

**IAF RFP APPLICATION (DECEMBER 2021)– STORMWATER ENABLING WORKS**

Catchment Area	Potential Development Areas	Proposed Upgrade Works to Enable Development (Subject to Detailed Feasibility assessment)	Updated Estimated Cost reflecting Tonkin and Taylor's review comments
1) Western Area	<b>Pukehangi Plan Change 2</b> <ul style="list-style-type: none"> <li><b>West 04a</b> <ul style="list-style-type: none"> <li>Freedom Village (153 Pukehangi Road)</li> <li>Sunnydowns subdivision</li> </ul> </li> <li><b>West 04b</b> <ul style="list-style-type: none"> <li>125 Pukehangi Rd (Sumner)</li> <li>363, 387 &amp; unnumbered parcel, Pukehangi Rd (Hunt Estate)</li> <li>30 Matipo Rd (Te Arawa Group Holdings)</li> </ul> </li> <li><b>West 03</b> <ul style="list-style-type: none"> <li>17 Diamond St.</li> <li>48 Collie Dr</li> <li>130 Homedale St.</li> </ul> </li> </ul>	<p>PC2 area lies within the hydrologic boundaries of stormwater sub-catchments 13, 14 &amp; 15. These form part of the greater Utuhina catchment. The stormwater master plan (T&amp;T, April 2021) assumes on-site detention at each greenfield development within the catchment. In addition to on-site detention, 4 detention dams will be required to mitigate flooding problems, address climate change and enable infill development within the urbanised areas of the catchments. The Linton Park East dam is already under construction through the DIA Subsidy funding. Improvement of the existing Pukehangi Road Stormwater system is required to enable the West 04A area to develop as soon as possible. The proposed works are as follows:</p> <ul style="list-style-type: none"> <li>Wright Park dam (80,000m<sup>3</sup>) and wetland</li> <li>Mangakakahi dam (130,000 m<sup>3</sup>) and wetland</li> <li>Linton West dam (58,000 m<sup>3</sup>) and wetland</li> <li>Pukehangi Road Stormwater Improvement</li> </ul> <p>Figure 1 shows the location of the proposed detention dams.</p> <p><b>SUB-TOTAL</b></p>	<p>\$11.33M \$18.13M \$7.04M \$3.0M</p> <p><b>\$39.50M</b></p>
	<ul style="list-style-type: none"> <li><b>West 06</b> <ul style="list-style-type: none"> <li>Frank St.</li> <li>Part of Waikite Rugby Club</li> </ul> </li> </ul>	<p>Development area in sub-catchment 18 of the stormwater system that ends discharging to Waiohoro Stream. To enable development, the following are proposed :</p> <ul style="list-style-type: none"> <li>Provide 8,000m<sup>3</sup> detention pond at the RLC reserve land (at i89 Kawaha Point Road) including wetland for water quality</li> <li>Series of upgrades of the existing stormwater network within the area</li> </ul> <p>Figure 2 shows location and extent of proposed works.</p> <p><b>SUB-TOTAL</b></p>	<p>\$2.54 M \$0.78 M</p> <p><b>\$3.32M</b></p>
	<ul style="list-style-type: none"> <li><b>West 07</b> <ul style="list-style-type: none"> <li>Springfield Golf Course</li> </ul> </li> </ul>	<p>The golf course is part of sub-catchment 13 that eventually discharge to the Utuhina Stream. Works proposed to allow development of this area:</p> <ul style="list-style-type: none"> <li>2- detention basins, 38,000 m<sup>3</sup> capacity each and corresponding wetland for water quality</li> <li>2- 1500mmØ detention basin outlet</li> </ul> <p>Figure 3 shows the location of the proposed works.</p> <p><b>SUB-TOTAL</b></p>	<p>\$13.15M \$2.11M</p> <p><b>\$15.26M</b></p>
	<ul style="list-style-type: none"> <li><b>West 08</b> <ul style="list-style-type: none"> <li>East of Bennetts Rd to Utuhina Stream</li> </ul> </li> </ul>	<p>Development area is already built up with a number of medium sized vacant lands. Area is within stormwater sub-catchment 17 discharging directly to Lake Rotorua. This is a low lying area and at the bottom of the stormwater catchment, highly influenced by lake level. To enable development, the following works are proposed:</p> <ul style="list-style-type: none"> <li>Series of upgrades of the existing stormwater network within the area</li> <li>New stormwater pipe and culvert system to augment the existing stormwater network</li> </ul> <p>Refer to Fig 4 for location and scope of works.</p> <p><b>SUB-TOTAL</b></p>	<p>\$2.08M \$1.39M</p> <p><b>\$3.47M</b></p>

2. Central Area	<ul style="list-style-type: none"> <li><b>Cent 03 &amp; 04</b> <ul style="list-style-type: none"> <li>Whakatau Street (Cent 03)</li> <li>Glenholme area (West side of Cent 04)</li> </ul> </li> </ul>	<p>This built up area includes the Whakatau St. area and part of Central 04 that belong to sub-catchment 12. Flooding is the main issue in this catchment because the area is low lying and the existing stormwater system is insufficient and also lacks stormwater overland flow path. To enable intensification of development, the following works are proposed:</p> <ul style="list-style-type: none"> <li>Series of upgrades of the existing stormwater network within the area</li> <li>New stormwater pump system</li> </ul> <p>Refer to figures 5a &amp; 5b for locations of the required works.</p>	<p>\$7.70M</p> <p>\$3.08M</p>
	<ul style="list-style-type: none"> <li><b>Cent 04</b> <ul style="list-style-type: none"> <li>East of Lytton St Fenton CM4 area within sub-catchments 8 &amp; 9.</li> <li>Victoria St. and surrounds</li> </ul> </li> </ul>	<p>Part of Central 04 that forms part of stormwater sub-catchments 8, &amp; 9. Flooding is an issue in this area during big rain events as most of the area are low lying and the existing stormwater drains are undersized. The area also have insufficient overland flow paths. To solve flooding problems and enable intensification, a series of upgrades on the existing stormwater network is proposed.</p> <p>Figures 6a, 6b &amp; 6c shows the location of the proposed upgrade works.</p>	<p>\$10.95M</p>
	<ul style="list-style-type: none"> <li><b>Cent 05 &amp; 06</b> <ul style="list-style-type: none"> <li>Fenton St. RS2</li> <li>Fenton St CM4</li> </ul> </li> </ul>	<p>Central 05 and 06 forms part of stormwater sub-catchment 7. This area around Fenton St. could intensify with further developments. Flooding is an issue during high rain events in White St., Marguerita St, Te Ngae Road, Cloutston St. and other adjacent streets as most of the area are low lying and lacking overland flow paths. The existing drains are significantly undersized.</p> <p>To solve flooding problems and enable intensification, the following works are proposed:</p> <p>Figures 7a, 7b &amp; 7c show the locations and extent of the proposed works.</p> <ul style="list-style-type: none"> <li>Series of upgrades to the existing stormwater network within the area.</li> <li>New stormwater pipe network to augment the existing network</li> </ul>	<p>\$15.61M</p> <p>\$2.38M</p> <p>\$17.99M</p>
	<ul style="list-style-type: none"> <li><b>Cent 08</b> <ul style="list-style-type: none"> <li>Recycling Centre</li> </ul> </li> </ul>	<p>Cent 08 is part of sub-catchment 9 and will form part of the solution for the flooding in sub-catchments 13 and 8. Works proposed to enable this development includes:</p> <ul style="list-style-type: none"> <li>Upgrade of SH 30 Culvert</li> <li>Clearing/forming and slope stabilisation of existing open channel at the back of the recycling centre and upgrade of existing stormwater screen/sediment trap structure;</li> </ul> <p>Figure 8 shows location of works.</p>	<p>\$0.68M</p> <p>\$1.40M</p>
		<p><b>SUB-TOTAL</b></p>	<p><b>\$2.08M</b></p>

	<ul style="list-style-type: none"><li>• <b><u>Cent 09</u></b><ul style="list-style-type: none"><li>○ Rotorua Race course</li></ul></li></ul>	<p>Development area is within sub-catchment 8 of the stormwater network. To enable development, work proposed will include the following:</p> <ul style="list-style-type: none"><li>• New 1200mmØ culvert across Te Ngae road</li><li>• Upgrade existing 2-900mmØ culverts accross Amohau extension to 2-1200mmØ culverts</li><li>• Upgrade existing open drain between Te Ngae road and Amohau Extension</li><li>• New detention pond within the development area</li></ul> <p>Figure 9 shows location/extent of the works</p>	<p>\$0.56M</p> <p>\$0.84M</p> <p>\$0.27m</p> <p>\$0.81M</p>
		<b>SUB-TOTAL</b>	<b>\$2.48M</b>
		<b>Total estimated Cost</b>	<b>\$105.83M</b>