



Application for Licence Amendment

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

Licence Number	L7066/1997/15
Licence Holder	Shire of Carnarvon
File Number	2010/010873-1~3
Premises	Coral Bay Waste Facility 43 Sanctuary Rd CORAL BAY WA 6701 Legal description – Lot 530 on Deposited Plan 64057 Certificate of Title LR3157 Folio 878
Date of Report	16 August 2024
Decision	Revised licence granted

A/MANAGER, WASTE INDUSTRIES

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

Licence L7066/1997/15 is held by the Shire of Carnarvon (Licence Holder) for the Coral Bay Waste Facility (the premises), located at 43 Sanctuary Rd, Coral Bay. The premises was formerly known as the Coral Bay Landfill Site.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the premises. As a result of this assessment, revised Licence L7066/1997/15 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department 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 8 March 2024, the Shire of Carnarvon submitted an application to the department to amend Licence L7066/1997/15 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act).

The amendment being sought is a reduction in the boundary buffer to allow landfilling to occur up to 5 metres from the boundary. The Licence Holder is seeking this amendment as the current area available for landfilling at the premises is at capacity. Planning for a new waste facility has been underway for some time, but the timeframe to obtain and access a suitable land parcel has taken longer than anticipated. The Shire of Carnarvon has requested a reduction in the boundary buffer to allow the current waste facilities life expectancy to be extended until the new waste facility can become operational.

The amendment requires a change to landfilling requirements listed in Condition 3: Table 2 of the existing licence, which states that *No waste shall be temporarily stored or landfilled within trenches within 35 metres from the boundary of the premises, with the exception of the boundary shown in orange in Schedule 1: Figure 2, where waste shall not be temporarily stored or landfilled within 5 metres from the boundary of the premises.*

The Shire of Carnarvon clarified in response to the department's enquiry that it is not requesting to landfill at a greater depth and will maintain a buffer of 3 metres to groundwater.

2.3 Administrative amendments

In addition to the amendment requested by the Licence Holder, the department has made the following administrative amendments to the licence:

- updated the licence to the current template;
- deleted the redundant N1 form set out in Schedule 2 of the previous licence;
- removed or updated any redundant conditions, definitions or information; and
- corrected clerical mistakes and unintentional errors.

The full list of administrative amendments as they relate to the revised licence are detailed in Section 5.1.

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 2020a).

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 operation which have been considered in this Amendment Report are detailed in Table 1 below. Table 1 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 1: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Dust	Landfill operations within 5 metres of the premises boundary	Air/windborne pathway	No additional controls proposed by the Licence Holder. Landfill operations will be undertaken in accordance with existing controls and processes, the most relevant of which include: <ul style="list-style-type: none"> • No landfilling within 3 m of groundwater. • Stormwater diversion around the premises. • Size of tipping face limited to 60 m long and 2 m high. • Daily cover. • Perimeter fencing. • 5 m internal and external firebreaks.
Odour			
Windblown waste			
Leachate and contaminated stormwater		Overland runoff and subsurface seepage	
Landfill gas		Vertical and lateral migration through soil	
Fire related emissions		Air/windborne pathway Overland runoff Subsurface seepage	

3.1.2 Pathways

Information relating to potential pathways and site characteristics at the premises are provided in Table 2 below and shown in Figure 1.

Table 2: Potential pathways and environmental conditions relevant to the premises

Aspect	Details
Topography	The premises lies at approximately 13 mAHD along its southern boundary and slopes down northward to approximately 7 mAHD at the northern boundary.

Aspect	Details
Soils	<p>Broadscale soil mapping lists two soil systems occurring across the premises:</p> <ul style="list-style-type: none"> • Coast Land System (204Cs) - Undulating sandy plains with linear dunes, minor limestone plains and low rises, supporting mainly soft spinifex hummock grasslands with scattered acacias and other shrubs. • Cardabia Land System (204Ca) - Large coastal dunes (some unvegetated) with narrow swales, limestone plains, wave-cut platforms and beaches, supporting diverse tall and low shrublands. <p>1:500,000 geological mapping describes the premises as a quaternary shoreline and coastal eolian deposit with sand in a longitudinal dunefield.</p>
Hydrogeology	<p>The Coral Bay area lies within the Gascoyne sub-basin division of the Carnarvon Basin, which is comprised of a series of sediments ranging in age from Quaternary, through Tertiary and Cretaceous (where the main aquifer is intersected) to Devonian, which in turn rests on Proterozoic bedrock. The sediments dip to the west (DoW 2010).</p> <p>The area is underlain by a series of calcarenites and limestones of Quaternary (Bundera Calcarenite) and Tertiary age (Trealla Limestone and Giralia Calcarenite). While these sediments are cavernous in places, in this area they do not yield any water supplies of significant quantity or quality. They have a maximum thickness of up to 300 m, but in the area near the premises they total 200 m (DoW 2010).</p> <p>Underlying the limestones and calcarenites are sediments of the Early Cretaceous Winning Group. They consist of up to 200 m of the Gearle Siltstone, which overlies up to 70 m of Windalia Radiolarite, and about 10 m of Muderong Shale. These sediments consist of siltstone, argillaceous sandstone, clayey siltstone, marl and shale and do not contain any water source (DoW 2010).</p> <p>Beneath the Muderong Shale lies the main aquifer – the Birdrong Sandstone – which is a poorly indurated quartz sandstone of up to 30 m thickness. It is a confined aquifer and has a significant pressure head in this area. It is recharged where it outcrops or subcrops in the Gregory Range to the east of Coral Bay, although the recharge quantity is considered to be minimal (DoW 2010).</p>
Meteorology	<p>The nearest representative Bureau of Meteorology weather station is the Learmonth Airport weather station (No. 005007), located approximately 105 km north of the premises. The station provides the following wind speed and direction information, based on records from 1975 to 2023:</p> <ul style="list-style-type: none"> • The prevailing wind direction is southerly in the morning (9am), changing direction to north and north-easterly in the afternoon (3pm). • Wind speeds during the morning are typically moderate (>20 to <30 km/h) and light (>10 to <20 km/h) to moderate (>20 to <30 km/h) during the afternoon. <p>The SILO database offered by the Queensland Government provided the following information, based on records from the Bureau of Meteorology for 2010 to 2023:</p> <ul style="list-style-type: none"> • Average annual rainfall and pan evaporation is 188 mm and 2,928 mm respectively.

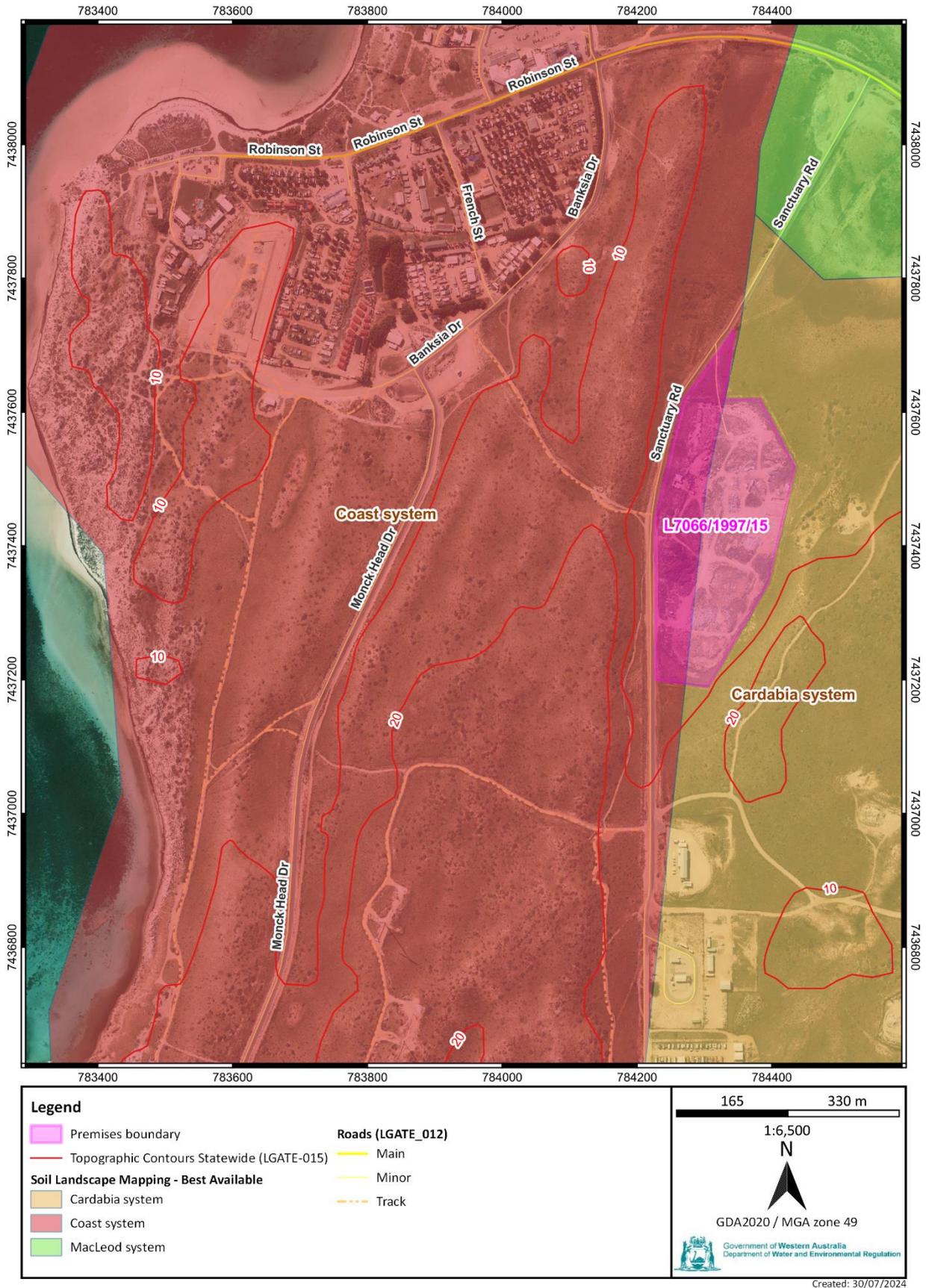


Figure 1: Pathways and site characteristics

3.1.3 Receptors

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

Table 3 and Figure 2 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 2020b)).

Table 3: Sensitive human and environmental receptors and distance from prescribed activity

Receptors	Distance from prescribed activity
Human receptors	
Nearest sensitive receptor: Coral Bay residential area and temporary accommodation	Approximately 320 m northwest of the premises boundary.
Downgradient groundwater users: GWL161365(5) GWL151681(4)	There are two known users of groundwater located 300 m northwest and 600 m west of the premises boundary. The licenses for both bores indicate that groundwater is abstracted from the Birdrong aquifer. As these bores are sourcing groundwater from the Birdrong aquifer, they have not been considered further as a potential receptor.
Environmental receptors	
Surrounding vegetation: Groundwater dependent ecosystem	Vegetation surrounding the premises is mapped as a low potential groundwater dependent ecosystem.
Underlying groundwater: Surficial aquifer of the Carnarvon basin (unconfined)	Recent test pitting by the Licence Holder encountered groundwater at approximately 6 mBGL at one test pit located in the northwest corner of the premises. Surficial groundwater is described generally as within 5 to 10 m of the surface. Other than anecdotal information from test pitting, there is no site-specific groundwater information available for the premises. Groundwater flow is inferred to be westerly with a salinity in the range of 10,000-14,000 mg/L TDS.
Underlying groundwater: Birdrong Aquifer (confined)	The Birdrong aquifer is a confined sandstone aquifer between 750 m and 850 m below ground level, that is recharged in the Gregory Range east of Coral Bay (DoW 2010). In the vicinity of the premises, the Birdrong aquifer sits at a depth of approximately -781 mAHD and has a thickness of 34 m (DoW 2010). The depth and confined nature of the aquifer provide a high level of water quality protection (DoW 2010). The Birdrong aquifer has not been considered further as a potential receptor due to the significant depth of the aquifer and presence below multiple confining layers.

Receptors	Distance from prescribed activity
Surface water: Unnamed non-perennial inundation area	Approximately 175 m northeast of the premises boundary.
Public Drinking Water Source area: Coral Bay Water Reserve – Priority 1	Groundwater is sourced from the Birdrong aquifer through a pumped well in accordance with licence GWL156265(5). The aquifer sits at a depth of approximately -781 mAHD and has a thickness of 34 m at this location. As the PDWSA relates to the Birdrong aquifer, it has not been considered further as a potential receptor.
DBCA managed lands and water: Nyinggulu (Ningaloo) Coastal Reserves	Approximately 190 m east, 205 m south, 515 m southwest and 565 m northwest of the premises boundary.
DBCA managed lands and water: Ningaloo Marine Park	Approximately 700 m west of the premises boundary.
World Heritage Area: The Ningaloo Coast	

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020a) for those emission sources which are proposed to change 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 Licence Holder 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 Licence Holder’s proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder’s controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

The revised Licence L7066/1997/15 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. waste acceptance and landfilling activities.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

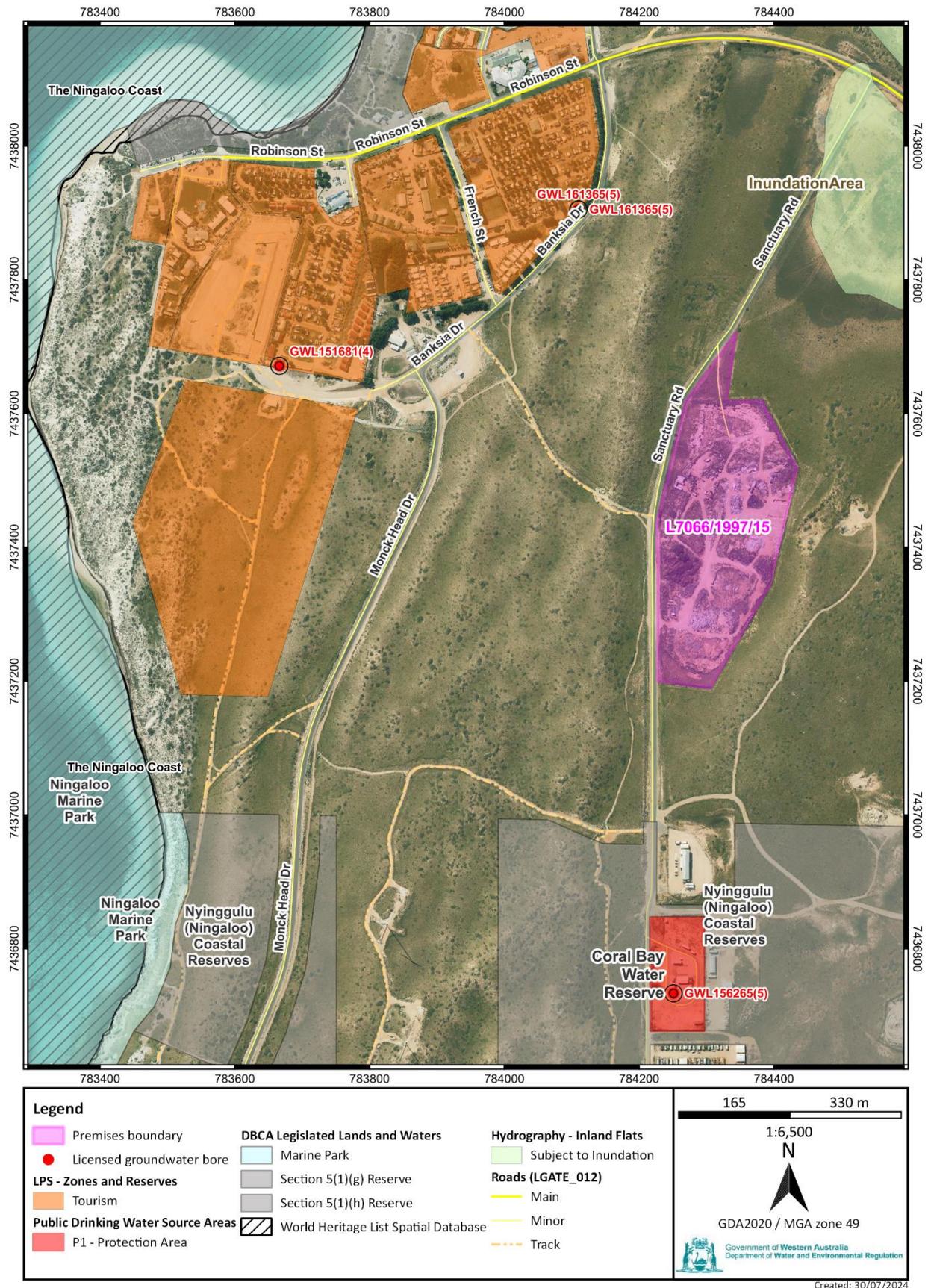


Figure 2: Potential receptors surrounding the premises

Table 4. Risk assessment of potential emissions and discharges from the premises during operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
Operation								
Landfill operations within 5 metres of the premises boundary	Dust	Air/windborne pathway causing impacts to health and amenity	Nearest sensitive receptor (320 m northwest)	Refer to Section 3.1.1	C = Minor L = Possible Medium Risk	Y	Existing licence conditions are considered sufficient given the relatively low throughput at the premises. The Delegated Officer notes that premises fencing does not currently include the northwest tip of the premises, which according to information provided by the Licence Holder has not historically been used for landfill disposal. The Licence Holder should be aware that in order to utilise this area for landfill space, the existing licence conditions relating to fencing and site security will require suitable fencing to be erected prior to the commencement of landfilling at this location.	
	Odour			Refer to Section 3.1.1	C = Minor L = Possible Medium Risk	Y		
	Windblown waste			Refer to Section 3.1.1	C = Minor L = Possible Medium Risk	Y		
	Leachate and contaminated stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Surrounding vegetation Surface water (175 m northeast)	Refer to Section 3.1.1	C = Moderate L = Unlikely Medium Risk	Y		
		Subsurface seepage to groundwater impacting downgradient ecosystems	Underlying groundwater Surrounding vegetation Ningaloo Marine Park / World Heritage Area (700 m west)					
	Landfill gas	Vertical and lateral migration through soil causing impacts to health and amenity	Surrounding vegetation Nearest sensitive receptor (320 m northwest)	Refer to Section 3.1.1	C = Moderate L = Rare Medium Risk	Y		
	Smoke and particulates as a result of fire	Air/windborne pathway causing impacts to health and amenity	Nearest sensitive receptor (320 m northwest)	Refer to Section 3.1.1	C = Moderate L = Rare Medium Risk	Y		
	Firefighting runoff	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Surrounding vegetation Surface water (175 m northeast)	Refer to Section 3.1.1	C = Moderate L = Rare Medium Risk	Y		
Subsurface seepage to groundwater impacting downgradient ecosystems		Underlying groundwater Surrounding vegetation Ningaloo Marine Park / World Heritage Area (700 m west)						

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020a).

4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

Consultation method	Comments received	Department response
Mid-West Gascoyne Regional office advised of proposal	The Coral Bay Water Reserve Public Drinking Water Source Area (PDWSA) is located approximately 360 m to the south of the boundary of the landfill. There is one production bore located with the Water Reserve. This bore is drilled over 800m deep into a confined aquifer, so this proposal to remove the landfill buffer should not pose any risks to water quality.	Noted.
DBCA advised of proposal on 19 June 2024	DBCA responded on 13 August 2024 advising that groundwater dependent ecosystems in the area are not listed as threatened ecological communities under the <i>Biodiversity Conservation Act 2016</i> or priority ecological communities. DBCA had no further comments.	N/A
Gnulli, Gnulli #2 and Gnulli #3 – Yinggarda, Baiyungu and Thalanyji People (determined Native Title) advised of proposal on 19 June 2024 via the Yamatji Marlpa Aboriginal Corporation	No comments received.	N/A
Licence Holder was provided with draft amendment on 7 August 2024	The Licence Holder responded on 15 August 2024 advising that they had no comments and would like to waive the consultation period and request the amended licence be issued as soon as possible.	N/A

5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a revised licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

The Delegated Officer notes that if the Licence Holder intends to utilise the northwest tip of the premises for landfill space, suitable fencing will need to be erected prior to the commencement of landfilling at this location.

5.1 Summary of amendments

Table 6 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the revised licence as part of the amendment process.

Table 6: Summary of licence amendments

Condition no.	Proposed amendments
Cover page	In accordance with the submitted application form, the name of the premises has been changed from: <i>Coral Bay Landfill Site</i> to: <i>Coral Bay Waste Facility</i> .
3 - Table 2: All waste types (b)	The process limit and specification has been changed to <i>No waste shall be temporarily stored or landfilled within trenches within 5 m from the boundary of the premises.</i> Figure 2 has been removed as it is now redundant.
12 (was 15)	The submission date for the post-closure rehabilitation plan has been changed from: 31 October 2023 to: 31 October 2025.

Table 7: Administrative changes in this amendment

Existing condition	Condition summary	Revised licence condition	Conversion notes
Cover page	Premises details: Reserve 44763	Premises details: Lot 530 on Deposited Plan 64057 Certificate of Title LR3157 Folio 878	Updated to current lot details.
7	Fencing and site security	Condition 6 - Table 4: Row 2	Moved to infrastructure and equipment table. No change to existing requirements.
8	Signage	Condition 6 - Table 4: Row 3	Moved to infrastructure and equipment table. No change to existing requirements.
13	Recording of waste inputs	11	Conditions combined for conciseness. No change to existing requirements.
14	Recording of waste outputs		
23	Notification requirements	20 and 21	Revised to current licensing format and removed duplication of requirements under section 72 of the EP Act.
Schedule 1: Maps	Premises map	Schedule 1: Maps	Map updated with new imagery.
Schedule 2: Reporting & notification forms	Form N1 Notification	N/A, 20 and 21	Removed. Redundant form. Notification requirements already covered by conditions 20, 21 and section 72 of the EP Act.
N/A	Premises boundary coordinates	Schedule 2: Premises boundary	Premises boundary coordinates table added.

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water (DoW) 2010, *Coral Bay Water Reserve drinking water source protection plan: Coral Bay town water supply*, Water resource protection series report no. 177, Perth, Western Australia.
3. Department of Water and Environmental Regulation (DWER) 2020a, *Guideline: Risk Assessments*, Perth, Western Australia.
4. DWER 2020b, *Guideline: Environmental Siting*, Perth, Western Australia.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY			
Application type			
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L7066/1997/15
		Relevant works approval number:	N/A <input checked="" type="checkbox"/>
Date application received	8 March 2024		
Applicant and Premises details			
Applicant name/s (full legal name/s)	Shire of Carnarvon		
Premises name	Coral Bay Waste Facility		
Premises location	43 Sanctuary Rd, Coral Bay Reserve 44763		
Local Government Authority	Shire of Carnarvon		
Application documents			
HPCM file reference number:	2010/010873-1~3 DWERDT918082		
Key application documents (additional to application form):	RFI response 1 – received 2 May 2024 RFI response 2 – received 10 May 2024 RFI response 3 – received 13 May 2024		
Scope of application/assessment			
Summary of proposed activities or changes to existing operations.	<p><u>Licence amendment</u></p> <p>Amend Condition 3, Table 2, All wastes b) to allow temporary storage and landfilling within trenches within 5 m of the boundary of the premises.</p> <p>The current waste facility in Coral Bay is at capacity. Development of a new waste facility is underway although requires longer than anticipated to commence construction and development. We request the reduction in boundary buffer to allow the current waste facility life expectancy to be extended until the new waste facility can become operational.</p> <p>The Applicant clarified that they are not requesting to landfill at greater depth (they will maintain a buffer of 3 metres to groundwater).</p>		
Category number/s (activities that cause the premises to become prescribed premises)			
Table 1: Prescribed premises categories			
Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity (amendments only)	
Category 62: Solid waste depot	500 tonnes per annual period	None	
Category 64: Class II or III putrescible landfill site	5,000 tonnes per annual period	None	
Legislative context and other approvals			
Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>	
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:	

Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date:
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CPS No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: Licence/permit No: Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: North West Cape Type: Proclaimed Surface Water Area Name: Gascoyne Groundwater Area Type: Proclaimed Groundwater Area Has Regulatory Services (Water) been consulted? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Regional office: Mid-West Gascoyne
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004</i> , <i>Environmental Protection (Controlled Waste) Regulations 2004</i> , <i>State Agreement Act xxxx</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<i>Dangerous Goods Safety Act 2004</i> <i>Environmental Protection (Controlled Waste) Regulations 2004</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	The Premises is required to be reported by the Shire of Carnarvon under section 11 of the CS Act.