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New South Wales

Ms Kazan Brown  
RAP Warragamba Dam Raising proposal

Dear Kazan,

Thank you for the opportunity to review the Draft Aboriginal Cultural Heritage Assessment on Warragamba Dam Raising, prepared for WaterNSW by Niche. The commentary provided here has been prepared by Dr Michael Slack, Director of Scarp Archaeology, and Dr Annie Ross, School of Social Science, The University of Queensland. Between us we have over 50 years experience in cultural heritage management practice. Overall, we find the draft report to be inadequate, and in places flawed. In the attached commentary we detail our concerns. In summary we find that:

1. The survey methodology is based on an inadequate predictive model;
2. The survey methods resulting from the survey methodology are superficial and lack adequate coverage of the study area;
3. The results of the survey are unlikely to be representative of the archaeological sites of the area, and are definitely inadequate in terms of documenting concepts of place, landscape, and wider heritage (including living heritage);
4. Significance assessment is inadequate:
  - a. Scientific significance is not sufficiently justified and fail to link Aboriginal narrative/lore or law to the sites;
  - b. Social significance is claimed but inadequately justified; social significance is not linked to archaeological sites, or to places and landscapes;
  - c. There is no assessment of living heritage;
5. Impact assessment is superficial and based largely on the presence of sites, rather than on the importance of place and landscape;
6. There is inadequate discussion of the potential impacts of the development on the World Heritage Listed Blue Mountains.
7. Recommendations are inadequate.

To rectify these problems, we recommend that a secondary cultural heritage assessment be prepared that:

- Collects information from Traditional Owners regarding:

- Stories about Country;
  - Stories about sites and places in a cultural landscape context;
  - Resources knowledge/management on Country
- Collects Lore and Law from Traditional Owners regarding:
  - Country;
  - Sites and places in a cultural landscape context;
- Links Aboriginal knowledge to archaeological knowledge and thereby provides a deep understanding of both the scientific and social aspects of sites in the landscape;
- Situates knowledge of sites into a place, landscape, and living heritage context;
- Develops Statements of Significance for:
  - Sites;
  - Places;
  - Cultural landscapes;
  - Country;
- Re-evaluates the potential impacts of raising the Warragamba Dam wall on sites, places and landscapes of significance as determined by the reassessment process;
- Develops recommendations for the management of sites, heritage places and cultural landscapes that incorporate concepts of:
  - Mitigation of impact;
  - Salvage where mitigation is impossible;
  - Acquisition of off-sets where appropriate.

Yours sincerely

Dr Michael Slack

**Comments on the:  
Draft *Aboriginal Cultural Heritage Assessment* of  
Warragamba Dam Raising  
prepared by Niche**

**Comments prepared by Scarp Archaeology  
(Michael Slack [Director] and Annie Ross)**

The following comments relate to the **Aboriginal Cultural Heritage Assessment Volume**, prepared by Renee Regal and Samuel Ward for Niche

## **Introduction**

The brief required Niche to assess impact on “heritage significance”. Consultation with Aboriginal people is a requirement of the brief. The Burra Charter (2013) was to be used as one of the guiding principles under which assessment was undertaken. The brief also required Niche to document both archaeological sites and the cultural heritage values of the area and objects located, and to include “the views of Aboriginal people who have cultural association with the land”.

The report focused primarily on scientific (archaeological) significance, although it was also noted that “The Registered Aboriginal Parties (RAPs) have advised that all sites have cultural significance”. We find that the report does not meet the requirements of the brief provided to Niche by WaterNSW, nor does it meet best practice cultural heritage management. The main problems are:

1. The survey methodology is based on a flawed premise. The methodology aims to investigate a predictive model, generated almost entirely on the basis of known archaeological sites. Although the existence of Aboriginal Lore is acknowledged, Aboriginal narratives about Country are not linked to the generation of the model. As a consequence, the methodology for the survey is limited to ground-truthing a narrow model;
2. The survey methods resulting from the survey methodology are superficial and lack adequate coverage of the study area. The sample size of 27% relates only to the immediate impact area. Whether or not this sample size is adequate depends on the *effective coverage* of the survey, which has not been calculated (see below). There is inadequate assessment of the proportional representativeness of the survey area, which is a required assessment of any professional cultural heritage survey;

3. As a result of the flawed survey methodology and methods, the results of the survey are unlikely to be representative of the archaeological sites of the area, and are definitely inadequate in terms of documenting concepts of place, landscape, and wider heritage (including living heritage);
4. Significance assessment is inadequate:
  - a. Scientific significance is not sufficiently justified, and appears to have been based mainly on the ability of sites to answer very basic archaeological research questions or on the intactness of sites. There is no linking of Aboriginal narrative/lore or law to the sites and thus no assessment of the significance of the sites as heritage 'places';
  - b. Social significance is claimed over the entire area, but without any specific analysis of the meaning of such significance, nor any attempt to link social significance to place or landscape;
  - c. There is no assessment of living heritage or of the connections of Aboriginal people to Country, past and present;
5. Impact assessment is superficial and based largely on the presence of sites, rather than on the importance of place and landscape;
6. There is inadequate discussion of the potential impacts of the development on the World Heritage Listed Blue Mountains. Any impact on this area would trigger the *Environmental Protection and Biodiversity Conservation Act 2004*. This is not discussed.
7. Recommendations are inadequate, largely as a result of the errors/flaws/inadequacies listed above.

We set out our reasons for these criticisms below, with comments provided sequentially, based on the order of information presented in the report.

## Consultation Process

### Stage 1: Notification

- Formal process of advertising the project described, list of respondents provided, and RAPs identified.

### Stage 2: Project information provided

### Stage 3: Information on Cultural Heritage Significance gathered.

- RAPs were given 28 days to provide written information and comments on methodology. A better consultation process involves face to face meetings with RAPs.
- Some variation to methodology occurred in response to written feedback. Again, a face-to-face meeting with concerned RAPs is a more appropriate form of consultation.

- All consultation was done very formally, which fails to meet Indigenous aspirations for genuine involvement in the development of the heritage assessment process.
- 12 RAPs participated in survey. ***But how were stories and other cultural information collected?*** There is insufficient detail on the methods used to gather Aboriginal knowledge and stories.

Stage 4: Report review. There is limited information on the consultative process around report review.

## Research and Reporting

This part of the report (Section 7) comprises a great deal of background **descriptive** detail, but little critical analysis.

## Aboriginal Archaeological Context

Section 8 of the report contains background information on Ethnography and History; previously documented heritage places (as listed in the AHIMS database), and non-Aboriginal heritage information. The section also documents the WHA status of the wider area, and the existence of gazetted Aboriginal Places. Previous Regional Archaeological Studies are summarised. All these data are used to develop a predictive model for the study area.

### *Predictive model*

The predictive model employs a model based from Dendrobium mine in the Illawarra – unpublished, not peer reviewed, and from a different landscape. The model is almost solely an archaeological model and predicts:

- Open campsites and isolated artefacts will be the main site types in the area, and will be located mainly close to streams and on floodplains;
- Scarred trees will also be common;
- Axe grinding grooves and rock art sites will occur on sandstone outcrops close to water sources;
- Sandstone rock shelters may occur on sandstone ridges;
- Waterholes will occur and are likely to have been significant for ceremony;
- Burials and stone arrangements may occur but will be rare;
- No ceremonial grounds or gazetted Aboriginal Places have been reported previously;

***In summary, this entire model is based almost entirely on archaeological assessment. There is limited incorporation of Aboriginal stories in this model. There is little recognition of the significance of cultural landscapes in this model. As this model forms the basis for the survey methodology (below), the survey design is flawed, as it omits several key aspects regarding the identification of representative areas to sample.***

## Sampling Strategy: Methodology

Section 9 outlines the methodology underpinning the sampling methods implemented in the survey.

- The sampling strategy focused on archaeological survey, rather than cultural heritage survey and assessment.

The methods were also based on archaeological site recording:

- Relocation of previously documented sites;
- Sampling of areas predicted to contain sites:
  - ***This is a particularly problematic approach to survey. Such an approach:***
    - ***Only looks for sites in places they are predicted to occur. Thus, places where sites are not expected are not assessed. Sites are only found where they are expected, which supports, rather than TESTS the predictive model;***
    - ***There is no assessment of the wider cultural landscapes;***
    - ***There is no assessment of culturally, socially, spiritually significant areas;***
    - ***Aboriginal stories are secondary to archaeological/physical sites in survey design.***

Based on the information provided in the report, I find that ***the survey design methodology is flawed***, for the following reasons. It:

- Overemphasises the archaeological evidence;
- Provide only a superficial framework for considering cultural/social values of the cultural landscape;
- Largely ignores Aboriginal narratives and spiritual significance;
- Ignores landscapes away from predicted living areas and thereby increases the likelihood that sites associated that represent isolated activity nodes, such as ceremonial sites and gender restricted areas, will be missed in the survey.

## Sampling Strategy: Methods

The survey targeted areas based on:

- Likelihood of impact from flooding;
- Archaeological sensitivity.

As indicated above, this is a ***flawed method***, based on a flawed methodology.

Survey was undertaken in transects, ***but there is no assessment of the representativeness of the transects chosen.***



## Results of survey

Approximately 27% of the area was covered by the survey transects.

I am not concerned by this percentage, per se, but ***there are a number of other reasons to find this survey to be inadequate:***

1. The survey focused only on impact area. There is no assessment of the representativeness of the impact area as a subset of the wider landscape; there is no analysis of any sites located in the impact area but which may have relationships with nearby sites outside the impact zone, or across the wider landscape;
2. How representative of the entire impact area was the survey? There is no **assessment** of representativeness, although representativeness is claimed.
3. What was the ground surface visibility of the areas surveyed? This is not recorded. A GSV of, say 50%, means that the actual survey coverage is only 14%. The authors need to provide an analysis of *effective survey coverage*, not just actual percentage of ground walked over.
4. As indicated above, the entire methodology and methods was designed to locate sites, and not heritage **places**.
5. There is a statement on page 56 that:

*This survey coverage number [27%] is attributed to the assessment **focusing on areas outlined by the RAPs as being connected to the creation story**, ridge and creek lines that have archaeological potential as outlined in Section 9, and given the types of harm that may potentially affect the Aboriginal cultural heritage sites within the Subject Area, it is considered adequate for the purpose of this assessment (emphasis added).*

However, despite this claim, **there is no information in the report regarding how this focus on creation stories was incorporated into the survey design.**

6. There is a detailed assessment of the topographic coverage of the survey and of the soil types covered by the survey, but none of this is discussed in terms of overall proportional representation of the survey, nor is there any discussion of the **cultural** frameworks for the chosen survey transects.

Detailed results of the survey are provided in Sections 10.3. In this section archaeological sites are summarised, and the locations of creation story places are identified. Of the 45 places identified from the creation story and listed in Table 19, 31 were surveyed. What form this survey took is unclear, although it would appear, from the general approach of the report, that survey was still archaeological. There is no information on how the story places were documented in association with Traditional Owner informants.



One Aboriginal Ceremony and Dreaming Site was documented: Warragamba-226.

Four Resource Gathering sites were documented: Warragamba-05; Warragamba-75; Warragamba-179; and Warragamba-233.

Three Waterhole sites associated with an Aboriginal Dreaming are recorded: Warragamba-63; Warragamba-74; and Warragamba-133. ***There is limited reference back to the Dreaming Story in the site documentation.***

All other documented sites are archaeological locales: open campsites; isolated artefacts; axe grinding grooves; scarred trees; engraving sites; rock shelter sites; and stone arrangements. ***None of these archaeological sites includes descriptions of any cultural stories or social settings for the places.***

## Analysis and Discussion

The bulk of the analysis and discussion presented relates to the physical attributes of the archaeological sites: slope class, aspect, proximity to water (especially Lake Burragorang), artefact technologies.

There is limited assessment of the cultural and social attributes of the sites (although there is some review of the possible medicinal use of some of the plants at resource gathering sites).

Rock art sites are described according to motif and style, but not in relation to stories, totems, or potential spiritual associations.

The conclusion to this section is:

In conclusion, the archaeological and cultural values work that has been undertaken for the Project ***provides an insight into past Aboriginal land use*** within the Subject Area and the wider region. Some of the ***largest archaeological sites*** identified are located in close proximity to the Lake Burragorang, which would have provided abundant and reliable resources (page 116: emphasis added).

***This conclusion does not mention the cultural landscape of the valley, the Aboriginal creation stories or places associated with the creation stories, nor any information about Aboriginal social connections to the archaeological sites. As such, this is an inadequate discussion and analysis of the cultural heritage of the surveyed area and cannot be used to assess the significance of the cultural landscape that will be impacted by the elevated water levels resulting from the raising of the Warragamba dam wall.***

## Re-evaluation of the predictive model

Section 11.11 of the report, purporting to evaluate ***the usefulness of the predictive model, is meaningless*** because of the flawed nature of the methodology used to evaluate the predictive model. The model was not tested, it was simply used to formulate the survey design, which – because of the recursiveness of the survey design – could not but support the predictive model. Such a self-fulfilling survey design is thoroughly rebutted in a host of archaeological texts on survey design.

## Significance assessment

Section 12 provides the assessment of the significance of the area as a whole and of the individual sites located during the survey.

The importance of the area to Gundungurra and to Dharug is addressed based on:

- Named locales – many of which are now flooded;
- Connection to place and landscapes;
- The existence of traditional pathways through Country;
- Dominant topographic features in the landscape;
- Historic places that are symbols of dispossession.

The conclusion of the information on connection to Country is:

The Burratorang Valley has social, cultural and historical values. The places associated with the Valley also have notable cultural values both as individual sites and as a group. The values derive from the historical and social associations that these places provide to all generations of the Aboriginal community, and are an important part of people's historical and contemporary identities (page 127).

***This is a preliminary Statement of Significance. It does not include a statement of the grade of significance (high, moderate, low) and does not link the values back to either specific sites or named landscapes. It is a useful first step, but for an important document such as this, this social/cultural values statement needs elaboration.***

The historical connections between Aboriginal people and settlers is also addressed in this section of the report. This part of the report is generally done well.

The creation story is outlined in Section 12 and its importance to Gundungurra and Dharug people is demonstrated. This is connected back to specific sites and named places associated with water sources, although the descriptions of associations provided in Section 12.4.1 of the report does not lead to any clear Statement of Significance for the associative landscape and spiritual values of the landscape. As such, what is presented in the report is a preliminary assessment, but ***much more detail is required, especially given the importance of this aspect of heritage significance.***

The conclusion to this section of the report is:

Despite the control and suppression, *the community have [sic] maintained and nurtured a strong connection to place*. The majority of the Burraborang Valley was inundated in the 1950s, but stories explaining its creation and important cultural places still exist. *The connection and association with the country is maintained* in this case because successive generations continued to visit the same places on country until access was no longer possible/allowed post-inundation [sic] of the valley (page 134: emphasis added).

***This is a preliminary Statement of Significance. It does not include a statement of the grade of significance (high, moderate, low) and does not link the values back to either specific sites or names landscapes. It is a useful first step, but for an important document such as this, this social/cultural values statement needs elaboration.***

Plants and other resources are recognised as having value to Gundungurra and Dharug in Section 12.5. But, once again, no significance values are assessed and there are insufficient links provided to specific named places or to cultural landscapes.

***Contemporary connection of Aboriginal people to the area is not addressed. This is a significant omission from the report and needs to be added. It is an essential component of Best Practice Cultural Heritage Management and without it, the report is incomplete.***

Scientific significance is established in Section 13 of the report and results are summarised in Table 35. The technique of assigning grades of significance is summarised in Table 36, and includes variables of:

- Numbers of objects on a site;
- Number and type of 'features' on a site;
- Archaeological research potential;
- Presence of human remains;
- Association with other sites in the landscape;
- Ability of the site to be dated.

All of these variables are physical aspects of the site. This type of significance assessment utterly dismisses Aboriginal connections to sites and the role of stories at such heritage places (see, for example, Bradley 2008; Mitchell and Guilfoyle in press).

Social significance of the area is recognised because of the importance of the landscape in creating and reinforcing Gundungurra and Dharug identity and connection to Country, and the presence of a Creation Story in the cultural landscape. ***No other assessment of social value is provided, and no grading of such significance is presented. This is inadequate and this section of the report needs to be significantly expanded.*** Some of the additional aspects that need to be elaborated include:

- Cultural significance needs to be based on the spiritual connections of Aboriginal people to the area; the existence of a Gundungurra creation story in the area, and the identity

created between people and place as a consequence of the social, cultural and spiritual connections to Country.

- Cultural significance is enhanced by the dam as a symbol of dispossession for Gundungurra.
- The shared historical connection to the area held by the Aboriginal community and pastoralists is part of the significance of the cultural landscapes of Warragamba.

### Impacts of Development:

The report finds that no **sites** will be impacted by Dam works *per se*. There is no assessment of dam works on culturally and socially significant areas (places and landscapes).

The impact of flooding is considered in detail in relation to archaeological sites, but there is limited assessment of flooding on places and landscapes of significance, including Dreaming sites, story places, and Aboriginal resource areas.

The conclusion is:

There is *no significant detrimental effect* to quality or benefit that the Aboriginal history and archaeology of the Subject Area may provide to future generations *due to the infrequency of the rain events that will cause harm to Aboriginal **objects***. There is reciprocal cumulative growth of the understanding of the Subject Area's history and prehistory which provides some amelioration of any adverse impacts, and which provides knowledge and information for future generations (page 182: emphasis added).

***This conclusion is at odds with many of the earlier findings of the report, that there are areas of significance and some sites of high significance throughout the area. The lack of detail on the nature of the significance of story places, Dreaming narratives, and ceremonial locales makes such a conclusion impossible to support.***

The report argues that the flooding resulting from the raising of the Warragamba Dam wall is likely to impact on parts of the Blue Mountains National Park and World Heritage Area, although details of the nature of this impact are not provided. The report recognises that at least 62 archaeological sites occur in the GBM WHA. Given that any impact of development on a World Heritage Area will trigger the *Environmental Protection and Biodiversity Act 2004*, this potential impact needs further consideration, along with an assessment of potential impact on culturally significant places and landscapes in the WHA.

### Recommendations:

The report recommends that the following actions be undertaken:

- The preparation of a detailed ACHMP  
**This report should actually provide such a document. It is too late to do this after development has commenced.**

- Mitigation to reduce the impact on physical sites  
**Details of how this might be achieved are not provided in the report**
- Maintenance of a database of sites  
**How will this help to mitigate impact?**
- Cultural awareness training
- Publication of the Gundungurra Dreaming story  
**How will this help to mitigate impact?**
- Development of a Visitor Centre  
**How will this help to mitigate impact?**
- Developing information packages for schools  
**How will this help to mitigate impact?**

## **Overall Conclusion**

**Overall, this report does not meet the requirements of Best Practice Cultural Heritage Management. The survey strategy is flawed. The overall assessment of heritage is too much focused on archaeological sites and pays too little attention to Aboriginal cultural values and the importance of cultural landscapes. The assessment of significance is not adequately explained or justified. The assessment of impact focuses almost entirely on archaeological sites and ignores Aboriginal connections to place and Country. The recommendations do not provide directions to mitigate impact or to manage any places that will be destroyed by impact. There are no recommendations for the protection of sites, heritage places or cultural landscapes that are outside the impact zone and therefore provide opportunities for off-set management planning.**