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Lots 34, 35 and 36 in DP 258949 Aldington Road Kemps Creek

Riparian & Ecological Assessment Report

F Dominic Fanning

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1 INTRODUCTION

1.1 Background

The "*subject land*" for the purposes of this *Report* involves Lots 34, 35 and 36 in DP 258949 Aldington Road, Kemps Creek (Figure 1). The land is located in the Western Sydney Employment Area (WSEA) and is mostly zoned *IN1 – General Industrial*.

A previous *Ecological & Riparian Assessment Report* by the undersigned (Gunninah 2020) dealt with the 'watercourses' on Lots 35 and 36 in DP 258949 Aldington Road, Kemps Creek. That *Report* demonstrated that there are neither "*rivers*" nor "*waterfront land*" on Lots 35 and 36; and the same applies to the tiny upper 'watercourses' on Lot 34 (to the south).

1.2 Mapping of the Watercourse

The upper parts of the main watercourse within the subject land (through Lots 35 and 36) had previously been identified to potentially be retained (Figure 2). That part of the watercourse has been zoned as *E2 - Environmental Conservation* pursuant to the (Mamre Road Precinct plan); and is identified as '*Non Certified – Avoided for Other Purposes*' (presumably on the basis of assumed, but not validated, riparian 'values').

However, it is noted that this watercourse is identified in the *Mamre Road Precinct Rezoning Discussion Paper* (DPIE 2019) as an "*Indicative Riparian Corridor (**subject to further investigations**)*" – notwithstanding its E2 zoning (Figure 3). Part of the rationale for the retention, or proposed retention, of the watercourse through the subject land is purportedly (at least theoretically) to contribute to the creation of currently non-existent riparian or ecological connections between South Creek (to the west) and Ropes Creek (to the east).

Given that Aldington Road is located on a substantial ridge between those two Creeks, and given the highly disturbed and modified condition and nature of most of the land in the immediate locality, there is no likelihood, or even potential, for any such connections to be created. In addition, the intended use of the subject land and surrounding lands for large-scale industrial development, as well as the road infrastructure for the industrial lands in the Mamre Road Precinct, militate against meaningful connectivity in this locality.

Subsequent correspondence from the Department of Planning, Industry & Environment (DPIE) regarding the subject land states that the Natural Resources Access Regulator (NRAR) is "*willing to consider the request to remove the E2 zone*" along the watercourse on the subject land (as discussed in detail below).

1.3 Purpose of This Report

This *Report* addresses the riparian and ecological 'values' of the watercourse through the subject land and the practical potential for and likely outcomes of any possible 'retention' of the watercourse through the subject land post-development.

This *Report* has been prepared on the basis of a field investigation undertaken by the undersigned on Lots 35 and 36; with 'over the fence' observations of Lot 34.

It also takes into account and recognises the planning of adjoining lands for industrial purposes pursuant to the zoning of the lands – involving substantial earthworks and the modification and/or relocation of the watercourse downstream of the subject land.

Figure 1 The subject land at Kemps Creek

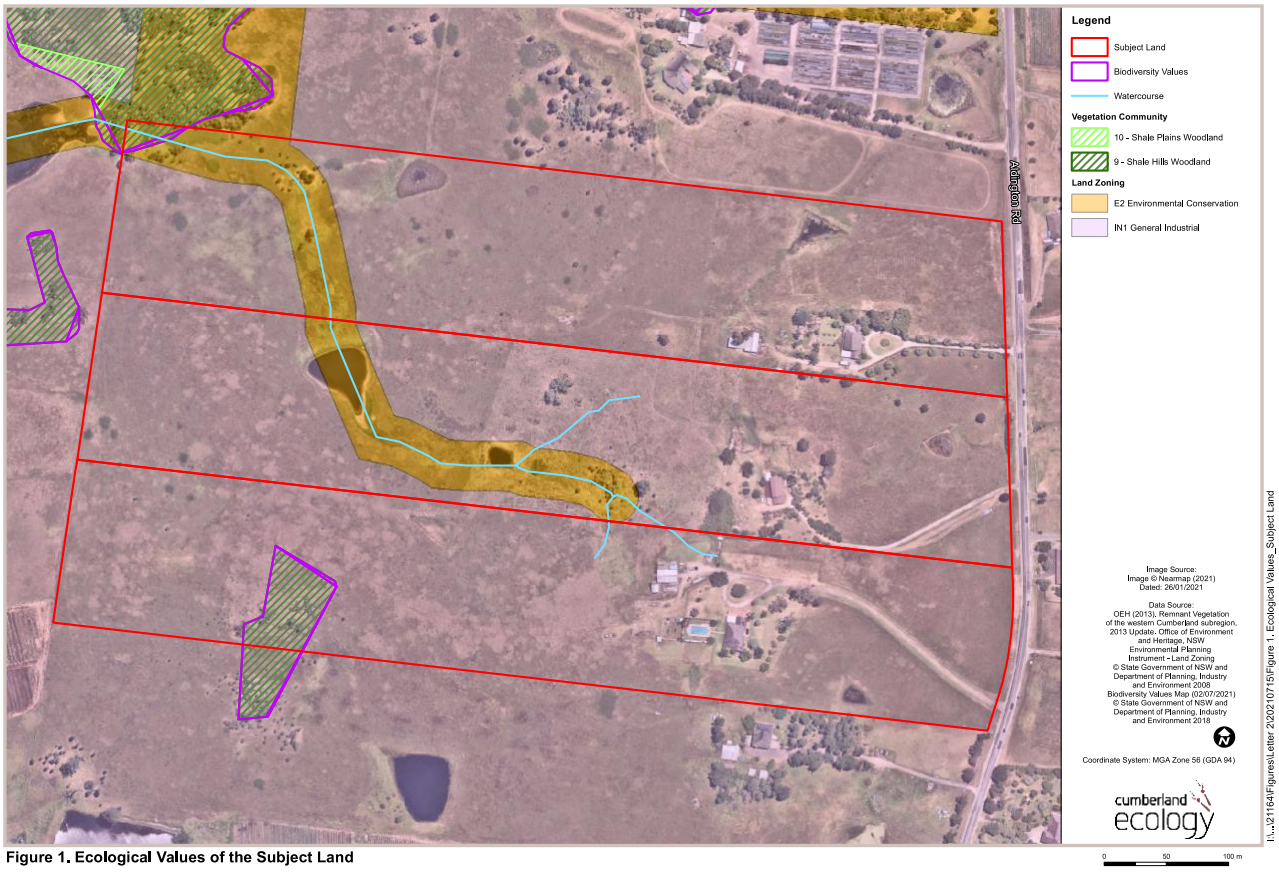

Figure 1. Ecological Values of the Subject Land

Figure 2 The (inappropriately) E2-zoned watercourse on the subject land at Kemps Creek

As discussed in detail below, the E2 zoning along the watercourse on Lots 35 and 36 is not considered appropriate by the author of this *Report* – because of its highly degraded and modified nature; because it leads nowhere and it provides no opportunities for ecological connections across the land; and because even the NRAR accepts that there is no "*waterfront land*" on the subject land.

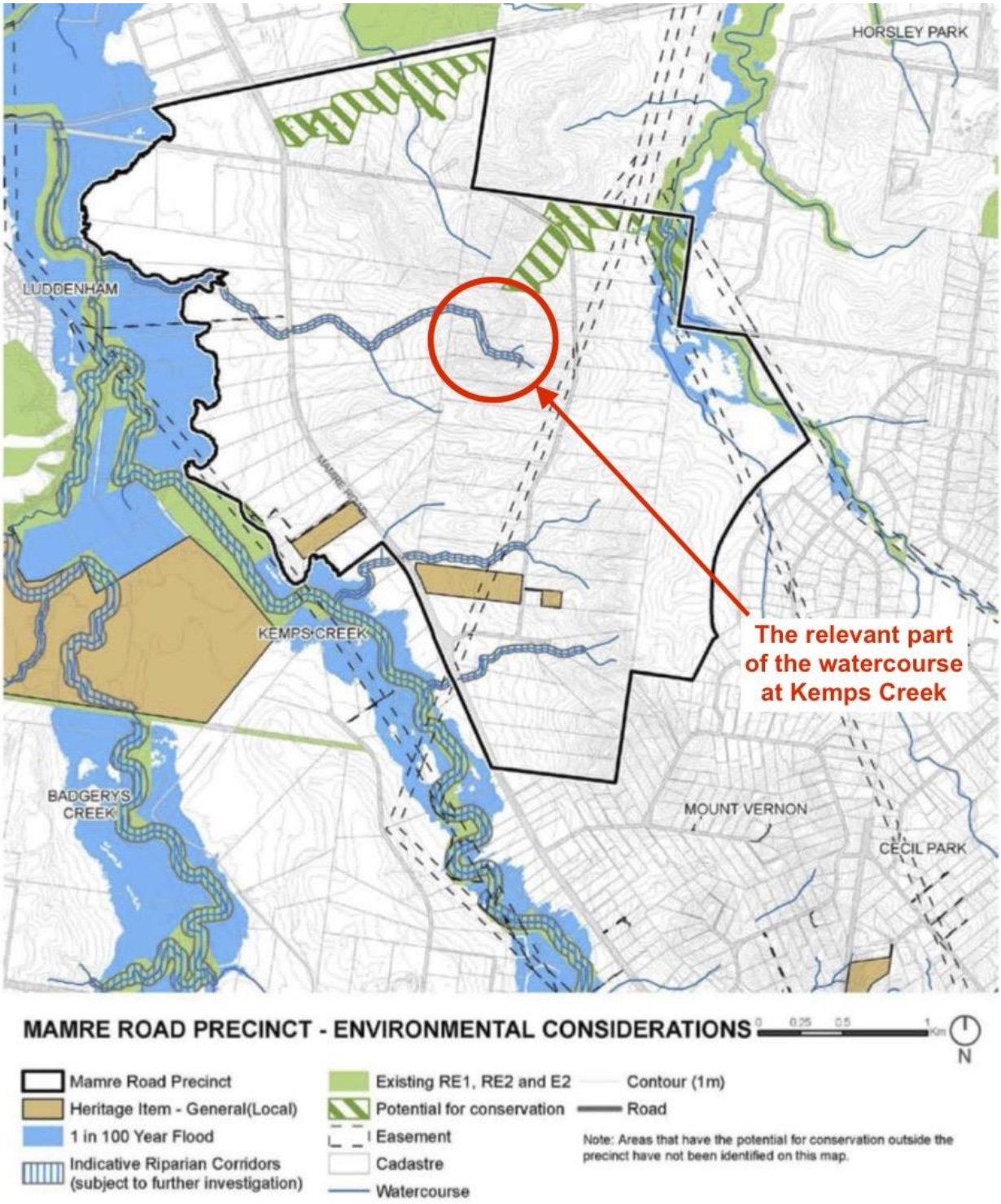

Figure 3 The mapping of 'Environmental Considerations' for the Mamre Road Precinct – including the identification of the 'watercourse' on the subject land as 'Indicative Riparian Corridor – (**subject to further investigation**)'

2 RIPARIAN CONSIDERATIONS

2.1 Watercourses on the Subject Land

The main watercourse within the subject land - from the central southeast to the northwestern corner (Figures 1 and 2) predominantly or entirely lacks a "*bed and banks*" (see Photographic Essay in Attachment A). This watercourse consequently does not constitute a "*river*" pursuant to the definitions provided in the *Water Management Act* 2000 (WM Act) and the *Water Management Regulation* (as discussed in detail in Gunninah 2020).

There is also a shallow and modified drainage swale (draining east to west) across the northern parts of the subject land (current Lot 34) - draining the land to the north. That degraded drainage swale also lacks a "*bed and banks*" (see Photographic Essay in Attachment A) and does not constitute a "*river*".

As a consequence of the considerations above, there is no "*waterfront land*" present on the subject land at Aldington Road, Kemps Creek; and there is no relevant mechanism for the WM Act to apply to the watercourses present.

It is noted that the NRAR has conceded that there is no "*waterfront land*" on the watercourse downstream of the subject land.

2.2 Consideration of NRAR Issues

As noted above, the NRAR has advised that it is "*willing to consider the request to remove the E2 zone*" along the watercourse on the subject land - "*on the basis that the removal of the E2 corridor does not detract from potential riparian outcomes for the remaining 2nd order watercourse downstream*".

However, the NRAR has also requested the following.

- *The development will not remove or pipe the mapped watercourse alignment but would instead follow natural stream design processes for any stormwater requirements, for example an open vegetated channel.*
- *The channel should be constructed in accordance with NRARs guidelines and include adequate density and area of vegetation to assist in providing connectivity to the downstream vegetated riparian zones and for stabilisation purposes.*

It is the position of the author of this *Report* that this 'proposed' constraint on the watercourse through the subject land by the NRAR is neither appropriate nor reasonable - for the following reasons.

- The requirement to "*not remove or pipe the mapped watercourse alignment*" but rather to retain "*an open vegetated channel*" through the subject land imposes essentially the same (and similarly unjustified) 'riparian' constraints on the subject land as the E2 zoning.
- Those 'riparian' constraints are simply not tenable for the purposes of realising the designated zoning of the remainder of the land (IN1 – Industrial); particularly given the steepness and irregularity of the land and the need for substantial earthworks to achieve any functional industrial use of the land.
- Even if it was possible to "*not remove or pipe the mapped watercourse alignment*" through the subject land at the same time as realising the designated zoning of the land

(which is not feasible), the result would be a very narrow strip of 'vegetated' land wedged between high (to very high) retaining walls and industrial buildings. This retained, narrow and artificial watercourse would have essentially no relevant 'riparian' value; and little or no relevant ecological value (see below).

2.3 Riparian Outcomes on the Subject Land

The proposed development of the subject land at Mamre Road will involve estate-wide water quality treatment measures (including biodiversity basins, bio-swales and street pits) as well as the further treatment of stormwater in a series of detention basins located within a retained/reconstructed drainage swale in the northwestern part of the subject land (Lots 6 and 7 in Figure 4 below).

The detention basins required for the proposed industrial development of the subject land at Kemps Creek are to be located along the drainage swale on Lots 6 and 7 (Figure 4). The detention basins are to be managed as grassed basins which only retain water on a temporary basis (on the basis of advice from the DPIE).

The detention basins will be constructed with sloping internal and external batters which are to be planted out with appropriate vegetation - sedges and other water-tolerant plants on the inner batter and appropriate riparian groundcover species on the outer batter. This will be achieved in accordance with a *Vegetation Management Plan* (VMP) to be prepared at the DA stage of the project (in accordance with NRAR *Guidelines*).

It is to be noted that proposed Lot 6 contains the lower part of the E2-zoned watercourse and proposed Lot 7 also contains part of the E2-zoned watercourse; and 'mirrors' the upper parts of the E2 watercourse (which again is very highly degraded and modified). Both of these are very highly degraded and modified and, as discussed above, are currently of little or no ecological or riparian value.

Thus, the drainage swales on proposed Lots 6 and 7, once regenerated in accordance with a dedicated VMP, will provide significantly improved riparian and ecological values over the current circumstances on the subject land; and will essentially achieve the goals sought by the DPIE and NRAR.

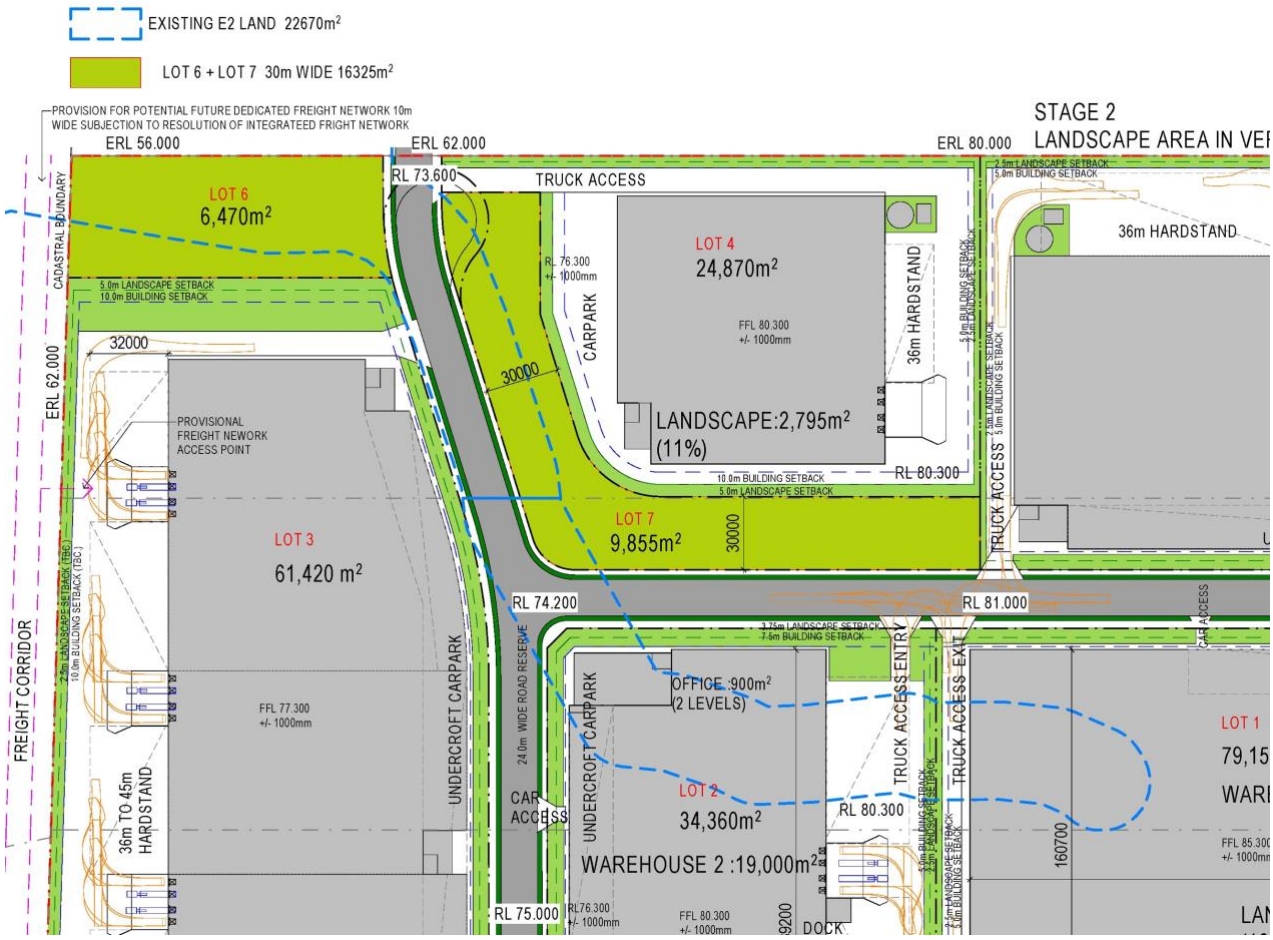

Figure 4 The drainage swales on proposed Lots 6 and 7 in the northwestern part of the subject land at Mamre Road. These are to incorporate several detention basins and will be planted with riparian and other native plantings – in accordance with a dedicated *Vegetation Management Plan* (VMP)

3 ECOLOGICAL CONSIDERATIONS

The ecological and biodiversity values of the watercourses through the subject land (Lots 34, 35 and 36 Aldington Road) at Kemps Creek were considered in detail in the Gunninah 2020 *Report*. It is clear that the watercourses are very highly modified and degraded, and do not contain any habitats or resources of ecological or biodiversity value or significance (see Photographic Essay in Attachment A).

The majority of the watercourses through the subject land lack trees and are characterised by pasture grasses and weeds; with broad swathes of Buffalo Grass and other introduced grasses. Other abundant introduced species present include Prickly Lettuce *Lactuca serriola*, Spear Thistle *Cirsium vulgare*, Cobbler's Pegs *Bidens pilosa* and Blackberry *Rubus fruticosus* (a large patch of which is located at the lower end of the watercourse at the northwestern edge of the subject land).

A few scattered trees are located along or adjacent to upper parts of the main watercourse – Forest Red Gum and Grey Box in the upper reaches and Casuarinas in the lower parts (in the northwest of Lot 36). There are also scattered specimens of the introduced Broad-leaved Privet *Ligustrum lucidum* at the lower end of the watercourse (in the northwestern corner of Lot 36).

The larger farm dam on Lot 35, when full, provides some habitat for wetland birds (two Australasian Grebes were sighted); but does not support significant emergent vegetation or other resources. The smaller farm dam (upstream from the larger dam) is of less ecological value; although it does contain some fringing reeds and sedges. It is to be noted that both are artificial habitats; and the habitats and resources they contain can therefore readily be re-constructed.

Further, as discussed above, post-development of the subject land for industrial purposes (as currently zoned), the watercourse (if it were to be retained) would constitute only a narrow strip through a heavily developed urban landscape (including high to very high retaining walls and substantial industrial buildings). It would also require substantial rehabilitation and reconstruction.

Any such retained watercourse would therefore have limited ecological value and would be the subject of significant 'edge effects'; limiting its ecological values and providing habitat predominantly only for common to abundant urban-tolerant native fauna; as well as pest species.

In addition, the watercourse through the subject land does not provide any link or connection to any other areas of habitat in the vicinity or locality; and there is no prospect for any such linkages to be provided in the future.

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Appendix A
Photographic Essay

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2018 Hydroline spatial data 1.0

03/08/2020, 4:29:10 pm

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Water Management (General) Regulation

NSW Department of Industry | Lands and Water | Water

Photo 1 View up Stream A from approximately its centre point (looking southeast) – demonstrating the lack of a "*bed and banks*" and dominant pasture grasses and weeds

Photo 2 View down Stream A from approximately its centre point – demonstrating the lack of a "*bed and banks*" and dominant pasture grasses and weeds

Photo 3 View up Stream B from its downstream point (looking south) – demonstrating the lack of a "*bed and banks*" and dominant pasture grasses and weeds

Photo 4 View down Stream C from the junction between Streams A and B (looking west) – demonstrating the lack of a "*bed and banks*" and dominant pasture grasses and weeds

Photo 5 View up Stream C from its lower end (looking east) – demonstrating the lack of a "*bed and banks*"

Photo 6 View up Stream C from its mid point (looking west) – demonstrating the lack of a "*bed and banks*" and dominant pasture grasses and weeds

Photo 7 View up Stream D from its mid point (looking northeast) – note the lack of a "*bed and banks*" and dominant pasture grasses and weeds

Photo 8 View down Stream D from its mid point (looking northeast towards the small farm dam) – note the lack of a "*bed and banks*" and dominant pasture grasses and weeds

Photo 9 The small farm dam below the junction of Streams C and D – an artificial structure dominated by pasture grasses and weeds

Photo 10 View up Stream C across the small farm dam (looking east) – note the nature of the landform and the dominant pasture grasses and weeds

Photo 11 View up Stream E from below the small farm dam – demonstrating the lack of a "*bed and banks*" and the dominant pasture grasses and weeds

Photo 12 The main farm dam on Lot 35 – demonstrating the lack of a "*bed and banks*" and the dominant pasture grasses and weeds, and minimal habitat features

Photo 13 The main farm dam wall on Lot 35 – an artificial structure dominated by pasture grasses and weeds and lacking significant native habitat or resources

Photo 14 View over the main farm dam on Lot 35 up Stream E towards Streams A to D – demonstrating the landscape and artificial vegetation in the upstream catchment

Photo 15 View down Stream F from the wall of the main farm dam on Lot 35 (looking west) – demonstrating the lack of a "*bed and banks*" and the dominant pasture grasses and weeds

Photo 16 Lower section of Stream F on Lot 36 – demonstrating the lack of a "*bed and banks*" and the dominant pasture grasses and weeds; with only scattered Casuarinas