

Environmental Assessment Requirements

State Significant Development

Section 78A(8A) of the *Environmental Planning and Assessment Act 1979*
Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*

Application Number	SSD 5765
Development	<p>The Bowdens Silver Project, which includes:</p> <ul style="list-style-type: none">• developing an open cut silver, lead and zinc mine and associated infrastructure;• extracting and processing up to 2 million tonnes of ore a year for up to 17 years;• transporting the processed ore from the mine via road; and• rehabilitating the site.
Location	2.5 km northeast of Lue, in the Mid-Western Regional LGA
Applicant	Bowdens Silver Pty Limited
Date of Issue	15 August 2017
General Requirements	<p>The Environmental Impact Statement (EIS) for the development must comply with the requirements in Clauses 6 and 7 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i>.</p> <p>In particular, the EIS must include:</p> <ul style="list-style-type: none">• a stand-alone executive summary;• a full description of the development, including:<ul style="list-style-type: none">- the resource to be extracted, demonstrating efficient resource recovery within environmental constraints, and having regard to DRE's requirements (see Attachment 2);- the mine layout and scheduling;- minerals processing;- surface infrastructure and facilities (including any infrastructure that would be required for the development, but the subject of a separate approvals process);- a waste (overburden, tailings, etc.) management strategy;- a water management strategy, having regard to the EPA's and DPI's requirements (see Attachment 2);- a rehabilitation strategy, having regard to DRE's requirements (see Attachment 2); and- the likely interactions between the development and any other existing, approved or proposed mining related development in the vicinity of the site;• a list of any approvals that must be obtained before the development may commence;• the terms of any proposed voluntary planning agreement with the relevant local council;• 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">- a description of the existing environment likely to be affected by the development, using sufficient baseline data;- 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;- 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">○ whether these measures are consistent with industry best practice, and represent the full range of reasonable and feasible mitigation

	<ul style="list-style-type: none"> measures that could be implemented; <ul style="list-style-type: none"> o the likely effectiveness of these measures, including performance measures where relevant; and o whether contingency plans would be necessary to manage any residual risks; - a description of the measures that would be implemented to monitor and report on the environmental performance of the development if it is approved; • a consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EIS; • 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 • the reasons why the development should be approved having regard to: <ul style="list-style-type: none"> - relevant matters for consideration under the <i>Environmental Planning and Assessment Act 1979</i>, including the objects of the Act and how the principles of ecologically sustainable development have been incorporated in the design, construction and ongoing operations of the development; - the environmental, economic and social costs and benefits of the development; - the suitability of the site with respect to potential land use conflicts with existing land uses, including Lue Village, rural dwellings, subdivisions, conservation areas and strategic agricultural land; and - feasible alternatives to the development (and its key components), including the consequences of not carrying out the development. <p>While not exhaustive, Attachment 1 contains a list of some of the environmental planning instruments, guidelines, policies, and plans that may be relevant to the environmental assessment of this development.</p> <p>In addition to the matters set out in Schedule 1 of the <i>Environmental Planning and Assessment Regulation 2000</i>, the development application must be accompanied by a signed report from a suitably qualified and experienced person that includes an accurate estimate of the capital investment value (as defined in Clause 3 of the <i>Environmental Planning and Assessment Regulation 2000</i>) of the development, including details of all the assumptions and components from which the capital investment value calculation is derived.</p>
<p>Specific Issues</p>	<p>The EIS must address the following specific issues:</p> <ul style="list-style-type: none"> • Land – including: <ul style="list-style-type: none"> - an assessment of the likely impacts of the development on the soils and land capability of the site and surrounds; - an assessment of the likely agricultural impacts of the development, including identification of any strategic agricultural land; - 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 - 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>, paying particular attention to the agricultural land use in the region; • Air Quality– including: <ul style="list-style-type: none"> - 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 the EPA’s requirements (see Attachment 2); and - an assessment of the likely greenhouse gas impacts of the development; • Human Health – including: <ul style="list-style-type: none"> - a Human Health Risk Assessment addressing how the development’s environmental impacts in relation to air quality (including heavy metals)

	<p>and noise may impact on the health of the local community; and</p> <ul style="list-style-type: none"> - monitoring and management measures to reduce risk to human health; • Water – including: <ul style="list-style-type: none"> - an assessment of the likely impacts of the development on the quantity and quality of the region’s surface and groundwater resources (including, but not limited to, Lawsons Creek and Price Creek), having regard to the EPA’s, DPI’s and OEH’s requirements (see Attachment 2); and - an assessment of the likely impacts of the development on aquifers, watercourses, riparian land, water-related infrastructure, and other water users; • Noise and Blasting – including: <ul style="list-style-type: none"> - 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>, and having regard to the EPA’s requirements (see Attachment 2); - 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>; - an assessment of the likely road noise impacts of the development under the <i>NSW Road Noise Policy</i>; and - 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; • Biodiversity – including: <ul style="list-style-type: none"> - an assessment of the likely biodiversity impacts of the development, in accordance with the <i>Framework for Biodiversity Assessment</i>, and having regard to OEH’s requirements (see Attachment 2); and - a strategy to offset any residual impacts of the development in accordance with the <i>NSW Biodiversity Offsets Policy for Major Projects</i>; • Heritage – 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); • Transport – 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 Mid-Western Regional Council’s and RMS’s requirements (see Attachment 2); • Visual – 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; • Hazards - 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, having regard to the EPA’s requirements (see Attachment 2); and • Social & Economic – including: <ul style="list-style-type: none"> - an assessment of the likely social impacts of the development; and - an assessment of the likely economic impacts of the development, paying particular attention to the: <ul style="list-style-type: none"> ○ significance of the resource; ○ economic benefits of the development for the State and region; and ○ demand for the provision of local infrastructure and services.
Consultation	<p>During the preparation of the EIS and subsequent assessment process, you must establish and operate a Community Consultative Committee (CCC) for the development in accordance with the <i>Community Consultative Committee Guidelines: State Significant Projects</i> dated November 2016.</p>

	<p>You should also consult with relevant local, State or Commonwealth Government authorities, infrastructure and service providers, community groups and affected landowners.</p> <p>The EIS must describe the consultation that was carried out, identify the issues raised during this consultation (including by the CCC), and explain how these issues have been addressed in the EIS.</p>
Further consultation after 2 years	<p>If an EIS for the project is not lodged within 2 years of the issue date of these Environmental Assessment Requirements, the Applicant must consult further with the Secretary in relation to the preparation of the EIS.</p>

ATTACHMENT 1

Environmental Planning Instruments, Policies, Guidelines & Plans

Land	
	Agfact AC25: Agricultural Land Classification (NSW Agriculture)
	Soil and Landscape Issues in Environmental Impact Assessment (NOW)
	State Environmental Planning Policy No. 55 – Remediation of Land
	Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC)
Air Quality	
	Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW (EPA)
	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA)
	Generic Guidance and Optimum Model Settings for the CALPUFF Modelling System for Inclusion in the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA)
	Voluntary Land Acquisition and Mitigation Policy (DP&E)
	National Greenhouse Accounts Factors (Commonwealth)
Water	
Water Sharing Plans	Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources
	Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources
	Water Sharing Plan for the Macquarie-Cudgegong Regulated Rivers Water Source
	Water Sharing Plan for the Macquarie Bogan Unregulated and Alluvial Water Sources
Groundwater	NSW State Groundwater Policy Framework Document (NOW)
	NSW State Groundwater Quality Protection Policy (NOW)
	NSW State Groundwater Quantity Management Policy (NOW)
	NSW Aquifer Interference Policy 2012 (NOW)
	Australian Groundwater Modelling Guidelines 2012 (Commonwealth)
	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC)
Guidelines for the Assessment & Management of Groundwater Contamination (EPA)	
Surface Water	NSW State Rivers and Estuary Policy (NOW)
	NSW Government Water Quality and River Flow Objectives (EPA)
	Using the ANZECC Guideline and Water Quality Objectives in NSW (EPA)
	ANZECC Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ)
	Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (EPA)
	Managing Urban Stormwater: Soils & Construction (Landcom) and associated Volumes 2A to 2E (DECC)
	Managing Urban Stormwater: Treatment Techniques (EPA)
	Managing Urban Stormwater: Source Control (EPA)
	Technical Guidelines: Bunding & Spill Management (EPA)
A Rehabilitation Manual for Australian Streams (LWRRDC and CRCCH)	
NSW Guidelines for Controlled Activities (NOW)	

Flooding	Floodplain Development Manual (OEH) Floodplain Risk Management Guideline (OEH)
Noise & Blasting	NSW Industrial Noise Policy (EPA) Interim Construction Noise Guideline (EPA) NSW Road Noise Policy (EPA) Assessing Vibration: a Technical Guideline (EPA) Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration (ANZECC) Voluntary Land Acquisition and Mitigation Policy (DP&E)
Biodiversity	Framework for Biodiversity Assessment (OEH) NSW Biodiversity Offsets Policy for Major Projects (OEH) Threatened Species Assessment Guidelines (OEH) Policy and Guidelines for Aquatic Habitat Management and Fish Conservation (Fisheries NSW) NSW State Groundwater Dependent Ecosystem Policy (NOW) Risk Assessment Guidelines for Groundwater Dependent Ecosystems (NOW) State Environmental Planning Policy No. 44 – Koala Habitat Protection Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (DPI)
Heritage	The Burra Charter (The Australia ICOMOS charter for places of cultural significance) Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (OEH) Code of Practice for Archaeological Investigations of Objects in NSW (OEH) Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (OEH) NSW Heritage Manual (OEH) Statements of Heritage Impact (OEH) Assessing Significance for Historical Archaeological Sites and 'Relics' (OEH) Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (OEH)
Transport	Guide to Traffic Generating Developments 2002 (RTA) Austroads Guide to Road Design and RMS supplements to road design Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development
Hazards	State Environmental Planning Policy No. 33 – Hazardous and Offensive Development Hazardous and Offensive Development Application Guidelines – Applying SEPP 33 Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis
Resource	Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 (JORC)
Waste	Waste Classification Guidelines (EPA)
Rehabilitation	Mine Rehabilitation – Leading Practice Sustainable Development Program for the

Mining Industry (Commonwealth)

Mine Closure and Completion – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth)

Strategic Framework for Mine Closure (ANZMEC-MCA)

Environmental Planning Instruments - General

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy No. 55 – Remediation of Land

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development

Mid-Western Regional Local Environmental Plan 2012

ATTACHMENT 2

AGENCIES' CORRESPONDENCE

JR | A0420245

12 December 2016

Elle Donnelley
NSW Department of Planning & Environment
Sent via email: elle.donnelley@planning.nsw.gov.au]

Dear Elle

SUBJECT: BOWDENS SILVER PROJECT REVISED SEARS

Thank you for the opportunity to provide input into the revised Secretary's Environment Assessment Requirements (SEARS) for the Bowdens Silver Project.

Mid-Western Regional Council has previously made submissions in relation to the SEARS for this project both in February 2013 and January 2015. A copy of these submissions is attached for your reference.

After reviewing the revised proposal dated November 2016, Council confirms that it does not have any additional matters to raise beyond those already identified in the submissions referred to above. In summary, the key issues to be addressed include:

1. **Proximity to Lue Village** – the village of Lue with over 100 residences is within 2.5km of the proposed open cut pit. The mitigation and/or management of any impacts relating to issues such as noise, air quality, traffic, local amenity etc. are critical to this community.
2. **Water** – as water security is a high priority in this region, it is essential that the project identifies a sustainable water source which does not impact upon town water supplies and/or enforce restrictions on other agricultural users within the catchment area.
3. **Roads** – the project will require upgrades to local roads (including construction of a new access road and relocation of Maloneys (Bara) Road) prior to construction commencement, and ongoing during the operational phase of the project. It is expected that these upgrades will be at the full cost to the proponent, and that the proponent will make an annual contribution to roads maintenance for the project life cycle based on projected traffic movements.

If you wish to discuss this submission in further detail, please contact 02 6378 2850.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Julie Robertson', with a small horizontal line at the end.

JULIE ROBERTSON
DIRECTOR DEVELOPMENT



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A0420245

15 January 2015

Mr Kane Winwood
NSW Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Dear Mr Winwood

BOWDENS SILVER PROJECT – REVISED SEARs

I refer to the email dated 15 December 2014 inviting Council to provide comment on the proposed amended Secretary's Environmental Assessment Requirements (SEARs).

Council has reviewed the updated proposal and would like to add the following comments as an addendum to our original submission dated 14 February 2013:

- Council require the applicant to undertake a full assessment of the impacts on air quality from dust and particulate matter as a result of the project including monitoring of background lead levels to ensure that there are no adverse impacts on the Lue community and surrounding area. Council requests that consideration be given to the findings in Port Augusta where unexpected high lead levels were found locally and at sites remote from the mine site.
- Council reaffirms that it considers that water is a determining issue. To date the applicant has been unable to identify the exact amount of water required, the source of water and the proposed method of reticulation to the mine site. Council remains concerned regarding the potential impact on agricultural users and objects to any scheme that requires the transfer of water licences from below Burrendong Dam. Council requests that the assessment clearly identifies the source of water, amount and proposed reticulation.
- Council reaffirms its requirement that all road upgrades identified in the Preliminary Environmental Assessment be undertaken at full cost to the developer and that all upgrades are required as a condition of approval prior to the commencement of construction on the site. This includes the re-alignment and sealing of Maloneys (Bara) Road from the Lue Road intersection to the mine entrance.

Council reaffirms that it fully supports the response from the Lue Action Group and requests that their requirements be included in the SEARs. Should you have any queries in relation to this matter please contact Catherine Van Laeren on (02) 6378 2850.

Yours faithfully



CATHERINE VAN LAEREN
DIRECTOR - DEVELOPMENT



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14 February 2013

NSW Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2000

Attention: Mr Kane Winwood - Team Leader – Mining Projects

Dear Sir,

**PRELIMINARY RESPONSE TO DIRECTOR GENERAL'S REQUIREMENT BOWDENS
SILVER PROJECT -**

Thank you for the opportunity to provide a preliminary response to the Director General's Requirements for the Bowden's Silver Project. Council has reviewed Preliminary Environmental Assessment and Draft DGRs and would request that the following specific issues be included in the DGRs:

- *Traffic movements*

It is requested that a detailed analysis should be carried out of the impact of all traffic movements (type and frequency) that are anticipated for the whole of the period of the construction and operation of the project – this should include commuter traffic, transport of equipment and the transport of concentration. The analysis should include an assessment of the ability of all roads, intersection, culverts and bridges to cope with the additional traffic and the changing nature of the traffic. Should heavy haulage routes involve haulage through existing towns and villages than the analysis should include the assessment on traffic flow through those towns and villages and potential noise impacts. The study is to provide a detail safety audit and a schedule of works necessary to upgrade the road to ensure that current levels of services are maintained. All roads should be upgraded to comply with Austroad standards in accordance with the standard dictated by traffic volumes including consideration of heavy haulage.

In addition the proponent should address the likely impact and proposed procedures for the transportation of hazardous materials along the proposed haulage routes.

Council would suggest the proponent commence discussions with Council's Engineering Officers as soon as possible regarding all aspects of road works

- *Road Dilapidation Report*
Council requests that an assessment of the condition of the road, that is a dilapidation report, is to take place prior to the commencement of construction and again at the completion of works. Weekly inspections of the roads will also be required, to ensure that any damage to the road is repaired immediately. Council will also be seeking assurances that any road damage that occurs as a result of increased vehicle movements associated with the construction will be funded by the developer and not by Council.
- *Road Upgrades*
Council requires that all road upgrades required as identified by the study be undertaken at the full cost to the developer and that all upgrades are required as a condition of approval prior to the commencement of any construction on site.
- *Road Maintenance*
Council requires that a full assessment of all haulage and commuter routes be undertaken to assess the lifecycle maintenance requirement of the routes and undertake a details schedule of works and schedule of costs. All works and costs are to be borne by the proponent.
- *Realignment of Maloneys Road (Bara) Road*
Council requires detailed consultation with Mid-Western Regional Council throughout the design of Maloneys Road including the selection of the new realignment. As this road will become a Mid-Western Council asset Council will require that the roadworks are undertaken by Mid-Western Regional Council at the full cost to the proponent.
- *Dust*
Council notes that the Draft DGRs will require a quantitative assessment of the potential impacts of dust. It is requested that the DGRs include specific reference to variable wind patterns, including seasonal wind patterns and the need for a detailed air dispersal model. Council also requires specific details on the specific dust suppression measures that will be in place during operations and also on the haulage routes.
- *Noise Impacts.*
Council considers that the application of the Industrial Noise Policy is inappropriate in this environment due to the extremely low existing background noise levels. Council stresses that the baseline for the assessment of noise impacts should be less than that allowed by the Industrial Noise Policy having regard to the rural nature of the area. It is considered that having regard to the difficulty to meet acceptable noise levels during nighttime operation and the rural nature of the area that reconsideration should be given to the 24 hour operation of the site.

Council would also require a detailed Traffic Noise Assessment to be carried out on the proposed haulage routes to ascertain the level of impact associated off-site going to be generated as a result of the mining operations.
- *Complaints Register*
Council requires details on how the company proposed to address and monitor all complaints associated with the operations of the mine.
- *Water*
Council requests that a moratorium be placed on the sale of high security licenses to the Bowden's Silver Project until detailed assessment of the impact on other water users, such as agricultural users can be modeled and extensive consultation undertaken with existing users. Until such time as it can be demonstrated that the existing and future Water Sharing Plan for the Cudgegong River will provide sufficient

protection for town water supplies it is considered irresponsible for further high security licenses to be sold that allow the transfer of water allocations within the catchment. It is considered imperative that the modeling, adjustment of the WSP and extensive consultation be undertaken prior to the sale of the water license.

Council considers that potential impact on water security for both agricultural users and town water supply is a determinative issue. It is considered that the cumulative impact of the establishment of mining projects within the catchment and their water demands needs to be assessed. In addition, it is imperative that potential adverse impact on water allocations during periods of drought to other industries, agriculture and the town water supply be considered and that the cost of the development include the potential decline of agriculture and growth of other industries due to the restricted access to water. Council considers that it is critical that a diverse economic base be maintained in the region and the potential threat to that diversity should be fully assessed as part of this application.

It is noted that a *Human Health Risk Assessment* is a requirement of the Draft DGRs. Council would request that a particular focus be placed on the assessment on the impacts on dust on drinking water.

- *Visual Amenity*

It is requested that the DGRs include an assessment of the lighting and light spillage on the rural character of the area and impact on the residential amenity of both the villages and surrounding properties.

Council will also require light shielding modeling carried out as part of the assessment to demonstrate the likely impacts of light onto the neighboring properties and Lue. Mechanisms on how to limit light shielding and the likely impacts it will have will also need to be demonstrated by the proponent.

- *Socio Economic Impacts*

Council considers that the assumptions regarding available workforce within the supporting information is flawed and fails to take into account the cumulative impact of mining and wind farm projects within the region. Whilst it is acknowledged that some of the construction and operation workforce will be sourced locally it is considered that the majority will need to be imported. Council requests that the DGRs include the requirement for the proponent to identify the likely domicile for 90 % of the construction and operational workforce and undertake a full analysis of the impacts on housing, rental housing, infrastructure, traffic, health and other social impacts and provide realistic measures to mitigate those impacts. The literature review should have regard to the Local Service Assessment Report undertaken by Manidis Roberts on behalf of the DoPI in 2012. A copy is located on Council website at <http://www.midwestern.nsw.gov.au/Economic-Development/Publications/>. Upon the completion of the demand assessment for temporary accommodation should the project recognise a need for Temporary Workers Accommodation then reference should be made to the Mid-Western Regional Comprehensive DCP.

Council is concerned regarding the ongoing viability of the village of Lue and the school. The village of Lue is a successful vibrant community and Council has witnessed the demise of other villages such as Wollar due to the impacts of mining. It should be noted that the demise of Wollar was not predicted in the EA prepared in support of the mine. Council considers that a full assessment should be made on the potential impacts on Lue with an investigation of student numbers and the potential threat to maintaining those numbers should families leave the village.

- **Agricultural Impact Analysis**
While Council recognises that the area may not be regarded as prime agricultural lands, Council would like to see the likely off-site impacts on adjoining agricultural lands that are likely to occur as a result of the mine. Council would also like to see what soil resources and land capabilities are likely to be altered.
- **Environmental Offsets**
In identifying proposed environmental offset the proponent should identify the proposed ongoing management program for the offsets including land tenure, Council does not support the conversion of environmental offsets to National Park or transfer to government ownership.
- **Voluntary Planning Agreement**
To date no discussions have taken place regarding a Voluntary Planning Agreement (VPA) with Mid-Western Regional Council. –Council will be seeking an agreement to compensate for the additional demand on facilities and services provided by the Council. –It should be noted that Council expects that all road upgrades will be required as a condition of approval prior to the commencement of the construction on site rather than included in a VPA.
- **Acid Forming Material**
Council is concerned regarding the potential for acid forming material left in situ but exposed due to mining activities. Council requests that a complete assessment be undertaken and if necessary that a bond or guarantee be imposed to ensure the ongoing management of the site after the closure of the mine.

Fauna and Flora

Council would like to see details on proposed native fish waterway crossings that are likely to be obstructed and altered as a result of the proposal and any critical habitats likely to be affected by the proposal.

- **Site Rehabilitation Works post Mine Life**
Council would require information on the post mine life rehabilitation plans and proposed uses for the site. As part of this information Council would require quantified information on the lands capabilities post mine life.

Lue Action Group

Please find attached a response from the Lue Action Group. Council fully supports the requests included in their response for inclusion in the DGRs.

Council supports site specific Director General Requirements with regard to Major Projects.

Should you have any further enquiries in relation to this matter please contact Catherine Van Laeren on 02 6378 2850 during office hours.

Yours faithfully



CATHERINE VAN LAEREN
GROUP MANAGER – DEVELOPMENT & COMMUNITY SERVICES



OUT16/48752

Ms Elle Donnelley
Resource Assessments
NSW Department of Planning and Environment
GPO Box 39
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Elle.donnelley@planning.nsw.gov.au

Dear Ms Donnelley

**Bowden Silver Project (SSD 5765)
Request for Secretary's Environmental Assessment Requirements**

I refer to your email of 29 November 2016 to the Department of Primary Industries (DPI) in respect to the above matter. Comment has been sought from relevant divisions of DPI. Views were also sought from NSW Department of Industry - Lands that are now a division of the broader Department and no longer within NSW DPI. Any further referrals to DPI can be sent by email to landuse.enquiries@dpi.nsw.gov.au.

DPI has reviewed the request and the previously issued SEARs and provides the following recommendations:

- Specific Issues – Land should include the following:
 - A requirement to complete an Agricultural Impact Statement in accordance with the [DPI Agricultural Impact Statement Technical Notes](#).
 - An assessment of the pre mining (baseline) agricultural capability of the land to facilitate rehabilitation to pre-existing agricultural use at the close of the project. This should include monitoring programs to measure the return of land back to pre-existing condition.
- Specific Issues – Biodiversity should include a requirement for an aquatic ecological environmental assessment that specifically addresses the impacts on aquatic ecology, loss of Key Fish Habitats, threatened species and proposed offsets. Information to assist the proponent in undertaking this assessment has been included at **Attachment A**.
- Specific Issues – Water should also include the following:
 - Identify water demand, and determine whether an adequate and secure water supply is available for the project.
 - Identify water sources (surface and groundwater), water disposal / discharge methods and water storage structures in the form of a detailed and consolidated water balance.
 - An assessment against the [NSW Aquifer Interference Policy \(2012\)](#) using [DPI Water's assessment framework](#).
 - Assessment of any potential cumulative impacts on water resources, and any proposed options to manage the cumulative impacts.

- References throughout the document to 'NOW' should be amended to DPI Water.
- Attachment 1 – Environmental Planning Instruments, Policies, Guidelines & Plans should include the following:
 - Biodiversity
 - [Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings \(2003\)](#)
 - [Policy and Guidelines for Fish Habitat Conservation and Management \(Update 2013\)](#)
 - Land
 - [Strategic Regional Landuse Policy \(2012\)](#)

Yours sincerely



Mitchell Isaacs
Director, Planning Policy & Assessment Advice
12 December 2016

DPI appreciates your help to improve our advice to you. Please complete this three minute survey about the advice we have provided to you, here:
<https://goo.gl/o8TXWz>

Attachment A

Bowden Silver Project (SSD 5765) Request for Secretary's Environmental Assessment Requirements Detailed comments – DPI Fisheries

AQUATIC ECOLOGICAL ASSESSMENT

The aquatic ecological environmental assessment should include the following information;

- A recent aerial photograph (preferably colour), map or GIS of the locality which maps the key fish habitat of the development site, and the waterway classes as defined in Tables 1 and 2 of the Policy & Guidelines document above.
- Aerial extent of the key fish habitat types to be affected either directly or indirectly by the development or activity should be identified and shown on recent aerial photograph map or GIS.
- Description and quantification of aquatic and riparian vegetation should be presented and mapped. This should include an assessment of the extent and condition of riparian vegetation and the extent and condition of freshwater aquatic vegetation and the presence of significant habitat features (e.g. gravel beds, snags, reed beds, etc)
- Quantification of the extent of aquatic and riparian habitat removal or modification which will result from the proposed development, and impacts on fish passage.
- Determination of aquatic biodiversity offsets required (*see NSW Biodiversity Offsets Policy for Major Projects, Fact Sheet: Aquatic Biodiversity*) at <http://www.environment.nsw.gov.au/resources/biodiversity/14817aqoffs.pdf>.
- Targeted on-ground surveys for threatened species (see below)
- Detailed maps outlining the proposed realignment of new waterways within the project area.
- Detailed maps outlining compensatory habitats and significant habitat features that will be created to offset the loss of aquatic and riparian habitat.
- Detailed maps that outline and assess the geomorphic stability of the proposed realignments of the new waterways including re-creation of the sinuosity/complexity of the new waterways.
- Details of the location of all waterways crossings and construction designs, such as bridges or culverts, access tracks, gauging stations or water pipelines.
- Details of the location of all waterway realignments, including a detailed rehabilitation plan for the aquatic environment and the adjacent riparian zone, and a timetable for construction of the proposal with details of various phases of construction.
- Aspects of the management of the proposal, both during construction and after completion, which relate to impact minimisation e.g. Environment Management Plans. e.g. Monitoring geomorphic stability of the system and mitigation strategies in place to address any bed lowering, scouring or other impacts that arise as a result of the project. Monitoring of the water quality in receiving waters such as the diverted creeks, particularly during the construction phase, and also during the operational phase.

End Attachment A



Elle Donnelley
Planner
Resource Assessments
Department of Planning & Environment
GPO Box 39 SYDNEY NSW 2001

Elle.donnelley@planning.nsw.gov.au

Dear Elle

Bowdens Silver Project: Request for input into revised SEARs (SSD 5765)

I refer to your email dated 29 November 2016 inviting the Division of Resources & Energy (the Division) to provide comments on the Bowdens Silver Project: Request for input into revised SEARs (SSD 5765).

The Division has reviewed and assessed the adequacy of information in relation to Bowdens Silver Project: Request for input into revised SEARs (SSD 5765) requested by the Department of Planning and Environment (DPE) and requires the following inclusions:

The Environmental Impact Statement (EIS) is to include a brief description of the geological setting of the deposit and specifically provide a description of the geology and mineralisation of the deposit itself.

This description should include detail about the shape, physical dimensions, mineralogy and ore mineral distribution for individual ore bodies/lenses, and in particular, a description of the mineralogy of the ore for all minerals present should be provided, including silver sulphosalts and mineralised sulphides. Appropriate figures and sections showing the distribution of the various styles of mineralisation, such as the upper silver-rich and deeper sulphide-lead-zinc zones should be included.

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 from planned activities. Where this may impact on resource sterilisation, utilisation and planned final voids, information such as grade and width/tonnes needs to be included.

The proposed recovery processes and expected recoveries for silver, lead and zinc should also be outlined.

The EIS is to include whole rock, minor and trace element geochemistry of the ore, tailings and waste rock, with commentary on the management of this information in context of the environmental effects of the proposal.

The Division recommends that the standard mining development rehabilitation SEARS be applied to this project (attachment A).

Should you have any enquires regarding this matter please contact Steve Cozens, Senior Project Officer, Royalty & Advisory Services on 9842 8573.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Zane West', written in a cursive style.

Zane West

Manager Royalties & Advisory Services

Encl. Attachment A

ADVICE RESPONSE

Mining Development Rehabilitation Standard SEARs

Post-mining land use

- (a) Identification and assessment of post-mining land use options;
- (b) Identification and justification of the preferred post-mining land use outcome(s), including a discussion of how the final land use(s) are aligned with relevant local and regional strategic land use objectives;
- (c) Identification of how the rehabilitation of the project will relate to the rehabilitation strategies of neighbouring mines within the region, with a particular emphasis on the coordination of rehabilitation activities along common boundary areas;

Rehabilitation objectives and domains

- (d) Inclusion of a set of project rehabilitation objectives and completion criteria that clearly define the outcomes required to achieve the post-mining land use for each domain. Completion criteria should be specific, measurable, achievable, realistic and time-bound. If necessary, objective criteria may be presented as ranges;

Rehabilitation Methodology

- (e) Details regarding the rehabilitation methods for disturbed areas and expected time frames for each stage of the rehabilitation process;
- (f) 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 progressive rehabilitation;

Conceptual Final Landform Design

- (g) Inclusion of a drawing at an appropriate scale identifying key attributes of the final landform, including final landform contours and the location of the proposed final land use(s);

Monitoring and Research

- (h) Outlining the monitoring programs that will be implemented to assess how rehabilitation is trending towards the nominated land use objectives and completion criteria;
- (i) Details of the process for triggering intervention and adaptive management measures to address potential adverse results as well as continuously improve rehabilitation practices;
- (j) Outlining any proposed rehabilitation research programs and trials, including their objectives. This should include details of how the outcomes of research are considered as part of the ongoing review and improvement of rehabilitation practices;

Post-closure maintenance

(k) Description of 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 rehabilitation objectives and completion criteria in a timely manner;

Barriers or limitations to effective rehabilitation

(l) Identification and description of those aspects of the site or operations that may present barriers or limitations to effective rehabilitation, including:

(i) evaluation of the likely effectiveness of the proposed rehabilitation techniques against the rehabilitation objectives and completion criteria;

(ii) an assessment and life of mine management strategy of the potential for geochemical constraints to rehabilitation (e.g. acid rock drainage, spontaneous combustion etc.), particularly associated with the management of overburden/interburden and reject material;

(iii) 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;

(iv) a life of mine tailings management strategy, which details measures to be implemented to avoid the exposure of tailings material that may cause environmental risk, as well as promote geotechnical stability of the rehabilitated landform; and

(v) existing and surrounding landforms (showing contours and slopes) and how similar characteristics can be incorporated into the post-mining final landform design. This should include an evaluation of how key geomorphological characteristics evident in stable landforms within the natural landscape can be adapted to the materials and other constraints associated with the site.

(m) Where a void is proposed to remain as part of the final landform, include:

(i) a constraints and opportunities analysis of final void options, including backfilling, to justify that the proposed design is the most feasible and environmentally sustainable option to minimise the sterilisation of land post-mining;

(ii) a preliminary geotechnical assessment to identify the likely long term stability risks associated with the proposed remaining high wall(s) and low wall(s) along with associated measures that will be required to minimise potential risks to public safety; and

(iii) outcomes of the surface and groundwater assessments in relation to the likely final water level in the void. This should include an assessment of the potential for fill and spill along with measures required be implemented to minimise associated impacts to the environment and downstream water users.

(n) Where the mine includes underground workings:

(i) determine (with reference to the groundwater assessment) the likelihood and associated impacts of groundwater accumulating and subsequently discharging (e.g. acid or neutral mine drainage) from the underground workings post cessation of mining; and

(ii) consideration of the likely controls required to either prevent or mitigate against these risks as part of the closure plan for the site.

(o) Consideration of the controls likely to be required to either prevent or mitigate against rehabilitation risks as part of the closure plan for the site;

(p) Where an ecological land use is proposed, demonstrate how the revegetation strategy (e.g. seed mix, habitat features, corridor width etc.) has been developed in consideration of the target vegetation community(s);

(q) Where the intended land use is agriculture, demonstrate that the landscape, vegetation and soil will be returned to a condition capable of supporting this; and

(r) Consider any relevant government policies¹.

¹ The following government policies should be considered when addressing rehabilitation issues:

- Mine Rehabilitation (Leading Practice Sustainable Development Program for the Mining Industry, 2006)
- Mine Closure and Completion (Leading Practice Sustainable Development Program for the Mining Industry, 2006)

- Strategic Framework for Mine Closure (ANZMEC-MCA, 2000)



Your reference :
Our reference : EF13/4940 & DOC16/604301-01
Contact : Ms Sheridan Ledger (02) 6332 7608

Mrs Elle Donnelley
Resource Assessments
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

13 December 2016

Dear Mrs Donnelley

**REQUEST FOR SEARS – ENVIRONMENT PROTECTION AUTHORITY
BOWDENS SILVER PROJECT (SSD 5765)**

I refer to your email of 29 November 2016 requesting the Environment Protection Authority (EPA) provide Secretary's Environmental Assessment Requirements (SEARs) for the proposed "Bowden's Silver Project" (SSD 5765) ("the Project").

The EPA understands that the application will be assessed by the Department of Planning and Environment (DPE) under Part 4 of the *Environmental Planning and Assessment Act 1979* as State Significant Development.

The EPA has considered the details provided regarding the Proposal, including the Preliminary Environmental Assessment (PEA) prepared by RW Corkery & Co, dated November 2016. The EPA considers the Project, if approved, would require licensing by the EPA.

The applicant should address the issues in **Attachments A** to this letter during the preparation of the Environmental Impact Statement (EIS) to adequately assess the environmental impacts of the proposal. In carrying out the assessment, the proponent should refer to the relevant guidelines as listed in **Attachment B** and any relevant industry codes of practice and best practice management guidelines.

The EPA requests that the applicant is provided with the EPA's assessment requirements and guidelines as set out in **Attachments A and B**. The EPA also requests that one (1) hard copy and an electronic copy of the EIS are provided for assessment. These documents should be mailed to the EPA's Central West (Bathurst) office PO Box 1388 BATHURST NSW 2795.

Should you have any enquiries regarding this matter, please contact Ms Sheridan Ledger at the Bathurst office of the EPA on (02) 6332 7608.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Darryl Clift'.

DARRYL CLIFT
Head Central West Unit
Environment Protection Authority

Attachment A

Bowden's Silver Project EPA Secretary's Environmental Assessment Requirements

Licensing requirements

On the basis of the information submitted, the proposal is a scheduled activity, being "Mining for Minerals" under the *Protection of the Environment Operations Act 1997* (POEO Act) and if approval is granted, proponent will be required to submit a licence application to obtain an environment protection licence (EPL) from the EPA.

As such, the EIS should also address the requirements of Section 45 of the POEO Act determining the extent of each impact and providing sufficient information to enable the EPA to determine appropriate conditions for the licence.

Environmental impacts of the project

The EIS must include a comprehensive description of the production processes, all discharges and emissions to the environment, an assessment of likely environmental impacts, particularly in relation to waste storages and include a detailed description of any proposed control measures.

The environmental sensitivity of the site and surrounds should be discussed. Details are required on the location of the proposed development, including the affected environment, to place the Project in its local and regional environmental context including surrounding landuses, land use zonings and most importantly potential sensitive receptors.

The EIS should describe mitigation and management options that will be used to prevent, control, abate or mitigate identified environmental impacts associated with the project and to reduce risks to human health and prevent the degradation of the environment. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

The following environmental impacts of the project need to be assessed, quantified and reported on:

- Water
- Air
- Noise
- Waste, including waste storages
- Construction
- Soils
- Contaminated Land

The EIS should address the specific requirements outlined under each heading below and assess impacts in accordance with the relevant guidelines mentioned. A full list of these guidelines is at **Attachment B**.

Description of proposal and premises

The Proposal

The objectives of the Project should be clearly stated and refer to:

- the size and type of the operation;

- the nature of the processes and the products, by-products and wastes produced;
- the use or disposal of products;
- the anticipated level of performance in meeting required environmental standards and cleaner production principles;
- the staging and timing of the proposal; and
- the Project's relationship to any other industry or facility.

The Premises

The EIS will need to fully identify all of the processes and activities intended for the Project over the life of the development. This will include details of:

- the location of the proposed facility and details of the surrounding environment including the affected environment to place the Project in its local and regional environmental context. This should include surrounding land uses, planning zonings, potential sensitive receptors, catchments and adjoining sensitive areas, surface and sub-surface areas, features of conservation significance and environmental sensitivity (associated maps to be included);
- the proposed layout of the site (associated maps to be included);
- ownership details of any residence and/or land likely to be affected by the Project;
- maps/diagrams showing the location of residences and properties likely to be affected and other industrial developments, conservation areas, wetlands, etc in the locality that may be affected by the Project;
- all equipment proposed for use at the site;
- chemicals, including fuel, used on the site and proposed methods for their transportation, storage, use and emergency management;
- waste generation and disposal;
- methods to mitigate any expected environmental impacts of the development; and
- site rehabilitation following completion of the Project.

Site Layout

The EIS should:

1. Provide maps, at an appropriate scale, which clearly identifies the proposed site layout relevant to environmental features such as drainage lines, terrain etc, over the life of the Project.
2. Provide maps which show land ownership information, the proposed site layout and impact assessment information at an appropriate scale.

Assessment of the environmental impacts of the Project

The potential environmental impacts related to the following environmental issues need to be assessed, quantified and reported on. It should be noted that the following requirements apply to all aspects of the Project, which may include offsite works, including but not necessarily limited to, the relocation of infrastructure eg roads, railway crossings and lines, electricity transmission lines and services, and the establishment of access roads to the Project site.

Air Quality

The goal should be to maintain existing rural air quality and protect sensitive receptors, both on and off site from adverse impacts of dust and odour and other relevant air pollutants. Background ambient air levels should be identified to inform the assessment.

Dust is of primary concern with potential emissions from general mining activities, onsite roads, conveyors, transfer points, loading facilities, coal stockpiles, overburden emplacements etc.

The EA should include a detailed air quality impact assessment (AQIA). The AQIA should:

1. Assess the risk associated with potential discharges of fugitive and point source emissions for all stages of the Project. Assessment of risk relates to environmental harm, risk to human health and amenity.
2. Justify the level of assessment undertaken on the basis of risk factors, including but not limited to:
 - a. proposal location;
 - b. characteristics of the receiving environment; and
 - c. type and quantity of pollutants emitted.
3. Describe the receiving environment in detail. The Project must be contextualised within the receiving environment (local, regional and inter-regional as appropriate). The description must include but need not be limited to:
 - a. meteorology and climate – a minimum of 12 months data obtained from the meteorological station located at the Project site must be provided;
 - b. topography;
 - c. surrounding land-use;
 - d. receptors; and
 - e. ambient air quality.
4. Include a detailed description of the Project. All processes that could result in air emissions must be identified and described. Sufficient detail to accurately communicate the characteristics and quantity of all emissions must be provided. Include a detailed process diagram/flowchart of the Project specifying all air inputs, air outputs and air discharge points.
5. Identification and location of all fixed and mobile sources of dust/air emissions from the development, including rehabilitation, needs to be provided. The location of all emission sources should be clearly marked on a plan for key years of the mine development. The EIS needs to identify all pollutants of concern and estimate emissions by quantity (and size of particles), source(s) and discharge point(s).

Note: emissions can be classed as either:

- a. point (eg emissions from stack or vent), or
 - b. fugitive (from wind erosion, leakages or spillages, associated with loading or unloading, crushing/screening, conveyors, storage facilities, plant and yard operation, vehicle movements [dust from road, exhausts, loss from load], land clearing and construction works).
Fugitive emissions include coal dust emissions and leaks and spills of coal during rail transport to port facilities (as influenced by management methods and procedures employed by the proposal).
6. Include air dispersion modelling where there is a risk of adverse air quality impacts, or where there is sufficient uncertainty to warrant a rigorous numerical impact assessment. Air dispersion modelling must be conducted in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (2005). <http://www.environment.nsw.gov.au/resources/air/ammodelling05361.pdf>.

This assessment should include the following parameters:

- a. dust deposition;
 - b. total suspended particles;
 - c. PM₁₀ and PM_{2.5} particulate matter.
7. Demonstrate the Project's ability to comply with the relevant regulatory framework, specifically the *Protection of the Environment Operations Act 1997* and the *Protection of the Environment Operations (Clean Air) Regulation 2002*.
 8. Provide an assessment of the project in terms of the priorities and targets adopted under the NSW State Plan 2010 and its implementation plan Action for Air.
 9. Detail air emission control techniques/practices that will be employed by the Project.
 - a. All emission control techniques/practices must be benchmarked against best practice process design and emission control. The Project must be assessed by applying the procedure outlined in in *Coal Mine Particulate Matter Control Best Practice - Site-specific determination guideline* (November 2011).
<http://www.environment.nsw.gov.au/resources/air/20110813coalmineparticulate.pdf>
 - b. Nominated controls must be explicitly linked to calculated emission reductions adopted in the air quality impact assessment emissions inventory, with all assumptions documented and justified.
 10. Detail emission control techniques/practices that will be employed by the proposal, including the development of real-time monitoring/management procedures, response (adverse weather) trigger levels and predictive meteorological monitoring/modelling for dust management.
 11. Include a consideration of 'worst case' emission scenarios and impacts at proposed emission limits.
 12. Account for cumulative impacts associated with existing emission sources as well as any currently approved developments linked to the receiving environment.

Noise and Vibration

Potential impacts on the noise amenity of the surrounding area should be assessed in accordance with the NSW Industrial Noise Policy (INP) and other relevant guidelines mentioned below, accounting for all noise sources associated with the Project. In particular, seasonality assessments are to be undertaken to assess the impact of temperature inversions and wind conditions.

A noise and vibration impact assessment for both construction and operational scenarios should be undertaken as part of the EIS. The assessment should consider the issues outlined below, and identify noise mitigation measures to be implemented to meet project specific noise levels developed for the Project. The EIS will need to assess all feasible and reasonable mitigation measures including an assessment of any residual impacts in accordance with section 8.2.1 of the INP.

The noise assessment must include (but not be limited to) an assessment of the C-weighted noise (low frequency) as well as A-weighted noise.

In relation to noise, the following matters should be addressed (where relevant) as part of the Environmental Assessment.

General

1. Construction noise associated with the proposed development should be assessed using the *Interim Construction Noise Guideline* (DECC, 2009).
<http://www.environment.nsw.gov.au/noise/constructnoise.htm>
2. Operational noise from all industrial activities (including private haul roads and private railway lines) to be undertaken on the premises must be assessed in accordance with the guidelines contained in the *NSW Industrial Noise Policy* (EPA, 2000) and *Industrial Noise Policy Application Notes*.
<http://www.environment.nsw.gov.au/noise/industrial.htm>
3. Vibration from all activities (including construction and operation) to be undertaken on the premises should be assessed using the guidelines contained in the *Assessing Vibration: a technical guideline* (DEC, 2006). <http://www.environment.nsw.gov.au/noise/vibrationguide.htm>
4. If blasting is required for any reasons during the construction or operational stage of the proposed development, blast impacts should be demonstrated to be capable of complying with the guidelines contained in *Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration* (ANZEC, 1990).
<http://www.environment.nsw.gov.au/noise/blasting.htm>

Road

5. Noise on public roads from increased road traffic generated by land use developments should be assessed using the *NSW Road Noise Policy* (DECCW, 2011).
<http://www.environment.nsw.gov.au/noise/traffic.htm>
6. Noise from new or upgraded public roads should be assessed using the *NSW Road Noise Policy* (DECCW, 2011). <http://www.environment.nsw.gov.au/noise/traffic.htm>

Noise Monitoring

Describe the noise monitoring system in detail, including the development and implementation of a monitoring program that:

- uses a combination of predictive meteorological forecasting and real-time noise monitoring, supplemented with attended monitoring measures to evaluate the performance of the mine complex;
- adequately supports the proactive and reactive noise management system on site;
- includes a protocol for determining exceedances of the conditions imposed on the project;
- evaluates and reports on the effectiveness of the noise management system on site;
- provides for the annual validation of the noise model for the mine complex.

The EIS must describe the system that will be implemented to enable the community to access up-to-date information regarding any proposed blasting schedule.

Waste

The EIS should identify all wastes to be generated by all aspects of the Project and identify procedures for the handling and management of all wastes produced. The handling of rejects, tailings and overburden material are important aspects which must be assessed in detail.

The EIS should:

1. Identify, characterise and classify all waste that will be generated onsite through excavation, demolition or construction activities, including proposed quantities of the waste.
2. Demonstrate how waste will be managed in accordance with the waste hierarchy, established under the [Waste Avoidance and Resource Recovery Act 2001](#), which aims to that ensures that resource management options are considered against the following priorities:
 - *Avoidance* including action to reduce the amount of waste generated by households, industry and all levels of government
 - *Resource* recovery including reuse, recycling, reprocessing and energy recovery, consistent with the most efficient use of the recovered resources
 - *Disposal* including management of all disposal options in the most environmentally responsible manner.
3. Include a detailed plan for in-situ classification of waste material, including the sampling locations and sampling regime that will be employed to classify the waste, particularly with regards to the identification of contamination hotspots in accordance with the EPA's *Waste Classification Guidelines*.
4. Provide details of the quantity and type of both liquid and non-liquid waste generated, handled, processed or disposed of at the premises. Wastes must be classified according to the Waste Classification Guidelines (DECC 2008).
5. Details of procedures for the assessment, handling, storage, transport and disposal of all hazardous waste used, stored, processed or disposed of at the site, in addition to the requirements for liquid and non-liquid wastes.
6. Identify, characterise and classify all waste that is proposed to be disposed of to an offsite location, including proposed quantities of the waste and the disposal locations for the waste. This includes waste that is intended for re-use or recycling. All waste must be classified in accordance with EPA's *Waste Classification Guidelines*.
7. Provide, where relevant, the methods which will be utilised to ensure compliance with any approved Resource Recovery General Exemption for the offsite disposal of waste either generated onsite and disposed of offsite, or received from offsite and disposed of onsite. Resource Recovery General Exemptions may only be utilised where the waste is land applied for use as fuel of a waste material is a genuine, fit for purpose, reuse of the waste rather than another path to waste disposal.
8. Identify the management and disposal of tailings including actions to prevent potential impacts to groundwater, surface water or any other environmental aspect which may occur as a result of the management technique utilised. The EIS must assess and commit to the implementation of all

feasible and reasonable measures to minimise seeps, leaching, and/or leaks from the tailings storage facilities into the surrounding environment. The EIS must also include details of a monitoring program which will be established to assess leaks and/or seepages from any tailings storage facility, including a leak detection system.

9. Assess the potential for acid mine drainage from acid forming materials and identify the management /mitigation measures which will be utilised for any PAF material identified.
10. Provide details of how waste will be handled and managed onsite to minimise pollution, including:
 - a) Stockpile location and management
 - Labelling of stockpiles for identification, ensuring that all waste is clearly identified and stockpiled separately from other types of material (especially the separation of any contaminated and non-contaminated waste).
 - Proposed height limits for all waste to reduce the potential for dust and spontaneous combustion.
 - Procedures for minimising the movement of waste around the site and double handling.
 - b) Provide details of waste rock emplacement areas with particular attention to:
 - The quantity of waste rock likely to be generated;
 - Proposed strategies for the handling, reuse/recycling and disposal of waste rock; and
 - Designation of transport routes for the transport of waste rock.

Chemicals and Hazardous Materials

The EIS should:

1. Provide details of the types and quantity of any chemical substances, including but not necessarily limited to, hydrocarbons (oils and fuels), hazardous or dangerous materials (eg explosives etc) to be used or stored onsite.
2. Provide details of procedures for the assessment, handling, storage, transport and disposal of all chemical substances, hazardous or dangerous materials used, stored, processed or disposed of at the site, in addition to the requirements for liquid and non-liquid wastes.
3. Outline pollution control measures relating to storage of wastes, materials, possibility of accidental spills (eg. Preparation of contingency plans), appropriate disposal methods and management of contaminated stormwater.

Soils

The EIS should include:

1. An assessment of potential impacts on soil and land resources should be undertaken, being guided by *Soil and Landscape Issues in Environmental Impact Assessment* (DLWC 2000). The nature and extent of any significant impacts should be identified. Particular attention should be given to:

- Soil erosion and sediment transport - in accordance with *Managing urban stormwater: soils and construction*, vol. 1 (Landcom 2004) and vol. 2 (A. Installation of services; B Waste landfills; C. Unsealed roads; D. Main Roads; E. Mines and quarries) (DECC 2008).
 - Urban and regional salinity – guidance given in the Local Government Salinity Initiative booklets which includes *Site Investigations for Urban Salinity* (DLWC, 2002).
2. A description of the mitigation and management options that will be used to prevent, control, abate or minimise identified soil and land resource impacts associated with the project. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.
 3. Where required, add any specific assessment requirements relevant to the Project.

Water

The environmental outcomes of the Project in relation to water should be:

- There is no pollution of waters (including surface and groundwater); and
- Polluted water (including process/tailings waters, wash down waters, polluted stormwater or sewerage) is captured onsite and collected, treated and beneficially reused, where safe and practical to do so.

The EIS should document the measures that will achieve the above outcomes in the construction, operation and post operations phases of the project. Construction activities will need to demonstrate best practice sediment and erosion control and management in accordance with the reference document *Managing Urban Stormwater: Soils and Construction* (NSW Landcom).

The EIS should:

1. Describe existing surface and groundwater quality. An assessment needs to be undertaken for any water resource likely to be affected by the Project.
2. Describe any drainage lines, creeks lines etc that will be impacted by the Project.
3. Provide a water balance for the including water requirements (quantity, quality and source(s)) and proposed storm and wastewater disposal, including type, volumes, proposed treatment and management methods and re-use options.
4. Describe the Project including position of any intakes and discharges, volumes, water quality and frequency of all water discharges (e.g. surface water discharge to a river/creek, groundwater, irrigation of waste water etc).
5. Assess the nature and degree of impact that any proposed discharges may have on the receiving environment. Assessment for discharge to surface waters should be guided by *Using the ANZECC Guidelines and Water Quality Objectives in NSW* (DEC, 2006) using local Water Quality Objectives determined from the *NSW Water Quality and River Flow Objectives* (DEC, 2006). Demonstrate how the Project will be designed and operated to:
 - protect the Water Quality Objectives for receiving waters where they are currently being achieved; and
 - contribute towards achievement of the Water Quality Objectives over time where they are not currently being achieved.

6. Where the proponent intends to undertake the assessment using site-specific water quality trigger values, detail the water quality of a reference site that has been selected based on the site-specific considerations outlined in ANZECC (2000).
7. Identify potential impacts on watercourses and the management/mitigation measures that will be implemented where mining activities occur in proximity to or within a watercourse.
8. Identify whether any discharge, or the location of the Project, will cause erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.
9. If the discharge requires treatment prior to disposal, any treatment measures should be described and the predicted water quality outcomes documented. Include a detailed process diagram/flowchart of the proposal specifying all water inputs, outputs and discharge points
10. Demonstrate that all practical options to avoid discharge have been investigated and implemented and outline measures that have been taken to reduce the pollutant load of the discharge so that the environmental impact is minimised where a discharge is necessary.
11. Describe how stormwater will be managed both during and after construction including a layout of the proposed stormwater system in accordance with *Managing Urban Stormwater, Soils and Construction – Volume 1* (Landcom, 2004) and *Volumes 2A to 2E* (DECC, 2008), The EIS should:
 - Provide the proposed general location of all water management structures. These should be clearly indicated on appropriately scaled maps.
 - Demonstrate how clean, dirty and contaminated water will be managed (separated) on site throughout the life of the Project.
 - Provide detailed water management strategies for all disturbance areas including the management of channel and overland flows into and within the disturbance area.
 - Provide the proposed sizing of all water storage dams, sediment dams and other dams as required and justification for the sizing utilised.
 - Identify contingency measure which may be implemented during extreme rainfall events.
12. Where the management of sediment basins requires the use of flocculants, the EIS should include information about the type, toxicity and management of flocculants proposed to treat captured water before discharge.
13. Provide detailed water management strategies for all disturbance areas, paying particular attention to the waste rock emplacement areas and potential impacts on groundwater and offsite surface water resources including particular reference to the management of channel and overland flows into and within the disturbance area.
14. Determine and detail the tailings management and monitoring strategy and dam design to be implemented, including an assessment of the potential impacts of tailings storage on surface and groundwater resources, contingency plans in the event of a leak or seep, rehabilitation and the long term management and feasibility.
15. Provide plans for the proposed relocation/realignment of all creeks and/or drainage lines including design, timelines and completion criteria and sufficient evidence to demonstrate that the proposed plans are achievable, reasonable and feasible in the short and the long term.

16. State the Water Quality Objectives for the receiving waters relevant to the proposal. These refer to the community's agreed environmental values and human uses endorsed by the NSW Government as goals for ambient waters (<http://www.environment.nsw.gov.au/ieo/index.htm>). Where groundwater may be impacted the assessment should identify appropriate groundwater environmental values.
17. State the indicators and associated trigger values or criteria for the identified environmental values. This information should be sourced from the ANZECC (2000) Guidelines for Fresh and Marine Water Quality (http://www.mincos.gov.au/publications/australian_and_new_zealand_guidelines_for_fresh_and_marine_water_quality).
18. State any locally specific objectives, criteria or targets which have been endorsed by the NSW Government.
19. Assess impacts on groundwater and groundwater dependent ecosystems. The assessment should be guided by the principles in *The NSW State Groundwater Policy Framework Document* (DLWC, 1997). *Assessment and Management of Groundwater Contamination* (DEC, 2007) provides guidance on assessing and managing groundwater contamination. Assess impacts against relevant water quality guidelines for:
 - potentially impacted environmental values and beneficial uses using local Water Quality Objectives;
 - contamination, such as investigation levels specified in *National Environment Protection Measure Guideline on the Investigation Levels for Soil and Groundwater* (EPHC, 1999).
20. Provide plans for any proposed relocation/realignment of all creeks and/or drainage lines including design, timelines and completion criteria and sufficient evidence to demonstrate that the proposed plans are achievable/sustainable, reasonable and feasible in the short and the long term.
21. Assess any irrigation areas proposed for wastewaters produced in accordance with the EPA Guideline "The Use of Effluent by Irrigation".
22. Describe how predicted impacts on surface water, groundwater and aquatic ecosystems will be monitored and assessed over time, including monitoring locations, relevant parameters, and sampling frequency. The EIS should:
 - Include a Trigger Action Response Plan, or similar response management plan, to identify appropriate trigger values and criteria and provide appropriate response actions if impacts are identified through the monitoring program.
 - Identify the process for identifying any trends in the monitoring data obtained.

Note: Water quality monitoring should be undertaken in accordance with the *Approved Methods for the Sampling and Analysis of Water Pollutant in NSW* (DEC, 2004). *Groundwater Sampling and Analysis: Field Guide* (Geosciences Australia, 2009) provides guidance on the design of a groundwater sampling program.

Monitoring, Assurance and Reporting Programs

1. The EIS should include a detailed assessment of any noise, air quality, water quality or waste monitoring required during the construction phase and on-going operation of the facility to prevent or minimise any adverse environmental impacts from the development.
2. Appropriate baseline data requirements are to be identified as part of the EIS, to form the basis for baseline and ongoing monitoring of environmental parameters.

3. It must be demonstrated that the proposed methods for baseline and subsequent monitoring are scientifically robust and statistically sound.
4. The EIS must also identify and describe monitoring programs, compliance assurance programs and reporting requirements and arrangements that will demonstrate the effectiveness of proposed management measures in meeting applicable requirements.
5. The EIS must, in addition to outlining proposed programs, clearly identify what is to be monitored and audited and why. This should include identification of monitoring locations, parameters to be monitored, sample analysis methods, the level of reporting proposed. The EIS should also include information on frequency and type of audits proposed to assure compliance with applicable requirements,
6. The EIS should demonstrate monitoring and audit programs must be designed appropriately, according to best practice, to provide objective evidence regarding activities associated with the development and have regard to whether these activities are adversely impacting on the environment in the short, medium and/or long term.

Cumulative impacts

The EIS should provide an assessment of the cumulative impacts of the project during construction and operation of the proposal with regard to noise, air quality, water quality or waste. Assessment of cumulative impacts must consider past, current and future activities in the area surrounding the project, impacts associated with internal components of this project (where relevant – e.g. a project involving construction throughout a precinct or similar), as well as the construction impacts of any projects recently completed.

Attachment B
Guidance Material

Title	Web address
Relevant Legislation	
<i>Contaminated Land Management Act 1997</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+140+1997+cd+0+N
<i>Environmental Planning and Assessment Act 1979</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N
<i>Protection of the Environment Operations Act 1997</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N
<i>Water Management Act 2000</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N
Licensing	
Guide to Licensing	http://www.epa.nsw.gov.au/licensing/licenceguide.htm
Air Issues	
Air Quality	
Approved methods for modelling and assessment of air pollutants in NSW (2005)	http://www.epa.nsw.gov.au/resources/air/ammodelling05361.pdf
POEO (Clean Air) Regulation 2010	http://www.legislation.nsw.gov.au/#/view/regulation/2010/428
Dust	No EPA specific guidance material exists for the control of dust from construction sites. Consideration should be given to the POEO Act and the Local Government Air Quality Toolkit (DECC, 2007), accessed via: http://www.epa.nsw.gov.au/air/lgaqt.htm
Odour - Technical Framework - Assessment and Management of Odour from Stationary Sources in NSW (DEC, 2006)	http://www.epa.nsw.gov.au/air/odour.htm
Noise and Vibration	
Interim Construction Noise Guideline (DECC, 2009)	http://www.epa.nsw.gov.au/resources/noise/09265cng.pdf
Industrial Noise Policy and Application Notes	http://www.epa.nsw.gov.au/noise/industrial.htm
Assessing Vibration: A technical Guideline (DECC, 2006)	http://www.epa.nsw.gov.au/resources/noise/vibrationguide0643.pdf
SA EPA Environmental Noise Guidelines (SA EPA, 2009)	http://www.epa.sa.gov.au/environmental_info/noise/wind_farms
Technical Basis for Guidelines to Minimise Annoyance due to Blasting	http://www.epa.nsw.gov.au/resources/noise/ANZECBlasting.pdf

Title	Web address
Overpressure and Ground Vibration	
NSW Road Noise Policy	http://www.epa.nsw.gov.au/noise/traffic.htm
Waste, Chemicals and Hazardous Materials and Radiation	
Chemical and Fuel Storage	
Bunding and Spill Management	http://www.epa.nsw.gov.au/mao/bundingspill.htm
Storage and Handling of Dangerous Goods – Code of Practice (WorkCover, 2005)	http://www.workcover.nsw.gov.au/formspublications/publications/Documents/storage-handling-dangerous-goods-1354.pdf
Waste	
Environmental Guidelines: Solid Waste Landfills (EPA 2016)	http://www.epa.nsw.gov.au/resources/waste/solid-waste-landfill-guidelines-160259.pdf
Waste Classification Guidelines	http://www.epa.nsw.gov.au/wasteregulation/classify-guidelines.htm
Resource Recovery Orders and Exemptions	http://www.epa.nsw.gov.au/wasteregulation/orders-exemptions.htm
Soils	
Contaminated Sites Assessment and Remediation	
Managing land contamination: Planning Guidelines – SEPP 55 Remediation of Land	http://www.legislation.nsw.gov.au/#/view/EPI/1998/520
Contaminated Sites Guidelines	http://www.epa.nsw.gov.au/clm/guidelines.htm
Soils – general	
Soil Publications	http://www.environment.nsw.gov.au/soils/publications.htm
Managing urban stormwater: soils and construction, vol. 1 (Landcom 2004) and vol. 2 (A. Installation of services; B Waste landfills; C. Unsealed roads; D. Main Roads; E. Mines and quarries) (DECC 2008)	Vol 1 - http://www.environment.nsw.gov.au/resources/water/BlueBookVol1.pdf Vol 2 - http://www.environment.nsw.gov.au/stormwater/publications.htm
Water	
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm http://www.environment.gov.au/water/publications/quality/pubs/nwqms-guidelines-4-vol1.pdf
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	http://www.mincos.gov.au/publications/australian_and_new_zealand_guidelines_for_fresh_and_marine_water_quality http://www.environment.gov.au/water/publications/quality/nwqms-guidelines-4-vol1.html http://www.environment.gov.au/water/publications/quality/pubs/nw

Title	Web address
	gms-guidelines-4-vol1.pdf
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf



File No: SF16/54269
Ref No: DOC16/604167

Elle Donnelley
Planner, Resource Assessments
Planning Services
GPO BOX 39
SYDNEY NSW 2001

Sent by e-mail to: elle.donnelley@planning.nsw.gov.au

Dear Ms Donnelley

Request for input into revised Secretary's Environmental Assessment Requirements (SEARs) for Bowden's Silver Project, near Lue, Mid-Western Regional Council LGA (SSD 5765)

Reference is made to your correspondence received on 29 November 2016 seeking input into the revised Secretary's Environmental Assessment Requirements (SEARs) from the Heritage Council of NSW (the Heritage Council) for the above proposal.

A revision of the SEARs is required because the project will not be able to meet the required two year timeframe for submission of the Environmental Impact Assessment and the ownership and project scope has changed from the original application. A review of the documentation associated with the request has been undertaken, in particular the:

- 'Preliminary Environmental Assessment for Bowdens Silver Project (State Significant Development No. 5765)' prepared by R.W. Cokery & Co. Pty. Limited dated November 2016 (the Assessment).

The original SEARs issued in February 2015 indicate that a heritage assessment would be required. The Assessment has noted that within the indicative Mine Site, three European heritage features, comprising of two historic mine shafts and hut ruins are extant. However, no further assessment of these heritage items has been provided.

It is further noted that the Assessment has identified sites of Aboriginal archaeological significance based on previous cultural heritage surveys undertaken in 2003 and 2011. The surveys indicated that twenty five Aboriginal heritage sites were identified comprising of seventeen stone artefact scatters and eight isolated finds of stone artefacts. The assessment has indicated that additional investigation will be undertaken with a cultural heritage survey proposed within the area of the proposed access road and project related infrastructure that may be located to the northwest of the proposed open cut pit. The Assessment indicates that a detailed Cultural Heritage assessment of the entire proposed disturbance footprint will be undertaken and an assessment of significance of any identified objects assessed in accordance with the relevant guidelines.

The Heritage Division advises the Department of Planning and Environment that historic and archaeological heritage issues have not been adequately considered in the preparation of the Assessment for this project. Whilst the Assessment has identified the existence of the

abovementioned historic heritage items within the project area, an updated EIS should identify if these potential heritage items are likely to be affected. The following SEARs are recommended to ensure that heritage concerns are adequately addressed prior to project approval:

1. The EIS shall include a Heritage Impact Assessment (HIS) prepared in accordance with the guidelines in the NSW Heritage Manual that addresses the significance of, and provides an assessment of the impact on the heritage significance of heritage items on the development site and in the vicinity.
2. The EIS shall also 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.

If you have any questions regarding the above matter, please contact Anna Foroozani, Heritage Assessment Officer at the Heritage Division, Office of Environment and Heritage on telephone (02) 9985 6479 or at anna.foroozani@environment.nsw.gov.au.

Yours sincerely



Katrina Stankowski
Acting Manager, Conservation
Heritage Division
Office of Environment & Heritage
As Delegate of the Heritage Council of NSW
08/12/2016



Our Ref: DOC16/624453

Your Ref: SSD 5765

Ms Elle Donnelley
Planner
Resource Assessments
Department of Planning and Environment
elle.donnelley@planning.nsw.gov.au

Dear Ms Donnelley,

Bowdens Silver Project SEARs – SSD 5765

I refer to your e-mail dated 29 November 2016 seeking input into the Department of Planning and Environment Secretary's Environmental Assessment Requirements (SEARs) for the preparation of an Environmental Impact Assessment (EIS) for the Bowdens Silver Project (SSD 5765).

OEH has considered your request and provides SEARs for the proposed development in **Attachments A, B and C** and guidance material in **Attachment D**.

OEH recommends the EIS needs to appropriately address the following:

1. Biodiversity and offsetting
2. Aboriginal cultural heritage
3. Historic heritage
4. Water and soils
5. Flooding

OEH notes that there are a number of Endangered Ecological Communities and threatened species potentially affected by the development, and that Aboriginal cultural heritage items may also be present. OEH recommends that the design of the mine avoids areas of native vegetation as much as possible.

Please note that the NSW Biodiversity Offsets Policy for Major Projects www.environment.nsw.gov.au/resources/biodiversity/140672biopolicy.pdf is now being implemented. The policy provides a standard method for assessing impacts of major projects on biodiversity and determining offsetting arrangements.

The policy is underpinned by the Framework for Biodiversity Assessment (FBA) <http://www.environment.nsw.gov.au/resources/biodiversity/140675fba.pdf> which contains the assessment methodology that is adopted by the policy to quantify and describe the impact assessment requirements and offset guidance that applies to Major Projects. The FBA must be used by a proponent to assess all biodiversity values on the development site.

If you have any questions regarding this matter further please contact David Geering on 02 6883 5335 or email david.geering@environment.nsw.gov.au.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'S. Cox', with a long horizontal stroke extending to the right.

STEVEN COX
Senior Team Leader Planning
North West Region

Date: 13 December 2016

Contact officer: DAVID GEERING
6883 5335

Attachment A - Environmental Assessment Requirements

Attachment B – Species/Populations/Ecological Communities which Require Further Consideration

Attachment C - Critically Endangered Entities Specifically Excluded From Requiring Further Consideration

Attachment D - Guidance Material

Attachment A – Standard Environmental Assessment Requirements

<p>Biodiversity</p> <ol style="list-style-type: none"> 1. Biodiversity impacts related to the proposed Bowdens Silver Project are to be assessed and documented in accordance with the Framework for Biodiversity Assessment, unless otherwise agreed by OEH, by a person accredited in accordance with s142B(1)(c) of the <i>Threatened Species Conservation Act 1995</i>. 2. Impacts on the species and ecological communities listed in Attachment B will require further consideration and provision of the information specified in s9.2 of the Framework for Biodiversity Assessment.
<p>Aboriginal Cultural Heritage</p> <ol style="list-style-type: none"> 3. The EIS must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the development 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 <i>Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW</i> (DECCW, 2011) and consultation with OEH regional officers. 4. Where Aboriginal cultural heritage values are identified, consultation with Aboriginal people must be undertaken and documented in accordance with the <i>Aboriginal cultural heritage consultation requirements for proponents 2010</i> (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the EIS. 5. 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.
<p>Historic Heritage</p> <ol style="list-style-type: none"> 6. The EIS must provide a heritage assessment including but not limited to an assessment of impacts to <i>State and local heritage</i> including conservation areas, natural heritage areas, places of Aboriginal heritage value, buildings, works, relics, gardens, landscapes, views, trees should be assessed. Where impacts to State or locally significant heritage items are identified, the assessment shall: <ol style="list-style-type: none"> a. outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the mitigation measures) generally consistent with the NSW Heritage Manual (1996), b. be undertaken by a suitably qualified heritage consultant(s) (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria), c. include a statement of heritage impact for all heritage items (including significance assessment), d. consider impacts including, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, landscape and vistas, and architectural noise treatment (as relevant), and

- e. where potential archaeological impacts have been identified develop an appropriate archaeological assessment methodology, including research design, to guide physical archaeological test excavations (terrestrial and maritime as relevant) and include the results of these test excavations.

Water and Soils

7. 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).
 - Rivers, streams, wetlands, estuaries (as described in Appendix 2 of the Framework for Biodiversity Assessment).
 - Groundwater.
 - Groundwater dependent ecosystems.
 - Proposed intake and discharge locations.
8. The EIS must describe background conditions for any water resource likely to be affected by the development, including:
- Existing surface and groundwater.
 - Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations.
 - Water Quality Objectives (as endorsed by the NSW Government <http://www.environment.nsw.gov.au/ieo/index.htm>) including groundwater as appropriate that represent the community's uses and values for the receiving waters.
 - Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government.
9. The EIS must assess the impacts of the development on water quality, including:
- The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development 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.
 - Identification of proposed monitoring of water quality.
10. The EIS must assess the impact of the development on hydrology, including:
- Water balance including quantity, quality and source.
 - Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.
 - Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.
 - 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 (e.g. river benches).
 - Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water.

- f. 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.
- g. Identification of proposed monitoring of hydrological attributes.

Flooding

11. The EIS must map the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:
 - a. Flood prone land.
 - b. Flood planning area, the area below the flood planning level.
 - c. Hydraulic categorisation (floodways and flood storage areas).
12. 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.
13. The EIS must model the effect of the proposed development (including fill) on the flood behaviour under the following scenarios:
 - a. Current flood behaviour for a range of design events as identified in 11 above. This includes 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.
14. Modelling in the EIS must consider and document:
 - a. The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood.
 - b. Impacts of the development 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.
 - c. Relevant provisions of the NSW Floodplain Development Manual 2005.
15. The EIS must assess the impacts on the proposed development on flood behaviour, including:
 - a. Whether there will be detrimental increases in the potential flood affection of other properties, assets and infrastructure.
 - b. Consistency with Council floodplain risk management plans.
 - c. Compatibility with the flood hazard of the land.
 - d. Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.
 - e. Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site.
 - f. Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.
 - g. Any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the SES and Council.
 - h. Whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the SES and Council.
 - i. Emergency management, evacuation and access, and contingency measures for the development considering the full range of flood risk (based upon the probable maximum

flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the SES.

- j. Any impacts the development may have on the social and economic costs to the community as consequence of flooding.

Attachment B – Species/Populations/Ecological Communities which Require Further Consideration

Table 1

Class	Scientific Name	Common Name	NSW status	Comm. status
Aves	<i>Anthochaera phrygia</i>	Regent Honeyeater	Critically Endangered	Critically Endangered

Attachment C – Critically Endangered Entities Specifically Excluded From Requiring Further Consideration*

Table 2

Class	Scientific Name	Common Name	NSW status	Comm. status
Aves	<i>Lathamus discolor</i>	Swift Parrot	Endangered	Critically Endangered
Community	<i>White Box Yellow Box Blakely's Red Gum Woodland</i>	White Box Yellow Box Blakely's Red Gum Woodland	Endangered	Critically Endangered
Flora	<i>Prasophyllum sp. Wybong</i>		Protected	Critically Endangered
Flora	<i>Euphrasia arguta</i>		Critically Endangered	Critically Endangered

* Further information, as detailed in section 9.2.5.2 of the FBA, is not required for the excluded entities in Table 2. However, assessment of impacts and offset requirements must still be included in the biodiversity assessment report for these entities in accordance with the FBA.

Attachment D – Guidance Material

Title	Web address
<u>Relevant Legislation</u>	
<i>Coastal Protection Act 1979</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+13+1979+cd+0+N
<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>	http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/
<i>Environmental Planning and Assessment Act 1979</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N
<i>Fisheries Management Act 1994</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N
<i>Marine Parks Act 1997</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+64+1997+cd+0+N
<i>National Parks and Wildlife Act 1974</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N
<i>Protection of the Environment Operations Act 1997</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N
<i>Threatened Species Conservation Act 1995</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+101+1995+cd+0+N
<i>Water Management Act 2000</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N
<i>Wilderness Act 1987</i>	http://www.legislation.nsw.gov.au/viewtop/inforce/act+196+1987+FIRST+0+N
<u>Biodiversity</u>	
NSW Biodiversity Offsets Policy for Major Projects (OEH, 2013)	http://www.environment.nsw.gov.au/resources/biodiversity/140672biopolicy.pdf
Framework for Biodiversity Assessment (OEH, 2013)	http://www.environment.nsw.gov.au/resources/biodiversity/140675fba.pdf
Fisheries NSW policies and guidelines	http://www.dpi.nsw.gov.au/fisheries/habitat/publications/policies,-guidelines-and-manuals/fish-habitat-conservation
List of national parks	http://www.environment.nsw.gov.au/NationalParks/parksearchatoz.aspx
Revocation, recategorisation and road adjustment policy (OEH, 2012)	http://www.environment.nsw.gov.au/policies/RevocationOfLandPolicy.htm
Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/parks/policyRevocations.pdf
<u>Heritage</u>	
The Burra Charter (The Australia ICOMOS charter for places of cultural significance)	http://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf
Statements of Heritage Impact 2002 (HO & DUAP)	http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/hmstatementsofhi.pdf
NSW Heritage Manual (DUAP) (scroll through alphabetical list to 'N')	http://www.environment.nsw.gov.au/Heritage/publications/index.htm#M-O

Title	Web address
<u>Aboriginal Cultural Heritage</u>	
Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/cultureheritage/comconsultation/09781ACHconsultreq.pdf
Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf
Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011)	http://www.environment.nsw.gov.au/resources/cultureheritage/20110263ACHguide.pdf
Aboriginal Site Recording Form	http://www.environment.nsw.gov.au/resources/parks/SiteCardMainV1_1.pdf
Aboriginal Site Impact Recording Form	http://www.environment.nsw.gov.au/resources/cultureheritage/120558asirf.pdf
Aboriginal Heritage Information Management System (AHIMS) Registrar	http://www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm
Care Agreement Application form	http://www.environment.nsw.gov.au/resources/cultureheritage/20110914TransferObject.pdf
<u>Water and Soils</u>	
Acid Sulphate Soils	
Acid Sulfate Soils Planning Maps via 'The NSW Natural Resource Atlas'	www.nratlas.nsw.gov.au/
Acid Sulfate Soils Manual (Stone et al. 1998)	Manual available for purchase from: http://www.landcom.com.au/whats-new/the-blue-book.aspx Chapters 1 and 2 are on DPI's Guidelines Register at: Chapter 1 Acid Sulfate Soils Planning Guidelines: http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Planning%20Guidelines.pdf Chapter 2 Acid Sulfate Soils Assessment Guidelines: http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Assessment%20Guidelines.pdf
Acid Sulfate Soils Laboratory Methods Guidelines (Ahern et al. 2004)	http://www.advancedenvironmentalmanagement.com/Reports/Savannah/Appendix%2015.pdf This replaces Chapter 4 of the Acid Sulfate Soils Manual above.
Flooding and Coastal Erosion	
Reforms to coastal erosion management	http://www.environment.nsw.gov.au/coasts/coastalerosionmgmt.htm
Floodplain development manual	http://www.environment.nsw.gov.au/floodplains/manual.htm
Guidelines for Preparing Coastal Zone Management Plans	Guidelines for Preparing Coastal Zone Management Plans http://www.environment.nsw.gov.au/resources/coasts/130224CZMPGuide.pdf
NSW Climate Impact Profile	NSW Climate Impact Profile
Climate Change Impacts and Risk Management	Climate Change Impacts and Risk Management: A Guide for Business and Government, AGIC Guidelines for Climate Change Adaptation
Water	
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm

Title	Web address
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	www.environment.gov.au/water/publications/quality/australian-and-new-zealand-guidelines-fresh-marine-water-quality-volume-1
Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones	http://deccnet/water/resources/AWQGuidance7.pdf
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf



8 December 2016

SF2013/003834; WST13/00010/02

The Manager
Resource Assessment
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Ms Elle Donnelly

Dear Ms Donnelly

**SSD5765: Bowdens Silver Project
Request for updated Secretary's Environmental Assessment Requirements (SEARs)**

Thank you for your email on 29 November 2016 seeking revised SEARs from Roads and Maritime Services for the Bowdens Silver Project. Reference is made to Roads and Maritime's previous submission dated 29 January 2013 providing Director General Requirements (now SEARs) for this proposal.

I note the applicant has modified the proposal by reducing the annual ore production rate from 4 million tonnes to 2 million tonnes per annum and increasing the life of the mine from 12 years to 17 years. The proposal will also now include a direct access from Lue Road.

Roads and Maritime's requirements provided in its submission dated 29 January 2013 stand and do not require any changes or amendments.

Please forward a copy of the updated SEARs to Roads and Maritime at the same time they are sent to the applicant. Should you require further information, please contact the undersigned on 02 6861 1681.

Yours faithfully

A handwritten signature in blue ink, appearing to read 'Andrew McIntyre'.

Andrew McIntyre
Manager Land Use Assessment
Western

Roads and Maritime Services