Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

Application for Works Approval

Division 3, Part V *Environmental Protection Act 1986*

Works Approval Number	W2982/2025/1
Applicant	Fulton Hogan Construction Pty Ltd
ACN	010 240 758
File Number	APP-0026524
Premises	Q-Station Compound Sydney Highway, West Island Cocos (Keeling) Island Legal description - Lot 327 on Deposited Plan 219651 Certificate of Title Volume LR3109 Folio 986
Date of Report	4 September 2025
Decision	Works approval granted

Table of Contents

1. Definitions of terms and acronyms

In this Decision Report, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
Applicant	Fulton Hogan Construction Pty Ltd
AACR	Annual Audit Compliance Report
ACM	Asbestos Containing Material
ACN	Australian Company Number
AER	Annual Environment Report
Category/ Categories/ Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CKI	Cocos (Keeling) Islands
CB Regs	*Environmental Protection (Concrete Batching and Cement Products Manufacturing) Regulations 1998.*
Decision Report	refers to this document.
Defence	Australian Department of Defence
Delegated Officer	an officer under section 20 of the EP Act.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DITRDCA	Department of Infrastructure, Transport, Regional Development and Communications and Arts.
DEPAC	The Directorate of Environment, Planning, Approvals and Compliance
DSI	Detailed Site Investigation
DWER	Department of Water and Environmental Regulation
EMP	Environmental Management Plan
EPA	Environmental Protection Authority.
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of, and during this Review

Term	Definition
FBSB	Foam Bitumen Stabilised Base
HDPE	High Density Polyethylene
IBC	Intermediate Bulk Containers
m^3	cubic metres
Minister	the Minister responsible for the EP Act and associated regulations
NEPM	National Environmental Protection Measure
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA)
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report
Primary Activities	as defined in Schedule 2 of the Revised Licence
PAH	Polycyclic aromatic hydrocarbons
P&DC	Production and Design Capacity
Review	this Licence review
Risk Event	As described in *Guideline: Risk Assessments*
RAP	Recycled Asphalt Pavement
SBS	Styrene Butadiene Styrene
SWRO	Sea Water Reverse Osmosis plant
Toll	Toll Remote Logistics Pty Ltd
UDR	*Environmental Protection (Unauthorised Discharges) Regulations 2004* (WA)
WWTP	Wastewater Treatment Plant
VOC	Volatile Organic Compounds
$\mu g/m^3$	micrograms per cubic metre

2. Purpose and scope of assessment

The Australian Department of Defence is proposing to upgrade the CKI Airfield. The CKI Airfield is a Commonwealth of Australia asset falling under the jurisdiction of DITRDCA and managed by Toll. The CKI Airfield is available to both civilian and defence operations. Upgrades to the CKI Airfield are required to enable the Royal Australian Airforce to support P-8A Poseidon capacity on the runway, reduce safety risks associated with operating Code D aircraft on the airfield and address non-compliances identified by the Civil Aviation Safety Authority. The Applicant, acting as principal party to the Integrated Managing Contractor contract, is responsible for obtaining the required works approval for the CKI Airfield upgrade.

2.1 Application details

Table 2 lists the documents submitted during the assessment process.

Table 2: Documents and information submitted during the assessment process

Document/information description	Date received
Application Form	17 April 2025
Cocos (Keeling) Islands Q-Station Enabling Works, Works Approval Supporting Document (Supporting Document)	17 April 2025
Environmental Management Plan	17 April 2025
Terrestrial Flora and Fauna Survey	17 April 2025
Erosion and Sediment Control Plan	17 April 2025
Environmental Commissioning Plan	17 April 2025

3. Background

To support delivery of the CKI Airfield upgrade, the Premises is required house associated infrastructure and serve as the base of operations. The Premises will be used for aggregate stockpiles and storage of general construction materials, including chemicals. The Premises will be used for processing activities associated with an asphalt batching plant, bitumen blending and heating, and manufacturing of foam bitumen stabilised base.

The Premises will be self-sufficient with power and communications. The Applicant is working with Water Corporation to confirm sewerage connection to the existing CKI WWTP. Construction water will be abstracted from the freshwater lenses as agreed with DITRDCA and potable water source will be from a new SWRO plant that is proposed for West Island to allow works to commence on the airfield. The proposed location of the SWRO is still under consideration by The Australian Department of Defence and will be subject to a separate works approval and licensing as required.

Table 3 lists the prescribed premises categories that have been applied for.

Table 3: Prescribed Premises Categories in the Existing Licence

Classification of Premises	Description	Production or design capacity or throughput
Category 35	Asphalt manufacturing: premises on which hot or cold mix asphalt is produced using crushed or ground rock aggregate mixed with bituminous or asphaltic materials for use at places or premises other than those premises.	120,000 tonnes per annual period
Category 36	Bitumen manufacturing: premises on which bitumen is mixed or prepared for use at places or premises other than those premises.	60,000 tonnes per annual period
Category 77	Concrete batching or cement products manufacturing: premises on which cement products or concrete are manufactured for use at places or premises other than those premises.	3,500 tonnes per annual period
Category 73	Bulk storage of chemicals etc: premises on which acids, alkalis or chemicals that – (a) contain at least one carbon to carbon bond; and (b) are liquid as STP (standard temperature and pressure), are stored.	12,000 m^3 in aggregate
Category 61A	Solid waste facility: premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged to land.	1,000 tonnes per annual period
Category 13	Crushing of building material: premises on which waste building or demolition material (for example, bricks, stones or concrete) is crushed or cleaned	5,000 tonnes per annual period

4. Overview of Premises

4.1 Operational aspects

The Applicant is proposing to construct the following infrastructure at the premises to support the CKI Airfield upgrade:

- Asphalt production plant including a laboratory / foam bitumen production.
- Concrete batching plant.
- Chemical storage / blending area including:
  - Mobile laboratory / chemical storage.
  - Bitumen heating and blending area.
  - Workshop facilities / chemical storage.
- Storage areas:
  - Container storage for ancillary activity materials such as Aeronautical Ground Lighting, drainage and civils works.
  - Aggregate and construction material storage.

- Waste Management Area.
- Turkey nest (500 kL bladder storage system).
- Main Site Office including ablutions, first aid room and crib room.
- Refuelling area.
- Workshop (approximately 22.25 x 7.4 m).
- Generator operation to support office and construction facilities.

The Premises compound will also include various hardstand, laydown and storage areas accessible via four access roads from Sydney Highway.

Operation at the Premises will be between 6.00 am to 6.00 pm with the exception of bitumen heating which will occur 24 hours per day, seven days a week.

The following timeframes has been provided as an indicative proposal:

- Construction period for the project is scheduled to commence in Quarter 1 2026 and finish in Quarter 3 2026.
- CKI Airfield upgrade works are scheduled to commence in Quarter 1 2026.
- Commissioning of the plant and facilities is scheduled for Quarter 3 2026.
- Demobilisation of the CKI Airfield upgrade is scheduled from Quarter 1 2028 to Quarter 2028.

4.2 Asphalt Manufacturing – Category 35

4.2.1 Overview

The asphalt plant will be transported the CKI by boat and then trucked to the premises and should be in operation for 18 months. The asphalt plant is a mobile ASTEC hot mix asphalt plant equipped with a Double Barrel Dry Drum Mixer. The process of the mobile plant is manufacturing hot asphalt which involves mixing crushed or ground rock aggregates with bitumen or asphaltic materials at elevated temperatures. Oxides are sometime added to provide coloured asphalt if required. The product is then transport to the airfield requiring treatment. The asphalt plant components characteristics are detailed in Table 4.

Table 4: Asphalt plant characteristics

Components	Details	Production capacity
Asphalt Product	AC14 and AC20	270 tonnes per hour
Drum	PDB-633E portable 1.8 m x 10.0 m double barrel dryer mixer	120,000 tonnes per year
Burner	Whisper Jet WJ-83D-O Oil burner	75 MMBtu/hr
PM control	PM2 Unified control system	
Generator	CAT 1250kVA	
Asphalt plants generators diesel storage tank	30,000 L capacity	

Asphalt plant burner diesel storage tank	66,000 L capacity	
Mobile bitumen (PMB) storage tank	100,000 L capacity	
Bitumen transfer pump	Bearcat 600	480 Gallons per minute max @ 800 RPM
Burner	N/A PMB storage tank electronically heated. No diesel burner	
Conveyors		
Hot bin	SEB (self-erecting bin)	80 Tonnes capacity
Cold feed bin		
Recycle bin and feed system		
Polyethylene lined ponds		
Aggregate	Virgin and recycled aggregate are proposed to be used on site	

4.2.2 Process Description

The asphalt plant manufacture process is proposed to include the following:

1. Component materials will be off-loaded and delivered to the Premises and will be stored in stockpiles. This will primarily consist of MRWA 501, bitumen, aggregates (7 mm, 10 mm 14 mm and 20 mm), 20 mm crushed rock, crusher dust and sand.
2. Aggregates will be loaded from stockpiles into cold feed bins.
3. Aggregates will be fed from cold feed at controlled rated into a continuous mix drum to evaporate all moisture and heat to approximately 175ºC.
4. Hot polymer modified bitumen will be added directly to the drum and mixed with aggregates.
5. The resulting asphalt is released from the drum conveyor which leads to a gob hopper and then into the back of tippers for delivery to the Airfield.
6. Produced asphalt will be temporarily stored in the gob hopper prior to being loaded into trucks.

The flow process is outlined in Figure 1.

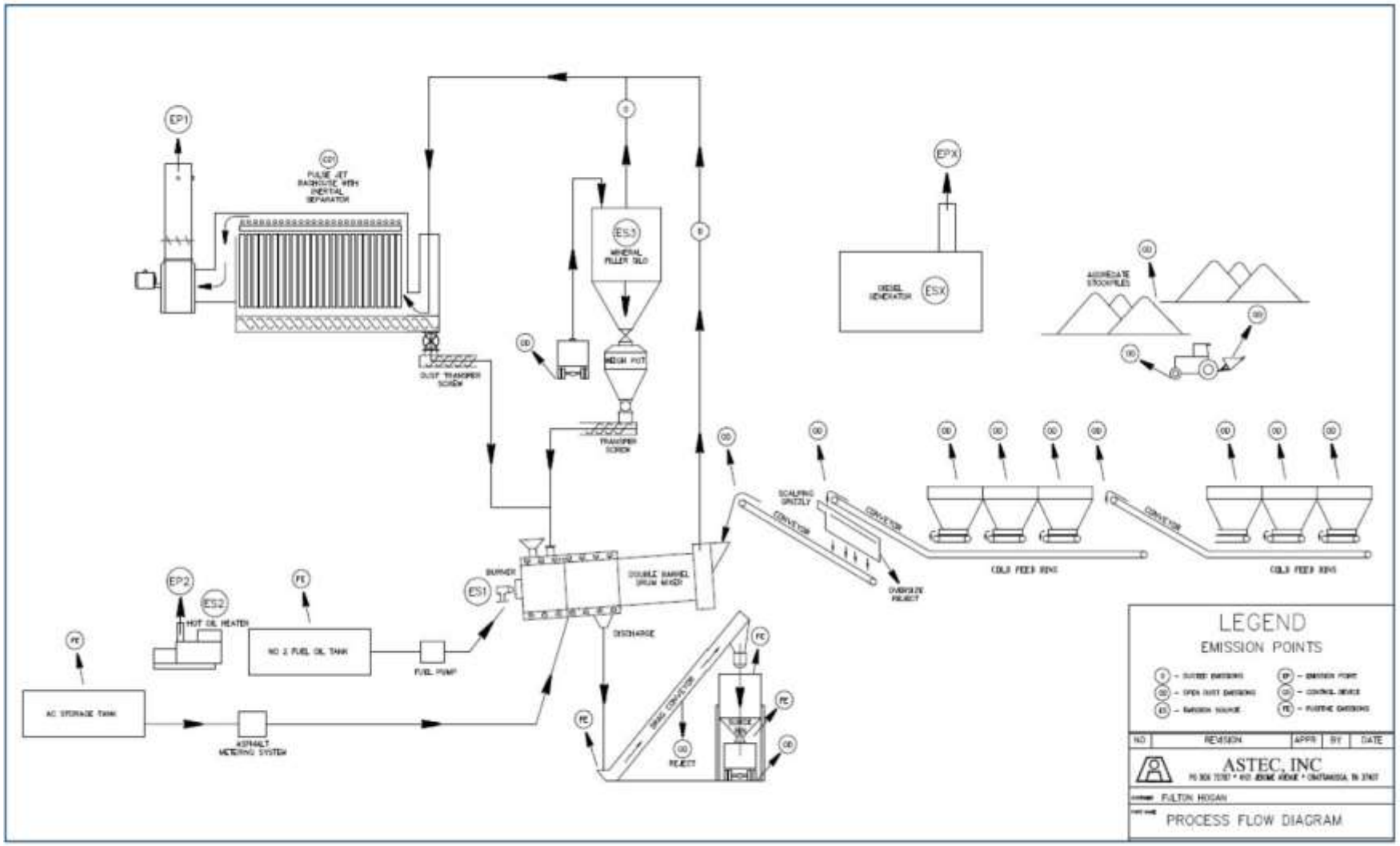

Figure 1: Asphalt manufacturing process

4.3 Bitumen manufacturing plant – Category 36

The Applicant has procured two bitumen manufacturing plants to utilise at the premises. The two plants include a fixed polymer blending plant and a mobile FBSB plant.

4.3.1 Fixed polymer blending plant

The mobile plant for the blending of bitumen will be assembled, inspected and tested in Perth before being transported to CKI where it will be installed at the Premises. The plant will have a P&DC of 30 tonnes/hr. The plant mixes and dissolves the SBS polymer with liquid bitumen, whereby both ingredients are continuously fed, combined and homogenised in the mixing chamber. Sulphur material is added to the mixture via a variable-speed hopper that control-feeds sulphur flakes into a vacuum conveyor that transfers sulphur to a filter receiver for dispensing into the mixing chamber's dry material inlet chute. Blending oil is also added to the mixture via a supply pump and controlled by a Coriolis flowmeter.

The prepared mixture is kept hot while in storage using oil heaters under the tanks while being stirred continuously. The heating systems circulates heated oil around the bitumen storage tanks and pipes to maintain bitumen temperature. Plant components are listed in Table 5.

The Fixed polymer blending plant manufacture process is proposed to include the following:

1. Hot liquid bitumen is feed into the mixing chamber via a flow pump with a flow meter.
2. Sulphur and SBS are added by means of volumetric dosing to the mixing chamber.
3. Both inputs are combined in the mixing chamber continuously and transferred to the dispersing stage.
4. Solvent or blending oil is added to the mix just prior to passing through the bitumen outlet pump.
5. Polymer modified bitumen is proposed to be class A10E.

Table 5: Fixed polymer blending plant components

Components	Design capacity
Bitumen dosing unit	-
Polymer hoppers (x4)	4.5 m^3/hopper
Polymer feed system	2,000 kg/hr
Blending oil dosing unit	-
Sulphur dispenser	350 kg/hr
Mixing chamber	320 L
PMB discharge pump	30 t/hr
Bitumen heater units	162 kL (6 x 27 kL tanks)

4.3.2 Mobile foam bitumen plant

The Applicant is proposing to use a mobile foamed bitumen plant, the WIRTGEN KMA 220/KMA 220i, to produce FBSB suitable for use as heavy-duty pavement base. The FBSB plant is a cold recycling mixing plant that processes hot bitumen to produce foamed bitumen material for cold mixing with aggregates to form the FBSB for the use as part of the CKI Airfield upgrade. The FBSB will remain on the premises for the 18-month construction project and will be used intermittently as required. The plant has an integrated diesel engine making it independent of the proposed Premises power supply and can mix different input source materials including new aggregate, RAP, and other existing road pavement materials. The precise injection system adds binders to aggregate to create homogeneous mix with the specified materials. The foamed

bitumen is produced by foaming standard road-grade bitumen. Small amounts of water and air are injected into the hot bitumen at high pressure which results in the foaming bitumen expanding to around 20 times its original volume. The FBSB plant components and characteristics are provided in Table 6.

Table 6: FBSB plant components

Components	Details	Design capacity
Mobile unit	Production capacity of cold mix Length 14,710 mm Width 2,500 m Height 4,000 m	Max. 220 t/h
Hot bitumen heating system	42V Dosing up to 160 l/min	
Hopper	Twin hopper with hydraulically folding vibration screens Proportioning of mineral aggregate	2 x 6 m³
Mixer	Tin-shaft continuous compulsory mixer	2 x 30 kW
Engine	Deutz 6 Cylinder Diesel Engine Emission Standards – EU Stage 3a/US Tier 3 – EU Stage 4/US Tier 4f	
Fuel tank	Diesel only	400 L
Hydraulic oil tank		400 L
Water tank	Dosing up to 2000 l/min	4,500 L
Auger conveyor	For hydraulic binding agents	13 m³/h

The FBSB plant manufacture process is proposed to include the following:

1. Hot liquid bitumen (produced as per section 4.2.2.1) is feed into the WIRTGEN KMA 220/KMA 220i and injected with small amounts of water and air to produce foamed bitumen.
2. The foamed bitumen is then injected into a mixer via injection nozzles making it suitable for mixing with cold construction material.
3. The source material (aggregate) is then mixed with the foamed bitumen, water, and cement in the required concentrations to produce new homogeneous FBSB mixture.
4. The FBSB produced will be stored at the proposed FBSB stockpile area at the Premises before being transported to the CKI Airfield for levelling and compaction.

4.4 Concrete batching plant – Category 77

4.4.1 Overview

The Applicant proposes to use a Thomas Manufactured Skid Mounted Batching Plant powered by a Yanmar diesel engine. The batching plant includes an aggregate hopper with clam shell doors, conveyor, motor, hosing and fittings for water and air. The batching plant will be setup on a hardstand at the Premises, with external air and water feeds attached to the clam shell and water pump. The main hopper and loader bucket will be loaded with aggregates and cement respectively; the raw materials will be combined into a homogeneous mixture to be fed onto trucks via a conveyor belt. The batching plant characteristics are provided in Table 7 and outlined in Figure 2.

The Applicant has confirmed that the construction and operation of the concrete batching plant

will comply with the *Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998*.

There will be no cement Silo's storage and cement will be contained within an isotainer which will be full on arrival to the island and sent back to the mainland empty. There will be no cement filling on site.

Table 7: Concrete batching plant components

Components	Details	Specification
Dimensions	Hopper and Skid	Weight 5.4 t Length 10.6 m Width 2.5 m
	Conveyor Belt	Length 18.1 m Width 0.6 m Discharge Height 2.6 m
Aggregate Hopper	Hopper capacity - For various aggregates	6 m³
Conveyor	Gear Box	Sumitomo

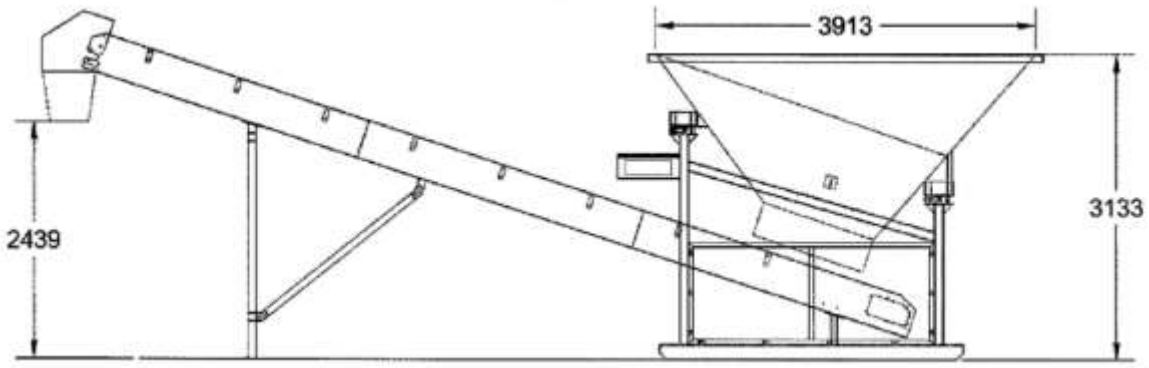

Figure 2: Concrete batching plant components

4.4.2 Process Description

The general process description for the concrete batching plant is outlined below:

1. Loading of materials. The first step in the batching process is to load the required aggregates, cement and additives into their respective bins. Water and air are injected during the process from the external feeds attached.
2. Mixing f materials. The materials are thoroughly mixed until homogeneous.
3. Discharging the concrete mix. The homogeneous mix is discharged through the clam shell doors and onto the conveyor belt and then carried by the conveyor belt for discharge onto the trucks for transport.
4. Control panel. The batching plant system is controlled with an electronic control panel and display system that allows for the automation of operations such as weighing control, conveyor and transport control and measurement for the consistency and humidity of concrete.

4.5 Bulk storage of chemicals – Category 73

The Applicant proposes to store a number of chemicals in quantities that exceed the P&DC of Category 77. Table 8 lists the combined chemicals.

Table 8: Chemical quantities at the Premises

Chemical	Quantity	Storage area
Bitumen (hot and cold)	8,800 tonnes	Cold or empty 'bitutainers' will be stored appropriately and containers that are heated will be within a bunded area. Surplus stock will be stored in bitumen containers 'bitutainers' returned to the Australian mainland
Bitumen (hot)	559 kL	Heated bitumen stored within dedicated containers
Bitumen emulsion CSR-60	216 tonnes	Stored in Isotainers
Truck slip oil (likely canola oil)	5 tonnes	Stored within bunded area in dedicated containers
Diesel	200,000 L	Stored in container designed to meet Australian Standard AS 1965 and AS 1940
EmuPrime	300 tonnes	Stored in Isotainers (maximum to be used on site – not all stored at any one time)
SBS Polymer (LG501 and LG411)	600 tonnes	Stored in sealed IBC in 20 ft containers
Blending oil - Otech	180 tonnes	Stored in sealed IBCs in 20 ft containers
Powered sulphur	6 tonnes	Stored in dry form – bulker bags in 20 ft containers
Evotherm	35 tonnes	Stored in IBCs in 20 ft container
Petrol	-	None stored at Premises
Polymer binder dust suppressant	150,000 L	Stored in sealed IBCs (maximum to be used on site – not all stored at any one time)
Mineral Turpentine	800 L	Stored in dedicated bunded chemical container – 200 L drums
Shellite	400 L	Stored in dedicated bunded chemical container – 200 L drums
Cesium 137	300 MBq	8.4 tonnes Sealed within a lead source rod in the gauge stored in laboratory
Americium	1.48 GBq	Am-241/Be sealed within a lead source rod within the nuclear densometer gauge – stored in laboratory
Hi foam – B (Foaming agent)	13 tonnes	Stored in IBCs in dedicated containers in bunded area
Cement	1,050 tonnes	Stored in Isotainers (maximum to be used on

		site – not all stored at any one time)
Grease	1000 kg	Stored in plant workshop containers
Hydraulic Oil	2,000 L	Stored in manufacturer's packaging in service workshop building (40 ft container)
Gear Oil	2,000 L	Stored in manufacturer's packaging in service workshop
Motor Oil	2,000 L	Stored in manufacturer's packaging in service workshop
Coolant	1000 L	Stored in manufacturer's packaging in service workshop
EZ street	110 tonnes	Stored in manufacturer's packaging in storage container (20 ft container)
Paint	15,000 L	Stored in manufacturer's packaging in storage container (20 ft container) but not all at one time

4.6 Solid waste facility – Category 61A

Storage of different waste types will be required during construction of the CKI Airfield. The types of waste and waste management is provided in Table 9 while Figure 3 provides the stockpiling and storage areas at the Premises.

Table 9: Waste quantities and storage management at the Premises

Waste type	Export from CKI	Quantity (tonnes)	Recycle / Dispose	Management
Steel				
Aerosol cans - crushed	Yes	0.1	Disposal	Loaded into open top IBCs then into 20 ft GP shipping container
Camp / Temp buildings redundant materials	Yes	24	Disposal	Return in 20 ft GP shipping container when completed.
Chain fencing – redundant materials	Yes	6	Disposal	Return in 20 ft GP shipping container when completed.
General steel waste	Yes	20	Disposal	Return in 20 m^3 waste bins
Pavement				
Recycled profile pavement	No	5,000	Recycled	Profiled pavement from ramps etc. will be crushed and blended into surplus hardstand material to leave high quality granular material stockpiled for on island reuse or incorporation of recycled profiled pavement

				into airfield works. Storage of recycled profiled pavement during construction works will occur at the Premises in a designated 19 m x 19 m RAP stockpile area. The proposed storage area is located well outside of the town water supply resource – the freshwater lens that exists under and surrounding the airfield. It is anticipated that any excess recycled profiled pavement will be stored and left on the Island as a useful resource. The long-term storage of recycled profiled pavement is not subject to this Works Approval as it will occur at the Stilling Basin, adjacent to Ramah Baru Port. Leachate testing will be undertaken prior to any long-term storage of recycled asphalt pavement. The results will determine the suitability of long-term storage and dictate the location.
Plastics				
Miscellaneous container x 4 Plastic contaminated liner	Yes	32	Disposal	Return in 20 ft GP shipping container when completed.
Miscellaneous container x 1 EZ street empty bags turkey nest	Yes	6	Disposal	Return in 20 ft GP shipping container when completed.
Miscellaneous container x 1 Bulka bags	Yes	4	Disposal	Return in 20 ft GP shipping container when completed.
Pipe – HDPE and PVC (contaminated)	Yes	8	Disposal	Palletised and loaded into 20 ft GP shipping container
Perishables				
N/A	N/A	N/A	N/A	N/A
Hazardous waste				
Contaminated spill kits	Yes	0.2	Disposal	Loaded into open top IBCs then into 20 ft GP shipping container
Lubricants etc.	Yes	24	Disposal	Return in 20 ft GP shipping container
Hydrocarbon waste – oily rages, grease	Yes	0.5	Disposal	Loaded into open top IBCs then into 20 ft GP shipping container

cartridges etc.				
Redundant fuel lines / demolition waste	Yes	6	Disposal	Palletised and loaded into 20 ft GP shipping container
General waste				
Miscellaneous camp waste etc.	Yes	-	Disposal	Palletised and loaded into 20 ft GP shipping container

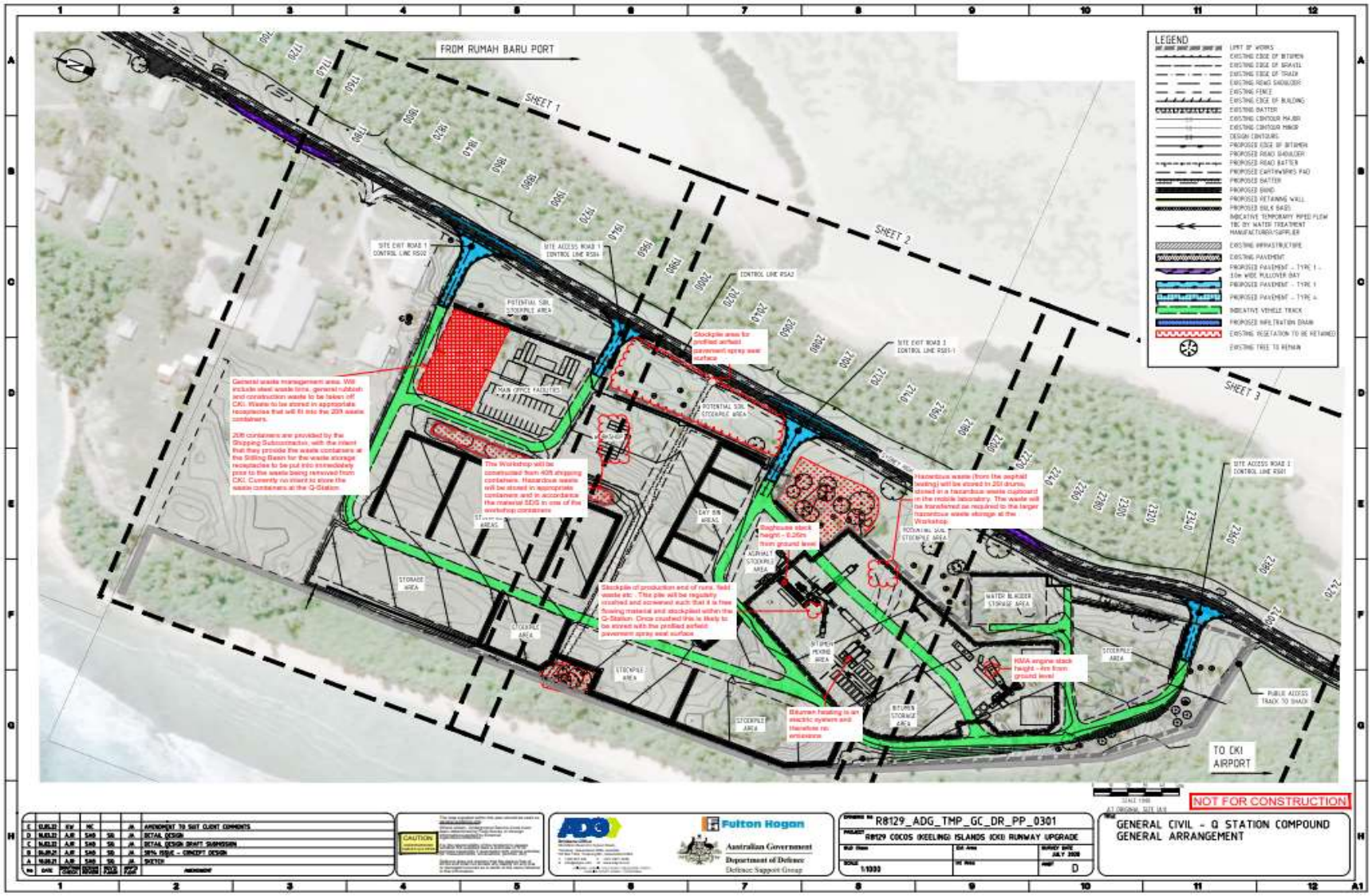

Figure 3: Waste storage area

4.7 Crushing of building materials – Category 13

4.7.1 Overview

During construction of the CKI Airfield the Applicant will remove and recycle profiled airfield pavement, demolished concrete and recycled grooving slurry blocks concrete slurry blocks. Grooving concrete slurry blocks and comprised of fine powder that is the product from the airport runway grooving process (dust created when cutting the asphalt material) that gets turned into blocks by compression when it is a wet product.

4.7.2 Process Description

Processes involved in the crushing of building materials include the following:

1. Material handling and sorting:
   (a) Collection and transportation: waste building materials is gathered from the airfield construction site as part of the demolition works and transported to the Premises crushing site.
   (b) Sorting and contaminant removal: on arrival, preliminary sorting of waste material occurs to remove large debris, non-crushable items, and hazardous materials (asbestos, chemicals and metal). Reusable materials like metals will be segregated for recycling.
2. Primary crushing:
   (a) Loading hopper: sorted waste material is transferred to a loading hopper that feeds into the primary crusher. The hopper helps regulate the material flow to prevent overloading and ensure consistent feed to the crusher.
   (b) Primary crusher: the waste material enters the primary crusher, such as a jaw crusher, impact crusher or gyratory crusher, depending on the material size determined during sorting. The crusher reduces the material in manageable pieces.
3. Secondary crushing (if required):
   (a) Screening and sizing: in some cases, the output from the primary crusher my need further reduction. The crushed material may be screened again to segregate the different sizes to ensure uniformity.
4. Cleaning activities:
   (a) Vibrating screens: vibrating screens may be used to separate finer material from larger pieces ensuring that the crushed material is uniform in size.
   (b) Air dust suppression: implementation of dust control measures such as water sprays, dust collectors or air curtains will minimise dust emissions during the crushing process.
   (c) Magnets and metal detectors: if required they may be used to capture and remove residual meal fragments from the crushed materials. This is critical in recycling material.
5. Final product handling:
   (a) Stockpiling: the cleaned and crushed material is collected and stockpiled according to material type.
   (b) Quality control: the crushed material can be samples and tested to ensure it meets the required specifications for its intended use.
6. Waste Management:
   (a) Hazardous waste disposal: any hazardous waste material detected during the handling and sorting will be stored for safe disposal.

(b) Recycling: any segregated reusable materials, such as metals and concrete aggregates, will be stored in their designated stockpile for appropriate re-sue or disposal.

4.8 Exclusions to the Premises

A works approval application was submitted for upgrades to the Ramah Buru Port and works approval W6943/2024/1 was granted 21 November 2024.

The Applicant has advised that the project will require a new WWTP to treat wastewater from the temporary accommodation camp. Treated wastewater will be conveyed to the existing Water Corporation WWTP balance tanks. A Works Approval Application is currently in the process of being prepared for the temporary WTTP.

A NEW Sea Water Reverse Osmosis plant is proposed for West Island to allow the project works. The proposed location is outside the Premises and is still under consideration by Defence and will be subject to a separate works approval and licence as required.

5. Legislative context

5.1 Planning approvals

Table 14 of the Supporting Documents advised Building permits are required for the accommodation camp – no status is provided.

The Application and Supporting Documents do not identify any Planning Approval status. Section 7.4 of the Application advised section 4.3 of the Supporting Documents identifies planning approval but there is no information in section 4.3 or Table 14 of the Supporting Document.

5.2 Federal Legislation

Environment Protection and Biodiversity Conservation Act 1999 (Cth)

Defense is required to undertake works in accordance with the EPBC Act. Defense is authorised under the EPBC Act to undertake a self-assessment of their activities against the significant impact guidelines. DEPAC is the delegated authority under the EPBC Act to undertake the assessment. An Environmental Report for the overall CKI Airfield upgrade project has been prepared and assessed by DEPAC who agreed that the environmental outcomes of the CKI project were acceptable, and no further assessment is required.

5.3 Part V of the EP Act

5.3.1 Applicable regulations, standards and guidelines

The overarching legislative framework of this assessment is the EP Act and EP Regulations.

The guidance documents which inform this assessment are:

- *Guidance Statement: Setting conditions (October 2015)*
- *Guidance Statement: Licence duration (August 2016)*
- *Guidance Statement: Publication of Annual Audit Compliance Reports (May 2016)*
- *Guideline: Decision making (December 2020)*
- *Guideline: Environmental siting (December 2020)*
- *Guideline: Regulatory principles (December 2020)*

- *Guideline: Risk assessments (December 2020)*

5.3.2 Clearing

The Applicant has advised a clearing permit has been submitted (28/4/2025 and amended 06/05/2025). Clearing permit CPS 11049/1 is being assessed in parallel with this Application.

6. Modelling and monitoring data

6.1 Monitoring of discharges to Air

The Asphalt plants are 15-18 years old and haven't been used or operated recently. Attachment 5 of the Application advised DWER require air and odour emissions testing and broken baghouse information for the Bitumen and Asphalt Plants and that the Applicant would confirm they will undertake testing.

Section 6.3.1.1 of the Supporting Document advises air emissions from the Asphalt Plant will occur principally from the double drum barrel which emits exhaust from the burner and stream from the baghouses. Exhaust from the double barrel travel via the ductwork to the baghouse which is equipped with an internal inlet section and oversized particles are collected from the gas stream there. In turn, the gas stream is then distributed with the bag chamber where dust is collected on the outside of the bags. The gas then passes through the built-up dust cake, bag fabric, and supporting wire bag cage and then moves upward to the clean air plenum at the top of the baghouse. The stack emissions will mostly consist of steam, but will also include particulate matter, nitrogen oxide (NO_x), sulphur dioxide (SO_2) and carbon monoxide (CO). Exhaust will be emitted continuously during the operation of the plant. The stack emission estimates during normal operations of the mobile plant are provided in Table 10 - as tested at the baghouse stack on 10 July 2023.

Table 10: Baghouse emission estimates

Parameter	Unit	Stack Result	Relevant air emission standard
Average stack temperature	^oC	113	-
Absolute Stack Pressure	mbar	1,021	-
Average stack gas water vapour content	%-vol	12.3	-
Average carbon dioxide content	%-vol	5.14	-
Average oxygen content	%-vol	13.4	-
Dry gas density	$kg.Nm^3$	1.31	-
Dry gas molecular weight	g/gmole	29.4	-
Sample volume (dry gas meter)	Nm^3	1.27	-
Exhaust velocity	m/sec	19.6	-
Actual stack volume flow	m^3/sec	1,034	-
Dry standard stack flow rate	Nm^3/min	646	-

Total solid particles emission rate	mg/Nm^3 g/min	83.6 53.9	250[1]; 1502
Oxides of Nitrogen (NO_x) Emission rate	mg/Nm^3 g/min	123 79.1	500[3]
Carbon monoxide (CO) Emission rates	mg/Nm^3 g/min	287 185	125[2]; 350-1000[3]
<u>Heavy metals</u> Antimony (Sb) Arsenic (As) Beryllium (Be) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Lead (Pb) Manganese (Mn) Nickel (Ni) Selenium (Se) Tin (Sn) Vanadium (V) Mercury (Hg)	 µg/Nm^3 µg/Nm^3 µg/Nm^3 µg/Nm^3 µg/Nm^3 µg/Nm^3 µg/Nm^3 µg/Nm^3 µg/Nm^3 µg/Nm^3 µg/Nm^3 µg/Nm^3	 4.46 4.46 0.334 0.236 4.10 1.58 14.2 90.6 4.81 4.46 110 8.12 2.66	-
Heavy metals – lower range Emission rate	mg/Nm^3 g/min	0.229 0.148	-
Total VOC as propane Emission rate	mg/Nm^3 g/min	0.422 0.273	-
Average odour Emission rate	Ou Ou/sec	1,116 13,698	-

Footnote 1 Maximum emission limit of particulate matter of 250 mg/m^3 according to Western Australia's EPA Environmental Code of Practice for Asphalt Plants.

Footnote 2 Maximum emission limit for CO and NO_X according to NSW Protection for the Environment Operations (Clean Air Regulations 2010.

Footnote 3 The European Asphalt Pavement Association Environmental Guidelines on Best Available Technologies.

Section 6.3.1.2 of the Supporting Document advises that for Bitumen manufacturing, to keep the bitumen viscous requires it to be heated. Heating bitumen and blending the bitumen with other products causes fumes that can lead to reduced ambient air quality and the main emissions of concern are VOCs, PAH and hydrogen sulphide (H_2S).

Key Finding: The Delegated Officer notes that;

1. *DWER requested air and odour emissions testing and broken baghouse information for the Bitumen and Asphalt Plants and that the Applicant would confirm they will undertake testing.*
2. *The Applicant has submitted Asphalt Plant proposed emissions dated 10 July 2023. No emissions for the Bitumen Plant have been submitted.*
3. *No raw data for emissions testing for both the Asphalt and Bitumen Plants have been submitted with the Application.*
4. *The CKI Airfield project is temporary and scheduled for approximately 18 months.*
5. *The Asphalt Plant data presented in Table 11 of the Decision Report indicates Total Solid Particles are less than the applicable standard - Maximum emission limit of particulate matter of 250 mg/m^3 according to Western Australia's EPA Environmental Code of Practice for Asphalt Plants.*
6. *The Asphalt Plant data presented in Table 11 of the Decision Report indicates Oxides of Nitrogen are less than the applicable European Asphalt Pavement Association Environmental Guidelines on Best Available Technologies.*
7. *The Asphalt Plant data presented in Table 11 of the Decision Report indicates Carbon Monoxide are greater than the applicable Maximum emission limit for CO and NO_X according to NSW Protection for the Environment Operations (Clean Air Regulations 2010, but less than the European Asphalt Pavement Association Environmental Guidelines on Best Available Technologies.*
8. *Air emissions monitoring will occur during the works approval Commissioning phase and during Operations once the Licence is granted.*

7. Location and siting

7.1 Siting context

The Premises is located on West Island of CKI and covers an area of 10.44 ha and is approximately 1.3 km north of the main West Island Township. The premises is located on Lot 327 on Plan 219651 which is vacant crown land. The premises has vegetation and legacy buildings to the north, vegetation and coastline to the west and is adjacent to Sydney Highway to the east. Figure 4 provide an overview of the premises.

7.2 Residential and sensitive receptors

The distances to residential and sensitive receptors are detailed in Table 11.

Table 11: Receptors and distance from activity boundary

Sensitive Land Uses	Distance from Prescribed Activity
Residential Premises	750 m southeast

7.3 Specified ecosystems

Specified ecosystems are areas of high conservation value and special significance that may be impacted as a result of activities at or Emissions and Discharges from the Premises. The distances to specified ecosystems are shown in Table 12. Table 12 also identifies the distances to other relevant ecosystem values which do not fit the definition of a specified ecosystem.

The table has also been modified to align with the *Guideline: Environmental Siting.*

Table 12: Environmental values

Specified ecosystems	Distance from the Premises
Australian EEZ Commonwealth Marine Area	Within 50 m of Premises
Surface water CKI Marine Park – Indian Ocean	Surrounding CKI – 150 m west
Terrestrial Flora	Within and surrounding Premises
Terrestrial Fauna	Within and surrounding Premises
Marine Fauna - Hawksbill and Green turtles	Surrounding Premises east and west.

Figure 4: Premises location

7.4 Groundwater and water sources

The distances to groundwater and water sources are shown in Table 13.

Table 13: Groundwater and water sources

Groundwater and water sources	Distance from Premises	Environmental value
Groundwater – freshwater lenses	Freshwater lenses: • Under premises; and • Airfield 750 m south	Drinking water

7.5 Soil type

The soils at the Premises comprise sand and shingle.

7.6 Meteorology

The Premises is located in the central part of West Island, 1.3 km north of the main township. CKI experiences a stable, tropical climate, with hotter periods from January to April, and relatively cooler period July to September. The closet meteorological recording station is located at the CKI Airfield approximately 1.9 km south of the Premises. Station data indicates maximum temperature ranges from 28.1 ^{0}C in July to 30.1 ^{0}C in March. The mean annual rainfall is 1,980.2 mm with an average of 129.3 days of rain per year (BoM 2023).

7.6.1 Wind direction and strength

Prevaling winds are categorised by two distinct seasons, the trade wind season from May/June to September/October, and the calmer ‘doldrum’ season from November to May. Prevailing winds on CKI follow an east south-east direction with an average wind speed of 20.2 km/hr (BoM 2023).

Figure 5 provides respective wind roses for 9am and 3pm.

Figure 5: wind roses for 9am and 3pm

8. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk Assessments* (DWER 2020).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

8.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction / operation which have been considered in this decision report are detailed in Table 14 below. Table 14 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 14: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Vehicle movements, earthworks and construction of the Mobile Asphalt and Bitumen Plants	Air / windborne pathway	Section 5.5.1 of the Supporting Document advises a Terrestrial flora and vegetation survey was undertaken at the Premises. Most the Premises has been historically cleared and therefore is considered highly modified with very little vegetation remaining. No identified Threatened or Priority Ecological Communities within or near the Premises. Significant vegetation found in northwest corner of the Premises boundary – *Casuarina equisetfolia* which is part of the littoral zone near the beach. A Terrestrial Fauna survey was undertaken for the Premises. Two fauna species were observed at the Premises – White Tern (Gyg*is alba*) and Green Jungle Fowl (*Gallus varius*). EMP has been drafted and will be implemented. Water cart for dust suppression. Water may be reused onsite for dust suppression. Large areas of exposed soil will be covered. Soil stockpiles will be covered that are stored for more than two weeks. Stockpiles of loose material will be minimised. Speed limits will be imposed to reduce vehicle speed. Travel on unsealed roads will be minimised. Trucks transporting material will be covered. Earth work operations etc. to be minimised in adverse weather conditions. Stockpiles will be covered in a major adverse weather forecast. All soils/mud etc. spilled onto internal and external roads will be cleaned up. Complaints will be recorded and actioned accordingly.

Emission	Sources	Potential pathways	Proposed controls
Noise (and vibration)	Vehicle movements, earthworks and construction of the Mobile Asphalt and Bitumen Plants	Air / windborne pathway	Comply with the *Environmental Protection (Noise) Regulations 1997 (WA)(CKI).* Nosie will be monitored pre and during construction activities. EMP has been drafted and will be implemented. Fit and maintain appropriate mufflers. A Traffic Management Plan will be drafted and implemented. Site works will occur during nominated work hours – 6 am to 6 pm. Work outside this time must be authorised. A regular inspection and maintenance checklist for all plant and equipment will be implemented to ensure construction plant is running optimally. Complaints will be recorded and actioned accordingly. Draft and Nosie and Vibration Management Plan is required.
Sediment laden stormwater	Vehicle movements, earthworks and construction of the Mobile Asphalt and Bitumen Plants and associated Premises materials and soil stockpiles.	Overland runoff	A marine ecology survey was conducted in 2021 and mapped Benthic communities and habitat including seagrass within the CKI lagoon directly adjacent to the eastern boundary of the Premises. The western coastal area is considered predominantly (>60%) of mixed assemblage of coral and filter feeders and macroalgae, with sparse seagrass. EMP has been drafted and will be implemented. Erosion and Sediment Control Plan has been drafted. Each subcontractor will be required to prepare a Construction Execution Plan which complies with he EMP and includes erosion and sediment controls. Erosion and sediment controls will be implemented prior to commencement of topsoil stripping / earthworks and will be maintained. Stockpiles are to be managed to minimise deposition of fines into infiltration drains. Dust suppression will be implemented. Slope angles on stockpiles will be minimised. Cover will be established on soil stockpiles at the Premises if stored for more than two weeks. Sediment will be removed from all sediments controls or infiltration drains where the capacity is substantially reduced. All water is to be tested prior to discharge from site. This is detailed in the Construction Execution Plan.
Hydrocarbons and chemicals spills / leaks	Vehicles (Heavy and Light) and construction of the Mobile Asphalt and Bitumen Plants	Discharge to the marine environment	A marine ecology survey was conducted in 2021 and mapped Benthic communities and habitat including seagrass within the CKI lagoon directly adjacent to the eastern boundary of the Premises. The western coastal area is considered predominantly (>60%) of mixed assemblage of coral and filter feeders and macroalgae, with sparse seagrass.

Emission	Sources	Potential pathways	Proposed controls
			EMP has been drafted and will be implemented. Incorporates Appendix D – Refueling Operations Procedure. Personnel handling hazardous substances will be adequately trained, including training on procedures to contain and clean up spills in coral sands with shallow groundwater tables. Waste and/or hazardous chemicals will be stored in designated areas away from freshwater lenses. Bunds constructed on site will have impermeable surfaces and appropriate impermeable protection between the bunded areas and the groundwater. Appropriate spill kits will be present, readily accessible and in working order during activities where spills may occur. Spill kits are to be adequate for the environment in which they are intended for (e.g., ensure marine spill kits of sufficient size are available adjacent to marine based works). Oils and grease spills will be cleaned up immediately, where safety permits, and will be sent to an approved waste disposal facility in WA. Contaminated materials will be stored in an appropriate waste receptacle until such a time that it is transported off CKI. Regular inspections of work areas will be undertaken to ensure waste and/or hazardous substances are appropriately managed. Any waste or residual construction materials will be removed from site following construction. Vehicles and machinery will be maintained according to manufacturer specifications. Equipment leaks to be immediately addressed. All plant and equipment will be parked in designated hardstand areas where possible. Fuel trucks and/or refueling plant and facilities will be maintained in accordance with the manufacturers specifications and be compliant with AS 2809:2008. A chemical inventory will be maintained on site for all chemicals (storage location, volumes, types of chemicals, receipt date). Appropriate labeling.
Contaminated waste and asbestos fibres	Mobilisation of contaminated land (including asbestos)	Air / windborne pathway	Section 5.4 of the Supporting Document advises a DSI was completed by consultants GHD in 2020 for the Premises. The DSI concluded that chemical concentrations of potential concern were below the identified soil identification levels. No visible evidence of ACM was encountered during the site investigation. However, laboratory results confirmed the presence of Asbestos Fibres at two localised areas within the top 10 mm of soil and above the investigation criteria. No visible evidence of fill derived material and/or uncontrolled fill was observed with the source of the Asbestos fibres unknow. No respirable asbestos fibres were detected that would pose and immediate risk to construction workers should disturbance occur. EMP has been drafted and will be implemented.

Emission	Sources	Potential pathways	Proposed controls
			Waste management hierarchy will be implemented. Material reuse and accurate material procurement will be prioritised to minimise the amount of waste to be export. Provision of correctly signed bins and skips and storage of all wastes. Recycling options will be investigated. Cleared vegetation, where suitable, will be mulched and stockpiled for reuse in rehabilitation. Waste to be disposed / treated at a licensed facility. Any waste removed from CKI will be in Isotainers. Hazardous materials (e.g. asbestos), contaminated soil and other regulated waste will be managed in accordance with the approved methods. Asbestos waste must be exported to Western Australian mainland. Asbestos will be transported and disposed of in accordance with the *Environmental Protection (Controlled Waste) Regulations 2004 (regulation 42-47).* Asbestos containing materials will only be handled by a suitably licenced professional. Personnel conducting excavation work, particularly in identified asbestos areas, will undergo site specific training Air monitoring during the excavation of asbestos contaminated soil (if present) will be conducted by an occupational hygienist. Where asbestos is found or suspected, stop works and seek advice. Handling and Removing Asbestos - Process - Au will be followed in the event of finding or suspecting asbestos. All asbestos that is found at the premises will be reported to DWER in accordance with section 11 of the *Contaminated Sites Act 2003*. Records of quantity and final location of spoil material will be retained. Should any potentially contaminated material require reuse or disposal, an appropriately qualified person will be engaged to characterise it in accordance with National Environmental Protection Measure requirements. Storage of hazardous waste and chemicals will be >50 m away from operational facilities and areas prone to flooding. Regular inspection of work areas. Appropriate labelling.
Commissioning (and operations)			
Dust	Operation of mobile Asphalt and Bitumen Plants, storage	Air / windborne pathway	Section 5.5.1 of the Supporting Document advises a Terrestrial flora and vegetation survey was undertaken at the Premises. Most the Premises has been historically cleared and therefore is considered

Emission	Sources	Potential pathways	Proposed controls
	of chemicals, Vehicle movements, stockpiles of manufacturing materials		highly modified with very little vegetation remaining. No identified Threatened or Priority Ecological Communities within or near the Premises. Significant vegetation found in northwest corner of the Premises boundary – *Casuarina equisetfolia* which is part of the littoral zone near the beach. A Terrestrial Fauna survey was undertaken for the Premises. Two fauna species were observed at the Premises – White Tern (Gyg*is alba*) and Green Jungle Fowl (*Gallus varius*). EMP has been drafted and will be implemented. Water cart for dust suppression. Water may be reused onsite for dust suppression. Large areas of exposed soil will be covered. Soil stockpiles will be covered that are stored for more than two weeks. Stockpiles of loose material will be minimised. Speed limits will be imposed to reduce vehicle speed. Travel on unsealed roads will be minimised. Trucks transporting material will be covered. Earth work operations etc to be minimised in adverse weather conditions. Stockpiles will be covered in a major adverse weather forecast. All soils/mud etc spilled onto internal and external roads will be cleaned up. Complaints recorded and actioned.
Noise (and vibration)	Operation of mobile Asphalt and Bitumen Plants, storage of chemicals, Vehicle movements, stockpiles of manufacturing materials	Air / windborne pathway	Comply with the *Environmental Protection (Noise) Regulations 1997* (WA)(CKI). Nosie will be monitored pre and during construction activities. Fit and maintain appropriate mufflers. A Traffic Management Plan will be drafted and implemented. EMP has been drafted and will be implemented. Site works will occur during nominated work hours – 6 am to 6 pm. Work outside this time must be authorised. A regular inspection and maintenance checklist for all plant and equipment will be implemented to ensure construction plant is running optimally. Complaints will be recorded and actioned accordingly. Draft and Nosie and Vibration Management Plan is required.
Odour	Operation of mobile Asphalt and Bitumen Plants.	Air / windborne pathway	EMP has been drafted and will be implemented. All plant will be tuned and calibrated correctly to ensure efficient performance and will have pollution control devices fitted or be unmodified from the manufacturer.

Emission	Sources	Potential pathways	Proposed controls
			Asphalt Plant: The venting condensers will have several tubes with external fins. The tubes are cooled by ambient air circulating through the fins thus gases existing the tank are cooled as they flow through the tube. Cooling causes vapours to condense and drain back into the tank. Bitumen Plant: Will have covers on the tank to contain VOC and PAH. Air occupational controls including respirators masks etc.
Air emissions – Combustion gases, particulates and VOC's and PAH	Operation of mobile Asphalt and Bitumen Plants, storage of chemicals, Vehicle movements, stockpiles of manufacturing materials	Air / windborne pathway	EMP has been drafted and will be implemented. A Commissioning Plan has been submitted that advises that the Ashplant Plant will undergo air emissions testing from the stack. Asphalt Plant has a Baghouse. All Plant will be tuned and calibrated correctly to ensure efficient performance and will have pollution control devices fitted or be unmodified from the manufacturer. Asphalt Plant: The venting condensers will have several tubes with external fins. The tubes are cooled by ambient air circulating through the fins thus gases existing the tank are cooled as they flow through the tube. Cooling causes vapours to condense and drain back into the tank. Bitumen Plant: Will have covers on the tank to contain VOC and PAH. Air occupational controls including respirators, masks etc. Air quality monitoring on the Premises will be undertaken with the use of Dust Deposition Gauges – refer to Section 10.6.4 of the EMP.
Contaminated waste and Asbestos fibres	Operation of mobile Asphalt and Bitumen Plants, storage of chemicals, Vehicle movements, stockpiles of manufacturing materials		EMP has been drafted and will be implemented. Waste management hierarchy will be implemented. Material reuse and accurate material procurement will be prioritised to minimise the amount of waste to be export. Provision of correctly signed bins and skips and storage of all wastes. Recycling options will be investigated. Cleared vegetation, where suitable, will be mulched and stockpiled for reuse in rehabilitation. Waste to be disposed / treated at a licensed facility. Any waste removed from CKI will be in Isotainers. Hazardous materials (e.g. asbestos), contaminated

Emission	Sources	Potential pathways	Proposed controls
			soil and other regulated waste will be managed in accordance with the approved methods. Asbestos waste must be exported to Western Australian mainland. Asbestos will be transported and disposed of in accordance with the *Environmental Protection (Controlled Waste) Regulations 2004 (regulation 42-47).* Asbestos containing materials will only be handled by a suitably licenced professional. Personnel conducting excavation work, particularly in identified asbestos areas, will undergo site specific training Air monitoring during the excavation of asbestos contaminated soil (if present) will be conducted by an occupational hygienist. Where asbestos is found or suspected, stop works and seek advice. Handling and Removing Asbestos - Process - Au will be followed in the event of finding or suspecting asbestos. All asbestos that is found at the premises will be reported to DWER in accordance with section 11 of the *Contaminated Sites Act 2003*. Records of quantity and final location of spoil material will be retained. Should any potentially contaminated material require reuse or disposal, an appropriately qualified person will be engaged to characterise it in accordance with National Environmental Protection Measure requirements. Storage of hazardous waste and chemicals will be >50 m away from operational facilities and areas prone to flooding. Regular inspection of work areas. Appropriate labelling.
Sediment laden stormwater	Operation of mobile Asphalt and Bitumen Plants, storage of chemicals, Vehicle movements, stockpiles of manufacturing materials	Overland runoff to land and marine environment	A marine ecology survey was conducted in 2021 and mapped Benthic communities and habitat including seagrass within the CKI lagoon directly adjacent to the eastern boundary of the Premises. The western coastal area is considered predominantly (>60%) of mixed assemblage of coral and filter feeders and macroalgae, with sparse seagrass. EMP has been drafted and will be implemented. Erosion and Sediment Control Plan has been drafted. Each subcontractor will be required to prepare a Construction Execution Plan which complies with he EMP and includes erosion and sediment controls. Erosion and sediment controls will be implemented prior to commencement of topsoil stripping / earthworks and will be maintained. Stockpiles are to be managed to minimise deposition of fines into infiltration drains. Dust suppression will be implemented.

Emission	Sources	Potential pathways	Proposed controls
			Slope angles on stockpiles will be minimised. Cover will be established on soil stockpiles at the Premises if stored for more than two weeks. Sediment will be removed from all sediments controls or infiltration drains where the capacity is substantially reduced. All water is to be tested prior to discharge from site. This is detailed in the Construction Execution Plan. Bunded areas will include a low spillover point and spill absorbent material. Appropriate spill kits will be accessible.
Hydrocarbons and chemicals Hydrocarbons and chemicals spills / leaks	Temporary storage of hydrocarbons Operating of plant and equipment	Discharge to land, groundwater and marine environment	A marine ecology survey was conducted in 2021 and mapped Benthic communities and habitat including seagrass within the CKI lagoon directly adjacent to the eastern boundary of the Premises. The western coastal area is considered predominantly (>60%) of mixed assemblage of coral and filter feeders and macroalgae, with sparse seagrass. EMP has been drafted and will be implemented. Incorporates Appendix D – Refueling Operations Procedure. Personnel handling hazardous substances will be adequately trained, including training on procedures to contain and clean up spills in coral sands with shallow groundwater tables. Waste and/or hazardous chemicals will be stored in designated areas away from freshwater lenses. Bunds constructed on site will have impermeable surfaces and appropriate impermeable protection between the bunded areas and the groundwater. Appropriate spill kits will be present, readily accessible and in working order during activities where spills may occur. Spill kits are to be adequate for the environment in which they are intended for (e.g., ensure marine spill kits of sufficient size are available adjacent to marine based works). Oils and grease spills will be cleaned up immediately, where safety permits, and will be sent to an approved waste disposal facility in WA. Contaminated materials will be stored in an appropriate waste receptacle until such a time that it is transported off CKI. Regular inspections of work areas will be undertaken to ensure waste and/or hazardous substances are appropriately managed. Any waste or residual construction materials will be removed from site following construction. Vehicles and machinery will be maintained according to manufacturer specifications. Equipment leaks to be immediately addressed. All plant and equipment will be parked in designated hardstand areas where possible. Fuel trucks and/or refueling plant and facilities will be maintained in accordance with the manufacturers

Emission	Sources	Potential pathways	Proposed controls
			specifications and be compliant with AS 2809:2008. A chemical inventory will be maintained on site for all chemicals (storage location, volumes, types of chemicals, receipt date). Appropriate labeling. In the event of a spill, this will be responded to in accordance with the Incident and Emergency Response Flowchart, Chemical Oil and Fuel Spills, which will form part of the emergency Response Plan and detailed in the EMP. Asphalt and Bitumen plant and chemical storage facilities will be bunded and lined with HDPE at the Premises. Groundwater monitoring is proposed from all standpipes installed at the Premises – refer to section 10.6.3 of the EMP.

9. Risk Rating

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 8.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 8.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 15.

Works approval W2982/2025/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 16 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the Commissioning phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

Table 15: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Construction								
Placement of mobile Asphalt and Bitumen Plants, Crusher/Screen and associated equipment including vehicle movements (reversing beepers).	Dust	Air / windborne pathway causing impacts to health and amenity	Residences 750 m southeast. Vegetation (habitat) Ocean / marine (habitat) adjacent to premises. Fauna/Flora within and adjacent to premises.	Refer to Section 8.1	C = Minor L = Likely **Medium Risk**	*Y*	N/A	N/A The Delegated Officer has considered the scale of the works and the separation distance between the source and receptors as indicating that the risk of dust emission impacts is not foreseeable. Dust can be adequately regulated by section 49 of the EP Act.
	Noise	Air / windborne pathway causing impacts to health and amenity	Residences 750 m southeast. Vegetation (habitat) Ocean / marine (habitat) adjacent to premises. Fauna/Flora within and adjacent to premises.	Refer to Section 8.1	C = Minor L = Likely **Medium Risk**	*Y*	N/A	N/A The Delegated Officer has considered the separation distance between the source and receptors as a guide to inform the risk of noise emissions as not foreseeable. Noise emissions are adequately regulated under the *Environmental Protection (Noise) Regulations 1997*.
Commissioning								
Commissioning of Bitumen, Asphalt and Crusher/Screen processing plant including vehicle	Dust	Air / windborne pathway causing impacts to health and amenity	Residences 750 m southeast. Vegetation (habitat) Ocean / marine	Refer to Section 8.1	C = Minor L = Likely **Medium Risk**	Y	N/A	Category 77 must comply with the CB Regs therefore during Commissioning and regulation 3, 4, 5, 6, 7, 9 and 10 of the CB Regs regulates Dust for Category 77 operations.

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
movements (reversing beepers).			(habitat) adjacent to premises. Fauna/Flora within and adjacent to premises.					The Delegated Officer has considered the scale of the works and the separation distance between the source and receptors as indicating that the risk of dust emission impacts is not foreseeable. Dust can be adequately regulated by section 49 of the EP Act.
	Noise	Air / windborne pathway causing impacts to health and amenity	Residences 750 m southeast. Vegetation (habitat) Ocean / marine (habitat) adjacent to premises. Fauna/Flora within and adjacent to premises.	Refer to Section 8.1	C = Minor L = Likely **Medium Risk**	Y	N/A	N/A The Delegated Officer has considered the separation distance between the source and receptors as a guide to inform the risk of noise emissions as not foreseeable. Noise emissions are adequately regulated under the *Environmental Protection (Noise) Regulations 1997*.
	Odour	Air / windborne pathway causing impacts to health and amenity	Residences 750 m southeast	Refer to Section 8.1	C = Slight L = Unlikely **Low Risk**	Y	Condition 1, 2, 5, 8 and 13	N/A
	Air emissions – Combustion gases, particulates and VOC's	Air / windborne pathway causing impacts to health and amenity	Residences 750 m southeast	Refer to Section 8.1	C = Slight L = Unlikely **Low Risk**	Y	Condition 1, 2, 3, 5, 7, 8 and 13	N/A
	Asbestos Fibres	Air / windborne pathway causing impacts to health and amenity	Residences 750 m southeast	Refer to Section 8.1	C = Severe L = Rare **High Risk**	Y	N/A	The operation of crushing and screening machinery is not authorised under this works approval. As such, no conditions relating to asbestos fibres have been included in the works approval. This emission will be subject to a detailed risk assessment as a part of the subsequent

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
								licence assessment, which will authorise crushing and screening.
	Sediment laden / Contaminated Stormwater	Overland runoff potentially impacting surface water quality causing ecosystem disturbance and impacts on surrounding vegetation (habitat) due to smothering	Terrestrial and marine fauna withing and adjacent to premises.	Refer to Section 8.1	*C = Moderate* *L = Possible* ***Medium Risk***	Y	Condition 1	N/A
	Hydrocarbons and Chemicals spills / leaks	Direct discharge causing contamination of surface water causing ecosystem disturbance. Direct discharge causing contamination of coastal areas causing impacts on biological health and amenity	Terrestrial and marine fauna and groundwater	Refer to Section 8.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 1	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk Assessments* (DWER 2020).
Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

10. Consultation

Table 16 provides a summary of the consultation undertaken by the department.

Table 16: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 23 June 2025.	No Comments.	Noted
Local Government Authority advised of proposal on 20 June 2025.	The Shire of Cocos (Keeling) Island did not respond.	Noted
Applicant was provided with draft documents on 30 July 2025.	The Applicant provided comments on 25 August 2025. Comments, primarily, pertain to: ▪ Revised quantities of products. ▪ Consistency of terminology (e.g. tonnes per year vs per hour). ▪ We note that all chemicals will not necessarily be stored at the one time, as the Project is operating on a rolling inventory. ▪ Emissions testing frequency during commissioning phase and emissions criteria. ▪ Requirement for a concrete hardstand for the batching plant. We note that it is the only Batching Plant on the island and any requirement for concrete hardstands poses a significant logistics challenge, as precast concrete panels would need to be fabricated and shipped to the island. Refer to Appendix 1.	Refer to Appendix 1.

11. Conclusion

This assessment of the risks of activities on the Premises has been undertaken with due consideration of a number of factors, including the documents and policies specified in this Decision Report (summarised in Appendix 1).

Based on this assessment, it has been determined that the Works Approval will be granted subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

12. References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

Decision Report	Summary of applicant's comment	DWER response
Table 4	Drum production capacity changed to 120,000 tonnes per year	Changed to new volumes
Table 8	Bitumen changed to 8,800 tonnes	Changed to new volumes
Table 8	Delete Blending oil as it is captured already.	Changed to new volumes
Table 8	Heating oil deleted and no longer required.	Changed to new volumes
Table 8	Diesel containers to be 200,000 L	Changed to new volumes
Table 8	SBS Polymer 600 tonnes	Changed to new volumes
Table 8	Hi foam 13 tonnes	Changed to new volumes
Table 8	Grease 1000 kg	Changed to new volumes
Table 8	Hydraulic oil 2000 L	Changed to new volumes
Table 8	Gear oil 2000 L	Changed to new volumes
Table 8	Motor oil 2000 L	Changed to new volumes
Table 8	Coolant 1000 L	Changed to new volumes
Table 8	EZ street 110 tonnes	Changed to new volumes
Table 8	Paint 15,000 L	Changed to new volumes

Decision Report	Summary of applicant's comment	DWER response
Table 9	Recycled profile payment amendment of wording – leachate testing will be undertaken prior to any long-term storage of recycled asphalt pavement. The results will determine the suitability of long-term storage and dictate the location.	Amended.
Section 4.1.1	Applicant confirms the construction and operation of the concrete batching plant will comply with the *Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998*. There will be no cement Silo's storage and cement will be contained within an isotainer which will be full on arrival to the island and sent back to the mainland empty. There will be no cement filling on site.	Noted and amended text.
Figure 3	New Map provided	Noted and added new map.
Condition	**Summary of applicant's comment**	**DWER response**
Prescribed premises table	Category 35 amended to 120,000 tonnes per annual period Category 36 amended to 60,000 tonnes per annual period	The Applicant requested to amend the Category 35 and 36 P&DC as requested in comments. This issue was not identified for respective amendment in the Decision Report though. Table 3 in the Decision Report has been amended accordingly noting the request to amend the Works Approval P&DC.
Table 1	Amend hot mix asphalt plant from 240 to 270 tonnes.	Amended.
Table 1	Change to PM2 Unified control system.	Amended.
Table 1	2 x 1100 kVA and 1 x 300 kVA gensets – will be synchronised to run the asphalt plant.	Amended.

Decision Report	Summary of applicant's comment	DWER response
Table 1	68, 000 L capacity generator diesel storage tank.	Amended.
Table 1	80 tonne hot bin capacity.	Amended.
Table 1	2 x cold feed trailers with 7No. cold feed bins in total.	Amended.
Table 1	Capacity will be less than 200 mg/m^3 capacity.	Amended.
Table 1	Delete hot oil heater – no heater will be on-site – it will be electrical.	Amended.
Table 1	Fixed polymer blending add in: ▪ 3 x 50 kL TEC tanks (PMB storage prior to the 100,000 kL asphalt plant storage kettle. ▪ 500 kW electric bitumen heat exchanger. ▪ 1 x 100,00 L bitumen storage kettle (supplying the PMB blend plant).	Added into Table 1.
Table 1	Foamed bitumen add in: 45,000 L bitumen storage tank.	Added into Table 1.
Table 1	Remove requirement for concrete hardstand for the concrete batching plant.	Removed requirement for concrete hardstand.
Table 1	Hydrocarbon / chemical storage area changed to bunded hardstand areas (noting some chemicals will be stored outside the main bunded area, however, will be bunded)	Amended.
Table 1	8,000 tonnes Bitumen.	Amended.
Table 1	Delete 559 kL Bitumen	Amended.

Decision Report	Summary of applicant's comment	DWER response
Table 1	Delete 180,000 blending oil	Amended.
Table 1	Delete heating oil as no heaters on site	Amended.
Table 1	200,000 diesel storage.	Amended to 200, 000 L Diesel stored at any one time in container designed to meet Australian Standard AS 1940 – with a total of 3,900,000L to be stored (used) for work program.
Table 1	300 tonnes EmuPrime	Amended.
Table 1	600 tonnes SBS polymer	Amended.
Table 1	13 tonnes foaming agent	Amended.
Table 1	110 tonnes Ezstreet	Amended.
Table 1	15,000 L paint	Amended.
Table 1	1000 kg grease, 2000 L hydraulic oil, 2000 L gear oil, 2000 L motor oil and 1000 L coolant.	Amended.
Table 1	Add in: ▪ Concrete curing oil – 15 L stored in dedicated bund in chemical container; and ▪ Formwork oil – 150 L stored in dedicated bund in chemical container.	Added into Table 1.
Table 2	270 tonnes per hour – remove per day reference	Amended.
Table 3	Map S1 provided	Noted and added new map.
Table 4	Amend limit to:	Amended.

Decision Report	Summary of applicant's comment	DWER response
	▪ PM10 – 250 mg/m^3 ▪ Oxides of Nitrogen – 350 mg/m^3 ▪ Carbon monoxide – 1000 mg/m^3	
Table 5	Frequency of once during commissioning.	Amended. Section 2 of Attachment 3A Commissioning Plan advises commissioning should take 3-4 weeks for the plant to be fully commissioned.
Figure 2	New map provided.	Noted and added new map.