Appendix 2

Coverage of Relevant Director-General's Requirements and Requirements of Consulted Government Agencies

(Total No. of pages including blank pages = 12)

METROMIX PTY LTD

ENVIRONMENTAL ASSESSMENT

Appendix 2

Teralba Quarry Extensions Report No. 559/12

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Table A2.1 Coverage of Relevant General and Specific Issues Raised by Government Agencies

		Page 1 of 10
Government Agency	Paraphrased Requirement	Relevant EA Section(s)
	GENERAL	
DoP	Need for the project.	1.4.5, 1.4.6
	Alternatives considered.	2.18
	Likely components and staging of the project.	2.6, 2.7, 2.8, 2.12, 2.13.
	Plans of any proposed building works.	2.8.2, 2.13.2
	 A risk analysis of the potential environmental impacts of the project, identifying the key issues for further assessment. 	3.4, 3.5
	 An assessment of the potential impacts, including cumulative impacts, of all stages of the project. 	5.1.2.2, 5.2.7, 5.6.6.3
	 The potential for any future land use conflicts between the proposal and any surrounding land uses. 	5.13
	 A description of the measures that would be implemented to avoid, minimise, mitigate and/or offset the potential impacts of the project. 	Sect 5
	 Detailed contingency plans for managing any significant risks to the environment. 	Sect 5
	 A statement of commitments, outlining all the proposed environmental management and monitoring measures. 	Sect 6
	 A conclusion justifying the project on economic, social and environmental grounds, taking into consideration whether the project is consistent with the objects of the <i>Environmental Planning</i> & <i>Assessment Act</i> 1979. 	Sect 7
I&I NSW	 A commitment to provide annual production data to I&I NSW – Mineral Resources be included in the proponent's Statement of Commitments. 	Sect 6 (16.10)
	RESOURCE AND QUARRY DESIGN	
I&I NSW	Size and quality of the resource.	1.4.4, 2.4
	 The proposal should aim to maximise the extracted resource subject to the requirements of a free draining final landform. 	2.6.5, 2.6.6, 2.16.2
	TRAFFIC	
RTA	 The RTA requires the developer to undertake a Traffic Impact Study to identify likely traffic impacts and subsequent road upgrade requirements. 	5.1
	 Assessment of all relevant vehicular traffic routes and intersections for access to/from the subject area during the construction and operational phases. 	5.1, 5.1.4
	Current traffic counts for all of the traffic routes and intersections.	5.1.2, Figure 5.2
	• The anticipated additional vehicular traffic generated from the proposed development and associated trip distribution on the road network.	Table 5.3, 5.1.4

Table A2.1 (Cont'd) Coverage of General and Specific Issues Raised by Government Agencies

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Government Agency	Paraphrased Requirement	Relevant EA Section(s)
	TRAFFIC (Cont'd)	
RTA (Cont'd)	 Consideration of the traffic impacts on the classified road network to safely and efficiently cater for the additional vehicular traffic generated by the proposed development. 	5.1.4
	 Identify any necessary road network infrastructure upgrades that are required to maintain existing levels of service on both the local and classified road network. 	5.1.3
	 Intersection analysis (such as SIDRA) shall be submitted to determine the need for intersection and road capacity upgrades. 	5.1.4
Lake Macquarie City Council	 Traffic impacts on local roads and infrastructure and methods of mitigating such impacts including monetary contributions, levies or like works to be undertaken by the developer. 	5.1.3
	NOISE AND VIBRATION	
DoP	 Construction noise and vibration, operational noise and vibration and off-site road noise impacts. 	5.6.6
	Blasting.	5.6
DECCW	 Include a noise assessment of the existing environment, potential impacts and proposed noise amelioration measures. 	5.6.2, 5.6.6, 5.6.4
	 Sound power levels measured or estimated for all plant and equipment should be clearly stated and justified. 	Table 6.1 SCSC Part 6
	Include an assessment of cumulative noise impacts.	5.6.6.3
	 Identify the transport route(s) to be used, the hours of operation and quantify the noise impacts. 	Figure 5.2, 2.14, 5.6.6.4
	Include a detailed outline of noise monitoring.	5.6.7
	WATER MANAGEMENT	
DoP	A site water balance.	5.3.3, Figure 5.8
	A detailed description of the proposed water management system.	5.3.3
	 A detailed assessment of the potential surface and groundwater impacts of the project, including any potential impacts to Lake Macquarie. 	5.2.7, 5.3.4
	 Contingency strategies containing measures that would be implemented to avoid, minimise and mitigate any potential impacts of the project. 	5.2.5, 5.3.5

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Government Agency	Paraphrased Requirement	Relevant EA Section(s)
	WATER MANAGEMENT (Cont'd)	
DECCW	The protection of water quality operation of the proposed facility.	5.3.5, 5.2.5
	 The methodology, data and assumptions used to design any pollution control works and assess the potential impact of the proposal on water quality (ground and surface waters). 	5.2.5, 5.3.5
	 Identify any fuel or chemical storage areas to be established on the site and describe the measures proposed to minimise the potential for leakage or the migration of pollutants into the soil/waters or from the site. 	2.9, Figure 2.16
	Include a detailed outline of water quality monitoring.	5.2.7, 5.3.7
Lake Macquarie City Council	 A soil and water management plan addressing all reasonable and practicable control measures to be implemented to minimise pollution – including nutrient and sediment loading. 	5.3.7, 5.2.7
	AIR QUALITY	
DoP	 A quantitative assessment of the potential Scope 1, 2 and 3 greenhouse gas emissions of the project. 	5.7.3.2
	 Assessment of the potential impacts of these emissions on the environment. 	5.7.7.1
	 A detailed description of the proposed measures that would be undertaken during quarry closure. 	2.16
	• A detailed rehabilitation strategy, including justification for the proposed final landform.	2.16, 2.16.2
	 A description of the measures that would be implemented on site to minimise the greenhouse gas emissions of the project. 	5.7.5
DECCW	 Include an Air Quality Impact Assessment that identifies and describes in detail all possible sources of air pollution and activities/processes with the potential to cause or generate air pollutants including odours and fugitive dust emissions beyond the boundary of the development site. 	5.7.2, 5.7.3
	 Include cumulative impacts associated with existing and approved developments. 	5.1.2.2, 5.2.7, 5.6.6.3, 5.7.7.1
	 Demonstrate that the proposal will operate within DECCW's objectives for local, regional and inter-regional air quality. 	5.7.5
	 Describe in detail the measures proposed to mitigate the impacts and quantify the extent to which the mitigation measures are likely to be effective in achieving the relevant environmental outcomes. 	5.7.7
	Include a detailed outline of air quality monitoring.	5.7.8
Lake Macquarie City Council	 Procedures by which dust and sediment will be retained wholly onsite and not blown or trafficked offsite. 	5.7.5

Table A2.1 (Cont'd) Coverage of General and Specific Issues Raised by Government Agencies

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Government Agency	Paraphrased Requirement	Relevant EA Section(s)
	QUARRY CLOSURE AND REHABILITATION	
Lake Macquarie City Council (Cont'd)	 Detailed description of the proposed rehabilitation strategy for the project area (existing and proposed extended pit areas). 	2.16
	 Rehabilitation objectives, methodology, monitoring programs, performance standards and proposed completion criteria. 	2.16.1 2.16.2 2.16.3
	 Nominated final land use, having regard to relevant strategic land use planning or resource management plans or policies. 	2.16.1
	 The potential for integrating the rehabilitation strategy with any other offset strategies in the region. 	5.13.2
	 Consideration of surrounding land uses and any future urban release development areas in the vicinity. 	2.16.1
	ECOLOGY	
DECCW	 Document all the known and likely threatened species, populations and ecological communities on the study area, including their habitats. This should not be restricted to those on the subject site but include such species / populations / communities that may be indirectly impacted upon. 	5.4.3.1, 5.4.4, 5.4.5, 5.4.6, 5.5.3, 5.5.3.4
	 A detailed assessment of the direct and indirect impacts of the proposal. 	5.5.5, 5.4.7
	• Articulate the size of the clearing of vegetation and/or removal / damage to habitat with respect to vegetation / habitat type.	Table 5.11
	 A general baseline flora and fauna survey (including appropriate targeted surveys for threatened species). 	5.4.3.1, 5.4.4, 5.5.2.3, 5.5.3
	• The actions that will be taken to avoid or mitigate impacts on threatened species, their habitats, populations and ecological communities.	5.5.5, 5.4.7
	 Survey procedures and assessment of results should be consistent with those procedures and assessment approaches contained within DECCW publications. 	5.4.3.1, 5.4.4, 5.5.2.3, 5.5.3
	 Recent (less than 5 years old) surveys and assessments may be used (subject to suitability), but surveys greater than five years will not be accepted. 	5.4.3.1, 5.5.2.1
	 Summarise the time invested in each survey technique – particularly targeted surveys. 	5.5.2, 5.4.3.1
	 Personnel details including name of <u>all</u> surveyor(s) and persons who identified records. 	See Parts 4 & 5 of SCSC.

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Government Agency	Paraphrased Requirement	Relevant EA Section(s)
	ECOLOGY (Cont'd)	
DECCW Cont'd	 Species nominated by DECCW should be specifically targeted during surveys. 	
	 Flora (x 9)/Fauna (x 37)/Endangered Ecological Communities (x 2) 	Parts 4 & 5 of SCSC
	 The potential fragmentation of and/or indirect impacts on the various corridor links in which the proposal lies or is within close proximity to. 	5.4.7.3
	 Impacts on regional habitat corridors need to be carefully assessed and documented. 	5.4.7.3
	BIODIVERSITY	
DoP	Accurate predictions of any vegetation clearing on site.	Table 5.12
	 A detailed assessment of the potential impacts of the project on any threatened species or populations or their habitats, endangered ecological communities and groundwater dependent ecosystems. 	5.5.5, 5.4.8, 5.2.2.6
	 A detailed description of the measures to maintain or improve the biodiversity values within the project area in the medium to long term. 	2.17, 2.16.4
DECCW	 Compensatory strategies should be considered incorporating on or offsite proposals that contribute to long term conservation of affected threatened species, populations or ecological communities. 	2.17
	ABORIGINAL CULTURAL HERITAGE	
DoP	Aboriginal heritage.	5.10
	Non-Aboriginal heritage.	5.11
DECCW	 Address and document the information requirements set out in the draft "Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation" (DEC 2005). 	5.10.2.1
	 Include surveys by suitably qualified archaeological consultants in consultation with all of the local Aboriginal knowledge holders. 	5.10.2, 5.10.3
	 Identify the nature and extent of impacts on Aboriginal cultural heritage values across the project area and clearly articulate strategies proposed to avoid/minimise these Impacts. 	5.10.4, 5.10.6
	 Assess and document the archaeological and Aboriginal Significance of any sites identified on the project area with Aboriginal cultural heritage values. 	5.10.5
	 Actions that will be taken to avoid or mitigate impacts of the project on Aboriginal cultural heritage values. 	5.10.6
	 Provide documentary evidence to demonstrate that effective community consultation with Aboriginal communities has been undertaken in assessing impacts, developing protection and mitigation options and making final recommendations. 	See ASR (2011). Part 8 SCSC
	 As assessment of the proposed impacts on Aboriginal cultural heritage values in the context of 'inter-generational equity' and cumulative impact. 	7.2.2.3

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Coverage of General and Specific Issues Raised by Government Agencies

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Government Agency	Paraphrased Requirement	Relevant EA Section(s)	
	PLANNING ISSUES		
Lake Macquarie City Council	Review the current local Environmental Planning Instruments – including the Draft Local Environmental Plan.	3.3.4	
	Review applicability of Council's Development Control Plan No. 1 – Principles of Development.	3.3.4	
I&I NSW	The Teralba Quarry has been identified in advice provided to Lake Macquarie City Council in response to Section 117(2) Direction 1.3.	3.3.2	
	SURROUNDING LAND USES		
Lake Macquarie City Council	 Impacts on neighbouring and near-by land uses and operations as a result of the proposed extensions, including consultation with affected land owners / tenants. 	4.3	
	COAL-RELATED ISSUES		
Mine Subsidence Board	The applicant should seek the approval of the Mine Subsidence Board for any proposed improvements at the appropriate time due to the risk of mine subsidence.	2.3	
I&I NSW	The position of the underground coal working below the Teralba Quarry.	Figure 2.3	
	Recovery of the underlying coal resources should not be compromised. Options for future recovery of the coal, and the timing and extent of coal extraction need to be discussed with the coal lease holder.	5.11.2	
	Copies of exploration data and reports should be provided to I&I NSW.	Provided Separately.	
	The potential of noxious or non-life supporting gases escaping from old coal mine workings – including the effect of barometric changes.	2.5.1	
	The potential for spontaneous combustion of coal.	5.5.1	
	 Water currently contained in the old mine workings has the potential to flow into the proposed quarry workings requiring a risk assessment and management. 	5.2.4	
	Ongoing consultation with Oceanic Coal, the holder of Consolidated Coal Lease 718.	3.2.2.3	
	VISUAL		
DoP	 A detailed description of the measures that would be implemented to minimise the visual impact of the project. 	5.8	
	SOCIO ECONOMIC		
DoP	An assessment of the socio-economic impacts of the project.	5.14	
	The demand on local infrastructure and Services.	5.14	
HAZARDS AND RISKS			
DoP	Bushfire.	5.12	
	Waste.	2.9	
SOILS			
OEH	 Determine whether contaminated soils are likely to be disturbed during the proposed works. 	5.9.6	

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Government Agency	Paraphrased Requirement	Relevant EA Section(s)
	GROUNDWATER	
DoP	The Environmental Assessment of the project must include:	
	detailed modelling and assessment of potential impacts on :	
	 the quality and quantity of existing surface water and groundwater resources; 	5.2.2.2, 5.2.2.1, 5.2.2.4
	 affected licensed water users and basic landholder rights; 	5.2.3, 5.2.2.3
	 the riparian, ecological, geomorphological hydrological values of watercourses: and 	5.3.2
	 a detailed description of measures to mitigate surface water and groundwater impacts. 	5.2.5, 5.3.5
NSW Office	The Environmental Assessment is required to demonstrate the following:	
of Water	 Adequate and secure water supply is available for the life of the project. Confirmation that water supplies for the ongoing operation of the quarry are sourced from an appropriately authorized and reliable supply. 	5.2.7, 5.3.6
	Identification of site water supply demands in terms of both volume and timing (including water sources – groundwater and surface water) for the extension and ongoing operations.	5.3.3, 5.2.3
	Existing and proposed water licensing requirements are in accordance with the Water Act 1912, Water Management Act 2000 and Water Sharing Plan for the Hunter Unregulated and Alluvial Water Source.	2.3
	An assessment of the impact of quarry operations on adjacent licensed water users, basic landholder rights, and groundwater-dependent ecosystems. This is to meet the requirements of the NSW State Groundwater Policy Framework Document (1997) in addition to the Water Act 1912 and Water Management Act 2000.	5.2.2.6, 5.2.2.3, 5.2.4
	An assessment of watercourses that may be impacted and selection of appropriate techniques and mitigation measures to minimise impact. Design and construction of works within 40m of water courses are to be in accordance with "NOW Guidelines for Controlled Activities (August 2010)	5.3.5
	Adequate mitigating and monitoring requirements to address any predicted potential surface and groundwater impacts.	5.2.5
	The assessment is required to take into account the requirements of the following legislation (administered by NOW), as applicable:	2.3
	Water Act 1912	
	Water Management Act 2000 (WMA)	2.3
	If the proposal is within a gazetted WSP area the assessment is required to demonstrate consistency with the rules of the WSP.	5.2.6
	The assessment is required to take into account the following NSW Government policies, as applicable:	Part 2 of SCSC
	NSW Groundwater Policy Framework Document (1997)	
	NSW Groundwater Quantity Management Policy (1998)	Part 2 of SCSC

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Table A2.1 (Cont'd) Coverage of General and Specific Issues Raised by Government Agencies

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Paraphrased Requirement	Relevant EA Section(s)
GROUNDWATER (Cont'd)	
NSW Groundwater Quality Protection Policy (1998)	Part 2 of SCSC
NSW State Groundwater Dependent Ecosystem Policy (2002)	Part 2 of SCSC
 Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) 	Parts 2 & 3 SCSC
 Australian and New Zealand Guidelines for Water Quality Monitoring and Reporting (2000) 	Parts 2 & 3 SCSC
 Guidelines for the Assessment and Management of Groundwater Contamination (2007) 	Part 2 of SCSC
Guidelines for Groundwater Protection in Australia	Part 2 of SCSC
 The NSW Groundwater Dependant Ecosystem Policy provides guidance on the protection and management of GDE and sets out objectives and principles. 	
Identification of potential GDE's within the study area	5.2.2.6
The assessment is required to identify groundwater issues and potential degradation to the groundwater source and provide the following:	
 Details of the predicted highest groundwater table at the development site. 	5.2.4.2
 Details of any works likely to intercept, connect with or infiltrate the groundwater sources. 	5.2.4.3
 Details of any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes. 	5.2.4
 Details of the existent groundwater users within the area (including the environment) and include details of the potential impacts on these users. 	5.2.2.3
Details of how the proposed development will not potentially diminish the current quality of groundwater both in the short and long term.	5.2.4.1
 Details on preventing groundwater pollution so that remediation is not required. 	5.2.5
 Describe the flow directions and rates and the physical and chemical characteristics of the groundwater source. 	5.2.2
 Details of the predicted impacts of any final landform on the groundwater regime. 	5.2.7
 Details of the results of any models or predictive tools used to predict groundwater drawdown, inflows to the site and impacts on affected water sources. 	5.2.4
	RROUNDWATER (Cont'd) NSW Groundwater Quality Protection Policy (1998) NSW State Groundwater Dependent Ecosystem Policy (2002) Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) Australian and New Zealand Guidelines for Water Quality Monitoring and Reporting (2000) Guidelines for the Assessment and Management of Groundwater Contamination (2007) Guidelines for Groundwater Protection in Australia The NSW Groundwater Dependant Ecosystem Policy provides guidance on the protection and management of GDE and sets out objectives and principles. Identification of potential GDE's within the study area The assessment is required to identify groundwater issues and potential degradation to the groundwater source and provide the following: Details of the predicted highest groundwater table at the development site. Details of any works likely to intercept, connect with or infiltrate the groundwater sources. Details of any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes. Details of the existent groundwater users within the area (including the environment) and include details of the potential impacts on these users. Details of how the proposed development will not potentially diminish the current quality of groundwater both in the short and long term. Details on preventing groundwater pollution so that remediation is not required. Describe the flow directions and rates and the physical and chemical characteristics of the groundwater source. Details of the results of any models or predictive tools used to predict groundwater regime.

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Government Agency	Paraphrased Requirement	Relevant EA Section(s)
	SURFACE WATER	
DoP	The Environmental Assessment of the project must include:	
	detailed modelling and assessment of potential impacts on :	
	 the quality and quantity of existing surface water and groundwater resources; 	5.3.2, 5.2.2.1, 5.2.2.2
	affected licensed water users and basic landholder rights;	5.2.2.3
	the riparian, ecological, geomorphological hydrological values of watercourses: and	5.3.2
	a detailed description of measures to mitigate surface water and groundwater impacts.	5.2.5
NSW Office	The Environmental Assessment is required to demonstrate the following:	
of Water	 Adequate and secure water supply is available for the life of the project. Confirmation that water supplies for the ongoing operation of the quarry are sourced from an appropriately authorized and reliable supply. 	5.3.3
	 Identification of site water supply demands in terms of both volume and timing (including water sources – groundwater and surface water) for the extension and ongoing operations. 	5.3.3
	Existing and proposed water licensing requirements are in accordance with the Water Act 1912, Water Management Act 2000 and Water Sharing Plan for the Hunter Unregulated and Alluvial Water Source.	5.2.3.2
	 An assessment of the impact of quarry operations on adjacent licensed water users, basic landholder rights, and groundwater-dependent ecosystems. This is to meet the requirements of the NSW State Groundwater Policy Framework Document (1997) in addition to the Water Act 1912 and Water Management Act 2000. 	5.2.7
	 An assessment of watercourses that may be impacted and selection of appropriate techniques and mitigation measures to minimise impact. Design and construction of works within 40m of water courses are to be in accordance with "NOW Guidelines for Controlled Activities (August 2010) 	5.3.5
	 Adequate mitigating and monitoring requirements to address any predicted potential surface and groundwater impacts. 	5.3.7, 5.2.7
	The assessment is required to take into account the requirements of the following legislation (administered by NOW), as applicable:	2.3
	Water Act 1912	
	Water Management Act 2000 (WMA)	
	 If the proposal is within a gazetted WSP area the assessment is required to demonstrate consistency with the rules of the WSP. 	2.3
	The assessment is required to consider the impact of the proposal on the watercourses and associated riparian vegetation within the site and to provide the following	5.3.2
	Identify the sources of surface water	
	Details of stream order (using the Strahler System)	5.3.2
	Details of any proposed surface water extraction, including	5.3.2

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Table A2.1 (Cont'd) Coverage of General and Specific Issues Raised by Government Agencies

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Government		Relevant EA		
Agency	Paraphrased Requirement	Section(s)		
	SURFACE WATER (Cont'd)			
NSW Office of Water (Cont'd)	 Purpose, location and construction details of all dams, diversions, cuttings, levees and expected annual extractions volumes. 	2.13.3, 5.3.3		
	 Description of any proposed development or diversion works including all construction, clearing, draining, excavation and filling and an evaluation of the methods of such works. 	5.3.5		
	 Description of all potential environmental impacts of any proposed development in terms of vegetation, sediment movement, water quality and hydraulic regime. 	5.3.4		
	 Description of the design features and measures to be incorporated into any proposed development to guard against long term actual and potential environmental disturbances, particularly in respect of maintaining the natural hydrological regime and sediment movement patterns and the identification of riparian buffers. 	5.3.5		
	 Details of the impact on water quality and remedial measures proposed to address any possible adverse effects. 	5.3.4		
	 Any stormwater management plan for the site must ensure that the development does not significantly alter environmental flows and inundation patterns in the watercourse 	5.3.5		
	If the proposal includes existing or proposed water management structures, the assessment should provide information on the following.			
	Date of construction (for existing structures)	Part 3 of SCSC		
	Details of the legal status/approval for existing structures	Sect 5		
	Details of any proposal to change the purpose of existing structures.	5.3.5		
	 Details if any remedial work is required to maintain the integrity of the existing structures. 	5.3.5		
	Clarification if the structures are on a watercourse.	5.3.2, 5.3.3		
	 Details of the purpose, location and design specifications for the structures. 	5.3.5		
	Size and storage capacity of the structures.	5.3.3		
	 Calculation of the maximum harvestable right dam capacity (MHRDC) for the site. 	5.3.3		