6. ASSESSMENT OF ENVIRONMENTAL EFFECTS

6.1 OVERVIEW

In accordance with Schedule 5 (clauses 5 (4), 6 and 7) of the FTAA, this section provides an assessment of the actual and potential effects associated with the construction, operation, maintenance and closure of the proposed BPCP.

This chapter addresses the information requirements in clauses 6 and 7 of Schedule 5, as set out below.

Requirement	Where addressed
An assessment of the actual or potential effects on the environment	The actual and potential effects of the BPCP are assessed in the following sections.
If the activity includes the use of hazardous installations, an assessment of any risks to the environment that are likely to arise from such use:	This is included in Section 6.16 of this chapter.
If the activity includes the discharge of any contaminant, a description of— > The nature of the discharge and the sensitivity of the receiving environment to adverse effects; and > Any possible alternative methods of discharge, including discharge into any other receiving environment:	The nature of the proposed discharges, and the sensitivity of the receiving environment to adverse effects are provided predominantly in Sections 6.5, 6.16 and 6.18. These sections include justification for the proposed methods and an explanation of why alternatives are not appropriate. A comprehensive alternatives assessment is also included in **Chapter A.5 – Application Approach and Structure**.
A description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect of the activity:	Descriptions of proposed mitigations are provided in the following sections and are further summarised for ease of reference in Section 6.21 of this chapter. Further detail is also included in **Chapter A.7 – Management and Monitoring of Effects**.
Identification of persons who may be affected by the activity and any response to the views of any persons consulted, including the views of iwi or hapū that have been consulted in relation to the proposal:	The persons who may be affected by the activity (including iwi and hapū) and consultation details are included in Section 6.4 of this application. Further details on consultation are included in **Chapter A.5**.

Requirement	Where addressed
If iwi or hapū elect not to respond when consulted on the proposal, any reasons that they have specified for that decision:	Feedback from iwi/hapū is included in Section 6.4 of this chapter and further detail is included in **Chapter A.5**.
If the scale and significance of the activity's effects are such that monitoring is required, a description of how the effects will be monitored and by whom, if the activity is approved:	The proposed monitoring is set out in the following sections and further summarised for ease of reference in **Chapter A.7** of this application.
An assessment of any effects of the activity on the exercise of a protected customary right:	There are no protected customary rights identified in the Project Area.

The assessment of an activity's effect on the environment under clause 5(4) must cover the following matters:

Requirement	Where addressed
Any effect on the people in the neighbourhood and, if relevant, the wider community, including any social, economic, or cultural effects:	Social and economic effects are assessed in Sections 6.3.1 and 6.3.2, and cultural effects are considered in Section 6.4.
Any physical effect on the locality, including landscape and visual effects:	Landscape and visual effects, traffic effects, noise effects, lighting effects and recreational effects are assessed in Sections 6.11, 6.13, 6.12, 6.14 and 6.20, respectively.
Any effect on ecosystems, including effects on plants or animals and physical disturbance of habitats in the vicinity:	Freshwater ecology and terrestrial ecology effects are discussed in Sections 6.6 and 6.7.
Any effect on natural and physical resources that have aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations:	These effects are assessed throughout this section.
Any discharge of contaminants into the environment and options for the treatment and disposal of contaminants:	The effects related to discharges are assessed in Sections 6.5, 6.16 and 6.18.

Requirement	Where addressed
Any unreasonable emission of noise:	The effects of noise are assessed in Section 6.12.
Any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations.	Natural hazard effects are assessed in Section 6.10. The proposal is not anticipated to increase natural hazard risk, and any structures or discharges will be managed in accordance with industry best-practice requirements to minimise any potential natural hazard risks. Hazardous substances used or stored on site as part of this proposal will be managed in accordance with legislative requirements and best practice management standards and will not give rise to undue risk in this regard.

As explained in **Chapter A.5** (Application Approach and Structure) of this application, Bathurst has commissioned a number of independent experts to provide specialist reports on the actual and potential effects on the environment, as well as management plans to be implemented during the Project. Copies of these are included in **Part B** (Technical Reports) and **Part G** (Management Plans) of these application documents.

For key aspects of the Project, such as ecology and water, Bathurst has commissioned further independent expert peer review of the reports (and in some cases the relevant management plans) prior to submission under the FTAA. Peer review statements are attached in **Part C**. Where appropriate, recommendations from these peer reviews have been considered and responded to in the relevant technical reports.

The relevant actual and potential environmental effects, as summarised in the following sub-sections of this report, are considered to be:

> Positive effects (including economic, social, biodiversity and water quality effects);

> Effects on mana whenua values (cultural effects);

> Mine water management effects;

> Freshwater quality and aquatic ecology effects;

> Terrestrial and wetland ecology effects;

> Geotechnical effects;

- Natural hazard effects;
- Landscape, natural character and visual amenity effects;
- Noise and vibration effects;
- Transportation (roading and traffic) effects;
- Lighting effects;
- Waste (including tyre storage) effects;
- Hazardous substances effects;
- Dust and air quality (including emissions) effects;
- Historic heritage and archaeological effects; and
- Recreation, tourism and public access effects.

The FTAA includes a discretion for the Panel to decline an approval if, in complying with section 81(2), it forms the view that there are one or more adverse impacts in relation to the approval sought, and those adverse impacts are sufficiently significant to be out of proportion to the Project's regional or national benefits under section 81(4) of the FTAA, even after taking into account any conditions that the Panel may set in relation to those adverse impacts and any conditions or modifications that the applicant may agree to or propose to avoid, remedy, mitigate, offset, or compensate for those adverse impacts.

As explained below, the Project's benefits to New Zealand and the West Coast region are very substantial and, while some residual adverse effects are inevitable for any large scale mining operation:

- A wide-ranging suite of measures is proposed to address the Project's adverse effects, including direct mitigation, rehabilitation measures and an extensive residual effects management package;
- The Project's residual adverse effects are not sufficiently significant to be out of proportion to its regional and/or national benefits.

The technical assessments have carefully considered the effects management measures to appropriately address the potential adverse effects of the Project. These measures are summarised in the sub-sections below. Bathurst proposes implementing these effects management measures by way of the proposed conditions provided in **Part E** of these application documents.

The proposed conditions for the BPCP have been drafted to:

- Address the environmental effects associated with the Project in a robust manner, including setting clear objectives and monitored performance targets;
- Accord with best practice principles, such that they are enforceable and avoid any subsequent delegation of decision-making functions; and
- Informed by the technical experts (including technical peer reviews, statements of which are included in **Part C** to this substantive application).

Where management plans are relied on to give effect to conditions, the effects to be managed have been assessed and are understood; the relevant conditions include a clear statement of the objectives that must be met by those plans, and of the measures to be included in the management plans. Key management plans have been prepared to an advanced draft stage and submitted with this application (see **Part G**) to assist the Panel in its decision-making. In some cases, further refinement of those plans, and any peer review that may be undertaken, will occur through the Panel process and in response to any directions or issues raised.

It is acknowledged that throughout the Panel's consideration of the application, and as part of its deliberations, there may be a need to revisit these conditions and, potentially, the management plans submitted, to address additional matters that arise or to consider new perspectives that might be brought to bear on a particular issue. Bathurst is committed to a collaborative process whereby further amendments and refinements to the conditions (and management plans) can be made, if and when the need arises, at the Panel's request.

6.2 THE EXISTING ENVIRONMENT

When considering the effects of the Project, the "existing environment" consists of:

- The existing environment as described in **Chapter A.3 – Existing Environment** of these application documents, including the associated environmental effects from lawfully established activities;
- The environment as modified by any resource consents that have been approved, and are likely to be implemented; and
- The environment as likely to be modified by activities permitted by the WCRP, BDP and TTPP.

In the context of this application, the existing environment includes the following:

- The existing operation at Stockton Mine, including its associated infrastructure such as the CHPP, the Ngākawau Coal Loadout Facility, and existing water management systems;
- The existing opencast operation at the Escarpment Mine under care and maintenance (including existing water management systems);
- The existing opencast operation at the Cascade Mine under rehabilitation (including the Coalbrookdale Coal Storage Area);
- Any existing historic underground and overground workings on the Buller Plateaux; and
- Any operations associated with the existing Cypress Mine.

The Project must therefore be assessed against the alternative situation in which current CMLs and ACMLs for the Stockton Mine expire on 31 March 2027, and other consents progressively expire, and no new consents for Buller Plateaux operations are granted. Effectively, given the interrelationship between the CMLs, ACMLs and existing consents, all existing Buller Plateaux operations would have to cease on the expiry of the coal mining licences. The range of social and economic benefits and costs relating to the mine would also cease to accrue to the local and regional communities in particular, and New Zealand generally, as the flow of wages and salaries and local purchasing as well as taxes and royalties would not eventuate.

The nature of the effects has been assessed in consideration of the proposed timeline for each of the phases of the BPCP, as outlined in **Figure 6-1** below.

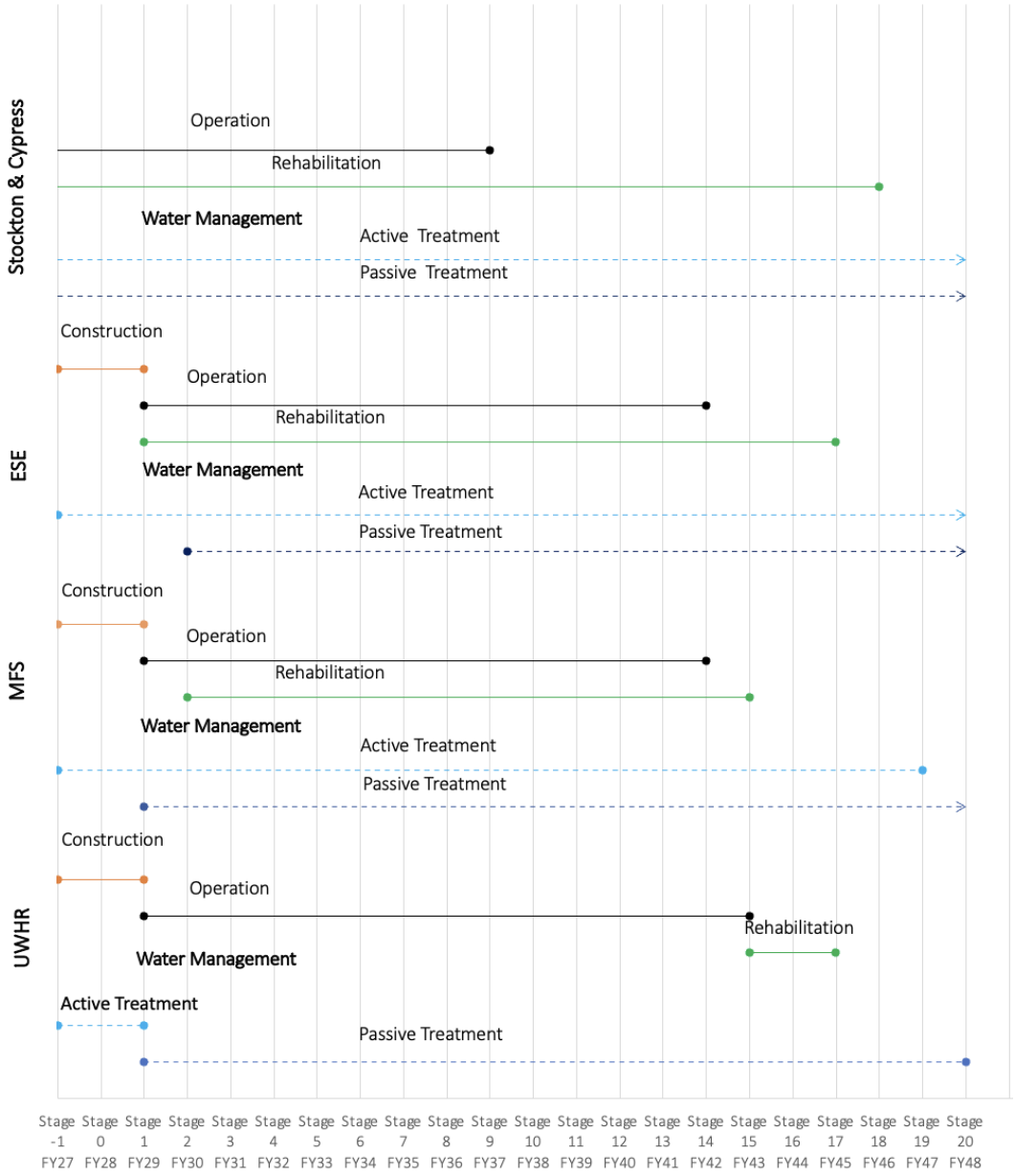


Figure 6-1: Indicative timeline of the phases of the BPCP (noting that "Stockton" also includes the Cypress Sub-Area)

6.3 POSITIVE EFFECTS

As discussed across Part A of this application (specifically in **Chapter A.1 – Project Wide Overview**), the BPCP will deliver significant benefits to the Buller District, the West Coast Region, and New Zealand more broadly. Further to the substantial economic benefits and positive social impacts offered by the Project, as part of the proposed approach for managing the actual and potential effects of the BPCP, the Project will generate long-term residual ecological benefits and positive impacts from improved water management

systems. Specifically, terrestrial biodiversity within the Buller Plateaux will benefit from extensive weed and pest control, fenced pest exclusion areas and habitat enhancement.

These positive effects are detailed in the following sub-sections.

6.3.1 Economic Benefits of the BPCP

The BPCP is expected to deliver substantial economic benefits at the national, regional, and local levels. These benefits arise primarily from the continued operation of the Stockton mine through further mining within the Stockton Sub-Area in parallel with accessing additional coal resources across the Buller Plateaux (to produce the required blends), enabling the continued operation of existing infrastructure, the maintenance and growth of employment opportunities in the district in particular, and the continuity of coking coal exports.

As outlined in **Chapter A.1 – Project Wide Overview** and **Chapter A.4 – Project Description**, the BPCP responds directly to the impending depletion of coal resources within the existing operations at Stockton Mine, and the expiry of the existing CMLs and ACMLs on 31 March 2027. Without access to the proposed additional resources at the MFS and ESE Sub-Areas, mining activity would decline to levels that are operationally and economically unsustainable (this outcome is referred to in the assessment and herein as the "base case"). The BPCP, therefore, plays a critical role in sustaining an established mining operation as existing resources are depleted and current Stockton mine approvals approach expiry.

An Economic Impact Assessment ("**EIA**") prepared by AIGIS Group (2026a) and peer-reviewed by Market Economics Limited, provided in **Parts B** and **C** to this application, assesses the economic costs and benefits of the BPCP at national, regional and local scales. Section 85(3) of the FTAA states that a decision-making Panel may decline an approval if the adverse impacts in relation to the approval sought are '*sufficiently significant to be out of proportion to the project's regional or national benefits'*. Such 'regional' benefits under the FTAA do not refer to regional council areas under the Local Government Act 2002, and should be construed in a more general sense. Therefore, for the BPCP, the regional effects are assessed against the following three levels:

- West Coast Regional Council ("**WCRC**") boundary scale;
- Buller District Council ("**BDC**") boundary scale; and
- Westport geographic area scale.

The EIA demonstrates that the economic benefits associated with the BPCP are materially greater than those expected under the base case, and are proportionate to the scale and

duration of the Project. The peer review agrees with this conclusion. The key economic benefits of the BPCP are detailed below, and explored in the following sub-sections:

- The BPCP will generate a significant contribution to the GDP of the Buller District, Westport Region and New Zealand more broadly;
- The BPCP will generate substantial revenue for the New Zealand Government;
- The BPCP will support a wide range of jobs, bringing with them job security, sustained livelihoods, reduced local unemployment, increased business activity, and indirect employment opportunities; and
- The BPCP will deliver significant contributions to the national and regional economy.

6.3.1.1 National-level Economic Benefits

Metallurgical coal is identified by the New Zealand Ministry of Business, Innovation and Employment ("**MBIE**") as a critical mineral that is 'essential to New Zealand's economy and technological needs, including clean energy and international trade'. The Stockton Mine is New Zealand's largest opencast coal mine, and the country's largest single producer and exporter of metallurgical coal, and the BPCP will see it continuing to be so.

Continuation of mining on the Buller Plateaux until approximately 2042 will enable the ongoing operation of Stockton and its associated infrastructure, sustaining a nationally significant component of the mining sector. The West Coast mining industry contributes approximately 8.2% of New Zealand's mining GDP and 7.4% of national mining employment, with Bathurst responsible for a substantial share of this contribution.

The Project also supports New Zealand's international trade relationships. New Zealand has recently negotiated a Comprehensive Free Trade Agreement ("**CFTA**") with India. In that context it is noted that metallurgical coal is currently New Zealand's largest single export to India, and as noted above, Bathurst is New Zealand's largest supplier of this critical mineral. Continuation of production under the BPCP therefore supports key trade relationships, export earnings and continuity of supply to long-standing international customers.

Key national-level economic benefits associated with the BPCP include:

- Returns to New Zealand-based equity holders in Bathurst (approximately 44% of issued equity), estimated at between $254 million and $371 million over the life of the Project.
- Payments to government through corporate tax ($225 million to $328 million), royalties ($21 million to $32 million), and other fees and rates (estimated at $8 million to $12 million) over the Project life.

The total quantified economic benefit of the Project is estimated at between $661 million and $957 million over the mining stage of the Project (to 2042). By comparison, the quantified base case economic benefit is estimated at between $72 million and $73 million to the end of the current CML and ACMLs (March 2027). This difference reflects the access to additional coal reserves and therefore the extended duration of operations enabled by the BPCP and the continued utilisation of existing infrastructure and logistics chains.

6.3.1.2 Regional-level Economic Benefits

At the regional and district scale, the BPCP represents a large single business unit with a material influence on the West Coast economy. Existing and proposed Bathurst operations are expected to continue to be among the most significant contributors to economic activity in the region, with particularly strong effects for the Buller District and Westport areas.

The quantified regional economic benefit of the Project is estimated at between $158 million and $224 million over the operative mining phase of the Project, to 2042, including between $55 million and $83 million attributable to Westport and its surrounding settlements. This compares with a regional base case benefit of approximately $16 million to $18 million (to March 2027), including between $7 million and $7.2 million for the localised Westport area.

Key regional (and local) economic benefits associated with the BPCP include:

- Mining contributes approximately 10.5% of WCRC GDP and 4.1% of WCRC filled jobs, with Bathurst accounting for 55.7% of filled jobs.
- Within the BDC level, mining contributes approximately 25% of GDP and 11.4% of filled jobs. Bathurst accounts for approximately 75.5% of mining employment and 8.6% of all filled jobs in the district, with sector productivity at around 2.2 times the district average.
- Net employee benefits over the life of the Project are estimated at between $68 million and $101 million, with workforce disposable income of approximately $211 million to $308 million.
- An ongoing operational workforce of approximately 375 FTE workers across the West Coast region, 372 within the Buller District, and 326 within the Westport area.
- Direct community contributions estimated at between $3 million and $6 million over the life of the Project, including committed contributions to local initiatives such as the Westport Flood Wall.

Because the BPCP primarily involves the continuation of employment of the existing workforce and a continuation and expansion of an existing activity already part of the

economy and community, new material adverse economic effects in the region are considered unlikely. Localised, short-term pressures on accommodation during construction periods may occur, particularly in Westport; however, these effects are expected to be temporary and offset by employment continuity, rental certainty and increased local expenditure.

6.3.1.3 Summary of Economic Benefits

The economic analyses presented in the EIA clearly demonstrate that the BPCP will deliver significant and sustained economic benefits at national, regional and district scales. These benefits are particularly important for the Buller District and Westport, where mining represents a major source of employment, household income, and economic activity.

Relative to the base case, the extended duration of the BPCP enables materially greater economic benefit while maintaining the viability of existing infrastructure and supporting the continued management of Crown legacy environmental liabilities at Stockton. Overall, the EIA demonstrates that the BPCP will result in positive economic outcomes across all geographical contexts.

6.3.2 Social Benefits of the BPCP

Coal mining has been intrinsically linked to the economic and social development of the West Coast for more than 120 years. The BPCP sits within this long-established context and supports the continued social functioning, resilience and wellbeing of communities that have developed surrounding this mining activity.

A Social Impact Assessment ("**SIA**") has been prepared by AIGIS Group (2026b) (and peer reviewed by Just Add Lime Limited) to evaluate the national and regional social effects of the BPCP. The SIA has been undertaken in accordance with Schedule 5, Clause 7(a) of the FTAA, which requires an assessment of the activity's effects on the environment to cover any effect on the people in the neighbourhood, and, if relevant, the wider community, including any social, economic, or cultural effects. The SIA, as the EIA, also has reference to Section 5(2) of the RMA, which provides for, *inter alia*, the 'use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety…'.

Schedule 5, clause 17(1) of the FTAA requires the Panel to take into account the provisions of Part 2 of the RMA (amongst other matters) but giving the greatest weight to the purpose of the FTA.

The SIA adopts the same base case scenario as specified in the EIA (outlined in Section 6.1.1.1 above) and focuses on effects at the local (Westport), district (Buller District) and regional (West Coast) scales. Given the proximity of the existing operations at Stockton Mine and the proposed BPCP activities to Westport, social effects are most concentrated in that area. Recent research, including an internal workforce survey and a programme of interviews with a range of local stakeholders, concluded that Bathurst has already established a generally accepted Social Licence to Operate within the local, district and regional communities. Other key findings of the SIA are summarised below.

6.3.2.1 Key Social Effects

Mining activity at Stockton and the proposed activities under the BPCP are shown to be closely integrated with the social structure of Westport and its surrounding settlements. Workforce survey analysis indicates that the majority of employees reside within the Buller District and broader West Coast region, with a high concentration in Westport. This pattern is expected to continue under the BPCP, with direct implications for population stability, household income, and participation in local communities.

Approximately 775 people reside in workforce members' households, the majority of whom live within the Buller District (96%) and Westport area (84%). These households directly benefit from employment continuity and income security. As recognised by the Organisation for Economic Co-operation and Development, stable household income supports social participation, educational outcomes and overall wellbeing, contributing positively to community cohesion and resilience.

Workers and their household members are actively involved in education, local employment, and a variety of social and community activities and organisations. These contributions are an important component of the social functioning of local communities, particularly in Westport where workforce residency is highest.

The economic effects of the BPCP also generate broader social outcomes. Workforce surveys indicate that, on average, 57% of 'take home pay' is spent locally. The EIA estimates annual workforce expenditure of approximately $11.7 million within the primary regional area, including approximately $9.8 million within Westport, with this level of local expenditure supporting local businesses, services and amenities.

Stakeholder feedback indicates that a cessation of mining activity (and Bathurst's current presence) would result in substantial social challenges at both district and regional scales. Bathurst's contribution to emergency management capabilities is identified as particularly important, including the provision of trained personnel, equipment and logistical support

during major events such as the July 2021 flooding. Continuing operations under the BPCP will maintain this capability throughout the life of the Project.

The Project also supports the ongoing functionality of key regional services and infrastructure. Bathurst operations account for 20% of Buller Electricity's output, contributing materially to the distribution of costs and to electricity affordability for other customers. Bathurst is also one of KiwiRail's top five customers nationally, and the largest on the West Coast. Freight volumes associated with mining support the economic performance of the Midland Rail Line, associated with externality benefits (including tCO_2 avoided), with flow-on social and economic implications for households and communities that depend on this service.

The SIA identifies potential temporary social effects during construction, particularly related to housing demand in Westport and the Buller District. Bathurst has assessed accommodation capacity and concluded that sufficient capacity is likely to be available to manage temporary demand, and will continue to monitor the situation as Construction approaches. Any such effects are expected to be localised and short-term.

In addition to workforce-related social effects, the BPCP will generate wider social benefits, including:

- Ongoing support and volunteering within community organisations;
- Continuation of enhanced emergency response capability through trained personnel and equipment;
- Ongoing support for the operation of the Midland Rail Line;
- Continued contribution to electricity affordability through Bathurst's share of electricity demand;
- Monetary contributions to charitable, service and community organisations over the life of the Project, with an estimated $510,000 contributed to 31 groups in the 2024-2025 financial year;
- Provision of an annual scholarship of $3,000 per year for four years to a Buller High School Student undertaking tertiary education; and
- Avoidance of an abrupt cessation of mining activity, enabling a more managed transition for schools, households and other industries as mining activities ultimately wind down.

Furthermore, in response to the peer review undertaken by Just Add Lime, AIGIS Group maintain that the Project would generate socioeconomic effects broadly comparable to existing mining operations and therefore is unlikely to materially or disproportionately affect

specific community groups. In contrast, the counterfactual scenario of mine closure would likely result in widespread adverse social and economic impacts, with some vulnerable groups (e.g. low-income households) potentially more affected – for example, through increased electricity costs if Stockton Mine's substantial contribution to local electricity demand (and associated cost-sharing) were removed. AIGIS also emphasises the inherent uncertainty in assessing social impacts, noting that social conditions and responses are dynamic and context-specific. While the BPCP is expected to maintain conditions similar to the status quo, individual and group responses may vary and cannot be predicted with complete certainty, particularly in terms of behaviour, material circumstances, and lived experience. This will be addressed through Bathurst's existing and ongoing commitment to social engagement with all relevant parties.

The SIA confirms that Bathurst has had ongoing and direct consultation with user group representatives, and that this engagement has already successfully led to specific outcomes. For example, following consultation with 4WD users, Bathurst has given this group access to the Buller Plateaux on a limited number of days (with escorted transition through mining areas) to enable their continued access and use for recreation. Such formalised consultation will continue to be undertaken on an ongoing basis, and in accordance with the mechanisms recommended in the Recreational and Tourism Assessment (Rob Greenaway & Associates, 2026). Current and ongoing consultation thus remains focused on facilitating the management of impacts on all user groups, and will support the development of longer-term structures for managing visitation and use of the Buller Plateaux. Overall, the Project therefore demonstrably supports the continuity and stability in community structure and function, and avoids the significant social disruption that would arise imminently under the base case scenario.

6.3.2.2 Buller Resilience Trust

A significant positive social effect already implemented by Bathurst - the Buller Resilience Trust - was established in 2021 in recognition that there would be a transition from coal mining at some point in time for the Buller District. The initial trustees of the Trust were appointed by the Buller District Council and BT Mining Ltd. The purposes of the Trust are:

a) To encourage, promote and support the development of resilience among people and communities within the Buller District;

b) To educate communities in the Buller District on improving their resilience;

c) To work with mining companies, their local employees and contractors, and people and communities in the Buller District to enable a transition from mining for fossil fuels to other economic activities in the Buller District;

d) To organise programmes that encourage the wellbeing of people and communities in the Buller District during a transition from mining for fossil fuels to other economic activities in the Buller District;

e) To establish, organise, and promote employment opportunities within the Buller District;

f) To promote the Buller District as a desirable place to live and invest;

g) To support the continuance of existing businesses, including mining, during a transition from mining for fossil fuels to other economic activities, and the development of key industries and businesses to replace mining in the Buller District;

h) To encourage, promote and support the economic wellbeing of the community of the Buller District; and

i) To encourage, promote and support economic development and infrastructure development in the Buller District.

This is a substantial contribution to the Buller District, and between April 2023 and July 2025 Bathurst/BT Mining disbursed over $750,000 into the Trust. It is intended that this Trust will continue to be funded by Bathurst/BT Mining Ltd and work in parallel with the BPCP initiatives.

6.3.2.3 Summary of Social Effects

The SIA concludes that, while both positive and negative social effects have been identified, the overall social effects of the BPCP are positive. The Project supports the continued social and economic functionality and wellbeing of local, district and regional communities. Indirect national-level social benefits are also identified, including those arising from government revenues that support public services and infrastructure. The SIA considers that the BPCP will deliver significant social benefits at each of the three geographic spatial scales assessed, with benefits most concentrated in Westport and the Buller District, and substantial benefits extending across the wider West Coast region.

The SIA further concludes that positive social outcomes are contingent on the active management of social risk over the life of the Project. In this regard, Bathurst has committed to implementing the key recommendations of the SIA, as supported by the independent peer review. These include maintaining existing community support activities to sustain the Project's Social Licence to Operate; actively maintaining the stakeholder communication channels established during Project development; and monitoring community views through established engagement mechanisms to identify and address concerns early.

Specific management measures will also be implemented to address potential adverse effects, including monitoring demand for temporary Construction-phase accommodation and incorporating mitigation measures from other technical assessments where these have social implications (such as traffic, noise, and water management).

Peer-review recommendations further strengthen this framework. Bathurst proposes to expand on its existing complaints management system, with outcomes publicly reported on a regular basis.

Bathurst will also continue to engage closely with the local community as coal resources are progressively exhausted and throughout the transition to closure, consistent with the Conceptual Mine Closure Strategy (Bathurst, 2026ag). Early assessment of socio-economic effects has ensured that the implications of operations ceasing are well understood and planned for. Ongoing engagement with key stakeholders will remain a priority through operations and closure to ensure the Project leaves a positive and enduring social legacy.

Overall, with the proposed management measures in place, the SIA concludes that social effects associated with the BPCP are acceptable, will be appropriately managed, and will be positive at local, regional and national scales.

6.3.3 Positive Biodiversity Outcomes

Respect for the environment is a core value for Bathurst. While the BPCP will result in ecological effects that are assessed in the relevant sections of this AEE, the Project also enables a suite of significant and enduring positive ecological outcomes, primarily through the implementation of the proposed Residual Effects Package ("**REP**") (as described in **Chapter A.1 – Project Wide Overview** and **Chapter A.4 – Project Description** of this application, and detailed in various management plans included in **Part G**).

The REP forms an integral part of the overall Project proposal, and is explicitly intended to deliver positive and enduring biodiversity gains at a landscape level across the Buller Plateaux. These outcomes extend beyond the immediate footprint of mining activities and seek to reverse the decline of threatened and nationally important flora and fauna indigenous to the Buller Plateaux.

The REP is not presented as a substitute for first avoiding, minimising and remedying adverse effects within the Project footprint. Nor is it assumed that all affected ecological values can be recreated or replaced on a like-for-like basis within the Project timeframe. Rather, the REP has been developed in recognition that some residual effects remain after the application of the effects management hierarchy, including effects on specialised coal-measure ecosystems, wetlands, rare habitats and species with limited mobility or restricted distributions.

The purpose of the REP is therefore to provide a durable, landscape-scale response to those residual effects by addressing key drivers of biodiversity decline across the Buller Plateaux, particularly predation, browsing pressure, weed invasion and habitat degradation. In this way, the REP is intended to secure ecological outcomes that would not otherwise occur under the base case, while acknowledging that some localised ecological losses remain adverse effects of the Project.

6.3.3.1 Residual Effects Management and Ecological Enhancement

As described further in the sections below (notably Sections 6.6 and 6.7), various technical ecological assessments undertaken conclude that, notwithstanding the application of appropriate avoidance, minimisation and mitigation measures, the BPCP will result in moderate or greater residual effects for a number of habitat types and associated flora and fauna species. While on-site mitigation and rehabilitation will significantly reduce the effects, some residual impacts remain unavoidable due to the spatial overlap between high-value habitat and ecological features and the location of the coal reserves required to be mined to meet the Project's critical blending requirements.

Accordingly, Bathurst proposes the comprehensive REP, which is evaluated in detail in the Residual Effects Management Report (Alliance Ecology, 2026a), Biodiversity Outcome Monitoring Plan ("**BOMP**") (Bathurst, 2026t) and Pest Control and Elimination Plan ("**PCEP**", Alliance Ecology, 2026af).

The overarching biodiversity objective of the REP is to achieve measurable improvements in the condition, resilience and extent of indigenous terrestrial and wetland ecosystems at a landscape scale, while recognising that some residual adverse ecological effects will remain.

6.3.3.2 Pest and Weed Management

Part of the REP comprises an integrated and multi-tiered programme of pest and weed management across approximately 26,259 ha[23] of land on and around the Buller Plateaux (Alliance Ecology, 2026a). The programme targets the main drivers of biodiversity decline in the region (mammalian predation, browsing pressure leading to habitat degradation) and is structured around four principal management units selected for their ecological values and feasibility of sustained management.

[23] The areal extent of pest or weed control includes approximately 1,363 ha of mammalian pest control undertaken for ecological rehabilitation within the existing Stockton Mine, which is currently being undertaken.

Key components include:

- Pest exclusion fenced areas (approximately 911 ha) across the Denniston and Stockton Plateaux, within which all mammalian pests will be eliminated and ecological weeds intensively controlled. These areas protect representative coal measure forest, Pākihi wetlands and upland plateau ecosystems and are approximately:
  - Denniston North (47 ha);
  - Coalbrookdale (154 ha);
  - Mt Augustus (14 ha); and
  - Whirlwind Rise (694 ha).
- An intensive predator-control area (approximately 1,505 ha) within the Blackburn-Pākihi area, focusing on sustained suppression of rodents, mustelids, possums, feral cats and ungulates to enable regeneration of forest and wetland habitats. This involves multi-species ground-based trap and bait-station networks, aerial control and targeted ungulate control.
- A Weed Management Area ("**WMA**") (approximately 9,431 ha split between 2,718 ha within the Project footprint and 6,713 ha outside the Project footprint. The areas outside the Project footprint include the Blackburn-Pākihi area, surrounding landscapes, historic mine sites and pest exclusion areas. This will be managed in accordance with the Buller Plateaux and Blackburn-Pākihi Weed Management Plan ("**WMP**").
- A wider landscape-scale pest suppression area, or 'control halo' (approximately 25,000 ha), across the Denniston Plateau and wider Landscape Pest Control Area, incorporating periodical aerial and ground-based pest control to maintain lower predator densities, support ecological connectivity and promote recovery of forest species and native birds, including species such as Great Spotted Kiwi / Roroa.

6.3.3.3 Pest Exclusion Areas

Collectively, the four proposed fenced pest exclusion areas would protect approximately 911 ha of coal-measure and upland Buller Plateaux habitat, predominantly on the Stockton Plateau. Individual fence lengths range from approximately 1.64 km to 11.93 km, for a combined length of approximately 24 km. Feasibility assessments undertaken by Pestproof Fences Ltd (2025) confirm that predator-exclusion fencing is practicable in these locations. If the Project is approved, the proposed fences would set new altitude records for pest-exclusion fencing in New Zealand and protect a variety of flora and fauna not currently represented in any existing fenced sanctuary nationally.

Final fence alignments will be further refined (to a minor extent) during final design to minimise disturbance and, wherever practicable, will utilise existing roads and tracks. Culvert structures will be installed where fencing traverses waterways, and the practicability of providing for fish passage (for kōura) will also be assessed at this time (as discussed further in **Chapter A.13 – Freshwater Fisheries and Dispensations**).

The Pest Mammal Survey undertaken by Alliance Ecology (2026b) demonstrated the ecological benefits of this approach to pest control. The survey showed that key pest species present across both the Denniston and Stockton Plateaux include mice, rats, stoats and browsers such as deer and rabbits/hares, and are present at levels known to drive biodiversity decline and exceed thresholds required for population recovery of many indigenous species. Regardless of whether mining proceeds, existing pest mammals will continue to have measurable adverse impacts on biodiversity values, particularly for highly vulnerable species (including invertebrates, lizards, land snails, and roroa).

The exclusion and sustained suppression of identified pest species – particularly mice, which are difficult to control at a landscape scale – is expected to result in substantial biodiversity gains.

6.3.3.4 Anticipated Biodiversity Outcomes and Limitations

The proposed REP is expected to deliver substantial and enduring ecological benefits across the Buller Plateaux, including improved habitat conditions, increased survival and recruitment of indigenous species, and enhanced landscape connectivity. For many ecological values, anticipated outcomes range from net neutral to net positive when assessed over the Project's full temporal scale.

However, the ecological assessments also acknowledge that some localised residual losses relate to irreplaceable or highly vulnerable species or communities for which offsetting or compensation cannot fully achieve equivalence, particularly where impacts are permanent. These losses remain an effect of the Project which cannot be completely outweighed by alternative actions elsewhere, notwithstanding the scale and quality of the proposed ecological enhancements.

6.3.3.5 Ecological Rehabilitation Monitoring

As described in **Chapter A.3 – Project Description,** the Rehabilitation Management Plan and the Conceptual Mine Closure Strategy (Bathurst, 2026ag), disturbed areas will be progressively reshaped, capped and revegetated to form safe, stable and self-sustaining landforms. Rehabilitation will focus on re-establishing indigenous ecosystems, reinstating hydrological function, and integrating rehabilitated areas with surrounding conservation and recreation values.

A long-term ecological rehabilitation monitoring programme will be implemented to:

- Evaluate the stability and ecological function of rehabilitated landforms;
- Assess rehabilitation performance against agreed closure criteria; and
- Support continuous improvement in site outcomes and rehabilitation practices.

Ongoing land management activities – including those associated with REP areas – will support these objectives and ensure that the positive ecological effects of the BPCP, as enabled through the measures proposed under the REP, are realised and maintained over the long term.

Bathurst does not rely on a simple proposition that all affected values can be recreated through rehabilitation. Rather, the effects management framework recognises that some ecological values, including specialised coal-measure ecosystems and associated habitats, are difficult or not practicable to fully recreate within the Project timeframe. For that reason, the Project has been designed around an integrated framework comprising avoidance and minimisation where practicable, progressive rehabilitation, species-specific management, long-term water treatment, measurable receiving-environment limits, pest exclusion fencing, landscape-scale pest and weed control, aquatic compensation, heritage and recreation compensation, financial and closure obligations, monitoring and adaptive management.

6.3.3.6 Ecological Research Projects

The BPCP also incorporates targeted ecological research programmes designed to support adaptive management, improve restoration outcomes, and contribute to regional and national conservation knowledge.

Research on lizards is currently underway and is investigating microhabitat use to inform the development and implementation of effective management and habitat design measures, with the objective of enhancing long-term population viability within rehabilitated and adjacent environments.

A proposed study on kōura will investigate movement ecology and passage requirements, with the aim of informing the design and management of aquatic habitats to maintain or enhance connectivity and ecosystem function.

Research is also proposed in relation to weka to identify constraints on translocation success. This work is intended to reduce uncertainty associated with the restoration outcomes and inform future management approaches, particularly for ‘At Risk – Relict’ taxa, including North Island and buff weka, which are more susceptible to population decline.

Ongoing research on terrestrial snails is focused on improving the suitability and quality of created habitat, including within areas rehabilitated using stockpiled soils. This includes assessing planting and seeding techniques to promote successful establishment and persistence of snail populations.

In addition, research on rehabilitation and soil ecology will assess fertiliser types, application rates, and application methods to optimise vegetation establishment and accelerate habitat development. This work will also support the establishment of functional soil communities, including earthworms, which contribute to ecosystem processes and provide a key food resource for native snail species.

Collectively, these research programmes will contribute to improved rehabilitation outcomes, enhanced ecological function, and increased certainty in achieving biodiversity outcomes over time.

6.3.3.7 Overall Ecological Benefits

When combined, the REP and associated monitoring framework (including the research programme) represent a comprehensive and credible ecological response to the BPCP. While some residual adverse effects will be unavoidable, the Project enables an unprecedented level of coordinated, long-term pest and weed management across the Buller Plateaux, delivering enduring biodiversity benefits directly attributable to the Project and not otherwise occurring.

6.3.4 Environmental (Acid Mine Drainage) Chemistry Benefits

The effects of AMD across the BPCP Project Area have been comprehensively assessed (notably in MWM, 2026a and Bathurst Resources Limited 2026j, 2026k and 2026l), acknowledging that the landscape and water quality are influenced by extensive historical mining.

Water quality in catchments at Stockton is notably degraded due to AMD, and active AMD treatment to manage legacy effects from these historic activities will be required for decades post-closure. In this context, the Project does not introduce new or unanticipated effects but enables the continued management of an existing AMD-affected system. Ongoing mining activity supports the operation and optimisation of AMD treatment infrastructure that would otherwise be unavailable, preventing further deterioration and enabling progressive improvement in water quality and aquatic ecosystems over time. Furthermore, ongoing mining activity enables the continued removal of legacy underground workings in the Millerton area, which also removes the AMD load from those workings into receiving waterbodies.

The new Project Sub-Areas (ESE, MFS, and UWHR) generally comprise near-natural water systems. While mining has the potential to mobilise AMD where sulphide-bearing materials are disturbed, detailed investigations confirm that these risks are well understood, predictable, and manageable. In these Sub-Areas, the BPCP applies an ecologically protective approach to water quality and a clear hierarchy of controls, including defined closure objectives, source hazard identification, prevention, control, and treatment of AMD, assessment of potential effects, and ongoing monitoring and adaptive management.

Studies undertaken as part of the FTAA application package demonstrate that the proposed mining at ESE and MFS will deliver direct improvements in water quality and ecology in some historically impacted streams, including Cascade Creek. These improvements arise from the removal of legacy underground workings and unmanaged historical discharges, reducing existing contaminant loads entering receiving environments.

Waste rock is identified as the primary potential source of AMD. The Project seeks to address this effectively through ELFs specifically designed to place acid-forming waste rock into cells, which are compacted and covered by non-acid-forming material, thus limiting oxygen and water ingress, significantly reducing the potential for AMD generation. These measures are supported by dedicated management plans, including the AMD ELF Management Plan and the Stockton Mine AMD Environmental Management Plan, which apply an adaptive management framework.

Overall, the BPCP enables the continued management and improvement of an existing legacy AMD-affected environment, principally within the Stockton Sub-Area, while also providing for the protective management of mine water risks within the ESE, MFS and UWHR Sub-Areas. At Stockton, the Project will support the continued capture, treatment and progressive improvement of existing mine-affected water systems, including degraded streams. In the new Sub-Areas, where receiving environments are generally less modified or are affected by more localised historic influences, the Project has been designed to avoid the creation of unmanaged new AMD sources through source control, selective material handling, ELFs, water capture, treatment, ecologically protective receiving-water limits and monitoring.

Bathurst acknowledges that water management obligations will extend beyond the active mining phase in some locations. The nature and duration of those obligations will differ between the existing Stockton environment and the new Sub-Areas. At Stockton, long-term water management will continue to respond to the legacy of historic mining and the established recovery or betterment framework for affected waterways. For the ESE and MFS Sub-Areas, the Project includes closure planning, active and passive treatment systems, receiving-water limits, performance monitoring, adaptive management and proposed

conditions that require water quality outcomes to be demonstrated before any reduction in treatment or monitoring. The transition from active to passive closure for those new Sub-Areas is therefore performance-based rather than time-based or infrastructure-based alone.

Financial assurance and closure obligations are addressed through the proposed conditions and closure framework. These mechanisms are intended to ensure that the costs of rehabilitation, water management, monitoring and post-closure obligations attributable to the Project are appropriately secured and do not default to the public. They also recognise the need to distinguish, where relevant, between obligations associated with existing legacy effects and those arising from the BPCP.

6.3.5 Other Benefits

The BPCP includes a wider, comprehensive suite of measures to address residual effects on other values, such as aquatic ecology, historic heritage and recreation. These measures are further detailed in the topic-specific sub-sections below.

6.3.5.1 Aquatic Ecology

A strategic fish passage barrier remediation compensation package is proposed for the BPCP (ESNZ, 2026b). This is designed to deliver measurable ecological benefits, restore aquatic connectivity, expand habitat availability, and enhance native fish populations across the West Coast region. The programme adopts a three-stage approach. Firstly, immediate remediation of three known high-priority fish barriers, estimated to take two years, restoring access to approximately 11.8 km of upstream habitat currently inaccessible to native fish species such as īnanga, kōaro, and longfin eel. Secondly, a comprehensive regional assessment and prioritisation of 965 unassessed fish barriers across the West Coast region. This second stage is also estimated to take approximately two years and will complement DOC's high-priority list of culverts requiring remediation for fish passage. Thirdly, implement six to ten future barrier-remediation projects based on ecological value and feasibility, while also incorporating cultural, economic, social, and other relevant considerations to ensure a holistic and inclusive approach. This is a longer-term stage, estimated at 10 years, and builds upon stage two, enabling more targeted remediation. The third stage will also support long-term regional capacity building, ensuring fish passage restoration becomes embedded in local conservation planning and infrastructure management.

6.3.5.2 Historic Heritage

Bathurst has committed to establishing and funding a Historic Heritage Enhancement Fund to be applied across the Denniston and Stockton Plateaux in consultation with DOC, HNZPT, iwi, local museums, and heritage groups. This fund will support conservation, recording,

interpretation, public access and community engagement initiatives, including oral history projects, enhanced interpretation of mining sites, conservation of priority heritage features, and improved public access to historic areas (including post-mining reinstatement and enhancement).

6.3.5.3 Recreation and Public Access

The Project proposes recreation and access compensation to address displacement effects during mining operations. These measures include the establishment of a Recreation User Group ("**RUG**"), managed access arrangements (particularly for 4WD, cycling, and walking routes), support for off-site recreation and tourism opportunities where on-site access is temporarily constrained, and the prioritisation of reinstating public access and recreation routes following mine closure and rehabilitation.

6.3.6 Summary of BPCP Benefits

Overall, the BPCP will deliver substantial and enduring benefits at national, regional and local levels. It sustains a nationally significant export mining operation, generating major economic contributions, government revenue and long-term employment, while supporting the social stability, resilience and wellbeing of West Coast communities. The Project also enables significant ecological gains through large-scale pest and weed control, habitat protection and long-term biodiversity enhancement across the Buller Plateaux (which would not occur under the base-case scenario).

It also enables the continued management and progressive improvement of a legacy AMD-affected environment, delivers targeted water quality improvements in historically degraded streams, and avoids the creation of unmanaged new AMD sources. Furthermore, the BPCP provides positive heritage and recreation outcomes through targeted compensation and enhancement measures.

These benefits are supported by an extensive and ongoing programme of stakeholder engagement, as outlined in the BPCP Community and Stakeholder Engagement Report (Bathurst, 2026am), which has informed project design, mitigation measures and management approaches, and will continue throughout the life of the Project.

Taken together, the BPCP evidently delivers clear, substantial and enduring benefits at national, regional and local levels.

6.4 EFFECTS ON MANA WHENUA VALUES (CULTURAL EFFECTS)

Cultural effects have been identified through direct engagement with iwi, as Bathurst acknowledges and recognises that only iwi have the ability to determine how a Project affects them.

Bathurst has a long standing and ongoing relationship with Te Rūnanga o Ngāti Waewae, who have previously produced the following Cultural Impact Assessments ("**CIA**"):

- Cultural Impact Assessment Report for Activities associated with the proposed Solid Energy Cypress Coal Mine (February 2003);
- Cultural Impact Assessment of Escarpment Mine Project (31 July 2010);
- Cultural Impact Assessment of Stockton Hydro Proposal (August 2009); and
- Interim Assessment of Impacts on Rangatiratanga, Treaty Principles and Ngāti Waewae Cultural Values – Stockton Acid Mine Drainage Project (22 September 2022) (Draft).

Consultation with iwi in relation to the BPCP has been undertaken in accordance with the Project-specific Community and Stakeholder Engagement Report (Bathurst, 2026am), and is summarised in **Chapter A.5 – Project Approach and Structure** of this substantive application. This has included email correspondence, Teams and face-to-face meetings. Initial discussions in May and June 2025 established the requirements and timings of a Cultural Impact Assessment ("**CIA**"), commissioned by Bathurst. In March 2026, meetings were held with Te Rūnanga o Ngāti Waewae to discuss the findings of various technical assessments, and detailed effect summaries were provided across multiple disciplines (noise, water, ecology, landscape, social and economic effects, closure, and pest management). Consultation in regards to the BPCP will continue throughout the application, operational life, closure, and relinquishment phases.

Consultation with Te Rūnanga o Ngāti Waewae also remains ongoing in relation to existing mining permits, which involves the provision of Annual Mine Plans. All feedback from Te Rūnanga o Ngāti Waewae on existing operations to date has been positive.

In summary, the CIA produced by Ngāti Waewae:

- Provides mana whenua with an overview of the Project and environmental context;
- Enables Te Rūnanga o Ngāti Waewae to assess the key information from the application and the proposed management plans (including in relation to residual effects management) and to provide technical advice to inform assessment of the Project by mana whenua;
- Identifies mana whenua associations, history, and values associated with the area;

- Identifies key issues and cultural impacts of the Project; and
- Provides recommendations to address the effects and cultural impacts of the Project, where possible.

Bathurst has actively engaged with Te Rūnanga o Ngāti Waewae from the inception of the BPCP and discussions remain ongoing on a number of cultural participation, acknowledgement, consultation and commercial matters.

Bathurst will continue to work with Te Rūnanga o Ngāti Waewae to ensure that the BPCP is developed and managed in a manner that is sensitive to the cultural requirements of mana whenua.

Te Rūnanga o Ngāi Tahu ("**Ngāi Tahu**") has also been informed of the Project. Ngāi Tahu is the iwi authority representing Ngāi Tahu Whānui, of which Te Rūnanga o Ngāti Waewae is one of the Papatipu Rūnanga with mana whenua over the Project area. Ngāi Tahu has confirmed its support for Ngāti Waewae to exercise its rangatiratanga and rights within its takiwā. Accordingly, Ngāi Tahu defers to Ngāti Waewae in relation to the assessment of cultural effects for the BPCP, and engagement has appropriately been focused on Ngāti Waewae as mana whenua.

Notification of the submission of this application and an invitation to engage in consultation has also been provided to Ngāti Apa ki te Rā Tō, Ngāti Tama ki Te Waipounamu Trust, Te Ātiawa o Te Waka-a-Māui Trust, Te Pātaka a Ngāti Kōata, Te Pātaka a Ngāti Kōata, Te Rūnanga o Ngāti Kuia Trust, Te Rūnanga o Ngāti Rārua, Te Rūnanga o Toa Rangatira.

The proposed conditions (refer to **Part E**) seek to give effect to a range of recommendations and outcomes identified through the CIA, including provisions relating to ongoing engagement with Te Rūnanga o Ngāti Waewae, opportunities for cultural monitoring and cultural input into relevant aspects of Project implementation, and the recognition and protection of mana whenua values throughout the life of the Project. Draft conditions have been shared with Te Rūnanga o Ngāti Waewae, which has indicated broad support for the proposed approach, subject to the continuation of ongoing discussions on a number of matters. Bathurst remains committed to continuing to engage with Te Rūnanga o Ngāti Waewae throughout the application process, Project operations, closure, and relinquishment phases to ensure the Project is developed and managed in a manner that appropriately recognises and provides for mana whenua values.

6.5 MINE WATER MANAGEMENT EFFECTS

6.5.1 Overview

The Project is located within a high-rainfall, topographically complex environment where surface water and groundwater systems are closely interconnected. Hydrological processes are characterised by frequent, high-intensity rainfall events, rapid catchment responses, and interactions between surface water, groundwater, seepage pathways and, in some areas, historic underground mine workings.

The Project encompasses a range of hydrological, hydrogeological and geochemical settings. These range from the highly modified Stockton mining area, where mining has altered flow pathways and established extensive water management infrastructure, to the comparatively less disturbed extension areas at MFS, ESE and UWHR. Accordingly, a differentiated management approach has been adopted, with a restorative framework applied at Stockton and an ecologically protective framework applied in the extension areas.

Water quality across the Buller Plateaux reflects both natural geochemical conditions and historical and contemporary mining influences. Surface water and groundwater are naturally acidic due to the Brunner Coal Measures, and some catchments are also affected by existing AMD associated with historic mining activities. AMD remains the principal geochemical risk associated with the Project due to its potential to affect water quality and aquatic ecosystem health over extended timeframes. Independent peer review confirms that AMD prediction and management are the key water-quality challenges for the Project, although sediment generation also requires management during land disturbance activities.

The Project predominantly involves disturbance of Brunner Coal Measures, together with smaller volumes of Kaiata Mudstone, granite and colluvial materials. These lithologies have been extensively investigated through decades of mining activity on the Buller Plateaux, including at Stockton, Cypress and Escarpment Mines. Consequently, there is a substantial body of empirical information regarding AMD generation, waste-rock behaviour, water treatment performance and long-term rehabilitation outcomes. This regional knowledge has been supplemented by extensive Project-specific investigations, including drillhole geochemistry, water-quality monitoring, kinetic testing, hydrogeological investigations, load-balance modelling and engineered landform assessments. Independent peer review has concluded that the available information provides a high degree of confidence in AMD prediction and long-term water management outcomes.

At a high level, mine water management for the Project is based on a design-led approach that integrates hydrological, hydrogeological and geochemical controls. Key elements include separation of clean water from mine-affected water, source control measures to

minimise AMD generation, capture and treatment of mine-affected water, controlled discharge to receiving environments, and comprehensive monitoring and adaptive management. During operations, water-quality management relies primarily on active treatment systems, supplemented by passive treatment systems that become increasingly important during rehabilitation and closure.

A fundamental component of the management framework is source control. Geochemical characterisation identifies potentially acid-forming materials, which are managed through selective placement, engineered landform design, encapsulation, and rehabilitation measures that minimise oxygen and water ingress. Together with active and passive water-treatment systems, these measures are intended to prevent or minimise adverse effects on receiving environments throughout the life of the Project and beyond.

The assessment of mine water management effects considers the integrated behaviour of surface water, groundwater and geochemical processes. For the extension areas, this assessment is based on site-specific water-quality protection levels and receiving-environment limits developed to maintain aquatic ecosystem health. For Stockton, the assessment is based on a recovery and betterment framework that seeks to support long-term improvements in water quality and ecological condition within an already modified environment. A site-specific approach is necessary because Buller Plateaux streams are naturally acidic and geochemically distinctive, meaning generic guideline values are not always appropriate indicators of ecological risk.

Bathurst has commissioned an extensive programme of specialist investigations addressing hydrology, hydrogeology, water quality, geochemistry, AMD management, water treatment and aquatic ecology. This work includes the *AMD Overview Report* (MWM, 2026a), *Sediment Overview Report* (MWM, 2026b), *Hydrological Assessment* (MWM, 2026c), *Active Water Treatment Testing Report Summary of Water Quality Testing* (Process Flow, 2026a), *Active Water Treatment Plant Basis of Design* (Process Flow, 2026b), *Wastewater Treatment for Escarpment Mine Extension, Denniston Plateau* (Courtenay, 2026a), *On-site Wastewater Management at Stockton Mine* (Courtenay, 2026b), *Water Management and Assessment of Effects on Waterways and Water Users from the BPCP Stockton Mining Activities* (GHD, 2026a), *Hydrogeology of the Stockton Area and the Assessment of Impacts on Groundwater from BPCP Stockton Mining Activities* (GHD, 2026b), *Water Quality Protection Guidelines* (RMA Science, 2026), *Stockton Plateau Aquatic Ecology: History, Thresholds and Long-term Management* (InStream, 2026), *Acid Mine Drainage History of AMD Management and Proposed Future Management* (Bathurst, 2026i), *Stockton Mine 80-year Water Quality Forecast* (Bathurst, 2026j), *Millerton Water and AMD Management* (Bathurst, 2026k), and *Stockton Operational AMD Sludge Management* (Bathurst, 2026l). The following sections provide a high-level summary of the findings of this work. For a comprehensive

understanding of the methodologies, investigations, modelling assumptions, and detailed conclusions, refer to the full suite of technical reports and peer reviews contained in **Parts B** and **C** of the application.

Climate change has also been incorporated into the assessment and design framework. Water and load balance modelling, infrastructure design and operational planning have all considered increased rainfall intensity and extreme weather events. Monitoring and adaptive management measures provide a framework for ongoing refinement of water management responses throughout the Project life.

6.5.2 Stockton Sub-area

The Stockton Sub-Area is characterised by a highly modified hydrological and hydrogeological environment resulting from extensive historic and ongoing mining activities. Surface water and groundwater systems have been substantially altered through underground workings, open pit mining, engineered drainage networks, diversions and long-established water management infrastructure. As a consequence, hydrological processes reflect a combination of natural catchment behaviour and sustained operational controls.

A defining feature of the Stockton system is the extensive network of historic underground mine workings. These workings form preferential flow pathways that enhance connectivity between groundwater and surface water, resulting in flow behaviour that differs from what would otherwise be expected for baseline conditions on the Stockton Plateau. Surface water regimes are similarly influenced by interception, storage, diversion and controlled discharge as part of ongoing operations.

Water quality within the Stockton Sub-Area reflects both natural geochemical conditions and the legacy of historic mining, including AMD. In response, a comprehensive and established water management system is in place and is proposed to be further developed and enhanced as part of the BPCP, based on capturing mine-impacted water and treating it with lime dosing and settlement processes before controlled discharge. These systems are a core, ongoing component of operations and are required to manage both current and legacy AMD sources. Given the scale and persistence of historic mining impacts, this active water treatment is expected to continue over the long term, including beyond cessation of mining, as part of the managed recovery and betterment of affected catchments.

6.5.2.1 Operational Phase

During ongoing operations, water management in the Stockton Sub-Area primarily involves continuing, refining, and improving an established, integrated water management system. Hydrological processes are influenced by the interception and diversion of surface water, together with the capture and management of runoff, seepage and groundwater within mine

areas. These processes result in localised changes to flow regimes, including reductions in median flows in some tributaries. For example, operational reductions in median flows in parts of the Granity catchment are estimated at approximately 31–38%, reflecting water capture in sumps and diversion to treatment systems. These changes are localised and occur within an already highly modified system.

While localised reductions in low flows may occur in some sub-catchments due to water capture and treatment, these are not expected to materially affect downstream flow availability.

Groundwater behaviour during this phase remains strongly controlled by the existing network of underground workings, with dewatering and preferential flow pathways influencing both groundwater movement and interactions with surface water systems. These interactions contribute to baseflow in some locations and to the generation of mine-impacted water requiring management.

Water quality effects are primarily associated with the ongoing management of AMD from both historic and current mining sources. Mine-affected water is comprehensively captured via an integrated network of drains, sumps and diversion infrastructure and routed to treatment systems. Treatment is predominantly based on a “dose-and-settle” approach, whereby alkaline reagents, primarily lime, are applied to neutralise acidity, raise pH and precipitate dissolved metals. Treated water is then clarified within settlement sumps or ponds and released in a controlled manner to receiving environments, including tributaries of the Ngākawau River. These managed releases occur within a long-established water management regime and are managed having regard to catchment flows and receiving environment conditions.

A component of this established regime is the controlled management of LDS generated through treatment. Following treatment, LDS is retained within the Mangatini Sump under typical flow conditions and managed through a combination of on-site capture, dewatering and disposal within ELFs, as well as controlled discharge under defined conditions. Where controlled discharge occurs, it is strictly limited to rainfall-driven high-flow events, when the receiving water, Mangatini Stream, exceeds the applicable flow threshold. This ensures that controlled discharges of LDS coincide with periods of elevated natural turbidity and greater dilution capacity, while avoiding release during low-flow or clear-water conditions.

Continuous real-time monitoring of flow and turbidity supports the rate and timing of these discharges. These events are episodic rather than continuous and form part of a managed system necessary to maintain treatment performance. The primary potential effect is therefore limited to short-term increases in turbidity, which are managed through thresholds and monitoring requirements. This approach reflects the highly modified nature of the

Stockton catchments and the presence of legacy AMD sources, where complete elimination of contaminant generation is not practicable.

For Stockton, it is proposed to retain a catchment-specific monitoring and compliance framework that reflects the site's complexity and long operating history. This includes routine water quality sampling at key monitoring locations in the Ngākawau River, Mangatini Stream, St Patrick Stream, Mine Creek, Granity Stream, Miller Stream, Twins Stream, Rudolph Stream, Whirlwind Stream, and Herbert Stream. The monitoring suite includes pH, turbidity, dissolved aluminium, dissolved iron, electrical conductivity, nitrogen species, sulphate, dissolved zinc and broader chemistry parameters, depending on the role of each site in compliance or performance monitoring. This is supported by continuous monitoring of flow, turbidity, pH and electrical conductivity at specified locations.

Aquatic ecological condition across Stockton streams reflects a gradient of AMD influence, as discussed further in Section 6.6 below. As AMD influence increases, there is a progressive loss of sensitive taxa and a reduction in ecological integrity, with some streams currently impacted and others showing evidence of recovery where treatment has been effective. Water quality outcomes during operations are therefore assessed relative to the recovery and betterment framework for affected Stockton waterways. Once the annual 75th percentile dissolved aluminium concentration is less than 2.8 mg/L and the annual median pH is greater than 4, ecological recovery begins, and waterways are considered 'water quality recovering' once these conditions are met. As improvement continues, waterways are considered 'water quality recovered' once the annual 75th-percentile dissolved aluminium concentration is less than 1.0 mg/L and the annual median pH is greater than 4.5. These 'water quality recovered' conditions are considered capable of supporting ecological recovery, including fish communities in those waterways where geographical barriers do not preclude fish migration.

Water takes at Stockton are primarily operational and largely sourced from managed or previously captured mine water within the system. These include abstraction from sumps and, to a lesser extent, local streams for activities such as dust suppression, drilling, water treatment processes and fire suppression. The portion of these takes that is derived from intercepted water within the system represents a redistribution of flows rather than a direct abstraction from natural watercourses.

Overall, operational water management at Stockton is expected to maintain or improve water quality relative to current conditions, particularly where treatment systems intercept and treat both current and legacy AMD sources. The monitoring and performance framework provides a robust basis for assessing whether improvements in water quality are translating into ecological recovery and betterment over time.

Flood behaviour within the Stockton Sub-Area is influenced by both natural catchment processes and existing infrastructure. Current water management systems are designed to accommodate high-intensity rainfall conditions, in excess of 5,500 mm annually on the Stockton Plateau, and maintain the conveyance of flood flows. Accordingly, BPCP activities are not expected to result in a material increase in downstream flood risk.

6.5.2.2 Closure Phase

During closure, water management within the Stockton Sub-Area will continue to focus on the long-term management of altered hydrological and hydrogeological conditions, particularly in relation to AMD. While progressive rehabilitation of landforms and drainage pathways is expected to support the stabilisation of flow regimes over time, the legacy effects of historic underground workings and geochemical conditions mean that ongoing capture, treatment and controlled release of mine impacted water will be required for the foreseeable future. Accordingly, "closure" in the Stockton context does not represent the cessation of active water management, but rather a transition to a sustained, long-term managed system in which treatment infrastructure remains in place to address both contemporary and legacy AMD sources. That transition will occur in the context of the existing Crown/LINZ role in relation to long-term management of Stockton's legacy AMD liabilities, such that post-mining treatment of AMD sources will ultimately sit within that enduring Crown-administered management framework.

The Project also proposes a staged basis for tracking long-term waterway recovery at Stockton. From a water quality perspective, waterways are classified as impacted, recovering, or recovered based on annual median pH and annual 75th-percentile dissolved aluminium concentrations. A recovered waterway is one that achieves an annual median pH greater than 4.5 and an annual 75th-percentile dissolved aluminium concentration less than 1 mg/L for three consecutive years. Once water quality recovery has been achieved, ecological recovery can be assessed on an ongoing basis to confirm whether improvements in water chemistry translate into a biological response, rather than being treated as an endpoint in itself.

Groundwater and surface water systems are expected to gradually adjust as mining activities cease, and rehabilitation progresses; however, given the highly modified nature of the system, a return to pre-mining conditions is not anticipated. Instead, a managed post-mining state will persist, characterised by continued operation of water management and treatment infrastructure to maintain water quality improvement and minimise downstream effects. This reflects the enduring influence of historic mine workings and legacy geochemical conditions on system behaviour.

This approach is consistent with a long-term, 80+ year improvement trajectory, in which gradual reductions in acidity and metal concentrations support incremental ecological recovery and betterment. However, full ecological recovery is unlikely to be achieved in all streams within this timeframe, and some catchments are expected to require ongoing management indefinitely. In particular, streams influenced by historic AMD sources beyond the direct control of current mining activities may remain partially impacted without further intervention by the Crown.

Accordingly, the long-term outcome for Stockton is best described as managed recovery and betterment, rather than full restoration, supported by continued active water management and treatment as required to maintain water quality outcomes.

6.5.3 MFS Sub-area

6.5.3.1 Overview

The MFS Sub-Area is characterised by surface water and groundwater systems that are generally less modified than those at the Stockton mining area and are more representative of undisturbed conditions at a catchment scale. Hydrological processes within MFS are driven by high rainfall and rapid runoff response, consistent with the broader Buller Plateaux environment. This response is strongly influenced by the steep topography of MFS, which exhibits a large elevation difference between the upper areas of this Sub-Area and the Waimangaroa River at its base; consequently, both Deep Stream and Billo Stream form steep, deeply incised gorges that efficiently drain the area.

Groundwater systems within MFS occur within fractured bedrock and overlying materials, with flow controlled by geological structure and local topography. While some influence from historic underground workings may be present, groundwater behaviour is not dominated by extensive interconnected mine voids as observed at Stockton. Surface water and groundwater systems remain hydraulically connected, with groundwater contributing to baseflow and interacting with surface water systems across the Sub-Area.

From a geochemical perspective, the MFS Sub-Area is characterised by a comparatively higher proportion of NAF and lower-risk materials relative to the Stockton mining area. Mine scheduling and geochemical characterisation indicate that approximately 16 Mm^3 of overburden will be extracted at MFS, of which approximately 67% is classified as NAF, with an average sulphur content of approximately 0.13 wt%. This reflects the underlying geological conditions and provides a comparatively favourable context for managing potential AMD effects. The proposed water management approach at MFS is supported by site-specific water-quality limits based on ecological protection and associated

compliance-monitoring recommendations prepared by RMA Science for the Plateaux streams.

6.5.3.2 Construction and Operational Phases

During construction and operations, water management within the MFS Sub-Area is associated with the introduction of new disturbances and the implementation of a design-led approach to the management of surface water, groundwater, and water quality.

Hydrological effects are primarily related to the interception and capture of runoff within disturbed areas and the management of mine-impacted water which diverts water from Billo Stream and Deep Stream sub-catchments to the Waimangaroa River (into which Billo Stream and Deep Stream would flow naturally into). This may result in localised reductions in median and low flows within some sub-catchments. While localised reductions in low flows may occur in some sub-catchments due to water capture and treatment, and operational reductions in median flows of approximately 12–15% are predicted at representative monitoring locations SW01 and SW03 within Deep Stream, these changes are localised and small relative to the overall rainfall-driven variability of flows within the catchment and are not expected to materially affect downstream flow availability.

A distinctive feature of the MFS water management approach is that when Waimangaroa River flow exceeds the 90th percentile, mine impacted water within the major operational sumps (the West Pit Sump and the East Pit Sump) could be pumped to bypass the water treatment plant and discharge directly to the Waimangaroa River rather than be routed through the treatment infrastructure. This recognises that, during higher-flow conditions, the river (and the rainfall causing the high river flow) provides substantial dilution capacity and treatment of those flows is not required to achieve the relevant ecologically protective downstream receiving-water outcomes.

The diversion of mine impacted water from the Deep Stream and Billo Stream sub-catchments forms part of an integrated and adaptive mine water management system in which water is captured, stored, treated where necessary, and returned to the receiving environment through controlled release or managed bypass. As the Deep Stream and Billo Stream sub-catchments flow into the Waimangaroa River, this diversion is best understood as a localised redistribution in the timing and routing of water within the managed system, rather than causing any material reduction in downstream flow availability or overall catchment water yield.

Water taken from the Waimangaroa River for operational purposes is small relative to the available flow within a large, rainfall-dominated catchment and is therefore not expected to materially alter downstream hydrological behaviour. Any effects would be most evident

during lower-flow periods, but even then, are expected to be minor because a precautionary low flow cessation of this water take is proposed and the take is small in proportion to catchment flows and occurs within a system characterised by substantial natural variability and rapid recovery following rainfall.

Flood risk within the MFS Sub-Area is governed by catchment-scale rainfall events, with infrastructure designed to accommodate design flood conditions, including bunding of the coal storage pad adjacent to the Waimangaroa River. Construction and operational activities are not expected to result in a material increase in downstream flood risk.

Groundwater effects during this phase are expected to be localised and mainly associated with pit excavation and dewatering, with drawdown largely confined to the vicinity of the mining areas. Pit dewatering will intercept groundwater, with long-term drawdown expected to differ by pit: approximately 30 m near the East Pit (deeper pit and shallower water table) and ≤5 m near the West Pit (shallower pit and deeper water table). The low permeability of the hydrogeological units indicates a localised cone of depression, with groundwater users located on the coastal plains (rather than on the plateau) and more than 4 km from the pits; effects on groundwater quantity are assessed as less than minor. Potential changes to streamflow and baseflow are addressed through the Water and Load Balance Modelling.

In relation to groundwater quality, ELF seepage capture is supported by low-permeability bedrock, higher-permeability backfill, and basal/perimeter drainage, which preferentially directs seepage to collection points for treatment. At coal-handling areas, thin soils over low-permeability mudstone combined with basal drains support effective seepage capture. Post-closure, infiltration from pit floor runoff is expected to be low (with pit floors behaving hydrologically like exposed bedrock), potentially in the order of ~5% of annual rainfall. Performance monitoring will be used to confirm that pit floor runoff does not result in water quality effects. Sealing of openings to historic underground workings newly exposed during the proposed mining at MFS will be undertaken to minimise the potential for water to enter these workings moving forward, whilst the mining out of some of these workings will remove those as an existing source of potential AMD contamination to groundwater.

Water quality effects are associated with the potential generation of AMD from the disturbance of acid-forming materials. These risks are mitigated through material classification and the selective handling and placement of materials within ELF. The higher proportion of NAF materials within the MFS Sub-Area provides a significant advantage for AMD management, reducing the volume of material requiring higher-risk handling and treatment.

Mine-impacted water generated within the MFS Sub-Area is captured and treated through active treatment systems prior to controlled release to receiving environments. The MFS

water treatment plant discharge is required to remain within a pH range of 4.5 to 7.0. These managed releases are small relative to natural flows and are designed to maintain downstream water quality and flow regimes. The proposed management approach is also supported by RMA Science's conclusion that the recommended water quality consent conditions, compliance monitoring sites and monitoring frequency provide an appropriate basis for ecological protection in receiving waters.

It is intended that the proposed conditions give effect to this protective approach through measurable receiving-water limits and a tiered monitoring framework comprising Reference, Compliance and Performance monitoring sites. For MFS, compliance monitoring is required at SW01 and SW03 in Deep Stream and at 2W and 17W in the Waimangaroa River. The Deep Stream sites are subject to a 95% level of protection, while the Waimangaroa River sites are subject to an 80% level of protection, reflecting the different background receiving-environment ecological and water quality contexts. Compliance monitoring sites are the receiving-environment locations at which the limits are assessed, and regulatory compliance is determined. Performance monitoring sites, by contrast, are used as an operational management tool within the mine water management system to track trends in water quality and treatment performance upstream of, or in addition to, the compliance sites. Performance monitoring provides an early-warning mechanism, allowing Bathurst to identify a reduction in water quality, increasing contaminant loads, or reductions in treatment effectiveness and implement corrective actions before consent limits are approached or adverse downstream effects occur. Together, the performance and compliance monitoring networks support an adaptive management approach that enables proactive management of mine water while providing certainty that ecologically protective receiving-water outcomes are achieved.

Compliance is assessed using chronic and acute limits with toxicity-modifying factors applied to calculate Metal Ecotoxicity Quotients (MEQs) for dissolved metals and Nutrient Ecotoxicity Quotients ("**NEQs**") for dissolved nitrogenous species (nitrate nitrogen and ammoniacal nitrogen). The proposed limits require the annual median chronic MEQ, the annual 95th-percentile acute MEQ, and the annual median NEQ to not exceed 1, thereby providing protection against both long-term and short-term ecotoxic effects. Turbidity limits also apply, based on both continuous and discrete monitoring, including an instantaneous limit of 550 NTU, a seven-day rolling median of 200 NTU, and annual median and 95th percentile limits linked to elevation above background turbidity. The proposed 550 NTU instantaneous limit was derived from an assessment of available toxicity data for New Zealand species and represents a conservative threshold for the protection of downstream aquatic communities during short-duration high-flow events.

Independent peer review concluded that the stream classification framework, use of toxicity-modified guideline values and application of site-specific water quality guidelines are scientifically robust and appropriate for the naturally acidic Buller Plateaux stream environment. The peer review also supported the derivation of the proposed turbidity guideline framework as scientifically defensible and appropriately protective. While the reviewer recommended further consideration of the proposed chronic compliance assessment methodology, the overall monitoring and compliance framework was considered robust, particularly when considered alongside the proposed reference, performance and compliance monitoring network, continuous monitoring, adaptive management triggers and receiving-environment-based outcomes. These limits are supported by continuous monitoring of flow, pH, electrical conductivity, temperature and turbidity, together with weekly grab sampling.

6.5.3.3 Closure Phase

During closure, water management within the MFS Sub-Area will continue to progressively transition from active to passive systems as mining activities cease and rehabilitation progresses. Some passive treatment systems may be commissioned earlier, during the operational phase, but active treatment at MFS is expected to continue to be required for approximately four years after completion of rehabilitation before passive treatment systems alone can treat contaminant loads to meet the proposed receiving water quality limits. This comparatively short ongoing active treatment period reflects the lower sulphur content and smaller quantity of overburden disturbance at MFS relative to ESE.

Hydrological conditions are expected to stabilise over time as disturbed areas are rehabilitated and surface runoff drainage systems to natural catchments are re-established. Groundwater systems are expected to recover following the cessation of dewatering and once ELFs become fully ‘wetted’ with a steady infiltration rate (transitioning from stabilisation phase to decay phase), with flow patterns returning toward pre-disturbance conditions where practicable.

Post-closure flow regimes may reflect changes in the timing of water release, as water previously captured and stored within mine infrastructure and disturbed areas is gradually returned to the receiving environment. These changes represent a redistribution of flows rather than an increase in overall water yield.

Overall, water management within the MFS Sub-Area during closure is expected to result in stable and predictable conditions, with residual effects effectively managed through passive treatment systems and ongoing monitoring.

The transition to passive closure at MFS is also conditioned by performance against receiving-water quality outcomes rather than by infrastructure completion alone. Passive Closure can only be confirmed once receiving water quality at SW01, SW03, 2W and 17W has met the ecologically protective compliance limits using only passive treatment systems for a period of at least two years. Following that transition the water treatment plant can be decommissioned and the discrete sampling monitoring frequency can be reduced from weekly to monthly. This provides a clear condition-based pathway for moving from active to passive treatment while retaining ecological protection.

6.5.4 ESE Sub-area

6.5.4.1 Overview

The ESE Sub-Area comprises a combination of relatively undisturbed catchments and areas influenced by historic underground mining and contemporary opencast mining. As a result, surface water and groundwater systems within ESE reflect a mix of natural background conditions and legacy and contemporary mining effects.

Hydrological processes are driven by high rainfall and rapid runoff response, consistent with the broader Buller Plateaux environment. Groundwater systems occur within fractured bedrock and are locally influenced by historic underground workings, including the Sullivan and Whareatea mining areas, where established drainage pathways influence groundwater movement and connectivity with surface water systems.

Water quality in the vicinity of the ESE Sub-Area is influenced by both natural geochemical conditions and existing mining-related effects. Some catchments, including the Cascade Creek and Rapid Stream catchments, exhibit notable AMD influences associated with historic underground workings.

Geochemical characterisation indicates that ESE has a higher AMD source risk than MFS, although still materially different from the strongly marine-influenced, higher-sulphur conditions at Stockton. Approximately 128 Mm^3 of overburden is expected to be extracted at ESE, of which approximately 29% is classified as NAF, with an average sulphur content of approximately 0.35 wt%. These characteristics mean that ELF design, selective material handling, water capture and treatment are central to managing potential AMD effects.

6.5.4.2 Construction and Operational Phases

During construction and operations, water management within the ESE Sub-Area reflects both the introduction of new disturbances and the continued influence of historic underground mining systems.

Groundwater behaviour during the early stages of development is strongly influenced by existing underground workings. These workings create established drainage pathways and contribute to relatively predictable flow responses.

In terms of groundwater quantity and quality effects, pit excavation will intercept the water table and act as a groundwater sink during operations. Passive drainage of backfilled voids means this sink behaviour is likely to persist post-closure. Drawdown is estimated to be approximately ~5 m in the eastern portion of the pit (where historic workings already depress groundwater levels), and ~50–70 m in the western portion (where underground workings are absent). The low permeability of the hydrogeological units indicates the cone of depression will remain close to the pit footprint. With groundwater users located on the coastal plains (rather than on the plateau) and more than 4 km from the pit, effects on groundwater quantity are assessed as less than minor. Potential changes to groundwater discharge to streams are expected to be low and are addressed in the Water Load Balance Model.

Mining out and sealing underground workings within the pit footprint is estimated to reduce underground mine discharge to the Cascade Creek catchment by approximately ~40%.

Water quality effects are associated with both existing AMD influences (including within the Cascade catchment) and the potential generation of additional AMD from newly disturbed materials. These risks are managed through sealing off underground workings through the construction of the ex-pit seal, material classification, selective handling of PAF materials, and the implementation of treatment systems. The assessment recognises existing AMD-related effects in the Cascade Creek receiving environments, and the proposed water management approach is intended to manage both existing influences and potential additional loads associated with new disturbance. The proposed compliance framework, therefore, does not rely solely on engineering controls or end-of-pipe treatment assumptions; it also incorporates receiving-environment limits, monitoring locations and reference sites designed to verify that aquatic ecosystem protection is being maintained in relevant downstream environments, whilst ecological recovery is promoted in degraded environments.

The receiving-water compliance framework for ESE is similarly expressed through measurable limits. Compliance monitoring is required at KEL in the Whareatea River, W07 in Rapid Stream, V62 in V62 Stream and M-M1 in V8 Creek. The ESE water treatment plant discharge is also required to remain within a pH range of 4.5 to 7.0. KEL, W07 and V62 are subject to a 95% level of protection for dissolved metals, while M-M1 is subject to an 80% level of protection, reflecting the existing AMD-affected condition of the V8 Creek receiving environment and the corresponding site-specific protection objective.

As in the MFS Sub-Area, compliance at ESE is assessed using chronic and acute limits with toxicity-modifying factors applied to calculate MEQs for dissolved metals and NEQs for dissolved nitrogenous species (nitrate nitrogen and ammoniacal nitrogen). The annual median chronic MEQ, the annual 95th-percentile acute MEQ, and the annual median NEQs are required not to exceed 1, providing protection against both long-term exposure effects and short-term episodic events. These limits are supported by a tiered monitoring framework comprising Reference, Compliance and Performance monitoring sites. Compliance monitoring sites provide the basis for assessing regulatory compliance and receiving-environment outcomes, while Performance monitoring sites provide an operational early-warning mechanism that enables treatment performance and water quality trends to be assessed before compliance limits are approached, allowing corrective actions to be implemented where necessary.

Turbidity limits also apply and, except at M-M1, include an instantaneous limit of 550 NTU, a seven-day rolling median of 200 NTU, and annual median and 95th-percentile limits linked to elevation above background turbidity. For site M-M1 on V8 Creek (in the Cascade catchment), a turbidity limit consisting of a 15-sample rolling median of 25 NTU is proposed, consistent with similarly AMD-impacted waterways associated with the Stockton Sub-Area. The proposed turbidity framework is based on site-specific investigations and ecotoxicity assessments undertaken for Buller Plateaux receiving waters, and was independently peer reviewed as scientifically robust and appropriately protective of downstream aquatic communities.

Independent peer review also concluded that the stream classification framework, use of toxicity-modified guideline values and application of site-specific water quality guidelines are scientifically appropriate for the naturally acidic Buller Plateaux environment. These limits are supported by continuous monitoring of flow, pH, electrical conductivity, temperature and turbidity, together with weekly grab sampling, and are implemented through an adaptive management framework designed to ensure that receiving-water quality objectives continue to be achieved over the life of the Project.

Within the ESE Sub-Area, all proposed water takes are to occur from pits and sumps, with none from natural waterways. These will support operational requirements such as dust suppression and commissioning of water treatment infrastructure, and they form part of an integrated mine water management system in which water is subsequently captured, treated and discharged in a controlled manner. As such, they do not constitute a net loss from the wider hydrological system but instead contribute to a localised redistribution of flows in terms of timing and routing.

Hydrological modelling indicates that, within parts of the ESE Sub-Area, flow regimes may increase in specific receiving environments as a result of managed discharges of treated water, reduced drainage losses to historic underground workings, and modified catchment drainage pathways. These changes are not uniform across all catchments and reflect a redistribution of flows within and between sub-catchments rather than an increase in total catchment yield. Where localised increases in flow occur (including in parts of the Whareatea catchment), these are managed through controlled discharge, diversion of clean water, and infrastructure design to maintain downstream channel capacity, stability, and hydrological function.

6.5.4.3 Closure Phase

During closure, water management within the ESE Sub-Area will continue to include some inter-catchment transfer, including via pumping, rather than transitioning immediately to fully localised passive treatment and discharge. In particular, pumped discharge from the water treatment plant to the Cascade catchment (via V8 Creek) will continue for as long as the water treatment plant is operating, and there will also be a period of pumped transfer of seepage from the V62 sub-catchment (Whareatea) to the V8 Creek sub-catchment (Cascade). This pumping arrangement is a distinctive feature of the post-closure water management approach for ESE and is required to ensure that the proposed ecologically protective receiving-water quality limits continue to be met in V62 Stream whilst also progressing toward passive closure. Groundwater flow pathways associated with historic underground workings will continue to influence system behaviour, albeit to a lesser extent due to both mining out and the sealing of openings; however, these pathways are well understood and are expected to support predictable long-term responses.

Hydrological conditions are expected to stabilise over time as disturbed areas are rehabilitated and drainage systems are re-established. Residual effects may include localised redistribution of flows and ongoing interactions between groundwater and surface water systems, particularly in areas influenced by historic mining.

Water quality effects associated with AMD will continue to be managed through passive treatment systems and long-term water management controls. Active treatment at ESE is expected to be required for approximately 14 years after mining operations cease before passive treatment systems alone can treat contaminant loads to meet the proposed receiving water quality limits, although some ELF seepage may be treated passively earlier than this. Overall, post-closure conditions within the ESE Sub-Area are expected to be stable and manageable, with no material adverse effects on downstream environments.

As with MFS, the transition to passive closure at ESE is proposed to depend on demonstrated receiving-water performance. Passive Closure can only be confirmed once

receiving-water quality at KEL, W07, V62, and M-M1 has consistently met the ecologically protective compliance limits using passive treatment systems for a period of at least two years. This requirement is important because it links decommissioning of the active treatment plant to demonstrated ecological protection in the receiving environment, rather than to the completion of rehabilitation alone.

6.5.5 UWHR Sub-area

6.5.5.1 Overview

The UWHR Sub-Area is characterised by largely unmodified surface water and groundwater systems that are representative of undisturbed conditions within the Buller Plateaux. High rainfall and rapid runoff drive hydrological processes, with well-defined stream channels and limited existing disturbance.

Groundwater within the UWHR Sub-Area occurs within fractured bedrock and shallow surficial materials, with flow controlled by local geological structure and topography. Interactions between groundwater and surface water occur through baseflow contributions and localised seepage, consistent with natural conditions.

Water quality within the UWHR Sub-Area reflects natural geochemical conditions, including naturally acidic stream environments, together with localised existing mining-related influences in areas associated with historic underground workings, in particular the Ironbridge workings. In the upper Waimangaroa catchment, existing water quality also reflects inputs associated with Stockton operations, including via the Whirlwind Stream and Herbert Stream sub-catchments.

6.5.5.2 Construction Phase

During construction, water-related effects within the UWHR Sub-Area are associated with a relatively small overall footprint of disturbance but a comparatively higher risk of localised sediment mobilisation because the works involve linear earthworks, numerous drainage crossings and the temporary exposure of erodible surfaces in a high-rainfall environment with steep topography.

Construction-phase hydrological effects are expected to be minor and temporary, and principally relate to localised changes in surface-water flow pathways associated with earthworks, culvert installation and drainage works. These effects will be managed through the ESCPLDA, detailed Site-Specific Erosion and Sediment Control Plans ("**SSESCP**"s), and associated drainage design, which seek to maintain natural drainage patterns where practicable, separate clean water from disturbed catchments, and minimise the extent and duration of exposed surfaces.

Groundwater effects during construction are expected to be negligible, as excavation depths are generally shallow and are not anticipated to materially affect groundwater levels, flow regimes or groundwater-surface water interactions.

Construction-phase water quality effects are primarily associated with sediment mobilisation during earthworks and stream-crossing construction. This is the principal water-management risk for the UWHR and is addressed through a suite of erosion and sediment control measures, including clean-water diversions, sediment retention devices, stabilisation of exposed surfaces, progressive rehabilitation, stream-crossing controls and ongoing monitoring. The ESCPLDA adopts an adaptive management approach, with monitoring, trigger levels and corrective actions used to continuously assess and improve erosion and sediment control performance.

The proposed conditions provide additional certainty by requiring detailed design of the UWHR, and monitoring for deposited fine sediment in waterways during in-stream works with associated adaptive management and response.

Sediment retention devices that discharge directly to receiving waters are to be designed and managed to achieve a discharge visual clarity of at least 100 mm. This performance criterion provides a practical measure of sediment treatment effectiveness and is supported by ongoing monitoring and adaptive management. Where this criterion is exceeded, erosion and sediment control measures will be reviewed and modified as necessary to maintain downstream receiving-environment outcomes and minimise sediment-related effects on aquatic ecosystems. Additionally, cumulative effects of the UWHR construction activities and associated erosion and sediment control will be assessed and managed through compliance with the turbidity limits proposed for the compliance monitoring locations 2W and 17W on the Waimangaroa River (as described in section 6.5.3.2).

6.5.5.3 Operational Phase

During operations, water-related effects within the UWHR Sub-Area are expected to be comparatively low and are principally managed through the haul road maintenance and monitoring plan. The operational focus is on inspection, maintenance, and adaptive response for road surfaces, stormwater diversions, bunds, channels, treatment devices, and culverts, so that construction controls remain effective and sediment generation is minimised over time.

Where UWHR drainage continues to report to shared MFS receiving waters, those activities remain subject to the relevant downstream receiving-environment safeguards, i.e. compliance with the limits applicable to sites 2W and 17W on the Waimangaroa River. In addition, after the Cypress Mine reaches the end of its life, part of the UWHR will overlie the

final haul road through the former-Cypress Mine. Operational water management for that part of the UWHR lies within the St Patrick Stream catchment, a sub-catchment of the Ngākawau River, and will be managed under the Stockton Mine AMD Environmental Management Plan and subject to the downstream water quality compliance limits and recovery criteria for site S16 on St Patrick Stream.

Flood risk considerations remain primarily associated with the Waimangaroa River culvert crossing, which is designed to act as a ford and overtop in high flow conditions. Hydraulic modelling indicates that the crossing is designed to accommodate a 100-year return-period flood event (on the order of 180–200 m^3/s), with only localised increases in upstream flood depth and no measurable increases in downstream flood levels or extents.

6.5.5.4 Closure Phase

During closure, water-related effects within the UWHR Sub-Area are expected to reduce further as disturbed areas are stabilised and rehabilitated as part of the proposed narrowing of the road.

Residual water quality effects are expected to be minimal and are primarily associated with the ongoing stabilisation of disturbed surfaces and the continued operation of sediment retention ponds along the road route.

Overall, post-closure conditions within the UWHR Sub-Area are expected to closely reflect background conditions, with no material adverse effects on surface water, groundwater, or downstream environments.

6.5.6 Management, Mitigation and Monitoring

Mine water management for the Project adopts a comprehensive, design-led framework integrating hydrological, hydrogeological, geochemical and ecological considerations to minimise effects across all Sub-Areas and project stages. The approach distinguishes between:

- Stockton, where management is focused on avoiding further degradation and supporting water quality recovery and betterment within an already modified system; and
- Extension areas, where management is directed toward maintaining water quality sufficient to protect downstream aquatic ecosystems.

A core component of the framework is the separation of clean water from mine impacted water, reducing treatment requirements and limiting contamination pathways. Clean water

is diverted around disturbed areas where practicable, while mine impacted water is captured through drainage systems and directed to treatment prior to controlled discharge.

Water quality risks, particularly from AMD, are managed through a hierarchy of controls, including material classification and selective placement, ELF design to limit oxygen and water ingress, and capture and treatment of mine impacted water. Sediment generation is managed through erosion and sediment control measures, including retention and treatment prior to discharge.

Water treatment systems comprise a combination of active and passive processes tailored to each Sub-Area. Active treatment is applied during construction and operations, while passive systems (e.g. mussel shell reactors and polishing ponds) are increasingly relied upon during closure, whilst acknowledging that active treatment will be required at Stockton for decades to come. Discharges are managed through controlled release structures to maintain downstream water quality and flow regimes.

For the MFS and ESE Sub-Areas, water treatment plants are required to be developed in accordance with concept designs and must demonstrate that discharges will meet specified receiving-water outcomes at compliance monitoring sites. Conditions also provide for controlled use of treatment chemicals while allowing operational flexibility.

Modelling shows that contaminant loads requiring treatment peak during operations and decline following rehabilitation, enabling a progressive transition from active to passive treatment. Key findings include:

- Peak loads are greater and occur earlier at ESE than at MFS;
- Active treatment is expected to continue for approximately 4 years post-mining at MFS and around 14 years post-mining at ESE; and
- Residual loads may require passive treatment for extended periods, potentially decades.

While these outcomes are well understood, the specific timing of transition remains uncertain as it is fundamentally linked to demonstratable achievement of ecologically protective water quality outcomes through passive treatment alone. This is addressed through adaptive management, including monitoring, performance review and refinement of treatment and operational controls as required, as well as continued refinement of mine closure planning over the life of the Project.

The compliance monitoring framework provides robust verification of performance, but serves different purposes across the Project:

- In the extension areas, monitoring confirms that receiving-water limits are achieved and ecological protection is maintained; and
- At Stockton, monitoring confirms that no further degradation occurs and tracks ongoing maintenance and improvement of water quality.

Four compliance monitoring locations are proposed for each of MFS and ESE (with overlap where catchments are shared with UWHR). Monitoring includes continuous measurement of key parameters (e.g. flow, pH, conductivity and turbidity), supplemented by regular sampling, with provisions to adjust monitoring over time as systems stabilise during Passive Closure.

For the extension areas, receiving-water limits are site-specific and effects-based, reflecting the values requiring protection. In general:

- Turbidity and clarity criteria address recreational, aesthetic and sediment-related effects;
- pH and dissolved metals address ecotoxicity and aquatic ecosystem health;
- Metal limits incorporate toxicity-modifying factors to reflect actual receiving-environment conditions; and
- Nutrient limits address drinking water protection, ecotoxicity and relevant national bottom lines.

Infrastructure design incorporates flood and climate resilience through appropriately sized drainage and allowance for increased rainfall intensity. Monitoring across the Project (including rainfall, surface water, groundwater and water quality) supports both compliance verification and adaptive management by identifying trends and informing refinement of management measures.

Potential nitrogen inputs from blasting are managed through operational controls, including appropriate product selection, handling procedures and runoff capture within the mine water management system. These are supported by treatment, monitoring and receiving-water criteria, ensuring nitrogen effects are appropriately controlled.

At Stockton, monitoring is supported by a comprehensive six-yearly review, which evaluates whether water quality is being maintained or improved and whether recovery and betterment objectives are being achieved over time. The review assesses trends across key waterways and requires management responses where progress is not consistent with expected trajectories.

Overall, the integrated framework of source control, treatment, monitoring and adaptive management is expected to effectively manage water-related effects throughout the Project lifecycle, including post-closure.

6.5.7 Summary of Effects

The assessment of mine water management effects for the Project has considered the integrated behaviour of surface water, groundwater, and water quality systems across the Stockton, MFS, ESE, and UWHR Sub-Areas, and across all stages of the Project lifecycle.

The Project is located in a high-rainfall, event-driven environment where natural variability in hydrological conditions is significant. Within this context, potential changes to flow regimes are generally localised and small relative to the magnitude of rainfall-driven flows. Where changes do occur, they are primarily associated with the interception, storage, and controlled release of water as part of mine water management and represent redistribution and shifts in flow timing rather than changes in overall water yield.

That conclusion also applies to proposed operational water takes, which are small relative to available source-catchment flows and are expected to influence the timing and routing of water within the managed mine water system rather than materially reducing downstream flow availability or total catchment water yield.

At the Stockton Sub-Area, water management effects are associated with the continuation of an already highly modified system, with ongoing management of groundwater, surface water, and AMD forming part of established operations. The management approach for Stockton is restorative and informed by water quality and ecological threshold work aimed at supporting the long-term recovery of affected receiving environments. In contrast, the MFS and ESE Sub-Areas involve the introduction of new disturbances into less-modified environments. These areas benefit from a design-led, protective approach to water management, including selective material handling, ELF design, capture and treatment of mine-impacted water, site-specific receiving-environment water quality protection levels, and compliance monitoring.

The UWHR Sub-Area involves a relatively limited physical footprint compared to the mining areas; however, the nature of the works, particularly linear construction across steep terrain, interaction with multiple headwater streams, and susceptibility to erosion under high-intensity rainfall, means that potential effects are more appropriately characterised as localised but potentially significant if not well managed. Construction of the haul road requires the installation of numerous drainage crossings (including approximately 52 culverts in the UWHR as well as a further seven within the MFS access road alignment), as well as earthworks across variable gradients and highly erodible surfaces (Bathurst, 2026a).

These activities pose inherent risks of sediment mobilisation, stream disturbance, and downstream effects on water quality, particularly during rainfall events.

The ESCPLDA (Bathurst, 2026y) identifies that, without mitigation, works within these environments present a heightened risk of erosion and sediment discharge due to steep topography, soil characteristics, and the sensitivity of receiving watercourses.

Accordingly, the Project adopts a comprehensive erosion and sediment control framework, including catchment-based design, separation of clean and sediment-laden water, installation of sediment retention devices, and adaptive management triggered by monitoring results. These measures are supported by SSESCPs (or Dig/Dump Plans where land disturbance occurs within proposed mine pit areas), which are refined during land disturbance activities to respond to actual site conditions and performance outcomes. With these controls in place, residual effects are expected to be appropriately managed and reduced to an acceptable level.

Groundwater assessments for ESE and MFS relied on conceptual models informed by site- and regional-level groundwater levels and quality, geology/geotechnics, and hydraulic testing. The cover and groundwater assessments support the conclusion that key risks are understood, effects are largely localised, and outcomes rely on collection/treatment systems plus performance monitoring/adaptive management, with overarching recommendations captured in the MWM reporting (AMD Overview Report). The groundwater assessment for Stockton highlights the considerably modified existing environment associated with the presence of extensive historic underground workings.

Water quality effects are associated with the potential generation of AMD and the mobilisation of sediment; however, these risks are well understood and are managed through a comprehensive framework of material handling, ELF, and water treatment systems. Existing AMD influences within parts of the Project area are acknowledged, and the Project is not expected to result in a material increase in downstream effects.

Effects on downstream receiving environments are minimal due to catchment scale and the dominance of rainfall-driven flows.

Overall, taking into account the nature and scale of the proposed activities, the existing environment, the site-specific geochemical, hydrogeological and ecological context, and the implementation of the proposed management, mitigation and monitoring measures, residual effects on surface water, groundwater and water quality are expected to be localised, appropriately managed, and acceptable. The Project applies a design-led and adaptive mine water management approach, supported by empirical Buller Plateaux datasets, water and load balance modelling, engineered source controls, active and passive

treatment systems, site-specific receiving-environment water quality limits, and compliance monitoring. In some areas affected by legacy AMD, the Project also has the potential to improve water quality by capturing and treating existing uncontrolled (historic) discharges.

6.6 FRESHWATER QUALITY AND AQUATIC ECOLOGY EFFECTS

This section assesses the Project's effects on freshwater habitats, aquatic ecological condition and connectivity within the Stockton Sub-Area and the extension areas (MFS, ESE and UWHR), based on Instream (2026) and Earth Sciences NZ (2026). To avoid duplication, Section 6.5 provides detailed descriptions of hydrology, AMD processes, and water treatment, which are not repeated here. This section instead focuses on the ecological consequences of those processes, including habitat loss, ecological condition, species communities and recovery outcomes.

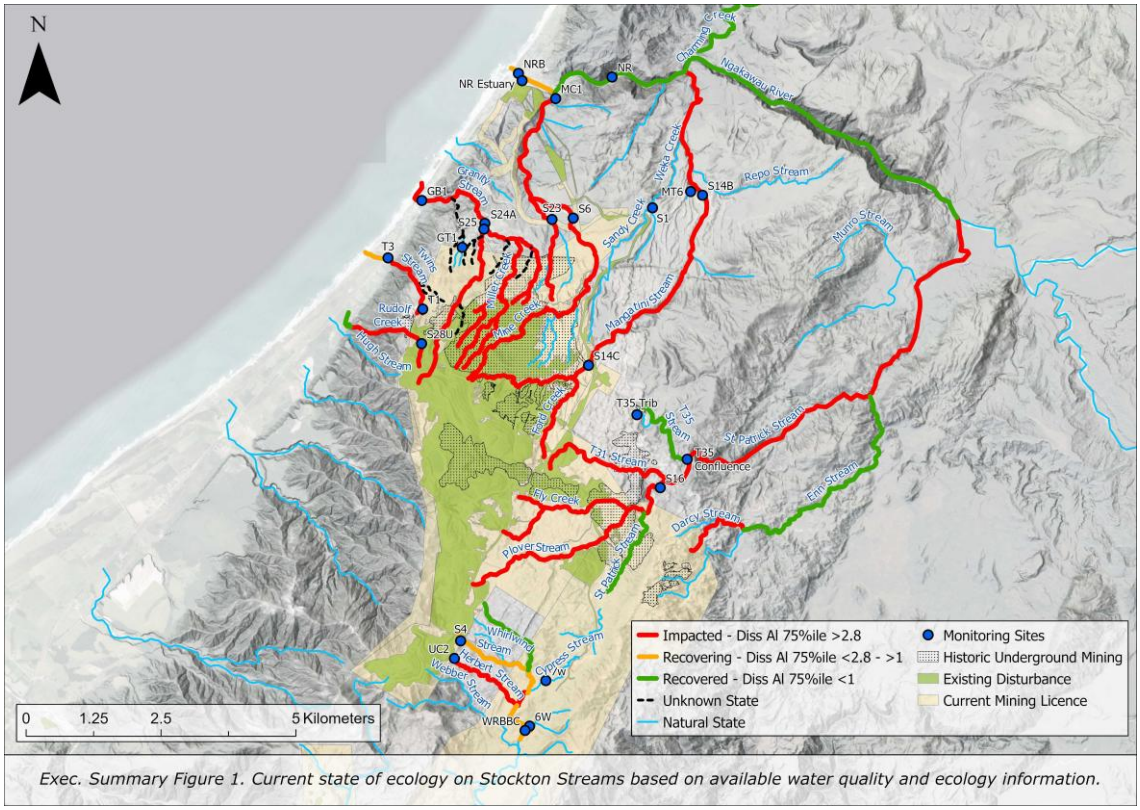
6.6.1 Stockton

Aquatic ecology within the Stockton Sub-Area reflects a long history of mining activity, with some streams affected by AMD, resulting in reduced pH, elevated dissolved metals and constrained aquatic communities. However, ecological condition is spatially variable and follows a well-established gradient from impacted headwaters, through recovering reaches, to downstream environments where water quality improvements have enabled ecological recovery.

Monitoring and case studies across the Plateau demonstrate that aquatic ecosystems respond directly to improvements in water quality, with increased diversity of macroinvertebrates and the return of fish where treatment has been effective. The BPCP therefore continues an established managed system, under which water management and treatment progressively reduce contaminant loads and support ecological recovery.

Over time, the extent of impacted streams is expected to reduce, with more reaches transitioning to recovering and recovered states. Recovery rates will vary depending on the presence of legacy AMD sources; however, the overall trajectory is one of long-term improvement, with full recovery across all streams likely to occur over several generations. Accordingly, when assessed at a catchment scale, the Project is expected to result in ongoing and progressive ecological improvement relative to the existing environment, notwithstanding some persistent legacy constraints in upper catchments.

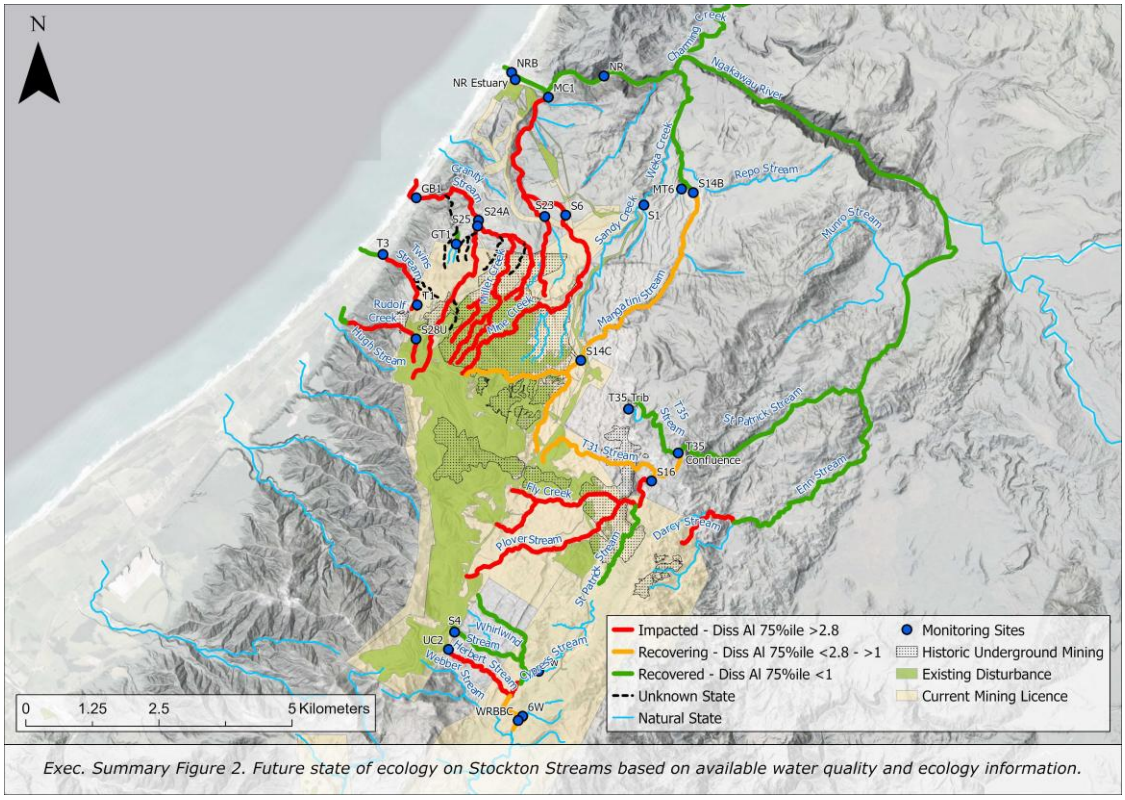
This demonstrates that, while ecological conditions remain constrained in some areas, recovery is already occurring under existing management. The current and future ecological state of streams within the Stockton Sub-Area are shown in **Figures 6-2** and **6-3** below, respectively.



Exec. Summary Figure 1. Current state of ecology on Stockton Streams based on available water quality and ecology information.

1555

Figure 6-2: The current state of ecology in streams within the Stockton Sub-Area (Instream, 2026)



Exec. Summary Figure 2. Future state of ecology on Stockton Streams based on available water quality and ecology information.

Figure 6-3: Future state (in 80 years' time) of ecology of streams within the Stockton Sub-Area (Instream, 2026)

6.6.2 Extension Areas (MFS, ESE and UWHR)

In the extension areas, aquatic ecological effects arise primarily from mining disturbance within previously less-modified environments. The key pathways include permanent loss of headwater stream habitat within mine footprints, short-term sediment inputs during construction, water quality pressures associated with mine-affected water, localised modification of drainage patterns, and potential constraints on aquatic connectivity from culvert installation.

These effects are largely confined to headwater environments within or immediately downstream of the Project footprint, with downstream ecological outcomes controlled through the mine water management framework and ecologically protective receiving-environment limits described in Section 6.5.

6.6.2.1 Construction Phase Effects

Construction effects are dominated by sediment mobilisation during earthworks and stream disturbance. These effects can temporarily reduce habitat quality and affect aquatic communities, particularly during high rainfall. They are short-term and localised, and are

managed through erosion and sediment controls with defined performance criteria and adaptive management, supported by downstream turbidity compliance limits. Additionally, there is monitoring for deposited fine sediment within waterways during in-stream works with associated adaptive management and response.

While there remains some residual risk during intense rainfall events, these effects are actively managed and are generally expected to be no more than minor.

6.6.2.2 Operational Effects

During operations, the primary ecological effect is the permanent loss of headwater streams where mining occurs (approximately 17.1 km of stream length lost across MFS and ESE). These streams, although often naturally acidic, support macroinvertebrates, bryophytes and kōura and are therefore of ecological value. This loss represents the most significant aquatic ecology residual adverse effect of the Project. Stream reinstatement is proposed as a key part of post-mining rehabilitation, however it is acknowledged that in the short-medium term the reinstated streams will not have equivalent ecological value to those lost.

Additional operational effects include sediment generation, changes in water quality associated with mine-affected water, and localised modification of flow and habitat. These effects are managed through the integrated water management framework, including treatment, controlled discharge, and compliance monitoring based on ecologically protective water quality limits. With these measures in place, any downstream water quality-related ecological effects are expected to be localised and generally minor.

In some catchments, particularly Cascade Creek, interception and treatment of historic mining discharges is expected to improve water quality and ecological condition over time, resulting in a net positive effect relative to the existing baseline.

6.6.2.3 Closure and Post-Closure Effects

During closure, rehabilitation and stabilisation of disturbed areas will progressively reduce sediment inputs and support recovery. Stream reinstatement will be undertaken to achieve no net loss of stream extent, with reinstated channels designed to restore hydrological function and aquatic habitat where practicable.

Although reinstated streams will not replicate the complexity of original headwater systems in the short to medium term, ecological condition is expected to improve over time as water quality stabilises and habitats develop. Monitoring and adaptive management will continue until ecological outcomes are achieved.

6.6.2.4 Residual Aquatic Ecological Effects and Positive Outcomes

After application of the full suite of avoidance, minimisation and mitigation measures, residual freshwater quality and aquatic ecological effects are primarily associated with the permanent loss of headwater streams within the proposed mining footprint. These losses are unavoidable due to the fixed location of the coal resource and are assessed as more than minor, reflecting the scale and permanence of habitat removal.

Residual effects beyond the Project footprint are expected to be localised and low to moderate in magnitude, and not to compromise downstream aquatic ecosystem function. The Project avoids the creation of unmanaged or uncontrolled sources of aquatic contamination and does not establish new legacy effects.

The residual effects assessment should therefore be read alongside the condition-based outcomes that will apply to receiving waters and aquatic communities. These include ecologically protective compliance limits for dissolved metals and nutrients, turbidity and clarity controls, pH limits for ESE and MFS treatment plant discharges, annual ecological surveys during active phases, targeted monitoring of bryophyte response to passive treatment, kōura passage requirements at new culverts where practicable, and monitoring of reinstated streams and closure waterbodies. Together, these measures provide a measurable basis for confirming that residual effects outside the direct stream-loss footprint remain managed and that ecological recovery opportunities to degraded waterways are pursued where practicable.

6.6.2.5 Summary of Aquatic Effects (within the Extension Areas)

Aquatic ecological effects within the extension areas are well understood and largely predictable. While the loss of headwater streams represents a significant residual effect, other effects are localised and appropriately managed. When assessed in the context of the existing environment, including opportunities to remediate historic impacts, the Project provides a clear pathway to manage adverse effects while maintaining or, in some cases, improving aquatic ecological outcomes over time.

1.1.1 Overall Conclusion – Aquatic Ecological Effects

Across both Stockton and the extension areas, aquatic ecological effects are either part of an existing managed recovery process (Stockton) or are localised and controllable within a robust management framework (extension areas). While some residual adverse effects remain, particularly relating to headwater stream loss, the Project is not expected to result in unacceptable impacts on aquatic ecology and, in some respects, will contribute to long-term ecological improvement relative to the existing environment.

6.6.3 Positive Aquatic Ecology Effects

6.6.3.1 Aquatic Connectivity and Fish Passage

Construction of the UWHR and MFS access road will require multiple stream crossings, which introduces the potential for localised fragmentation of aquatic habitats, particularly for kōura. Culvert design and installation standards are therefore a key mitigation measure. Culverts will be designed to:

- Maintain natural stream gradients and substrates where practicable;
- Avoid perched outlets and excessive flow velocities; and
- Minimise inlet and outlet scour.

With appropriate design and installation, residual effects on aquatic connectivity are expected to be negligible to minor.

In addition, the BPCP package includes a strategic fish-passage remediation programme at a regional scale. This programme is expected to deliver net positive aquatic outcomes by improving connectivity and habitat access within downstream catchments that support native fish populations. While this programme does not offset the permanent loss of headwater streams within the mining footprint, it provides a measurable and enduring benefit beyond the immediate Project area.

Positive aquatic compensation actions (culverts) are further detailed in Section 6.3.5.1.

6.7 TERRESTRIAL AND WETLAND ECOLOGY EFFECTS

EcoLogical Solutions (2026a) has undertaken a detailed Terrestrial EcIA of the BPCP, supported by specialist technical reports prepared by Alliance Ecology (2026a and 2026b) and Lloyd's Ecological Consulting (2026a and 2026b). These assessments address terrestrial vegetation, wetlands, and terrestrial fauna within the Project Area, identify values of ecological significance, and evaluate the nature, scale and significance of potential effects. These assessments have also been peer-reviewed by a team of highly qualified and experienced ecologists. This includes Roger McGibbon, Robyn Simcock, and Bruce Burns. The statistical work has also been peer reviewed by Darryl McKenzie from Proteus.

The proposed mining on the Buller Plateaux would occur within a landscape that has been substantially modified by historic and current mining, particularly across parts of the Stockton Plateau. Nonetheless, indigenous vegetation, wetlands and significant fauna remain present. The BPCP, therefore, has the potential to cause adverse ecological effects on terrestrial and wetland ecosystems. The significance of those effects varies with the

ecological attribute affected, the spatial and temporal scales of disturbance, and the effectiveness of the management measures applied.

The EcIA has been utilised to inform mine design, staging, rehabilitation and the development of compensation measures by identifying areas of higher ecological value, enabling avoidance where practicable, providing for minimisation and remediation where avoidance is not possible, and defining the nature and scale of residual effects requiring compensation.

6.7.1 Application of the Effects Management Hierarchy

The terrestrial ecological effects of the BPCP have been assessed and managed using the standard effects management hierarchy: avoidance, minimisation, remediation (including rehabilitation), and, where necessary, offsetting or compensation.

The fixed geographic distribution of the coal resource means that complete avoidance of ecological effects is not practicable. The coal measures required to achieve the Project's objectives are spatially coincident with areas of ecological value. Accordingly, the effects management hierarchy has been applied iteratively to avoid and minimise effects wherever practicable, including through ongoing refinement of mine design, staging, and the siting of infrastructure and ancillary activities that are not mineral-specific.

A key component of the effects management hierarchy for the BPCP is the extensive and integrated rehabilitation programme, which serves as a primary mechanism for remedying ecological effects throughout the life of the Project and into the closure phase. The Rehabilitation Management Plan (RMP) establishes a comprehensive framework for restoring disturbed areas by constructing stable landforms and re-establishing indigenous ecosystems that are intended to be self-sustaining in the medium to long term.

Rehabilitation is embedded as a core element of Project design and staging, including progressive rehabilitation during operations, the recovery and reuse of soils and vegetation, and the creation of ELFs designed to reduce long-term risks such as erosion, sediment generation and AMD. These landforms are then revegetated using a combination of VDT, planting, hydroseeding and natural regeneration processes, with the objective of reinstating a mosaic of habitat types representative of the Buller Plateaux, including forest, shrubland, pākihi, wetlands, rockfield and tarn systems.

Importantly, the rehabilitation approach is not limited to visual or surface restoration, but is explicitly designed to reinstate ecological function, including hydrological processes, habitat complexity and connectivity for fauna. This includes the reinstatement of stream systems with comparable ecological function, provision of habitat for key species (including

lizards, roroa and invertebrates), and the integration of rehabilitated areas with surrounding ecosystems to support long-term biodiversity outcomes.

Accordingly, while residual ecological effects are unavoidable in some areas, the scale, technical sophistication and long-term nature of the proposed rehabilitation programme are expected to materially reduce and, in many cases, progressively remedy those effects over time. Completion of rehabilitation will be assessed against rehabilitation outcomes and completion criteria contained within the Rehabilitation Management Plan and the proposed conditions contained in **Part E**.

Notwithstanding these measures, some residual effects cannot be fully addressed through avoidance, minimisation and rehabilitation. These are addressed through the proposed REP, as described earlier in this section and outlined in **Chapter A.1 – Project Wide Overview** and **Chapter A.4** – **Project Description.**

This framework underpins all terrestrial ecology management for the BPCP and provides the basis for determining whether the residual ecological effects are appropriate for the context of the Project and proportionate to its benefits, consistent with section 85(3) of the FTAA.

6.7.2 Vegetation Disturbance, Habitat Loss and Wetlands

The principal direct terrestrial ecological effect of the BPCP arises from the staged clearance of vegetation and the associated removal of habitat for mining, infrastructure, and earthworks, including the deposition of overburden.

The total Project Area encompasses approximately 2,709 ha. Of this, proposed vegetation clearance across all Sub-Areas totals approximately 698 ha, of which approximately 70 ha has already been disturbed. Accordingly, the additional vegetation clearance attributable to the BPCP is approximately 684 ha (including sandstone erosion pavement and open water habitats). Indirect edge effects would potentially affect an additional 129 ha of habitat, which is included in the assessment. Vegetation clearance by Sub-Area is outlined in **Table 6-1** below.

Table 6-1: Proposed vegetation clearance in each Sub-Area of the BPCP

Project Area	Vegetation Clearance (planned areas of disturbance) (ha)	EcIA Assessed Disturbance (ha)	Additional Edge Effects within the Ecological Setback (ha)
Stockton Sub-Area	29	31	21

Project Area	Vegetation Clearance (planned areas of disturbance) (ha)	EcIA Assessed Disturbance (ha)	Additional Edge Effects within the Ecological Setback (ha)
MFS Sub-Area	170	170	22
ESE Sub-Area	444	460	43
UWHR Sub-Area	37	37	43
Total Project Area	681	698	129

The BPCP will result in the removal and modification of parts of the existing vegetation cover within the Project Area. However, the majority of mapped habitats will remain intact, and substantial areas of indigenous vegetation will continue to persist across the landscape. Forest habitats are largely retained, with approximately 98.7% of mixed beech–podocarp–broadleaved forest, 90.9% of southern rātā–mountain beech–podocarp forest, and 96.3% of silver beech–mountain beech forest remaining within the mapped area. Shrubland habitats are also predominantly retained, including 93.3% of mānuka–mountain beech–podocarp shrubland, 92.9% of mānuka–*Gahnia*–wire rush shrubland, 91.1% of weedy shrubland, 87.6% of mānuka–tussock–wire rush shrubland, and 96.8% of mānuka–mountain flax–wire rush shrubland.

Low-growing vegetation types likewise remain extensive, with 88.6% of low pākihi, 97.8% of tussock–mountain flax shrubland, and 63.3% of exotic grassland retained. Non-vegetated land-cover types, including bare rock and cleared vegetation, will also largely persist, with 92.1% and 78.0% remaining, respectively.

Natural inland wetlands, which occupy approximately 469 ha of the mapped area, will retain 90.4% of their extent, subject to the implementation of proposed hydrological, erosion and sediment controls.

Historic and ongoing mining on the Buller Plateaux forms part of the existing environment. While the extent of vegetation prior to the Stockton Mine is not fully documented, available information indicates that Brunner Coal Measures originally covered approximately 4,661 ha across the Buller Plateaux, including around 3,013 ha on the Stockton Plateau and 1,648 ha on the Denniston Plateau. Stockton Mine has already resulted in the removal of approximately 1,124 ha of Brunner Coal Measures. The BPCP will remove a further 985.7 ha,

leaving approximately 2,551 ha (around 55%) of Brunner Coal Measures remaining across the Buller Plateaux.

Within the Ngākawau Ecological District, Brunner Coal Measures originally covered approximately 11,578 ha. Of this, Stockton Mine has removed approximately 1,155 ha, with the BPCP proposing the removal of a further 1,315.7 ha. This will leave approximately 9,106 ha, or 78.6% of Brunner Coal Measures, within the Ngākawau Ecological District.

The indigenous vegetation types experiencing the highest proportional loss (including clearance and edge effects) are mānuka–tussock–wire-rush shrubland (approximately 12.4% of the mapped area) and low pākihi (approximately 11%). In addition, the Project will remove an estimated 32.8% of exotic grassland and 7.6% of weedy shrubland within the mapped area.

Naturally uncommon ecosystems, including sandstone erosion pavement and seepage systems, will experience permanent loss where they occur within the mining footprint, as these features cannot be fully recreated through rehabilitation. Sandstone erosion pavements (or 'sandstone pavements') are exposed, gently sloping rock surfaces formed by the erosion of sandstone. The largest concentration of Brunner Coal Measures occurs on the Buller Plateaux, where acidic geology, poor drainage, and a cool, wet, windy climate combine to produce infertile soils, distinctive vegetation communities, and these characteristic rock surfaces. Disturbance of these habitats will result in fragmentation, degradation, and reduced connectivity, with potential implications for poorly mobile species and increased sensitivity to edge effects. These effects may include altered hydrology, light, and microclimatic conditions, as well as increased susceptibility to weed invasion and pest pressure in adjacent habitats.

Wetlands on the Buller Plateaux represent a significant and distinctive ecological resource, comprising a mosaic of pākihi systems, wet shrublands, seepages and tarn complexes that provide important habitat for indigenous flora and fauna and support specialised ecological processes. These systems are characterised by acidic, nutrient-poor soils, high rainfall and impeded drainage, and support a range of 'Threatened' and 'At Risk' plant species, including bryophytes and vascular flora adapted to these conditions.

The BPCP will result in the direct loss and modification of some wetland habitats across both the Stockton and Denniston Plateaux within the mining footprint, as well as indirect effects such as changes to local hydrology, sedimentation and edge effects. These effects arise from the creation of new habitat edges and the modification of local hydrological regimes, which are key determinants of wetland function on the Buller Plateaux. The EcIA specifically recognises that ecological setbacks (generally 10–30 m, depending on vegetation type) capture areas where edge effects, such as changes in hydrology, light, wind

exposure, and moisture regimes, are likely to occur. The magnitude of these indirect hydrological effects is expected to be spatially limited but ecologically important, particularly for hydrologically sensitive wetland types such as low pākihi and seepage systems, which rely on tightly constrained water balances and specific substrate conditions. As identified in the EcIA, these systems are difficult to replicate and are therefore more sensitive to even relatively small changes in hydrological regime.

Given the ecological value and functional importance of these systems, the effects on wetlands are assessed as ranging from moderate to very high, depending on the specific wetland type and its ecological characteristics. In particular, some wetland types (such as low pākihi and seepage systems) are difficult to fully replicate due to their dependence on specific hydrological and substrate conditions. This overall finding reflects both the direct loss and modification of wetlands within the Project footprint and the indirect effects on wetlands within ecological setbacks and adjacent areas, where changes to hydrology, sediment regimes and edge conditions will occur.

In particular, some wetland types (such as low pākihi and seepage systems) are highly dependent on tightly constrained hydrological and substrate conditions, including near-surface water tables, low nutrient status and impeded drainage. These characteristics make them both difficult to replicate through rehabilitation and sensitive to even minor changes in local hydrological regime. As a result, indirect effects within setback areas may include localised drying or wetting of wetland margins, modification of seepage expression, and altered hydroperiods, with associated changes in vegetation composition and ecological function.

While the proposed erosion and sediment controls, drainage design, and progressive rehabilitation measures are intended to maintain or reinstate hydrological processes over time, it is recognised that some degree of hydrological modification within wetlands and their associated setback areas is unavoidable. Accordingly, the assessed level of effect reflects not only the extent of direct habitat loss, but also the persistence of hydrologically driven edge effects in adjacent wetlands and the inherent challenges in fully restoring these systems to their pre-disturbance condition within the Project timeframe.

Notwithstanding this, the Project incorporates a comprehensive rehabilitation strategy that seeks to restore wetland function and landscape connectivity over time. Wetland rehabilitation will be undertaken through a combination of VDT, targeted planting and engineered landform design to recreate key hydrological conditions, including low-gradient surfaces, impeded drainage features and shallow water retention areas. These approaches are intended to re-establish wetland-forming processes and support the development of pākihi and wetland mosaics within rehabilitated areas.

While rehabilitated wetlands are not expected to replicate pre-existing ecosystem complexity in the short to medium term, they are anticipated to develop into functional wetland systems over time, contributing to biodiversity values, habitat availability and ecological resilience at a landscape scale. When considered alongside progressive rehabilitation, hydrological controls and the wider REP, the Project provides a pathway for the partial restoration of wetland function and values, notwithstanding the permanent loss of some high-value wetland ecosystems within the Project footprint.

The Buller Plateaux also supports a high diversity of bryophytes, including at least 51 species classified as 'Threatened' or 'At Risk,' as well as several endemic liverwort genera, reflecting the nationally significant and distinctive nature of these ecosystems. These assemblages are typically associated with specialised habitats such as pākihi, sandstone pavement, and wet seepage environments, and are often characterised by limited distribution, specific microclimatic requirements and sensitivity to disturbance.

While the Project will impact approximately 33% of the known locations of 'Threatened' and 'At Risk' bryophytes and lichens, the majority (approximately 67%) of known locations will remain outside the disturbance footprint and continue to contribute to regional population viability.

Taking these factors into account, the level of effect on indigenous vegetation and habitats is assessed as **moderate to very high** (dependent on vegetation type), driven primarily by permanent habitat loss and the time required for rehabilitation to develop functional replacement ecosystems.

Effects on wetlands are assessed as **low to very high** (dependent on vegetation type), provided that erosion, sediment and hydrological controls are implemented as proposed and that progressive rehabilitation is undertaken in accordance with the Project's management framework.

6.7.2.1 Avoidance

Avoidance of effects on terrestrial vegetation has been considered as an effects management approach in the first instance in the planning of the Project, with iterative mine planning including the removal of:

- The Whareatea Gorge from the ESE Sub-Area (approximately 153 ha);
- The Billo Stream headwaters from the MFS Sub-Area (approximately 8.5 ha);
- The proposed road from Mount Frederick to the MFS Sub-Area (approximately 8.3 ha); and

> An additional borrow pit at the Stockton Sub-Area (approximately 18.9 ha).

During Construction, vegetation clearance protocols can be implemented to minimise unnecessary effects, including:

> Physically marking the project boundaries to avoid direct effects, such as inadvertent clearance, extending beyond the boundary.

> Directional felling of vegetation to avoid damage to the immediately adjoining habitats.

> Management of soil and other rehabilitation resources.

> Site specific erosion and sediment control procedures to avoid and/or minimise effects of mobilised sediment on wetlands and other vegetation. This includes, in the short term, creation of erosion resistant surfaces (i.e. those that land areas that can withstand or resist the gradual loss of their surface material due to mechanical and chemical forces such as water and wind) and/or vegetative cover being established on ELFs which are suitable to avoid sediment and runoff effects. This matter is set out in more detail in the Erosion and Sediment Control Plan ("**ESCP**") (Bathurst, 2025x).

6.7.2.2 Minimisation

Actions to minimise effects can be deployed at every level, from initial mine planning to final rehabilitation. These matters are set out in the Rehabilitation Management Plan and will be included in the Annual Work Plan prepared each year.

Minimisation during mine design has included careful selection of infrastructure locations and the UWHR alignment to reduce ecological disturbance. During development, the staging of VDT and other rehabilitation activities will be undertaken to minimise soil and vegetation stockpiling. Progressive rehabilitation is also proposed to be undertaken as soon as practicable so that habitats become available for recolonisation at the earliest opportunity, and the extent of bare ground at any one time is minimised to reduce edge effects and the risk of weed invasion.

Operational measures include rigorous site biosecurity for machinery and personnel accessing natural and rehabilitated areas, supported by formalised procedures such as boot-washing at sensitive sites (as outlined in the Biosecurity Management Plan). Ongoing weed surveillance and control will be undertaken by experienced personnel in accordance with the Buller Plateaux Weed Management Plan, with a focus on preventing the establishment and spread of heath rush, *Juncus* and other invasive species. Weed and pest management will continue throughout operations and, where necessary, post-closure to support long-term ecological outcomes.

Species-specific minimisation is implemented through the Avifauna, Lizard and Snail Management Plans (included in **Part G** to this application). Additional measures, such as sediment and erosion controls, fire prevention, dust suppression, and spill response procedures, further reduce indirect effects on terrestrial ecosystems.

Minimisation of habitat degradation and edge effects is also addressed through targeted planting of newly exposed edges and the use of soil, boulders, logs and other materials to create buffers and structural complexity. Mammalian predator and browser control is undertaken in areas surrounding the Project Area in accordance with the PCEP to improve the survival and productivity of flora and fauna and to support the recolonisation of rehabilitated areas over time.

6.7.2.3 Remediation

Remediation is addressed through progressive rehabilitation in accordance with the Rehabilitation Management Plan (Bathurst, 2026m). Rehabilitation is a core component of the effects management hierarchy for the BPCP and is intended to reduce medium- and long-term effects on vegetation, fauna habitat, wetlands, waterways, landscape values, erosion, sediment generation and AMD risk.

Mining and rehabilitation will be staged so that the total area disturbed at any one time is substantially less than the total Project footprint. Progressive rehabilitation will be integrated with annual mine planning and will be undertaken as soon as practicable once areas become available, subject to operational sequencing, safety, landform stability, access, water management and the ability to achieve the target rehabilitation outcome. Nevertheless, a lag between vegetation removal and establishment of usable habitat remains one of the most significant ecological effects of the Project.

The Rehabilitation Management Plan sets out a detailed framework for identifying, salvaging, handling, storing and reusing rehabilitation materials, including soils, vegetation, rock slabs, boulders, woody debris, slash and other salvageable resources. Priority is given to conserving and directly reusing local rehabilitation resources, particularly fresh topsoil, VDT material, weathered boulders, rock slabs, logs and organic material, to maintain local ecological character and support faster establishment of vegetation and habitat values.

The remediation approach is also designed to avoid using acid-forming material in final rehabilitated surface material where practicable, and to use non-acid-forming or otherwise suitable material in final cover systems and habitat features. This links terrestrial rehabilitation with water management outcomes by reducing erosion, sediment generation and the potential for AMD generation from rehabilitated landforms.

6.7.2.4 Residual Effects Management

Residual vegetation and wetland effects that cannot be avoided, minimised or remedied at the site scale are addressed via the measures proposed through the REP, and through ecological rehabilitation, as outlined below.

The Rehabilitation Management Plan recognises that rehabilitation will not fully recreate the pre-mining vegetation mosaic or all specialised coal-measure habitat values within the Project timeframe. Some effects, including the loss of rare or highly specialised habitats, the temporal lag in habitat development, and the reduced complexity of post-mining vegetation communities, will remain residual effects. The REP therefore sits alongside rehabilitation as part of the broader response to those residual effects.

6.7.2.5 Terrestrial Ecological Rehabilitation

The medium- to long-term focus of rehabilitation will be to establish safe, stable landforms and self-sustaining indigenous ecosystems with broadly comparable plant and animal species diversity, ecological function and connectivity to surrounding indigenous ecosystems. Self-sustaining ecosystems are intended to establish, grow, reproduce and persist in response to the ecological gradients present, supported by natural ecological succession over time.

The extent and proportion of vegetation types will differ from the pre-mining situation. There will be fewer and generally simpler vegetation communities than the extensive ecotones and complex mosaic of vegetation types characteristic of pre-mining vegetation. However, the rehabilitation approach seeks to retain and re-establish the main ecological drivers of vegetation patterning on the Buller Plateaux, including altitude, aspect, drainage, slope, substrate, soil depth, rock cover, hydrology and exposure.

Rehabilitation will be implemented through constructed final landforms designed to integrate with the surrounding landscape and to provide variable topography, drainage and substrate conditions. The Rehabilitation Management Plan identifies a range of target post-mining ecosystem and cover types, including forest, shrubland, pākihi, rockfield, wetlands, tarns, rehabilitated highwalls, riparian margins and reinstated streams. The placement of these ecosystem types will be informed by slope, drainage, elevation, aspect and landform position, so that low and wet vegetation types are generally placed on flatter and more poorly drained areas, while forest and shrubland are placed where drainage, soil depth and exposure are more suitable.

VDT enables the closest replication of natural ecosystems in the shortest timeframe by maintaining soil structure, hydrology and vegetation composition, protecting plants of conservation interest, and retaining a proportion of low-mobility fauna such as snails,

lizards and terrestrial invertebrates. VDT results in higher native species cover and better fauna habitat than alternative rehabilitation methods and will be maximised wherever practicable under the BPCP.

Ecological rehabilitation will be implemented in accordance with the Rehabilitation Management Plan (Bathurst, 2026m). The rehabilitation programme includes a target that at least 15% of the total new rehabilitated area within the Project Area will be rehabilitated using VDT. Where VDT is not feasible due to engineering or scheduling constraints, rehabilitation will involve direct soil transfer, planting and habitat enhancement techniques, with medium- to long-term focus on establishing stable ecosystems broadly consistent with surrounding environments.

Rehabilitation of wetlands will be undertaken through a combination of VDT targeted planting and engineered landform design that seeks to recreate the hydrological conditions necessary to support wetland ecosystems over time. This includes the formation of low-gradient surfaces, impeded-drainage features, and tarn complexes to replicate natural pākihi and wetland mosaics. While rehabilitated wetlands are not expected to fully replicate pre-existing ecological complexity in the short- to medium-term, they are expected to re-establish functioning wetland systems that contribute to long-term ecosystem recovery and landscape connectivity.

The implementation of VDT, targeted salvage and habitat reconstruction measures, together with the broader rehabilitation programme, will assist in retaining existing bryophyte communities where practicable and restoring suitable microhabitats within rehabilitated landforms. These measures are designed to maintain key ecological drivers, including moisture regimes, substrate conditions and shading, which are critical to supporting bryophyte persistence and recolonisation over time.

6.7.3 Effects on Terrestrial Fauna

The BPCP has the potential to adversely affect species of terrestrial fauna on the Plateaux through habitat loss and fragmentation, direct mortality or injury during vegetation clearance and earthworks, disturbance from noise, dust, lighting and vibration, increased habitat edge effects, and increased vulnerability to predation in modified habitats. The level of management effect and effectiveness varies across species.

Effects on terrestrial fauna have been assessed through a suite of technical reports prepared by Ecological Solutions (2026a), Alliance Ecology (2026a and 2026b) and Lloyd's Ecological Consulting (2026a and 2026b). These assessments inform the application of the effects management hierarchy and the development of species-specific management, rehabilitation and compensation measures.

Rehabilitation is also explicitly designed to support the reinstatement of terrestrial fauna habitat and ecological connectivity. Beyond vegetation re-establishment, rehabilitated landforms will incorporate structural habitat features such as coarse woody debris, rock piles, boulder fields and varied microtopography to provide shelter, foraging opportunities and thermal environments for indigenous fauna, including lizards, invertebrates and avifauna. The progressive development of vegetation structure from early successional habitats to more complex shrubland and forest systems will provide a range of habitat types over time, supporting different species and life stages.

The rehabilitation programme is closely integrated with the species-specific Management Plans and the wider REP, including pest management and habitat protection measures, to maximise the likelihood of successful recolonisation and long-term population viability. While it is recognised that there will be a temporal lag between habitat removal and the re-establishment of fully functional ecosystems, particularly for forest-dependent species, the combination of progressive rehabilitation, habitat enhancement and landscape-scale pest control is expected to support the gradual return of indigenous fauna to rehabilitated areas and contribute to improved ecological resilience across the Buller Plateaux over the long term.

6.7.3.1 Avifauna

Species of 'Threatened' or 'At Risk' avifauna present on the Buller Plateaux are identified in EcoLogical Solutions (2026a) and are summarised in **Chapter A.3 – Existing Environment** of this substantive application. At a high level, the Buller Plateaux supports 39 bird species, including 29 indigenous and 10 introduced species. Nine bird species are classified as "Threatened" or "At Risk," including roroa (great spotted kiwi), South Island robin (kākārūwai), South Island fernbird (mātātā), Kea, Long Tailed Cuckoo, Yellow Crowned Kākāriki, New Zealand Pipit, Little Black Shag and the New Zealand bush falcon. These specific species are discussed below, with the report attached in **Part B** providing a more detailed description of actual and potential effects on avifauna species on the Plateaux.

Mining activities have the potential to affect avifauna through localised habitat loss, risk of injury or mortality during vegetation clearance and vehicle movements, and disturbance from operational activities including noise and lighting. For most 'Threatened' and 'At Risk' avifauna present on the Buller Plateaux, the level of effect is assessed as **low to moderate**, with appropriate management in place.

Roroa are classified as "Threatened – Nationally Vulnerable" and are present across the Buller Plateaux, although their density is relatively low compared to the core area of the Westport sub-population. Roroa occupy forested gullies and traverse open areas to feed. The Project will result in habitat loss and fragmentation, which could disrupt their movement

and reduce the availability of suitable habitats. Direct mortality during vegetation clearance and earthworks could also occur if not carefully managed.

South Island fernbird (mātātā) are classified as "At Risk – Declining" and are relatively common in low, dense vegetation such as pākihi, rushes, and tussock-covered frost flats. The Project will result in the loss of these habitats, which are critical for fernbird populations. Edge effects and disturbances from mining activities may further degrade their habitat and reduce its suitability.

South Island robin (kākārūwai) are classified as "At Risk – Declining" and prefer dense forests with an open understorey on fertile soils. They are commonly found in forested areas on the Buller Plateaux, particularly in gullies and valley slopes. The Project will result in the loss of forested habitats, which are critical for robin populations. Direct mortality during vegetation clearance and edge effects are also potential effects if not managed appropriately.

The New Zealand bush falcon (*Falco novaeseelandiae ferox*) is classified as "Threatened – Nationally Increasing" and is occasionally observed on the Buller Plateaux. Falcons are highly mobile birds with large home ranges and are known to occupy various habitat types, including forested areas, shrublands, and open spaces. They typically nest on the ground, on rock stacks or small bluffs, or in epiphytes within emergent trees. However, no breeding activity has been recorded on the Buller Plateaux. The Project is expected to result in habitat loss and fragmentation, as well as disturbances such as noise, dust, and vibration, which may impact falcon foraging and nesting opportunities. However, the effects on falcons are considered to be relatively minor due to their mobility and ability to adapt to different habitats. Falcons are likely to continue using the area during the mining period and after rehabilitation, as exotic birds and prey species may still be present until such time as they are appropriately suppressed in accordance with the REP.

The kea (*Nestor notabilis*), classified as “Threatened – Nationally Endangered”, is a highly intelligent and adaptable parrot species endemic to New Zealand. While kea are occasional visitors to the Buller Plateaux, they are not resident in any specific habitat within the project area. Their presence is typically associated with rocky outcrops, open areas, and sandstone pavement habitats, which they use for foraging and exploration. Due to their transient nature and wide-ranging behaviour, the BPCP is expected to have minimal direct impact on kea populations. However, mining activities such as vegetation clearance, noise, dust, and vibration may cause temporary disturbances during their visits. Given their mobility and adaptability, kea are unlikely to be significantly affected by the project, and no specific mitigation measures are planned. Residual effects on kea are considered negligible, as the species does not rely on the habitats within the project area for survival or reproduction.

The long-tailed cuckoo (*Eudynamys taitensis*), classified as "Threatened – Nationally Vulnerable", is a migratory bird species that is seasonally present in the Ngakawau Ecological District, including the Buller Plateaux. This species is highly dependent on forested habitats, particularly areas where its host species, the brown creeper (*Mohoua novaeseelandiae*), is abundant. The BPCP is expected to result in habitat loss and fragmentation, which may reduce the availability of foraging and nesting sites for the long-tailed cuckoo. Additionally, disturbances from mining activities, such as noise, dust, and vibration, may temporarily affect the species' behaviour during its seasonal presence. While no specific mitigation measures are planned for the long-tailed cuckoo, general rehabilitation efforts to restore forested habitats may indirectly benefit the species by supporting its host species and providing potential nesting sites. However, the lag between habitat removal and replacement poses a significant challenge for the species, and residual effects are considered moderate.

The New Zealand pipit (*Anthus novaeseelandiae novaeseelandiae*), classified as "At Risk – Declining", is a ground-dwelling bird that thrives in low-growing habitats, tussockland, and open vegetation. The Buller Plateaux provide suitable habitats for pipits, particularly in areas of sandstone erosion pavement, roads, and other disturbed open spaces. The species is relatively common in the project area, and its adaptability to open habitats makes it less vulnerable to the impacts of mining activities compared to forest-dependent species. However, disturbances such as noise, dust, and vibration may temporarily affect pipit behaviour during active mining. Rehabilitation efforts, including the restoration of tussockland and open habitats, are expected to benefit pipits in the medium to long term. In the short term, the creation of bare ground during mining may provide additional foraging opportunities for pipits, resulting in a positive short-term effect. Long-term residual effects are considered very low, as the species is likely to recolonise rehabilitated areas once vegetation is re-established.

The yellow-crowned kākāriki (*Cyanoramphus auriceps*), classified as "At Risk – Declining", is a small parakeet that primarily inhabits forested areas. Within the Buller Plateaux, this species is present at low densities, favouring tall forest habitats for foraging and nesting. The Buller Plateaux Continuation Project is expected to result in the loss of forested habitats, potentially reducing the availability of suitable nesting and foraging sites for the yellow-crowned kākāriki. Additionally, disturbances from mining activities, such as noise, dust, and vibration, may temporarily affect the species' behaviour. Rehabilitation efforts to restore forested habitats, including planting native vegetation and creating ecotones, are expected to benefit the species in the long term. However, the lag between habitat removal and replacement poses a significant challenge for the species, as forested habitats take decades to mature. Residual effects on the yellow-crowned kākāriki are considered

moderate, and additional measures may be required to address these impacts and support the species' long-term survival in the region.

The little black shag (*Phalacrocorax sulcirostris*), classified as "At Risk – Relict", is a waterbird species that primarily inhabits rivers, ponds, streams, and other aquatic environments. Within the Buller Plateaux, this species is associated with water infrastructure, including ponds, sumps, and dams created by historic and current mining activities. While the BPCP will remove some of these existing artificial and natural waterbodies, the rehabilitation plan includes creating new ones, such as tarns and wetlands, which may provide suitable habitats for the little black shag. The species is highly mobile and capable of utilising newly developed aquatic habitats, which reduces the likelihood of significant long-term impacts. Residual effects on the little black shag are considered low, as the Project's rehabilitation efforts are expected to provide alternative habitats for the species over time.

The Avifauna Management ("**AvMP**") outlines the mitigation and management measures proposed by Bathurst (Bathurst, 2026n). Avoidance and minimisation measures include iterative mine planning, pre-clearance surveys, species-specific protocols, vehicle and lighting controls, and predator management. Progressive rehabilitation will restore habitat over time. Importantly, when considered in the context of the broader REP, the Project is expected to deliver a net long-term benefit for avifauna through sustained landscape-scale predator control, habitat protection, and improved population viability over time.

In addition, Alliance Ecology (2026a and 2026b) has assessed the effects of the proposed pest exclusion fences on roroa and concluded that the three largest fences are large enough to support permanent populations. Reduced stoat predation is expected to increase juvenile survival and reproductive output over 40-50 years, with densities recovering towards pre-human levels. The combined fenced areas may ultimately support approximately 14 breeding pairs, assuming territory compression.

Ongoing monitoring and genetic management will be required; however, the long-term benefits of the exclosures are expected to substantially outweigh short-term impacts. Overall, the BPCP incorporates a suite of management measures, habitat protection initiatives, predator control programmes and monitoring requirements that are expected to support improved long-term outcomes for Threatened and At Risk avifauna species such as roroa, South Island robin (kakaruwai) and South Island fernbird (mātātā), relative to their current trajectory.

6.7.3.2 Lizards

A detailed assessment of the potential effects of the BPCP on lizards is provided in Alliance Ecology (2026a) and management measures are further discussed in the Lizard Management Plan ("**LMP**") (Bathurst, 2026p). The Buller Plateaux is known to three conservation-status lizard species: West Coast green gecko, forest gecko, and Newman's speckled skink.

Lizards may be affected by the BPCP through habitat loss and fragmentation, direct mortality during vegetation clearance and earthworks, habitat edge effects, and disturbance associated with noise, dust and vibration. At a local scale, effects are assessed as moderate, and at a Project-wide scale, effects are assessed as moderate to high, reflecting the extent of habitat loss, limited dispersal ability of some species, and slow recovery rates.

Avoidance has been implemented by refining disturbance areas to reduce impacts on high-value lizard habitats where practicable. Minimisation measures include detailed habitat-clearance protocols, pre-clearance surveys, salvage and relocation of all three legally protected lizard species, and, where feasible, the seasonal timing of works. It is conservatively assumed that salvage efforts will not materially reduce the overall severity of effects, due to low capture rates and uncertainty regarding post-relocation survival.

Remediation will be achieved through ecological rehabilitation incorporating VDT where possible, native planting, and habitat enhancement measures such as the placement of rocks and boulders in scraped depressions (0.5 m – 1 m deep) to provide winter refuges for lizards when in torpor.

Residual effects on lizards remain moderate but are considered acceptable and appropriately managed in the context of the Project, given the scale of the proposed rehabilitation and the broader reduction in predation pressure anticipated through pest management across the Buller Plateaux as part of the REP.

6.7.3.3 Terrestrial Invertebrates

A detailed assessment of the potential effects of the BPCP on relevant terrestrial invertebrates (Powelliphanta snails), as well as relevant modelling projections, are provided in Lloyd's Ecological Consulting (2026a and 2026b) and EcoLogical Solutions (2026a), and management measures are also included in the Powelliphanta Snail Management Plan ("**PSMP**", Bathurst, 2026o). The Buller Plateaux hosts a diverse invertebrate community, including "Threatened" and "At Risk" species like *Powelliphanta* snails (Nationally Critical), Avatar moth (Nationally Critical), and Forest ringlet butterfly (At Risk – Relict).

Snails

The BPCP will affect a considerable proportion of the current distribution ranges of the threatened terrestrial carnivorous land snail *Powelliphanta patrickensis* (*P. patrickensis*) on the Stockton and Denniston Plateaux, resulting in habitat loss, fragmentation, and direct mortality during habitat stripping (with haul roads likely forming barriers to dispersal). *P. patrickensis* populations on Stockton and Denniston Plateaux are ranked by DOC as having a "Nationally Critical" conservation status.

Habitat loss attributable to the BPCP is estimated at 1.95 km^2 (6.1%) of the 32.01 km^2 range on the Stockton Plateau and 4.59 km^2 (22.3%) of the 20.52 km^2 range on the Denniston Plateau. Fragmentation effects could increase losses by a further 0.38 km^2 on Stockton and 1.012 km^2 on Denniston. Combined with previous mining (including the Cypress consented area), total range loss would be 20.5% on the Stockton Plateau and 29.5% on the Denniston Plateau.

Without effective management, the level of effect on *P. patrickensis* would be very high, with population modelling predicting near extinction within approximately 30 years (even without the impacts of the proposed mining activities).

Avoidance is constrained by the spatial overlap between the snail's remaining range and the coal resource. Minimisation focuses on avoiding non-essential habitat disturbance and maximising the use of VDT and direct transfer of stripped soil, which have been shown to support viable snail populations more than 13 years post-transfer. However, due to engineering and scheduling constraints, only approximately 15% of the BPCP's Disturbance Area is likely to be suitable for VDT. Minimising habitat degradation will be achieved by developing site plans that reduce edge effects at the periphery of disturbed areas. This will be done by managing biosecurity, preventing contaminants from roads and other disturbed areas reaching undisturbed areas, and keeping haul roads closed to the public during mine life. To counter loss of genetic diversity resulting from population fragmentation, small numbers of snails will be routinely relocated between adjacent population fragments.

Where neither VDT nor direct transfer of stripped soil are possible, and soil must be stockpiled, snail habitat loss will be remedied. This will be achieved by planting native plants and seeding into the soil, after the stockpiled soil is spread at its final destination, on ELFs in previously mined areas. To enhance the viability of soil ecosystems in the stockpiled soil, stockpiles will be kept low, not compacted and planted with appropriate native plant species. There will be ongoing research and adaptive management to improve the outcome of rehabilitating snail habitat by planting or seeding. However, snails are unlikely to survive in stockpiled soil. Therefore, snail mortality will be further minimised in these areas by

salvaging a proportion of snails from the disturbance area and translocating them to areas not scheduled for disturbance (ideally within the pest exclusion fences).

Despite the proposed programme of minimisation and remediation, the Project will have significant residual impacts on *P. patrickensis* snails and their habitat. Compensation is therefore proposed through the construction and ongoing management of the four pest exclusion fences (totalling 911 ha of *P. patrickensis* habitat). These are designed primarily to eliminate weka predation, the primary cause of recent population decline, but will also prevent predation by rodents and possums, which are predicted to increase in response to climate change.

P. patrickensis population modelling shows that without the pest exclusion fenced areas, snail populations would decline to 11% of current levels within 20 years and 3.7% within 30 years, with or without the Project. With the BPCP and the proposed compensation measures in place, population trajectories stabilise within 9 and 11 years, and subsequently increase towards the carrying capacity of the fenced areas (usually within 30 years).

Accordingly, although the BPCP results in unavoidable short-term adverse effects on *P. patrickensis*, implementation of the proposed management, rehabilitation, monitoring and predator-exclusion measures is expected to support materially better long-term outcomes for the species than would otherwise occur.

A second taxon of *Powelliphanta, P. augusta*, (classified as Nationally Critical) is also present on the Buller Plateaux, although its current distribution range does not overlap with areas affected by the BPCP. No disturbance of *P. augusta* habitat is proposed during the Project. Nonetheless, a specific pest exclusion fenced area is proposed at Mt Augustus (15 ha) as part of the REP, which will also provide secondary protection benefits for *P. augusta* in accordance with recovery planning endorsed by DOC[24].

Other Notable Invertebrates

The Buller Plateaux supports a highly diverse and predominantly indigenous invertebrate community, including a number of large-bodied species with limited dispersal ability. Several habitat types within the Project Area, such as low pākihi, sandstone erosion pavement and shrubland communities, are recognised as supporting important invertebrate assemblages, including 'Threatened' and 'At Risk' species such as the Avatar moth (*Arctesthes avatar*) and the Forest ringlet butterfly (*Dodonidia helmsii*). These habitats

[24] In accordance with DOC's *Powelliphanta augusta* Recovery Strategy (Gruner et al., 2021).

provide specialised microhabitats and host plants that are fundamental to invertebrate life cycles.

The Project will disturb some invertebrate habitats; however, effects on invertebrates have been considered in mine design, staging, and rehabilitation planning. Substantial emphasis is placed on retaining and reinstating habitat values through progressive rehabilitation and the construction of ELFs that support diverse indigenous vegetation and wetland features, including tarns. Where practicable, VDT will be used to retain intact soils, microhabitats and host plants, including *Liparophyllum gunnii*, which is critical for the Avatar moth. Rehabilitation planting will also include high proportions of *Gahnia* species to support Forest ringlet butterfly larvae.

The Buller Plateaux is recognised for its high invertebrate endemism and the ongoing discovery of new species, reflecting both its unique ecological conditions and historically limited systematic surveys of invertebrates. The Project's approach to rehabilitation, biosecurity and residual effects management has therefore been developed to support both known and as-yet undescribed invertebrate taxa by maintaining habitat diversity, structural complexity and ecological connectivity at a landscape scale.

While some residual effects on invertebrates will remain, particularly where habitat types such as sandstone erosion pavement and seepage systems are permanently lost, these effects have been anticipated and addressed through the REP. This includes long-term habitat restoration, predator management, and biosecurity measures designed to improve overall ecosystem resilience and reduce broader pressures on invertebrate populations. In this context, the Project is expected to support the long-term persistence of invertebrate values across the Buller Plateaux, notwithstanding localised and unavoidable losses within the mining footprint.

6.7.4 Summary of Effects on Terrestrial Ecological Values

The Project has been designed through an iterative process that has sought to avoid and reduce ecological effects where practicable, including refinement of mine footprints, infrastructure locations, access routes and staging. However, the coal resource required to achieve the Project's objectives is spatially associated with a number of ecologically significant habitats and ecosystems, meaning that complete avoidance of ecological effects is not practicable. Accordingly, the Project relies on a combination of avoidance, minimisation, progressive rehabilitation, species-specific management and residual effects management measures to address ecological effects.

Rehabilitation forms a central component of this response. As outlined above, the Rehabilitation Management Plan provides for progressive rehabilitation throughout the life

of the Project, with the objective of establishing safe, stable and self-sustaining indigenous ecosystems and restoring ecological function, habitat connectivity and landscape integrity over time. However, rehabilitation will not fully recreate all pre-existing ecological values within the Project timeframe, particularly in relation to specialised coal-measure ecosystems, wetlands, seepage systems and other habitats with highly specific environmental requirements.

As further outlined in Section 6.7.4, the BPCP also includes an extensive Residual Effects Package that builds on, and substantially expands, existing biodiversity management undertaken on the Buller Plateaux. This includes landscape-scale pest and weed management, pest exclusion fencing, habitat protection, ecological monitoring and research programmes designed to improve long-term biodiversity outcomes and address key drivers of ecological decline. These measures are expected to deliver significant benefits for a range of indigenous fauna, including threatened birds, lizards and Powelliphanta snails, and in some cases may result in population outcomes that are improved relative to the current trajectory of those species (without mining).

Notwithstanding these measures, the Project is predicted to result in moderate to very high residual adverse effects on a number of terrestrial ecological values, primarily as a consequence of the permanent loss or modification of very high-value ecosystems, wetlands and associated habitats. While the REP and rehabilitation programme are expected to materially improve outcomes for some species and ecological processes and are anticipated to provide significant biodiversity benefits in some parts of the Buller Plateaux, they do not fully address the loss of habitat extent and ecological value associated with all affected ecosystem types and species.

These levels of effect are summarised in Table 6-2 below, with details set out in the relevant Management Plans (provided in **Part G** of this application). The full suite of management, mitigation, rehabilitation, monitoring and residual effects management measures is described in **Chapter A.7 – Management and Monitoring of Actual and Potential Environmental Effects**.

Table 6-2: Assessed level of residual effects on biodiversity values (moderate or higher), and expected biodiversity outcomes following implementation of the REP (Residual Effects Management Report, Alliance Ecology 2026a)

Impacted habitat or species type	Ecological value	Habitat loss (ha)	Moderate or higher level of residual effect (before REP)	Expected outcome after implementation of the REP
Terrestrial Ecosystem Types				
Southern rātā-mountain beech podocarp forest	Very High	226.5	Very High	Net loss in habitat extent and value (very high magnitude)
Sandstone erosion pavement (and associated vegetation)	Very High	69.9	Very High	Net loss in habitat extent and value (very high magnitude)
Mānuka-mountain beech-podocarp shrubland	Very High	98.1	High	Net loss in habitat extent (high magnitude)
Mixed beech-podocarp-broadleaved forest	Very High	15.4	Moderate	Net loss in habitat extent and value (moderate magnitude)
Silver beech-mountain beech forest	Very High	6	Moderate	Net loss in habitat extent and value (moderate magnitude)
Boulderfields of acidic rock	Very High	Assumed several ha	Moderate	Net loss in habitat extent and value (moderate magnitude)

Impacted habitat or species type	Ecological value	Habitat loss (ha)	Moderate or higher level of residual effect (before REP)	Expected outcome after implementation of the REP
Wetland Habitat Types				
Low pākihi wetland	Very High	237	Very High	Net loss in habitat extent and value (very high magnitude)
Mānuka-tussock-wire rush shrubland (wetland)	Very High	117.1	Very High	Net loss in habitat extent and value (very high magnitude)
Mānuka/gahnia-wire rush shrubland (wetland)	Very High	10.3	High	Net loss in habitat extent and value (high magnitude)
Flushes and seeps	Very High	< several ha	Likely High	Net loss in habitat extent and value (high magnitude)
Mānuka-mountain flax-wire rush shrubland (wetland)	Very High	4	Moderate	Net loss in habitat extent and value (moderate magnitude)
Tussock-mountain flax shrubland	Very High	2.5	Moderate	Net loss in habitat extent and value (moderate magnitude)
Tarns	Very High	Unknown	Likely Moderate	Net loss in habitat extent and value (moderate magnitude)

Impacted habitat or species type	Ecological value	Habitat loss (ha)	Moderate or higher level of residual effect (before REP)	Expected outcome after implementation of the REP
Indigenous Vascular Plants (* = not detected in Project Area to date)				
Bearded orchid (*Calochilus paludosus*)*	Very High	370.8	Very High	Net loss in habitat extent and population size
*Bulbinella modesta**	High	370.8	Very High	Net loss in habitat extent and population size
*Caladenia alata**		244.1	High	
*Caladenia minor**		470.6	High	
Coal measures tussock (*Chionochloa juncea*)		633.1	High	
Dracophyllum densum		517.9	High	
Euphrasia wettsteiniana		356.6	Very High	
Long-leaved pimelea (*Pimelea longifolia*)*		716.1	High	
Astelia subulata	Moderate	215.6	Moderate	Net loss in habitat extent and population size
*Brachyglottis traversii**		466	High	
Carse's sedge (*Carex carsei*)*		429.8	Moderate	

Impacted habitat or species type	Ecological value	Habitat loss (ha)	Moderate or higher level of residual effect (before REP)	Expected outcome after implementation of the REP
Dall's sedge (*Carex dallii*)*		429.8	Moderate	
Euphrasia disperma		215.6	High	
*Hymenophyllum pluviatile**		272.8	Moderate	
Dwarf rush (*Juncus pusillus*)*		332.6	Moderate	
*Pterostylis humilis**		398.7	Moderate	
Travers horopito (*Pseudowintera traversii*)		272.8	Moderate	
*Schizacme helmsii **		383.4	Moderate	
*Townsonia deflexa**		285.3	Moderate	
Sticherus tener			Moderate	
Sticherus urceolatus			Moderate	
Indigenous Non-Vascular Plants (bryophytes and lichens)				
Isolembidium anomalum var. anomalum (Bryophyte)	Very High	800.6	High	Net loss in habitat extent and population size

Impacted habitat or species type	Ecological value	Habitat loss (ha)	Moderate or higher level of residual effect (before REP)	Expected outcome after implementation of the REP
Neogrollea notabilis Bryophyte)		455.4	High	
Pycnothelia caliginosa (Lichen)		361.9	High	
Austropeltum glareosum (Lichen)		424.1	Very High	
Cladia fuliginosa (Lichen)		440.8	Very High	
Allisoniella scottii (Bryrophyte)		368.3	High	
Pseudolophocolea denticulata (Bryophyte)		344.9	High	
Cladia inflata (Lichen)	High	468.9	High	Net loss in habitat extent and population size
Acromastigum interstisiale (Bryophyte)		361.9		
Knightiella splachnirima (Lichen)		440.8	Very High	
Saccogynidium decurvum (Bryophyte)		786	High	
Chiloscyphus gippslandicus (broyophyte)	Not classified	Unknown		Net loss in habitat extent and population size

Impacted habitat or species type	Ecological value	Habitat loss (ha)	Moderate or higher level of residual effect (before REP)	Expected outcome after implementation of the REP
Porella cranfordii (broyophyte)			Assumed Very High**[25]	
Acromastigum mooreanum (bryophyte)	Moderate	Unknown	Assumed Moderate	Net loss in habitat extent and population type
Andreaea subulate (bryophyte)				
Blindia immersa (bryophyte)				
Calycidium cuneatum (bryophyte)				
Campylopus kirkii (bryophyte)				
Cryptolophocolea tuberculata (bryophyte)				
Dicnemon dixonianum (bryophyte)				
Herzogianthus sanguineus (bryophyte)				
Herzogianthus vaginatus (bryophyte)				
Heteroscyphus billardierei (bryophyte)				

[25] ** Treated as Threatened despite not having a Threat classification status.

Impacted habitat or species type	Ecological value	Habitat loss (ha)	Moderate or higher level of residual effect (before REP)	Expected outcome after implementation of the REP
Isotachis westlandica (bryophyte)				
Kurzia tenax (bryophyte)				
Kurzia nivicola (bryophyte)				
Lembidium longifolium (bryophyte)				
Lepidolaena novae-zelandiae (bryophyte)				
Pachyschistochila virescens (bryophyte)				
Pallavicinia rubristipa (bryophyte)				
Pleurophascum ovalifolium (bryophyte)				
Pyrrhobryum paramattense				
Riccardia furtiva (bryophyte)				
Trichotemnoma corrugatum (bryophyte)				
Zoopsis bicruris (bryophyte)				

Impacted habitat or species type	Ecological value	Habitat loss (ha)	Moderate or higher level of residual effect (before REP)	Expected outcome after implementation of the REP
Zoopsis ceratophylla (bryophyte)				
Zoopsis matawaia (bryophyte)				
Chiloscyphus gippslandicus (broyophyte)				
Porella cranfordii (broyophyte)				
*Andreaea acuminata (broyophyte)**				
*Andrewsianthus perigonialis (broyophyte)**				
*Archeophylla schusteri (broyophyte)**				
*Bazzania exempta (broyophyte)**				
*Degeliella rosulate (broyophyte)**				
*Ditrichum strictum (broyophyte)**				
*Leiorreuma exaltatum (broyophyte)**				
*Lepidozia fugax (broyophyte)**				

Impacted habitat or species type	Ecological value	Habitat loss (ha)	Moderate or higher level of residual effect (before REP)	Expected outcome after implementation of the REP
*Micarea isabelline (broyophyte)**				
*Ochrolechia frigida (broyophyte)**				
*Pseudocyphellaria lindsayi (broyophyte)**				
*Riccardia multicorpora (broyophyte)**				
*Schistochila pluriciliata (broyophyte)**				
*Tayloria callophylla (broyophyte)**				
Avifauna				
Roroa/great spotted kiwi	Very High	681.5	High	Net loss in habitat extent Net increase in population size
Kārearea/NZ bush falcon		681.5	High	Net loss in habitat extent Net increase in population size
Koekoeā/long-tailed cuckoo		386.2	High	Net loss in habitat extent Uncertain outcome for population size

Impacted habitat or species type	Ecological value	Habitat loss (ha)	Moderate or higher level of residual effect (before REP)	Expected outcome after implementation of the REP
Kakaruai/South Island robin	High	389.8	High	Net loss in habitat extent Net increase in population size
Mātātā/South Island fernbird		676.9	High	Net loss in habitat extent Net increase in population size
Yellow-crowned parakeet		404	High	Net loss in habitat extent Net increase in population size
Kererū	Moderate	393.1	Moderate	Net loss in habitat extent Net increase in population size
Korimako/bellbird		404	Moderate	Net loss in habitat extent Net increase in population size
Tūī		404	Moderate	Net loss in habitat extent Net increase in population size
Lizards				
West Coast green gecko	Very High	681.5	Very High	Net loss in habitat extent Net increase in population size

Impacted habitat or species type	Ecological value	Habitat loss (ha)	Moderate or higher level of residual effect (before REP)	Expected outcome after implementation of the REP
Newmans speckled skink	Very High	751.3	Very High to Moderate	Net loss in habitat extent Net increase in population size
Forest gecko	High	681.5	Very High	Net loss in habitat extent Net increase in population size
Notable Terrestrial Invertebrates				
Powelliphants patrickensis	Very High	652.7	Very High	Net loss in habitat extent Net increase in population size
Avatar moth (*Arctesthes avatar*)	Very High	396.2	Very High	Net loss in habitat extent and population size
Pseudaneitea sp. (slug)	Very High**	Unknown	Very High	Net loss in habitat size. Uncertain outcomes for population size
White-faced cave weta (*Occultastella morgana*)	Very High**	389.8	Very High	Net loss in habitat extent Net increase in population size
Forest ringlet butterfly (*Dodonidia helmsii*)	Moderate	592.6	Moderate	Net loss in habitat size Uncertain outcomes for population size

6.8 EFFECTS OF PEST EXCLUSION FENCING

The BPCP establishes a series of pest exclusion fences across the Buller Plateaux, including four larger fenced ecological management areas and smaller, targeted pest exclusion areas, such as the Cypress pest exclusion fence. These structures are a fundamental component of the Project's biodiversity strategy, designed to exclude mammalian predators and browsers, thereby enabling long-term improvements in indigenous biodiversity. However, the construction and operation of these fences also give rise to a range of environmental effects, which have been carefully considered through site selection, design, and proposed management measures.

A key principle applied in the development of the fencing network has been the avoidance and minimisation of environmental disturbance at the outset through careful route selection. The proposed fencing has undergone detailed feasibility and design assessments, including site inspections and engineering input, to confirm that the selected locations are both practicable and appropriate.

In particular, the fence alignments have been deliberately selected to make extensive use of existing disturbance corridors, including roads, drill tracks, and previously modified ground. Across the four fencing areas, a substantial proportion of fence routes follow existing tracks or disturbed areas (in some cases, up to 75–90% of the alignment), thereby reducing the need for new vegetation clearance, earthworks, and habitat disturbance. This approach was adopted specifically in recognition of the high ecological value and sensitivity of undisturbed plateau habitats and represents an important application of the effects management hierarchy at the design stage.

In terms of construction, the primary effects arise from the establishment of fence lines, including vegetation clearance, ground disturbance associated with fence post installation, and the formation of localised construction platforms where existing access is not available. Across much of the proposed fence network, these effects are minimised by using existing access corridors, with a significant proportion of fence routes aligned with existing roads and tracks. Where new ground disturbance is required, it is generally limited to narrow linear corridors and, in most locations, can be achieved through relatively minor earthworks. While some sections (for example, steeper slopes or escarpment areas) may require more intensive construction techniques, including localised benching or hand installation, these areas are limited in extent. Overall, construction effects are therefore expected to be localised and of short duration.

The physical characteristics of the Buller Plateaux have been a key consideration in fence design and effects management. The environment is characterised by high rainfall, shallow, often acidic soils, exposed rock, and frequent strong winds. These conditions influence both

construction methods and long-term performance, requiring robust fence design, careful installation, and ongoing maintenance. Particular attention has been given to water management, as uncontrolled runoff or culvert blockages can cause erosion or undermine fence integrity. To address this, the fence design incorporates engineered culvert systems and drainage controls to maintain natural flow paths and reduce the risk of erosion or sediment discharge during both construction and operation.

Where fence lines intersect watercourses, culverts are likely to be used to maintain hydrological connectivity and allow for the passage of water. The design of these crossings has been specifically developed to accommodate a range of flow conditions, including high rainfall events typical of the plateau environment. Importantly, the fence design avoids inflow culvert systems that could facilitate pest entry while still maintaining downstream flow and drainage functions. With these design features, effects on aquatic habitats and hydrological processes are expected to be minor.

In ecological terms, the construction of fences will result in small areas of habitat disturbance along fence alignments, as well as temporary disturbance to fauna during construction. For mobile species such as the great spotted kiwi, the introduction of fences will also result in some short-term disruption to territories and movement patterns. The available evidence indicates that fences may result in boundary adjustments and, in some cases, may advantage some individuals while constraining others, particularly during the establishment phase. There is also a potential risk of disturbance to nests, roost sites, or family groups if construction is not carefully managed.

These potential effects are recognised and can be effectively managed through construction timing, pre-construction ecological surveys, and implementation of fauna management protocols. Importantly, the long-term ecological effects of the fences are expected to be strongly positive for kiwi and other indigenous species. By excluding key predators such as stoats, the fences will significantly improve juvenile survival rates and enable population recovery within enclosed areas. While fences will restrict movement and dispersal, resulting in more defined populations within enclosures, this is a known and intended outcome of pest-exclusion fencing and can be managed over time through monitoring and, where necessary, active management (such as translocation or population management).

For non-avian fauna, including invertebrates such as *Powelliphanta*, the fences are expected to deliver substantial benefits by reducing predation pressure and allowing populations to recover. The very limited habitat disturbance associated with fence construction is minor relative to the overall area protected and is outweighed by the long-term ecological gains associated with pest exclusion.

The use of pest exclusion fencing as a biodiversity management tool is well established in New Zealand and is supported by a substantial body of research and operational experience. As outlined in the Residual Effects Management Report (Alliance 2026a), DOC research has found that, where pest exclusion fences are successfully established and pest mammals eradicated from within enclosed areas, conservation outcomes are generally superior to those achieved through pest suppression alone. Pest exclusion fences are therefore recognised as an important component of ecosystem restoration and species recovery programmes, particularly for highly vulnerable species and ecosystems that are unable to persist under even low levels of ongoing predation pressure. Numerous mainland sanctuaries throughout New Zealand have demonstrated the long-term effectiveness of predator exclusion fencing in delivering enduring biodiversity gains when supported by appropriate monitoring, maintenance and incursion response programmes.

In addition to the ecological, hydrological and physical effects described above, the installation of pest exclusion fencing has the potential to give rise to effects on historic heritage and archaeological values, particularly where fence alignments intersect or are located in close proximity to features associated with historic mining activity on the Buller Plateaux. These heritage-related effects, including potential disturbance of recorded and unrecorded archaeological sites, are assessed separately in Section 6.19.6 (Historic Heritage Effects at the Pest Exclusion Areas).

The fences will also introduce linear physical structures into the landscape, which may have localised visual effects, particularly in more open plateau environments. However, these effects are moderated by the relatively low profile of the fencing structures, their alignment with existing tracks where possible, and the expansive, often visually complex nature of the plateau landscape. As a result, visual effects are expected to be localised and of low significance in a broader landscape context.

In terms of access and land use, the presence of pest exclusion fences will restrict uncontrolled access to fenced areas and may alter existing patterns of informal recreation, including walking and vehicle access. These effects are recognised and are addressed through the broader Project framework, including managed access arrangements and ongoing engagement with user groups. Given the availability of alternative recreation areas and the managed nature of access within the Project area, these effects are considered localised and manageable.

Over the longer term, the fences will require ongoing maintenance and monitoring to ensure their effectiveness, particularly in response to the challenging environmental conditions of the plateaux. The predicted lifespan of the fences is on the order of 40–50 years, provided that regular maintenance is undertaken, including structural inspections, clearing culverts,

and repairing any damage caused by weather or natural processes. Residual risks, such as fence breach or localised failure, are managed through monitoring and maintenance programmes.

Overall, the construction and operation of pest exclusion fencing will give rise to localised and predominantly temporary adverse effects, primarily associated with construction disturbance, short-term ecological disruption, and localised changes to visual and access conditions. However, these effects have been substantially reduced through careful route selection that preferentially utilises existing disturbed areas, and through design measures that maintain hydrological and ecological function.

When considered in this context, the adverse effects of the fencing are assessed as low to moderate and are able to be appropriately avoided, minimised or managed through the proposed design and management measures. The fencing programme also contributes to broader ecological outcomes through pest exclusion and habitat protection, and forms an integral component of the Project's overall environmental management framework.

Consistent with DOC guidance and the conclusions of the Residual Effects Management Report (Alliance Ecology, 2026a), the proposed pest exclusion areas are expected to provide some of the most significant and enduring biodiversity gains associated with the Project by creating long-term predator-free refugia for Threatened and At-Risk species, including great spotted kiwi/roroa, *Powelliphanta* snails, threatened lizards and indigenous avifauna species. The proposed fenced network, in combination with surrounding pest management, reflects an established and accepted conservation approach that has been successfully applied elsewhere in New Zealand to achieve substantial ecological restoration outcomes.

6.9 GEOTECHNICAL EFFECTS

Pattle Delamore Partners ("**PDP**") (2026a-c) and Bathurst (2025a-d) have undertaken geotechnical assessments across Stockton, MFS, ESE and UWHR Sub-Areas. These assessments consider slope stability, material characteristics, geological structure, historical underground workings and natural hazard susceptibility, current practices, and provide the basis for evaluating potential geotechnical and natural hazard effects of the Project.

Across these Sub-Areas, the assessments conclude that no geotechnical or natural hazard risks have been identified that would preclude development, provided that standard industry controls, adaptive management practices, and operational geotechnical management frameworks are applied.

The proposed conditions provide an additional level of certainty by requiring detailed designs for the UWHR and MFS Access Road to be prepared by a SQEP. These designs must

address the classification and management of acid-generating materials, risks associated with historic underground workings, geotechnical design criteria including Factors of Safety, design slope geometries and stability assessment methodologies, the latest available groundwater and geotechnical information, and watercourse crossings. Construction of each section of the UWHR and MFS Access Road must then be undertaken in accordance with a certified construction design report. For all other earthworks, excavations and associated infrastructure within the Stockton, MFS and ESE Sub-Areas, the proposed conditions (in **Part E**) require SQEP-led design and management through a Ground and Strata Instability Principal Hazard Management Plan ("**GSI PHMP**"). This approach is consistent with the geotechnical management framework currently implemented at Stockton Mine, which incorporates geotechnical assessment, risk-based design, monitoring, Trigger Action Response Plans, and ongoing model validation and review.

6.9.1 Stockton

The Stockton Sub-Area is an established operational opencast mine with both brownfield areas and historic underground workings. The current mine design focuses on extracting the M2 coal resource from the Brunner Coal Measures and includes seven open-cut pits, associated stormwater sump excavations, ex-pit overburden ELFs, and in-pit ELFs, which are sequenced to partially backfill the open pits during mining. Access to the Stockton Sub-Area is via Millerton Track Road, which links to the 2-5 mine haul road (which is predominantly an aerial ropeway with minor cut and fill).

Extensive geotechnical data exists for Stockton, including drillhole lithology and geotechnical logging, downhole geophysics, laboratory testing and back-analysis of historic slope failures. These data support a robust geotechnical model for most pits. Stability analyses have been undertaken for highwalls, sump excavations and ELF profiles under static, groundwater and seismic loading scenarios.

The principal geotechnical risk identified for Stockton – common to coal-measure deposits – is short-term instability associated with sliding along pre-existing bedding-plane shears near the coal-seam roof and floor horizons, particularly where affected by faulting. While Brunner Coal Measures coal seams are generally near horizontal, local structural complexity introduces uncertainty. These risks are well understood and routinely managed at Stockton through Ground Control Management Plans, Trigger Action Response Plans, buttressing via in-pit ELFs and ongoing geotechnical monitoring.

Failures, if they occur, are expected to be localised, of limited displacement and retained within the mine footprint. Gaps in data related to large fault structures have been identified

In summary, Stockton has an extensive drilling and lab test dataset, enabling a robust geotechnical model for most pits. Any data gaps in the geotechnical model identified around large-scale faults are subject to ongoing investigation and analysis to resolve residual geotechnical risks during the next stages of the mine design.

The proposed conditions require all earthworks, excavations and associated infrastructure within the Stockton Sub-Area to be designed by a SQEP to achieve geotechnical stability and to be designed, constructed and maintained in accordance with a GSI PHMP prepared under the Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016. The existing Stockton GSI PHMP demonstrates how this framework operates in practice through documented geotechnical design processes, monitoring programmes, TARPs, inspection requirements, competency requirements and periodic review mechanisms.

6.9.1.1 A-Drive Borrow Pits - Stockton

The geotechnical assessment of the A-Drive Borrow Pits undertaken by PDP (2026b) incorporated a review of historical geotechnical investigations, geological mapping, laboratory testing, downhole geophysics, and slope stability modelling using Rocscience Slide2. Subsurface conditions are dominated by weathered granitic basement rocks of the Karamea Suite, with minor entrained Greenland Group hornfels and greywacke. The Brunner Coal Measures have been mined out, exposing the basement lithologies.

A-Drive Borrow Pits, which have historically supplied weathered granitic aggregate for roading and rehabilitation, are proposed to be extended approximately 60 m to the north-northeast. Upon completion, the site is intended to be repurposed to store CHPP tailings, with an estimated capacity of 510,000 loose cubic metres.

Unconfined Compressive Strength testing indicated a wide range of intact rock strengths (2.4 – 152 MPa), with a conservative design value of 50 MPa adopted for slope stability analysis. Geological Strength Index was assessed at 50, reflecting a blocky rock mass with fair to good joint conditions. A blast disturbance factor of 1.0 was applied to account for observed fracturing in highwall faces.

Deterministic slope stability analyses were performed under both static and seismic loading conditions, including Operating Basis Earthquake and Maximum Considered Earthquake. All highwalls met or exceeded the design acceptance criteria, except for shallow bench-scale failures in fill and Brunner Coal Measures sandstone under Maximum Considered Earthquake conditions. Sensitivity analysis indicated a seismic yield threshold of 0.63 g for Brunner Coal Measures sandstone, with estimated displacements < 0.1 cm, classified as negligible.

Ongoing risk management includes improved drainage delineation, set-backs, installation of piezometers and updating of response plans. Subject to these measures, the borrow pits expansion is considered geotechnically feasible and stable.

The proposed conditions also require detailed design to be prepared before development of the A-Drive Borrow Pit and each A-Drive Coal Fines Storage Facility. Those designs must consider the nature of materials likely to be encountered and the latest available groundwater and geotechnical information. This ensures that the stability assessment is carried through into detailed design and that any site-specific groundwater or material variability is accounted for before construction.

6.9.2 ESE

The proposed ESE Sub-Area forms a single opencast pit supported by two smaller auxiliary pits for water management and aggregate supply. Mining at ESE will be accompanied by the construction of an ex pit ELF and in pit ELFs that will progressively backfill the pit to form the final rehabilitated landform.

A pre-feasibility level geotechnical assessment of the ESE Sub-Area has been undertaken by Bathurst (2025a) and peer reviewed by PDP. The assessment considers geological structure, material strength, historical underground workings, slope-stability hazards, and natural-hazard risks to determine whether the proposed design and mining sequence are geotechnically feasible.

The ESE sub-area is underlain by Brunner Coal Measures, which are broadly near-horizontal but locally affected by faulting and historic underground mining. These features introduce potential slope-stability hazards typical of coal measure deposits, particularly sliding along pre-existing bedding-plane shears adjacent to the coal-seam roof and floor horizons. Geotechnical strength values used at this stage are based on regional and analogous site data, with site-specific testing to be undertaken at the feasibility stage.

During mine design development, highwall orientations were reviewed against mapped and inferred geological discontinuities. Where elevated instability risk was identified, mine layouts were refined by stepping back or excavating behind unfavourably oriented structures to reduce the likelihood of instability. On this basis, global highwall failure is assessed as very unlikely, with any instability expected to be limited to localised bench scale or rockfall events.

Bench-scale instability and rockfall are recognised operational hazards but are considered manageable through standard mining controls, including catch benches, controlled blasting practices, face mapping, highwall scaling, and effective surface and groundwater

management. As with other BPCP sub-areas, short-term operational stability during active mining is the critical consideration and will be managed through the GSI PHMP framework, including Trigger Action Response Plans, geotechnical inspections, slope performance monitoring and ongoing monitoring.

Stability analyses indicate that the proposed in-pit and ex-pit ELFs and final landform at ESE meet adopted slope design criteria and are considered geotechnically stable for both operational and long-term conditions, provided they are constructed in accordance with the design assumptions assessed.

The assessment identifies some data gaps, including limited piezometric coverage and site-specific laboratory testing. These matters will be addressed through further investigation and design refinement.

The proposed conditions support this approach by requiring progressive detailed design for ESE as the Sub-Area develops. The detailed designs must consider material classification, including NAF, PAF and HAF materials, the removal or sealing of historic underground workings where practicable, the latest groundwater and geotechnical information, and interactions with watercourse crossings and shallow groundwater flow. The conditions also require implementation of the AMD: ELF Management Plan, which has objectives including delivery of geotechnically safe landforms, geochemically stable landforms that enable transition to passive treatment of basal seepage, stable and sustainable rehabilitated surfaces, and a framework for Engineer of Record sign-off of final ELFs and water management infrastructure.

Overall, the assessment concludes that the proposed ESE mine design is geotechnically feasible, with no hazards identified that would preclude development. While localised instability may occur under certain conditions, potential geotechnical effects are assessed as manageable and acceptable, provided standard operational controls are implemented and ongoing geotechnical management is maintained.

6.9.3 MFS

The pre-feasibility geotechnical assessment for the MFS Sub-Area undertaken by PDP (2026a) focused on the stability of proposed highwalls, sump excavations and ELFs associated with two open cut pits. The design assumptions draw on operational experience and ground conditions comparable to Stockton.

A geotechnical and structural model was developed using existing drillhole data, downhole geophysics and mapped fault structures. Kinematic analysis identified planar, toppling and wedge failures as feasible, with wedge failure representing the most critical mechanism in some highwalls. Stability analyses undertaken in accordance with NZS 1170 and NZ

Geotechnical Society guidance indicate that highwalls and ELFs are generally stable under static and groundwater conditions, with minor bench-scale displacements (up to approximately 30 cm) potentially occurring under seismic loading where bedding plane shears are unfavourably oriented.

As at Stockton, the dominant geotechnical risk is short-term stability during operations, particularly sliding along bedding plane shears influenced by faulting. These risks are considered manageable through standard operational controls, including detailed geological mapping, monitoring, and design refinement.

In summary, this pre-feasibility assessment identified potential geotechnical risks related to slope stability, subsidence, and rock mass variability, influenced primarily by faulting and structural discontinuities. These risks are considered manageable through established operational controls consistent with the GSI PHMP framework, including monitoring programmes, inspection regimes, Trigger Action Response Plans, geotechnical review and adaptive management. No geotechnical constraints have been identified that would preclude development, with further refinement of the geotechnical model and probabilistic analysis at the feasibility stage expected to enhance risk management and inform final mine design.

The proposed conditions provide the same detailed-design pathway for MFS as for ESE. In particular, detailed designs must consider the likely material classification, the removal or sealing of historic underground workings where practicable, updated groundwater and geotechnical information, and interactions with watercourse crossings and shallow groundwater flow. Performance monitoring associated with ELFs and cover systems will also be undertaken in accordance with the AMD: ELF Management Plan, providing a mechanism to confirm that landforms and engineered fill areas are constructed in accordance with design objectives and to inform adaptive management.

6.9.4 UWHR

The potential geotechnical risks of the BPCP on the UWHR Sub-Area have been assessed by Bathurst (2026c), including a refined through a detailed assessment of underground voids beneath the proposed alignment (Bathurst, 2026d), both of which have been peer reviewed by PDP. The proposed conditions in relation to geotechnical aspects of the UWHR included in **Part E** are also based on detail design of the UWHR.

Historic underground mining beneath the southern portion of the alignment has created voids that may remain partially open or collapsed. Changes to the stress regime during excavation or loading from haul road construction may induce further collapse and upward migration of voids through the overburden. Void migration is expected to occur through

progressive roof collapse, bulking of failed material, and localised arch failure, potentially forming chimney-style collapse or crown holes where cover is limited.

For the typical geometry of workings on the Denniston Plateau (up to approximately 3 m extraction height and 4.5 m span), migration heights are estimated to range from about 6 to 10 m under bulking-limited conditions and up to approximately 12 m where arching governs. As a result, surface breakthrough is most credible where depth of cover is less than around 12 m, and remains possible in the 12 to 20 m range where unfavourable geological or structural conditions exist. Where cover exceeds 20 m, direct collapse to surface is unlikely, although broader subsidence effects may still occur.

The 15 km, true left-hand side alignment of the haul road south of the Cypress Pit limits transitions through three geological zones. The southern third, entirely within Brunner Coal Measures, provides generally competent founding conditions and a potential source of bulk fill, but coincides with the highest likelihood of intersecting historic underground workings. The central section, comprising Kaiata Mudstone and coal measures, is expected to provide adequate foundations but yields materials unsuitable for engineered fill when disturbed. The northern third is characterised by colluvial and landslide deposits overlying mudstone, representing the most challenging ground conditions and requiring excavation of unsuitable materials and foundation stabilisation.

The likelihood of void-related instability is influenced by several site-specific factors, including the presence of multiple mined coal seams (M1 and M2), historical pillar extraction resulting in larger spans, structural discontinuities that facilitate vertical propagation, degradation of overburden associated with coal seam fires, and moderate to high regional seismicity. These conditions contribute to potential hazards including localised subsidence, ground collapse, water ingress into underground workings, and gas release.

Key risks include the presence of remnant bord-and-pillar and locally retreat-mined coal workings associated with the Iron Bridge Mine, as well as construction across colluvial and landslide deposits in the northern section (under Mt William), and cutting slopes in the vicinity to the foundations of national power grid pylons.

A risk-based approach to design and construction has been adopted based on depth of cover to underground workings. Pre-construction investigations, including geotechnical drilling, geological mapping, and geophysical surveys, will be undertaken to confirm void presence and ground conditions. Where shallow voids are identified, they will be managed through excavation and re-compaction, or by inducing controlled collapse through blasting where appropriate. In some cases, engineered fill raft solutions may be required where void treatment is not suitable. Surface water management will be critical to prevent internal

erosion and instability of treated areas, and all mitigation measures will be assessed for potential AMD effects prior to implementation.

A detailed risk assessment and Trigger Action Response Plan will support construction activities in areas affected by historic workings. With these measures in place, and given that higher-risk conditions are spatially constrained, the geotechnical risks associated with the UWHR are considered manageable.

The proposed conditions reinforce this risk-based approach by requiring the UWHR detailed design to expressly consider interactions with historic underground workings, the nature of materials likely to be encountered, and capping of the road surface with a NAF trafficable layer. Prior to the operational phase, a haul road maintenance and monitoring plan is also required, including inspection and maintenance of road surfaces, stormwater diversions, bunds, channels, stormwater treatment devices, erosion-stabilised surfaces and culverts, together with incident response and adaptive management procedures. These requirements provide an ongoing operational mechanism for maintaining both geotechnical performance and water-quality protection along the haul road corridor.

6.9.5 Summary of Geotechnical Effects

Across the Project Sub-Areas (excluding Cypress), geotechnical assessments demonstrate that the BPCP does not present unacceptable geotechnical or natural hazard risks. While localised instability and uncertainty typical of coal measure mining are acknowledged, these risks are well understood and can be effectively managed through mine design refinement, operational controls, monitoring, and adaptive management.

Accordingly, geotechnical effects associated with the BPCP are considered appropriate and manageable and do not preclude the Project from proceeding, subject to continued investigation, SQEP-led detailed design, implementation of the GSI PHMP framework, monitoring programmes, Trigger Action Response Plans, ELF performance monitoring, and adaptive management during feasibility, detailed design, construction, operation, rehabilitation and closure.

The proposed conditions proffered in **Part E** are intentionally effects-focused and seek to provide a consistent geotechnical management framework across the Project. Rather than prescribing detailed design parameters for each individual mine component, the conditions require SQEP-led design, implementation of a GSI PHMP, risk-based monitoring, defined trigger levels and response procedures, periodic review and adaptive management. This approach is consistent with the established geotechnical management systems currently implemented at Stockton Mine and is considered appropriate given the staged nature of

mine planning and the need to respond to actual geological and hydrogeological conditions encountered during development

6.10 NATURAL HAZARD EFFECTS

Schedule 5 of the FTAA requires an assessment of any risk to the neighbourhood, the wider community, or to the environment through natural hazards and hazardous installations. In the context of the BPCP, relevant processes which relate to natural hazards include:

- Geotechnical hazards (including slope stability, ground collapse and subsidence);
- Flooding and extreme rainfall-driven erosion; and
- Failure of mine impacted water retention and storage structures (including ponds, sumps, dams and ELFs).

This assessment draws primarily on the geotechnical investigations, hydrological and flood modelling, and mine design standards applied to all Project infrastructure. These studies identify no natural hazard risks that would preclude the Project proceeding, provided standard industry controls and ongoing management are applied.

6.10.1 Geotechnical Hazards

The Project is located in steep, high-rainfall terrain underlain by coal measures, mudstone and granitic basement, with areas of historic underground mining. These conditions give rise to geotechnical hazards typical of opencast coal mining, including localised slope instability, bench-scale failures and ground collapse above historic workings.

Across these Sub-Areas (Stockton, ESE, MFS and the UWHR), assessments confirm that:

- No global or large-scale instability hazards have been identified;
- Identified risks are predominantly localised and operational in nature; and
- These risks are well understood and routinely managed through mine design, Ground Control Management Plans, TARPs, and ongoing geotechnical monitoring.

At Stockton, these risks are already managed as part of existing operations. At ESE and MFS, mine layouts have been refined to avoid unfavourably oriented structures where practicable, with remaining risks addressed through catch benches, controlled blasting, groundwater management and monitoring. Along the UWHR, localised hazards associated with colluvium, landslide materials and historic underground workings will be managed through alignment selection, foundation stabilisation, drainage control and construction-phase investigations.

Any instability that may occur is expected to be localised, retained within the mine or road footprint, and not to pose off-site risk.

6.10.2 Flooding and Extreme Rainfall

The Buller Plateaux is naturally subject to very high rainfall and short-duration, high-intensity storm events. Flood risk is therefore an inherent baseline condition rather than a Project-induced hazard, and the potential impacts of climate change have been factored into the design and scale of the BPCP across all aspects of mine planning.

Flood frequency analysis and hydraulic modelling indicate that the Project will not materially increase downstream flood risk. Key mitigation measures include:

- Designing culverts, channels and drainage infrastructure for extreme rainfall and flood events, including climate change allowances;
- Clean water diversion systems that route upslope runoff around disturbed areas;
- Siting and sizing of sumps and ponds to accommodate storm inflows; and
- Avoidance of placing critical infrastructure within flood-prone events where practicable.

Modelling demonstrates that any flood level increases associated with Project infrastructure are localised and confined to the immediate vicinity of structures, with no increase in downstream flood extent or hazard.

6.10.3 Safety of Dams, Ponds and ELFS

The Project includes stormwater sumps, sediment ponds, coal-fines storage areas, and ELFs. These structures have been designed in accordance with applicable New Zealand dam safety regulations (including the WCRC Dam Policy). While no new features proposed are anticipated to trigger the dam safety regulations, all water-retaining structures across the Project will be designed, constructed and operated in accordance with industry best-practice engineering and safety standards. Consistent with the proposed conditions, detailed designs will be prepared by suitably qualified and experienced geotechnical professionals and will take into account the latest available geotechnical and groundwater information.

Design and management measures will address:

- Static, groundwater and seismic stability;
- Extreme rainfall and flood loading;
- Drainage, erosion and seepage control;

- Geotechnical and hydrogeological risks associated with historic underground workings, where present; and
- Long-term stability following closure.

ELFs are to be progressively constructed, shaped and rehabilitated to form stable and erosion-resistant landforms that reduce long-term risk. Rehabilitation plantings will be appropriate to ensure that the long-term performance and integrity of these landforms is maintained.

As provided for in the proposed conditions (in **Part E**), geotechnical risks associated with mine landforms, excavations, earthworks and associated infrastructure will be managed through Ground and Strata Instability Principal Hazard Management Plans. These plans must include management of geotechnical risks associated with natural hazards, design criteria including target Factors of Safety, methodologies used to assess stability, slope performance criteria, monitoring programmes, rainfall and deformation trigger levels, Trigger Action Response Plans, review procedures and reporting requirements for trigger exceedances. The existing Stockton GSI PHMP provides a practical example of this approach, including risk assessment processes, critical controls, inspection schedules, slope performance monitoring, contingency measures and adaptive management procedures.

Regular inspection, monitoring and maintenance will be undertaken throughout construction, operation and closure. Consistent with the proposed conditions, monitoring results will be assessed against defined trigger levels, with pre-determined management responses implemented where required to ensure the ongoing safety and stability of Project infrastructure and rehabilitated landforms. Emergency response procedures will also be maintained throughout the life of the Project.

6.10.4 Residual Natural Hazard Risk

Natural hazard risks associated with the BPCP are managed through conservative design, staged development, progressive rehabilitation, monitoring and adaptive management. Following implementation of these measures, residual risks are localised, low and manageable, and are not expected to affect surrounding communities or downstream environments.

6.10.5 Summary of Natural Hazard Effects

The BPCP has been designed with explicit consideration of geotechnical stability, flooding and dam/ELF safety. While located in a naturally dynamic, high-rainfall environment,

detailed assessments demonstrate that natural hazard risks are well understood and can be effectively managed using standard industry controls and monitoring.

Accordingly, the Project is not expected to result in significant adverse natural hazard effects, and any effects are not out of proportion to the Project's regional and national benefits.

6.11 LANDSCAPE, NATURAL CHARACTER AND VISUAL AMENITY EFFECTS

Actual and potential landscape and visual effects of the BPCP across the wider Buller Plateaux have been assessed by Rough Milne Mitchell Landscape Architects ("**RMMLA**") (2026). This assessment considers the landscape and visual amenity values of the Project area and evaluates the potential effects of the development, operation, remediation and closure across the Life of Mine ("**LOM**") and beyond.

The Buller Plateaux is a distinctive landscape that has been extensively modified by historic and contemporary mining activity that forms part of the existing environment, while retaining high physical, perceptual and associative values, including ecological, historic, recreational and cultural values. The Stockton Plateau is characterised by extensive opencast mining and large-scale rehabilitation landforms, whereas the Denniston Plateau comprises a more complex mixture of intact natural landforms, regenerating vegetation, historic mining features, and valued recreational and heritage areas (such as the Denniston Heritage Area and adjacent tracks). Therefore, landscape effects are more likely to occur within the MFS and ESE Sub-Areas. The Plateaux is also surrounded by ONLs (49, 50 and 51) as defined in the TTPP and adjoins extensive conservation land.

Based on this, RMMLA conclude that landscape and visual effects vary considerably depending on viewing scale, location and Project timeframe.

From broad-scale viewpoints during the LOM, including SH67 and the wider coastal context, the Project is assessed as resulting in no to low adverse effects on landscape values. At this scale, effects are moderated by distance, existing modifications on the Stockton Plateau, limited visibility of Project components, and the absence of close public viewpoints during mining activity.

At a Project scale, including views from within the Plateaux and from locations not generally accessible to the public during mining operations, the BPCP will result in moderate-high to very high adverse effects on landscape values during active mining. These effects relate primarily to changes in landform, skylines and ridgelines, vegetation cover, hydrology and the introduction of large-scale mining elements into the immediate landscape.

Across the LOM, overall adverse effects on physical, perceptual, and associative landscape values are assessed to range from **low** to **very high**, depending on location and stage of mining. These effects are most pronounced during active extraction and progressively reduce as rehabilitation proceeds.

With full implementation of staged rehabilitation, mitigation measures and establishment of the proposed pest exclusion fences, long-term residual effects are expected to reduce to **nil** to **moderate-high** within approximately 10 years post-closure, and to further reduce to **nil to low** adverse effects in the medium- to long-term. Therefore, the BPCP is not assessed to fundamentally alter the overall landscape identity, and is considered to appropriately mitigate landscape, natural character, and amenity effects.

6.11.1 Perceptual Values

During active mining operations, the Project will give rise to moderate-high to very high adverse effects on perceptual landscape values, particularly visual amenity, when viewed from Project-Scale locations. These effects are associated with the visibility of mining faces, overburden placement, haul roads, plant, lighting and movement within the immediate mining environment. However, such Project-Scale viewpoints are generally remote and not readily accessible to the public during the LOM.

In addition to landform and earthworks, visual effects will also arise from the presence of buildings, fixed and mobile plant, infrastructure and associated lighting within the mining envelope. However, these elements are inherently temporary and can be appropriately sited, designed, and managed to reduce their visual prominence. In particular, buildings and plant can be located within the broader mining envelope to avoid prominent ridgelines and skylines, and can be designed with recessive colours and materials that visually integrate with the surrounding environment.

These visual mitigation measures, combined with the operational context of an active mine, ensure that the visibility of such elements is contained and does not materially extend beyond the anticipated range of Project-scale effects. Importantly, buildings, plant and infrastructure can be progressively removed as mining advances and will be decommissioned at closure, enabling the underlying landform to be rehabilitated. As such, these elements do not give rise to permanent visual effects and are expected to be fully addressed through the staged rehabilitation of the Project area

As noted above, from a broad-scale and publicly accessible perspective, including viewpoints along the SH67 coastal corridor, perceptual and visual amenity effects are assessed as no to low during operations. At mine closure and in the short-term post-closure, adverse perceptual effects across both scales are assessed to range from no effect

to moderate-high, reflecting the transitional state prior to full establishment of rehabilitation. In the medium term (approximately 10-50 years post-closure), these effects are expected to progressively reduce, with no to low residual perceptual and visual amenity effects anticipated as rehabilitated landforms and vegetation mature.

6.11.2 Associative Values

The Buller Plateaux has strong associative values linked to its long history of coal mining, as well as ecological, cultural, recreational and heritage associations. RMMLA identifies that some archaeological and historic mining features will be lost or modified as part of the BPCP. These effects will be mitigated through a programme of recording, recovery, interpretation and offsetting, ensuring that mining heritage values are documented and made accessible where possible.

Effects on cultural and spiritual associations vary depending on individual and tangata whenua perspectives, with some experiencing higher levels of adverse effect during active mining that reduce over time with rehabilitation.

The Project contributes to the region's ongoing mining narrative and reflects the historic evolution of the Buller Plateaux landscape. This is balanced against the extensive proposed rehabilitation and offset areas that will retain and enhance landscape integrity in perpetuity, also reinforcing associative values linked to both mining heritage and ecological recovery.

6.11.3 Recreational Values

The Buller Plateaux is a recognised destination for walking, cycling, hunting and heritage-related tourism. Mining activities will result in short-term adverse effects on recreational values, including temporary restriction of public access to parts of Mt Rochfort and some existing mountain-biking and walking tracks. Mining will also alter the experiential qualities of some routes and viewshafts and introduce visual and noise intrusion in localised areas.

These effects are assessed as temporary and localised. Over time, progressive rehabilitation and offset areas are expected to assist in restoring recreational access and landscape quality. In addition, the retained use of roads, formed landforms and other infrastructure creates opportunities for enhanced recreational connectivity, access and heritage interpretation following mine closure[26].

[26] Rob Greenaway & Associates (2026) Recreation and Tourism Assessment.

6.11.4 Rehabilitation and Mitigation

Rehabilitation is a central component of the BPCP and is implemented progressively throughout the LOM. Key rehabilitation methods include a sequenced progressive mosaic of disturbed and rehabilitated landform reshaping through backfilling and recontouring of overburden to create stable, naturalistic landforms; selective capping and soil management to support vegetation establishment; VDT to accelerate ecological recovery and preserve ecosystem integrity; and active planting of indigenous species where VDT is not feasible. Final mine voids and borrow pits will be reshaped as lakes and wetlands, providing hydrological, ecological and landscape functions.

In the short term (up to approximately 10 years post-closure), rehabilitation will substantially reduce the scale of effects from the exposed highwalls and disturbed landforms, although adverse effects on landscape values will remain in the range of no effect to moderate-high. In the medium term (10 to 50 years post-closure), rehabilitated areas are expected to develop into coherent, self-sustaining ecosystems with increasing canopy cover, reduced contrast with surrounding landscapes, improved natural character and visual amenity, and enhanced ecological and recreational opportunities. In the long term (beyond 50 years post-closure), rehabilitated landforms are anticipated to read as integrated components of the wider Plateau landscape, with no to low residual adverse effects.

In addition to rehabilitation, the Project includes pest exclusion areas on both the Stockton and Denniston Plateaux. These fenced areas will preserve approximately 911 ha of intact plateau environments, providing long-term protection of landscape values and functioning as reference ecosystems. Further mitigation includes the potential legacy use of access roads and mine infrastructure to enhance public recreation, access and heritage interpretation post-closure.

6.12 NOISE AND VIBRATION EFFECTS

The potential noise and vibration (acoustic) effects of the BPCP have been assessed in Marshall Day Acoustics (2026). The report evaluates noise levels from proposed mining activities and coal-handling operations against the relevant noise standards and existing noise environments. A copy of this assessment is provided in **Part B** of these application documents, and a summary of key points is provided below.

The assessment identified that the greatest potential for adverse noise effects is for the residential dwellings in proximity to the Ngākawau Rail Loadout, due to coal handling and train loading activities. These activities are already existing operations, meaning that any local receptors would be familiar with this level of noise, and the majority of associated

movements take place within the rail corridor. Both Bathurst-managed activities such as loading and shunting alongside KiwiRail-controlled rail movements occur in this corridor. Marshall Day predict that future noise emissions broadly similar in character and magnitude to noise that has occurred at the site over many decades. As a result, residents in this area are already familiar with the nature and characteristics of the noise environment associated with rail and coal handling activities.

Within the wider Project Area, key noise-sensitive receptors include residential communities and Millerton and Denniston, isolated rural dwellings within surrounding valleys and along access routes, community and recreational areas associated with nearby settlements, and identified heritage structures that may be sensitive to vibration. The closest identified residential receivers are located at 107 Burnetts Face Road, approximately 1.7 km from the proposed ESE mining operations, and 415 Calliope Street, approximately 1.1 km from the Stockton mining operations.

Baseline noise monitoring undertaken in November 2024 indicates that ambient noise levels near Ngākawau are primarily influenced by traffic noise from State Highway 6 and natural sounds such as surf, birds, and insects. In the Millerton and Denniston residential areas, measured noise levels were dominated by local vehicle movements and natural background noise. Non-related mining noise was not prominent at these locations, reflecting the large distances to operational areas and the screening effects of terrain.

Marshall Day concludes that daytime coal handling and train loadout operations at Ngākawau comply with the proposed daytime noise limits at all surrounding residential properties and with the TTPP's daytime noise limits. However, operational noise from night-time rail loadout operations will exceed the BDP noise limits at surrounding residential properties will be on Sundays (and Saturday evenings) when the more stringent 45 dB L_{A10} limit.

During the night-time period, coal processing and maintenance operations at Ngākawau are predicted to comply with applicable night-time noise limits at all residential receivers. While early-night train load-out activities are predicted to exceed noise limits at five dwellings, these exceedances reflect the existing noise environment and do not result in any new or intensified adverse noise effects as a consequence of the BPCP.

With respect to the mining operations themselves, operational noise effects from mining and processing are predicted to be minimal at the small number of surrounding residential locations. A conservative cumulative noise assessment undertaken by Marshall Day (2026), which modelled simultaneous mining, processing, and trucking activities across the Buller Plateaux mines, indicates comfortable compliance with both daytime and night-time noise limits at nearest residential receivers at Millerton and Denniston.

Blasting will be required as part of the mining process and is an established activity at Stockton Mine. Marshall Day recommend adoption of the blasting vibration and air overpressure limits from Appendix J of Australian Standard AS 218702:2006 *Explosives – Storage and use, Part 2: Use of explosives* are adopted for the BPCP. Bathurst staff and contractors have specialist expertise in the design and management of blasting programs that address safety, disturbance to residents and recreational users, and damage to heritage structures.

In accordance with the TTPP, BDP and World Health Organisation guidance, the following residential noise limits and metrics are adopted for the Project and represent current best practice:

> Daytime: 07:00 to 22:00 hrs 55 dB $L_{Aeq(15\ min)}$

> Nighttime: 22:00 to 07:00 hrs 45 dB $L_{Aeq(15\ min)}$ and dB L_{AFmax}

Based on this assessment, the BPCP is expected to have minimal noise and vibration effects on surrounding residential areas, with most predicted effects reflecting existing conditions rather than new or intensified impacts. Recommended conditions of consent in relation to noise effects are also outlined in **Part E** to these application documents.

Potential adverse effects of noise and vibration on heritage values, structures, and /or cultural values are considered in those sub-sections (Section 6.4 and Section 6.19), respectively.

6.13 ROADING AND TRAFFIC EFFECTS

The actual and potential effects of the BPCP on the surrounding road and traffic network, for both the existing Stockton Mine and the proposed new mining areas, have been assessed by Stantec in its Integrated Transport Assessments (2025a and 2025b). Copies of these assessments are provided in **Part B** of these application documents, and the Traffic Management Plan is included in **Part G**.

The specific effects in each Sub-Area of the BPCP are described below. Overall, Stantec conclude that the BPCP will result in temporary and localised increases in traffic volumes, particularly during construction, but that with appropriate management this will not result in adverse effects on the surrounding transport network.

6.13.1 Stockton

Access to the existing Stockton Mine is via Millerton Road from State Highway 67 (SH67) at Granity. The Millerton Road-SH67 give-way controlled tee intersection has good sightlines and geometry suitable for heavy vehicle movements, and Millerton Road generally has

sufficient width to accommodate two-way traffic by large vehicles, aside from a short narrow section south of the rail crossing (Stillwater to Ngākawau railway line, approximately 20 m to the east of the intersection).

As part of the BPCP, the UWHR is proposed to connect the new mining areas on the Denniston Plateau to the existing infrastructure at Stockton. This connection to the existing infrastructure is a critical part of the Project, as it enables blending materials from each Sub-Area to create the required product. During the construction period of the UWHR, traffic volumes on Millerton Road and SH67 will temporarily increase. These increases are assessed as minor, comprising up to approximately 10 vehicle movements per day ("**vpd**"), and are not expected to materially affect the operation or safety of the road or rail crossings. SH67 is part of the strategic road network and has sufficient capacity to accommodate these movements.

Although there are some existing safety concerns along Millerton Road and near the Millerton Road railway crossing, the limited scale and directional nature of construction traffic mean these issues are unlikely to be exacerbated. Overall, the proposed works are not expected to generate any noticeable transport effects.

Once the UWHR is operational, traffic volumes on Millerton Road are expected to return to existing levels under normal operating conditions, as ongoing coal production at the new mining areas will not rely on the public road network.

Stantec identifies one abnormal operating scenario whereby coal may need to be trucked from Stockton to Ngākawau if the aerial ropeway is unavailable for an extended period. This is an established contingency as would be managed through driver induction, communication protocols and TMP controls to ensure safe operation on Millerton Road and SH67.

6.13.2 Construction Phase Traffic Effects

The Construction phase, including establishment of the ESE site and construction of the UWHR, represents the period of greatest traffic intensity associated with the BPCP. This phase is expected to occur over approximately two years.

6.13.2.1 Construction Traffic Volumes and Composition

Construction activities are expected to generate:

- Up to approximately 60 worker vpd, comprising buses and light vehicles (120 vehicle movements when expressed as two-way); and

- Typically 20-30 heavy vehicle movements per day associated with delivery of construction materials, plant and equipment.

On average, 10–15 heavy vehicle deliveries per day are anticipated, predominantly by large articulated vehicles. Certain activities, such as concrete pours, will result in higher volumes on specific days, involving rigid trucks, generally scheduled in the early morning and completed before midday.

Peak construction traffic demand is driven by staff movements, with arrival peaks of up to approximately 30 vehicles per hour occurring in the early morning (typically before 7 am), and corresponding departure peaks in the late afternoon. Outside these periods, construction traffic volumes are lower and more evenly distributed, with an average of less than 5 heavy vehicles per hour during the day. Large articulated vehicles are expected to account for approximately 20% of daytime traffic movements on the Denniston Track during construction.

6.13.2.2 Effects on the Denniston Track

The Denniston Track (Banbury Street, Denniston Road and Burnetts Face Road) provides the public road connection between Waimangaroa and the Denniston Plateau. This route will service the new mine development at the ESE Sub-Area and will be used by construction related traffic involved in the formation of the southern sections of the UWHR. It will carry the majority of Project-related traffic until coal haulage transfers to the UWHR (which is expected to take around two years to complete).

Stantec identifies that the primary construction-phase transport effects relate to:

- Travel delays: The Denniston Track has an operating speed of approximately 40 km/h for light vehicles, equating to a typical travel time of around 12 minutes between Waimangaroa and the top of Denniston Road. Laden heavy vehicles travelling uphill may only be able to maintain speeds of 20–25 km/h, increasing travel times to 20–24 minutes. Due to limited passing opportunities, light vehicles may be required to follow heavy vehicles for extended distances, resulting in average delays of approximately 2–5 minutes, with longer delays possible in some circumstances; and
- Two-way movement conflicts: With increased heavy vehicle volumes, the probability of light vehicles encountering heavy vehicles travelling in the opposite direction increases materially. Based on a two-way heavy vehicle volume of approximately 5 heavy vpj, the probability of a light vehicle meeting a heavy vehicle on a single trip is estimated at approximately 40%. While much of the Denniston Track can accommodate two-way movement between light vehicles and rigid trucks, sections with narrow carriageways

and small-radius curves cannot safely accommodate two-way movements involving large articulated vehicles without yielding or stopping.

These effects are most pronounced during the daytime Construction period but are considered manageable through traffic management and driver communication protocols. Importantly, peak staff arrival movements occur before most recreational users arrive on the Denniston Track, reducing potential conflict during the busiest staff travel period. Burnetts Face Road and Whareatea Mine Road

Burnetts Face Road has a sealed width of approximately 5.8–6.4 m, which constrains two-way movement of large trucks at tight curves. Whareatea Mine Road has a typical sealed width of approximately 6.2 m, similarly limiting unrestricted two-way truck movements. However, traffic volumes on these sections are lower than on Denniston Road, and Stantec concludes that conflicts can be managed through driver communication protocols, supplemented by targeted localised widening at specific constrained curves and intersections.

6.13.2.3 Pavement Condition

The increased number of heavy vehicles during construction is expected to contribute to additional pavement wear on the Denniston Track. Regular condition monitoring and timely repairs are therefore required. As the road is controlled by BDC, it is intended that the construction-phase road maintenance and repair will be undertaken by BDC, funded by Bathurst.

6.13.2.4 State Highway and Rail Network Effects

Construction-phase traffic will increase daily volumes on SH67 between Waimangaroa and Westport by approximately 90 vehicles per day, increasing average daily traffic to around 3,000 vpd (approximately a 3% increase). Stantec confirms that SH67 has sufficient capacity to accommodate this increase. Railway crossing operations are not expected to be materially affected.

Overall, Stantec concludes that construction-phase traffic effects are temporary, localised and manageable, with no unacceptable safety or capacity effects anticipated when mitigation measures are applied.

6.13.3 Operational Phase Traffic Effects

Once the site is established and the UWHR is complete, traffic volumes and effects reduce and stabilise. Operational traffic on the Denniston Track will comprise fewer articulated vehicles and a higher proportion of light vehicles and rigid heavy vehicles.

Average weekday two-way movements associated with mining operations are expected to be approximately:

- 90 light vehicle/bus movements (primarily staff travel, with Bathurst providing buses for staff travelling to the mine from Westport);
- 40 rigid heavy vehicle movements; and
- 5 articulated vehicle movements.

Peak staff arrivals of approximately 40 vph are expected in the early morning, with a similar departure peak in the mid-afternoon. During the day, heavy vehicle deliveries are expected to average up to 5 vph. Fuel deliveries are expected to occur approximately three times per day using articulated vehicles.

Travel delay and conflict effects during the operational phase are similar in nature to construction-phase effects but are of a lower intensity, reflecting the reduced volume of articulated vehicles. With continued driver communications and TMP controls, these effects are assessed as acceptable.

6.13.4 Abnormal Event Scenarios

Stantec assessed two potential abnormal scenarios that are provided for by the BPCP. Firstly, a rail closure (Ngākawau-Inangahua) could require up to 200 additional heavy vpd on state highways. Most affected routes are HPMV-rated and have sufficient capacity. Where an abnormal event occurs, and public road haulage is anticipated to be required for 10 or more consecutive days, a Public Road Action Plan will be activated, and BDC will be notified. Where State Highways are affected, NZTA Waka Kotahi will be notified within 24 hours of activation.

Secondly, if the UWHR were closed, this would cause temporary reliance on the Denniston Track, increasing its traffic by approximately 25 truckloads per day (50 vehicle movements). Temporary one-way stop/go traffic controls would be the preferred mitigation in this temporary scenario, as they provide for safe, flexible management without disproportionate permanent road modifications.

6.13.5 Mitigation and Management of Traffic Effects

Any actual or potential traffic effects will be managed through the comprehensive BPCP TMP (Bathurst, 2026ad) and a Denniston Track Management Plan agreed with BDC. Key measures include:

- Site access arrangements;

- Construction programme and construction activity time restrictions;
- Traffic volumes (construction phase and operational phase);
- Management plan for oversize loads (numbers and transport lines);
- Driver communication protocols for all heavy vehicles;
- Any necessary road improvements, including targeted widening and safety improvements at constrained locations;
- Improved signage and markings at the Denniston Road / Burnetts Face Road / Boswell Street intersection;
- Pavement monitoring and maintenance; and
- Communication / complaints arrangements.

Alongside these measures, the following improvements to the public road network are considered necessary to provide for the safe function of roads:

- Denniston Track: (1) Construction of wide shoulder areas, where practical, to provide opportunities for slow vehicles to pull over clear of the traffic lane; (2) New road marking and signage at the Denniston Road / Burnetts Face Road / Boswell Street intersection; and, (3) Maintenance and repair to the road pavement to ensure that the road remains safe for all road users.
- Burnetts Face Road: Widen Burnetts Face Road at small radius curves between Denniston and Whareatea Mine Road to provide a minimum sealed carriageway width of 6.6 m.
- Whareatea Mine Road: Widen the sealed carriageway at the Whareatea Mine Road / Burnetts Face Road intersection to enable two-way movement of trucks.

The management of Project-related effects on Denniston Road, Burnetts Face Road, Whareatea Mine Road and other affected public roads is further supported by a Heads of Agreement between Bathurst and BDC, which provides a framework for road condition surveys, road upgrades, maintenance and repair works associated with the Project, funded by Bathurst.

With the implementation of the above measures and road improvements, alongside the BPCP TMP (inclusive of the Denniston Track Maintenance Plan), it is considered that the mine related traffic will not contribute to adverse safety effects on the transport network.

6.14 LIGHTING EFFECTS

An assessment of the lighting effects associated with the proposed infrastructure at the BPCP has been undertaken by Leading Design Professionals Ltd ("**LDP**") (2026). The assessment considers the sources, intensity and visibility of lighting across the Project Sub-Areas and evaluates potential effects on residential areas, public viewpoints and the wider landscape. A copy of the lighting assessment is included in **Part B** to these application documents.

Apart from the existing approved lighting associated with the Stockton Mine and Cypress Mine, there is currently no permanent lighting within the other Project Sub-Areas. Lighting proposed for the BPCP comprises a combination of fixed permanent infrastructure lighting, mobile lighting towers and mobile plant and vehicle lighting. Fixed lighting includes lighting mounted on columns, buildings and structures that will remain in place for the operational LOM. Mobile lighting towers will be used as required at night at active work faces and principal haul road bends and intersections to support operational safety. Mobile plant and vehicles will also be equipped with standard operational lighting.

LDP confirm that the lighting design for the Project place a strong emphasis on control of spill, glare and sky glow. Fixed infrastructure lighting will be tightly managed, with higher-intensity luminaires such as floodlights set with zero upward tilt and directed downward to illuminate only the required work areas. Lower-intensity fittings, such as bulkhead-type lights, will be mounted at low heights and are generally screened from view by surrounding topography and vegetation. As a result, fixed lighting is not expected to generate widespread visibility beyond the immediate operational areas.

Mobile lighting towers, by their nature, require steeper aiming angles to adequately illuminate work areas. This creates the potential for glare effects if viewed from external locations. However, mobile lighting effects are inherently temporary and localised, and adverse effects can be effectively mitigated through operational controls, including orienting lighting towers away from sensitive receptors and minimising their use to the extent practicable.

LDP consider lighting effects by Sub-Area and key viewing locations:

- Lighting associated with activities at the MFS Sub-Area may be visible from Denniston and potentially from distant viewpoints between Westport and Waimangaroa. Effects at Denniston are assessed as moderate-high, reflecting the proximity of the settlement and the elevated position of some lighting sources. Effects from other locations are assessed as low due to distance and filtering by terrain.

- Fixed infrastructure lighting at the ESE Sub-Area is not expected to be visible from inhabited areas beyond the Denniston Plateau. Mobile lighting towers and vehicle-mounted lighting may be visible when positioned near the current western and southern plateau edges. Some visibility of lighting at ESE may occur from Denniston; however, the majority of lighting will be screened by topography and vegetation. Lighting effects at Denniston are assessed as moderate, and low elsewhere.
- With minor exceptions, the UWHR will not be permanently lit. Vehicle lights are unlikely to be visible from residential locations, with the possible exception of 107 Burnetts Face Road. However, views, if any, would be distant. Lighting effects are assessed as low at Denniston and nil elsewhere.
- Lighting associated with the northern areas of the Stockton Sub-Area may be visible from Millerton, Granity, Ngākawau and Hector. Effects are assessed as low-moderate at Millerton and low at all other locations.

The proposed lighting design complies with the permitted activity requirements of the BDP and the TTPP. Subject to the implementation of the recommended consent conditions and the Lighting Management Plan, LDP conclude that lighting effects associated with the BPCP will be:

- Denniston: Moderate-high, or more than minor.
- Millerton: Low-moderate, or minor.
- Elsewhere: Negligible-low, or less than minor.

Overall, while lighting effects will be noticeable from some nearby settlements, particularly Denniston, they are localised, controlled and appropriate in the context of an existing mining landscape and are expected to be effectively managed through design and operational controls

6.15 WASTE (INCLUDING TYRE STORAGE) EFFECTS

Waste generation and management is an inherent component of mining operations, and the BPCP builds on established waste management practices currently in place at the Stockton Mine. A specific assessment of the proposed outdoor tyre storage activities for the BPCP has been undertaken by Tonkin & Taylor Ltd ("**T+T**") (2026c). This assessment has been undertaken with respect to the Resource Management (National Environmental Standard for Storing Tyres Outdoors) Regulations 2021 ("**NES-STO**") and considers the existing environmental conditions, potential risks, as well as the proposed procedures and controls for managing tyres. The full assessment is provided in **Part B** to this application document.

Bathurst currently holds resource consent for outdoor tyre storage in four outdoor areas within the Stockton Sub-Area (consent RCT-2022-0028-01 granted by WCRC on 21 April 2022, expiring April 2057). This assessment relates solely to new tyre storage areas proposed at the ESE Sub-Area, which are required to support operations at this location. Outdoor tyre storage areas are not required in the other project Sub-Areas.

At ESE, the proposal includes up to five outdoor stockpiles and two to three 40-foot containers at the Central Infrastructure and Coal Handling Infrastructure areas. These facilities are intended to support operational continuity while maintaining consistency with Bathurst's existing management approach at Stockton.

Under the NES-STO, a restricted discretionary consent will be required for the storage of more than 100 m^3 of tyres outdoors (further details on this are included in **Chapters A.8** and **A.9 – RMA Approvals and Statutory Assessment**). T+T note that the proposed storage areas are located within a remote industrial setting, characterised by high rainfall, low-permeability soils and groundwater depths exceeding 30 m bgl. Both groundwater and surface waters in the surrounding environment have already been affected by historic mining activities and are characterised by low pH and elevated dissolved metals, particularly zinc. These existing conditions inform the assessment of potential effects and risk pathways.

Bathurst proposes to manage tyre storage at ESE in a manner consistent with the established Stockton practices, in accordance with internal procedures STO-MPL-PRO-040 and BUL-ENV-PLN-XXX v.02. The proposed management framework includes a comprehensive set of physical controls and operational procedures designed to prevent adverse effects under both normal operating conditions and credible emergency scenarios.

Key controls include maintaining adequate setbacks and separation distances from sensitive receptors such as surface water, groundwater, buildings, residential areas and dense vegetation; provision of on-site fire-fighting resources appropriate to the scale and nature of tyre storage; and the capture and treatment of all runoff from tyre storage areas into the mine water management system (including runoff generated during a fire event), prior to any offsite discharge to receiving environments (waterways). These measures are designed to prevent contamination of land and water, limit fire risk, and ensure emergency response capability.

T+T conclude that the proposed procedures and controls align with recognised good practice for managing the environmental risks associated with outdoor tyre storage, particularly in relation to fire prevention and control. Taking into account the remote location, deep groundwater, low-permeability soils, and the robustness of the proposed management framework, the likelihood of adverse environmental effects on land,

freshwater, ecosystems, coastal environments, air quality or nearby communities from the outdoor storage of tyres is assessed as **very low**. This conclusion applies under both routine operating conditions and low-probability fire scenarios.

Overall, the proposed tyre storage activities at ESE represent a well-understood and tightly controlled component of the BPCP, extending an established practice at Stockton Mine into a new operational area. With the proposed management measures in place, waste-related effects associated with outdoor tyre storage are expected to be appropriately managed and consistent with good environmental practice.

6.16 HAZARDOUS SUBSTANCES EFFECTS

A hazardous substances assessment of the BPCP has been undertaken by T+T (2026b). The assessment considers the storage, handling and use of hazardous substances associated with the continuation and expansion of existing opencast coal mining activities for the BPCP, including vehicle and equipment refuelling and maintenance, explosives for blasting, and chemicals used for water treatment. The full assessment is provided in **Part B** of these application documents.

As outlined in **Chapter A.3 – Existing Environment**, hazardous substances are an established and necessary component of mining operations on the Buller Plateaux and are already stored at the Stockton Mine and associated infrastructure. The BPCP does not introduce new hazardous substances or risk profiles, but extends similar activities into the additional Project Sub-Areas, supported by established industry practices and regulatory controls. The T+T assessment evaluates potential risks to people, property and the environment and the adequacy of the proposed design and operational controls.

6.16.1 Key Hazardous Substances Risks and Effects

- The principal risks associated with hazardous substance storage and use across the BPCP include:
- Potential ecotoxic or human health effects arising from accidental spills of fuels, corrosives, oxidisers, diesel oils, or other packaged maintenance or cleaning substances at the infrastructure areas of Stockton, ESE, MFS, or Ngākawau Coal Handling Facility during delivery, storage or use;
- Fire risks associated with flammable liquid or gas storage at the infrastructure areas of Stockton, ESE, MFS, or Ngākawau Rail Loadout;
- Risks associated with unintended detonation or fire at the existing Class 1 explosives storage facility at Stockton or the proposed Class 1 explosives storage facility at ESE; and

- Fire risk in the existing Class 5 storage facility in Stockton or the proposed Class 5 Storage in ESE.

T+T conclude that, with appropriate siting, design and operational controls, the likelihood of adverse effects is low, and the magnitude of any potential effects is assessed as less than minor.

6.16.2 Risk Management Framework

Risks to people and property from hazardous substances are primarily managed through a combination of site design, engineering controls, and operational procedures, consistent with the Health and Safety at Work (Hazardous Substances) Regulations and industry good practice. Measures include separation distances from sensitive receptors, controlled access to hazardous substance areas, certified storage facilities, staff training and handler certification, emergency response planning, security monitoring and provision of on-site firefighting capability.

The risk of unintended detonation at existing or proposed Class 1 explosives storage facilities – at Stockton and ESE – is considered low. This risk is mitigated through separation distance requirements, certified storage magazines, fire protection systems, controlled personnel access, and formal explosives handling and emergency management procedures.

The risk of fire at flammable liquid or oxidising substance storage facilities is also assessed as low, with effects considered less than minor. Storage facilities are isolated from public access, located well within the BPCP boundaries, and designed to meet relevant safety standards, with ignition source controls and firefighting infrastructure in place.

Environmental sensitivities primarily concern the potential for fuel or chemical spills to affect land and freshwater. These risks are managed through design measures such as double-skinned tanks, bunded storage areas, and systems to capture and treat runoff, (including runoff generated during fire responses and from the proposed fuel farm), prior to any off-site discharge. Operational procedures include a spill response plan, unloading and safe handling procedures, procedures for managing contaminated soils. Taking these measures into account, T+T assess the likelihood of adverse environmental effects under both normal operations and emergency scenarios as **less than minor.**

In addition to regulatory requirements, Bathurst is proposing the further recommended ongoing voluntary controls:

- Upgrade to the drainage provided for the lime slurry tanks at the LDP in Stockton to provide diversions to the on-site sumps;

- All new containment tanks used to store ecotoxic fuels or corrosive water-treatment chemicals to be double-skinned;
- Require all areas where packages of hazardous liquids are stored or used to include secondary containment sufficient to contain at least 110% of the largest package; and
- Refuelling, lubrication, and mechanical repairs of equipment, and the storage of hazardous substances, are to be undertaken with appropriate controls to ensure that a spill of hazardous substances into a water body does not occur.

Further detail on the hazardous substances relevant to each Sub-Area of the BPCP is included in Sections 6.16.3 to 6.16.7 below.

6.16.3 Stockton

Existing hazardous substances facilities at the Stockton Sub-Area are generally located central to the mining area, and include:

- Workshops for equipment maintenance;
- Bulk oil and coolant storage;
- Refuelling areas;
- Storage of Class 1 bulk explosives; and
- Class 5 oxidisers for blasting, coal processing and water treatment substances.

These facilities and substances are already authorised and stored and used in accordance with existing management systems. The facilities and substances will not materially change as part of the BPCP, except that Bathurst is intending to transition from the use of lime (CaO) for water treatment purposes to magnesium oxide (MgO). MgO produces less AMD sludge volume than CaO and as such has notable operational benefits, as well as a reduced risk profile (as it has a lesser hazard classification). Consequently, hazardous substance effects at Stockton are considered existing and well managed, with no increase to the environmental risk profile arising from the Project.

6.16.4 Ngākawau Rail Loadout

The Ngākawau Rail Loadout includes a workshop with dedicated storage areas for the flammable and oxidising gases and for oil associated with vehicle and equipment servicing, as well as two dedicated dangerous goods storage containers separate to the workshop for flammable liquids (Class 3) and aerosols (Class 2) [redacted]

A water treatment plant at the site uses caustic soda for pH adjustment, and diesel storage includes a 10,000 l tank for vehicle and equipment refuelling and one smaller tank for fuelling a space heater.

[redacted] Existing design and operational controls are in place, and no new or elevated risks are introduced by the BPCP.

6.16.5 ESE

Hazardous substance use and storage at ESE will vary by Project phase. During development (including construction), hazardous substances will principally be limited to water treatment chemicals, fuel for generators and mobile refuelling. Fixed refuelling tanks are not proposed.

During the operational (mining) phase, ESE will include infrastructure similar in scale to, or larger than, the existing Stockton facilities, including bulk diesel storage and refuelling, workshops (with associated waste oil, grease, cutting gases, packaged flammable liquids and aerosol products), and explosives storage compounds.

Water treatment facilities are expected to remain during the closure phase. All hazardous substance storage and handling areas will be designed with secondary containment, runoff capture and treatment, and fire protection systems.

6.16.6 MFS

At the MFS Sub-Area, hazardous substance use during the development phase will be limited to those required for water treatment as part of the ESC systems and for small-scale electricity generation. During the mining phase, hazardous substance storage will be restricted to water treatment chemicals, diesel for refuelling, and transient use of explosives delivered to site as required for blasting.

The MFS mining equipment will be serviced at the Stockton or ESE facilities. There will be a helicopter landing area adjacent to the mining operations, however, it will only be used for emergency access.

One 60,000 L double-skinned bulk diesel tank is proposed to be located at the MFS coal stockpile and haulage infrastructure area for truck refuelling, and one double-skinned 15,000 L diesel tank adjacent to the WTP to supply its generator. Generators for pumps, lighting and infrastructure will be fuelled by additional small (< 5,000 L) double-skinned diesel tanks where required. During construction, areas where hazardous substances are stored will be designed to drain back to the containment ponds.

6.16.7 UWHR

The UWHR will utilise existing roadways and tracks (which will require widening) for the majority of its length, and approximately 7 km of greenfield construction.

During the construction of the UWHR, temporary water treatment systems will be established for the management of sediment runoff. Treatment chemicals may also include pH modifiers (such as caustic soda or lime slurry) and non-hazardous flocculants. During construction, areas where hazardous substances are stored will be designed to drain back to the containment ponds and covered secondary containment will be provided for the hazardous liquids.

While the UWHR is under construction, vehicles transporting hazardous substances (in particular, diesel for refuelling and blasting explosives) will utilise the public road network. Once commissioned, the vehicles will principally use the UWHR.

6.16.8 Summary of Hazardous Substances Effects

Across all Sub-Areas, T+T conclude that hazardous substances associated with the BPCP are well understood, appropriately controlled, and consistent with established mining practices on the Buller Plateaux. Taking into account site conditions, infrastructure design, operational procedures, and emergency response capability, the potential effects on people, property, and the environment are assessed as **less than minor**, and hazardous substances are considered suitably managed in accordance with regulatory requirements and good practice.

6.17 POTENTIAL EFFECTS ON OTHER RESOURCE USERS AND NETWORK UTILITIES

The Project has the potential to affect a range of other resource users and activities through changes to water quantity, water quality, drainage patterns and access arrangements. Potentially affected parties include existing and future water permit holders, hydroelectric generation consent holders, community and industrial water users, network utility operators, and activities that rely on the ongoing health and functioning of the receiving environment. The hydrological, hydrogeological and water quality assessments in **Part B** (GHD, 2026a & MWM, 2026c) conclude that these effects are generally expected to be limited due to the localised nature of flow changes, the high-rainfall character of the receiving catchments, and the comprehensive mine water management framework proposed for the Project. The Project incorporates source controls, active and passive treatment systems, receiving-water limits, monitoring and adaptive management measures to ensure downstream users and environmental values are appropriately protected.

A review of existing water permits and resource consents within the wider Project area identified a number of authorised water takes and hydroelectric generation consents. The assessment indicates that the Project is not expected to materially affect the exercise of existing water permits or community water supplies, with groundwater effects anticipated to remain highly localised and not extend to existing groundwater users. While the Project will alter the timing and routing of water within some catchments through capture, treatment and controlled discharge, these changes generally represent a redistribution of flows within the managed water system rather than a material reduction in downstream water availability. The Project is therefore not expected to adversely affect the reliability of existing authorised water uses. In addition, the continued treatment and management of legacy and contemporary AMD sources has the potential to contribute to improved long-term water quality outcomes in some historically affected catchments.

Bathurst has engaged with hydroelectric operators and developers with interests in the wider Project area, including Kawatiri Energy Ltd and Buller Electricity Ltd, to understand and appropriately manage potential interactions between the Project and existing or proposed hydroelectric generation activities. Consultation with Kawatiri Energy Ltd has focused on water quantity and quality effects, flow management, discharge protocols, and ensuring that mining activities do not compromise the operation or future development of hydroelectric infrastructure. Through this engagement, technical information has been exchanged, and potential interfaces between the Project's mine water management systems and hydroelectric interests have been considered.

Bathurst has also engaged with Buller Electricity Ltd regarding its interests in potential future hydroelectric development opportunities associated with the wider Stockton area. Discussions have focused on ensuring that future options for renewable electricity generation are recognised during Project planning and closure, and on identifying opportunities for cooperation where practical.

Bathurst has agreed in principle to continue working with Buller Electricity Ltd, Kawatiri Energy Ltd and relevant Crown agencies in relation to potential future hydroelectric opportunities that may emerge as mining activities are progressively rehabilitated and closed. Accordingly, the Project is not expected to adversely affect existing hydroelectric generation activities or materially constrain future hydroelectric development opportunities within the wider area.

The Project has also been developed having regard to existing network utility infrastructure, including Transpower's National Grid assets within the wider Project area. The UWHR has been designed to maintain required electrical clearances where it passes beneath existing transmission lines and to avoid direct impacts on transmission structures. Transpower will

retain access to its assets for inspection, maintenance, upgrading and emergency works throughout the construction, operational, rehabilitation and closure phases. Any construction activities in proximity to transmission infrastructure will be managed through detailed design, statutory clearance requirements, utility operator engagement and site-specific construction controls. Transpower has provided a letter acknowledging Bathurst's engagement and approach to managing this interface, which is included in **Part F**. Accordingly, the Project is not expected to constrain the safe and efficient operation, maintenance or future development of Transpower's assets or other network utilities.

6.18 DUST AND AIR QUALITY (INCLUDING EMISSIONS) EFFECTS

An assessment of the air quality effects associated with the BPCP has been undertaken by T+T (2026a). This assessment considers potential air discharges over the life of the Project and evaluates whether the BPCP can be undertaken in a manner that protects human health, amenity values, and the receiving environment, while maintaining good practice standards consistent with existing operations on the Buller Plateaux. The full assessment is provided in **Part B** of these application documents.

As described in **Chapter A.3 – Existing Environment**, mining activities on the Buller Plateaux occur in a remote, high-rainfall environment that has been shaped by more than a century of mining. Existing operations and the Ngākawau Rail Loadout have long utilised dust management and monitoring controls, which form the basis for the air-quality management proposed under the BPCP. This assessment, therefore, evaluates additional dust and air-quality effects in the context of an already existing (and managed) mining environment, rather than a greenfield setting.

6.18.1 Sources of Air Emissions

The primary air discharges associated with the BPCP are particulate matter, including dust. These emissions have the potential to affect amenity, vegetation and, in certain circumstances, human health. The fraction of greatest relevance to human health includes particles smaller than 10 microns (PM_{10}), finer particles smaller than 2.5 microns ($PM_{2.5}$), and respirable crystalline silica.

T+T (2026a) identifies that the dominant potential source of dust from the BPCP arises from vehicle movements along unsealed haul roads during dry weather. This is due to wheel-generated suspension of fine material. Other dust sources associated with mining activities are secondary in magnitude and include blasting, excavation at active faces, loading and unloading of trucks, vehicle movements on coal stockpiles, entrainment during strong dry wind events, uncovered conveyor transfer points, and dry coal-processing activities such as crushing and screening.

The quantity of dust generated by these sources is influenced by factors such as moisture content, particle size distribution, exposed surface area and wind speed. These parameters are all strongly influenced by the local climatic conditions on the Buller Plateaux.

6.18.2 Receiving Environment and Sensitivity

The assessment identifies that sensitive human receptors, including residential dwellings, are located at large separation distances from the main dust-generating activities across all Project Sub-Areas. Recreational users and ecological receptors have also been considered.

The T+T (2026a) qualitative air quality assessment used the Ministry for the Environment ("**MfE**")'s *Good Practice Guide for Assessing and Managing Dust* and Institute of Air Quality Management ("**IAQM**") guidance. This assessment has considered site-specific meteorology, topography, existing dust deposition monitoring data, and sensitive receptor locations. It also reviewed existing and proposed dust mitigation measures and monitoring.

A defining characteristic of the receiving environment is the exceptionally high annual rainfall experienced on the Buller Plateaux and, to a lesser extent, at Ngākawau. Frequent rainfall suppresses dust emissions, maintains damp ground conditions and significantly limits the duration and intensity of dust-generating conditions. In addition, there is a low frequency of wind directions that would carry dust from mining areas toward sensitive residential receptors.

The one notable exception is a private residence near the Stockton Mine. However, T+T notes that its elevated position, dense intervening vegetation and long-term dust deposition monitoring data indicate that dust effects at this location have historically remained low and are expected to continue to do so, provided existing dust controls are maintained.

6.18.3 Dust Management, Monitoring and Effects

Dust management measures proposed for the BPCP largely replicate and extend measures currently employed at Stockton and the Ngākawau Rail Loadout, and the assessment has been undertaken using current best practice guidance, as well as taking into account site-specific factors.

Based on this context, T+T concludes that potential dust impacts on human health are very unlikely to approach relevant health-based guideline values for PM_{10} $PM_{2.5}$ or respirable crystalline silica. Potential effects on recreational users are assessed as negligible to low, with supplementary mitigation measures addressed in the recreational and tourism assessment by Rob Greenaway & Associates (2026).

Potential effects on vegetation and ecological receptors are expected to be localised, generally limited to areas immediately adjacent to haul roads and other dust sources. These effects will be further reduced through progressive rehabilitation, stabilisation of surfaces and ecological setbacks of 10–30 m from disturbance areas, as described in the ecological assessment (EcoLogical Solutions, 2026a).

Continued dust deposition monitoring is recommended, with additional monitoring locations proposed at Denniston and other ecologically sensitive areas. Continuous real-time dust monitoring is not recommended due to performance issues in high-humidity and high-rainfall environments and the large distances to sensitive receptors. Routine visual inspections will continue as part of operational controls.

Overall, T+T concludes that the BPCP can be undertaken in a manner that appropriately manages discharges to air, with adverse air-quality effects assessed as **negligible to low** and **less than minor**. Subject to continuation of proposed mitigation and monitoring measures, the Project is consistent with the objectives and policies of the West Coast Regional Air Quality Plan and the requirements of the RMA.

6.18.4 Greenhouse Gas Emissions

An assessment of greenhouse gas ("**GHG**") emissions associated with the BPCP has been undertaken by PDP (2026c) and a Sustainability, Energy Use and GHG Emissions assessment has been undertaken by Bathurst (2026e). The PDP assessment quantifies emissions and removals using ISO 14064-1:2018 (International Organisation for Standardisation, 2018). The assessment represents the current project[27] envelope for the Scope 1 and 2 activities that will contribute to GHG emissions associated with the BPCP.

The GHG assessment undertaken by PDP includes consideration of:

- Operational GHG emissions (e.g. fuel use, energy consumption);
- Embodied GHG emissions (e.g. materials, construction, transport); and
- Mitigation strategies, such as carbon offsets or design changes to reduce emissions.

[27] Some of the GHG emissions are calculated based on data for the existing operation and likely to vary over time due to actual production levels and operational parameters for each Project Sub-Area.

A key contextual advantage of the BPCP is the use of existing infrastructure, particularly at Stockton, which materially reduces the embodied carbon[28] that would otherwise be associated with developing a new mining complex at an alternative location.

Across the life of the Project (excluding land use, land-use change and forestry, "**LULUCF**"), PDP estimates an increase in emissions of approximately 1,245,600 t CO_2-e is expected across the life of the Project. This is illustrated in **Figure 6-4** below. The primary contributors to total emissions are diesel consumption by the vehicle fleet (approximately 80%), limestone application to waste rock (approximately 9%) and fugitive coal seam emissions from surface coal mining (approximately 8%).

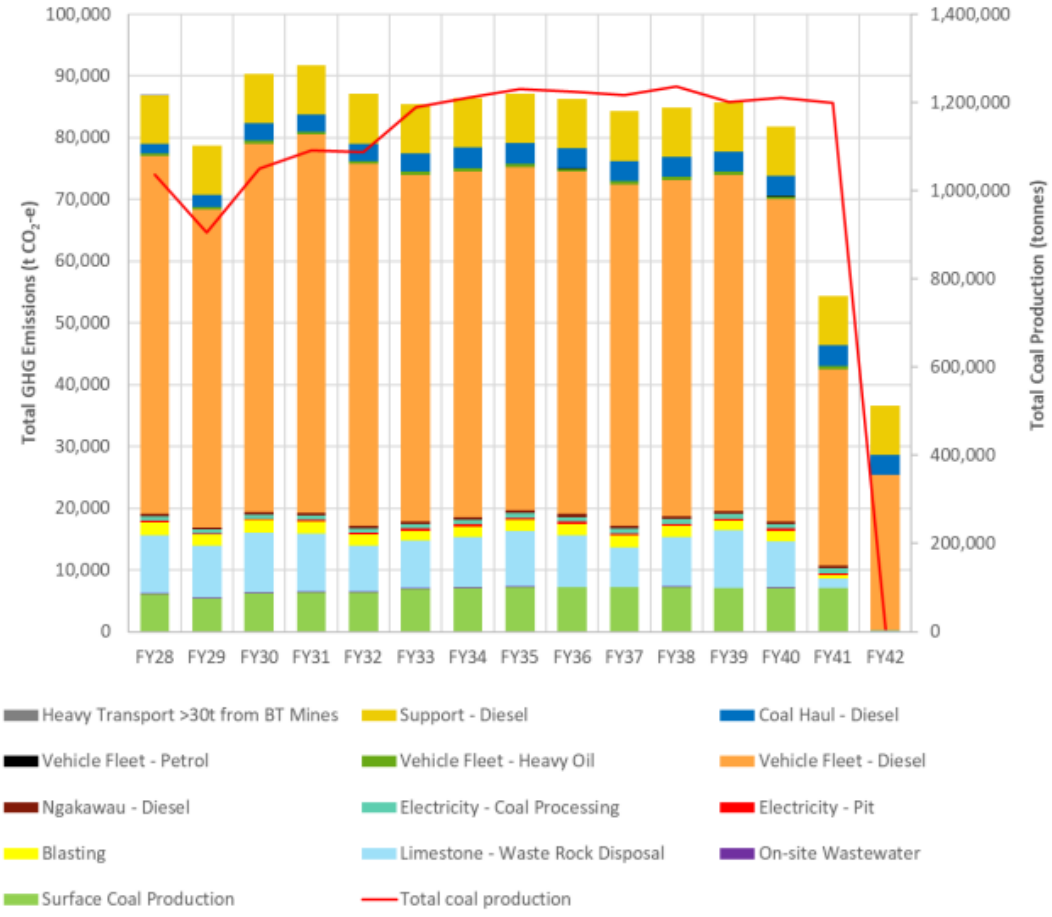


Figure 6-4: Breakdown of Scope 1 and 2 GHG emissions from the BPCP (excluding LULUCF) by year overlaid with projected annual coal production.

[28] Embodied carbon is the total GHG emissions associated with materials and construction processes throughout the lifecycle of a built asset. Operational carbon differs from embodied carbon, being the GHG emissions generated while the asset is being used.

When deforestation and reforestation effects are included, the assessment estimates a net *negative* emission balance of approximately 1,163,000 t CO_2-e over the life of the Project. Bathurst already surrenders New Zealand Units for diesel, petrol and fugitive coal seam emissions from coal mining activities, as required under the NZ Emissions Trading Scheme ("**ETS**"). The assessment undertaken by PDP provides projected emissions over the life of the BPCP, and is therefore separate to Bathurst's reporting obligations under the NZ ETS.

Construction phase emissions generated by third party contractors and land use change associated with the UWHR, ESE and MFS are excluded from the Scope 1 and 2 assessments, as these emissions fall outside the Applicant's direct control. Inclusion of these emissions would be expected to increase the total Project carbon footprint but would not materially change the assessment conclusions.

The Bathurst report highlights that GHG management and mitigation form an integral part of Project design and operations. Measures incorporated into the Project include:

- Minimising haul distances and road gradients through mine layout optimisation, including use of the UWHR as the most fuel-efficient transport route;
- Progressive electrification of infrastructure as grid power becomes available, replacing temporary diesel generation;
- Ongoing efficiency improvements through fleet upgrade and replacement with lower-emissions equipment;
- Participation in equipment supplier sustainability programmes to enable staged adoption of hybrid and electrified machinery as technology becomes commercially viable;
- Investigation of alternative reagents (such as magnesium oxide) to reduce process-related CO_2 emissions from lime use;
- Optimisation of tyre management, maintenance and fuel efficiency to reduce diesel consumption;
- Active management and improved quantification of fugitive coal seam methane emissions, including planned drilling and gas monitoring to develop site-specific emission factors; and
- Progressive rehabilitation, VDT and permanent forestry to increase carbon sinks over the life of the Project.

Overall, both reports demonstrate that Bathurst remains committed to minimising GHG emissions as far as reasonably practicable within the operational constraints of the BPCP and to complying with all applicable statutory and regulatory requirements.

6.18.5 Summary of Air Quality Effects

To conclude, the potential air quality effects (notably dust) and GHG emissions associated with the BPCP are well understood, appropriately managed and consistent with existing mining activity on the Buller Plateaux. With the proposed controls in place, adverse air quality effects are assessed as **less than minor**, and emissions are managed within established regulatory frameworks.

6.19 HISTORIC HERITAGE AND ARCHAEOLOGICAL EFFECTS

An assessment of historic heritage and archaeological effects of the BPCP has been undertaken by Clough & Associates Ltd (2026) and is provided as Parts 1 – 5 plus an Appendix, which has been peer reviewed by Neville Ritchie. A Historic Heritage Management Plan ("**HHMP**") has also been prepared based on the advice from the technical experts, of which an Archaeological Management Plan ("**AMP**") forms a sub-part (Bathurst, 2026ae). A summary of the key points across each Sub-Area of the Project is provided below, and the full assessment is included in **Part B**.

As set out in **Chapter A.3 – Existing Environment**, the Buller Plateaux is an extensive archaeological and historic mining landscape shaped by more than a century of underground and opencast coal mining. Many of the Project Sub-Areas coincide with historic workings, infrastructure and settlement remains, particularly on the Denniston and Stockton Plateaux. This assessment therefore addresses effects within an already modified historic landscape, rather than an intact heritage setting.

An Archaeological Authority Application (in relation to pre-1900 archaeological sites) under the HNZPTA is included in **Chapter A.12 – Heritage Approvals** of this application. The assessment of effects on Māori cultural values has also been undertaken separately, as included in Section 6.4 of this AEE.

The loss or modification of some historic and archaeological sites associated with the BPCP cannot be avoided because the identified heritage features relate to, occur within, and are spatially coincident with the coal measures that must be accessed to achieve the Project's objectives. As outlined in **Chapters A.1 – A.4** of this application, the coal seams underlying the Buller Plateaux dictate the required location, depth and extent of mining. Therefore, certain areas cannot be avoided as this would undermine critical blending requirements, and compromise the viability of integrated operations at Stockton, ESE and MFS. While

iterative mine planning has sought to avoid or minimise effects on heritage values wherever practicable, complete avoidance is not possible. Accordingly, the Project relies on a comprehensive programme of documentation, investigation, interpretation and heritage management to address unavoidable effects in accordance with the RMA and the HNZPTA.

6.19.1 Historic Heritage Compensation Measures

To address residual and cumulative effects on historic heritage, Bathurst is committed to heritage compensation and other positive heritage-related actions beyond on-site mitigation, centred on the long-term enhancement of the Denniston and Stockton historic mining landscape.

Key compensation measures are outlined in the HHMP (and are contained in the proposed conditions in **Part E**), including:

- Establishment and administration of a Historic Heritage Enhancement Fund to support the conservation, protection, documentation, interpretation and public accessibility of historic heritage values on the Buller Plateaux and surrounding areas, addressing residual heritage effects beyond site-specific mitigation measures;
- Establishment of a Heritage Stakeholders Group (**HSG**) to provide ongoing engagement with heritage stakeholders and advice on the implementation of the HHMP, heritage management priorities, and opportunities for heritage enhancement;
- Continued support for the management, protection, and understanding of historic heritage features and places, informed by the HHMP (including the AMP), monitoring outcomes, archaeological investigations and stakeholder feedback;
- Opportunities to improve public understanding, interpretation and accessibility of historic heritage values, including through information sharing, interpretation initiatives and access enhancement projects where appropriate;
- Collection, management and dissemination of heritage data, records and investigation outcomes to relevant agencies, iwi, archives, heritage organisations and other stakeholders;
- Consideration of projects that contribute to the long-term conservation, interpretation and appreciation of the wider Denniston and Stockton historic mining landscape, including opportunities beyond the Project footprint where appropriate; and
- Ongoing stakeholder input into heritage enhancement priorities, including advice on projects that may be supported through the Historic Heritage Enhancement Fund and opportunities for the long-term enhancement of heritage values following mining activities.

Overall, the compensation framework is intended to provide a structured mechanism for achieving enduring historic heritage benefits at a landscape and regional scale. Through the Historic Heritage Enhancement Fund and the HSG, opportunities for conservation, protection, documentation, interpretation and public access can be identified and supported over the life of the Project, helping to address residual effects on historic heritage values.

The actual and potential effects of the BPCP on each Project Sub-Area are summarised in the following sub-sections.

6.19.2 Historic Heritage Effects at Stockton

The proposed Stockton Sub-Area will remove approximately 1 km of underground remains associated with the 'A' and 'B' Tunnels of the Electric Loco Line (L28/20) constructed between 1908 and 1913. These features are listed in the BDP Schedule of Historic Buildings and Sites (No. 109, coal tramway); therefore, resource consent is required to impact this site.

The Project will also affect elements of the Mine Creek Settlement and Infrastructure site (L28/17), including remains of the power house complex, and other possible unrecorded subsurface archaeological remains, and destroy underground mine works associated with the Mine Creek East Mine that date from the late 19th century.

In 2009, a previous authority (no. 2009/327) was granted to Solid Energy to destroy the remains of the historic Mine Creek Infrastructure and Settlement site by opencast mining with conditions requiring archaeological recording, investigation, sampling, analysis and reporting. Some of these condition requirements are still outstanding. As Authority 2009/327 has expired, an Archaeological Authority is being re-applied for under the FTAA to cover the Mine Creek Settlement and Infrastructure site (L28/17) and any pre-1900 underground mine workings associated with Mine Creek (East) Mine for existing planned disturbance (as at 1 April 2027) under current resource consent, and planned disturbance (following 1 April 2027) as part of the BPCP.

The Mine Creek Settlement is also listed in the BDP Schedule of Historic Buildings and Sites (Schedule 14.1, L28/106) and resource consent is therefore required to impact on this site.

The proposed Stockton Sub-Area will remove approximately half (350 m) of the 1925 Jorgen's Drive (L28/16). This is also listed in the BDP Schedule of Historic Buildings and Sites (Schedule 14.1, L28/105), requiring resource consent before it can be modified.

The proposed Stockton Sub-Area will impact on the underground mine workings associated with the 20th century mines – 'B' Tunnel Mine, Settlement Mine (1920-1951), 3rd West Extended Mine (1922-1934), No. 2 Dip Mine and No. 1 Dip East Mine.

Overall, the effects on historic heritage after recommended mitigation are likely to be **minor to moderate** in relation to the proposed Stockton Sub-Area.

6.19.3 Historic Heritage Effects at ESE

The proposed ESE Sub-Area encompasses part of the 20th century workings of the Whareatea Mine (site ID: K29/72) and the Sullivan Mine (K29/98). The Project will result in the removal or modification of several surface features, including a fines settling pond at Whareatea (Feature 20) and multiple foundations of the Fan Drift (Feature 24), the foundation of the workshop/store (Feature 32), the reservoir (Lake Cannew) (Feature 37), pump shed foundation (Feature 38), and a coal rock area to the east of the main mine remains. The Men and Materials entrance to the Sullivan Mine, which has a concrete foundation, may also be partly affected. Extensive underground mine workings at Sullivan Mine will also be destroyed; however, these workings are relatively recent and are well documented in historic records.

The proposed ESE Sub-Area will also remove a small number of concrete foundations associated with the Monocable Aerial Cableway (K29/59) towers built in 1950-1953. Remains of the aerial system are scattered over a 3.68 km aerial route across the Denniston Plateau. The proposed ESE pit will remove a drill hole and possible building remains and metal bolts west of the Sullivan Mine site. These remains have no known history or context but are undoubtedly associated with 20th-century activity in this area of the Denniston Plateau.

The proposed upgrade of the Whareatea Road and the ESE pit northeast of Whareatea Mine will likely remove approximately nine power poles. These poles are remnants of a power line that had provided power to either the Whareatea or Escarpment Mine.

It is also likely that other unrecorded 20th century heritage features and/or sites may be present within the ESE project area under vegetation or buried by soil and/or coal.

No pre-1900 mining remains have been identified within the ESE Sub-Area. However, examination of a 1915 geological map of the Buller-Mokihinui Survey Districts (Morgan & Bartrum, 1915) identified 'old workings' in the upper reaches of the Whareatea River, and 'old workings (gold)' south of Coalbrookdale in the vicinity of the V8 Creek.

Overall, opencast mining and reworking of underground workings at ESE will contribute to a cumulative loss of 20th-century mining features within the wider Denniston Plateau heritage

landscape. With recommended mitigation and additional heritage initiatives, effects are assessed as **moderate**, and **moderate to high** on the historic setting of key heritage places and the broader heritage landscape.

6.19.4 Historic Heritage Effects at MFS

The MFS Sub-Area will affect historic underground workings and numerous mine drives and tunnels, the ventilation (air) shaft, the main portal and possibly the tramway cutting/ embankment and artefacts associated with the Koranui Mine (L29/14) dating from the 1880s. It is highly likely that additional historic mining features associated with Koranui Mine that have not been identified by field survey will be located within, and will be impacted by, the proposed MFS project.

An Archaeological Authority is being applied for under the FTAA process to cover the Koranui Mining area. Archaeological monitoring recording and investigation of archaeological features associated with L29/14 affected within the Project area will be carried out under a developed Archaeological Management Plan. The Koranui Mine is also listed in the BDP Schedule of Historic Buildings and Sites (Schedule 14.1, L29/122) and resource consent is therefore required to impact on this site.

The MFS Sub-Area will also remove an extensive area of surface mining remains and underground workings associated with the Taipo Mine dating from the 1920s to 1940s. This mine was worked and accessed as an extension of mining and a rope-haulage system associated with the Deep Creek and Kiwi workings of the Iron Bridge Mine.

Following mitigation and heritage management measures, effects on historic heritage values at MFS are assessed as **moderate**, and **moderate to high** on the historic setting of key heritage places and the broader heritage landscape.

6.19.5 Historic Heritage Effects at UWHR

The proposed alignment of the UWHR does cross the very extent of the Heritage NZ Listed Area – Denniston Historic Area and the TTPP Heritage Schedule – Denniston Historic Area (HH5); therefore, resource consent is required to impact on this area when the TTPP replaces the current BDP. However, the proposed alignment has been designed to avoid impacting on all archaeological and other historic heritage sites or features within this area, including the extensive and significant early settlement and coal mining remains at Burnett's Face and Coalbrookdale, and the surface remains of the Iron Bridge Mine (L29/98) and Kiwi Mine.

The proposed UWHR crosses an area of extensive underground mine workings associated with the Iron Bridge Mine (L29/98). The workings of Iron Bridge Mine south of the

Waimangaroa River to the haul road date from 887-1945. However, the UWHR across this area is primarily located within an already modified road corridor and will not be of a depth of extent to impact on underground mine workings.

The proposed UWHR – eastern section will impact on remains of a Return Airway (concrete pillar) that are not in situ. These remains could be moved south and uphill out of the construction corridor. However, there may be other in situ subsurface archaeological deposits in this area that were associated with the Return Airway site.

Part of a possible rope road/flume alignment may be impacted upon where it intersects with the existing road alignment, but this is an unconfirmed feature and consists of a track cutting. Some discarded metal remains of unknown origin will also be impacted but these remains could be moved north outside the construction corridor.

As a precaution, an Archaeological Authority is being applied for under the FTAA to cover the Iron Bridge Mining Area (L29/98). Archaeological monitoring, recording and investigation of any archaeological features associated with this site that are affected within the Project area will be carried out under the developed AMP (provided in **Part G**).

Construction of the UWHR on the southern side of Cedar Creek Road at Beggs Outcrop and the Cooks Lease Area will likely impact the subsurface remains of mining features from the 1950s to the early 1960s. The majority of the surface mining at Beggs Outcrop will be avoided.

With avoidance, monitoring and mitigation measures in place, historic heritage effects associated with the UWHR are assessed as **minor**.

6.19.6 Historic Heritage Effects at the Pest Exclusion Areas

Remnants of the Monocable Aerial Cableway (K29/59) are located in close proximity to the proposed Denniston North fence alignment in two places where the fence intercepts the previous cableway alignment. Typically, these remnants (A26 – A30) comprise concrete tower foundations and associated metal remains.

The proposed alignment of the Coalbrookdale fence will cross the Heritage NZ Listed Area – Denniston Historic Area in two places. However, the proposed alignment has been designed to avoid impacting all recorded archaeological sites within this area, which are associated with the Coalbrookdale Mine (1884 -) and 'Village of Coalbrookdale' (1891-1956), and it is intended that in the future, the fences will have public access.

The proposed alignment of the Coalbrookdale pest exclusion area also crosses the very southern extent of the TTPP Heritage Schedule – Denniston Historic Area (HH5); therefore, resource consent is required to impact this area.

It is considered possible that unrecorded subsurface archaeological sites may be exposed and impacted on along areas of the Coalbrookdale pest exclusion area, given the close proximity of the late 19th century mining remains within the Heritage NZ Listed and TTPP scheduled – Denniston Historic Area. As a precaution, a general Archaeological Authority will be applied for to cover these areas. The proposed conditions include archaeological monitoring, recording, and investigation of any archaeological features and remains associated with this site that may be affected within the Project area, as well as any other archaeological remains uncovered during earthworks. In accordance with the Accidental Discovery Protocol, should any remains be discovered, the Project Archaeologist will be notified, will investigate and record, and will advise when works can resume. The Project Archaeologist will be appointed under Section 45, and all relevant fieldwork will be undertaken by them or under their supervision.

6.19.7 Summary of Historic Heritage Requirements

6.19.7.1 Under the RMA

The BPCP will affect four sites scheduled in the BDP Schedule of Historic Buildings and Sites: the Electric Loco Line (L28/109), Koranui Mine (L29/122), Mine Creek Settlement (L28/106), and Jorgen's Drive (L28/105). Resource consent is required to impact or modify these sites.

The proposed alignment of the UWHR also intersects with the southern extent of the TTPP Heritage Schedule One: Historic Heritage Items and Areas and Archaeological Sites – Denniston Historic Area (HH5); therefore, resource consent is required to impact or modify this area.

Accidental discovery protocols are recommended for all areas not covered by an Archaeological Authority.

6.19.7.2 Under the HNZPTA

The BPCP will affect, or may affect, three pre-1900 recorded archaeological sites: Iron Bridge Mine (L29/98). Koranui Mine (L29/14) and the Mine Creek Settlement and Infrastructure site (L28/17). An Archaeological Authority application is being submitted under the FTAA to cover works affecting these sites, and any previously unknown subsurface remains (included as **Chapter A.12 – Heritage Approvals** of this substantive application). In addition to covering these three sites (as well as their vicinities), the Archaeological

Authority is being applied for to cover the wider Project land use consent boundary area, including the Heritage NZ Listed Area – Denniston Historic Area (No. 7049), as the proposed alignment of the UWHR crosses the southern extent of this, as well as works within the vicinity of the V8 Creek (within the ESE Sub-Area).

Archaeological monitoring, recording and investigation of archaeological features affected within the Project Sub-Areas will be undertaken to mitigate the adverse effects of the Project through developed Archaeological Management Plans.

6.19.7.3 Overall Conclusion

Overall, the BPCP will result in unavoidable adverse effects on historic heritage and archaeological values, including the loss or modification of some sites within an already modified mining landscape. However, these effects have been appropriately identified and assessed, and will be managed through a comprehensive framework of avoidance, mitigation, investigation, and monitoring, supported by the proposed Archaeological Authority, proffered consent conditions, and a detailed HHMP. With the proposed mitigation and substantial compensation measures, residual effects are considered to be appropriately addressed, with opportunities to achieve positive long-term heritage outcomes at a landscape scale.

Additionally, the independent peer review by Ritchie (2026) confirms that the methodology and significance rankings applied to affected heritage sites are robust, balanced, and based on a sound understanding of site values within the broader mining landscape. While the Project – particularly the reworking of historic underground mines – will have significant effects on some heritage features, these sites are generally inaccessible to the public due to safety risks and are typically secured to prevent entry. The proposed mitigation, offset, and compensation measures are considered appropriate and proportionate to the level of effect. Although many of the affected sites post-date 1900 and are not formally protected under the HNZPTA, their historic values have been recognised, and the Project design has been refined in consultation with heritage specialists to avoid or minimise effects on key mining features where practicable.

6.20 RECREATION, TOURISM AND PUBLIC ACCESS EFFECTS

An assessment of the recreation and tourist opportunities and values on the publicly accessible areas affected by the BPCP has been undertaken by Rob Greenaway & Associates (2026). The assessment evaluates existing recreation patterns, visitor experiences and public access across the Buller Plateaux, and considers the potential effects of the Project over the LOM and beyond. The key findings of the assessment are

summarised below, and the full assessment is included in **Part B** of this substantive application.

As described in **Chapter A.3 – Existing Environment**, the Denniston Plateau and surrounding areas have long accommodated a mix of mining activity, conservation land, recreational use and heritage tourism. Publicly accessible areas affected by the BPCP include established walking, cycling, mountain biking, trail running, 4WD and motorbike routes, as well as heritage destinations such as Brakehead, Burnetts Face and Coalbrookdale.

6.20.1 Potential Recreational Effects without Mitigation

Without mitigation, the BPCP could adversely affect some recreation opportunities, primarily on the Denniston Plateau. These effects arise from the occupation of parts of the Plateau by the ESE Sub-Area and the construction of the UWHR, as well as from associated landscape and access changes.

The most notable potential effect relates to restricted 4WD access to Mount Rochfort, where the existing access route passes through the proposed ESE mine footprint. Other recreation activities – including mountain biking, trail running and walking – would continue to occur across large parts of the Plateau, but some routes and settings would be altered or temporarily unavailable. The Landscape Assessment (RMMLA, 2026) identifies the potential for high to very high visual effects from Mount Rochfort and certain sections of the Whareatea Mine Road and Mount William during mining, which would adversely affect recreation experience in those locations during the LOM. These visual effects are expected to reduce to low or negligible levels following mine closure and rehabilitation.

Construction of the UWHR also has the potential to disrupt access to the Mackley Track, which currently provides 4WD, motorbike, mountain biking and walking access to the Orikaka Ecological Area from the west. Without specific access management, this route could be prevented for some users during construction.

By contrast, Rob Greenaway & Associated (2026) identify very limited potential effects on recreation use within the Plover Conservation area and the Waimangaroa-Granity Conservation Area, which have comparatively low levels of use. Mitigations relating to 4WD and motorbike access on the UWHR are also expected to provide ancillary benefits for the Waimangaroa-Granity Conservation Area.

Noise, vibration and lighting effects on recreational settings are assessed as minor or negligible, and generally absent at the main visitor destinations on the Denniston Plateau.

6.20.2 Recreation Management Objectives

In recognition of the long-standing recreational importance of the Denniston Plateau and the dynamic nature of recreation use over time, Rob Greenaway & Associates (2026) identify a set of management objectives to guide mitigation throughout the life of the Project. These include maintaining ongoing input from recreational users and relevant agencies (including DOC), maximising continued use of recreational opportunities not directly affected by mining,[29] and responding adaptively to staged mining and rehabilitation to reinstate or reconfigure access where practicable.

Specific objectives include providing for managed 4WD access to Mount Rochfort and the Mackley Track, maintaining open pedestrian and cycle access to Mount William and the Mackley Track retaining access to key heritage-based visitor destinations, and supporting alternative or additional recreation opportunities where some displacement occurs.

6.20.3 Recreation Mitigation and Management Measures

To achieve these objectives, Rob Greenaway & Associates (2026) recommend a proactive, collaborative and adaptive management framework rather than fixed, one-time mitigation measures. Central to this approach is the establishment of a Recreation User Group ("**RUG**") comprising representatives from local and regional recreation interests (including mountain biking, trail running, 4WD, cycle tourism, trail biking and heritage tourism), alongside land managers such as DOC and LINZ where relevant. The RUG would provide an ongoing forum for engagement with Bathurst, enabling access decisions to respond to changing mine stages, rehabilitation progress and shifting recreation demand.

Bathurst also proposes to appoint a dedicated staff member responsible for community and recreation liaison, and to periodically commission independent reviews of recreation access, including repeat visitor surveys to track changes in use and experience over time, and to ensure that all information services are up-to-date. The 2020 visitor survey provides an existing benchmark and would be repeated prior to commencement of new works, and periodically during operations (within two years of work starting, and then at an agreed timeframe thereafter).

Ongoing formal liaison between the NZ Four Wheel Drive Association, the Combined 4WD Clubs Inc and Bathurst regarding the maintenance of 4WD access to Mount Rochfort for club members and members of the public. Off-road vehicle access opportunities –

[29] Including the main visitor attractions at the Denniston Brakehead, Burnetts Face and Coalbrookdale areas, and the unaffected mountain bike, walking, trail running, 4WD and trail and trail bike routes on the Denniston Plateau.

particularly to Mount Rochfort and the Mackley Track – are very likely to vary over the mine life. However, a committed level of access will be provided with a specified minimum number of access days annually, and the ability to apply for additional days for specific events for both the public and club members. This will require online information about access applications and safety protocols.

In addition, existing on-call commercial visitor access opportunities, such as those currently operated by Outwest Tours at Stockton, provide a model that could be extended or adapted.

Public access to established walking and cycling tracks within the Coalbookdale pest exclusion area will be maintained. The other proposed fenced areas do not contain developed recreation routes and do not require specific access provisions. Progressive rehabilitation will, where practicable, incorporate reinstatement or enhancement of trails in consultation with the RUG and landowners, and reinstatement of Mount Rochford Road and sections of the UWHR for public use will be prioritised following mine closure.

Management measures will also address temporary safety constraints, including protocols for short-term access closures during blasting or fly-rock risk periods, particularly in areas such as the Coalbrookdale Walk.

Where some displacement of trail-based recreation occurs, Bathurst proposes to support the development or maintenance of other off-site recreation opportunities in the wider region, recognising the Plateau's role within a broader West Coast recreation network. This is particularly in recognition of the likely displacement of some trail-based recreation from the Mount Rochfort Conservation Area.

6.20.4 Overall Recreation Effects

There are no identified adverse effects on recreation values associated with the Waimangaroa, Ngākawau and Whareatea Rivers. There will also be no impact on aurora watching arising from the lighting operations associated with the Project.

With the recommended management framework in place, the assessment concludes that significant adverse effects on recreation and tourism will be avoided or appropriately mitigated. Access to a wide range of recreation opportunities will be retained throughout the life of the Project, albeit within a more actively managed framework. While there will be restrictions on some activities – most notably 4WD access to Mount Rochfort and parts of the Mackley Track – overall effects are assessed as generally **low**, with the potential for **moderate** effects for 4WD users in particular locations during active mining.

Recreation effects associated with visual amenity near the ESE and UWHR are closely linked to the landscape effects identified in RMMLA (2026), with high to very high effects during

mining at some publicly accessible locations within the Rochfort Stewardship Area, reducing substantially following rehabilitation. Key visitor destinations such as Brakehead, Burnetts Face and Coalbrookdale are not subject to high adverse effects. Noise, vibration and lighting effects on recreation values are assessed as very limited.

The recreation assessment is informed by visitor counter data, surveys, stakeholder engagement, literature review and long-term practitioner involvement on the Denniston Plateau. Overall, the recreational and tourism values of the area are considered capable of being maintained and adapted over time, consistent with the scale and duration of the Project and the broader benefits identified elsewhere in this AEE.

6.21 SUMMARY OF KEY EFFECTS

The key effects of the BPCP without mitigation and/or management, and following mitigation and compensation, are summarised in **Table 6-3** below.

Table 6-3: Summary of key effects of the BPCP

Topic	Issue	Level of effect without mitigation/management	Residual outcome with mitigation/management (35 years)
Economic benefits and other positive benefits	Sustains and extends a nationally significant mining operation delivering major GDP, fiscal and employment benefits.	Strongly positive, as economic benefits arise from continuation of mining and are not contingent on environmental mitigation measures. Under the base case (mine closure), these benefits would not occur.	Strong net positive, with substantial national, regional and local economic contribution maintained over the Project life, noting that mitigation and management measures do not materially reduce the overall scale of economic benefits.
Social	Maintains community stability, employment, regional services and local expenditure, while supporting structured transition initiatives.	Moderate to strong positive overall, driven by employment continuity and economic activity; however, with potential more pronounced localised adverse pressures (e.g. housing demand, infrastructure strain, community cohesion risks) if not actively managed.	Net positive, with social benefits maintained and potential adverse effects (e.g. housing, community pressures) appropriately managed through engagement, monitoring and targeted mitigation measures, resulting in more stable and predictable community outcomes.
Mana whenua / cultural	Ongoing engagement with mana whenua (including Te Rūnanga o Ngāti Waewae) and incorporation of cultural values into Project design and operation.	Moderate adverse effects, including potential impacts on cultural values, relationships and the ability of mana whenua to exercise kaitiakitanga, if engagement is not appropriately maintained or cultural considerations are not integrated into Project delivery.	Positive / well-managed, with effects addressed through an ongoing and evolving relationship with Te Rūnanga o Ngāti Waewae, including input through the Cultural Impact Assessment, continued engagement across all Project phases, incorporation of cultural awareness into site practices (e.g. inductions), and mechanisms for monitoring and adaptive response. This approach supports the active participation of mana whenua and enables cultural values to inform Project outcomes over time.

Topic	Issue	Level of effect without mitigation/management	Residual outcome with mitigation/management (35 years)
Mine water management (including AMD) at Stockton	Localised flow redistribution and AMD risks in high rainfall, geochemically sensitive environments.	High adverse (due to potential for uncontrolled AMD generation, contaminant mobilisation, and changes to flow regimes).	Effects at Stockton focused on avoiding further degradation and enabling ongoing betterment. Effects are managed through a comprehensive, design-led framework incorporating source control, clean water separation, capture and treatment (active and passive), site-specific receiving-water limits, and robust monitoring with adaptive management. In some areas, there is potential for long-term positive water quality outcomes through improved management of legacy AMD.
Mine water management (including AMD) in the extension areas	Localised flow redistribution and AMD risks in high rainfall, geochemically sensitive environments.	High adverse (due to potential for uncontrolled AMD generation, contaminant mobilisation, and changes to flow regimes).	Localised and generally low–minor adverse effects in the extension areas.
Freshwater quality and aquatic ecology	Permanent loss of some headwater streams, construction sediment risks, and long-term AMD management influences.	High adverse (due to habitat loss, sediment mobilisation, and degradation of water quality and aquatic ecological values).	More than minor adverse effects remain due to unavoidable loss of headwater streams. However, other effects are localised and generally low to moderate with implementation of erosion and sediment controls, treatment systems, and site-specific receiving-water limits that protect downstream ecological values. At Stockton, effects form part of an existing managed recovery trajectory. The Project also provides positive outcomes, including improved water quality in some historically affected catchments and

Topic	Issue	Level of effect without mitigation/management	Residual outcome with mitigation/management (35 years)
			enhanced regional connectivity through fish passage initiatives.
Terrestrial and wetland ecology (overall)	Vegetation clearance, habitat fragmentation and wetland loss within a high-value, sensitive plateau ecosystem.	High–very high adverse effects (particularly for rare ecosystems such as pākihi, seepage systems and sandstone pavement).	Moderate–very high residual effects depending on habitat type, with net losses in some ecosystems; partially compensated for over time through landscape-scale gains associated with the REP and progressive rehabilitation (including VDT).
Avifauna	Habitat loss and disturbance for threatened and at-risk bird species, alongside long-term predator pressure.	Moderate–high adverse effects (without predator control and species management).	Long-term positive outcomes are anticipated for key species due to sustained predator control, fenced exclusion areas and restoration of habitat function over time.
Lizards	Habitat loss, fragmentation and limited dispersal capacity, with reliance on salvage and rehabilitation.	Moderate–high adverse effects.	Moderate residual effects, with recovery supported by VDT, habitat reconstruction, and reduced predation pressure through REP.
Terrestrial invertebrates	Significant risk to nationally critical species (e.g. *Powelliphanta*) through habitat loss, fragmentation and predation.	Very high adverse effects, with ongoing population decline driven primarily by predation pressure (notably from weka), which would continue irrespective of the Project without targeted intervention.	Short-term adverse but long-term improved outcomes, with pest-exclusion fencing (addressing key predation pressures including weka), habitat management and rehabilitation stabilising and increasing populations over time.

Topic	Issue	Level of effect without mitigation/management	Residual outcome with mitigation/management (35 years)
Rehabilitation (including VDT)	Progressive disturbance requires long-term habitat recovery and ecosystem reinstatement.	Moderate–high adverse effects (if rehabilitation is not effectively implemented).	Effects substantially reduced over time through progressive, functional rehabilitation, restoring ecological processes, hydrology, and habitat structure (although not fully replicating pre-mining complexity).
Geotechnical	Localised stability risks including subsidence, slope instability and historic workings.	Moderate adverse effects (if unmanaged).	Low residual effects, managed through mine design, monitoring and adaptive management.
Natural hazards (flooding, erosion, storage structures)	High rainfall, erosion susceptibility and flood risk require conservative design.	Low–moderate adverse effects (if infrastructure not designed appropriately).	Low residual / localised effects, managed through conservative design, climate change allowances and monitoring.
Landscape, natural character and visual amenity	Significant project-scale landscape change during active mining, including landform modification, vegetation clearance, and the presence of buildings, plant and infrastructure within the mining envelope.	Moderate-high to very high adverse effects during active mining, particularly where mining faces, overburden placement, haul roads and built elements (plant, buildings, lighting and infrastructure) are visible at a project scale.	Nil–moderate-high approximately 10 years post-closure, reducing to nil–low in the medium to long term as landforms integrate and vegetation establishes. Adverse effects of buildings, plant and infrastructure are temporary and can be managed through appropriate siting within the mining footprint, use of recessive colours and materials to reduce visual contrast, and removal at closure as part of rehabilitation.
Noise and vibration	Operational and blasting noise within an established mining environment, with differing sensitivity across locations, including more remote	Moderate adverse effects overall (without controls, limits and blasting management), with higher sensitivity in remote areas (e.g. Denniston Plateau) where background noise	Less than minor overall, with compliance achieved in most cases and no significant new or intensified effects relative to the existing environment. In locations such as Ngākawau, noise occurs within an established

Topic	Issue	Level of effect without mitigation/management	Residual outcome with mitigation/management (35 years)
	plateau areas with low ambient noise and fauna-sensitive environments.	levels are low, and potential disturbance effects on fauna, particularly avifauna.	industrial acoustic environment and does not materially alter the existing baseline. In more remote areas, while noise may be more perceptible, effects are intermittent, spatially limited and reduce with distance. Potential disturbance effects on fauna are expected to be localised and temporary and not to affect long-term population viability, particularly when considered alongside habitat management and predator control measures.
Roading and traffic	Increased construction traffic and temporary pressure on local roads.	Minor–moderate adverse effects (without management).	Minor, localised and largely temporary effects, managed through TMP, upgrades and operational changes post-UWHR.
Lighting	Night lighting effects most noticeable at Denniston and near sites.	Moderate-high adverse effects (if unmanaged).	Localised and controlled through design and Lighting Management Plan; residual effects limited and acceptable.
Waste (including tyre storage)	Fire and contaminant risks associated with tyre and waste storage.	Low–moderate adverse (if unmanaged).	Very low / negligible residual effects with containment, fire management and operational controls.
Hazardous substances	Storage and use of fuels, explosives and chemicals.	Moderate adverse (without controls).	Less than minor residual effects with standard industry controls, containment and emergency response.
Dust and air quality	Dust generation from haul roads and earthworks.	Low–moderate adverse (in dry/windy conditions).	Negligible–low / less than minor, with suppression and monitoring in a high-rainfall environment.

Topic	Issue	Level of effect without mitigation/management	Residual outcome with mitigation/management (35 years)
Greenhouse gas emissions (scope 1–2)	Diesel-dominated operational emissions.	Moderate adverse effects (without mitigation).	Managed residual effects through efficiency improvements and rehabilitation sequestration; potentially neutral to reduced net emissions over time.
Historic heritage and archaeology	Loss or modification of heritage features within a historic mining landscape.	Moderate–high adverse effects, including potential permanent loss or damage to heritage features and archaeological values, and reduced ability to recognise and interpret historic mining landscapes.	Minor–moderate residual effects, with some unavoidable loss of site-specific heritage values. Effects are appropriately managed through the proposed archaeological authority, pre-disturbance survey and documentation, monitoring, and an Accidental Discovery Protocol to address previously unidentified archaeological or cultural material. A heritage enhancement programme (including interpretation, access improvements and conservation initiatives) will also be implemented, resulting in overall improved understanding, accessibility and appreciation of heritage values at a landscape scale.
Network Utilities	Temporary disruption to access, maintenance activities or operations where Project works occur near existing utility infrastructure, including electricity transmission assets, telecommunications infrastructure and other network services. Potential risks associated with construction within utility corridors and crossing points.	Low where it has been identified and managed in Project design. For example, the UWHR has been designed to maintain required clearances where it crosses beneath Transpower 110 kV transmission lines, and Transpower will retain ongoing access to its assets for inspection, maintenance and emergency works throughout construction, operation and closure.	Low potential for ongoing interface adverse effects through ongoing engagement with utility operators; compliance with asset owner requirements and statutory stand-off distances; confirmation of asset locations prior to works; implementation of utility protection measures; maintenance of access arrangements; and establishment of appropriate health and safety protocols.

Topic	Issue	Level of effect without mitigation/management	Residual outcome with mitigation/management (35 years)
Recreation, tourism and public access	Temporary displacement, restriction or modification of access to recreation areas and routes (including 4WD, walking and informal use), within a landscape with existing recreational and heritage values.	Moderate–high adverse effects, including loss of access to parts of the Plateaux, disruption to user experience and potential loss of continuity in established recreation patterns.	Temporary and localised residual effects, with some ongoing disruption during operations. Effects are appropriately managed through stakeholder engagement, managed access arrangements (including escorted access), and alternative opportunities where practicable. Post-closure, access is reinstated and enhanced through rehabilitation, improved access routes, and integration with the landscape, resulting in overall improvements in long-term recreational opportunities.
UWHR (haul road – cross-cutting)	Linear infrastructure across steep terrain with high erosion and sediment generation risk.	Moderate–high adverse effects, particularly during construction and rainfall events, if not well managed.	Localised but potentially significant risks were reduced to acceptable levels through robust erosion and sediment controls, conservative design, and an adaptive management framework.
Pest exclusion fences	Installation and operation of predator-exclusion fences across parts of the Plateaux, including potential restriction of movement for people and fauna, localised visual change, and altered access patterns.	Moderate adverse effects locally (without design controls and access management), including interruption to informal access routes, changes to user experience in otherwise open landscapes, and potential barriers to movement for some terrestrial species if not appropriately designed.	Minor residual effects overall, with impacts localised and managed through careful fence siting, provision for controlled or managed access (where appropriate), and design features to minimise visual and ecological effects. Long-term net positive ecological outcomes through pest exclusion, which supports biodiversity enhancement and improved habitat quality across the Plateaux.

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