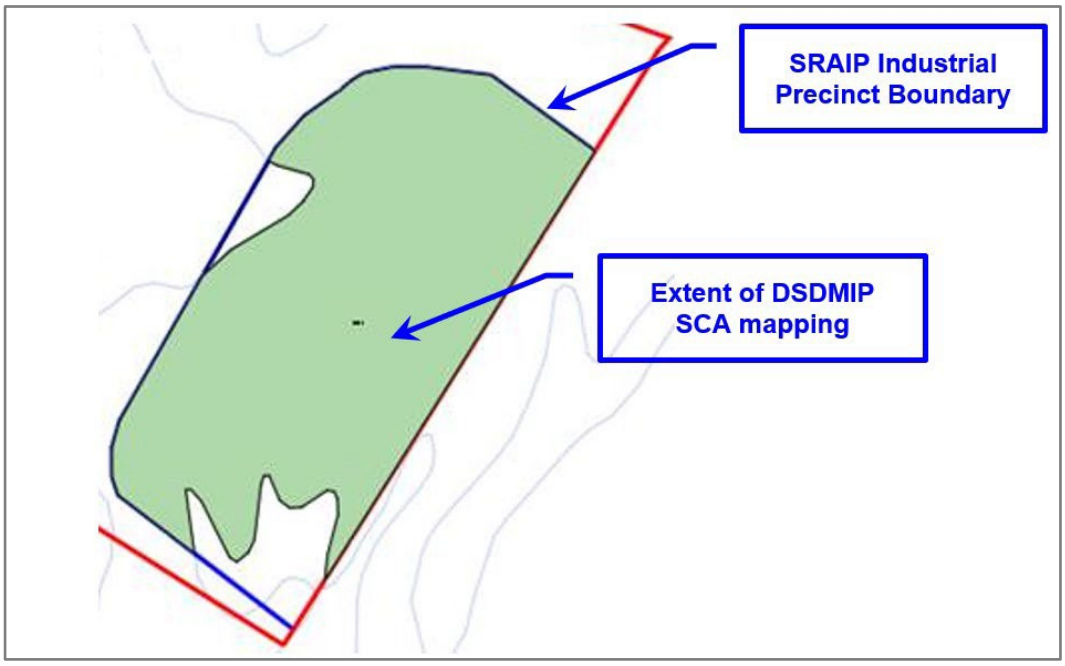


Figure 38. SCA Mapping Extract

A regional interests development approval (issued under Section 53) is not expected to be required in this instance as the Project is not for the carrying out of a resource activity or the SRAIP development being recognised as a regulated activity (as defined under the RPI Act).

That aside, the site is considered suitable in this instance as the Project is anticipated to result in an increase in the productivity, efficiencies, and values of surrounding agricultural lands. This is due to the ability to locate proposed SRAIP agricultural-industrial uses (and associated infrastructure) in direct proximity to the agricultural production areas. The location of the Project in the agricultural region is considered mutually beneficial to the long-term productivity of agriculture in the surrounding region.

While the SRAIP development will impact approximately 32 hectares of ALC Class A and B agricultural land, equating to an estimated loss of $270,560 in cropping income per annum, the benefits of the Project are predicted to offset any loss of productive agricultural land.

The SRAIP development is expected to add value to the regional community and the agricultural and transport sectors by providing facilities to store and process locally grown produce and deliver fresh products to the market, creating employment opportunities and driving growth and innovation in the Scenic Rim area.

The indicative total revenue that could be generated by the new processing facilities in the precinct is estimated at over $350 Million. The Project is expected to create around 475 direct jobs, and 572 indirect jobs, and to contribute a substantial $140 Million to the agricultural sector of the Scenic Rim economy.

The Project is expected to generate demand for an additional 9,013 cropping hectares per annum in the Fassifern Valley and the surrounding region. This additional demand for fresh produce is anticipated to generate more on-farm jobs, and support various sectors including farm equipment and supplies, vehicle and machinery maintenance, and seeds, pesticides and fertilisers.

Applying the same methodology used to quantify impact to agricultural land above ($8,455 per hectare), the increase in agricultural land demand represents an uplift of $33.8m to the agricultural sector per annum (9,000 ha ÷ 2 X $8,455). This demonstrates a significant uplift in the agricultural activity created by the Project and strongly justifies the loss of 32 hectares of Class A and B cropping land.

By establishing an increased demand for fresh produce and access to market, the SRAIP development will reinforce the ‘paddock to plate’ ecosystem. The SRAIP development will enhance the productivity of the existing Kalfresh operation and will assist local farmers by facilitating market access, reducing travel footprint, and expediting local food processing.

The AD Facility will provide for improved sustainability for the SRAIP and surrounding farming operations by converting organic waste to biogas and nutrient-rich digestate, to produce power and fertiliser. The Project provides for a full circle approach and encourages sustainable farming operations by utilising crop and production waste that currently goes to landfill.

SRAIP is strategically situated to complement the existing agricultural landscape, promoting and supporting agricultural growth, resilience, and long term viability. The substantial economic, employment, and growth benefits Projected from the Project significantly outweigh the potential agricultural land loss and economic impact, making it a promising initiative for the Scenic Rim region.

The State Planning Policy - State Interest Guidance Material (Agriculture) suggests that *“ALC Class A or Class B land should only be developed for non-agricultural purposes where it is demonstrated that there is an overriding public need for the non-agricultural development to be located on this land and that impacts have been minimised and mitigated to the maximum extent practicable*.” As outlined above, the SRAIP has met these requirements.

8.2 Traffic and Transport

A Road Impact Assessment (RIA) Report was initially prepared for the Project by Cardno in 2020 (Road Impact Assessment – **Appendix B.7.3**).

Upon adequacy review of the Cardno RIA report the Coordinator-General requested further information in October 2020. A response by way of an information memo was provided by Urbis which accounted for

changes to the Project layout and standalone uses at that time (Refer **Appendix B.7.2**). A second information request was issued by the Coordinator-General in June 2023 requesting the proponent to revisit vehicle generation assumptions which underpinned indicative pavement contributions payable. Urbis undertook a revised pavement impact assessment for the Project which considered cumulative impacts from the Project (Refer **Appendix B.7.1**).

It is important to note the updated pavement impact assessment by Urbis dated August 2023 is not intended to change the broader findings and outcomes of the RIA which has informed various design considerations to date including the intersection with the Cunningham Highway. Ultimately, the new Cunningham Highway intersection providing access the SRAIP and the Wagner Quarry, is a good news story for locals and the region. The proposal upgrades a notoriously difficult access that has a history of accidents. The new intersection will be safer and will better manage the current and future traffic volumes into and out of the site. The new access will reduce three access points to one, significantly enhancing the efficiency and safety of the Cunningham Highway at the proposed location.

8.2.1 Existing Environment

8.2.1.1 Roads

The Project area has approximately 1,200 m of frontage along the Cunningham Highway on the eastern boundary of the site. Cunningham Highway is a State-controlled road and will play a key role in delivering the operational outcomes of the Project as it connects to larger national highways linking the Project to southeast Queensland, northern and western Queensland areas and the southern markets of New South Wales and Victoria. In addition to the Cunningham Highway, there are two additional roads which will be utilised by the Project, these are summarised in **Table 17**.

Table 17. Key Roads Related to Development

Road	Authority	Classification	Posted Speed Limit	Typical Form
Cunningham Highway	Department of Transport and Main Roads (DTMR)	State-controlled Road	100 km/hr	Two lane, undivided, with shoulder
Kalbar Connection Road	DTMR	State-controlled Road	100 km/hr heading west 80 km/hr heading east	Two lane, undivided, with shoulder
Boonah Fassifern Road	DTMR	State-controlled Road	100 km/hr	Two lane, undivided, with shoulder

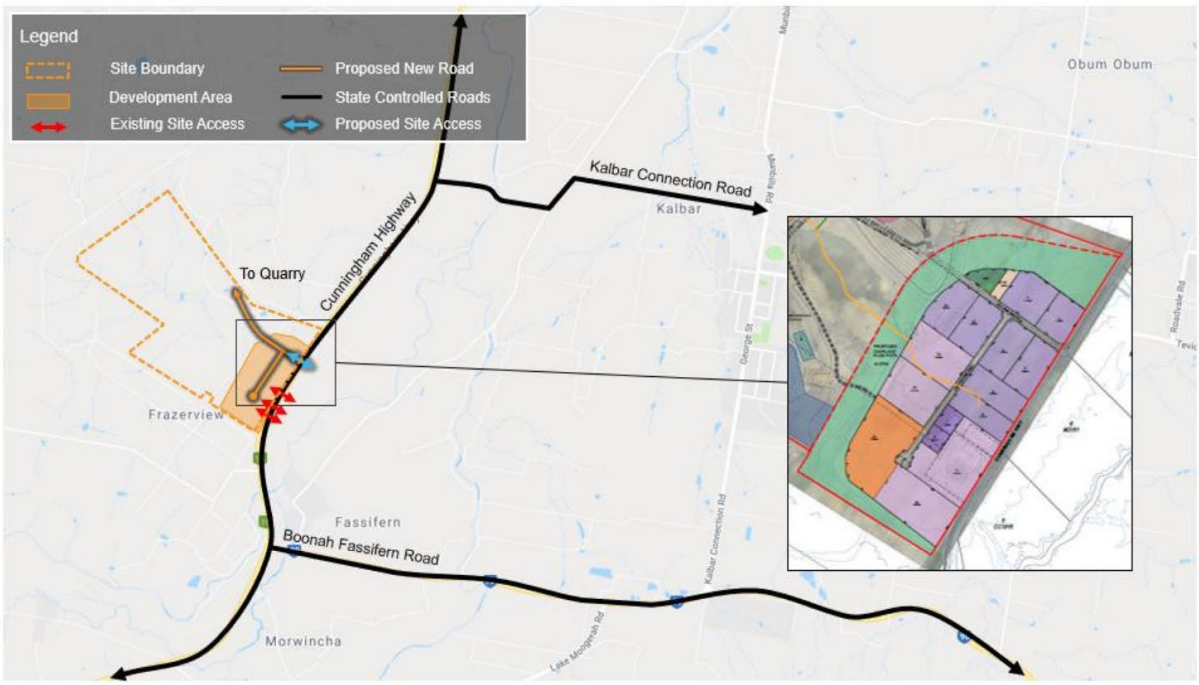
8.2.1.2 Access

Currently, access to the Project area occurs directly off Cunningham Highway from three existing access points (**Figure 39**). The current Project design proposes to limit site access to one access point via a newly constructed road, the proposed Frazerview Quarry Access Road. This new road is located approximately 460 m northeast of Kalfresh's existing site access. The intersection with the Cunningham Highway has been determined as a seagull priority-controlled T-junction. A concept sketch of the intersection form is provided within **Appendix B.7.3** – Traffic Information Response and Road Impact Assessment.

The intersection layout and geometry will be designed to TMR standards and will accommodate Class 10 (B-double) vehicles. A right-turning lane will be provided on the Cunningham Highway for vehicles entering the site. Within the site, no direct lot access will be permitted within 50 m of the new Cunningham Highway intersection. The access arrangement to each development lot is proposed as rear lot access, rather than existing direct access off the Cunningham Highway as is currently the case.

The existing access points are proposed to be permanently closed, with these changes expected to have positive outcomes, increasing the safety and efficiency of the existing State-controlled road network during construction and operation of the Project.

Figure 4-2 Proposed Site Access



Source: Google Maps, RPS

Figure 39. Proposed Site Access and Significant State Controlled Road

8.2.1.3 Frazerview Quarry Proposed Road

The proposed Frazerview Quarry to the rear of the Project land includes Lot 2 on RP20974 and was approved by way of Court Order 3471 of 2020 on 1 October 2021. Proposed access to the quarry is directly off the Cunningham Highway, via Lot 2RP20974 (the SRAIP subject site) and is proposed to be utilised by all quarry traffic including both light and heavy vehicles.

The Frazerview Quarry development expects to produce 20 staff trips and 22 truck trips in the peak hour, which has been accommodated for within the SRAIP Road Impact Assessment (**Appendix B.7.3**). The design vehicle for the quarry is a 30-36 m A-double, which has been accommodated for in the intersection design in accordance with the Quarry Court Order conditions. The intersection design will accommodate Class 10 (B-double) vehicles.

As the access is proposed within the Frazerview Quarry development application, the design requirements for the proposed (internal) road of the SRAIP has considered the Court Order conditions for the Quarry with respect to road design and this has subsequently been accommodated in the SRAIP road and intersection design and associated subdivision plans. The indicative access layout in relation to Lot 2 on RP20974 and the proposed Frazerview Quarry is shown in **Figure 40.**

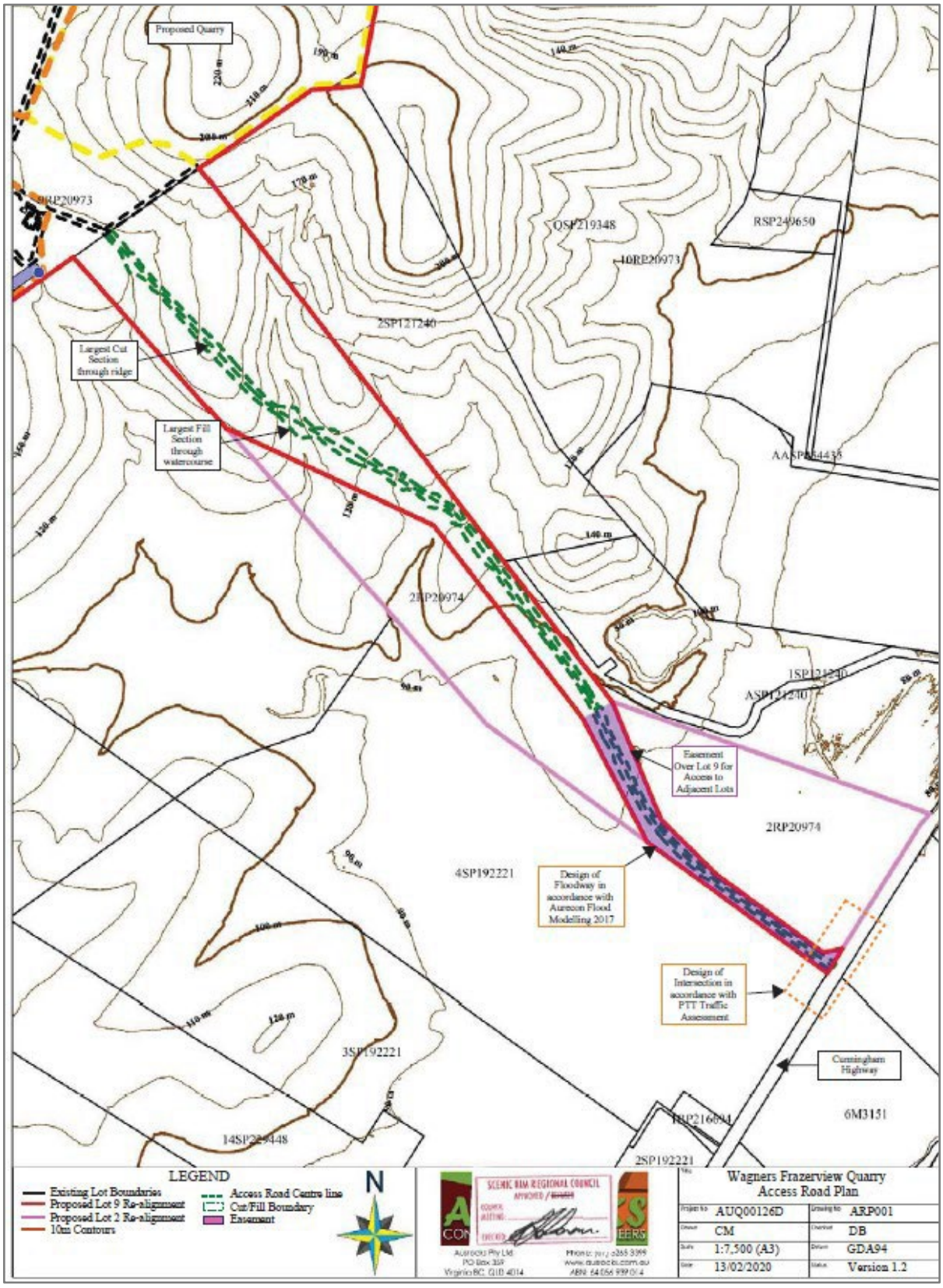


Figure 40. Frazerview Quarry Approved Cunningham Highway Intersection configuration.

8.2.1.4 Traffic

To provide context regarding the growth of traffic within the region, Cardno investigated historical traffic census data. Data indicated that the annual average daily traffic (AADT) growth rate was 1.92% over four years (2014 – 2018). A review of the AADT between 2018 – 2022 by Urbis indicates that AADT has remained constant, with a small reduction occurring in 2020, attributed to COVID-19.

To gather baseline values for background traffic volumes two existing intersections on either side of the Project area and the new access road intersection were assessed by Cardno in 2020:

- the Cunningham Highway / Kalbar Connection Road
- the Cunningham Highway / New Road
- the Cunningham Highway / Boonah Fassifern Road

The findings indicate that the local road network has a peak AM period between 7:00 am – 8:00 am and a peak PM period between 2:45 pm – 3:45 pm. These peak traffic times relate strongly with current Kalfresh operations as they align with key shift changeover times.

Existing Kalfresh operations rely on a workforce of 50 permanent staff and 50 to 150 casual staff (primarily seasonal workers), with 100% accessing the site via light vehicle, however only 80% of staff person trips result in driving trips (20% passengers, carpooling). Based on this information Cardno has estimated a maximum of 320 light vehicles accessing the site per day, with 80 vehicles per hour (vph) estimated during the peak AM and PM trips, when upper staffing limits were applied. Workforce distribution in relation to distribution and origin has been summarised in the following **Table 18**.

Table 18. Workforce Distribution

Origin	Direction	Vehicle Type	Distribution		
			Car as driver	Car as passenger	Distribution as % of driving trips
North	Brisbane/ Ipswich	Light Vehicle	10%	2.5%	12.5%
Northeast	Kalbar	Light Vehicle	30%	7.5%	37.5%
Southeast	Boonah	Light Vehicle	30%	7.5%	37.5%
South	Aratula	Light Vehicle	10%	2.5%	12.5%
Total			**80%**	**20%**	**100%**

In addition to Kalfresh staff, deliveries accessing and departing the site generate additional traffic along the Cunningham Highway. A list of delivery vehicles accessing the site each day has been provided in **Table 19**.

Table 19. Delivery Vehicle Access

Origin	Destination	Direction	Vehicle	Daily # Vehicles	Daily Trips	Am % of Daily Trips	PM % of Daily Trips
Kalfresh Site	Woolworths Distribution Centre (DC)	North	Class 9 Truck	4	8	4	4
Kalfresh Site	Coles DC	North	Class 9 Truck	4	8	4	4
Kalfresh Site	Brisbane Markets / Brisbane	North	Class 9 Truck	1	2	2	2
Kalfresh Site	Nolans (Gatton) for interstate	North	Class 9 Truck	3	6	3	3
Kalbar/Lockyer	Kalfresh Site	Northeast	Class 9 Truck	2	4	2	2

Origin	Destination	Direction	Vehicle	Daily # Vehicles	Daily Trips	Am % of Daily Trips	PM % of Daily Trips
Liston/Downs	Kalfresh Site	South	Class 9 Truck	2	4	2	2
Kalbar/Lockyer	Kalfresh Site	Northeast	Class 9 Truck	2	4	2	2
Liston/Downs	Kalfresh Site	South	Class 9 Truck	2	4	2	2
Nolans (Gatton)	Kalfresh Site	North	Class 9 Truck	3	6	3	3
Bowen	Kalfresh Site	North	Class 9 Truck	1	2	2	2
Total	**24**	**48**	**26**	**26**			

8.2.2 Potential Impacts

8.2.2.1 Construction

A 'first principles' assessment was undertaken by Cardno in 2020 to estimate the traffic generated during construction works for the Project. This assessment used worst case scenarios and operated under the assumption that all lots will be constructed at the same time. Additional assumptions were adopted when calculating the anticipated traffic generation (**Table 20**), with the estimated construction workforce traffic generation outlined in **Table 21**.

This phase of the Project, involving the AD Facility and building construction, is anticipated to generate peak construction traffic with a total of 476 vehicles within each peak period (AM/PM).

Table 20. Construction Phase Assumptions

Construction Phase	Number of Workers	Assumptions
Groundworks and Construction	**32**	• Earthworks activities: 1 truck (B-doubles, AVs) every 10 mins over 10 hrs per day • Import of earthworks would have the greatest heavy vehicle traffic impact
AD Facility Construction	**33**	• Assume all workforce trips are single occupant vehicle trips
Building Construction	**443**	• Lots would likely be constructed over a period of time, not all at once. • Assume 33 construction workforce per lot except lots 7 and 8 which have been proportioned by lot area compared to average lot area • Assume all workforce trips are single occupant vehicle trips

Table 21. Construction Workforce Traffic Generation

Construction Phase	No. of Workers	Trip Generation		
		AM	PM	Daily
Phase 3: Groundworks and Construction	32	32 vph	32 vph	64 vph
Phase 5: AD Facility Construction	33	33 vph	33 vph	66 vph
Phase 5: Building Construction	443	443 vph	443 vph	886 vph

Out of the three outlined construction phases above, it was anticipated in the Cardno Road Impact Assessment that Phase 3, involving construction activities relating to the import of earthworks would be the most intensive in terms of construction heavy vehicle trips to/from the development. It should also be noted that since this time, the Project no longer proposes an import of fill to establish the precinct with excavation on site expected to provide sufficient material for fill.

To this extent, the assumptions associated with heavy vehicle numbers directional distribution and traffic generation have been included and reproduced in the updated pavement impact assessment (**Appendix B.7.1**).

8.2.2.2 Development

The development is proposed to be separated into two operational components:

- Lots owned and operated by Kalfresh (including ancillary sites)
- Lots sold and operated by others.

Traffic generation rates for Agricultural / Industrial land use, sourced from TMR's Trip Generation Database (2018) for Industrial uses indicate that the average weekday development peak trip rate is 0.47 vph/100 sqm. This rate was adopted for the assessment which indicates that the proposed development is anticipated to generate 667 vph in each AM and PM peak period (**Appendix B.7.3**) with 196 vpn generated by Kalfresh and 471 vph by non-Kalfresh uses. External distribution from the proposed development will follow existing distribution patterns as outlined in **Table 18**: Workforce Distribution and illustrated in **Figure 41**.– External Traffic Distribution.

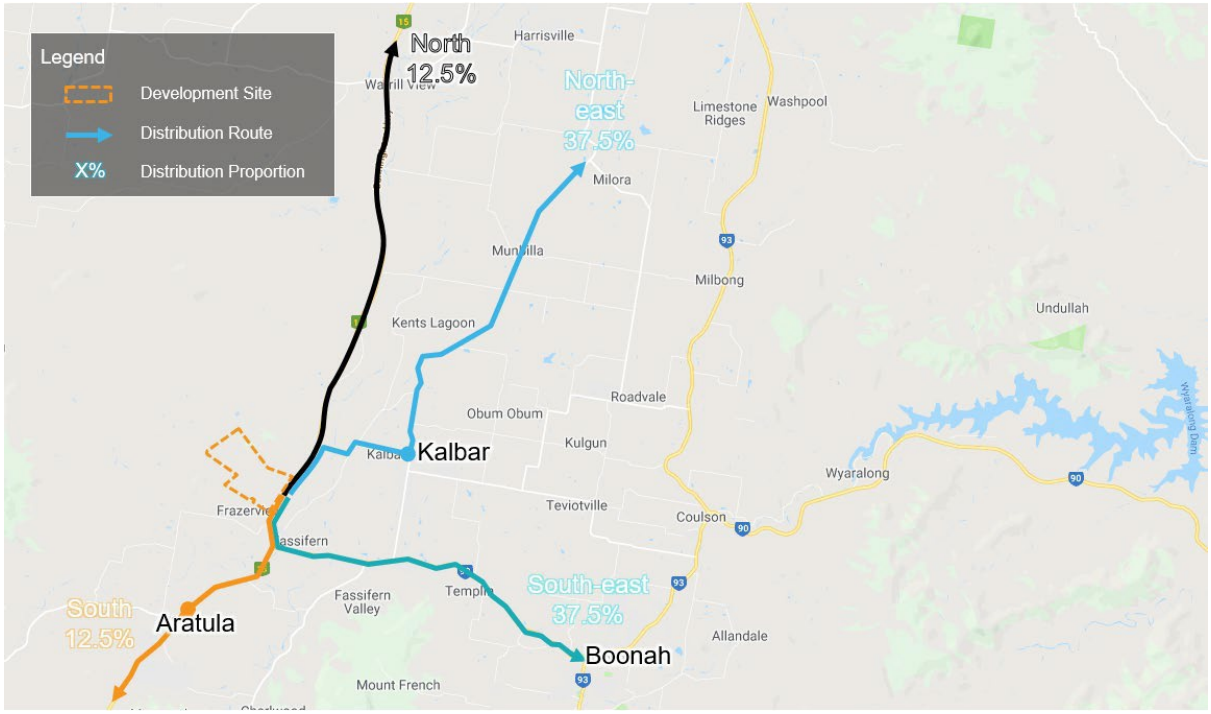


Figure 41. External Traffic Distribution

Directional distribution for the proposed development has been estimated based on generally accepted distribution shifts for non-Kalfresh lots and on advised shift breakdowns for Kalfresh lots. The trip movement associated with each shift at each peak period is outlined in **Table 22**.

Table 22. Kalfresh Shift Operations and Trip Movements

Shift	Shift Times	Proportion of Staff	Trip Movements			
			AM in	AM out	PM in	PM out
1	6am to 4pm	45%	100%	0%	0%	100%
2	4pm to 12am	45%	0%	0%	100%	0%
3	12am to 6 am	10%	0%	100%	0%	0%

This results in the following directional splits for the Kalfresh operations:

- AM Peak: of the total 55% staff trips occurring in the peak:
  - 82% in
  - 18% out
- PM Peak: of the total 90% staff trips occurring in the peak:
  - 50% in
  - 50% out

The resultant directional distribution is outlined in **Table 23**.

Table 23. Directional Distribution

Construction Phase	Trip Generation			
	AM in	AM out	PM in	PM out
Kalfresh	82%	18%	50%	50%
Non-Kalfresh	70%	30%	30%	70%

Updates to the site layout have recently taken place and as such the Project area has been further refined, reducing the overall development scale and intensity. These changes have occurred through the decision to remove standalone commercial infrastructure and tourism uses from the SRAIP. Instead, further area has been allotted to Kalfresh owned and operated land and a reduction in land allocated to non-Kalfresh lots has occurred. In addition to the above amendments, internal roads within the Project area have been expanded from previous widths to current layout (Appendix J – Site layout). These changes are expected to reduce the impact on the local road network, reducing additional traffic that would have been attracted by the inclusion of these alternative industries as part of the SRAIP.

The uses for the overall site are to remain consistent with the planning for the area, that is, agricultural/ industrial uses. At early stages of planning, a high-level yield estimate was adopted for the purposes of the traffic assessment. This has been informed by RPS town planners, which has indicated that 45% developable area over the allotment area should be adopted. Hence, the same developable yield assumptions are expected to remain valid. As highlighted in **Table 24**, the area associated with Kalfresh operations is expected to increase (+2,727 m^2) while the non-Kalfresh sites are expected to reduce in developable area (9,307 m^2). Overall, there is a reduction in developable area across the Project of 6,580 m^2 GFA which represents a reduction of approximately 5% of the developable area.

Table 24. Comparison Between New and Old Developable Area

Use	Land Use	Developable Area (updated plan) (sqm)	Developable Area (previous assessment) (sqm)	Change In Developable Area (sqm)
Kalfresh	Agricultural/Industrial	46,908	44,181	+2,727
Non-Kalfresh	Agricultural/Industrial	88,637	97,943	-9,307
Whole of Site	Agricultural/Industrial	135,545	142,124	-6,580

In terms of traffic volumes associated with these changes, the following reasoning has been applied:

- Kalfresh lots: same operating assumptions as per the previous assessment, meaning traffic generation will remain the same
- Non-Kalfresh lots: traffic generation rates are tied to developable area, therefore with less developable area, less traffic volumes will be generated.

Therefore, it is expected that there will be an overall reduction in development traffic volumes generated for the SRAIP site. With background traffic (and by extension, heavy vehicle background volumes) expected to continue growing, and development generated traffic estimated to reduce with the new lot layout, the development traffic impact for both road network performance and pavement impacts are expected to reduce.

8.2.2.3 Intersections

The three intersections previously identified as relevant to the Project were assessed under a signalised and unsignalised intersection design and research aid (SIDRA) assessment against various scenarios. The results from these analyses indicate that the development impact is not considered to be significant/adverse on the intersections performance for the development. The findings for each intersection are summarised below:

- Cunningham Highway / Kalbar Connection Road - the three-way priority-controlled seagull arrangement operates well within the typical performance thresholds (DOS ≤ 0.80 for priority controlled, delay < 42 seconds), for all assessed scenarios. It is noted that with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queue are not significantly impacted when compared to the background scenarios.
- Cunningham Highway / Boonah Fassifern Road - the three-way-priority-controlled intersection will operate within the typical performance thresholds (DOS ≤ 0.80 for priority controlled, delay > 42 seconds), for all assessed scenarios.
- Cunningham Highway / New Site Access – the three-way-priority-controlled seagull arrangement operates within the typical performance thresholds (DOS ≤ 0.80 for priority controlled), for all assessed scenarios.

Intersection layouts and detailed results from these assessments can be found in greater detail within **Appendix B.7.2** and **Appendix B.7.2**3.

Road Safety

An independent road safety audit was undertaken by senior road safety auditors, John Peace and Dana Geaboc (Appendix D of **Appendix B.7.3**), utilising crash data sourced from TMR surrounding the Project between 2014 – 2018. The findings indicated that no crash trends form along the roads surrounding the development site.

A risk assessment was undertaken by Cardno in 2020 to demonstrate the risks associated with the proposed new road which provides access to the development. This has been based on the Department of Transport and Main Roads (TMR) Guide to Traffic Impact Assessments (GTIA) safety risk score matrix (**Appendix B.7.3**). The following risks have been identified as a result of the new intersection with Cunningham Highway:

- Left turning traffic from south approach; rear end collision with through traffic
- Right turning traffic from north approach; rear end collision with through traffic
- Right run out traffic into high-speed environment with no median storage
- Left turn out traffic into high-speed environment

Sight Distance

Sight distance assessments and site visits were undertaken for the three intersections, the key findings are summarised below:

- Cunningham Highway /Kalbar Connection Road - The existing sight distance at the Cunningham Highway / Kalbar Connection Road intersection is insufficient to meet safe intersection sight distance for the design speed. However, there are no apparent crash trends related to this constraint, and the proposed

development will not add trips to the affected movement. Therefore, it is considered that the development will have minimal impact on the road safety at this intersection.

- Cunningham Highway/ Boonah Fassifern Road - The site investigation of Boonah Fassifern Road indicated appropriate sight distance (exceeding 285 m) in accordance with Austroads Guide to Road Design Part 4A in both directions
- Cunningham Highway/ New Site Access - From the site inspection, the sight distance review indicated that the proposed new road location can achieve the requirement of 285 m set out in Austroads Guide to Road Design Part 4A in both directions on the Cunningham Highway, which is in excess of 500 m

8.2.2.4 Internal Road Network

An internal road network will be created in order to provide access to each of the proposed industrial allotments and access and egress from the overall development. The proposed road profile consists of a 40 m wide modified version of an Industrial Collector Street in accordance with SRRC standard drawing No. R-09. This consists of 7 m carriageways on either side of a 15 m grass swale. The introduction of the grass swale between the 7 m carriageways will be used to capture major stormwater flows from the adjoining road and lots.

The main collector street traverses the centre of the site with a cul-de-sac provided at the southwest of the alignment to facilitate turning movements. This layout provides access to each lot whilst ensuring sufficient manoeuvrability for Class 10 (B-double) trucks within the industrial estate. Provision for a future road connection towards the northwest of the site has also been facilitated within the layout. The proposed road will traverse the waterway channel via a weir structure.

The development layout indicates that the first internal intersection is located 200 m from the site access intersection with the Cunningham Highway. This is in excess of the minimum spacing requirements for Collector Streets, and thus is sufficient.

8.2.3 Mitigation Measures

The traffic impact assessment has been undertaken under worst case scenarios to ensure traffic generated by Kalfresh and non-Kalfresh activities during the construction and operation phases of the Project have been appropriately assessed. The findings suggest that there will be no unreasonable impact to traffic within the local area as long as Kalfresh adheres to the limits outlined within the Road Impact Assessment Report (**Appendix B.7.3**). The companies support of car-pooling to reduce the number of cars accessing the site is an important mitigation measure, which will be particularly important during peak times.

The major impact to traffic and roads posed by the Project were the new risks introduced by the proposed new road. Mitigation measures applied during the design of the new intersection have reduced the risk to an acceptable risk rating (Low) and is therefore considered a safe solution. The following mitigation measures have been included within the design of the new intersection:

- Auxiliary left turn lane separating through traffic from left turners
- Auxiliary right turn lane separating through traffic from right turners
- Seagull intersection form with median storage and separate exit lane (610 m acceleration lane) for right turners
- High angle left turn slip lane with sufficient sight distance to observe gaps in through traffic.

8.2.3.1 Pavement Contribution

Urbis prepared an updated Pavement Impact Assessment report (**Appendix B.7.1**) to respond to additional information requested by the Coordinator-General and Department of Transport and Main Roads.

Road pavement data to inform the revised assessment was provided by TMR's Road Asset Division in July 2023 and includes the most recent Annual Average Daily Traffic, Existing SAR4, and Marginal Cost information for the Cunningham Highway, Boonah-Fassifern Road and Kalbar Connection Road.

The pavement impact contribution has been calculated in accordance with GTIA based on the cumulative construction and operations traffic for the SRAIP. As, the site will reach its full operations in 2034, the pavement impacts have been assessed to 2054 to adhere with the GTIA's 20 years of operation requirement.

A total pavement contribution for the overall SRAIP is $302,014, comprised of $13,590 for the Kalfresh lots (including digester, composter and potential joint venture lot) and $288,424 for the non-Kalfresh lots/tenancies. The terms and final sums of any potential contribution payment are subject to further negotiations between the client and State Government.

As the high-level assessment included several assumptions relating to the non-Kalfresh operational trips, it is recommended that a pavement impact assessment is undertaken before the construction of each non-Kalfresh lot to assure a more accurate assessment is undertaken at the time of the application.

8.3 Earthworks

Earthworks on site are required to achieve the 1% AEP flood immunity. Bulk earthworks will be completed across the subject site to create a developable land formation in accordance with Stantec sketch 510357-001-CI- 1010 (**Appendix B.2**). This earthwork operation will include the stripping/ stockpiling of topsoil and reshaping of land to generally achieve the proposed site levels across the development. In addition, Stantec have prepared a bulk earthworks engineering set of drawings which are included at **Appendix B.2**.

The earthworks design based upon the proposed development layout indicates that the earthworks operation will comprise approximately 500,000 m^3 cut to fill onsite and 200,000 m^3 of additional fill required which will be obtained from within the subject site (locations indicated on drawing 510357-001-CI-1010 – **Appendix B.2**).

The earthworks required to establish the development Plan of Development will not rely on import of fill from external sources. Fill material is proposed to be obtained from the deepening of the flood diversion channel and the excavation of material within the subject site (that directly adjoin the proposed overland flow area). Hence, the haulage distance of fill material is expected to be limited to within the existing Project site boundaries.

Based upon Stantec's experience within the Scenic Rim region and surrounding areas, coupled with the elevated site levels and long-term history of cropping, it has been assumed that the site is devoid of acid sulphate soils.

The proposed earthworks profile has been created with the intent to minimise the amount of fill whilst ensuring the development can be appropriately serviced by a stormwater drainage network and also be resilient to the 1% AEP flood event. All earthworks on the site will be carried out in accordance with Level 1 supervision and testing requirements, with any existing dams and/or unsound materials being removed and replaced under Level 1 supervision. It is also recommended that prior to the de-commissioning of all sediment basins, all collected silt and unsuitable material should be removed from the site and the basin area rehabilitated using a high quality of fill material, in order to ensure long-term stability to this area of the site.

The Stantec drawing 510357-001-CI-1010 (**Appendix B.2**) (**Figure 42**) illustrates the proposed cut and fill zones to establish the SRAIP development footprint. It is important to note that the two borrow pit areas presented in cream below are indicative only for the purposes of this report. These borrow pits may not be required should sufficient material (quantity and quality) be able to be obtained from the proposed cut areas shown in red on **Figure 42**. The need for the use of the indicative borrow will be confirmed by the engineering team during the detailed engineering phase prior to construction. If these areas are needed, they will be absorbed into the operational works permit (Earthworks) with relevant erosion and sediment control measures updated to reflect the increased extent.

It is further noted the northerly indicative borrow pit, is located over the proposed STP effluent irrigation area. This could potentially achieve a greater outcome as the current area occurs on undulating property with poor water absorption. By undertaking earthworks in this area, the terrain can be smoothed and good quality black soil from within the development footprint (cropping land) can be used to increase the water capacity of the soil in this area.

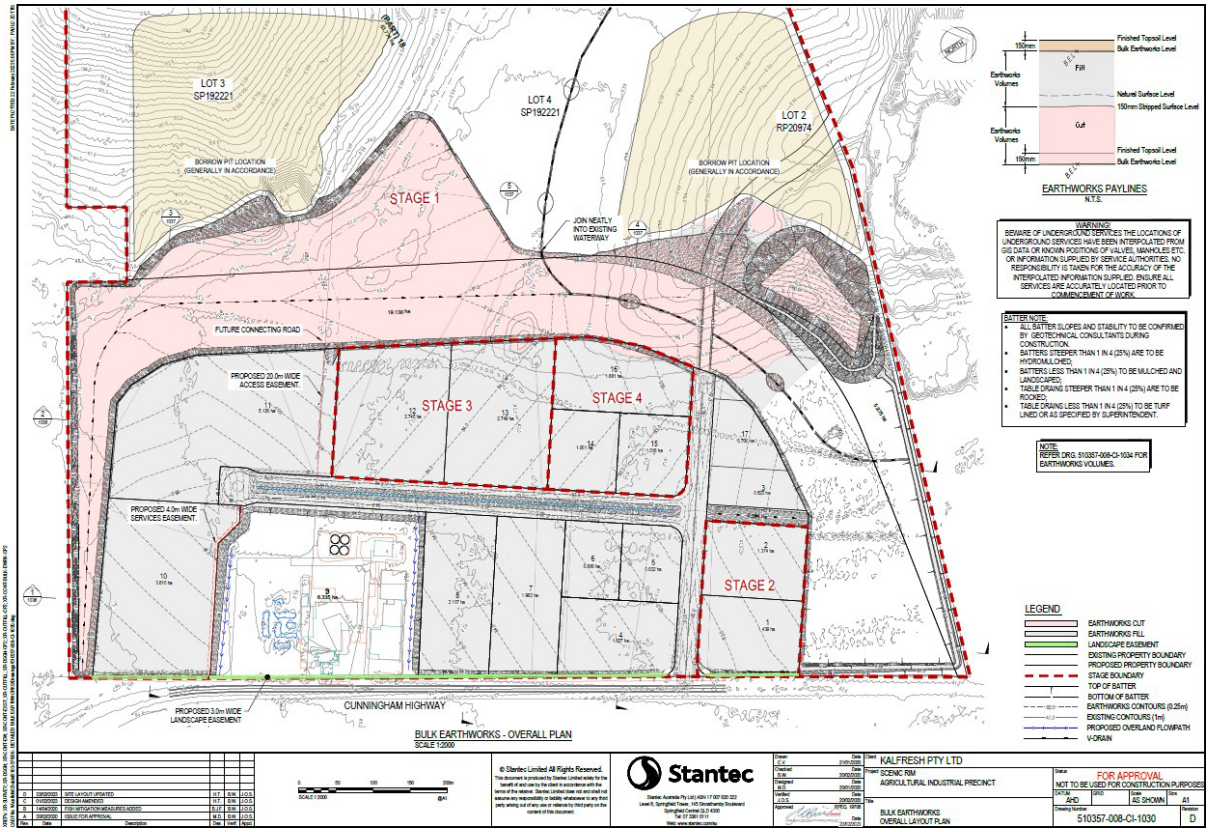


Figure 42. Bulk Earthworks Overall Plan

8.3.1.1 Contaminated Land

The earthworks proposed by the Project have the potential to inadvertently disturb known and unknown contaminated land related to historical land uses (rural activities) on site. Once contaminated land is disturbed it can cause harm to human health and the surrounding environment through various pathways (water, air, ground).

Kalfresh has a general environmental duty to ensure that all contamination risks are identified prior to earthworks commencing and that any contamination identified throughout earthworks activities are appropriately addressed.

A search of the Contaminated Land Register (CLR) and Environmental Management Register (EMR) on the 8 December 2022 revealed that no lots within the site are listed on the CLR. However, Lot 2 on RP20974 is included on the EMR which contains a decommissioned Cattle Dip, a notifiable activity.

Additionally, the site contains an existing fuel bowser (service station) which was reported to the DES and added to the EMR register. The fuel bowsers are currently utilised by the existing operation and pose no current contamination risk.

8.3.2 Mitigation Measures

8.3.2.1 Land Contamination

As discussed above, earthworks have the potential to inadvertently disturb contaminated land associated with historic rural activities conducted on site.

To ensure the risk of this is avoided, prior to the commencement of any site works and/or lot reconfiguration, Kalfresh commit to engaging an appropriately qualified specialist to undertake the necessary investigations to confirm the presence of any land contamination associated with the historical Cattle Dip. In the event land

contamination is found to occur, suitable contractors will be engaged to contain, manage and/or remediate the contamination in accordance with relevant Australian Standards and best practice material.

8.3.2.2 Erosion and Sediment Control

In accordance with IECA Best Practise Guidelines and Scenic Rim Council standards, it is proposed that in conjunction with the Operational Works Application phase of development a detailed Soil Erosion and Sediment Control Plan will be prepared in order to address the specific measures to be implemented manage erosion onsite and limit sediment discharge offsite. During the construction phase, the contractor is to have a certified erosion and sediment control plan on site at all times which will operate in conjunction with the broader Construction Environmental Management Plan (CEMP).

General measures to be implemented during the construction are as follows:

- Contractor to achieve temporary, interim or permanent ground cover to disturbed earthworks areas as soon as practicable
- Sediment filter fencing is to be located at the downstream end of all open earthworks to remove sediment from overland flow prior to discharging off site
- Truck shake down areas shall be provided to remove any loose materials from vehicles prior to departure from the site
- All sediment control structures must be maintained in an effective operational condition. These structures must not be allowed to accumulate sediment volumes in excess of forty percent of the sediment storage design capacity
- If topsoil will be stripped and stockpiled, perimeter silt fences are to be installed around the stockpile areas to prevent the material discharging from the site
- All sediment control structures are to be supplied and installed in accordance with SRPS policies and IECA Best Practice Guidelines
- A sediment pond is to be constructed to suit the construction site profile and sized appropriately to capture the required volume of sediment laden runoff

It is recommended that the early establishment of erosion and sediment control measures is carried out in conjunction with the commencement earthworks to prevent the discharge of soils from the site and protect existing downstream infrastructure and waterways.

8.4 Flooding

The following section outlines the pre-development and post-development flooding scenarios for the Project and surrounding area. Flood modelling was undertaken for the Project under 10%, 5%, 2% and 1% AEP (Annual Exceedance Probability) events as well as a 1 % AEP CC (Climate Change) event. A detailed description of all flood modelling can be found within Appendix G of **Appendix B.4**. The Project has been designed to ensure that inundation of the Project area does not occur under any significant AEP events, inclusive of a 1% AEP CC event required under the SRPS. Additional impacts to surrounding areas and Cunningham Highway have been minimised with no significant adverse impacts occurring as a result of the Project.

8.4.1 Pre-Development Scenario

Flooding in the Project area and surrounding area is caused by overland flow from Warrill Creek and flows from the western catchments. During flood events the water flows from the south to the north via the western areas of the site, exiting into the existing 'creek' line.

Flood modelling of the Project pre-development is provided at **Figure 43, Figure 44** and **Figure 45** showing 10%, 5% and 1% AEP Climate Change (CC) events respectively.

As shown in **Figure 43**, the majority of the eastern corner of the site remains flood free during smaller events (10% AEP), with extensive inundation during larger events (1% AEP CC) (**Figure 45**). During the smaller events scenario (10% AEP), depths of up to 500 mm occur throughout the site. Alternatively, during the 1% AEP CC modelling the entire southern and eastern portions of the site are completely inundated up to approximately 1.5 metres.

The 10% AEP event flood modelling portrays the extent of flooding within the surrounding area, with low level inundation occurring on the properties surrounding the Project. Flooding is mapped along Cunningham Highway, but no inundation of the highway has occurred.

Under the 1% AEP and 1% AEP CC events however, flooding to the surrounding area is extensive, with inundation of surrounding lots occurring to a greater extent and depth (both lots adjacent to the Project area experience up to 2 metres of flood waters). Flooding occurring on the Cunningham Highway arises in events greater than the 5% AEP with floodwaters crossing the highway from east to west, to the north of the proposed development (**Figure 44**).

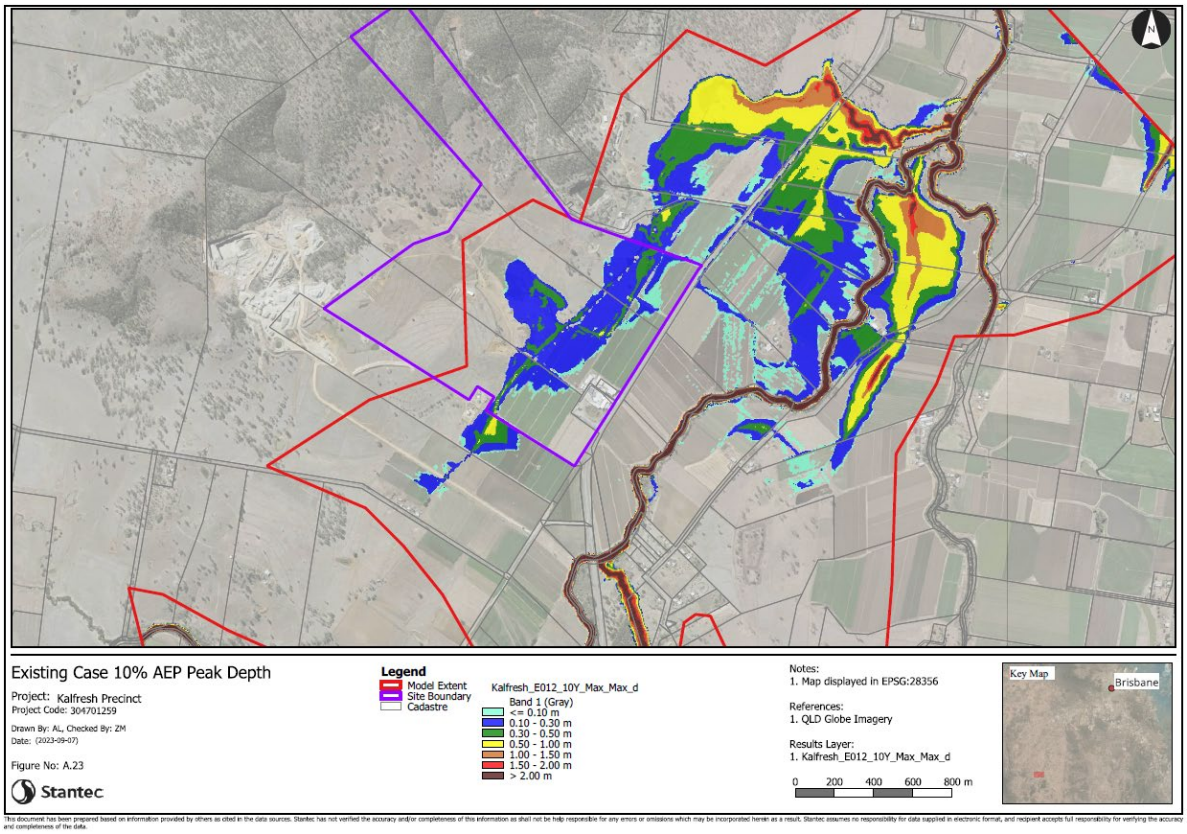


Figure 43. 10% AEP Flood Modelling (Pre-development)

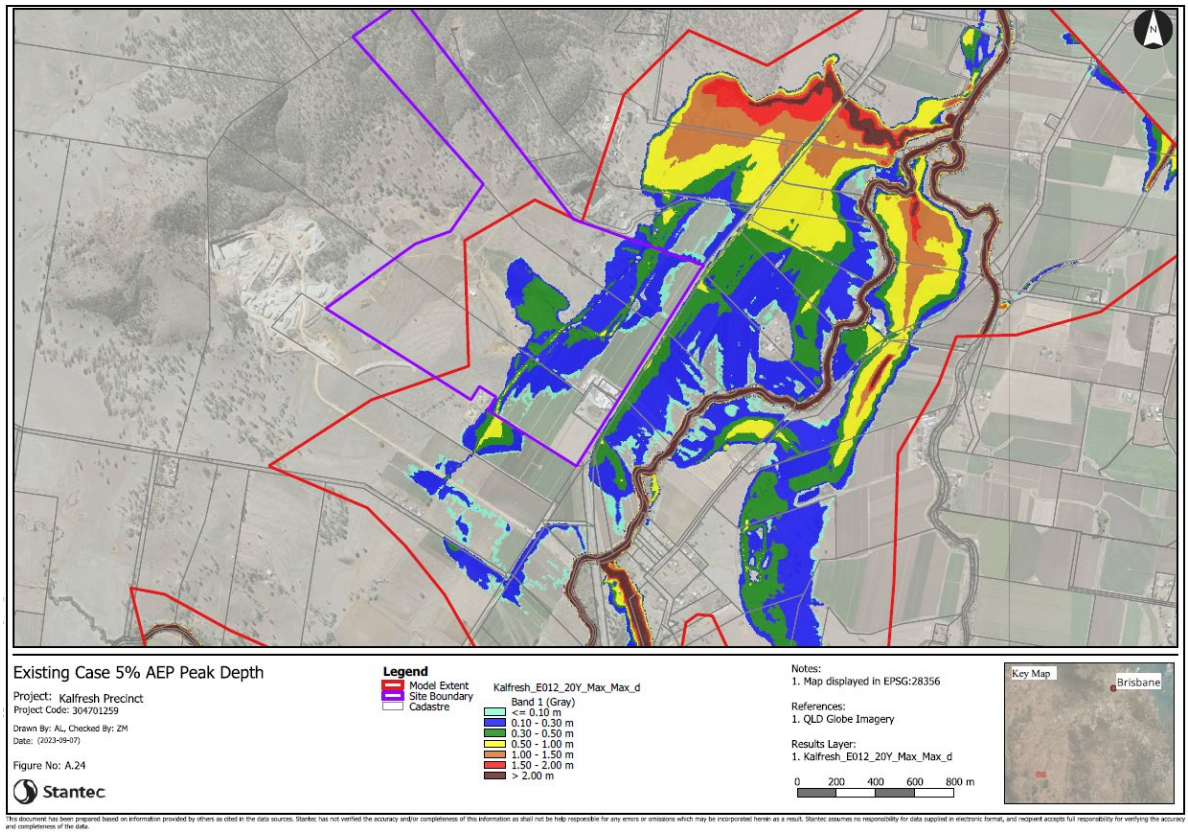


Figure 44. 5% AEP Flood Modelling (Pre-development)

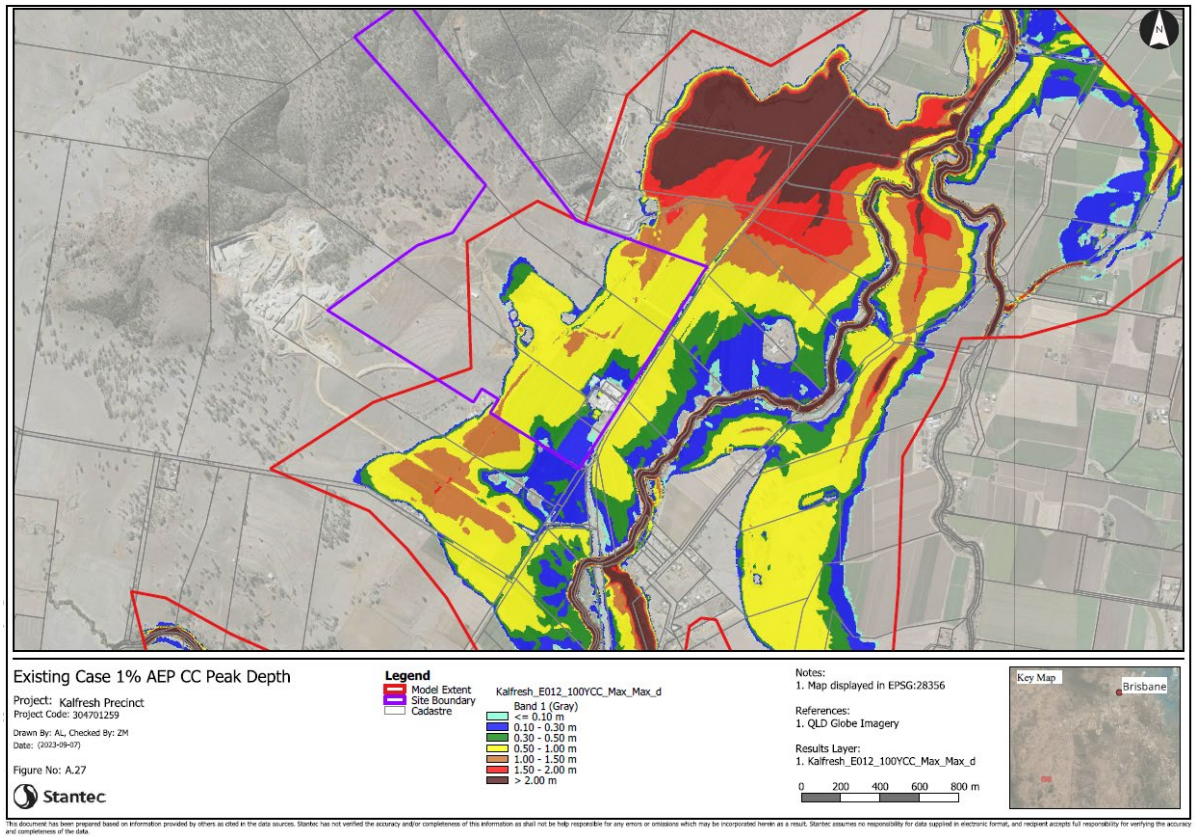


Figure 45. 1% AEP Flood Modelling (Pre-development)

8.4.2 Post-Development Scenario

The proposed development has been designed to ensure that the Project area is not significantly impacted by all flood events including both 1% AEP and 1% AEP CC events. Additionally, development has been planned to ensure that no significant impact occurs to the surrounding properties and Cunningham Highway during these events.

To ensure the Project area remains above flood levels during each scenario, filling will occur to raise the level of the allotments to be 300 mm above 1% AEP CC flood levels. More detail regarding the earthworks associated with the filling process can be found in **Appendix B.2**. As a result of filling, flood extents do not encroach onto the proposed development area in the 1% AEP CC flood event (**Figure 46**). Flows that previously covered the western portion of the site are now diverted along the western boundary via the proposed overland flow path. Flows from Warrill Creek enter this drainage channel at the southwest corner of the site, discharging to the northwest. Flows from the western catchment including the development footprint, discharge into the proposed overland flow path as per the stormwater strategy outlined in Appendix G of **Appendix B.4** – Integrated Water Management Plan.

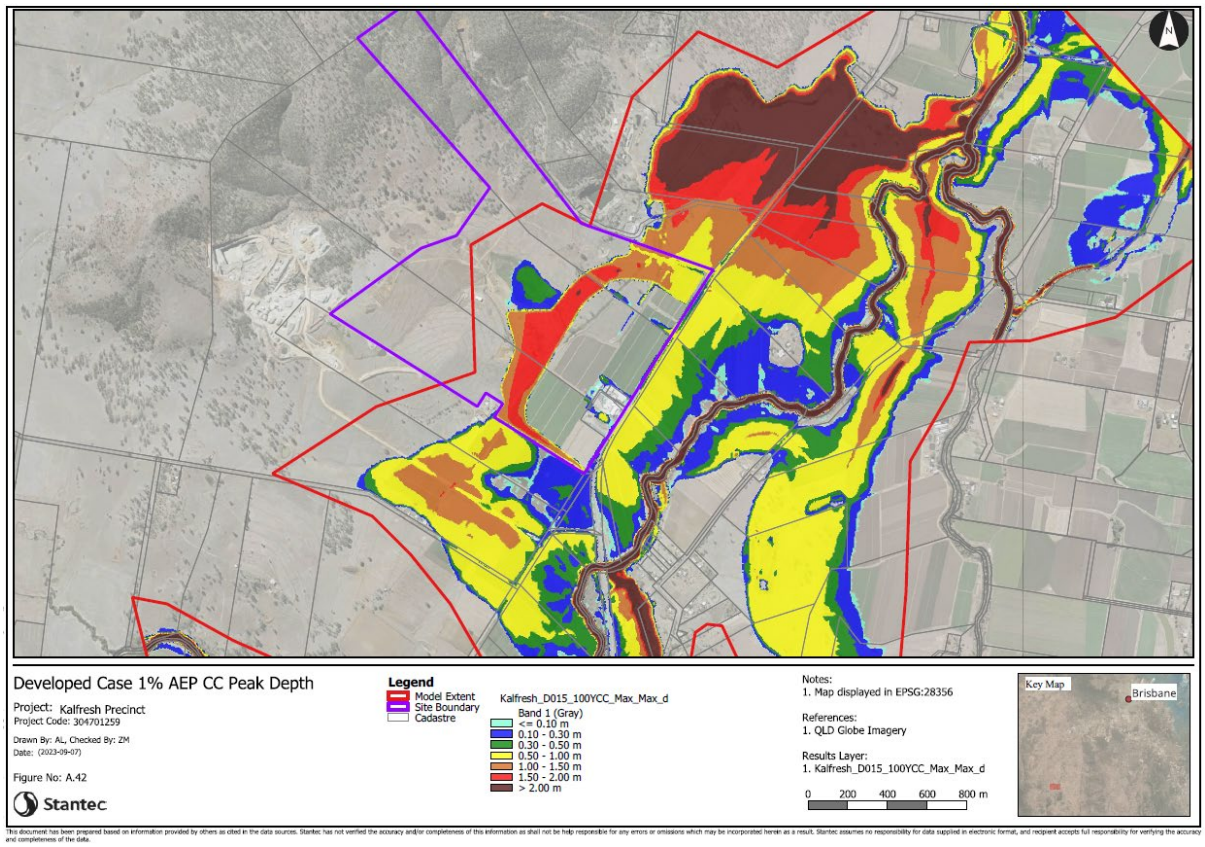


Figure 46. 1% AEP CC Flood Modelling (Post development)

8.4.3 Impacts of Development

Flood modelling indicates that due to the fill encroaching on the flood events, water level increases have been introduced in some areas of the site as well as the surrounding area under all AEP's (**Figure 47**).

While it is acknowledged that the proposed development has minor off site impacts, these impacts do not cause actionable nuisance as summarised herein:

- There has been no change to the frequency or duration of flooding in modelled design events
- Afflux is a marginal increase over significant inundation during design events
- Afflux does not result in any increase to flooding of structures or homes on neighbouring property

- Buildings external to the subject site maintain in excess of 3 m freeboard during the post-development case 1% AEP event adjusted for climate change sensitivity
- Impact to land is confined to rural land (grazing/cropping). The area impacted will not alter the way that land is currently being used and will not constrain or restrict the use of land into the future based on its proposed use
- While there are increased impact on the Cunningham Highway (50 mm during 2% AEP), the road will not be trafficable in existing conditions in those design events as depths in excess of 1 m are predicted

In addition, reductions in peak flood impacts are also observed in all AEP's along the western site boundary which can be attributed to the increased storage and conveyance provided by the proposed flood channel.

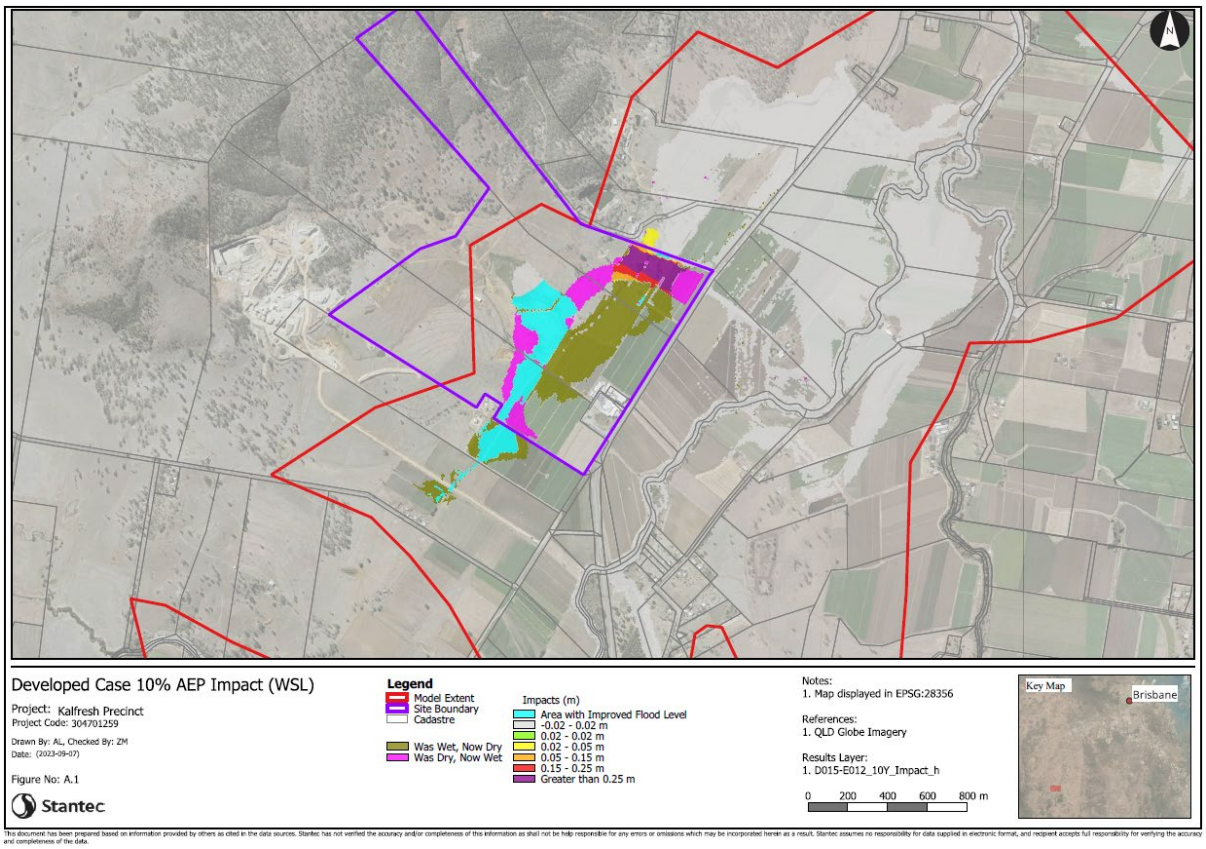


Figure 47. SRAIP 10% AEP Impacts

In the 10% and 5% AEP events, increases in flood levels as a result of filling were localised downstream of the site (north of the site) reaching depths greater than 250 mm in magnitude (**Figure 47)**. Modelling indicates that the new flooding extent has no additional impact to Cunningham Highway or any building footprints within these potentially affected areas.

In the existing case, floodwater in events greater than the 2% AEP flow from east to west across Cunningham Highway to the north, this movement is restricted in the developed case with greater flooding depths observed. The additional flooding can also be attributed to the model definition swale drains alongside the highway as they lack detail which will also be contributing to the impacts shown. This is an existing issue not attributed to the Project. Despite this, there will be no significant impact to the trafficability of Cunningham Highway as there is no impact to flood hazard categories, as flooding already occurs under all AEP's over 2% at depths greater than 500 mm.

During the 2% AEP event, a number of areas to the east of the highway are showing minor impacts (**Figure 48**). While some of these impacts are as a result of the items noted above, other areas further east showing impacts cannot reasonably be attributed to the proposed development.

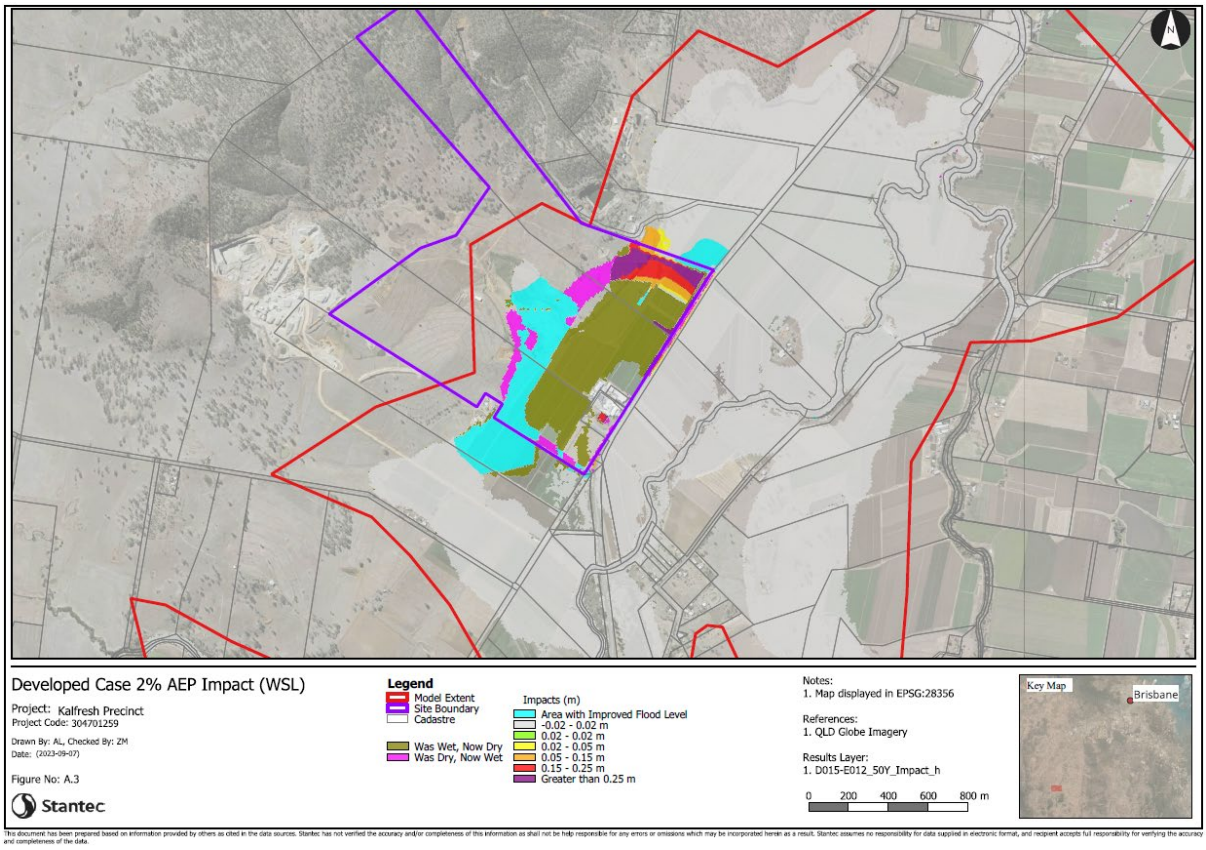


Figure 48. SRAIP 2% AEP Impacts

During the 1% AEP CC event, a number of areas to the east of the Project area, across the Cunningham Highway, are showing impacts (**Figure 49**). Peak increases shown on the eastern side of the highway are approximately 60 mm located adjacent to the eastern swale drain. Water depths at this location are already up to 700 mm deep during existing case events with extensive flooded areas surrounding it, indicating that the increase in depth associated with the Project has no impact on flooding extent. Flooding across the Cunningham Highway associated with the development will have negligible impacts on the flow of traffic considering under existing conditions the road is not trafficable during flood events over 5% AEP. The flooding occurring to the east of Warrill Creek and directly adjacent to it cannot be reasonably attributed to the development and are credited to minor variations in flood levels within Warrill Creek between cases caused by the topography definition.

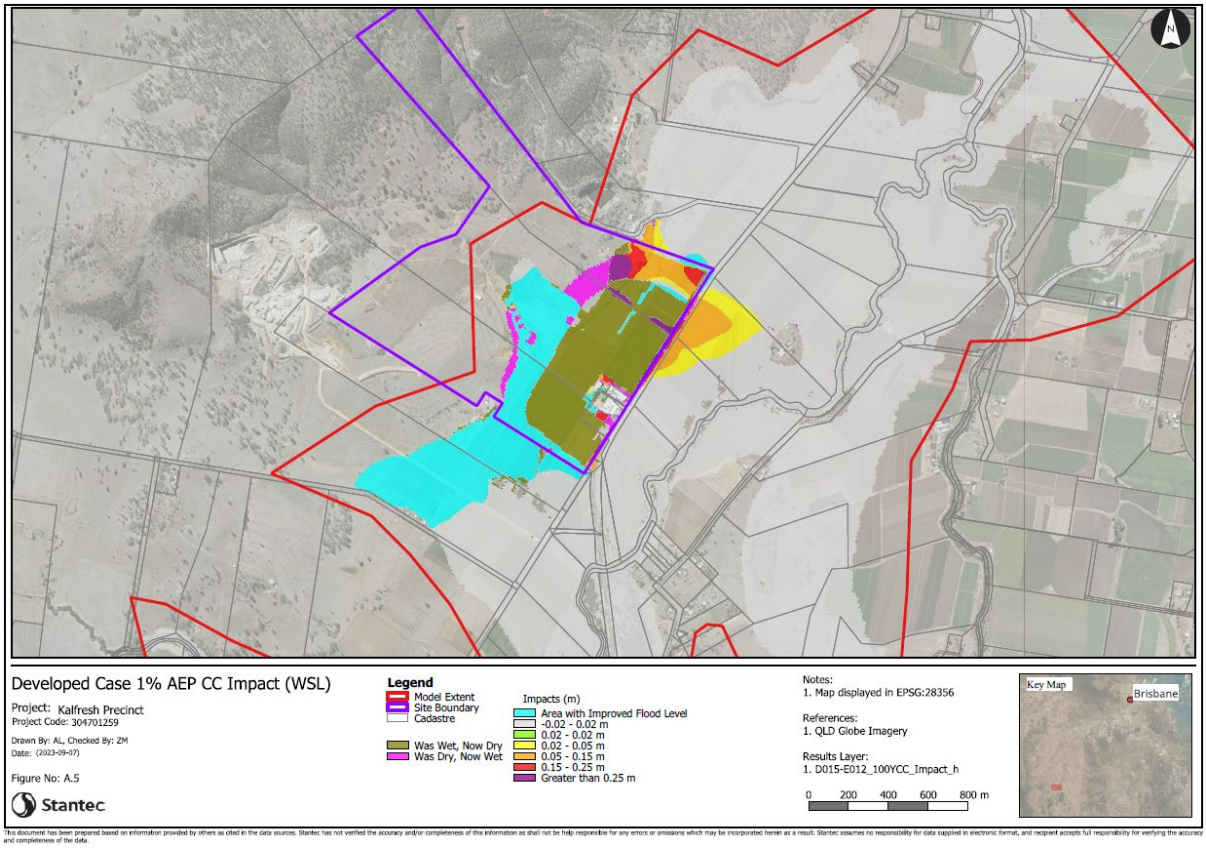


Figure 49. SRAIP 1% AEP CC Impacts

Maximum increase in peak flood levels are observed in flooding of 1% AEP CC downstream of the site (north) and are up greater than 250 mm in magnitude. These modelled increases have been determined to be negligible considering the extent of flooding already occurring under the 1% AEP and 1% AEP CC scenarios which exceeds depths of 1.5 m. This additional flooding remains 3 m below the nearest structure located at 85.2m AHD and 5.4 m below the nearest residence which is located at 86.8 m AHD. As such, it has been determined that increases are inconsequential with no actionable nuisance to infrastructure or persons as a result of the Project.

The development has mitigated impacts in locations considered the most practical with several measures implemented across the site. These mitigation measures include the proposed construction of a bund along the north boundary and low flow culverts to be installed across the proposed overland flow path. Aquatic vegetation planting is also proposed within the overland flow path to reduce velocity. The Precinct will be established within an optimum location in order to avoid flooding hazards as much as practicable. A positive impact is observed along the western boundary of the site in all AEP scenarios as a result of the proposed mitigation measures and Project design.

8.4.4 Interference with Watercourses and Floodplain Areas

The site is located on a floodplain that is inundated by Warrill Creek. As the subject site is prone to flooding, the earthworks design comprises filling of the site to be above the 1% AEP flood level. The proposed earthworks profile has been created with the intent to minimise the amount of fill whilst ensuring the development can be appropriately serviced by a stormwater drainage network and be resilient to the 1% AEP flood event.

As discussed, the Project does interfere with a State mapped watercourse and a floodplain area to establish the SRAIP. As part of this application, investigations and reporting have been undertaken to:

1. Ground truth the State mapped watercourse on site

2. Establish the lack of ecological values present in the mapped waterway. Refer to **Section 8.7** below and **Appendix B.8** – Waterway Barrier Works Technical Report for further information on this waterway barrier works investigation
3. Obtain DAF's feedback on the proposed works.

In light of the Waterway Barrier Works Technical Report findings and DAF's assessment advice received during the IAR process, a condition addressing waterway barrier works matters is proposed to be 'Stated' by the Coordinator-General in relation to operational works permit for earthworks required to be obtained by the proponent.

8.5 Water

8.5.1 Stormwater Quantity Management

The stormwater quantity management strategies and outcomes for the proposed development are outlined in the Integrated Stormwater Management Plan included at **Appendix B.4**.

The objective of the stormwater management plan is to ensure that the effect of delivering the proposed development achieves a no worsening of post-development runoff compared to the runoff experience pre-development.

It has been identified that the subject site comprises of two existing stormwater catchments denoted RP1 and RP2 illustrated in **Figure 50**. Under existing conditions RP1 and RP2 are diverted around the existing Kalfresh facilities before discharging to Warrill Creek to the northeast of the site via a series of local watercourses.

In order to achieve no worsening of stormwater discharge it is proposed that stormwater detention basins be provided at the low point of each developed catchment to restrict runoff prior to outfall. The integrated stormwater management plan included at **Appendix B.4** outlines the stormwater management strategy for the site is to detain the runoff generated from the developed site in the proposed flood conveyance channel running along the western site boundary. This conveyance channel is to attenuate the runoff within each development catchment in a detention basin, separated into two sub- subbasins. The detention basins have been sized such that overall post-development peak flows discharging from the site are limited to or are less than the pre-development flows.

All stormwater runoff within the site catchment shall be captured and directed into the stormwater detention basins via a conventional piped drainage network and open channel (grass swale) drainage infrastructure where the basin shall be constructed in accordance with the findings of the Integrated Stormwater Management Plan (**Appendix B.4**).

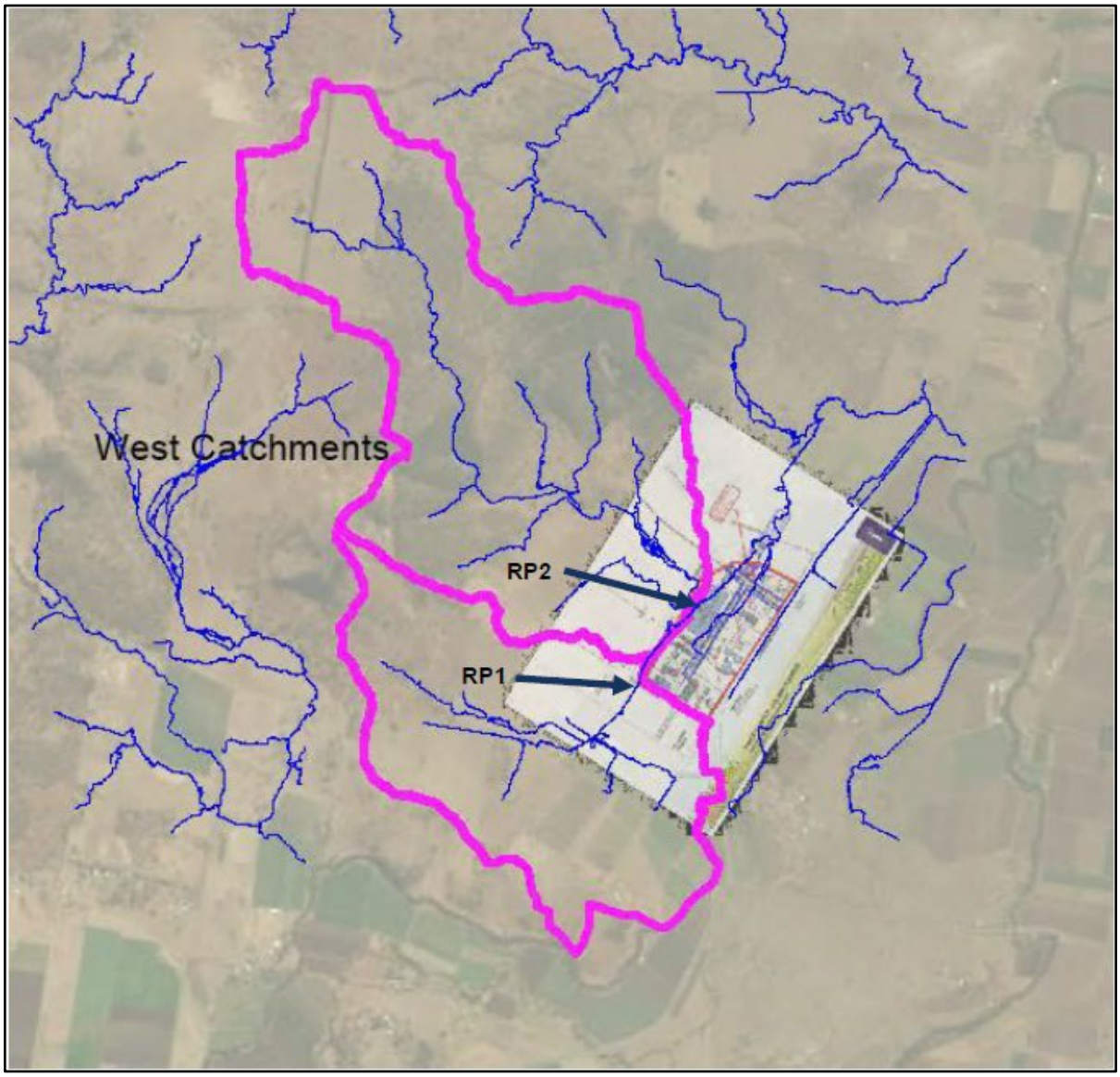


Figure 50. Pre-Development Catchment Layout

The open channel or 'central road swale' has been sized to cater for peak flows from the 1 in 100-year ARI (with climate change factor allowed). The maximum water depth in the swale is 1.109 m in the 1 in 10-year ARI and 1.479 m in the 1 in 100-year ARI event.

The findings of the Stormwater Management Plan recommend that the detention basins are constructed in accordance with the parameters outlined in **Table 25**.

Table 25. Proposed Detention Basin Properties

Parameter	Upstream Basin	Downstream Basin
Basin base area	285 m^2 at 80.3m AHD	490 m^2 at 80 m AHD
Basin top area	69,440 m^2 at 81.3 m AHD	63,192 m^2 at 80.8 m AHD
Basin height	1.3 m	0.8 m
Total volume at top of basin	18,324 m^3	17,250 m^3
Low flow outlet	2 x 2.4m x 0.3m box culverts	2 x 0.9m x 0.3m box culverts
High flow outlet	Access road at 81.3 m AHD, acting as a weir	Northern bund at 80.8 m AHD, acting as a weir

The low flow pipes and high-level spillway shall be provided with a maintenance access path.

The conceptual stormwater drainage layout which includes the developed catchment areas has been provided for information only and is illustrated in **Appendix B.4**.

8.5.2 Stormwater Quality Management

The stormwater quality management strategies and outcomes for the proposed development are outlined by the Integrated Stormwater Management Strategy included in **Appendix B.4.**

A stormwater management strategy has been prepared outlining the water treatment measures required to be implemented in order to treat stormwater runoff from the development and achieve the stormwater quality objectives required by State and Council Planning Policies.

The proposed stormwater management strategy comprises the construction of bio-retention systems to treat stormwater runoff so that the overall pollutant load reduction meets the individual pollutant load reduction target. Each allotment will be treated on an individual basis via a bio-retention system installed prior to the discharge point of each lot. The internal road network will be treated via the provision of a bio-retention system located within the detention basin at the north of the site.

MUSIC modelling has been completed for the internal road network in order to verify that the proposed treatment trains and bio-retention basin parameters will achieve the required water quality objectives. **Table 26** outlines the proposed bio-retention basin properties.

Table 26. Proposed Bio-Retention Basin Properties

Parameter	Bio-retention Basin
Extended Detention Depth (m)	0.2
Saturated Hydraulic Conductivity (mm/hr)	200
Filter Depth (m)	0.4
Filter Area (m2)	varies, refer Table 12 of Stantec IWMP Plan
TN Content of Filter Media (mg/kg)	400
Orthophosphate Content of Filter Media (mg/kg)	30
Total Filter Area Required	6,798 m^2

Further details of the MUSIC model are provided by the Integrated Management Plan included in **Appendix B.4**.

8.5.3 Surface Water and Groundwater

8.5.3.1 Proposed Extraction

Groundwater will be extracted from the existing bores on site as per the current situation to service the water needs of the SRAIP in the short term. No changes to the current methods of extracting groundwater are proposed. In addition, 145 ML of raw water will be pumped annually from the Warrill Valley Creek via pipeline to the Turkey Nest Dam in accordance with the water allocation obtained by Kalfresh.

8.5.3.2 Discharge

Water will be recycled from the new uses within the proposed SRAIP and discharged to the rural precinct for use in the composting activity as raw water. Treated sewage will be irrigated to land within the designated effluent irrigation area.

8.5.3.3 Potential Impacts on Surface Water (Industrial Precinct)

The earthworks and construction phase of the Project have the potential to impact surface water through increases in the pollutant loads discharging from the site. This is of particular concern when determining the impact of stormwater on site and the associated runoff from these events. Pollutants that are likely to occur include, but are not limited, to suspended sediments, sheens/films and litter. Earthworks pose an additional risk of disturbing contamination sources on site, either unknown or known (Cattle Dip), which have the potential to impact surface water within the Project area and surrounding region. To ensure surface water is

appropriately monitored and managed throughout this stage of the Project Kalfresh and their appointed delivery partners will adhere to the erosion and sediment control plan outlined in **Appendix B.13**.

8.5.3.4 Potential Impacts on Surface Water (Rural Precinct)

The Project, once operating, has the potential to impact surface water through the various activities taking place predominantly in the Rural Precinct. This is due to the Industrial Precinct establishing standard urban treatments that effectively manage risks to the receiving environments. In the rural precinct, the composting activity is proposed to occur outside the integrated water management plan for the precinct.

Threats to surface water are posed by the feedstocks associated with the composting facility and use of associated products which have the potential to release leachate, such as chemical contaminants, pathogens and nutrients to downstream surface water sources and users. These contaminants have the potential to cause detrimental impacts to ecological surface water environmental values. For example, pollutants can impact surface waters chemical and biological oxygen demand, threatening the health of aquatic ecological communities.

Additional impacts to downstream waters are posed by the operation of the plant and equipment used throughout the Project area, with the threat of leaks and spills from fuels and oils.

Baseline water quality data for downstream waters is not currently available. Establishing baseline data for the downstream waters is important to develop an understanding of the existing environment and to determine baseline surface water monitoring parameters which will inform the Projects mitigation and management measures. Section 3.8 of the ERA53(a) Report – **Appendix C.3.3** outlines the surface water quality objectives of receiving waters within the vicinity of the project site.

8.5.3.5 Potential Impacts on Groundwater

The risk of adverse impacts to groundwater is limited to the Rural Precinct due to standard urban water management infrastructure being proposed to apply to the Industrial Precinct. To this end, Section 3.9 of the ERA53(a) Report – **Appendix C.3.3** outlines the groundwater quality data for the region specific to the composting use.

The potential for the project to impact groundwater has been assessed as low based on the following:

- Low permeability leachate barriers to be incorporated in construction of the compost pads, feedstock holding bays, finished product storage and leachate collection system
- Depth to groundwater based on records for registered bores located on the low-lying adjacent land, and elevation of the subject area
- Clayey soil profile and relatively shallow bedrock expected across the subject area based on information for the adjacent land
- Proposed reuse of leachate in the Composting Activity and AD Facility to help in the management of leachate dams and maximise water content. In the event of potential overtopping, leachate would be pumped from the dams and disposed of at a licenced waste facility.

As the highest potential of impacting groundwater is associated with existing rural activities within the Rural Precinct, it is contended that further investigation of groundwater quality impact by the Project is not necessary in this instance.

8.5.3.6 Mitigation Measures

To ensure potential impacts posed to surface water and groundwater by the construction and operation phase of the Project are mitigated, the following environmental management measures are proposed to be enforced as part of the Construction Environmental Management Plan (**Appendix E.4**).

- Education and training of all operational staff and contractors to ensure compliance to management measures
- Monitoring of potential pollution sources on site (e.g. feedstock, digestate).
- Corrective Action Register

- Stormwater management
- Surface water quality monitoring program incorporating methodologies base on *Monitoring and Sampling Manual* (DES 2018) and *AS/NZS 5667- 1998: Water quality – Sampling*
    - Development of site-derived WQOs based on select locations immediately upstream and downstream compost activity area with reference to Guideline: *Environmental Protection (Water) Policy 2009* - Deciding aquatic ecosystem indicators and local water quality guidelines (DES 2018b)
    - Routine and event-based monitoring at select upstream (background) and downstream (impact) locations to monitor potential adverse impacts on downstream waters
    - Assessment of water quality results against relevant WQOs for Warril Creek and 'other freshwater tributaries' as specified in the Bremer River environmental values and water quality objectives, until such time as site-derived WQOs have been established
    - Adoption of Guideline: Environmental Protection (Water) Policy 2009 - Deciding aquatic ecosystem indicators and local water quality guidelines (DES 2018b) for the assessment of potential water quality impacts, and guidance from *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZG 2018) where further investigation of potential water quality impacts is identified
- The Environmental Risk Assessment Register and SBMPs for the AD Facility, STP and Composting uses (where appropriate) shall be reviewed on an as required basis guided by the environmental monitoring and CAR processes, yet no greater than every two years, to ensure the SBMPs remains effective in achieving environmental objectives and performance targets.
- Design of AD Facility to include impermeable surfaces to contain minor spills, and an earthen bund in the unlikely event of a major loss of containment (refer **Appendix C.1.7 –** Spill Management Plan)

8.6 Terrestrial Ecology

This Section provides an overview of the existing terrestrial ecology features on the site and assess potential impacts to matters of State and local significance. This Section is supported by an Ecological Assessment Report (EAR) prepared by 28°S Environmental Consulting in **Appendix E.1** – Ecological Assessment Report.

Matters of National Environmental Significance (MNES) have not been addressed in this Section of the RDIAR. A detailed MNES assessment is provided in **Appendix E.1** which determined the Project will not impact MNES and therefore referral to the Commonwealth is not required in this instance.

The EAR comprised a detailed desktop assessment to identify matters of environmental significance and a field investigation was undertaken on the 15 October 2019, to ground truth desktop assessment findings and establish an ecology baseline for the Project area.

Updates to the EAR were undertaken as part of this RDIAR to adequately address the Coordinator-General's statutory information request dated October 2020 and June 2023. In particular, the proponent was requested to quantify potential significant residual impacts for the removal of non-juvenile koala habitat trees (NJKHTs), in accordance with the Queensland Environmental Offsets Policy and update assumptions following various changes to the project since its inception.

8.6.1 Existing Environment

8.6.1.1 Flora

Despite historical clearing of the Project site dating back to 1994, the Queensland Herbarium pre-clear Regional Ecosystem (RE) mapping (**Figure 51**) indicates that the Project area is characterised by five REs. These have been summarised within **Table 27**.

Table 27. RE Ecosystems mapped within Project Area

Regional Ecosystem	Description	VM Act Class	Biodiversity Status	Estimated Extent	Location within Project area
12.3.3 – Eucalyptus tereticornis woodland on Quarternary alluviam	Eucalyptus tereticornis woodland. Eucalyptus crebra and E. moluccana are sometimes present and may be relatively abundant in places, especially on edges of plains and higher-level alluvium. Other species that may be present as scattered individuals or clumps include Angophora subvelutina or A. oribunda, Corymbia clarksoniana, C. intermedia, C. tessellaris, Lophostemon suaveolens and E. melanophloia. Occurs on Quaternary alluvial plains, terraces and fans where rainfall is usually less than 1000mm/y. (BVG1M: 16c)	Endangered	Endangered	Pre-clearing 438000 ha; Remnant 2017 40000 ha	Warrill Creek Floodplain
12.3.7 – Eucalyptus tereticornis, Casuarina cunninghamian a subsp. Cunninghamia na and/or Melaleuca spp. Fringing woodland	Narrow fringing woodland of Eucalyptus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana +/- Melaleuca viminalis. Other species associated with this RE include Melaleuca bracteata, M. trichostachya, M. linariifolia. North of Brisbane Waterhousea oribunda commonly occurs and may at times dominate this RE. Melaleuca uviatilis occurs in this RE in the north of the bioregion. Lomandra hystrix often present in stream beds. Occurs on fringing levees and banks of rivers and drainage lines of alluvial plains throughout the region. (BVG1M: 16a)	Least Concern	Of Concern	Pre-clearing 118000 ha; Remnant 2017 60000 ha	Warrill Creek Floodplain
12.8.16 - Eucalyptus crebra +/- E. melliodora, E. tereticornis woodland on Cainozoic igneous rocks	Eucalyptus crebra, generally with E. melliodora and E. tereticornis +/- E. albens grassy woodland. Occurs on dry hillslopes on Cainozoic igneous rocks, especially basalt. (BVG1M: 11a)	Of Concern	Of Concern	Pre-clearing 113000 ha; Remnant 2017 33000 ha	in the higher areas to the west and southwest
12.8.17 - Eucalyptus melanophloia +/- E. crebra, E. tereticornis, Corymbia tessellaris woodland on Cainozoic igneous rocks	n Eucalyptus melanophloia +/- E. crebra, E. tereticornis, Corymbia tessellaris, C. intermedia and/or C. clarksoniana, E. melliodora, Angophora subvelutina grassy woodland. Occurs on Cainozoic igneous rocks, especially basalt. (BVG1M: 11a)	Least Concern	No Concern at Present	Pre-clearing 77000 ha; Remnant 2017 28000 ha	North, northwest

Regional Ecosystem	Description	VM Act Class	Biodiversity Status	Estimated Extent	Location within Project area
12.8.9 - Lophostemon confertus open forest on Cainozoic igneous rocks	Lophostemon confertus open forest often with vine forest understorey ('wet sclerophyll'). Occurs on Cainozoic igneous rocks. Tends to occur mostly in gullies and on exposed ridges on basalt. (BVG1M: 8a)	Least Concern	No Concern at Present	Pre-clearing 13000 ha; Remnant 2019 11000 ha	North, northwest

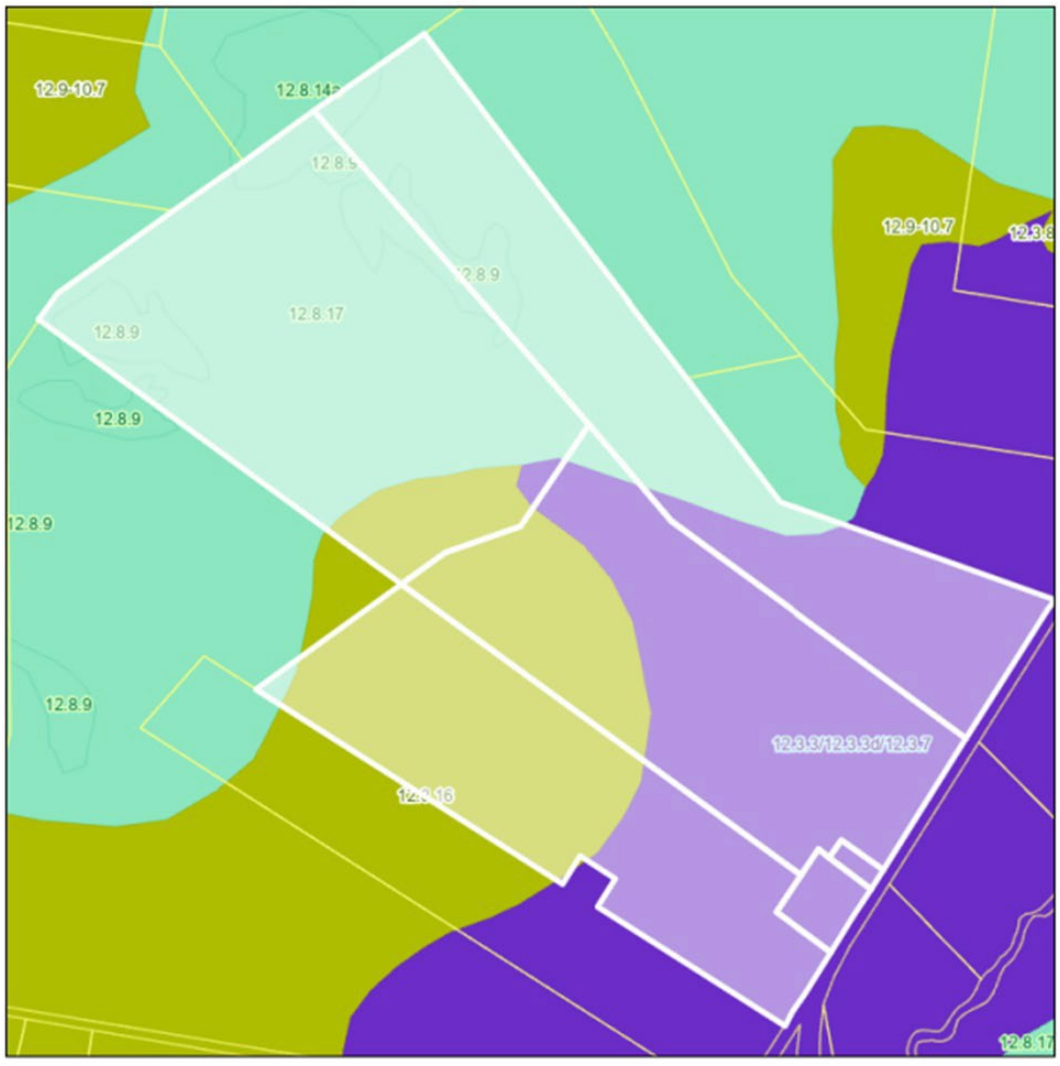


Figure 51. Regional Ecosystem Mapping

The field survey confirmed that the mapped regional ecosystems were generally consistent with the RE descriptions and the mapped polygon extents, noting that previous survey efforts involved a Property Map of Assessable Vegetation (PMAV) over a portion of the Site (**Appendix E.1** – Attachment 16).

The Project does not involve the removal of any part of the mapped regional ecosystems and establishes an Environmental Protection Area (EPA) over the Regulated Vegetation located within the north west extent of the Project site. Further, proposed built infrastructure located within the Project's disturbance footprint is situated more than 400 m from the EPA overlay.

8.6.1.2 Fauna

A shortlisting assessment, which involved a likelihood assessment utilising known records, perceived habitat suitability and the presence of conservation significant fauna, was used to determine the perceived probability of a species inhabiting or frequenting the Project site. Full details of the analysis and justification process is provided within Section 6.1 of **Appendix E.1**. It was determined that only one of the two mammal species identified, the koala, should be considered in further detail within field surveys and that no suitable habitat for the brush-tailed rock-wallaby is present within the site or surrounding remnants. The Wildlife Online database indicates the presence of a diverse bird community in the locality of the Project area, with the PMST and previous environmental surveys indicating the occurrence of several bird species constituting both Matters of National Environmental Significance (MNES) and Matters of State Environmental Significance (MSES).

No amphibian species of conservation significance were identified as potentially occurring within the site. The presence of Fauna Species in the Project area have been summarised within **Table 28**.

Table 28. Presence of Fauna Species in the Project area (Desktop results)

Species	Threatened Category	Presence (PMR)
Reptile		
Common Death Adder (Acanthophis antarcticus)	Vulnerable – NC Act	Known to occur
Bird		
Hiundapus caudacutus (white-throated needletail)	Vulnerable - NC Act / EPBC Act	Known to occur
Migratory Bird Species		
Apus pacificus (fork-tailed swift)	Special Least Concern – NC Act	Likely to occur
Monarcha melanopsis (black-faced monarch)	Special Least Concern – NC Act	Likely to occur
Symposiachrus trivirgatus (spectacled monarch)	Special Least Concern – NC Act	May occur
Rhipidura rufifrons (rufous fantail)	Special Least Concern – NC Act	Known to occur
Mammal		
Koala (Phascolarctos cinereus) (South East Queensland bioregion) (koala (South East Queensland bioregion))	Vulnerable – NC Act	Known to occur
Brush Tailed Rock Wallaby (Petrogale penicillata)	Vulnerable – NC Act / EPBC Act	Likely to occur

Koala and Koala Habitat

The Project disturbance footprint is not located within State koala mapping including Koala Priority Area (KPA) or a mapped Core Koala Habitat Area. As it is outside of these areas, Schedule 11 of the Planning Regulation does not apply and therefore does not constitute a significant residual impact on a prescribed matter under the Assessment Benchmarks of the Planning Regulation.

The ecological surveys prepared by Ecological Survey and Management Pty Ltd (EcoSM (2018)) directly and indirectly observed koala or koala evidence (scat or scratch). These observations were recorded in lower slope remnants dominated by the recognised favoured forage tree Queensland blue gum which is classified as a non-juvenile koala habitat tree (NJKHT) defined in the *Queensland Environmental Offset Policy* (QEOP).

Active searches (canopy scanning) of all trees within the SRAIP development footprint, undertaken by 28°S Environmental Consulting in 2019, failed to detect the physical presence of koalas. However, passive search techniques did identify old koala scats in the far northeast of the site where a small number of relict Queensland blue gums occur.

Stands of young and advanced regrowth of Queensland blue gum were observed to the north of the SRAIP development footprint surrounding existing drainage features and dams. Further north (c.700 m), larger tracts of remnant vegetation dominated by Queensland blue gum are present.

Within the SRAIP development footprint, only scattered NJKHTs are present. Most of these occur within the existing overland flow path and proposed drainage channel. Some of the NJKHTs will be retained, while others will be removed for the proposed development.

The SRAIP development footprint does not occur within any areas that could be considered as important koala habitat given the distinct lack of woodland, open forest or connective habitats for dispersal and breeding. It is acknowledged and well known that koalas will readily move across non-core habitat and utilise individual trees. The EAR contends the widely scattered and isolated paddock trees within the SRAIP development footprint do not provide critical habitat elements for the local koala population. This is predominantly due to the abundance of more favourable intact or more aggregated habitats occurring to the west and north of the Project footprint and its immediate surrounds.

Individual koalas may occasionally utilise these isolated trees, belong to a larger meta-population which would occur in varying densities across the region. This population is likely to be more abundant where more intact tracts of vegetation persist on low fertile plains and their adjoining lower slopes (particularly where favoured feed trees are present and or dominant). The population and individuals residing in proximity to the SRAIP development footprint are unlikely to be unique or disjunct from any other populations. Limited ecological or bio-regional barriers occur within the region that would result in the population being isolated from other populations and rendering the population genetically disjunct from others.

8.6.2 Potential Impacts

8.6.2.1 Flora

The proposed disturbance footprint of the Project avoids impacts to more significant environmental features located on the northwestern portion of the Project site. The proposed disturbance footprint is predominantly confined to areas of existing and historical disturbance and avoids impacts to the higher value habitats present on the site. The balance of the Project disturbance footprint (5.09 ha) is located within Kalfresh existing operational facilities.

The proposed development will require the removal of 20 NJKHTs. The location of these NJKHTs is shown in **Figure 52**, and also within the Vegetation and Fauna Management Plan at Attachment 2 of **Appendix E.1**. As the Project is requires the removal of 20 NJKHTs, it is considered as having a significant residual impact under the QEOP. The QEOP (version 1,8) stipulates that each individual NJKHT equates to an impact of 0.004 ha (or 40 m^2). As such the removal of 20 NJKHTs is assessed to have a significant residual impact of 0.08 ha.

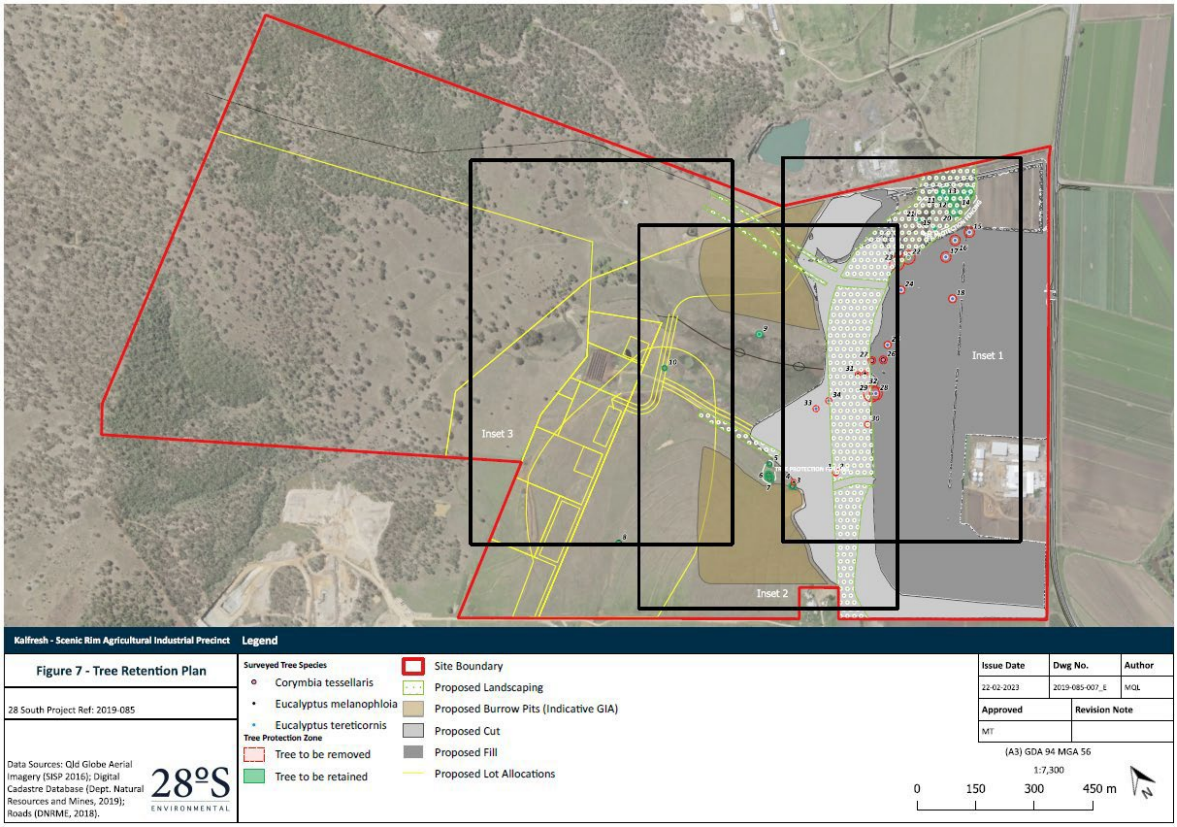


Figure 52. Koala Habitat Tree Retention Plan

8.6.2.2 Fauna Impacts

No significant impacts on fauna species of conservation significance are expected to result from the SRAIP. Nevertheless, based on its intermittent presence within the site and potentially the Project footprint, an impact assessment focusing on koalas was undertaken at Section 7.2.3 of the EAR – **Appendix E.1**.

The key findings of this assessment confirmed that:

- The Project's disturbance footprint and its immediate surrounds do not support habitat critical to the survival of the koala
- The broader locality does not support a defined important population
- The Project's disturbance footprint does not occur in areas that support intact koala habitat and will not interfere with koala movement. Further, the location and siting of the Project means koalas are unlikely to move through the SRAIP, as there is no habitat to move to or adjoining it to the east; and
- Koala habitat can be significantly improved within the site through rehabilitation and/or active natural regeneration in areas not under graze or cropping

General Habitat Impacts

Based on the highly degraded and heavily modified nature of the Project disturbance footprint, the Project will only result in minimal impacts on native fauna species. The disturbance footprint of the Project has been confined to existing disturbed areas including cropping lands, a Table drain, and heavily grazed paddock areas, which contain sporadic relict native trees of low habitat value. The field survey has determined that the development footprint of the Project is not considered to provide important habitat for any fauna species constituting MNES, MSES or MLES. Fauna assemblages that utilise these areas are likely to consist of introduced species (e.g. field mouse) and locally common and robust species such as reptiles and arboreal mammals such as possums.

Indirect Impacts

There is potential for the Project to lead to indirect impacts on fauna within and surrounding the site through increased traffic, light, air pollution, noise and odour from specific activities proposed within the precinct. Air pollution, noise and odour elements have been assessed for each specific activity in with combined impacts and management measures discussed within **Sections 8.9** and **8.10**. The regulations governing the ERAs will be sufficient for the purposes of avoiding notable impacts on resident fauna in what is a highly disturbed area. With respect to traffic and light generation, these aspects will likely increase through the establishment of the SRAIP. However, it must be noted that the site is highly modified and largely devoid of important fauna habitat; particularly in proximity to the Projects disturbance footprint. As such, it is considered that Project disturbance of the SRAIP is confined to an area that is well-suited to absorb increases in traffic and light spill. The indirect impacts associated with the SRAIP are also likely to further deter native animals from entering the operational areas of the development, thus promoting the ongoing use of peripheral habitat areas.

8.6.3 Proposed Mitigations

Section 7 of the EAR at **Appendix E.1** provides the avoidance, minimisation and mitigation measures to reduce impacts to the identified NJKHT's. Owing to the minor nature of impacts to flora and fauna resulting from the Project a financial contribution to offset impacts to NJKHTs in accordance with the QEOP is proposed.

Offsets aside, the proponent will voluntarily deliver revegetation plantings of Queensland blue gum within the proposed overland flow path and landscaping buffer areas of the Project. This is not an offset planting but rather a landscaping mitigation measure that will result in an uplift in the utility of the area for koalas and other arboreal fauna.

Revegetation plantings could equate up to three Queensland Blue Gums for every NJKHT impacted by the proposed development and result in a total establishment of approximately 60 Queensland Blue Gum plantings. This voluntary planting more than adequately compensates for the impacts to the NJKHTs as a result of the Project and arguably achieves a higher environmental outcome compared to the required offset to be delivered under the QEOP.

These landscape plantings will be established at 1 plant per 400 m^2 (or 20 m spacings) throughout the Overland Flow Path, as well as buffer areas adjoining the northern connection road and the future haul road. The landscaping area totals 12.95 ha and, where occurring within the Overland Flow Path, will not affect any Manning's coefficient for stormwater. As an additional benefit, the landscaping works will help improve stabilisation of the proposed Overland Flow Path and provide increased shading and cooling throughout the built form of the Project.

The establishment of the SRAIP will be guided by an approved Vegetation Management Plan (VMP) and Fauna Management Plan (FMP) prepared in accordance with the SRPS's Policy 5 – Ecological Assessments. The VMP will include a detailed vegetation retention plan as well as the establishment of tree protection zones and fencing. The FMP will detail management measures which will be enforced during clearing and ongoing operations, including requirements for appropriately qualified spotter catchers to be present while clearing activities occur. Further detail regarding the VMP and FMP which has been developed for the SRAIP is located within Attachment 2 of the Ecology Assessment Report – **Appendix E.1**.

8.6.4 Offsets

As the Project is proposing to remove 20 NJKHT's, an offset is required in accordance with Chapter 2A of the QEOP. This offset can either take the form of a Proponent driven on-ground offset, a financial offset or a combination of both. At this time, Kalfresh propose to deliver the offset as a one-off financial contribution of $8,030.88. This contribution has been calculated based on the online Financial settlement offset calculator - the version in effect at the time this RDIAR was prepared. The calculation will be re-run and updated to reflect contribution required to inform the Notice of Election at the time of lodgement.

8.7 Aquatic Ecology

This Section addresses the Project's potential to impact aquatic ecology and fish passage. Information within this Section has been derived from the Waterway investigation and fish community survey in relation to the Scenic Rim Agricultural Industrial Precinct Project Technical Report undertaken by Fishology Consulting in April

2020 (**Appendix B.8** – Waterway Barrier Works Technical Report). The study comprised a field investigation on 5 March 2020, which investigated nine sites to confirm waterway presence, location and extent. Four sites were additionally surveyed for fish communities.

8.7.1 Existing Environment

8.7.1.1 Waterways

As outlined in **Appendix B.8** – Waterway Barrier Works Technical Report, the State Governments waterway mapping indicates that there are three green 'low-risk' waterways and a single amber 'moderate-risk' waterway within the site (**Figure 53**). DAF mapped green and amber waterways (newly classified green) and amber waterways are shown as well as historical levee bank (black line), and location of diversion channel (blue line).

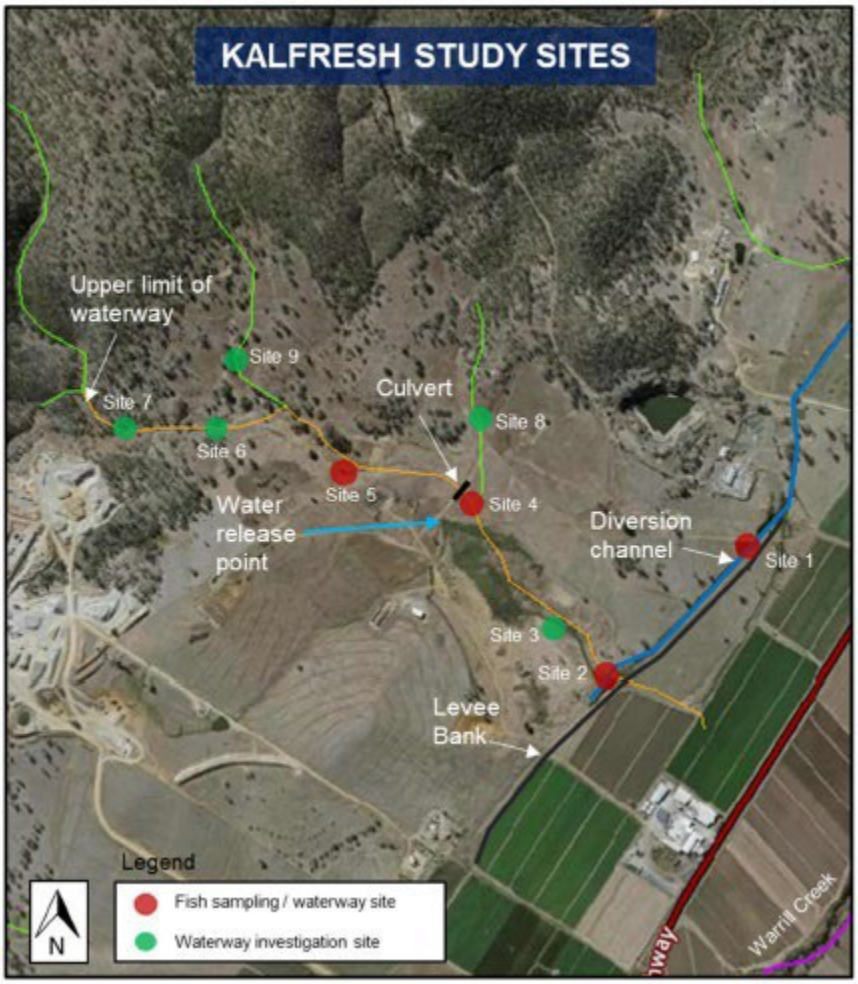


Figure 53. Waterway and Fish Sampling Investigation Sites (Fishology 2020)

The green waterways within the site were found to be upper drainage lines that did not contain waterway features, retain water or have any flow despite recent and substantial rainfall. Accordingly, the Fishology report concluded such channels did not constitute waterways for the purpose of the *Fisheries Act 1994*.

The amber waterway was similarly found to have lower risk to fish passage consistent with a green 'low risk' waterway classification. In feedback received upon review of the Draft IAR in 2020, DAF confirmed that this waterway should be recategorised and can be assessed and treated as green 'low risk' waterway for the purposes of assessing any impacts associated with the Project.

The upper portion (between site 5 – 7) of the newly classified green 'low risk' waterway had a defined bed and banks as well as shallow (average depth of 0.2 m) pool formations present due to underlying bedrock. The size of these pools suggest that they will easily dry up during dry periods. It is unlikely that this section of the waterway would form permanent flow or retain connectivity after rainfall events.

The middle section (between site 4 – 5) of the waterway had deeper naturally formed permanent pools present which, at the time of survey, had a small amount of flow between pools with flow paths dominated by emergent vegetation. The presence of water within this section of the waterway is linked to rain events and anecdotal evidence suggest that these were dry prior to recent rainfall. A historical farm dam is constructed below the naturally forming pools. This dam does not hold any significant water and has failed since construction, redirecting flow along an alternative flow path to the northeast of the original waterway alignment. This alternative alignment has scouring which forms a significant pool below the dam, with anecdotal evidence suggesting the water source is semi-permanent. No fish were captured within the middle section of the waterway.

At site 4 in the lower section of the waterway (between site 2 - 4) a waterway crossing with a 450 mm diameter pipe culvert concentrates flow. This includes waterway features including a downstream scour pool and defined bed and bank immediately below the crossing. Downstream from this site the waterway does not have any waterway features (no bed or bank) and becomes very shallow. Historical land use practices, as well as the discharge of vegetable processing water from existing Kalfresh activities, has modified the lower reach of the waterway. Kalfresh vegetable washing water exits the perched Table drain west of site four, draining into the valley before being captured in the diversion channel. This artificially constructed waterbody, now acts as the downstream reach of the waterway. This area is constantly wet and has small amounts of flow from the water releases further upstream. The constant release of water from the Kalfresh vegetable washing operation has created almost permanent habitat along this channel. Despite the almost permanent habitat, the channel and occasional pools are very shallow and dry out quickly when the water releases cease. Fish species were found to be present within this section of the waterway with the highest diversity captured within the drainage channel. Habitats are limited and dominated by emergent vegetation and weeds.

8.7.1.2 Fish Communities

Six species were identified and a total of 618 fish were recording during sampling efforts. Comprising five native species and a single pest species, Gambusia holbrooki (mosquito fish). Native species located on site are listed below.

- Craterocephalus marjoriae , Marjorie's hardyhead
- Ambassis agassizii, Olive perchlet
- Hypseleotris klunzingeri, Western carp gudgeon
- Melanotaenia duboulayi, Duboulay's rainbowfish
- Leiopotherapon unicolor, Spangled perch

All species were located within the lower reaches of the site, in the historical drainage channel and the lower section of the newly classified green waterway. No fish were observed or sampled in the middle and upper reaches of this waterway. This is likely due to the presence of an existing waterway barrier.

Anecdotal evidence suggests that all waterways and dams within the site periodically dry up, with the farm manager of the Kalfresh site observing that all waterways were dry between March 2019 and January 2020. The presence of fish during the current sampling efforts indicate that fish recolonise this area after rainfall events, and points to upstream migration of fish species from Warrill Creek and downstream dams despite numerous downstream barriers.

It is important to note that the persistence of fish communities within these lower reaches of the site are enhanced by waterlogging of the drainage channel due to vegetable washing operations. This waterlogging is likely enhancing natural flows of waterways on site and artificially increasing fish passage opportunities from downstream sites.

8.7.2 Waterway Barrier Works

The pre-existing waterway barrier in the form of a narrow pipe culvert, part of an internal road crossing (reinforced concrete pipe 450 mm diameter, 7.4 m long), is likely acting as a downstream barrier preventing fish passage to the semi-permanent pools within the middle reach of the waterway, where no fish species were present during field investigations. Fish passage past this barrier is expected to be limited due to Australian native fish species having relatively poor swimming speeds (Watson et al 2020). The eroded area below the culvert (Site 4) had a significantly greater fish population (twice as many as Site 1 and 2). This congregation of fish directly below the culvert is a significant indicator that it is acting as a barrier preventing fish passage upstream.

As waterway barriers impact fish communities by increasing predation and disease, block access to breeding grounds, feeding habitats and prevent recolonisation of upstream habitats, it is important that the existing waterway barrier and future waterway barriers proposed by the Project are appropriately mitigated and managed. An application for operational work (waterway barrier works) will be progressed prior to earthworks occurring, likely forming part of the initial MCU for reconfiguration of a lot.

8.7.3 Mitigation Measures

Aspects of the SRAIP that may impact waterways within the site includes filling to create allotments, construction of the floodway and internal roads. The waterway crossings are anticipated to generally comply with the accepted development requirements (ADR) for operational works that is construction or raising of waterway barrier works, with stated conditions for matters outside the ADR to be included as part of the Coordinator-General's evaluation.

Works will be undertaken to replace the existing culvert crossing and provide fish passage to upstream habitats. Fish habitat and waterway connectivity will be provided as part of the SRAIP through the incorporation of billabong type habitats within the floodway and lower reach of the newly classified green waterway. These habitats will be connected via a spoon drain that will concentrate low flows.

Undertaking these works will benefit fish habitats and provide for greater waterway connectivity. The proposal is anticipated to minimise and mitigate any impacts to waterways that provide fish passage, the project is not expected to result in a significant residual impact. The Fishology report concluded that establishment of the SRAIP may in fact enhance the function and quality of the existing waterways through the construction of the overland flow path and plantings of aquatic flora species which will function as an artificial billabong.

The proposed works and mitigation measures have been reviewed by DAF. DAF's response confirms that the proposed works and mitigation measures outlined above meet the requirements for fish passage for the development.

For additional information in relation to the mitigation measures, refer to **Appendix B.8** – Waterway Barrier Works Technical Report and **Appendix B.1.4** – Operational Works Drawings (Bulk Earthworks).

8.8 Biosecurity

8.8.1 Existing Environment

No preliminary desktop assessment was undertaken for the purpose of identifying potentially occurring weed species or pest fauna species. Active searches for noxious weed and pest species occurred during the fauna field survey and identified as a component of the flora field survey when categorising existing environments and flora species within the Project area.

The Project area is predominantly cleared of native vegetation due to agricultural activities historically occurring, significantly reducing the site's ecological values. Much of these agricultural areas contained and, in some cases, were dominated by pest plant species, pasture improvers and opportunistic weed species where regular disturbance on the existing site occurs (i.e. access tracks in cropping areas, grazing and augmented drainage channels).

The presence of weed species occurred in relatively low densities across the Project area, with 33 weed species identified during the field survey. Six of these species are listed as restricted matters under the *Biosecurity Act 2014*:

- Asparagus Fern (*Asparagus africanus*)
- Cat's Claw Creeper (*Dolichandra unguis-cati*)
- Common Lantana (*Lantana camara var. Camara*)
- Creeping Lantana (*Lantana montevidensis*)
- Common Pest Pear (*Opuntia stricta*)
- Fireweed (*Senecio madagascariensis*)

With the exception of Creeping Lantana, these species are listed as weeds of national significance. A full list of weed species present within the Project area is provided as part of the EAR provided at **Appendix E.1**. There were two exotic fauna species recorded during field surveys which are listed as restricted invasive animals under the *Biosecurity Act 2014*. The Common Myna (*Sturnis tristis*) and European Red Fox (*Vulpes vulpes*).

It is expected that the augmented drainage channels and open nature of the drainage basin were likely to support the proliferation of Cane Toad (*Rhinella marina*). Other common pest fauna species are also expected to occur onsite, such as wild dog (*Canis familiaris*), cat (*Felis catus*), European Brown Hare (*Lepus europaeus*) and Black Rat (*Rattus rattus*).

8.8.2 Potential Impacts

During the development stage of the Project, earthmoving has the potential to introduce and spread new or existing weed and pest species to the local area.

An additional risk to biosecurity is posed during the operational phase of the Project, with the potential for the spread of existing or new weed and plant pest species to the local region due to the transport of produce between local farms and the SRAIP. The transportation and storage of organic materials awaiting processing by anaerobic digestion or composting, such as animal manure and food waste, may also pose a potential risk of introducing weeds not currently present within the area, such as parthenium (*Parthenium hysterophorus*) or tropical soda apple (*Solanum viarun*).

However, once the material is processed, there is evidence that the production and utilisation of digestate as a bio-fertiliser reduces the presence of plant pathogens and weed seeds, lowering their dispersal by land and in turn reducing the need for herbicide use (Lukehurst et al 2010). This is due to the fact that pasteurisation occurs as part of the digestion process. It is therefore anticipated that the Project will have a positive impact on biosecurity and soil health in the local area.

It is important that the potential biosecurity risks posed by the construction and operation of the Project are carefully managed and mitigated to safeguard the agricultural health of the local area, which is a prime agricultural production area in the Scenic Rim.

8.8.3 Management

Kalfresh, as a landholder, has a general biosecurity obligation (GBO) under Chapter 2, Part 1 of the *Biosecurity Act 2014* to take all reasonable and practical steps to minimise the risks associated with invasive weed and pest species. This is inclusive of all biosecurity risks posed by pests, diseases or contaminants.

Kalfresh will strive to minimise biosecurity risks posed during the development and operation phases of the Project through the implementation of a Biosecurity Management Plan (BMP) which will be developed prior to the construction phase of the Project. This plan will utilise information provided by the SRRC's Scenic Rim Biosecurity Plan (SRBP), which details strategies and information regarding the control of declared pest plants within the region. Kalfresh will utilise the Freshcare Code of Practice as a baseline for the BMP, as it outlines the criteria that Kalfresh currently comply with to meet obligations under the *Biosecurity Act 2014* for current operations.

Mitigation measures and protocols contained in the BMP will seek to minimise biosecurity risks posed by the potential spread of pest, weeds and diseases from vehicles entering and exiting the SRAIP during construction and operation of the Project.

Any unusual plant pest, disease or weeds identified on the property will be reported to the local department of agriculture of Plant Health Australia. The BMP will also address aspects internal to the precinct, including further detail around the prevention of cross-contamination (i.e. waste processing and food preparation areas), and potential health and safety risks from bioaerosols (Refer to section 6.3 of **Appendix C.3.3**).

8.9 Noise and Vibration

This Section is supported by a technical assessment of the acoustic environment prepared by MWA Environmental (**Appendix E.2**). The assessment provides a description of the existing environment and addresses the potential impacts and specific management practices relevant to the Project.

8.9.1 Existing Environment

Surrounding land uses have previously been summarised in **Section 3.3**. The closest sensitive receptor (residential) is located within 95 m of the site and 320 m of the development area (R12) (**Figure 54**). The 'residential use' located within 95 m of the site (to the east of Lot 1 on SP121240) is utilised for industrial purposes (fertiliser supply). The full list of identified sensitive receptors are summarised within **Table 29** and can be visualised in **Figure 54**.

Table 29. Residential Setback Distances from Boundary of Subject Land and Nearest SRAIP Uses

Sensitive Receptor	Setback Distances from Subject Land (m)	Setback Distances from Nearest SRAIP Use (m)
R1	1120	1120
R2	620	715
R3	625	640
R4	610	620
R5	607	614
R6	625	625
R7	685	685
R8	690	690
R9	745	745
R10	1430	1430
R11	520	520
R12	95	320
R13	370	455
R14	1260	1500

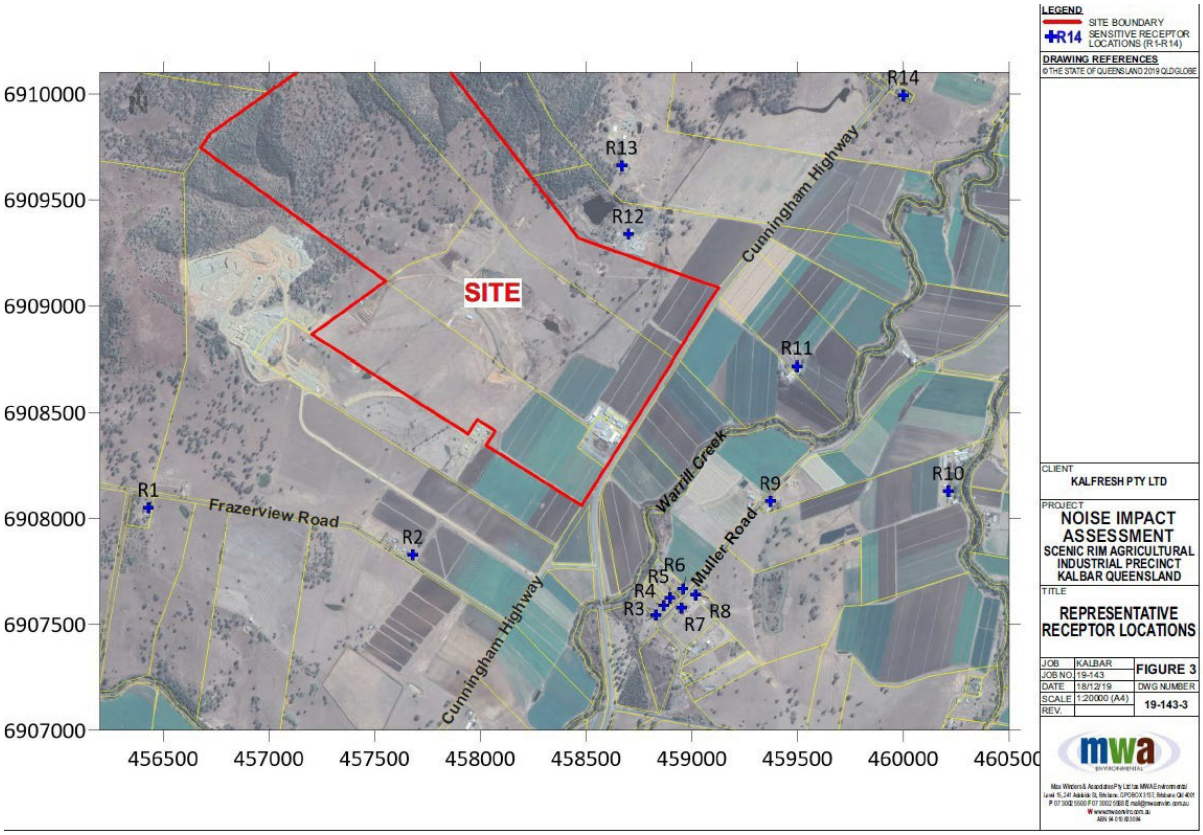


Figure 54. Map indicating representative receptor locations (WMA)

Current sources of noise and vibration in the Project area are bound by existing land uses as well as the naturally occurring natural processes (e.g. rain, fire, waterways etc.). Ambient noise levels are primarily affected by the Cunningham Highway, with low ambient background noise levels at locations well setback form the Cunningham Highway. Quarrying and Industrial activities are present in close proximity of the Project area and contribute to existing noise levels.

Regional meteorological data obtained from the Bureau of Meteorology (BoM), indicates that the prevailing wind direction for the area is in an east, northeasterly direction (BoM, 2022).

MWA Environmental conducted baseline ambient noise level investigations on behalf of Kalfresh between the 19 to 25 October 2018. Monitoring was undertaken at two free-field monitoring locations which were located 2.4 km (Horan road) and 700 m from Cunningham Highway (Project area). The time period between 6pm to 10pm was identified as having the highest ambient noise level recordings of 32 dB(A) and 39 dB(A) respectively.

8.9.2 Potential Impacts

8.9.2.1 Noise

The Project has the potential to impact on the immediate area and surrounding areas ambient noise levels during both construction and operation.

Construction activities which are likely to contribute to noise emissions are:

- Clearing works
- Earthworks
- General construction works
- Increased vehicle movement

The noise impacts during the operation phase of the Project are expected to be less than the construction phase. The SRAIP Industry Precinct, AD Facility and the compost facility have been identified as the main operational noise sources.

The key noise emissions from these sources are as follows:

- Industrial Subdivision
- Heavy vehicle movement
- Loading / material handling activities and associated, and
- Internal manufacturing / processing noise from future buildings.
- AD Facility
- Biogas cogeneration ("CHP" units (x2))
- Biogas plant flare
- External silage handling (i.e. front end loader)
- Composting Facility
- Heavy vehicle movements
- Raw material stockpiling, blending and formation of windrows using front end loader
- Windrow turning using a tractor PTO driven turner or a dedicated windrow turning machine
- Finished product stockpiling and loading trucks for dispatch using a front – end loader

A preliminary noise model was established by MWA Environmental in 2018 using SoundPLAN 8.1 software applying the ISO9613 standard, under worst case adverse meteorological conditions (**Appendix E.2**). A cumulative assessment of the daily noise emissions from the SRAIP indicates that the SRAIP can comply with appropriate noise criteria at surrounding sensitive land uses, based upon criteria outlined by Schedule 8, Part 3, Division 1 of the *Environmental Protection Regulation 2019* and Schedule 1 and 6 of the *Environmental Protection (Noise) Policy 2019*, which specifies the acoustic quality objectives for sensitive receptors (**Table 30**) (**Appendix E.2**).

Table 30. Relative Acoustic Quality Objectives

Sensitive Receptor	Time of Day	Acoustic Quality Objectives (measured at the receptor) dB(A)			Environmental Value
		$L_{Aeq,adj,1hr}$	$L_{A10,adj,1hr}$	$L_{A1,adj,1hr}$	
Dwelling (for outdoors)	Daytime and evening	50	55	65	Health and wellbeing
Dwelling (for indoors)	Daytime and evening	35	40	45	Health and wellbeing
	Night-time	30	35	40	Health and wellbeing in relation to the ability to sleep.

8.9.2.2 Vibration

Although no detailed vibration impact assessment has been included as part of this IAR, it is noted the nearby quarrying activities to the northwest of the SRAIP have a potential to cause potential vibrations over the life of the Project. Previously, a 300 ML water storage dam was proposed to be located within the extents of the KRA processing area. This dam is no longer being proposed, with a smaller 50 ML turkeys nest dam proposed to be located to the east of the Project site closer to the Cunningham Highway.

In their submission and more recent advice on the Project, DoR identified that being a sensitive land use within the Project, engineering for the proposed dam would need to account for any vibration or blasting activities associated with quarrying activities within the KRA.

The engineering drawings pertaining to the dam are provided at **Appendix B.3** of this report – which includes engineering assumptions to account for potential vibration. Construction of the dam and its method will be

subject to further geotechnical investigations and the specific properties of the rock and soils to be utilised on site. If the site does not possess the correct geotechnical properties, construction material may be imported from off site to construct the batters and slopes of the dam.

8.9.3 Mitigation Measures

Standard noise and vibration management procedures, in line with legislative requirements and site-specific triggers, will be included within the Construction Environmental Management Plan (CEMP) (Refer **Appendix E.4**) and Site Based Management Plans (SBMP) (See **Appendix C.1.4** and **Appendix C.3.4**). All Kalfresh staff and subcontracts will undergo education and training to ensure compliance to the CEMP and SBMP.

The SBMP details standard operating procedures (SOPs) and/or ECPs designed to mitigate noise and vibration impacts. The SBMP also outlines the control measures, monitoring program/s and performance objectives for environmental and public health elements for noise emissions.

In the unforeseen event of a noise or vibration complaint, monitoring will be undertaken. If monitoring indicates that exceedance of noise and/or vibration limits as outlined by the *Environmental Protection (Noise) Policy 2019* has occurred, site-specific management measures will be implemented in conjunction with long-term monitoring until such time as complaints and/or exceedances have been resolved.

As recommended by MWA Environmental, further assessment of noise emissions from the AD Facility will be undertaken during the detailed design stage to ensure that appropriate noise control measures are implemented to achieve the relevant noise amenity criteria at sensitive receptors.

8.10 Air Quality

This section is supported by a technical assessment of the air quality prepared by MWA Environmental which includes the analysis of air quality data (Refer **Appendix E.3**). The assessment provides a description of the existing environment and addresses the potential impacts and specific management practices relevant to the Project.

8.10.1 Existing Environment

8.10.1.1 Climate

The cool and dry winters and hot and humid summers in the area are subject to and typical of the sub- tropical climate of South East Queensland.

Regional meteorological data was sourced from the nearest Bureau of Meteorology (BOM) station located in Amberley (Amberley AMO, 040004), approximately 35.7 km from the Project area and has been summarised within **Table 31**.

Mean monthly minimum temperatures range from 5.4°C (July) and 19.6°C (January) and the mean monthly maximum temperatures range from 21.3°C (July) to 31.2°C (January). Mean rainfall data indicates that minimum rainfall (27.9 mm) is recorded in August and maximum rainfall (125.0 mm) is recorded in February. The average annual rainfall for this area is 867.7 mm.

The mean monthly 9 am wind speed ranges from 5.2 km/h (May) to 9.2 km/h (November) and the mean monthly 3pm wind speed ranges from 11.1 km/h (May) and 17.9 km/h (October and November). The prevailing wind direction at 9 am shifts between a southerly and north-westerly direction but tends to the east, northeast by 3pm (**Figure 55**) (BoM, 2022).

Table 31. Summary of Climate Statistics, Amberley AMP (Site No. 30024)

Month	Temperature (°C)	Relative Humidity (%)	Wind Speed (k	m/h)	Rainfall (mm)	Month	Temperature (°C)
	Mean Max	Mean Min	9am	3pm	9am	3pm	Mean Monthly
Jan	31.2	19.6	67	51	8.8	16.5	116.2
Feb	30.5	19.5	70	54	8.4	15.1	125.0
Mar	29.4	17.8	71	52	7.9	14.3	88.0
Apr	27.2	14.0	72	48	6.1	12.3	53.1
May	24.1	10.0	76	48	5.2	11.1	54.9
Jun	21.6	7.0	77	46	5.5	12.1	45.7
Jul	21.3	5.4	74	42	5.3	12.6	37.4
Aug	22.	6.2	68	38	5.9	13.9	27.9
Sep	25.7	9.5	62	38	7.4	15.8	33.2
Oct	27.8	13.3	60	43	8.5	17.9	74.3
Nov	29.7	16.2	60	46	9.2	17.9	79.7
Dec	30.9	18.4	63	49	8.6	17.6	118.1
Mean	**26.9**	**13.1**	**68**	**46**	**7.2**	**14.8**	**867.7**

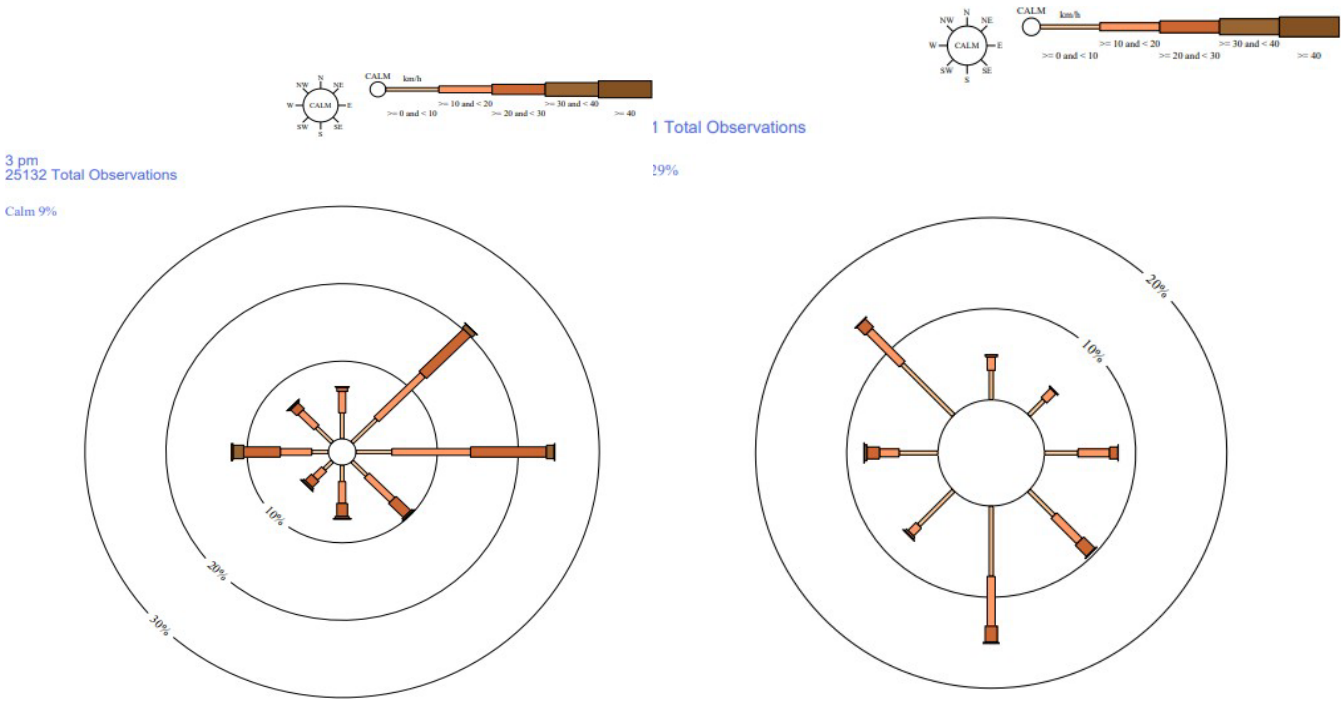


Figure 55. Rose of 3pm wind direction versus wind speed in km/h and 9am wind direction versus windspeed in km/h (site number: 30024) (BoM, 2022).

8.10.1.2 Air Quality

The airshed of the immediate local area is highly disturbed, characterised by cropping and agricultural activities as well as quarrying activities to the northeast of the Project site. Current ambient air pollutant concentrations were obtained from the closest monitoring stations to the Project area, Flinders View, Springwood and South Brisbane. An analysis of ambient air quality data was undertaken by MWA Environmental and ambient concentration of relevant pollutants have been included in **Appendix E.3**. The

local relief of the surrounding area (refer **Section 3.2.7.1**) is minor, sloping upward to the west and ranging between 90 m AHD (site frontage) to 190 m AHD (western site boundary) and is not expected to influence air quality dispersion, particularly when considering predominantly east, northeasterly wind directions.

Table 32. Ambient Air Pollutants Concentrations

Pollutant	Averaging Time	Ambient	Source
PM_{10}	24 Hour Average	18.3 µg/m^3	24 hour average 70th percentile over 3 years from 2016 to 2018 at Flinders View
	Annual Average	16.4 µg/m^3	Average over 3 years from 2016 to 2018 at Flinders View
$PM_{2.5}$	24 Hour Average	6.4 µg/m^3	24 hour average 70th percentile over 3 years from 2016 to 2018 at Springwood
	Annual Average	5.7 µg/m^3	Average over 3 years from 2016 to 2018 at Springwood
TSP	Annual Average	36.6 µg/m^3	Double the PM10 average over 3 years from 2016 to 2018 at Flinders View
Deposition	Monthly Average	40 mg/m^2/day	Assumption based upon typical background data
Nitrogen Dioxide	1-hour average	16.9 µg/m^3	1 hour average 70th percentile over 3 years from 2016 to 2018 at Flinders View
	Annual Average	14 µg/m^3	Average over 3 years from 2016 to 2018 at Flinders View
Sulphur Dioxide	1-hour average	5.2 µg/m^3	1 hour average 90th percentile over 3 years from 2016 to 2018 at Flinders View
	24 Hour Average (Maximum)	2.6 µg/m^3	24 hour average 70th percentile over 3 years from 2016 to 2018 at Flinders View
	Annual Average	1.9 µg/m^3	Average over 3 years from 2016 to 2018 at Flinders View
Carbon Monoxide	Maximum 8-hour average	180 µg/m^3	8 hour average 70th percentile over 3 years from 2016 to 2018 at South Brisbane

8.10.1.3 Sensitive Receptors

Sensitive receptors are defined under the *Planning Regulation 2017* as "caretakers' accommodation, child care centre, community care centre, community residence, detention facility, dual occupancy, dwelling house, dwelling unit, educational establishment, health care services, hospital, hotel, multiple dwelling, non- resident workforce accommodation, relocatable home park, residential care facility, resort complex, retirement facility, rooming accommodation, rural workers accommodation, short-term accommodation or tourist park".

The definition of a sensitive place is provided in the Guideline: Application requirements for activities with impacts to air (DES 2021) and is required to be considered by operators of ERAs. A sensitive place could include but is not limited to (DES 2021):

- Dwelling, residential allotment, mobile home, or caravan park, residential marina, or other residential premises
- Motel, hotel, or hostel
- Kindergarten, school, university, or other educational institution
- Medical centre or hospital
- Protected area under the *Nature Conservation Act 1992*
- World Heritage Area
- Public park or garden
- Place used as a workplace including an office for business or commercial purposes

Nearby sensitive receptors identified for the Project have been previously outlined in **Section 8.8.1**, **Table 29** and can be visualised in **Figure 54**.

8.10.2 Potential Impacts

Key air pollutant emissions with the potential to impact the surrounding environment are as follows:

- AD Facility:
  - Combustion gas emissions from the biogas cogeneration (CHP) units

  - Combustion gas emissions from the biogas plant flare (operation for CHP breakdown and scheduled testing purposes)
  - Odour emissions from the AD Facility plant and associated feedstock storage and handling odour – noting proposed odour control using two 'BioAir' systems
  - Odour emissions from digestate irrigation over an 18 ha cropping area onsite at an approximate 1:25 dilution ratio – using low pressure, low height downward spray systems and/or soil injection to minimise offsite odour emission potential
- Composting Facility:
  - Odour emissions from the composting facility, including compost windrows at 15,000 tpa and 50,000 tpa production rates and leachate ponds
  - Dust emissions from the composting facility including material handling, wind erosion and unsealed roads
- Wastewater:
  - Odour emissions from the 200 equivalent person onsite wastewater plant treatment odour – minor, small scale package treatment plant
  - Odour emissions from wastewater irrigation odour – minor, small scale effluent volumes

Detailed air pollutant dispersion modelling of the proposed activities based upon currently available design information demonstrates that compliance with the relevant air quality guidelines (**Table 33**) can be achieved at sensitive receptors with the implementation of appropriate controls and management measures.

There is potential for some exceedances beyond the Project boundaries, however these instances would be short term and predominantly driven by adverse climatic conditions.

Predicted emission parameters for odour, emission rates and air toxics concentrations from the AD Facility, Biogas Plant and Composting Facility are detailed within the Air Quality Assessment Report in **Appendix E.3**.

Table 33. Air Quality Guidelines

Pollutant	Averaging Period	Guideline	Health Outcome Protected	Source
PM_{10}	24 Hour Average	50 µg/m^3	Health and Wellbeing	EPP(Air) 2019
	Annual Average	25 µg/m^3	Health and Wellbeing	EPP(Air) 2019
$PM_{2.5}$	24 Hour Average	25 µg/m^3	Health and Wellbeing	EPP(Air) 2019
	Annual Average	8 µg/m^3	Health and Wellbeing	EPP(Air) 2019
TSP	Annual Average	90 µg/m3	Health and Wellbeing	EPP(Air) 2019
Dust Deposition	Monthly Average	120 mg/m^2/day	-	Common ERA Condition
Nitrogen Dioxide	1-hour average	250 µg/m^3	Health and Wellbeing	EPP(Air) 2019
	Annual Average	62 µg/m^3	Health and Wellbeing	EPP(Air) 2019
Sulphur Dioxide	1-hour average	570 µg/m^3	Health and Wellbeing	EPP(Air) 2019
	24 Hour Average (Maximum)	229 µg/m^3	Health and Wellbeing	EPP(Air) 2019
	Annual Average	57 µg/m^3	Health and Wellbeing	EPP(Air) 2019
Carbon Monoxide	Maximum 8-hour average	11,000 µg/m^3	Health and Wellbeing	EPP(Air) 2019
Ethylene oxide	1-hour average	3.3 µg/m3	IARC Group 1 carcinogen	BCC City Plan 2014
Propylene oxide	1-hour average	90 µg/m3	USEPA Group B1 carcinogen	BCC City Plan 2014
Odour	1-hour average, 99.5th percentile	2.5 OU	Odour	DEHP Guideline
Acetaldehyde	1-hour	42	Odour	BCC City Plan 2014
Benzene	Annual	5.4	Health and Wellbeing	EPP 2019
1,1-biphenyl	1-hour	24	Health and Wellbeing	BCC City Plan 2014
1.3-butadiene	Annual	2.4	Health and Wellbeing	EPP 2019
Ethyl chloride (chloroethane)	1-hour	48000	Health and Wellbeing	BCC City Plan 2014
Chloroform	1-hour	900	Health and Wellbeing	BCC City Plan 2014

Pollutant	Averaging Period	Guideline	Health Outcome Protected	Source
1.2-dichloroethane	24-hours	764	Health and Wellbeing	EPP 2019
Ethylbenzene	1-hour	8000	Health and Wellbeing	BCC City Plan 2014
Formaldehyde	24-hour	54	Health and Wellbeing	EPP 2019
	30-minutes	109	Protecting Aesthetic Environment	EPP 2019
n-Hexane	1-hour	3200	Health and Wellbeing	BCC City Plan 2014
Methanol	1-hour	3000	Odour	BCC City Plan 2014
Phenol	1-hour	20	Odour	BCC City Plan 2014
Benzo(a)pyrene (as a marker for polycyclic aromatic hydrocarbons)	Annual	0.0003	Health and Wellbeing	EPP 2019
Styrene	7-day	284	Health and Wellbeing	EPP 2019
	30-minutes	76	Protecting Aesthetic Environment	EPP 2019
Toluene	24-hour	4100	Health and Wellbeing	EPP 2019
	Annual	400	Health and Wellbeing	EPP 2019
	30-minutes	1100	Protecting Aesthetic Environment	EPP 2019
Vinyl Chloride Monomer	24-hour	28	Health and Wellbeing	EPP 2019
Xylenes	24-hour	1200	Health and Wellbeing	EPP 2019
	Annual	950	Health and Wellbeing	EPP 2019

8.10.3 Mitigation Measures

Air quality management and mitigation measures will comply with the standards outlined by the *Environmental Protection Act 1994* and *Environmental Protection (Air) Policy 2019*. As such, the CEMP and SBMP will include standard air quality management procedures in line with legislative requirements and site-specific triggers.

The SBMP to be prepared for the activity shall include standard operating procedures (SOPs) and/or ECPs addressing, yet not limited to, the following aspects of the activity:

- Pad inspection and maintenance
- Plant and equipment inspection and maintenance
- Feedstock management (including acceptance criteria)
- Digestate management

Typical best practice air quality controls will be adopted as a minimum including, yet not limited to, the following:

- Selection of plant and equipment which offer value for money air emission reduction technology, where possible
- Two 'BioAir' systems will be utilised to treat odour emissions associated with the digestate treatment (separation and pasteurisation) building and the buffer tank
- Avoid use of oversized plant and equipment
- Avoid dust generating activities during high wind conditions
- Windrows will be wetted while turning to reduce dust and bioaerosols (**Figure 56**)
- Instigate control methods on polluting machinery and activities
- Implement where feasible alternative work practices which generate less air and/or noise emissions, for such as use of electric equipment instead of fuel powered equipment
- Repair and maintain plant and equipment in good working order
- Where possible throttling down or shut down equipment used intermittently
- Enforcement of speed limits that minimise dust generation
- Maintenance, repair and wetting of access tracks to minimise dust

- Routine monitor trucks leaving the site to ensure all loads are appropriately covered and tracking of soil onto external roads is minimised
- Day-to-day monitoring of activities for potential nuisance air emissions. Access to the composting area will be via the 'Future Road Connection to Composter Lot', which will be unsealed west of the SRAIP Industry Precinct. Regular watering of the unsealed compost access road at a rate of 2 litres/m^2/hour (Level 1) will be undertaken as required to minimise dust emissions
- Regular watering of the trafficable areas within the compost facility at a rate of 2 litres/m^2/hour (Level 1) will be undertaken as required to minimise dust emissions
- A wheel wash or alternative measure will be operated at the site as required to minimise silt track out on to the external road network
- Vehicle access to the waste receival and processing building be via fast-acting automatic closing door systems that are to remain closed aside from allowing vehicle access
- To minimise fugitive odour from buildings, pedestrian access doors to the waste receival and processing building should also be self-closing
- The AD Facility tanks will be sealed with all gases produced directed through the gas treatment system and CHP units for combustion
- Onsite irrigation is proposed to utilise low-pressure, low elevation spray or drip line technologies to minimise volatilisation of odorous compounds
- Double-membrane tank design proposed for fermenter, post digester and digestate storage tank to reduce odour

In addition, the development of the AD Facility will adhere to design and storage principles aimed towards the prevention and minimisation of odours. Sources of air emissions from the digestate activity will be managed to reduce odour nuisance to sensitive receptors through strict feedstock acceptance criteria and compliance with the Australian Standard AS4454-2012.

If any modifications to these facilities are required through the detailed design phase of the Project, then this assessment will be reviewed to ensure that the relevant air quality and odour amenity criteria are achieved at surrounding sensitive land uses.

Monitoring of compliance and general performance will be achieved through a program of inspection, sampling and analysis detailed in the SBMP. All monitoring shall be recorded and maintained in accordance with Section 5.1.6 of the SBMP. Results of the environmental monitoring program shall be reviewed at least monthly.

Figure 56. Compost is wetted while being turned to reduce dust

8.11 Socio-Economics

8.11.1 Existing Environment

8.11.1.1 Population and Age Profile

Econisis supplied an updated socio-economic report in response to the RFI comments submitted in June 2023 (**Appendix A.2**). Accordingly, data in the following socio-economic section has been updated based on the latest census information from 2021. These updates have been used to gain a current understanding of the impacts of the SRAIP on the surrounding communities. Overall, the socio-economic attributes of Boonah and the Scenic Rim remain broadly similar to the 2016 results.

The Scenic Rim region has a critical mass of population with 44,374 residents and has historically experienced steady growth, increasing at an annual average growth rate of 1.6% over the past decade. This growth is expected to continue, with expectations of the population in the scenic rim to reach 50,781 by 2031 and 55,721 by 2046Project. Kalbar, Boonah and the Scenic Rim all have a significant elderly population, relative to both the rest of the Scenic Rim population figures, as well as the Queensland benchmark of ageing residents. Accounting for more than one in five residents within the Scenic Rim (22.8%), those aged 65 and over in Scenic Rim are the largest age cohort, followed by children aged 0 to 14 at 17.6%.

There is an apparent gap in younger, working aged people, with those aged 25 to 34 making up just 9% of the Scenic Rim population, compared with the Queensland standard of 13.6%. Scenic Rim's share of those aged 15 to 24 and 35 to 44 are also below that of the Queensland benchmark, demonstrating the relative lack of working age people in the region. In line with the ageing nature of Australia's population, Scenic Rim's elderly population is projected to grow, accounting for over one in four people by 2031 (26.4%), and almost one in three by 2041 (29.2%).

8.11.1.2 Socio-Economic Characteristics

Socio-Economic Indexes for Areas (SEIFA) is a range of four indexes produced by the Australian Bureau of Statistics (ABS) to rank areas in Australia according to relative socio-economic advantages and disadvantages. The information is based off census data, with the Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD) one of the more commonly used outputs from the ABS's output. The index is based around a score of 1000 – areas with a score below 1000 are more disadvantaged, and those with a score above 1000 are more advantaged.

The IRSAD presents a value of 968 for the Scenic Rim Local Government Area, indicating a somewhat disadvantaged region. The Statistical Areas (SA) SA2s within the region present a broad range of relative advantage and disadvantage, with the Tamborine-Canungra identified as an area of relative advantage (1025), while Boonah and Beaudesert SA2s are disadvantaged, scoring 963 and 913, respectively.

Median income in the Scenic Rim region has historically been below that of the State of Queensland, however from 2011 to 2016 income growth was greater in the Scenic Rim than the State benchmark. Median Weekly Household Income in Scenic Rim grew from $1,013 in 2011 to $1,222 in 2016, a total increase of 20.6%. This is in comparison to Queensland that grew from $1,235 to $1,402 in the same time frame, an increase of 13.5%.

Unemployment figures in the region have broadly followed the trend of Queensland's overall unemployment over the past decade. Unemployment rates have decreased significantly since early 2021, reflecting the recovery of local labour markets after the impacts of the COVID-19 pandemic and associated restrictions. The labour force has grown rapidly to respond to new employment opportunities in a tightening labour market since 2021, increasing by 10% between September 2020 and March 2023.

A major driver for increased employment opportunities has been the strong growth in local business registrations. There were 4,738 locally registered businesses in the Scenic Rim LGA in 2022 which is a 5.9% increase from the previous year and a significant acceleration. Further analysis into the region's unemployment shows that unemployment rates are significantly higher in Beaudesert (8%) particularly when compared to Boonah SA2 which is currently below 4%.

8.11.1.3 Housing Assessment

Council and DSDILGP raised housing as a potential matter of concern for the development of the SRAIP. The housing market in Queensland and in the Scenic Rim region has experienced a period of accelerated growth, after numerous years of flat or even declining prices. The COVID-19 pandemic saw southeast Queensland become the recipient of accelerated interstate migration. Simultaneously, the ageing of the older population and their exit from the workforce has seen the rate of housing transitions increase. Together these factors have driven significant increases in housing prices across the Scenic Rim region. Kalbar and Boonah both had a strong growth period of house prices from December 2021 to June 2022, although prices have been broadly flat for the past year and have even declined marginally.

Previously the proposed SRAIP was analysed as having only minor impacts on overall affordability in the region. Several factors, however, have changed in the housing and worker dynamic within the Scenic Rim since this original analysis was completed. Higher housing prices and worsening affordability means that increased housing demand triggered by the Project will likely provide support to current housing increases. However, due to the development and occupancy of the precinct expected to take up to 10 years, the impact of the SRAIP on housing demand is unlikely to dramatically worsen housing affordability over this period compared to if the Project was delivered and occupied completely within 1-2 years.

Previously, any new employment would have created periods of labour market pressure that would have required migration to the region. Fortunately, there has been population and labour force growth in the Boonah SA2 region in recent years. The rate of growth of the local labour force has accelerated to a degree within recent years that would now likely be sufficient to accommodate the additional labour requirements.

It is recommended that monitoring of the labour market conditions over the implementation and delivery phase of the Project continue.

8.11.1.4 Agriculture and Industry

Agriculture, Forestry and Fishing as an industry account for the largest share of employees in the Scenic Rim region, with nearly one in seven people (13.3%) employed in the sector. Agriculture, Forestry and Fishing accounts for just 3% of employment in Queensland, indicating the strength of the industry in the Scenic Rim.

Data from the ABS Census of Agriculture conducted in 2021 depicts continued positive growth in the value of agricultural production in the Scenic Rim, reaching a gross value of $276.4 million in 2021. This is up from $258.3 million in 2015/16 representing a growth of 7.0% or 1.3% per annum within the industry. Health Care and Social Assistance is another significant contributor to the local labour force (11.5%), with Education and Training and Accommodation and Food Services providing 11.0% and 10.8% of jobs, respectively. A deeper look at agricultural employment in Scenic Rim shows that sheep, beef cattle and grain farming accounts for 4.1% of employment, with dairy cattle farming and mushroom and vegetable growing also key employers in the region (1.9% and 1.8%, respectively).

A majority of businesses in Scenic Rim are non-employing organisations, with two thirds (66.8%) of businesses operating without any employees, higher than the Queensland benchmark of 62.4% of non-employing businesses. 31.8% of Scenic Rim businesses have between one and 19 employees and 1.5% of businesses with between 20 and 199 employees. There is an absence of big businesses based in the region, with zero companies reporting more than 200 employees.

Non-residential building approvals have fluctuated significantly over the past five years, with no substantial trends or signs of stability in the region. After a productive 2016/17 financial year in which over $92 million in non- residential buildings were approved, 2017/18 saw just $16 million in value. 2018/19 recovered to over $47 million, though still much lower than the lofty standards set in 2016/17.

Given the lack of consistency in building approvals over the past half a decade in Scenic Rim, the past three years of developments were aggregated in order to establish which sectors have seen growth in buildings. 41% of non-residential building approvals have come from commercial buildings, with retail and wholesale trade buildings the most significant contributor. One third of approvals came from other non-residential buildings,

such as aged care facilities, health buildings and short-term accommodation. Industrial buildings accounted for the smallest share in the past three years (26%), inclusive of agricultural buildings and warehouses.

8.11.1.5 Exports and Gross Regional Product

A majority of exports from the Scenic Rim region stay within Australia, with 94.2% of exports in 2017/18 within the domestic market, leaving just 5.8% of exports heading to international markets. Exports have historically grown at a relatively consistent rate, though a peak in 2012 saw a drop and stagnant level of exports until 2016. Value of exports have since surpassed 2012 levels, with 2017/19 producing $829 million in domestic exports and $51 million in international exports.

Similar to that of employment, exports from the Scenic Rim are also dominated by the agriculture industry. 2017/18 saw $380 million of agricultural exports, accounting for 43.3% of all exports from the region. This was made up of $363.5 million in domestic exports and $17.1 million in international exports, indicative of the strength of the region as a domestic agriculture supplier. Food product manufacturing was the second most significant industry, with 10.4% of exports at a value of $91.9 million. This presents a clear picture of the strengths of the Scenic Rim local economy, with the infrastructure and geographic positioning of the area fostering a relationship between agricultural producers and food product manufacturers.

A significant portion of agricultural value stems from livestock, which accounts for over half of the value of agricultural commodities in the region (55%). Vegetables are produced at a large scale in Scenic Rim, making up a fifth (20%) of the value of agricultural commodities, while dairy production is responsible for 12% of the regions agricultural output value.

Gross Regional Product is closely correlated with the level of exports, with GRP following a similar trend to export volume in recent history. After a slight peak in 2012, GRP was stagnant for several years, though the past two years have seen annual growth return, continuing the upward trajectory set pre-2012. Headline GRP was $1,768 in 2017/18 financial year, in real terms based off 2016/17 figures.

8.11.2 Potential Impacts and Benefits

8.11.2.1 Compatibility of Project with other Developments in the Region

The SRAIP is strategically positioned to benefit a range of towns and communities on the western side of the Scenic Rim region. In particular, positive social and economic impacts of SRAIP will directly impact and benefit:

- Kalbar – the closest town with a strong and proud agricultural history. The town of Kalbar had 1,246 residents in 2021, up from 800 residents in 2016. This positive population growth is somewhat unique for a rural agricultural town in Australia and reflects the strong connectivity of the town via the Cunningham Highway and Boonah Fassifern Road. This connectivity has helped to support the attraction of car- based tourist visitation, leveraging the town's German heritage, colonial buildings, and green change lifestyle.
- Boonah – Boonah is the largest town in the western sub-region of the Scenic Rim. Home to over 2,500 people, the town is a service and business hub for a wider catchment of over 12,000 people in towns and communities including Kalbar, Aratula, Harrisville, and Peak Crossing. Boonah has a long history as the main street and centre of the wider agricultural district and maintains a rural lifestyle attractive to families, workers, and retirees alike. Boonah is also home to a diverse range of local and regional services that meet the needs of the local population as well as servicing into surrounding communities.
- Aratula – The village of Aratula is located on the Cunningham Highway at the foot of Cunningham's Gap. Aratula is home to 609 residents in 2021, up from 541 residents in 2016. Aratula offers commercial services, local produce, arts and crafts outlets, cafes, a bakery, service stations, a primary school, School of Arts hall, a hotel, motels, caravan park and camping grounds.

The towns of Kalbar and Boonah are expected to experience the greatest impacts from the development. The SRAIP will generate significant economic activity that will help to ensure the long-term sustainability of the towns at a time in Australia when regional and agricultural-based communities are declining. This includes through improved employment accessibility, unemployment reduction, local business supply chain benefits and improved working age population attraction and economic participation.

The position of the development and the integrated nature of the SRAIP means that the transport impacts on the communities are likely to be minimal. Housing impacts are also expected to be minor, as a portion of the workforce is expected to already be locally based and take up the opportunities presented by the SRAIP to repatriate to the Scenic Rim. Aratula may also experience some minor positive and negative social impacts from the development, but it is likely that these impacts will be minimal.

The development at full completion is expected to support upward of 475 full time employees (FTEs). Many of these workers are expected to be drawn from local residents in towns like Kalbar and Boonah and so the net additional requirement for community, emergency, and other social services from these workers at the SRAIP is expected to be zero (as they are already living in the area).

A review of EDQ's Community Facilities Guidelines illustrates the population thresholds at which new community facilities and services are required. These include:

- Ambulance – 1 facility per 25,000 people
- Community Health Centre – 1 facility per 20,000 to 30,000 people
- Fire and Rescue – dedicated local facility when the service catchment has a population over 25,000 people
- Police – 1 facility per 20,000 to 30,000 people.

It is understood that these population thresholds were specifically referencing service rates required for new growth areas (hence it is relevant to reference these EDQ guidelines as EDQ typically deal with new growth areas similar to the SRAIP). Similarly, it is understood that more rural and regional areas, that are generally spatially disconnected from the broader urban and metropolitan service network, require local facilities and services at lower thresholds.

According to the Australian Bureau of Statistics (ABS), the Boonah Statistical Area 2 (SA2) which includes the towns of Boonah and Kalbar, was home to a population of 13,863 in 2021. Based on this population alone, the towns within the Boonah SA2 do not have a sufficient critical mass of residents to justify a range of health, emergency, and community services.

Despite this, and because of the more peri-urban and rural nature of the area, Boonah and Kalbar are home to the following services:

- Boonah Ambulance Station
- Blue Care Fassifern Community Care and Boonah Hospital and Health Services
- Boonah Police Station
- Boonah Fire Station
- Kalbar Fire Station
- Kalbar Police Station

The lack of population critical mass in the Boonah SA2 supporting these facilities and services means the addition of non-resident workers at the SRAIP site is unlikely to require an uplift in current service provision. Instead, the net addition of demand for emergency, health and community services from non-resident workers will help to build a critical mass of need to support and justify a higher quality of community service offering in the region in the long-term.

For additional information, refer to Economic and Social Impact Assessment – **Appendix A.2**.

8.11.3 Opportunities to Maximise Socio-Economic Benefits

Key employment and economic impact findings and conclusions from the Economic and Social Impact Assessment (**Appendix A.2**) include:

- **Construction jobs** – 641 direct and 354 indirect local jobs over 10 years
- **Additional Operational Jobs** – 475 direct and 572 indirect local jobs annually upon full development (Subject to third party investment and the final uses proposed)
- **Construction Gross Value-Add** - $89.5m contribution to the Scenic Rim economy (+5.3%) and $238.9m to the Australian economy over the 10 years construction phase
- **Operational Gross Value-Add** - $140.5m contribution to the Scenic Rim economy (+8.3%) and $211.9m contribution to the Australian economy annually upon full development

Key preliminary social impact findings and conclusions from the report include:

- **Workforce Management and Impacts** – more sustainable construction pipeline for construction workers and more diverse and accessible and less seasonal, permanent employment opportunities for local workers in the long-term
- **Housing and Accommodation** – a likely impact on housing affordability and will likely support house prices in the Boonah region which have been flat over the last year after strong growth was experienced from December 2022 to June 2022.
- **Local Businesses and Industry Procurement** – opportunities for local businesses across the Project life, particularly during the operational phase, by providing local agricultural producers with a reliable local value-add market for output. Also improved local energy security through the proposed investment in an onsite major AD Facility
- **Health and Community Wellbeing and Quality of Life** – Project employment will generate increased local household incomes and reduce overall income and economic volatility through greater economic diversification
- **Regional Amenity** – provide a new and modern industrial environment for workers as well as convenient access to retail and fuel services for workers and visitors
- **Filling Gaps in the Community** – helping to incentivise local attraction and retention of younger workers and facilities to offset the emerging demographic imbalance in the region
- **Community Connections and Social Inclusions** – encourages and incentivises increased labour force and economic participation, which worsened in the five years to 2016
- **Address Social Disadvantage** – provide employment opportunities and diversified economic activity and value-add to improve access of households in the region to key Economic Resources and reduce local unemployment

A series of opportunities have been identified for the SRAIP to capture and yield economic and social benefits for the communities of the Scenic Rim.

A summary of these benefits, and the approach taken to calculate their value are outlined in **Table 34**.

Table 34. Opportunities to Capture Economic and Social Benefits

Benefit	Description	Calculation Approach
Gross Value-Add of Additional Food Production (Kalfresh)	The Gross Value-Add of food manufacturing production from Kalfresh specific sites. Based on the net additional production output and the direct gross value-add share captured by the local economy. Represents additional production in the Scenic Rim that otherwise would not occur.	Estimated using the Scenic Rim specific Economic Impact Assessment model, utilised by RPS in the SRAIP SEIA report for the Queensland Coordinator- General. Economic impact Assessment model transaction Table was adjusted to the Scenic Rim economy. Direct benefits only are captured.
Construction Supply Chain (Stage 1 infrastructure only)	The indirect gross value-add generated by capital construction costs for the specific construction items (civil and AD Facility supporting infrastructure). Represents the impact on the Scenic Rim construction supply chain from the new capital investment. Excludes the impact of subsequent construction in the SRAIP.	Estimated using the Scenic Rim specific Economic Impact Assessment model, utilised by RPS in the SRAIP SEIA report for the Queensland Coordinator- General. Economic impact Assessment model transaction Table was adjusted to the Scenic Rim economy. Indirect Industry Production Induced Gross Value-Add values only.
Value of Digestate	The market value of digestate by-product from the AD Facility. Used as a fertiliser for agricultural production.	Based on daily production of 100 tonnes with an application of 30m3 of production per hectare and a net value savings of $250 per hectare.
Induced Industrial Production (Non-Kalfresh)	The Gross Value-Add of food and other manufacturing production from other non-Kalfresh industrial sites developed and occupied as part of the Project. Assumes 50% of sites occupied for food manufacturing and the remainder for other general food-related industry.	Turnover / output estimated by approximating employment for each site and deriving turnover values for manufacturing businesses based on Queensland Business Registrations data from the ABS. Gross Value-Add using the Scenic Rim specific Economic Impact Assessment model, utilised

Benefit	Description	Calculation Approach
		by RPS in the SRAIP SEIA report for the Queensland Coordinator-General. Economic impact Assessment model transaction Table was adjusted to the Scenic Rim economy. Assumed that all production is new and 100% induced into the economy.
Energy Production	Value of energy produced from the AD Facility.	Assumes a 1MW plan with an annual production of 7,000 MWh per year. Valued based on annual volumed weighted average spot prices of $66.00 per MWh.
Expenditure by New Workers (Kalfresh)	Value of non-housing and non-health-related expenditure by net additional workers associated with Kalfresh operations.	Based on 'MarketInfo' expenditure data for the Scenic Rim from Market Data Systems. Assumes approximately $30,087 expenditure per net additional worker, excluding previously unemployment and repatriated workers (benefits quantified separately).
Expenditure by New Workers (Non-Kalfresh)	Value of non-housing and non-health retail-related expenditure by net additional workers associated with non-Kalfresh operations.	Based on MarketInfo expenditure data for the Scenic Rim from MarketDataSystems. Assumes approximately $30,087 expenditure per net additional worker, excluding previously unemployment and repatriated workers (benefits quantified separately). Operational workers only.
Avoided Greenhouse Emissions (Waste)	CO2e value of emissions savings from the redirection to the AD Facility of food waster that would otherwise be disposed in landfill.	Approximately 48,190 tonnes per annum of landfill diversion to the AD Facility, saving 1.9t CO2e of emissions per tonne. Valued at $45/tonne CO2e (fully market and environmental impact costing).
Avoided Landfill Disposal Costs	Avoided disposal costs from the redirection to the AD Facility of food waster that would otherwise be disposed in landfill.	Approximately 48,190 tonnes per annum of landfill diversion to the AD Facility, saving $67.33 per tonne of direct landfill disposal costs.
Avoided Landfill Externalities (Non-Greenhouse Gases)	Avoided externality costs from the redirection to the AD Facility of food waster that would otherwise be disposed in landfill.	Approximately 48,190 tonnes per annum of landfill diversion to the AD Facility, valued at $1.70 per tonne of external costs.
Reduction in Unemployment	Reduced costs to the Federal Government of unemployment benefits to workers who will be employed at SRAIP.	Assumes 10% of net additional operational workers are currently unemployed and receiving Newstart allowance (valued at $14,534 per year).
Reduced Travel Time for Repatriated Workers	Reduced travel time costs for workers who current live in the Scenic Rim but have to travel outside of the region for work due to a lack of local opportunities.	Assumes 10% of workers currently travel to Ipswich for employment. Saves 460 trips per worker per year involving of 40minute travel time (each direction). Valued at $7.25 per person per hour timing savings (applying "rule of half").

9 CONCLUSIONS

This RDIAR has been prepared pursuant to Section 34K of the SDPWO Act 1971 and seeks to respond to the matters raised in the Coordinator-General's statutory requests for additional information dated October 2020 and June 2023.

This report has investigated the implications of the Project on the existing planning and environmental frameworks and concludes that the proposed scale and intensity of the revised proposal maintains Project viability while maximising beneficial outcomes for the community and environment.

An overview of the Project, its drivers and expected benefits is provided in **Section 1**. The Project seeks to improve the economic and environmental sustainability of agriculture in Scenic Rim through:

- Enhancing production of food (human or animal), fibre and beverages
- Supporting agriculture-related research, innovation, and technologies to advance farming and agriculture industries
- Value-adding production and processing of raw materials and co-locating and complementary manufacturing businesses
- Attracting industries to support the Project and farming economy, such as warehousing and distribution activities supporting agri-focus businesses
- Realising circular economy, waste reduction and decarbonisation initiatives in industrial processes
- Generating reliable renewable energy by way of Anaerobic Digestion

Section 2 outlined the statutory assessment process to date and provided details of the key changes to the Project that have occurred to address State agency feedback following public notification of the Draft IAR in 2022. Importantly, non-agricultural / industrial related standalone uses have been removed from the proposed SRAIP Plan including various tourism, retail and commercial uses that would have otherwise potentially detracted from the function of nearby townships of Aratula, Boonah, and Kalbar.

A description of the site, including existing uses was discussed in **Section 3**. As, there is a range of existing uses on site (cropping activities, warehousing, and processing facilities) the site is very well connected to existing services and infrastructure.

Section 4 provided an overview of the various planning and environmental approvals and legislation that is triggered by the Project. Approvals Kalfresh is seeking the Coordinator-General to 'State' conditions for are described as Tier 1 approvals and presented in **Table 5**. These approvals include the variation to override the local SRPS, reconfiguration of lot and a six site-specific development permits and associated environmentally relevant activities for key Project components. Tier 2 approvals are to be obtained separately by the proponent and their delivery partners following release of the CGER.

The Project description and indicative sequencing and staging for Project delivery was presented in **Section 5**. Given the complex nature of the Project components and numerous approvals required to be obtained, a total of 10 years is expected to be required to construct the Project in full. To this end, the proponent requests that should the Coordinator-General approve the final IAR for the Project, the CGER should not lapse until six years after that report is released.

The planning framework assessment was summarised at **Section 6**, with further justification for the key elements of the proposed variation provided at **Section 7**. An assessment against the ShapingSEQ regulatory provisions was undertaken to address sections 41a and 41b of the planning regulation. Key observed conflicts with the planning framework were primarily identified to be caused by:

- The siting of the Project outside the Urban Footprint of ShapingSEQ
- Proposed building heights greater than 15 m on Lot 12 and Lot 13
- Inclusion of standalone uses that are not primarily agri-focus in nature (truck depot and service station)
- Scale of uses proposed to be ancillary to agriculture industry uses such as office, retail, and showroom spaces.

In instances where residual conflicts with the planning framework may still occur, a number of benefits associated with the SRAIP have been identified which provide overwhelming justification for the SRAIP to proceed in these instances. These benefits include but are not limited to:

- Renewable energy generation
- Realisation of circular economy and decarbonisation of the agricultural industry
- Increased local employment and manufacturing
- Increased regional resilience to climate and emerging industry trends
- Enhanced innovation and collaboration between agricultural production and processing operators
- Reduced transport costs and improvements to the safety and efficiency of the State-controlled road network
- Increased local population and socio-economic position to help revitalise the Scenic Rim agricultural economy and nearby regional townships of Kalbar, Aratula, and Boonah.

The assessment confirmed that there is a compelling overriding need in the public interest for the development to be carried out because the development will provide a social, economic, and environmental benefit for the community that outweighs any adverse impact to ShapingSEQ. It was further determined that there would be a significant adverse economic, social, and economic impact on the community if the development is not carried out.

A key finding of the Planning and Locational Assessment provided at **Appendix A.1**, contends that the Project's location within the RLRPA of ShapingSEQ is integral to achieving the Project drivers. Without achieving direct co-location of the Project with productive agricultural land, the operational efficiencies and strategic drivers cannot not be realised – undermining Project viability. Location of the Project within an existing industrial estate within the Urban Footprint has therefore been avoided in this instance.

Section 8 assessed other environmental matters and introduced other Project considerations. Importantly, the disturbance footprint of the Project has sought to avoid impacts on terrestrial ecology. The disturbance footprint is not located in any mapped koala habitat and will not impact on any prescribed environmental matter such as category B vegetation. The Project will only require the clearing of 20 NJKHTs outside core koala habitat priority koala area mapping. Impacts in this instance are proposed to be financially offset in accordance with the QEOP. As an additional Project benefit, it is proposed that species of Queensland blue gum be planted throughout the drainage channel, streetscapes, and buffer zones of the SRAIP. As a voluntary measure, this proposal will increase habitat for koalas and other native species within the Project whilst improving built form outcomes for scenic amenity and landscape cooling.

Other key assessment findings from **Section 8** confirmed that:

- Revisions to the Project to remove previously inconsistent standalone uses do not result in a net increase of traffic previously assessed as part of the Draft IAR
- Water supply of sufficient volume and reliability has been obtained by the proponent and will service the needs of the Project in perpetuity with water supply being regulated through the management scheme (precinct governance)
- Earthworks will be undertaken on site to achieve 1% AEP flood immunity. No import of fill expected to be required
- Post development flood impacts are assessed to be negligible and pose no additional impact to infrastructure, property, or persons
- Air, noise, and vibration impacts are expected to be minimal and are unlikely to extend beyond the site boundaries
- Aquatic ecology and waterway health is expected to be improved as a result of the Project due to construction of a permanent drainage channel which involves planting of waterway specific flora species.

Given the above findings and conclusions, it is recommended that the Coordinator-General accept this RDIAR as the Final IAR and approve the Project subject to conditions. Proponent commitments have been prepared and are provided at **Appendix G** to inform relevant considerations which can be read in conjunction with the list of environmental management and monitoring plans detailed at **Table 7**.

10 ACRONYMS

- AD - Anaerobic Digestion
- CGER – Coordinator General's Evaluation Report
- DA - Development Application
- DAF - Department of Agriculture and Fisheries
- DAR - Development Assessment Rules
- DES - Department of Environment and Science
- DSDILGP - Department of State Development, Infrastructure, Local Government and Planning
- DoR - Department of Resources
- DAFF - Department of Agriculture, Fisheries and Forestry (Commonwealth)
- DCCEEW - Department of Climate Change, Energy, the Environment and Water (Commonwealth)
- DNRME – Former Department of Natural Resources, Mines and Energy (Responsibility relating to this Project now assumed by DoR and DRDMW)
- DRDMW – Department of Regional Development Manufacturing and Water
- DSDILGP – Department of State Development, Infrastructure, Local Government and Planning – Planning Group and Regional Economic Development South
- DTMR - Department of Transport and Main Roads
- EPBC Act - *Environmental Protection and Biodiversity Conservation Act 1999* (Commonwealth)
- EA – Environmental Authority
- EOW – End of Waste Code
- EP Act - *Environmental Protection Act 1994*
- ERA - Environmentally Relevant Activity
- FHA - Fish Habitat Area, declared under the *Fisheries Act 1994*
- GHG – Greenhouse Gas
- IAR – Impact Assessment Report
- LGA – Local Government Area
- LoA – Level of Assessment
- MCU - Material Change of Use
- MLES – Matters of Local Environmental Significance
- MNES – Matters of National Environmental Significance
- MSES – Matters of State Environmental Significance
- OCG – Office of Coordinator-General
- OW - Operational Work
- PA - *Planning Act 2016*
- P and G Act – *Petroleum and Gas (Production and Safety) Act 2004*
- PoD – Plan of Development
- PR - *Planning Regulation 2017*
- PS - Local Government SRPS
- RAL - Reconfiguring a Lot
- RDIAR – Revised Draft Impact Assessment Report
- RLRPA – Regional Landscape and Rural Production Area
- RSHQ – Resources Safety and Health Queensland
- SARA - State Assessment and Referral Agency (within DSDILGP)
- SEQ – South East Queensland (particularly with reference to the SEQRP provisions in the *Planning Regulation 2017*)
- SDA – State Development Area
- SDAP - State Development Assessment Provisions
- SDPWO Act - *State Development and Public Works Organisation Act 1971*
- SEQRP – *South East Queensland Regional Plan* (ShapingSEQ) 2017
- SRAIP – Scenic Rim Agricultural
- SRPS – Scenic Rim Planning Scheme
- SRRC – Scenic Rim Regional Council

- SPP - State Planning Policy
- SPRP - State Planning Regulatory Provision
- WRR Act - *Waste Reduction and Recycling Act 2011*
- VPH – Vehicles Per Hour

CONTACT US

www.epicenvironmental.com.au

https://www.linkedin.com/company/epic-environmental-pty-ltd/

1800 779 363

enquiries@epicenvironmental.com.au