12 February 2023

NT Environment Protection Authority
GPO Box 3675
DARWIN NT 0801

By email: eia.consult@nt.gov.au

Dear Sir/Madam,

**Request for Tier 3 assessment of Singleton Station Horticulture Project – Water Licence Grant**

**Introduction**

My name is XXXX. I am a current resident of Mparntwe (Alice Springs). I have lived in Central Australia since 1997, with stints in remote communities and Darwin where I have worked many different nursing roles.

I am a committed Centralian, and I value the safety and sustainability of our ancient arid landscape here. I am seriously concerned about the potential impact for serious, significant and irreversible damage to this proposed area of land with the Singleton Station Horticulture Project proposal.

I am not environmentally qualified but have made efforts to educate myself about this proposal and have given it thoughtful consideration. I have not covered every aspect of my concerns here, but have highlighted specific areas.

I have recently resigned as the Arid Land Environment Centre Chair. I am still a non-executive Board member. However, I am providing this submission in my capacity as a concerned Centralian, friend of many Traditional Owners in this region, and as an individual. I understand ALEC will be submitting a far more detailed submission. I am requesting this be given separate consideration.

**Request**

I request that the highest level of scrutiny possible be applied to this proposal by your authority. I consider this a matter of utmost importance to ours and future generations of not only Centralian residents, but the wider community and environment. I am also concerned about the potential for our First Nations people's cultural obligations to be irreversibly undermined and permanently damaged if there is not an in depth investigation of the proposal by the EPA such that their views and obligations to country are respected.

**Specific concerns supporting request**

To be more specific:

-**water extraction**

The level of water extraction proposed is unparalleled and unsustainable. It is the largest water licence ever granted in the NT at 40GL per year. I understand that the ten largest ground water licences in New South Wales range from approximately 7GL to 15 GL per year. This is typically three to eleven bores. What is proposed here equates to 144 bores in **desert country** where there it

threatens groundwater dependent eco systems which have the ability to withstand drought because their roots run into the water supply below. By dropping the table by up to 50 m in some parts of the aquifer this precious eco system will be irreversibly destroyed.

This does not even take into account the ground water dependent sacred sites around the draw down area.

It is well known that the ground water recharged in the Western Davenport region is highly episodic and even at times of rare peak rainfall, recharge of the groundwater aquifer has only occurred 3 times within the last 100 years.

I am concerned that the volume of water to be extracted will lead to substantial uncertainty around how nature dependent upon this resource will be impacted.

**-ecosystem collapse & salinity**

Science has us know that currently the arid and semi-arid environments of Australia are undergoing significant ecosystem collapse given the impacts of climate change, due to temperatures and precipitation on top of already existing regional factors such as land clearing, habitat loss and invasive species.

Add to this the impacts of agricultural industry, which are highly dependent on water extraction, and this already fragile environment is further seriously and significantly at risk.

Currently there are substantial knowledge gaps associated with this proposal because the baseline water assessment was primarily a desktop assessment, and the only field assessment done was after a long period of drought.

This means a Tier 3 assessment, which is comprehensive and includes salinity impacts is essential, along with further analysis and on-field data.

Without a doubt, as I have referred to above, this project will have significant and irreversible impacts on groundwater dependent ecosystems. With modelled draw down of up to 50 m in some areas after 30 years, there will be significant negative impact on terrestrial GDEs in the region including bloodwoods, ghost gums, bean trees, coolibah trees, fig trees, river red gums and bush orange. It is likely that soaks and creeks will also be impacted. Terrestrial GDEs cannot access water below 10 to 15 metres as their roots are not able to extend beyond this point.

The project is located in the Western Davenport Water Control District. It would appear that because of the Department of Environment, Parks and Water Security Guideline published in February 2020 that effectively indicates 30% destruction of BDEs is acceptable change, Fortune's groundwater modelling has adopted that Guideline as acceptable, and has not comprehensively turned its mind to off-setting the risks because the bore filled modelling shows a lesser rate of destruction. I consider this level of destruction as hugely significant, and it should not be considered an acceptable consequence of the project regardless of the Guideline. The Guideline is just that – a guideline, and it must be properly considered on a case-by-case basis.

As ecological tipping points are reached, the impact will be irreversible.

-**quality of environmental impact assessment & use of field work & lengthy time periods to account for arid and semi-arid environmental seasons**

It would make sense that the knowledge gaps are addressed in the environmental impact assessment process by your authority and the further analysis on field data should be carefully

considered in advance of any decision about approval being made. This should also extend to field work over as long a period of time as possible so that the environment can be assessed across many different stages and seasons, not just a drought period.

Given the ground water licence and project as a whole relies heavily on adaptive management as a means of mitigating against uncertainties and risk to the environment we need a proper impact assessment so that we can measure change over time and understand how it should be managed appropriately.

The recent discovery of stygofauna in other arid landscape aquifers, the presence of which have not yet been studied in this region, means the lack of available data on this particular issue makes it impossible to assess the impact on these that play a vital role in maintaining ground water quality.

**Cumulative impact**

This and many other impacts I have not even addressed here will undoubtedly have a cumulative negative effect on the environment. There will be long term impacts from this project, along with impacts from projects in surrounding Water Control Districts, that cannot be properly appreciated without careful, thoughtful analysis of the project and interconnected aquifers at the highest level. A Tier 3 assessment process will more properly allow for a comprehensive assessment of the cumulative effects over years, and over acquifers, and over projects.

I thank you in advance for your consideration of my submission.

**Concluding remark**

As you are no doubt aware, with the advent of climate change and other environmental impacts, there are many climates and landscapes which are becoming unliveable because of heat, and water scarcity. This makes a Tier 3 assessment of this proposal absolutely imperative. This project may well contribute significantly to our ancient arid landscape becoming absolutely inhabitable. I cannot emphasise my concerns highly enough.

Yours sincerely