

# Attachment 9

BMT Reporting

Our ref: L.000868.002..Supplementary\_Advice\_Currunda\_Creek\_Trades\_and\_Services\_Park.docx

4 September 2024

Bengali Land Pty Ltd  
626R Redlynch Intake Road  
Redlynch QLD 4870  
Attention: Pat Flanagan

Dear Pat

## **RE: CURRUNDA CREEK TRADES AND SERVICES PARK – SUPPLEMENTARY ADVICE**

In 2022 Bengali Land Pty Ltd commissioned BMT to undertake a Flood Impact Assessment of a proposed development of the Trades and Services Precinct adjacent to (and on both sides of) the 500m reach of Currunda Creek which traverses the Site.

This letter report provides a response to the issues/ concerns raised by the Cairns Regional Council officers and submitters regarding the Preliminary Assessment to support Applications for:

- A Preliminary Approval of a variation to the Planning Scheme to allow some uses in the Rural Zone, to change the level of assessment to Code Assessable rather than Impact Assessable.
- A Preliminary Approval to Reconfigure the Land into 4 lots with a total area of approx. 8 ha, with the balance of the approx. 13 ha parcel to be drainage reserve and roadways.

Specifically, the following issues were requested to be addressed:

- Context – a broad description of the Currunda Creek catchment (area, slope, etc) and extent of “urbanisation” proposed.
- Process - a description of the iterative process undertaken to arrive at the optimised proposal.
- Advice - pre and post development flows at the Redlynch Road Crossing of Currunda Creek (approx. 500 m downstream of the development site).

### **Context – Currunda Creek Catchment**

The site is located within the local, 749 ha, Currunda Creek Catchment and the broader 103km<sup>2</sup> Freshwater Creek Catchment. The location of the site with respect to these catchments is presented in Figure 1.1.

The Currunda Creek Catchment has the following statistics derived from the 2021 LiDAR survey used in the flood modelling, and aerial photography used for assessment of the catchment hydrologic properties:

- Ground elevations vary from 1000m AHD at the top of the range (2km to the west of the Site), to 20m AHD at the Redlynch Intake Road crossing adjacent to the Site.
- Catchment slopes vary from 1-4% in the drainage pathways within 1km of the Site, increasing up to 40% at the higher elevations of the range.

- The majority of the landuse within the catchment is dense forest, with a small area (approx. 22ha) of cleared rural land around the Site.

The proposed development footprint, of approximately of 8ha, is 1% of the catchment area.

### Process – Iterative Modelling Process

An iterative flood modelling process was adopted to determine the most suitable development footprint with respect to the Cairns Regional Council Policies, and the requirements of Bengali Land Pty Ltd to provide a suitable trades and services park.

This process involved the following steps:

- Revise the existing case flood model to include a preliminary development design.
- Simulate the model for a range of design storm events to determine compliance with Council Policies.
- Based on the simulation results and feedback from the developer, revise the model to include a refined design.
- Re-simulate the model to confirm compliance.
- Further adjust the development and re-simulate to confirm compliance.

In a typical flood impact assessment, this iterative process may be repeated many times until a satisfactory outcome for all parties is achieved. In the case of this development, the iterative process was repeated three times.

### Advice – Pre- and Post-Development Flows at the Redlynch Road Crossing

Since the development is located in the lower reaches of the Currunda Creek Catchment, and the downstream flood level impact mapping does not show any significant increase in post-development flood levels, it is expected that the downstream peak flow rates will be the same between pre- and post-development.

Yours Sincerely,




**BMT**

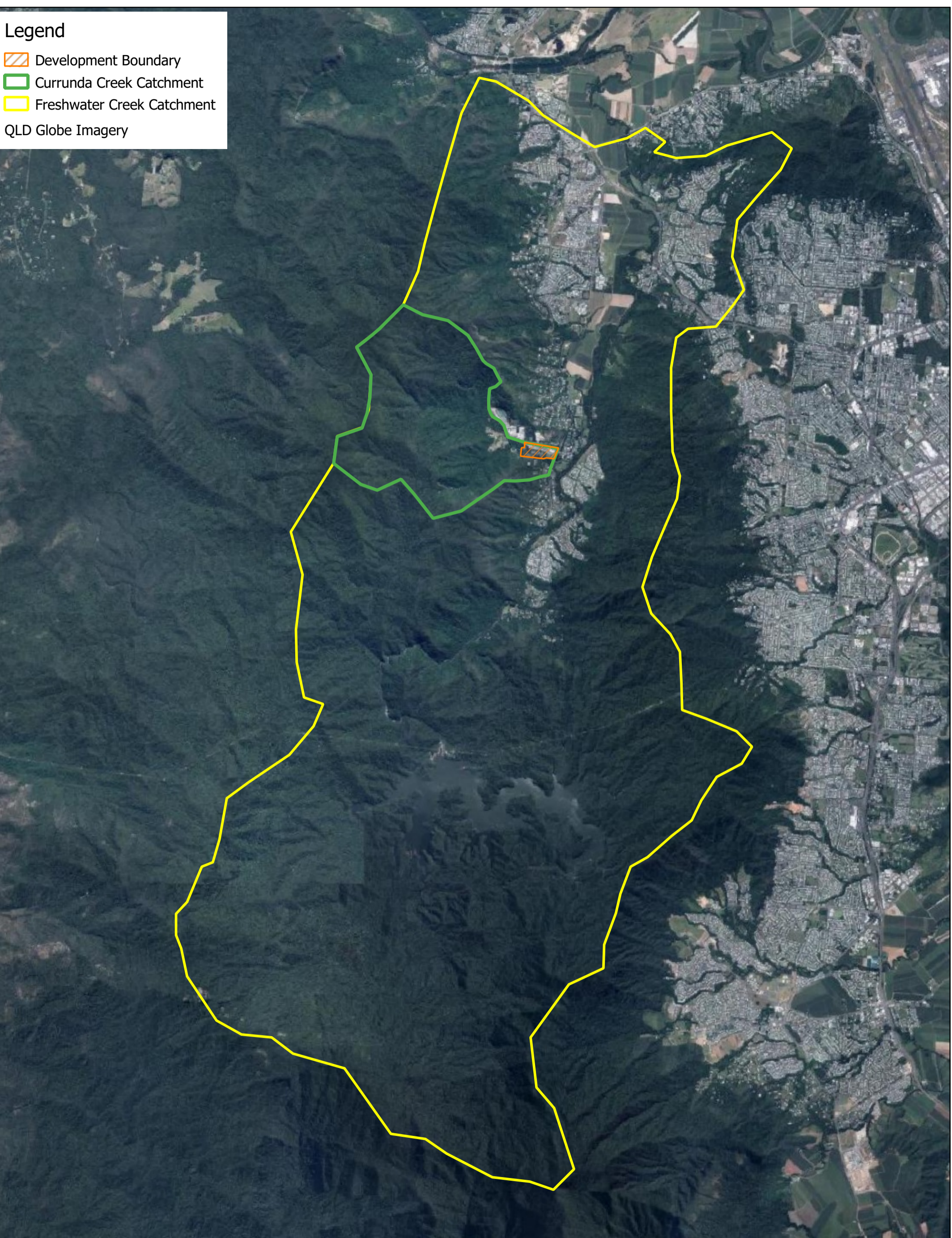





**Nigel Hardie**  
Associate Principal Engineer

RPEQ 30952

**Legend**

-  Development Boundary
  -  Currunda Creek Catchment
  -  Freshwater Creek Catchment
- QLD Globe Imagery



<b>Title:</b> <b>Catchment Extents</b>		<b>Figure:</b> <b>1.1</b>	<b>Rev:</b> <b>A</b>
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