



Desktop assessment of ecological values within the proposed deviation

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1 Purpose

The purpose of this memo is to present a desktop assessment of environmental values and potential environmental constraints of a proposed deviation footprint of the Stage 1 NEA Pipeline (Proposal) around Exploration Lease (EL) 32497 – as depicted in Figure 1.

A detailed ecology report, informed by both desktop and field studies has been prepared to accompany the referral of the Proposal. While the proposed deviation falls outside of the study area of the ecology report, it intersects the same land types (and therefore broad habitats) that were studied in the ecology report. As such, a good desktop understanding can be obtained of the potential environmental values, and therefore potential constraints, within the proposed deviation. This memo provides a high-level overview only, and should be read in conjunction with the ecology report for context and interpretation.

2 Environmental values

The proposed deviation intersects the following land types (see Figure 1):

- **Downs (clay) plains** comprising extensive tussock grasslands with scattered occurrences of shrubs. The plains are flat to gently undulating, with occasional very low lateritic rises.
- **Alluvial floodplains** associated with Buchanan Creek and the Ranken River. These areas are subject to seasonal inundation and tend to have heavy clay soils. The main vegetation type is low, mixed-species, open Coolibah and Gutta-percha woodlands over tussock grasses.
- **Sandstone rises** (with a very low slopes) associated with the Buchanan Rises Sites of Botanical Significance (SOBS) (described below). The main vegetation type is Snappy Gum and Silver Box low open woodland with sparse to patchy shrubs (Acacia species) over tussock and hummock grasses. Field survey also recorded presence of scattered Ghost Gum, Bloodwood and Terminalia trees.

Table 1 presents all of the environmental values that have been identified in the ecology report as occurring within the Proposal study area (i.e. within 500 m either side of the Rev 1 of the pipeline and access tracks) and then assesses their relevance to the proposed deviation based on the habitats provided by those land types – as well as other desktop resources and aerial imagery.

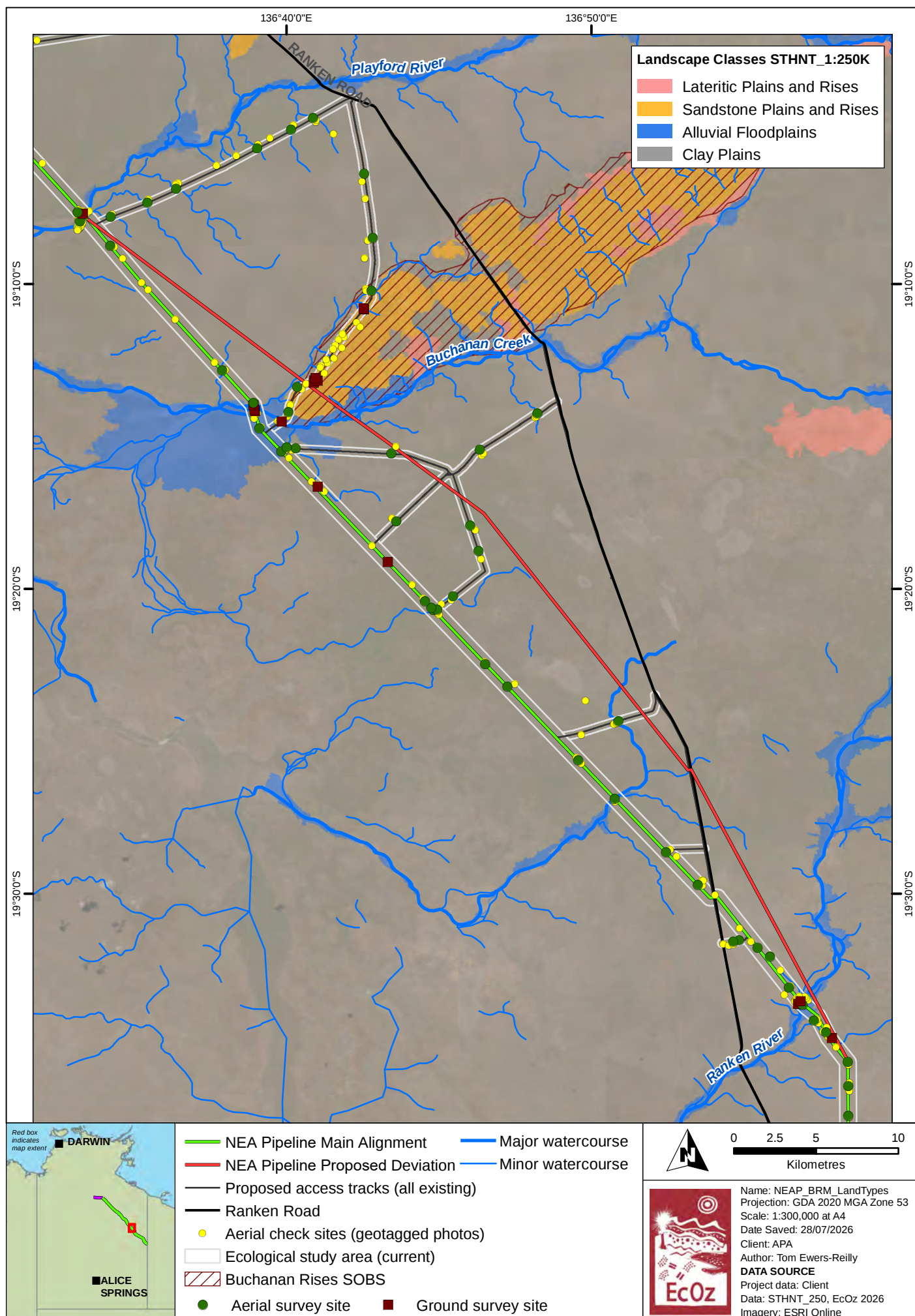


Figure 1. Map of land types within the region of the proposed deviation

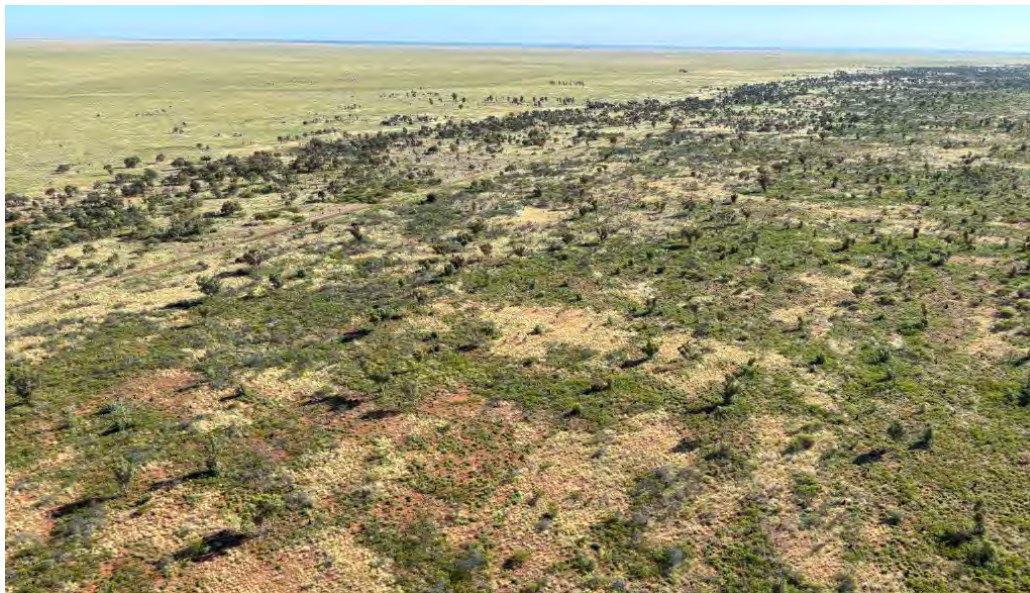


Figure 2. Aerial photograph of clay plains (top left) and sandstone rises

Table 1. Potential environmental values associated with the proposed deviation

Value		Relevance to proposed deviation
Conservation areas	Sites of Botanical Significance (SOBS)	Intersects with the Buchanan Rises SOB (see text below).
Sensitive and significant vegetation (SSV's)	Riparian vegetation	Crosses two stream order 3 watercourses that support riparian vegetation – the Ranken River (refer to Figure 3) and Buchanan Creek (refer to Figure 4).
	Wetlands	None intersected.
	Sinkholes	None intersected.
	Large trees with hollows	May be present in the abovementioned riparian vegetation.
Threatened species	Plains Death Adder	Suitable clay plain habitat present
	Yellow-spotted Monitor	Suitable habitat present throughout
	Gouldian Finch	Outside of species' distribution; no breeding tree species observed during survey
	Northern Blue-tongued Skink	Outside of species' distribution

The Buchanan Rises SOBS comprises a low but extensive rise, composed primarily of sandstone. The site includes the rather abrupt ecological boundary between the sandstone rises and the surrounding black soil plain. It has one taxon of NT significance – *Terminalia aridicola* subsp. *aridicola* – which is listed as Near Threatened in the NT which inhabits rocky hills, lateritic rises, and sandstone plateaus with shallow skeletal or gravelly-sandy soils. The SOBS represents the western edge of the species' distribution; however, the species does not have a restricted range in the Northern Territory. There are scattered existing records in the surrounds. The species may be present within the proposed deviation footprint, but no more so than anywhere else where there is suitable habitat within the SOBS.

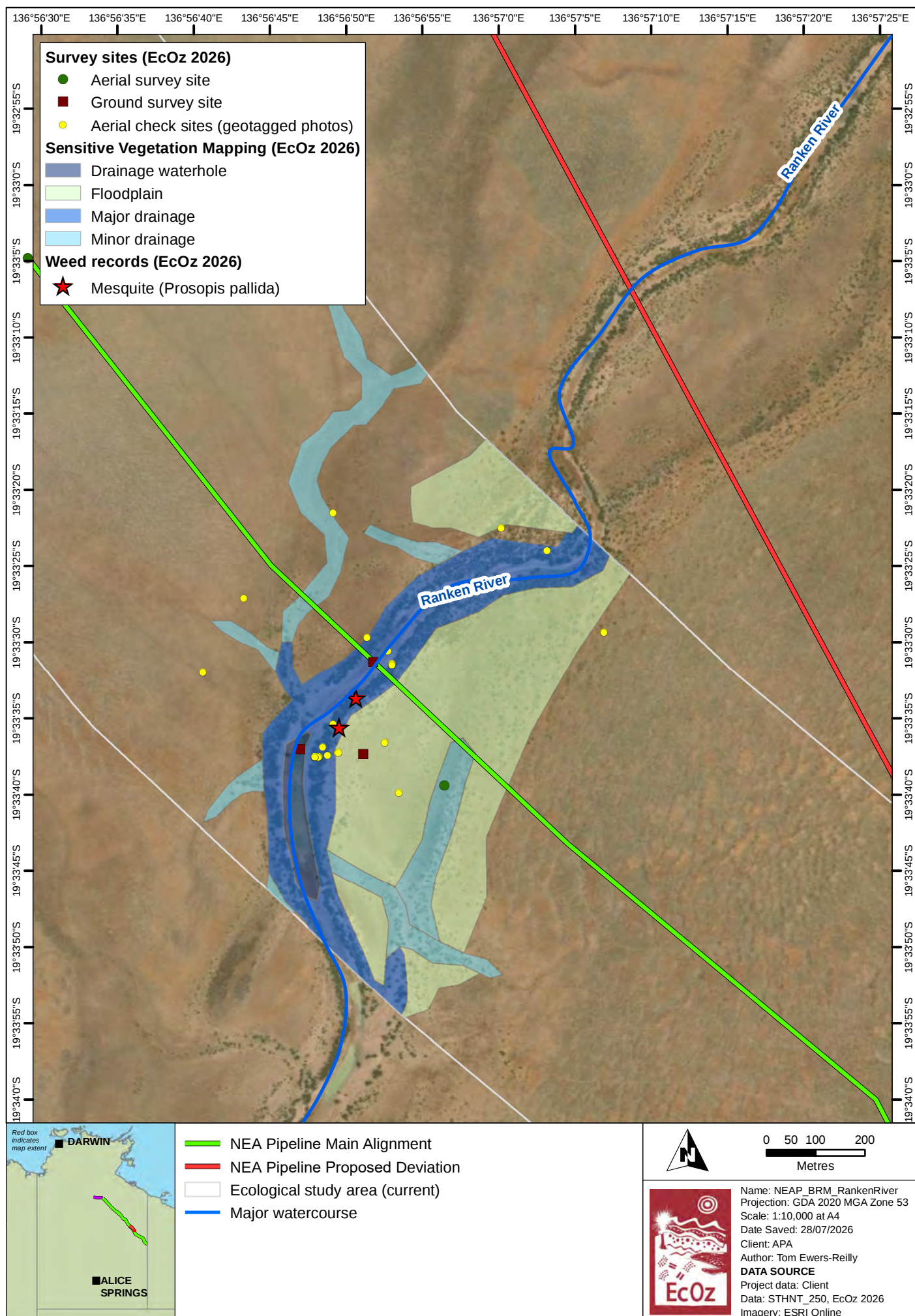


Figure 3. Map of Ranken River current crossing and proposed deviation crossing

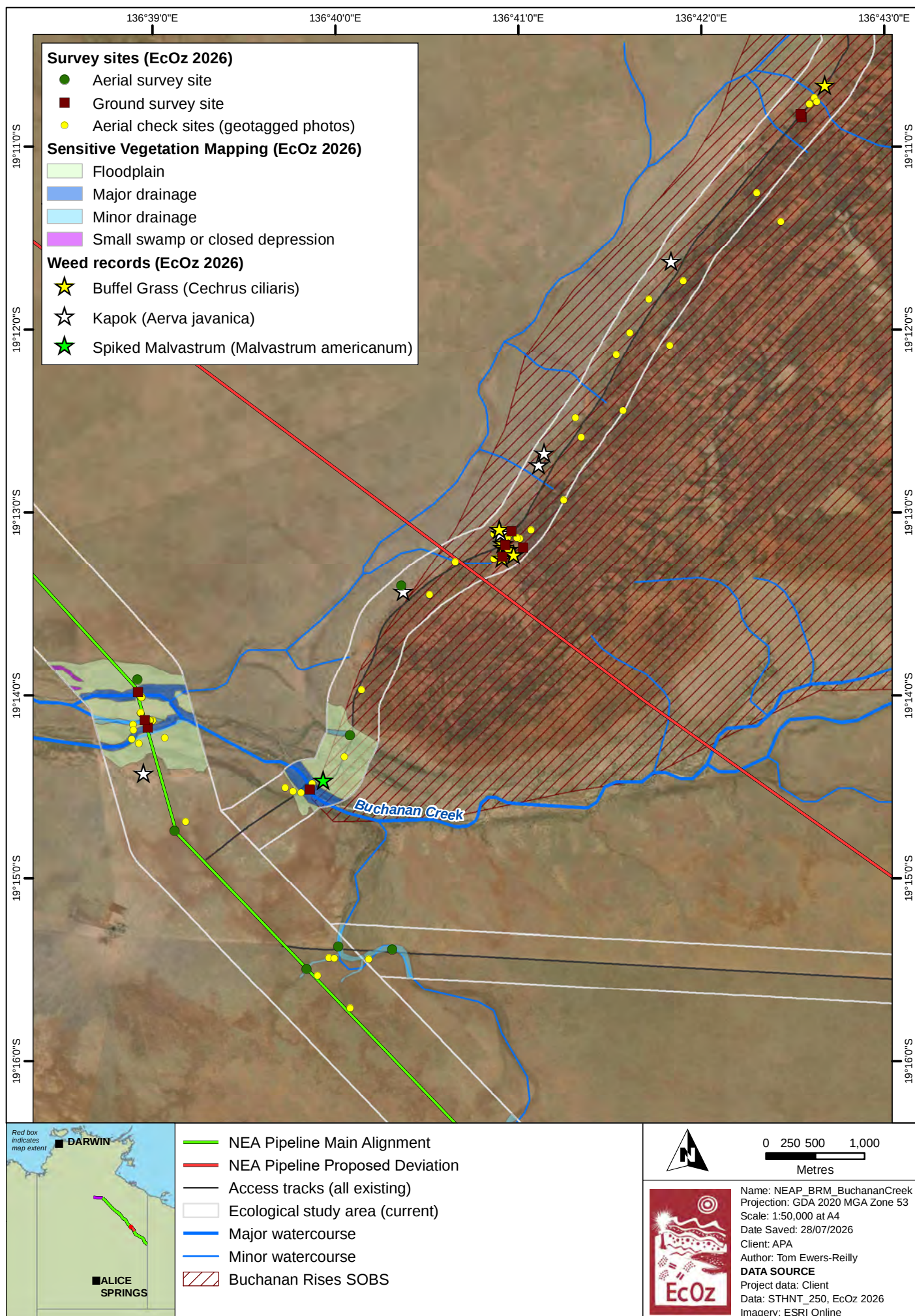


Figure 4. Map of Buchanan Creek current crossing and proposed deviation crossing

3 Constraints

From Table 1, there are some ecological values that may be present within the proposed deviation. All those values are also intersected by the existing pipeline route. Therefore, the conclusions drawn in the referral as to the potential impacts to those values from Proposal activities also apply to the proposed deviation. Assuming the avoidance and mitigation measures discussed in the Referral are also implemented in the proposed deviation footprint, none of the ecological values within the proposed deviation represent constraints that require its re-routing.