



Application for Works Approval

Part V Division 3 of the *Environmental Protection Act 1986*

Works Approval Number	W6772/2023/1
Applicant	Chevron Australia Pty Ltd
ACN	086 197 757
File number	DER2022/000691
Premises	<p>Gorgon LNG Project</p> <p>Legal description –</p> <p>Part of Crown Lease L077431, Certificate of Title Volume LR3168 Folio 315, Site 1 on Deposited Plan 409277; Part of Crown Lease L077428, Certificate of Title LR3158 Folio 476, Site 5 on Deposited Plan 64220; Temporary Wastewater Injection Facilities Licence LIC00554/2009_1_43; Part of Revised Service Corridor Easement L641372, Certificate of Title Volume LR3142 Folio 58, Deposited Plan 91514 and; Onshore Feed Gas Pipeline Right of Way Easement L466759, Certificate of Title Volume LR3142 Folio 58, Deposited Plan 91514.</p> <p>As defined by the premises boundary coordinates within DWER document: DWERDT820335.</p>
Date of report	17/08/2023
Proposed Decision	Works approval granted

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1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the premises. As a result of this assessment, works approval W6772/2023/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary

On 14 December 2022, Chevron Australia Pty Ltd (CAPL / the applicant) submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The works approval application is to support the Gorgon LNG Project which operates under licence L9102/2017/1 on Barrow Island through the construction and time limited operations of the following:

- An additional wastewater treatment plant (WWTP) with a design capacity of 485.1m³/day to support the permanent WWTP at the premises as the current bridging plant is approaching it's end of design life;
- a dewatering facility (liquid waste facility) with capacity to process wastewater volumes of 500 – 1000 barrels per day to manage drilling waste produced off-site separating suspended solids from the brine for efficient disposal; and
- up to three mobile crushing and screening plants to support; installation of the Jansz lo compression umbilical along the Gorgon and Jansz Feed Gas Pipeline Right of Way, and trenching activities between the gorgon gas treatment plant (GGTP) and pressure management drill centre D (DC-D) to install a new power cable.

The premises relates to the categories and assessed production / design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6772/2023/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020b) are outlined in works approval W6772/2023/1.

2.3 Background and application overview

The applicant currently operates the Gorgon LNG Project under licence L9102/2017/1. The licence authorises operation of a three-train gas treatment plant including supporting infrastructure, reservoir carbon dioxide (CO₂) injection infrastructure, two wastewater treatment plants, liquid waste facility, diesel storage facility, waste concrete storage, waste transfer station, bulk storage of chemicals and a concrete batching plant under categories 10, 34, 52, 54, 61, 61A, 73 and 77 of the *Environmental Protection Regulations 1987* (EP Regulations).

The Gorgon LNG Project (the premises) is located on Barrow Island, an A-Class Nature Reserve (Crown Reserve 11648) situated 85 km north-west of Onslow.

2.3.1 WWTP (Category 54)

CAPL proposes to construct a WWTP in the general utilities area to treat wastewater produced on Barrow Island. The WWTP will support the existing permanent WWTP authorised under licence L9102/2017/1 as the current bridging WWTP is approaching the end of its design life. The proposed WWTP will be designed to treat up to 458.1m³/day of raw wastewater and the proposed layout of the plant is pictured in figure 3 of the issued works approval. Treated wastewater will be disposed through deep well injection primarily through permanent wastewater disposal (PWD) wells whilst solid waste will be dewatered, packaged in enclosed receptacles and stored at the waste transit station (WTS) prior to removal from the island for disposal at a licensed facility.

Process

The WWTP will receive flow-equalised sanitary wastewater from within the GGTP, staff accommodation and other supporting facilities. Raw effluent will be piped from the Flow Equalisation Tank to the WWTP where it will be treated using membrane bioreactor (MBR) technology, the same used at the existing permanent WWTP. The raw effluent will pass through inlet screens to remove residuals >2mm, the screens will feed residual waste to screening bins. Screened effluent is then processed through a series of process tanks (all capacities are approximate) including:

- an anoxic tank (84,000 L);
- an aerobic tank (1,680,000 L);
- a post-anoxic tank: (84,000 L);
- a MBR tank: (72,000 L);
- an aerobic sludge digester tank (94,000 L) and;
- a treated effluent tank (55,000 L).

Within the MBR tank a Norit Membrane System is used to separate mixed liquor suspended solids from the treated effluent via ultrafiltration at 0.03 µm. A schematic of the process can be seen in Figure 1 below.

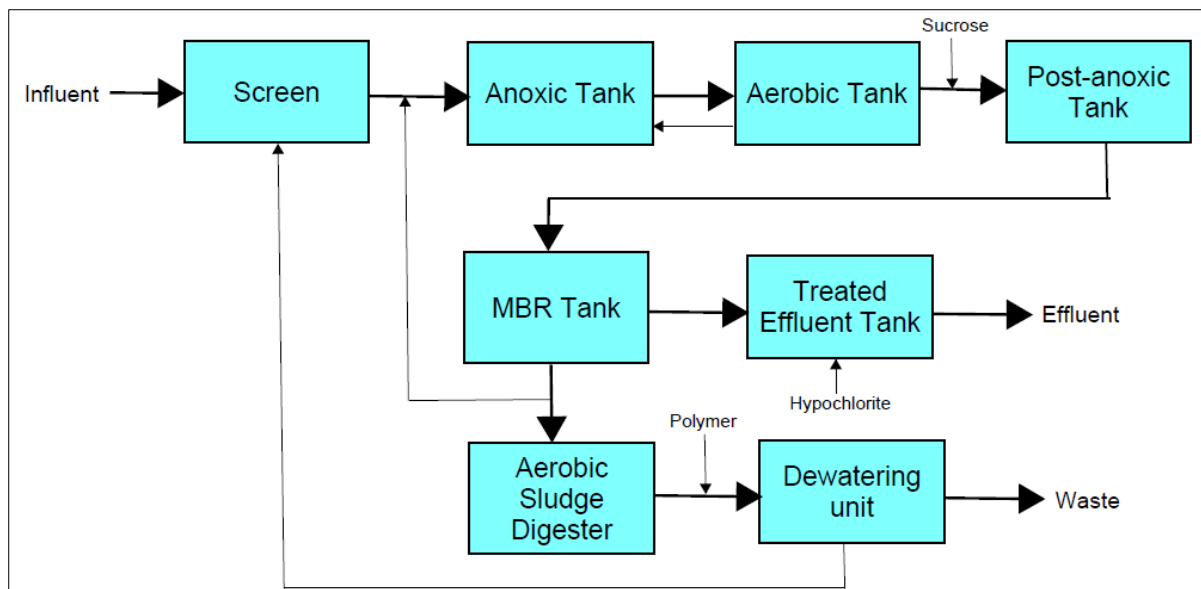


Figure 1: Overview of wastewater treatment process

Outputs

Treated effluent will be transferred to the existing liquid waste facility via an above ground glass fibre reinforced pipeline where it is mixed with other liquid wastes within the disposal

water tanks. It is then transported by a high-pressure pipeline to the PWD wells for disposal through deep well injection to the confined Flaccourt subsurface geological formation at a depth greater than 1000 m bgl through two wells (discharge points ZWI1 and ZWI2). Effluent will also be transferred to the temporary wastewater injection plant (TWIP) located 6km west of the GGTP for disposal when required. Effluent transferred to the TWIP is also disposed to the Flaccourt geological formation via deep well injection through two wells (discharge points WDW1 and WDW2). All discharge points locations are pictured in figure 5 of the issued works approval.

CAPL propose to monitor effluent quality in line with the current program implemented for the existing permanent WWTP within licence L9102/2017/1. This encompasses quarterly monitoring of water quality coupled with continuous monitoring of inflow and outflow of the plant. Additional monthly monitoring of discharge points (TWIP and PWD wells) is also required under licence L9102/2017/1 inclusive of pH, total suspended solids (TSS) and total recoverable hydrocarbons (TRH).

The design of the WWTP aims to comply with the effluent design criteria listed in Table 1 below. The criteria are the expected water quality for when the plant is operating at the optimal level of performance and may not be consistently achievable during commissioning and day to day operation of the facility. These values align with the design criteria for the existing permanent WWTP.

Table 1: Final treated effluent quality criteria

Parameter	Effluent design criteria
Biological oxygen demand, 5 day (BOD5)	< 20 mg/L
Total Nitrogen (TN)	< 5 mg/L
Total Phosphorous (TP)	< 0.5 mg/L
Total suspended solids (TSS)	< 30 mg/L
Turbidity	< 5 NTUs
E. coli (CFU/100mL)	< 10
Residual Chlorine	0.2 – 2 mg/L
pH	6.5 – 8.5 mg/L

It is estimated that 0.2 tonnes of solid waste will be produced per day. Solid waste sludge will be dewatered, packaged and stored prior to removal off Barrow Island. Sludge will be packaged in enclosed receptacles suitable for dispatch on supply barges and transported to the mainland where it will be disposed of to an approved CAPL disposal facility.

CAPL have proposed both commissioning and time limited operations for the WWTP as part of the application. Commissioning of the plant is required to allow for calibration and inspection of equipment, seeding and establishment of the microorganism population required will also occur during this time.

2.3.2 Liquid waste facility (dewatering facility (Category 61))

A dewatering facility is required by CAPL to manage drill wastes produced outside the premises boundary at CO2 injection system pressure management drill centres DC-D and DC-E. Activities at these drill centres are regulated by the Department of Mines, Industry Regulation and Safety (DMIRS). The facility will separate the suspended solids and liquid within the drilling waste fluid for more efficient disposal. The facility will be located near the existing TWIP wells about 5.5 km east of the GGTP as seen in Figure 5 of the issued works approval.

The dewatering facility is capable of processing approximately 500 - 1,000 bbls/day (24hr operation), and is proposed to include the following:

- Four 500 bbl double skinned tanks;
- a 450 bbl single skinned tank for fresh dilution water;
- pre-constructed dewatering skid;
- dual pod filtration unit; and
- associated workshop, generator and double skinned diesel tank.

Drilling fluids will be transported to the facility in a vacuum tanker and stored in double skinned tanks. Pre-mixed coagulating or flocculating agents will be used to aggregate solid particulates which are then removed from the fluid via a highspeed decanting centrifuge, a simplified process is depicted in Figure 2. If quality specifications are not met additional filtration will occur. The facility includes an onsite laboratory so raw water quality can be measured initially to inform chemical dosing requirements and treated water quality will be measured after the process to ensure disposal quality requirements are met.

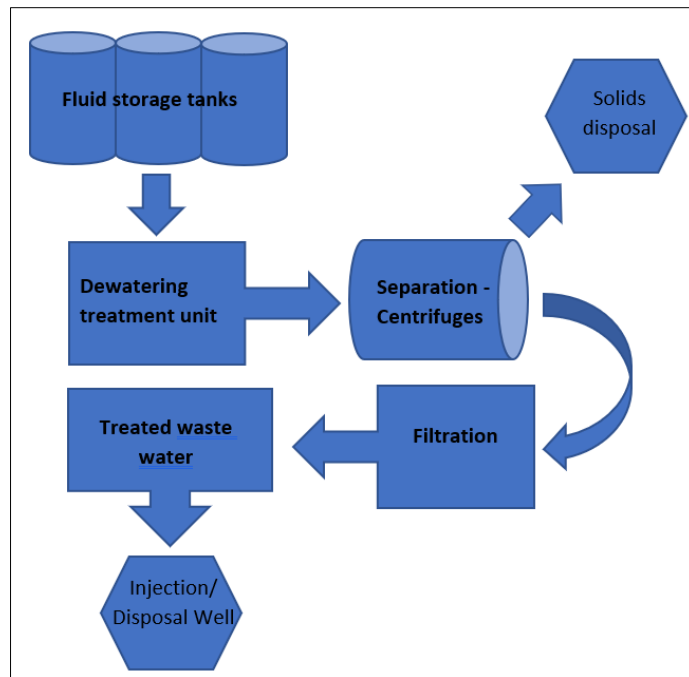


Figure 2: Liquid waste facility schematic

Treated wastewater will be disposed of via deep well injection at the TWIP, prior to disposal the treated water will be tested to ensure the water is suitable for deep well injection. The testing parameters: Ph, total suspended solids and total recoverable hydrocarbons relate to well integrity requirements identified in the grant of the operational licence L9102/2017/1.

Approximately 1,555 MT of sludge is expected to be produced per year. Solid waste will be packaged in plastic lined skip bins and transported to the waste transfer station to be stored before it is removed from Barrow Island on supply barges. Disposal will be to an appropriate CAPL approved and licensed waste disposal facility.

2.3.3 Crushing and screening (Category 12)

Crushing and screening is proposed to occur at two locations, surrounding the Gorgon and Jansz Feed Gas Pipeline Right of Way and within the GGTP area as seen in Figure 2 of the issued works approval.

A mobile plant is required to crush and screen material from trenching activities along the right of way to support installation of umbilicals. A plant will also be located within the GGTP and will crush and screen material sourced from trenching activities between the GGTP and DC-D to enable installation of an electrical cable to support power needs at DC-D. Raw excavated

material and crushed material will be transported to and from the GGTP and where trenching activities are occurring in between the GGTP and DC-D which is outside the premises boundary.

All material will be utilised, primarily to backfill trenches, if there is additional material it will be added to existing stockpiles within the GGTP. It is possible that both scopes of work will be required to occur at the same time, in this instance up to three crushers may be required, alternatively one crusher will be utilised at different times at the two locations. CAPL estimate that 88,000 tonnes of rock will be crushed between 2023 and mid-2026, the estimated breakdown of material to be crushed in tonnes is approximately 30,800, 52,800 and 4,400 consecutively from the year 2023.

2.4 Legislative Context

2.4.1 Part IV of the EP Act

Ministerial Approval for the revised and expanded Gorgon Gas Development was granted on 10 August 2009 subject to conditions outlined in Ministerial statement 800 (MS 800). MS 800 superseded Ministerial statement 748 for the initial proposal, providing approval for both the initial, and the revised and expanded Gorgon Gas Development. The approval authorises the construction and operation of three 5 mtpa LNG processing trains, associated infrastructure and a CO₂ injection system to inject reservoir CO₂ into the Dupuy Formation on Barrow Island. Since the revised and expanded Gorgon Gas Development was approved, further minor changes have also been made and/or approved and updates to MS 800 made as necessary. This includes updates to MS 800 via MS 1002 which approve a fourth LNG train and a new Onshore Feed Gas Pipeline System located within the existing Onshore Feed Gas Pipeline Systems Corridor.

MS 800 contains conditions that need to be considered in the assessment of emissions and discharges from the premises and the imposition of regulatory controls. Ministerial conditions relevant to the assessment of emissions and discharges and the imposition of regulatory controls associated with this works approval are summarised below.

Table 2: Considerations of MS 800 conditions relevant to this application

Overview	Delegated Officer considerations
<p><u>Condition 7</u> Requires the submission and implementation of a Terrestrial and Subterranean Environment Protection Plan (TSEPP). The objectives of the Plan are to:</p> <ol style="list-style-type: none"> i. To reduce the adverse impacts from the construction and operation of the terrestrial facilities as far as practicable; and ii. To ensure that construction and operation of the terrestrial facilities does not cause Material or Serious Environmental Harm outside the Terrestrial Disturbance Footprint, including below the surface of the land. <p>It is also specified that the plan shall address procedures to avoid secondary impacts to fauna as a consequence of risks such as animals being trapped in construction trenches or subject to vehicle strike (7.6 iii)</p>	<p>The delegated officer has reviewed the TSEPP and noted that the plan sets out management measures to minimise environmental impacts including but not limited to solid and liquid waste management, surface water management, leak and spill management, and light, noise and vibration management. The Plan identifies that the management of solid and liquid waste (with the exception of stormwater) which is covered by the Solid and Liquid Waste Management Plan and that the management and monitoring of noise, vibration and light are detailed in the Long Term Marine Turtle Management Plan.</p> <p>A traffic management common user procedure is in place to satisfy condition 7.6iii of MS800. The plan has been reviewed and the delegated officer notes the following management measures:</p> <ul style="list-style-type: none"> • Maximum speed limit of 60km/hr dawn until dusk • Maximum speed limit of 40km/hr dusk until dawn • All drivers to complete on-site driver awareness training • When safe to do so, drivers shall give way to

	<p>fauna within construction areas and on roads.</p> <ul style="list-style-type: none"> • Vehicles shall only drive on existing roads, off-road access is prohibited. (Chevron Australia, 2012). <p>The Delegated Officer has considered these plans, in addition to the outcome of the risk assessment in determining regulatory controls relating to potential impacts to the terrestrial and subterranean environment.</p>
<p><u>Condition 30</u> Requires the submission and implementation of a Solid and Liquid Waste Management Plan (SLWMP). The objectives of the Plan are to:</p> <ol style="list-style-type: none"> ensure all proposal-related solid and liquid wastes are either removed from Barrow Island or, if not, that all practicable means are used to ensure that waste disposal does not cause Material or Serious Environmental Harm to Barrow Island and its surrounding waters’; ensure discharges from any wastewater treatment plant, reverse osmosis plant, or other process water are disposed of via deep well injection, unless otherwise authorised by the Minister; and ensure any deep well injection of Proposal related liquid wastes is conducted in a manner that will not cause Material or Serious Environmental Harm to subterranean fauna and their habitats on Barrow Island. 	<p>The delegated officer has reviewed the SLWMP and notes that the following management measures are relevant to the assessment of this works approval:</p> <ul style="list-style-type: none"> • A waste transfer station (WTS) will be used to receive and store general, recyclable, hazardous (solid and liquid), and quarantine-risk wastes. This facility will allow for the segregation of non-compatible hazardous wastes; and • waste receptacles and/or tanks that may attract fauna or generate windblown rubbish will be covered or closed. <p>The delegated officer notes that the plan references the Part V licence as a regulatory instrument for injection of liquid waste via deep well disposal. The operational licence L9107/2017/1 has conditions relating to minimising the risk of contaminated water impacting the freshwater aquifer. This includes a high-pressure alarm system for the PWD wells and pressure monitoring at the PWD and TWIP wells.</p> <p>The waste management measures detailed in the plan have been considered in the determination of the risk associated with waste management related to the application. Waste management measures specified in the plan will not be included on the licence to avoid duplication with MS 800.</p>
<p><u>Condition 16</u> Requires the submission and implementation of a Long-term Marine Turtle Management Plan (LTMTMP)</p>	<p>The delegated officer has reviewed the Long-term Marine Turtle Management Plan and noted that the plan specifies design features, management measures and operating controls to minimise lighting, noise and vibration emissions as far as practicable to prevent adverse impact on marine turtles. The plan also specifies an annual monitoring program to detect impacts on turtle populations as well as management triggers and reporting requirements. The delegated officer considers the primary instrument for regulating the impacts on marine turtles from light, noise and vibration emissions is MS 800 and the Long-term Marine Turtle Management Plan. As such, to avoid regulatory duplication, no further assessment or management is required under Part V of the EP Act.</p>

Internal comment was sought from DWER’s EPA Services on the application to confirm that the proposed works are consistent with Part IV assessment of the Gorgon Project. EPA Services confirmed that proposed activities will be undertaken within the existing approved Gorgon Gas Development proposal footprint on Barrow Island and considers that the proposed activities can be adequately regulated under Part V of the EP Act.

3. 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 2020b).

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.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this decision report are detailed in Table 3 below. Table 3 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 3: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Vehicle movement and earthworks associated with construction and establishment of infrastructure.	Air / windborne pathway	<ul style="list-style-type: none"> Dust stabilisation and suppression techniques may be employed where possible e.g. stabilisation, water carts, sprays, dust guards, wind breaks or covers. Vehicle speeds are restricted to the speed limits that are in force on Barrow Island roads, to minimise dust generation.
Noise		Air / windborne pathway	<ul style="list-style-type: none"> Offsite fabrication of the WWTP and dewatering facility components will be undertaken, where practicable, to reduce noise and vibration at site. Civil and installation works will be limited to daylight hours, and occupational health and safety noise limits will be adhered to. Night works have not been scheduled and contractors require approval from CAPL to work outside designated construction hours.
Hydrocarbons and chemicals (spills and leaks)	Leaks and spills from vehicles	Seepage to soil and groundwater	No specific controls proposed.
Commissioning and time limited operations			
Odour	WWTP commissioning and operation	Air/windborne dispersion	<ul style="list-style-type: none"> The WWTP will use a PLC operating system which is designed to optimise the treatment process, thereby reducing odour formation. In the event of any abnormal operating conditions or odour, operational or maintenance personnel will be called to the WWTP to rectify. Magnesium hydroxide is currently used to limit the generation of volatile sulphides (H₂S) in the sewers.
Potentially contaminated water (untreated or partially treated effluent, untreated drilling water or stormwater), treatment sludges	Process tanks, transfer pipelines, containment bunds and connections	Containment breach (overtopping of storage tanks, pipeline or connection leak/rupture) causing direct discharge to land and infiltration to groundwater or	<u>WWTP</u> <ul style="list-style-type: none"> The WWTP, including all process vessels, will be surrounded by a concrete bund with impervious flooring. The bund is equipped with a drain connection to the existing stormwater drainage system (as per L9102/2017/1). On-line level transmitters and high-level alarms will be fitted to all tanks and flow control will be automated. Pipeline material is to be of high integrity and suitable for its purpose.

Emission	Sources	Potential pathways	Proposed controls
with elevated nutrients		overland flow to surface receptors.	<ul style="list-style-type: none"> • Regular monitoring, inspection and maintenance of WWTP, including visual inspections of pipelines, to ensure rapid identification of any leaks or spills. • WWTP pipes and fittings (above and below ground) shall be periodically tested for integrity. • Treated effluent will be transferred to the disposal water tanks then will be transported by a high-pressure pipeline to the PWD wells. • All chemical injection tanks will be within additional bunding (tertiary containment). • Wastewater treatment chemical storage tanks are stored in designated hazardous material storage areas that incorporate spill control and loss prevention measures, such as secondary containment bunding. • A decant mechanism is used to thicken the sludge before it is mixed with polymer and directed to a centrifuge for dewatering. • Sludge will be packaged in enclosed half height skips (or similar) suitable for dispatch on supply barges for offsite disposal. <p><u>Liquid Waste Facility</u></p> <ul style="list-style-type: none"> • The facility including all process vessels and liquid storage containers will be contained in accordance with the Solid and Liquid Waste Management Plan (SLWMP). • Dewatering facility is permanently manned when operational, and level indicators monitored to prevent overflow. • Regular monitoring, inspection and maintenance will occur including visual inspections of pipelines, to ensure rapid identification of any leaks or spills. Pipes and fittings (above and below ground) are periodically tested for integrity. <p><u>Mobile crushing and screening</u></p> <ul style="list-style-type: none"> • No controls proposed for stormwater management
Treated wastewater (potentially contaminated with elevated nutrients, hydrocarbons, sediment, low pH and chemicals)	Deep well injection of: <ul style="list-style-type: none"> • treated effluent from the WWTP; and 	Mechanical integrity failure of the disposal wells causing direct discharge to the near surface aquifer. Fracturing of the receiving formation	<ul style="list-style-type: none"> • No controls proposed, will be disposed of in accordance with licence L9102/2017/1.

Emission	Sources	Potential pathways	Proposed controls
	<ul style="list-style-type: none"> treated drilling fluids from the dewatering facility via PWD and/or TWIP wells	and overlying confining units leading to penetration into the near surface aquifer.	
Wastewater treatment chemicals	Chemical storage tanks and associated containment bunds	Containment breach (spills or leaks) causing direct discharge to land and infiltration to groundwater or overland flow to surface receptors.	<u>WWTP</u> <ul style="list-style-type: none"> The WWTP, including all process vessels, will be surrounded by a concrete bund. The bund is equipped with a drain connection to the existing stormwater drainage system (as per L9102/2017/1). <u>Liquid waste facility</u> <ul style="list-style-type: none"> Stored in designated hazardous material storage areas that incorporate spill control and loss prevention measures, such as secondary containment bunding. <u>General premises chemical controls</u> <ul style="list-style-type: none"> Chemicals will be stored in designated hazardous material storage areas that will: <ul style="list-style-type: none"> Be capable of meeting the volume and storage requirements for each substance (e.g. combustibles, corrosives, oxidising agents, etc) Display relevant dangerous goods classification Enable safe handling Incorporate spill control and loss prevention measures, such as secondary containment bunding Be compliant with relevant regulations and Australian standards e.g. bunding, level gauges, overflow protection, drainage systems and hardstands.
Diesel	Dewatering facility generator and diesel storage tanks.		<ul style="list-style-type: none"> Drip trays will be used when diesel generator refuelling is undertaken Generator will be located with a secondary containment bund that: <ul style="list-style-type: none"> Has the capacity to contain 110% of the generator tank volume and Is sufficiently impervious to retain and enable the recovery of any spillage
	Crushing and screening plants		<ul style="list-style-type: none"> None proposed.

Emission	Sources	Potential pathways	Proposed controls
Dust	Crushing of material, vehicle movements, lift off from stockpiles and/or stored product.	Air / windborne pathway	<ul style="list-style-type: none"> • The crusher is fitted with a water spray system for control of dust. This will be connected to a temporary water tank and pump and will be used as required. • Conveyors are fitted with skirting to reduce dust. • Material stockpiles will be regularly wet down with a watercart. • Loose stockpile heights will be kept to a minimum to reduce potential for dust creation. • Water carts will be used to maintain the access tracks utilised during transport of materials between stockpiles and the crusher to reduce dust. • A water cart will be used for maintenance and be made available for dust control of the hardstand area surrounding the crusher where a wheeled loader is working between feeding and loading out operations.
Noise and vibration	Crushing and screening of material, vehicle movements		<ul style="list-style-type: none"> • Rock crushers will be fitted with noise control where applicable. <ul style="list-style-type: none"> • Exhaust mufflers will be arranged vertically • Crushers engine will be located within a steel canopy containing noise reducing foam. • Rock crushing will be limited to daylight hours and occupational health and safety noise limits will be adhered to. • Night works have not been scheduled and contractors require approval from CAPL to work outside designated construction hours.
Sludge and solid waste sourced from the WWTP and dewatering facility)	Waste transfer station (existing)	Containment breach (spills or leaks) or fauna gaining access to wastes	<p>Existing controls for the existing WTS¹ (note these are not conditioned within licence L9102/2017/1):</p> <ul style="list-style-type: none"> • Waste sorting and compacting areas are within fully enclosed sheds to contain waste with doors kept closed when not in use to prevent fauna entering. • Putrescible waste is processed as soon as practicable to minimise odour which may attract fauna. Putrescible waste residue on the ground will be cleaned and removed on a regular basis (and at the end of each working day). • Putrescible waste is either refrigerated, compacted or processed through rotary food waste dyers to reduce odour then transferred into sealed containers for disposal off island at an approved facility. • The general sorting and bin loading area is covered and enclosed on three sides by concrete push-up walls. Netting is installed at the open face to contain waste within the sorting area and is removable to allow vehicle movements in and out

Emission	Sources	Potential pathways	Proposed controls
			<p>of the area. Netting is also installed between the walls and the roofs to prevent windblown waste.</p> <ul style="list-style-type: none"> • The site is enclosed by a 2.4m high fauna proof fencing including gates that are locked at night to prevent unauthorised access. The fence is inspected on a regular basis. • Waste containers and trucks are regularly cleaned to prevent odour. • Waste receptacles which contain material that may create windblown rubbish and attract fauna will be covered and closed at all times and secured to resist severe weather conditions. • The waste sorting buildings are cyclone rated to ensure adequate containment of waste during a cyclone when high winds and rain increase the potential for waste dispersal. • Receipt, handling, consolidation and sorting, and storage of hazardous solid waste is within hardstand areas and/or within appropriate secondary containment at the Waste Transfer Station.

Note 1: Controls listed for the waste transfer station were supplied by the applicant. The delegated officer notes that these controls are not conditioned within the applicants operational licence (L9102/2017/1).

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020b), the Delegated Officer has excluded the applicant's employees, visitors, and contractors from its assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state legislation.

Table 4 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental Siting* (DWER 2020a)).

Table 4: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Varanus Island oil and gas facility (inclusive of workers accommodation camp)	18km north east of the Gas treatment plant (not considered a sensitive receptor)
Environmental receptors	Distance from prescribed activity
Managed lands and waters	<p>The Gorgon Gas Project is located within the Barrow Island Nature Reserve, a Class A Nature Reserve.</p> <p>Marine waters surrounding the north, west and south sides of Barrow Island form part of the Barrow Island Marine Management Area (including the Bandicoot Bay Conservation Area ~13 km to the south of the GGTP). An exclusion zone exists on the east side of the island adjacent to the GGTP for the Barrow Island Port Area.</p> <p>The Barrow Island Marine Park is located on the west side of the island (~10 km from the GGTP) and incorporates the Western Barrow Island Sanctuary Area.</p>
Threatened Ecological Communities and Priority Ecological Communities	The BINR is listed as a Priority Ecological Community. Smaller areas identified as Priority Ecological Communities are located at the GGTP site as well as to the north, south and west of the premises.
Threatened / priority flora	Three species of priority flora are located on Barrow Island west of the premises.
Threatened / priority flora and fauna (terrestrial and marine)	<p>A considerable number of threatened and priority fauna are known to occur on Barrow Island including a number species that are listed under the Biodiversity Conservation Act 2016 (WA) (BC Act) and the Threatened (Vulnerable) Species list of the EPBC Act. Some of these species are known to occur within or adjacent to the premises.</p> <p>Green and flatback turtles (both listed as vulnerable under the BC Act and EPBC Act) nest on Barrow Island. Flatback turtle rookies are recorded near the premises (300 m away). (Adequately managed under MS800)</p>
Threatened / priority fauna (subterranean)	Barrow Island is recognized as being of high conservation significance for subterranean fauna communities at state, national and international levels. The subterranean fauna demonstrates high level of endemism and species diversity and includes one of only two stygal vertebrate species

	<p>occurring in Australia (Blind Gudgeon). Twelve of the species are listed under the BC Act and the Blind Gudgeon is listed as vulnerable under the EPBC Act.</p> <p>13 stygofauna taxa were recorded in monitoring bores at the terminal tanks (approximately 1 km north of the GTP and 2.5 km north of the PWD wells). The karstic limestone layer which is believed to be Giralia Calcarenite is known to contain many cavities and solution tubes that provide habitat for stygofauna. It is located beneath the surficial soil layer at the premises. Beneath this layer is a band of siliceous silty sand which creates a barrier for subterranean fauna as there are no cavities or large pore spaces to allow movement. It is considered unlikely to encounter populations of subterranean fauna beneath this layer.</p>
Groundwater	<p>There is one shallow unconfined freshwater aquifer predominantly within Tertiary limestone on Barrow Island. This freshwater aquifer forms a lens of relatively fresher groundwater floating upon denser, saline ground water at depths between 9 m and 53 m. The aquifer supplies domestic water for oil and gas operations and supports subterranean. The groundwater system is linked to the marine ecosystem (<100 m from the premises).</p>

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020b) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. 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 3.1), 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 5.

Works approval W6772/2023/1 that accompanies this decision report authorises construction, commissioning and time-limited operations. The conditions in the issued works approval, as outlined in Table 5 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Licence amendment/(s) to the applicant's operational licence L9102/2017/1 are required following the time-limited operational phase for each item of infrastructure authorised under the works approval to authorise emissions associated with the ongoing operation of the premises i.e. crushing activities, wastewater treatment and dewatering operations. 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 amendment application/(s).

The delegated officer has previously considered the risk of impacts to receptors associated with odour and light emissions from the premises activities when assessing the application L9102/2017/1 (DER 2018). The delegated officer determined that there is sufficient separation distance to human receptors (the closest being at Varanus Island) for there to be no source-pathway-receptor link for odour emissions. The delegated officer also determined that potential light impacts on marine turtles are sufficiently regulated under MS 800 through the Long-Term Marine Turtle Management Plan. These emissions have therefore not been considered further in Table 6.

Table 5: 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, 3} of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Construction of: - WWTP; - Dewatering facility and; associated foundations, secondary containment, drainage systems, bunds, pumps, pipes, power supply, and communications. Mobilisation of up to three mobile rock crushers Vehicle movements	Dust	Air / windborne pathway causing impacts to health and amenity	Flora and fauna within the A class nature reserve	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	N/A	The delegated officer considers noise and dust emissions from construction works within the GGTP (WWTP and rock crusher mobilisation) to be insignificant in comparison to the existing operations already occurring. Given the nature and scale of the required construction works outside the GGTP, being the dewatering facility, which is largely pre-constructed and will be installed over ~1 month in a pre-disturbed area and the mobile crusher along the right of way which only requires mobilisation the delegated officer does not reasonably foresee sensitive receptors being impacted by noise and dust emissions associated with the works required.
	Noise				C = Moderate L = Rare Low Risk	Y	Condition 1	
Operation (including time-limited-operations operations)								
Screening, crushing, unloading, loading and storage of crushed material Vehicle movements	Fugitive dust	Air / windborne pathway causing impacts to health and amenity	Flora and fauna within the A class nature reserve	Refer to Section 3.1	C = Moderate L = Rare Low Risk	Y	Condition 1 Condition 13	The delegated officer considers the applicant's proposed controls to manage fugitive dust emissions sufficient to manage the level of risk. Therefore, applicant controls have been conditioned within the operational requirements for crushing activities. The delegated officer notes that there is an existing traffic management common user procedure which has controls around vehicle movements for the Gorgon Project. It is considered that these controls outlined in Table 2 sufficiently reduce fugitive dust emissions from vehicle movements.
	Noise and vibration.		Fauna within the A class nature reserve	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	N	Condition 1 Condition 13	There is a risk of noise emissions from the crushing plant outside the GGTP impacting terrestrial fauna within the A class nature reserve. Given that only 88,000 tonnes of material is to be crushed over a three year period, the assigned yearly throughput and design capacity of the plants (541.6 t/hr) it is expected that crushing operations will be infrequent and not continuous throughout the year. Controls to reduce noise and vibration have been conditioned within the design and construction requirements. The delegated officer considers it necessary to limit rock crushing operations outside of the GGTP, along the right of way to daylight hours to reduce the likelihood of any potential impacts to fauna. Note that the applicant states in their application that night works have not been scheduled although it was not specified that they would not occur. Therefore, the delegated officer has clarified operating hours outside the GGTP in the operational requirements.
	Spills or hydrocarbon leaks	Causing direct discharge to land and infiltration to groundwater or overland flow, leading to contamination of soil, groundwater, and/or health impacts to flora and fauna.	Flora and fauna within the Class A Nature Reserve Groundwater ~9m below surface Subterranean fauna	None proposed.	C = Minor L = Rare Low Risk	Y	Condition 13	The delegated officer considers that the risk of leaks and spills of hydrocarbons to be adequately managed under the Terrestrial and Subterranean Environment Protection Plan (Chevron, 2014). Management measures included in the plan cover bunding and curbing requirements for hydrocarbon storage areas, spills and leak protection devices and clean up protocols.

Risk events					Risk rating ¹	Applicant controls sufficient?	Conditions ^{2, 3} of works approval	Justification for additional regulatory controls	
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood				
Commissioning and Operation of WWTP	Potentially contaminated water (untreated, treated or partially treated effluent or stormwater) with elevated nutrients	Containment breach (overtopping of storage tanks, pipeline or connection leak/rupture) Causing direct discharge to land and infiltration to groundwater or overland flow, leading to contamination of soil, groundwater and/or marine surface water, or health impacts to flora and fauna.	Flora and fauna within the Class A Nature Reserve Groundwater ~ 9m below surface Marine environment ~ 400m east	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Conditions 1, 5, 6, 7, 8, 13, 14, 15	<p>Infrastructure controls in the design and construction of the WWTP minimise the likelihood of containment breaches leading to wastewater being discharged into the environment therefore the delegated officer considers the risk of contamination and health impacts to flora and fauna associated with the operation of the WWTP to be low.</p> <p>The monitoring of treated effluent quality is required to verify the effectiveness of the WWTP operation. The monitoring regime mirrors the requirements for the WWTP operations under the operational licence L9102/2017/1.</p> <p>Commissioning of the WWTP is required to allow for the seeding and establishment of the microorganism population and to allow for testing, calibration, and inspection of equipment. The delegated officer does not consider there to be a significantly higher risk of containment breach causing potential impacts to receptors during this time due to the applicants controls.</p> <p>The delegated officer notes that the Bridging WWTP and this plant may operate simultaneously for a short period of time although does not consider the operation of this WWTP to significantly alter the risk profile of WWTP operations already approved under the operational licence.</p>	
	WWTP chemicals				C = Minor L = Rare Low Risk	Y	Conditions 1 and 13	<p>The delegated officer considers the applicants controls to store solid waste within enclosed receptacles at all times at the WWTP and during transport to the WTS as adequate to control the risk of discharge to land and to prevent fauna directly gaining access to solid wastes during initial storage and transportation to the waste transfer station (WTS).</p> <p>Waste stored at the WTS is managed under the applicant's operational licence and requirements will not be duplicated within this works approval. Although, the applicant has provided additional controls specific to the WTS which are outlined in section 3.1. The delegated officer notes that these controls are not conditioned within the operational licence although should be considered when a licence amendment application is received for the WWTP and/or dewatering facility.</p>	
	Solid waste (sludges from the WWTP)					C = Minor L = Rare Low Risk	Y	Conditions 1 and 13	
Operation of the dewatering facility (liquid waste facility)	Potentially contaminated drilling fluids (untreated or partially treated) with high sediment load, hydrocarbons and hazardous chemicals	Containment breach (overtopping of storage tanks, pipeline or connection leak/rupture) Causing direct discharge to land and infiltration to groundwater or overland flow, leading to contamination of soil, groundwater, and/or health impacts to flora and fauna.	Flora and fauna within the Class A Nature Reserve Groundwater ~ 9m below surface	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Conditions 1, 13, 14, 15, 16	<p>The delegated officer considers the applicants proposal to install double skinned process tanks, store chemicals according to the relevant Australian standard and install and operate the generator and associated fuel tank within secondary containment bunding to appropriately mitigate the risk of contamination associated with containment breach at the dewatering facility.</p> <p>Monitoring has been included as a requirement to verify the effectiveness of the dewatering process; the chosen parameters relate to ideal discharge requirements at the disposal wells.</p>	
	Diesel				C = Minor L = Rare Low Risk	Y	Conditions 1 and 13	<p>The delegated officer considers the applicants controls to store treatment sludges within plastic lined enclosed receptacles at all times at the liquid waste facility and during transport to the WTS as adequate to control the risk of discharge to land and to prevent fauna directly gaining access to sludges during storage at the dewatering facility and transportation to the WTS.</p>	
	Wastewater treatment chemicals								
	Treatment sludges								
Deep well injection of: <ul style="list-style-type: none"> treated effluent from the WWTP; and treated drilling fluids from the dewatering facility 	Treated wastewater (potentially contaminated with elevated nutrients, hydrocarbons,	Mechanical integrity failure of the disposal wells causing direct discharge to the near surface	Groundwater within shallow fresh-water aquifer Groundwater dependent	Refer to Section 3.1	C = Major L = Rare Medium Risk	Y	Conditions 6 and 14	<p>The risk of deep well injection impacting the shallow freshwater aquifer and subterranean fauna has been previously assessed for the grant of L9102/2017/1. The liquid wastes proposed to be disposed are within the scope of liquid wastes considered by the previous assessment.</p> <p>The delegated officer considers the risk associated with the activity has not materially changed and is therefore acceptable noting that there are process monitoring requirements</p>	

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ^{2, 3} of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
via PWD and TWIP wells during commissioning and time limited operations	sediment and hazardous chemicals)	aquifer. Fracturing of the receiving formation and overlying confining units leading to penetration into the near surface aquifer.	ecosystems Subterranean fauna				under L9102/2017/1 at the PWD and TWIP wells which are considered essential for maintaining well operability and integrity. The delegated officer has applied conditions to ensure wastewater disposal via the PWD and TWIP wells are authorised during commissioning (WWTP only) and time limited operations.	

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.

Note 3: Conditions 2, 3,4, 9,10,11,12 and 17 to 22 are all department-imposed conditions required for compliance reporting, authorising commissioning and time limited operations and general complaint and record keeping requirements

4. Consultation

Table 6 provides a summary of the consultation undertaken by the department.

Table 6: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 15 February 2023	None received	N/A
Local Government Authority advised of proposal on 15 February 2023	None received	N/A
Department of Biodiversity Conservation and Attractions (DBCA) advised of proposal on 15 February 2023	Comments received are detailed in Appendix 1.	Refer to Appendix 1.
Conservation Council of Western Australia advised of proposal on 15 February 2023	None received	N/A
Applicant was provided with draft documents on 11 July 2023	Comments received are detailed in Appendix 2.	Refer to Appendix 2

5. Decision

The delegated officer has determined the proposal to construct and operate a new WWTP, a dewatering facility and mobilise up to three crushing and screening plants with the assessed operational throughputs (defined within the issued works approval), does not pose an unacceptable risk to receptors. This determination is largely based off the proposed works occurring in previously disturbed areas and the applicant's proposed controls which have been conditioned within the works approval. Overall, the delegated officer does not consider the proposal to significantly increase the risk profile of the Gorgon Project approved under licence L9102/2017/1.

Time limited operations are permitted for a period of 180 days for each prescribed activity. During this time, the applicant may submit an amendment application for licence L9102/2017/1 for ongoing operations, it is possible that the applicant will be required to submit separate amendment applications for each activity due to the proposed timeframes for construction.

6. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020a, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020b, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Chevron 2022, Gorgon Project works approval application and supporting information, Perth, Western Australia.

Appendix 1: Summary of DBCA's comments on application

Subject	Summary of DBCA's comments	Department's response
Above-ground temporary pipeline between the TWIP wells and the GGTP	<ul style="list-style-type: none"> Recommend that the pipeline connecting the TWIP wells and GGTP is not used to transport wastewater from the proposed WWTP. DBCA do not support the continued use of this temporary pipeline as the department believes it poses a risk to the values of the nature reserve DBCA acknowledges that it has agreed to a five-year extension of the licence associated with the TWIP; although it was on the understanding that the pipeline would not be used following the decommissioning of the bridging WWTP in late 2024. Notes that extending the disposal of wastewater at the TWIP as part of the second permanent WWTP appears inconsistent with the proposed 2024 decommissioning of the above-ground temporary pipeline. 	<p>The applicant has confirmed that the pipeline will be decommissioned once the Bridging WWTP, which operates under L9102/2017/1 is no longer required to support operations.</p> <p>The delegated officer notes that this works approval authorises discharges of wastewater from the second permanent WWTP to both the TWIP and PWD wells for a period of 270 days only (90 days for commissioning and 180 days for time limited operations).</p> <p>Licence L9102/2017/1 (expiry: 29/07/2028) has TWIP wells WDW1 and WDW2 as authorised discharge points for wastewater associated with primary activities although the pipeline is not listed as infrastructure on the licence.</p>
Water quality – treated effluent quality	<ul style="list-style-type: none"> Comment that it is unclear what quality of treated effluent will be disposed through the PWD wells during commissioning of the proposed second permanent WWTP The DBCA consider that any effluent to be injected into disposal wells should meet relevant quality criteria to avoid any potential for impacts on sensitive environments (e.g. groundwater and karst systems). 	<p>The risk of deep well injection impacting the shallow freshwater aquifer and subterranean fauna has been previously assessed for the grant of L9102/2017/1. The liquid wastes proposed to be disposed are within the scope of liquid wastes considered by the previous assessment.</p> <p>The delegated officer notes that wastewater disposed of via deep well injection at the PWD and TWIP wells authorised under the operational licence is not required to meet any specific water quality target criteria for it to be disposed down hole. Within the application CAPL notes that during commissioning treated water may not meet the output water quality standards specified in the construction requirements for the WWTP. The only pathway for wastewater to reach receptors is through well integrity failure which is managed through process monitoring under the operational licence.</p>
Rock crushing	<ul style="list-style-type: none"> Recommend that rock crushing and screening is limited to daylight hours outside of the Gorgon Gas Treatment Plant area. Comment that the DBCA does not support 24-hour crushing operations due to the risk of indirect impacts to terrestrial fauna through dust, noise/vibrations and lighting emissions. 	<p>The delegated officer has restricted crushing operations outside the GGTP to daylight hours to reduce any potential impacts to fauna.</p>
Mobile and stationary crushing and screening plants	<ul style="list-style-type: none"> Comment that it is possible crushing activities along the ROW may generate significant localised noise and dust impacts for long durations and high intensities. Suggest an options analysis of noise and dust impacts be undertaken 	<p>The Delegated Officer has only considered the content of the amendment application within the assessment. Note that crushing activities are restricted by the throughput of 53,000 tonnes per year.</p>

Subject	Summary of DBCA's comments	Department's response
	<p>on crushing and screening plants and a pipeline trenching padding machine to ensure potential impacts are minimised.</p> <ul style="list-style-type: none"> • Comment that the additional risks and impacts associated with increased traffic movements associated with the transport of trenched and crushed material between the GGTP and DC-D be considered within the assessment of this application. • Comment that it would be preferable for trenched material to be crushed at the trenching site rather than being transported to the GGTP. • Recommend that if transportation is necessary, it should be carried out during daylight hours only to minimise the risk of impacts to fauna. 	<p>There is an existing traffic common user procedure in place under MS 800 which contains management measures that assist in reducing impacts to fauna on Barrow Island through vehicle strikes.</p>
Water leaks	<ul style="list-style-type: none"> • Recommend that any potential water leaks (e.g. from the dewatering facility) and water discharge (e.g. from air conditioner discharge) are avoided to limit any potential risk and impact on conservation significant values, specifically terrestrial fauna. As available water is likely to result in faunal behaviour changes, including the attraction of fauna into areas where they are likely to have increased interactions with vehicles, machinery and people. 	<p>The delegated officer notes that only emissions and discharges from the prescribed activities are managed under this works approval. Furthermore, the applicants proposed controls for containment infrastructure at the WWTP and dewatering facility to be kept impermeable, free of leaks and defects have been conditioned as operational requirements and considered adequate to control the risk of impacts to fauna.</p>
Solid waste	<ul style="list-style-type: none"> • Recommend that solid waste is stored and transported in secondary containers for disposal to reduce the risk of terrestrial fauna gaining access to solid waste prior to final disposal. 	<p>Operational requirements have been included within the works approval so that solid waste will be stored (at the dewatering facility and WWTP) and transported to the WTS in enclosed containers. The delegated officer considers this requirement to be adequately managed to manage the level of risk of containment breach or fauna gaining access and notes that it is a requirement of the SLWMP for wastes to be securely stored and contained.</p>

Appendix 2: Summary of applicant's comments on risk assessment and draft conditions

Condition	Summary of applicant's comments	Department's response
Cover page - Duration	Request to extend the expiry date of the works approval to 31/12/2028 due to scheduling changes.	The duration of the works approval will be extended to 6 years from the date of issue.
Condition 1 Table 1: Design and construction requirements Item 1 - Crushing and screening plants	<ul style="list-style-type: none"> 1(a) Request to change wording of construction requirements for the crushing and screening plants to dayshift construction hours opposed to daylight hours. 	<ul style="list-style-type: none"> 1(a) of table 1 has been updated to read 6am till 6pm to reflect dayshift hours.
Condition 1 Table 1: Design and construction requirements Item 2 - WWTP	<p>Request the following changes to the requirements within the table:</p> <ul style="list-style-type: none"> 2(a) Remove requirement for construction works to only occur during daylight hours as operations and major maintenance works already occur during day and night shift within the GGTP. Comment that risk assessment table states that construction works are insignificant in comparison to current operations, although no nightworks are scheduled there may be a future need. 2(c) Request to change the terminology from "Must be able to treat sewage to the following <i>output water quality standards</i>" to "Must be <i>designed</i> to treat sewage to the following <i>effluent design criteria</i>" for accuracy. 2(d) Remove the volumes of the process tanks as provided volumes as stated within the application are approximate only and subject to change. 	<ul style="list-style-type: none"> 2(a) Requirement has been removed. 2(c) Wording has been updated for accuracy. 2(d) Specified tank volumes have been removed to allow for flexibility.
Condition 1 Table 1: Design and construction requirements Item 3 – Dewatering facility	<p>Request the following changes to the requirements within the table:</p> <ul style="list-style-type: none"> 3(a) Remove requirement for construction works to only occur during daylight hours. Comment that risk assessment table states that the delegated officer did not reasonably foresee sensitive receptors being impacted considering the short duration of works and that although no nightworks are scheduled there may be a future need. 3(b) Remove the detailed equipment list and replace with the requirement for all waste storage tanks (approximately 500 bbl) to have secondary 	<ul style="list-style-type: none"> 3(a) Considering the short duration of construction works the delegated officer considers it acceptable to remove the restriction on construction hours for the dewatering facility. 3(b) The equipment list has been updated to reflect maximum number of process tanks to be installed and maximum capacity of each tank as provided by the applicant.

Condition	Summary of applicant's comments	Department's response
	<p>containment (e.g. Double skinned tanks) as the tanks sizes and equipment lists provided are subject to change.</p> <ul style="list-style-type: none"> 3(d) Clarification that the generators diesel storage tank is to be located within secondary containment bunding inclusive of a double skinned tank not the generator itself. 	<ul style="list-style-type: none"> 3(d) Wording has been updated for clarity. The delegated officer notes that a double skinned tank is considered secondary containment bunding, the operational requirement regarding the bund has also been updated for consistency (Condition 13, Table 4 item 3(f))
<p>Condition 5 Table 2: Environmental commissioning requirements WWTP</p>	<p>Request the following changes to the requirements within the table:</p> <ul style="list-style-type: none"> (a) Removal of the requirement to operate an alarm system for high tank levels and overflows during commissioning as the alarm system will be tested during this time. (b) Clarification that treated effluent will be transferred either to the permanent wastewater disposal wells via the disposal water tanks or directly to the TWIP wells. (d) Clarification that solid waste is also referenced as sludge for accuracy. 	<ul style="list-style-type: none"> (a) The requirement for the alarm system to be operational during commissioning has been removed to allow for testing. (b) and (d) Proposed changes provide clarity therefore were incorporated into the works approval.
<p>Condition 10(e) and 19(e) Environmental commissioning report and Environmental compliance report</p>	<p>Request that the related effluent design criteria as per Condition 1 item 2(c) is referenced within the reporting conditions.</p>	<p>The delegated officer does not consider it necessary to specify the effluent design criteria within the reporting requirement conditions therefore has not made the requested change.</p>
<p>Condition 12 Time limited operations phase</p>	<p>Applicant queried if condition 12 restricting time limited operations to 180 days or such time that a licence has been granted for an item of infrastructure applies to the rock crushers (category 12 infrastructure) as the applicant had only planned to add the WWTP and dewatering facility infrastructure to the operational licence L9102/2017/1. Applicant asks if rock crushers must be added onto the operational licence in order to comply with this condition as crushing activities are scheduled to occur until 2026 as per the application.</p>	<p>The Industry Regulation Guide to Licensing (2019) outlines that infrastructures time limited operations phase under a works approval are to be set between 90 and 180 calendar days. For continued operation of the rock crusher/(s) a licence amendment to L9102/2017/1 to include the category 12 activities is required.</p>
<p>Condition 13 Table 4: Infrastructure and equipment requirements during time limited operations Item 1 - Crushing and Screening Plant/(s)</p>	<ul style="list-style-type: none"> 1(b) Request to change wording for the watercart to be available to suppress emissions of fugitive dust during periods of high dust generation (e.g. when the wheeled loader is working between feeding and loading out operations) as opposed to suppress any visible emissions of fugitive dust to more accurately reflect proposed controls. 	<p>The delegated officer considers the proposed change impacts the enforceability of the condition as per the departments Guidance Statement: Setting Conditions (2015) as high dust generation is subjective therefore the requested change has not been made. Note that the determination that the risk of dust emissions impacting receptors is low was based on the watercart suppressing visible emissions of fugitive dust.</p>

Condition	Summary of applicant's comments	Department's response
Condition 13 Table 4: Infrastructure and equipment requirements during time limited operations Item 2 - WWTP	Request the following changes to the requirements within the table: <ul style="list-style-type: none"> • 2(b) Clarification that treated effluent will be transferred either to the permanent wastewater disposal wells via the disposal water tanks or directly to the TWIP wells. • 2(d) Clarification that solid waste is also referenced as sludge for accuracy. 	Proposed changes provide clarity therefore have been incorporated into the works approval.
Schedule 2: Coordinates	Applicant provided a full set of coordinates for the premises boundary.	Due to the large size of the premises boundary coordinates dataset, reference to the DWER file number of the coordinates has been included on the cover page.