Government of Western Australia
Department of Water and Environmental Regulation

Amendment Notice 3

Licence Number	L5258/1991/11
Licence Holder	Pilbara Iron Company (Services) Pty Ltd
ACN	107 210 248
File Number:	DER2013/000902-1
Premises	Mt Brockman and Nammuldi Iron Ore Mines Tenements – part of; AML70/4, ALM70/272, G47/01242, G47/01243, L47/140, L47/388, L47/141, L47/647, LGE G848898, LG848907 and LPL N050438 within co-ordinates: E535363 N7536177; E 544071 N7257202; E553417 N7525629; E548757 N7517535; E538693 N7517627; E531400 N7517644; E527723 N7519096 and E525753 N7531802. MT SHEILA WA 6751
Date of Amendment	24 January 2019

Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* (EP Act) as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

Louise Lavery

Digitally signed by Louise Lavery
Date: 2019.01.24 11:44:30 +08'00'

Louise Lavery

ACTING MANAGER, RESOURCE INDUSTRIES

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

Definitions and interpretation

Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Amendment Notice	refers to this document
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the *Environmental Protection Act 1986* Locked Bag 33 Cloisters Square PERTH WA 6850 info@dwer.wa.gov.au
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EP Act	*Environmental Protection Act 1986* (WA)
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review
ha	Hectares
Licence Holder Licensee	Pilbara Iron Company (Services) Pty Ltd
m^3	cubic metres
mg/L	milligrams per litre
mtpa	million tonnes per annual period
Pilbara Iron	Pilbara Iron Company (Services) Pty Ltd
Prescribed Premises	has the same meaning given to that term under the EP Act.

Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report.
ROM	Run of mine
UDR	*Environmental Protection (Unauthorised Discharges) Regulations 2004* (WA)
WWTP	Wastewater Treatment Plant
WQPN22	Water Quality Protection Note 22: Irrigation with Nutrient Rich Waste Water.

Amendment Notice

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend the Licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

The following guidance statements have informed the decision made on this amendment:

- *Guidance Statement Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Decision Making (February 2017)*
- *Guidance Statement: Risk Assessment (February 2017)*
- *Guidance Statement: Environmental Siting (November 2016)*

Amendment description

On 12 October 2018, the Licence Holder (Pilbara Iron Company (Services) Pty Ltd) (Pilbara Iron) submitted an application to amend Licence L5258/1991/11 to facilitate construction of a new crushing and screening plant and replacement of the Nammuldi Fixed Plant Wastewater Treatment Plant (WWTP). The changes will involve:

- Category 5 - installation of a new crushing and screening plant with a capacity of 12 million tonnes per annum (Mtpa). Total premises throughput capacity will be 68 Mtpa.
- Category 54 – replacement of the existing 20 cubic metres per day (m^3/day) Nammuldi Fixed Plant WWTP with a new 60 m^3/day unit. Total premises WWTP capacity will increase from 486m^3/day to 526m^3/day.

This amendment relates only to categories 5 and 54, with no changes to other Licence categories or Prescribed Premises boundaries.

Table 2 below outlines the proposed changes to the Licences' production capacities.

Table 2: Proposed production capacity changes

Category	Current design capacity	Proposed capacity	Description of proposed amendment
5	56 Mtpa	68 Mtpa	Addition of a new 12 mtpa processing plant.
54	486 m^3/day	526 m^3/day	New 60 m^3/day WWTP unit installed and old 40 m^3/day unit decommissioned.

Cat 5: Crushing and Screening

Category 5 production category

The Licence Holder has applied for an increase in Category 5 production to 68 Mtpa, by the addition of a new 12 Mtpa processing plant named the Nammuldi Brockman Incremental Tonnes Plant.

Nammuldi Brockman Incremental Tonnes Plant

The Nammuldi Brockman Incremental Tonnes Plant is comprised of the following equipment:

- Primary crushing module:
    - Direct tip ROM bin capacity suitable for a 240t dump trucks

    - Grizzly feeder
    - C150 Primary jaw crusher
    - Primary crushing discharge conveyor
    - MB432 remote access rock breaker
- Screening Module
    - Feed bin
    - 2 x vibrating pan feeders
    - 2 x 2.4m x 7.3m double deck screens
    - Discharge chutes
- Secondary Crushing Module
    - Feed Bin
    - 2 x vibrating pan feeders
    - 2 x HP6 cone crushers
- Materials handling module
    - Conveyors trusses (fully dressed out with idlers, pulleys, belts)
    - Electrical equipment including pull wire switches, belt drift switches and drive
    - motors
    - 2 x stockyard linear stackers

The new plant will be located as shown in Figure 1 below. Construction will commence after bulk earthworks and drainage is completed. Plant modules will be landed and assembled then structural backfill and ROM drainage works will commence, and mechanical erection and fitouts completed.

Operation of the plant will involve tipping material directly from trucks to the ROM bin for processing through the primary crusher. The product is then transferred to the screening module via conveyor, where it is sized into oversize, lump and fines. Oversized product is transferred to the secondary crusher for resizing and then back to the screening module for reprocessing. Processed lump and fines are then transferred separately to the stockyard located next to the train load out facility by conveyor. The indicative layout of the plant is shown in Figure 2 below.

Dust management during operations will involve:

- Dust suppression nozzles installed at the ROM bin, each conveyor loading section and discharge chute and stacker discharge chutes on the stockpiles (>16m high)
- Enclosed chutes as far as practicable
- Site-wide ground dust suppression by water cart.

Construction and commissioning

Construction of the Nammuldi Brockman Incremental Tonnes Plant is expected to take about 12 weeks to complete, with a compliance report submitted to DWER on completion. Commissioning is expected to take place over 16 weeks, comprising 8 weeks “dry” commissioning to confirm correct operation of the plant and its components and a further 8 weeks of “wet” commissioning to verify the product is being produced as per specifications.

Figure 1: Location of the proposed Nammuldi Brockman Incremental Tonnes Plant ("Plant") and replacement WWTP

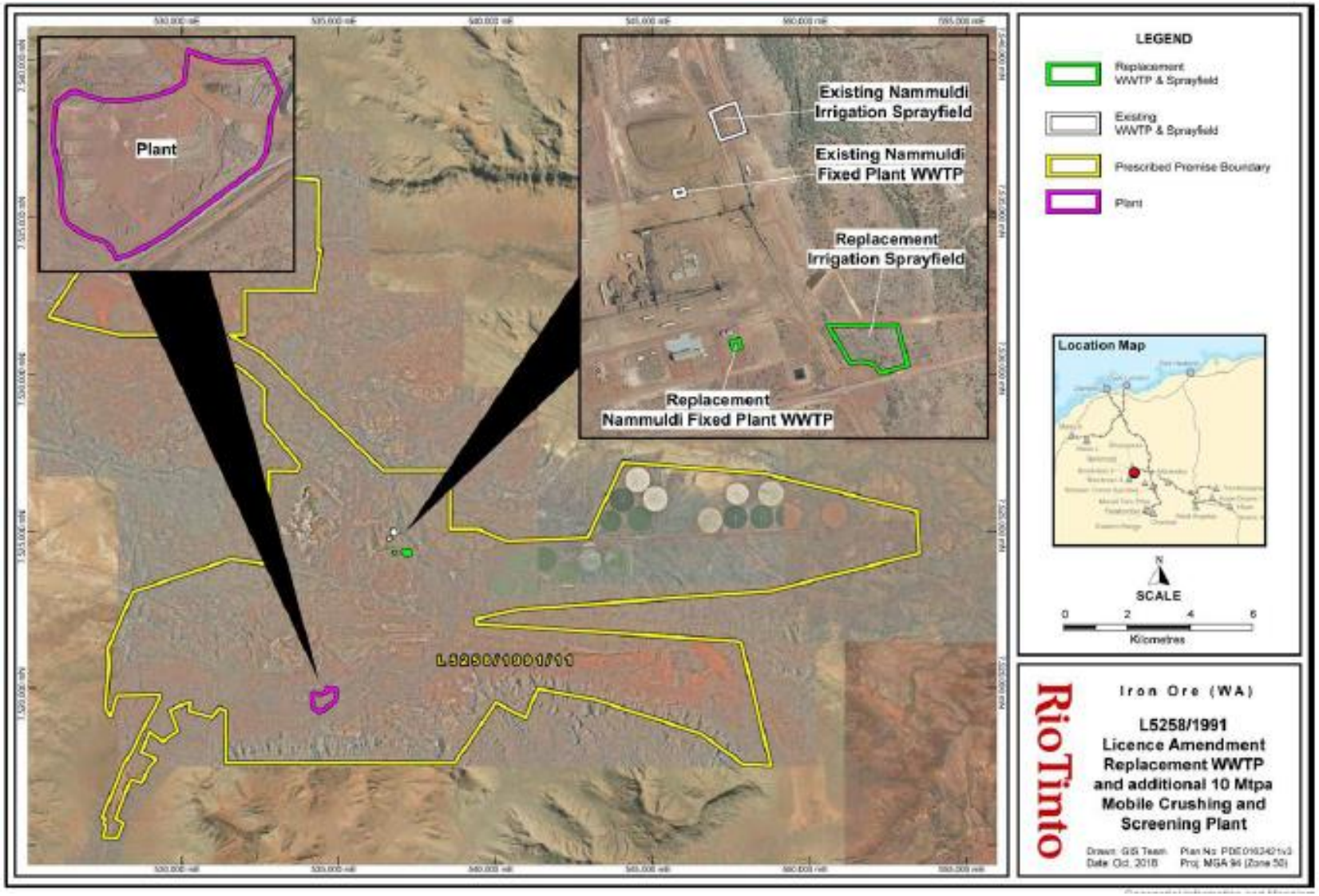
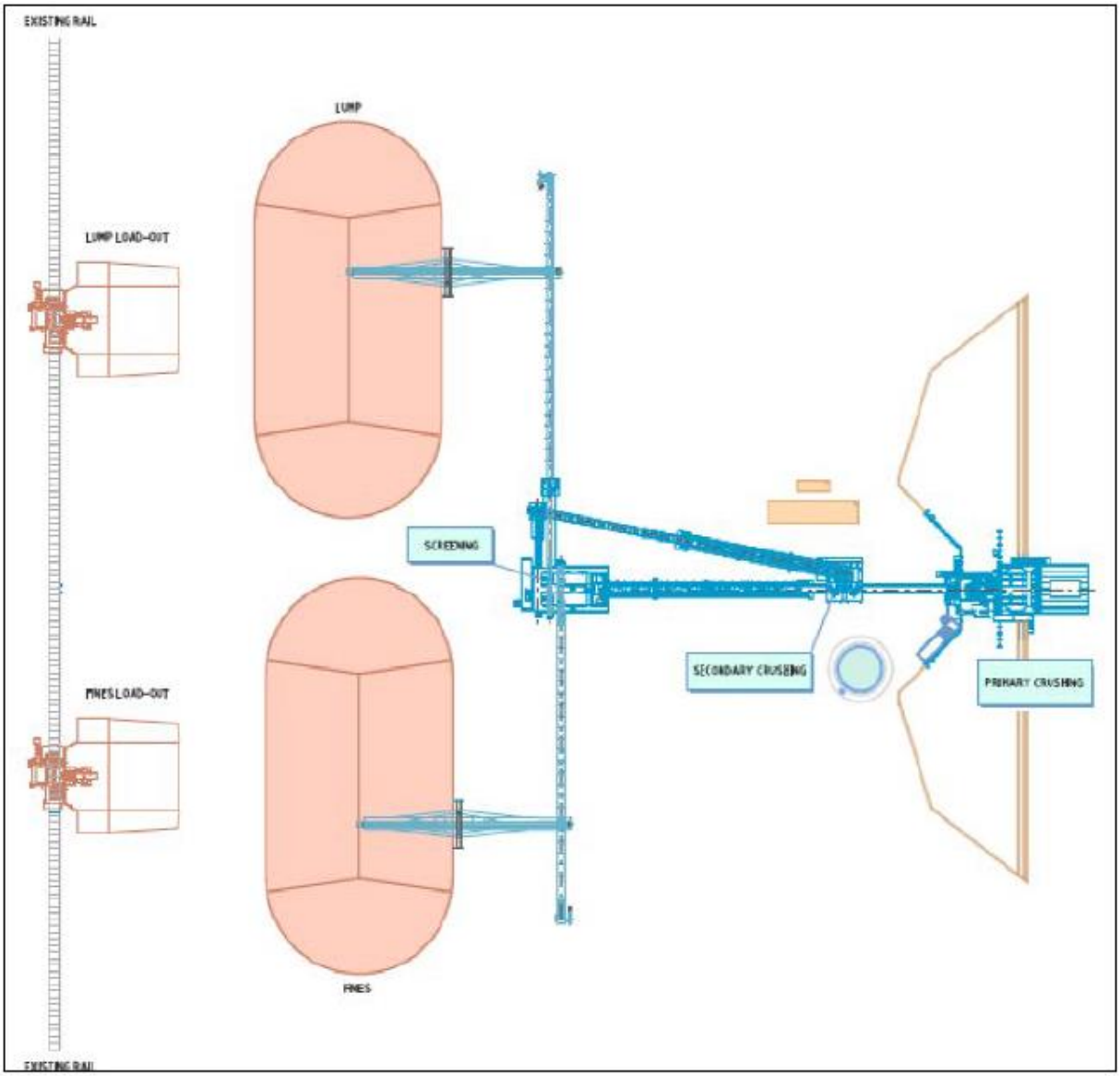


Figure 2: Indicative crushing and screening plant layout



Category 54: Wastewater Treatment Plant

Background

There are currently four WWTPs operating on the premises – B2 Mine WWTP, B2 Village WWTP, Jerriwah Village WWTP, and Nammuldi Fixed Plant WWTP. Each WWTP has its own discrete irrigation spray field. The combined capacity of the four WWTPs is currently 486m^3/day.

Pilbara Iron proposes to replace the existing Nammuldi 20 m^3/day WWTP with a Biomax C60K unit which has capacity to treat 60 m^3/day. The existing plant will be decommissioned once the Biomax C60K is installed and commissioned.

The increased capacity will accommodate fluctuations in the workforce that can peak to approximately 1,200 workers. The Biomax C60K is expected to provide improved sewage treatment.

The system includes a new irrigation spray field designed to meet conditions of the existing licence.

The location of the replacement WWTP is shown in Figure 1, and all four of the existing WWTPs in Figure 3 below.

Biomax C60K

The Biomax C60K unit will consist of:

- Two anaerobic chambers (tanks 1 and 2)
- Two aerobic chambers (tanks 3 and 4)
- One clarification chamber (tank 5)
- One disinfection / pump out chamber (tank 6)

Raw waste water is received in tanks 1 and 2, where suspended solids can settle and digestion by microorganisms commence in the absence of oxygen. This will also include digestion of the settled sludge and skimmed material that is returned from the clarification chamber (tank 5).

The partially treated wastewater then flows to tanks 3 and 4 where air is introduced with aerators to create aerobic conditions that facilitate the growth of aerobic microorganisms. These consume the waste organic matter, converting it into carbon dioxide and a biological floc. The anaerobic tanks have a multi-compartment design that prevents partially treated wastewater from passing into the clarification chamber (tank 5).

Following aeration in tanks 3 and 4, the effluent flows to the clarification tank, where the biological floc settles and floating material is skimmed off for return to the anaerobic tanks (tanks 1 and 2). Effluent in the clarification tank is drawn off below surface level, from where it flows through a chlorinator to the disinfection tank (tank 6), where disinfection occurs before it is pumped to the irrigation sprayfield.

A process flow diagram of the Biomax C60K is shown in Figure 4 below.

Sludge from the WWTP will be removed every five years in accordance with manufacturer recommendations and disposed of offsite by a licensed controlled waste carrier.

The plant has been designed with two days of emergency storage capacity to manage plant malfunction or increased load. Alarms will be installed on the air-blowers and pumps to warn of potential failures. The Licence Holder also intends to conduct regular maintenance inspections to ensure the equipment is maintained in good working order along with water quality monitoring.

Spray field

The irrigation spray field will be 2 hectares (ha) in size, located about 300 m from the WWTP. The spray field will be irrigated by 14 above ground sprinklers and will be surrounded by a three strand cattle proof fence to limit access.

Sprayfield design is shown in Figure 5 below.

Construction and commissioning

Construction will take about a month to complete, with a compliance document to be submitted to DWER on completion. Commissioning is expected to take 3 months, during which time the electrical and mechanical installation will be tested and, wastewater flows optimised and plant inspected for leaks. Water will be monitored during the commissioning period for the parameters and the frequency shown in Table 3.

Table 3: WWTP monitoring parameters and frequency - commissioning

Parameter	Commissioning Monitoring Frequency
Biochemical oxygen demand (BOD)	Monthly
Suspended solids	Monthly
E. coli	Monthly
Residual free chlorine	Monthly
pH	Monthly
Total Phosphorous	Monthly
Total Nitrogen	Monthly
Flow rate	Continuous

The existing Licence specifies that monitoring for the parameters as shown in Table 4 is to be conducted quarterly and reported against the values in the 1997 National Water Quality Management Strategy Australian Guideline for Effluent Discharge (Effluent Discharge Guidelines). The Biomax C60K is designed to treat sewage to the effluent quality as shown in Table 4.

Table 4: Biomax C60K specifications

Parameter	Biomax C60K treatment specifications	Effluent Discharge Guidelines
Biochemical oxygen demand (BOD)	<20mg/L	20 – 30mg/L
Suspended solids	≤30mg/L	25-40mg/L
E. coli	<10cfu/100mL	10^5=10^6cfu/100mL
Residual free chlorine	>0.5mg/L	N/A
pH	6.5-8.5	6-9
Total Phosphorous	≤8mg/L	6-12mg/L
Total Nitrogen	≤30mg/L	20-50mg/L

The Licence Holder expects design performance of the WWTP to meet discharge criteria for land disposal as specified by the Department of Water and Environmental Regulation in its *Water Quality Protection Note 22: Irrigation with Nutrient Rich Waste Water*" (WQPN22). This is based on application of the lowest eutrophication risk category (D) as shown in the calculations and Table 5 below:

- Total nitrogen (30mg/L = 0.03kg/m^3 x 60m^3/day (design output) = 1.8kg / day nitrogen

  1.8kg/day x 365 operating days per year = 657 kg/year

  657 kg/ year / 2 hectare spray field = 328.5kg/ha/year

- Total phosphorus (8mg/L = 0.008kg/m^3 x 60m^3/day (design output) = 0.48kg / day nitrogen

  0.48kg/day x 365 operating days per year = 175.2 kg/year

  175.2 kg/ year / 2 hectare spray field = 87.6kg/ha/year

Table 5: WWTP Sprayfield Discharge and WQPN22 Targets

Parameter	Target	Sprayfield Discharge
Total nitrogen (kg/ha/year)	480	328.5
Total phosphorus (kg/ha/year)	120	87.6

Figure 3: Locations of the WWTPs and sprayfields on the premises after the proposed amendment

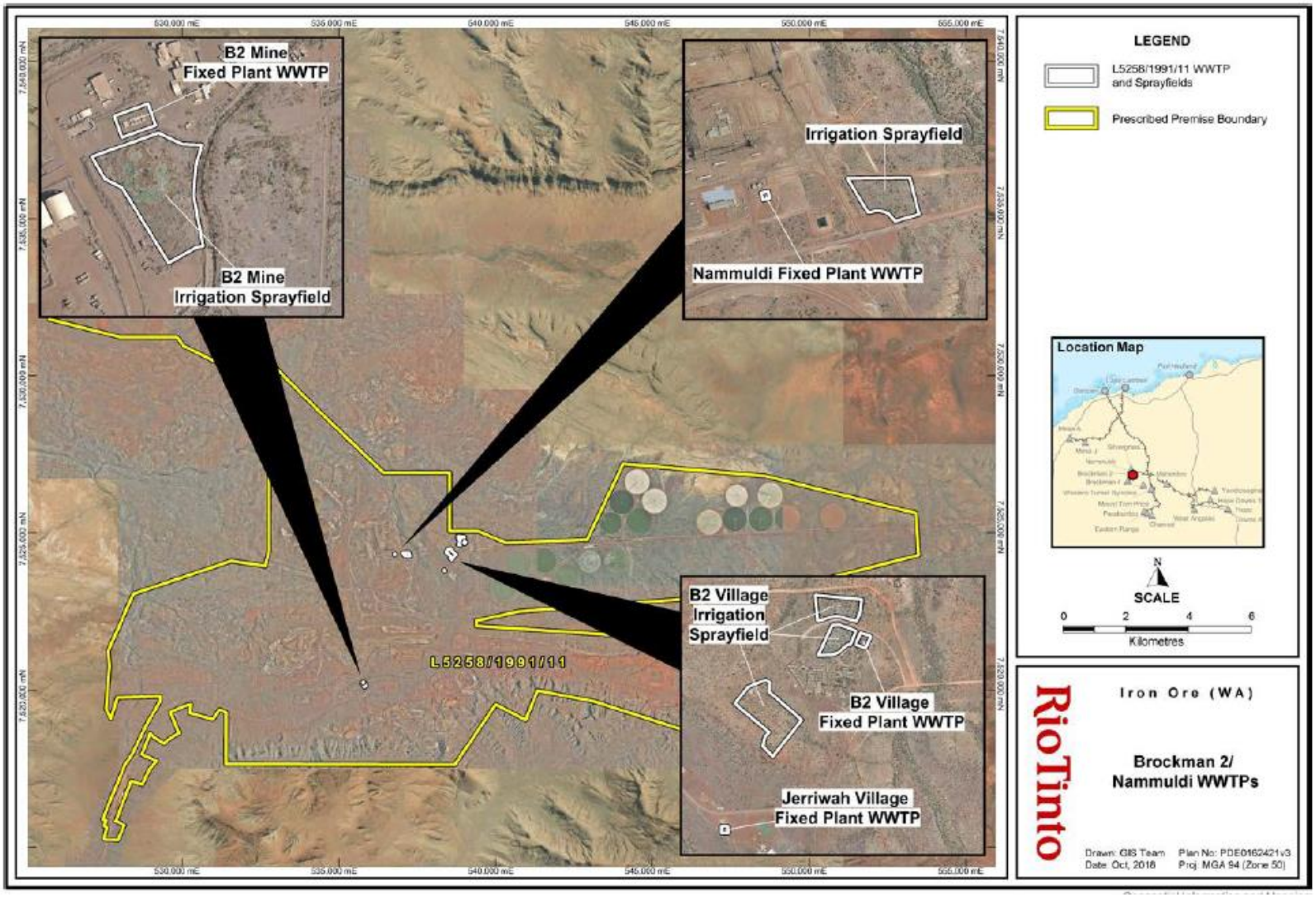


Figure 4: Process flow diagram of the Biomax C60K

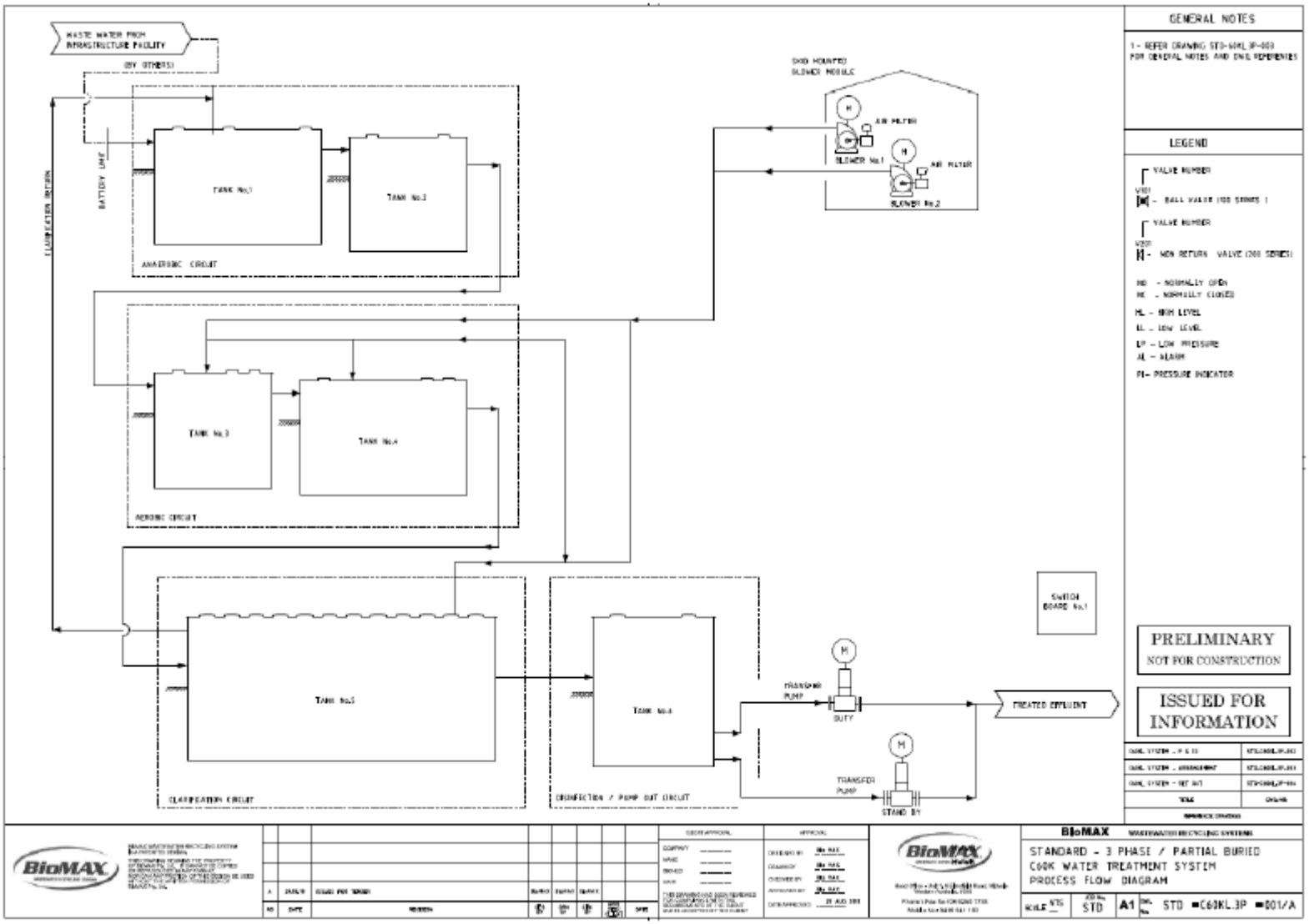
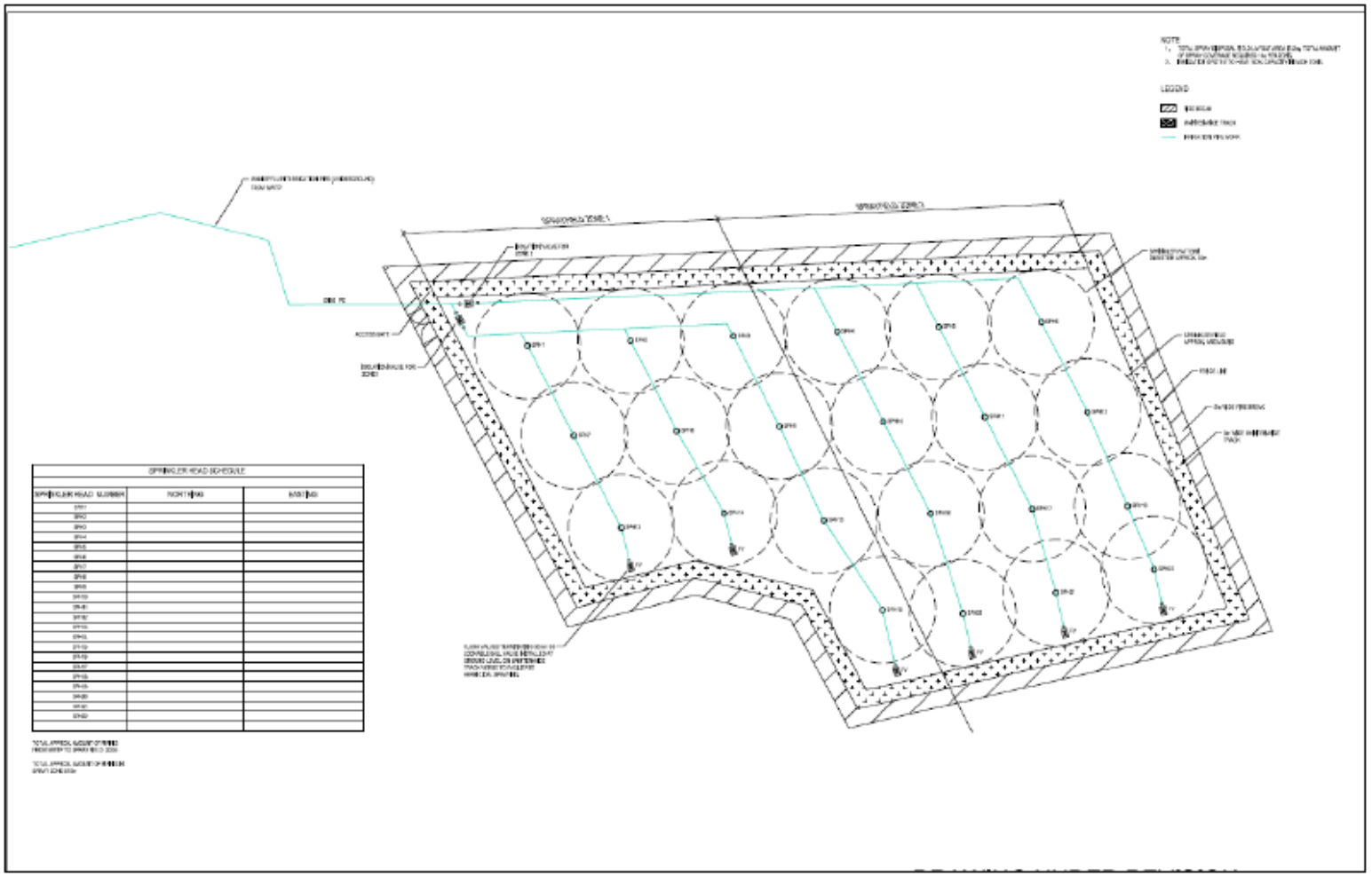


Figure 5: Sprayfield design



Other approvals

The Licence Holder has provided the following information relating to other approvals as outlined in Table 6.

Table 6: Relevant approvals

Legislation	Number	Scope
Environmental Protection Act 1986	Ministerial Statement 925	Mine development and operation, including land clearing for associated infrastructure.
Rights in Water and Irrigation Act 1914	GWL107421	Groundwater abstraction of 55GL for dust suppression, potable water and mineral processing.
Iron Ore (Hamersley Range) Agreement Act 1963 (WA) (Hamersley Range State Agreement	-	Mine development and operation.

Amendment history

Table 7 provides the recent amendment history for the Licence L5258/1991/11.

Table 7: Recent amendments to L5258/1991/11

Issued	Amendment
26/3/2015	• Increase in Category 5 (crushing and screening) capacity in line with works completed for the Nammuldi Below Water Table processing plant (Works Approval W5477/2013/1) and Nammuldi Below Water Table Waste Fines Storage Facility (W5323/2013/1) • Amendment to Licence conditions to enable operation of the Jerriwah Camp WWTP constructed under Works Approval 5477/2013/1 • Increase in category 12 (screening of material) capacity to account for additional screening works required for the Brockman 2/ Brockman 4 road • Amendment to Licence conditions dealing with dewatering
26/5/2016	Revision of Licence: • Increase in Category 5, 12, 54, 64 and 73 capacities • Inclusion of the B2 mine admin WWTP constructed under Works Approval W5506/2013/1 • Inclusion of the Brockman Fuel Hub constructed under Works Approval W5142/2012/1 • Removal of the Pit 5 dewatering discharge point • Extension of Licence period
18/10/2016	Amendment Notice 1: • Increase in Category 5 capacity from 45 million tonnes per year to 56 million tonnes per year • Construction of an additional waste dump landfill (Category 64)and increase in capacity from 5,114 tonnes per year to 7,634 tonnes per year • Increase Category 73 fuel storage capacity from 18,740 cubic metres (m^3) / year to 20,260m^3 / year
1/6/2017	Amendment Notice 2: Addition of special waste type 2 to category 64 landfill
This amendment	Amendment Notice 3: Increase in Cat 5 throughput with addition of a new crushing plant, and increase in Category 54 throughput; replacement of the existing WWTP with a new 60 m3/day unit.

Location and receptors

Table 8 below lists the closest sensitive land uses to the proposed amendment.

Table 8: Residential receptors and distance from activity boundary

Residential and sensitive premises	Distance from Prescribed Premises
Hamersley Station Homestead	Approximately 37 km north-east
Tom Price town	60km south east

Table 9 below lists the closest environmental receptors which may be relevant to the proposed amendment.

Table 9: Environmental receptors and distance from activity boundary

Specified ecosystems / Receptors	Distance from the Premises
Threatened Ecological Communities and Priority Ecological Communities	Brockman cracking clays, 13km north west and north east of the WWTP
Threatened/Priority Flora	Departmental records identify several priority 1, 3 and 4 flora species in the broader region, however, there are none within 12 km of the project area.
Threatened/Priority Fauna	The Licence Holder reports that surveys conducted to date have identified 29 mammals, 79 reptiles and 82 bird species in the broader area. The nearest recorded priority fauna are the Ghost Bat (*Macroderma gigas*) and Western Pebblemound Mouse (*Pseudomys chapmani*) which are 7.5km to the north of the proposal area and 3.8km southeast of the proposal area respectively.

Groundwater and surface water

The distances to groundwater and surface water features are shown in Table 10.

Table 10: Groundwater and surface water

Groundwater and water sources	Distance from Premises
Public drinking water source areas	Millstream water reserve, 12km to the north east
Ephemeral drainage channels	Runs through the premises over 100m from the WWTP. One stream adjacent to the project area drains to the north where it joins Duck Creek.
Duck Creek	3 km north of the WWTP
Boolgeeda Creek	6.3 km south of the crushing plant
Groundwater	40 and 60 mbgl at the WWTP and crushing and screening plant locations respectively (from the Application).

Risk assessment

Tables 11 and 12 below describe the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. Both tables identify whether the emissions present a material risk to public health or the environment, requiring regulatory controls.

Table 11: Risk assessment for proposed amendments during construction

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities	**Potential emissions**	**Potential receptors**	**Potential pathway**	**Potential adverse impacts**				
Construction, mobilisation and positioning of infrastructure – Nammuldi Brockman Incremental Tonnes Plant (crushing and screening plant) and Nammuldi Fixed Plant WWTP	Noise	Closest sensitive receptor is Hamersley Station Homestead 37 km away.	Air	Amenity impacts	Slight Minimal impact to local amenity	Rare The risk event may only occur in exceptional circumstances	Low	Distance to closest sensitive receptor is sufficient to inform the risk of noise emissions as not foreseeable. The *Environmental Protection (Noise) Regulations 1997* are applicable.
	Dust	Closest sensitive receptor is Hamersley Station Homestead 37 km away.	Air	Amenity impacts	Slight Minimal impact to local amenity	Rare The risk event may only occur in exceptional circumstances	Low	Distance to closest sensitive receptor is sufficient to inform the risk of dust emissions as not foreseeable. The General Provisions of the EP Act apply.
	Hydrocarbon spill - refueling	Soils	Direct contact	Soil contamination inhibiting vegetation growth and survival	Slight Minimal impact to local amenity	Unlikely The risk event will probably not occur in most circumstances	Low	Fuel storage containers and areas to be managed in accordance with relevant legislation and standards. Refueling and servicing to be done at designated locations with drip trays and spill kits to contain spills. The *Environmental Protection (Unauthorised Discharges) Regulations 2004* (UDR) apply.

Table 12: Risk assessment for proposed amendments during operation

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities	**Potential emissions**	**Potential receptors**	**Potential pathway**	**Potential adverse impacts**				
Cat 5: Operation of crushing infrastructure and movement of ore – Nammuldi Brockman Incremental Tonnes Plant (12 Mtpa processing plant), and additional 2Mtpa throughput via the existing facilities.	Noise	Closest sensitive receptor is Hamersley Station Homestead 37 km away.	Air	Amenity impacts	Slight Minimal impact to local amenity	Rare The risk event may only occur in exceptional circumstances	Low	Distance to closest sensitive receptor is sufficient to inform the risk of noise emissions as not foreseeable. The *Environmental Protection (Noise) Regulations 1997* are applicable.
	Dust	Closest sensitive receptor is Hamersley Station Homestead 37 km away.	Air	Health and amenity impacts	Slight Minimal impact to local amenity	Rare The risk event may only occur in exceptional circumstances	Low	Distance to closest sensitive receptor is sufficient to inform the risk of dust emissions as not foreseeable. The General Provisions of the EP Act apply.
	Nammuldi Brockman Incremental Tonnes Plant Area - stormwater contaminated with sediment, hydrocarbon spills.	Adjacent vegetation Soils	Direct contact and along flow path	Soil contamination inhibiting vegetation growth and survival	Minor Low level on-site impacts	Unlikely The risk event will probably not occur in most circumstances	Medium	The new processing plant is not sited adjacent to sensitive receptors. Diversion bunds and culverts will be used to divert stormwater into existing drains away from the processing area. Stormwater within the processing area will be captured by bunding. Drip trays will be used for refueling and spill kits to contain spills. The *Environmental Protection (Unauthorised Discharges) Regulations 2004* apply. <u>Licence</u> Amendment will include

								conditions to allow for the construction of the plant, and its location. Existing conditions remain applicable for stormwater and spills during operation.
Cat 54: Sewage Facility – treatment of effluent	Untreated sewage discharging from the WWTP.	Adjacent native vegetation (no specified ecosystems of flora) Soils	Direct contact along flow path	Soil contamination inhibiting vegetation growth and survival	Minor Low level on-site impacts	Unlikely The risk event will probably not occur in most circumstances	**Medium**	The WWTP is not sited at or in the vicinity of environmental sensitive receptors and is more than 100 m from the nearest major drainage channel. Duck Creek is 3 km north. <u>Applicant's Controls</u> • Biomax C60K unit will be installed with capacity for treating 60 m^3/day. • Biomax is a closed system. • Alarms warn of failure of the two mechanical components; air blower and discharge pump. • The Biomax C60K has inbuilt emergency storage of two days. <u>Licence</u> Applicant's controls have lowered risk and will be conditioned in the licence.
	Treated effluent discharged to the irrigation spray field.	Spray field vegetation and adjacent native vegetation (no specified ecosystems of flora) Soils	Direct contact along flow path	Soil contamination including increase in nutrients. Impacts to vegetation health and growth.	Minor Low level on-site impacts	Unlikely The risk event will probably not occur in most circumstances	**Medium**	The spray field is not sited at or adjacent to environmental sensitive receptors and is more than 100 m from the nearest major drainage channel. <u>Applicant controls</u> The Biomax C60K is designed to treat sewage to an effluent quality that meets the Effluent Discharge

								Guidelines. The spray field is sized for land disposal as specified by WQPN 22 and designed to minimise pooling. <u>Licence</u> Applicant's controls have lowered risk and will be conditioned in the Licence, with commissioning monitoring conditions required in order to demonstrate the plant is meeting expected effluent water quality. Existing conditions 2, 3, 4 remain applicable for effluent discharge and monitoring during operation.

Decision

In accordance with the Risk Assessment outlined in Tables 11 and 12, and *Guidance Statement: Risk Assessments*, the Delegated Officer has determined to grant the amendment with conditions added to the Licence for:

- Construction of the Nammuldi Brockman Incremental Tonnes Plant (12 Mtpa crushing and screening plant) and increase in total Category 5 premises production to 68,000,000 tonnes per annual period;
- Construction of the proposed new Nammuldi Fixed Plant WWTP and increase of total Category 54 production capacity;
- Reporting of construction compliance; and
- Commissioning of the new WWTP. The NextGen crushing and screening plant does not require commissioning under licence conditions.

Conditions 2, 3, 4, currently on the Licence capture operational emissions and monitoring relating to discharge of treated effluent to the new Nammuldi Fixed Plant WWTP spray field.

Construction compliance conditions 33, 34 and 35 have been updated to delete reference to construction of the landfill required by Table 5 as compliance documents for the landfill have been received.

Definitions are updated where required.

Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 16 January 2019. Comments received from the Licence Holder have been considered by the Delegated Officer as shown in Appendix 2.

Amendment

1. The front page of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the text shown in bold underline below:

PRESCRIBED PREMISES CATEGORY
Schedule 1 of the *Environmental Protection Regulations 1987*

CATEGORY NUMBER	CATEGORY DESCRIPTION	CATEGORY PRODUCTION OR DESIGN CAPACITY	PREMISES PRODUCTION OR DESIGN CAPACITY
5	Processing or beneficiation of metallic or non-metallic ore	50, 000 tonnes per year	~~45,000,000~~ **68,000,000** tonnes per annual period
6	Mine dewatering	50,000 tonnes or more per year	42,300,000 tonnes per annual period
12	Screening, etc. of material	50,000 tonnes or more per year	10,000,000 tonnes per annual period
54	Sewage facility	100 cubic metres or more per day	~~486~~ **526** cubic metres per day
64	Class II putrescible landfill site	20 tonnes or more per year	5,114 tonnes per annual period
73	Bulk storage of chemicals, etc	1,000 cubic metres in aggregate	18,740 cubic metres

2. Definitions of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the text shown in bold underline below:

'CEO' for the purpose of correspondence means;

~~Chief Executive Officer~~ **Director General**
Department Administering the Environmental Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: ~~info@der.wa.gov.au;~~ **info@dwer.wa.gov.au**

3. Conditions 33, 34 and 35 of the Licence are deleted and replaced with the following construction, compliance and commissioning conditions 33, 34, 35, 36, 37, 38, 39, 40 and 41, as shown in bold underline below:

CONSTRUCTION OF NAMMULDI BROCKMAN INCREMENTAL TONNES PLANT (CRUSHING AND SCREENING PLANT)

33 The Licensee shall ensure that each item of infrastructure specified in Table 6 is designed and constructed in accordance with the requirements specified.

Table 6: Nammuldi Brockman Incremental Tonnes Plant infrastructure requirements	
Infrastructure	**Requirements (design, construction and location)**
Nammuldi Brockman Incremental Tonnes Plant - crushing and screening plant	**Located as indicated in Attachment 10.**
	Designed and constructed for processing of 12 million tonnes ore per annum.
	The plant is comprised of: • **Primary crushing module** • **Screening Module** • **Secondary Crushing Module** • **Materials handling module**
	Diversion bunds and culverts constructed so that stormwater is diverted and prevented from entering the plant area.

CONSTRUCTION OF NAMMULDI FIXED PLANT WWTP

34 The Licensee shall ensure that each item of infrastructure specified in Table 7 is designed and constructed in accordance with the requirements specified.

<table>
<tr><th colspan="2">Table 7: Nammuldi Fixed Plant WWTP</th></tr>
<tr><th>Infrastructure</th><th>Requirements (design, construction and location)</th></tr>
<tr><td rowspan="5">Biomax C60K treatment plant</td><td>Located as depicted in Attachment 2.</td></tr>
<tr><td>Designed and constructed to treat up to 60 m^3/day throughput and with effluent to the following standards:
<table>
<tr><th>Parameter</th><th>Treatment specifications</th></tr>
<tr><td>Biochemical oxygen demand (BOD)</td><td><20mg/L</td></tr>
<tr><td>Suspended solids</td><td>≤30mg/L</td></tr>
<tr><td>E. coli</td><td><10cfu/100mL</td></tr>
<tr><td>Residual free chlorine</td><td>>0.5mg/L</td></tr>
<tr><td>pH</td><td>6.5-8.5</td></tr>
<tr><td>Total Phosphorus</td><td>≤8mg/L</td></tr>
<tr><td>Total Nitrogen</td><td>≤30mg/L</td></tr>
</table></td></tr>
<tr><td>Alarms installed and operating to indicate failure of air blower or discharge pump.</td></tr>
<tr><td>Constructed for inbuilt emergency storage of two days.</td></tr>
<tr><td>Constructed so that treated effluent is discharged to the Nammuldi irrigation sprayfield.</td></tr>
<tr><td rowspan="4">Nammuldi irrigation sprayfield</td><td>Located as depicted in Appendix 2.</td></tr>
<tr><td>2 hectares in size.</td></tr>
<tr><td>14 above ground sprinklers spaced to minimise pooling.</td></tr>
<tr><td>Surrounded by a three strand cattle proof fence.</td></tr>
</table>

COMPLIANCE AND COMMISSIONING

35 The Licensee must not depart from the requirements specified in Tables 6 and 7 except:

(a) Where such departures are minor in nature and do not materially change or affect the infrastructure; or

(b) Where such departure improves the functionality of the infrastructure and does not increase the risks to public health, public amenity or the environment.

36 The Licensee shall submit a construction compliance document to the CEO, following construction of each of the Nammuldi Brockman Incremental Tonnes Plant and the Nammuldi Fixed Plant WWTP and prior to operation and commissioning of the same.

37 The Licensee must ensure that each construction compliance document required by condition 36:

(a) is signed by a suitably qualified engineer; and

(b) certifies that each item of infrastructure specified has been constructed in accordance with the conditions of the Licence with no material defects beyond those listed under condition 35.

38. The Licensee shall commission the Nammuldi Fixed Plant WWTP for a period not exceeding 3 months.

39 The Licensee shall undertake the monitoring as specified in Table 8 during the commissioning period of the Nammuldi Fixed Plant WWTP.

Table 8: Nammuldi Fixed Plant WWTP effluent

Parameter	Units	Averaging period	Frequency[2]	Standards - Sampling and Analysis
pH[1]	pH units	Spot sample	Monthly	AS/NZS 5667.10 Samples submitted to and tested by a laboratory with current NATA accreditation
E. coli	cfu/100ml			
Biochemical oxygen demand	mg/L			
Suspended solids	mg/L			
Residual free chlorine	mg/L			
Total Phosphorous	mg/L			
Total Nitrogen	mg/L			
Effluent flow rate	kL/day	24 hours	Continuous	-

Note 1: In-field non-NATA accredited analysis permitted.
Note 2: Monthly monitoring shall be undertaken at least 15 days apart.

40 The Licensee must submit a commissioning report to the CEO for the Nammuldi Fixed Plant WWTP within 1 month of the completion of commissioning.

41 The Licensee shall ensure the commissioning report for the Nammuldi Fixed Plant WWTP includes;

(a) a summary of the monitoring results recorded under condition 39;

(b) a list of any original monitoring reports submitted to the Licensee from third parties for the commissioning period;

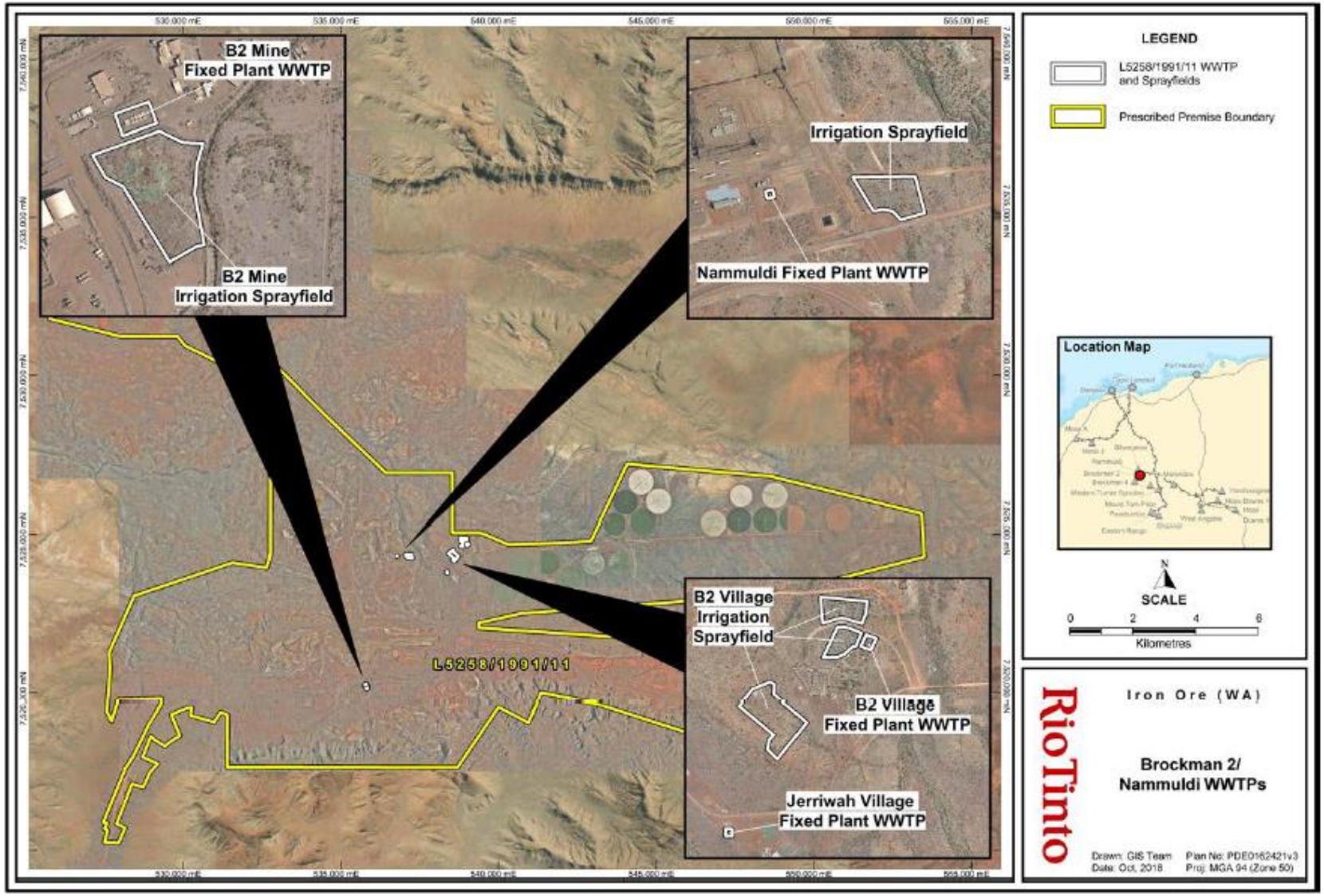
(c) a summary of the environmental performance of the Nammuldi Fixed Plant WWTP as installed, against the design specification set out in the works approval application;

(e) where they have not been met, measures proposed to meet the design specification and/or works approval conditions, together with timescales for implementing the proposed measures.

4. The Licence is amended by the update of Attachment 2 as shown below.

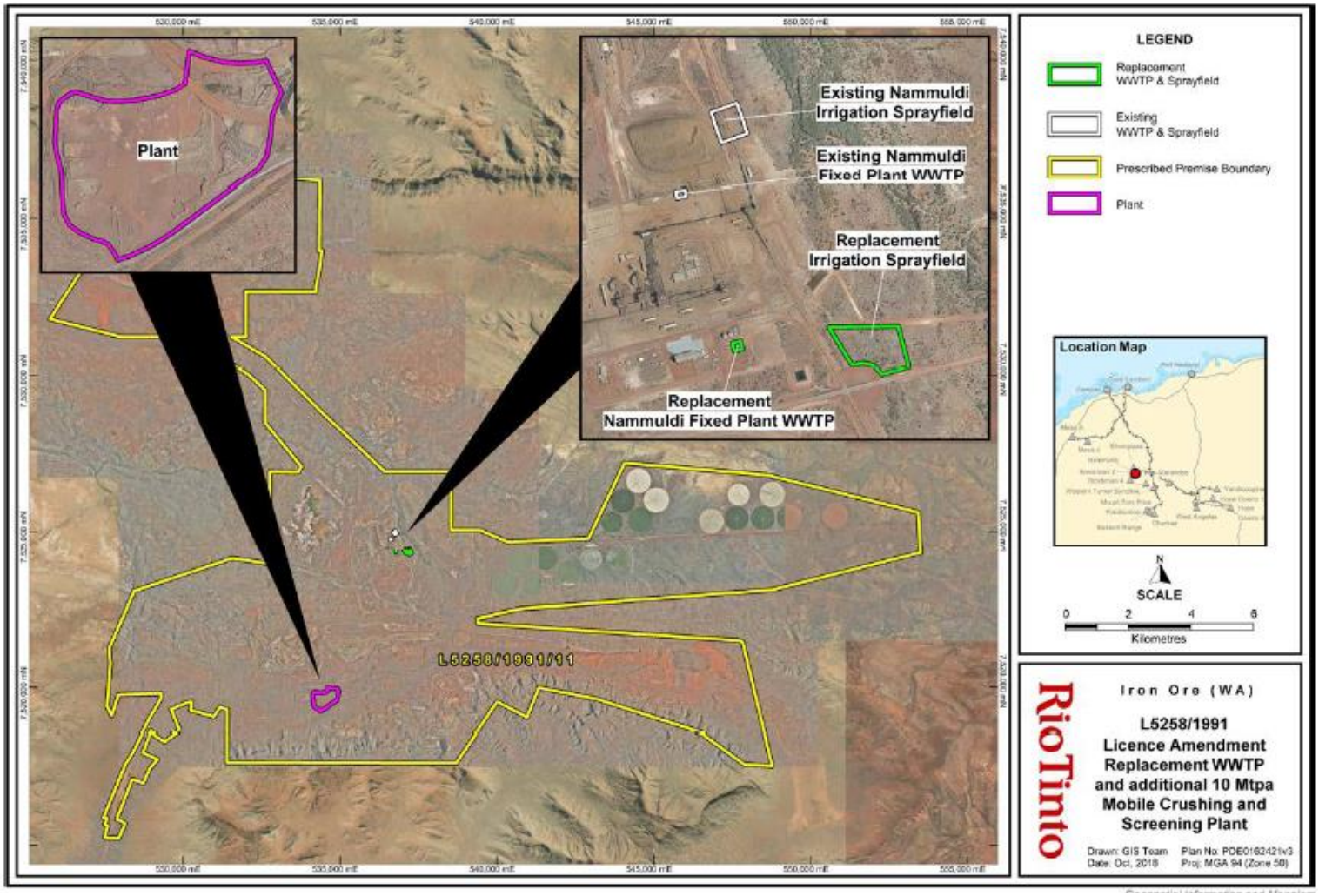
5. The Licence is amended by the addition of Attachment 10 as shown below.

ATTACHMENT 2 – WWTPS AND ASSOCIATED IRRIGATION SPRAYFIELDS



ATTACHMENT 10 – LOCATION OF THE NAMMULDI BROCKMAN INCREMENTAL TONNES PLANT

The Nammuldi Brockman Incremental Tonnes Plant is named "Plant" and is located within the pink boundary in the map below.



Appendix 1: Key documents

Document title	In text ref	Availability
Application Form dated 11/10/2018 and *Licence Amendment Supporting Documentation, Mount Brockman, Nammuldi and Silvergrass Iron Ore Mines – L5258/1991/11, RTIO-HSE-0327327*, October 2018.	Application form	DWER Records (A1728806)
Licence L5258/1991/11 and Amendment Notices 1 and 2.	L5258/1991/11	Accessed at www.dwer.wa.gov.au
Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand Australian, 1997, *National Water Quality Management Strategy Australian Guideline for Effluent Discharge*	Effluent Discharge Guidelines	Accessed at http://www.waterquality.gov.au/guidelines/sewerage-systems#effluent-management
DWER, 2008, *Water Quality Protection Note 22: Irrigation with Nutrient Rich Wastewater*, Department of Water and Environment Regulation, Perth.	WQPN22	Accessed at www.dwer.wa.gov.au
Ministerial Statement 925: Nammuldi – Silvergrass Expansion	MS925	Accessed at http://epa.wa.gov.au/
DWER, July 2015. *Guidance Statement: Regulatory principles.* Department of Water and Environment Regulation, Perth.	-	Accessed at www.dwer.wa.gov.au
DWER, October 2015. *Guidance Statement: Setting conditions.* Department of Environment Water and Environment Regulation, Perth.	-	
DWER, November 2016. *Guidance Statement: Environmental Siting*. Department of Environment Water and Environment Regulation, Perth.	-	
DWER, February 2017. *Guidance Statement: Decision Making*. Department of Environment Water and Environment Regulation, Perth.	-	
DWER, February 2017. *Guidance Statement: Risk Assessments*. Department of Environment Water and Environment Regulation, Perth.	*Guidance Statement: Risk Assessments*.	

Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 16 January 2019 for review and comment. The Licence Holder responded on 21 January 2019. The following comments were received on the draft Amendment Notice.

Condition	Summary of Licence Holder comment	DWER response
34 and 40	Typos corrected	Noted and corrected
39	Table 8 formatting to clarify monthly monitoring	Reformatted