ISSUE: WATER AND HYDROLOGY

Water & Hydrology

14 first order watercourses come for the hillsides that are within this Project area. These watercourses are feeders into the major rivers and, in the case of the Timor community, that is the Isis River. The Isis is the only river supporting the entire Crawney, Timor, Gundy and surrounding communities. The recent drought, which ran for 3 years in this region, saw the Isis river stop running for the first time in living memory, along with every other creek and watercourse which supports the wildlife, birds, agriculture and people.

Such is the importance of these water courses, which support a significant population, who deliver a substantial economic contribution. This EIS is woefully inadequate in addressing the impacts derived from the clearing of land and removal of its natural vegetation on groundwater sources. Additionally, there is no assessment on the impact to the sub-ground water sources as a result of the same land clearing and resultant disruption to water absorption, along with possible intention of the sinking of deep bores.

The Methodology in the EIS for Water and Soils (Section 16.2 P 310) confirms that no person has set foot on the actual land that will be so affected, i.e. the Development Footprint – there was one site visit to the Transmission lines route. All information on soils, water and hydrology has come from a desktop. No one has inspected the springs and seen their contribution to the flow of Isis River and assessed for negative impacts. No consultation occurred with the Timor community to hear the concerns of residents about danger to our naturally occurring water sources.

The Isis river is fed in its upper catchment by the flows of the following first order water courses shown in Figure 16-4 – White's Creek, Dead-Eye Creek, Perry's Creek. Additionally, some Timor residents have spring fed water catchments fed by tributaries of the Pages Creek.

If the drought taught us anything it was the importance of water and the dire consequences when it is gone. This Project estimates a usage of 55 mega-litres of water over its 24 month construction. However, the negative impact on natural water sources, from massive land clearance, vegetation removal and disturbance, will be a long term impact if not permanent destruction of the hydrological workings of the ecosystem.

P 320 Mitigation Measures has as its first point to address potential impacts to soils and water, as follows:
"Preparation of a detailed Soil and Water Management Plan (SWMP) prior to construction commencing. The SWMP should be prepared by a suitably qualified person, such as a soil conservationist."

What sort of a Project could be approved when the EIS itself proclaims it has not undertaken any sort of assessment by a suitably qualified expert on the impacts on the soil and water?

This Project seeks to clear the vegetation atop of the ridgeline of the Liverpool Range - part of the Great Dividing Range, the site of 14 first order watercourses, a ridgeline at the height 1400 metres elevation and with precipitous slopes and cliffs – with no scientific study on the potentialities of massive erosion and landslides, and disruption to the water courses!

In a previous submission I have detailed the Crawney Pass National Park Plan of Management as it relates to this Project proposal. I refer again to Page 8 Table 13, of threatened native animals recorded in or within 2 kms of the park. This area is well within the 1500m buffer zone around all parts of the Development Footprint under the Biodiversity Study Area (see section 9.2.1 page 143). The Booroolong frog (Litoria booroolongensis) is listed as Endangered both under NSW and National status and present within the Park.

As stated in the Crawney Pass National Park Management Plan, when the soil has had its vegetation removed and/or disrupted (which is the case for this Project on a scale of over 513 ha for the Development Footprint alone), there is a major threat of soil erosion which affects the water quality in the catchment. Water quality is imperative for the protection of the endangered Booroolong Frog as stated on P 5:

> *"The main threat to soils is extreme rainfall events especially following an intense bushfire that removes vegetation. Major soil erosion may also lead to reduced water quality in the catchment. The protection of the water quality is also important to protect the Booroolong frogs that occur in the Park."*

I object to this Project on the basis that there have been no assessments or independent scientific studies, included in the EIS to ensure that the hydrology and first order water courses are unaffected.

I object to this Project based on the unacceptable risks it poses of erosion that will affect water quality and threaten the protection of the endangered Booroolong frog.

Water Supply Options

On P 315 of the EIS there are listed 4 options to obtain the 55 ML of water, assessed to be utilised during the 24 construction phase of the Project. The options include:

- *"Council water supply, with agreement with the relevant Council(s):*
- *Extraction from an existing nearby landowner bore, with agreement from the landowner;*
- *Extraction from a new groundwater bore; and*
- *Extraction from a surface water source (eg Chaffey Dam or the Peel River)*

"If water is sourced from any bore or surface water source then all required water access licences would be obtained to authorise this."

A viable method to access water, from the Proponent's perspective, is to drill a deep bore, if water is required, with no investigation about what that action would have on the existing natural water flows downstream.

The impact on the existing community of extracting water from landowner dams or bores, nothwithstanding the mention of obtaining water licences, remains unknown as it has not been canvassed or studied in this EIS. The current water usage is for agricultural and domestic use that is nowhere near the volume demand of a commercially driven major construction.

There is no mention of water access monitoring during times of drought and the resultant restricted usage – who will be there to check this? Where will the watchdog be to oversight water consumption and usage.

Chaffey Dam was down to 14 % capacity during the height of this recent drought and there was talk of evacuation planning for Tamworth as there would be not be sufficient water for the residents. This assumption that the Project can simply buy 55 ML water or extract it shows no understanding of our recent drought and its impact.

I object to this Project based on the lack of consultation with the Timor community about usage of water; the lack of proper analysis of the impact of utilising 55ML of water from bores of dams; the lack of any strategies for independent oversight of water usage by the Proponent for such a commercial project in agricultural land.

Soils and Water Consultation under SEARs

There is a gross inadequacy within this EIS to assess and provide accurate information about the impact of this Project on water and hydrology.

I note in Appendix O on the Soils and Water Assessment, P 4 – 5, Table 1-1 of the SEARs cites the Consultation Requirements as;

"During the preparation of the EIS, consultation is required with relevant local, State and Commonwealth Government authorities, services providers, community groups and affected landowners (as relevant to this Soils and Water Assessment)"

Table 1-2 lists the depth and breadth of the Agency Consultation which is shameful.

The so-called consultation with Water NSW, Local Land Services, NSW Division of Resources and Geoscience and the Environment Protection Authority consisted of 1 proforma email all on the same day of 20/07/2020 to which there was "No response received" as the outcome.

The NSW Natural Resources Access Regulator (NRAR) scored the same 1 proforma email on the same date of 20/07/2020 and 1 "telecommunication response", whatever that means, on 20/08/2020. The outcome was registered as the same "No response received".

This shows an appalling disregard of the intent of the SEARs requirement for consultation.

The Proponent must have been aware that the EIS had not conducted any proper assessment for soils, water and hydrology and then omitted to conduct any meaningful consultation with relevant agencies.

There is no listed consultation on the Soils and Water Assessment with any community groups and affected landowners. Consistent with all other aspects of the requirements for Consultation, the Timor community, which depends on the flow of 3 of the first order water courses into the Isis river, was not consulted.

I object to this Project based on the lack of any proper of meaningful consultation as required by SEARs on the assessment of soils and water.

Karst Systems

The EIS does not present any assessment or study of the impact of this Project on the identified karst and related hydrological karst systems. The karst systems have a high potential for damage through erosion and silting from road clearing and construction from this Project.

I refer you to a Submission by individual, Jodie Rutledge, of Bolwarra Heights NSW, who is a member and published author of the Newcastle & Hunter Valley Speleological Society, who states particular concerns about the western access road from the Crawney- Nundle road adjacent to the Crawney Karst and caves systems:

"…caves are located in the perennial creek north of Limestone Oaky Creek and have two gullies feeding into this creek-line that are directly affected by the road construction".

The Submission by Ms. Rutledge has provided photographs from the EIS circling the area affected as well as a contour map of the caves (by Wilcox and Pinnock 1990).

Further, she states that *"Seven caves are currently known to exist here in this drainage gully. The caves contain many features of significant geoheritage value, such as speleothems (flowstones, stalactites and stalagmites), vast tree roots have grown into the caves providing habitat for cave adapted faunas, roosting havens for bats, and fossil bone material which is yet to be studied scientifically."*

There is an absolute negation of any assessments of the karst and caves environments and their associated role in the specialised echo systems. Apart from the above mentioned caves at Crawney Pass this Project's study area and surrounds contains caves at Timor, Glenrock Station, Barry Station and an unknown number of disused mine audits which bats use, rock cracks and fissures as well as further caves.

Without a detailed and scientific assessment of the hydrology and soils, the karst and cave systems are at an acceptable risk of erosion and water damage through silting, thus

detrimentally affecting the bat species. Under Section 9.3.4 P 150-151 the following **bat species have been identified as threatened species** within this development footprint – the large-eared pied bat; little pied bat; eastern coastal free-tailed bat, little bent-wing bat, large bent-wing bat, greater broad-nosed bat and the eastern cave bat.

I object to this Project based on the lack of any assessment or recognition of the important karst environment present in the Project area and the unacceptable risk of erosion and silting to the cave systems which protect seven endangered bat species.