


Richmond Valley Flood Study

Volume 2: Design Results Mapping Addendum (Draft)

A large decorative graphic on the left side of the page, featuring a series of overlapping, curved, fan-like shapes in various shades of blue and teal, creating a sense of movement and depth.

Customer	Richmond Valley Council
Project	A10749
Deliverable	002
Version	03
	15 June 2023

Document Control

Document Identification

Title	Richmond Valley Flood Study
Project No	A10749
Deliverable No	002
Version No	03
Version Date	15 June 2023
Customer	Richmond Valley Council
Classification	BMT (OFFICIAL)
Synopsis	Mapped results for design flood events from modelling undertaken for the Richmond Valley Flood Study.
Author	Teegan Burke
Reviewed By	Barry Rodgers
Project Manager	Barry Rodgers

Amendment Record

The Amendment Record below records the history and issue status of this document.

Version	Version Date	Distribution	Record
00	25 February 2022	Richmond Valley Council	Draft Report
01	26 May 2023	Richmond Valley Council	Draft Report
02	01 June 2023	Richmond Valley Council	Draft Report
03	15 June 2023	Richmond Valley Council	Draft Report

This report is prepared by BMT Commercial Australia Pty Ltd ("BMT") for the use by BMT's client (the "Client"). No third party may rely on the contents of this report. To the extent lawfully permitted by law all liability whatsoever of any third party for any loss or damage howsoever arising from reliance on the contents of this report is excluded. Where this report has been prepared on the basis of the information supplied by the Client or its employees, consultants, agents and/or advisers to BMT Commercial Australia Pty Ltd ("BMT") for that purpose and BMT has not sought to verify the completeness or accuracy of such information. Accordingly, BMT does not accept any liability for any loss, damage, claim or other demand howsoever arising in contract, tort or otherwise, whether directly or indirectly for the completeness or accuracy of such information nor any liability in connection with the implementation of any advice or proposals contained in this report insofar as they are based upon, or are derived from such information. BMT does not give any warranty or guarantee in respect of this report in so far as any advice or proposals contains, or is derived from, or otherwise relies upon, such information nor does it accept any liability whatsoever for the implementation of any advice recommendations or proposals which are not carried out under its control or in a manner which is consistent with its advice.

Explanatory Notes

Overview

This Volume 2 report of the Richmond Valley Flood Study contains the design flood mapping. The maps should be considered in conjunction with the accompanying technical report (Volume 1) which contains the supporting methodology and assumptions.

To assist in viewing the maps, the mapping has been presented across different regions. Regions A to F cover the study area with an additional localised region for Casino (Region G). A whole of study area region (Region H) is also included for the critical event mapping.

The maps contain the following model outputs:

- Peak flood levels (mAHD)
- Peak flood depth (m)
- Peak flood velocity (m/s)
- Critical events (durations) (Region H only)

The following processed model outputs are also included:

- Peak flood (classified) hazard (1%, 0.2% and 1%CC AEP events)
- Flood function mapping (1% and 0.2% AEP events)
- Flood Islands
- Flood Planning Levels (mAHD)

Classified Flood Hazard

Flood hazard output has been classified in accordance with general guidance from the Australian Institute for Disaster Resilience (AIDR, 2017a). Six hazard vulnerability categories are defined based on different combinations of flood depth and velocity. The categories increase in severity from category H1 to H6. The combinations of depth and velocity that define the categories are shown in Figure 1 below.

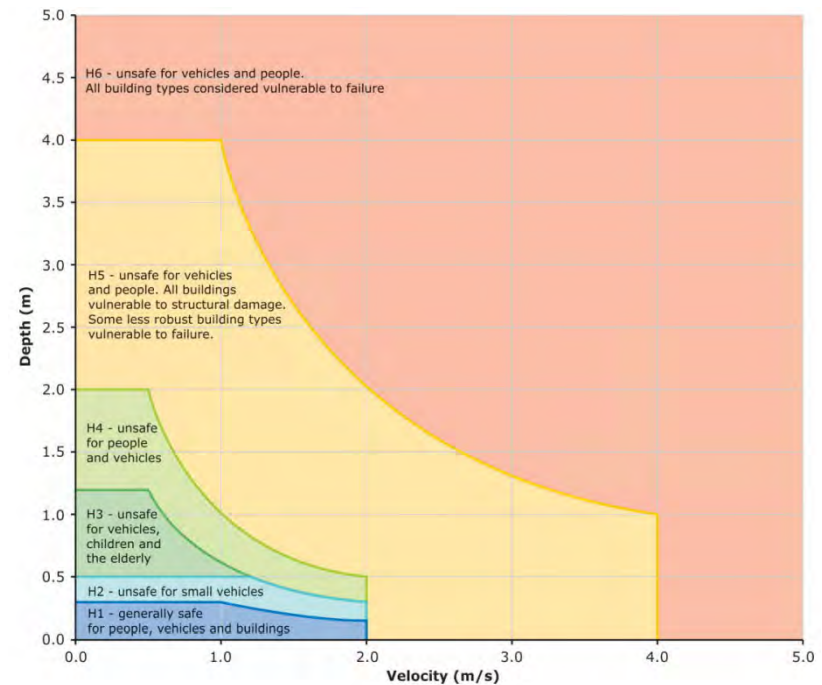


Figure 1.1 General Flood Hazard Vulnerability Curves (AIDR, 2017b)

Disclaimer

The mapping has been prepared for Richmond Valley Council for the purposes of the Richmond Valley Flood Study. Use of the mapping by third parties is done so at their own risk. BMT does not warrant the accuracy or completeness of information displayed in the mapping. BMT shall bear no responsibility or liability for any errors, faults, defects or omissions in the information.

Flood planning level information is shown at regional scale and should not be used without consulting with Richmond Valley Council.

Index of Design Flood Mapping

Map Reference	Map Title
R.A-1	Region A - 5% AEP Peak Flood Level
R.A-2	Region A - 2% AEP Peak Flood Level
R.A-3	Region A - 1% AEP Peak Flood Level
R.A-4	Region A - 0.2% AEP Peak Flood Level
R.A-5	Region A - PMF Peak Flood Level
R.A-6	Region A - 1% AEP Climate Change (CC3) Peak Flood Level
R.A-7	Region A - 5% AEP Peak Flood Depth
R.A-8	Region A - 2% AEP Peak Flood Depth
R.A-9	Region A - 1% AEP Peak Flood Depth
R.A-10	Region A - 0.2% AEP Peak Flood Depth
R.A-11	Region A - PMF Peak Flood Depth
R.A-12	Region A - 1% AEP Climate Change (CC3) Peak Flood Depth
R.A-13	Region A - 5% AEP Peak Flood Velocity
R.A-14	Region A - 2% AEP Peak Flood Velocity
R.A-15	Region A - 1% AEP Peak Flood Velocity
R.A-16	Region A - 0.2% AEP Peak Flood Velocity
R.A-17	Region A - PMF Peak Flood Velocity
R.A-18	Region A - 1% AEP Climate Change (CC3) Peak Flood Velocity
R.A-19	Region A - 1% AEP Classified Hazard

Map Reference	Map Title
R.A-20	Region A - 0.2% AEP Classified Hazard
R.A-21	Region A - 1% AEP Climate Change (CC3) Classified Hazard
R.A-22	Region A - 1% AEP Flood Function
R.A-23	Region A - 0.2% AEP Flood Function
R.A-24	Region A - Flood Islands
R.A-25	Region A - Flood Planning Levels
R.B-1	Region B - 5% AEP Peak Flood Level
R.B-2	Region B - 2% AEP Peak Flood Level
R.B-3	Region B - 1% AEP Peak Flood Level
R.B-4	Region B - 0.2% AEP Peak Flood Level
R.B-5	Region B - PMF Peak Flood Level
R.B-6	Region B - 1% AEP Climate Change (CC3) Peak Flood Level
R.B-7	Region B - 5% AEP Peak Flood Depth
R.B-8	Region B - 2% AEP Peak Flood Depth
R.B-9	Region B - 1% AEP Peak Flood Depth
R.B-10	Region B - 0.2% AEP Peak Flood Depth
R.B-11	Region B - PMF Peak Flood Depth
R.B-12	Region B - 1% AEP Climate Change (CC3) Peak Flood Depth
R.B-13	Region B - 5% AEP Peak Flood Velocity

Map Reference	Map Title
R.B-14	Region B - 2% AEP Peak Flood Velocity
R.B-15	Region B - 1% AEP Peak Flood Velocity
R.B-16	Region B - 0.2% AEP Peak Flood Velocity
R.B-17	Region B - PMF Peak Flood Velocity
R.B-18	Region B - 1% AEP Climate Change (CC3) Peak Flood Velocity
R.B-19	Region B - 1% AEP Classified Hazard
R.B-20	Region B - 0.2% AEP Classified Hazard
R.B-21	Region B - 1% AEP Climate Change (CC3) Classified Hazard
R.B-22	Region B - 1% AEP Flood Function
R.B-23	Region B - 0.2% AEP Flood Function
R.B-24	Region B - Flood Islands
R.B-25	Region B - Flood Planning Levels
R.C-1	Region C - 5% AEP Peak Flood Level
R.C-2	Region C - 2% AEP Peak Flood Level
R.C-3	Region C - 1% AEP Peak Flood Level
R.C-4	Region C - 0.2% AEP Peak Flood Level
R.C-5	Region C - PMF Peak Flood Level
R.C-6	Region C - 1% AEP Climate Change (CC3) Peak Flood Level
R.C-7	Region C - 5% AEP Peak Flood Depth
R.C-8	Region C - 2% AEP Peak Flood Depth
R.C-9	Region C - 1% AEP Peak Flood Depth
R.C-10	Region C - 0.2% AEP Peak Flood Depth

Map Reference	Map Title
R.C-11	Region C - PMF Peak Flood Depth
R.C-12	Region C - 1% AEP Climate Change (CC3) Peak Flood Depth
R.C-13	Region C - 5% AEP Peak Flood Velocity
R.C-14	Region C - 2% AEP Peak Flood Velocity
R.C-15	Region C - 1% AEP Peak Flood Velocity
R.C-16	Region C - 0.2% AEP Peak Flood Velocity
R.C-17	Region C - PMF Peak Flood Velocity
R.C-18	Region C - 1% AEP Climate Change (CC3) Peak Flood Velocity
R.C-19	Region C - 1% AEP Classified Hazard
R.C-20	Region C - 0.2% AEP Classified Hazard
R.C-21	Region C - 1% AEP Climate Change (CC3) Classified Hazard
R.C-22	Region C - 1% AEP Flood Function
R.C-23	Region C - 0.2% AEP Flood Function
R.C-24	Region C - Flood Islands
R.C-25	Region C - Flood Planning Levels
R.D-1	Region D - 5% AEP Peak Flood Level
R.D-2	Region D - 2% AEP Peak Flood Level
R.D-3	Region D - 1% AEP Peak Flood Level
R.D-4	Region D - 0.2% AEP Peak Flood Level
R.D-5	Region D - PMF Peak Flood Level
R.D-6	Region D - 1% AEP Climate Change (CC3) Peak Flood Level
R.D-7	Region D - 5% AEP Peak Flood Depth

Map Reference	Map Title
R.D-8	Region D - 2% AEP Peak Flood Depth
R.D-9	Region D - 1% AEP Peak Flood Depth
R.D-10	Region D - 0.2% AEP Peak Flood Depth
R.D-11	Region D - PMF Peak Flood Depth
R.D-12	Region D - 1% AEP Climate Change (CC3) Peak Flood Depth
R.D-13	Region D - 5% AEP Peak Flood Velocity
R.D-14	Region D - 2% AEP Peak Flood Velocity
R.D-15	Region D - 1% AEP Peak Flood Velocity
R.D-16	Region D - 0.2% AEP Peak Flood Velocity
R.D-17	Region D - PMF Peak Flood Velocity
R.D-18	Region D - 1% AEP Climate Change (CC3) Peak Flood Velocity
R.D-19	Region D - 1% AEP Classified Hazard
R.D-20	Region D - 0.2% AEP Classified Hazard
R.D-21	Region D - 1% AEP Climate Change (CC3) Classified Hazard
R.D-22	Region D - 1% AEP Flood Function
R.D-23	Region D - 0.2% AEP Flood Function
R.D-24	Region D - Flood Islands
R.D-25	Region D - Flood Planning Levels
R.E-1	Region E - 5% AEP Peak Flood Level
R.E-2	Region E - 2% AEP Peak Flood Level
R.E-3	Region E - 1% AEP Peak Flood Level
R.E-4	Region E - 0.2% AEP Peak Flood Level

Map Reference	Map Title
R.E-5	Region E - PMF Peak Flood Level
R.E-6	Region E - 1% AEP Climate Change (CC3) Peak Flood Level
R.E-7	Region E - 5% AEP Peak Flood Depth
R.E-8	Region E - 2% AEP Peak Flood Depth
R.E-9	Region E - 1% AEP Peak Flood Depth
R.E-10	Region E - 0.2% AEP Peak Flood Depth
R.E-11	Region E - PMF Peak Flood Depth
R.E-12	Region E - 1% AEP Climate Change (CC3) Peak Flood Depth
R.E-13	Region E - 5% AEP Peak Flood Velocity
R.E-14	Region E - 2% AEP Peak Flood Velocity
R.E-15	Region E - 1% AEP Peak Flood Velocity
R.E-16	Region E - 0.2% AEP Peak Flood Velocity
R.E-17	Region E - PMF Peak Flood Velocity
R.E-18	Region E - 1% AEP Climate Change (CC3) Peak Flood Velocity
R.E-19	Region E - 1% AEP Classified Hazard
R.E-20	Region E - 0.2% AEP Classified Hazard
R.E-21	Region E - 1% AEP Climate Change (CC3) Classified Hazard
R.E-22	Region E - 1% AEP Flood Function
R.E-23	Region E - 0.2% AEP Flood Function
R.E-24	Region E - Flood Islands
R.E-25	Region E - Flood Planning Levels
R.F-1	Region F - 5% AEP Peak Flood Level

Map Reference	Map Title
R.F-2	Region F - 2% AEP Peak Flood Level
R.F-3	Region F - 1% AEP Peak Flood Level
R.F-4	Region F - 0.2% AEP Peak Flood Level
R.F-5	Region F - PMF Peak Flood Level
R.F-6	Region F - 1% AEP Climate Change (CC3) Peak Flood Level
R.F-7	Region F - 5% AEP Peak Flood Depth
R.F-8	Region F - 2% AEP Peak Flood Depth
R.F-9	Region F - 1% AEP Peak Flood Depth
R.F-10	Region F - 0.2% AEP Peak Flood Depth
R.F-11	Region F - PMF Peak Flood Depth
R.F-12	Region F - 1% AEP Climate Change (CC3) Peak Flood Depth
R.F-13	Region F - 5% AEP Peak Flood Velocity
R.F-14	Region F - 2% AEP Peak Flood Velocity
R.F-15	Region F - 1% AEP Peak Flood Velocity
R.F-16	Region F - 0.2% AEP Peak Flood Velocity
R.F-17	Region F - PMF Peak Flood Velocity
R.F-18	Region F - 1% AEP Climate Change (CC3) Peak Flood Velocity
R.F-19	Region F - 1% AEP Classified Hazard
R.F-20	Region F - 0.2% AEP Classified Hazard
R.F-21	Region F - 1% AEP Climate Change (CC3) Classified Hazard
R.F-22	Region F - 1% AEP Flood Function
R.F-23	Region F - 0.2% AEP Flood Function

Map Reference	Map Title
R.F-24	Region F - Flood Islands
R.F-25	Region F - Flood Planning Levels
R.G-1	Region G - 5% AEP Peak Flood Level
R.G-2	Region G - 2% AEP Peak Flood Level
R.G-3	Region G - 1% AEP Peak Flood Level
R.G-4	Region G - 0.2% AEP Peak Flood Level
R.G-5	Region G - PMF Peak Flood Level
R.G-6	Region G - 1% AEP Climate Change (CC3) Peak Flood Level
R.G-7	Region G - 5% AEP Peak Flood Depth
R.G-8	Region G - 2% AEP Peak Flood Depth
R.G-9	Region G - 1% AEP Peak Flood Depth
R.G-10	Region G - 0.2% AEP Peak Flood Depth
R.G-11	Region G - PMF Peak Flood Depth
R.G-12	Region G - 1% AEP Climate Change (CC3) Peak Flood Depth
R.G-13	Region G - 5% AEP Peak Flood Velocity
R.G-14	Region G - 2% AEP Peak Flood Velocity
R.G-15	Region G - 1% AEP Peak Flood Velocity
R.G-16	Region G - 0.2% AEP Peak Flood Velocity
R.G-17	Region G - PMF Peak Flood Velocity
R.G-18	Region G - 1% AEP Climate Change (CC3) Peak Flood Velocity
R.G-19	Region G - 1% AEP Classified Hazard
R.G-20	Region G - 0.2% AEP Classified Hazard

Map Reference	Map Title
R.G-21	Region G - 1% AEP Climate Change (CC3) Classified Hazard
R.G-22	Region G - 1% AEP Flood Function
R.G-23	Region G - 0.2% AEP Flood Function
R.G-24	Region G - Flood Islands
R.G-25	Region G - Flood Planning Levels
R.H-1	Region H - 5% AEP Selected Critical Events
R.H-2	Region H - 2% AEP Selected Critical Events
R.H-3	Region H - 1% AEP Selected Critical Events
R.H-4	Region H - 0.2% AEP Selected Critical Events
R.H-5	Region H - PMF Selected Critical Events
R.H-6	Region H - 1% AEP Climate Change (CC3) Selected Critical Events