BULLER PLATEAUX CONTINUATION PROJECT, WESTPORT, SOUTH ISLAND: ARCHAEOLOGICAL AND HISTORIC HERITAGE ASSESSMENT (PART 1 – ESCARPMENT EXTENDED)

Prepared for Bathurst Resources Ltd

April 2026

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INTRODUCTION

Project Background

Bathurst Resources Ltd (including subsidiary companies, Bathurst Coal Ltd, and Buller Coal Ltd) and joint venture partner BT Mining Ltd (collectively referred to as Bathurst) is seeking authorisation through the Fast-track Approvals Act 2024 (FTAA) to progress the development and mining of coal resources across the wider Buller Plateaux, known as the Buller Plateaux Continuation Project (the Project or BPCP).

The Project covers areas across both the Denniston Plateau and Stockton Plateau, collectively referred to as the Buller Plateaux, located approximately 15km northeast of Westport on the West Coast of the South Island (Figure 1). The Project comprises five Project sub-areas: Stockton (including the Ngākawau Coal Handling Facility and Aerial Ropeway); Mount Frederick South; Escarpment Extended; the Upper Waimangaroa Haul Road; and Cypress (Figure 1).[1]

Due to the large amount of information discussed, the BPCP Archaeological and Historic Heritage Assessment has been divided into six parts, which covers each of the Project sub-areas, the Discussion and Conclusions of the BPCP Project and an Appendix report:

Part 1. Escarpment Extended (ESE) Project sub-area;

Part 2. Upper Waimangaroa Haul Road (UWHR) Project sub-area and Denniston pest free enclosure fences;

Part 3. Mount Frederick South (MFS) Project sub-area;

Part 4. Stockton Project sub-area and Stockton pest free enclosure fences;

Part 5. BPCP Discussion and Conclusions;

Appendix: Historical and Archaeological Background of the Denniston and Stockton Plateaux.

This report is Part 1. BPCP Escarpment Extended (ESE) Archaeological and Historic Heritage Assessment, commissioned by Bathurst and prepared as part of the required assessment of effects accompanying an application under the FTAA, which includes consideration of the heritage provisions of the District Plan (Resource Management Act 1991 (RMA)) and the requirement for Authority to modify various archaeological sites under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA). Recommendations are made in accordance with statutory requirements.

This is an assessment of effects on archaeological and historic heritage values and does not include an assessment of effects on Māori cultural values. It is noted that an assessment of effects on Māori values should only be made by the tangata whenua and this will be provided by tangata whenua as a separate Cultural Values and Impact Assessment. Māori cultural concerns may encompass a wider range of values than those associated with archaeological sites.

[1] Note only continuation of the existing Cypress Mine authorised under existing consents; however Wildlife Act Authorities are required to be renewed, as well as variations to existing conditions to ensure integration with the BPCP.

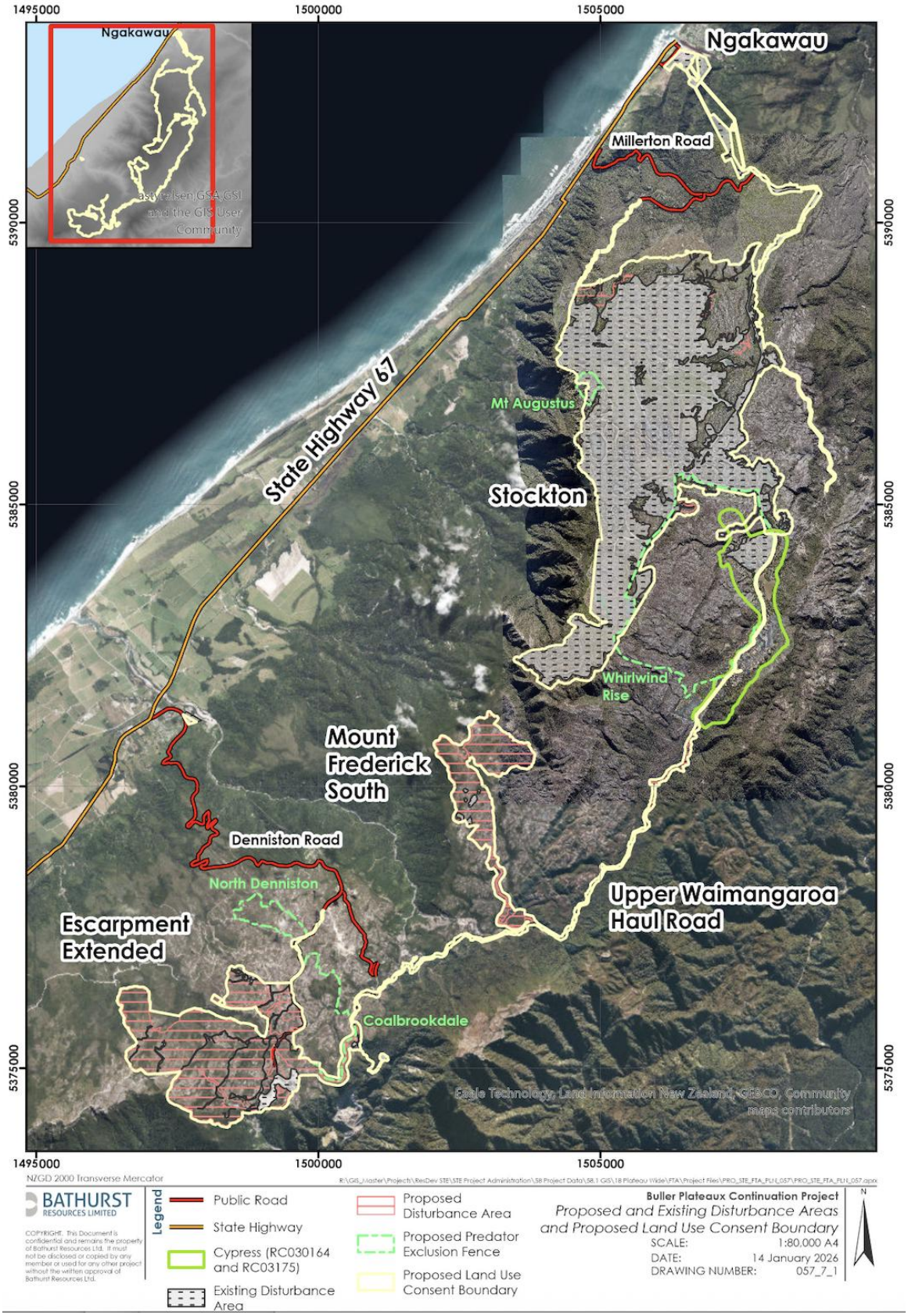

Figure 1. BPCP Project area and the Proposed and Exiting Disturbance Areas and Proposed Land Use Consent Boundary, including the ESE Project sub-area (source: Bathurst)

Methodology

There has been a great deal of previous historical research, archaeological survey and assessments carried out on the Denniston and Stockton Plateaux, which is summarised in the accompanying Appendix report: BPCP Historical and Archaeological Background. This references the literature and the numerous archaeological reports relevant to the area that were consulted (see Bibliography) and are a main source of information on the historic heritage and archaeological sites on the Denniston Plateau and within the BPCP Area for this report.

The New Zealand Archaeological Association's (NZAA) site record database (ArchSite), Buller District Plan schedules and the Heritage New Zealand Pouhere Taonga (Heritage NZ) New Zealand Heritage List/Rārangi Kōrero were searched for information on sites recorded in the vicinity.

Visual inspections of the Project sub-areas were conducted by the first two authors in March 2020, November 2024 and April 2025.

ESCARPMENT EXTENDED (ESE)

The Escarpment Extended (ESE) Project sub-area is located on the Denniston Plateau and includes the areas covered by the existing Escarpment Mine, which is an operating mine currently on care and maintenance, Whareatea West Mining Permit 60138 and the Sullivan Coal Mining Licence Area on Crown land administered by the Department of Conservation, which is part of the Mount Rochfort Conservation Area. The Mount Rochfort Conservation Area comprises stewardship land set aside for conservation purposes under section 62 of the Conservation Act 1987. The Waimangaroa Storage Yard, which is located at the bottom of the Denniston Road, also forms part of the ESE Project sub-area. The landownership of the ESE Project sub-area is identified in Figure 2 below.

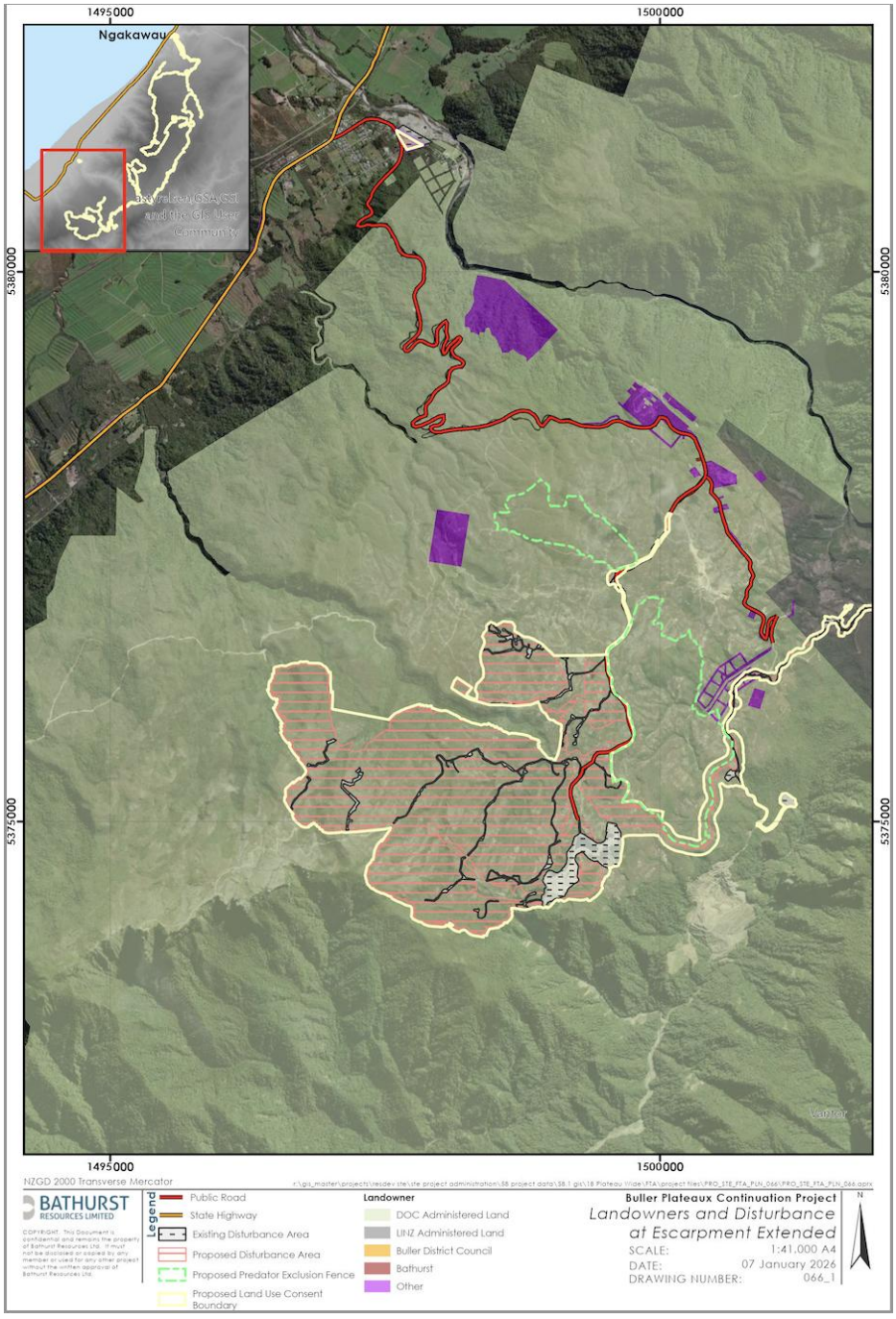

Figure 2. Land ownership in the Escarpment Extended Project sub-area (source: Bathurst)

The most recent mining operations on the Denniston Plateau took place in the Escarpment Mine permit area from 2014 to 2016. The majority of the Escarpment Mine resource consents expire in October 2025 and an application for renewal of those consents has been lodged. The FTAA application will include a new resource consent application(s) for all of the ESE Project Sub-Area activities taking into account revised mine designs and schedules.

Proposed Project Summary

For a detailed description of the ESE Project sub-area, please refer to the project description within the Assessment of Environmental Effects provided with the application. The proposed consent and disturbance areas for the ESE Project sub-area is shown in Figure 3 and Figure 4.

Mining within the ESE Project sub-area will be opencast with a combination of an existing opencast pit (Escarpment), old underground workings (Whareatea), and an extension into unworked areas (West Whareatea). Coal will be transported to Stockton via the UWHR. Operations are proposed to commence in 2027 and continue for approximately 16 years, with approximately 15 years of rehabilitation, monitoring, maintenance and Active Water Treatment.

The total consenting footprint of the ESE Project sub-area is 58 ha, with 47 ha of existing disturbance (includes up to 31 March 2027) and a planned 460 ha of disturbance. A further 82 ha is included within the consent area as a buffer area where Bathurst does not intend to disturb, however consent is being sought to do so for contingencies or where further detailed designs are yet to be completed.

The ESE project will progress over three stages: Phase 1: Development; Stage 2: Mining (with 15 stages); and Phase 3: Closure (with 3 stages).

During development, the following activities will be carried out in the ESE Project sub-area:

- Site works for the establishment of ESE infrastructure, Central Infrastructure Area (CIA), initial Mine Operation Areas (MOA), UWHR coal stockpile area;
- Development of initial access roads and establishment of security facilities;
- Topsoil and vegetation stripping;
- Development of initial sumps, ponds and drainage;
- Development of the water treatment facility and CIA buildings and facilities;
- Ex-pit seal excavation; and
- Box cut excavation.

Access and Haul Roads

Site access to the ESE is via the existing public road network on the Denniston Road through Waimangaroa up to the Denniston historic coal mining area, then via the Whareatea Mine Road to the existing Escarpment mining area (Figure 2).

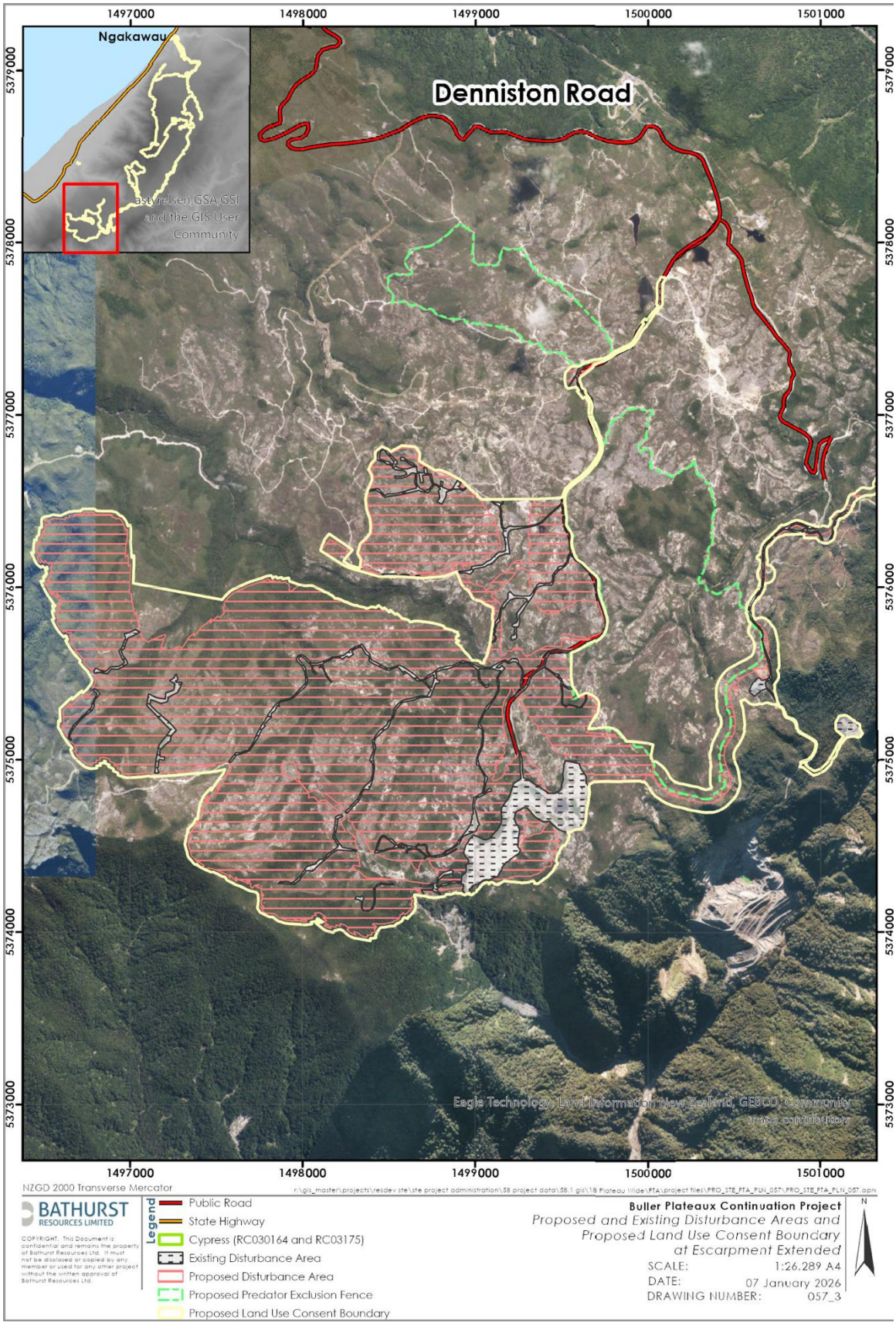

Figure 3. ESE proposed disturbance and consent area (source: Bathurst)

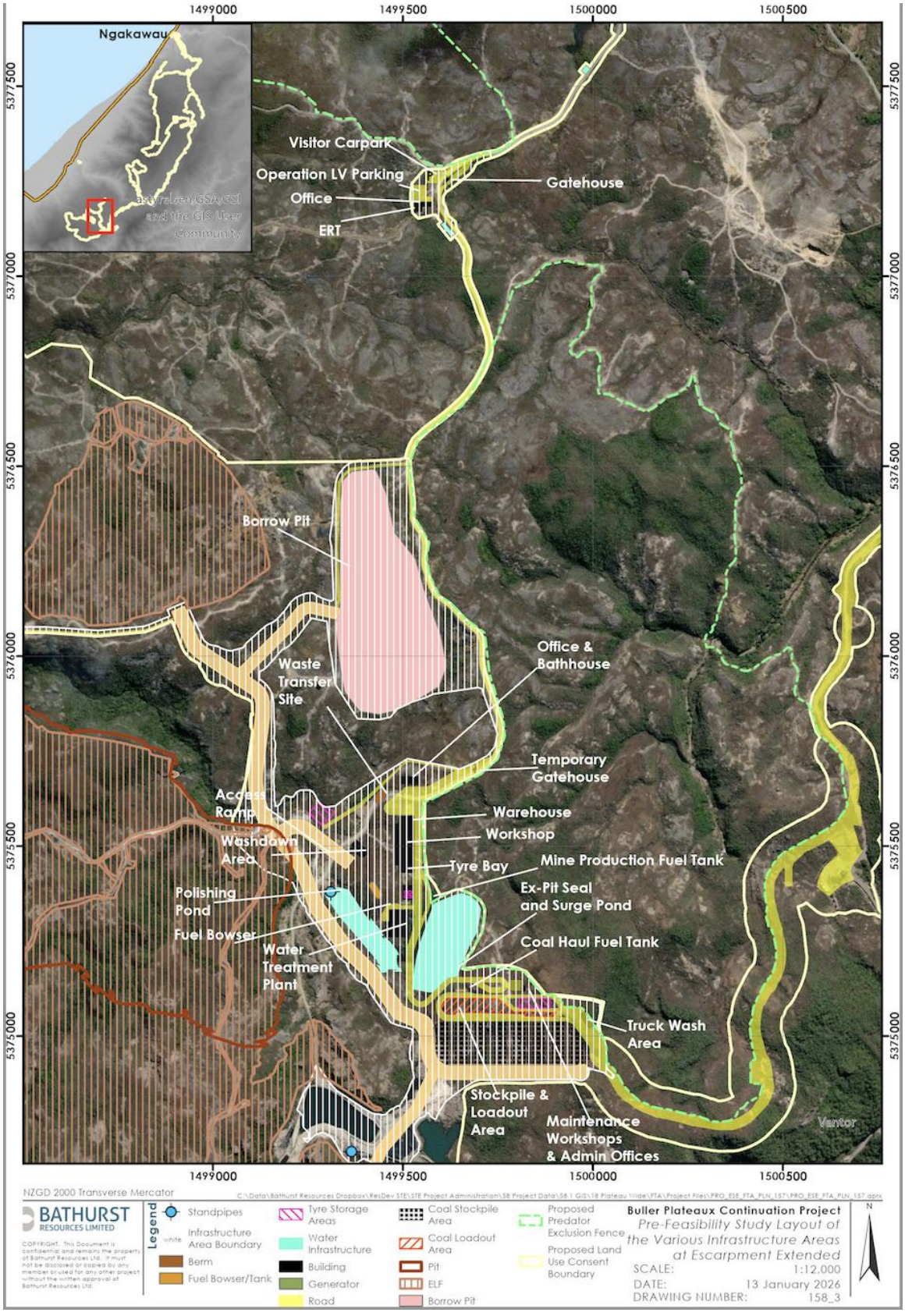

Figure 4. Layout of the various infrastructure areas at ESE (source: Bathurst)

Access and supply roads, including Whareatea Access Road, will have an 8m wide running surface, sitting within a 15m access corridor, which will allow for the development of drains, berms and cut and fill components of the design. Haul roads have been designed with a minimum running width of 27m, and feature drainage channels and, as required, sufficiently sized protection berms. The overall footprint of the haul roads varies and is dependent on the section and location of the haul road, cut or fill section of the road, and the height of cut or fill.

The current design of the ex-pit road network utilises existing tracks and roads where practical. A total of 9.5km of ex-pit road development is required, of which 71% will be greenfield construction (vs upgrading existing roads).

Coal mined at ESE will be transported to Stockton Project sub-area via the UWHR[2] for washing, processing and blending as required at the Coal Handling Processing Plant (CHPP), before being transported via the 2-5 haul road and aerial ropeway to the Ngakawau Rail Loadout (Figure 1).

Mine Infrastructure Areas

ESE will also have four primary infrastructure areas to support the mining operations – the Gatehouse/Admin Office Area, the CIA, the Coal Haulage Infrastructure Area and the Bulk Explosives Plant and High Explosives Magazine (Figure 4).

Mining – Soil and Vegetation Stripping, Overburden Removal

Vegetation and topsoil will be stripped by a fleet of small diggers (30-50 tonne) and ADTs and stockpiled in designated areas or transferred directly to available shaped final landform as areas become available to ensure progressive rehabilitation is achieved.

Overburden will be removed by conventional truck and shovel operation. It is anticipated that most of the overburden will require blasting. With more intensive blasting (collapse blasting) above historic underground workings, these higher energy shots will force overburden to collapse into any potential open voids within the underground workings, eliminating potential void hazards for personnel and machinery.

Mining - Coal

Coal will be mined by conventional truck and shovel operation, utilising 100 to 200 tonne excavators and appropriately matched haul tucks (CAT777 or equivalent), with smaller clean up excavators 30-50 tonnes utilised.

Coal won from the ESE mine will be stockpiled at the ESE coal handling pad, and as required, the coal will be loaded utilising a front-end loader onto the coal haulage truck and trailer units and transported to the Stockton Mine via the UWHR.

Waimangaroa Storage Yard

The Waimangaroa Storage Yard is located at the bottom of the Denniston Road as shown in Figure 2. It is currently used to store containers and is 4ha of existing disturbance. If the Project is approved, it will also be used as a laydown area including for road construction works that may need to be undertaken on the Denniston Road. No planned additional disturbance is required.

[redacted]

[2] Refer to Part 2 of the BPCP Archaeological and Historic Heritage Assessment

[redacted]

HISTORICAL BACKGROUND

The history of European coal mining on the Denniston Plateau is extensive and has been outlined in detail elsewhere.[3] Coal mining on the plateau began in the 1870s and has continued until the modern day, gradually spreading out across the plateau.

There has been a great deal of previous historical research, archaeological survey and assessments carried out on the Denniston and Stockton Plateaux, which is summarised in the accompanying Appendix report: BPCP Historical and Archaeological Background. This references the literature and the numerous archaeological reports relevant to the area that were consulted (see Bibliography) and are a main source of information on the historic heritage and archaeological sites on the Denniston Plateau and within the BPCP area for this report.

The Appendix report should be read in conjunction with this assessment report.

[3] Particularly HNZPT NZ Heritage List # 7049 https://www.heritage.org.nz/the-list/details/7049; Wright 2001; Watson and Wright May 2004; Petchey 2007. Also see Bibliography.

ARCHAEOLOGICAL BACKGROUND[4] AND EFFECTS ON HERITAGE FEATURES

The ESE Project sub-area of the plateau was previously mined for coal in the second half of the 20th century and encompasses four main previous mining areas – the Escarpment, Whareatea, Sullivan and Sullivan West Mines on the Denniston Plateau. Only the ventilation portal known as The Steps at Whareatea was established before then, in 1926. Like the Stockton Project sub-area, there are extensive historic mine workings on the Denniston Plateau where the ESE Project sub-area is located. These are shown in Figure below.

There have been several previous archaeological studies within the ESE mining area. The first was an archaeological survey undertaken by Terry and Sonia Sumner in 1982, leading to the 'Coalfields Park Report' (Sumner and Sumner 1983). The Sumners surveyed the remains of both the Whareatea and Escarpment mine and were in the fortunate position of surveying the latter not long after it ceased operation. Thus, it is an accurate record of what was on site when work in the mine ceased in 1982. It contains several photographs of standing buildings dating to this time and a sketch map of the site.

Subsequently, a survey was carried out by Les Wright and Katharine Watson in 2003 that focused on the remains of the Whareatea, Sullivan and Sullivan West coal mines (Watson and Wright May 2004).

More recently, several surveys were carried out by Katharine Watson of the Escarpment Mine (Watson Apr 2009, June 2010, Aug 2010). As well as recording the archaeological features in these areas at that time, the reports drew together the history of those mines and contain information about the archaeological features found at the Escarpment, Whareatea, Sullivan and Sullivan West mines including location information recorded with a hand-held GPS and orthophotos showing the location of these features.

In 2014 Buller Coal Limited (BCL), a subsidiary of Bathurst Resources, was granted an access arrangement from the Minister of Conservation for open cast coal mining at the Escarpment Mine within Mining Permit 51279. Under this agreement, BCL provided compensation for the loss of conservation values resulting from the operation of that mine. Within the proposed ESE Project sub-area, this included the destruction of the earlier remains of the Escarpment Mine (K29/75), the Plateau Mine (K29/73), the Birchalls Cooperative Party Mine (K29/74) and part of the Whareatea Mine (K29/72) for the widening of the Whareatea access road (Watson Jun 2011).

A portion of the compensation funds required to be provided under the terms of the access arrangement was specifically designated to enhance historic values on the Denniston Plateau at key historic sites. The Denniston Plateau Historic Compensation Management Plan (Department of Conservation Nov 2013) provided a summary of the management actions required to achieve the enhancements. The sites chosen for historic enhancement using the compensation funds were Conns Creek, Coalbrookdale and Burnetts Face. All three were areas where the Department already provided some level of visitor access, or carried out historic conservation work. The compensation funds are therefore being used to complement and enhance existing work so that the funds will generate the best possible outcome for historic values. In addition, the Escarpment Mine Historic Heritage Management Plan (Bathurst Resources Ltd Apr 2015) described the strategy, objectives

[4] Refer to the accompanying Appendix report for greater detail on the archaeological background of the wider Project area.

and actions to mitigate the adverse effects on historic heritage because of the Escarpment Mine and document a heritage compensation package agreed with DOC.

The management actions to achieve the enhancements and mitigate adverse effects of the Escarpment Mine on historic heritage under this management plan have been completed at Conns Creek, Coalbrookdale and Burnetts Face (Department of Conservation 2023).

Under the renewed 2025 Concession Document (Easement) between BCL and the Minister of Conservation to have access to the Escarpment Mine along Whareatea Road a portion of compensation funds have been designated to fund the production of the Banbury and Denniston Plateau walk interpretation signs.

Archaeological survey and inspection of the ESE Project sub-area was conducted by the first two authors in March 2020, November 2024 and April 2025.

Recorded Historic Heritage Sites

As a result of previous survey and research, seven heritage sites are recorded within and in close proximity to the ESE Project sub-area on NZAA ArchSite (see Figure 6 and Table 1). These sites all relate to 20th century coal mining on the Denniston Plateau. Although of recent origin the recorded coal mines – K29/72 Whareatea Mine, K29/73 Plateau Mine, K29/74 the Birchalls Cooperative Party Mine, K29/75 Escarpment Mine, K29/98 Sullivan Mine and K29/99 Sullivan West Mine – represent two important phases in the Denniston mining history. Namely the move onto the Plateau that occurred in the 20th century and the development of hydro mining during the last quarter of the century (Watson and Wright May 2004:4).

The other main site within the ESE Project sub-area is the Monocable Aerial Cableway System (K29/59) built in 1950-1953 to carry coal from the Whareatea, Escarpment and Sullivan Mines to the brakehead bins at Denniston. Remains of the aerial system are scattered over a 3.68km aerial route across the Denniston Plateau.

Watson and Wright (May 2004:29) also noted that it is unlikely that every heritage feature and/or site within this area of the Denniston Plateau has been recorded during field work. More sites may remain under vegetation or buried by soil and/or coal.

The Whareatea Mine (K29/72), Sullivans Mine (K29/98) and the Monocable Aerial Cableway System (K29/59) that will be affected by the ESE Project sub-area are discussed in detail below. Note, that effects on the Plateau Mine, Birchalls Cooperative Party Mine and earlier Escarpment Mine have been previously mitigated and compensated as part of the open cast coal mining at the Escarpment Mine within Mining Permit 51279 (Bathurst Apr 2015; Department of Conservation Nov 2013).

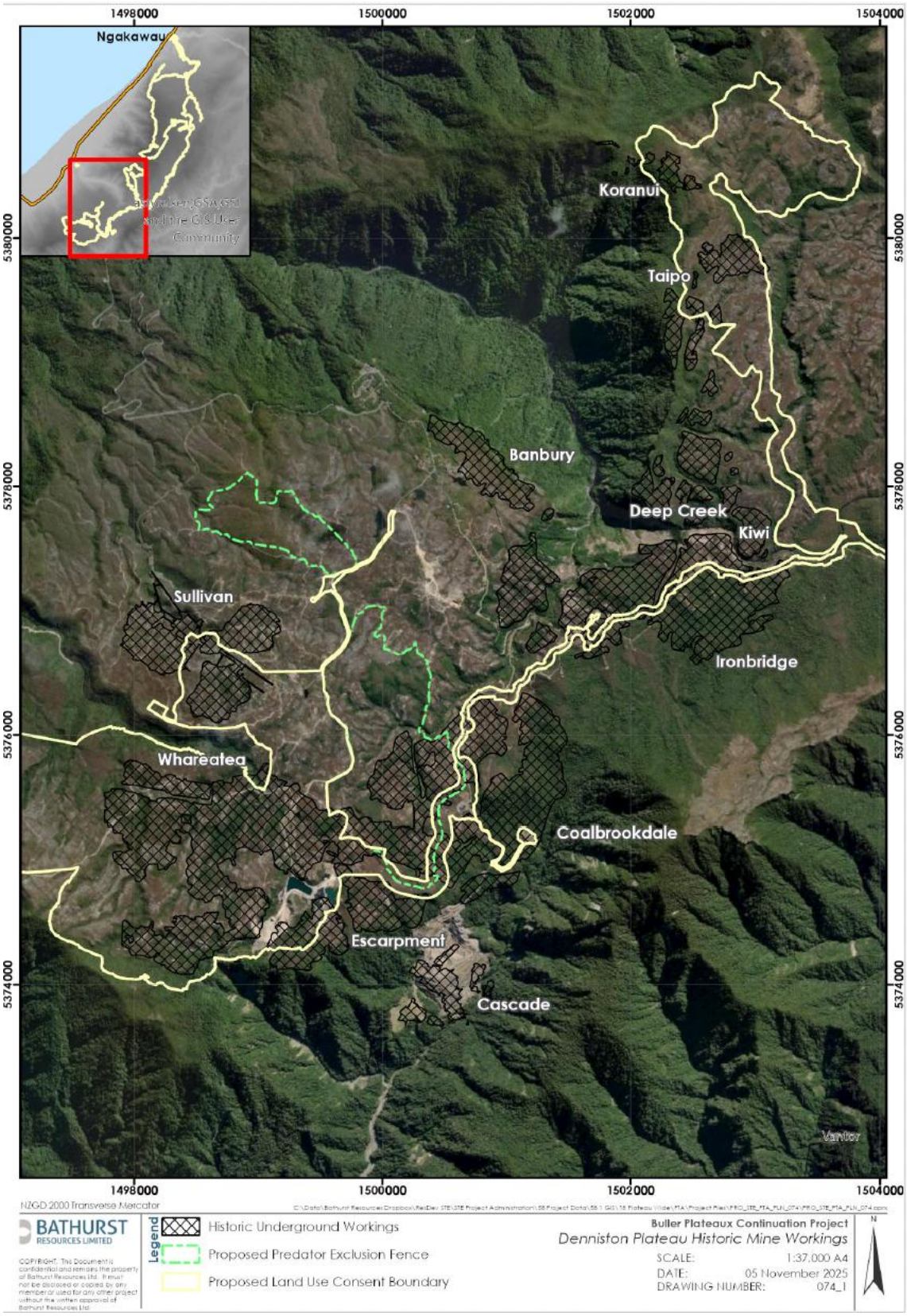

Figure 5. Denniston Plateau historic underground mine workings in relation to the BPCP (source: Bathurst)

Table 1. Archaeological and other historic heritage sites recorded within and in proximity to the ESE Project area. Sites that will be affected by the ESE Project are highlighted in grey

NZAA Site No.	District Plan ref	Heritage NZ List ref	Wright (2001) ref[5]	Site Type	Name	NZTM Easting	NZTM Northing
K29/59		Lower Aerial Tower	83, 85	Mining - Coal	Monocable Aerial Cableway		
K29/72			82	Mining - Coal	Whareatea Mine	[redacted]	[redacted]
K29/73			81	Mining - Coal	Plateau Mine (Closed off adit)	[redacted]	[redacted]
K29/74			79	Mining - Coal	Birchalls Cooperative Party Mine (destroyed)	[redacted]	[redacted]
K29/75			80	Mining - Coal	Escarpment Mine	[redacted]	[redacted]
K29/98			86	Mining - Coal	Sullivan Mine	[redacted]	[redacted]
K29/99			87	Mining - Coal	Sullivan West Mine	[redacted]	[redacted]

Note, the effects on the Plateau Mine, Birchalls Cooperative Party Mine and earlier Escarpment Mine have been previously assessed, mitigated and compensated as part of the open cast coal mining at the Escarpment Mine within Mining Permit 51279

[5] Refer Figure 7 of the accompanying Appendix report: BPCP Historical and Archaeological Background.

Monocable Aerial Cableway (K29/59)

Archaeological Background

Built in 1950-1953, this electrically powered monocable aerial system carried coal from the Whareatea, Sullivan and Escarpment mines to the Denniston Incline brakehead from 1954 until 1968. It was 2.29 miles (3.68km) long, comprising drive and loading stations at the Whareatea end, an intermediate loading station at the Sullivan mine bins, an angle station 1.29 miles (2.07km) from the incline brakehead, a terminal tower inside the brakehead bins and 38 support towers.[6]

Most of the cableway towers were removed for scrap when the aerial cableway was replaced by road transport in 1968; however, there were still 14 standing cableway towers in 1982. Subsequently, most towers were taken down for steel to build supports for hydro pipes at the Whareatea Mine.

The main elements of the Monocable Aerial Cableway can be found today at Denniston township and Brakehead and near the Sullivan and Whareatea Mines sites (see Figure 7 and Table 2). However, remnants are scattered along the 3.68km aerial route between the Denniston Brakehead and The Steps entrance to the Whareatea Mine. Three towers remain standing and are maintained by DOC (Features A6, A35, A39) (Figure 8). Between the drive station at Whareatea Mine and the Incline Brakehead at Denniston are concrete foundations and numerous metal remains including tower components, wheel assemblies and buckets. Thirty-five sets of concrete foundations have been recorded (Figure 9).

[6] For more detailed historical background to this site see the Appendix: BPCP Historical and Archaeological Background.

Table 2. Monocable Aerial Cableway features (see Figure 7) (source: Watson and Wright May 2004:43-44). Those features highlighted dark grey will be impacted on by the ESE Project sub-area

Feature No.	NZTM East	NZTM North	Description
A1	[redacted]		Drive station, Whareatea end. 644m above sea level (asl). See Figure 19
A2	[redacted]		Concrete with steel in line of aerial on south side of road. See Figure 10
A3	[redacted]		Two slabs north of access road from drive station – partly buried in bulldozed material.
A4	[redacted]		One slab only found, almost completely covered by turf in overgrown zone north of and across access road from drive station.
A5	[redacted]		Four foundation slabs, 1.5 x 1.5 m, no relics. 629m asl.
A6	[redacted]		Tower standing on slabs, wheel assemblies on ground. 658m asl.
A7	[redacted]		Foundations, both wheel assemblies, one wheel missing from each. 657m asl.
A8	[redacted]		Single slab, both wheel sets, one wheel missing from loaded set, buckets. 670m asl.
A9	[redacted]		Two slabs, wheel sets, one wheel. 672m asl.
A10	[redacted]		Two slabs, no relics. Below brow. 676m asl.
A11	[redacted]		Two slabs, unloaded wheel assembly, some tower components (including one marked 'NW Middle' and top piece with intact insulator). 673m asl.
A12	[redacted]		Two slabs, tower bases and brackets, loaded assembly with no wheels, piece of cable. 676m asl.
A13	[redacted]		Foundation slabs only. 677m asl. See Figure 9
A14	[redacted]		Sullivan bin at junction with loading shunt rail (below tower 11b on bins plan).
A15	[redacted]		Transverse slabs at Sullivan Mine – possibly first tower north of bins.
A16	[redacted]		Foundation slabs only. 665m asl.
A17	[redacted]		Single slab. 663m asl.
			GULLY & CREEK
A18	[redacted]		Single slab. 653m asl.
A19	[redacted]		Two slabs. 652m asl.
A20	[redacted]		Two slabs over 1m high. 648m asl.
A21	[redacted]		Angle station (north end). Flat concrete foundation with low kerbs. 649m asl. Figure 9
A22	[redacted]		Toilet over creek in gully
A23	[redacted]		Foundation slabs, buckets nearby. 649m asl.
A24	[redacted]		Slabs only. 658m asl.
			ROAD

Feature No.	NZTM East	NZTM North	Description
A25	[redacted]		Slabs only. 648m asl.
A26	[redacted]		Slabs, wheel set. 665m asl.
			ROAD
A27	[redacted]		Slabs, both wheel sets, intact ladder. 661m asl.
A28	[redacted]		Slabs, both wheel sets, ladder. 664m asl.
			GULLY
A29	[redacted]		Two oblong slabs flush with the ground. Steel tower foundation, section of ladder withone side missing. Loaded wheel set, no wheels, nearby. Pipe with insulators a short distance north along aerial line. Three good buckets near power pylon at top of hill. 676m asl.
A30	[redacted]		One small foundation slab, with possibly another underneath a base flange on ground. Some tower angle gussets. Loaded wheel set, one wheel each end, complete unloaded wheel set. Two buckets. 660m asl.
A31	[redacted]		Long slab, flush with ground, with rectangular steel tower base (other pad not visible). About 20m south are seven buckets, bucket hangers, part of tower, two ladder sections, and a loaded wheel set with no wheels. Four more buckets lie north along the aerial line. A rough track from here runs towards the main Denniston Road with short connecting tracks to foundations.
A32	[redacted]		Two oblong foundation slabs, tower section, cross piece, loaded wheel set. 647m asl.
A33	[redacted]		Two oblong foundation slabs with rectangular steel tower base, tower components onthe ground, ladder, wheel bearer, half wheel strut each end with wheel on one, top piece with no insulators, angle piece with pulleys similar to previous, plus one pulley strut. 638m asl.
A34	[redacted]		Two oblong slabs with steel rectangular base, bucket, hanger, long sections of ladder, loaded wheel set (complete but mangled). 633m asl.
A35	[redacted]		Oblong slabs with standing tower, missing only ladder and unloaded wheel set on eastside. Wheel strut at base. Section of cable on ground. 626m asl.
A36	[redacted]		Two oblong slabs, no relics, several lengths of cable. 616m asl.
A37	[redacted]		Two oblong slabs overlooking Waimangaroa-Denniston Road from south side. 620masl.
A38	[redacted]		Fallen tower (grid ref near foot – foundation not located).
A39	[redacted]		Two oblong slabs with standing tower, restored by DOC. Some wheel assembly components and crane components. See Figure 8
A40	[redacted]		On cable tensioner.
A41	[redacted]		Return wheel tower, bins site.

Figure 8. A surviving aerial cableway support tower above the Denniston Brakehead (Feature A39). This tower is maintained by DOC, and the two buckets have been mounted on the tower to give the impression of how it would have appeared when working

Figure 9. Double support tower foundation for the aerial cableway near Sullivan Mine (Feature A13)

Effects of the ESE Project Sub-area

Remnants of the aerial system within the ESE Project sub-area that will be removed by the proposed activity include concrete foundations slabs for the towers – Features A2, A3, A4 and A5, located north of the Whareatea Mine site (Figure 11 and Figure 21). These features that will be affected are highlighted on Table 2 and shown on Figure 7.

In total these affected remains equate to approximately 10% of the site and consist of foundations only, with no standing structures affected. Overall, the majority of the Monocable Aerial Cableway remains will not be affected.

The Top Loading and Aerial Drive Station (Feature A1) at the Whareatea Mine is located immediately adjacent to the proposed ESE disturbance footprint but will be avoided and protected (see Figure 20). The associated Monocable Aerial Cableway foundations at Sullivans Mine (Features A12 – A14) will also be avoided (see Figure 25).

Bathurst have committed to avoid any remnants of the Monocable Aerial Cableway within the wider ESE Project sub-area outside the proposed areas of disturbance. This includes Features A6 – A16 of the Monocable Aerial Cableway. These wider consent areas will remain buffer areas where Bathurst does not intend to disturb, however consent is being sought to do so for contingencies or where further detailed designs are yet to be completed.

Figure 10. Monocable Aerial Cableway Feature A2 concrete slab foundations beside Whareatea Road that will be removed by the ESE

Whareatea Mine (K29/72)

Archaeological Background

The ESE Project sub-area encompasses part of the workings of the Whareatea Mine, which consists of above ground remains and the extensive surviving underground workings. The Whareatea Mine is a 20th century underground coal mine that was operational from 1926 to 1988, progressing through three stages as The Steps entrance to the Whareatea section of Coalbrookdale (1926-1953); Bord and Pillar mine (1953-1971); and a hydro mine (1982-1988).[7]

In 2003 detailed recording of all heritage sites and features (considered to be any tangible item that could be recorded and/or investigated using archaeological methods) within the vicinity of the Whareatea, Sullivan and Sullivan West Mine were recorded (Watson and Wright May 2004). This involved establishing a location with a hand-held global positioning system (GPS) unit (Garmin 12 XL) and recording this location on an aerial photograph. Where appropriate, measurements of each feature were taken, a photograph was taken, and/or significant details were recorded.

The key historic and archaeological features remaining on the surface at the Whareatea Mine are the foundations of structures associated with the operations (Clifford and Barr 2014:2). Most of the original foundations of the surface infrastructure associated with the

[7] For more detailed Historical Background to this site see the accompanying Appendix report: BPCP Historical and Archaeological Background.

mine remains in situ and is classified as being in moderate condition (Watson Aug 2010), although the site has been disturbed and features removed since 2003.

The features that remain are mostly concrete; for example, building foundations, the remains of the bins and the hydro mining system, the blocked-up mine entrance, a bridge, portal, foot track and flume (Bathurst Resources Ltd Apr 2015:9). However, very little in the way of portable artefacts remained at the site, with any reusable equipment having been taken from the site between 1988 and 2013.

The entire Whareatea Mine Road was widened and upgraded in 2014 as part of the Escarpment Mine Project, including its route through the Whareatea Mine site. For the large part the site was not physically impacted on, other than a few features within 10m of either side of the road. A baseline survey of historic features located within 10m either side of the upgraded Whareatea Road was carried out in December 2013 (Clifford and Barr 2014).

The remains of the Whareatea Mine recorded in 2004 by Watson and Wright and in 2014 by Clifford and Barr are shown in Figure and Figure 12 and described in Table 3. Site inspection by the authors in 2020 and 2025 confirmed that the previously recorded surface infrastructure associated with the Whareatea Mine remains in situ (Figure 13 – Figure 20). The extent of the underground workings at Whareatea Mine are shown in Figure 22. Their state and condition are unknown.

Figure 11. Aerial view of Whareatea Mine showing historic features labelled and described in Table 3 (source: Watson and Wright May 2004: fig. 4)

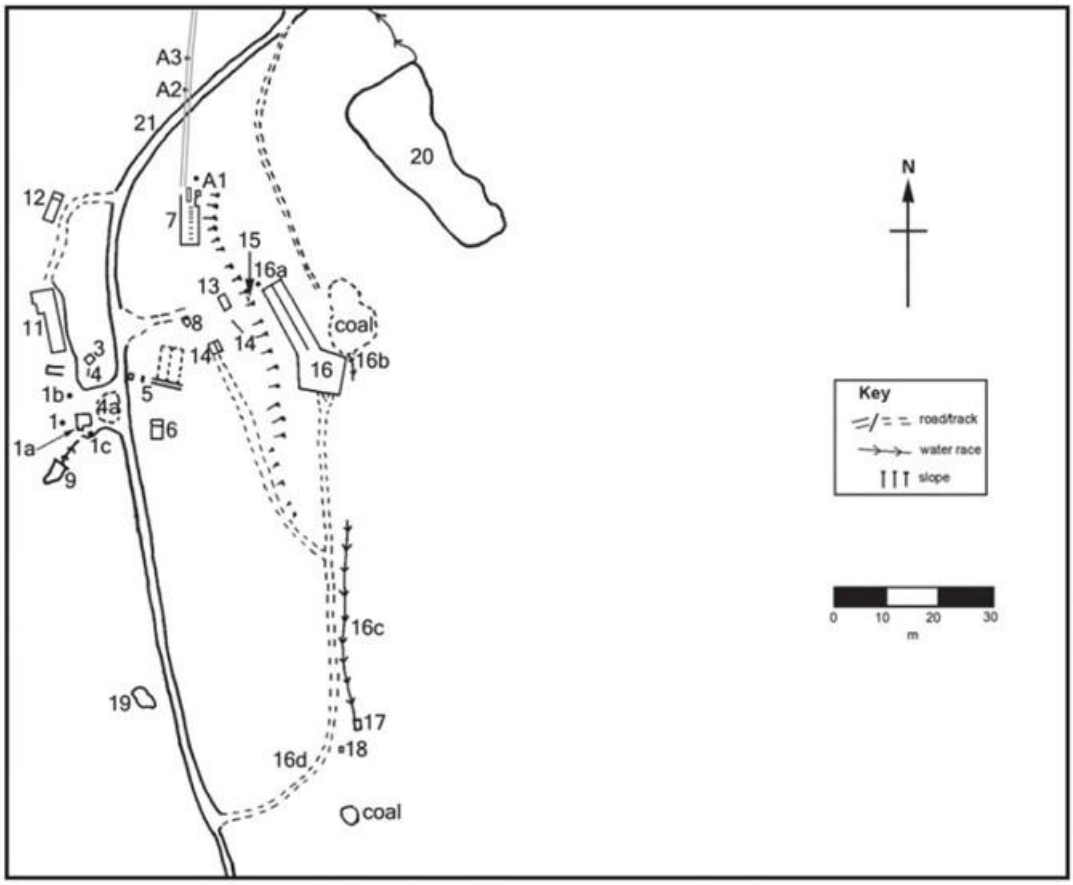

Figure 12. Plan of the Whareatea Mine features labelled and described in Table 3 (source: Watson and Wright May 2004: fig. 5)

Table 3. Whareatea Mine features (see Figure and Figure 12). The feature highlighted dark grey will be affected by the ESE project sub-area

Feature No.	Feature	Description
1	The Steps entrance / fan drift (Whareatea entrance to the Coalbookdale Mine)	Concrete portal to hold steel doors. See Figure 15 and Figure 16
1a	Fan house foundations	Concrete foundation of the fan house (5.6 x 4.75m). The large block that supported the fan is still in place. There are metal items sitting on the foundations. See Figure 15
1b	Concrete rubble	A pile of concrete rubble from blowing up The Steps entrance.
1c	Doors from The Steps entrance to Whareatea	Large metal 'explosion' doors. These doors were leaning against the bank immediately north of the entrance but are no longer in situ
2	Whareatea men and materials entrance	See Figure 17
3	Winch foundations	Cocky Coburn's winch foundation. 3.1 x 3.1m. See Figure 14
4	Conveyor foundations	Conveyor foundation. 4.11m long, 0.9m high, 0.3m wide.

Feature No.	Feature	Description
4a	Conveyor remains	Metal items, including a structure with bearings that held the double-drum belt conveyor drive-head. The conveyor drive head is now sitting on the mine entrance side of the conveyor foundation.
5	Mine conveyor terminal foundations	A chute that has been blasted out of the rock and has concrete foundations on top of it and a large, tall concrete foundation to one side. The chute contains gorse, timber and machinery. There is another structure to the west of the chute, consisting of concrete foundations and coal. The chute appears to line up with the mine entrance and there is a concrete pad with metal standards (buried inplaces) at the base of face below the chute.
6	Conveyor tail roller foundations & dump hopper foundations	A concrete pad (5.23 x 4.6m) aligned towards the bin/aerial drive station. There is a concrete structure with 4 walls that are 200mm thick and 1.3m high, with a 1.36m wide opening in the north wall and remains of bolts along the top of the western wall. The easternwall is built into the bank and is overgrown, as is the base. A concrete apron, sloping southward with the ground, extends approximately 3m north of the structure, then narrows to path width for approximately 4m further north.
7	Bin and aerial drive station foundations	There are 8 blocks in a parallel line (1.52 x 0.46m) with a single metal bolt (now bent over) in the middle of each. There is a large sloping block (6.2 x 1.85m) at the northwest end of these blocks and a well next to the block (for the weights associated with the operation of the aerial cableway. See Figure 20
8	Workshop foundations	Corrugated iron and timber lying around the foundation pad. 4.04 x approximately 5.2m.
9	Dam	Sealed off a gully. There is a gap in the top for the overflow. This flowed into a stone-lined drain. There is also a pipe at ground-level that may have flowed into the drain. The dam stands 1.5m above ground level, is 0.38m thick, and is reinforced.
10?	Water tank	An empty iron tank with timber supports.
11	Office and workshop foundations	Administration building (this replaced 2 earlier buildings on the same site). There is a brick chimney and steps along the front. The top of the chimney has fallen off and lies beside it. The foundation is 23.65m long and 8.35m wide (not including the steps). There are also steps at both ends and there was possibly a verandah. See Figure 14 and Figure 18
12	Stable foundations/storage shed	Shed has been removed and only foundation remains
13	Electrical substation foundations	Earthing rods associated with this foundation. 4.78 x 3.25m.
14	Home coal bin foundations	This concrete foundation appears to have been the floor of a structure for trucks to drive through. There is timber boxing on the hill side of the structure and coal within this. The concrete part of the feature is 4.61m wide and 4.6m long. The wooden part is 1.75m wide. A concrete foundation (3.15 x 0.5m) is set in the ground nearby.
15	Timber retaining wall	On slope below dewatering pads (16). 2 timber planks.

Feature No.	Feature	Description
16	Dewatering pads	2 bins with sloping floors. There is an apron at the front which includes a bay that trucks drove through to be loaded with coal. There is also a drain that flows through the apron. See Figure 19
16a	Timber platform	A timber platform on a concrete foundation.
16b	Drain outlet	This is the point where the drain in the dewatering pad's apron flowed out into wooden fluming (16c).
16c	Timber flume	Timber fluming that carried water from the dewatering pads (16) to the fines filtration tank (17). Little of the fluming is intact and/or in situ, but it is possible to follow most of the line of the fluming.
16d	Metal road	This runs through the site from the main access road (21).
17	Fines filtration tank	Bin into which coal fines were discharged (along with water) after being carried along timber fluming (16c). The bin still contains fines (it is nearly full) and had a bell system for warning when the bin was full. There is a control gate on one side.
18	Water recirculation pump shed foundations	There is plastic pipe sticking out of 2 sides of the foundation. The foundation measures 3.67 x 4.27m. A smaller concrete block lies at one end of the foundation; it is 1m square.
19	Collapsed workings/rubbish hole	Contains items that may have come from the mine and/or associated buildings.
20	Fines settling pond	Formed by a concrete weir where a stream ran through a natural depression and still contains water and coal fines.
21	Whareatea Road	
22	Brazil's Dam	A natural gully flooded by a concrete dam (destroyed by Escarpment mining)

Figure 13. Looking northwest over the Whareatea Mine site. The Whareatea Road is left, the office chimney (Feature 11) is left centre, and the dewatering pads (Feature 16) right centre

Figure 14. Looking from the electrical substation foundations across Whareatea Road towards the mine entrances, winch foundations (Feature 3) and office and workshop foundations (Feature 11)

Figure 15. Looking from Whareatea Road to the 'The Steps' entrance (Feature 1) with the fanhouse foundations (Feature 1a) in front

Figure 16. Looking down the 'The Steps' entrance (Feature 1)

Figure 17. Whareatea men and materials entrance (Feature 2)

Figure 18. Whareatea office and workshop foundations (Feature 11) and office chimney

Figure 19. Whareatea dewatering pads (Feature 16) from the lower part of the truck loading apron

Figure 20. Bin and aerial drive station foundations (Feature 7) for Monocable Aerial Cableway Drive Station (Feature A1)

Effects of the ESE Project sub-area

At the Whareatea Mine site (K29/72) the proposed ESE pit and associated infrastructure have been designed to avoid impacting directly on the vast majority of the Whareatea Mine surface features located on either side of the Whareatea Road, but will impact on the Whareatea mine underground workings. Of the surface features only the fines settling pond (Feature 20) and an area of coal debris will be directly affected (Figure 21).

The fines settling pond was built during the hydro mining era (1982-1988) for recovery of coal fines. Timber inserts were put in as required to contain fines as the level rose, enabling water to filter out (Brian Kerr, pers. comm. in Watson and Wright May 2004). The pond was formed by a concrete weir where a small creek ran through a natural depression and it still contains water and coal fines.

It should be noted that it is unlikely that every heritage feature within this area of the Denniston Plateau has been recorded during field work. More 20th century mining features and remains may exist under vegetation or buried by soil and/or coal.

Bathurst have committed to avoid the remains of the Whareatea Mine surface features within the wider consent area outside the proposed areas of disturbance. This includes all recorded surface features of the Whareatea Mine, excluding Feature 20 Fines Settling Pond, which will be destroyed. These wider consent areas will remain buffer areas where Bathurst does not intend to disturb.

Underground Workings

The ESE pit (where earthworks will go deep enough) will rework and destroy the extensive Whareatea (New Birchalls Steps, part East Waterloo, Bobbys Dip, Forsyths, and part Birchalls), and part of the remaining Escarpment underground workings (Figure 22 and Figure 23). Whareatea Mine was an underground mine that was operational from 1926 to 1988, progressing through three stages as The Steps entrance to the Whareatea section of Coalbrookdale (1926-1953); Bord and pillar mine (1953-1971); and a hydro mine (1982-1988). It can be contended that the Whareatea Mine actually went through four stages of development, with an earlier one prior to The Steps being built. From 1907 the mine was known as the Whareatea section of the Coalbrookdale Mine. However, the final phase of hydro mining reworked and pillared the majority of the earlier phases.

Following the State takeover of the Westport Coal Company there was a considerable amount of investment in the Whareatea, and this area became the main mine portal rather than just The Steps entrance (which became a fan drift rather than an entrance). To this end, a new entrance was driven. The proposed ESE pit will remove the underground remains of The Steps (fan drift) drive and new entrance drive.

The extent of these underground workings at Whareatea and Escarpment occurred in relatively recent times and they are well recorded and understood. However, their current state and condition are unknown.

There is, however, some potential that evidence of the mining techniques employed and the conditions of the workers, that is not shown on underground mine plans or recorded elsewhere, may be uncovered. In the Whareatea Mine it might be possible to compare the nature of the workings undertaken by the State Mines Department and the later Birchalls Party at K29/74. Underground exploration of the Millerton workings on the Stockton Plateau also revealed graffiti and scattered artefacts, some personal and other industrial. If such items were found at Whareatea, they would further inform our understanding of

mining and miners. However, safety is an issue that must be considered prior to any exploration of underground workings.

Figure 21. Overlay of the Whareatea Mine features on the proposed ESE disturbance footprint (orange hatched lines)

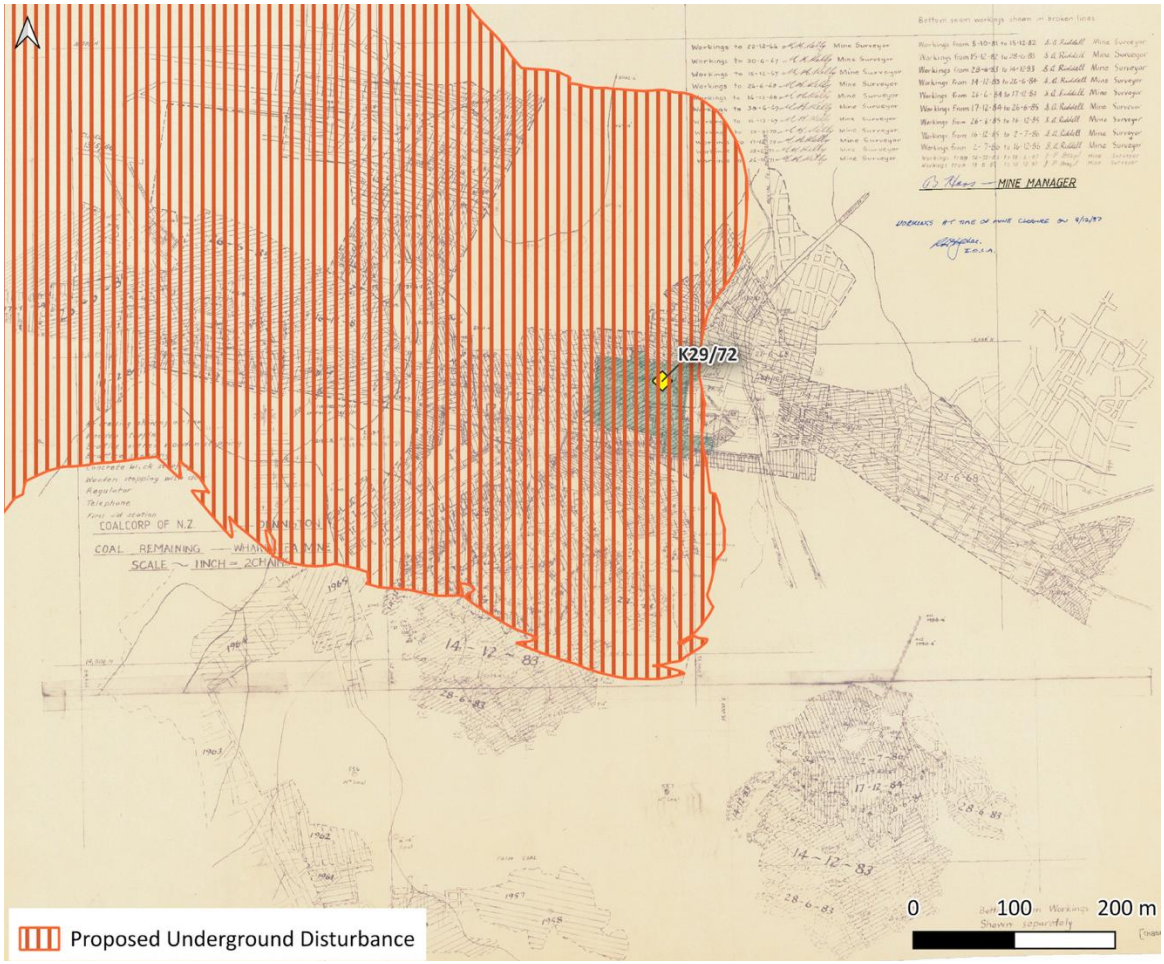

Figure 22. ESE Pit overlay of the extent of the Whareatea underground workings when the mine closed, December 1987 (source: CH851/78d, Archives New Zealand)

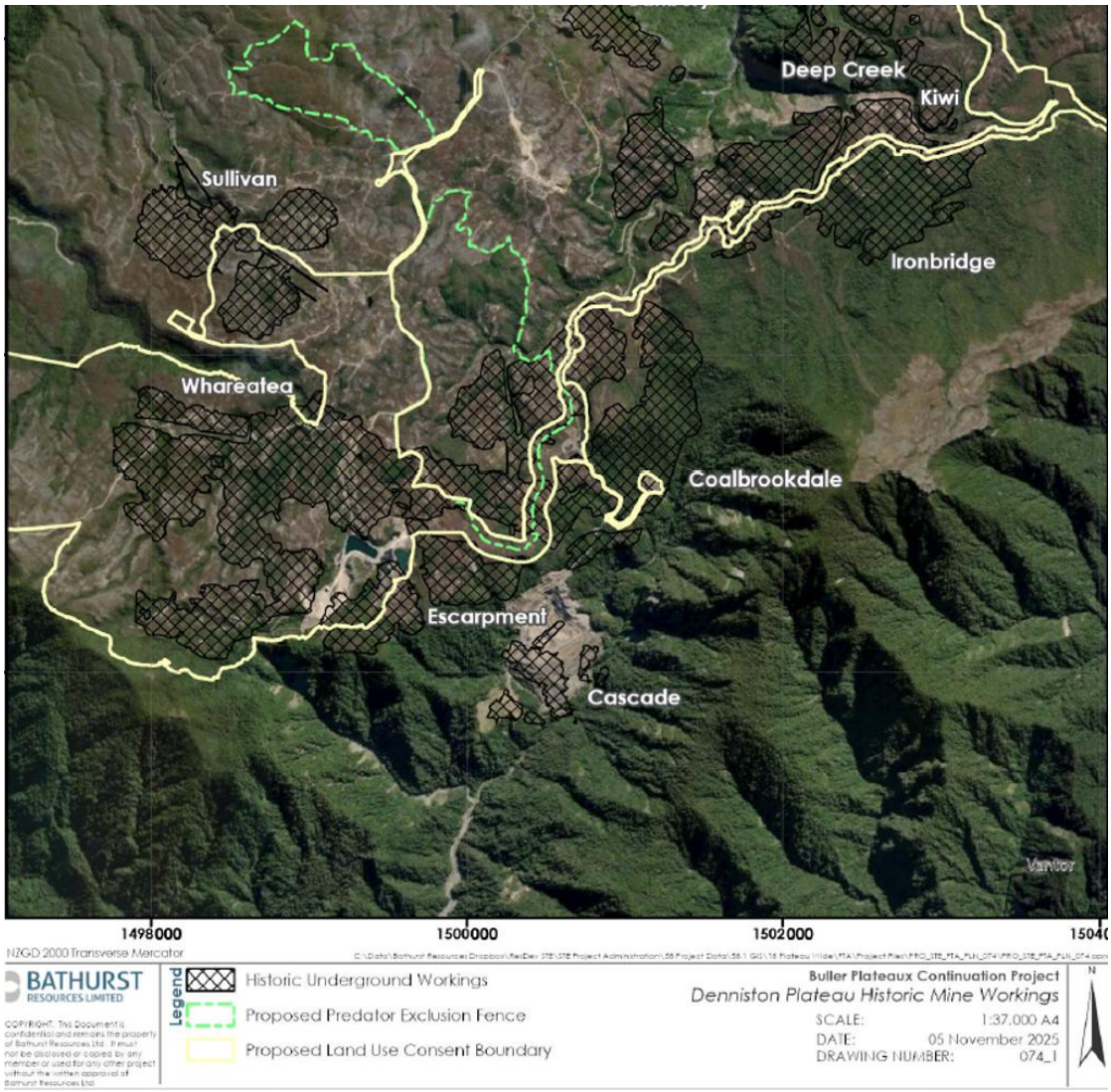

Figure 23. ESE Consent boundary overlying the extent of historic underground workings (black hatching) (source: Bathurst)

Effects of Air Blast and Vibration

Air blast and vibration levels for avoiding structural damage to historic structures have been assessed in the BPCP Assessment of Noise Effects (Marshall Day Acoustics Feb 2026:36).

Guideline vibration limits for '*Structures that, because of their particular sensitivity to vibration, cannot be classified under [Commercial or Residential buildings] and are of great intrinsic value (e.g. listed buildings)'* are provided in the Noise Assessment report. It is noted that Bathurst already has established procedures that recognise potential damage to historic buildings and monuments from blasting at Stockton. The document, 'Stockton Mine Drilling and Blasting Design Application and Reporting' (STO-TEC-PRO-102 ver 2.0) provides vibration criteria and procedures for controlling ground vibration. The Noise Assessment recommends that this procedure should apply to all project areas, including the Stockton Project sub-area, and that STO-TEC-PRO-102 ver 2.0 is updated with the DIN 4150-3:2016 Guideline values for vibration velocity, for evaluating the effects of short-term vibration on historic structures.

The guideline vibration levels for structures that align with the DIN 4150-3 classification are set out in Table 15 of the Assessment of Noise Effects:

Table 15: DIN 4150-3:2016 Guideline values for vibration velocity, for evaluating the effects of short-term vibration on structures

Guideline values for peak particle velocity at foundation, at all directions, at a frequency of		
1 Hz to 10 Hz	10 Hz to 15 Hz	50 to 100 Hz
3 mm/s	3 to 8 mm/s	8 to 10mm/s

The BPCP Assessment of Noise Effects also recommends that for the protection of sensitive heritage structures:

Blasting vibration shall not exceed the following peak particle velocities when measured at the foundation of sensitive heritage structures:

Peak particle velocity at foundation, at all directions, at a frequency of		
1 Hz to 10 Hz	10 Hz to 15 Hz	50 to 100 Hz
3 mm/s	3 to 8 mm/s	8 to 10mm/s

To assist with the evaluation of potential damage to heritage structures from blasting, historic structures were identified that could be at risk due to their construction and proximity to BPCP activities. This included standing brick and concrete surface structures at the Whareatea Mine site – Office and workshop brick chimney (Feature 11), the Dewatering Pad standing concrete walls (Feature 16), The Steps Mine Entrance/Fan Drift (Feature 1); Men and Materials Mine Entrance (Feature 3) and Concrete Dam (Feature 9). These structures should be assessed prior to operational mining work and, if vulnerable to the effects of blasting and vibration, should be stabilized / strengthened prior to operation.

It is also recommended in the Noise Assessment report that where the applicable criterion could potentially be exceeded, mine blast engineers employ design steps to implement a 'proximity' blast that will typically include the use of smaller charge weights and blast hole diameters. Some structures may benefit from temporary shoring to minimise their vibration sensitivity.

Sullivan Mine (K29/98)

Archaeological Background

The ESE Project sub-area encompasses part of the workings of the Sullivan Mine, which includes the above ground remains and the extensive surviving underground workings. The Sullivan Mine is a 20th century underground coal mine that was operational from 1953 to 1998. It was the first mechanised mine in New Zealand.[8]

[8] For more detailed Historical Background to this site see the accompanying Appendix report: BPCP: Historical and Archaeological Background.

In 2003 detailed recording of all heritage sites and features (considered to be any tangible item that could be recorded and/or investigated using archaeological methods) within the vicinity of the Sullivan Mine were recorded (Watson and Wright May 2004). This involved establishing a location with a hand-held global positioning system (GPS) unit (Garmin 12 XL) and recording this location on an aerial photograph. Where appropriate, measurements of each feature were taken, a photograph was taken, and/or significant details were recorded.

Like the Whareatea Mine, the key historic and archaeological features remaining at the Sullivan Mine are the concrete foundations of structures associated with the operations. The features that remain include the mine entrance, the fan drift, conveyor foundations, water tank, coal bin foundations, truck bin foundations, the winch house foundation, landing platform and a variety of other foundations. Associated remains include the reservoir (Lake Cannew) (Feature 37), pump shed foundation (Feature 38) and a coal dump to the east of the main mine remains.

The remains of the Sullivan Mine recorded in 2004 by Watson and Wright are shown in Figure 24 and Figure 25 and described in Table 4. Site inspection by the authors in 2020 and 2025 confirmed that most of these features are still present as previously recorded. However, the Fan Drift entrance is no longer blocked off with earth and debris, and a metal gate has been installed to prevent access into the collapsed incline tunnel. Also, very little in the way of portable artefacts remained at the site, with any reusable equipment having been taken from the site and subsequently 'cleaned up.' Most mining relics, mainly metal remains, recorded scattered and piled up on the site in 2004 have been removed.

The extent of the underground workings at Sullivan Mine are shown in Figure 26. The No. 1 South mine workings associated with the Sullivan Mine are part of the larger Sullivan Mine workings that also incorporate No. 1 North and Sullivan West, and date from 1957 – 1969 (Figure 5).

Only a small area developed by bord and pillar method from 1958 remains in the northern section of No. 1 South, with the remaining mine further developed by pillar extraction ('pillared'). Two stone drives, one from the Men and Materials Entrance to access the coal seam, and one from the Fan Drift to provide ventilation, link to a series of mine drives to the No. 1 South and No. 1 North underground workings (Figure 26).

The Sullivan Mine was the first fully mechanised mine in New Zealand, using belt and chain conveyors underground, rather than the old hand-trucking rail system, and delivering it to the surface via another conveyor, similar to the system used at Whareatea. Like the Whareatea Mine the extent of these workings occurred in relatively recent times and they are well recorded and understood. However, their current state and condition are unknown.

Figure 24. Aerial view of Sullivan Mine showing historic features described in Table 4, and Features A12–A15 of the Monocable Aerial Cableway (K29/59) (source: Watson and Wright May 2004: fig. 8)

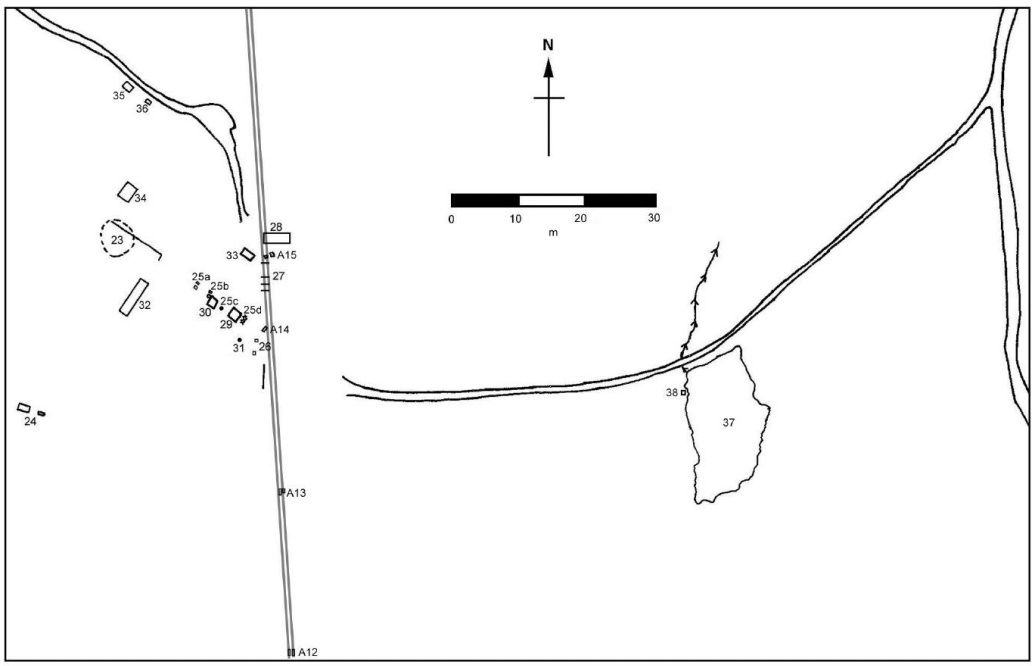

Figure 25. Plan of Sullivan Mine historic features described in Table 4 (source: Watson and Wright May 2004: fig. 9)

Figure 26. Detail from the Coalcorp of NZ Sullivan Colliery Denniston plan of the No. 1 South Sullivan Mine underground workings. The Sullivan Mine surface features are circled, including the Men and Materials mine entrance and Fan Drift which provided access to the stone drives (source: Bathurst)

Table 4. Sullivan Mine features (see Figure 24 and Figure 25). The features highlighted dark grey will be affected; those features are discussed below

Feature No.	Feature	Description
23	Men and materials entrance to Sullivan Mine	Completely infilled, with 2 bins from the aerial ropeway nearby. A concrete foundation runs along the northwest and part of the east side of the entrance. There is solid and sloping concrete at the eastern end, the rest being just an outline. See Figure 29 and Figure 30
24	Fan drift	Closed-off shaft and concrete foundations. See Figure 31
25	Conveyor gantry foundations	Three sets of two plinths. Two are associated with Site 30, there are two to the northwest (0.45 x 0.68m), and two to the northeast. See Figure 27
26	Coal bin foundations	These measure 0.45 x 0.68m.

27	Aerial/conveyor foundations	Four parallel concrete foundations, 3.05 x 0.35m. These lie transverse to the line of the aerial and the later conveyor to the truck loading bin.
28	Truck bin foundations	Concrete pad, 12.9 x 6.6m.
29	Winch house foundations	A concrete foundation, 6 x 4.43m, with remnants of steel bolts embedded in it. The winch sits on this foundation but is not in situ. See Figure 27
30	Landing platform	A concrete slab with 4 bolts sticking out of the middle.
31	Electrical substation foundations	Three concrete foundations, 0.01mm wide. There are 2 parallel foundations, 3.37m apart, and another connecting them on the side nearest the bins. Partly buried by coal fines, stones, and rubbish.
32	Workshop/store foundations	A foundation (19.1m long and approximately 5.1m wide) with railway irons running down the middle for its length. These are 0.62m apart. The foundation is incomplete, being broken on one side. See Figure 32
33	Compressor shed foundations	A concrete foundation, 6.27 x 5.06m.
34	Water tank	Large concrete bin with reinforcing rod sticking out of the walls (which are 2-3m high) and iron bars around the sides.
35	Explosives magazine foundation	A concrete foundation with 6 piles in the middle and steps at the front. The foundation is 3.14 x 5.32m.
36	Detonator magazine shell	A concrete box with a concrete roof. The door is missing. It is 2m long, 1.3m wide and 1.5m high.
37	Reservoir	A pond formed by damming a depression along a tributary of Rapid Creek. See Figure 33
38	Pump shed foundation	A concrete foundation, 2.7 x 2.4m. See Figure 33
59	Loop access road	Metalled road from Sullivan Mine to Rapid Creek

Figure 27. The Sullivan Mine gantry foundations (Feature 25b), winch house foundation (Feature 29) (background) and landing platform (Feature 30)

Effects of the ESE Project sub-area

At the Sullivan Mine site, the proposed ESE pit will impact on four surface features associated with the Sullivan Mine (Figure 28). Most of the Sullivan Mine surface features and associated Monocable Aerial Cableway foundations in this area will not be affected.

There will be no effects on the main underground workings of the No. 1 South Sullivan mine as the proposed disturbance in this area is the construction of an Engineered Landform (ELF) only and earthworks will not be deep enough to affect underground workings. The adjacent borrow pit is outside any area of underground workings.

The surface remains of the Men and Materials Entrance to the Sullivan Mine or stone dip drive (Feature 23) is also located on the very edge of the proposed ELF. This feature consists of low concrete foundation walls running along the northeast and northwest sides. Most of the southwest wall has been removed. Inside, the sloping entrance and portal have been filled to ground surface level (see Figure 29 and Figure 30). At the eastern end of the northeast wall is a rectangular concrete slab with a smaller foundation against it, sloping up in a southeasterly direction. It is recommended that the ELF is designed so that this surface feature is avoided and provides a buffer from disturbance.

Bathurst have committed to avoid any surface remains of the Sullivan Mine within the wider consent area outside the proposed areas of disturbance. This includes all recorded surface features of the Sullivan Mine that are not directly impacted upon as outlined above. These wider consent areas will remain buffer areas where Bathurst does not intend to disturb.

It should be noted that it is unlikely that every heritage feature within this area of the Denniston Plateau has been recorded during field work. More 20th century features and remains may exist under vegetation or buried by soil and/or coal.

The surface features affected are:[9]

Feature 24. Fan Drift:
The concrete / brick shell of a fan house with the incline tunnel inside (Figure 31). Adjacent is a foundation for the fan and its power unit.

History: The fan drift or return airway was driven at the same time as the men and materials tunnel (AJHR 1951) and drew foul air from the mine throughout its working life. On top of the concrete structure at the mouth was a roof of timber slabs supported with steel bars (Comeskey 1996). Equipment was removed after the mine closed, and the tunnel entrance was blocked inside the entrance in 1998.

Feature 32. Workshop/Store Foundation:
A concrete foundation 19.1m long and approximately 5.1m wide with iron rails 0.62m apart running down its length (Figure 32). The workshop was demolished following the mine closure and the entrance was blocked in 1998.

History: A long Nissen or Quanset half-round structure, built at the start of mining as a store and workshop for fitters and electricians, stood on the northern part of this foundation. Quite soon after, a rectangular building was added to the south side where a change is evident in the foundation. It had double doors in the south wall and a travelling hoist in the roof so that a road truck could be backed up and equipment unloaded. The extension was used by the fitters, and the rest of the building was for electricians and storage. The rails enabled electrical equipment or machinery requiring attention from fitters to be brought in on a mine trolley. It would be winched up to the platform (30), points would be changed, and it would be run back into the workshop. The bend outside the workshop was very tight, so anything being brought out again had to be pushed as far as possible around the bend or the winch would pull it off the rails. Adjacent on the east side was a block of flush toilets put in much later (Frank Robertson, pers. comm. in Watson and Wright May 2004).

Feature 37. Reservoir:
A pond approximately 70 x 30m formed by damming a natural depression collecting water run-off from the surrounding ground. A 200mm iron pipe underneath the Sullivan Mine access road limits the level. Large quantities of coal have been dumped on the west side (Figure 33) of the reservoir.

History: This supplied water for anti-dust measures in the Sullivan Mine (via concrete tank 35) and was also there if required for firefighting (Brian Kerr, pers. comm. in Watson and Wright May 2004). It was known as 'Lake Connew' after a mine manager (Frank Robertson, pers. comm. in Watson and Wright May 2004). The coal is a remnant of numerous stockpiles around the Sullivan Mine, either delivered there from other mines or the result of production exceeding bin capacity, mentioned frequently in mines reports.

[9] Sourced from Watson and Wright May 2004.

Feature 38. Pump Shed Foundation:
A 2.4 x 2.7m concrete foundation for a pump adjacent to the reservoir (Feature 38) (Figure 33).

History: The pump that delivered water to the holding tank (Feature 34) was housed here.

Effects of Air Blast and Vibration

Air blast and vibration levels for avoiding structural damage to historic structures have been assessed in the BPCP Assessment of Noise Effects (Marshall Day Acoustics Feb 2026:36) and are discussed above under the Whareatea Mine.

To assist with the evaluation of potential damage to heritage structures from blasting, historic structures were identified that could be at risk due to their construction and proximity to BPCP activities. This included standing brick and concrete surface structures at the Sullivan Mine site – Concrete Water Tank (Feature 35). This structure should be assessed prior to operational mining work and, if vulnerable to the effects of blasting and vibration, should be stabilised / strengthened prior to operation.

It is also recommended in the Noise Assessment report that where the applicable criterion could potentially be exceeded, mine blast engineers employ design steps to implement a 'proximity' blast that will typically include the use of smaller charge weights and blast hole diameters. Some structures may benefit from temporary shoring to minimise their vibration sensitivity.

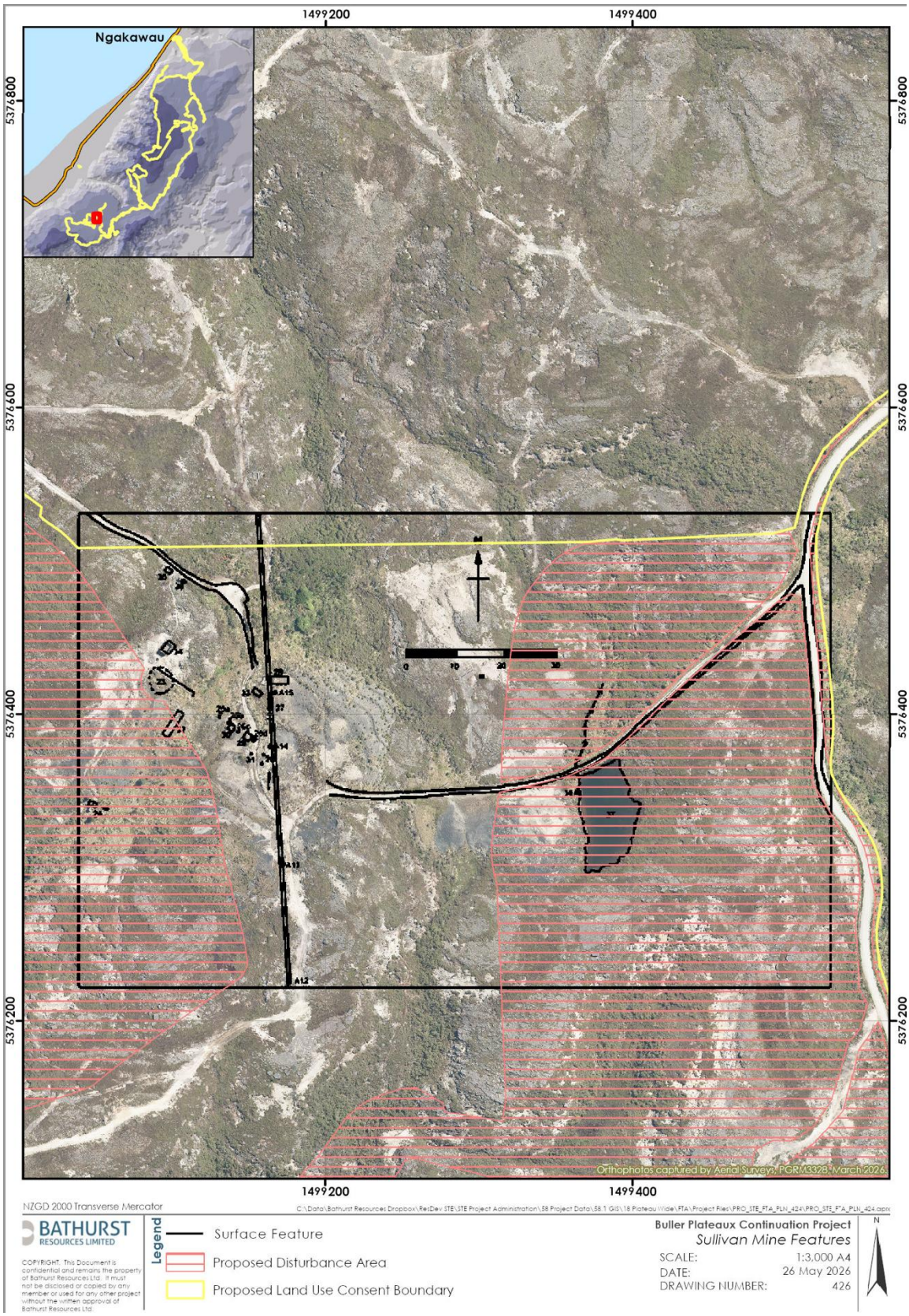

Figure 28. Overlay of the Sullivan Mine features on the proposed ESE disturbance (orange hatched lines)

Figure 29. Intact end and side kerbing at Sullivan Mine entrance (Feature 23), showing backfill (right of retaining). The concrete water tank (Feature 34) and some mine boxes or tubs are in the background

Figure 30. A view down the Sullivan Mine entrance (Feature 23) late in the mine's life, with the rails at centre and conveyor at right. Materials and equipment were stored in the large entrance shed. (Solid Energy, Westport, photo B2020. In Watson and Wright May 2004: plate 29)

Figure 31. The concrete/brick shell of the Sullivan Mine fan house with the incline tunnel inside (Feature 24)

Figure 32. The concrete foundation of the workshop/store at Sullivan Mine (Feature 32)

Figure 33. The reservoir at Sullivan Mine (Feature 37) with the pump shed foundation on its edge (arrowed – Feature 38) and metal outlet pipe in the foreground. Fines from one of many Sullivan coal dumps are spread almost to the shore of the reservoir in the background

Drill Hole and Building Remains

Watson (Aug 2010) recorded what appeared to be the remains of a drill hole and possible building on a loop track to the west of the Sullivan Mine (Figure 34 and Figure 36). The possible building remnants consisted of a piece of concrete with a service pipe set in it. The piece of concrete was set between two timbers and there were other pieces of metal scattered around. The possible drill hole was slightly downslope and consisted of a small but deep hole in the ground which was lined with metal. There were also pieces of metal lying on the ground here. It has not been possible to establish anything about this site. As such, it is difficult to determine its archaeological value (Watson Aug 2010:26) and it is considered to be of little or no historic heritage or archaeological value.

Metal Bolts

Watson (Aug 2010) recorded two in situ metal bolts that were found in the track to the west of the Sullivan Mine and there were scattered timbers in the vicinity (Figure 35 and Figure 36). It is possible that there was a small building here, although it has not been possible to establish anything about this site.

Figure 34. Building remains to the west of Sullivan Mine

Figure 35. Two metal bolts west of Sullivan Mine

Power Poles

Nine power poles were recorded along Whareatea Road, which are remnants of a power line that had provided power to either the Whareatea or Escarpment Mine (Figure 36). These power poles have vertical railway irons used as poles, with wooden cross pieces and ceramic insulators (Figure 38). The power poles are at varying distances from the road.

Figure 38. Power poles in the vicinity of the Whareatea Road within the ESE Project sub-area

Effects of the ESE Project sub-area

The proposed ESE pit will remove the 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 undoubtably associated with 20th century activity on this area of the Denniston Plateau.

The proposed upgrade of the Whareatea Road and the ESE pit northeast of Whareatea Mine will likely remove most of the power poles.

Old Workings

Examination of a 1915 geological map of the Buller-Mokihinui Survey Districts (Morgan and Bartrum 1915) (Figure 39) 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.

These are likely to have been small surface workings for alluvial gold, potentially by Denniston locals. While there were gold workings at Cedar Creek and in the Waimangaroa Gorge, there is no evidence for any significant gold deposits or gold workings on the Denniston Plateau (pers. comm. Stuart Henley).

The proposed infrastructure area of the ESE covers the area of the 'old workings (gold)' south of Coalbrookdale in the vicinity of the V8 Creek on the 1915 plan. The 'old workings' in the upper reaches of the Whareatea River were located immediately south of where the Whareatea Mine (K29/72) and Whareatea Road were subsequently developed.

No evidence of either of these workings was identified during the visual inspection of the Project sub-areas in November 2024 and May 2026 or by Watson during the assessments for the proposed Escarpment Mine in 2009-2010.

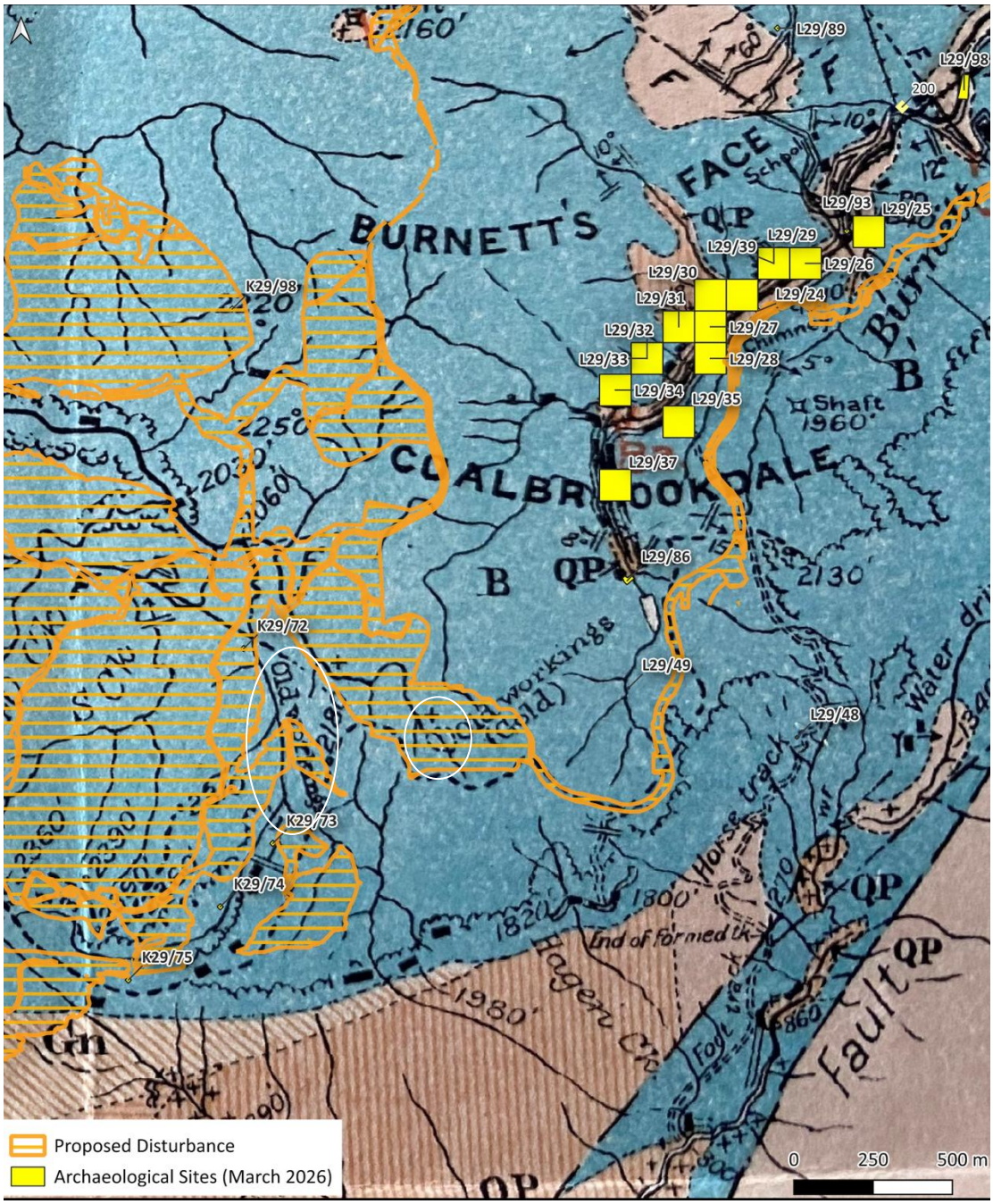

Figure 39. Detail from Geological map of the Buller-Mokihinui Survey Districts (1915). 'Old workings' in the upper reaches of the Whareatea River, and 'old workings (gold)' south of Coalbrookdale in the vicinity of the V8 Creek are circled (compiled by Morgan and Bartrum 1915, NZ Geological Survey)

ESE Discussion and Conclusions

Summary of Results

The proposed ESE Project sub-area encompasses part of the workings of the Whareatea Mine (K29/72) and the Sullivan Mine (K29/98), which include above ground mining remains and the extensive surviving underground workings. The Whareatea and Sullivan Mines are 20th century underground coal mines, which operated respectively from 1926 to 1988 and 1953 to 1998. Although of recent origin, these recorded coal mines represent two important phases in the Denniston mining history, namely the move onto the Plateau that occurred around the 20th century and the development of hydro mining during the last quarter of the century.

The other site within the ESE Project sub-area is the Monocable Aerial Cableway (K29/59) built in 1950-53 to carry coal from the Whareatea, Escarpment and Sullivan Mines to the brakehead bins at Denniston. Remains of the aerial system are scattered over a 3.68km aerial route across the Denniston Plateau.

Other 20th century mining remains include a drill hole and possible building, and two in situ metal bolts with scattered timbers in the vicinity on a loop track to the west of the Sullivan Mine. Also, nine power poles were recorded along Whareatea Road, which 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 may be present within or in proximity to the identified earlier mining sites within the ESE Project sub-area under vegetation or buried by soil and/or coal.

Māori Cultural Values

This is an assessment of effects on archaeological and historic heritage values and does not include an assessment of effects on Māori cultural values. It is noted that an assessment of effects on Māori values should only be made by the tangata whenua and this will be provided by tangata whenua as a separate Cultural Values and Impact Assessment. Māori cultural concerns may encompass a wider range of values than those associated with archaeological sites.

The historical association of the general area with the tangata whenua is evident from the recorded sites, traditional histories and known Māori place names and is considered in more detail in the accompanying Appendix report: BPCP Historical and Archaeological Background.

Te Rūnanga o Ngāti Waewae are the Papatipu Rūnanga with manawhenua in the the Kawatiri (Buller) district. As with other areas of Te Tai Poutini, the coastal hills and plateau areas north of the Kawatiri (Buller) River are part of the larger network of trails, trading routes, pā and kāinga sites, mahinga kai, and other areas of cultural significance. At the Whareatea River a small pā was located on one bank, with a guest whare on the other to accommodate travellers from other iwi (Te Rūnanga o Ngāti Waewae 2026).

There are currently no known archaeological sites of Māori origin recorded within the ESE Project sub-area. However, the absence of evidence and is not necessarily evidence of absence; particularly, as much of the historic mining evidence and disturbance is associated with underground mining on the Denniston Plateau.

Archaeological/Historic Heritage Value and Significance

The ESE and all historic heritage sites within it are located on land administered by DOC, therefore, the Conservation Act 1987 is also relevant for this Project sub-area. The values of historic heritage resources on conservation land need to be assessed to establish their significance and what the appropriate management strategy is, given that level of significance, irrespective of whether they have archaeological restrictions under the HNZPTA or heritage restrictions under the District Plan.

The West Coast Regional Council's (WCRC) Regional Policy Statement (RPS) (Jul 2020: Chapter 4, Method 3) identifies several criteria for evaluating the significance of historic heritage places. These are based on the criteria for inclusion in the New Zealand Heritage List/Rārangi Kōrero set out in Section 66 of the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA) and are:

a) The extent to which the place reflects important or representative aspects of New Zealand history;

b) The level of association of the place with events, persons, or ideas of importance in the history of the (district/region);

c) The importance of the place to Poutini Ngāi Tāhu;

d) The level of community association with, or public esteem for, the place;

e) The potential of the place for public education;

f) The level of technical accomplishment or value, or design of the place including the rarity of technical accomplishment or design;

g) The symbolic or commemorative value of the place;

h) Whether it is an historic place known to date from early periods of the district's settlement i.e., such items are likely to be included in the schedule;

i) The rarity of the type of historic place; and

j) The extent to which the place forms a key part of a wider historical and cultural complex or historical and cultural landscape.

In the discussions below, the HNZPTA / RPS criteria have been used to assess 20th century historic heritage sites that will or may be affected by the Project, as well as the significance of the Denniston heritage landscape that these sites contribute to. This also means that the following assessment meets the criteria referred to by DOC for assessing the significance of historic heritage.

Denniston Plateau Heritage Landscape

A detailed discussion of the historic heritage and archaeological values of the Denniston Plateau is provided in the accompanying Appendix report: BPCP: Historical and Archaeological Background.

The importance of the wider contextual values of Denniston Plateau is acknowledged as a nationally significant industrial heritage landscape and the premier historic coal mining site in New Zealand comprising numerous inter-related elements of historic coal mining, including mines, transport networks and settlement sites. Its historic coal mining landscape spans a depth of time (all periods of mining are represented) and it is more complete than any other in New Zealand (much remains of mine sites from all periods and some of these

remains are rare). The area has been identified as one of New Zealand's most important industrial archaeological landscapes and an outstanding historic site (Breen Oct 2010; Wilson and Burgess Dec 2007).

It is impossible to properly understand one of the mining sites on the plateau (and its significance) in isolation from the others. The historic mining workings within the ESE date from a relatively recent era of coal mining on the Denniston Plateau and may not seem significant in isolation. However, these sites need to be considered as an integral and important part of the wider historic context/historic landscape of the Denniston Plateau, an extensive and relatively complete coal mining landscape that is unrivalled in New Zealand. While the Denniston Plateau is mostly celebrated for its early history and incline, it is one of the few places in New Zealand that has such a long history of coal mining and where so much tangible evidence of that history remains.

In a physical sense, the Whareatea and the Sullivan Mines were linked by the Monocable Aerial Cableway and have a strong association with each other, as well as other sites on the Denniston Plateau. The mines were also linked through their common ownership (the State), through their location, through their technology, and through their association with earlier mining on the Denniston Plateau. There were also links with other mines in the area, including the previous Escarpment mine, where the development of hydraulic mining techniques enabled the re-opening of the Whareatea, and the subsequent development of the Sullivan West. Whareatea Mine also has a strong association with the Coalbrookdale Mine, as it is an extension of this mine. These sites were part of a system and are now part of an archaeological landscape that covers a large geographic area, and that spans over a hundred years, stretching back to the 1870s (Watson and Wright 2004:28).

Monocable Aerial Cableway (K29/59)

The Monocable Aerial Cableway relates to 20th century coal mining on the Denniston Plateau, having been constructed between 1950 and 1953 and used until 1968. Although recorded in NZAA ArchSite record file it is not an archaeological site as defined within the HNZPTA as it post-dates 1900.

The heritage significance of this site has been assessed previously as being of high heritage value (Watson and Wright 2004; Watson Aug 2010). We concur with the level of significance assigned and the assessment is summarised below.

The remains of the cableway, which consist of most of the foundations, three standing towers and associated infrastructure, such as the drive station at the Whareatea and the tensioner (Watson and Wright 2004:25), are in good condition and are relatively complete.

The site has technological value, being designed by British Ropeway Engineering Co. Ltd of London but constructed locally over uneven terrain by the Public Works Department and State Mines Denniston engineers. Coal buckets were attached to an endless cable but run off for emptying at the brakehead and to allow the cable to be tensioned. The aerial cableway was part of a series of changing and progressive coal transport systems on the Denniston Plateau – it replaced the surface rope road in 1954 and was replaced by road transport in 1968.

The public educational potential of the ropeway is high and already recognised at the Lower Aerial Tower, which is one of the towers that has been restored and is actively managed by DoC, where public interpretation on the cableway is provided.

However, it is the external context of the aerial cableway and its place in the Denniston historical landscape that is most important. In a physical sense, the Whareatea and Sullivan

Mines were linked by the aerial cableway. The aerial cableway was a key component of this landscape for several years and the retention of its physical remnants is vital to our continued understanding and appreciation of this landscape (Watson Aug 2010).

The site is likely to have cultural associations for those who worked there.

The Lower Aerial Tower is included within the Heritage NZ Listed Denniston Historic Area but not the aerial cableway as a whole.

Whareatea Mine (K29/72)
The Whareatea Mine was an underground mine that was operational from 1926 to 1988. Although recorded in NZAA ArchSite it is not an archaeological site as defined within the HNZPTA as it post-dates 1900.

Wright and Watson (2004) assessed the collective heritage significance of the Whareatea Mine, Sullivan and Sullivan West Mines. The significance of the Whareatea Mine was also reassessed in 2009-2010 (Watson Apr 2009 and Jun 2010; Breen Oct 2010) and in 2012 (Watson May 2012) prior to the development of the Escarpment Mine and widening of Whareatea Road through the Whareatea Mine site. We concur with the level of significance assigned and these assessments are summarised below.

Overall, the Whareatea Mine has moderate to high heritage values. The site is in reasonable condition and has excellent internal and external contextual values. The site is likely to have cultural associations for those who worked there.

The distinguishing features of the Whareatea Mine are the length of its operation and the fact that it was worked as a hydro mine for several years. Numerous other hydro coal mines operated on the West Coast during the 20th century. Remnants of 20th century underground coal mines are known to exist at the Sullivan, Sullivan West (Watson and Wright 2004), Rewanui, Fly Creek (Stockton) and Charming Creek mines and there are likely to be more remains at other mines. As such, the Whareatea Mine cannot be said to be rare, but it is an excellent example of the mid-late 20th century mines on the plateau and is also an important part of the ongoing story of the search for coal at Denniston, not to mention the development of new mines and the change in mining technology.

The remnants of the Whareatea Mine from a relatively recent era of coal mining on the Denniston Plateau may not seem significant in isolation, as there were a number of other mines dating from this time in Buller and on the West Coast and these sites are not in themselves rare. However, these sites need to be considered as an integral and important part of the wider historic context/historic landscape of the Denniston Plateau, an extensive and relatively complete coal mining landscape that is unrivalled in New Zealand. The Whareatea was the first State Coal Department mine opened on the plateau and its opening led to the construction of the aerial cableway.

A considerable amount is known about the overall history of the Whareatea, Sullivan, and Sullivan West mines, and about the history and function of the individual components that make up each of these mining systems. This history exists in the form of primary and secondary sources, photographs, and oral histories.

The interpretative and educational values of the Whareatea and Sullivan Mines and the Monocable Aerial Cableway are considered to be high because they are part of the broader and associated Denniston heritage landscape, that includes the township of Denniston and mines such as the Coalbrookdale. Their significance is also due to their relatively good condition and being an easily accessible example of a type of mining which has seen much of its infrastructure destroyed in other areas.

The current assessment of the significance of the Whareatea, Sullivan and Sullivan West Mines was carried out prior to the open-cast mining and destruction of historic heritage remains at other late 20th century mines on the plateau – Escarpment Mine, Birchall's Co-Operative Party Mine and Plateau Mine. The loss of these examples of 20th century mining sites on the Denniston Plateau would have increased the significance of the remaining mining sites from this period.

Sullivan Mine (K29/98)

The Sullivan Mine is a 20th century underground coal mine. Sullivan was opened 1.6km northward of Whareatea along the aerial system in 1953. Although recorded on NZAA ArchSite it is not an archaeological site as defined within the HNZPTA as it post-dates 1900.

Watson and Wright (2004) assessed the significance of the Whareatea, Sullivan and Sullivan West Mine collectively due to their nature, their strong association with each other and other features on the Denniston Plateau, and we concur with their assessment, which is summarised below.

Overall, the Sullivan Mine has lower heritage values than the Whareatea Mine with fewer surviving surface remains; however, it also has other similar and collective heritage values to the Whareatea Mine, with their strong association with each other and other features on the Denniston Plateau. The site is in reasonable condition and has excellent internal and external contextual values. It is not a rare site type but has good information and amenity potential. The site is likely to have cultural associations for those who worked there. The site derives its greatest importance from the wider historic context/historic landscape of the Denniston Plateau, an extensive and relatively complete coal mining landscape that is unrivalled in New Zealand.

Drill Hole and Building / Metal Bolts

The isolated drill hole and possible building remains and metal bolts west of the Sullivan Mine site have no known history or context but are undoubtably associated with 20th century activity on this area of the Denniston Plateau. As such, it is difficult to determine their value, but we consider them to be of little or no historic heritage or archaeological value.

Power Poles

The heritage significance of the power poles associated with this power line has been assessed previously (Watson Aug 2010) as being limited, and most of their value is contextual, derived from their association with the surrounding landscape and mining at either the Whareatea or Escarpment Mine(s) during the 20th century.

ASSESSMENT OF ESE HISTORIC HERITAGE EFFECTS AND MITIGATION

The nature and significance of the historic heritage places within the ESE Project sub-area have been assessed above. The potential impact of the proposal on the identified places is now considered, particularly in relation to direct physical impacts as well as setting and context.

The wealth of knowledge of the coal mining remains on the Denniston Plateau because of extensive previous historic research, archaeological survey and assessment has allowed the BPCP to undertake an extended options assessment to purposely avoid historic heritage sites where possible within the ESE footprint.

The likely adverse effects on historic heritage because of the ESE Project sub-area of the BPCP and associated infrastructure, and recommended mitigation measures, are outlined below in Table 8.

In addition to specific mitigation recommendations for direct adverse effects on heritage sites, additional initiatives are also proposed to address any shortfall in mitigation recommendations as a result of the effects of the ESE Project sub-area on heritage sites.

It is recommended that prior to the commencement of activities associated with disturbing identified archaeological and other historic heritage sites within the ESE Project sub-area, that Bathurst commission the development of a Historic Heritage Management Plan (HHMP) with stakeholders for the Project sub-areas[10] to:

- Document and describe the strategy, objectives and actions that Bathurst propose to mitigate adverse effects on historic heritage during the pre-mining, mining and post-mining phases of each of the Project sub-areas;
- Document and describe the strategy, objectives and actions that Bathurst propose to provide additional historic heritage compensation measures to address any shortfall in specific mitigation measures for adverse effects on historic heritage within the Project sub-areas;
- Clearly document the heritage elements of any BPCP compensation package agreed with the Department of Conservation (DOC) (if applicable) and other interested parties, and the management actions required to achieve the agreed future historic enhancements work;
- Demonstrate compliance with the conditions on the Project sub-areas in statutory approvals.

[10] For example, a HHMP had been developed and completed previously for the separate Bathurst Escarpment project.

Table 8. Summary of adverse effects of ESE on historic heritage, proposed mitigation / additional initiatives and overall effects after mitigation

Site / Heritage Feature(s)	Nature of adverse effects	Specific Mitigation Measures	Objective(s) of mitigation and link to effects (loss mitigating)	Additional recommended initiatives to address any shortfall in specific mitigation	Overall Effects (after mitigation and additional initiatives)
Monocable Aerial Cableway (K29/59)	Removal of concrete foundation slabs for the towers at Features A2, A3, A4, and A5.	In accordance with a HHMP: Avoidance and protection of adjacent remains of this site where possible (i.e. locations included on disturbance [construction/mine] plans, place barriers/fences around features in proximity to prevent inadvertent damage). Update recording of remains to be removed, including Structure recording to Level III in Heritage NZ's Guidelines. Artefact recording, collection and deposit if discovered. The Top Loading and Aerial Drive Station (Feature A1) at the Whareatea Mine is located immediately adjacent to the proposed ESE disturbance but will be protected and avoided. The associated Monocable Aerial Cableway foundations at Sullivans Mine (Features A12 – A14) will also be avoided.	Protection of remaining heritage features Recovery of historical information		Minor Adverse Effects

Site / Heritage Feature(s)	Nature of adverse effects	Specific Mitigation Measures	Objective(s) of mitigation and link to effects (loss mitigating)	Additional recommended initiatives to address any shortfall in specific mitigation	Overall Effects (after mitigation and additional initiatives)
Whareatea Mine (K29/72)	Destruction of the fines settling pond (Feature 20) and an area of 'coal'. The destruction of extensive underground mine workings at Whareatea. However, the extent of these workings occurred in relatively recent times and they are well recorded and understood.	In accordance with a HHMP: Avoidance and protection of adjacent surface mining remains (i.e. locations included on disturbance [construction/mine] plans and within 'no-work' exclusion zones (GPS fencing in machines), barriers/ fences around features in proximity to prevent inadvertent damage). Adoption of Noise Assessment[11] recommendations based on guideline vibration limits for historic structures, including the shoring of structures to minimise vibration sensitivity. Prepare a works programme in consultation with DOC for the protection and maintenance of the Whareatea Mine site during the mining operations of the ESE; and on closure and rehabilitation of the mine to reestablish public access with improved interpretation.	Protection and conservation of remaining surface mining features Recovery of historical information Further historical research	Compensation funding for future Denniston historic enhancement work agreed with DOC (and other interested parties if relevant). Agreed enhancement work options could include: - Ongoing management of high priority items identified in the Denniston Conservation Plan e.g. re-establishing public access to the Banbury Mine portal; - Historic management and developed public access to additional areas of the Denniston Plateau,[12] e.g. areas within the Denniston settlement that highlight, preserve and interpret the social history of the plateau, such as the bowling green, bath house, dam and tennis court; - Oral history recording and the development of a Denniston	Moderate Adverse Effects

[11] Marshall Day Acoustics Feb 2026
[12] During the duration of the BCPCP project and on its completion

Site / Heritage Feature(s)	Nature of adverse effects	Specific Mitigation Measures	Objective(s) of mitigation and link to effects (loss mitigating)	Additional recommended initiatives to address any shortfall in specific mitigation	Overall Effects (after mitigation and additional initiatives)
		Update recording of remains affected, including Structure recording to Level III in Heritage NZ's Guidelines. Commission further research of the Whareatea Mine, particularly oral history and the examination of mining records in Archives New Zealand and Westport Coal Company material at Hocken Library. During the construction and operation of ESE the ability to access and view underground workings is limited due to safety considerations. Notwithstanding this, where there will be opportunities for Bathurst staff/Contractors during construction and operation record and photograph exposed workings and features of interest and retrieve items that might be useful for displays and interpretation by the methods outlined in the HHMP. Artefact collection and deposit if discovered		Plateau Sound Trail or geo-located audio tour of historic mining sites and areas to enhance the visitor experience to the Denniston Plateau Historic Area.	

Site / Heritage Feature(s)	Nature of adverse effects	Specific Mitigation Measures	Objective(s) of mitigation and link to effects (loss mitigating)	Additional recommended initiatives to address any shortfall in specific mitigation	Overall Effects (after mitigation and additional initiatives)
Sullivan Mine (K29/98)	Destruction of four surface mining features associated with the Sullivan Mine – the closed-off shaft and concrete/ brick shell of the Fan Drift (Feature 24); the foundation of the workshop/store; and other associated remains (Feature 32), which include the reservoir (Feature 37), pump shed foundation (Feature 38) and a coal dump to the east of the main mine remains. There will be no effects on the underground workings of the No. 1 South Sullivan mine.	In accordance with a HHMP: Avoidance and protection of adjacent surface remains (i.e. locations included on disturbance [construction/mine] plans and within 'no-work' exclusion zones (GPS fencing in machines), barriers / fences around features in proximity). Including the Men and Materials mine entrance on the edge of the ELF. Adoption of Noise Assessment[13] recommendations based on guideline vibration limits for historic structures, including the shoring of structures to minimise vibration sensitivity. Update recording of remains affected, including Structure recording to Level II in Heritage NZ's Guidelines. Artefact recording, collection and deposit if discovered. Commission further research of the Sullivan Mine, particularly oral	Protection of remaining heritage features Recovery of historical information Further historic research	Compensation funding for future Denniston historic enhancement work agreed with DOC (and other interested parties if relevant). Agreed enhancement work options could include: Cleaning up the Sullivan Mine site, conservation work on the winder (possibly the construction of a roof) and mine tubs, and development of track network to allow visitation during and after mining. Also, see above under Whareatea Mine	Moderate Adverse Effects

[13] Marshall Day Acoustics Nov 2005

Site / Heritage Feature(s)	Nature of adverse effects	Specific Mitigation Measures	Objective(s) of mitigation and link to effects (loss mitigating)	Additional recommended initiatives to address any shortfall in specific mitigation	Overall Effects (after mitigation and additional initiatives)
		history and the examination of mining records in Archives New Zealand and Westport Coal Company material at Hocken Library.			
Power Poles	Removal of a number of power poles. Power poles on the very edge of disturbance areas may be damaged in the future, particularly during road maintenance.	In accordance with a HHMP: Avoid individual power poles in proximity to the ESE areas of disturbance where possible. To minimise the possibility of damage during future road maintenance, those undertaking works should be instructed not to disturb the remaining power poles.	Protection / retention of remaining power poles	n/a	Minor Adverse Effects
Drill hole and building / Metal bolts	Removal of these isolated remains with no known history or context	In accordance with a HHMP: Update recording of remains affected.		n/a	Nil to Minor Adverse Effects
Effects on the historic setting of key historic heritage places or heritage landscapes	The destruction of the few surface mine remains and extensive underground mining remains at ESE will contribute to the cumulative effects of the ongoing loss of features associated with these	Avoidance and protection of adjacent surface remains at the Whareatea and Sullivan Mines and Monocable Aerial Cableway (i.e. locations included on disturbance [construction/mine] plans and within 'no-work' exclusion zones		Compensation funding for future Denniston historic enhancement work agreed with DOC (and other interested parties if relevant).	High Adverse Effects

Site / Heritage Feature(s)	Nature of adverse effects	Specific Mitigation Measures	Objective(s) of mitigation and link to effects (loss mitigating)	Additional recommended initiatives to address any shortfall in specific mitigation	Overall Effects (after mitigation and additional initiatives)
	sites and to their setting within the Denniston Plateau. The incremental loss of parts of the significant Denniston Plateau landscape by opencast mining and infrastructure, which is largely absent from the Denniston Plateau, will lead to an overall negative effect on the historic values on the Plateau and its historic setting. Sites within the ESE will become divorced from their landscape setting within a re-engineered setting due to surrounding open cast mining. Public access and education opportunities to this part of the Denniston heritage landscape will be restricted during mining operations.	(GPS fencing in machines), barriers / fences around features in proximity). Commission further research of the Sullivan Mine, particularly oral history and the examination of mining records in Archives New Zealand and Westport Coal Company material at Hocken Library. Re-establishment of public access with improved interpretation at the Whareatea Mine in accordance with the works programme prepared in consultation with DoC for the protection and maintenance of the Mine site.		Agreed enhancement work options could include: - Ongoing management of high priority items identified in the Denniston Conservation Plan, e.g. re-establishing public access to the Banbury Mine portal; - Historic management and developed public access to additional areas of the Denniston Plateau,[14] e.g. areas within the Denniston settlement that highlight, preserve and interpret the social history of the plateau, such as the bowling green, bath house, dam and tennis court; - Oral history recording and the development of a Denniston Plateau Sound Trail or geo-located audio tour of historic mining sites and areas to enhance the visitor experience to the Denniston Plateau Historic Area.	

[14] During the duration of the BCPCP project and on its completion

ESE General Mitigation of Heritage Effects

It is recommended that the following historic heritage mitigation measures are adopted and implemented by a HHMP for the ESE Project sub-area:

- Update recording of any heritage mining remains affected, including Structure recording to Levels II and III (as appropriate) in Heritage NZ's Guidelines.
- Protection measures should be put in place so that additional heritage mining remains/features associated with sites K29/59, K29/72 and K29/98 are not inadvertently impacted upon. For example, their locations should be marked on development plans and within 'no-work' exclusion zones (GPS fencing in machines), fencing/barriers installed around the sites in the vicinity of construction works.
- Adoption of Noise Assessment recommendations based on guideline vibration limits for historic structures, including the shoring of structures to minimise vibration sensitivity.
- Prepare a works programme in consultation with DOC for preservation and maintenance work of the Whareatea Mine site during and upon completion of the ESE rehabilitation. Including re-opening this site to the public upon completion of the ESE rehabilitation with improved interpretation.
- During the construction and operation phase of ESE the ability to view and record underground workings is limited due to safety considerations. Notwithstanding this there may be opportunities for Bathurst staff/contractor[s] to photograph, record and retrieve items that might be useful for displays and interpretation as outlined in the HHMP.
- Commission further research of the Whareatea Mine and Sullivan Mine, particularly oral history and the examination of mining records in Archives New Zealand and Westport Coal Company material at the Hocken Library;
- New recording and research results should be disseminated to Heritage New Zealand, DOC and Buller District Council (Cultural Heritage Inventory), as well as the public and deposited with local archives/heritage groups and organisations (e.g. Denniston Heritage Trust (DHT)).
- An archaeological Authority is being applied for under the Fast-track Approvals Act 2024 to cover the Iron Bridge Mining area (L29/98) and other areas of the UWHR – Southwestern section in close proximity of the late 19th century mining remains within the Heritage NZ Listed and TTPP scheduled – Denniston Historic Area (see Part 2.of the BPCP Archaeological and Historic Heritage Assessment). As a precaution the Authority area will include the proposed infrastructure area of the ESE where small surface workings for alluvial gold were noted on a 1915 plan south of Coalbrookdale in the vicinity of the V8 Creek.
- To address shortfalls in specific mitigation, additional initiatives are recommended for the effects on the Whareatea Mine, Sullivan Mine and the setting of the Denniston historic landscape, as follows:

    1) Bathurst should fund agreed future Denniston historic enhancement work in a Compensation Deed of access arrangement with DOC (and other interested parties if relevant) as per Table 8. Agreed enhancement work options could include:

- Ongoing management of high priority items identified in the Denniston Conservation Plan, e.g. re-establishing public access to the Banbury Mine portal;

- Historic management and developed public access to additional areas of the Denniston Plateau, e.g. areas within the Denniston settlement that highlight, preserve and interpret the social history of the plateau, such as the bowling green, bath house, dam and tennis court;

- Oral history recording and the development of a Denniston Plateau Sound Trail or geo-located audio tour of historic mining sites and areas to enhance the visitor experience to the Denniston Plateau Historic Area.

Overall Effects of the ESE

There are no identified mining remains present within the ESE Project sub-area that date to a pre-1900 period. However, given the overall significance of the 20th century coal mining sites within this area of the BPCP located on conservation land, the proposed disturbance areas have been designed to avoid impacting directly on the vast majority of the mine surface features. Some of these areas remain within the overall Project footprint, but protection measures should be put in place so that they are not inadvertently impacted upon.

There is an excellent existing baseline survey and recording of surface heritage features within the ESE Project sub-area footprint as a result of past survey and research. Also, the extent of the underground mine workings occurred in relatively recent times and they are therefore, well recorded and understood.

The wealth of knowledge of the coal mining which remains on the Denniston Plateau as a result of extensive previous historic research, archaeological survey and assessment has allowed the BPCP to undertake an extended options assessment to avoid historic heritage sites where possible within the ESE footprint.

The ESE will affect some surface mining features associated with the Monocable Aerial Cableway (K29/59), Whareatea Mine (K29/72) and Sullivan Mine (K29/98), although the ESE has been purposely designed to avoid impacting directly on the vast majority of these remains. Bathurst have committed to avoid any surface mining remains within the wider consent area outside the proposed areas of disturbance. These areas will remain buffer areas where Bathurst does not intend to disturb.

The ESE will also affect extensive underground mine workings associated with the Whareatea Mine.

The destruction of a few surface mine remains and extensive underground mining remains does, however, contribute to the cumulative effect of the ongoing loss of features associated with these sites and the nationally significant industrial heritage landscape on the Denniston Plateau. An incremental loss of parts of the historic landscape will lead to an overall negative effect on the historic values on the Plateau.

The destruction of the remnants from relatively recent era coal mining on the Denniston Plateau may not seem significant in isolation as there are a number of mines dating from this period on the West Coast. However, when considered within the context of the broader archaeological landscape on the Denniston Plateau, the loss of the historic remains of later

periods of mining is significant. As noted above, the context values of the historic sites on Denniston are high as most of these sites still remain.

The advent of opencast mining and the progressive reworking of underground mines through opencast methods at ESE, which is largely absent from the Denniston Plateau, will result in the loss of features associated with previous mine workings, will lead to an overall negative effect on the historic values of the Plateau and its historic setting. The remaining parts of the Whareatea and Sullivan Mines will become divorced from that aspect of the historic landscape and lose context. If left unmitigated this would be a significant effect. Therefore, additional initiatives have been proposed to address shortfalls in specific mitigation for the effects of the ESE on historic heritage sites and the setting of the Denniston historic landscape.

Conclusions

- The proposed ESE Project sub-area encompasses part of the 20th century workings of the Whareatea Mine (K29/72) and the Sullivan Mine (K29/98), which includes above ground mining remains and the extensive surviving underground workings.
- The proposed ESE pit and associated infrastructure have been designed to avoid impacting directly on most of the surface features at the Whareatea Mine and four surface features associated with the Sullivan Mine. It will affect extensive underground mine workings associated with Whareatea Mine; however, the extent of this underground mine has occurred in relatively recent times and is well recorded and understood.
- The proposed ESE Project sub-area will remove a small number of concrete foundations associated with the Monocable Aerial Cableway (K29/59) towers built in 1950-1953 to carry coal from the Whareatea, Escarpment and Sullivan Mines to the brakehead bins at Denniston. Remains of the aerial system are scattered over a 3.68km 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 undoubtably associated with 20th century activity on 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, which are remnants of a power line that had provided power to either the Whareatea or (the original) 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.
- There are no identified mining remains present within the ESE Project sub-area that date to a pre-1900 period. However, as a precaution an archaeological Authority is being applied for under the Fast-track Approvals Act process and will include the proposed infrastructure area of the ESE where small surface workings for alluvial gold were noted on a 1915 plan south of Coalbrookdale in the vicinity of the V8 Creek.

- The proposed opencast mining and reworking of underground mines by the ESE, which has largely not previously occurred on the Denniston Plateau, will result in the cumulative loss of some 20th century mining features within the context of the significant archaeological landscape on the Denniston Plateau. This will lead to an overall negative effect on the historic values on the Plateau and its historic setting.
- Public access and education opportunities to this part of the Denniston heritage landscape will be restricted during mining operations.

Overall, the effects of the proposed ESE Project sub-area on historic heritage sites after recommended mitigation and additional initiatives are likely to be moderate, while the effects remain high on the historic setting of key heritage places or heritage landscapes due to the nature of opencast mining.

ESE RECOMMENDATIONS

- No resource consents will be required for historic heritage as no scheduled historic heritage items are affected by the proposed ESE Project sub-area;
- Prior to the commencement of activities associated with disturbing identified historic heritage sites within the ESE Project sub-area, it is recommended that Bathurst commission the development of a Historic Heritage Management Plan (HHMP) with stakeholders for the Project sub-areas to:
  - Document and describe the strategy, objectives and actions that Bathurst propose to mitigate adverse effects on historic heritage sites during the pre-mining, mining and post-mining phases of the Project sub-area;
  - Document and describe the strategy, objectives and actions that Bathurst propose to provide additional historic heritage compensation measures to address any shortfall in specific mitigation measures for adverse effects on historic heritage within the Project sub-areas;
  - Demonstrate compliance with the conditions on the Project sub-area in statutory approvals.
- Accidental discovery protocols should be included as a condition of resource consent, and an advice note reminding Bathurst of their obligations under the Heritage New Zealand Pouhere Taonga Act 2014 with regards to archaeology.
- Protection measures should be put in place so that identified archaeological remains/features associated with the Whareatea Mine (K29/72), Sullivan Mine (K29/98), and Monocable Aerial Cableway (K29/59), are not inadvertently impacted upon. These should include having their locations marked on project plans and plans and within 'no-work' exclusion zones (GPS fencing in machines), and installing barriers/fencing around the sites/features during construction and mining work.
- As a precaution an archaeological Authority is being applied for under the Fast-track Approvals Act process and will include the proposed infrastructure area of the ESE where small surface workings for alluvial gold were noted on a 1915 plan south of Coalbrookdale in the vicinity of the V8 Creek.

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NZAA ARCHSITE SITE RECORD FORMS

See the accompanying Appendix report: BPCP Historical and Archaeological Background – Appendix 2.