

Ref: 147007 Rangitoopuni Stream Width

26 March 2025

Dear Council,

RE: Width of watercourse through Lot 2 DP 590677, Riverhead

I, [REDACTED] – Licensed Cadastral Surveyor, have reviewed measurement data taken by a survey team operating under my direction, to determine the width of a permanent watercourse which flows through the above-mentioned site. The length of the watercourse is approximately one kilometre long through the site. See Figure 1 site plan below.

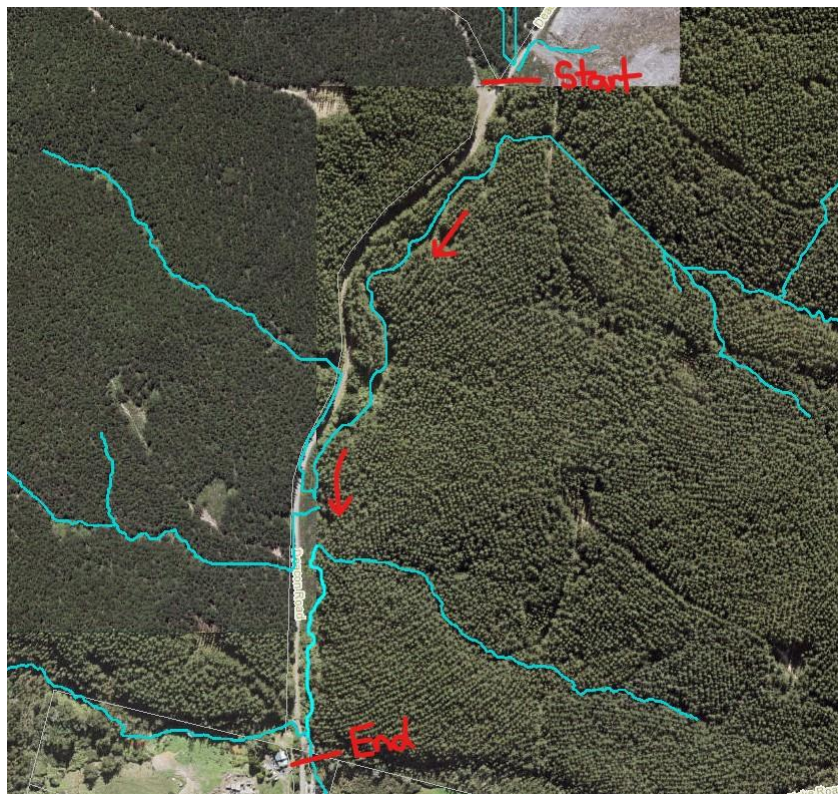


Figure 1 – site plan from GeoMaps.

The subject site is currently forestry land which is in a state of regrowth. The banks of the watercourse are covered by dense wild grasses and other small trees. Due to the density of the vegetation, it was not feasible to undertake a conventional topographical survey.

Instead, the surveyors waded along the course of the stream and used a handheld Leica laser distance device to measure the width at approximately 15-20m intervals. Their results are recorded in Table 1 below.

POINT ID	WIDTH	EST EASTING	EST. NORTHING
2000	2.6	383141.54	814139.26
2001	4.2	383139.09	814155.41
2002	3	383144.76	814187.77
2003	2.3	383144.02	814202.14
2004	3.4	383140.83	814227.53
2005	3.2	383140.76	814251.04
2006	3.2	383140.23	814272.60
2007	3.1	383141.24	814295.43
2008	3.1	383156.16	814320.77
2009	3.9	383142.54	814356.49
2010	3	383144.56	814378.85
2011	1	383148.82	814455.58
2012	1.8	383151.48	814462.79
2013	1.8	383154.68	814474.96
2014	1.8	383152.91	814486.43
2015	1.2	383147.34	814498.05
2016	1.4	383151.49	814506.54
2017	2.1	383159.42	814521.22
2018	1.1	383170.97	814535.33
2019	1.9	383186.32	814546.97
2020	1.4	383194.67	814547.61
2021	1.4	383200.99	814557.78
2022	2.1	383209.66	814567.33
2023	1.9	383211.44	814571.66
2024	2.3	383219.85	814578.83
2025	1.7	383224.86	814585.14
2026	1.7	383222.85	814597.17
2027	1.9	383218.59	814607.76
2028	2.4	383221.88	814618.09
2029	2.4	383229.61	814621.55
2030	1.9	383239.03	814630.22
2031	1.9	383241.29	814641.98
2032	1.7	383241.20	814653.75
2033	1.7	383240.81	814663.63
2034	1.7	383239.36	814669.97
2035	2.4	383234.57	814681.67
2036	1.9	383235.76	814693.58
2037	3.2	383228.81	814703.03
2038	3.2	383220.27	814709.75
2039	3.2	383223.25	814719.19
2040	1.9	383218.10	814727.19
2041	4	383212.47	814741.31
2042	1.7	383213.16	814744.98
2043	1.7	383224.10	814751.40
2044	1.7	383232.24	814752.56
2045	1.9	383241.42	814752.69
2046	2.4	383243.32	814752.55
2047	1.7	383257.62	814759.77
2048	6.4	383259.70	814784.72
2049	5.8	383281.03	814783.92
2050	5.8	383290.64	814807.01
2051	1.7	383295.30	814817.08
2052	5.8	383305.32	814831.28
2053	2.7	383310.50	814843.51
2054	2.7	383316.22	814846.05
2055	2.7	383316.86	814861.19
2056	2.7	383323.23	814871.80
2057	2.7	383337.77	814871.19
2058	3.1	383343.94	814887.53
2059	2.5	383360.97	814878.02
2060	1.4	383368.78	814886.13
2061	1.4	383372.68	814893.48
2062	1.4	383373.44	814900.90
2063	2.5	383377.11	814912.00
2064	1.4	383380.33	814919.65
2065	5.8	383404.24	815007.60
Average	2.5		

Table 1 – summary of survey measurement data



The average width of the watercourse over its approximately one-kilometre length is 2.5m.

The watercourse is a permanent stream. There are areas where the water is shallow and flowing slowly, but also areas where the water is pooled and deeper. When one parts the vegetation, the banks of the watercourse are readily identifiable with a clear edge. I consider that this meets the definition of 'bed' as described in Section 2 of the Resource Management Act 1991.

As can be seen in the data in Table 1, much of the widths are less than 3.0m wide. However, there are localised areas where the banks are wider than 3.0m. These areas are where obstructions have caused the stream to become turbulent, and form localised plunge pools.

Refer to Figures 2, 3, 4 & 5 below which are photographs to the typical watercourse along its length.

Refer to Figure 6 below which is a photograph of a localised plunge pool from a culvert outfall.



Figure 2 – typical stream cross section photograph.



Figure 3 – typical stream cross section photograph.



Figure 4 – typical stream cross section photograph.



Figure 5 – typical stream cross section photograph.



Figure 6 – example of a localised plunge pool caused by a culvert outfall.

To conclude, the width of the watercourse on the subject site is 2.5m wide on average.

If you have any further questions, please do not hesitate to contact the undersigned.

Kind Regards,

Report prepared on behalf of:
Maven Associates Limited

[Redacted signature block]

[Redacted contact information block]