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THE AUSTRAL BRICK COMPANY

PTY LIMITED

ABN: 52 000 005 550

Response to Submissions
in support of a
Section 75W Modification of Project Approval PA08_0212

for the

New Berrima Clay/Shale Quarry

Prepared by:

R.W. CORKERY & CO. PTY. LIMITED

September 2015

ABN: 52 000 005 550

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September 2015

R.W. CORKERY & CO. PTY. LIMITED

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1. INTRODUCTION

This Response to Submissions (RTS) has been compiled by R.W. Corkery & Co. Pty Limited (RWC) in conjunction with The Austral Brick Company Pty Limited ("the Applicant" or "Austral") to provide a response to a range of issues regarding the New Berrima Clay/Shale (the modified Proposal) raised:

- in a number of government agency submissions lodged with the Department of Planning and Environment (DPE);
- during discussions with surrounding residents; and
- in correspondence with the DPE.

This response relates to Project Approval PA08_0212.

This document has been compiled in four sections.

Section 1:	outlines the consultation undertaken for the modified Proposal with government agencies and the local community, as well as providing an overview of the submissions received.
Section 2:	provides a response to the issues raised about the modified Proposal drawn from government agency submissions or discussions with surrounding landowners.
Section 3:	provides a conclusion to the entire document.
Section 4:	presents the references used within the Response to Submission document.

1.1 GOVERNMENT AGENCY CONSULTATION

The *Environmental Assessment* (RWC, 2015) for the modified Proposal was placed on public exhibition for a period of 16 days from 13 May 2015 to 29 May 2015, during which DPE requested submissions from the following government agencies, with submission response dates provided in parentheses.

- Office of Environment and Heritage (OEH) (28 May 2015)
- Wingecarribee Shire Council (Council) (28 May 2015)
- Department of Primary Industries – Water (previously the NSW Office of Water) (12 June 2015)
- Department of Primary Industries – Fisheries NSW (27 July 2015)
- Water NSW (previously Sydney Catchment Authority) (27 June 2015)
- Environment Protection Authority (EPA) (16 June 2015)
- Crown Lands (12 June 2015)
- Division of Resources and Energy (DRE) (03 July 2015)

The agencies generally sought further information or clarification of issues arising from their review of the *Environmental Assessment* and/or the Specialist Consultant assessments.

1.2 COMMUNITY CONSULTATION

The wider public were able to provide a response during the exhibition period via DPE's website. An opportunity was also given to provide direct feedback to the Applicant in response to a round of hand-delivered letter drops to the closest residences throughout June and July 2015.

The neighbours directly consulted by Austral was determined based upon their proximity to the Project Site, the previous consultation undertaken during the preparation of the 2010 Environmental Assessment or those residents that had the possibility of direct line of sight to the modified extraction area. The residents consulted included those within the following residences, with their location shown on **Figure 1**.

- Residence 3
- Residence 3S
- Residence 12
- Residence 13
- Residence 14
- Residence 15
- Residence 16
- Residence 17

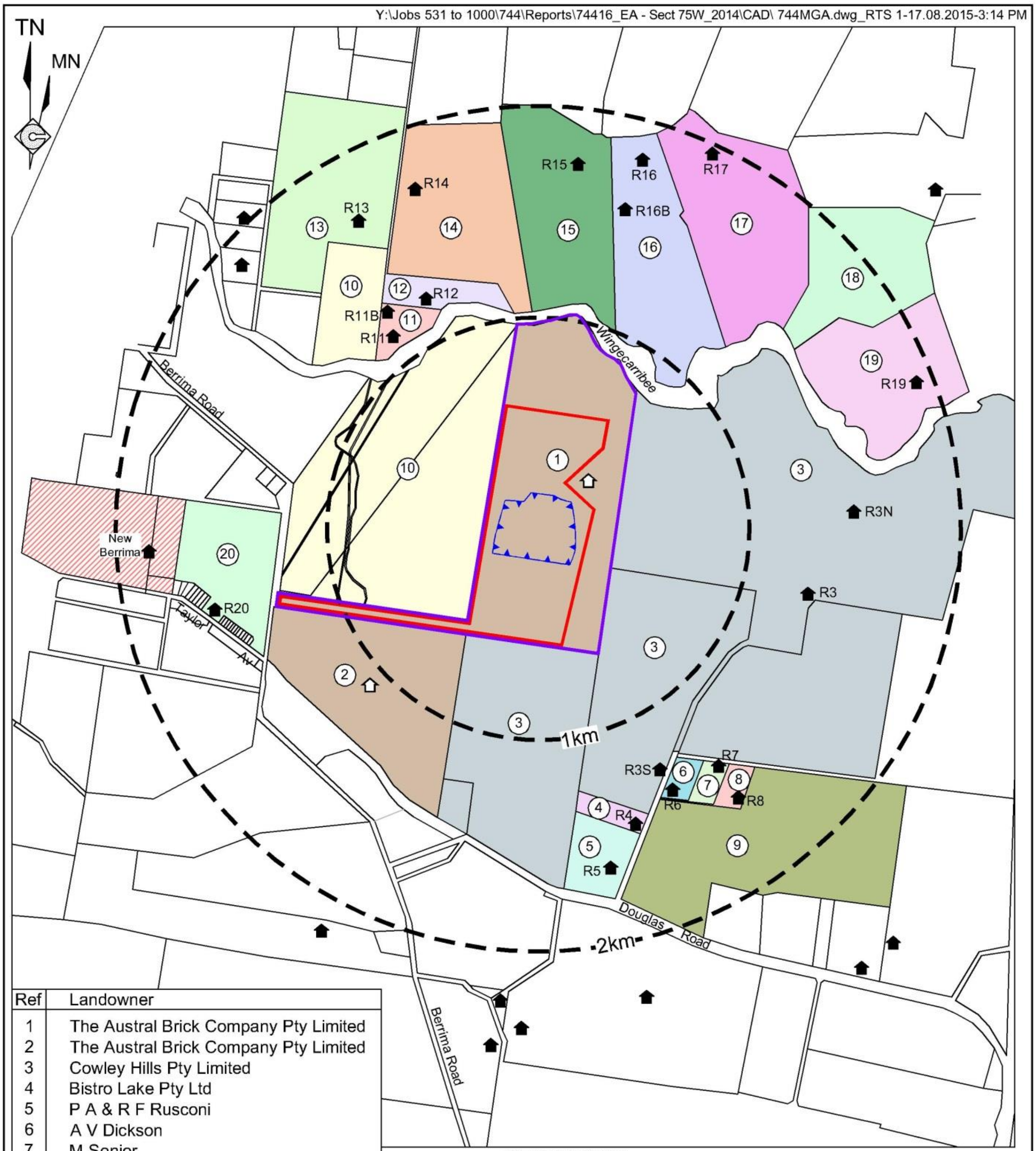
Representatives of Austral and RWC met with the owners and/or tenants of Residences 3S, 16B and 17 in July 2015.The issues raised by surrounding landowners reflected specific concerns regarding the modified proposal and its potential impacts principally upon their amenity (with respect to air quality and noise) and visibility issues.

1.3 FEEDBACK RECEIVED

Following the exhibition period, DPE provided the Applicant with the comments/submissions by Council and the various Stage government agencies together with its own comments/issues for follow up. It is noted that Water NSW, EPA and Crown Lands noted in their submissions that there were no issues requiring a response. The submissions provided by the OEH, Council, DPI - Water, DPI - Fisheries and DRE have been summarised and included within Section 2 of this document in which a response is provided to the various issues raised.

As a result of the community consultation program undertaken by Austral, feedback was received from five surrounding landowners/occupiers via phone or email correspondence (see **Figure 1** for residence locations).

- Residence 17 (19/29 June 2015) – Outlined their objection and general disapproval for the modified Proposal whilst requesting specific information on visual, noise and zoning issues.
- Residence R3S (19 June 2015) – Requested information regarding visibility and traffic-related matters.
- Residence 12 (22 June 2015) – Requested additional noise and real-time air quality monitoring at their residence.
- Residence 16 (25 June 2015) – Expressed opposition to the modified Proposal based upon the planned closer proximity of the extraction area resulting in increasing noise pollution and visibility issues.
- Residence 13 (5 June 2015) – raised general enquiries to noise and air quality emissions.



Ref	Landowner
1	The Austral Brick Company Pty Limited
2	The Austral Brick Company Pty Limited
3	Cowley Hills Pty Limited
4	Bistro Lake Pty Ltd
5	P A & R F Rusconi
6	A V Dickson
7	M Senior
8	A Rosen
9	Fortius Funds Management Pty Ltd
10	The State of NSW
11	C & K Vella Enterprises Pty Ltd
12	Pingama Pty Ltd
13	J G Thorn
14	GW Holdings Pty Limited
15	Flocolo 1 Pty Limited
16	R L Lavender
17	P S Holecek
18	D Ricci
19	Mulberrygong Investments Pty Ltd
20	Blue Circle Southern Cement Limited

REFERENCE
Property Boundary
Project Site Boundary
Modified Extraction Area Boundary
Cadastral Boundary
① Landowner Reference (See Table)
⌂ Residence (Project-related)
▲ Residence (non Project-related)
— — 1km / 2km Radius from Centre of Modified Extraction Area

Note: Property Identifier 2 was purchased by The Austral Brick Company Pty Limited in June 2015

SCALE 1:30 000 (A4)

500 0 500 1000 1500 m

Source: RWC (2015) - Figure 4.3 (Amended)

Figure 1
LAND OWNERSHIP AND SURROUNDING RESIDENCES

The issues raised in all submissions have been responded to in a combined response for each issue. In order to describe each issue raised, some representative comments from the various submissions or discussions/correspondence have been paraphrased.

This document therefore provides further explanation or information in support of the modified proposal and, where necessary, providing a rebuttal to specific issues raised, where appropriate and outlining why the application for the modified Proposal should be approved. Where necessary, minor variations have been made to the proposed extraction operations in response to some of the issues raised. The key variations relate to the proposed final landform and surface water management. Further information has been provided with respect to visibility issues.

This document refers to information contained within the *Environmental Assessment* (EA) that was submitted to DPE on 8 May 2015 and is referred to as (RWC, 2015). This Response to Submissions document should be read in conjunction with RWC (2015).

1.4 REVISED DOCUMENTATION

As a result of the submissions provided by the government agencies and feedback from surrounding private residents, it has been identified that a revision to the surface water report originally included as Appendix 6 in RWC (2015) was required to accommodate the revised final landform and surface water management system. As a result of this, the amended Surface Water Assessment (SEEC, 2015a) has been attached to this document as **Attachment 1**, with the revised surface water management system outlined in Section 2.7 of this document. It is envisaged that SEEC (2015a) will supersede the original Surface Water Assessment (SEEC, 2015) that accompanied the *Environmental Assessment*.

2. RESPONSE TO ISSUES RAISED ABOUT THE PROPOSAL

2.1 INTRODUCTION

This section has been compiled by assembling representative extracts or paraphrased text from the submitted comments in the government agency and/or in feedback from surrounding residents, together with the Applicant's response to each collective issue.

It noted that during June 2015, Austral purchased a property on the southwestern margin of the extraction area (previously land owner reference ID 2). **Figure 1** displays a revised land ownership figure.

2.2 ENVIRONMENTAL PLANNING INSTRUMENTS

Representative Comment(s)

Assess the Proposal against the Environmental Planning Instrument entitled 'State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011'.

DPE Correspondence

Response

The aims of this State Environmental Planning Policy (SEPP) are to integrate the provision of healthy water catchments with development in catchment areas by ensuring that consent authorities must not grant consent to a proposed development unless it is satisfied that the proposed development will have a neutral or beneficial effect on water quality and not hinder the achievement of water quality objectives for the Sydney drinking water catchment.

The Project Site is located within the Wingecarribee River sub-catchment which forms part of Sydney's water supply and as such the following must be considered when assessing the Proposal.

- Incorporation of the Water NSW's (previously the Sydney Catchment Authority) current recommended practices and standards or demonstration that proposed practices and performance standards meet or exceed these practices and standards.
- Demonstration of neutral or beneficial effect on water quality.

Water NSW provides a guideline for the assessment of water in the document entitled 'Developments in the Drinking Water Catchment – Water Quality Information Requirements', hereafter referred to as Water NSW (2015), to ensure that developments are planned to have a neutral or beneficial effect on water quality, i.e. as a development that:

1. has no identifiable adverse impacts on water quality; or
2. will contain any water quality impact on the development site and stop it from reaching any watercourse, waterbody or drainage depression on the site; or
3. will transfer any water quality impact outside the site where it is treated and disposed to standards approved by the consent authority.

Justification of each guideline assessment marker is provided below and summarised from the information within RWC (2015).

The Proposal has been designed to ensure that the bulk of all clean water is diverted around the active extraction area throughout all stages of the modified Proposal and either returned to the natural flow paths down gradient of the extraction area or utilised by the Proponent as part of its harvestable rights allowance on other areas of the "Mandurama" property (for non-extraction related activities).

Dirty water (i.e. sediment-laden water) would be collected within a series of appropriately sized sediment basins and either utilised on site for dust suppression or allowed to settle or be flocculated and released in accordance with appropriate water quality criteria guidelines.

The management of water within the Project Site therefore would result in a neutral effect on water quality.

Furthermore, as the Minister is the consent authority, concurrence of Water NSW is not required (as nominated by Clause 11 of the SEPP).

Further detail supporting the above statements is provided in the modified Surface Water Assessment (attached to this document).

Representative Comment(s)

What are the rules for a water Catchment zoning? Do they allow quarrying?

Resident 17 Correspondence

Response

The approved Project was originally assessed in 2010 as part of the original application for development consent (RWC, 2010) and addressed the Wingecarribee Local Environmental Plan (2010) and the Drinking Water Catchments Regional Environmental Plan No. 1, also known post 2011 as the "State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011".

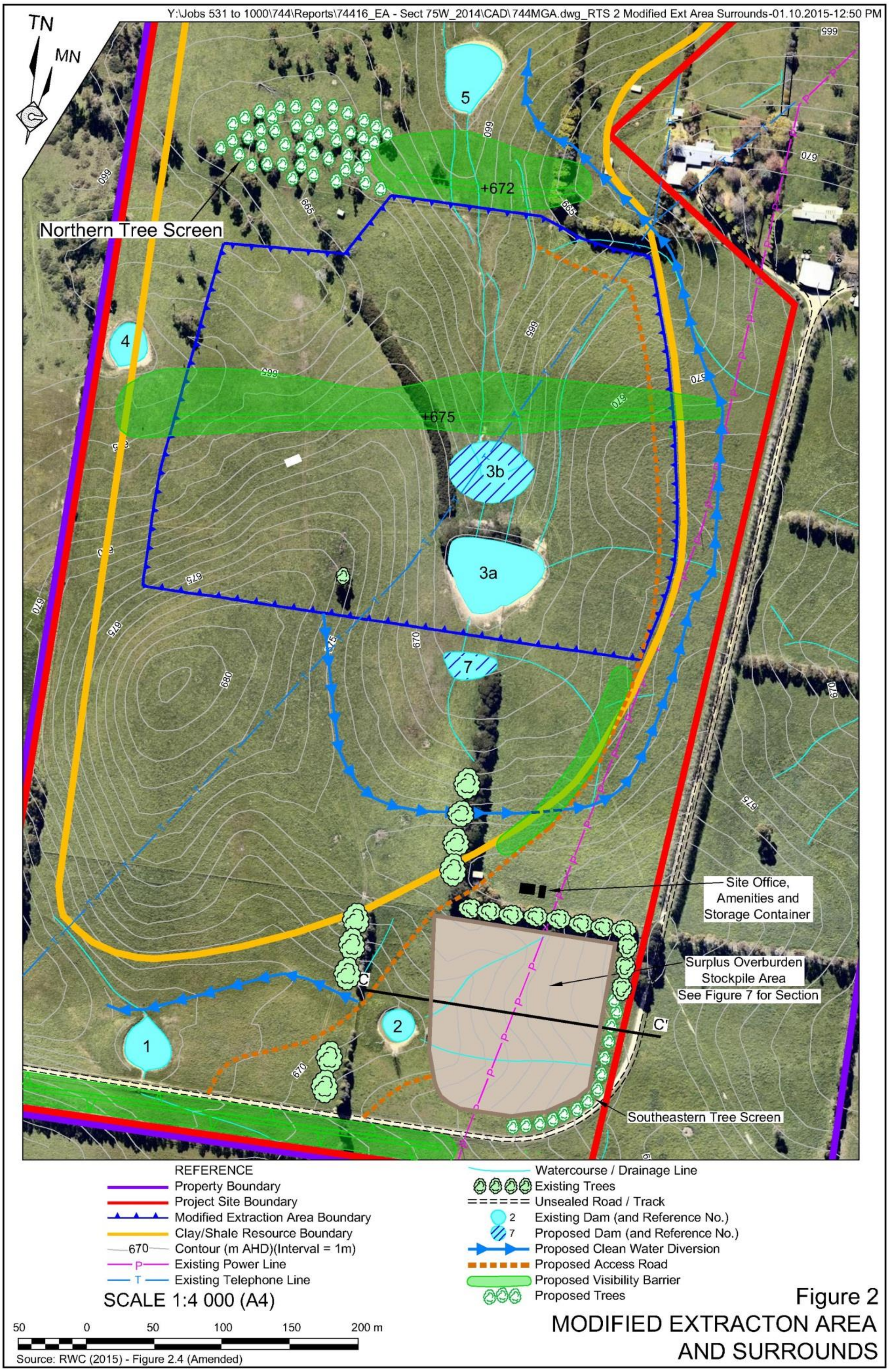
The Project at that time addressed the objectives of both plans and concluded that the Project would not affect the catchments that supply drinking water to Sydney, Blue Mountains and the Illawarra.

As the Proposal differs slightly to the approved Project, it was determined within RWC (2015) that the previously assessed Project satisfactorily addressed the objectives in the plans and did not require an additional assessment as part of the modification.

2.3 QUARRY DESIGN AND FINAL LANDFORM

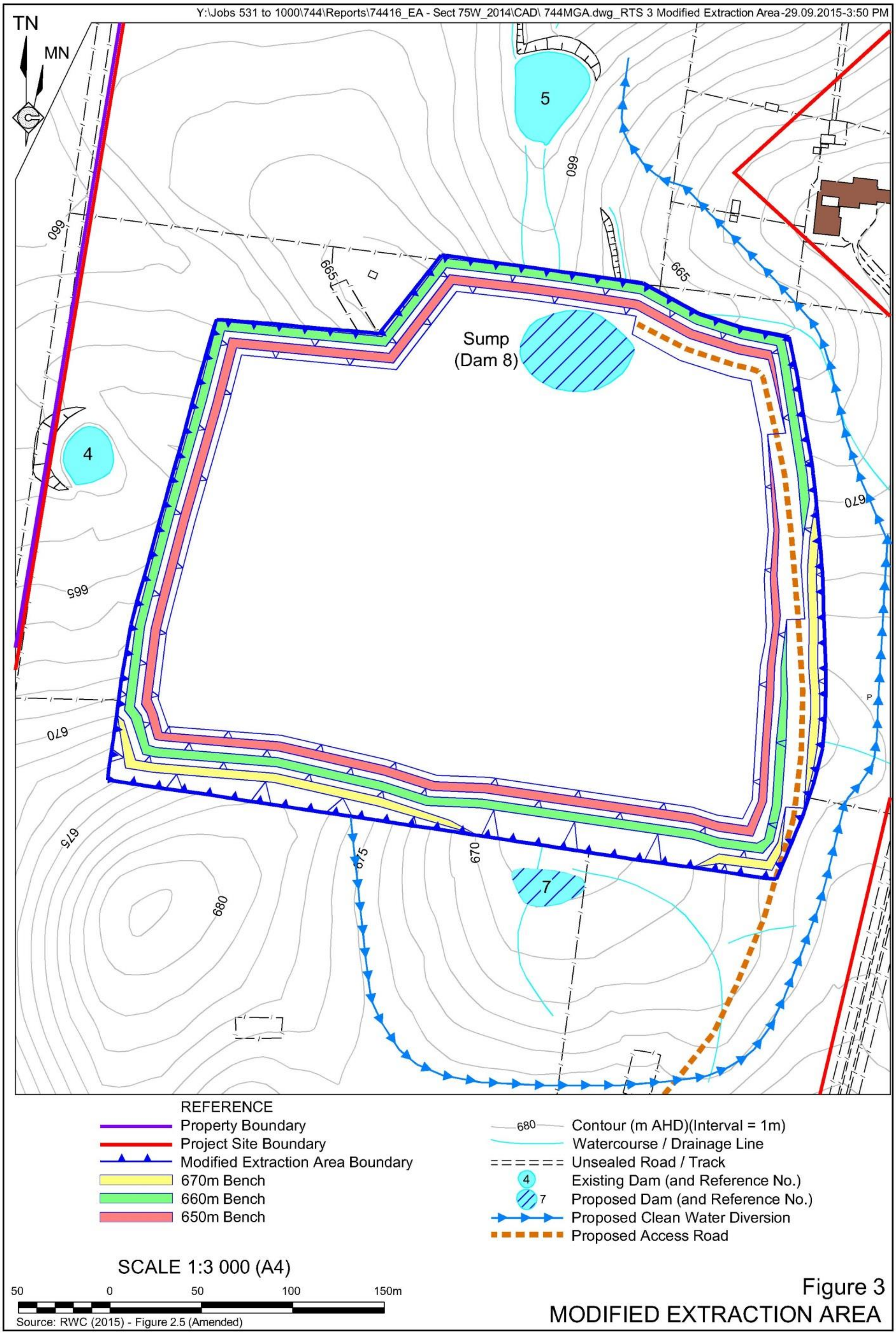
As a result of the government agency submissions and feedback from surrounding residents, the design and long-term footprint of the extraction area has been adjusted to maintain an acceptable level of visual impacts and to accommodate the required changes to the final landform requested by DRE. **Figure 2** presents the amended Quarry layout, displaying the following changes from those originally presented in RWC (2015) – Figure 2.1, with **Figure 3** presenting the revised extraction area design.

- A slightly amended extraction area boundary on the northeastern corner to retain an existing row of established trees.



Source: RWC (2015) - Figure 2.4 (Amended)

Figure 2
MODIFIED EXTRACTON AREA AND SURROUNDS



Source: RWC (2015) - Figure 2.5 (Amended)

Figure 3
MODIFIED EXTRACTION AREA

- Additional tree planting / screening areas within the northern tree screen and on the southeastern side of the surplus overburden stockpile area.
- An amended surface water management system with revised dams, sediment basins and diversion drains (further detail provided in Section 2.7).
- A new proposed roadside barrier up to 3.5m high would be constructed adjacent to the access road into the extraction area, principally to visually shield trucks entering and leaving the extraction area.
- The Site Office, Amenities and Storage Container have been relocated to a more practical location given the new proposed roadside barrier adjacent to the access road to the extraction area.

The extraction activities would be staged with Stages 1 to 4 located in the southern part of the extraction area and Stages 5 to 7 located in the northern part of the extraction area. Extraction would commence within Stage 1 with the recovery of clay and weathered shale to construct the central visibility barrier. Extraction would then progress downwards through Stages 2 to 4 developed at 660m AHD, 650m AHD and 640m AHD (the extraction floor).

Once Stage 4 is completed, the material within the central visibility barrier would be relocated into the southern side of the extraction area to form part of the long-term landform. Extraction would then commence in Stage 5 which would involve recovery of clay and weathered shale to construct the northern visibility barrier. Extraction would then progress downwards with Stages 6 and 7 developed at 650m AHD and 640m AHD (the extraction floor).

At the conclusion of extraction in Stage 7, material from the northern visibility barrier and its footprint would be pushed/relocated into the extraction void to create final side slopes of approximately 1:3 (V:H). The materials to the south of the extraction area and adjacent to the access road would similarly be pushed / relocated into the extraction area to assist in creating the long-term landform.

Representative Comment(s)

Council is concerned at the potential visual, noise and dust impacts of the proposed relocated and expanded extraction area, and requests that should the relocated and expanded extraction area with reduced riparian buffer distance to Wingecarribee River from 730 metres to 515 metres be approved, that additional barriers including plantings of Southern Highland Shale Woodland Endangered Ecological Community species (which occur naturally in the locality) be provided to assist in minimising visual, noise and dust impacts.

Council Submission

Response

RWC (2015) outlines the proposed management measures that would ensure noise and dust impacts are maintained well within the relevant criteria for each emission source, negating the requirement for further management controls. In any event, Austral would liaise with residents to the north of the Wingecarribee River during the construction stage for the barriers to ensure the most effective barriers are constructed and the timing of their construction and revegetation is well understood.

In addition to this, the visibility barriers were designed to ensure that the possibility of viewing active extraction operations from surrounding residences is minimised to the most practical extent possible throughout all stages of the Project, whilst ensuring that all barriers constructed utilised materials that were sourced on site. The current design of the visibility barriers utilise the majority of overburden that would be recovered within the extraction area throughout the life of the Project. It is noted that increasing the height of barriers beyond that proposed would yield negligible benefit from a visibility perspective.

In relation to the request for the revegetation of the barriers to include plantings of Southern Highland Shale Woodland Endangered Ecological Community (EEC) species, Section 2.15 RWC (2015) notes that with the exception of the Southern Barrier, the barriers would be temporary structures and would be removed throughout or at the conclusion of extraction operations. Due to the temporary nature of the visibility barriers, it would not be practical to establish a vegetation community equivalent to a Southern Highland Shale Woodland EEC when it is proposed to be removed at a later stage.

Notwithstanding Austral's approach to the vegetation on the visibility barriers, it is noted that Austral does intend to rely upon growing species within the Southern Highland Shale Woodland Community within the area of the northwestern tree screen.

It is therefore proposed that rehabilitation and revegetation of the temporary barriers would be undertaken as previously outlined within RWC (2010), having the outside slopes and tops of the amenity barriers revegetated with a quick growing cover crop for rapid stabilisation and a seed mix of native grasses and shrubs indigenous to the area and known to have high establishment success.

Representative Comment(s)

DRE considers a final landform outcome which incorporates gradual slopes, rather than a steep slope/bench arrangement would be preferable as a rehabilitation outcome in terms of safety (removing a potential fall risk), stability and visual amenity.

DRE Submission

Outline the fate of the central visibility barrier material following Stage 4.

DPE Correspondence

There appears to be no documentation ... covering consideration of alternative rehabilitation landforms or outcomes.

DRE Submission

Response

Figure 4 presents a plan view of the revised final landform and **Figure 5** presents sections through the revised final landform. The revised final landform now incorporates final undulating slopes of approximately 1:3 (V:H), utilising material available from the Central and Northern Visibility Barriers and some recovery of material from the southern side of the extraction area and the footprint beneath the Northern Visibility Barrier at the end of the Quarry life.

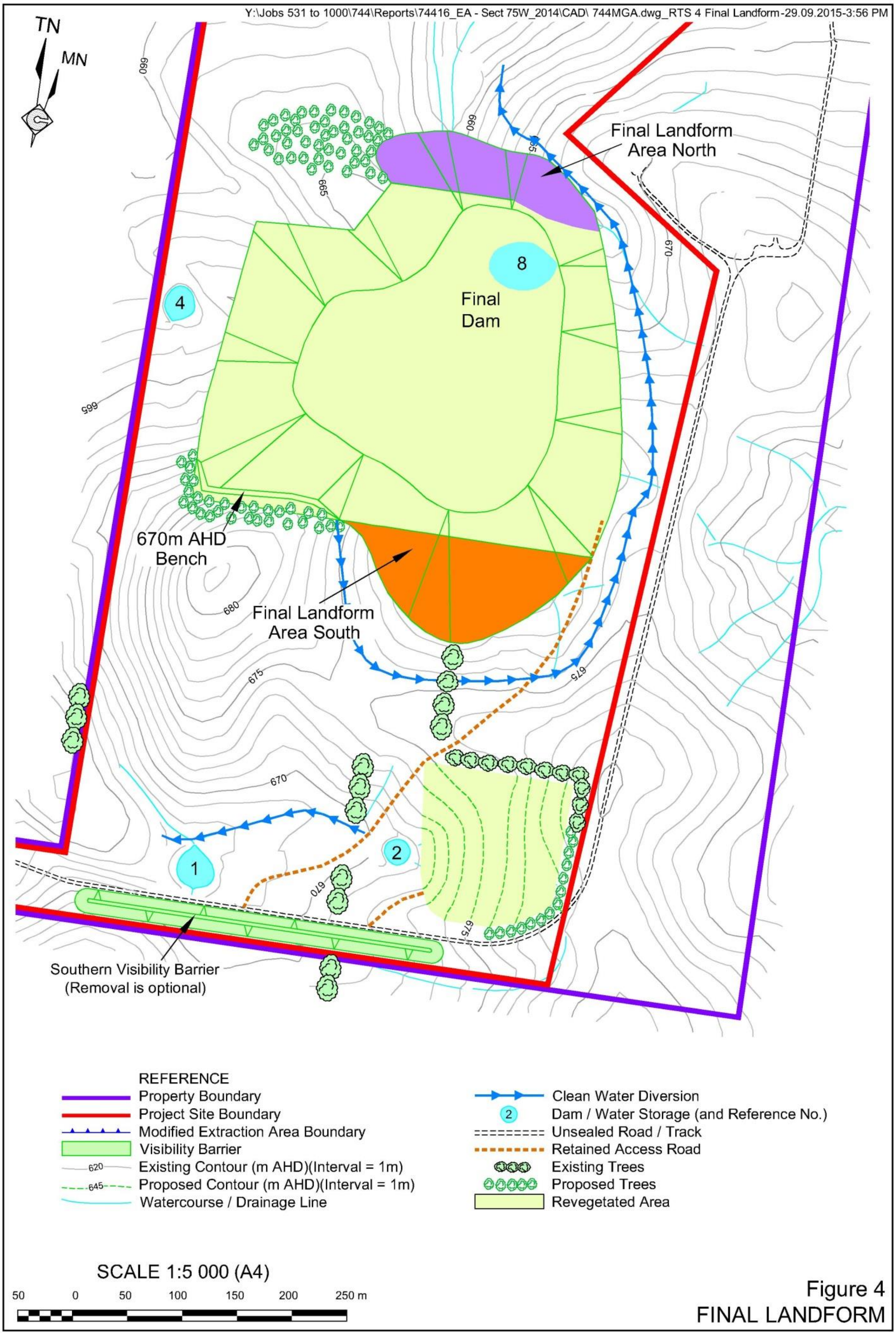


Figure 4
FINAL LANDFORM

The final landform would be achieved through backfilling the completed sections of the extraction area in two stages, i.e. at the end of Stages 4 and 7, i.e. in the following manner.

- **End of Stage 4** – The material within the Central Visibility Barrier would be relocated to the floor of the extraction area against the established southern benches and shaped to produce a permanent interim landform, as outlined below.
  - On the western section of the extraction area void at the end of Stage 4 (see cross section 16B’ – 16B on **Figure 5**), the material would be placed up to the approximate level of the 670m bench, shaped to a final landform of approximately 1:3 (V:H) and stabilised with a permanent grass vegetative cover. The 670m bench by this stage of the modified Proposal would have established (15 year old) trees and shrubs that would have been planted following the commencement of Stage 1 operations and would remain *in situ* on that bench. No further activities would be undertaken in this section of the Quarry.
  - On the eastern section of the extraction area void at the end of Stage 4 (see cross section 16C – 16B on **Figure 5**), material within the Central Visibility Barrier would be placed against the wall of the extraction area, up to the 660m AHD bench and shaped to create an interim undulating slope of approximately 1:3 (V:H).
- **End of Stage 7** – The material within the Northern Visibility Barrier would be relocated and placed on the western margin of the excavated void and shaped in the same manner as above, that is creating a final landform of approximately 1:3 (V:H) and stabilised with a permanent grass vegetative cover - see cross section 16B’ – 16B on **Figure 6**.
- Following the extraction of all material within the extraction area and relocation of the Northern Visibility Barrier, the material located beneath the footprint of the Northern Visibility Barrier would be dozer pushed into the extraction area void, as shown on cross section 16B’ – 16C on **Figure 5,** to create a final landform of approximately 1:3 (V:H). This underlying material would make up the shortfall of material volumes required for the creation of the final landform that could not be recovered from the Northern Visibility Barrier itself, whilst ensuring that the maximum amount of material could be extracted with only a minor and temporary disturbance footprint increase.

2.4 VISIBILITY

Representative Comment(s)

Section 4.3.3 of the EA states residence 12 would potentially have the highest visual impact due to a direct line of sight of the proposed modification, while Table 4.2 states the residence has no direct line of sight.

DPE Correspondence

Response

A typographic error and omission of text occurred within the EA (RWC, 2015) and should have read “… Residence 13 and 16B would potentially have the highest visual impact due to a direct line of sight of the proposed modification”. This now aligns with the information provided within EA Table 4.2, with the cross sections included within EA Figure 4.4 provided from these residences.

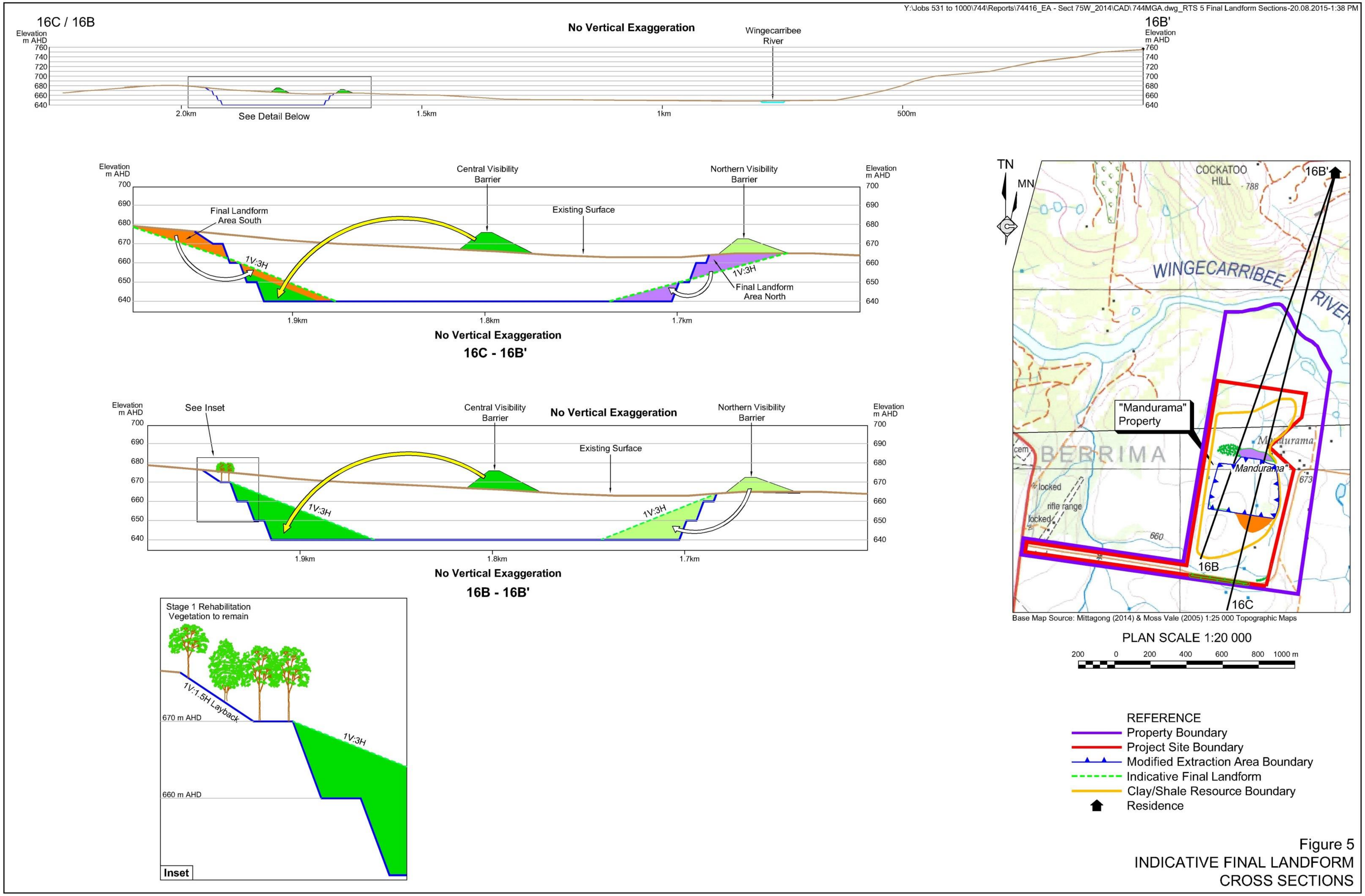


Figure 5
INDICATIVE FINAL LANDFORM
CROSS SECTIONS

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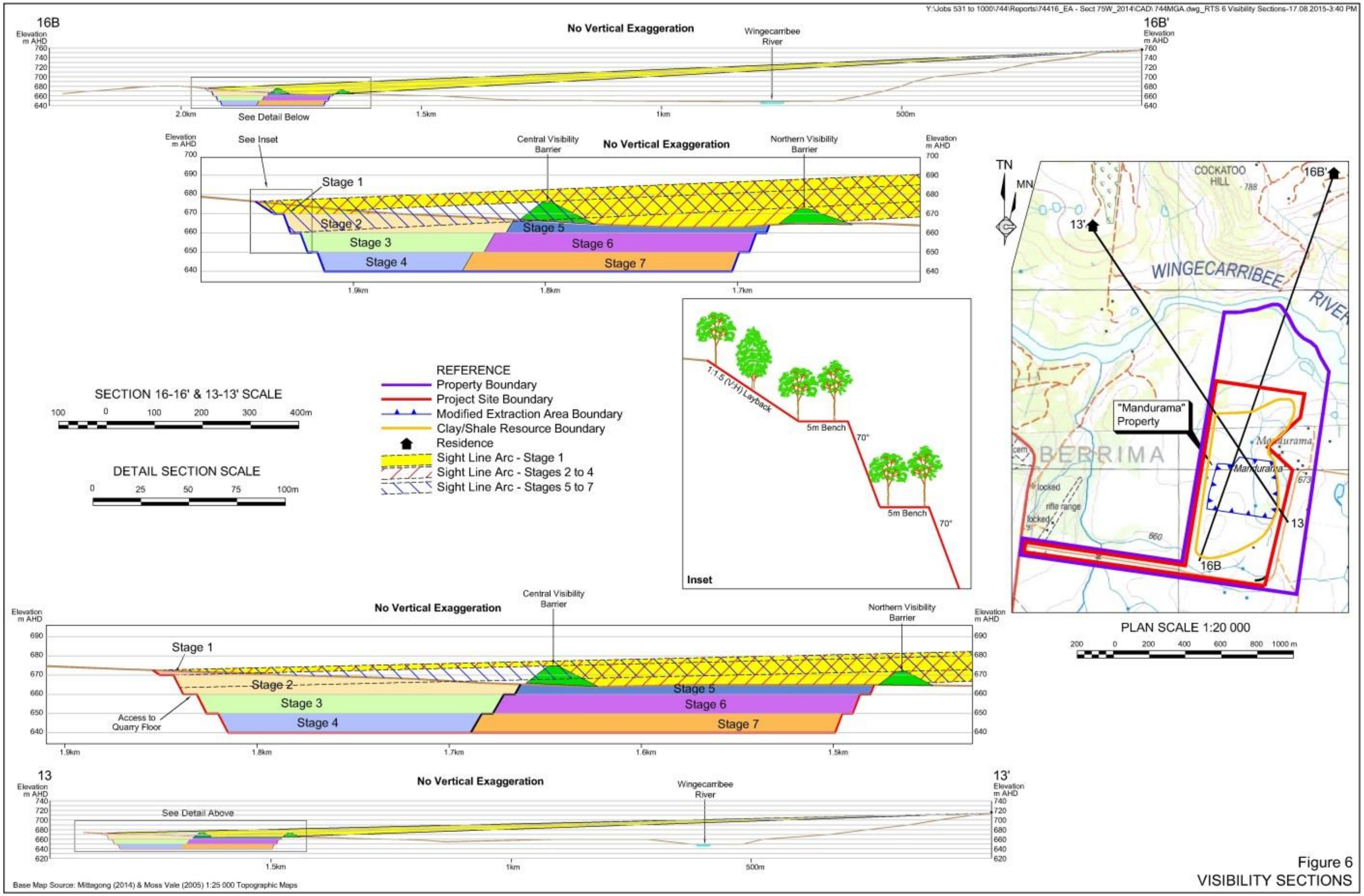

Base Map Source: Mittagong (2014) & Moss Vale (2005) 1:25 000 Topographic Maps

Figure 6
VISIBILITY SECTIONS

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An amended Figure 4.4 is reproduced as **Figure 6**, with the following changes/updates.

- Inclusion of labels for Residence 13 and 16B on the cross sections.
- Revised line of sight shading to exclude areas not visible from nominated residences.
- Inclusion of sight line arcs for Stage 1, Stages 2-4 and Stages 5-7, highlighting the possible views from Residences 13 and 16B throughout the various stages of the Project.

Representative Comment(s)

Owing to potential visibility concerns, what is likely to be the maximum height of the Surplus Overburden Stockpile Area.

Resident R3S Correspondence

Response

The Surplus Overburden Stockpile Area is situated on a westerly facing slope with an elevation difference of 9m between its western and eastern boundaries. It is envisaged that due to this relief in topography, the majority of stockpiled material would be deposited preferentially on the western margins of the Surplus Overburden Stockpile Area to minimise visibility issues to the east of the Quarry Site.

In order to stockpile a suitable quantity of materials within the area, it is proposed that materials would be stockpiled no higher than 683m AHD. **Figure 7** presents an indicative cross section of the Surplus Overburden Stockpile Area within its upper surface occurring at 683m AHD, noting a height of 4m above natural ground surface on the eastern margin.

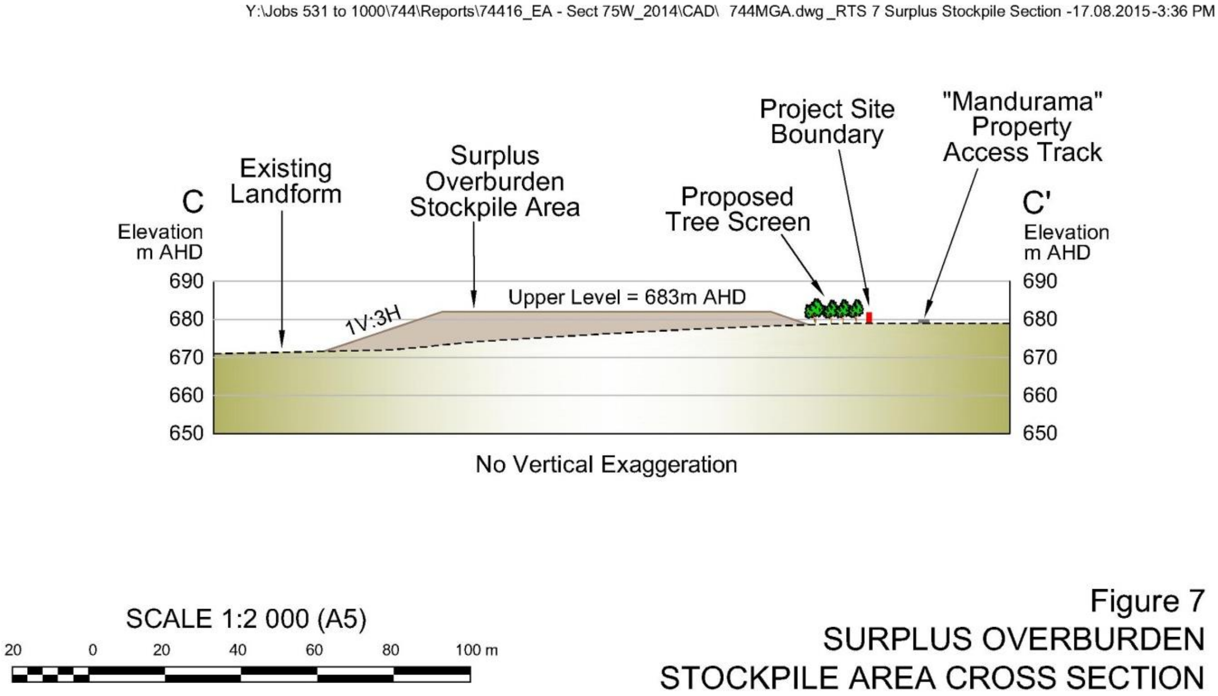

Figure 7
SURPLUS OVERBURDEN STOCKPILE AREA CROSS SECTION

In order to further reduce the potential for visual impacts of the materials stockpiled within the Surplus Overburden Stockpile Area from residences to the east and southeast of the Project Site, a tree screen would be planted during the site establishment and construction phase on the southeastern periphery of the Surplus Overburden Stockpile Area to ultimately shield direct line of sight views of the stockpiled materials.

The proposed measures negate the requirement for the extension of the southern visibility barrier to the east due to the lack of direct views and topography of the surrounding area outside the Quarry Site. Further to this, following a visit to Residence R3S by an RWC and Austral representative, it was recognised in consultation with the resident that an additional row of trees already exist between the Project Site and the residence and further reduced the possibility to have a direct line of sight with the Surplus Overburden Stockpile Area.

Representative Comment(s)

The increased size of the pit - approx 30% - has a huge impact on the views from our property … and *the "visibility barrier" would have be very high as a result of the relocation and I doubt that whether a barrier could and would be constructed which would block the view of the pit from our house and of our neighbours*

Residence 16B Correspondence

The new placement will be far more obtrusive to my view.

Residence 17 Correspondence

Response

Figure 6 presents the revised visibility sections figure originally included within RWC (2015), presenting the sight line arc from Residence 16B, located adjacent to Residence 17, across the extraction area and highlighting the potential areas of direct line of sight within the Extraction Area during Stage 1, between Stages 2 to 4 and between Stages 5 to 7.

The sight line arcs demonstrate that the Central Visibility Barrier, constructed during the site establishment phase of the Quarry and drawing materials from Stages 1 and 2 for its construction, would provide for a height of between 8m to12m above natural ground level and limit the direct line of sight for the majority of Stages 1 to 4. It is recognised that following the removal of the Central Visibility Barrier when the quarry is operating in Stage 5 (approximately 15 years following the commencement of operations), it would be possible to observe the 670m AHD bench and sections of the final 1:3 (V:H) slope created against the extraction faces within the extraction area, however, by this time, this area would be significantly rehabilitated with vegetation and would not be clearly discernible within the wider landscape.

Austral representatives consulted with the owners of Residence 16B to better understand the potential visibility impacts from their residence. Two visits to the residence were conducted with the most recent involving an inspection from the residence of a series of coloured barrels placed at strategic locations on the proposed boundary/corners of the proposed extraction area and alignment of the Central Visibility Barrier.

Plate 1 displays the existing view towards the Project Site from Residence 16B, i.e. without any magnification. In order to explain the effectiveness of the proposed visibility barriers, two further plates were prepared, with a degree of magnification.

Plate 2 displays the location / approximate height of the Central Visibility Barrier together with the Southern Visibility Barrier and a new proposed access road barrier leading from the exit from the extraction area through the existing trees on the nearby ridgeline. The indicative presentation is presented with and without magnification.

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Plate 1: Existing view to the south from Residence 16B

Plate 3 displays the location / approximate height of the Northern Visibility Barrier together with the other barriers shown in **Plate 2**. This presentation similarly presented with and without magnification.

It is stressed that magnified views presented in **Plates 2** and **3** are views intended to assist the owners of Residence 16B to better understand the effectiveness of the visibility barriers with the Project Site. When assessed in conjunction with the wider non-magnified view, i.e. **Plate 1**, the area of visual impact and relative heights of the barriers would be considerably less.

As a result of this most recent assessment, Austral has made a slight modification to the Quarry layout in order to further reduce the visual impacts of its activities when viewed from residences north of the Wingecarribee River, i.e. by:

i) including a further barrier approximately 3.5m high adjacent to the access road into the extraction area, thereby restricting visibility of trucks travelling into and from the extraction area.

ii) relocating the Site Office, Amenities and Storage Container to accommodate the access restriction created by the new proposed roadside visibility barrier.

For completeness, the southern barrier has also been added to **Plates 2** and **3**.

Overall, it is acknowledged that during the construction stage for each visibility barrier, the area of disturbance and the vegetated barriers would be visible for short periods, i.e. red/brown/grey colours would be visible together with views of the active earthmoving equipment. As discussed earlier, Austral would liaise with residents to the north of the Wingecarribee River during the construction stage of each barrier to ensure that the most effective barrier is constructed and the timing of their construction and revegetation is well understood. Austral is committed to the early revegetation of the northern side of each barrier.

Once completed and revegetated, the barriers would substantially reduce the views of the extraction and related activities for the greatest part of the operational life of the Quarry.

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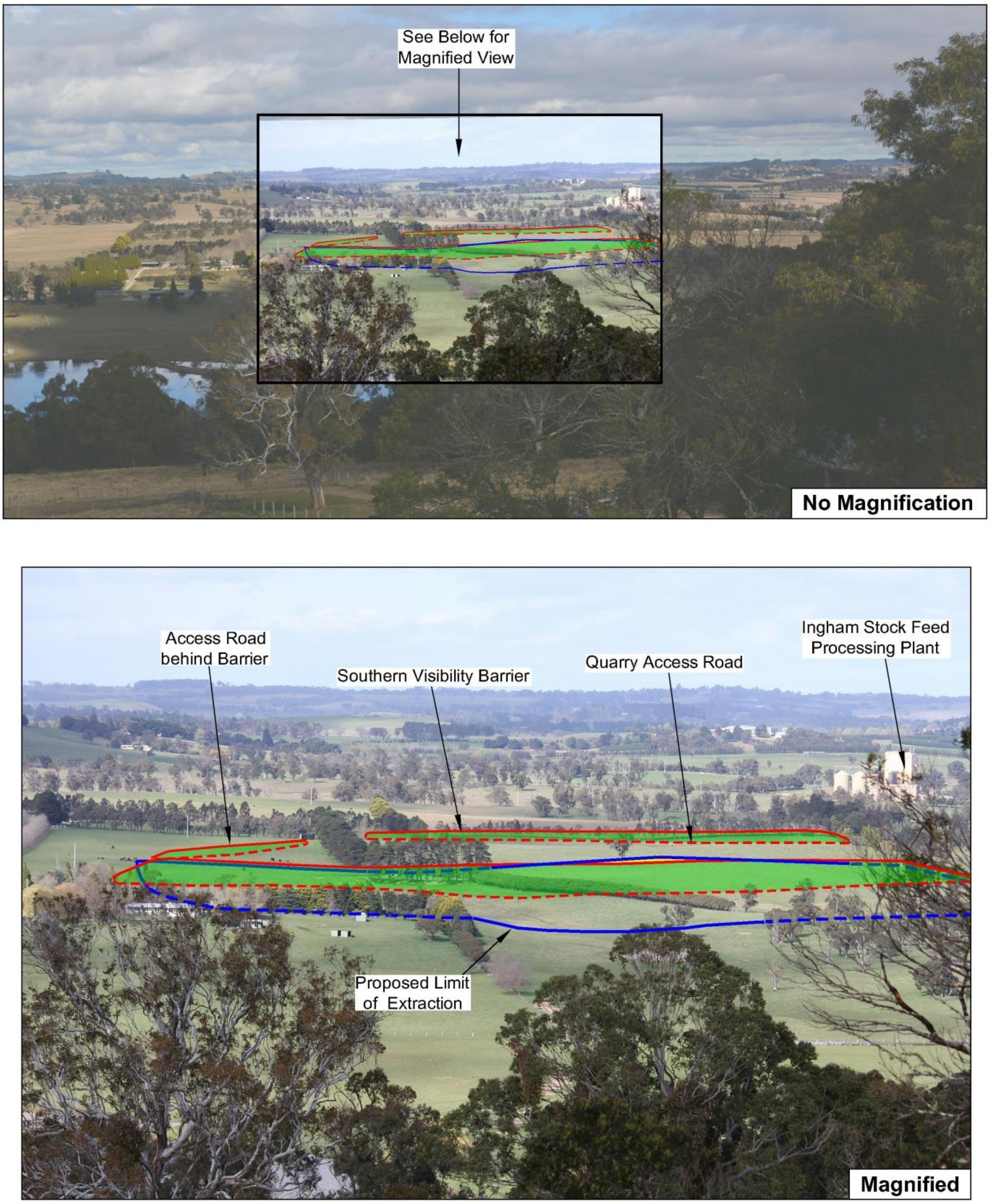

Plate 2 : View to the south towards the proposed extraction area from Residence 16B with an indicative representation of the Central Visibility Barrier

REFERENCE
━━ Extraction Boundary (Visible)
╌╌ Extraction Boundary (Hidden)
🟩 Top of Visibility Barrier
🟩 Base of Visibility Barrier
🟨 Potentially Visible Operational Area

Note: The colour utilised to highlight the barriers is illustrative only and would be a similiar colour to the pasture lands in the surrounding landscape following the establishment of a grass cover

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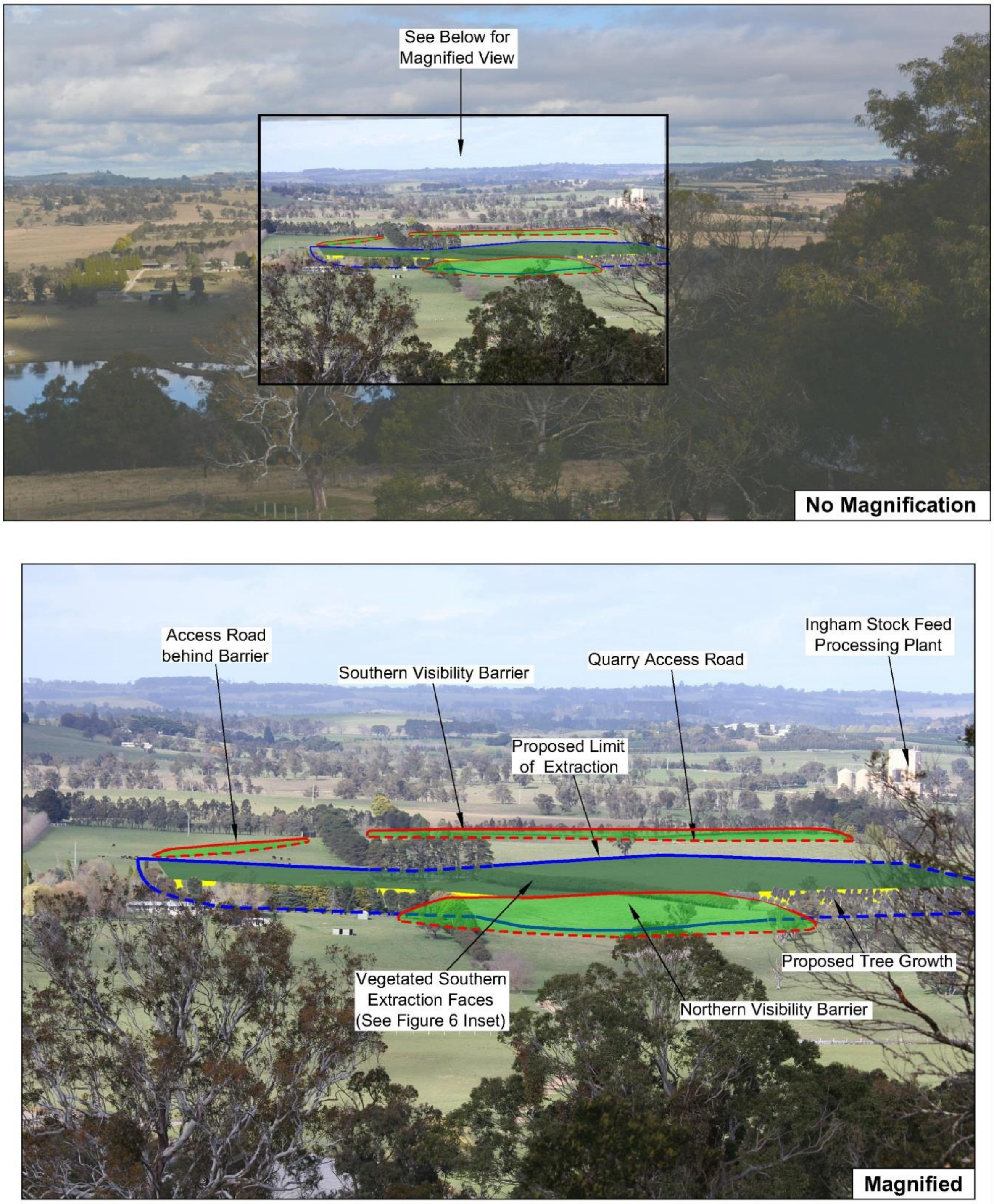

Plate 3 : View to the south towards the proposed extraction area from Residence 16B with an indicative representation of the Northern Visibility Barrier

REFERENCE
— Extraction Boundary (Visible)
- - - Extraction Boundary (Hidden)
🟩 Top of Visibility Barrier
🟩 Base of Visibility Barrier
🟨 Potentially Visible Operational Area

Note: The colour utilised to highlight the barriers is illustrative only and would be a similiar colour to the pasture lands in the surrounding landscape following the establishment of a grass cover

2.5 NOISE

Representative Comment(s)

The new placement will be … closer which would make it noisier.

Resident 17 Correspondence

Response

The Noise Impact Assessment undertaken by Spectrum Acoustics (2015) clearly demonstrates that the Proposal would not result in any exceedances at any privately-owned residences following the purchase of Property R2 by Austral in June 2015[1].

The results of the noise assessment of the modified Proposal displayed in Table 4.4 of RWC (2015) identified the following changes in predicted noise levels during the construction of the Northern Visibility Barrier compared with the predicted noise levels for the barrier associated with the approved extraction area.

- There would be no change or a reduction in noise levels at eight surrounding residences.
- Marginal increases of 1dB(A) to 2dB(A) would occur at six residences to the north and northwest of the extraction area.

Notwithstanding the slight increases in noise levels, the predicted noise levels all comply with the relevant criteria. It is also noteworthy that this assessment relates to only a short period during the construction of the Northern Visibility Barrier. During the bulk of the extraction operations, the difference in noise levels would not be discernible. Therefore, concerns by the owner of Residence 17 would not eventuate.

2.6 FLOODING

Representative Comment(s)

Assess the Proposal for flooding, in particular, make reference to the Wingecarribee Shire Council flood study conducted by Snowy Mountains Engineering Corporation (SMEC, 2014).

DPE Correspondence

As the proposed development occupies flood prone land, the proposal should be considered in accordance with the NSW Government's Flood Prone Land Policy as set out in the Floodplain Development Manual, 2005 (FDM05). The primary objective of the flood policy is to reduce the impact of flooding and flood liability on individual owners and occupiers, and to reduce the private and public losses resulting from flooding, utilising ecologically positive methods wherever possible.

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[1] Spectrum Acoustics (2010) predicted an exceedance of the project specific noise level of 2dB(A) at Property R2. The purchase of the property therefore removes the exceedance.

The implications of the full range of floods, up to the probable maximum flood (PMF) should be considered including:

- *the impact of flooding on the development*
- *the impact of the development on flood behaviour, and;*
- *the impact of flooding on the safety of people/users of the development.*

OEH Submission

Response

At the outset, OEH's statement that "the proposed development occupies flood prone land" is incorrect. It is acknowledged that the Project Site Boundary lies within flood prone land but none of the approved or modified extraction area lies within flood prone land. This observation is also documented in Appendix 6 (Section 4.6) i.e. the updated Surface Water Assessment (see **Attachment 1** to this document.

Flooding was assessed in RWC (2010) and it was determined that the approved extraction area and all related infrastructure was above the historic flood level. Noting that the revised extraction area is located further north of the approved extraction area, and subsequently closer to the Wingecarribee River, the revised extraction area is still above the historic flood level.

Figure 8 presents the results of flood modelling undertaken by SMEC (SMEC, 2014) on behalf of Wingecarribee Shire Council, with the proposed extraction area superimposed, highlighting that in a 1 in 100 year annual exceedance probability (AEP) flood would see runoff from the catchment in which the extraction area is located extending laterally within the watercourse. Clearly, the presence of the extraction area across this watercourse would reduce the extent of flow towards the Wingecarribee River during such a flood.

Representative Comment(s)

The proposed relocated and expanded extraction area is located within a portion of the site which is traversed by water courses. It is suggested that the Department of Planning and Environment in its assessment of the modification application, consider additional measures to ensure water quality is maintained to the satisfaction of NSW Water (Sydney Catchment Authority) and NSW Office of Water.

DPE Correspondence

Response

It has been suitably determined through comments provided by Water NSW and the NSW Office of Water that the mitigation and management measures outlined within RWC (2015) are adequate and suitable for the Proposal. The revised Surface Water Assessment incorporates the full range of mitigation measures relating to the modified Proposal.

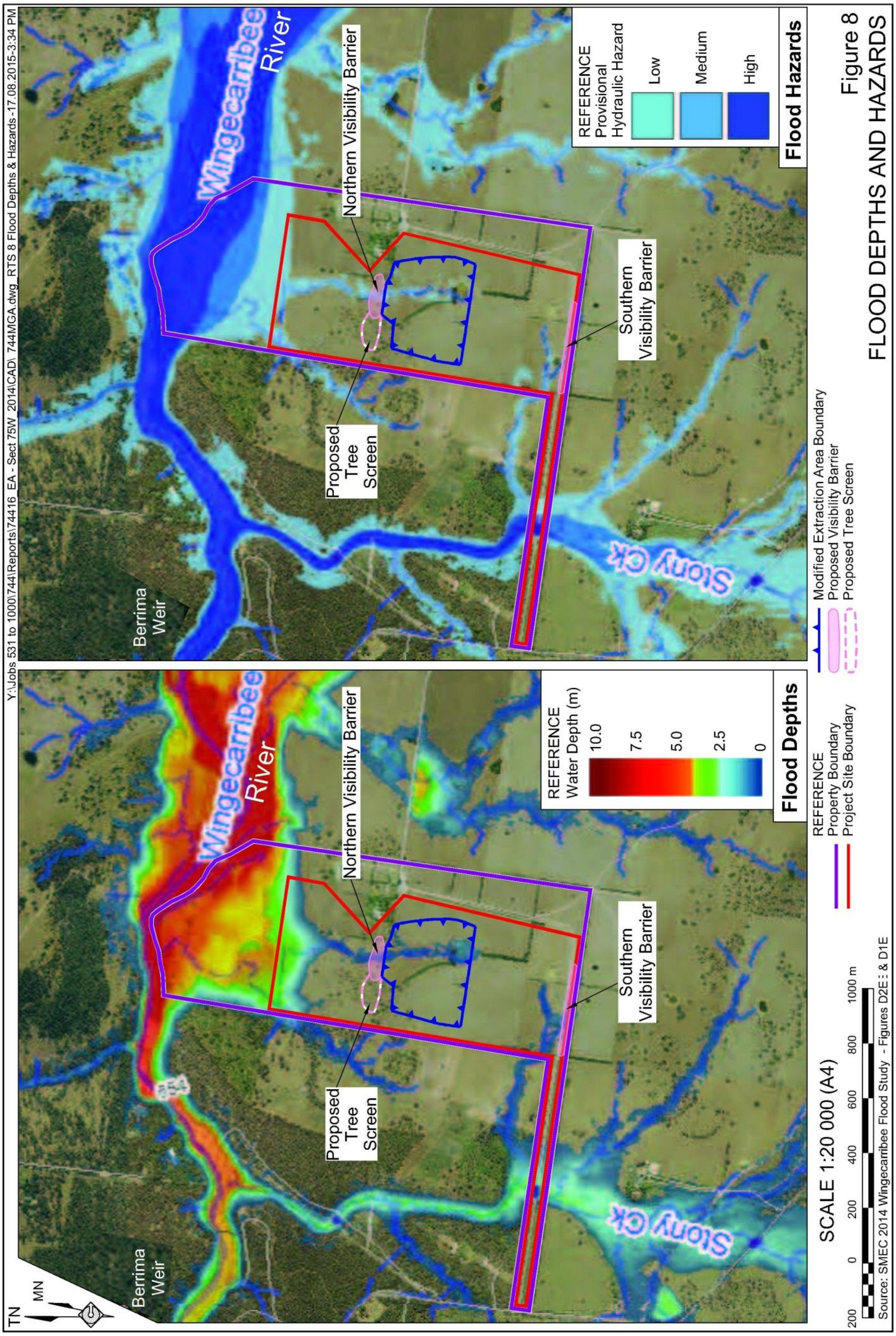


Figure 8
FLOOD DEPTHS AND HAZARDS

2.7 SURFACE WATER

2.7.1 Introduction

As a result of the various government agency submissions, a revision of the surface water management system has been undertaken by SEEC, with a modified Surface Water Assessment completed (referred to as SEEC, 2015a), which has been appended to this document as **Attachment 1**. The information provided in the following subsection includes a summary of the modified water management system (Section 2.7.2) and responses to a series of matters raised in submissions relating to surface water management (Section 2.7.3). It is noted that Section 2.8 includes responses relating to groundwater issues.

2.7.2 Revised Surface Water Management System

The following information outlines and describes the revised surface water management system, as well as providing the government agency submissions that resulted in the management system being revised.

Figure 2 (Page 7) presents the locations of the main surface water management structures, with **Figure 9** and **10** providing the locations of clean water and dirty water structures during the four distinct periods of the Proposal, being:

- establishment Stages 1 to 4 (construction of the site access road, southern part of the Extraction Area and southern and central visibility barriers);
- operational Stages 1 to 4 (Year 1 to 15);
- establishment Stages 5 to 7 (construction of the northern part of the Extraction Area and northern visibility barrier); and
- operational Stages 5 to 7 (Year 15 to 30).

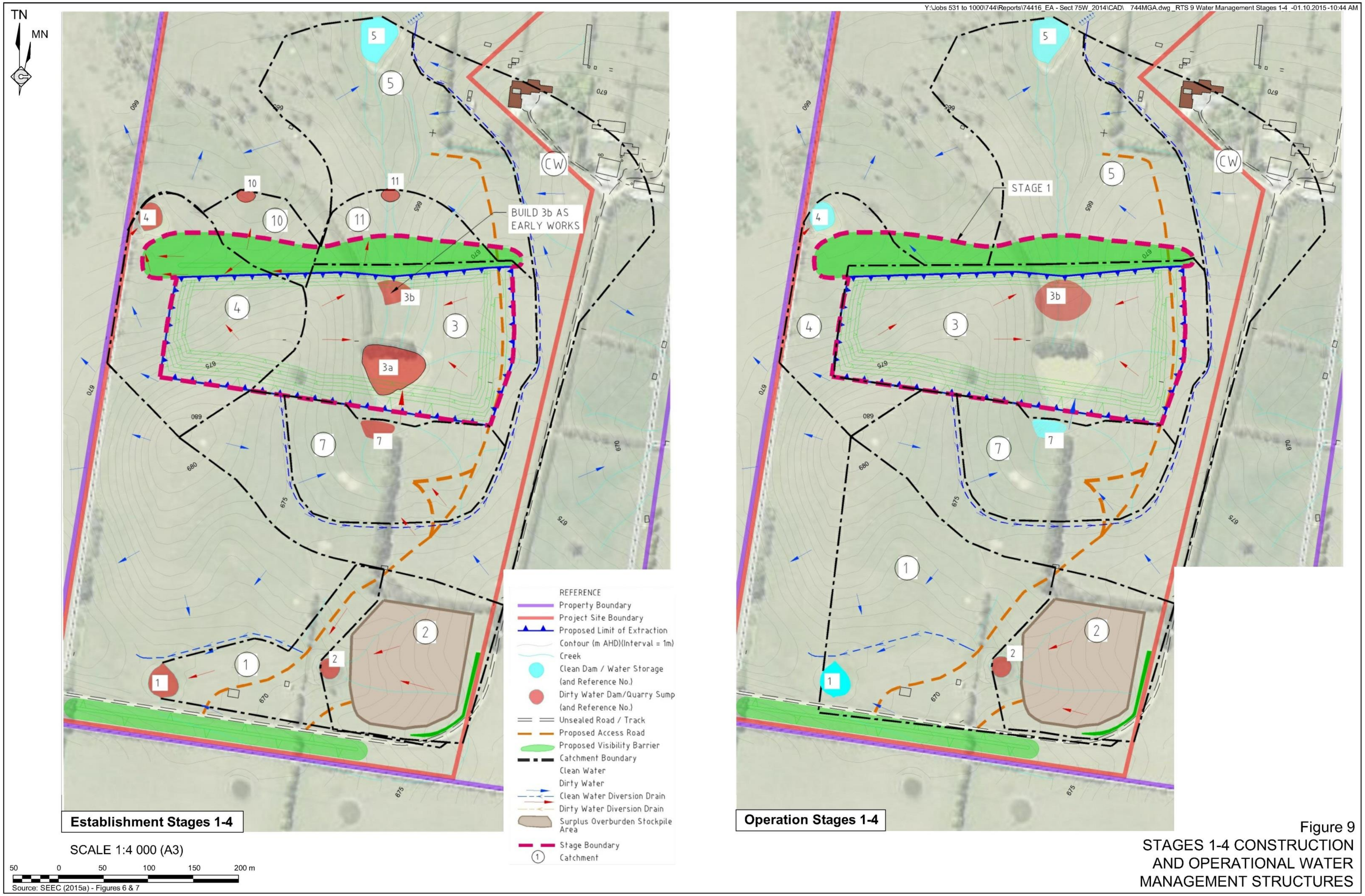
The following clean water diversion structures have been included within the surface water management system to minimise the amount of clean water that requires handling throughout the stages of the Quarry as shown on **Figures 9** and **10**.

- During establishment of Stage 1, a major diversion drain would be constructed on the upslope southern and eastern margins of the Quarry. It will divert as much clean water as possible to a stabilised release point downstream of Dam 5 and thereby reduce the catchment area of Dam 7.
- Other minor diversion drains would be constructed in order to limit the catchment area above Dam 4 during the establishment of Stages 5 to 7.
- A further diversion structure would be formed by the southern visibility barrier which would act as a diversion structure to direct natural flow around Dam 1 where it would re-enter a natural depression.

A description of all revised water management structures displayed on **Figures 9** and **10** that are included within the harvestable rights calculations are outlined as follows, with **Table 2.1** providing a summary of dam capacities over the life of the Proposal, including the final landform. All other dams, i.e. Dams 9, 10 and 11 would effectively be short-term sediment basins.

Table 2.1
Dam Capacity and Harvestable Right Volumes

Dam ID	Establish (Stages 1-4)	Operation (Stages 1-4)	Establish (Stages 5-7)	Operation (Stages 5-7)	Final Landform	Capacity (ML)	Management	Use
1	Dirty	Clean	Clean	Clean	Clean	Existing 1.4ML	Sediment Basin during Stage 1 establishment No management or use when clean	No use when sediment basin. Farm use when clean.
2	Dirty	Dirty	Dirty	Dirty	Clean	Increased to 1.8ML	Water pumped to Extraction Area	No use during operations. Farm use in final landform.
3	Dirty	NA (removed)	NA (removed)	NA (removed)	NA (removed)	Existing 4.5ML	Sediment basin during Stage 1 establishment then decommissioned (moved to 3b)	No use
3b	Dirty	Dirty	Dirty	Dirty	NA (removed)	Min 0.6ML during Stage 1 establishment Then not defined	Sediment basin during Stage 1 establishment Quarry Sump for Stages 2-4 when there would be no overflow - water would be infiltrated or evaporated.	No use
4	Dirty	Clean	Dirty	Clean	Clean	1ML except temporarily enlarged to 1.4ML during establishment Stages.	Sediment basin during both stages of establishment No management when clean	No use when sediment basin. Farm use when clean
5	Clean	Clean	Dirty	Clean	NA (removed)	Existing 2.4ML	Sediment basin when dirty No management when clean	Farm use when clean
6	Clean	Clean	Clean	Clean	Clean	2.5ML	Not related to the Project Site operations	Farm use
7	Dirty	Clean	Clean	Clean	NA (removed)	1.2ML	Used for dust suppression and washdown water	Dust Suppression and washdown water
8	NA	NA	NA	Dirty	Clean	Sump during operations, size not defined 1.8ML final landform	No overflow during works; water would be infiltrated or evaporated. Farm dam in final landform	Farm dam for final landform
9	NA	NA	Dirty	NA (removed)	NA	0.64ML	Sediment basin during Stage 5-7 establishment then decommissioned	No use
10	Dirty	NA (removed)	NA	NA	NA	0.23ML	Sediment basin during Stage 1-4 establishment then decommissioned.	No use
11	Dirty	NA (removed)	NA	NA	NA	0.4ML	Sediment basin during Stage 1-4 establishment then decommissioned.	No use



Source: SEEC (2015a) - Figures 6 & 7

Figure 9
STAGES 1-4 CONSTRUCTION AND OPERATIONAL WATER MANAGEMENT STRUCTURES

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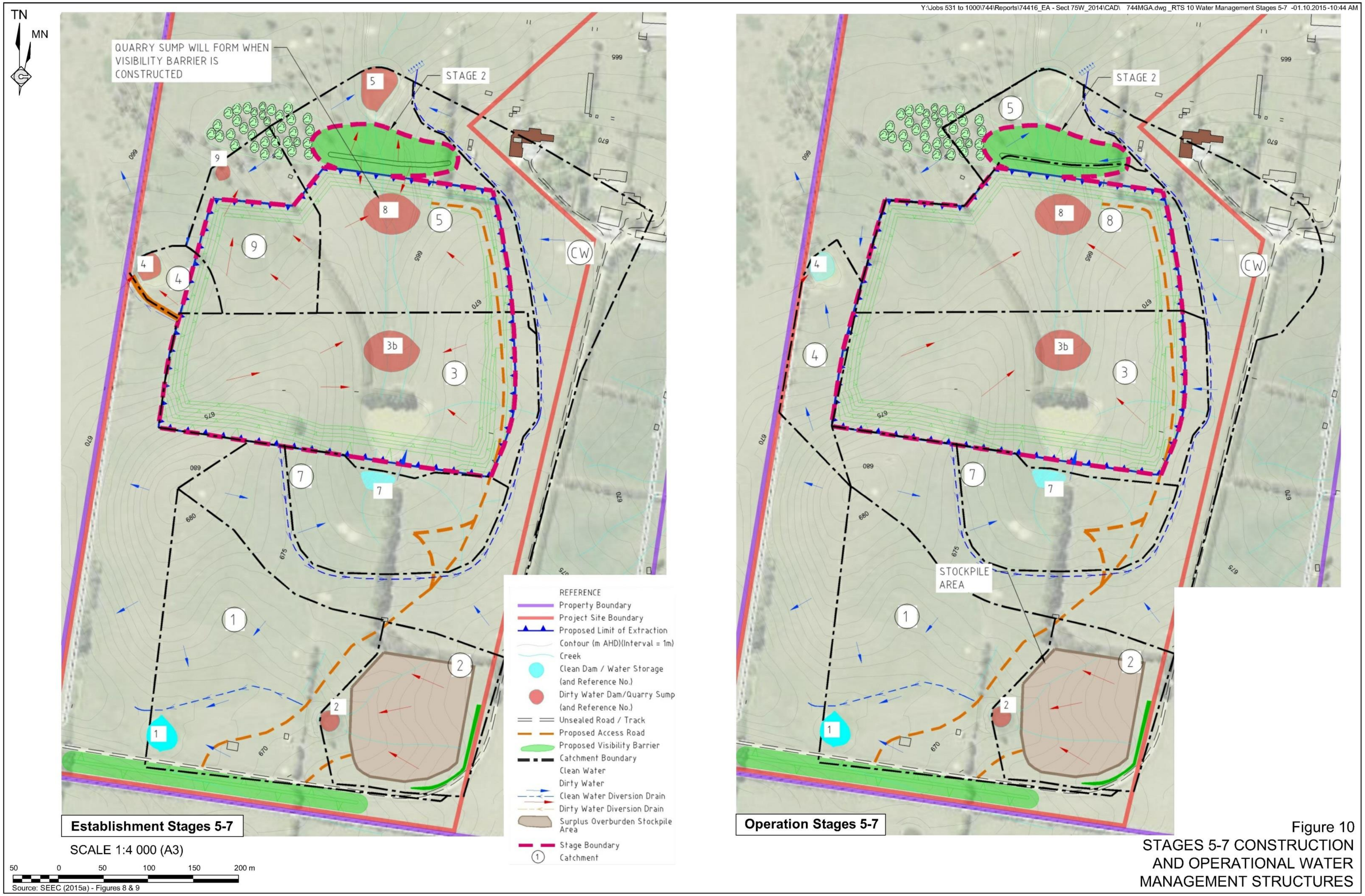

Source: SEEC (2015a) - Figures 8 & 9

Figure 10
STAGES 5-7 CONSTRUCTION AND OPERATIONAL WATER MANAGEMENT STRUCTURES

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- Dam 1 (1.4ML) would, at one time during the life of the quarry, be a sediment basin for the purpose of maintaining water quality. However, at other times it will remain for agricultural purposes so its volume is included in the harvestable right calculation. Dam 1 would remain in the final landform.
- Dam 2 would be in the Surplus Overburden Storage Area and would be enlarged to 1.8ML. It would collect sediment-laden runoff from the Surplus Overburden Storage Area so that it may be pumped as soon as practicable to the extraction area where it would drain by gravity to the active sump (either Storage 3b or 8). The dam is sized for the 100 year 24-hour storm event. Because it is in the works area, and its use is to prevent loss of sediment-laden water, Dam 2 would be exempt from the harvestable right calculation. Dam 2 would remain in the final landform.
- Dam 3 and (initially) Storage 3b would be used as sediment basins for the purpose of maintaining water quality. Water detained in both dams would not be used and so they are exempt from the harvestable right calculation.
- Once the extraction area becomes internally-draining, Storages 3b and 8 would be part of the operational extraction area and water will gravitate to down gradient sumps within these areas. No water would be drawn from these storages during the operational phase and the water would remain in the extraction area and allowed to infiltrate to the regional groundwater table below the proposed base of extraction or evaporated. Therefore, they would be exempt from the harvestable right calculation. Storage 8 would be converted to Dam 8 as part of the final landform. At that time, Dam 8 would be part of the harvestable right calculation.
- Dam 4 would, at some time during the life of the quarry, be a sediment basin for the purpose of maintaining water quality. However, at other times it will remain for agricultural purposes so its volume is included in the harvestable right calculation. Note the capacity of Dam 4 would temporarily be increased to 1.4ML when it is used as a sediment basin. However, it would be returned to 1ML at other periods. Dam 4 would remain in the final landform.
- Dam 5 would for a short time be used as a sediment basin (during the establishment of Stage 5-8 activities) but at all other times during operations it would likely be used for agricultural purposes and dust suppression in particularly dry periods. Therefore, its volume (2.4ML) is part of the harvestable right calculation. However, Dam 5 would not remain as part of the final landform.
- Dam 6 (off the Project Site but on the Property) would be unaltered and used for agricultural purposes. Therefore, its volume (2.5ML) is part of the harvestable right calculation. Dam 6 would remain as part of the final landform.
- Dam 7 would have a capacity of 1.2ML and be located south of the Extraction Area and be elevated above its southern perimeter. It would be used to supply water and so its volume is part of the harvestable right calculation. Dam 7 would not remain as part of the final landform.

- Dams 9, 10 and 11 would be constructed for the purposes of maintaining water quality (i.e. they would be sediment basins). Water detained in them would not be used but would be released to downstream waters (after treatment, if necessary). Therefore, they are exempt from the harvestable right calculation. None of these dams would remain in the final landform.

2.7.3 Surface Water-related Issues

Representative Comment(s)

The proposed clean and dirty water management system does not appear to meet best practice. Further the project now includes elements of controlled and uncontrolled discharges into the Wingecarribee River, which is part of the Sydney drinking water catchment. This may not meet the requirements of the drinking water SEPP.

DPE Correspondence (08/07/15)

It is recommended that the RTS closely considers reworking the surface water management system to include:

- *number of effective clean water diversions to reduce the clean water catchment reporting to dams;*
- *only include sediment basins sized to the relevant standard for the proposed disturbed area reporting to it and giving sediment basins a different naming convention (e.g. SB – X);*
- *reducing the number or size of dams that receive clean water to meet the harvestable rights limit; and*
- *ensuring the project continues to be nil discharge (i.e. all dirty water discharges report to the pit).*

DPE Correspondence (08/07/15)

Table 8 indicates the capacity of Dam 1 is 1.43 ML and Dam 4 will be enlarged to 1.4 ML (see Appendix 6, pages 22 and 23). It is unclear how the combined capacity of 2.12 ML has been derived for Dams 1 and 4. Based on Table 8, the combined capacity of Dams 1 and 4 appears to be 2.83 ML rather than 2.12 ML (see Section 5.2 of Appendix 6, page 15 and 16).

NOW Submission

Response

The above issues have been resolved throughout the modified surface water assessment summarised in Section 2.7.2 except for the requested naming convention. Other than Dam 6, each of the dams would have a function to manage sediment-laden water at some stage throughout the life of the Quarry. Some of the re-sized dams could be used to supply part of the water required for dust suppression during the life of the Quarry.

Representative Comment(s)

The final landform (Figure 2.7) shows the upstream sections of these watercourses/ depressions will flow into a rectangular basin (page 29). As surface runoff from the project site currently flows to the Wingecarribee River, the Office of Water requests consideration as to whether it is possible to divert the watercourses/depressions around the rectangular basin so the runoff flows to the river rather than into the basin once quarrying is completed.

NOW Submission

Response

The revised surface water management regime now maximises the diversion of clean water around the proposed extraction area throughout the life of the Quarry. **Figure 2** (Page 7) in this document displays that the clean water diversion to the south of the extraction area would be retained in the final landform.

Representative Comment(s)

Dam 7 (7ML) is a key concern. It is a large dam that captures predominantly clean water. The only disturbed feature in its catchment would be the haul road, which is a very small area. Compared to Dam 2 (1.8 ML) which captures dirty water from the much larger disturbed soil stockpile area (which could be easily vegetated?). It is unclear why Dam 7 is so large.

DPE Correspondence (08/07/15)

Response

Dam 7 has been reduced in capacity to 1.2ML.

Representative Comment(s)

The Mod 1 EA indicates the proposed Modification utilises 8.52 ML through the combined quarry-related and agricultural activities on the Mandurama property (page 56). Appendix 6 (Mod 1 EA) indicates it has included Dams 1, 4, 5, 6 and 7 in the Harvestable Rights (HR) calculations for the site (page 16).

Table 8 of Appendix 6 indicates Dams 1 and 4 will not be used for re-use when clean (see pages 22-23) but Section 5.2 notes they will be used for agricultural purposes (page 15). Clarification is required on this.

NOW Submission

The Office of Water requests clarification of the application of the exemptions (as outlined within Schedule 1 of the Water Management (General) Regulation 2011) *to some dams on the Mandurama property.*

NOW Submission

Response

Details of the various dams and their use during and following extraction are presented in Section 2.7.2 of this document and in more detail in Section 5.3 of the Revised Surface Water Assessment.

Representative Comment(s)

Insufficient information has been provided to determine the exempt status of dams 3b and 8. Specifically, the proponent needs to ensure that clean water runoff is diverted around the disturbance footprint where feasible, and that the area of land disturbance leading to dirty water runoff is best practice and the minimum area required to be disturbed. Where these requirements cannot be demonstrated to be met, the dams are unlikely to be exempt from the requirement to hold a water access licence.

NOW Submission

Response

The modified surface water management provides for the diversion of as much clean surface water runoff as possible. Storages 3b and 8 would be within the extraction area and would trap sediment-laden water from it and the surplus overburden area (via Dam 2). No sediment-laden water from the works areas would be discharged or used. The trapped water would either evaporate or percolate to groundwater.

Representative Comment(s)

In order that the Office of Water can be satisfied that the 5.4ML storm capture component (from Dam 7 – total capacity of 6.94ML) does not require licensing, a commitment or condition preventing extraction from the dam when it is above the full storage level of 1.54 ML is recommended.

NOW Submission

Response

Dam 7 has been reduced in capacity to 1.2ML. This has been achieved through the diversion of runoff from within its catchment and the recognition now that it may on occasions overflow into the extraction area, a factor that the Applicant originally tried to avoid.

Representative Comment(s)

Section 2.15 of the Mod 1 EA indicates the final landform would consist of a rectangular basin with a dam with a capacity of at least 2 ML (page 28). Figure 2.7 shows the final landform includes Dams 1, 2, 4, 5, 7, 8 and 9. Details are required on the capacity of these dams and their proposed use.

NOW Submission

Response

Figure 2 (page 7) in this document presents an updated version of the Final Landform incorporating the modified arrangements. The capacities of the various dams remaining within the final landform have been revised and are listed in **Table 2.1** of this response. It is noted that Dams 5, 7 and 9 would be removed following their use as sediment basins.

2.7.4 Surface Water – Non-Management Related

Representative Comment(s)

Condition 13 in Schedule 3 of the Project Approval for the New Berrima Shale Quarry project (MP08-0212) dated 6 July 2012 requires a minimum buffer distance of 730 m (measured from top of bank) to be maintained between the extraction area and the Wingecarribee River. The MOD 1 EA proposes to reduce this buffer distance to 515 m (see Table 2.2, page 15) but it provides no justification for reducing the width of the buffer by 215m.

NOW Submission

Response

As a result of the detailed resource drilling program, the higher quality clay/shale resource was identified as occurring up to 215m north of the approved extraction area, ultimately reducing the distance between the Wingecarribee River and the northern boundary of the modified extraction area boundary to a total distance of 515m from the Wingecarribee River.

It is therefore proposed that *Condition 13* be modified to reflect the revised separation distance. Importantly, the reduction in the distance between the modified extraction area boundary and the Wingecarribee River would not generate or cause any detrimental impacts upon the river itself or influence flood flows.

Representative Comment(s)

Figure 4.5 in the EA shows the quarry modification will remove 1st and 2nd order watercourses on the site but Appendix 6 indicates that within Catchment A where excavation is proposed there are no defined channels and they are open grassy depressions (page A6-10).

NOW Submission

Response

It is confirmed that the watercourses identified on EA Figure 4.5 are first and second order watercourses. However, the supplier of the topographic map has recorded more first order watercourses than those defined by the demarcations on the Mittagong 1:25 000 topographic map. These additional first order watercourses in reality are essentially shallow drainage depressions with no defined channels. This difference in notations of watercourses is evident when comparing EA Figure 4.5 with EA Figure 4.1. Notwithstanding this however, SEEC (2015a) has been updated to ensure that first and second order streams displayed on EA Figure 4.5 are also identified in Catchment A.

Representative Comment(s)

Appendix 6 indicates water collected on-site is to be used for dust suppression and machinery washdown and would be sourced from the 1.54 ML storage volume in Dam 7 (pages 17-18). It assumes 2000 L/day will be used for washdown and cleaning of machinery for 90 days per year which equates to 0.18 ML/year.

It indicates the daily water demand for dust suppression would be 17kL and this would be used on dry days only but to ensure an adequate water supply is available for the Mod 1 project, it is recommended the applicant provides an estimate of:

- *the maximum number of dry operational days when water would be required for dust suppression*
- *the maximum volume of water that could potentially be used for dust suppression in a year.*
- *the total volume of water to be used from storage Dam 7 in a year.*

NOW Submission

Response

The modified surface water management provides for the diversion of as much clean surface water runoff as possible. Storages 3b and 8 would be within the extraction area and would trap sediment-laden water from it and the surplus overburden area (via Dam 2). No sediment-laden water from the works areas would be discharged or used; the trapped water would either evaporate or percolate to groundwater.

Representative Comment(s)

To ensure that there are no adverse impacts upon water quality, Fisheries NSW recommends that the following conditions be included in the Consent (if issued):

- *That the Proponent develop and implement a Water Quality Management Plan (which included provisions for water quality monitoring) prior to commencement of shale extraction operations.*
- *The Water Quality Monitoring provisions include a requirement to monitor discharges from the site during and immediately following significant (e.g. greater than 25mm/24 hours) rainfall events.*
- *That independent auditing of the implementation and effectiveness of the Water Quality Management Plan be conducted after 12 months from the commencement of shale extraction operations and at 3 yearly intervals thereafter.*
- *That the Water Quality Management Plan be refined/modified as required in light of the findings of each independent audit.*

DPI Fisheries Submission

Response

Austral acknowledges that the requested conditions are appropriate and comparable to those already within the Project Approval although the terminology of the plan referred to should remain the “Water Management Plan”.

2.8 GROUNDWATER

Representative Comment(s)

The proponent should provide an assessment of the likelihood and scale of perched water tables expected to be encountered, including a risk assessment to groundwater resources, including consideration of the scale of the potential volume of groundwater that could be intercepted.

NOW Submission

Response

Austral's experience at its Bowral Quarry adjacent to the Bowral Brick Plant has provided an excellent understanding of the potential for groundwater intersections and perched water levels, particularly in close proximity to a substantial watercourse. The western boundary of the Bowral Quarry is approximately 25m from the centre of the Mittagong Rivulet (a watercourse with a catchment above the Quarry of 22km^2). The Mittagong Rivulet is a tributary of the Wingecarribee River. The attached **Figure 11** (1995 EIS Figure 2.4) and **Figure 12** (1995 EIS Figure 2.6) display the proximity of the existing Bowral Quarry to the Mittagong Rivulet.

The nature of the Ashfield Shale is such that occasional localised and negligible (unmeasurable) inflows of water occur following rainfall. This is manifested as damp areas on the exposed extraction faces. No seepage of water occurs from the adjoining Mittagong Rivulet into the Quarry despite the base of the Quarry being 30m to 40m below the base of the rivulet.

The likelihood of perched water tables, potential interaction with the existing regional groundwater table and risk assessment of each would be addressed within the Project's revised Groundwater Management Plan. Notwithstanding this, the Proponent has committed to apply for a Water Access Licence (with a zero allocation share at this stage) to ensure that in the unlikely event any groundwater is intercepted by extraction activities, that this water would be accounted for through the purchase of allocations relevant to the Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2011.

Representative Comment(s)

The Proponent should to establish at least three (3) pairs of nested piezometers – one towards each of the SW, NW and NE corners of the "Project Site Boundary" as approved. The nested piezometers shall consist of one (1) to measure groundwater levels in the Ashfield Shale and one (1) to measure groundwater pressures in the immediately underlying Hawkesbury Sandstone. The piezometers in the SW corner area shall be east of the main N-S Lot boundary.

NOW Submission

Response

Austral accepts that three nested piezometers be installed at the identified locations. It is, however, proposed that these piezometers are installed prior to extraction activities occurring below 660m AHD, a depth noted as being at least 12m above the Wingecarribee River (648m AHD), as it is highly unlikely that the regional groundwater would be intercepted above 660m AHD based upon the height and topographical location of the extraction area at that time particularly given Austral's experience at the Bowral Quarry. The timing, installation and groundwater monitoring would be outlined within the Project's Groundwater Management Plan – to be compiled following the modification of PA08_0212.

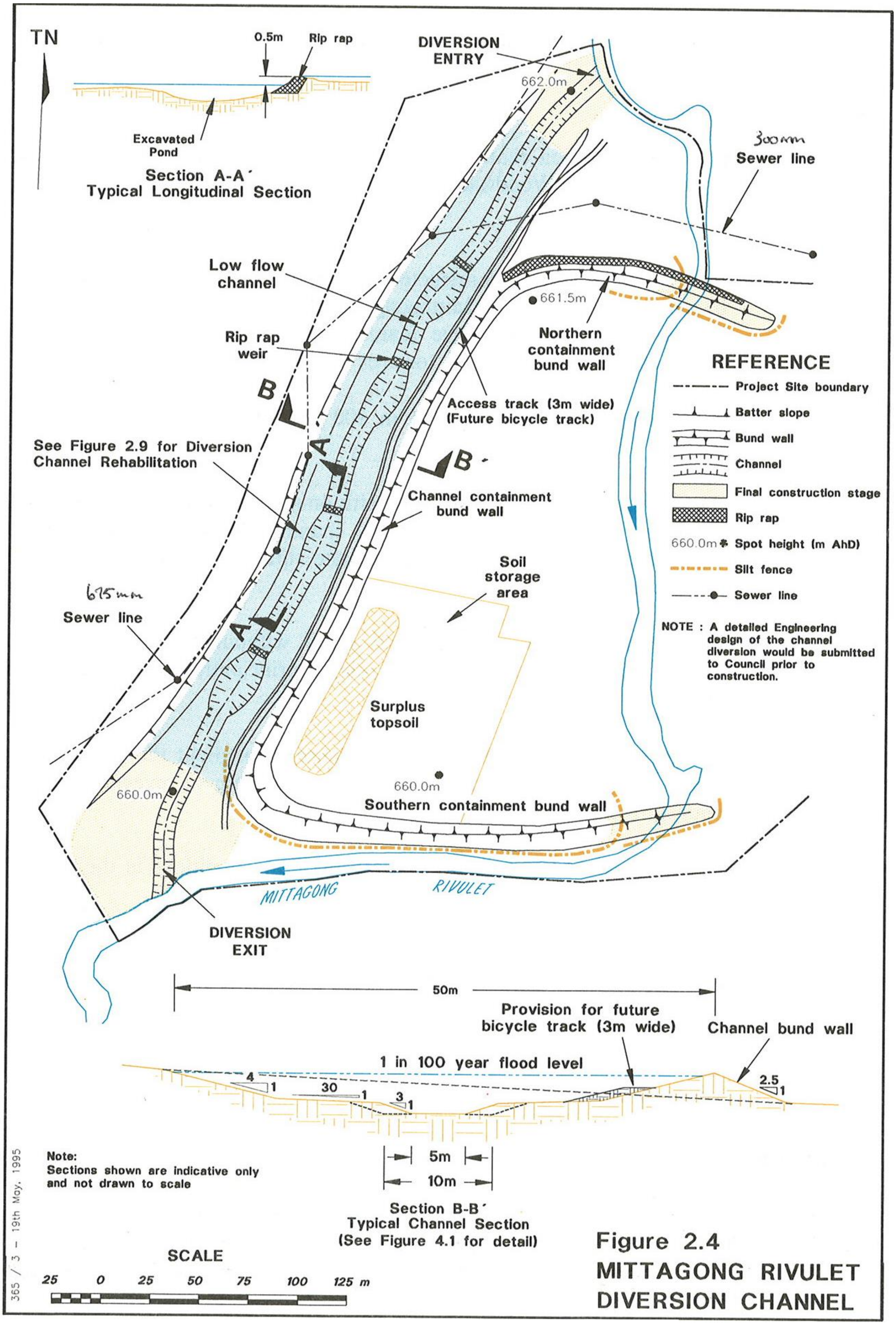


Figure 11: Bowral Quarry – Mittagong Rivulet Diversion Channel

Source: 1995 EIS

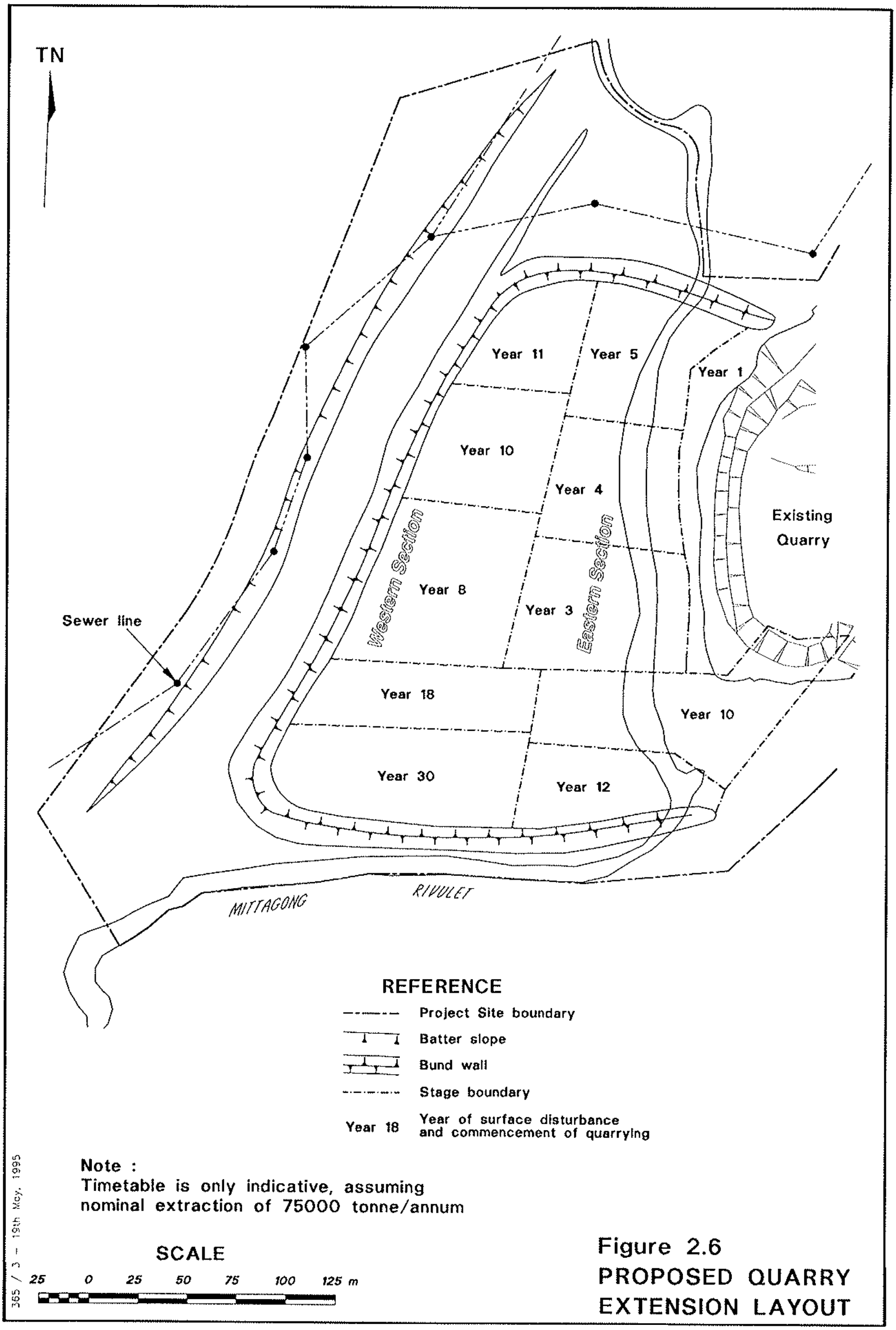


Figure 12: Bowral Quarry – Proposed Quarry Extension Layout

Source: 1995 EIS

Representative Comment(s)

The Office of Water recommends the development of a groundwater management plan as required as a condition of the existing development consent.

NOW Submission

The Office of Water recommends that the original Approval Condition 18(c) which required a Groundwater Management Plan (GMP) to be prepared be enforced.

NOW Submission

Response

The Proponent accepts that it is appropriate to prepare and submit a *Groundwater Management Plan* following the modification of PA08_0212. It is however proposed to submit an updated *Groundwater Management Plan* to DPE for approval prior to the completion of Extraction Stage 2, i.e. when extraction would be at a level of 660m AHD, i.e. a level well above the regional groundwater table. The updated document would include the results of the investigations associated with the three nested piezometers.

Representative Comment(s)

The Proponent has not prepared an assessment for the project in terms of the Aquifer Interference Policy (AIP). Since there has been no baseline monitoring, it has not been demonstrated that the watertable will not be intersected and that connectivity to the River is not present.

NOW Submission

Response

It is proposed that baseline monitoring data would be presented as part of the Project's updated *Groundwater Management Plan* submitted to DPE prior to the completion of Extraction Stage 2.

Representative Comment(s)

The Office of Water recommends that the groundwater levels in all monitoring bores be measured every 3 months, together with the pH and electrical conductivity of representative samples, and the information be reported annually to NOW. The reporting should be accompanied by an analysis of the results in the context of the project's operations, historical water level data, district rainfall, and local landholder activities; and any adverse outcomes explained to the satisfaction of NOW.

NOW Submission

Quarry operators should routinely monitor for groundwater inflows from the floor and walls and should record all instances. A report of groundwater inflows together with a suitable analysis and groundwater management assessment should be prepared annually included in the Annual Review.

NOW Submission

Response

The recommendations outlined by NOW would be adopted and discussed within the Project's Groundwater Management Plan. The results of the groundwater monitoring would be presented in the Quarry's Annual Review, a copy of which would be submitted to NOW.

Representative Comment(s)

The Proponent has not prepared an assessment for the project in terms of the Aquifer Interference Policy (AIP). Since there has been no baseline monitoring, it has not been demonstrated that the water table will not be intersected and that connectivity to the River is not present.

NOW Submission

Response

It is proposed that as part of the Project's Groundwater Management Plan, that a risk based approach, including appropriate management measures, would be undertaken to ensure that in the unlikely event that any groundwater (either from perched or regional groundwater tables) is intersected by extraction operations, that appropriate measures are in place to ensure no impacts occur upon the regional water table.

2.9 TRAFFIC

Representative Comment(s)

It has come to the Department's attention that an intersection which is required to be upgraded under the approval will be upgraded by Council with funding from the Commonwealth and developer contributions.

DPE Correspondence (27/05/15)

Response

The intersection in question that will be upgraded by Council utilising Commonwealth and developer funded money is located at Berrima Road/Taylor Avenue, which lies on the road that connects the townships of Berrima and Moss Vale. The existing T-junction intersection will be replaced with a B-triple capacity roundabout. **Figure 13** presents the conceptual Berrima Road intersection upgrade plans from Council highlighting that the proposed works would not impact the proposed intersection from the Quarry Access Road and Berrima Road.

Notwithstanding this, it is proposed that the Applicant would ensure the road works required at the entrance to the "Mandurama" property do not adversely affect the intersection upgrade.

Correspondence with Wingecarribee Shire Council has established that there is no program or timetable to upgrade the subject intersection given the quantum of funds to be contributed by Council are unlikely to be available in the near future. As a consequence of this advice, Austral proposes to abide by the existing conditions 3(23) and 3(24) relating to the proposed road upgrading works unless Council considers the funds to be spent by Austral could be incorporated in the fund pool for the intersection upgrade with an agreement/protocol adopted for the use of existing intersection in the meantime.

Austral will continue to liaise with Council in relation to this matter and, if appropriate, seek the necessary modifications to Conditions 3(23) and 3(24).

Representative Comment(s)

As the proposed modification to the existing development consent 08_0212 for the New Berrima Shale Quarry does not include a change to the approved level of production, the proposed modification will not increase traffic generation from the site, or create additional demands upon Council infrastructure from that already approved.

Council Submission

Response

Noted.

2.10 HERITAGE

Representative Comment(s)

With regard to Aboriginal cultural heritage, the modified extraction footprint is within the area assessed by Archaeological Survey and Reports Pty Ltd (ASR) in 2010. Therefore, the proposed modifications do not alter the Aboriginal cultural heritage assessment or requirements. You should ensure that your due diligence assessment is conducted in accordance with OEH guidelines and is appropriately documented.

OEH Submission

Response

The Aboriginal Heritage Management Plan would reflect revised changes to the Project Site and be provided to the registered Aboriginal parties for their records, ensuring that due diligence has been conducted in accordance with OEH guidelines.

2.11 MINERAL OWNER MINING LEASE

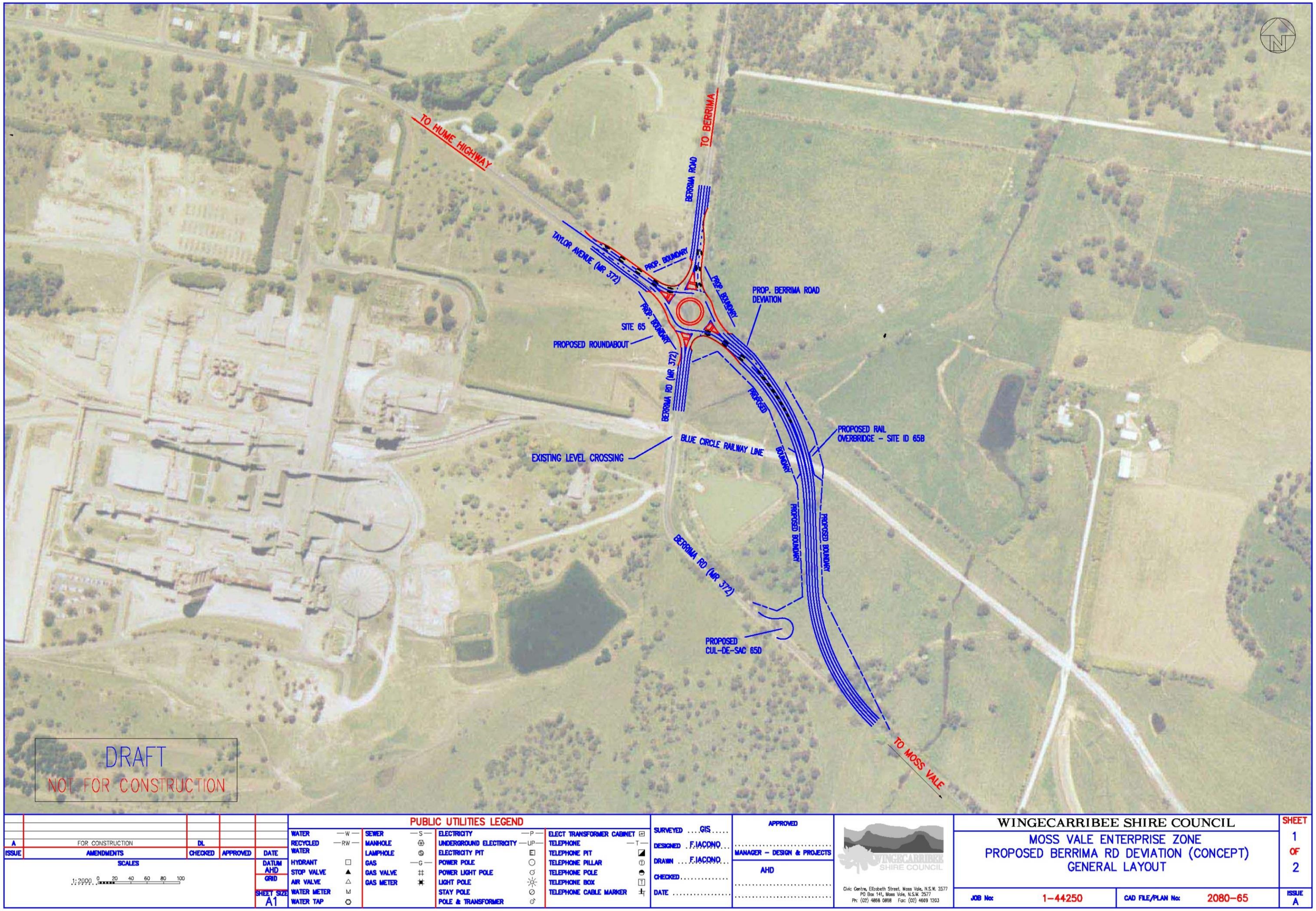
Representative Comment(s)

As clay/shale is a prescribed mineral under the Mining Act 1992, Austral Brick Company Pty Ltd is required to hold an appropriate mining authority from DRE in order to mine the mineral.

DRE Submission

Response

Austral is currently assembling all relevant information to accompany an application for a Mineral Owners Mining Lease for the Berrima Clay/Shale Quarry. The application will be submitted following the receipt of a modified Project Approval.


TO HUME HIGHWAY
TO BERRIMA
BERRIMA ROAD
TAYLOR AVENUE (MR 372)
PROP. BOUNDARY
PROP. BOUNDARY
PROP. BOUNDARY
PROP. BERRIMA ROAD DEVIATION
SITE 65
PROPOSED ROUNDABOUT
BERRIMA RD (MR 372)
PROPOSED BOUNDARY
PROPOSED RAIL OVERBRIDGE – SITE ID 65B
EXISTING LEVEL CROSSING
BLUE CIRCLE RAILWAY LINE
PROPOSED BOUNDARY
PROPOSED BOUNDARY
BERRIMA RD (MR 372)
PROPOSED CUL-DE-SAC 65D
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WATER METER
WATER TAP
SEWER —S—
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LAMPHOLE
GAS —G—
GAS VALVE
GAS METER
ELECTRICITY —P—
UNDERGROUND ELECTRICITY —UP—
ELECTRICITY PIT
POWER POLE
POWER LIGHT POLE
LIGHT POLE
STAY POLE
POLE & TRANSFORMER
ELECT TRANSFORMER CABINET
TELEPHONE —T—
TELEPHONE PIT
TELEPHONE PILLAR
TELEPHONE POLE
TELEPHONE BOX
TELEPHONE CABLE MARKER
SURVEYED GIS
DESIGNED F.IACONO
DRAWN F.IACONO
CHECKED
DATE
APPROVED
MANAGER – DESIGN & PROJECTS
AHD
WINGECARRIBEE SHIRE COUNCIL
Civic Centre, Elizabeth Street, Moss Vale, N.S.W. 2577
PO Box 141, Moss Vale, N.S.W. 2577
Ph: (02) 4868 0888 Fax: (02) 4869 1203
WINGECARRIBEE SHIRE COUNCIL
MOSS VALE ENTERPRISE ZONE
PROPOSED BERRIMA RD DEVIATION (CONCEPT)
GENERAL LAYOUT
SHEET 1 OF 2
JOB No: 1-44250
CAD FILE/PLAN No: 2080-65
ISSUE A

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2.12 OTHER ISSUES

Representative Comment(s)

We request that Austral provide noise monitoring equipment at sites R12 and R15 (who made submissions to the initial Proposal) so there can be independent monitoring of noise levels, and validation of the Spectrum estimates.

Resident 12 Correspondence

Response

Austral is committed to commissioning independent noise monitoring the details of which would be presented in the Noise Management Plan

Representative Comment(s)

...We request that Austral undertake air quality assessments during campaigns and make the data available in real time on a website that neighbours can access.

Resident 12 Correspondence

Response

Based upon the type and scale of operations to be undertaken at the Quarry, as well as the revised air quality assessment (SLR, 2015), it is envisaged that real-time air quality monitoring (via a TEOM or HVAS) would not be required. Notwithstanding this, however, the results of the deposited dust monitoring program would be displayed on Austral's website following their analysis on a monthly basis.

3. CONCLUSION

This document has provided a response to the range of issues raised by Council, State Government Agencies and surrounding landowners and occupiers. The overall project design has been retained with respect to the plans for extraction, however, the approach to the final landform and surface water management has been modified to reflect the specific issues raised. These modifications would result in improved environmental outcomes.

The other key issue addressed in this document relates to visibility from residences approximately 1.6km to 2.0km to the north of the extraction area. Whilst it is recognised some of the disturbed areas would be visible from these residences for short periods (during the construction and stabilisation of the visibility barriers), the barriers themselves would substantially minimise visibility of operational areas throughout the life of the Quarry.

A range of other minor issues have been addressed.

4. REFERENCES

RWC (2010) ‘*Environmental Assessment for the New Berrima Clay/Shale Quarry’*, December 2010. Prepared for The Austral Brick Company Pty Ltd.

RWC (2015) ‘*Environmental Assessment to Support a Section 75W Modification of PA08_0212 for the New Berrima Clay/Shale Quarry’*. May 2015. Prepared for The Austral Brick Company Pty Ltd.

SLR (2015) ‘*Air Quality Assessment to Support a Section 75W Modification of the New Berrima Quarry’*. May 2015. Prepared for The Austral Brick Company Pty Ltd.

SEEC (2015a) ‘*Revised Surface Water Assessment’* August 2015 Prepared for The Austral Brick Company Pty Ltd. (**Attachment 1** of this document).

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