



Jellinbah Group



LAKE VERMONT MEADOWBROOK PROJECT ENVIRONMENTAL IMPACT STATEMENT

CHAPTER 22 PROPOSED ENVIRONMENTAL MANAGEMENT AND MONITORING COMMITMENTS



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22 Proposed Environmental Management and Monitoring Commitments

In accordance with the Terms of Reference, this Chapter provides a consolidated description of all Bowen Basin Coal's commitments to implement management measures (including monitoring and management programs).



Table 22.1: Summary of Project Commitments

Project Matter	Commitment
Climate	<p>The Project will be designed in a manner that reduces the risks of climate change impacts, including risks to the Project, surrounding land uses, and future land uses.</p> <p>Mitigation measures to be implemented in the site design will include:</p> <ul style="list-style-type: none"> • Mitigation for impacts of higher-than-average temperatures, including: <ul style="list-style-type: none"> ○ maintaining existing site practices (that manage occupational exposure to extreme temperature conditions). ○ energy supply system designed for predicted extreme temperatures; ○ dust suppression measures; ○ coal stockpile design and management to facilitate prevention and control of fires; and ○ hardening and establishment measures for rehabilitation plantings. • Mitigation measures for increased occurrence of bushfires, including: <ul style="list-style-type: none"> ○ constructing fire breaks and undertaking hazard reduction burns; ○ provision for accessibility to critical infrastructure and emergency response equipment in Project design; and ○ early fire detection and water sprinkler systems for critical areas. • Mitigation measures for increased occurrence of cyclones, extreme rainfall and flooding. • Developing infrastructure designed to meet local cyclone protection standards. • Constructing levees to protect key infrastructure areas from flooding and extreme rainfall events. • Mitigation measures for decreased average annual rainfall, including: <ul style="list-style-type: none"> ○ developing a progressive rehabilitation and closure plan that considers climate hazards and climate change; and ○ establishment support for rehabilitation plantings.
Land Resources	<p>During development of areas predicted to be subject to subsidence impacts, monitoring will be undertaken to assess the occurrence and severity of any potential impacts. An adaptive management approach will be adopted, with management measures implemented as necessary. This approach to the management of subsidence impacts will be detailed through the development of a SMP.</p> <p>The Project SMP will:</p> <ul style="list-style-type: none"> • Provide a description of the topography of the area to be affected by subsidence, including: <ul style="list-style-type: none"> ○ soils and geology of the area; ○ ecological values; ○ surface water values; and ○ groundwater values. • Provide the predictions of the magnitude of subsidence for the mining area, including:



Project Matter	Commitment
	<ul style="list-style-type: none"> o predicted subsidence from mining of each longwall panel; o predicted geomorphic changes to watercourses; and o predicted surface cracking. <ul style="list-style-type: none"> • Provide the predictions of the magnitude of flora and fauna impacts from subsidence, including: <ul style="list-style-type: none"> o predicted areas of decline in tree vegetation resulting from ponding; and o predicted areas of in-stream subsidence troughs. • Provide a risk assessment that will include the likelihood and consequence of each of the impacts and priority of actions to be implemented in the mitigation process. • Provide a description of measures to minimise and remediate impacts, including; <ul style="list-style-type: none"> o the exclusion of grazing cattle from the active subsidence affected area; o describe the adaptive management approach to potential subsidence impacts; o outline approach for rehabilitation of persistent soil cracks; and o outline bank protection measures for potential stream bank erosion impacts. • Provide the detail of the ongoing subsidence monitoring program, including; <ul style="list-style-type: none"> o condition monitoring of watercourses in subsidence affected areas; o monitoring for soil cracks impacts; and o monitoring of vegetation condition impacts. • Provide the detail of the process for determining when active management (rehabilitation) is required to address surface cracking, erosion, geomorphological changes, or other unexpected impacts that may arise. Provide the process for determining the most applicable rehabilitation method to be adopted to address these impacts, to both minimise further disturbance and ensure protection of environmental values present within the area of impact. <p>The subsidence monitoring program will provide data to assist with the management of associated risks, validate subsidence predictions and analyse the relationship between subsidence effects and impacts on the surrounding environment. A trigger action response plan as well as contingency plans will be described in the SMP whenever there are variations with respect to predicted subsidence.</p> <p>Subsidence impacts on the land surface will be assessed and, where necessary, remediated through the implementation of one, or a combination of, the following measures:</p> <ul style="list-style-type: none"> • scarifying or ripping of exposed surfaces to fill residual surface cracks, control erosion and assist revegetation; • regrading of isolated depressions, highpoints, and slopes; • livestock access control; • channel reprofiling; and • revegetation. <p>These measures will be detailed within the SMP.</p>



Project Matter	Commitment
	<p>Subsidence impacts reporting on existing impacts and the status of mitigation actions will be undertaken to ensure a record of actions is retained and so that continuous improvement of mitigation measures is achieved. Internally, these reports will serve as an ongoing assessment of subsidence conditions and the effectiveness of mitigation actions. Reporting outcomes will be considered when updating the SMP.</p> <p>Operational surface disturbance will be managed using a land disturbance permit system (which already exists at the Lake Vermont Mine).</p> <p>Progressive rehabilitation of disturbed land will be managed in accordance with the approved Project PRCP (Appendix B, Progressive Rehabilitation and Closure Plan).</p> <p>Erosion and sediment controls will be implemented during the construction, operational and rehabilitation phases to reduce the risk and impacts of erosion. The existing Lake Vermont Water Management Plan will be updated to incorporate erosion and sediment control strategies. The proposed Project PRCP also addresses sediment and erosion control mechanisms (Appendix B, Progressive Rehabilitation and Closure Plan).</p> <p>Project management plans (related to protection of land resources) will therefore ensure that:</p> <ul style="list-style-type: none"> • Deep ripping of topsoiled areas will be carried out to reduce compaction from heavy machinery, encourage infiltration of water and prevent erosion. Areas will be ripped along the contour to reduce the velocity of run-off water down the slope. Ripping depths will vary depending on the type of spoil material, depth of topsoil and equipment used for rehabilitation operations. • Revegetation of disturbed areas will be carried out as soon as practicable following completion of works, subject to weather forecasts. • Placement of topsoil stockpiles will be away from drainage areas, roads, machinery, transport corridors and stock grazing areas. • Strategic application of vegetation debris to rehabilitation areas will occur. • Upslope diversion drains will be used to reduce run-off from undisturbed areas onto disturbed areas. • Downslope collection drains will be used to divert surface water to sediment dams (e.g. mulch berms, sediment ponds and/or drop inlet protection) to contain sediment-laden run-off from disturbed areas. • Sediment fences and filters will be used to retain and filter suspended solids. • Installed erosion and sediment control structures will not be removed until disturbed areas have been stabilised. <p>Soil stripping, stockpiling and placement will be undertaken under the Lake Vermont Mine land disturbance permit and be in accordance with the Lake Vermont Mine Topsoil Management Plan.</p> <p>The Topsoil Management Plan will be reviewed (and updated as necessary) to ensure it provides an inventory of topsoil resources on site, describes recommended maximum stripping depths, details topsoil volumes required for rehabilitation purposes, and details the placement and management of stripped soil.</p> <p>The Topsoil Management Plan will address the following:</p> <ul style="list-style-type: none"> • A description of the soils within the Project areas including the geology, landform, grazing suitability; • The topsoil stripping criteria and recommended stripping depths, stripping and stockpiling methods; • the topsoil placement method; and



Project Matter	Commitment
	<ul style="list-style-type: none">• the topsoil stripping inventory with records of stored soil quality and quantities. <p>The Topsoil Management Plan will address the following specific aspects:</p> <ul style="list-style-type: none">• Soil stripped for reuse should be revegetated as soon as practicable.• Where practicable, topsoil should be directly placed in prepared rehabilitation areas rather than stockpiled.• Topsoil stockpiles should be less than 2 m high.• Groundcover vegetation should be established on stockpiles to prevent erosion and maintain soil biological function while stockpiled.• Stockpiles are to be monitored for weeds and control measures implemented as appropriate.• Topsoil placement should occur at a minimum thickness of 0.2 m to establish a growth medium conducive to plant growth.• Knowledge of potentially dispersive SMUs should be incorporated into appropriate erosion and sediment control methods.• Gypsum treatment should be used to reduce dispersion where practicable.• Stripped topsoils from SMUs with alkaline pH (Booroondarra, Kirkcaldy, Knockane, Mayfair, Norwich and Parrot) are likely to require fertiliser application to compensate for low pH available nitrogen deficiency.• SMUs with weak structures, such as sands, loamy sands or massive structured soils (Booroondarra, Mayfair, Mayfair sodic variant, Moreton, and Parrot), may pose an erosion risk if material is placed in steeper areas. These materials should preferentially be placed in less steep areas to reduce erosion risk.• Grass and woody vegetation collected from land clearing should be incorporated into the rehabilitation measures at strategic locations to help limit runoff and erosion, retain active biological activity and provide fauna habitat.• Topsoils applied to rehabilitation areas should be contour ripped where erosion risk and hard-setting surfaces may impede revegetation success. <p>To mitigate impacts to surrounding land uses and land resources, related management measures will include:</p> <ul style="list-style-type: none">• management of fugitive dust emissions through:<ul style="list-style-type: none">○ regular watering of haul roads;○ coal stockpile watering;○ early rehabilitation of waste rock dumps and/or temporary revegetation to minimise the extent of bare ground; and○ continuous monitoring of weather conditions to ensure that operations are adjusted during periods of adverse weather;• regular visual checking of light spill to ensure that fixed and mobile lights are located and shielded sufficiently to mitigate excessive light spill;• planning and consultation with neighbours to ensure that all operations that may result in herbicide, pesticide or fertiliser drift are conducted in a manner that reduces the potential for impact to neighbouring properties; and• monitoring of blast vibration and airblast overpressure to ensure that predicted levels of both parameters are achieved and within limits.



Project Matter	Commitment
	<p>Management measures to be implemented to prevent or reduce the risk of land degradation or contamination will include, where appropriate, the following:</p> <ul style="list-style-type: none"> • All unexpected contamination will be remediated and validated under supervision of a suitably qualified person in accordance with an Emergency Response Plan predefined for all hazardous materials stored on-site. The administering authority will be notified within 24 hours of detection being known. • A Contaminated Land Register and map will be maintained detailing any contamination events, subsequent locations and remediation protocols issued. • Chemical and hydrocarbon storage areas will be designed and bunded in accordance with AS 1940:2017, 'The storage and handling of flammable and combustible liquids' (Standards Australia 2017). • Staff will be trained on the prevention of spills and the use of spill kits. • A register of spill kits will be maintained, and all kits will be inspected for completeness at an appropriate interval. • Sediment dams will be constructed and adhere to the design parameters of the 'Manual for assessing consequence categories and hydraulic performance of structures' (DES 2016a). • Explosives storage will be managed in accordance with AS 2187:2006 'Explosives—Storage, transport and use' (Standards Australia 2006). • Waste products, including oil and other chemicals, will be stored and disposed of according to the relevant material data safety sheets to minimise contamination risk. • Any installed STP will be designed to cater for the maximum number of personnel that can be accommodated on-site at any one time and will be in accordance with the recommendations contained in Appendix S, Land Based Effluent Disposal Assessment. • Waste management strategies will be implemented to reduce the risk of land contamination from waste generated during the life of the Project, including waste associated with the STP. <p>The potential visual amenity and lighting impacts of the Project to sensitive receptors is considered insignificant, and no specific monitoring or adaptive management program is considered to be required. Regardless, the Project will adopt a number of measures to assist with limiting any impact to visual amenity, including the following:</p> <ul style="list-style-type: none"> • retaining vegetation and delaying the removal of vegetation wherever practicable, to maximise available vegetation screening; • shielding lighting to minimise lighting spill, and limit lighting to the requirements of safety and security; • maintaining the Project site such that the frontage to potential viewers is in a condition of good repair; and • conducting progressive rehabilitation of the Project site in accordance with the PRCP (Appendix B, Progressive Rehabilitation and Closure Plan), to a landform consistent with the baseline landscape character. <p>A Gas Drainage Management Plan will be developed prior to Project construction, to detail gas drainage processes and management measures.</p> <p>The Gas Drainage Management Plan will address:</p> <ul style="list-style-type: none"> • the legislative requirements of the management plan; • personnel roles and responsibilities;



Project Matter	Commitment
	<ul style="list-style-type: none"> • description of the gas drainage operations (including the pre-drainage of the coal seams prior to underground mining; and post drainage of goaf areas following longwall extraction); • measures to mitigate predicted gas drainage impacts (including flaring); • the rehabilitation of gas drainage sites (including the topsoil and erosion and sediment controls, surface preparation and decommissioning procedures); and • monitoring and reporting requirements. <p>Temporary vegetation/habitat disturbance above the underground mining area will be undertaken for the deployment of gas drainage wells. Surface disturbance works to support the conduct of gas drainage activities will be sited to minimise the amount of vegetation disturbance required. Management measures for areas of disturbance required above the underground mining area will be provided in the Gas Drainage Management Plan and will include:</p> <ul style="list-style-type: none"> • The use of existing tracks to access sites, to minimise vegetation clearing, disturbance of soils and creation of new tracks. • Restricting vegetation clearance to the slashing of vegetation (i.e. leaving the lower stem and roots <i>in-situ</i> to maximise the potential for natural regrowth) where practicable. • Lopping of branches, rather than the removal of trees, where practicable. • Limiting the amount of soil disturbance to the minimum required for the mobilisation, placement and operation of equipment, and for maintaining access to equipment. • Implementation of timely rehabilitation measures (at the completion of activities) with weed control measures implemented if /as required.
Rehabilitation	<p>A PRCP (Appendix B, Progressive Rehabilitation and Closure Plan) has been prepared for the Project to meet the requirements of the Queensland <i>Mineral and Energy Resources (Financial Provisioning) Act 2018</i> and Queensland <i>Environment Protection Act 1994</i>. The PRCP includes the rehabilitation planning part and PRCP schedule. The PRCP will apply for the life of the Project and:</p> <ul style="list-style-type: none"> • outline the proposed post-mining land use(s) (PMLU); • include a schedule of binding rehabilitation milestones for each PMLU; • detail and justify the rehabilitation methods and techniques to achieve the rehabilitation milestones; • detail community consultation and the ongoing consultation in relation to the rehabilitation to be carried out; and • address rehabilitation monitoring and maintenance. <p>Topsoil management requirements will be specified in the existing Topsoil Management Plan.</p>



Project Matter	Commitment
	<p>Completed Project rehabilitation will be monitored on an annual basis, with the survey period targeted to occur following the wet season. When sufficient data is acquired that demonstrates that rehabilitation is on a trajectory to achieve the milestone criteria, the frequency of monitoring may be reviewed.</p> <p>Rehabilitation milestones were developed as a requirement of the PRCP, and describe time-based milestones for achieving the Project’s PMLUs. Land will become available for rehabilitation at the completion of mining, except for land being retained post-closure as operating infrastructure, or topsoil stockpiles. Rehabilitation milestone timeframes have been developed considering the size of the rehabilitation area, the activities applicable to the milestone and interim rehabilitation activities that are scheduled to occur or anticipated to be required prior to the area becoming available for rehabilitation, consistent with SMART principles.</p> <p>Once rehabilitation monitoring indicates that the milestone criteria for the final milestone applicable to the rehabilitation area is deemed to be satisfied (i.e. demonstrated achievement of the land to a stable condition consistent with the PMLU), the Proponent will either:</p> <ul style="list-style-type: none"> • apply for progressive certification of the area of land that has been successfully rehabilitated; or • apply to surrender the EA over the relevant area that has been successfully rehabilitated and, if required, submit a post-surrender management report that states any requirements for the ongoing management of the land.
Groundwater	<p>Monthly monitoring of Project groundwater bores will continue at the Project site, continuing to build upon the existing baseline dataset. Project monitoring bores will be included within the amended Lake Vermont Mine EA as part of any Project approval (consistent with Chapter 23, Proposed Environmental Authority Conditions).</p> <p>Groundwater quality and level triggers will be established as the Project dataset continues to develop. Once established, triggers and limits will be incorporated into the existing Water Management Plan for Lake Vermont Mine, with an amendment to the existing EA to be applied for. Triggers and limits will be applied for, prior to Project construction commencement.</p> <p>Groundwater trigger levels and limits will be detailed and managed through updates to the existing Lake Vermont Mine Water Management Plan. The groundwater management and monitoring measures within this plan will continue for the life of the Project, and be updated as required.</p> <p>The Water Management Plan commitments specific to groundwater will include:</p> <ul style="list-style-type: none"> • the continuation of groundwater monitoring from the current Project monitoring bores (noting the monitoring bore list may be modified during updates to the Water Management Plan and finalisation of the Project’s EA); • installation of additional groundwater monitoring bores within the Quaternary and Tertiary sediments at the confluence of Ripstone and Boomerang Creeks, at sites that are adjacent to the identified HES wetlands; • the replacement of monitoring bores if and as required (e.g. if bores are destroyed or become unserviceable for any reason); • an assessment of adequacy of the groundwater network when assessed necessary and expansion of monitoring network as required; and • the procedure for assessment of data <i>via</i> groundwater level and quality trigger levels and subsequent reporting.



Project Matter	Commitment
	<p>Groundwater trigger levels and limits will be developed by a suitably qualified person for both groundwater level and quality, utilising data from the ongoing baseline dataset.</p> <p>Groundwater trigger levels will be developed with consideration of the following documents:</p> <ul style="list-style-type: none">• ‘using monitoring data to assess groundwater quality and potential environmental impacts (current version—version 2 at time of report preparation) DES (2021b);• ‘the Australian and New Zealand Guidelines for Fresh and Marine Water Quality’ (ANZG, 2018); and• Water Quality Objectives (WQOs) for groundwater under the ‘Environmental Protection (Water and Wetland Biodiversity) Policy 2019’ and associated ‘Fitzroy Basin Groundwater Zones (WQ1310)’. <p>Changes in water level will be assessed on an annual basis against model predictions, by a suitably qualified person, as part of the Annual Return. The numerical groundwater model will be re-run every five years, if required (e.g. if the actual vs predicted water level variation is assessed as being significant by a suitably qualified person).</p> <p>Groundwater impact mitigation measures will be presented in the updated Water Management Plan and will be adaptively developed in the event that investigations were to conclusively attribute Project impacts on existing groundwater values including:</p> <ul style="list-style-type: none">• impacts from mine-affected water on groundwater;• impacts on existing groundwater users; and• impacts on GDEs.



Project Matter	Commitment
	<p>A Groundwater Dependent Ecosystem Monitoring and Management Plan has been developed for the Project to provide for additional baseline data collection and monitoring of GDEs. This Plan provides protocols for additional baseline monitoring, monitoring during project phases and adaptive management, should impacts to GDEs be identified as being resultant of Project activities (Appendix A4, GDE Monitoring and Management Plan).</p> <p>An Underground Water Impact Report will be prepared for the Project prior to the commencement of any take of underground water. This will meet the statutory requirements of the <i>Water Act 2000</i> (Qld).</p>



Project Matter	Commitment
Surface water	<p>The mine affected water system will be a closed system designed to prevent releases of mine affected water to the environment. The mine-affected water system will manage runoff from the open-cut pit, ROM stockpile and MIA, and groundwater inflows from the underground mine.</p>
	<p>Clean water from undisturbed areas will be diverted around areas of disturbance by diversion drains. A diversion drain to support the diversion of clean water around the southern extent of the MIA levee is proposed to be developed during the construction phase. An additional diversion drain to divert clean water around the southern extent of the open-cut pit levee is proposed to be constructed during the Project operational phase</p>
	<p>The existing Lake Vermont Mine Water Management Plan will be updated in accordance with the guideline for preparation of water management plans for mining activities to cover the management of erosion and sediment generation from disturbed areas and maintain water quality in receiving waters.</p> <p>Updates to the Water Management Plan relating to surface water will include:</p> <ul style="list-style-type: none"> • a description of the potential sources of contaminants; • a description of the water balance model; • a description of the water management system; • a description of measures to manage and prevent saline and acid drainage; • a program for the monitoring of water quality and quantity of dams; • and annual review of the Water Management Plan’s effectiveness; and • corrective actions and contingency procedures for emergencies. <p>The Water Management Plan will be reviewed annually to reflect any changing water management requirements.</p>
	<p>The existing Lake Vermont Mine Water Management Plan will be updated to include proactive management measures for flood, drought and severe weather events. Contingency planning and wet weather preparedness measures within the Water Management Plan will include:</p> <ul style="list-style-type: none"> • managing water in accordance with this plan, including creating air space in storages ahead of each wet season; • details on compliance with the site’s EA; • details on maintaining water management infrastructure, including ensuring dams, drains, pipes, pumps, monitoring equipment and other water management infrastructure, to ensure it is serviceable in advance of each wet season; • reviewing the Water Management Plan and associated water management procedures annually, or as required to capture any lessons learned from that wet season; and • ensuring relevant personnel are trained in the Water Management Plan and associated procedures.
	<p>Consistent with best practice in mine water management, Bowen Basin Coal will investigate potential improvements to the water management system and refine the system as necessary during the life of the Project. An annual review of the performance of the water management system will be undertaken.</p> <p>The performance of the water management system will be assessed against:</p>



Project Matter	Commitment
	<ul style="list-style-type: none"> • compliance with Project EA conditions; • results of water monitoring and REMP findings; • water demand and supply requirements; and • the implementation of mitigation measures. <p>The Lake Vermont Mine REMP will be updated to include monitoring of One Mile Creek and Phillips Creek, to identify any potential impact of sediment dam overflow. REMP Reports will be prepared annually and made available to the administrating authority as required.</p> <p>The following data and information will be collected for the duration of the Project to inform regular updates and validation of the operational water balance model:</p> <ul style="list-style-type: none"> • water inventory of mine water dams and sediment dams; • water quality monitoring of water storages and sediment dams; • pumped flow water meter data for major transfer and water demand offtakes; • aerial surveys / LIDAR (as required for mine development purposes) to review catchment area and land use development; and • daily rainfall data (from the existing Lake Vermont Mine weather station). <p>An annual review of surface water quality trends and groundwater quality trends will be conducted as part of the Annual Water Monitoring Report. The review will assess the change in surface water quality and groundwater quality over time compared to historical trends and impact assessment predictions.</p> <p>A water treatment plant will be constructed within the MIA, to treat sewage generated during Project operations. The STP will have secondary treatment capability and produce Class C effluent for land-based irrigation disposal.</p>
<p>Flooding and Regulated Structures</p>	<p>Temporary flood protection levees (with 0.1% AEP design event flood protection) will be constructed around the MIA at the start of the Project to protect infrastructure from potential inundation; and around the around the open-cut mining area before commencing in Project Year 20.</p> <p>Detailed levee designs will be developed prior to construction, in accordance with ‘Manual for assessing consequence categories and hydraulic performance of structures’ (DES 2016) and the ‘Structures Guideline’ (DES 2022a). To best manage risks associated with levee construction, Bowen Basin Coal is committed to:</p> <ul style="list-style-type: none"> • review flood levee crest levels and the design freeboard as part of detailed design works; • develop and submit certified design drawings (and supporting documentation) prior to the commencement of levee construction in accordance with the requirements prescribed by the ‘Manual for assessing consequence categories and hydraulic performance of structures’ DES (2016); • use only non-dispersive, low permeability, engineered fill for levee construction; • revegetate batters and surrounding areas with grasses to stabilise the structure and prevent sediment runoff; and • decommission and rehabilitate levees in accordance with the Project PRCP (Appendix B, Progressive Rehabilitation and Closure Plan).



Project Matter	Commitment
	<p>Mitigation measures to limit the extent of residual ponding due to subsidence will include:</p> <ul style="list-style-type: none"> • construction of a 2.5 km long mitigation drain; • construction of a 1.4 km long mitigation drain; and • construction of two earthen mitigation bunds across these subsidence panels to prevent floodwater flowing north and into One Mile Creek. <p>Project sediment dams will be designed to contain a 1 in 10 year ARI 24 hour rainfall event and will be constructed in accordance with ‘Manual for assessing consequence categories and hydraulic performance of structures’ (DES 2016) and the ‘Structures which are dams or levees constructed as part of environmentally relevant activities’ (DES 2022b). Sediment dams will be operated in accordance with the ‘DES Guideline: Stormwater and environmentally relevant activities’ (DES 2021c).</p> <p>The existing Water Management Plan for the Lake Vermont Mine will be updated to detail the management of proposed sediment dams prior to their construction and operation.</p> <p>The proposed haul road construction is anticipated to obstruct floodplain and channel flows, locally increasing upstream flood levels. These risks are proposed to be mitigated through the design of road embankment and associated cross-drainage structures. It is noted that prior to construction, the haul road design will be refined, with the vertical profile and cross-drainage structure details chosen to ensure impacts do not exceed those in the preliminary design.</p> <p>The Project will implement a SMP to assess the extent of channel changes, including changes in bed levels and the impact of increased localised sedimentation. Incidental management measures, including bank protection, will also be detailed, should monitoring indicate that an increase in erosion is having a demonstrable impact on a watercourse.</p>
Flora and Fauna	<p>It is proposed that the culverts required to support haul road crossings of Phillips Creek and One Mile Creek will be suitable to maintain fish passage during periods of low flow.</p> <p>A Clearing Management Program will be prepared for the Project by a suitably qualified ecologist, in accordance with relevant guidelines, prior to the commencement of Project clearance activities. The Clearing Management Program will include:</p> <ul style="list-style-type: none"> • The measures to be implemented to minimise disturbance and salvage and re-use of select habitat features in accordance with the vegetation clearance protocols. • Protocols for handling fauna encountered prior to or during clearing activities, including their relocation as necessary to suitable habitat. • The provision for an appropriately qualified fauna spotter/catcher to be present during clearing activities. • The specific measures to be implemented to minimise impacts to threatened species including the Ornamental Snake, White-throated Needle-tail, Squatter Pigeon, Koala and Greater Glider. • Protocols for injured wildlife, including emergency euthanasia. <p>Protocols to be adopted in the Clearing Management Program will include:</p>



Project Matter	Commitment
	<ul style="list-style-type: none"> • Clearing activities will be undertaken progressively in accordance with the mine schedule and Project requirements and not before. • Vegetation/habitat adjoining proposed clearance areas will be delineated and clearly marked to prevent accidental damage through a permit to disturb process. • Areas to be cleared will be inspected to identify fauna at direct risk from clearing activities. • Vegetation will be felled in the direction of the clearance zone to avoid impacts to adjoining retained vegetation and habitat. • Clearing operations will be managed to maximise the re-use of cleared vegetative material. This will include the salvage and re-use of select habitat resources from the cleared vegetation (e.g. logs) for habitat enhancement either in the rehabilitation program, proposed offset areas located on Bowen Basin Coal land, or elsewhere on site. • A fauna spotter/ catcher will be on site when clearing activities occur within Ornamental Snake, Koala or Greater Glider habitat. The fauna spotter/catcher will monitor clearance activities for conservation significant species and any incidence of fauna mortality or injury will be recorded. Injured fauna will be taken to a wildlife carer or veterinarian. • The fauna spotter/catcher will monitor the fauna encountered and the occurrence of Ornamental Snakes within trenches. • Select habitat features (e.g. hollows, logs) will be salvaged during clearance activities for habitat enhancement in Ornamental Snake habitat that will not be disturbed by the Project. <p>The Clearing Management Program will be reviewed for its effectiveness in the event of any:</p> <ul style="list-style-type: none"> • changes made to legislative requirements; • direction from the Commonwealth Minister; or • any modifications made to the EA or EPBC Act Approval. <p>A Species Management Program will be developed for the Project, to provide for the management of breeding areas of key conservation species potentially impacted by the Project clearing. Species Management Programs will be developed in accordance with the NC Animals Regulation and be provided for approval by DES prior to vegetation clearance activities that would disturb animal breeding places. Species Management Programs will detail the individual responsibilities of personnel (employees and contractors) to operate in accordance with the program.</p> <p>An Ornamental Snake Management Plan will be developed for the Project and implemented prior to the commencement of mining. The Ornamental Snake Management Plan will:</p> <ul style="list-style-type: none"> • provide the management measures to avoid, mitigate and manage impacts; • provide a risk assessment of potential impacts and residual risk after measures are implemented; • provide timeframes for implementation of management measures; • address construction, operation and decommissioning project phases; • provide monitoring measures and associated performance indicators, adaptive management and corrective actions; • provide incident and non-conformance reporting requirements.



Project Matter	Commitment
	<p>Post-mining, the Project area will be reinstated to grazing land, similar to that which existed prior to mining. Rehabilitation commitments will be established through the approved PRCP for the Project.</p> <p>Inspection of areas to be cleared will be undertaken prior to clearing, to confirm whether any animal breeding places for threatened or near threatened species are present, or likely to be present. If breeding places for threatened or near threatened species are present, or likely to be present, the Project will engage a spotter/catcher to manage the potential impacts to fauna during clearing activities.</p> <p>The existing Lake Vermont Mine Pest and Weed Management Plan will be reviewed and revised where appropriate, to incorporate pest and weed management measures for the Project.</p> <p>The revised Pest and Weed Management Plan for the Lake Vermont Mine complex will provide for:</p> <ul style="list-style-type: none"> • Inspections within the Project area to identify areas requiring weed management to be implemented. • Weed management measures (e.g. mechanical removal and application of approved herbicides) in consideration of weed control strategies outlined by the Department of Agriculture and Fisheries and the 'Isaac Regional Biosecurity Plan 2020-2023' (IRC 2020). • Requirements for follow up inspections to assess the effectiveness of the weed management measures implemented and requirement for any additional management measures. • Requirements for maintenance of a clean, rubbish-free environment to discourage scavenging and reduce the potential for colonisation of these areas by introduced fauna. • Requirements for storage of domestic waste in appropriate receptacles and locations. • Feral animal control strategies in consideration of pest control strategies outlined by the Department of Agriculture and Fisheries, 'Isaac Regional Biosecurity Plan 2020-2023' (IRC 2020) and Threat Abatement Plans applicable to the EPBC Act listed key threatening processes. • Requirements for minimisation of the period that areas remain in disturbed and or unvegetated condition. <p>Mitigation drains and mitigation bunds will be constructed to reduce the area of ponding created by subsidence.</p> <p>The Project SMP will provide for the collection of ongoing data to assist with the management of associated risks to flora and fauna values, validate subsidence predictions and analyse the relationship between subsidence effects and impacts on the surrounding environment.</p> <p>Significant impacts identified to the following MNES, as a result of the Project, are proposed to be offset in accordance with the 'Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy' (DSEWPaC 2012b):</p> <ul style="list-style-type: none"> • Brigalow TEC • Poplar Box TEC • Ornamental Snake • Koala • Greater Glider



Project Matter	Commitment
	<p>A MNES Biodiversity Offset Strategy and an Offset Area Management Plan has been prepared as part of this EIS. The delivery offsets are proposed to be staged across 4 key Project phases (Appendix K, MNES Biodiversity Offset Strategy).</p> <p>Where MNES offset requirements over-lap with impacted MSES values, offsets will be provided under the EPBC Act. Residual State based (MSES) offsets will be established in accordance with Queensland’s EO Act and Environmental Offsets Policy. Residual State offsets will be required for:</p> <ul style="list-style-type: none"> • Endangered and Of Concern REs; • REs within mapped vegetation management wetlands; and • REs within the defined distance of a vegetation management watercourse. <p>State offset requirements are specified within Chapter 23, Proposed Environmental Authority Conditions, for inclusion in the Project EA.</p> <p>During all phases of the Project, erosion and sediment controls to reduce the risk and impacts of erosion will be implemented in accordance with established erosion and sediment control standards within the existing Lake Vermont Mine Water Management Plan.</p>
Air Quality & GHG	<p>Practices to mitigate air quality emissions are in place for the existing Lake Vermont Mine provided under the Environmental Management Plan and will be continued for the duration of the proposed Project. The proposed measures to mitigate air quality impacts are targeted to managing potential impacts from particulates, and will also provide benefits to mitigate potential impacts from other pollutants. These mitigation measures include:</p> <ul style="list-style-type: none"> • application of water to haul roads; • watering during handling activities; • machine and vehicle maintenance; • vegetation establishment on recontoured/rehabilitated areas • watering of stockpiles; and • sealing of the ROM haul road from the Project to the existing CHPP. <p>Additional emissions controls are proactively applied when necessary at the Lake Vermont Mine and will continue to be implemented during the life of the Project. These controls typically are applied during periods when meteorological conditions promote an increase in dust generation. These mitigation measures include:</p> <ul style="list-style-type: none"> • additional road watering concentrated at problem areas; • speed restrictions imposed on haul trucks when dust is visible, which reduces the overall hauling capacity by approximately 20%; • re-routing haul trucks to reduce waste haulage distances by up to 50%; and • re-assigning haulage location(s) to areas experiencing less dust. <p>Additional air quality control measures may be implemented, if and as required, following a complaint; for example:</p> <ul style="list-style-type: none"> • applying additional at-source air quality controls;



Project Matter	Commitment
	<ul style="list-style-type: none"> • increasing the intensity of air quality controls; • modifying certain operations to reduce impacts to air quality; and • investigating exceedances of air quality objectives. <p>The Lake Vermont Environmental Management Plan will be updated to include all proactive emission control practices prior to Project commencement.</p> <p>Bowen Basin Coal has ongoing reporting obligations associated with the Lake Vermont Mine, including annual reporting of GHG emissions in line with the requirements of the NGER scheme. This reporting will continue throughout the construction and operation of the proposed Project.</p> <p>To mitigate, reduce, control or manage GHG emissions from the Project, Bowen Basin Coal is committed to implementing the following initiatives:</p> <ul style="list-style-type: none"> • regular plant and equipment maintenance will occur to minimise fuel consumption and associated emissions; • regular assessments, reviews and evaluations of GHG reduction opportunities will occur; • procurement policies that require the selection of energy-efficient equipment and vehicles where feasible; • optimisation of diesel consumption through logistics analysis and planning will occur; and • flaring waste coal mine gas as part of gas drainage activities will occur, where practicable, to reduce GHG emissions. <p>A Decarbonisation Plan has been developed for the Project which provides adaption strategies designed to provide for emissions reductions (Appendix A3, Decarbonisation Plan).</p> <p>The Project haul road (between the MIA and existing Lake Vermont Mine) will be sealed, to mitigate the risk of dust emissions.</p>
Biosecurity	<p>The Lake Vermont Mine Pest and Weed Management Plan will be revised to address risks and management measures as required for the Project.</p> <p>The updated Pest and Weed Management Plan will detail:</p> <ul style="list-style-type: none"> • legislative changes relating to the Biosecurity Act, the policies of the Biosecurity Plan (IRC 2020) and Threat Abatement Plans applicable to the EPBC Act ‘Key Threatening Processes’; • invasive species recorded in the Project area; • proposed management measures outlined for protection against public health outbreaks, invasive fauna and flora risk; • establishment of a monitoring program to identify introduction and establishment of invasive species and for the evaluation of success achieving objectives of the Management Plan; • description of the personnel roles and responsibilities for implementation of the Management Plan; and • establishing a review process for the Management Plan. <p>The monitoring program for weed and pest species will adopt the following approach::</p> <ul style="list-style-type: none"> • weed and pest species surveys will be conducted periodically;



Project Matter	Commitment
	<ul style="list-style-type: none"> • a weed and pest register will be maintained to record fauna and weed observations; and • detection of the establishment or substantial increase in pest or weed populations will be addressed through management measures within the Weed and Pest Management Plan.
	<p>Regarding public health, the Project will implement the following practices to control rats and mice outbreaks on-site:</p> <ul style="list-style-type: none"> • maintaining a clean, rubbish-free environment to discourage scavenging and reduce the potential for colonisation of these areas; • storing and disposing of potential attractant waste material in accordance with a Waste Management Plan; and • development/implementation of eradication programs when necessary. <p>In the instance of a mosquito infestation developing into a management concern, management measures will be implemented with Queensland Health guidelines to prevent the spread of mosquito-borne disease on-site.</p>
	<p>The Lake Vermont Mine Pest and Weed Management Plan will be updated to address faunal pest risks by:</p> <ul style="list-style-type: none"> • maintaining a clean, rubbish-free environment to discourage scavenging and reduce the potential for colonisation of the Project area; • storing domestic waste in appropriate receptacles and location in accordance with a Waste Management Plan; • ensuring consistency with the Threat Abatement Plans applicable to the EPBC Act Key Threatening Processes; and • implementation of monitoring protocols in a manner that is consistent with Government recommendations.
	<p>The Lake Vermont Mine Pest and Weed Management Plan will be updated to address floral pest risks through:</p> <ul style="list-style-type: none"> • reporting: any declared weeds will be identified in accordance with the Biosecurity Act; • limiting disturbance: limiting soil disturbance as far as practicable. Vegetation clearing will be conducted progressively or as required by the Project schedule;



Project Matter	Commitment
	<ul style="list-style-type: none"> • weed treatment: weeds will be treated in a manner that is consistent with Government recommendations. Herbicides will be used in accordance with their label requirements (and only on weed species that are identified as effectively managed by that herbicide) taking into consideration site factors such as weather, surrounding vegetation, watercourses and the potential for off-target loss; and • PRCP: areas of disturbance will be progressively rehabilitated in accordance with the Project PRCP (Appendix B, Progressive Rehabilitation and Closure Plan). <p>Weeds will be monitored by trained site personnel. Major infestations on site will be recorded. The Lake Vermont Mine Pest and Weed Management Plan will be updated to ensure consistency between weed control strategies outlined by DAF and the Biosecurity Act.</p> <p>The Lake Vermont Mine Pest and Weed Management Plan will be updated to provide monitoring protocols for introduced fauna and flora management objectives.</p> <p>Monitoring protocols contained within the Lake Vermont Mine Pest and Weed Management Plan will adhere to:</p> <ul style="list-style-type: none"> • monitoring to be conducted every six months or as required by biosecurity risk developments; • success of biosecurity measures and management actions to be audited at defined intervals within the Lake Vermont Mine Pest and Weed Management Plan; and • identified biosecurity risks will be acted on in accordance with the Lake Vermont Mine Pest and Weed Management Plan protocols.
Noise and vibration	<p>Bowen Basin Coal is committed to managing noise that may affect sensitive receptors or environmental values, in accordance with the following hierarchy:</p> <ol style="list-style-type: none"> 1. Avoid the noise. 2. Minimise the noise in the following order: <ol style="list-style-type: none"> a) Orientate an activity to minimise the noise; then b) Use the best available technology to minimise the noise. 3. Manage the noise. <p>Noise and vibration management and mitigation measures are not expected to be required for the Project to meet proposed compliance limits, due to the relatively large distance to SRs and the low modelled noise and blasting outputs predicted.</p> <p>Should the Project receive a noise complaint the Project operator will:</p> <ul style="list-style-type: none"> • undertake an investigation to verify and understand the matter of concern, including undertaking monitoring from the relevant noise-sensitive place; • prepare a report if an exceedance of a noise or blasting limit is identified that includes monitoring results obtained, assessment of any mitigating and/or aggravating factors and proposed suitable mitigation measures to return the Project to compliance; and



Project Matter	Commitment
	<ul style="list-style-type: none"> • if required, due to continuous/ongoing complaints originating at the same sensitive residential or commercial place arise, longer-term noise monitoring would be implemented to ensure that an exceedance of noise limits could be identified immediately. <p>Short-term monitoring will be undertaken in the event of a noise or vibration complaint, including monitoring of noise at the affected receiver’s location.</p> <p>Should continuous/ongoing complaints originating at the same sensitive residential or commercial place arise, longer-term noise monitoring would be implemented to ensure that an exceedance of noise limits can be identified and responded to in a timely manner.</p> <p>Under circumstances where monitoring confirms that noise criteria are not being met with the adopted management actions, corrective actions will be undertaken. A range of noise management strategies will be considered and an approach designed to best mitigate the recorded exceedances will be applied.</p>
Waste management	<p>Waste will be managed in consideration of the waste management hierarchy (avoid, reduce, re-use, recycle, recover, treat, dispose).</p> <p>Waste disposal requirements of the Project will be managed on-site, in accordance with existing EA requirements.</p> <p>During the construction phase, a primary sewage treatment process consisting of septic tanks for the collection of sewage will be installed. Primary treated effluent and sludge by-products will be routinely transported to existing sewage treatment facilities by suitably licensed contractors for processing and disposal. A package STP will be constructed during this phase of works to support operational effluent management.</p> <p>During the operations phase, sewage generated at the MIA will be pumped to the package STP by underground sewage pump stations and underground rising mains. The STP will have secondary treatment capability and the ability to produce Class C effluent for irrigation. Residual sludge removal will be undertaken by a licensed waste contractor, with disposal at a licensed receiving facility.</p> <p>The existing Lake Vermont Mine Mine Waste Management Plan will be updated to address all mineral waste management commitments of the Project.</p> <p>The updated Mine Waste Management Plan will address:</p> <ul style="list-style-type: none"> • the geology of the Project area; • characterisation of mineral waste; • the monitoring program; • management strategies; • emergency and contingency planning; and • review of the management plan - with specific detail on the following: <ul style="list-style-type: none"> o containment of tailings; o management of seepage and leachates during operations and the foreseeable future; o controlling fugitive emissions to air; o programming progressive sampling and characterisation to identify acid producing potential and metal concentrations of tailings; o maintaining records of the relative locations of any other waste stored within the tailings;



Project Matter	Commitment
	<ul style="list-style-type: none"> o rehabilitation strategies; and o monitoring of rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of tailings, including the prevention and management of acid mine drainage, erosion minimisation and establishment of vegetation cover. <p>The existing Lake Vermont Mine Waste Management Plan will be updated to include non-mineral waste management commitments.</p> <p>The updated Waste Management Plan will address:</p> <ul style="list-style-type: none"> • management practices that will be utilised to store, handle and dispose of waste on-site; • measures to simplify the categorisation of waste into general waste, various recyclable wastes and regulated waste; • designation of general waste collection bins, including bin labelling and emptying schedules; • storage measures for waste oils, chemicals, batteries and other hazardous and/or regulated substances; • management measures to reduce the incidence of water supply contamination; • reduce the incidence and spread of pests from waste streams; • measures for allocating recyclable waste into separate recyclable streams, including paper and cardboard, metals and recyclable plastics; • measures for used tyre storage and disposal to be in accordance with the operational policy 'Disposal and storage of scrap tyres at mine sites' (DES, 2014), including the recording of potential on-site tyre disposal locations; • storage measures for all waste types (e.g. metals, paper, oils, batteries, general waste, etc.) in accordance with: <ul style="list-style-type: none"> o public health, hygiene and safety standards; and o flammable liquid storage standards (AS 1940:2017, 'The storage and handling of flammable and combustible liquids'); • measures for storage of regulated and/or hazardous waste to ensure that the potential for environmental harm is minimised; • waste tracking procedures as defined by Schedule 11 of the EP Regulation in accordance with the requirements of Part 9 of the EP Regulation; and • criterion for waste management performance success and review periods. <p>The Waste Management Plan will be reviewed periodically for efficacy. The performance indicators for achieving waste management success will include successful achievement of the proposed storage and management strategies, compliance with EA conditions and compliance with AS 1940 and AS 1547.</p>
Hazards and safety	<p>The Project will continue to operate a SHMS in accordance with the requirements of the CSMH Act. The SHMS will be based on AS/NZS 4801 'Occupational Health and Safety Management Systems' (Standards Australia/Standards New Zealand Committee, 2001) and incorporate risk management elements and practices with clearly defined and measurable objectives. The objectives of the SHMS will include (but not be limited to):</p> <ul style="list-style-type: none"> • compliance with regulatory requirements; • leadership accountability at all levels; • commitment to effectively communicate expectations and requirements; • commitment to provide adequate resources, support and training; • initiatives to actively involve and consult employees, contractors and other stakeholders; • commitment to keep personnel informed and provide open communication;



Project Matter	Commitment
	<ul style="list-style-type: none"> • commitment to investigate all incidents and take necessary corrective actions to prevent recurrence; • occupational rehabilitation programs; • commitment to monitor, measure, review and audit SHMS adequacy and compliance with objectives; • initiatives to implement changes to the SHMS based on monitoring and review outcomes; and • commitment to foster continuous improvement. <p>A detailed hazard and opportunities assessment will be undertaken as part of the final planning process for the various components of the development and construction phases. The assessment will build on the preliminary hazard and risk assessment and identify the principle hazards for management during each phase of the Project.</p> <p>The existing Lake Vermont Mine ERP outlines the responsibilities and guidelines for providing adequate emergency response at the Lake Vermont Mine. The existing Lake Vermont Mine operation has a good safety and emergency event record, driven by the efficacy of the ERP. Site personnel have a culture of proactive engagement with safety management systems.</p> <p>The ERP will be updated to address the emergency response for the Project, to ensure obligation of the CSMH Act are continued to be met.</p> <p>The ERP will be updated to provide risk mitigation measures and emergency response protocols for the proposed Project and will be applicable to all Project phases. The updated plan will achieve the following, including measures specific to the underground operations:</p> <ul style="list-style-type: none"> • provide current contact details relevant to emergency management; • outline the roles and responsibilities of site personnel; • address the range of feasible emergency situations that could occur, including situations specific to underground mining operations including, but not limited to; <ul style="list-style-type: none"> ○ search and rescue scenarios; ○ underground firefighting scenarios; ○ excess fumes scenario; ○ ground movement response scenarios; ○ geotechnical concern response scenarios; ○ personal protective equipment; ○ breathing apparatus use conditions; and ○ rope rescue scenarios; • establish underground mine emergency exits; • provide for the withdrawal from the underground mine under unsafe conditions; • detail the equipment available to emergency responders; • provide emergency response training; • provide regular testing of the site’s emergency response capability;



Project Matter	Commitment
	<ul style="list-style-type: none"> • outline the emergency response procedure to be followed, including raising the alarm and summoning emergency assistance and the termination of emergency response; • identify emergency communications protocols, including requests for assistance from external emergency services (e.g. Queensland Mines Rescue Service, Queensland Fire and Emergency Services, Queensland Police); • outline fire response procedures; • detail evacuation procedures and muster points; • include maps and relevant GPS information; and • include duty cards detailing the roles and responsibilities of the relevant mine personnel. <p>The updated ERP will be maintained in consultation with key external bodies involved in emergency responses relating to site activities, including:</p> <ul style="list-style-type: none"> • Queensland Fire and Emergency Services; • Queensland Mines Rescue Service • Queensland Ambulance Service; • Queensland Police Service; • Rural Fire Service; • RACQ CQ Rescue Service; and • Isaac Regional Council (relative to regional emergency plans). <p>The existing ERP includes emergency response management to fires to identify bushfire hazards and outline the response to bushfires and will be updated to include a BMP designed for the Project area. It has will be developed in consultation with the Queensland Fire and Emergency Services and reviewed by the fire officer or Mine Manager prior to each bushfire season.</p> <p>The BMP will include:</p> <ul style="list-style-type: none"> • a bushfire hazard analysis and risk assessment for the approaching season; • fire regimes for vegetation communities; • detailed bushfire mitigation strategies; • identification of fire management zones; • identification of existing and proposed firebreaks and fire management lines; • assessment of any proposed clearings for fire control; • fire protection controls and maintenance of controls; • specification of firefighting equipment; • strategies to achieve development outcomes of the State Planning Policy to: <ul style="list-style-type: none"> ○ avoid activities in bushfire hazard areas of the Project when practicable; ○ support the Queensland Fire and Emergency Services;



Project Matter	Commitment
	<ul style="list-style-type: none"> o avoid an increase in the severity of bushfire hazard; o avoid risk to public safety from hazardous materials; and o maintain natural bushfire processes as applicable. • proposed monitoring and auditing of the BMP; and • detailing emergency contact information and site wardens. <p>To ensure the effectiveness of the Emergency Response Plan, the plan will be periodically tested, audited and reviewed. An investigation will take place after any emergency. Regular training and testing of the emergency response workers will take place.</p> <p>Monitoring of the SHMS and Emergency Response Plan and audits of the implementation of management plans will be conducted periodically. Inspections will take place regularly to ensure all emergency equipment is working and has been maintained. Monitoring information will be provided for management team review, and corrective actions will be implemented as required. Corrective actions will include reviews of relevant policies, plans and procedures.</p>
Cultural heritage	<p>The Project will be constructed and operated in accordance with the existing CHMP entered into with the Barada Barna People (QCD2016/007) which will be updated through consultation with the Barada Barna People.</p> <p>The updated CHMP will include the following provisions to support the management of cultural heritage aspects:</p> <ul style="list-style-type: none"> • Prior to the commencement of planned ground disturbance activities in the Project area, Bowen Basin Coal will engage with the Barada Barna People on the salvage of any potentially impacted scar trees or other artifacts that may have been identified through the cultural clearance surveys completed for the Project. • Upon the discovery of any cultural heritage items within the Project area (that have not previously been identified through cultural heritage survey works), Bowen Basin Coal will: <ul style="list-style-type: none"> o cease works until further advice can be obtained from the Baranda Barna People and/or DES; and o depending on the significance of any potential find, consider/implement further management/mitigation options as agreed with the Baranda Barna People. • Site induction material prepared for Project personnel will include information on the potential occurrence of indigenous and non-indigenous cultural heritage sites and/or artefacts, in addition to legal obligations (duty of care) and the actions that are to be taken if a potential site/artefact is found. • Personnel and contractors of Bowen Basin Coal will be informed of their obligations under section 89 of the <i>Queensland Heritage Act 1992</i> to report (to the DES) any archaeological items (as defined under the Act) that may constitute an important source of information about an aspect of the history of Queensland. • Continued Bowen Basin Coal engagement with the Barada Barna People, consistent with the commitments made within the CHMP.
Social	Bowen Basin Coal will operate in accordance with the SIMP (provided in Appendix T) prepared to minimise adverse Project social impact.



Project Matter	Commitment
	<p>The 'Living Local' initiative is an existing program offered by the Lake Vermont Mine, that provides financial incentives for employees choosing to reside in Dysart. The Living Local initiative will continue to be offered to Project employees in 2028 and will be available to all Project employees, whether employed by Bowen Basin Coal or by a contractor. New employees will be provided information regarding housing choice and details on the 'Living Local' initiative through the recruitment and onboarding process.</p> <p>The Project is not expected to generate significant or material impacts on affordable housing in Dysart, as the Project will maintain employment levels consistent with what currently exists. Notwithstanding this, through consultation with IRC, IAHT and the OCG, access to affordable housing has been identified as a significant regional concern. Despite the Project not directly impacting access to affordable housing in Dysart, Bowen Basin Coal is committing to provide an annual financial contribution to the IAHT (across a 20-year period) to facilitate construction of additional affordable housing within Dysart. Proposed contributions to IAHT will entail the following guidelines:</p> <ul style="list-style-type: none"> • An annual contribution of \$80,000 will be payable in July each year. • Payments will commence on Bowen Basin Coal receiving all necessary mining lease and environmental approvals and permits and Bowen Basin Coal's Board approval to proceed with the extension Project, and on-site construction work commences. Should the start date of the on-site construction not closely align with July of that year, the sum of the initial annual contribution will be paid pro rata in July of the following year. • The term of the contributions is to be 20 years or until production from the underground mine concludes, whichever occurs soonest. • Contribution payments will commence in line with the commencement of building accommodation units in Dysart. • Due recognition will be made to the Lake Vermont Joint Venture in conjunction with the IAHT. <p>Implementation of the Workforce Accommodation Solution, to provide genuine accommodation choice for operations personnel. To ensure workforce accommodation options are available at point of hire, Bowen Basin Coal is committed to:</p> <ul style="list-style-type: none"> • Purchase or construction of 15 dwellings in Dysart comprising a mix of housing types which meet worker preferences. • Refurbishing the Lake Vermont Accommodation Village to provide high quality accommodation to the non-resident workforce. • If there is constrained workforce access to housing, consideration of potential long-term leasing arrangements to access existing unused dwellings in Dysart. <p>Provision of \$200 per week as the live local incentive which is included in gross pay of new workers or existing workers on FIFO arrangements to relocate to Dysart. No cap applied to the uptake of the live local allowance, which will be offered to all employees regardless of length of service and commencement date.</p> <p>Provision of a financial contribution of \$10,000 per annum to ELAM to support delivery of mental health and youth programs in Dysart.</p> <p>Provide financial contribution to enable the existing Lady Gowrie Childcare Centre (in Dysart) to maintain capacity, including:</p> <ul style="list-style-type: none"> • an upfront contribution of \$50,000 towards building upgrades of the childcare centre; and



Project Matter	Commitment
	<ul style="list-style-type: none"> a contribution of \$20,000 per annum for a period of 20 years or when production concludes to support employment of an additional Diploma qualified childcare worker.
	<p>Provision of financial contribution of \$30,000 per year during the life of the Project to Hinterland Community Care to maintain and improve accessibility and mobility within Dysart for vulnerable residents.</p>
	<p>Implementation of traffic management commitments including:</p> <ul style="list-style-type: none"> Priority Actions A, B & C as identified in the January 2020 Road Safety Audit commissioned by IRC. Provision of funding for a traffic monitoring device Engagement with council to develop appropriate infrastructure agreement Participation in Road Safe Moranbah.
	<p>Support annual NAIDOC celebrations by providing a financial contribution of \$1,500 per annum and encouraging employees to participate in NAIDOC events within Dysart.</p>
	<p>Establishment of a community sponsorship fund of up to \$10,000 per annum available to local groups and organisations through an application process. Sponsorship funds may be sought for the following, but not limited to:</p> <ul style="list-style-type: none"> Sponsorship of community events in Dysart orientated towards children, youth and their families, including alcohol-free events. Sponsorship of local sporting teams and events, including travel for participation in regional tournaments. Funding for local community groups, such as Dysart Men’s Shed.
	<p>Provision of financial contribution of \$300 per year to Dysart State High School and \$240 per year to Dysart State School towards awards for academic and extra-curricular excellence to support local youth achievement.</p>
	<p>The Project SIMP will be reviewed annually to assess the effectiveness and relevancy of the SIMP, with outcomes to be reported in the annual Social Impact Management Report.</p> <p>Bowen Basin Coal will prepare an annual SIMP Report for each year of construction and for the first five years of operation. The SIMP may be reviewed and revised within a shorter period of time should Bowen Basin Coal consider amendment of the SIMP to be necessary. Using the monitoring and reporting frameworks described in each sub-plan, the SIMP Report will detail:</p> <ul style="list-style-type: none"> the progress and effectiveness of the social impact management measures detailed in the SIMP; the adaptation of management measures, if required, when monitoring indicates:



Project Matter	Commitment
	<ul style="list-style-type: none"> o measures have not been effective; o there are changing circumstances in Dysart, such as in relation to housing availability; and o there is greater knowledge of the potential social impact; and • the current workforce profile of the Project, including: <ul style="list-style-type: none"> o total numbers of workers employed; and o the proportion of local workers, new local workers and workers accommodated at the Lake Vermont Accommodation Village. <p>Community and stakeholder engagement commitments have been made by Bowen Basin Coal to include:</p> <ul style="list-style-type: none"> • designating a Project Officer who will undertake community liaison; • establishing and maintaining a Project website/webpage; • continuing to engage with local and affected landholders to monitor impacts; • continuing to identify issues throughout the life of the Project and provide a forum for discussions; • providing various communication channels about changes to local access, potential road hazards and expected traffic volumes during construction; • facilitating open and transparent engagement with local communities; • establishing, publicising and maintaining a readily accessible community complaints and resolution process; • publishing bi-annual publications and disseminating Project community updates <i>via</i> the website; • maintaining long-term respectful relations with the Barada Barna people, including managing cultural heritage in accordance with the CHMP and meeting the requirements of any native title agreement; • engaging regularly with the IRC to monitor SIMP implementation; • engaging with the community through implementation of community investment initiatives, as outlined in the SIMP; and • engaging with interested and affected parties on activities related to rehabilitation and closure. <p>A Workforce Code of Conduct exists for Lake Vermont Mine employees and contractors. The Workforce Code of Conduct identifies positive behavioural outcomes and prohibited, negative behaviours and ramifications for non-conformance. The Code of Conduct applies to all personnel engaged at the Project (construction and operation) when they are at work, travelling to and from work, in public places and within WAVs.</p>
Economics	<p>The Project will have beneficial impacts on the Catchment and State economies, as it will:</p> <ul style="list-style-type: none"> • contribute to economic growth; • maintain employment and household incomes; • provide support for local and regional businesses; and • contribute to government revenue.



Project Matter	Commitment
	<p>To minimise adverse impacts on agricultural production in the Catchment, the Proponent will avoid or minimise disturbance of productive land in areas not directly impacted by mining activities. The Proponent will also ensure land above the underground operation is of adequate safety standards for continuing grazing activities, as far as reasonably practicable.</p> <p>To maximise local benefits derived from the Project, consistent with existing policies implemented at Lake Vermont Mine, the Proponent (and contractors engaged by the Proponent) will be encouraged to source labour locally (when possible and practicable) and provide training opportunities when practicable. The Proponent will also implement training programs to assist existing open-cut mine workers transition to underground mining roles, should they wish to do so, to maintain continuity of the workforce.</p> <p>The Proponent has longstanding relationships with local businesses and an established supply chain for its existing activities in the Catchment. To maximise local benefits derived from the Project, the Proponent (and contractors engaged by the Proponent) will continue to support local businesses by utilising these established supply networks and providing sufficient opportunities and information for local businesses to secure new supply contracts.</p> <p>While the Project is anticipated to have minimal impacts in terms of additional demand for accommodation/housing in the local area, the Proponent will monitor the local accommodation/housing market and demands placed on it by its workforce. The Proponent has also committed to provide financial support to the Isaac Affordable Housing Trust to support low-cost housing developments within Dysart.</p>
Transport	<p>Pavement impacts from heavy vehicle movements on the Golden Mile Road will be monitored during the Project construction phase (west of the mine access road). This data will enable future review of the Lake Vermont Mine maintenance agreement with the IRC.</p> <p>Bowen Basin Coal will continue to contribute to the maintenance of the section of the council controlled Golden Mile Road, west of the site access road, consistent with the existing maintenance agreement with the IRC. Requirements for road maintenance contributions to the IRC will be reviewed periodically, as agreed between the parties.</p> <p>To mitigate impacts on road safety from debris/ construction material on roads during the construction and ongoing operations of the Project, the following measures will be implemented:</p> <ul style="list-style-type: none"> • monitoring workforce hours and driver behaviours through the safe operation of mobile plant; • ensuring standard operating procedures; and • educating the workforce through inductions on road safety. <p>Bowen Basin Coal will continue to ensure measures to mitigate traffic risks will be maintained by:</p> <ul style="list-style-type: none"> • journey management systems; • a fatigue management policy; and • transport of hazardous and dangerous goods (which will comply with the 'Australian Dangerous Goods Code').



Project Matter	Commitment
Offsets	<p>Significant impacts identified to the following MNES, as a result of the Project, are proposed to be offset in accordance with the 'Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy' (DSEWPaC 2012b):</p> <ul style="list-style-type: none">• Brigalow TEC• Poplar Box TEC• Ornamental Snake• Koala• Greater Glider <p>A MNES Biodiversity Offsets Strategy (Appendix R) and an Offset Area Management Plan (Appendix U) have been prepared as part of this EIS. The delivery of MNES offsets are proposed to be staged across 4 key Project phases (per Appendix K, MNES Biodiversity Offsets Strategy).</p> <p>Where MNES offset requirements over-lap with impacted MSES values, offsets will be provided under the EPBC Act. Residual State based (MSES) offsets will be established in accordance with Queensland's EO Act and Environmental Offsets Policy. Residual State offsets will be required for:</p> <ul style="list-style-type: none">• Endangered and Of Concern REs;• REs within mapped vegetation management wetlands; and• REs within the defined distance of a vegetation management watercourse. <p>State offset requirements are specified within Chapter 10, Terrestrial Ecology, with offset requirements detailed within Chapter 23, Proposed Environmental Authority Conditions (for inclusion in the Project EA).</p>