**North Coast Environment Council submission to Oven Mountain Pumped Hydro Project NO SSI- 12422997**

Contents;



**Attachment 1** Chapter 10 (p 285-291) from Apsley Macleay Natural Resources and Landuse Study- A case for a national park. NPWS 1985

**1. The project's scale and impact in an isolated area on identified World Heritage, wilderness and other natural heritage values.**

**1.1 Potential impact on Environmental values:**

The Project proposes to disturb a large area (440Ha) of the very steep Site in a highly culturally and environmentally significant area – predominantly within an identified wilderness area, surrounded by Gondwana World Heritage area, National Park and adjacent to the Macleay River.

Access to relevant documents confirming the history of conservation interest, assessment, and planning for the broader Qxley Wild Rivers area has been challenging for the NCEC in the limited time available and not fully achieved as noted below.

Chapter 2 of the EIS provides a summary of the strategic context for the project. A summary of the relevant strategic context for the Project includes:

> *"the NSW Government plans that provide strategic support and establish the local land use context for the Project.*

It adds that the EIS must include:

> *"- key features of the environment that could affect or be affected by the project (including National Parks and Reserves, World Heritage Areas and areas of declared wilderness under the NSW Wilderness Act 1987);"*

The EIS on page 22 to records:

"…, there are declared wilderness areas (in accordance with Section 8 of the Wilderness Act), to the east of the Project area. The GRA and declared wilderness areas have been identified and assessed in the World and National Heritage Impact Assessment prepared for the Project, and potential direct and indirect impacts are outlined in Section 6.11 and Appendix V of this EIS. As previously stated, the Project area does not overlap with any of the surrounding national parks, conservation areas or declared wilderness areas."

The approach outlined here in the EIS of there being "*no overlap*" of the development proposal with these heritage features, and therefore no impact on them, cements in place the flaw throughout the EIS assessment of likely impacts on a range of outstanding heritage features in the local and regional landscape

Another serious flaw is the EIS does not consider the history and direction of conservation planning by the NSW Government for the area over the last 50 years.

The scenic grandeur of the tract of land broadly including the proposed Oxley Wild Rivers National Park has long been appreciated.

John Oxley was the first European to visit the New England region. He passed near the southern edge of what is now Oxley Wild Rivers NP in September 1818 whilst returning from an expedition along the Macquarie River in inland NSW. The park was named in recognition of Oxley's association with the European discovery of the upper

Macleay River system and in particular his appreciation of the wild and rugged scenery of the region.

On September 12, 1818 John Oxley wrote in his diary:

> *"It is impossible to form a correct idea of the wild significance of the scenery without the pencil of Salvitor…"*

The concept of a large wilderness national park centred on the Macleay- Apsley was first suggested within the NSW Government in 1969 and later considered in more detail by Brickhill (1974). Brickhill proposed a national park around sections of the gorges as well as describing the major land systems in the area. He concluded there were outstanding arguments in favour of the total area being dedicated as a national park based on its biological, scenic and recreational attributes.

Following the publication in 1976 of Helman et al report on wilderness areas in eastern New South Wales and the wild and scenic river reports by Helman (1981) and Hughes (1982), the concept of a large wilderness national park was re-inforced.

Part of the studies was a local assessment of wilderness under the Wilderness Act, 1976. Section 2.6(1) of the Wilderness Act 1976, provides that an area of land shall not be identified as wilderness by the Director-General unless the Director-General is of the opinion that:

(a) the area is, together with its plant and animal communities, in a state that has not been substantially modified by humans and their works or is capable of being restored to such a state,

(b) the area is of a sufficient size to make its maintenance in such a state feasible, and

(c) the area is capable of providing opportunities for solitude and appropriate self-reliant recreation.

All that has been obtainable in the limited time we have been given, relating to the wilderness assessment of the project area, was a copy of the map below from a DPE officer, which shows the resulting 'identified wilderness' in the locality of the development proposal and including the location of both dam sites.

The National Parks and Wildlife Service had, for some time, been pursuing the goal of a large 'wilderness' national park in this region. The Service decided on a policy of reserving areas as they became available for purchase/ acquisition, subject to the necessary statutory approvals. The program commenced with the Rowley's Creek Nature Reserve (1,659ha) reserved in 1962, followed by a steady stream of additional reservations since then.

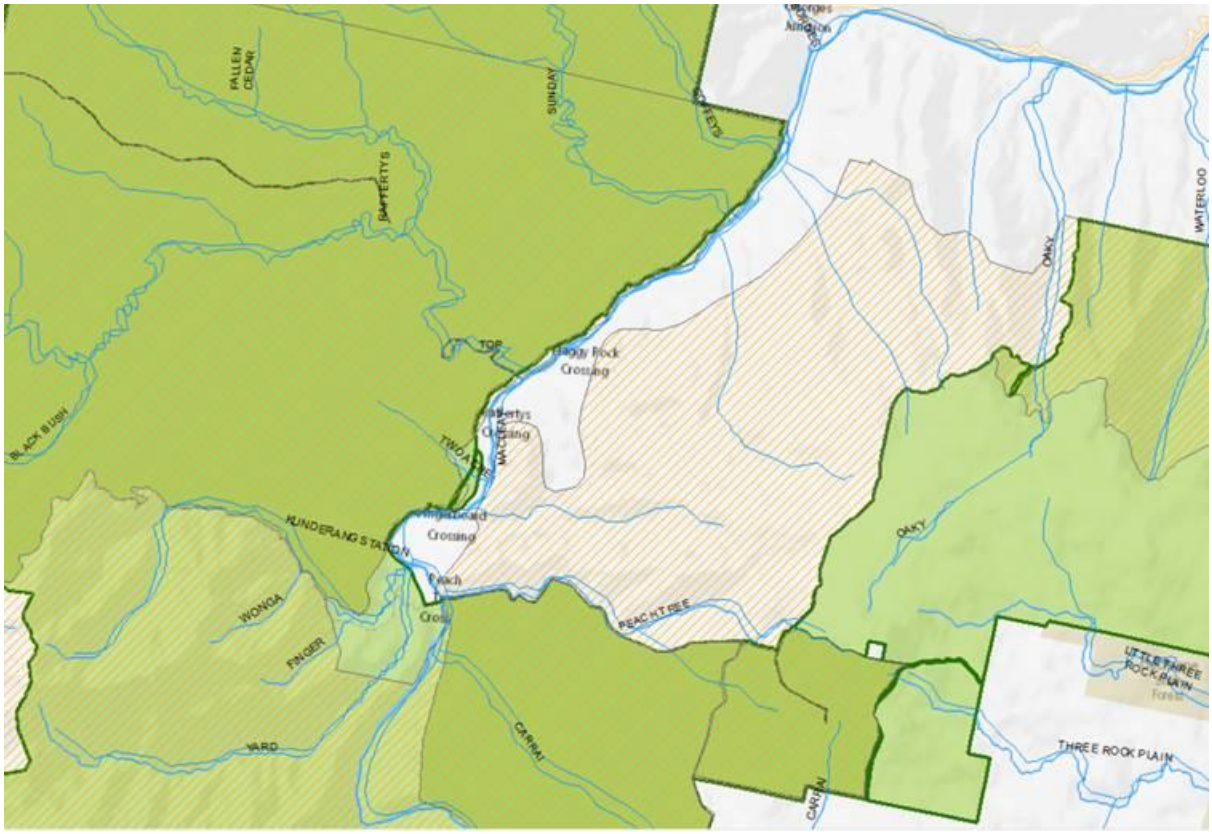
According to a Macleay–Apsley Natural Resources Landuse Study (NPWS) in 1985 (see attachment 1) the areas of interest for acquisition for the park included:

*" (i) Georges Creek.*

Included in the current proposal is a small section of land between the Big Hill road, at the Georges Creek/ Macleay river junction and the park as proposed in 1982.

Whilst this area lies outside the land use study boundary its inclusion is mentioned here as a solution to a potential land use problem.

At present there is no public road access to the river systems of the proposed national park."




Identified wilderness is the hatched area in the map above. Identified and declared wilderness and wilderness reports can be assessed from the relevant agency.

The Georges Creek acquisition area of interest to NPWS in 1985 demonstrates an interest for conservation and public recreation in the Oven Mountain development area going back almost forty years.

Statutory objections and the tenure of the land in the NPWS study area, which is mostly leasehold with some freehold, largely precluded the possibility of rapid establishment of the entire area as a national park at the one time.

The proposed boundary of the Oxley National Park as it was referred to at the time is shown on the map in Attachment 1. It includes effectively the majority of the project area for the Oven Mountain pumped hydro project.

A short time later the Premier of NSW at the time the Hon. Neville Wran formally announced a Government proposal to establish the Oxley Wild Rivers National Park over the same area. In doing so he clearly asserted the priority of conservation over water storage and diversion project proposals in the region. (*In the limited time for comment on the EIS we were not able to obtain a copy of Premier Wran's statement )*

We understand the progressive establishment of Oxley Wild Rivers National Park has been Government policy since the mid 1980's and is demonstrated by the ongoing pattern of acquisition and dedication of areas as part of the Oxley Wild Rivers National Park.

The NCEC does not have full access to the NPWS history of land acquisition for additions to the Oxley Wild Rivers National Park. We are confident nevertheless that if the land which is now the Project Area for the Oven Mountain pumped hydro project had have been offered for sale to the Government at a reasonable price over the last forty years it would have been acquired.

Furthermore, we are confident that the Project Area for the Oven Mountain pumped Hydro project would have been dedicated as an addition to the Oxley Wild Rivers National Park, mostly declared as wilderness and nominated for World Heritage listing. In addition, the inclusion of this area would enable easy tourist access to the Park and the Macleay River at its lowest reaches.

Neither the NSW Government's conservation planning history nor the alternative conservation land use option are canvassed in the EIS and as it has been a major Government policy initiative over forty years. It is a fundamental reason for NCEC objecting to the Oven Mountain Pumped Hydro project.

**1.2 Impact on Wildlife** The Development site will be a 'Construction Site' fence annexed from the surrounding areas, though the access roads and transmission lines are outside this. This will remove habitat and exclude wildlife from using past corridors or crossing to get between habitats.

The EIS does not discuss the flora and fauna in the project area in its context of being adjacent to a recognised biodiversity hotspot of the Carrai Plateau or in relation to its role in the extensive habitat of the Oxley Wild Rivers National Park.

The project proposes the destruction and disturbance of some 4.5 square km of land and vegetation; a significant negative impact on the environmental and cultural assets.

Six threatened flora and eight threatened fauna species were recorded within the construction envelope. They included:

• Guthrie's Grevillea

• Tall Velvet Sea-berry

• Wandering Pepper Cress

• *Pultenaea rubescens*

• Scrub Turpentine

• Cryptic Forest Twiner

• White-throated Needletail

• Spotted-tailed Quoll

• Greater Glider

• Brush-tailed Rock-wallaby

• Koala (recorded via scat evidence only)

• Long-nosed Potoroo

• Hastings River Mouse

• Grey-headed Flying-fox.

The EIS states that

> "*OMPS have options to use the land surrounding the disturbance footprint to offset the impacts of the Project. Preliminary work has identified that this land is likely to generate sufficient ecosystem credits to meet a significant proportion of the offset requirements for the Project."*

Such an approach would result in a net loss of habitat and species in the project area. Alternatively with the NSW Governments Oxley wild Rivers national park proposal all existing habitat would be retained and additional cleared and disturbed areas would be regenerated.

**1.3 Impact of Water uptake from the Macleay River:** Is a significant concern both for initial filling of the lower reservoir and for top-up in an increasingly unreliable river flow. The EIS states uptake will only be at 'high flows' - but makes no measurement of this,

Prolonged dry periods, expected with climate change, may impact on available water and thus energy storage/generation. Or alternatively the lower dam may need to be even larger to buffer for extended low-flow periods. The EIS addresses some impacts of climate change, but are these precautionary enough given that the planet would appear to already be passing into the 1.5 degree warming scenario, when the NARCLIM 1.0 Project estimates this is a far-future scenario of 2060-2070. NSW climate change planning scenarios are about 40 years behind the actual data.

**1.4 Impacts on Hydrology:** The EIS concurs there needs to be further research and analysis of impacts on both surface and ground water. This has resulted in the erosion control, stormwater run-off, geochemistry and geology mitigation measures being deferred to the detail design stage, but will very likely have impacts on Carrai and other water tables and water quality run-off, both on and offsite.

These studies and mitigation plans should be finalised before assessment for Approval and Conditions.

**1.5 Land and Soil Stability:** The Land, soils and erosion assessment states, and experts agree there is, 'Very High' or 'extremely high' erosivity, including tunnel erosion, due to the

slope and the ‘highly dispersive’ clay soils. The EIS and experts agree “Proper, careful, best practice, high quality soil erosion and sediment control works is needed” throughout the project to protect the Macleay River, immediately below the project site, from polluting run-off & turbidity.

Further soil assessments essential to investigate the extent of dispersive clays and other erodible soils and whether soil stability constraints are a major issue for the proposal. This is so important that it needs to be fully, properly assessed and convincingly addressed prior to Assessment and Determination. And if approved, monitors and rectifies impacts. Sedimentation and undermining reservoirs and threats to other infrastructure from these processes require assessment, or the costs of construction and follow up work could lead to project viability issues.

**1.6 Geological and Land stability:** From the Geo- components in the EIS there are faults and fissures leading to instability in the upper and lower reservoir wall areas. There will be significant site disturbance with massive cut and fill batters and reservoir walls, as well as tunnelling through the granite and likely (at least in parts) needing to be ‘blasted’ with explosives. Thus, raising the potential for further fissures, water penetration and major slips on the steep slopes, which occur naturally in the area. (e.g., Flying Fox cutting near Georges Junction on the Kempsey Armidale Road).

**1.7 Antimony (Sb) and Arsenic (As) release.**

Both occur naturally in the geology of the area as well as having significant input from historic mining activities at Hillgrove.

Local residents have advised the NCEC that baseline data of As & Sb in the Macleay at the site is reportedly based on very few (4) samples between Aug. 2021 and July 2022, with Sb being high.

River sediment appears NOT to have been studied in the EIS. Generally, As is greater in sediment, whereas Sb is more mobile in the river system. Groundwater and Surface water quality testing data needs to be in greater detail over a longer period to assess effective analyte concentrations and project impacts.

The Geochemistry leachate test used for As & Sb and analytes was appropriate for this catchment, but was limited to 9 boreholes and found some exceedances. Three analytes, (Al, Fe, Sb) exceeded 95% percentile. If present even in small amounts, disturbed rock and spoil will weather and infiltrate/ the run-off water and River. NCEC is concerned this has potential to further contaminate water supplies to all downstream uptakes including KSC and any Macleay River users.

Mindful that the tunnelled rock for reservoir walls (2million cubic metres) and hydrology can never be fully restored on decommissioning: any potential for contamination will be perpetual.

**1.8 Climate Change and Greenhouse emissions:** While the purpose of the project is to store ‘Green Energy’ there will be very large amounts of diesel, concrete and potentially explosives used in the extensive roading, siteworks, tunnelling, construction and bridges.

All high contributors to Greenhouse emissions and exacerbated by the isolated site's distance from major transport routes and service towns. The EIS (sec 10) claims some 64,523 tons of CO2 / year emissions in the 4–5-year construction and some 15,922 tons of CO2 / year in operation.

These emissions are not compared with estimated emissions from alternative approaches.

**2.0 Aboriginal Cultural Heritage:**

Page 36 of the EIS recognises that fifteen massacres of Aboriginal people are known to have occurred around the Macleay River, and five of these massacres occurred in the general region near – but not on – the Project area (The University of Newcastle 2019a)

The EIS also recognises the project area and surrounds are rich in both pre-colonial and post-colonial cultural and historical sites; and that the health of the river, and its environments are key to the physical, cultural, and spiritual health of the Traditional Owners, the Thunggutti/Dhunggutti nation. The EIS frequently points out there are several significant pre-colonial cultural and ceremonial sites; but they are again "*not within the project/disturbance area."*

The ACHA outlines the range of impacts of contact with Europeans including: Cedar cutters; land 'take-up' by pastoralists; legislation which encouraged squatters to take up large runs along the Macleay River; thus, Traditional Owners "were forcefully disconnected from their food and water sources, sacred places, travel routes, and other members of their community." This 'Falls Country' was the last stand of Frontier Guerrilla warfare on the East Coast of NSW.

The Thunggutti/Dhunggutti people survived and now, through the Thunggutti Local Aboriginal Land Council (TLALC), own Long Flat Station, which is an integral part of developing appropriate access to the project site and providing access for transmission infrastructure.

In Nov 2021 the proponents recognised the issue of the "Who speaks for country?" Discussions led to contention around the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*. The Proponents, after taking advice of the TLALC and Traditional Owners, in identifying the RAPS to be involved in 'on country' cultural investigation; leading to:

a. A local Liaison Officer being employed, and a question over how an apparent conflict of interest was managed. The Liaison Officer was also the Chairperson of TLALC,

b. A First Nations Engagement Manager was engaged In Dec 2022 by OMPS, who is not of Thunggutti/Dhunggutti heritage, but from Queensland.

This raises concerns regarding the efficacy of 'Community Engagement & Consultation' processes.

The ACHA describes how the field investigation documented 108 objects, sites and/or places, and identified the need for further investigations, with descriptions and methods of assessment ‘to be determined’. These to:

-validate 40 of the above objects, sites and/or places;

-gain more information on past economic and social behaviour from high density artefact scatters;

- assess visual impacts on significant cultural and heritage sites and;

-test excavations as they are incomplete,

with an assumption that further excavations would not significantly change interpretations.

The ACHA outlines the need to develop an Aboriginal Cultural Heritage Management Plan, and potentially develop a Cultural Flow Management Plan for the river, in recognition of the cultural importance of the river. There is concern that these plans have not been developed prior to exhibition of the EIS, and this is another weakness of the planning process.

**3.0 Planning, compliance, timing and documentation issues.**

**3.1.Limited time to respond.** The DA and EIS were lodged at the end of March 2023, while more works/information was requested, the DA and EIS (a massive 9000+ page document) was finally placed on Public Exhibition by DPE for review & comment 19th September until 16th October, the minimum 28 day period. Not only were there problems down-loading the large documents from the Portal, the period coincided with School holidays, the October long-week-end and the Voice referendum.

**3.2**. **Statutory Compliance:** Some of the Government Policies/Strategies such as the New England Renewable Energy Zone (NEREZ) area and the North Coast Water Management strategy have been modified to incorporate the Proposal. – Not the policies guiding the proposal. – As a Critical State Significant Infrastructure (CSSI) DA it appears the Government is determined it go ahead.

**3.3. Alternatives to this Project:** There are alternatives including:

1) A large battery storage in Armidale (near the sub-station)

2) Less sensitive and isolated/ accessible sites for pumped hydro in less damaging and costly ‘Brown-field’ (already disturbed) sites *(such as the existing Hunter Valley coal mine infrastructure)* which are closer to the transmission lines and distribution sub-stations for greater efficiency. The Minister is requested to holistically investigate and evaluate alternative economic and viability options as a matter of Government’s Renewables Strategy.

**3.4 Public Consultation and Community engagement**, including and specifically First Nations. NCEC is advised that nearly all the ‘Consultations’ have been ‘drop-in sessions’ and ‘you come to us and we will answer your questions’ as with the shop-front.

There has never a physical OMPS “Presentation of the Project” to the broader community. Reportedly, formal written and emailed questions were sent to OMPHS but never responded to. The only ‘Project presentations’ hosted by OMPS have been to engage ‘Contractor’/’Worker’ support and this before DA/EIS Lodgement or Approval.

**3.5 New England Renewable Energy Zone** (REZ) This Project area was later and specifically included in an ‘arm’ of the New England REZ. If this Project is approved it appears that this DA is leading Government policy and may pave the way for other PHS projects in the environmentally sensitive and difficult to access escarpment/Gorge Country area – Leading to community impacts

**3.6. Foreign Ownership** The Proponent is Oven Mountain Pumped Hydro Storage Pty Ltd; a development company. The prime backer/owner ‘Alinta,’ a foreign company and EY are financing the project, along with some Gov’t grants and costs. - The Project, cost and returns/profits will transfer to Alinta at some stage.

Additionally, Alinta owns many of the renewables energy facilities in Australia and this would add to their dominance. -including to cumulative impacts.

**3.7 The Business case and cost/benefit evaluation:**

The cost of The Project is valued at $1.8 billion and has already been granted more than $12 million by State & Federal Government for feasibility, assessments and DA preparation.

The example of Snowy 2 Pumped Hydro *(EIS prepared by the same EMM)* and other PH projects indicates this is very conservative. The many variable around tunnelling inevitably leading to major blow outs in costings.

The Economic Assessment (Appendix Z) focuses on benefits to the region, LGAs, towns and other benefits. It declines to give details of the Project costs, citing **‘commercial in confidence’** reasons and it does not include costings of public road upgrades needed, inconvenience costs or loss of amenity for the region, towns and more local community. This assessment appears at best ‘unbalanced economic spin’ and does not provide data for a holistic economic cost/benefit assessment.

**3.8 Site Establishment / Pre-Construction:** All forms of infrastructure will be needed to set-up: water; sewerage; accommodation; materials; etc to facilitate construction. Th impacts of this is mentioned but not really addressed in the DA EIS. The logistics to set up the site for construction are difficult. An explanation of how and its impacts need address prior to DA determination.

**4. Alternatives**

**4.1 Alternatives to this Project:** There are alternatives including: 1) A large battery storage in Armidale (near the sub-station)? 2) Less sensitive and isolated/ accessible Sites for pumped hydro in less damaging and costly ‘Brown-field’ (already disturbed) sites (such as the existing Hunter Valley coal mine infrastructure*)* which are closer to the transmission lines and distribution sub-stations for greater efficiency.

**4.2 Power Efficiency:** The Project claims to be able to produce 600-900MW over 12 hours when the top reservoir is full and released to the bottom one through the turbines. Power losses are expected to be 20 to 25% through hydraulic and mechanical friction and transmission losses. This means that there will need to be a price differential of 20-25% to reach a 'break-even point' of cost/profit.

Batteries e.g., at the Armidale substation would be more efficient and arguably cheaper and recyclable.

The Minister must agree to holistically investigate and evaluate alternative economic and viability options as a matter of Government Renewables Strategy.

**5. Decommissioning**

**5.1 Decommissioning and Site Rehabilitation:** at the 'end of viable life.' (70-100years stated.)

What is proposed in the 'Decommissioning' is for deferral to a 'Decommissioning Plan' to be developed at some later stage. Additionally, it is only proposed to remove the 'hardware,' it is verbally advised the proposal is to leave the reservoir walls, tunnels and earthworks in perpetuity: Thus, leaving the environment and Community with such a potentially dangerous 'stranded asset'/'liability.'

There are two ways this project could reach an 'End of Life':

1) It could soon, if not already, become economically unviable with advances of technology; drying climate means insufficient water to operate; political and economic changes both within Australia and internationally, thus causing an early unviability and/or

2) It could reach its stated 70-100 year 'end of life'.

Either way, the Project Site is not proposed to be and can never be fully restored to its existing, prior to development, state. Tunnels cannot be filled-in to restore the hydrology. Reservoir walls removal is impractical and costly. Leaving an otherwise high conservation value wilderness and wild river site permanently and irreparably disfigured.

**6 Impacts on Visitors**

A Landscape and Visual Impact Assessment (LVIA) and Noise and Vibration Impact Assessment (NVIA) have been prepared for the Project.The assessments addressed the following SEARs:

• Amenity: - an assessment of the:

- construction, operational and road noise impacts of the Project;
- blasting impacts of the Project; and
- visual impacts of the Project, including lighting impacts and potential impacts on views of the Project from key vantage points; including amenity impacts on National Parks and Reserves, Conservation Areas, World Heritage Areas and areas of declared wilderness under the *NSW Wilderness Act 1987.*

Chapter 6.13 provides a detailed summary of the potential social impacts and benefits resulting from the construction and operation of the Project. A Social Impact Assessment (SIA) has been prepared for the Project in accordance with the *Social Impact Assessment Guideline for State Significant Projects* (SIA Guideline) (DPIE 2021). The assessment addresses the following requirements outlined in the SEARs (DPE 2022):

• Social

• An assessment of the social impacts of the project in accordance with Social Impact Assessment Guideline (DPIE, 2021), including impacts on: - the locality;

- the demand for infrastructure and services in the Armidale regional and Kempsey Shire local government areas; and

- users of nearby National Parks and Reserves, Conservation Areas, World Heritage Areas, areas of declared wilderness under the NSW *Wilderness Act 1987*, Macleay River and Bicentennial National Trail.

The EIS claims there will be no access restrictions to recreational and conservation areas and facilities during construction and operation of the Project, including national parks and reserves, conservation areas, World Heritage areas, and wilderness area. It is unlikely that people will be attracted to or through a major construction site.

The project EIS relays assessments of these elements. While it is true much of the project is not greatly visible and distant from ‘receptors’, it omits several impacts such as views of the 70m high reservoir walls from the East Kunderang and The Macleay. Both ‘high experience value’ recreational features. The visual assessment, for example shows images of the reservoirs from Mary’s View above, but not from below, where the lower dam wall will be some 250m from the river! Additionally, the adverse visual, noise/vibration & light impacts on the adjacent historic East Kunderang Station, a significant high-experience tourist accommodation facility, requires closer address for mitigation.

End of submission.