

# Appendix 2

## Coverage of SEARs

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**Table A2-1  
Secretary's Environmental Assessment Requirements  
(Planning and Environment – 6 May 2016)**

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Paraphrased Requirement	Relevant EIS Section(s)
<b>GENERAL</b>	
<p>The EIS must include:</p> <ul style="list-style-type: none"> <li>• a full description of the development, including: <ul style="list-style-type: none"> <li>– the resource to be extracted, demonstrating efficient resource recovery within environmental constraints;</li> <li>– the mine layout and scheduling;</li> <li>– minerals processing;</li> <li>– surface infrastructure and facilities (including any infrastructure that would be required for the development, but the subject of a separate approvals process);</li> <li>– a waste (overburden, tailings, etc.) management strategy;</li> <li>– a water management strategy, having regard to the EPA's and DPI's requirements and recommendations (see Attachment 2);</li> <li>– a rehabilitation strategy, having regard to DPI's requirements (see Attachment 2); and</li> <li>– the likely interactions between the development and any other existing, approved or proposed mining related development in the vicinity of the site;</li> </ul> </li> </ul>	<p>2.3.2 2.3.4, 2.3.5 2.5 2.2.4 2.4, 2.6 2.8 2.13 1.5.3.4, 5.3.3.6</p>
<ul style="list-style-type: none"> <li>• a list of any approvals that must be obtained before the development may commence;</li> </ul>	<p>3.3</p>
<ul style="list-style-type: none"> <li>• an assessment of the likely impacts of the development on the environment, focusing on the specific issues identified below, including: <ul style="list-style-type: none"> <li>– a description of the existing environment likely to be affected by the development, using sufficient baseline data;</li> <li>– an assessment of the likely impacts of all stages of the development, including any cumulative impacts, taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice;</li> <li>– a description of the measures that would be implemented to mitigate and/or offset the likely impacts of the development, and an assessment of: <ul style="list-style-type: none"> <li>○ whether these measures are consistent with industry best practice, and represent the full range of reasonable and feasible mitigation measures that could be implemented;</li> <li>○ the likely effectiveness of these measures, including performance measures where relevant; and</li> <li>○ whether contingency plans would be necessary to manage any residual risks;</li> </ul> </li> <li>– a description of the measures that would be implemented to monitor and report on the environmental performance of the development if it is approved;</li> </ul> </li> </ul>	<p>Throughout Section 4 Throughout Section 4 Throughout Section 4 Throughout Section 4</p>
<ul style="list-style-type: none"> <li>• a consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EIS;</li> </ul>	<p>Appendix 3</p>
<ul style="list-style-type: none"> <li>• consideration of the development against all relevant environmental planning instruments (including Part 3 of the <i>State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007</i>); and</li> </ul>	<p>3.3</p>
<ul style="list-style-type: none"> <li>• the reasons why the development should be approved, having regard to environmental, economic and social considerations, including the principles of ecologically sustainable development.</li> </ul>	<p>5.3</p>

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Secretary's Environmental Assessment Requirements  
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Paraphrased Requirement	Relevant EIS Section(s)
<b>NOISE AND BLASTING</b>	
Including:	
<ul style="list-style-type: none"> <li>an assessment of the likely operational noise impacts of the development (including construction noise) under the <i>NSW Industrial Noise Policy</i> (as may be updated or replaced), paying particular attention to the obligations in chapters 8 and 9 of the policy, and the <i>Voluntary Land Acquisition and Mitigation Policy</i> (DP&amp;E);</li> </ul>	4.4
<ul style="list-style-type: none"> <li>if a claim is made for specific construction noise criteria for certain activities, then this claim must be justified and accompanied by an assessment of the likely construction noise impacts of these activities under the <i>Interim Construction Noise Guideline</i>;</li> </ul>	NA
<ul style="list-style-type: none"> <li>an assessment of the likely road noise impacts of the development under the <i>NSW Road Noise Policy</i>; and</li> </ul>	4.4.7
<ul style="list-style-type: none"> <li>an assessment of the likely blasting impacts of the development on people, animals, buildings and infrastructure, and significant natural features, having regard to the relevant ANZECC guidelines.</li> </ul>	4.4.7
<b>AIR QUALITY</b>	
Including:	
<ul style="list-style-type: none"> <li>an assessment of the likely air quality impacts of the development in accordance with the <i>Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW</i>, having regard to EPA's requirements (see Attachment 2); and</li> </ul>	4.2
<ul style="list-style-type: none"> <li>an assessment of the likely greenhouse gas impacts of the development.</li> </ul>	4.2
<b>HUMAN HEALTH</b>	
Including:	
<ul style="list-style-type: none"> <li>a Human Health Risk Assessment addressing how the project's environmental impacts in relation to air quality (including heavy metals) and noise may impact on the health of the local community, having regard to NSW Health's requirements and commensurate with the likely level of risk (see Attachment 2); and</li> </ul>	4.3
<ul style="list-style-type: none"> <li>monitoring and management measures to reduce risk to human health.</li> </ul>	4.3
<b>TRANSPORT</b>	
Including:	
An assessment of the likely transport impacts of the development on the capacity, condition, safety and efficiency of the local and State road network, having regard to Broken Hill City Council's and RMS's requirements (see Attachment 2).	4.5
<b>LAND</b>	
Including:	
<ul style="list-style-type: none"> <li>an assessment of the likely impacts of the development on the soils and land capability of the site and surrounds;</li> </ul>	4.13
<ul style="list-style-type: none"> <li>an assessment of the likely impact of the development on landforms (topography), including the long term geotechnical stability of any new landforms on site; and</li> </ul>	NA
<ul style="list-style-type: none"> <li>an assessment of the compatibility of the development with other land uses in the vicinity of the development in accordance with the requirements of Clause 12 of <i>State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007</i>.</li> </ul>	Table 3.1

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Secretary's Environmental Assessment Requirements  
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Paraphrased Requirement	Relevant EIS Section(s)
<b>WATER</b>	
Including: <ul style="list-style-type: none"> <li>• an assessment of the likely impacts of the development on the quantity and quality of the region's surface and groundwater resources, having regard to the EPA's, DPI's and OEH's requirements and recommendations (see Attachment 2); and</li> </ul>	4.7,4.8
<ul style="list-style-type: none"> <li>• an assessment of the likely impacts of the development on aquifers, watercourses, riparian land, water-related infrastructure, and other water users.</li> </ul>	4.7, 4.8
<b>HERITAGE</b>	
Including: An assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development, having regard to OEH's requirements (including the Heritage Division) (see Attachment 2).	4.6, 4.10
<b>BIODIVERSITY</b>	
including: <ul style="list-style-type: none"> <li>• an assessment of the likely biodiversity impacts of the development, in accordance with the Framework for Biodiversity Assessment, and having regard to OEH's requirements and recommendations (see Attachment 2); and</li> </ul>	4.9
<ul style="list-style-type: none"> <li>• a strategy to offset any residual impacts of the development in accordance with the <i>NSW Biodiversity Offsets Policy</i> for Major Projects.</li> </ul>	NA
<b>VISUAL</b>	
Including: An assessment of the likely visual impacts of the development on private landowners in the vicinity of the development and key vantage points in the public domain, paying particular attention to the creation of any new landforms and minimising the lighting impacts of the development.	4.11
<b>HAZARDS</b>	
Including: An assessment of the likely risks to public safety, paying particular attention to potential subsidence risks, bushfire risks, and the handling and use of any dangerous goods.	4.12
<b>SOCIAL &amp; ECONOMIC</b>	
Including: <ul style="list-style-type: none"> <li>• an assessment of the likely social impacts of the development; and</li> </ul>	4.15
<ul style="list-style-type: none"> <li>• an assessment of the likely economic impacts of the development, paying particular attention to the:                             <ul style="list-style-type: none"> <li>– significance of the resource;</li> <li>– economic benefits of the project for the State and region; and</li> <li>– demand for the provision of local infrastructure and services.</li> </ul> </li> </ul>	4.15.6
<b>CONSULTATION</b>	
During the preparation of the EIS, you must consult with relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. The EIS must describe the consultation that was carried out, identify the issues raised during this consultation, and explain how these issues have been addressed in the EIS.	3.2

**Table A2-2  
Coverage of Environmental Issues**

Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>GENERAL</b>		
DPI 23/03/16	<p>The EIS must include, detailed description(s) and plan(s) of the existing and proposed development in regards to and impacts on the following:</p> <p><b>Site Description and Project Justification</b></p> <p>Land tenure and existing mineral titles;</p> <p>Land development history;</p> <p>Need for and objectives of the project;</p> <p>Consideration of project alternatives, and consideration of consequences of not carrying out the project;</p> <p>Likely staging of the project, including construction, operational stage(s) and rehabilitation, together with an indicative mining schedule;</p> <p>Likely interactions between the project and (a) any approved mining operations, and (b) other approved developments / projects at the site, including detailed assessments of any required modifications to the approvals for these operations or developments; and</p> <p>Access routes.</p> <p><b>Summary of Management, Mitigation, Monitoring and Reporting Measures</b></p> <p>Environmental management and mitigation measures, inclusive of groundwater, surface water, biodiversity and offset, Aboriginal and non-Aboriginal heritage, air quality, noise and vibration, road transport, rehabilitation and mine closure;</p> <p>Environmental monitoring measures (inclusive of meteorology, groundwater, surface water, biodiversity, rehabilitation, air quality, noise and vibration), highlighting commitments included in the EIS; and</p> <p>Reporting requirements, inclusive of annual reviews and reports, any necessary independent environmental audit(s), and other reporting.</p>	<p>1.4.1, 4.1.4</p> <p>1.5</p> <p>1.4.3</p> <p>2.14</p> <p>2.3.5</p> <p>1.5.3.4</p> <p>2.7.3</p> <p>Throughout Section 4</p> <p>Throughout Section 4</p> <p>Conditional Requirement – Agency dependent</p>
DRE 17/03/16	<p><b>LIFE OF MINE PRODUCTION SCHEDULE</b></p> <p>The proponent must supply a life of mine production schedule for each year of operation of the mine and for the life of the project. The production schedule is to include:</p> <p>details of run-of-mine ore and waste rock tonnage planned to be extracted for each year and for the life of the project, and an estimate of the saleable product produced for each year and the life of the project;</p> <p>in terms of text, plans or charts, an EIS must clearly show the proposed extent and sequence of the development; and</p> <p>an estimate of which market segment that product tonnes would be sold into e.g. export or domestic mineral product.</p>	<p>2.3.5</p> <p>2.3.5 and Figure 2.6</p> <p>1.4.3.1</p>

Table A2-2 (Cont'd)  
Coverage of Environmental Issues

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Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>GENERAL (Cont'd)</b>		
DRE 17/03/16 (Cont'd)	<b>ADDITIONAL RESOURCE REQUIREMENTS</b>	Figure 2.6  Figure 2.6  2.4
	To ensure that the Broken Hill North Mine project does not prevent or sterilise future mining proposals, the proponent will need to:  demonstrate that the resource is not being selectively mined in such a fashion as to significantly reduce the value/possibility of mining the remaining resource. This includes:	
	show by way of plans, sections and block models showing the impact on the resource blocks to be mined vs the overall resource already identified; and	
	demonstrate that any final dump/s will not sterilise the remaining resources.	
DRE 16/05/16	<b>PROJECT DESCRIPTION</b>  To ensure that a project and its environmental interactions can be understood and assessed by the Division, an EIS should provide a comprehensive description of all aspects (including the mineral extraction and mining purposes) of the project. In terms of text, plans or charts, it must also clearly show the proposed extent and sequence of the development.	Throughout Section 2
	<b>GEOLOGY</b>  The EIS is to include a brief description of the geological setting of the deposit. Of importance is a description of the geology and mineralisation of the deposit itself.	2.3.1
	Supporting information including plans and cross-sections need to show the extent of the mineralised zones to be mined and those located adjacent/beneath planned mining voids which may be sterilised by planned activities. Where this may impact on resource utilisation and planned final voids, information such as grade and width/tonnes needs to be included.	Figures 2.4, 2.5 and 2.6
	<b>RESOURCE AND RESERVE STATEMENT</b>  The proponent is to providing information on the resource and reserves available within the project area, including the method of calculating the tonnages reported.	2.3.2
	<b>DESCRIPTION OF EXISTING ENVIRONMENT, IDENTIFICATION OF IMPACTS AND CONSTRAINTS</b>  All areas affected by the proposal should be shown in the context of the natural and built environments. This should be in sufficient detail to enable an understanding of the scale of impacts and gauge the effectiveness of proposed control measures.	Throughout Section 4

**Table A2-2 (Cont'd)  
Coverage of Environmental Issues**

Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>GENERAL (Cont'd)</b>		
DRE 16/05/16 (Cont'd)	<p><b>DESCRIPTION OF EXISTING ENVIRONMENT, IDENTIFICATION OF IMPACTS AND CONSTRAINTS (Cont'd)</b></p> <p>The EIS should state the interaction between the proposed mining activities and the existing environment and so include a comprehensive description of the following activities and their impacts:</p> <p>mine layout and scheduling, including maximising opportunities for progressive final rehabilitation. The final rehabilitation schedule should be mapped against key production milestones (i .e. ROM tonnes) of the mine layout sequence before being translated to indicative timeframes throughout the mine life. The mine plan should maximise opportunities for</p> <p>progressive rehabilitation;</p> <p>mineral processing and handling, disposal management activities;</p> <p>infrastructure facilities and storage requirements;</p> <p>surface and groundwater usage and management; and</p> <p>mine closure including rehabilitation and decommissioning activities.</p> <p>Impacts associated with the operational and post closure stages of the project must also be identified in detail and control management strategies outlined. The identification and description of impacts must draw out those aspects of the site that may present barriers or limitations to effective rehabilitation and which may limit the mine closure potential of the land. The following are the key issues to be addressed in the EIS that are likely to have a bearing on rehabilitation and mine closure.</p> <p>an evaluation of current rehabilitation techniques and performance against existing rehabilitation objectives and completion criteria;</p> <p>an assessment and life of mine management strategy of the potential for geochemical constraints to rehabilitation (e.g. acid rock drainage), particularly associated with the management of reject material. Based on this assessment, the EIS is to document the processes that will be implemented throughout the mine life to identify and appropriately manage geochemical risks that may affect the ability to achieve sustainable rehabilitation outcomes;</p>	<p>Throughout Section 4</p> <p>2.3</p> <p>2.13</p> <p>2.5</p> <p>2.2</p> <p>2.8</p> <p>2.13</p> <p>MOP to be prepared</p> <p>MOP to be prepared</p>





**Table A2-2 (Cont'd)  
Coverage of Environmental Issues**

Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>GENERAL (Cont'd)</b>		
DRE 16/05/16 (Cont'd)	<b>Monitoring and Research:</b> Outline the proposed monitoring programs that will be implemented to assess how rehabilitation is trending towards the nominated land use objectives and completion criteria. This should include details of the process for triggering intervention and adaptive management measures to address potential adverse results as well as continuously improve rehabilitation practices.	MOP to be prepared
	In addition, an outline of proposed rehabilitation research programs and trials, including objectives, are to be included in the EIS. This should include details of how the outcomes of research are considered as part of the ongoing review and improvement of rehabilitation practices.	MOP to be prepared
	<b>Post-closure maintenance:</b> Describe how post-rehabilitation areas will be actively managed and maintained in accordance with the intended land use(s) in order to demonstrate progress towards meeting the closure objectives and completion criteria in a timely manner.	MOP to be prepared
EPA 20/04/16	The EA should describe mitigation and management options that will be used to prevent, control, abate or mitigate identified potential environmental impacts associated with the project and to reduce risks to human health and prevent the degradation of the environment.	Throughout Section 4
	This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.	Throughout Section 4
<b>NOISE AND BLASTING</b>		
EPA 20/04/16	<b>Potential impacts of noise</b> We expect that all potential noise sources are assessed in accordance with the "NSW Industrial Noise Policy" (EPA, 2000), and where required mitigation measures are proposed (eg appropriate equipment chosen to minimise noise levels). The times of operation for all phases of the development and for all ongoing noise generating activities must be specified and included in the assessment and all residential or noise sensitive premises likely to be impacted by the development must be identified and included in the assessment. The EPA requires the inclusion 'of the property known as "Slabalong", occupied by Mr John Staker, as a receptor in the noise impact assessment.	4.4
	The proposed development will result in increased traffic movements. The potential noise impacts associated with any traffic increases need to be assessed in accordance with the "NSW Road Noise Policy" (EPA, 2011).	4.4.4.4
	<b>Blast overpressure and ground vibration</b>	
	An assessment of potential overpressure and blasting impacts on those receptors must be undertaken and where necessary mitigation measures to achieve the 2 millimetres per second vibration impact (peak particle velocity) must be proposed, along with appropriate monitoring of overpressure and vibration impacts from blasting for the life of the mining operations.	4.4.7.5

**Table A2-2 (Cont'd)  
Coverage of Environmental Issues**

Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>AIR QUALITY</b>		
EPA 20/04/16 (Cont'd)	<p><b>Potential impacts on air quality</b></p> <p>The EA must document an emissions inventory that identifies all potential air pollutants at their source and discharge point. A map detailing the location of all plant and activities must be included that also identifies surrounding potentially affected receptors.</p> <p>Details need to be provided on the proposed measures to manage particulates and dust from all sources and in particular from road construction, blasting, crushing and vehicle movements. Measures to prevent or control the emission of particulates and dust from these activities on sensitive receptors must be detailed.</p> <p>For a proposal of this scope and in the existing location we would expect a cumulative assessment of particulates and dust to be undertaken in accordance with our guideline the 'Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales' (EPA, 2005). The assessment must identify all sensitive receptors in proximity to the proposed development and include air quality modelling, in conjunction with analyses of local meteorologic and terrain data in order to make informed decisions about design and management options for the proposed development.</p> <p>Emissions from any plant must meet the design criteria detailed in the <i>Protection of the Environment Operations (Clean Air) Regulation 2010</i>. Details need to be provided on the proposed air pollution control techniques from any air emission points, including proposed measures to manage and monitor efficiency and performance.</p>	SCSC Part 1  4.2.5  4.2  NA
<b>HUMAN HEALTH</b>		
DEPT OF HEALTH 04/05/16	Given the historic link between mining activities in Broken Hill and elevated blood lead levels in the community, particularly among the 0-5 year age group, it would be important to do a Health Risk Assessment (HRA). The HRA should use the risk assessment model in "Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards", (enHealth, 2012). The HRA should focus on (but not be limited to) the increased risk of exposure to lead by the community from increased mine activity on the site, particularly the crushing, stockpiling and haulage of ore.	4.3
<b>TRANSPORT</b>		
BHCC 26/04/16	Intersection of Gypsum Street and South Road - This intersection is part of the RMS State Highway network and a regional road. The intersection infrastructure has sustained damage from the current travel of B-doubles from Potosi including the rutting and breaking up of bitumen causing a hazard to motorists. It has been recommended to RMS to upgrade the intersection to make the intersection suitable for constant travel of heavy vehicles. The route proposed to be used in the Preliminary Environmental Assessment would require infrastructure upgrades, of which it is suggested that costs would need to be borne by the Mining company or RMS (with it being State assets).	4.5.3

**Table A2-2 (Cont'd)  
Coverage of Environmental Issues**

Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>TRANSPORT (Cont'd)</b>		
DEPT. OF TRANSPORT 21/03/16	A traffic impact study prepared in accordance with the methodology set out in Section 2 of the RTA's Guide to Traffic Generating Developments 2002 and including:	4.5
	For the construction, operation and decommissioning of the project; road transport volumes and vehicle types broken down into: origin and destination travel routes peak hours	4.5.3 and SCSC Part 4
	The study is to provide details of projected transport operations including: traffic volumes. tonnage and vehicle types used for transport. physical constraints on the haulage route. measures to be put in place to ensure a high level of safety for all road users interacting with mine related traffic.	4.5.3 and SCSC Part 4
	Traffic volumes are to include mine-input related traffic generation (e.g. fuel deliveries, maintenance, services) and impacts of mine related traffic generation on public roads.	4.5.3
	An assessment of the cumulative impacts of mine traffic during construction and operation of the project. Particular consideration must be given to the cumulative impacts of project related heavy vehicle traffic with the existing heavy vehicle traffic on the haulage route, including heavy vehicle traffic generated by existing mining operations (actual and approved) and other background traffic. One of the impacts that must be assessed is the potential for and likelihood of conflict at intersections not capable of accommodating simultaneous heavy vehicle through and/or turning movements.	4.5.5
	Any over size and over mass vehicles and loads expected for the construction, operation and decommissioning of the project. The shortest and least trafficked route should be given priority for the movement of construction materials and machinery to minimise the risk and impact to other motorists so far as is reasonably practicable.	2.7.4
	Temporary and permanent staff numbers (including employees and contractors) and staff parking arrangements during construction, operation and decommissioning of the project.	2.2.4, 2.12.1
	The measures to be employed to ensure traffic efficiency and safety on the public road network during construction, operation and decommissioning of the project.	4.5.4
	Proposed road improvements or traffic management measures to mitigate expected traffic generation and increased risks to road safety.	4.5.4
	Access locations and treatments need to be identified and in accordance with <i>Austrroads Guide to Road Design</i> and Roads and Maritime supplements, including safe intersection sight distance.	4.5.4
Details of required infrastructure works to support any increased demand on the road network as a result of the project.	4.5.4 and SCSC Part 4	

**Table A2-2 (Cont'd)  
Coverage of Environmental Issues**

Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>LAND</b>		
DPI 23/03/16	<b>Land Resources</b>	
	Soils and land capability (including erosion and land contamination);	4.13
	Landforms and topography, including rock formations, steep slopes etc.;	4.1.2
	Land use, including agricultural, forestry, conservation and recreational use; and	4.1.4.2
EPA 20/04/16	<b>Potential Impacts on Land</b> The EA must describe the proposed location in terms of soil types and properties and soil contamination. Any likely impacts resulting from the construction or operation of the proposal must be identified, including the likelihood of the following:	
	Disturbing any existing contaminated soil;	4.13
	Contamination of soil by operation of the activity;	4.13
	Subsidence or instability;	NA
	Soil erosion; and	4.7
	Disturbing acid sulfate soils or potential generation of acid sulfate or related acid mine drainage from waste rock disposal.	2.4.2
	The goals of the project should include the following; No pollution of land, except to the extent authorised by the EPA (i.e. in accordance with an Environment Protection Licence);	3.3.4
	Any potentially contaminated sites that are encountered or disturbed are appropriately managed and rehabilitated;	3.3.4
	The potential impact of land erosion from the development is mitigated; and	4.7
	The land impacted by waste disposal is appropriately monitored and managed in accordance with relevant EPA guidelines.	Noted
<b>WATER</b>		
DPI 23/03/16	It is recommended that the EIS be required to include:	
	Annual volumes of surface water and groundwater proposed to be taken by the activity (including through inflow and seepage) from each surface and groundwater source as defined by the relevant water sharing plan.	2.8.3 and 2.8.4
	Assessment of any volumetric water licensing requirements (including those for ongoing water take following completion of the project).	2.8.4

**Table A2-2 (Cont'd)  
Coverage of Environmental Issues**

Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>WATER (Cont'd)</b>		
DPI 23/03/16 (Cont'd)	The identification of an adequate and secure water supply for the life of the project. Confirmation that water can be sourced from an appropriately authorised and reliable supply. This is to include an assessment of the current market depth where water entitlement is required to be purchased.	2.8
	A detailed and consolidated site water balance.	2.8.5
	A detailed assessment against the NSW Aquifer Interference Policy (2012) using DPI Water's assessment framework.	4.8.4
	Assessment of impacts on surface and ground water sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts.	4.7.5, 4.8.4
	Full technical details and data of all surface and groundwater modelling, and an independent peer review.	NA
	Proposed surface and groundwater monitoring activities and methodologies.	4.8.5
	Proposed management and disposal of produced or incidental water.	2.8.3, 2.8.4
	Details of the final landform of the site, including final void management (where relevant) and rehabilitation measures.	MOP to be prepared
	Assessment of any potential cumulative impacts on water resources, and any proposed options to manage the cumulative impacts.	4.7.5, 4.8.4
	Consideration of relevant policies and guidelines.	Throughout Section 3
	The EIS should take into account the objects and regulatory requirements of the <i>Water Act 1912</i> (WA 1912) and <i>Water Management Act 2000</i> (WMA 2000), and associated regulations and instruments, as applicable.	2.8, 4.7, 4.8
	The EIS is required to: Demonstrate how the proposal is consistent with the relevant rules of the Water Sharing Plan including rules for access licences, distance restrictions for water supply works and rules for the management of local impacts in respect of surface water and groundwater sources, ecosystem protection (including groundwater dependent ecosystems), water quality and surface-groundwater connectivity.	2.8.4.2
	Provide a description of any site water use (amount of water to be taken from each water source) and management including all sediment dams, clear water diversion structures with detail on the location, design specifications and storage capacities for all the existing and proposed water management structures.	2.8.3, 2.8.4



**Table A2-2 (Cont'd)**  
**Coverage of Environmental Issues**

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Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>WATER (Cont'd)</b>		
DPI 23/03/16 (Cont'd)	Provide an analysis of the proposed water supply arrangements against the rules for access licences and other applicable requirements of any relevant WSP.	2.8.4.2, Table 4.29
	<b>Licensing Considerations</b> The EIS is required to provide:  Identification of water requirements for the life of the project in terms of both volume and timing (including predictions of potential ongoing groundwater take following the cessation of operations at the site – such as evaporative loss from open voids or inflows).	2.8.5
	Details of the water supply source(s) for the proposal including any proposed surface water and groundwater extraction from each water source as defined in the relevant Water Sharing Plan/s and all water supply works to take water.	2.8
	Explanation of how the required water entitlements will be obtained (i.e. through a new or existing licence/s, trading on the water market, controlled allocations etc.).	2.8.4.2, 2.8.5.1
	Information on the purpose, location, construction and expected annual extraction volumes including details on all existing and proposed water supply works which take surface water, (pumps, dams, diversions, etc.).	2.8.5
	Details on all bores and excavations for the purpose of investigation, extraction, dewatering, testing and monitoring. All predicted groundwater take must be accounted for through adequate licensing.	4.8.2
	Details on existing dams/storages (including the date of construction, location, purpose, size and capacity) and any proposal to change the purpose of existing dams/storages.	Table 4.27
	Details on the location, purpose, size and capacity of any new proposed dams/storages.	NA
	Applicability of any exemptions under the <i>Water Management (General) Regulation 2011</i> to the project.	NA
	Water allocation account management rules, total daily extraction limits and rules governing environmental protection and access licence dealings also need to be considered.	Noted
	<b>Dam Safety</b>  Where new or modified dams are proposed, or where new development will occur below an existing dam, the NSW Dams Safety Committee should be consulted in relation to any safety issues that may arise. Conditions of approval may be recommended to ensure safety in relation to any new or existing dams.	NA

**Table A2-2 (Cont'd)  
Coverage of Environmental Issues**

Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>WATER (Cont'd)</b>		
DPI 23/03/16 (Cont'd)	<b>Surface Water Assessment</b>	
	The predictive assessment of the impact of the proposed project on surface water sources should include the following:  Identification of all surface water features including watercourses, wetlands and floodplains transected by or adjacent to the proposed project.	4.7.2
	Identification of all surface water sources as described by the relevant water sharing plan.	NA
	Detailed description of dependent ecosystems and existing surface water users within the area, including basic landholder rights to water and adjacent/downstream licensed water users.	NA
	Description of all works and surface infrastructure that will intercept, store, convey, or otherwise interact with surface water resources.	NA
	Assessment of predicted impacts on the following:  flow of surface water, sediment movement, channel stability, and hydraulic regime,  water quality,  flood regime,  dependent ecosystems,  existing surface water users, and  planned environmental water and water sharing arrangements prescribed in the relevant water sharing plans.	4.7.5
	<b>Groundwater Assessment</b>	
	The EIS needs to include adequate details to assess the impact of the project on all groundwater sources including:  Works likely to intercept, connect with or infiltrate the groundwater sources.	4.8.4
	Any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes.	2.8.4.5
	Bore construction information is to be supplied to DPI Water by submitting a "Form A" template. DPI Water will supply "GW" registration numbers (and licence/approval numbers if required) which must be used as consistent and unique bore identifiers for all future reporting.	NA
A description of the watertable and groundwater pressure configuration, flow directions and rates and physical and chemical characteristics of the groundwater source (including connectivity with other groundwater and surface water sources).	NA	
Sufficient baseline monitoring for groundwater quantity and quality for all aquifers and GDEs to establish a baseline incorporating typical temporal and spatial variations.	NA	



**Table A2-2 (Cont'd)  
Coverage of Environmental Issues**

Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>WATER (Cont'd)</b>		
DPI 23/03/16 (Cont'd)	The predicted impacts of any final landform on the groundwater regime.	MOP to be prepared
	The existing groundwater users within the area (including the environment), any potential impacts on these users and safeguard measures to mitigate impacts.	4.8.3, 4.8.4
	An assessment of groundwater quality, its beneficial use classification and prediction of any impacts on groundwater quality.	4.8.2
	An assessment of the potential for groundwater contamination (considering both the impacts of the proposal on groundwater contamination and the impacts of contamination on the proposal).	4.8.4
	Measures proposed to protect groundwater quality, both in the short and long term.	4.8.2
	Measures for preventing groundwater pollution so that remediation is not required.	4.8.2
	Protective measures for any groundwater dependent ecosystems (GDEs).	NA
	Proposed methods of the disposal of waste water and approval from the relevant authority.	NA
	The results of any models or predictive tools used.	NA
	Where potential impact/s are identified the assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing groundwater resource and any dependent groundwater environment or water users, including information on:  Any proposed monitoring programs, including water levels and quality data.	4.8.5
	Reporting procedures for any monitoring program including mechanism for transfer of information.	NA
	An assessment of any groundwater source/aquifer that may be sterilised from future use as a water supply as a consequence of the proposal.	NA
	Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).	NA
	Description of the remedial measures or contingency plans proposed.	NA
Any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.	NA	

**Table A2-2 (Cont'd)  
Coverage of Environmental Issues**

Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>WATER (Cont'd)</b>		
DPI 23/03/16 (Cont'd)	<b>Groundwater Dependent Ecosystems</b>	
	The EIS must consider the potential impacts on any Groundwater Dependent Ecosystems (GDEs) at the site and in the vicinity of the site and:	NA
	Identify any potential impacts on GDEs as a result of the proposal including:	
	the effect of the proposal on the recharge to groundwater systems;	NA
	the potential to adversely affect the water quality of the underlying groundwater system and adjoining groundwater systems in hydraulic connections; and	NA
	the effect on the function of GDEs (habitat, groundwater levels, connectivity).	NA
	Provide safeguard measures for any GDEs.	NA
	<b>Watercourses, Wetlands and Riparian Land</b>	
	The EIS should address the potential impacts of the project on all watercourses likely to be affected by the project, existing riparian vegetation and the rehabilitation of riparian land. It is recommended the EIS provides details on all watercourses potentially affected by the proposal, including:	NA
	Scaled plans showing the location of:	
	wetlands/swamps, watercourses and top of bank;	NA
	riparian corridor widths to be established along the creeks;	NA
	existing riparian vegetation surrounding the watercourses (identify any areas to be protected and any riparian vegetation proposed to be removed);	NA
the site boundary, the footprint of the proposal in relation to the watercourses and riparian areas; and	NA	
proposed location of any asset protection zones.	NA	
Photographs of the watercourses/wetlands and a map showing the point from which the photos were taken.	NA	
A detailed description of all potential impacts on the watercourses/riparian land.	NA	
A detailed description of all potential impacts on the wetlands, including potential impacts to the wetlands hydrologic regime; groundwater recharge; habitat and any species that depend on the wetlands.	NA	
A description of the design features and measures to be incorporated to mitigate potential impacts.	NA	
Geomorphic and hydrological assessment of water courses including details of stream order (Strahler System), river style and energy regimes both in channel and on adjacent floodplains.	4.1.2	

**Table A2-2 (Cont'd)  
Coverage of Environmental Issues**

Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>WATER (Cont'd)</b>		
DPI 23/03/16 (Cont'd)	<b>Drill Pad, Well and Access Road Construction</b>	
	Any construction activity within 40m of a watercourse, should be designed by a suitably qualified person, consistent with the <i>NSW Guidelines for Controlled Activities on Waterfront Land</i> (July 2012).	
	Construction of all wells must be undertaken in accordance with the <i>Minimum Construction Requirements for Water Bores in Australia</i> (3rd edition 2012) by a driller holding a bore drillers' licence valid in New South Wales.	NA
	The length of time that a core hole is maintained as an open hole should be minimised.	NA
EPA 20/04/16	<b>Potential impacts on water quantity and quality</b>	
	The goals of the project should include:	3.3.4
	No pollution of waters (including surface and groundwater), except to the extent authorised by the EPA (ie in accordance with an Environment Protection Licence); and	
	Contaminated water (including process waters, wash down waters, polluted storm water or sewage) is captured on the site and collected, treated and beneficially reused, where this is safe and practicable to do so.	3.3.4
	The EA should document the measures that will achieve the above goals.	Noted throughout Section 4
	Details of the site drainage and any natural or artificial waters within or adjacent to the development must be identified and where applicable measures proposed to mitigate potential impacts of the development on these waters. The EA should provide details of the proposed design and construction of water management systems for the site to ensure surface waters are protected from contaminants.	4.7.2, 4.7.4
	A hydrogeological assessment must be undertaken to assess potential groundwater impacts. In particular, the proponent must do the following.	
	Identify surrounding groundwater users that may be affected by any adverse impact on groundwater quantity or quality;	NA
	Quantify the impacts that any proposed water extraction may have on the groundwater source; and	4.8.4
	Detail any potential groundwater quality impacts from this proposal and identify appropriate measures that will be undertaken to mitigate any potential adverse impact.	4.8.4
OEH 21/03/16	<b>Water and Soils</b>	
	The EIS must map the following features relevant to water and soils including:	
	Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map).	NA

**Table A2-2 (Cont'd)**  
**Coverage of Environmental Issues**

Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>WATER (Cont'd)</b>		
OEH 21/03/16 (Cont'd)	Rivers, streams, wetlands, estuaries (as described in Appendix 2 of the <b>Framework for Biodiversity Assessment</b> ).	
	Groundwater.	4.8.2
	Groundwater dependent ecosystems.	NA
	Proposed intake and discharge locations.	2.4.8.5
	The EIS must describe background conditions for any water resource likely to be affected by the proposed Broken Hill North Mine, including:	
	Existing surface and groundwater.	4.7.2, 4.8.2
	Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations.	2.8.5
Water Quality Objectives (as endorsed by the NSW Government <a href="http://www.environment.nsw.gov.au/ieolindex.htm">www.environment.nsw.gov.au/ieolindex.htm</a> ) including groundwater as appropriate that represent the community's uses and values for the receiving waters.	NA	
Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the <b>ANZECC (2000) Guidelines for Fresh and Marine Water Quality</b> and/or local objectives, criteria or targets endorsed by the NSW Government.	NA	
The EIS must assess the impacts of the proposed Recommencement of underground mining at Broken Hill North Mine on water quality, including:		
The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the proposed Recommencement of underground mining at Broken Hill North Mine protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction.	4.7.5, 4.8.4	
Identification of proposed monitoring of water quality.	4.8.5	
The EIS must assess the impact of the proposed Recommencement of underground mining at Broken Hill North Mine on hydrology, including:		
Water balance including quantity, quality and source.	2.8.5	
Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.	NA	
Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.	NA	
Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (eg river benches).	NA	
Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water.	4.7.5, 4.8.4	

**Table A2-2 (Cont'd)  
Coverage of Environmental Issues**

Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>WATER (Cont'd)</b>		
OEH 21/03/16 (Cont'd)	Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options.	4.7.4, 4.8.3
	Identification of proposed monitoring of hydrological attributes.	4.8.5
	<b>Flooding</b>	
	The EIS must map the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:	
	Flood prone land.	NA
	Flood planning area, the area below the flood planning level.	NA
	Hydraulic categorisation (flood ways and flood storage areas).	NA
	The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 1 in 10 year, 1 in 100 year flood levels and the probable maximum flood, or an equivalent extreme event.	NA
	The EIS must model the effect of the proposed Recommencement of underground mining at Broken Hill North Mine (including fill) on the flood behaviour under the following scenarios:  Current flood behaviour for a range of design events as identified in 8) above. The 1 in 200 and 1 in 500 year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.	NA
	Modelling in the EIS must consider and document:  The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood.  Impacts of the proposed Recommencement of underground mining at Broken Hill North Mine on flood behaviour resulting in detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazards and hydraulic categories.  Relevant provisions of the NSW Floodplain Development Manual 2005.	NA  NA  NA
The EIS must assess the impacts on the proposed Recommencement of underground mining at Broken Hill North Mine on flood behaviour, including:  Whether there will be detrimental increases in the potential flood affection of other properties, assets and infrastructure.  Consistency with Council floodplain risk management plans.  Compatibility with the flood hazard of the land.  Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.  Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site.	NA  NA  NA  NA	





Table A2-2 (Cont'd)  
Coverage of Environmental Issues

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Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>HERITAGE (Cont'd)</b>		
OEH 03/05/16 (Cont'd)	a historical archaeological assessment prepared by a suitably qualified historical archaeologist in accordance with the Heritage Division, Office of Environment and Heritage Guidelines 'Assessing Significance for Historical Archaeological Sites and 'Relics' 2009. This assessment should identify what relics, if any, are likely to be present, assess their significance and consider the impacts from the proposal on this potential resource. Where harm is likely to occur, it is recommended that the significance of the relics be considered in determining an appropriate mitigation strategy. In the event that harm cannot be avoided in whole or part, an appropriate Research Design and Excavation Methodology should also be prepared to guide any proposed excavations.	4.6.7
OEH 21/03/16	<b>Aboriginal Cultural Heritage</b>	
	The EIS must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the proposed Recommencement of underground mining at Broken Hill North Mine and document these in the EIS. This may include the need for surface survey and test excavation. The identification of cultural heritage values should be guided by the <u><b>Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011)</b></u> and consultation with OEH regional officers.	4.10
	Where Aboriginal cultural heritage values are identified, consultation with Aboriginal people must be undertaken and documented in accordance with the <u><b>Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW)</b></u> . The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the EIS.	NA
	Impacts on Aboriginal cultural heritage values are to be assessed and documented in the EIS. The EIS must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the EIS must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.	NA
<b>BIODIVERSITY</b>		
OEH 21/03/16	<b>Biodiversity</b>	
	Biodiversity impacts related to the proposed Recommencement of underground mining at Broken Hill North Mine are to be assessed and documented in accordance with the <u><b>Framework for Biodiversity Assessment</b></u> , unless otherwise agreed by OEH, by a person accredited in accordance with s142B(1)(c) of the <i>Threatened Species Conservation Act 1995</i> .	NA

**Table A2-2 (Cont'd)  
Coverage of Environmental Issues**

Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>HAZARDS</b>		
DPI 23/03/16	<p><b>Hazards and Risk</b></p> <p>Mitigation and management measures that would be taken to avoid, minimise, reduce or mitigate the identified hazards and risks, including proposals for adaptive management and/or contingency plans to manage any significant risks to safety and/or the environment.</p>	4.12
<b>REHABILITATION</b>		
DPI 23/03/16	<p><b>Rehabilitation Strategy</b></p> <p>Description of any relevant rehabilitation experience;</p>	MOP to be prepared
	<p>Rehabilitation strategy for the site and other affected areas (inclusive of access roads) having regard to the key principles in Strategic Framework for Mine Closure, including:</p> <ul style="list-style-type: none"> <li>rehabilitation objectives;</li> <li>proposed staging;</li> <li>removal of structures, plant and equipment;</li> <li>nominated final landuse;</li> <li>rehabilitation domains and conceptual final landforms;</li> <li>rehabilitation materials, including sources of any additional material needed;</li> <li>rehabilitation methods, inclusive of vegetation renewal, soil stripping and handling measures, plant species selection, erosion and sediment control, weed and feral animal control, and bushfire prevention;</li> <li>monitoring programs, performance standards and completion criteria; and</li> <li>mine closure works; and</li> </ul>	2.13 and MOP to be prepared
	<p>Integration of this strategy with the biodiversity offset strategy and any other rehabilitation and/or offset strategies in the region.</p>	NA
	<p><b>Landform rehabilitation (including final void management)</b></p> <p>Where significant modification to landform is proposed, the EIS must include:</p> <p>Justification of the proposed final landform with regard to its impact on local and regional surface and groundwater systems;</p>	MOP to be prepared
	<p>A detailed description of how the site would be progressively rehabilitated and integrated into the surrounding landscape;</p>	2.13.3 and MOP to be prepared
	<p>Outline of proposed construction and restoration of topography and surface drainage features if affected by the project;</p>	2.13.3
	<p>Detailed modelling of potential groundwater volume, flow and quality impacts of the presence of an inundated final void (where relevant) on identified receptors specifically considering those environmental systems that are likely to be groundwater dependent;</p>	NA



**Table A2-2 (Cont'd)**  
**Coverage of Environmental Issues**

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Government Agency	Paraphrased Requirement	Relevant EIS Section(s)
<b>REHABILITATION (Cont'd)</b>		
DPI 23/03/16 (Cont'd)	An outline of the measures to be put in place to ensure that sufficient resources are available to implement the proposed rehabilitation; and	2.13.7
	The measures that would be established for the long-term protection of local and regional aquifer systems and for the ongoing management of the site following the cessation of the project.	NA
<b>WASTE AND CHEMICALS</b>		
EPA 20/04/16	The EA must provide details of solid and liquid waste management at the facility, including the following.	
	The assessment, handling and transport of waste generated at the site;	2.10
	Any stockpiling of wastes or recovered materials at the site;	2.5
	Any waste processing related to the facility, including reuse, recycling, reprocessing or treatment both on and off-site;	2.10
	The method for on-site disposal of wastes generated at the premises;	2.10
	The air or water emissions arising from the handling, storage, processing and reprocessing of waste at the facility; and	Throughout Section 4
	The proposed controls for managing the environmental impacts of these activities.	Throughout Section 4
	The goals of the project should include the following.	
	It is in accordance with the principles of the waste hierarchy and cleaner production;	Noted
	Where potential impacts associated with the handling, processing and storage of waste at the premises are identified, these be mitigated by the development;	Noted
	The beneficial reuse of all wastes generated at the premises are maximised where it is safe and practical to do so;	Noted
	No waste disposal occurs on site except in accordance with an Environment Protection Licence; and	Noted
	Ensure that environmental risks from hazardous chemicals and chemical waste are minimised.	Noted
The EA needs to identify the proposed type, quantity and location of chemicals to be stored on site. Spill management measures, including items such as bunding, and emergency procedures should be clearly outlined.	2.9.2	

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