

**Champions Quarry
Sand Washing Plant
(PA 09_0080 MOD 3)**

Environmental Assessment Report

Section 75W of the *Environmental Planning and Assessment Act 1979*

1. BACKGROUND

Champions Quarry 2 Pty Ltd (Champions) owns and operates Champions Quarry, located off Wyrallah Road about 16 kilometres south of Lismore, within the Lismore local government area (see **Figure 1**). The quarry operates under project approval 09_0080 (PA 09_0080) granted by the Planning Assessment Commission (Commission) on 30 August 2012.

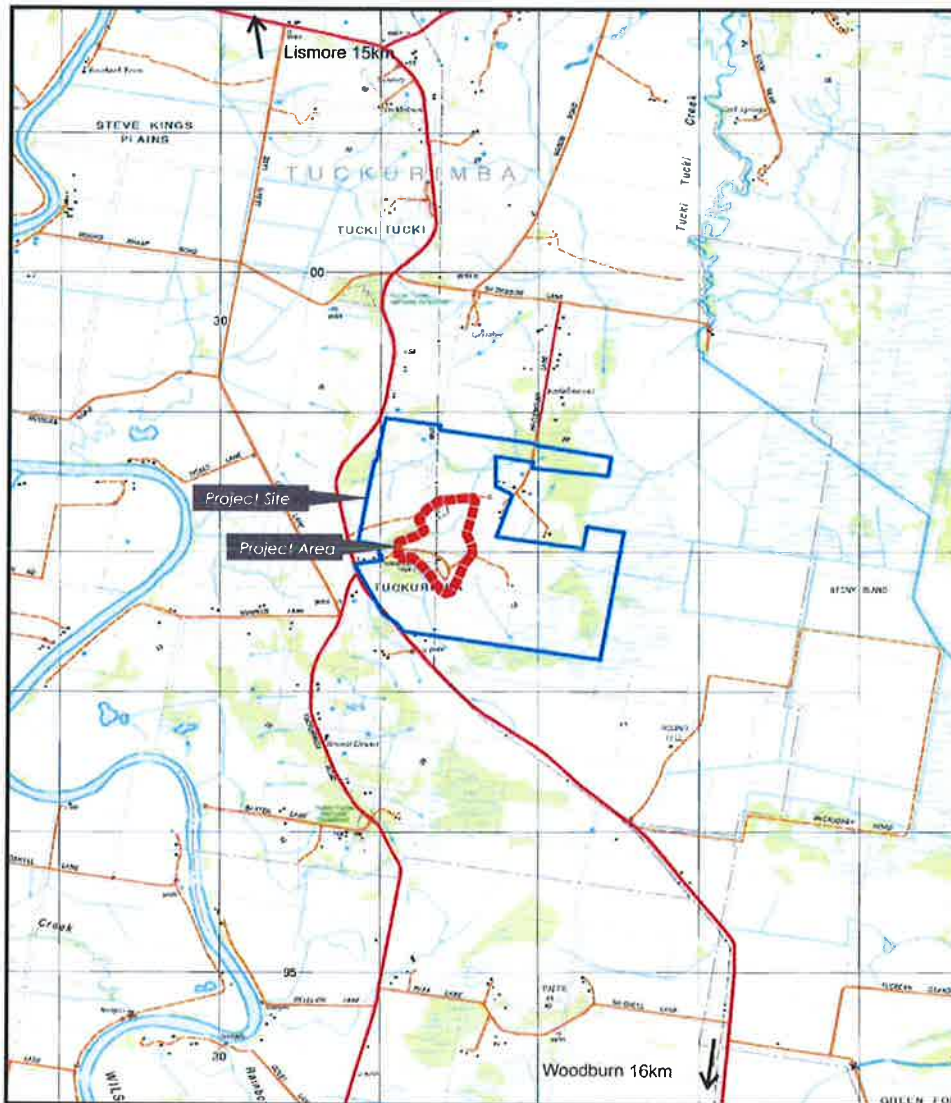


Figure 1: Location of Champions Quarry

Champions Quarry is approved to extract sandstone at a rate of up to 250,000 tonnes per annum for up to 25 years. The project is not approved for blasting but the use of both rock hammer and rock saw are approved. Crushed and screened product is loaded onto trucks for distribution by road. While the installation of a sand washing plant was included in the environmental assessment (EA) for the original application, it was excluded from the application prior to assessment.

Two modifications to PA 09_0080 have been approved. Modification 1 was approved on 29 October 2013 for minor amendments to conditions relating to the use of a weighbridge to provide accurate records of materials transported off-site and the timeframe within which the Biodiversity Offset Areas are to be secured. Modification 2 was approved on 16 September 2016 for the use of scales fitted to front-end loaders instead of a weighbridge to measure product volume, watering of the internal haul road to control dust as opposed to sealing the road, and amendment of the Biodiversity Offset Strategy to clarify the boundaries of the offset areas.

2. PROPOSED MODIFICATION

On 30 May 2017, Champions lodged a modification application under section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The proposed modification (MOD 3) involves:

- removing topsoil and overburden from an approximately 1 hectare area within the approved disturbance boundary;
- installing a mobile sand washing plant capable of processing 80 tonnes per hour;
- increasing the height of Bund E adjacent to the proposed location of the sand washing plant; and
- constructing an additional sedimentation trap for treatment of sediment-laden water until such time as a filter press is installed.

The use of a sand washing plant was described in the EA for the original application. It would receive screened raw materials to produce a higher quality product by separating sand from fine materials. However, the sand washing plant was not ultimately included in the project application in 2012. In this modification application, Champions proposes to install a sand washing plant due to an increase in demand for quality washed sand products. In particular, Champions notes an increase in demand for washed sand for the construction of roads such as the upgrade of the Pacific Highway and the recent decommissioning of Broken Head Quarry's sand washing plant which was a major local supplier of washed sand.

The sand washing plant was originally proposed to be constructed in the quarry's Central Extraction Area, however due to constraints around the site layout, it is now proposed to be constructed in the Southern Extraction Area. Once topsoil and overburden are removed for construction, very little resource would remain in this location thus making it a good alternative location. The proposed location of the sand washing plant, Bund E and the additional sedimentation trap are shown in **Figure 2**. The proposed works would occur within the quarry's overall approved disturbance footprint.

The modification would also use a different model of sand washing plant from that in the original project application. The specifications of the proposed model (Terex Powerscreen Finesmaster 120 BW) indicate a slightly lower processing capacity than the original (80 tonnes per hour versus 90 tonnes per hour) with a similar water reuse rate but lower sound power level (100 dB(A) versus 105 dB(A)).

The noise contribution of the filter press is expected to be minimal as it would utilise an electric motor connected to a hydraulic pack which should generate much less noise than the sand washing plant.

3. STATUTORY CONTEXT

3.1 Section 75W

The Champions Quarry Project was approved under the now repealed Part 3A of the EP&A Act. The project remains a 'transitional Part 3A project' under Schedule 6A of the EP&A Act and the modification must be determined under the former section 75W of the Act.

The modification would not significantly change the overall nature of the development nor the associated environmental impacts. Consequently, the Department is satisfied that the modification is within the scope of section 75W and may be determined accordingly.



Figure 2: Proposed location of sand washing plant and associated infrastructure

3.2 Approval Authority

The Minister for Planning is the approval authority for the proposed modification. However, under the Minister's delegation of 16 February 2015, the Director Resource Assessments may determine the application, as there were no public objections, Lismore City Council did not object to the proposal, and Champions has not declared any reportable political donations.

3.3 Environmental Planning Instruments

A number of environmental planning instruments apply to the modification, including:

- State Environmental Planning Policy (SEPP) (Mining, Petroleum Production and Extractive Industries) 2007;
- SEPP (Infrastructure) 2007;
- SEPP (State and Regional Development) 2011;
- SEPP No. 33 – Hazardous and Offensive Development;

- SEPP No. 55 – Remediation of Land; and
- Lismore Local Environmental Plan 2012.

The Department has assessed the proposed modification against the relevant provisions of these instruments. Based on this assessment, the Department is satisfied that the proposed modification can be carried out in a manner that is consistent with the aims, objectives and provisions of these instruments.

4. CONSULTATION

After accepting the environmental assessment for the proposed modification (EA (MOD 3) - see **Appendix A**), the Department:

- publicly exhibited the EA from 8 until 21 June 2017 on the Department's website and at:
 - NSW Service Centres (electronically online);
 - Lismore City Council's office; and
 - Nature Conservation Council's office;
- advertised the exhibition of the EA in the *Lismore Northern Star*, and
- notified relevant State government agencies and Lismore City Council.

The Department is satisfied that the notification process met the requirements of the EP&A Act and the EP&A Regulation.

Five submissions were received from State government agencies (see **Appendix B**). The Department of Primary Industries, the Department's Division of Resources and Geoscience, the Heritage Council and the Office of Environment and Heritage did not raise any concerns regarding the proposed modification. Furthermore, Lismore City Council did not object to the modification request.

The **Environment Protection Authority** (EPA) noted the potential for surface water impacts due to the proposed modification. However, the storage capacity of the quarry's existing water supply dam (Water Reuse Dam) is greater than that required for the existing disturbance area. Construction of an additional sediment trap, with a capacity of 1 megalitre (ML), and revision of the existing Water Management Plan should sufficiently mitigate potential water quality impacts from the increased disturbance area.

The EPA requested clarification regarding the predicted noise levels and noted potential exceedance of the approved noise criteria. The EPA was satisfied with the response to submissions received from Champions. The EPA recommended a consent condition requiring review of operational noise levels and the implementation of all feasible mitigation measures to ensure that the predicted noise levels are not exceeded.

5. ASSESSMENT

The Department has assessed the merits of the proposed modification in accordance with the relevant objects and requirements of the EP&A Act. In assessing the proposal, the Department has considered the:

- EA for the original project application;
- conditions of approval for the original project application, as amended by MOD 1 and MOD 2;
- modification application and EA (MOD 3);
- EPA's submission and Champions' response to the submission; and
- relevant environmental planning instruments, policies and guidelines.

The Department considers that the proposed modification has the potential to result in impacts related to surface water and noise. The Department's assessment of these impacts is summarised below.

5.1 Surface Water

At present, the quarry's main surface water impact is to water quality due to sediment-laden runoff from disturbed areas. Surface water is treated via a series of seven sedimentation traps (ST 1 to ST 7) and the 40 ML Water Reuse Dam before discharge onto agricultural land to the north west of the Water Reuse Dam (see **Figure 3**).

The proposed sand washing plant would potentially increase the sediment load in surface water due to the generation of reject fine materials as a by-product of the washed sand product. Champions

proposes to mitigate the potential increase in sediment load by constructing an additional 1 ML sedimentation trap (ST 8). ST 8 would receive the reject fine materials from the sand washing plant. The discharge from ST 8 would report to the existing water treatment system.

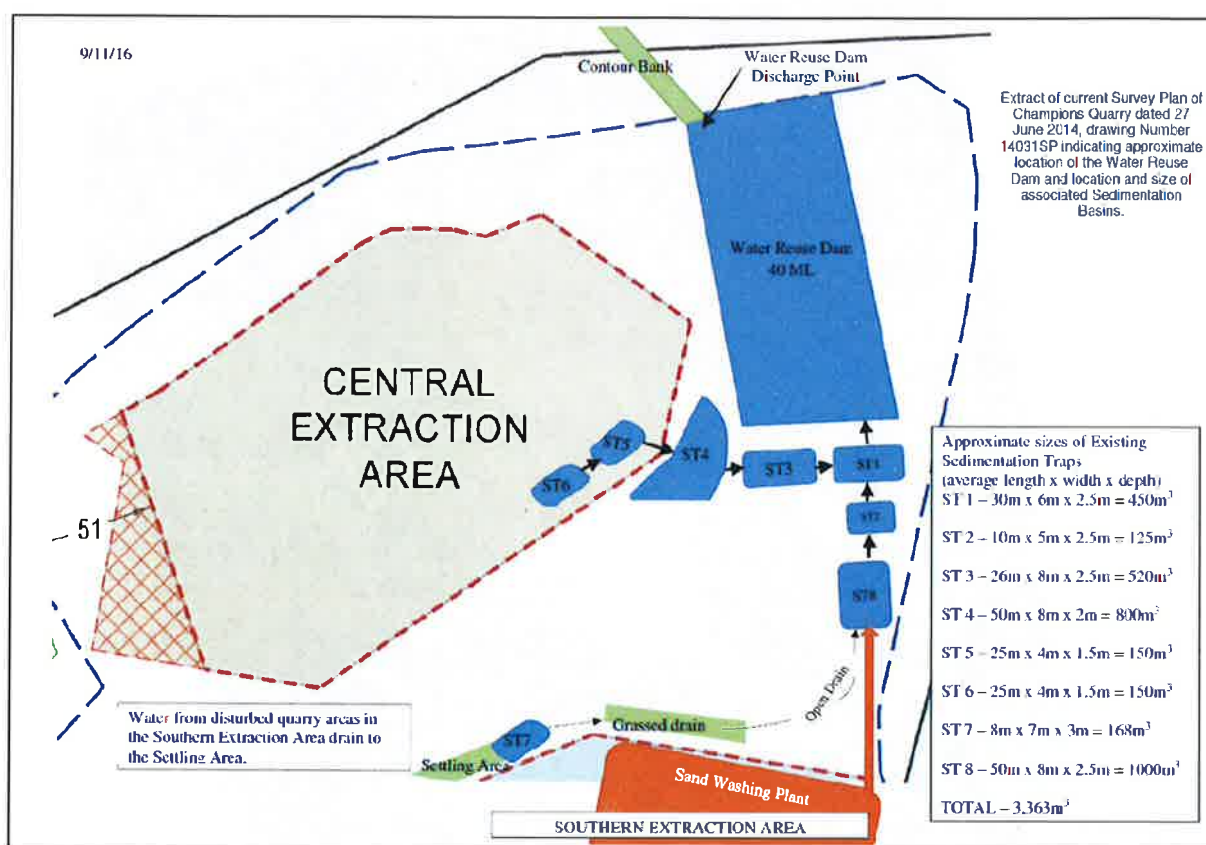


Figure 3: Proposed layout of sand washing plant and water treatment system

In addition, Champions proposes in future to install a filter press to treat the fine materials generated by the sand washing plant. This would improve the overall water recovery of the process and lower the sediment load on the sedimentation traps and Water Reuse Dam.

The EPA expressed the view that the existing Water Reuse Dam provides more than sufficient treatment capacity for the existing disturbance area. This, coupled with revision of the existing Water Management Plan (WMP) to address impacts from the increased disturbance area, would provide sufficient mitigation for potential surface water impacts. The review of management plans, following any modification of the project approval, is an existing condition of approval.

The Department is satisfied that the surface water impacts of the proposed modification would be suitably managed by amendment of the conditions of approval and revision of the WMP to incorporate the proposed mitigation measures.

5.2 Noise

The EA (MOD 3) contains an amended version of the noise assessment which was included in the EA for the original project application. The noise assessment described the predicted noise levels at all neighbouring residences. The revised noise assessment considered the alternative location for the sand washing plant, the alternative sand washing plant model and the proposed changes to Bund E. The sand washing plant and the locations of neighbouring residences (R1, R2, R2A, R3, R4 and R5) are shown in **Figure 4**.

The alternative sand washing plant would have a sound power level 5 dB(A) lower than the originally proposed plant. Champions also propose to relocate Bund E to provide noise shielding towards the north and to increase its height to 6 metres.



Figure 4: Locations of neighbouring receivers

The results of the updated noise assessment demonstrate that the predicted noise levels will exceed the approved noise criteria at R2, R3, R4 and R5 by 1 to 2 dB(A) under noise modelling scenarios G and H (see **Table 1**). Scenario G was described in the original EA as a combination of processing activities (eg crushing, screening and washing) whereas scenario H was described as a future scenario when noise from extraction activities is shielded by the pit walls but with mobile equipment and rock hammering in operation. The results of the updated noise assessment are consistent with those of the original noise assessment where, under worst case scenarios, minor exceedances of 1 to 2 dB(A) were expected.

In dealing with the predicted exceedances in scenario H, noise modelling in the original EA indicated that the impact of rock hammering in isolation (ie no other noise sources) would result in an exceedance of 1 dB(A) at R3. Accordingly, the hours of operation of the rock hammer are specifically limited to Monday to Friday from 9 am to 12 pm and 2 pm to 4 pm as per condition 6 of Schedule 3 of the approval.

Table 1: Predicted noise levels (updated noise assessment)

Receptor	Modelled Scenario in NIA								PSNC ²	PA ³ Criteria
	B	C ¹	D	E	F	G ¹	H	I		
	Modified Daytime Noise Level, LAeq,15min									
R1 north	28	26	30	29	30	31	35	31	40	35
R2 north east	32	35	34	33	34	38	39	36	37	37
R2A north east	Not reported in NIA, however lower noise level than at Receptor R2								37	37
R3 east	32	34	34	33	33	37	39	35	37	37
R4 west	37	33	38	36	36	38	39	37	40	38
R5 south west	Not reported in NIA, however lower noise level than at Receptor R4								40	38

1 Scenario includes the sand washing plant.
2 Project Specific Noise Criteria (PSNC) developed and reported in the NIA for Receptors R1, R2, R3 and R4 and adopted in this assessment for R2A and R5.
3 Noise criteria taken from PA 09_0080 Schedule 3 Condition 5 Table 2.

Other conditions of the project approval detailing noise mitigation measures include the construction and operational noise criteria, hours of operation, construction of bunds, noise monitoring, requirements for a noise management plan and particular operational noise aspects such as operation during adverse weather conditions and the use of blasting.

The existing noise mitigation measures are described in more detail in the Noise Management Plan (NMP). Mitigation measures, not required under the project approval, include the use of "alternative non-noise emitting reversing beepers" for mobile plant equipment, haul truck speed limits and prohibition of the use of compression brakes, placement of stockpiles to screen plant equipment and inclusion of noise management in the induction training for personnel. The NMP also describes the procedures to be followed when undertaking operational noise monitoring. An existing condition of approval requires the NMP to be reviewed following modification of the project approval.

It is recommended that the existing noise impact criteria remain unchanged. Currently all operational noise monitoring is undertaken by Champions, not an independent expert. The Department considers that the noise monitoring results reported by Champions since 2012 do not support a reliable validation of the noise model. It is therefore uncertain whether the quarry would conform with its noise criteria following the introduction of an additional noise source in the form of the sand washing plant. It is recommended that, as a condition of approval, the NMP be amended to include quarterly noise monitoring by a suitably qualified and experienced acoustic specialist until three successive non-exceedances of the noise criteria are recorded and that sound power testing of the quarry's plant and equipment be undertaken annually.

The Department considers that the existing noise mitigation measures, coupled with the amendments to the existing conditions of approval and an updated NMP, would sufficiently mitigate against impacts on neighbours. Accordingly, the Department is satisfied that noise impacts would be managed under the modified conditions.

6. RECOMMENDED CONDITIONS

The Department has drafted a recommended Notice of Modification (see **Appendix D**) and a consolidated version of the project approval as it is proposed to be modified (see **Appendix E**). The Department considers that the environmental impacts of the project would be appropriately managed through the proposed amended conditions of approval.

The Department has also taken the opportunity to make minor corrections and to otherwise update the existing conditions of approval.

Champions has been provided with the recommended conditions and accepts the conditions.

7. CONCLUSION


The Department has assessed the modification application, EA and submissions in accordance with the relevant requirements of the EP&A Act. The Department has carefully considered the likely impacts of the proposal on the natural environment and on nearby residents. The Department is satisfied that the environmental impacts of the proposal can be appropriately managed by existing, modified and/or updated conditions of approval.


The installation of a sand washing plant should enable production of a higher quality product to supply the local market where washed sand is both in demand for construction projects and in limited supply. Therefore, the proposed modification would facilitate the continued supply of construction materials for infrastructure projects within northeastern NSW without significantly increasing the environmental impacts of the operation. The Department is satisfied that the proposed modification is in the public interest and should be approved, subject to conditions.

8. RECOMMENDATION

It is RECOMMENDED that the Director, Resource Assessments, as delegate of the Minister:

- **considers** the findings and recommendations of this report;
- **determines** that the proposed modification falls within the scope of section 75W of the EP&A Act;
- **approves** the proposed modification under section 75W, subject to conditions; and
- **signs** the attached notice of modification.


Colin Phillips
Team Leader
Resource Assessments
09/08/17


9/8/17
Howard Reed
Director
Resource Assessments

APPENDIX A: ENVIRONMENTAL ASSESSMENT

See: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8526

APPENDIX B: SUBMISSIONS

See: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8526

APPENDIX C: RESPONSE TO SUBMISSIONS

See: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8526

APPENDIX D: NOTICE OF MODIFICATION

APPENDIX E: CONSOLIDATED CONSENT
