



Natural Resources Access Regulator

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Our ref: V18-1021-27#28

Attention: Anthony Barthelmess

Emailed to: anthony.barthelmess@rienco.com.au

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Dear Sir

Re: Planning Review – Watercourse Identification and Riparian Corridor Assessment - Cleveland Road North and South

The Natural Resources Access Regulator (NRAR) has reviewed the Survey of Existing Watercourses Proposed Development at Cleveland Road, Cleveland Report, prepared by Rienco Consulting, dated 21/07/2020 and associated watercourse assessment map.

NRAR assessment comments including the request for additional information is provided below:

- **Area 1** – The reconstruction and rehabilitation of the 3rd order watercourse is supported. This reconstruction and establishment of a riparian corridor should extend to the boundary of the site providing connectivity with the existing remnant bushland area. The riparian corridor width should comply with the 3rd order requirements of the NRAR Riparian Corridor Guidelines.
- **Area 2** – The proposed piping of the 1st and 2nd order mapped watercourses within this area is generally acceptable given the modified nature of the streams and historical manmade nature. Previous NRAR agreement has been provided for the removal of the watercourses and a reconstructed floodway has been constructed in the upstream reach adjoining Brooks Reach subdivision.
- **Area 3** – The subject watercourse is unmapped on NRAR mapping. The piping of this watercourse is generally acceptable.
- **Area 4** – The subject watercourse is generally undefined and is a chain of farm dams before flowing into Area 1. The piping of this watercourse is generally acceptable.
- **Area 5** – The subject watercourse is generally undefined. The piping of this watercourse is generally acceptable.

- Area 6** – The upstream reach of Area 6 north of Cleveland Road is undefined and is a chain of farm dams. The piping of this upstream reach of watercourse is generally acceptable. To the south of Cleveland Road the watercourse is defined and becomes a 2nd order stream. There are a number of large channel formations and junction with a North South flowing 1st order stream (Refer to Figure 1). Further assessment and protection of riparian values is required for the subject area. The reconstruction and establishment of a riparian corridor should extend to the boundary of the site providing connectivity Mullet Creek to the South. The riparian corridor width should comply requirements of the NRAR Riparian Corridor Guidelines.



Figure 1

- Area 7** – The mapped watercourse upstream of the existing farm dam is poorly defined. The piping of this reach of the watercourse is generally acceptable. Downstream of the dam the watercourse appears to become more defined as it flows through existing riparian vegetation (refer to Figure 2). Further assessment and protection of riparian values is required for the subject area. The reconstruction and establishment of a riparian corridor should extend to the boundary of the site providing connectivity Mullet Creek to the South. The riparian corridor width should comply requirements of the NRAR Riparian Corridor Guidelines.



Figure 2

- **Area 8** – The subject 1st order stream within Area 8 is undefined. The Reconstruction of an open channel watercourse with no riparian corridor treatment is generally acceptable. Downstream of Area 8 the watercourse becomes a defined channel (refer to Figure 3). Further assessment and protection of riparian values is required for the subject area. The reconstruction and establishment of a riparian corridor should extend to the boundary of the site providing connectivity Mullet Creek to the South. The riparian corridor width should comply requirements of the NRAR Riparian Corridor Guidelines.



Figure 3

- **Watercourses to the south of the site** – Figure 2.1-1 of Survey of Existing Watercourses Proposed Development at Cleveland Road, Cleveland Report, prepared by Rienco Consulting, dated 21/07/2020 defines the site area for the subject assessment. There are several mapped watercourses to the South of the site including Mullet Creek that are not assessed within the Rienco report. The report should be extended to assess and define the management of riparian corridors and stream treatments for the entire site area.
- **Maintain Existing watercourses** – It is unclear how watercourses marked with “maintain existing watercourses” will be managed in the associated watercourse assessment map prepared by Rienco. The report should be extended to assess and define the management of riparian corridors and stream treatments for the entire site area.
- **Identification of detention basin sites** - The construction of flood detention and water quality infrastructure typically results in significant land take within new release areas. NRAR recommends that the planning documents provide clear mapping of flood infrastructure requirements to provide greater clarity to the proposed development. This will reduce the potential pressure on approved riparian outcomes caused by the retrofitting of flood detention infrastructure at the development application stage.
- **Ownership of Riparian Corridors** - NRAR recommends that all riparian corridors should be in public ownership to ensure the long-term protection and management of these environmentally significant areas within the landscape. Private ownership of riparian corridors has proven to result in a significant increase in unauthorised activities by private landholders within watercourses. These activities are often difficult to rectify with limited legislative mechanisms to manage activities at a State or Local Government level. Unauthorised activities often result in the complete removal of riparian restoration undertaken by developers after lots are sold.

Please direct any questions regarding this correspondence to Jeremy Morice,
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Yours sincerely



For
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Natural Resources Access Regulator
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