

4 May 2020

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Dear Stephen,

**RE: DENDROBIUM MINE – PLAN FOR THE FUTURE: COAL FOR STEELMAKING (SSD 8194)
– HERITAGE COUNCIL NSW RESPONSE TO SUBMISSIONS REPORT**

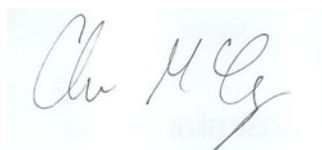
Thank you for the provision of Heritage Council NSW's comments received on the Dendrobium Mine – Plan for the Future: Coal for Steelmaking Submissions Report, dated 4 March 2020.

Please find below in Attachment 1 South32's responses to the residual concerns raised by Heritage Council NSW in its submission.

If you have any queries please don't hesitate to contact me (Chris.McEvoy@south32.net or 0407 060 163).

Yours sincerely

SOUTH32 LIMITED



Chris McEvoy
Approvals Manager
Dendrobium Next Domain Project

ATTACHMENT 1
RESPONSE TO HERITAGE COUNCIL NSW COMMENTS

HERITAGE COUNCIL NSW

Comment 1

Heritage Council NSW stated:

The Heritage Council recommended the relocation of the project areas outside of the SHR curtilages of Avon and Cordeaux Dams, however it is noted that this recommendation has not been addressed...

South32 Response

South32 has incorporated a number of setbacks from both built and natural features in the design of the Project, including from both the Avon Dam and Cordeaux Dam waterbodies and associated infrastructure (i.e. dam walls).

As a result of these setbacks, South32 has had to sterilise significant portions of coal resource within its existing mining tenements.

Through South32's commitment to not directly undermine the waterbodies of the Avon and Cordeaux dams, and as a direct result of the following mine design setbacks, significant portions of the State Heritage Register (SHR) listed curtilage areas of the Avon Dam and Cordeaux Dam have been avoided (Section 6.20.3 of the Submissions Report). Specifically, these commitments are:

- Project longwalls will be setback (at least a minimum of 1000 m) from the Avon and Cordeaux dam walls such that no more than negligible impacts will occur to the serviceability, safety and heritage of the structures; and
- a minimum 300 m setback from the Full Supply Levels of the Avon Dam and Cordeaux Dam.

Figure 1 shows the effect of these setbacks in avoiding the majority of the SHR curtilage area. The Project layout avoids all but a small portion of the SHR curtilage associated with the Cordeaux Dam. That small portion lies well north of the main recreational area and dam structures of higher heritage significance.

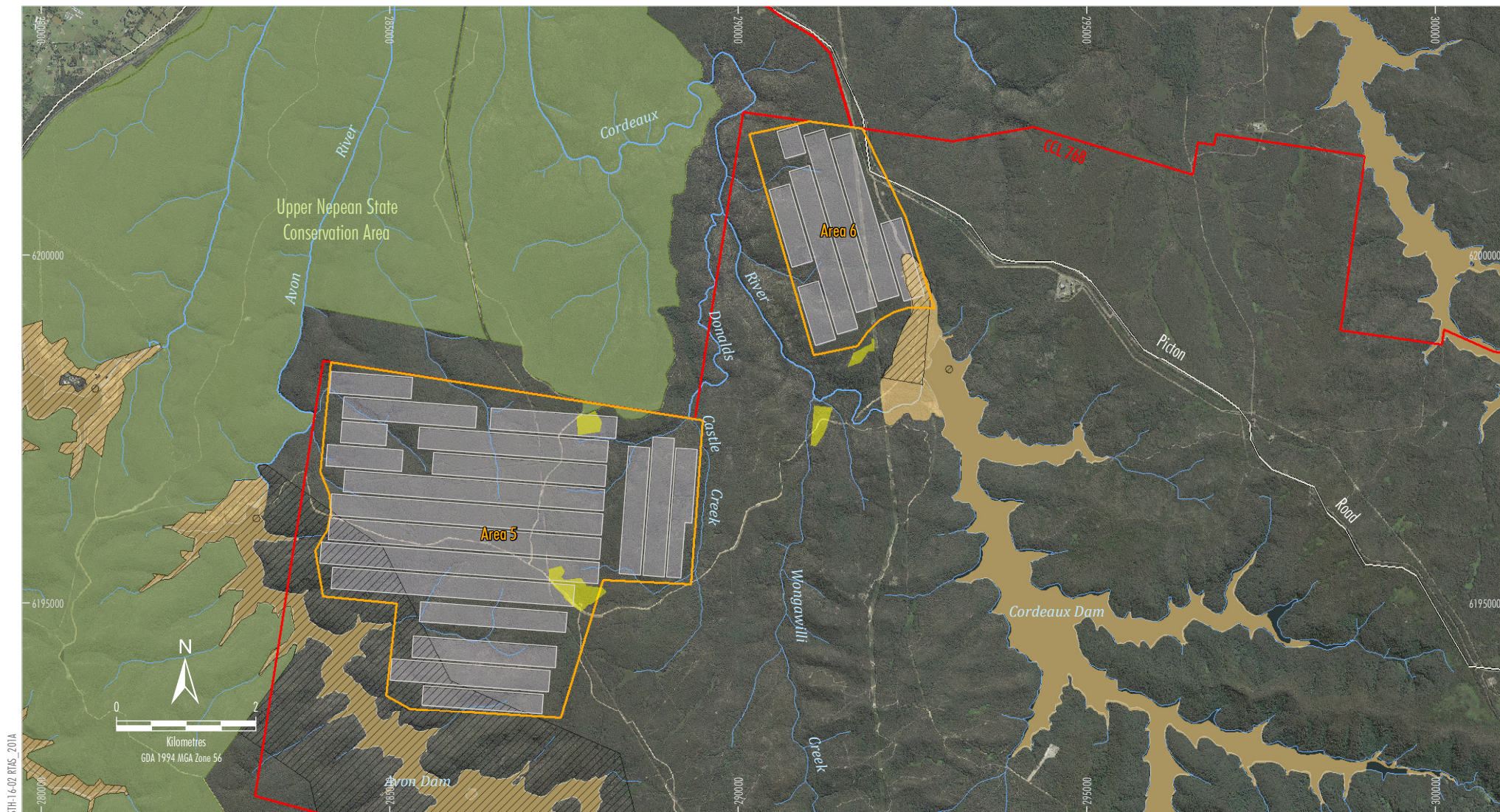
The SHR listing for both the Avon Dam and Cordeaux Dam provide the following in regard to the significance of these heritage items:

The dam and grounds are recognised by the National Trust of Australia (NSW) as being a place which is part of the cultural environment of Australia, which has aesthetic, historical, architectural, archaeological, scientific and social significance for future generations, as well as for the present community of NSW.

The dam and grounds are recognised by the Heritage Council of NSW as a place which is of significance to NSW in relation to its historical, scientific, cultural, social, archaeological, natural and aesthetic values.

While a small portion of the curtilage areas of the Cordeaux Dam would be undermined by the Project, the dam walls and associated recreational areas are not, which are of noted significance as described by the SHR listing.

As a result of the setbacks adopted in the Project design, negligible impacts as a result of subsidence are predicted at these items (see below).



STH-16-02 RTAS 201A

- | | |
|---|--|
| Dendrobium Mining Lease | Proposed Ventilation Shaft Site |
| Road | Heritage Curtilage Areas — LEP Listed |
| National Park, Nature Reserve and State Conservation Area | Heritage Curtilage Areas — SHR Listed |
| EIS Base Plan Longwalls | Dendrobium Underground Mining Area - Proposed Project |

Source: Geoscience Australia, (2006); Department of Industry (2018);
Department Finance, Services & Innovation (2018);



DENDROBIUM MINE
Avon and Cordeaux Dam Curtilage Areas

Figure 1

Comment 2

Heritage Council NSW stated:

The Heritage Council reiterates its assessment that subsidence could potentially radically alter the built and landscape elements within these SHR curtilages, resulting in unknown, irreversible and unacceptable impacts from ground subsidence and surface fracturing upon the SHR items.

South32 Response

Built Elements

The setbacks from the dam wall adopted by South32 for the Project (i.e. minimum 1,000 m) are designed such that subsidence impacts to these built elements would be no more than negligible. Based on the setbacks adopted, the predicted subsidence movements at these heritage items are expected to be no more than negligible (Section 6.20.3 of the Submissions Report).

Landscape Elements

Subsidence impacts would occur within small portions of the SHR curtilage areas (Figure 1). These areas are largely native bushland. Based on observations from decades of longwall mining in the Metropolitan Special Areas, no significant alterations to vegetation are expected. In addition, the undulating and incised nature of the landscape includes slopes which are significantly greater than any subsidence induced tilt and will therefore not be observable from the SHR areas. Therefore, it is not anticipated potential subsidence impacts would significantly alter the landscape values of these areas.

Comment 3

Heritage Council NSW stated:

The Heritage Council requested that Figure 5 of the HHA was amended to correctly show the SHR curtilage of the Cordeaux Dam. This has not been provided in the RTS report.

South32 Response

Please refer to Figure 1.

Comment 4

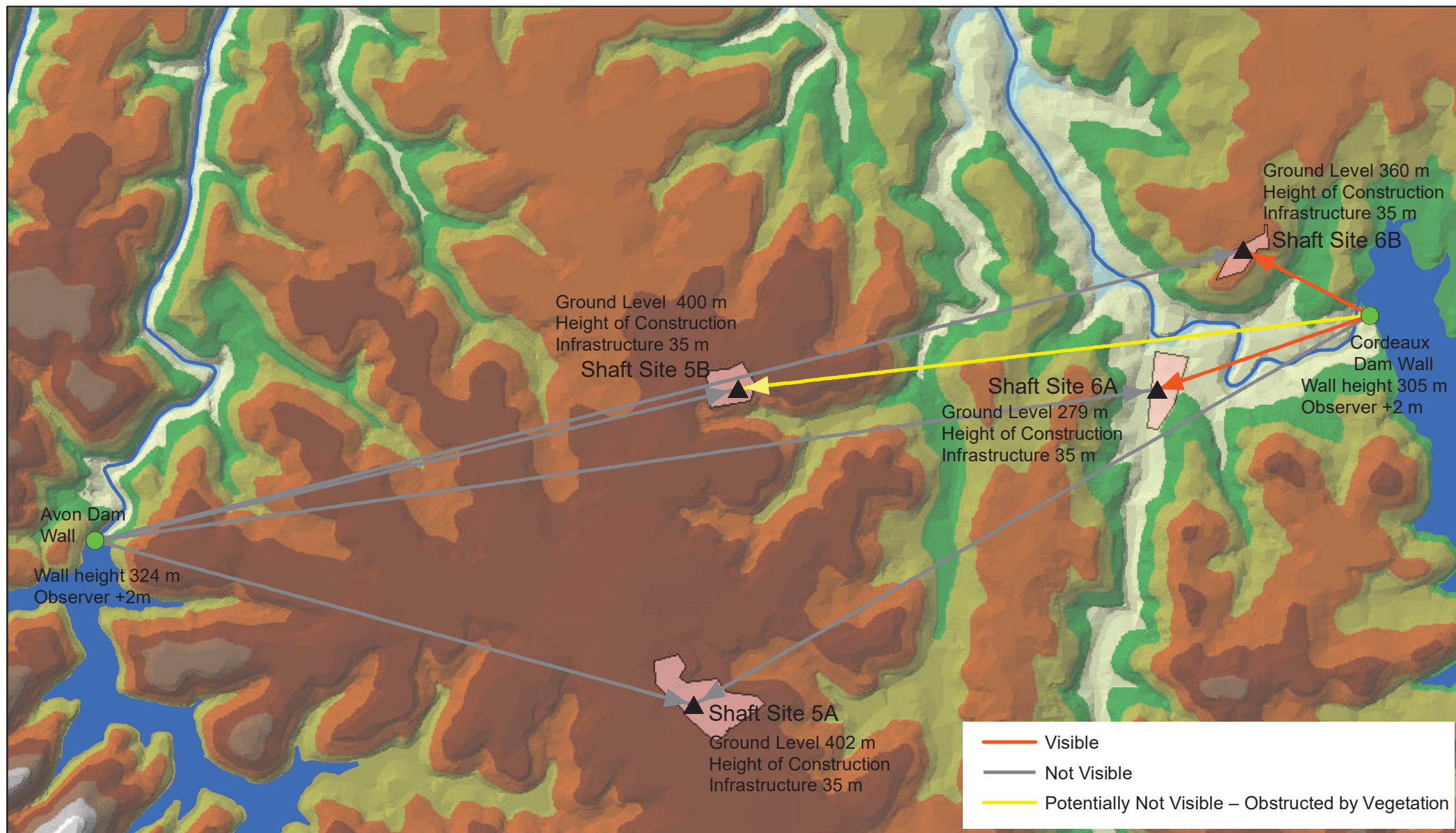
Heritage Council NSW stated:

The RTS report does not provide clarification as to the location of the proposed ventilation shafts in relation to the SHR items or to the visual representation of these shafts ... Even though the report subsequently states that these shafts would not result in adverse impacts on the visual amenity or heritage values of the Avon and Cordeaux dam walls, insufficient information has been provided to the Heritage Council to assess these impacts. No further clarification has been provided in relation to the impact of the ventilation shafts upon view points, other than from the dam walls.

South32 Response

The location of the proposed ventilation shaft sites in relation to the Avon Dam and Cordeaux Dam curtilage areas and dam walls is shown in Figure 6-18 of the Project EIS and is described in Section 6.20.3 of the Submissions Report. They are also shown on Figure 1.

As noted by the Heritage Council NSW, visual assessment from the dam walls has been conducted for the Project. The basis for the assessment of potential visual impacts by Niche (2019) is illustrated in Figures 7, 8 and 9 of Appendix G of the EIS (reproduced below).



Illawarra Coal

Line of Sight from Avon and Cordeaux Dams to Construction Infrastructure (source: Illawarra Coal)

Dendrobium Plan for the Future: Coal for Steelmaking. Historical Heritage Assessment

FIGURE 7

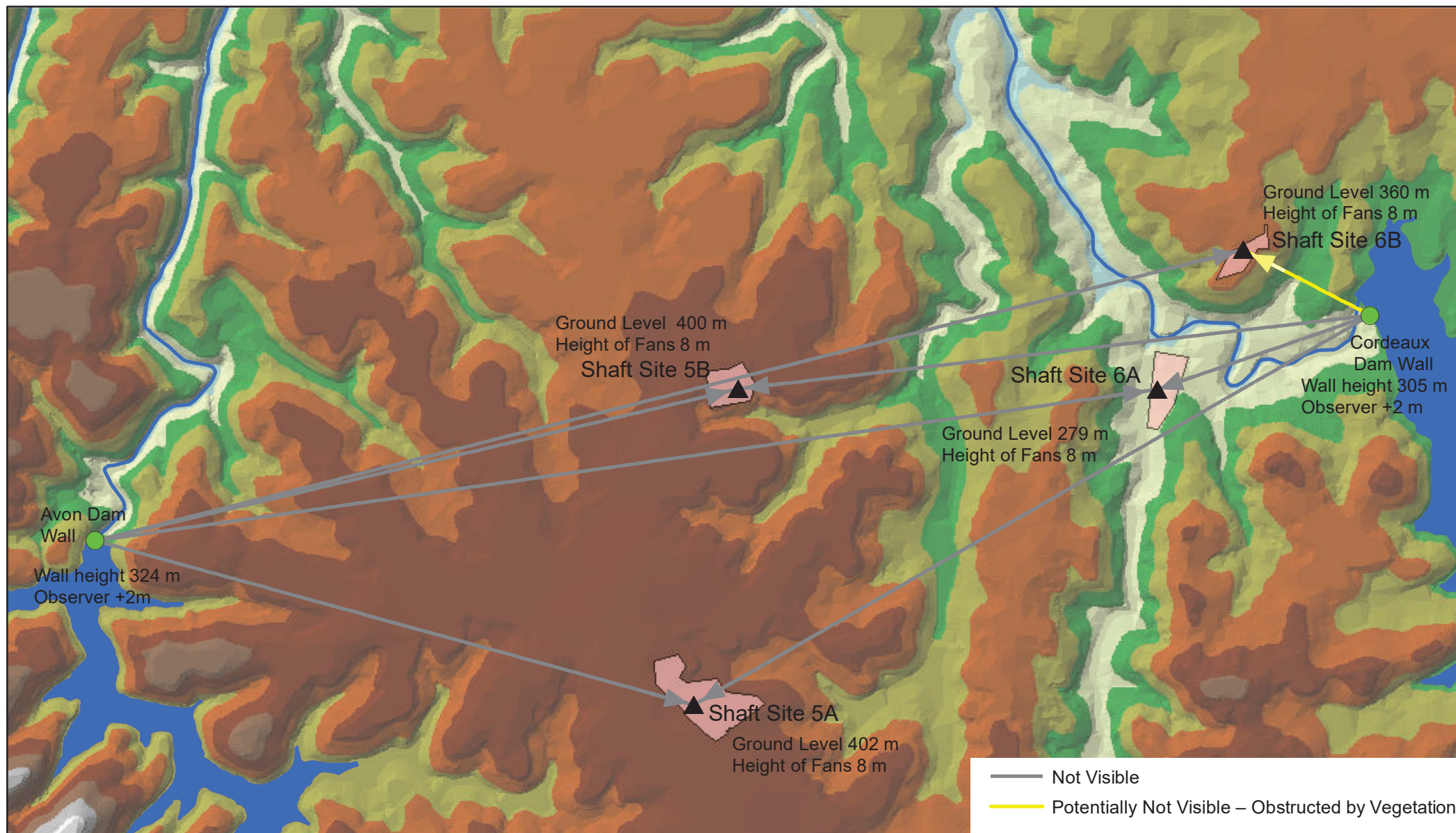
0 500 1,000 2,000 3,000 Metres

Dendrobium Mine Plan for the Future
 Visibility Analysis
 Proposed Ventilation Shaft Sites
 Construction Infrastructure Visibility

Date: 09 October, 2018
 Author: B. Moylan
 Approved: G.Brassington

Version 4
 Horizontal Datum
 MGA - Zone 56





Illawarra Coal

Line of Sight from Avon and Cordeaux Dams to fans (Source: Illawarra Coal)

Dendrobium Plan for the Future: Coal for Steelmaking. Historical Heritage Assessment

FIGURE 8

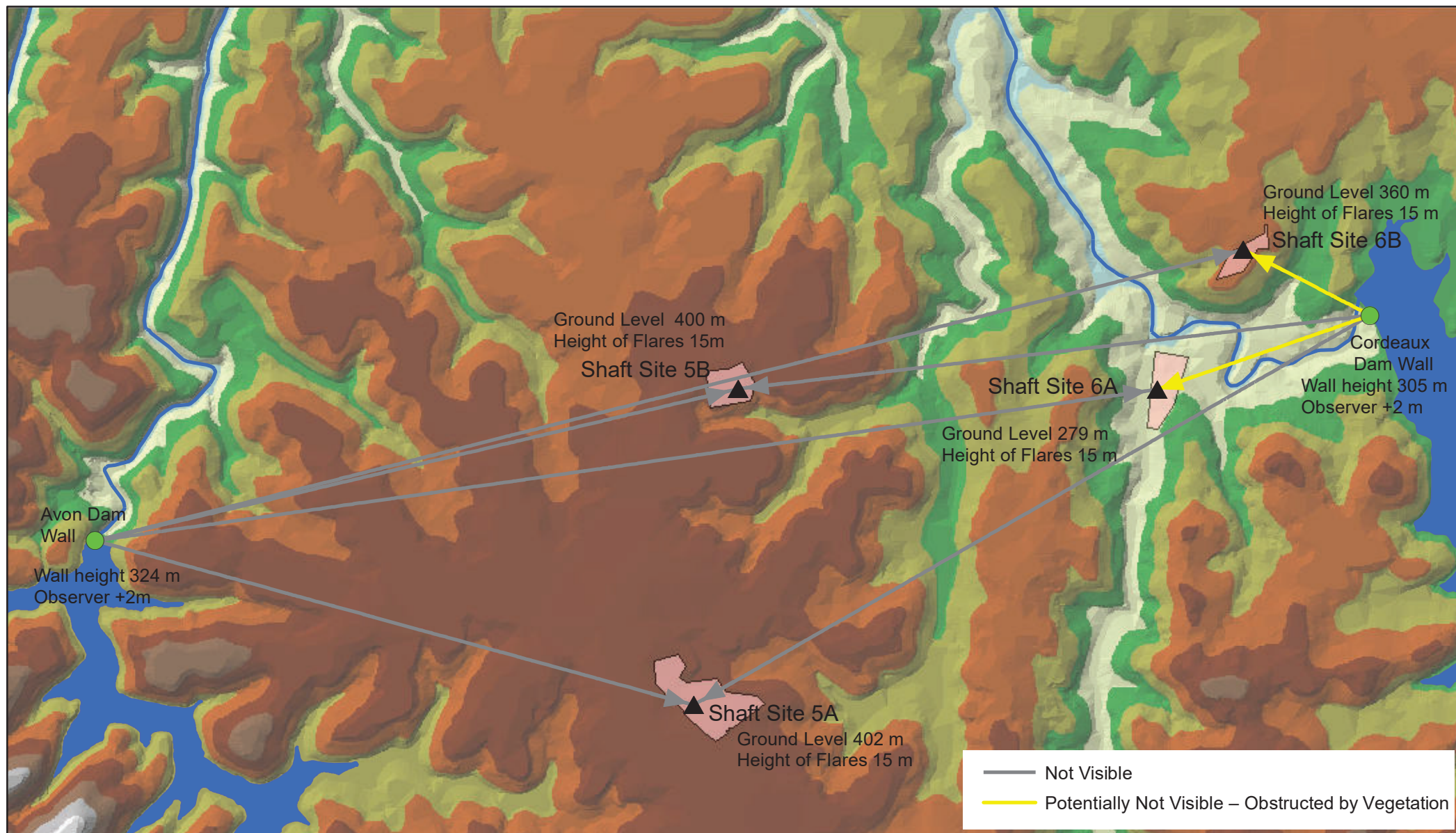
0 500 1,000 2,000 3,000
Metres

Dendrobium Mine Plan for the Future
Visibility Analysis
Proposed Ventilation Shaft Sites
Fans Visibility

Date: 09 October, 2018
Author: B. Moylan
Approved: G.Brassington

Version 4
Horizontal Datum
MGA - Zone 56





Illawarra Coal

Line of Sight from Avon and Cordeaux Dams to Flares (source: Illawarra Coal)

Dendrobium Plan for the Future: Coal for Steelmaking. Historical Heritage Assessment

FIGURE 9

0 500 1,000 2,000 3,000
Metres

Dendrobium Mine Plan for the Future
Visibility Analysis
Proposed Ventilation Shaft Sites
Flares Visibility

Date: 09 October, 2018
Author: B. Moylan
Approved: G.Brassington

Version 4
Horizontal Datum
MGA - Zone 56



The dam walls were selected as the viewpoints as they are the publicly accessible recreational areas within the SHR curtilage.

Other viewpoints have not been considered on the basis that, with the exception of access tracks surrounded by dense vegetation, there are no other publicly accessible viewpoints of the proposed ventilation shafts from within the SHR curtilage.

Comment 5

Heritage Council NSW stated:

The RTS report advises proposed works to the Dendrobium Pit Top (which includes the LEP listed Nebo Colliery) would be designed to reduce potential impact to the values and significance of both the Nebo Colliery and the Kembla Heights Mining Village. However, the RTS does not set out what the impacts will be to the values of these places.

South32 Response

The Dendrobium Pit Top is currently the active pit top facility for the Dendrobium Mine. The Project would result in the continued use of the Dendrobium Pit Top. As such, the Project represents continued and adaptive use wholly consistent with the nature of the item, which is an operational colliery.

As described in the Submissions Report, potential impacts on the heritage values and significance of the existing Nebo Colliery and Kembla Heights Mining Village may occur as a result of the planned upgrades, expansions and decommissioning of portions of the existing Dendrobium Pit Top (Section 6.20.3).

Section 3.4.5 of the Project EIS describes these activities in more detail, which would include:

- extension and relocation of bathhouses, locker facilities and administration buildings;
- construction of additional car-parking facilities on the southern side of Cordeaux Road (south of the Dendrobium Pit Top);
- other minor upgrades and augmentation; and
- decommissioning and removal of any infrastructure no longer required.

Notwithstanding, proposed upgrades to facilities at the Dendrobium Pit Top would not result in key buildings being demolished or significantly remodelled.

Therefore, the Project EIS and Submissions Report concluded that the proposed works associated with the Project are unlikely to adversely impact the heritage values of the Nebo Colliery heritage site (Section 6.20.3). Similarly, it is not anticipated the Project would adversely impact the heritage values of the Kembla Heights Mining Village.

South32 notes that the Heritage Council NSW supports the preparation of a Conservation Management Plan for the Project, which would provide detail for the management of the Nebo Colliery heritage values during the Project.

Consistent with the recommendations of Niche (2019), heritage conservation management measures for the Dendrobium Pit Top would include:

- Building form – building form would, where practicable, be consistent with the existing Dendrobium Pit Top structures.
- Fabric – building materials, where appropriate to building function, would be in keeping with existing Dendrobium Pit Top building materials and building fabrics.

- Archival recording – any significant heritage items not previously identified via previous archival records undertaken during 2001 and 2003 would be recorded if they are subject to modification or potential damage or demolition.

References:

Niche (2019) *Dendrobium Mine Plan for the Future: Coal for Steelmaking: Historical Heritage Assessment*.