Bay of Plenty Region July 2004 and December 2004 Flood Events

FINAL CLAIM from Environment Bay of Plenty for Government Assistance towards Response Costs and Costs of Reinstatement of Damaged River and Drainage Scheme Infrastructural Assets

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Working with our communities for a better environment

Environment Bay of Plenty
REGIONAL COUNCIL

Environment Bay of Plenty

July and December 2004 Flood Response and Recovery Works

Final Claim to Ministry of Civil Defence and Emergency Management

Part 1: Standard Response (Category B) and Recovery (Paragraph 19(e)) Claim

1 Introduction

The purpose of this report is to provide the Ministry of Civil Defence & Emergency Management (MCDEM) with a progress report and final claim document, relating to the July and December 2004 flood damage response and recovery works.

The background and details of the July and December flood events are well described in the August 2004 and April 2005 claim documents. A progress report and re-estimate to completion was also provided in February 2006. A further meeting with MCDEM staff involving on-site inspections and provision of additional information was also carried out.

2 Works progress summary

Progress with the task of carrying out the already approved repair works has been very good. Works were carried out in a priority order based on risk to the community and established in consultation with our ratepayer liaison groups. Eighty two percent (by expenditure) of the works are now completed, including all of the most critical sites.

3 Laws Corner – Lower Rangitaiki River

Laws Corner is a long sweeping bend in the lower Rangitaiki River. The flood protection infrastructure at this corner (true left bank) is of critical importance for protecting the nearby rural community, roading and services infrastructure and thousands of hectares of highly productive land on the western side of the river. The 2004 flood event caused a significant amount of erosion on this corner, resulting in the need for a long stretch of berm reinstatement and rock protection replacement works. The cost of this repair/reinstatement work was high due to the length of the damage (approx 550 metres) combined with the depth of the river bed at that location (approx 8 metres). Reconstruction of the river berm was essential to provide strength and seepage resistance to the river bank as the berm is an integral section of the river bank and stopbank structure.

As part of the berm reinstatement works, Environment Bay of Plenty chose to place an additional width of river berm to allow an additional width to be added to the overlaying stopbank to provide increased strength. This additional operation, which was explained in the February 2006 progress report, is considered to be a 'risk aversion measure' and is therefore the subject of a separate Special Policy claim, included in Part 2 of this document.

4 Contingency on remaining works

As at 1 July 2006 there is an estimated $2,598,300 of repair works still to be carried out. These outstanding works will be completed during this coming summer construction season, subject to reasonable weather conditions. All of these works are still vulnerable to further erosion and flood events in the rivers. Environment Bay of Plenty accepts that MCDEM require the final claim to be lodged at this stage and understands that a contingency sum for unforeseen problems and further damage applying to the outstanding works is acceptable to the Ministry. Accordingly a Firm Estimate of Cost (FEC) contingency of 10% has been added to the estimate for the remaining works.

5 Financial assistance from Ministry of Agriculture and Forestry

Throughout the early stages of the flood recovery operation it became apparent that there were some significant synergies to be gained by combining some flood repair works with the Agricultural Recovery Programme (ARP) works being managed by the Ministry of Agriculture and Forestry. A good example of this was on Sullivan's farm where the Rangitaiki River stopbank breach occurred leaving a huge redundant channel cavity that needed to be backfilled once the stopbank had been reinstated. Sullivan's farm had been left covered with huge quantities of infertile sand sediment that was unable to be re-established into pasture. The ARP offered financial assistance to landowners to recover from this type of after-effect of the flood. In this situation, the river scheme used the sand sediment to backfill the nearby redundant river channel. The ARP made its 75% contribution (less thresholds) they would otherwise have been paid to the landowner, and the river scheme met the cost of the remainder. This created a significant saving for MAF, as the material would otherwise have been transported away; for the river scheme, as the fill would have had to be imported at significantly higher cost; and for the landowner, as the river scheme effectively paid their share of costs. Another situation where the ARP provided financial assistance was where a farmer's essential access road, located on the river bank, was lost along with the rivers edge protection works. In this situation the farmer's access road was reinstated in conjunction with the rivers edge erosion repair works and the ARP contribution applied.

Environment Bay of Plenty staff continued to liaise closely with the MAF advisors as the recovery operation progressed resulting in eleven separate works being carried out to the benefit of both organisations. The total sum of the joint ARP/Environment Bay of Plenty works was $730,056 ($821,313 GST inclusive). Details of these joint works are attached as Appendix 3.

MCDEM staff have advised that Environment Bay of Plenty must deduct the amount of this MAF payment from the final claim to MCDEM.

6 Routine maintenance operations

Ongoing routine maintenance of the river scheme infrastructure has been progressing in parallel with the 2004 flood recovery project. Expenditure on routine maintenance operations is accrued to a completely separate cost centre from the flood recovery operations and there is no overlapping of works or any 'business as usual' costs included the flood recovery operation.

Inherent in the routine maintenance operation has been flood erosion repair works that have not been caused by the July and December 2004 flood event. The cost of these routine maintenance works, including the erosion repair works unrelated to the 2004 event, have been budgeted and accounted for in a completely separate cost centre and no such costs have been charged to the 2004 flood recovery operation. Examples of these separate flood repair costs include:

- Rangitaiki River Scheme – Galatea Area, Chynoweth's property rock protection works ($8,544); and Waiohau Area, C Wilson's property ($45,568) rock protection works charged to the routine maintenance budget. Refer to the Rivers and Drainage Management agenda report to the Operations Committee (page 5/2/30); section 2.2 "Annual Flood Damage Repairs" as opposed to section 2.1 (page 5/2/29) "… July and December 2004 Flood Events" attributed to a different cost centre. Refer Appendix 4.

- Whakatane River Scheme - Eivers Road rock protection works ($51,459) charged to the routine maintenance budget. Refer to the Rivers and Drainage Management agenda report to the Operations Committee (page 5/2/32); section 4.2 "Annual Flood Damage Repairs" as opposed to section 4.1 "… July and December 2004 Flood Events" reported further up the page and attributed to a different cost centre. Refer Appendix 4.

7 Council overhead costs

MCDEM staff have advised that Council must remove overhead costs from the claim (per H Brounts email dated 21 August 2006). This request has been actioned and is shown as a deduction in section 10 below.

8 Summary of costs to 30 June 2006 and revised estimate to completion

A summary of the cost of the whole response and recovery project is shown on Appendix 1. The table provides a summary of the actual costs to 30 June 2006 and revised estimates to completion for all of the remaining works. All expenditures and estimates in Appendix 1 **exclude** GST.

9 Details of costs to 30 June 2006 and revised estimate to completion

In support of Appendix 1, detailed spreadsheets of the affected river schemes are shown on Appendix 2 (attached), on a site by site basis. Details include the site name, river bank location, job code, river distance, original length of erosion, actual or re-estimated repair length, repair method, original estimate, July 2006 revised estimate for

remaining works, actual cost to 30 June 2006, job status and applicable comments. All expenditures and estimates in Appendix 2 **exclude** GST.

10 Government financial assistance requested – final claim

The following is a summary of the financial assistance requested from Government in terms of a combined Response (Category B) and Recovery (Paragraph 19(e)) claim. All amounts in this summary are GST **inclusive**.

Overall expenditure total (comprising actual costs to 30 June 2006 plus estimated costs for remaining works: refer Appendix 1)	$15,861,269
Less works covered by the Special Policy Claim (Laws Corner)	$210,000
Less joint works with Ministry of Agriculture and Forestry (refer section 5)	$821,313
Less standard threshold (as per para 19(e): 0.002% of regions ENCV):	$865,672
Less Council overhead costs (refer section 7)	$452,728
Subtotal eligible for Government Contribution:	$13,511,556
60% Government contribution:	$8,106,934
Less previous Government contribution (August 2005):	$6,936,750
Additional Government contribution now requested:	**$1,170,184**

Refer also to Part 2 relating to the separate Special Policy claim.

11 Declaration

A declaration from the Chief Executive of Environment Bay of Plenty is attached (Appendix 5).

12 Conclusion/Recommendation

The cost of the 2004 flood recovery operation has already caused significant rate increases for river scheme ratepayers that will continue for 20 years as the majority of the local share (aside from scheme reserves) has been raised by loan. This is particularly so with the Rangitaiki-Tarawera Rivers Scheme that has had rate increases of +35% and +18% respectively in the last two years with the reality that further significant increases will occur resulting from the more recent 2005 ‘Matata’ flood event recovery works and the proposed Edgecumbe Flood Mitigation study remedial works.

To help offset these rate increases Environment Bay of Plenty has recently increased its regional general rate contribution to the schemes from 10% to 20%.

Environment Bay of Plenty requests that MCDEM facilitates the financial contribution detailed above as the full and final government contribution to the July and December 2004 flood recovery works (excluding the Special Policy claim detailed below).

Part 2: Special Policy Claim

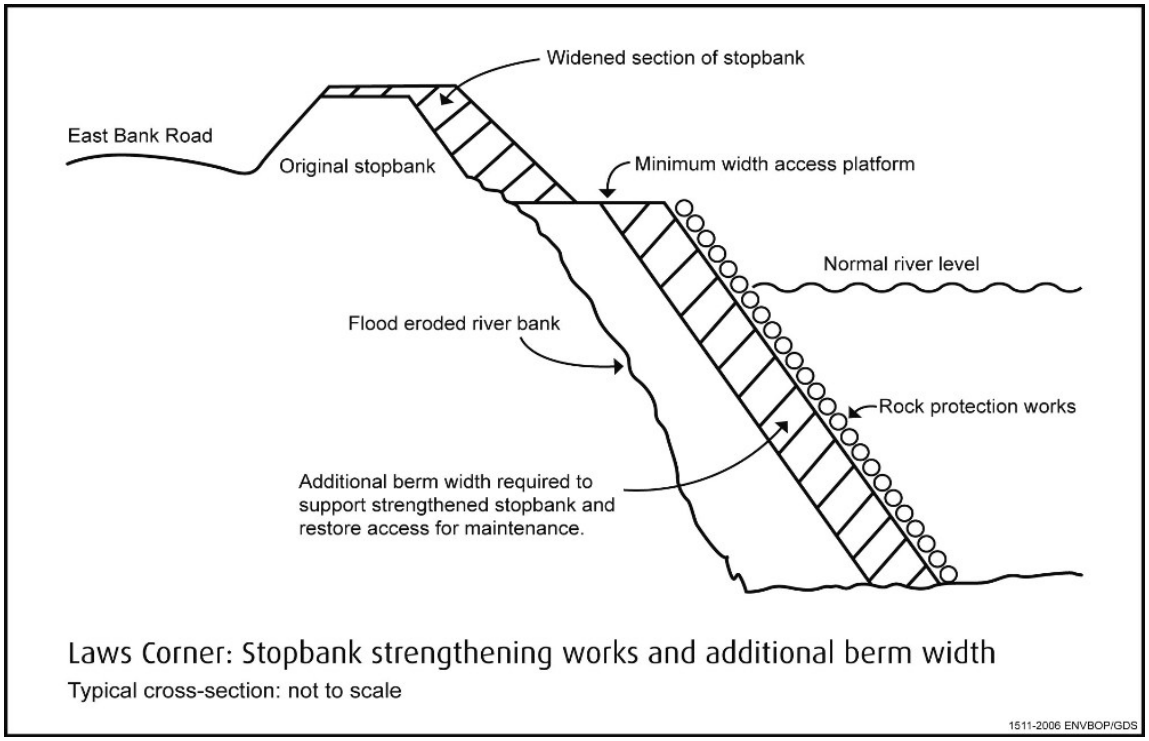
13 Introduction

14 Laws Corner strengthening works

The stopbank on Laws Corner is of critical importance for protecting the nearby rural community, homes and farm buildings, roading and services infrastructure and approximately two thousand hectares of highly productive land on the western side of the river (refer the Laws Corner Breach Map scenario – Appendix 6). The section of stopbank and rock protection works extends from river distance 5.4km to 6.0km and is shown in the Asset Management Plan on page 26 (June 2004 edition). During the July 2004 flood event the river level reached the top of the stopbank and emergency sandbagging was carried out to stem the overflows. At the time there were signs of significant seepage flows through the side of the stopbank and beneath as evidenced by lifting of the bitumen seal coat on the adjacent West Bank Road. This seepage threat became so concerning that those engaged in emergency works were instructed to withdrawn from the site for safety reasons. A short time later the breach of the river occurred at 'Sullivan's Bend' (upstream) with the result that the river level at Laws Corner dropped rapidly and the seepage threat subsided.

Aside from this seepage issue, Laws Corner also suffered serious erosion of the river berm and loss of river edge protection works due to the flood event. Due to the length and depth of the eroded bank and the absence of space to operate earthmoving machinery at the toe of the stopbank it was concluded that it was essential to reinstate the berm to provide access to place the rock protection works and also to 'cut off' the low level seepage paths beneath the stopbank. Details of this part of the reinstatement works are included in Appendix 2 and claimed in Part 1 above.

As the berm reinstatement works commenced it became evident that a suitable foundation for a strengthened stopbank was being created. Due to the overtopping and seepage concerns observed during the July 2004 event, the decision to strengthen (i.e. widen) and slightly raise the level of the stopbank was made. An alternative option to retreat the stopbank to provide more width for the river channel was considered but quickly discounted due to the extreme cost and disruption involved in relocating several homes, farm buildings, approximately 700 lineal metres of East Bank Road and resultant property purchases. It also made prudent economic sense as the material being imported to construct the berm was ideal stopbank fill material, the access cut through the stopbank was already in place for the berm and rockworks, and the construction machinery was already on the job. From a geotechnical perspective, this additional work was essential as the berm reinstatement works occurred at a lower level and would not have had any effect on seepage through the stopbank itself. The completed works have now significantly reduced the risk of failure during a similar event in the future. Refer to the diagram below to differentiate between the flood repair works and the additional works carried out to strengthen the stopbank.



From a Civil Defence Plan perspective, this stopbank strengthening work is a "risk aversion measure" rather than flood recovery work. As-built surveys of the completed works have been carried out to distinguish between the flood repair works and risk aversion works. The risk aversion works comprised two parts being; the widening/strengthening of the stopbank and the additional width constructed on the berm reinstatement works to support the additional stopbank width. Costs for these two activities are as follows:

- Stopbank strengthening works: $93,967 (refer to job 10a on the "Edgecumbe to Thornton" section of Appendix 2).
- Additional width of berm reinstatement works (calculated from as-built survey): $116,050
- Total cost equals $210,017; say $210,000

Report prepared by Bruce Crabbe, Manager Rivers & Drainage

Bill Bayfield
Chief Executive

July & December 2004 Flood Response and Recovery Cost Summary

Summary of Actual Costs To 30 June 2006 and Estimates To Completion

Appendix 1

		Actual Costs to 30 June 06	Estimate for Remaining Works	
1	**General Inspections and Flood Response Activities**			
1.1	General response: Refer to additional supplementary information for details	326,686		
	Subtotals	326,686		**326,686**
2	**Rangitaiki-Tarawera River Scheme:**			
2.1	General response	238,179	0	
2.2	Repair Works Supervision/Management	150,123	25,000	
2.3	Emergency Pumping Costs	227,717	0	
2.4	Whirinaki River	176,904	0	
2.5	Rangitaiki River - Galatea Area	576,844	18,000	
2.6	Rangitaiki River - Waiohau Area	115,743	62,000	
2.7	Rangitaiki River - Matahina to Te Teko	841,908	235,800	
2.8	Rangitaiki River - Te Teko to Edgecumbe	2,674,704	345,000	
2.9	Rangitaiki River - Edgecumbe to Thornton	1,137,226	368,000	
2.10	Reids Central & Other Canals	682,899	82,000	
2.11	Tarawera River	127,824	133,500	
2.12	Fence Repairs	10,919	0	
2.13	Drain/Canal desilting works	85,456	0	
2.14	Contingency on remaining works		125,000	
	Subtotals (Includes Emergency Pumping Costs in the Actuals Column)	7,046,446	1,394,300	**8,440,746**
3	**Whakatane-Waimana Rivers Scheme:**			
3.1	General response: Refer to additional supplementary information for details	106,902	0	
3.2	Repair Works Supervision/Management	106,336	20,000	
3.3	Waimana River	716,718	10,000	
3.4	Whakatane River above Pekatahi Bridge	658,851	545,000	
3.5	Whakatane below Pekatahi	1,954,034	503,000	
3.6	Drain/Canal desilting works (some costs in 3.5 above also)	26,970	0	
3.7	Emergency Pumping Costs	106,268	0	
3.8	Contingency on remaining works		120,000	
	Subtotals	3,676,079	1,198,000	**4,874,079**
4	**Emergency Pumping - Included in River Scheme Costs**	Included	Included	
	Details of the total $506,037 emergency pumping cost are included in Appendix 2 ("Emergency Pumping Costs" sheet). The cost of the emergency pumping operation is spread between the Rangitaiki River, Whakatane River and Rangitaiki Drainage Schemes at the proportion agreed with the Scheme Ratepayer Liaison Groups.			
5	**Rangitaiki Drainage Scheme:**			
5.1	General response costs	68,074	0	
5.2	Stopbank breach repairs	11,820	0	
5.3	Canal Bank Repairs	26,352	0	
5.4	Emergency Pumping Costs	172,052	0	
5.5	Te Rahu Canal desilting	58,963	0	
5.6	Repair Works Supervision/Management	7,172	0	
	Subtotals	344,433	0	**344,433**
6	**Pumping Scheme Repairs (subject to Insurance Claim)**			
	All of the Communal Pumping Scheme cost details have been excluded from this claim as they have been the subject of a separate insurance claim.	n/a	n/a	
7	**Opotiki Drainage Schemes**			
7.1	Waiotahi River Scheme	56,678	6,000	
7.2	Waiotahi Drainage Scheme	50,284	0	
	Subtotals	106,962	6,000	**112,962**
Totals		**11,500,606**	**2,598,300**	
Total Actual Cost to Date Plus Revised Estimate to Completion		**$14,098,906**		
GST		**$1,762,363**		
Overall Estimated Total		**$15,861,269**		

July 2004 Flood Event - Final Claim to MCDEM - Costs to 30 June 2006 & Re-estimate to Completion

Whirinaki River: Flood Damage Repairs

No.	Site	Bank	Code	River Distance (km)	Original Length of Damage (m)	Actual or Re-estimated Repair Length (m)	Repair Method	Original Estimate	July 06 Estimate of Remaining Works	Actual Cost to 30/6/06	Job Status	Comments
1	WDC	RHS	WDCPOUND	7.4	200	150	Trenched willows	$24,600		$10,655	Completed	
2	Bockman (Quarry)	LHS	BOCKMANQ	6.9	50	100	Trenched willows	$7,400		$8,581	Completed	
3	Henrikson	RHS	HENDGALA	6.5	250	250	Trenched willows	$30,800		$10,486	Completed	
4	Merriman	RHS	MERRIMAN	5.9	550	200	Trenched willows	$43,100		$29,537	Completed	
5	Smeith	RHS	SMEITHBR	5.3	150	300	Trenched willows	$29,900		$30,968	Completed	
6	Smeith/Morris	RHS	MORRISBR	3.7 & 4.5	200	200	Trenched willows	$59,100		$47,100	Completed	
7	Morris	RHS		3.7	150	150	Trenched willows				Completed	
8	Ngatimanawa	LHS	WLNGATIM + NGATWHLB	4.9	300	500	Trenched willows	$36,900		$16,510	Completed	
9	Brown	RHS		1.9	150	150	Trenched willows	$12,000		$0	Completed	No works required
10	WDC (Oxidation Ponds)	LHS	WDCPONDS	1.4	200	120	Rock	$8,000		$17,773	Completed	
11	Brown	RHS	BROWN100	1.0	100	100	Trenched willows	$8,000		$1,800	Completed	
12	Muir	RHS	MUIR0002	0.6	100	100	Trenched willows	$18,500		$0	Completed	No works required
13	Bridgeman	RHS	BRIDGEMN	0.2	180	120	Trenched willows	$10,300		$3,494	Completed	
Total Whirinaki River					2,580	2,440		$288,600		$176,904		

Appendix 2

July 2004 Flood Event - Final Claim to MCDEM - Costs to 30 June 2006 & Re-estimate to Completion

Rangitaiki River - Galatea Area: Flood Damage Repairs

No.	Site	Bank	Code	River Distance (km)	AMP Reference	Original Length of Damage (m)	Actual or Re-estimated Repair Length (m)	Repair Method	Original Estimate	July 06 Estimate of Remaining Works	Actual Cost to 30/6/06	Job Status	Comments
1	Muir	RHS	MUIR0001	90.6	Page33/Table5	100	100	Trenched willows	$11,500		$14,097	Completed	
2	Muir	RHS		90.2	Page33/Table5	50	50	Trenched willows				Completed	
3	Ngatimanawa	LHS	NGATIMAN	87.4	Page33/Table5	200	300	Training Groynes	$36,900		$30,168	Completed	
4	Silcock	RHS	SILCOCKS	86.5	Page33/Table5	150	120	Rock	$55,300		$42,450	Completed	
5	Ashby	RHS	ASHBYGAL	85.1	Page33/Table5	150	150	Trenched willows	$20,300		$9,674	Completed	
6	Graham/P Carter	LHS	BCARTERL	84.5	Page33/Table5	150	150	Trenched willows	$19,500		$5,158	Completed	
7	Vierboom	RHS	VIERBOOM	83.9	Page33/Table5	400	150	Trenched willows	$49,200		$17,571	Completed	
8	Terpstra	RHS	TERPSTRA	83.2	Page33/Table5	150	60	Trenched willows	$19,500		$6,111	Completed	
9	Maori Land	LHS		82.7	Page33/Table5	300	100	Trenched willows	$37,700	$12,000			
10	Niven - Diversion block	RHS	NIVEN001 + NIVEN003	81.4	Page33/Table5	250	250	Major diversion works	$114,800		$233,216	Completed	
11	Niven - Downstream erosior	RHS	NIVEN002	79.5	Page33/Table5	80	100	Trenched willows	$25,600		$31,739	Completed	
12	Allen (2 sites)	RHS	ALLANSRB	79.0	Page33/Table5	260	160	Trenched willows	$31,100		$25,972	Completed	
13	Magee	RHS	MAGEE001	77.1	Page33/Table5	150	150	Trenched willows	$19,100		$9,083	Completed	
14	Magee	RHS	MAGEE002	78.1	Page33/Table5	150	150	Trenched willows	$24,200		$8,812	Completed	
15	Hopkinson	LHS	HOP	77.8	Page33/Table5	100	100	Trenched willows	$18,100		$5,777	Completed	
16	Hopkinson	LHS		76.8	Page33/Table5	100	100	Trenched willows	$12,300		$0	Completed	No works required
17	Van Den Broek/Magee	RHS	LMAGEEVB + MAGVANDE	75.8	Page33/Table5	100	100	Trenched willows	$12,400		$13,777	Completed	
18	J Magee	RHS	JMAGEERB	73.3	Page33/Table5	200	100	Trenched willows	$11,100		$5,003	Completed	
19	Chynoweth	RHS	CHYNOWET	71.4	Page33/Table5	180	130	Trenched willows	$15,100		$15,364	Completed	
	Tributary Streams												
20	Mangamate Stream	Both		various	Page32/Table5			Trenched willows & rock	$10,000		$0	Completed	No works required
21	Haumea Stream	Both	HAUMEAFD + HOLMESHA	various	Page32/Table5			Trenched willows & rock	$10,000	$6,000	$20,622		
22	Horomanga River	Both	HORO1 + HOROGMAG + HOROGRLB	various	Page32/Table5			Trenched willows & rock	$59,500		$73,438	Completed	
23	S Paton - Horomanga R	RHS	PATON		Page32/Table5	60	60	Trenched willows	-		$8,812	Completed	
Total Rangitaiki River at Galatea, Including Tributaries						3,280	2,580		$613,200	$18,000	$576,844		

July 2004 Flood Event - Final Claim to MCDEM - Costs to 30 June 2006 & Re-estimate to Completion

Rangitaiki River - Waiohau Area: Flood Damage Repairs

No.	Site	Bank	Code	River Distance (km)	AMP Reference	Original Length of Damage (m)	Actual or Re-estimated Repair Length (m)	Repair Method	Original Estimate	July 06 Estimate of Remaining Works	Actual Cost to 30/6/06	Job Status	Comments
1	Kerrison	RHS	WHITEKER	55.0	Page32/Table5	60	100	Tree groynes	$7,300	$14,000	$284		
2	Carter	RHS	CARTERS1	52.3	Page32/Table5	50	100	Tree groynes	$6,200		$72	Completed	Minimal works required
3	White	LHS		49.6 - 45.0	Page32/Table5	1500	1500	Tree groynes	$48,000	$48,000			Intermittent works
4	Wilson	RHS	WILSONDW	49.6	Page32/Table5	450	250	Major diversion works	$64,200		$70,576	Completed	
5	Wilson #2	RHS	WILSONDS	47.9&47.6	Page32/Table5	250	250	Tree groynes	$30,000		$35,645	Completed	
6	Wilson	RHS		49.6				Rock	$7,200			Completed	
	Tributary Streams												
7	Waihua	Several sites	WAIHUAST		Page32/Table5	100	100	Tree groynes	$7,300		$9,166	Completed	
Total Rangitaiki River at Waiohau Area						2,410	2,300		$170,200	$62,000	**$115,743**		

Appendix 2 Continued

July 2004 Flood Event - Final Claim to MCDEM - Costs to 30 June 2006 & Re-estimate to Completion

Rangitaiki River - Matahina to Te Teko: Flood Damage Repairs

No.	Site	Bank	Code	River Distance (km)	AMP Reference	Original Length of Damage (m)	Actual or Re-estimated Repair Length (m)	Pre- existing Asset	Repair Method	Original Estimate	July 06 Estimate of Remaining Works	Actual Cost to 30/6/06	Job Status	Comments
1	Matahina Garage	RHS	MATAHIMS + MATAHINA	34.4	Page32/Table5	180	180	Trees	Diversion works required	$12,300		$23,975	Completed	
2	Simpson maize (1)	RHS		33.8	Page32/Table5	200	200	Trees	Rock	$24,600	$28,000			
3	Simpson maize (2)	RHS	BRYSONRB	32.1	Page32/Table5	200	160	Trees	Tree groynes	$24,600	$16,800			
4	Demitroff	LHS		31.1	Page32/Table5	250	50	TW	Tree groynes	$30,800	$7,000			
5	Vercoe	RHS	RRMCEWAN	30.6	Page32/Table5	200	250	Trees	Rock & realignment	$120,000		$263,913	Completed	
6	Pryor/Demitroff	LHS		30.1	Page32/Table5	300	200	Trees	Rock/Trees	$36,900	$15,000			
7	Martin	RHS		29.5	Page32/Table5	300	300	Trees	Rock	$36,900	$25,000			
8	Perkins	RHS	PENPRBRK + PERKINSO	29.3	Page32/Table5	150	150	TW	Tree groynes	$18,500		$52,095	Completed	
9	Penitito Trust	RHS	PENITITO	28.7	Page32/Table5	200	200	TW	Tree groynes	$24,600	$50,000	$26		
10	Carter #1	RHS	CARTERRB	28.2	Page32/Table5	300	100	Trees	Tree groynes	$36,900	$6,000	$19,918		
11	Carter #2	RHS	RRBCARTR + MCCAURBR	27.2	Page32/Table5	230	450	Trees	Rock	$44,800		$222,192	Completed	
12	McCauley	RHS		26.7	Page32/Table5	100	100	Trees	Rock	$19,500			Completed	
13	Cribb	LHS	CRIBBRLB	26.5	Page32/Table5	100	180	Trees	Rock	$19,500	$10,000	$85,136		
14	McLeod/Demitroff	RHS	DEMITROF	26.3	Page32/Table5	250	60	Trees	Rock	$48,800		$20,755	Completed	
15	Ponanga's Orchard	RHS	POANANGA	25.9	Page32/Table5	350	250	Trees	Rock	$140,100		$153,898	Completed	
16	McLeod	RHS		25.2	Page32/Table5	250	100	Trees	Rock	$48,800				Not required
17	Newey	LHS		24.9	Page32/Table5	300	80	Trees	Tree groynes	$36,900	$35,000			
17a	Newey	LHS		24.3	Page32/Table5	-	100	Trees	Tree groynes		$5,000			
18	Gas pipeline crossing	RHS		24.6	Page32/Table5	150	150	TW	Rock	$29,200	nil		Completed	Charge to Gas CORPORATION
19	Te Teko Rugby Park	LHS		24.0	Page32/Table5	150	150	50%T:50%R	Rock	$29,200	$38,000			
Total Matahina to Te Teko						4,160	3,410			$782,900	$235,800	**$841,908**		

Appendix 2 Continued

July 2004 Flood Event - Final Claim to MCDEM - Costs to 30 June 2006 & Re-estimate to Completion

Rangitaiki River - Te Teko to Edgecumbe: Flood Damage Repairs

No.	Site	Bank	Code	River Distance (km)	AMP Reference	Original Length of Damage (m)	Actual or Re-estimated Repair Length (m)	Repair Method	Original Estimate	July 06 Estimate of Remaining Works	Actual Cost to 30/6/06	Job Status	Comments
1	Te Teko Township	LHS	TETEKOTS + TTRCLBRK	23.4	Pages 30, 31 & 32	120	220	Rock	$39,000		$49,428	Completed	
2	Ramanui	LHS		23.1	Pages 30, 31 & 32	120	120	Tree groynes	$23,400	$8,000			
3	Mapu Marae	RHS	MRAMANUI	22.8 to	Pages 30, 31 & 32	80	540	Rock	$11,700		$113,429	Completed	
4a	Ramanui	RHS		22.5	Pages 30, 31 & 32	150		Rock	$19,500			Completed	
4b	Ririnui	RHS	RRIRINUI	22.1		-	240		-		$85,252	Completed	
5	Ramanui	LHS		21.7	Pages 30, 31 & 32	200	160	Rock	$42,900	$45,000			
6	Chase	LHS		21.4	Pages 30, 31 & 32	200	200	Rock	$39,000	$56,000			
7	Maniapoto	LHS		21.1	Pages 30, 31 & 32	200	200	Rock	$11,700		$115,089	Completed	
8	Maniapoto (new Channel)	LHS	MANIAPOT	20.8	Pages 30, 31 & 32	50	50	Backfill new channel	$52,800			Completed	
9	Walkers	RHS	WAOMATOR	20.6	Pages 30, 31 & 32	100	350	Rock	$58,500		$202,167	Completed	
10	Hunia/Collier	LHS	HUNIA	20.1	Pages 30, 31 & 32	200	200	Rock	$35,200	$60,000	$5,877		
11	Hunia	LHS		19.7	Pages 30, 31 & 32	100	100	Rock	$17,500	$28,000			
12	Shadow Oak	RHS	SHADWOAK	18.5	Pages 30, 31 & 32	200	450	Rock	$35,000		$95,780	Completed	
13	Pryor	LHS	PRYOR	17.6	Pages 30, 31 & 32	200	200	Rock plus berm and stopbank reinstatement	$195,500		$195,698	Completed	
14	Waiari	LHS		17.3	Pages 30, 31 & 32	150	150	Rock plus stopbank reinstatement	$13,300	$42,000			
15	Warbrick/Zink	RHS	ZINCRBNK	16.7	Pages 30, 31 & 32	200	200	Rock	$134,400		$142,257	Completed	
16	Kokohinau Corner	LHS	KOKOHINA	16.0	Pages 30, 31 & 32	250	250	Rock	$210,300		$210,538	Completed	
17	Eruera	LHS	ERUCORNR	15.1 & 14.6	Pages 30, 31 & 32	300	400	Rock plus stopbank reinstatement	$491,900		$498,671	Completed	
17a	Eruera - Downstream	LHS	HERUERAL + ERUERALB			-	200	Rock	-	$56,000	$15,348		
17b	Warbrick Downstream Site	RHS	WARBRBRK			-	250		-		$52,727	Completed	
18	Sax	RHS	SAXRBROK	14.6	Pages 30, 31 & 32	100	220	Rock	$47,500		$34,334	Completed	
19	Sullivan's Breach	LHS	SULVAN	13.1	Pages 28,30, & 32	100	100	Rock plus stopbank reinstatement	$655,100		$666,631	Completed	
20	Blacks Toe-Loading	RHS	BLACKS	12.7	Pages 28,30, & 32	380	380	Stopbank stabilisation works	$147,000		$145,332	Completed	
21	Blacks erosion	LHS	BLKL	12.8	Pages 30, 31 & 32	80	120	Rock	$31,700		$41,647	Completed	
22	Transpower/Horizons Substation Protection	RHS	SUBTATN	12.4	Pages 30, 31 & 32	n/a	n/a	Stopbanking	$20,500		4,460	Completed	
23	Transpower erosion site	RHS	TRANSPWR	12.2	Pages 30, 31 & 32	150	150	Rock	$43,500	$50,000	$39		
Total Te Teko to Edgecumbe						3630	5450		$2,376,900	$345,000	**$2,674,704**		

Appendix 2 Continued

July 2004 Flood Event - Final Claim to MCDEM - Costs to 30 June 2006 & Re-estimate to Completion

Rangitaiki River - Edgecumbe to Thornton: Flood Damage Repairs

No.	Site	Bank	Code	River Distance (km)	AMP Reference	Original Length of Damage (m)	Actual or Re-estimated Repair Length (m)	Repair Method	Original Estimate	July 06 Estimate of Remaining Works	Actual Cost to 30/6/06	Job Status	Comments
1	SH2 Bridge	LHS		11.1	Pages 30, 31 & 32	100	100	Rock	$25,000	$22,000			
2	Fonterra Factory Site	RHS		11.1	Pages 30, 31 & 32	80	200	Rock	$224,000	$200,000			
3	Fonterra farm stopbank	RHS		10.8	Pages 30, 31 & 32	20	100	Rock	$31,700	$22,000			
4	Riverslea Wall	LHS	RIVERLEA	10.4	Pages 30, 31 & 32	100	120	Rock	$31,700		$78,239	Completed	
5	College Road culvert	LHS	COLLEGE	9.7	minor culvert	n/a	n/a	Culvert repair	$3,000		$3,039	Completed	
6	Tanekaha Street	LHS	TANEKAHA	9.4	Pages 30, 31 & 32	60	125	Rock	$23,800		$40,379	Completed	
7	Morgan	RHS		9.3	Pages 30, 31 & 32	100	100	Rock	$39,600	$22,000			
8	Laws	RHS	DAVIDLAW	9.0	Pages 30, 31 & 32	100	100	Rock	$39,600	$11,000	$11,047		
8a	Ruiter	LHS	RUITERLB + RUITERRB	7.5		-	130	Rock	-	$29,000	$3,428		
9a	Laws Corner - U/s	LHS	RLLAWCBR	5.7		-	300	Berm & Rock	-		$279,500	Completed	
9	Laws Corner - D/s	LHS	LAWSCRNR	5.5	Pages 30, 31 & 32	250	250	Berm & Rock	$15,800		$370,882	Completed	
10a	Laws Corner - D/s	LHS	RLLAWCSB	5.5		n/a	n/a	Stopbank strengthening	-		$93,967	Completed	
10b	Langdon's	RHS		5.3	Pages 30, 31 & 32	60	100	Rock	$15,800	$28,000			
11	Looney	RHS	LOONEY	4.5	Pages 30, 31 & 32	80	110	Rock	$43,600		$51,676	Completed	
12	Greig Road/Checkley	LHS	CHECKRLB	4.1	Pages 30, 31 & 32	120	250	Rock	$47,600		$191,156	Completed	
			RLCHECSB	4.1	Pages 30, 31 & 32	n/a	n/a	Stopbank reinstatement	$20,000		$13,913	Completed	
13	Butlers exit cut	RHS		3.7	Page 28,30&32	n/a	n/a	Stopbank reinstatement	-	-		Completed	Costs included in Reids Central Canal section
					Page 28,30&32	n/a	n/a	Access road	-	-		Completed	section
14	Greig Road to Laws	LHS		3.8	Pages 30, 31 & 32	120	120	Rock	$16,000	$34,000			
				3.5	Pages 30, 31 & 32	n/a	n/a	Stopbank reinstatement					
15	Thornton Hall exit cut	RHS		1.6	Page 28,30&32	n/a	n/a	Stopbank reinstatement	-	-		Completed	Costs included in Reids Central Canal section
Total Edgecumbe to Thornton						1,190	2,105		$577,200	$368,000	**$1,137,226**		

Appendix 2 Continued

July 2004 Flood Event - Final Claim to MCDEM - Costs to 30 June 2006 & Re-estimate to Completion

Reids Central & Other Canals: Flood Damage Repairs

No.	Site	Bank	Codes	River Distance (km)	AMP Reference	Original Length of Damage (m)	Actual or Re-estimated Repair Length (m)	Repair Method	Original Estimate	July 06 Estimate of Remaining Works	Actual Cost to 30/6/06	Job Status	Comments
1	SH Bridge					100		Rock	-	$28,000			
1a	Langdon's Breach	LHS	LANGDON	5.5	Page 26/Table1	n/a		Major stopbank reinstatement	$135,100		$135,321	Completed	
2	Konini Pl. stopbank breach	LHS	KONINIPL	8.9	Page 26/Table1	n/a		Stopbank reinstatement Rock & Culvert/floodgate	} $33,200		$64,176	Completed	
3	21 exit cuts to drain floodwater	Multiple sites	RTBREACH + REACCESS		Page 26/Table1	n/a		Excavate and reinstate	} $367,800		$466,610	Completed	
4	Access to sites	Multiple sites			Page 26/Table1	n/a		Rotten rock fill				Completed	
5	Channel bank erosion	Multiple sites			Page 26/Table1	250		Rock	$80,000	$54,000	$16,792		
6	Stopbank repairs	Multiple sites			Page 26/Table1	n/a		Import fill & regrass	$5,500	nil		Completed	Included above
Total Reids Central & Other Canal Works									$621,600	$82,000	**$682,899**		

Appendix 2 Continued

July 2004 Flood Event - Final Claim to MCDEM - Costs to 30 June 2006 & Re-estimate to Completion

Tarawera River: Flood Damage Repairs

No.	Site	Bank	Codes	River Distance (km)	AMP Reference	Original Length of Damage (m)	Actual or Re-estimated Repair Length (m)	Pre-existing Asset	Repair Method	Original Estimate	July 06 Estimate of Remaining Works	Actual Cost to 30/6/06	Job Status	Comments
1	Opp. O'Sullivans	LHS	BEVANSLB	18.6	Page 31 & 33	30	30	Bare	Rock	$5,250		$3,754	Completed	
2	SH 30 Bridge	RHS	SHBRIDGE	18.3	Page 31 & 33	100	100	Bare	Rock	$17,500		$64,727	Completed	
3	Mangone Farms	LHS	MANGONEL	18.0	Page 31 & 33	30	30	Bare	Rock	$5,250	$8,500	$3,987		
4	O'Sullivan/Lang	RHS	SUTHLANG	14.3	Page 31 & 33	100	100	Bare	Rock	$17,500		$27,562	Completed	
5	Bull	LHS		13.5	Page 31 & 33	30	30	Bare	Rock	$5,250	$12,500			
6	Zink	RHS	ZINCTARB	12.0	Page 31 & 33	35	35	Bare	Rock	$6,100	$10,000	$1,589		
7	Reynolds u/s	RHS		10.8	Page 31 & 33	100	100	Bare	Rock	$17,500	$25,000			
8	Reynolds d/s	RHS		10.6	Page 31 & 33	100	100	Bare	Rock	$17,500	$25,000			
9	Murray Bros.	RHS		9.3	Page 31 & 33	15	15	Bare	Rock	$2,700	$7,500			
10	Virbickas	LHS		7.1	Page 31 & 33	50	50	Bare	Rock	$8,750	$12,500			
11	Mexted	LHS		5.1	Page 31 & 33	10	10	Bare	Rock	$1,750	$7,500			
12	Mexted (Kohika)	RHS	KOHIKARB	1.3	Page 31 & 33	250	250	Bare	Rock	$43,750	$25,000	$26,205		
Total Tarawera River Repair Works						850	850			$148,800	$133,500	**$127,824**		

Appendix 2 Continued

July 2004 Flood Event - Final Claim to MCDEM - Costs to 30 June 2006 & Re-estimate to Completion

Waimana River: Flood Damage Repairs

No.	Site	Bank	Code	River Distance (km)	AMP Reference	Original Length of Damage (m)	Actual or Re-estimated Repair Length (m)	Repair Method	Original Estimate	July 06 Estimate of Remaining Works	Actual Cost to 30/6/06	Job Status	Comments
1	S Kutia	RHS	SPAKUTIA	35.0	Page 22/Table 5	100	120	Trenched Willows	12,300		15,387	Completed	
2	Scholten/Takao	RHS	SCHOL	26.3	Page 22/Table 5	110	110	Trenched Willows	18,400		7,582	Completed	
3	Rakuraku	LHS	RAKURAKU	26.0	Page 22/Table 5	250	250	Trenched Willows	30,800		67,227	Completed	
4	Rakuraku	RHS	RAKURAKR	25.7	Page 22/Table 5	100	120	Trenched Willows	12,300		1,956	Completed	
5	Boynton (Hodges Rd)	LHS	BOYTONS	24.4	Page 22/Table 5	300	300	Trenched Willows	36,900		31,398	Completed	
6	L Brown	RHS	LENBROWN	23.9	Page 22/Table 5	50	100	Trenched Willows	6,200		9,227	Completed	
6a	M Allens/Meade	LHS	AMEADECR	23.6	Page 22/Table 5	-	180	Trenched Willows	-		20,232	Completed	
7	L Brown	RHS		22.1	Page 22/Table 5	120	120	Trenched Willows	14,800			Completed	Included above
8	Bells	LHS		20.7	Page 22/Table 5	150	180	Rock	6,200			Completed	Included below
9	DeGroots u/s East Bridge	LHS	DEGROOTC+ DEGROOT2	20.6	Page 22/Table 5	60	180	Trenched Willows	7,400		34,117	Completed	
10	Mexted	RHS		20.1	Page 22/Table 5	100	100	Rock	25,000	nil		n/a	WDC cost
11	DeGroots - at East Bridge	LHS	DEGROWER	19.7	Page 22/Table 5	50	60	Trenched Willows	6,200		14,603	Completed	
12	Fleming	RHS	FLEMMIWE	19.6	Page 22/Table 5	200	310	Rock	65,000		78,419	Completed	
13	Bell (DeGroot homestead)	LHS	DEGROOT1	18.8	Page 22/Table 5	200	650	Rock/concrete rubble	90,000		64,890	Completed	
14	Wallace (u/s pipeline)	RHS		18.0	Page 22/Table 5	100	150	Rock	1,000		0	Completed	No work required
14a	Wallace (d/s pipeline)	LHS	WALLACEP	17.7	Page 22/Table 5	-	80	Trenched Willows	-		6,885	Completed	
15	Wallace (SH)	RHS	WALLACES	17.4	Page 22/Table 5	150	150	Rock	30,000		9,688	Completed	
16	Fleming	LHS	FLEMMING	16.7	Page 22/Table 5	150	140	Rock	12,300		2,433	Completed	
17	Fleming (Wardlaw Rd)	RHS		16.2	Page 22/Table 5	200	50	Trenched Willows	1,000		72,330	Completed	
18	B Clarke (d/s West Bridge)	LHS	RUDDICRD	15.3	Page 22/Table 5	150	200	Rock	45,000			Completed	
19	B Clarke (Meadowbank)	RHS	BCLARK01	14.3	Page 22/Table 5	200	300	Rock	66,000		79,970	Completed	
20	Walsh u/s	RHS	WARWALSH	11.9 & 11.3	Page 22/Table 5	50	100	Trenched Willows	7,400		5,872	Completed	
21	Walsh d/s	RHS		11.3	Page 22/Table 5	60	100	Trenched Willows	7,400			Completed	
22	Dunstan u/s	LHS	DUNSTANL	2.8	Page 22/Table 5	250	180	Trenched Willows	5,800		12,424	Completed	
23	Dunstan d/s	RHS	DUNSTANS	2.3	Page 22/Table 5	200	460	Rock	45,000		94,313	Completed	
24	Harpers	LHS	HARPERLB	2.0	Page 22/Table 5	80	180	Trenched Willows	9,800		5,717	Completed	
25	Taneatua School	RHS	TANEATUS	1.8	Page 22/Table 5	80	150	Rock	28,000		76,402	Completed	
26	Mitchell's	RHS	MITCHELL	0.5	Page 22/Table 5	50	50	Trenched Willows	5,800		5,646	Completed	
	Tributary Streams												
27	Raroa Stream	Channel widening and clearing works							12,000	5,000			
28	Parau Stream	Desilting and channel clearing works							12,000	5,000			
	Fairway/Channel Works												
29	Waimana Fairway	Channel widening and beach clearing							-	-			
Total Waimana River and Tributaries						3,510	5,070		620,000	10,000	$716,718		

Appendix 2 Continued

July 2004 Flood Event - Final Claim to MCDEM - Costs to 30 June 2006 & Re-estimate to Completion

Whakatane River - Above Pekatahi: Flood Damage Repairs:

No.	Site	Bank	Code	River Distance (km)	AMP Reference	Original Length of Damage (m)	Actual or Re-estimated Repair Length (m)	Repair Method	Original Estimate	July 06 Estimate of Remaining Works	Actual Cost to 30/6/06	Job Status	Comments
1a	Lime Works Realignment	RHS	WHRLIMEW	41.2		-	300		-	55,000	25,996		Flood-aligned channel threatening downstream repair works
1	Teepa	RHS		41.1	Page 21/Table 5	200	100	Trenched willows	16,000	14,000			
2	Tawhi's	LHS		39.9 to 39.6	Page 21/Table 5	250	250	Trenched willows	30,800	42,000			
3a	Rogers	RHS		39.0-40.6	Page 21/Table 5	1000	450	Trenched willows	96,000	50,000			
3b	Waikirikiri	RHS	WAIKI	39.0-40.6	Page 21/Table 5		100	Trenched willows			16,018	Completed	
4	Kapi	LHS		38.4	Page 21/Table 5	400	300	Trenched willows	32,000	42,000			
5a	Opurana Road	RHS	OPURANA1	37.9	Page 21/Table 5	400	300	T. willows & rubble	89,000		89,166	Completed	
5b	Opurana Road - Extension	RHS		37.7	Page 21/Table 5	-	180	T. willows & rubble	-	36,000			
6	Nuku's	LHS		37.4	Page 21/Table 5	80	100	Trenched willows	9,800	14,000			
7	C. Heurea	LHS		36.8	Page 21/Table 5	200	200	Trenched willows	23,000	15,000			
8a	Ngatirongo	RHS	NGATIRON	36.4	Page 21/Table 5	400	200	Trenched willows	34,500	8,000	20,911	Completed	
8c	Nikora	LHS		36.1	Page 21/Table 5	-	200	Trenched willows	-	28,000			
9	Holland's	LHS		36.0	Page 21/Table 5	300	250	Trenched willows	24,600	42,000			
10	Watene	RHS	WATENEFR	35.3	Page 21/Table 5	400	550	Trenched willows	49,500	9,000	46,352		
11a	Te Kaiti	LHS	TEKAITIT	35.0	Page 21/Table 5	400	100	Trenched willows	18,000		6,047	Completed	
11b	Te Kaiti - Extension	LHS		34.7	Page 21/Table 5	-	300	Trenched willows	-	150,000			
12	Mahurihuri	RHS		34.6	Page 21/Table 5	300	100	Trenched willows	23,000	15,000			
13	Kopurini's/Ruatoki	RHS	KAPU & KAPURINI	32.8	Page 21/Table 5	500	300	T. willows & rock	36,200		64,243	Completed	
14	T Blacks	LHS	TBLACKRL	32.4	Page 21/Table 5	200	200	Trenched willows	12,300		25,418	Completed	
15	Yates	LHS	YATESCNR	31.6	Page 21/Table 5	220	220	Rock	96,700		87,015	Completed	
16	V Davies	RHS	DAVIECNR + DAVIE002	31.1	Page 21/Table 5	100	320	Trenched willows	36,700		23,260	Completed	
17	V Davies/Swap	RHS	DAVIESWP	30.3	Page 20 & 21	300	300	Rock	36,900		44,709	Completed	
18	R Holmes - upstream	LHS	HOLMES02	29.7	Page 20 & 21	100	100	Trenched willows	12,300		2,572	Completed	
19	R Holmes	LHS	HOLMES01 & HOLMES	29.4	Page 20 & 21	350	450	Rock	54,200		44,015	Completed	
20	McGougan's	RHS	MCG & MCG2	29.3	Page 21/Table 5	300	350	Rock	34,200		36,309	Completed	
21	Sisam u/s	LHS	SISAM001	28.8	Page 21/Table 5	150	150	Trenched willows	13,500		9,192	Completed	
22	Wilson's	RHS	WILSONRB	28.2	Page 21/Table 5	120	110	Trenched willows	13,800		4,703	Completed	
23	Sisam d/s	LHS	SISAM002	28.0	Page 21/Table 5	150	150	Trenched willows	13,500		10,407	Completed	
24a	Rawson	RHS	RAWSONRB	27.2	Page 21/Table 5	150	60	Rock	22,300		825	Completed	
24b	Lillas	RHS	LILLASRB	27.1	Page 21/Table 5		60	Rock			4,822	Completed	
25	Reids	RHS	SREIDWRR	26.2	Page 21/Table 5	200	200	Rock	13,500		7,020	Completed	
26	Lyford's	LHS	LYFORDRL	26.0	Page 21/Table 5	300	300	Trenched willows	12,300		11,670	Completed	
26a	C. Mitchell - Opouriao		OPOURIAO	24.9		-	60		-		274	Completed	
26b	D Goods	RHS	DENGOODT	24.4		-	60		-		5,910	Completed	
27	Rutledge	RHS	RUTLEDGE	23.4	Page 21/Table 5	150	270	Rock	34,500		70,711	Completed	
28	Grace Road	LHS	GRACERDM	21.9	Page 21/Table 5	100	100	Trenched willows	12,300		5,063	Completed	
29	J. Mitchell's	LHS	JMITCHEL	23.8	Page 21/Table 5	80	80	Trenched willows	9,800		7,182	Completed	
	Tributary Streams												
30	Owhakatoro Stream	Multiple erosion sites						Rock and tree groynes	66,000	25,000	15,037		
	Fairway/Channel Works												
31	Whakatane Fairway	Channel widening and beach clearing											
32	Waiwherowhero Stream	Desilting works				-			3,800				
Total Whakatane River Above Pekatahi						7800	7820		981,000	545,000	658,851		

Appendix 2 Continued

July 2004 Flood Event - Final Claim to MCDEM - Costs to 30 June 2006 & Re-estimate to Completion

Whakatane River - Below Pekatahi: Flood Damage Repairs

No.	Site	Bank	Code	River Distance (km)	AMP Reference	Original Length of Damage (m)	Actual or Re-estimated Repair Length (m)	Repair Method	Original Estimate	July 06 Estimate of Remaining Works	Actual Cost to 30/6/06	Job Status	Comments
1	Brownlees	LHS	BROWNLEE	18.2	Pages 18 & 21	200	200	Trenched willows/stopbank repair	16,000	8,000	1,647		
2	Fairbrother	LHS		17.5	Pages 18 & 21	100	150	Rock protection works for stopbank	42,000	75,000			
3	Sykes (Rewatu Rd)	LHS		16.8	Pages 18 & 21	250	250	Rock protection works for stopbank	42,000	113,000			Very difficult site with ground water and lack of space. Geotech advice being sought.
						n/a	n/a	Stopbank reinstatement	30,600				
4	Van Boheemen	RHS		15.0	Pages 17 & 21	100	150	Trenched willows	2,000		53,076	Completed	
		RHS	VANBO & VANBOHE2			n/a	n/a	Stopbank reinstatement	55,200			Completed	
5	Blacks	RHS		11.1	Page 21/Table 5	200	200	Trenched willows	4,000	28,000			
6	Blacks	RHS		10.3		n/a	n/a	Desilt tributary stream	7,500			Completed	
7	Board Mills Pump	LHS		10.7	Page 21/Table 5	100	150	Rock protection works for stopbank	63,000	75,000			
8a	Water Treatment Plant	RHS	WRWDCCCRR	10.0		-	320		-		136,930	Completed	
8b	Te Tahi Street	RHS	WHTETAHI	9.9 to 8.2	Page 20/Table 4	300	300	Rock protection works for stopbank	350,000		94,007	Completed	
9	Cleary Ave	RHS	WHCLEARY	7.7		-	200		-	40,000	10,332		
9a	Te Rahu to Board Mills	LHS	FORTUNES	6.4 to 5.6	Page 20/Table 4	1400	800	Heavy rock. Berm reinstatement. Stopbank protection.	718,000		440,437	Completed	
9b	Board Mills Corner	LHS	MILLSCNR	5.1 to 4.7	Page 20/Table 4		400	Heavy rock. Berm reinstatement. Stopbank protection.			358,486	Completed	
10	Rowing Club	RHS	ROWNGCLB	4.3	Page 20/Table 4	60	60	Rock protection works for stopbank	21,000		18,456	Completed	
11	Landing Road	RHS	EIVERSRD	3.1-3.8	Page 20/Table 4	700	700	Heavy rock protection works for stopbank	369,200		369,203	Completed	
12	Keepa Road	LHS	KEEPAKFG	2.2	Page 20/Table 4	350	350	Heavy rock protection works for stopbank	162,300		151,325	Completed	
13	Controlled Cuts & Reinstatement		WHBREACH + EASTERND	var.	Page 18/Table 1	n/a	n/a	Emergency cuts. Urgent stopbank reinstatement works. Access roading.	79,900		85,290	Completed	
14	Fence repairs	Various	WHFFENCE		Page 21/Table 5	n/a	n/a	Protection fencing	17,200		13,031	Completed	
	Tributary Streams and Canals												
15	Te Rahu Canal	RHS	TERAHUFL	2.5	Page 18/Table 1	n/a	n/a	Emergency cut. Urgent stopbank reinstatement works. Access roading.	33,400		33,352	Completed	
		Both	TERAHUSL	var.	Page 18/Table 1			Respread topsoil & regrass	7,000		30,573	Completed	
16	Waioho Canal/Stream	Both	WHDESILT	1.2 - 4.2	Page 18/Table 1	n/a	n/a	Desilt major canal	9,000	30,000	17,829		
		Both	WAIOBUTW	1.2 - 4.2		n/a	n/a		40,000		80,536	Completed	
17	Waioho Canal Rock works	Multiple	AEWAIOHO		Page 18/Table 1	500	500	Rock protection works for stopbank	157,500	120,000	4,844		
18	Waioho Toe-loading (Ernest's)		ERNESTTL	2.8	Page 18/Table 1	n/a	n/a	Stopbank stabilisation works	19,000		17,913	Completed	
19	Catchwater Drain	Both	CATCHWAT	5.0		n/a	n/a	Desilt tributary stream	4,600		4,454	Completed	
20	Kope Canal Floodgates	RHS	KFGSROCK + KOPESBFG	2.2	Page 18/Table 1	100	100	Rock protection works for stopbank	44,000		32,313	Completed	
21	Floodgate Outlet Drains	Both		var.	Page 19/Table 2			Removing spoil from drains	4,000	14,000			
Total Whakatane River Below Pekatahi, Including Tributaries						4,360	4,830		2,298,400	503,000	1,954,034		

Appendix 2 Continued

July 2004 Flood Event - Final Claim to MCDEM - Costs to 30 June 2006 & Re-estimate to Completion

Opotiki River & Drainage Schemes: Flood Damage Repair Costs

1. Waiotahi Drainage Scheme:	Code	Length of Damage (m)	Repair Method	Original Estimate	July 06 Estimate of Remaining Works	Actual Cost to 30/6/06	Response/Recovery Comments
Staff/labour/vehicle costs	FL04WDD			2,491	0	1950	
Urgent stopbank controlled cuts to remove floodwaters and emergency desilting works		var.	Stopbank reinstatement & Desilting	10,997	0	7,058	
Browns - culvert and floodgate replacement	FL04WDD	n/a	Culvert repairs	281	0	281	
Emergency pumping	FL04WDD	n/a	Dewatering	27,452	0	32,929	
Gleeson's Stopbank	GLEESON5	300	Stopbank reconstruction	6,500	0	8,066	
Total Waiotahi Drainage Scheme				47,721	0	**$50,284**	

2. Waiotahi River Scheme:				Original Estimate	July 06 Estimate of Remaining Works	Actual Cost to 30/6/06	Response/Recovery Comments
Staff/labour costs				1,150	0	645	
Drury property - several sites		100	Groynes	25,146	0	7,552	
Toone Road Bridge - river bank repairs		60	Groynes	0	0	0	
Mandonk property - river bank repairs		130	Groynes	2,000	2,000	0	
Cooper property - river bank repairs		200	Groynes	4,000	4,000	0	
Watson property - river bank repairs		400	Groynes	12,500	0	7,828	
Addison property - river bank repairs		300	Groynes	57,800	0	25,703	
Emergency pumping		n/a	Dewatering	13,080	0	14,950	
Total Waiotahi River Scheme				**115,676**	**6,000**	**$56,678**	

Appendix 2 Continued

July 2004 Flood Event - Final Claim to MCDEM - Costs to 30 June 2006 & Re-estimate to Completion

Emergency Pumping Costs: Rangitaiki Plains & Waiotahi Scemes - July 2004 Floods

Description	Rangitaiki Plains Schemes	Waiotahi Schemes
Pump & Hose Hire	251,706	
Tractor Hire	140,857	47,879
Repairs	9,248	
Materials	18,242	
Fuel & Lube Costs	71,046	
Pump Transport & Lifting Costs	4,168	
Contract Labour	10,769	
Totals	**506,037**	**47,879**
Total Emergency Pumping Costs	**$553,916**	

Note: The above costs exclude emergency pumping costs incurred against the Communal Pumping Scheme accounts as these were funded separately by insurance.

Appendix 2 Continued

MAF

Agricultural Recovery Programme
Ministry of Agriculture and Forestry
Private Bag 3123
HAMILTON
Phone: 07 856 1824
Fax: 07 856 1825

30 August 2005

File No. 5810 03 2004
Environment B-O-P
Received
02 SEP 2005
Initials ZGT BCC

1162-1
Mr Bruce Crabbe
Manager, Rivers and Drainage
Environment Bay of Plenty
PO Box 364
WHAKATANE

Dear Bruce

Eastern Bay of Plenty Flood – Agricultural Recovery Programme

"Environment Bay of Plenty Claim 1162-1"

At a recent meeting, the Assessment Committee considered the claim provided to us by Environment Bay of Plenty. As discussed previously, the Agricultural Recovery Programme can not accept a claim directly from EBOP as such, but we can accept a claim as though the farmers themselves were making it.

The table below summarises the various claims; each was considered as though the individual farmer had made the claim, and the amounts calculated in terms of the minimum threshold related to previous claims the individuals have already made.

Please note that there were two minor discrepancies:

(i) L & L Dunstan claim: overstated one invoice by $17.78, which was deducted from the claim.

(ii) M Langdon claim: GST had been deducted twice for one invoice, which was added to the claim.

The claim that was accepted by the Assessment Committee is denoted in the column "MAF Calculated" in the table below:

Claim Ref	Name	EBoP Claim	MAF Calculated	Difference	Claimants Previous Claim	Minimum 10%/$5,000	75% $	Approved $
1020	Mrs B Sullivan	88,727.97	88,727.97	0.00	50,182.60	8,872.80	58,541.38	58,541.38
	M Black	2,835.00	2,835.00	0.00	0.00	5,000.00	0.00	0.00
1052	C Addison	25,702.51	25,702.51	0.00	25,038.87	74.14	19,221.28	19,221.28
1006	C & D Wilson	58,468.04	58,468.04	0.00	34,852.58	4,314.06	43,630.49	43,630.49
1060	L & L Dunstan	81,873.59	81,855.81	17.78	37,006.24	6,866.11	56,092.29	56,092.29
1087	B Clarke	69,100.59	69,100.58	0.00	105,420.39	6,910.06	46,844.92	46,844.92
1072	A Hopkinson	5,777.01	5,777.01	0.00	20,158.74	0.00	4,332.76	4,332.76
1041	M Langdon	135,321.62	135,942.50	-620.88	159,671.99	13,594.25	91,761.19	91,761.19
1008	P Reeve	50,135.56	50,135.56	0.00	18,002.51	1,813.65	36,391.28	36,391.28
1056	W James	13,708.56	13,708.56	0.00	64,041.00	1,370.66	9,251.93	9,251.93
1019	D & C Nivens	179,752.64	179,752.64	0.00	29,732.25	15,945.51	122,853.25	122,853.25
1101	J P Magee	20,228.87	20,228.87	0.00	24,539.78	476.67	14,814.06	14,814.06
	Total	729,453.48	730,056.38	-602.90		84,841.60	500,534.82	500,534.82
							Incl GST:	563,101.67

$ 821,313 incl. GST

The final figure (incl GST) noted above will be paid into your bank account in due course.

If you have any queries regarding this matter please contact me.

Yours sincerely

Philip Journeaux
Agricultural Recovery Programme

120 lineal metres of stopbank topping up to design height has been carried out on the left bank of the river on Schlepers' property.

100 lineal metres of rotten rock placement and hydro-seeding protection works has been carried out on the right bank of the river on D Law's property.

2.2 Annual Flood Damage Repairs (Relates to Sub-programme 722 in the Annual Plan)

2.2.1 *Rangitaiki River - Galatea Area*

70 lineal metres of rock protection works has been carried out on the right bank of the river on Chynoweth's property.

2.2.2 *Rangitaiki River - Waiohau Area*

80 lineal metres of rock protection works has been carried out on the right bank of the river on C Wilson's property.

2.2.3 *Horomanga River*

20 lineal metres of rock protection works has been carried out on the left bank of the river immediately upstream of the Galatea Road Bridge.

2.2.4 *Ohutu Stream*

400 lineal metres of channel/beach shaping has been carried out on the Ohutu Stream upstream of Troutbeck Road.

2.3 Routine River Maintenance Works (Relates to Sub-programme 722 in the Annual Plan)

A 100 lineal metre depression on the paddock side of the stopbank has been filled on the right bank of the Rangitaiki River on D Law's property.

120 lineal metres of riverbank protection has been carried out with trial river training rock groynes on the right bank of the Rangitaiki River at Niven's property.

Animal pest control has been carried out on the lower Rangitaiki River.

Weed spray maintenance has been carried out on the stopbanks along the Rangitaiki and Tarawera Rivers.

Ongoing maintenance and inspections of floodgates, riverbank retirement areas and retirement fences has been carried out.

3 Rangitaiki Drainage Scheme

3.1 Rangitaiki Drainage Maintenance Operations (Relates to Sub-programme 752 in the Annual Plan)

72.4 kilometres of weed spraying, 23.4 kilometres of mechanical desilting and 12.2 kilometres of mechanical weed cutting has been completed between 24 January 2006 and 7 April 2006.

Repairs have been carried out to the culvert on Titchmarsh's property that discharges into the Maketu Estuary.

Repairs have been completed on the floodgates at Tandara Bridge on the Bell Road No. 1 Drain.

1.3 Pumping Stations (Relates to Sub-programme 712 in the Annual Plan)

1.3.1 *Diagonal Drain Pump Station*

The No. 3 pump has been reinstalled following repairs.

1.3.2 *Ford Road Pump Station*

A new replacement pump has been ordered from Sweden for the No. 1 pump. The current pump is being repaired as a temporary replacement pump. The No. 2 pump has been reinstalled following repairs.

1.3.3 *Bell Road B Pump Station*

A pump control fault has been repaired.

2 Rangitaiki-Tarawera Rivers Scheme

2.1 Flood Damage Repairs – Response to July and December 2004 Flood Events (Relates to Sub-programme 792)

Flood damage repair works have been carried out at the following locations:

2.1.1 *Galatea Area, Rangitaiki River*

100 lineal metres of rock protection works has been carried out on the right bank of the river on L McGee's property.

50 lineal metres of rock protection works has been carried out on the right bank of the river on M Van den Broek's property.

2.1.2 *Rangitaiki River – Waiohau Area*

200 lineal metres of rock protection work has been carried out on the right bank of the river on C Wilson's property.

2.1.3 *Lower Rangitaiki River*

220 lineal metres of rock protection works has been carried out on the right bank of the river on Penetito Trust's property.

350 lineal metres of rock protection works has been carried out on the right bank of the river on the Rangitaiki 60D Trust block and the McKoewan lease block.

200 lineal metres of rotten rock placement has been carried out on the left bank of the river on M Ruiter's property.

A request has been made by the caretaker for the scheme to be taken over by the landowners. A letter and information have been forwarded explaining the process.

3.2.9 *Poplar Lane Pump Scheme*

A new pump has been ordered from Sweden for this station following a failure. It was uneconomical to repair.

3.2.10 *Platt Pump Scheme*

The Power's pump has been lifted, the cables repaired and reinstalled.

3.2.11 *Omeheu East Pump Scheme*

New pump screens have been fabricated and installed.

3.2.12 *Noord–Veirboom Pump Scheme*

An extra breather pipe has been installed on the pump to try to eliminate a dry running problem.

3.2.13 *Robbins Road Pump Scheme*

Construction of a low level stopbank along the Greig Road shoulder has been completed at the request of the scheme. The purpose of the stopbank is to stop excess stormwater from the Greig Road scheme catchment overflowing into the Robbins Road scheme catchment area.

4 Whakatane-Waimana Rivers Scheme

4.1 Flood Damage Repairs – July and December 2004 Flood Events (Relates to Sub-programme 793)

Flood damage repair works have been carried out at the following sites:

4.1.1 *Whakatane River*

30 lineal metres of stopbank berm damage has been repaired on the left bank of the river on Brownlee's property.

4.1.2 *Waioho Stream*

250 lineal metres of rock protection works has been carried out on the left bank of the stream on Tutbury's property.

80 metres of rock protection works has been carried out on the right bank of the stream on Reeve's property.

4.2 Annual Flood Damage Repairs (Relates to Sub-programme 732 in the Annual Plan)

270 lineal metres of rock protection works has been completed on the right bank of the Whakatane River at the Eivers Road reserve area.

Appendix 5: Declaration

I hereby certify with reference to the claim for government financial assistance toward response and recovery costs following the July and December 2004 flood events:

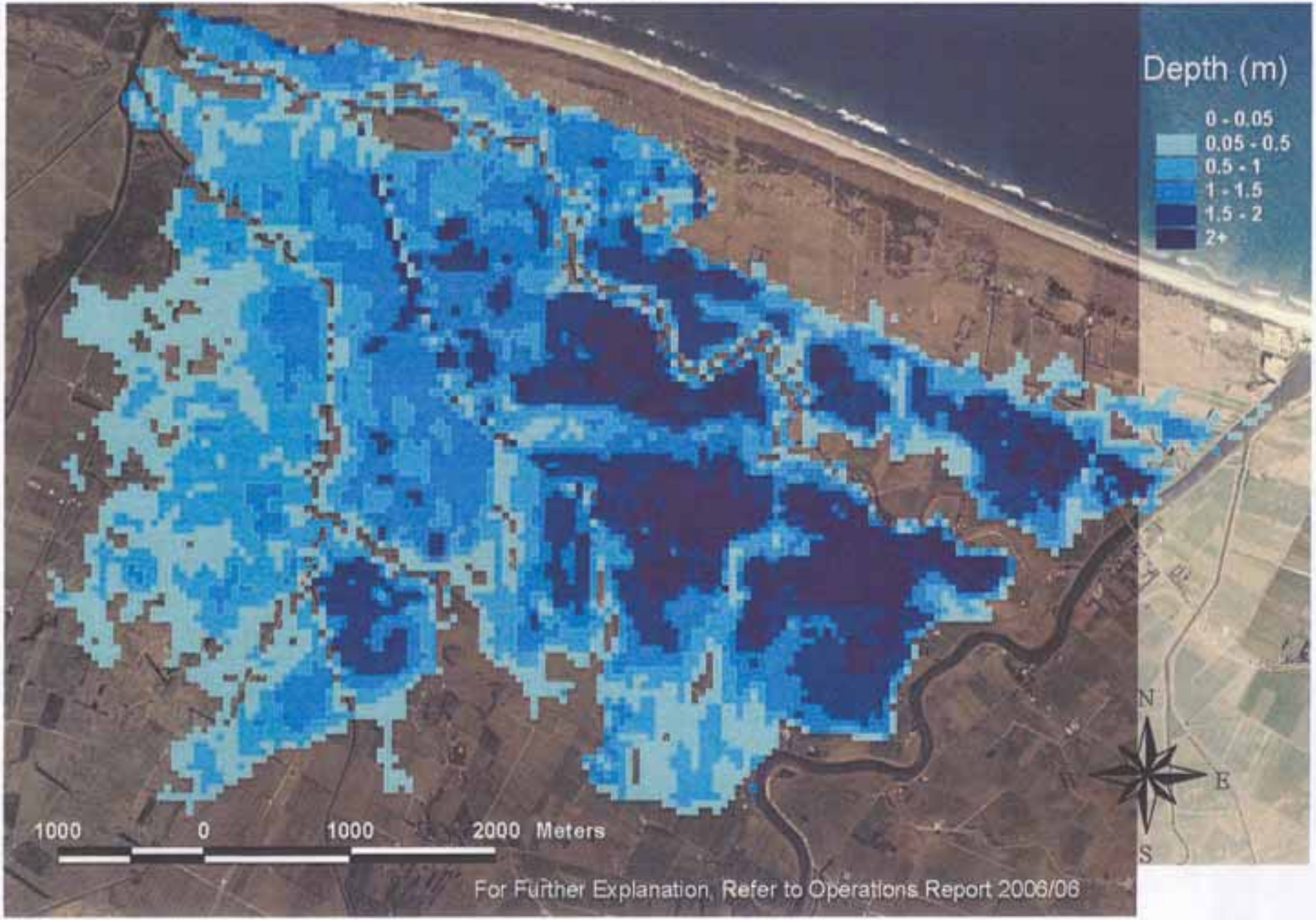
- That each River Scheme asset under consideration was maintained consistent with reasonable practice in the sector and that no grounds exist for believing that a lack of maintenance or protection worsened the damage.

- That the flood response and recovery works identified in Appendices 1 & 2 do not overlap with any 'business as usual' routine maintenance costs associated with the schemes' management.

- That this claim is full and final and Environment Bay of Plenty accepts the risk of further damage and/or unforeseen events impacting on the cost of the outstanding works.

Bill Bayfield
Chief Executive

Inundation from a breach at Laws Bend, Rangitaiki River
1% AEP Flood



Appendix 6