



Works Approval

Environmental Protection Act 1986, Part V

Works Approval Holder: B. & J. Catalano Pty Ltd

Works Approval Number: W5709/2014/1

Registered office: 2 South Western Highway
BRUNSWICK JUNCTION WA 6224

ACN: 008 961 975

Premises address: Shenton Ridge Gravel Quarry
Coalfields Road
ROELANDS WA 6226
Being part Lot 501 on Plan 26892 and Lot 21 on Plan 10674, as depicted in
Schedule 1

Issue date: Thursday, 31 March 2016

Commencement date: Monday, 4 April 2016

Expiry date: Tuesday, 27 October 2020

The following category/s from the *Environmental Protection Regulations 1987* cause this Premises to be a prescribed premises for the purposes of the *Environmental Protection Act 1986*:

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
12	Screening, etc. of material: premises (other than premises within category 5 or 8) on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or otherwise separated.	50,000 tonnes or more per year	156,000 tonnes per annual period

Conditions

This Works Approval is subject to the conditions set out in the attached pages.

Date signed: 31 March 2016

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Tim Gentle
Manager (Resources Industries)
Officer delegated under section 20
of the *Environmental Protection Act 1986*



Works Approval Conditions

1 General

1.1 Interpretation

1.1.1 In the Works Approval, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 In the Works Approval, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986*;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means;
Chief Executive Officer
Department Administering the Environmental Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au;

'mg/L' means milligrams per litre;

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Works Approval;

'Schedule 1' means Schedule 1 of this Works Approval unless otherwise stated;

'stage' means the gravel extraction areas titled stage 6 to stage 11 as depicted in schedule 1 maps of this Works Approval;

'Works Approval' means this Works Approval numbered W5709/2014/1 and issued under the Act; and

'Works Approval Holder' means the person or organisation named as the Works Approval Holder on page 1 of the Works Approval.

1.1.3 Any reference to an Australian or other standard in the Works Approval means the relevant parts of the standard in force from time to time during the term of this Works Approval.

1.1.4 Any reference to a guideline or code of practice in the Works Approval means the current version of the guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guidelines or code of practice made during the term of this Works Approval.



1.2 General conditions

- 1.2.1 The Works Approval Holder shall construct the works in accordance with the documentation detailed in Table 1.2.1:

Table 1.2.1: Construction Requirements ¹		
Document	Parts	Date of Document
Works Approval Application	All	15 May 2014
Document titled 'Extractive Industries Licence Application and Environmental Management Plan (EMP) Lots 501 and 21 Coalfields Road, Roelands, Shire of Harvey', prepared for B&J Catalano Pty Ltd by Lundstrom Environmental Consultants Pty Ltd	All, including diagrams, figures and appendices	August 2015

Note 1: Where the details and commitments of the documents listed in condition 1.2.1 are inconsistent with any other condition of this works approval, the conditions of this works approval shall prevail.

- 1.2.2 The Works Approval Holder shall ensure the infrastructure listed in Table 1.2.2 is constructed in accordance with the requirements listed in that table.

Table 1.2.2: Containment infrastructure		
Infrastructure	Material	Infrastructure requirements
Detention basins	Contaminated water from the screening process	• To be excavated below the working area within each stage; • Construction capacity to hold a minimum of two hours runoff resulting from a 10-year return interval storm event; and • Constructed with a minimum 2 m separation to the maximum seasonal groundwater table.

2 Improvements

2.1 Improvement program

- 2.1.1 The Works Approval Holder shall complete the improvements in Table 2.1.1 by the date of completion in Table 2.1.1.
- 2.1.2 The Works Approval Holder, for improvements not specifically requiring a written submission, shall write to the CEO stating whether and how the Works Approval Holder is compliant with the improvement within one week of the completion date specified in Table 2.1.1.

Table 2.1.1: Improvement program		
Improvement reference	Improvement	Date of completion
IR1	The Works Approval Holder shall submit to the CEO a revised Dust Management Plan (DMP). The DMP must include, but not be limited to, information on: a) all potential sources of dust from the premises; b) potential dust impact on sensitive receptors; c) dust control initiatives undertaken on site to manage potential dust impacts d) complaints management including recording of all complaints, investigation and remedial actions; and e) a dust monitoring program including details on: - continuous dust monitoring at the boundary that has automatic feedback (SMS or equivalent) if a pre-set trigger value is reached; - meteorological monitoring to provide wind data to	30 April 2016



	- assist in determining the source of dust; - sampling locations at the Premises boundary between operations and residences 4 and 5; - trigger values to evoke actions to manage dust generation; - management actions and timeframes in the event of a trigger values being reached including consideration of wind speed and direction and whether the exceedance is attributable to Shenton Ridge Gravel Quarry.	
IR2	The Works Approval Holder shall submit to the CEO a Stormwater Management Plan (SMP). The SMP must include, but not be limited to, information on: a) detailed schematics of the drainage infrastructure (trenches, cut-off drains, bunding and detention basins, etc.); b) detailed schematics of the drainage infrastructure to direct all overflow from stages 8-11 to the existing stormwater detention pond specified in the map of surface water systems in Schedule 1 maps. c) stages 8-11 detention basin capacity to adequately provide storage for a minimum of two hours runoff resulting from a 10-year return interval storm event; d) the diversion of clean stormwater away from operational stages; e) the revised capacity for the stage 7 detention basin to prevent overflow during a greater than 1 in 10, 2 hour storm event; and f) management actions and timeframes in the event of an exceedance of 30 mg/L for Total Suspended Solids at the monitoring point (SW1) specified in the map of surface water systems in Schedule 1 maps. This may include application of coagulants suitable for use in drinking water catchments on advice from the Department of Health.	30 April and prior to commencement of works

3 Information

3.1 Reporting

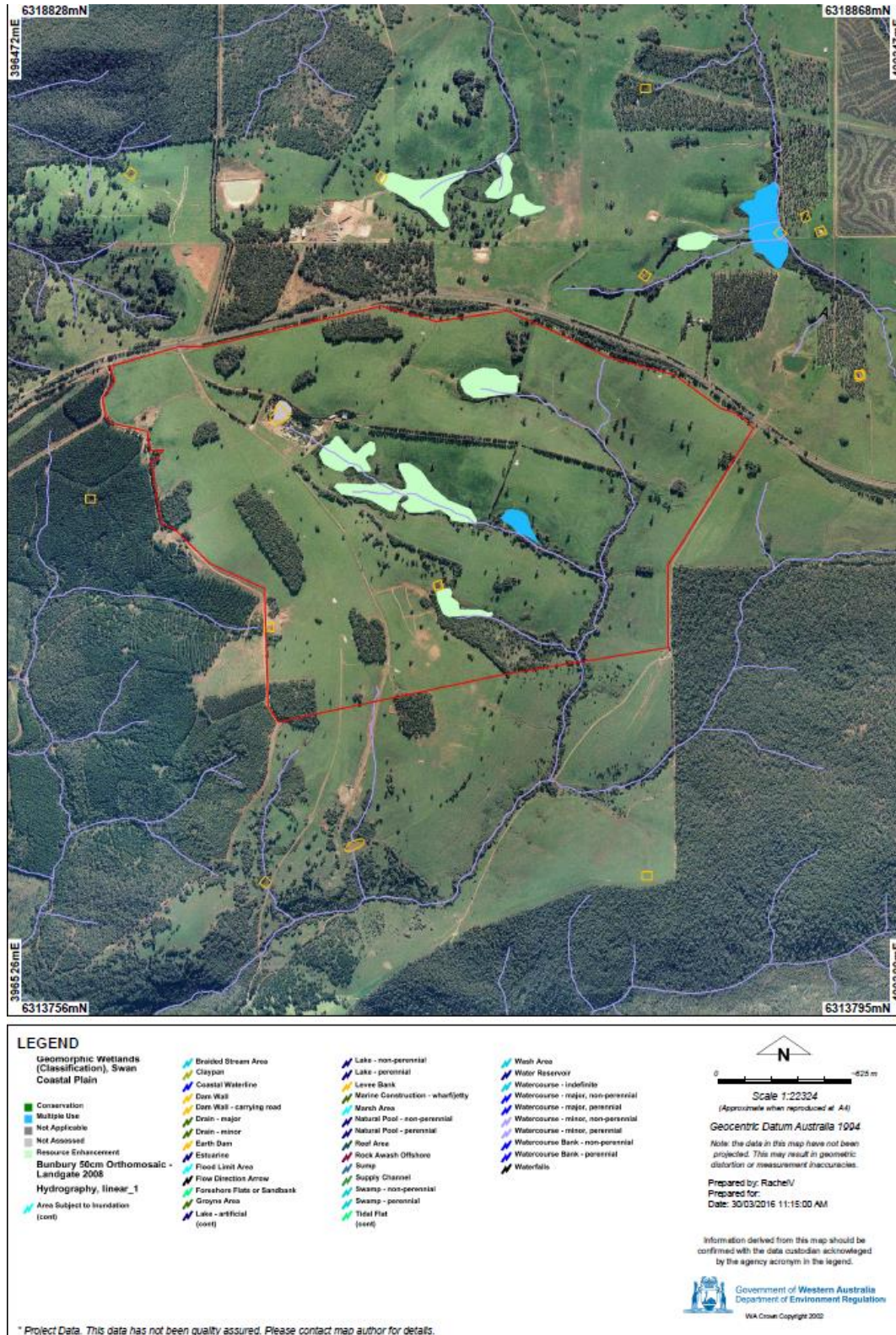
- 3.1.1 The Works Approval Holder shall submit a compliance document to the CEO, following the construction of each stage numbered 7, 8, 9, 10 and 11 depicted in the map of stages of gravel extraction in schedule 1 maps and prior to commissioning of the same.
- 3.1.2 The compliance document shall:
- (a) certify that the works were constructed in accordance with the conditions of the works approval;
 - (b) be signed by a person authorised to represent the Works Approval Holder and contain the printed name and position of that person within the company.



Schedule 1: Maps

Premises map

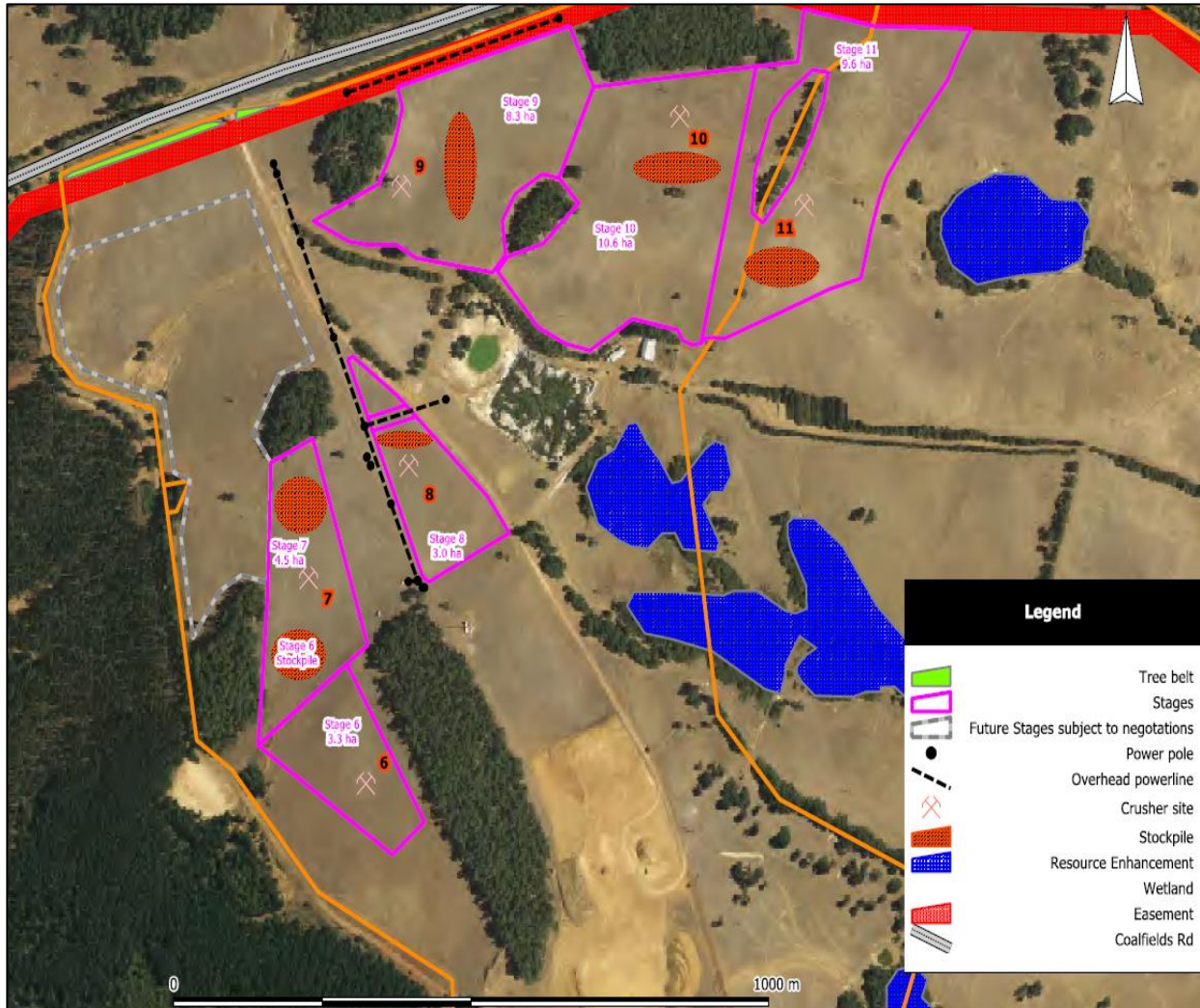
The Premises is shown in the map below. The red line depicts the Premises boundary around Lot 21 and part Lot 501.





Map of Stages of Gravel Extraction

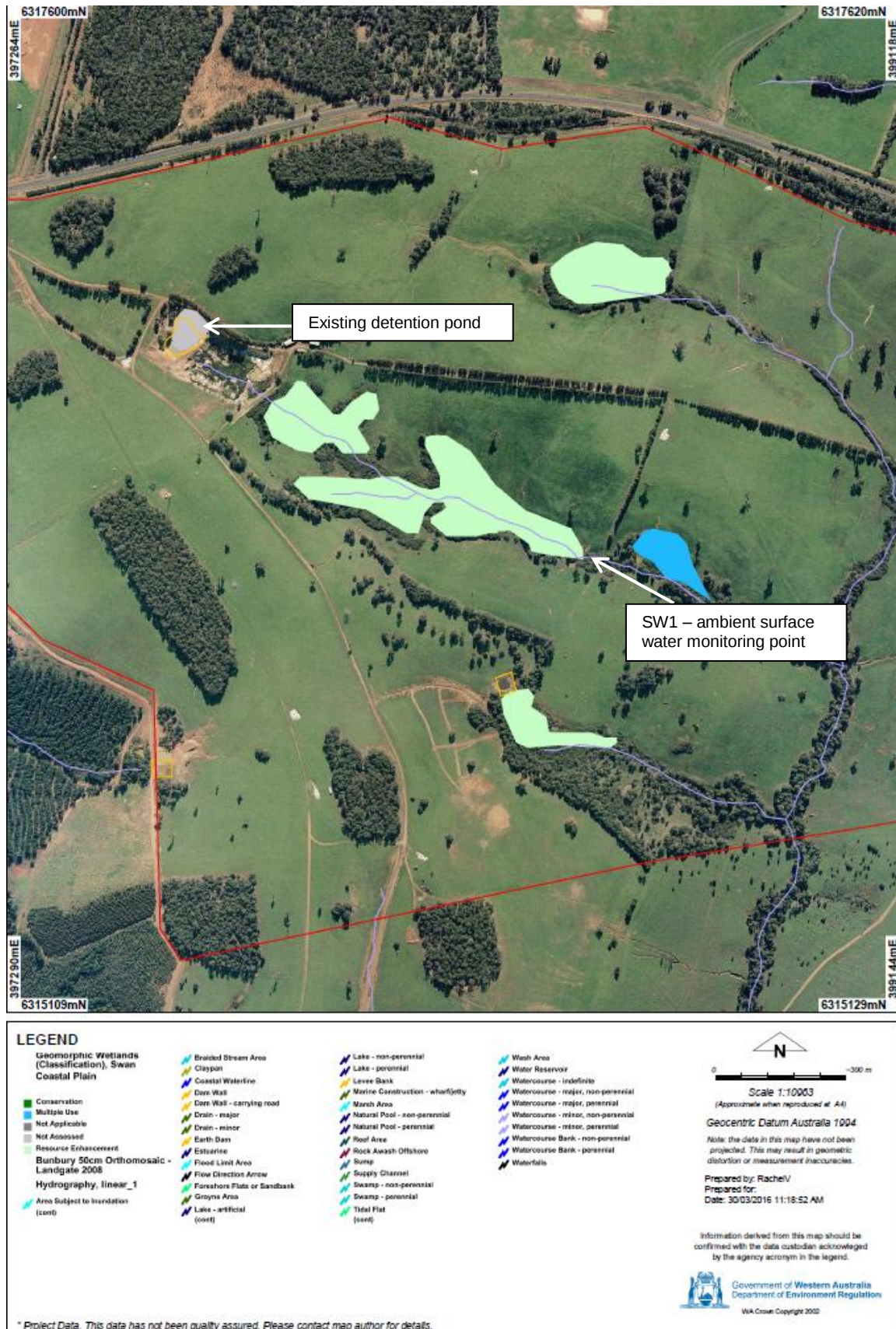
The stages of gravel extraction within the Premises are shown by the pink lines and titled Stage 7 to Stage 11.





Map of Surface Water Systems

The surface water systems and existing detention pond are shown in the map below.





Decision Document

Environmental Protection Act 1986, Part V

Proponent: **B. & J. Catalano Pty Ltd**

Works Approval: **W5709/2014/1**

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BRUNSWICK JUNCTION WA 6224

ACN: 008 961 975

Premises address: Shenton Ridge Gravel Quarry
Coalfields Road
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Being part Lot 501 on Plan 26892 and Lot 21 on Plan 10674

Issue date: Thursday, 31 March 2016

Commencement date: Monday, 4 April 2016

Expiry date: Tuesday, 27 October 2020

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER) has decided to issue a Works Approval. DER considers that in reaching this decision, it has taken into account all relevant considerations and that the Works Approval and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by: Neville Welsh/Rachel Vukmirovic
Licensing Officers

Decision Document authorised by: Tim Gentle
Manager (Resources Industries)
Delegated Officer



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1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

2 Administrative summary

Administrative details		
Application type	Works Approval ☒ New Licence ☐ Licence amendment ☐ Works Approval amendment ☐	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	12: Screening, etc. of material	156,000 tonnes per annual period
Application verified	Date: 17/07/2014	
Application fee paid	Date: 14/08/2014	
Works Approval has been complied with	Yes ☐ No ☐ N/A ☒	
Compliance Certificate received	Yes ☐ No ☐ N/A ☒	
Commercial-in-confidence claim	Yes ☐ No ☒	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes ☐ No ☒	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes ☐ No ☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐



Is the proposal subject to Ministerial Conditions?	Yes ☐ No ☒	Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes ☐ No ☒	Department of Water consulted Yes ☒ No ☐
Is the Premises within an Environmental Protection Policy (EPP) Area Yes ☐ No ☒		
Is the Premises subject to any EPP requirements? Yes ☐ No ☒		

3 Executive summary of proposal and assessment

B. & J. Catalano Pty Ltd (Catalano) owns Lot 21 and Lot 501 (Shenton Ridge) Coalfield Highway located near Roelands, approximately 25 km east of Bunbury. Historically, Shenton Ridge completed stages 1 to 5 of the gravel quarry authorised by the Shire of Harvey's (Shire) planning consent and Extractive Industry Licence (EIL) issued 29 July 2009 that expired on 22 September 2014.

In November 2014, Catalano commenced the planning consent and EIL approvals process to expand operations to complete stages 7 to 14 on Shenton Ridge.

A Works Approval application was submitted to DER on 15 May 2014 and fee paid on 14 August 2014. The application was subsequently amended in August 2015 to quarry stages 7 to 11 only. The proposal to extract gravel from stages 7 to 11 occupies an area of 30 hectares (ha) on Lot 501 and approximately 6 ha on the adjoining Lot 21 and is the subject of this risk assessment. Shenton Ridge quarry has been assessed at a production throughput of 156,000 tonnes per annum being 82,000 cubic metres of gravel per year. The maximum screening plant design capability is 3,500 tonnes per day.

The Shire planning consent was granted on 27 October 2015 for a period of 5 years. For consistency, this Works Approval will be issued to Catalano for the same timeframe as the Shire of Harvey planning consent. Following construction and validation of works completed under this Works Approval, the licence (L8877/2015/1) will be granted to authorise operation of stages 7-11 with each stage being authorised only upon receipt of compliance certificates.

The Works Approval authorises the activities of perimeter bund construction of each stage, water detention basin construction, drainage channels construction, gravel screening plant mobilisation and positioning, plus gravel stockpile area construction including bunding.

Licence L8877/2015/1 will authorise gravel screening operations to a maximum of 156,000 tonnes per annum. It is expected that the gravel extraction activities may result in lowering of natural ground by between 1 to 1.5 metres. Gravel stockpiles will not exceed 9 metres in height and the machinery used on site during the screening campaign will include a D10 Bulldozer, Parker 4230 Crusher, Finlay Screen, Striker 25m Stacker, 2 caterpillar front end loaders, Caterpillar generator set and a Caterpillar 322 Excavator. Screened gravel material will be temporarily stockpiled on site, prior to being hauled by truck from the Premises. Interceptor contours, banks and drains will be constructed during operation and closure of each stage, to acceptable standards, as part of the rehabilitation planning approved by the planning approval granted by the Shire of Harvey.

The primary environmental risks associated with this Works Approval are the discharge of potentially contaminated stormwater, nuisance noise emissions and fugitive dust.

This Works Approval and future licence will be issued to Catalano consistent with the planning consent issued by the Shire of Harvey and expiring on 27 October 2020.

The applicant is aware of their obligation to comply with the *Environmental Protection (Noise) Regulations 1997* and the general provisions of the Act during construction and operation.

Conditions of the Works Approval and future licence have been assessed in table 4.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	W1.2.2	Construction <u>Emission Description</u> <i>Emission:</i> Discharge of potentially contaminated stormwater from the screening plant reports to perimeter bunds directing flows to individual stage detention basins that infiltrate to groundwater. The stormwater passed through the operating screening plant may become contaminated with hydrocarbons plus contain screened fines or sediment that infiltrate to groundwater. <i>Impact:</i> A reduction of groundwater quality from hydrocarbons and fine sediments in local groundwater supplies. Contamination of onsite surface water systems, including Resource Enhancement Wetlands and impact on downstream users. A community dam is located 5 km downstream and is used for potable water supply. <i>Controls:</i> Perimeter bunds, bunding of operational areas and detention basins must be constructed prior to operations commencing. Detention basins are designed to infiltrate water into the ground to reduce risk of flow discharges from the operational areas. Gravel extraction ceases when laterite caprock is intersected. Detention basins are to be designed to capture as a minimum 2 hours runoff resulting from a 10-year interval storm event. <u>Risk Assessment</u> <i>Consequence:</i> Moderate. <i>Likelihood:</i> Possible. <i>Risk Rating:</i> Moderate. <u>Regulatory Controls</u> The Works Approval application does not sufficiently address the risk of detention basin construction intercepting groundwater. Condition W1.2.2 has been added to the Works Approval to specify minimum infrastructure requirements of the detention basins, to include a minimum separation of 2 m to the maximum seasonal groundwater table. The Surface Water	Works Approval application supporting documentation.



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		and Groundwater Management Plan does not adequately address the risks to onsite surface water systems and downstream users. Resource Enhancement Wetlands are located on the premises and 5km downstream is a community dam used for potable water supply. Construction requirements on the condition require detention basin design to capture runoff from a two hours runoff resulting from a 10-year return interval storm event. An increased capacity detention basin for stage 7 is included in the improvement condition IR2 in the Works Approval. <u>Residual Risk</u> <i>Consequence:</i> Moderate. <i>Likelihood:</i> Unlikely. <i>Risk Rating:</i> Moderate.	
	L – conditions	Operation <u>Emission Description</u> <i>Emission:</i> Screened fines that contaminate stormwater become suspended and highly mobile fine particles (<2 microns) that could potentially be discharged during heavy rainfall and an overflow of detention basins. <i>Impact:</i> The discharge of fines particles into the environment can result in a reduction to surface water quality and subsequently local stream and waterways ecology. Seepage into the shallow groundwater table will occur due to the unlined design of the perimeter bund and detention basin, however excess stormwater may cause detention basin discharges. A community dam is located 5 km downstream and is used for potable water supply. Erosion due to increased turbidity of stormwater runoff. <i>Controls:</i> Water from the screening plant will be discharged into detention basins within each stage which are designed to maximise settlement and allow infiltration to groundwater. The detention basins are to be designed to capture as a minimum 2 hours runoff resulting from a 10-year interval storm event. Excess stormwater from stages 8, 9, 10 and 11 is to be further directed to an existing detention pond positioned between stages 8, 9 and 10 on the east. A buffer of 100 metres (m) is to be maintained around the wetlands. No unmanaged stormwater run-off will be allowed to flow into the buffer zone. <u>Risk Assessment</u> <i>Consequence:</i> Moderate.	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<i>Likelihood:</i> Possible. <i>Risk Rating:</i> Moderate. <u>Regulatory Controls</u> A condition will be included in the licence to ensure that the licensee adheres to the Stormwater Management Plan that is a requirement of IR2 in works approval W5709/2014/1. A condition specifying the capacity of the detention basins to detain runoff from a minimum of two hours runoff resulting from a 10-year return interval storm event will be applied. Overflow discharge from stages 8-11 detention basins to the existing detention pond is only authorised when the capacity of the detention basins is exhausted. The existing detention pond discharges to a perennial watercourse on site that flows through a series of wetlands. These wetlands do not have conservation status. It is expected that sufficient settlement of solids will occur through these systems. Ambient monitoring conditions will be set for pH and Total Suspended Solids at the end of the system. A limit of 30 mg/L will be set in the licence that will have associated management actions if breached. These management actions are to be submitted as part of the revised Stormwater Management Plan. <u>Residual Risk</u> <i>Consequence:</i> Minor. <i>Likelihood:</i> Unlikely. <i>Risk Rating:</i> Moderate.	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
	L – no conditions	Operation <u>Emission Description</u> <i>Emission:</i> Contamination of stormwater with hydrocarbons from operational areas. <i>Impact:</i> The discharge of contaminated stormwater into the environment can result in a reduction in the quality of fresh surface water in local waterways and onsite wetlands. <i>Controls:</i> A 100 m buffer will be maintained around the wetlands. There will be no on-site storage of hydrocarbons or chemicals. Plant will be refuelled each morning using a mobile refuelling vehicle equipped with a “snap-on, snap-off, fast fill and auto shut-off” facility. A hydrocarbon spill response procedure will be implemented during construction and operation. <u>Risk Assessment</u> <i>Consequence:</i> Minor. <i>Likelihood:</i> Rare. <i>Risk Rating:</i> Low. <u>Regulatory Controls</u> Nil. <u>Residual Risk</u> <i>Consequence:</i> Minor. <i>Likelihood:</i> Rare. <i>Risk Rating:</i> Low.	
Premises operation	W – no conditions	Construction There are no specific conditions relating to premises operation in this section.	N/A
	L – conditions	Operation A condition will be added to the licence to set premises production capacity limits.	Works Approval application supporting documentation.
Emissions general	W & L – no conditions	Construction & Operation There are no specific conditions relating to emissions general in this section.	N/A



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Point source emissions to air including monitoring	W & L – no conditions	Construction & Operation There are no point source emissions to air proposed in the application.	N/A
Point source emissions to surface water including monitoring	W & L - no conditions	Construction & Operation There are no point source emissions to surface water proposed in the application.	N/A
Point source emissions to groundwater including monitoring	W & L – no conditions	Construction & Operation There are no point source emissions to groundwater proposed during construction works.	N/A
Emissions to land including monitoring	W – no conditions	Construction & Operation Emissions to land are not proposed, expected or authorised from the Premises during construction or operation of stages 7 to 11. No specified conditions relating to emissions to land or the monitoring of these emissions are required to be added to the Works Approval or licence.	N/A



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Fugitive emissions	W – no conditions	Construction <u>Emission Description</u> <i>Emission:</i> Fugitive dust generated during construction activities. <i>Impact:</i> Nuisance dust emissions. <i>Controls:</i> A Dust Management Plan details dust suppression methods and operational measures to manage dust. Dust is not expected to be a significant issue in the construction phase. <u>Risk Assessment</u> <i>Consequence:</i> Minor. <i>Likelihood:</i> Rare. <i>Risk Rating:</i> Low. <u>Regulatory Controls</u> Nil. <u>Residual Risk</u> <i>Consequence:</i> Minor. <i>Likelihood:</i> Rare. <i>Risk Rating:</i> Low.	Works Approval application supporting documentation.
	L – conditions	Operation <u>Emission Description</u> <i>Emission:</i> Fugitive dust at unknown concentration, generated during screening operations. <i>Impact:</i> Dust emissions can be harmful to human health and the environment. Elevated Total Suspended Particulates (TSP) levels can impact ambient environmental quality resulting in amenity impacts and can smother vegetation. Small particles (PM₁₀ or PM_{2.5}) can impact upon human health. There are two receptors (residential premises) within 1000m of the extraction stages and a major highway within 60m. Stages 9, 10 and 11 do not meet the recommended separation distance of 1000m. <i>Controls:</i> A Dust Management Plan details dust suppression methods that include visual inspection of site and access roads for dust generation that is moving off site and the halting of operations if the wind is blowing strongly in the direction of Coalfields Road. Water cart	Works Approval application supporting documentation.



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		application over dust prone areas to reduce dust lift-off. Crushing and stockpiling activities located in topographic low points with stockpiles arranged such that wind breaks are created to further shield sensitive receptors. <u>Risk Assessment</u> <i>Consequence:</i> Moderate. <i>Likelihood:</i> Possible. <i>Risk Rating:</i> Moderate. <u>Regulatory Controls</u> The risk of fugitive dust emissions from screening operations causing amenity impacts is deemed to be moderate in consideration of the distance to receptors. The existing Dust Management Plan does not sufficiently address the risk to residences 4 and 5 and operational stages 9, 10 and 11 do not meet the recommended separation distance of 1000m. As such, conditions will be added to the licence to require the licensee to undertake dust monitoring at the boundary of the premises. The condition will be included in the ambient quality monitoring section of the licence. In the event of verified complaints, a requirement for stricter dust monitoring and management may be applied to the licence via an amendment. <u>Residual Risk</u> <i>Consequence:</i> Moderate. <i>Likelihood:</i> Unlikely. <i>Risk Rating:</i> Moderate.	
Odour	W & L – no conditions	Construction & Operation Odour is not expected from construction or operation of the wet-screening plant. No specified conditions relating to odour emissions or the monitoring of these emissions are required to be added to the Works Approval or licence.	N/A



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Noise	W – no conditions	Construction No significant noise emissions are expected during the construction and set up of the wet-screening plant. Construction activities will be minimal and undertaken during normal working hours, with noise emissions expected to be similar to existing operations. However DER is not aware of any noise complaints from the existing operation. No specified conditions relating to noise emissions are required to be added to the Works Approval.	<i>Environmental Protection (Noise) Regulations 1997</i> (Noise Regulations) Application supporting documentation
	L – conditions	Operation <u>Emission Description</u> <i>Emission:</i> Noise emissions generated by operation of the screening plant, truck movements and heavy machinery during normal working hours. <i>Impact:</i> Annoyance, nuisance to nearby sensitive receptors (residences). Two residences are located within 1000m. <i>Controls:</i> Limiting operations to normal working hours. An assessment was conducted by Lloyd George Acoustics which detailed the predicted noise levels for residence 4 and residence 5. The report stated that the predicted noise level for residence 4 is 34 dB and 31 dB for stage 9 and 10 respectively. Predicted noise levels for residence 5 would be 28 dB and 31 dB for stages 9 and 10 respectively. For the purposes of modelling it has been assumed that all of the equipment will be operating simultaneously. However, tonality is likely to be present if only one item of plant is operating (e.g. the loader or dozer). In these circumstances, the adjusted level for the loudest item of plant would be 39 dB (34+5) for stage 9 operations and 36 dB (31+5) for stage 10 operations. These values are still below the assigned levels of 45 dB for noise sensitive premises during the operating times of 0700 to 1900 hours Monday to Saturday. <u>Risk Assessment</u> <i>Consequence:</i> Minor. <i>Likelihood:</i> Rare. <i>Risk Rating:</i> Low. <u>Regulatory Controls</u> DER's review of the noise assessment for the gravel quarry confirms that the risk of noise emissions impacting on nearby receptors is not considered significant enough to warrant site specific conditions on the licence. Noise emissions can be adequately regulated through the	



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		provisions of the Noise Regulations. <u>Residual Risk</u> <i>Consequence</i> : Minor. <i>Likelihood</i> : Rare. <i>Risk Rating</i> : Low.	
Monitoring general	W – no conditions	Construction Monitoring is not required during construction of the wet-screening plant; therefore no specified conditions relating to general monitoring are required on the Works Approval.	N/A
	L – conditions	Operation No additional general monitoring conditions are required on the licence other than the standard NATA accreditation, monitoring timeframes and calibration requirements.	Works Approval application supporting documentation.
Monitoring of inputs and outputs	W & L – no conditions	Construction & Operation Monitoring of inputs and outputs is not required to adequately manage emissions during construction or operation of the wet-screening plant. No specified conditions relating to monitoring of inputs and outputs are required to be added to the Works Approval or licence.	N/A
Process monitoring	W & L – no conditions	Construction & Operation Process monitoring is not required to adequately manage emissions during construction or operation of the wet-screening plant. No specified conditions relating to process monitoring are required to be added to the Works Approval or licence.	N/A
Ambient quality monitoring	W – no conditions	Construction Ambient quality monitoring is not required during construction or operation of the wet-screening plant. No specified conditions relating to ambient quality monitoring are required to be added to the Works Approval.	N/A
	L – conditions	Operation Continuous monitoring of dust at the boundary of the premises is to be included in the Licence. The risk assessment has been undertaken in the fugitive emission sections of this document. Ambient surface water monitoring has been included in the licence to assess the levels of Total	Works Approval application supporting documentation.



DECISION TABLE			
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		Suspended Solids. A limit of 30 mg/L has been applied and associated management actions will be included in the revised Surface Water Management Plan, subject of IR2 in works approval W5709/2014/1.	
Meteorological monitoring	W no conditions	Construction Meteorological monitoring is not required during construction of the screening plant. No specified conditions relating to meteorological monitoring are required to be added to the Works Approval.	N/A
	L – conditions	Operation Meteorological monitoring conditions are required during operation for interpretation of monitoring data, in particular wind strength and direction with respect to identifying likely sources of dust.	
Improvements	W2.1.1-2.1.2	Construction An improvement condition (IR1) has been set that requires a revised Dust Management Plan (DMP). The Dust Management Plan submitted with the application supporting documentation has not sufficiently addressed the risk to the closest sensitive receptors as detailed above. Two residences are located within 1000m of the operational stages. Dust monitoring is a requirement of the licence and the DMP it to detail a dust monitoring program with associated triggers and management actions. An improvement condition (IR2) has also been included in the Works Approval to require the Works Approval Holder to submit a Stormwater Management Plan that has detailed schematics of the stormwater infrastructure to demonstrate that a minimum storage capacity will be provided to adequately capture runoff from a 2 hour, 10 year rainfall event. An increased capacity for stage 7 is required as there is no contingency for when the stormwater storage capacity is exhausted.	N/A
	L – no conditions	Operation No improvement conditions have been included in the licence.	
Information	W – conditions	Construction & Operation No additional reporting conditions are required to be added to the Works Approval other than	N/A



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		the submission of compliance documents for stages 7, 8, 9, 10 and 11.	
	L – conditions	No additional reporting conditions are required on the licence other than the minimum record keeping, annual reporting and notification requirements.	N/A
Works Approval Duration	N/A	The expiry of the Works Approval will be consistent with the planning consent issued by the Shire of Harvey to expire on 27 October 2020.	DER Guidance Statement: <i>Licence duration</i> (November 2015)



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
28/08/2014	Application referred to public authorities	The Shire of Harvey requested advice on the following matters; • Fugitive dust management; and, • Nuisance noise emissions. The Department of Water expressed concerns with the; • potential for impacts to the quality of the receiving groundwater from contamination with hydrocarbon; • the risks of increased turbidity and salinity to groundwater through sediment (fines) and concentration of salts both at the screening plant and in the detention basins; • the construction of detention basins that intercept groundwater; and • the design of detention basins to prevent overflow causing erosion and highly turbid waters entering waterways.	Noise and fugitive dust emissions are regulated under the general provisions of the Environmental Protection Act. Two sensitive receptors are located within 1000m of stages 9, 10 and 11. Conditions have been added to the Works Approval to require a minimum 2 m separation to groundwater at the base of the detention basins for each stage. Surface Water and Groundwater management plan reviewed by DoW and advice provided to DER about suitability of management principles and preliminary design. Technical specifications requested as an improvement condition in this Works Approval that will be conditioned by the licence.
27/10/2014	Application advertised in West Australian newspaper	Nil comments received.	N/A
30/03/2016	Proponent sent a copy of final draft instrument	Minor changes are proposed to the boundaries of stages 9,10 and 11 to increase the buffer for residence 5 and to manage the impact of dust emissions on residence 4.	A revised Dust Management Plan is required to be submitted in accordance with improvement condition IR1 of the Works Approval. Proposed changes to stage boundaries to manage operational dust impacts will be managed through the licence.



6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High