# **Appendix J** Cost estimates



26 March 2025

Job No: 1093438.0000

Greater Wellington Regional Council C/- Waipoua Project Group PO Box 11646 Manners Street Wellington 6142

Attention: Francie Morrow

Dear Francie

## Waipoua River - Flood Management Optioneering Scenario and Concept Costing, March 2025

### 1 Scenarios for concept costing

In January a cost estimate (Waipoua Stopbank Optioneering Estimate dated 17 January 2025) was developed for the Waipoua Project Group (WPG) based on the 4 (four) concepts for flood mitigation of the Waipoua river in Masterton. These concepts are based on mitigations that have been selected by the WPG. The WPG has now requested that for each of these concepts we consider 4 (four) cost estimate scenarios. These requested scenarios are:

- Estimate baseline 'standard' percentage professional fees and disposal of excavated material within 100 km
- 2 Scenario 1 Reduced professional fees and disposal within 2 km
- 3 Scenario 2 Reduced professional fees and disposal within 40 km
- Scenario 3 Reduced professional fees and load disposal truck only (in addition, an indication of the potential sale value of the excavated material was provided)

The standard fees that have been applied to the baseline estimate during the construction phase are:

- Construction monitoring: 5%
- Greater Wellington Regional Council (GWRC)/Masterton District Council (MDC) commissioning costs: 1%
- Environmental control and monitoring: 3%

The reduced fees that have been applied to Scenarios 1 - 3 during the construction phase are:

- Construction monitoring: 3%
- GWRC/MDC commissioning costs: 0.5%
- Environmental control and monitoring: 3%

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The standard fee allowances are based on typical percentages for civil engineering projects. The percentages have been reduced for the scenario analyses, to reflect the scale of the works and their relative complexity, where it may be reasonable to assume a lower % allowance for these items.

The only other differences between the baseline and scenario estimates are the costs for disposal of the excavated material which vary based upon transportation distance. It has been assumed for all of the estimates that there is no charge for disposal of the material at the receiving site.

Scenarios 1 and 3 are based upon information provided by WPG team member Andrew Donald:

- Scenario 1: He would allow disposal of excavated riverbed/berm material free of charge at his nearby property 'Mahunga Farm' (located within 2 km of the construction area), and
- Scenario 3: He has spoken with a local contractor who would be prepared to pay in the order of \$1.50-\$2.00/m³ for gravel material.

Scenario 3 is an outlier, as it relies upon a third party to accept the material and pay a nominal sum per m³. This scenario is based upon the main contractor performing all excavation, transportation, and stockpiling of the material. The cost for disposal included within the estimate includes for loading the third party's truck only. An indicative total payment from the third party to GWRC has then been calculated based upon the total disposal volume¹ as a saving assuming a rate of \$1.50/m³. This approach has been adopted to inform indicative project budgets. If the third-party contractor did all of the excavation as well at no cost the savings would be greater (this has not been allowed for). The main contractor may be reluctant to allow an uncontracted third party to access the site and extract/select material. This has implications for insurances and the management of the work.

Risk and contingency allowances have been included in the estimates to include for standard risks to occur outside the control of the contractor/client. However, there does remain a residual risk of significant events occurring outside the control of these parties such as flooding, cyclones, etc that are not included within these risk allocations, and which should be considered as the methodology and programme are better understood.

The cost estimates we have calculated based upon the preceding approach are provided in Table 1.1 below. The detailed calculation of the cost estimates is provided in Appendix A.

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26 March 2025

Waipoua River - Flood Management Optioneering – Scenario and Concept Costing, March 2025 Greater Wellington Regional Council Job No: 1093438.0000

<sup>&</sup>lt;sup>1</sup> Assuming 100% usable gravel, the actual useable volume of gravel would realistically be 75% of this total volume.

Table 1.1: Summary of estimate baseline and scenarios

Scope	Concept 1	Concept 2	Concept 3	Concept 4
Estimate Baseline - Standard fees and disposal within 100 km				
P50	27,235,000	44,965,000	26,655,000	28,385,000
P95	38,135,000	62,965,000	37,355,000	39,785,000
Scenario 1 - Reduced fees and disposal within 2 km of site				
P50	23,035,000	30,895,000	21,055,000	23,305,000
P95	32,285,000	43,295,000	29,505,000	32,655,000
Scenario 2 - Reduced fees and disposal within 40 km of site				
P50	24,845,000	36,805,000	23,475,000	25,385,000
P95	34,795,000	51,555,000	32,875,000	35,585,000
Scenario 3 - Reduced fees and allowance for loading truck only				
P50	22,145,000	27,555,000	19,955,000	22,275,000
P95	31,045,000	38,605,000	27,955,000	31,225,000
Scenario 3 - Opportunity for sale of excavated material (saving on P50 and P95 estimates)	(38,471)	(131,601)	(50,259)	(44,825)

Note: We have provided P50 and P95 estimates. These estimates are the values with statistical probability of exceedance of 50% and 5% respectively, to provide budgeting guidance.

#### 2 **Applicability**

This report has been prepared for the exclusive use of our client Greater Wellington Regional Council, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

We understand and agree that this report will be used by Greater Welington Regional Council and its stakeholders in its decision-making processes in connection with flood mitigation for the Waipoua River.

The construction rates utilised for this high-level cost estimate are based on assumed design concepts, estimated quantities, and a combination of recently submitted tender rates for similar projects within the regional area along with the latest available rates from QV Cost Builder database (formerly Rawlinsons). These rates are based on historic information and data and do not include allowance for any cost escalation since the date of the data other than where/as specifically stated.

Consequently, a significant margin of uncertainty exists on the cost estimate, and the contingency we have allowed should be considered as part of the cost rather than a potential add on.

Given this approach, no assessment has been made to forecast future market conditions in this estimate. We recommend you seek up-to-date specialist economic advice on what budgetary allowances over and above the nominal escalation contingency allowance included for future escalation, including for any potential changes in construction and timing based on the above.

**Tonkin & Taylor Ltd Environmental and Engineering Consultants** 

Report prepared by: Authorised for Tonkin & Taylor Ltd by:

**Greg Fuller Hugh Cherrill** Senior Estimator **Project Director** 

26-Mar-25

Greater Wellington Regional Council

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# Appendix A Scenario and concept costing

### **Summary of Estimate Baseline and Scenarios**

Scope	Concept 1	Concept 2	Concept 3	Concept 4
Estimate Baseline - Standard fees and disposal within 100km				
P50	27,235,000	44,965,000	26,655,000	28,385,000
P95	38,135,000	62,965,000	37,355,000	39,785,000
Scenario 1 - Reduced fees and disposal within 2km of site				
P50	23,035,000	30,895,000	21,055,000	23,305,000
P95	32,285,000	43,295,000	29,505,000	32,655,000
Scenario 2 - Reduced fees and disposal within 40km of site				
P50	24,845,000	36,805,000	23,475,000	25,385,000
P95	34,795,000	51,555,000	32,875,000	35,585,000
Scenario 3 - Reduced fees and allowance for loading truck only				
P50	22,145,000	27,555,000	19,955,000	22,275,000
P95	31,045,000	38,605,000	27,955,000	31,225,000
Scenario 3 - Opportunity for sale of excavated material (saving on P50 &	, ,	, ,	, ,	, ,
P95 estimates)	(38,471)	(131,601)	(50,259)	(44,825)

PROJECT ESTIMATE						
Project Name:	Waipoua River Stopbank					
Current Phase:	Baseline					
Base Date:	27/02/2025					

		%	Concent 1	Consent 3	Concent 2	Consent 4
PHASE	DESCRIPTION	70	Concept 1 TOTAL	Concept 2 TOTAL	Concept 3 TOTAL	Concept 4 TOTAL
THASE			TOTAL	TOTAL	TOTAL	TOTAL
Design						i
	Preliminary Design (lump sum)		600,000.00	600,000.00	600,000.00	600,000.00
	Detailed Design (lump sum)		800,000.00	800,000.00	800,000.00	800,000.00
	Internal Design Team (GWRC/MDC) (lump sum)		200,000.00	200,000.00	200,000.00	200,000.00
	Design Total		1,600,000.00	1,600,000.00	1,600,000.00	1,600,000.00
	Design Total		1,600,000.00	1,000,000.00	1,000,000.00	1,600,000.00
<b>61</b> '						i
Consenting						
	Internal (GWRC) (% of Construction Works)	0%	excluded	excluded	excluded	excluded
	External (Consultants / Contractors / Iwi) (% of Construction Works)	2%	400,000.00	700,000.00	400,000.00	450,000.00
	Lump Sum for investigations		100,000.00	100,000.00	100,000.00	100,000.00
	Consenting Total		500,000.00	800,000.00	500,000.00	550,000.00
						i
Site Investigation						i
	GIR / GFR / GBR (% of Construction Works)	0.5%	100,000.00	200,000.00	100,000.00	150,000.00
	Boreholes (lump sum)		200,000.00	200,000.00	200,000.00	200,000.00
	Service Location and Potholing (% of Construction Works)	1%	100,000.00	200,000.00	100,000.00	150,000.00
	Site Investigation Total		400,000.00	600,000.00	400,000.00	500,000,00
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Property & Utilities						i
rioperty a otimics	Private, Council Owned, AMA, NZTA, AT, Forestry, Kiwirail, Treaty land, Marine Work		500,000.00	500,000.00	500,000.00	500,000.00
I	Property & Utilities Works	l	Refer service crossings elsewhere			
	Property & Utilities Total		500,000.00	500,000.00	500,000.00	500,000.00
l		I				i
Project Specific Insurances		l				1
	Project Specific Insurances	I	included within the % allocations			
	Project Specific Insurances Total	<u> </u>	0.00	0.00	0.00	0.00
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İ		1				i
Construction		I				i
ĺ	Internal PM (GWRC/MDC) (% of Direct Works)	0%	separate inclusion by GWRC/MDC			
	Construction Monitoring (Consultants) (% of Direct Works)	5%	700,000.00	1,150,000.00	650,000.00	700,000.00
	GWRC/MDC Commissioning Costs (% of Direct Works)	1%	150.000.00	250,000.00	150,000.00	150,000.00
	Environmental control and monitoring (% Of Direct Works)	3%	400,000.00	700,000.00	400,000.00	450,000.00
	Tree felling and removal	370	350,000.00	350,000.00	450,000.00	350,000.00
	Temporary works incl. laydown areas and access tracks		100.000.00	100.000.00	100.000.00	100.000.00
	Traffic management and temporary diversions		75,000.00	75,000.00	75,000.00	75,000.00
	Stopbanks, new and upgrading the existing		4,360,000.00	11,140,000.00	4,930,000.00	4,700,000.00
	River erosion protection		4,880,000.00	5,320,000.00	3,870,000.00	5,120,000.00
	Swale and low stopbank / bund		510,000.00	500,000.00	510,000.00	480,000.00
	Floodwall		350,000.00	350,000.00	360,000.00	350,000.00
	Channel widening and berm lowering		2,710,000.00	5,430,000.00	2,710,000.00	2,710,000.00
	Service crossings		250,000.00	250,000.00	250,000.00	250,000.00
	Construction Sub-Total		14,835,000.00	25,615,000.00	14,455,000.00	15,435,000.00
	On-site overhead (construction sub-total excl consultants)	15.0%	2,050,000.00	3,550,000.00	2,000,000.00	2,150,000.00
	Off-site overhead and profit (construction sub-total + indirects)	12.5%	2,000,000.00	3,400,000.00	1,950,000.00	2,050,000.00
	Contractor Risk (construction sub-total + indirects)	5.0%	800,000.00	1,400,000.00	800,000.00	850,000.00
	Construction Total	3.0%	19,685,000.00	33,965,000.00	19,205,000.00	20,485,000.00
	Construction fotal		19,685,000.00	33,965,000.00	19,205,000.00	20,485,000.00
						i
Base Estimate		I				
I	Design Total	l	1,600,000.00	1,600,000.00	1,600,000.00	1,600,000.00
	Consenting Total	I	500,000.00	800,000.00	500,000.00	550,000.00
İ	Site Investigation Total	1	400,000.00	600,000.00	400,000.00	500,000.00
	Property & Utilities Total	l	500,000.00	500,000.00	500,000.00	500,000.00
Ī	Project Specific Insurances Total	1	0.00	0.00	0.00	0.00
İ	Construction Total	1	19,685,000.00	33,965,000.00	19,205,000.00	20,485,000.00
ĺ	Base Estimate Total	l	22,685,000.00	37,465,000.00	22,205,000.00	23,635,000.00
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		1				
Known/Unknown Risk		l				i
Olikilowii Kisk	20% Allowance	20%	4,550,000.00	7,500,000.00	4,450,000.00	4,750,000.00
ĺ	Z0% Allowance Known / Unknown Risk Allocation Total	2070	4,550,000.00	7,500,000.00	4,450,000.00	4,750,000.00
	MINIOTO FOR A MINIOTO CONTROL OF THE PROPERTY	1	4,550,000.00	7,500,000.00	4,450,000.00	4,750,000.00
		l				i
Expected Estimate		1				i
P50	Base Estimate	l	22,685,000.00	37,465,000.00	22,205,000.00	23,635,000.00
	Known / Unknown Risk - 20% Allowance	l	4,550,000.00	7,500,000.00	4,450,000.00	4,750,000.00
	Expected Estimate Total	<u> </u>	27,235,000.00	44,965,000.00	26,655,000.00	28,385,000.00
			_			
Funding Risk		I				i
(Additional Client Risk)	40% Allowance	40%	10,900,000.00	18,000,000.00	10,700,000.00	11,400,000.00
(arcional chem Mak)	Funding Risk Total	40,0	10,900,000.00	18,000,000.00	10,700,000.00	11,400,000.00
	·	1	10,500,000.00	10,000,000.00	10,700,000.00	11,400,000.00
oral passes and a co		I				i
95th Percentile Estimate		1				
P95	Expected Estimate	l	27,235,000.00	44,965,000.00	26,655,000.00	28,385,000.00
1	Funding Risk	l	10,900,000.00	18,000,000.00	10,700,000.00	11,400,000.00
1	95th Percentile Estimate	l	38,135,000.00	62,965,000.00	37,355,000.00	39,785,000.00
		<u> </u>				<u> </u>

<u>Level</u>	<u>Item</u>	<u>Bill description</u>	Qty	<u>Unit</u>	<u>Rate</u>	<u>Amount</u>
1		Waipoua River - Baseline				62,210,237.86
2 3		Concept 1 Stonbanks now and ungrading the existing				13,042,818.54 4,358,909.38
4		Stopbanks, new and upgrading the existing  New bank TRB upstream				598,561.69
5		Excavation				63,138.66
5		Excavate into existing river bank and form stockpile  Backfill	4,155	/m3	15.2	63,138.66 <b>535,423.03</b>
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	4,778	/m3	67.66	323,267.28
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	10,177	/m3	14.8	150,649.53
4		New bank TLB upstream				742,056.62
5		Excavation Excavate into existing river bank and form stockpile	6,945	/m3	15.2	<b>105,535.01</b> 105,535.01
5		Backfill	0,545	/1113	13.2	636,521.61
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	5,680	/m3	67.66	384,294.30
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	10,094	/m3	14.8	149,420.89
4		Cameron Crescent Bund				197,431.16
	1	Dig into channel widening stockpile and construct new stop bank  Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty	5,284	/m3	14.8	78,218.74
		fee of \$10/m3	1,762	/m3	67.66	119,212.42
4		Disposal of surplus material from channel widening stockpile  Disposal of surplus excavated material from swale drain excavation, rate based on				2,820,859.91
		transportation distance of 100km with free of charge disposal	25,647	/m3	109.99	2,820,859.91
3		River erosion protection				4,875,440.19
4		Form bund				21,646.34
4		Push up and create bund with gravels  Rock lines	1,152	/m	18.79	21,646.34 <b>4,853,793.85</b>
4		Supply and place D50=700mm rock including allowance for geotextiles	17,280	/ton	280.89	4,853,793.85
3		Swale and low stopbank / bund	,	,		505,640.55
4		Excavation				180,663.17
4		Excavate swale drain and form stockpile for material to be used elsewhere  Backfill	11,889	/m3	15.2	180,663.17 <b>324,977.38</b>
	2	Dig into swale drain stockpile and form bund with excavated material  Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty	2,697	/m3	14.8	39,923.53
	_	fee of \$10/m3	899	/m3	67.66	60,824.05
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	6,002	/m3	14.8	88,847.25
	3	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site,	2.004	/ 2	67.66	425 202 55
3		with a royalty fee of \$10/m3 Floodwall	2,001	/m3	67.66	135,382.55 <b>349,723.65</b>
4		Construct flexural wall				342,691.60
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement		,		
4		Construct nib wall	368	/m	931.23	342,691.60 <b>7,032.05</b>
4		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	20	/m	351.6	7,032.05
3		Channel widening and berm lowering				2,703,104.77
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river				
		pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	59,901	/m3	45.13	2,703,104.77
3		Service crossings	,	,		250,000.00
		Allow Provisional Sum for misc. works to divert, lower or protect existing mains				
2		infrastructure	1	/sum	250,000.00	250,000.00
2 3		Concept 2 Stopbanks, new and upgrading the existing				22,968,914.40 11,131,133.07
4		New bank TRB upstream				477,208.73
5		Excavation				63,138.66
-		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		Backfill  Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty				414,070.07
		fee of \$10/m3	3,695	/m3	67.66	249,994.27
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	6,929	/m3	14.8	102,569.58
4 5		New bank TLB upstream Excavation				832,111.31 105,535.01
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		Backfill				726,576.30
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	6,489	/m3	67.66	439,029.18
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	12,480	/m3	14.8	184,740.70
4		Cameron Crescent Bund		, -		172,133.79
	4	Dig into channel widening stockpile and construct new stop bank  Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty	4,608	/m3	14.8	68,211.95
	4	fee of \$10/m3	1,536	/m3	67.66	103,921.84
4		Disposal of surplus material from channel widening stockpile	•	•		9,649,679.24
		Disposal of surplus excavated material from swale drain excavation, rate based on	07.70.	/ 2	400.00	0.640.670.03
3		transportation distance of 100km with free of charge disposal  River erosion protection	87,734	/m3	109.99	9,649,679.24 <b>5,315,584.10</b>
•						-,,

4		Form bund	1 256	/m	19.70	23,600.53
4		Push up and create bund with gravels  Rock lines	1,256	/m	18.79	23,600.53 <b>5,291,983.57</b>
3		Supply and place D50=700mm rock including allowance for geotextiles  Swale and low stopbank / bund	18,840	/ton	280.89	5,291,983.57 <b>497,220.78</b>
4		Excavation  Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	<b>180,663.17</b> 180,663.17
4	-	Backfilling Dig into swale drain stockpile and form bund with excavated material	2,598	/m3	14.8	<b>316,557.61</b> 38,458.04
	5	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	866	/m3	67.66	58,591.35
	6	Dig into channel widening stockpile and form Mahunga Drive bund with excavated material  Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty	5,875	/m3	14.8	86,967.28
3	O	fee of \$10/m3  Floodwall	1,959	/m3	67.66	132,540.94 <b>349,723.65</b>
4		Construct flexural wall  Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement				342,691.60
4		Construct nib wall	368	/m	931.23	342,691.60 <b>7,032.05</b>
3		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement  Channel widening and berm lowering  Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile	20	/m	351.6	7,032.05 <b>5,425,252.80</b>
3	2	(not exceeding 5 minute travel distance) for material to be used elsewhere  Service crossings  Allow Provisional Sum for misc. works to divert, lower or protect existing mains	120,224	/m3	45.13	5,425,252.80 <b>250,000.00</b>
2	2	infrastructure  Concept 3	1	/sum	250,000.00	250,000.00 <b>12,607,874.02</b>
3		Stopbanks, new and upgrading the existing New bank TRB upstream				4,925,432.22 498,740.25
5		Excavation Excavate into existing river bank and form stockpile	4,155	/m3	15.2	<b>63,138.66</b> 63,138.66
5		Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty				435,601.59
		fee of \$10/m3	3,887	/m3	67.66	262,984.50
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
4 5		Dig into channel widening stockpile and construct new stop bank  New bank TLB upstream  Excavation	7,506	/m3	14.8	111,110.87 560,927.92 105,535.01
3		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		Backfilling	,	•		455,392.91
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty				
		fee of \$10/m3	4,064	/m3	67.66	274,959.87
4		Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Cameron Crescent Bund	6,945 5,244	/m3 /m3	14.8 14.8	102,806.42 77,626.62 <b>180,509.16</b>
7	3	Dig into channel widening stockpile and construct new stop bank  Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty	4,831	/m3	14.8	71,513.01
4		fee of \$10/m3 Disposal of surplus material from channel widening stockpile	1,611	/m3	67.66	108,996.15 <b>3,685,254.89</b>
		Disposal of surplus excavated material from swale drain excavation, rate based on				
3		transportation distance of 100km with free of charge disposal River erosion protection	33,506	/m3	109.99	3,685,254.89 <b>3,868,187.79</b>
4		Form bund Push up and create bund with gravels	914	/m	18.79	<b>17,174.27</b> 17,174.27
3		Rock lines Supply and place D50=700mm rock including allowance for geotextiles Swale and low stopbank / bund	13,710	/ton	280.89	<b>3,851,013.52</b> 3,851,013.52 <b>507,448.42</b>
4		Excavation  Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	<b>180,663.17</b> 180,663.17
4	Λ	Backfilling Dig into swale drain stockpile and form bund with excavated material Construct approach with imported day fill coursed within 15km of site with a south	2,598	/m3	14.8	<b>326,785.25</b> 38,458.04
	4	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	866	/m3	67.66	58,591.35
	5	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site,	6,150	/m3	14.8	91,038.09
3	•	with a royalty fee of \$10/m3 Floodwall	2,050	/m3	67.66	138,697.77 <b>356,679.15</b>
4		Construct flexural wall				353,866.33
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	380	/m	931.23	353,866.33
4		Construct oncrete nib wall in 25MPa concrete and an allowance for reinforcement	8	/m	351.6	<b>2,812.82</b> 2,812.82 <b>2,700,126.44</b>
3		Channel widening and berm lowering  Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile				2,,00,120.44
3	3	(not exceeding 5 minute travel distance) for material to be used elsewhere  Service crossings  Allow Provisional Sum for misc. works to divert, lower or protect existing mains	59,835	/m3	45.13	2,700,126.44 <b>250,000.00</b>
2	J	infrastructure  Concept 4	1	/sum	250,000.00	250,000.00 <b>13,590,630.90</b>

3 4		Stopbanks, new and upgrading the existing  New bank TRB upstream				4,692,692.04 519,652.24
5		Excavation				63,138.66
3		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		Backfilling	4,133	/1113	15.2	456,513.58
,		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty				430,313.30
		fee of \$10/m3	4,074	/m3	67.66	275,636.44
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	8,064	/m3	14.8	119,370.92
4		New bank TLB upstream	-,	,		711,029.06
5		Excavation				105,535.01
-		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		Backfilling	-,-	,		605,494.05
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty				
		fee of \$10/m3	5,403	/m3	67.66	365,553.19
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	9,264	/m3	14.8	137,134.44
4		Cameron Crescent Bund				175,242.04
		Dig into channel widening stockpile and construct new stop bank	4,690	/m3	14.8	69,425.79
	4	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty				
		fee of \$10/m3	1,564	/m3	67.66	105,816.25
4		Disposal of surplus material from channel widening stockpile				3,286,768.70
		Disposal of surplus excavated material from swale drain excavation, rate based on				
		transportation distance of 100km with free of charge disposal	29,883	/m3	109.99	3,286,768.70
3		River erosion protection				5,116,672.92
4		Form bund				22,717.39
		Push up and create bund with gravels	1,209	/m	18.79	22,717.39
4		Rock lines				5,093,955.53
		Supply and place D50=700mm rock including allowance for geotextiles	18,135	/ton	280.89	5,093,955.53
3		Swale and low stopbank / bund				479,596.76
4		Excavation				180,663.17
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		Backfilling				298,933.59
		Dig into swale drain stockpile and form bund with excavated material	2,470	/m3	14.8	36,563.26
	5	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty				
		fee of \$10/m3	824	/m3	67.66	55,749.74
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material				
			5,530	/m3	14.8	81,860.26
	6	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site,				
		with a royalty fee of \$10/m3	1,844	/m3	67.66	124,760.33
3		Floodwall				348,564.41
4		Construct flexural wall				340,829.15
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement		,		
			366	/m	931.23	340,829.15
4		Construct nib wall				7,735.26
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	22	/m	351.6	7,735.26
3		Channel widening and berm lowering				2,703,104.77
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river				
		pushing material to bank, and excavator on the bank excavating and forming a stockpile		, _		
_		(not exceeding 5 minute travel distance) for material to be used elsewhere	59,901	/m3	45.13	2,703,104.77
3		Service crossings				250,000.00
		Allow Provisional Sum for misc. works to divert, lower or protect existing mains		1	250 222 22	250 000 00
		infrastructure	1	/sum	250,000.00	250,000.00

PROJECT ESTIMATE							
Project Name:	Waipoua River Stopbank						
Current Phase:	Scenario 1 - adjusted construction stage consultancy percentages and reduced disposal transport						
	distance (2km)						
Base Date:	27/02/2025						

Design			%	Concept 1	Concept 2	Concept 3	Concept 4
Professionary Company Lawren with part of company Notice   1	PHASE	DESCRIPTION	/*				
Professionary Company Lawren with part of company Notice   1							
Control Control (Control (Co	Design						
Second State   Part   Control (Jump unit)   2		Preliminary Design (lump sum)			600,000.00	600,000.00	600,000.0
Contenting   Con		Detailed Design (lump sum)		800,000.00	800,000.00	800,000.00	800,000.0
Contenting   Con						200,000.00	200,000.0
Description							1,600,000.0
Internal Confection (Control Control				2,213,23333	2,223,23333	_,	
Internal Confection (Control Control	Consenting						
External Contraction   19   of Contraction Vision   29   350,0000   300,000		Internal (GWRC/MDC) (% of Construction Works)	0%	excluded	evoluded	evcluded	evoluded
Livery   Limits from inversigation   Control (Control (							350.000.0
Commentation			270				100,000.0
Sign barrier   Sign							450,000.
Contraction   Contraction   Contraction Workship   Contraction Wor		Consenting Total		450,000.00	600,000.00	400,000.00	450,000.
Contraction   Contraction   Contraction Workship   Contraction Wor							
Bordoles (Juny June)   1	Site investigation						
Service Locations and Prohibing (in of Construction Works)   150   1,00,000.00   1,0			0.5%				100,000
Tripper   A. United   Pringer, Council Comment, M. N.T.A. R. Frometry, R. Warrell, Tripper   M. United   Pringer, Council Comment, M. N.T.A. R. Frometry, R. Warrell, Tripper   M. United   Pringer, M. United Works   Pringer, M. United W							200,000
Property & Utilities Works Property & Utilities			1%				100,000
Private, Causard Counted, AMA, FEAT, AF, Frontary, Karral, Treaty Junes, Marine Work reports & Causard Counted, AMA, FEAT, AF, Frontary, Karral, Treaty Junes, Marine Work reports & Causard Counted C		Site Investigation Total		400,000.00	500,000.00	400,000.00	400,000
Private, Causard Counted, AMA, FEAT, AF, Frontary, Karral, Treaty Junes, Marine Work reports & Causard Counted, AMA, FEAT, AF, Frontary, Karral, Treaty Junes, Marine Work reports & Causard Counted C							
Private, Causard Counted, AMA, FEAT, AF, Frontary, Karral, Treaty Junes, Marine Work reports & Causard Counted, AMA, FEAT, AF, Frontary, Karral, Treaty Junes, Marine Work reports & Causard Counted C	Property & Utilities						
Property & Utilities Works   Fefer services recomple stewhere   September		Private Council Owned AMA NZTA AT Forestry Kiwirail Treaty land Marine Work		500,000,00	500,000,00	500,000,00	500,000
Propertie Specific Insurances   Propertie Specific Insurance				Refer service crossings elsewhere			Refer service crossings elecubera
Prigest Specific Insurances   Project Specific Insurances   Proj							500,000
Project Specific Insurances   Included within the % silucations		roperty a control total	1	500,000.00	500,000.00	500,000.00	500,000
Project Specific Insurances   Included within the % silucations	rainet Canailie Incor		1				
Project Specific Insurances Total	roject Specific Insurances		1	Controlled Control of the Control	to all old all conditions of the control of the con	to about a district of the con-	to all of a distance of the control
Construction  Internal PM (GWIC/MOC) (is of Direct Works) Construction Monitoring (Consultants) (is of Direct Works) GWIC/MOC Commissioning Consultants) Temporary works list. Illydom areas and access tracks. Temporary works list. Illydom areas and access tracks Temporary works list. Illydom areas and access tracks. Temporary works list. Illydom areas and access tracks. Temporary access to the access to the access tracks. Temporary access to the access to thi							
Internal PM (GWRC/MOC) (or Of Direct Works) Construction More for Direct Works) (GWRC/MOC Construction More for Di		Project Specific Insurances Total		0.00	0.00	0.00	0
Internal PM (GWRC/MOC) (or Of Direct Works) Construction More for Direct Works) (GWRC/MOC Construction More for Di							
Internal PM (GWRC/MOC) (or Of Direct Works) Construction More for Direct Works) (GWRC/MOC Construction More for Di							
Construction Monitoring (Construction Monitoring (Construction Monitoring (Construction Monitoring (St. of Direct Works) 3% 35,000.00 10,000.00 0 30,0	Construction						
Construction Monitoring (Construction Monitoring (Construction Monitoring (Construction Monitoring (St. of Direct Works) 3% 35,000.00 10,000.00 0 30,0		Internal PM (GWRC/MDC) (% of Direct Works)	0%	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC
GWMC/ADC Commissioning Casts (in direct works)   0.5%   10,000,000   10,000,000   30,000,000		Construction Monitoring (Consultants) (% of Direct Works)	3%	350,000,00	500.000.00	300.000.00	350,000
Environmental control and monitoring (% Of Direct Works) Tree fellings and removal Tree fellings and removal Tree fellings and removal Tree fellings and removal Tree fellings and removal Tree fellings and removal Tree fellings and removal Tree fellings and removal Tree fellings and removal Tree fellings and removal Tree fellings and removal Tree fellings and fermion of the desiring and fermion of the desiring and fermion of the desiring and fermion of the desiring and fermion of the desiring and fermion of the desiring and fermion of the desiring and fermion of the desiring and fermion of the desiring and fermion of the desiring and fermion of the desiring and fermion of the desiring and fermi							100,000
Tree felling and removal property of the prope							350,000
Temporary works incl. laydown areas and access tracks   10,00,000   10,0000   10,0000   10,0000   10,0000   10,0000   10,0000   17,50000   17,5000   17,5000   17,5000   17,5000   17,5000   17,5000   17,5000   17,50000   17,50000   17,50000   17,50000   17,50000   17,50000   17,50000   17,50000   17,50000   17,50000   17,500000   17,50000   17,50000   17,5000000   17,5000000   17,500000   17,5000000   17,5000000   17,5000000   17,50000			370				350,000
Triffic management and temporary diversions   75,000.00   75,000							
Stophanks, new and ugarding the existing   2,11,00,000   3,20,000,00   1,98,000,00   5,170							
River recoils protection   A,88,0,00.00   3,320,00.00   3,870,00.00   5,120		Traffic management and temporary diversions					75,000
Swale and low stopbant / bund   50,000.00   50,000.00   13,000.00   36,000.0							2,070,000
Floodwall   330,000.00   330,000.00   360,000.00   360,000.00   360,000.00   370,		River erosion protection		4,880,000.00	5,320,000.00	3,870,000.00	5,120,000
Floodwall Channel widening and berm lowering   350,000.00   350,000.00   360,000.00   271,000.		Swale and low stopbank / bund		510,000.00	500,000.00	510,000.00	480,000
Channel widening and berm lowering   2,710,000.00   3,430,000.00   2,710,000.00   2,710,000.00   2,710,000.00   2,710,000.00   2,710,000.00   2,710,000.00   2,710,000.00   2,710,000.00   2,710,000.00   2,710,000.00   2,710,000.00   2,710,000.00   2,710,000.00   1,550,000.00   1,750,000.00   1,750,000.00   2,710,000.00   2,710,000.00   2,710,000.00   2,710,000.00   1,500,000.00   1,700,000.00   2,710,000.00   2,710,000.00   2,710,000.00   1,500,000.00   1,700,000.00		Floodwall			350.000.00	360.000.00	350,000
Service crossings		Channel widening and berm lowering		2.710.000.00			2,710,000
Construction Sub-Total							250,000
On-site overhead construction sub-total ext consultants)							
Off-site overhead and profit (construction sub-total + indirects)   12.5%   1,550,000.00   2,300,000.00   1,500,000.00   7,000   700,000.00   700,			15.00/				
Contractor Risk (construction sub-total + indirects) 5.0% 700,000.00 950,000.00 14,605,000.00 16,625  Base Estimate							
Construction Total   16,235,000.00   22,545,000.00   14,605,000.00   16,635							
Base Estimate			5.0%				700,00
Design Total		Construction Total		16,235,000.00	22,545,000.00	14,605,000.00	16,455,00
Design Total							
Consenting Total	Base Estimate		1				
Consenting Total		Design Total		1,600,000.00	1,600,000.00	1,600,000.00	1,600,000
Site Investigation Total   400,000.00   50			1			400,000.00	450,00
Property & Utilities Total   500,000.0							400,000
Project Specific Insurances Total   0.00			1				500,000
Construction Total   16,235,000,00   22,545,000,00   14,605,000,00   16,455							300,00
Base Estimate Total   19,185,000.00   25,745,000.00   17,505,000.00   19,405							
Known/Unknown Risk   20% Allowance   20%   3.850,000.00   5.150,000.00   3.550,000.00   3.30000   3.3000   3.30000   3.3000   3.30000   3.30000   3.30000   3.30000   3.300000   3.300000   3.300000   3.300000   3.3000000   3.3000000   3.3000000   3.3000000   3.3000000   3.3000000   3.3000000   3.3000000   3.3000000   3.30000000   3.30000000   3.30000000   3.30000000   3.30000000   3.30000000   3.30000000   3.30000000   3.30000000   3.30000000000			1				
20% Allowance   20%   3,850,000.00   5,150,000.00   3,550,000.00   3,000   3		Base Estimate Total	1	19,185,000.00	25,745,000.00	17,505,000.00	19,405,000
20% Allowance   20%   3,850,000.00   5,150,000.00   3,550,000.00   3,000   3							
20% Allowance   20%   3,850,000.00   5,150,000.00   3,550,000.00   3,000   3			1	1			
Room / Unknown Risk Allocation Total   3,850,000.00   5,150,000.00   3,550,000.00   3,000	Known/Unknown Risk						
Expected Estimate   Base Estimate   Base Estimate   Expected Estimate   FSO   Base Estimate   FSO   Funding Risk   Funding R			20%				3,900,000
Expected Estimate P50   Base Estimate		Known / Unknown Risk Allocation Total		3,850,000.00	5,150,000.00	3,550,000.00	3,900,00
P50   Base Estimate   19,185,000,00   25,745,000,00   17,505,000,00   19,405   13,805,000,00   13,500,000,00   13,500,000,00   13,500,000,00   13,500,000,00   13,500,000,00   13,500,000,00   13,500,000,00   13,500,000,00   13,500,000,00   13,500,000,00   12,005,000,00   12,005,000,00   12,400,000,00							
P50   Base Estimate   19,185,000,00   25,745,000,00   17,505,000,00   19,405   13,805,000,00   13,500,000,00   13,500,000,00   13,500,000,00   13,500,000,00   13,500,000,00   13,500,000,00   13,500,000,00   13,500,000,00   13,500,000,00   13,500,000,00   12,005,000,00   12,005,000,00   12,400,000,00	Expected Estimate						
Known / Unknown Risk - 20% Allowance   3,850,000.00   5,150,000.00   3,550,000.00   3,300		Base Estimate	1	19 195 000 00	25 745 000 00	17 505 000 00	19,405,00
Expected Estimate Total   23,035,000.00   30,895,000.00   21,055,000.00   23,305	. 50						
Funding Risk Additional Client Risk) 40% Allowance Funding Risk Total 9,250,000.00 12,400,000.00 8,450,000.00 9,350 9,250,000.00 12,400,000.00 8,450,000.00 9,350 9,250 0,000 12,400,000.00 12,400,000			1				
Additional Client Risk) 40% Allowance 40% 9,250,000.00 12,400,000.00 8,450,000.00 9,350 9,250,000.00 12,400,000.00 8,450,000.00 9,350 12,400,000.00 12,400,0		expected estimate rotal	1	23,035,000.00	30,895,000.00	21,055,000.00	23,305,00
Additional Client Risk) 40% Allowance 40% 9,250,000.00 12,400,000.00 8,450,000.00 9,350 9,250,000.00 12,400,000.00 8,450,000.00 9,350 12,400,000.00 12,400,0							
Additional Client Risk							
Funding Risk Total   9,250,000.00   12,400,000.00   8,450,000.00   9,350							
Sth Percentile Estimate   P95   Expected Estimate   23,035,000.00   30,895,000.00   21,055,000.00   23,305   Funding Risk   9,250,000.00   12,400,000.00   8,450,000.00   9,350	(Additional Client Risk)	40% Allowance	40%	9,250,000.00	12,400,000.00	8,450,000.00	9,350,00
Sth Percentile Estimate   P95   Expected Estimate   23,035,000.00   30,895,000.00   21,055,000.00   23,305   Funding Risk   9,250,000.00   12,400,000.00   8,450,000.00   9,350		Funding Risk Total	1				9,350,00
P95         Expected Estimate         23,035,000.00         30,895,000.00         21,055,000.00         23,305           Funding Risk         9,250,000.00         12,400,000.00         8,450,000.00         9,350		-	1	-,-30,000.00	, .30,000.00	2, .30,000,00	3,330,000
P95         Expected Estimate         23,035,000.00         30,895,000.00         21,055,000.00         23,305           Funding Risk         9,250,000.00         12,400,000.00         8,450,000.00         9,350	AEth Darcantila Estimata		1	1			
Funding Risk 9,250,000.00 12,400,000.00 8,450,000.00 9,350		Europeted Estimate	1				
	כציו		1		30,895,000.00		23,305,000
95th Percentile Estimate 32 285 000 00 43 295 000 00 20 EDE 000 00 22 EDE							9,350,000
32,203,000.00 43,233,000.00 23,003,000.00 32,003		95th Percentile Estimate	1	32,285,000.00	43,295,000.00	29,505,000.00	32,655,000

<u>Level</u> 1	ltem	Bill description Waipoua River - Scenario 1	<u>Qty</u>	<u>Unit</u>	<u>Net</u> <u>Rate</u>	<u>Net</u> <u>Amount</u> 46,656,187.79
2 3		Concept 1 Stopbanks, new and upgrading the existing				10,786,130.63 2,102,221.47
4 5		New bank TRB upstream Excavation				598,561.69 63,138.66
5		Excavate into existing river bank and form stockpile  Backfill	4,155	/m3	15.2	63,138.66 <b>535,423.03</b>
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	4,778	/m3	67.66	323,267.28
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	10,177	/m3	14.8	150,649.53
4 5		New bank TLB upstream Excavation				742,056.62 105,535.01
5		Excavate into existing river bank and form stockpile  Backfill	6,945	/m3	15.2	105,535.01 <b>636,521.61</b>
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3				
		Dig into existing river bank stockpile and construct new stop bank	5,680 6,945	/m3 /m3	67.66 14.8	384,294.30 102,806.42
		Dig into channel widening stockpile and construct new stop bank	10,094	/m3	14.8	149,420.89
4		Cameron Crescent Bund				197,431.16
		Dig into channel widening stockpile and construct new stop bank  Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	5,284	/m3	14.8	78,218.74
4		Disposal of surplus material from channel widening stockpile	1,762	/m3	67.66	119,212.42 <b>564,172.00</b>
7		Disposal of surplus successful motivation in the Wildering stockpile  Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 2km with free of charge disposal	25,647	/m3	22	564,172.00
3		River erosion protection				4,875,440.19
4		Form bund	4.452		10.70	21,646.34
4		Push up and create bund with gravels  Rock lines	1,152	/m	18.79	21,646.34 <b>4,853,793.85</b>
•		Supply and place D50=700mm rock including allowance for geotextiles	17,280	/ton	280.89	4,853,793.85
3		Swale and low stopbank / bund				505,640.55
4		Excavation  Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	<b>180,663.17</b> 180,663.17
4		Backfill	11,005	,5	13.2	324,977.38
		Dig into swale drain stockpile and form bund with excavated material	2,697	/m3	14.8	39,923.53
		Construct new swale drain bund with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	899	/m3	67.66	60,824.05
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material  Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee	6,002	/m3	14.8	88,847.25
3		of \$10/m3 Floodwall	2,001	/m3	67.66	135,382.55 <b>349,723.65</b>
4		Construct flexural wall	250	,	224.22	342,691.60
4		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement  Construct nib wall	368	/m	931.23	342,691.60 <b>7,032.05</b>
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	20	/m	351.6	7,032.05
3		Channel widening and berm lowering  Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel				2,703,104.77
3		distance) for material to be used elsewhere  Service crossings	59,901	/m3	45.13	2,703,104.77 <b>250,000.00</b>
,		Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00
2		Concept 2				15,249,171.07
3 4		Stopbanks, new and upgrading the existing  New bank TRB upstream				3,411,389.74 477,208.73
5		Excavation				63,138.66
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		Backfill Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3				414,070.07
		Dig into existing river bank stockpile and construct new stop bank	3,695	/m3 /m3	67.66 14.8	249,994.27 61,506.22
		Dig into channel widening stockpile and construct new stop bank	4,155 6,929	/m3	14.8	102,569.58
4		New bank TLB upstream				832,111.31
5		Excavation Excavate into existing river bank and form stockpile	6,945	/m3	15.2	<b>105,535.01</b> 105,535.01
5		Backfill  Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	0,545	71113	13.2	726,576.30
			6,489	/m3	67.66	439,029.18
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42 184,740.70
4		Dig into channel widening stockpile and construct new stop bank  Cameron Crescent Bund	12,480	/m3	14.8	172,133.79
	1	Dig into channel widening stockpile and construct new stop bank Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	4,608	/m3	14.8	68,211.95
			1,536	/m3	67.66	103,921.84
4		Disposal of surplus material from channel widening stockpile Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance		, -		1,929,935.91
3		of 2km with free of charge disposal River erosion protection	87,734	/m3	22	1,929,935.91 <b>5,315,584.10</b>
4		Form bund Push up and create bund with gravels Rock lines	1,256	/m	18.79	<b>23,600.53</b> 23,600.53 <b>5,291,983.57</b>
3		Supply and place D50=700mm rock including allowance for geotextiles  Swale and low stopbank / bund	18,840	/ton	280.89	5,291,983.57 <b>497,220.78</b>
4		Excavation Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	<b>180,663.17</b> 180,663.17
4		Backfilling Districts guals desire should its and form hand with accounted material	2 500	12	***	316,557.61
	2	Dig into swale drain stockpile and form bund with excavated material  Construct new swale drain bund with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	2,598 866	/m3 /m3	14.8 67.66	38,458.04 58,591.35
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	5,875	/m3	14.8	86,967.28

	2	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee				
	_	of \$10/m3	1,959	/m3	67.66	132,540.94
3		Floodwall				349,723.65
4		Construct flexural wall	260		024.22	342,691.60
4		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement  Construct nib wall	368	/m	931.23	342,691.60 <b>7,032.05</b>
-		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	20	/m	351.6	7,032.05
3		Channel widening and berm lowering		•		5,425,252.80
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to				
		bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel	120 224	/202	45.12	E 42E 2E2 90
3		distance) for material to be used elsewhere Service crossings	120,224	/m3	45.13	5,425,252.80 <b>250,000.00</b>
•	2	Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00
2		Concept 3				9,659,670.13
3		Stopbanks, new and upgrading the existing				1,977,228.33
4 5		New bank TRB upstream Excavation				498,740.25
5		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	<b>63,138.66</b> 63,138.66
5		Backfilling	.,	,		435,601.59
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3				
			3,887	/m3	67.66	262,984.50
		Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank	4,155 7,506	/m3 /m3	14.8 14.8	61,506.22 111,110.87
4		New bank TLB upstream	7,500	,5	10	560,927.92
5		Excavation				105,535.01
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		Backfilling  Construct now standard, with imported clay fill covered within 15km of site, with a revolt, for af \$10/m2				455,392.91
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	4,064	/m3	67.66	274,959.87
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	5,244	/m3	14.8	77,626.62
4		Cameron Crescent Bund	4.00:	/·· 2		180,509.16
		Dig into channel widening stockpile and construct new stop bank  Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	4,831	/m3	14.8	71,513.01
		Construct new stoppoint with imported tidy fill, sourced within 15kill of Site, with a royalty fee of \$10/m3	1,611	/m3	67.66	108,996.15
4		Disposal of surplus material from channel widening stockpile	,- =			737,051.00
		Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance				
_		of 2km with free of charge disposal	33,506	/m3	22	737,051.00
3 4		River erosion protection Form bund				3,868,187.79 17,174.27
7		Push up and create bund with gravels	914	/m	18.79	17,174.27
4		Rock lines		•		3,851,013.52
		Supply and place D50=700mm rock including allowance for geotextiles	13,710	/ton	280.89	3,851,013.52
3		Swale and low stopbank / bund				507,448.42
4		Excavation  Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	<b>180,663.17</b> 180,663.17
4		Backfilling	11,003	/1113	13.2	326,785.25
		Dig into swale drain stockpile and form bund with excavated material	2,598	/m3	14.8	38,458.04
	3	Construct new swale drain bund with imported clay fill, sourced within 15km of site, with a royalty fee of				
		\$10/m3	866 6,150	/m3 /m3	67.66 14.8	58,591.35 91,038.09
	4	Dig into channel widening stockpile and form Mahunga Drive bund with excavated material  Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee	0,130	/1113	14.0	91,036.09
		of \$10/m3	2,050	/m3	67.66	138,697.77
3		Floodwall				356,679.15
4						
4		Construct flexural wall		,		353,866.33
7		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	380	/m	931.23	353,866.33
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall				353,866.33 <b>2,812.82</b>
3		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	380 8	/m /m	931.23 351.6	353,866.33
3		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to				353,866.33 <b>2,812.82</b> 2,812.82
3		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement  Construct nib wall  Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement  Channel widening and berm lowering  Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel	8	/m	351.6	353,866.33 <b>2,812.82</b> 2,812.82 <b>2,700,126.44</b>
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement  Construct nib wall  Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement  Channel widening and berm lowering  Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere				353,866.33 <b>2,812.82</b> 2,812.82 <b>2,700,126.44</b> 2,700,126.44
3	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement  Construct nib wall  Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement  Channel widening and berm lowering  Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel	8	/m	351.6	353,866.33 <b>2,812.82</b> 2,812.82 <b>2,700,126.44</b>
	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement  Construct nib wall  Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement  Channel widening and berm lowering  Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere  Service crossings	8 59,835	/m /m3	351.6 45.13	353,866.33 2,812.82 2,812.82 2,700,126.44 2,700,126.44 250,000.00
3 2 3	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement  Construct nib wall  Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement  Channel widening and berm lowering  Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere  Service crossings  Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure  Concept 4  Stopbanks, new and upgrading the existing	8 59,835	/m /m3	351.6 45.13	353,866.33 2,812.82 2,812.82 2,700,126.44 2,700,126.44 250,000.00 10,961,215.96 2,063,277.10
3 2 3 4	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement  Construct nib wall  Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement  Channel widening and berm lowering  Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere  Service crossings  Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure  Concept 4  Stopbanks, new and upgrading the existing  New bank TRB upstream	8 59,835	/m /m3	351.6 45.13	353,866.33 2,812.82 2,812.82 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24
3 2 3	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavation	8 59,835 1	/m /m3 /sum	351.6 45.13 250,000.00	353,866.33 2,812.82 2,700,126.44 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66
3 2 3 4	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement  Construct nib wall  Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement  Channel widening and berm lowering  Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere  Service crossings  Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure  Concept 4  Stopbanks, new and upgrading the existing  New bank TRB upstream	8 59,835	/m /m3	351.6 45.13	353,866.33 2,812.82 2,812.82 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24
3 2 3 4 5	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavation Excavate into existing river bank and form stockpile	8 59,835 1 4,155	/m3 /sum	351.6 45.13 250,000.00	353,866.33 2,812.82 2,812.82 2,700,126.44 2,700,126.44 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 63,138.66 456,513.58
3 2 3 4 5	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	8 59,835 1 4,155	/m /m3 /sum /m3 /m3	351.6 45.13 250,000.00 15.2 67.66	353,866.33 2,812.82 2,812.82 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 63,138.66 456,513.58 275,636.44
3 2 3 4 5	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3 Dig into existing river bank stockpile and construct new stop bank	8 59,835 1 4,155 4,074 4,155	/m3 /sum /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8	353,866.33 2,812.82 2,700,126.44 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 456,513.58 275,636.44 61,506.22
3 2 3 4 5	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3 Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank	8 59,835 1 4,155	/m /m3 /sum /m3 /m3	351.6 45.13 250,000.00 15.2 67.66	353,866.33 2,812.82 2,812.82 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 63,138.66 456,513.58 275,636.44
3 2 3 4 5	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3 Dig into existing river bank stockpile and construct new stop bank	8 59,835 1 4,155 4,074 4,155	/m3 /sum /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8	353,866.33 2,812.82 2,700,126.44 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92
3 2 3 4 5 5	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank New bank TLB upstream Excavation Excavate into existing river bank and form stockpile	8 59,835 1 4,155 4,074 4,155	/m3 /sum /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8	353,866.33 2,812.82 2,700,126.44 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92 711,029.06 105,535.01
3 2 3 4 5	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank New bank TLB upstream Excavate into existing river bank and form stockpile Backfilling	8 59,835 1 4,155 4,074 4,155 8,064	/m3 /sum /m3 /m3 /m3 /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8 14.8	353,866.33 2,812.82 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92 711,029.06 105,535.01
3 2 3 4 5 5	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank New bank TLB upstream Excavation Excavate into existing river bank and form stockpile	8 59,835 1 4,155 4,074 4,155 8,064 6,945	/m3 /sum /m3 /m3 /m3 /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8 14.8	353,866.33 2,812.82 2,700,126.44 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92 711,029.06 105,535.01 105,535.01 605,494.05
3 2 3 4 5 5	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank New bank TLB upstream Excavate into existing river bank and form stockpile Backfilling	8 59,835 1 4,155 4,074 4,155 8,064	/m3 /sum /m3 /m3 /m3 /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8 14.8	353,866.33 2,812.82 2,700,126.44 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92 711,029.06 105,535.01
3 2 3 4 5 5	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct inib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3 Dig into existing river bank stockpile and construct new stop bank New bank TLB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3 Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	8 59,835 1 4,155 4,074 4,155 8,064 6,945 5,403	/m3 /sum /m3 /m3 /m3 /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8 14.8 15.2	353,866.33 2,812.82 2,812.82 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92 711,029.06 105,535.01 105,535.01 605,494.05
3 2 3 4 5 5	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank New bank TLB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Cameron Crescent Bund	8 59,835 1 4,155 4,074 4,155 8,064 6,945 5,403 6,945 9,264	/m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8 15.2 67.66 14.8 14.8	353,866.33 2,812.82 2,700,126.44 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92 711,029.06 105,535.01 105,535.01 105,535.01 105,535.01 105,494.05
3 2 3 4 5 5 5		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3 Dig into existing river bank stockpile and construct new stop bank New bank TLB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into channel widening stockpile and construct new stop bank Dig into existing river bank stockpile and construct new stop bank Dig into existing river bank stockpile and construct new stop bank Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Cameron Crescent Bund Dig into channel widening stockpile and construct new stop bank	8 59,835 1 4,155 4,074 4,155 8,064 6,945 5,403 6,945	/m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8 15.2 67.66 14.8	353,866.33 2,812.82 2,700,126.44 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92 711,029.06 105,535.01 105,535.01 105,535.01 105,535.01 105,535.01 105,535.01 105,535.01 105,535.01 105,806.42 137,134.44
3 2 3 4 5 5 5	3	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank New bank TLB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Cameron Crescent Bund	8 59,835 1 4,155 4,074 4,155 8,064 6,945 5,403 6,945 9,264 4,690	/m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8 14.8 15.2 67.66 14.8 14.8	353,866.33 2,812.82 2,700,126.44 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92 711,029.06 105,535.01 105,535.01 605,494.05 365,553.19 102,806.42 137,134.44 175,242.04 69,425.79
3 2 3 4 5 5 5		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3 Dig into existing river bank stockpile and construct new stop bank New bank TLB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into channel widening stockpile and construct new stop bank Dig into existing river bank stockpile and construct new stop bank Dig into existing river bank stockpile and construct new stop bank Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Cameron Crescent Bund Dig into channel widening stockpile and construct new stop bank	8 59,835 1 4,155 4,074 4,155 8,064 6,945 5,403 6,945 9,264	/m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8 15.2 67.66 14.8 14.8	353,866.33 2,812.82 2,700,126.44 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92 711,029.06 105,535.01 105,535.01 105,535.01 105,535.01 105,494.05
3 2 3 4 5 5 5 5		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank New bank TLB upstream Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Cameron Crescent Bund Dig into channel widening stockpile and construct new stop bank Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	8 59,835 1 4,155 4,074 4,155 8,064 6,945 5,403 6,945 9,264 4,690	/m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8 14.8 15.2 67.66 14.8 14.8	353,866.33 2,812.82 2,700,126.44 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92 711,029.06 105,535.01 105,535.01 105,535.01 105,535.01 105,535.01 105,535.01 605,494.05
3 2 3 4 5 5 5 5		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct rib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank New bank TLB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into channel widening stockpile and construct new stop bank Cameron Crescent Bund Dig into channel widening stockpile and construct new stop bank Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Disposal of surplus material from channel widening stockpile Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 2km with free of charge disposal	8 59,835 1 4,155 4,074 4,155 8,064 6,945 5,403 6,945 9,264 4,690	/m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8 14.8 15.2 67.66 14.8 14.8	353,866.33 2,812.82 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92 711,029.06 105,535.01 105,535.01 105,535.01 605,494.05 365,553.19 102,806.42 137,134.44 175,242.04 69,425.79 105,816.25 657,353.76
3 2 3 4 5 5 5 5		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct rilb wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank New bank TLB upstream Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Dig into existing river bank stockpile and construct new stop bank Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Disposal of surplus material from channel widening stockpile Disposal of surplus material from channel widening stockpile Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 2km with free of charge disposal River erosion protection	8 59,835 1 4,155 4,074 4,155 8,064 6,945 5,403 6,945 9,264 4,690 1,564	/m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8 14.8 14.8 14.8 14.8 67.66	353,866.33 2,812.82 2,700,126.44 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92 711,029.06 105,535.01 105,535.01 105,535.01 605,494.05 365,553.19 102,806.42 137,134.44 175,242.04 69,425.79 105,816.25 657,353.76 657,353.76 5,116,672.92
3 2 3 4 5 5 5 5		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank New bank TLB upstream Excavation Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Cameron Crescent Bund Dig into channel widening stockpile and construct new stop bank Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Disposal of surplus material from channel widening stockpile Disposal of surplus material from channel widening stockpile Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 2km with free of charge disposal River erosion protection Form bund	8 59,835 1 4,155 4,074 4,155 8,064 6,945 5,403 6,945 9,264 4,690 1,564 29,883	/m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8 14.8 14.8 14.8 14.8 22	353,866.33 2,812.82 2,700,126.44 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92 711,029.06 105,535.01
3 2 3 4 5 5 5 5		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement Construct rilb wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement Channel widening and berm lowering Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure Concept 4 Stopbanks, new and upgrading the existing New bank TRB upstream Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank New bank TLB upstream Excavate into existing river bank and form stockpile Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank Dig into existing river bank stockpile and construct new stop bank Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3  Disposal of surplus material from channel widening stockpile Disposal of surplus material from channel widening stockpile Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 2km with free of charge disposal River erosion protection	8 59,835 1 4,155 4,074 4,155 8,064 6,945 5,403 6,945 9,264 4,690 1,564	/m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3 /m3	351.6 45.13 250,000.00 15.2 67.66 14.8 14.8 14.8 14.8 14.8 67.66	353,866.33 2,812.82 2,700,126.44 2,700,126.44 250,000.00 250,000.00 10,961,215.96 2,063,277.10 519,652.24 63,138.66 456,513.58 275,636.44 61,506.22 119,370.92 711,029.06 105,535.01 105,535.01 105,535.01 605,494.05 365,553.19 102,806.42 137,134.44 175,242.04 69,425.79 105,816.25 657,353.76 657,353.76 5,116,672.92

		Supply and place D50=700mm rock including allowance for geotextiles	18,135	/ton	280.89	5,093,955.53
3		Swale and low stopbank / bund				479,596.76
4		Excavation				180,663.17
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		Backfilling				298,933.59
		Dig into swale drain stockpile and form bund with excavated material	2,470	/m3	14.8	36,563.26
	5	Construct new swale drain bund with imported clay fill, sourced within 15km of site, with a royalty fee of				
		\$10/m3	824	/m3	67.66	55,749.74
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	5,530	/m3	14.8	81,860.26
	6	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee				
		of \$10/m3	1,844	/m3	67.66	124,760.33
3		Floodwall				348,564.41
4		Construct flexural wall				340,829.15
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	366	/m	931.23	340,829.15
4		Construct nib wall				7,735.26
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	22	/m	351.6	7,735.26
3		Channel widening and berm lowering				2,703,104.77
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to				
		bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel				
		distance) for material to be used elsewhere	59,901	/m3	45.13	2,703,104.77
3		Service crossings				250,000.00
		Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00

PROJECT ESTIMATE						
Project Name:	Waipoua River Stopbank					
Current Phase:	Scenario 2 - Adjusted construction stage consultancy percentages and reduced disposal transport distance (40km)					
Base Date:	27/02/2025					

		%	Concept 1	Concept 2	Concept 3	Concept 4
PHASE	DESCRIPTION	76	TOTAL	TOTAL	TOTAL	TOTAL
THACE			TOTAL	TOTAL	TOTAL	TOTAL
Design						
Design.	Preliminary Design (lump sum)		600.000.00	600.000.00	600.000.00	600,000.00
	Detailed Design (lump sum)		800.000.00	800.000.00	800,000.00	800,000.00
	Internal Design (GMRC) (lump sum)		200,000.00	200,000.00	200,000.00	200,000.00
	Design Total		1,600,000.00	1,600,000.00	1,600,000.00	1,600,000.00
Consenting						
	Internal (GWRC/MDC) (% of Construction Works)	0%	excluded	excluded	excluded	excluded
	External (Consultants / Contractors / Iwi) (% of Construction Works)	2%	400,000.00	550,000.00	350,000.00	400,000.00
	Lump Sum for investigations		100,000.00	100,000.00	100,000.00	100,000.00
	Consenting Total		500,000.00	650,000.00	450,000.00	500,000.00
	<b>y</b>					
Site Investigation						
Site investigation	GIR / GFR / GBR (% of Construction Works)	0.5%	100.000.00	150,000,00	100,000.00	100,000.00
	Boreholes (lump sum)	0.376	200,000.00	200,000.00	200,000.00	200,000.00
	Service Location and Potholing (% of Construction Works)	1%	100,000.00	150,000.00	100,000.00	100,000.00
	Site Investigation Total		400,000.00	500,000.00	400,000.00	400,000.00
Property & Utilities						
	Private, Council Owned, AMA, NZTA, AT, Forestry, Kiwirail, Treaty land, Marine Work		500,000.00	500,000.00	500,000.00	500,000.00
	Property & Utilities Works		Refer service crossings elsewhere	Refer service crossings elsewhere	Refer service crossings elsewhere	Refer service crossings elsewhere
	Property & Utilities Total		500,000.00	500,000.00	500,000.00	500,000.00
	,		330,000.00	300,000.00	330,000.00	300,000.00
Project Specific Insurances						
rioject specific insurances	Part of Control Control		included within the % allocations	included within the % allocations	included within the % allocations	included within the % allocations
	Project Specific Insurances					
	Project Specific Insurances Total		0.00	0.00	0.00	0.00
Construction						
	Internal PM (GWRC/MDC) (% of Direct Works)	0%	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC
	Construction Monitoring (Consultants) (% of Direct Works)	3%	400,000.00	600,000.00	350,000.00	400,000.00
	GWRC/MDC Commissioning Costs (% of Direct Works)	0.5%				
			100,000.00	100,000.00	100,000.00	100,000.00
	Environmental control and monitoring (% Of Direct Works)	3%	400,000.00	600,000.00	350,000.00	400,000.00
	Tree felling and removal		350,000.00	350,000.00	450,000.00	350,000.00
	Temporary works incl. laydown areas and access tracks		100,000.00	100,000.00	100,000.00	100,000.00
	Traffic management and temporary diversions		75,000.00	75,000.00	75,000.00	75,000.00
	Stopbanks, new and upgrading the existing		3,120,000.00	6,880,000.00	3,300,000.00	3,250,000.00
	River erosion protection		4,880,000.00	5,320,000.00	3,870,000.00	5,120,000.00
	Swale and low stopbank / bund					
			510,000.00	500,000.00	510,000.00	480,000.00
	Floodwall		350,000.00	350,000.00	360,000.00	350,000.00
	Channel widening and berm lowering		2,710,000.00	5,430,000.00	2,710,000.00	2,710,000.00
	Service crossings		250,000.00	250,000.00	250,000.00	250,000.00
	Construction Sub-Total		13,245,000.00	20,555,000.00	12,425,000.00	13,585,000.00
	On-site overhead (construction sub-total excl consultants)	15.0%	1,900,000.00	2,900,000.00	1,750,000.00	1,950,000.00
	Off-site overhead and profit (construction sub-total + indirects)	12.5%	1,800,000.00	2,800,000.00	1,700,000.00	1,850,000.00
	Contractor Risk (construction sub-total + indirects)	5.0%	750,000.00	1,150,000.00	700,000.00	750,000.00
	Construction Total	3.076				
	Construction Total		17,695,000.00	27,405,000.00	16,575,000.00	18,135,000.00
Base Estimate	<b>1</b>					
J	Design Total		1,600,000.00	1,600,000.00	1,600,000.00	1,600,000.00
J	Consenting Total		500,000.00	650,000.00	450,000.00	500,000.00
J	Site Investigation Total		400,000.00	500,000.00	400,000.00	400,000.00
J	Property & Utilities Total		500,000.00	500,000.00	500,000.00	500,000.00
	Project Specific Insurances Total		0.00	0.00	0.00	0.00
J	Construction Total		17,695,000.00	27,405,000.00	16,575,000.00	18,135,000.00
J	Base Estimate Total		20,695,000.00	30,655,000.00	19,525,000.00	21,135,000.00
J						
					I	
Known/Unknown Risk						
Known/Unknown Risk	20% Allowance	20%	4,150,000.00	6,150,000.00	3,950,000.00	4,250,000.00
Known/Unknown Risk	20% Allowance Known / Unknown Risk Allocation Total	20%	4,150,000.00 4,150,000.00	6,150,000.00 6,150,000.00		4,250,000.00 4,250,000.00
Known/Unknown Risk		20%			3,950,000.00 <b>3,950,000.00</b>	
		20%				
Expected Estimate	Known / Unknown Risk Allocation Total	20%	4,150,000.00	6,150,000.00	3,950,000.00	4,250,000.00
	Known / Unknown Risk Allocation Total  Base Estimate	20%	<b>4,150,000.00</b> 20,695,000.00	6,150,000.00 30,655,000.00	3,950,000.00 19,525,000.00	<b>4,250,000.00</b> 21,135,000.00
Expected Estimate	Known / Unknown Risk Allocation Total  Base Estimate Known / Unknown Risk - 20% Allowance	20%	<b>4,150,000.00</b> 20,695,000.00 4,150,000.00	6,150,000.00 30,655,000.00 6,150,000.00	3,950,000.00 19,525,000.00 3,950,000.00	4,250,000.00 21,135,000.00 4,250,000.00
Expected Estimate	Known / Unknown Risk Allocation Total  Base Estimate	20%	<b>4,150,000.00</b> 20,695,000.00	6,150,000.00 30,655,000.00	3,950,000.00 19,525,000.00	<b>4,250,000.00</b> 21,135,000.00
Expected Estimate	Known / Unknown Risk Allocation Total  Base Estimate Known / Unknown Risk - 20% Allowance	20%	<b>4,150,000.00</b> 20,695,000.00 4,150,000.00	6,150,000.00 30,655,000.00 6,150,000.00	3,950,000.00 19,525,000.00 3,950,000.00	4,250,000.00 21,135,000.00 4,250,000.00
Expected Estimate	Known / Unknown Risk Allocation Total  Base Estimate Known / Unknown Risk - 20% Allowance	20%	<b>4,150,000.00</b> 20,695,000.00 4,150,000.00	6,150,000.00 30,655,000.00 6,150,000.00	3,950,000.00 19,525,000.00 3,950,000.00	4,250,000.00 21,135,000.00 4,250,000.00
Expected Estimate P50	Known / Unknown Risk Allocation Total  Base Estimate Known / Unknown Risk - 20% Allowance	20%	<b>4,150,000.00</b> 20,695,000.00 4,150,000.00	6,150,000.00 30,655,000.00 6,150,000.00	3,950,000.00 19,525,000.00 3,950,000.00	4,250,000.00 21,135,000.00 4,250,000.00
Expected Estimate P50 Funding Risk	Known / Unknown Risk Allocation Total  Base Estimate Known / Unknown Risk - 20% Allowance Expected Estimate Total		4,150,000.00 20,695,000.00 4,150,000.00 24,845,000.00	6,150,000.00 30,655,000.00 6,150,000.00 36,805,000.00	3,950,000.00 19,525,000.00 3,950,000.00 23,475,000.00	4,250,000.00 21,135,000.00 4,250,000.00 25,385,000.00
Expected Estimate P50	Known / Unknown Risk Allocation Total  Base Estimate Known / Unknown Risk - 20% Allowance Expected Estimate Total  40% Allowance	20%	4,150,000.00 20,695,000.00 4,150,000.00 24,845,000.00 9,950,000.00	6,150,000.00 30,655,000.00 6,150,000.00 36,805,000.00	3,950,000.00 19,525,000.00 3,950,000.00 23,475,000.00 9,400,000.00	4,250,000.00 21,135,000.00 4,250,000.00 25,385,000.00 10,200,000.00
Expected Estimate P50 Funding Risk	Known / Unknown Risk Allocation Total  Base Estimate Known / Unknown Risk - 20% Allowance Expected Estimate Total		4,150,000.00 20,695,000.00 4,150,000.00 24,845,000.00	6,150,000.00 30,655,000.00 6,150,000.00 36,805,000.00	3,950,000.00 19,525,000.00 3,950,000.00 23,475,000.00	4,250,000.00 21,135,000.00 4,250,000.00 25,385,000.00
Expected Estimate P50  Funding Risk (Additional Client Risk)	Known / Unknown Risk Allocation Total  Base Estimate Known / Unknown Risk - 20% Allowance Expected Estimate Total  40% Allowance		4,150,000.00 20,695,000.00 4,150,000.00 24,845,000.00 9,950,000.00	6,150,000.00 30,655,000.00 6,150,000.00 36,805,000.00	3,950,000.00 19,525,000.00 3,950,000.00 23,475,000.00 9,400,000.00	4,250,000.00 21,135,000.00 4,250,000.00 25,385,000.00 10,200,000.00
Expected Estimate P50  Funding Risk (Additional Client Risk)  95th Percentile Estimate	Known / Unknown Risk Allocation Total  Base Estimate Known / Unknown Risk - 20% Allowance Expected Estimate Total  40% Allowance Funding Risk Total		4,150,000.00 20,695,000.00 4,150,000.00 24,845,000.00 9,950,000.00	6,150,000.00 30,655,000.00 6,150,000.00 36,805,000.00 14,750,000.00 14,750,000.00	3,950,000.00 19,525,000.00 3,950,000.00 23,475,000.00 9,400,000.00	4,250,000.00 21,135,000.00 4,250,000.00 25,385,000.00 10,200,000.00 10,200,000.00
Expected Estimate P50  Funding Risk (Additional Client Risk)	Known / Unknown Risk Allocation Total  Base Estimate Known / Unknown Risk - 20% Allowance Expected Estimate Total  40% Allowance		4,150,000.00 20,695,000.00 4,150,000.00 24,845,000.00 9,950,000.00	6,150,000.00 30,655,000.00 6,150,000.00 36,805,000.00	3,950,000.00 19,525,000.00 3,950,000.00 23,475,000.00 9,400,000.00	4,250,000.00 21,135,000.00 4,250,000.00 25,385,000.00 10,200,000.00
Expected Estimate P50  Funding Risk (Additional Client Risk)  95th Percentile Estimate	Known / Unknown Risk Allocation Total  Base Estimate Known / Unknown Risk - 20% Allowance Expected Estimate Total  40% Allowance Funding Risk Total		4,150,000.00 20,695,000.00 4,150,000.00 24,845,000.00 9,950,000.00 24,845,000.00	6,150,000.00 30,655,000.00 6,150,000.00 36,805,000.00 14,750,000.00 36,805,000.00	3,950,000.00  19,525,000.00 3,950,000.00 23,475,000.00 9,400,000.00 9,400,000.00	4,250,000.00 21,135,000.00 4,250,000.00 25,385,000.00 10,200,000.00 10,200,000.00 25,385,000.00
Expected Estimate P50  Funding Risk (Additional Client Risk)  95th Percentile Estimate	Known / Unknown Risk Allocation Total  Base Estimate Known / Unknown Risk - 20% Allowance Expected Estimate Total  40% Allowance Funding Risk Total  Expected Estimate		4,150,000.00 20,695,000.00 4,150,000.00 24,845,000.00 9,950,000.00	6,150,000.00 30,655,000.00 6,150,000.00 36,805,000.00 14,750,000.00 14,750,000.00	3,950,000.00 19,525,000.00 3,950,000.00 23,475,000.00 9,400,000.00	4,250,000.00 21,135,000.00 4,250,000.00 25,385,000.00 10,200,000.00 10,200,000.00

Level	Item	Bill description	Qty	Unit	Rate	Amount
1	100111	Waipoua River - Scenario 2	30	<u>Oint</u>	<u>nate</u>	53,632,636.85
2		Concept 1				11,798,321.55
3 4		Stopbanks, new and upgrading the existing  New bank TRB upstream				3,114,412.39 598,561.69
5		Excavation				63,138.66
-		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		Backfill Construct new stopbank with imported clay fill, sourced within 15km of site, with a				535,423.03
		royalty fee of \$10/m3	4,778	/m3	67.66	323,267.28
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3 /m3	14.8 14.8	61,506.22 150,649.53
4		Dig into channel widening stockpile and construct new stop bank  New bank TLB upstream	10,177	/1113	14.6	742,056.62
5		Excavation				105,535.01
5		Excavate into existing river bank and form stockpile  Backfill	6,945	/m3	15.2	105,535.01 <b>636,521.61</b>
,		Construct new stopbank with imported clay fill, sourced within 15km of site, with a				000,022102
		royalty fee of \$10/m3	5,680	/m3	67.66	384,294.30
		Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank	6,945 10,094	/m3 /m3	14.8 14.8	102,806.42 149,420.89
4		Cameron Crescent Bund	,	•		197,431.16
		Dig into channel widening stockpile and construct new stop bank	5,284	/m3	14.8	78,218.74
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	1,762	/m3	67.66	119,212.42
4		Disposal of surplus material from channel widening stockpile				1,576,362.92
		Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 40km with free of charge disposal	25,647	/m3	61.46	1,576,362.92
3		River erosion protection	23,047	/1113	01.40	4,875,440.19
4		Form bund				21,646.34
4		Push up and create bund with gravels  Rock lines	1,152	/m	18.79	21,646.34 <b>4,853,793.85</b>
		Supply and place D50=700mm rock including allowance for geotextiles	17,280	/ton	280.89	4,853,793.85
3		Swale and low stopbank / bund				505,640.55
4		Excavation  Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	<b>180,663.17</b> 180,663.17
4		Backfill				324,977.38
		Dig into swale drain stockpile and form bund with excavated material  Construct new stopbank with imported clay fill, sourced within 15km of site, with a	2,697	/m3	14.8	39,923.53
		royalty fee of \$10/m3	899	/m3	67.66	60,824.05
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated				
		material  Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site,	6,002	/m3	14.8	88,847.25
		with a royalty fee of \$10/m3	2,001	/m3	67.66	135,382.55
3		Floodwall				349,723.65
4		Construct flexural wall  Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement				342,691.60
			368	/m	931.23	342,691.60
4		Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement				7,032.05
		construct condition was in 25th a condition and an anowance for removement	20	/m	351.6	7,032.05
3		Channel widening and berm lowering				2,703,104.77
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a				
		stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere				
3		Service crossings	59,901	/m3	45.13	2,703,104.77 <b>250,000.00</b>
3		Allow Provisional Sum for misc. works to divert, lower or protect existing mains				230,000.00
		infrastructure	1	/sum	250,000.00	250,000.00
2 3		Concept 2 Stopbanks, new and upgrading the existing				18,711,703.07 6,873,921.74
4		New bank TRB upstream				477,208.73
5		Excavation	4.455		45.3	63,138.66
5		Excavate into existing river bank and form stockpile  Backfill	4,155	/m3	15.2	63,138.66 <b>414,070.07</b>
-		Construct new stopbank with imported clay fill, sourced within 15km of site, with a				
		royalty fee of \$10/m3	3,695	/m3	67.66	249,994.27
		Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank	4,155 6,929	/m3 /m3	14.8 14.8	61,506.22 102,569.58
4		New bank TLB upstream				832,111.31
5		Excavation Excavate into existing river bank and form stockpile	6,945	/m3	15.2	<b>105,535.01</b> 105,535.01
5		Backfill	0,545	71113	13.2	726,576.30
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a	c 400		67.66	420 020 40
		royalty fee of \$10/m3 Dig into existing river bank stockpile and construct new stop bank	6,489 6,945	/m3 /m3	67.66 14.8	439,029.18 102,806.42
		Dig into channel widening stockpile and construct new stop bank	12,480	/m3	14.8	184,740.70
4		Cameron Crescent Bund Dig into channel widening stockpile and construct new stop bank	4,608	/m3	14.8	<b>172,133.79</b> 68,211.95
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a	<del>-</del> ,000	, 1113	14.0	00,211.73
		royalty fee of \$10/m3	1,536	/m3	67.66	103,921.84
4		Disposal of surplus material from channel widening stockpile Disposal of surplus excavated material from swale drain excavation, rate based on				5,392,467.91
		transportation distance of 40km with free of charge disposal	87,734	/m3	61.46	5,392,467.91
3 4		River erosion protection				5,315,584.10 23,600.53
4		Form bund Push up and create bund with gravels	1,256	/m	18.79	23,600.53
4		Rock lines		/-	202.22	5,291,983.57
		Supply and place D50=700mm rock including allowance for geotextiles	18,840	/ton	280.89	5,291,983.57

	Conde and low standards / bond				497,220.78
3 4	Swale and low stopbank / bund Excavation				180,663.17
	Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4	Backfilling Dig into swale drain stockpile and form bund with excavated material	2,598	/m3	14.8	<b>316,557.61</b> 38,458.04
	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	866	/m3	67.66	58,591.35
	Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	5,875	/m3	14.8	86,967.28
	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site,	3,873	/1113	14.0	80,507.28
	with a royalty fee of \$10/m3	1,959	/m3	67.66	132,540.94
3 4	Floodwall Construct flexural wall				349,723.65 342,691.60
	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	Construct all well	368	/m	931.23	342,691.60
4	Construct nib wall  Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement				7,032.05
		20	/m	351.6	7,032.05
3	Channel widening and berm lowering				5,425,252.80
	Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a				
	stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere				
3	Service crossings	120,224	/m3	45.13	5,425,252.80 <b>250,000.00</b>
3	Allow Provisional Sum for misc. works to divert, lower or protect existing mains				250,000.00
	infrastructure	1	/sum	250,000.00	250,000.00
2 3	Concept 3 Stopbanks, new and upgrading the existing				10,982,026.31 3,299,584.51
4	New bank TRB upstream				498,740.25
5	Excavation				63,138.66
5	Excavate into existing river bank and form stockpile  Backfilling	4,155	/m3	15.2	63,138.66 <b>435,601.59</b>
,	Construct new stopbank with imported clay fill, sourced within 15km of site, with a				433,001.33
	royalty fee of \$10/m3	3,887	/m3	67.66	262,984.50
	Dig into existing river bank stockpile and construct new stop bank  Dig into channel widening stockpile and construct new stop bank	4,155 7,506	/m3 /m3	14.8 14.8	61,506.22 111,110.87
4	New bank TLB upstream	7,500	71113	14.0	560,927.92
5	Excavation	6.045		45.0	105,535.01
5	Excavate into existing river bank and form stockpile  Backfilling	6,945	/m3	15.2	105,535.01 <b>455,392.91</b>
	Construct new stopbank with imported clay fill, sourced within 15km of site, with a				
	royalty fee of \$10/m3	4,064	/m3	67.66 14.8	274,959.87
	Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank	6,945 5,244	/m3 /m3	14.8	102,806.42 77,626.62
4	Cameron Crescent Bund				180,509.16
	Dig into channel widening stockpile and construct new stop bank  Construct new stopbank with imported clay fill, sourced within 15km of site, with a	4,831	/m3	14.8	71,513.01
	royalty fee of \$10/m3	1,611	/m3	67.66	108,996.15
4	Disposal of surplus material from channel widening stockpile				2,059,407.18
	Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 40km with free of charge disposal	33,506	/m3	61.46	2,059,407.18
3	River erosion protection	33,300	,5	01.10	3,868,187.79
4	Form bund	044	,	40.70	17,174.27
4	Push up and create bund with gravels  Rock lines	914	/m	18.79	17,174.27 <b>3,851,013.52</b>
•	Supply and place D50=700mm rock including allowance for geotextiles	13,710	/ton	280.89	3,851,013.52
3 4	Swale and low stopbank / bund				507,448.42 180,663.17
4	Excavation  Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4	Backfilling				326,785.25
	Dig into swale drain stockpile and form bund with excavated material  Construct new stopbank with imported clay fill, sourced within 15km of site, with a	2,598	/m3	14.8	38,458.04
	royalty fee of \$10/m3	866	/m3	67.66	58,591.35
	Dig into channel widening stockpile and form Mahunga Drive bund with excavated	6 150	/m- 2	44.6	01 030 00
	material  Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site,	6,150	/m3	14.8	91,038.09
	with a royalty fee of \$10/m3	2,050	/m3	67.66	138,697.77
3 4	Floodwall Construct flexural wall				356,679.15 353,866.33
4	Construct flexural wall  Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement				333,800.33
		380	/m	931.23	353,866.33
4	Construct nib wall Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement				2,812.82
	Construct Concrete and want in 25 or a concrete and an anowance for remoteement	8	/m	351.6	2,812.82
3	Channel widening and berm lowering				2,700,126.44
	Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a				
	stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere				
	Constant and the consta	59,835	/m3	45.13	2,700,126.44
3	Service crossings Allow Provisional Sum for misc. works to divert, lower or protect existing mains				250,000.00
	infrastructure	1	/sum	250,000.00	250,000.00
2	Concept 4				12,140,585.92
3 4	Stopbanks, new and upgrading the existing  New bank TRB upstream				3,242,647.06 519,652.24
5	Excavation				63,138.66
5	Excavate into existing river bank and form stockpile  Backfilling	4,155	/m3	15.2	63,138.66 <b>456,513.58</b>
,					.50,513.30

	Construct new stopbank with imported clay fill, sourced within 15km of site, with a				
	royalty fee of \$10/m3	4,074	/m3	67.66	275,636.44
	Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
	Dig into channel widening stockpile and construct new stop bank	8,064	/m3	14.8	119,370.92
4	New bank TLB upstream				711,029.06
5	Excavation				105,535.01
	Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5	Backfilling				605,494.05
	Construct new stopbank with imported clay fill, sourced within 15km of site, with a				
	royalty fee of \$10/m3	5,403	/m3	67.66	365,553.19
	Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
	Dig into channel widening stockpile and construct new stop bank	9,264	/m3	14.8	137,134.44
4	Cameron Crescent Bund				175,242.04
	Dig into channel widening stockpile and construct new stop bank	4,690	/m3	14.8	69,425.79
	Construct new stopbank with imported clay fill, sourced within 15km of site, with a				
	royalty fee of \$10/m3	1,564	/m3	67.66	105,816.25
4	Disposal of surplus material from channel widening stockpile				1,836,723.72
	Disposal of surplus excavated material from swale drain excavation, rate based on				
	transportation distance of 40km with free of charge disposal	29,883	/m3	61.46	1,836,723.72
3	River erosion protection				5,116,672.92
4	Form bund		,		22,717.39
	Push up and create bund with gravels	1,209	/m	18.79	22,717.39
4	Rock lines	40 405		200.00	5,093,955.53
•	Supply and place D50=700mm rock including allowance for geotextiles	18,135	/ton	280.89	5,093,955.53
3	Swale and low stopbank / bund				479,596.76
4	Excavation	11 000	/m2	15.3	180,663.17
4	Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17 <b>298,933.59</b>
4	Backfilling Dig into swale drain stockpile and form bund with excavated material	2,470	/m3	14.8	36,563.26
	Construct new stopbank with imported clay fill, sourced within 15km of site, with a	2,470	/1113	14.6	30,303.20
	royalty fee of \$10/m3	824	/m3	67.66	55,749.74
	Dig into channel widening stockpile and form Mahunga Drive bund with excavated	024	/1113	07.00	33,743.74
	material	5,530	/m3	14.8	81,860.26
	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site,	3,330	/1113	14.0	01,000.20
	with a royalty fee of \$10/m3	1,844	/m3	67.66	124,760.33
3	Floodwall	2,0	,5	07.00	348,564.41
4	Construct flexural wall				340,829.15
	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement				,.
		366	/m	931.23	340,829.15
4	Construct nib wall		•		7,735.26
	Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement				
		22	/m	351.6	7,735.26
3	Channel widening and berm lowering				2,703,104.77
	Excavate to widen channel and lower bund, rate to include for bulldozer working in				
	river pushing material to bank, and excavator on the bank excavating and forming a				
	stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere				
		59,901	/m3	45.13	2,703,104.77
3	Service crossings				250,000.00
	Allow Provisional Sum for misc. works to divert, lower or protect existing mains				
	infrastructure	1	/sum	250,000.00	250,000.00

	PROJECT ESTIMATE
Project Name:	Waipoua River Stopbank
Current Phase:	Scenario 3 - Adjusted construction stage consultancy percentages and loading contractor truck for
	disposal only
Base Date:	27/02/2025

		%	Concept 1	Concept 2	Concept 3	Concept 4
PHASE	DESCRIPTION	<u> </u>	TOTAL	TOTAL	TOTAL	TOTAL
Design						
	Preliminary Design (lump sum)		600,000.00	600,000.00	600,000.00	600,000.0
	Detailed Design (lump sum)		800,000.00	800,000.00	800,000.00	800,000.0
	Internal Design Team (GWRC) (lump sum)		200,000.00	200,000.00	200,000.00	200,000.0
	Design Total		1,600,000.00	1,600,000.00	1,600,000.00	1,600,000.0
Consenting						
Consenting	Internal (GWRC/MDC) (% of Construction Works)	0%	excluded	excluded	excluded	excluded
	External (Consultants / Contractors / Iwi) (% of Construction Works)	2%	350.000.00	400.000.00	300.000.00	350.000.0
	Lump Sum for investigations	270	100,000.00	100,000.00	100,000.00	100,000.0
	Consenting Total		450,000.00	500,000.00	400,000.00	450,000.0
Site Investigation						
	GIR / GFR / GBR (% of Construction Works)	0.5%	100,000.00	100,000.00	100,000.00	100,000.0
	Boreholes (lump sum)		200,000.00	200,000.00	200,000.00	200,000.0
	Service Location and Potholing (% of Construction Works)	1%	100,000.00	100,000.00	100,000.00	100,000.0
	Site Investigation Total		400,000.00	400,000.00	400,000.00	400,000.0
Property & Utilities						
	Private, Council Owned, AMA, NZTA, AT, Forestry, Kiwirail, Treaty land, Marine Work		500,000.00	500,000.00	500,000.00	500,000.0
	Property & Utilities Works		Refer service crossings elsewhere	Refer service crossings elsewhere	Refer service crossings elsewhere	Refer service crossings elsewhere
	Property & Utilities Total		500,000.00	500,000.00	500,000.00	500,000.0
Project Specific Insurances						
	Project Specific Insurances		included within the % allocations	included within the % allocations	included within the % allocations	included within the % allocations
	Project Specific Insurances Total		0.00	0.00	0.00	0.0
Construction						
	Internal PM (GWRC/MDC) (% of Direct Works)	0%	separate inclusion by GWRC/MDC			
	Construction Monitoring (Consultants) (% of Direct Works)	3%	350,000.00	450,000.00	300,000.00	350,000.0
	GWRC/MDC Commissioning Costs (% of Direct Works)	0.5%	100,000.00	100,000.00	50,000.00	100,000.0
	Environmental control and monitoring (% Of Direct Works)	3%	350,000.00	450,000.00	300,000.00	350,000.0
	Tree felling and removal		350,000.00	350,000.00	450,000.00	350,000.0
	Temporary works incl. laydown areas and access tracks		100,000.00	100,000.00	100,000.00	100,000.0
	Traffic management and temporary diversions		75,000.00	75,000.00	75,000.00	75,000.0
	Stopbanks, new and upgrading the existing		1,570,000.00	1,580,000.00	1,280,000.00	1,440,000.0
	River erosion protection		4,880,000.00	5,320,000.00	3,870,000.00	5,120,000.0
	Swale and low stopbank / bund		510,000.00	500,000.00	510,000.00	480,000.0
	Floodwall		350,000.00	350,000.00	360,000.00	350,000.0
	Channel widening and berm lowering		2,710,000.00	5,430,000.00	2,710,000.00	2,710,000.0
	Service crossings		250,000.00	250,000.00	250,000.00	250,000.0
	Construction Sub-Total		11,595,000.00	14,955,000.00	10,255,000.00	11,675,000.0
	On-site overhead (construction sub-total excl consultants)	15.0%	1,650,000.00	2,100,000.00	1,450,000.00	1,650,000.0
	Off-site overhead and profit (construction sub-total + indirects)	12.5%	1,600,000.00	2,050,000.00	1,400,000.00	1,600,000.0
	Contractor Risk (construction sub-total + indirects)	5.0%	650,000.00	850,000.00	600,000.00	650,000.0
	Construction Total		15,495,000.00	19,955,000.00	13,705,000.00	15,575,000.0
Base Estimate						
	Design Total		1,600,000.00	1,600,000.00	1,600,000.00	1,600,000.0
	Consenting Total		450,000.00	500,000.00	400,000.00	450,000.0
	Site Investigation Total		400,000.00	400,000.00	400,000.00	400,000.0
	Property & Utilities Total		500,000.00	500,000.00	500,000.00	500,000.0
	Project Specific Insurances Total		0.00	0.00	0.00	0.0
	Construction Total		15,495,000.00	19,955,000.00	13,705,000.00	15,575,000.0
	Base Estimate Total		18,445,000.00	22,955,000.00	16,605,000.00	18,525,000.0
		-				
Known/Unknown Risk	2007 411	2007				
	20% Allowance	20%	3,700,000.00	4,600,000.00	3,350,000.00	3,750,000.0
	Known / Unknown Risk Allocation Total		3,700,000.00	4,600,000.00	3,350,000.00	3,750,000.0
Expected Estimate						
P50	Base Estimate		18,445,000.00	22,955,000.00	16,605,000.00	18,525,000.0
	Known / Unknown Risk - 20% Allowance		3,700,000.00	4,600,000.00	3,350,000.00	3,750,000.0
	Expected Estimate Total	1	22,145,000.00	27,555,000.00	19,955,000.00	22,275,000.0
Funding Risk		l				_
(Additional Client Risk)	40% Allowance	40%	8,900,000.00	11,050,000.00	8,000,000.00	8,950,000.0
	Funding Risk Total		8,900,000.00	11,050,000.00	8,000,000.00	8,950,000.0
95th Percentile Estimate	l					
P95	Expected Estimate		22,145,000.00	27,555,000.00	19,955,000.00	22,275,000.0
	Funding Risk		8,900,000.00	11,050,000.00	8,000,000.00	8,950,000.0
	95th Percentile Estimate		31,045,000.00	38,605,000.00	27,955,000.00	31,225,000.0
			-		-	
Opportunity						
	Selling excavated material as fill to contractor (\$3/m3)		38,470.50	131,601.00	50,259.00	44,824.5

<u>Level</u>	<u>Item</u>	Bill description	Qty	<u>Unit</u>	Rate	<u>Amount</u>
1		Waipoua River - Scenario 3				42,962,570.46
2		Concept 1				10,250,235.38
3 4		Stopbanks, new and upgrading the existing  New bank TRB upstream				1,566,326.22 598,561.69
5		Excavation				63,138.66
,		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		Backfill	,	, -		535,423.03
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a				
		royalty fee of \$10/m3	4,778	/m3	67.66	323,267.28
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
4		Dig into channel widening stockpile and construct new stop bank  New bank TLB upstream	10,177	/m3	14.8	150,649.53 <b>742,056.62</b>
5		Excavation				105,535.01
-		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		Backfill				636,521.61
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a				
		royalty fee of \$10/m3	5,680	/m3	67.66	384,294.30
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42 149,420.89
4		Dig into channel widening stockpile and construct new stop bank  Cameron Crescent Bund	10,094	/m3	14.8	197,431.16
-		Dig into channel widening stockpile and construct new stop bank	5,284	/m3	14.8	78,218.74
	1	Construct new stopbank with imported clay fill, sourced within 15km of site, with a				
		royalty fee of \$10/m3	1,762	/m3	67.66	119,212.42
4		Disposal of surplus material from channel widening stockpile				28,276.75
		Disposal of surplus excavated material from swale drain excavation, rate based on	25.647	/ <b>2</b>	4.4	20 276 75
3		loading contractor truck only  River erosion protection	25,647	/m3	1.1	28,276.75 <b>4,875,440.19</b>
4		Form bund				21,646.34
•		Push up and create bund with gravels	1,152	/m	18.79	21,646.34
4		Rock lines				4,853,793.85
		Supply and place D50=700mm rock including allowance for geotextiles	17,280	/ton	280.89	4,853,793.85
3		Swale and low stopbank / bund				505,640.55
4		Excavation	44.000	/ <b>2</b>	45.3	180,663.17
4		Excavate swale drain and form stockpile for material to be used elsewhere  Backfill	11,889	/m3	15.2	180,663.17 <b>324,977.38</b>
-		Dig into swale drain stockpile and form bund with excavated material	2,697	/m3	14.8	39,923.53
	2	Construct new stopbank with imported clay fill, sourced within 15km of site, with a	,	•		,
		royalty fee of \$10/m3	899	/m3	67.66	60,824.05
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated				
	_	material	6,002	/m3	14.8	88,847.25
	3	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site,	2 001	/m2	67.66	125 202 55
3		with a royalty fee of \$10/m3 Floodwall	2,001	/m3	67.00	135,382.55 <b>349,723.65</b>
4		Construct flexural wall				342,691.60
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement				
			368	/m	931.23	342,691.60
4		Construct nib wall				7,032.05
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	20	/	251.0	7 022 05
,		Channel widening and harm lawaring	20	/m	351.6	7,032.05 <b>2,703,104.77</b>
3		Channel widening and berm lowering  Excavate to widen channel and lower bund, rate to include for bulldozer working in river				2,703,104.77
		pushing material to bank, and excavator on the bank excavating and forming a stockpile				
		(not exceeding 5 minute travel distance) for material to be used elsewhere				
			59,901	/m3	45.13	2,703,104.77
3		Service crossings				250,000.00
		Allow Provisional Sum for misc. works to divert, lower or protect existing mains	1	/sum	350,000,00	250,000.00
2		infrastructure Concept 2	1	/Suili	250,000.00	13,415,965.08
3		Stopbanks, new and upgrading the existing				1,578,183.75
4		New bank TRB upstream				477,208.73
5		Excavation				63,138.66
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		Backfill				414,070.07
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	3,695	/m3	67.66	249,994.27
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	6,929	/m3	14.8	102,569.58
4		New bank TLB upstream				832,111.31
5		Excavation				105,535.01
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		Backfill  Construct now stophank with imported slav fill, sourced within 15km of site, with a				726,576.30
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	6,489	/m3	67.66	439,029.18
		Dig into existing river bank stockpile and construct new stop bank	6,489	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	12,480	/m3	14.8	184,740.70
4		Cameron Crescent Bund				172,133.79
		Dig into channel widening stockpile and construct new stop bank	4,608	/m3	14.8	68,211.95
	4	Construct new stopbank with imported clay fill, sourced within 15km of site, with a	4 505	, -		400.00: -
4		royalty fee of \$10/m3 Disposal of surplus material from channel widening stockpile	1,536	/m3	67.66	103,921.84 <b>96,729.92</b>
4		Sisposa, or surplus material from channel widening stockpile				30,723.32

		Disposal of surplus excavated material from swale drain excavation, rate based on	07.704			05 700 00
3		loading contractor truck only  River erosion protection	87,734	/m3	1.1	96,729.92 <b>5,315,584.10</b>
4		Form bund Push up and create bund with gravels	1,256	/m	18.79	<b>23,600.53</b> 23,600.53
4		Rock lines	40.040	4	200.00	5,291,983.57
3		Supply and place D50=700mm rock including allowance for geotextiles  Swale and low stopbank / bund	18,840	/ton	280.89	5,291,983.57 <b>497,220.78</b>
4		Excavation  Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	<b>180,663.17</b> 180,663.17
4		Backfilling Dig into swale drain stockpile and form bund with excavated material	2,598	/m3	14.8	<b>316,557.61</b> 38,458.04
	5	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	866	/m3	67.66	58,591.35
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	5,875	/m3	14.8	86,967.28
	5	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	1,959	/m3	67.66	132,540.94
3 4		Floodwall Construct flexural wall				349,723.65 342,691.60
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	260	1	024.22	242 504 50
4		Construct nib wall	368	/m	931.23	342,691.60 <b>7,032.05</b>
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	20	/m	351.6	7,032.05
3		Channel widening and berm lowering	20	/111	331.0	5,425,252.80
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere				
3		Service crossings	120,224	/m3	45.13	5,425,252.80 <b>250,000.00</b>
	2	Allow Provisional Sum for misc. works to divert, lower or protect existing mains	1	loven	350,000,00	250,000.00
2		infrastructure Concept 3	1	/sum	250,000.00	8,959,560.71
3		Stopbanks, new and upgrading the existing				1,277,118.91
4 5		New bank TRB upstream Excavation				498,740.25 63,138.66
5		Excavate into existing river bank and form stockpile  Backfilling	4,155	/m3	15.2	63,138.66 <b>435,601.59</b>
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a				
		royalty fee of \$10/m3 Dig into existing river bank stockpile and construct new stop bank	3,887 4,155	/m3 /m3	67.66 14.8	262,984.50 61,506.22
		Dig into channel widening stockpile and construct new stop bank	7,506	/m3	14.8	111,110.87
4 5		New bank TLB upstream Excavation				560,927.92 105,535.01
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		Backfilling Construct new stopbank with imported clay fill, sourced within 15km of site, with a				455,392.91
		royalty fee of \$10/m3	4,064	/m3	67.66	274,959.87
		Dig into existing river bank stockpile and construct new stop bank Dig into channel widening stockpile and construct new stop bank	6,945 5,244	/m3 /m3	14.8 14.8	102,806.42 77,626.62
4		Cameron Crescent Bund		/ 2		180,509.16
	3	Dig into channel widening stockpile and construct new stop bank  Construct new stopbank with imported clay fill, sourced within 15km of site, with a	4,831	/m3	14.8	71,513.01
4		royalty fee of \$10/m3	1,611	/m3	67.66	108,996.15 <b>36,941.58</b>
4		<b>Disposal of surplus material from channel widening stockpile</b> Disposal of surplus excavated material from swale drain excavation, rate based on				30,341.36
3		loading contractor truck only  River erosion protection	33,506	/m3	1.1	36,941.58 <b>3,868,187.79</b>
4		Form bund				17,174.27
4		Push up and create bund with gravels  Rock lines	914	/m	18.79	17,174.27 <b>3,851,013.52</b>
		Supply and place D50=700mm rock including allowance for geotextiles	13,710	/ton	280.89	3,851,013.52
3 4		Swale and low stopbank / bund Excavation				507,448.42 180,663.17
4		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		Backfilling Dig into swale drain stockpile and form bund with excavated material	2,598	/m3	14.8	<b>326,785.25</b> 38,458.04
	4	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	866	/m3	67.66	58,591.35
	_	Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	6,150	/m3	14.8	91,038.09
	5	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	2,050	/m3	67.66	138,697.77
3 4		Floodwall Construct flexural wall				356,679.15 353,866.33
4		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement				333,000.33
4		Construct nib wall	380	/m	931.23	353,866.33 <b>2,812.82</b>
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	8	/m	351.6	2,812.82
3		Channel widening and berm lowering	-	V	332.0	2,700,126.44

Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere

59,835 /m3 45.13 2,700,126.44

		, <u>G</u>	59,835	/m3	45.13	2,700,126.44
3		Service crossings				250,000.00
	3	Allow Provisional Sum for misc. works to divert, lower or protect existing mains				
		infrastructure	1	/sum	250,000.00	250,000.00
2		Concept 4				10,336,809.29
3		Stopbanks, new and upgrading the existing				1,438,870.43
4		New bank TRB upstream				519,652.24
5		Excavation				63,138.66
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		Backfilling				456,513.58
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a				
		royalty fee of \$10/m3	4,074	/m3	67.66	275,636.44
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
_		Dig into channel widening stockpile and construct new stop bank	8,064	/m3	14.8	119,370.92
4		New bank TLB upstream				711,029.06
5		Excavation			45.0	105,535.01
_		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		Backfilling				605,494.05
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of \$10/m3	5,403	/m3	67.66	365,553.19
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	9,264	/m3	14.8	137,134.44
4		Cameron Crescent Bund	3,204	/1115	14.0	175,242.04
-		Dig into channel widening stockpile and construct new stop bank	4,690	/m3	14.8	69,425.79
	4	Construct new stopbank with imported clay fill, sourced within 15km of site, with a	4,030	/1113	14.0	05,425.75
	-	royalty fee of \$10/m3	1,564	/m3	67.66	105,816.25
4		Disposal of surplus material from channel widening stockpile	,	, -		32,947.09
		Disposal of surplus excavated material from swale drain excavation, rate based on				ŕ
		loading contractor truck only	29,883	/m3	1.1	32,947.09
3		River erosion protection				5,116,672.92
4		Form bund				22,717.39
		Push up and create bund with gravels	1,209	/m	18.79	22,717.39
4		Rock lines				5,093,955.53
		Supply and place D50=700mm rock including allowance for geotextiles	18,135	/ton	280.89	5,093,955.53
3		Swale and low stopbank / bund				479,596.76
4		Excavation				180,663.17
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		Backfilling				298,933.59
		Dig into swale drain stockpile and form bund with excavated material	2,470	/m3	14.8	36,563.26
	5	Construct new stopbank with imported clay fill, sourced within 15km of site, with a				
		royalty fee of \$10/m3	824	/m3	67.66	55,749.74
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated		, _		
	_	material	5,530	/m3	14.8	81,860.26
	6	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site,	1.044	/2	67.66	124 700 22
		with a royalty fee of \$10/m3  Floodwall	1,844	/m3	67.66	124,760.33 <b>348,564.41</b>
3 4		Construct flexural wall				340,829.15
-		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement				340,023.13
		Construct nexural concrete wan in 25ivira concrete and an anowance for reinforcement	366	/m	931.23	340,829.15
4		Construct nib wall	300	,	331.23	7,735.26
•		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement				1,100.20
		Construct Contract in Small in 25 mil a contract and an anomalise for removement	22	/m	351.6	7,735.26
3		Channel widening and berm lowering		•		2,703,104.77
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river				
		pushing material to bank, and excavator on the bank excavating and forming a stockpile				
		(not exceeding 5 minute travel distance) for material to be used elsewhere				
			59,901	/m3	45.13	2,703,104.77
3		Service crossings				250,000.00
		Allow Provisional Sum for misc. works to divert, lower or protect existing mains				
		infrastructure	1	/sum	250,000.00	250,000.00