Cost Comparison	Total Price					Hours				
	Bidder 2 (Bid)	Bidder 3 (Alt) (Bid)	Bidder 2 (Rebid)	Bidder 3 (Rebid)	Estimate	Bidder 2 (Bid)	Bidder 3 (Alt) (Bid)	Bidder 2 (Rebid)	Bidder 3 (Rebid)	Estimate
IND	177,353,611	108,541,650	162,106,689	97,540,000	68,240,172	484,914	523,579	459,652	449,425	428,722
GEN	6,781,250	7,632,160	5,913,470	6,085,875	6,158,218	13,969	32,027	13,798	27,841	27,076
TB	10,425,000	6,773,000	10,275,000	6,615,000	8,085,000	14,950	19,300	16,250	19,297	32,941
USCD	23,318,855	26,810,940	16,282,950	19,301,630	19,678,051	46,163	90,046	45,705	78,125	85,196
DSCD	846,577	984,125	757,300	911,600	594,833	2,793	4,459	3,254	4,460	2,999
ICD	1,346,467	2,069,710	1,347,300	1,932,700	983,361	4,463	8,386	5,279	8,466	4,743
SD	9,851,010	11,429,660	9,516,260	10,485,660	6,580,254	24,112	46,482	29,461	46,517	30,722
ND	85,668,660	132,820,940	93,764,230	133,782,560	81,434,623	269,468	587,856	272,303	597,572	248,376
TRW	6,838,893	11,423,603	6,843,210	10,768,975	9,551,543	18,374	37,256	19,991	37,254	41,006
Optional	238,616	213,720	7,314,282	6,986,525	154,770	362	394	4,574	17,657	659
ADJ	(18,020,800)	(3,870,800)	-	-	-	-	-	-	-	-
ADJBid3 (1)	-	-	(2,000,000)	-	-	-	-	-	-	-
Labour cost from subs in estimate	-	-	-	-	-	-	-	-	-	-
Totals w/o Optional	**304,409,521**	**304,614,988**	**304,806,409**	**287,424,000**	**201,306,057**	**879,206**	**1,349,391**	**865,693**	**1,268,958**	**901,782**
Totals	**304,648,137**	**304,828,708**	**312,120,691**	**294,410,525**	**201,460,827**	**879,568**	**1,349,785**	**870,266**	**1,286,615**	**902,441**
Indirect/Direct ratio	140%	55%	114%	51%	51%					

	Total Price					Hours				
Cost Comparison	Bidder 2 (Bid)	Bidder 3 (Alt) (Bid)	Bidder 2 (Rebid)	Bidder 3 (Rebid)	Estimate	Bidder 2 (Bid)	Bidder 3 (Alt) (Bid)	Bidder 2 (Rebid)	Bidder 3 (Rebid)	Estimate
IND	177,353,611	108,541,650	162,106,689	97,540,000	68,240,172	484,914	523,579	459,652	449,425	428,722
GEN	6,781,250	7,632,160	5,913,470	6,085,875	6,158,218	13,969	32,027	13,798	27,841	27,076
TB	10,425,000	6,773,000	10,275,000	6,615,000	8,085,000	14,950	19,300	16,250	19,297	32,941
USCD	23,318,855	26,810,940	16,282,950	19,301,630	19,678,051	46,163	90,046	45,705	78,125	85,196
DSCD	846,577	984,125	757,300	911,600	594,833	2,793	4,459	3,254	4,460	2,999
ICD	1,346,467	2,069,710	1,347,300	1,932,700	983,361	4,463	8,386	5,279	8,466	4,743
SD	9,851,010	11,429,660	9,516,260	10,485,660	6,580,254	24,112	46,482	29,461	46,517	30,722
ND	85,668,660	132,820,940	93,764,230	133,782,560	81,434,623	269,468	587,856	272,303	597,572	248,376
TRW	6,838,893	11,423,603	6,843,210	10,768,975	9,551,543	18,374	37,256	19,991	37,254	41,006
Optional	238,616	213,720	7,314,282	6,986,525	154,770	362	394	4,574	17,657	659
ADJ	(18,020,800)	(3,870,800)	-	-	-	-	-	-	-	-
ADJBid3 (1)	-	-	(2,000,000)	-	-	-	-	-	-	-
Labour cost from subs in estimate	-	-	-	-	-	-	-	-	-	-
Totals w/o Optional	**304,409,521**	**304,614,988**	**304,806,409**	**287,424,000**	**201,306,057**	**879,206**	**1,349,391**	**865,693**	**1,268,958**	**901,782**
Totals	**304,648,137**	**304,828,708**	**312,120,691**	**294,410,525**	**201,460,827**	**879,568**	**1,349,785**	**870,266**	**1,286,615**	**902,441**
Indirect/Direct ratio	139%	55%	108%	50%	51%					

A2.1 Compare

Price Item Orig Bid	Price Item Rebid	Description	Qty (Bid)	Qty (Rebid Bidder 2)	Qty (Rebid Bidder 3)	Units	Total Price: Bidder 2	Bidder 3 (Alt)	Bidder 2 Rebid Option 1	Bidder 3 Rebid Option 1	Bidder 2 Rebid Option 2	Bidder 3 Rebid Option 2	Estimate	Labour Cost: Bidder 2	Bidder 3 (Alt)	Bidder 2 Rebid Option 1	Bidder 3 Rebid Option 1	Bidder 2 Rebid Option 2	Bidder 3 Rebid Option 2	Estimate
1	1	Mobilization	1.0	1.0	1.0	LS	73,240,798	30,000,000	60,000,000	29,000,000	68,000,000	30,000,000	5,324,550	8,100,000	1,976,349	14,480,507	2,030,889	14,480,507	2,062,375	2,500,000
2	2	Site Installation	1.0	1.0	1.0	LS	46,000,000	22,800,000	43,700,000	20,500,000	50,000,000	22,125,000	34,434,477	13,000,000	6,369,932	8,294,977	6,611,292	8,294,977	6,759,271	16,510,400
3	3	Management, Staff, employees and Consultants	1.0	1.0	1.0	LS	45,150,000	44,133,000	45,000,000	39,000,000	55,000,000	42,500,000	18,028,395	41,500,000	38,671,076	-	34,131,204	-	37,123,792	12,992,000
4	4	Health and Safety, Environmental and Quality Requirements	1.0	1.0	1.0	LS	3,065,000	8,878,000	3,000,000	6,500,000	3,200,000	7,500,000	5,584,425	2,400,000	8,694,583	1,139,570	6,329,375	1,139,570	7,321,693	2,925,000
5	5	Credit, Guarantee and Insurance	1.0	1.0	1.0	LS	991,000	2,030,650	5,000,000	1,840,000	5,500,000	1,930,000	3,234,000	-	-	-	-	-	-	-
6	6	Warranty, per Article 17 of the Agreement	1.0	1.0	1.0	LS	300,000	450,000	300,000	450,000	300,000	450,000	-	100,000	225,000	-	225,000	-	225,000	-
7	7	Demobilization	1.0	1.0	1.0	LS	915,124	250,000	915,000	250,000	915,000	250,000	1,634,325	135,124	-	146,561	-	146,561	-	250,000
8	8	Dewatering of Structure Areas	1.0	1.0	1.0	LS	2,190,000	1,550,000	2,150,000	1,500,000	2,150,000	1,500,000	1,605,450	290,000	872,408	313,809	854,234	313,809	865,855	500,000
9	9	Excavation of Existing Embankment cofferdams 1, 2 and 3, and Existing Ramps	177,000	177,000	177,000	m³	1,904,520	2,389,950	1,904,520	2,168,250	1,904,520	2,212,500	2,222,501	304,440	915,179	330,990	906,553	330,990	943,521	1,054,414
10	10	Excavation of Downstream section of RCC riverside cofferdam	20,000	20,000	20,000	m³	433,800	663,000	433,800	620,000	433,800	640,000	500,115	86,000	268,045	92,600	263,376	92,600	274,491	-
11	11	Overburden Excavation	8,000	8,000	8,000	m³	71,040	156,800	70,000	148,000	70,000	151,200	138,635	19,040	65,008	20,320	68,561	20,320	70,044	66,500
12	12	Approved Compactable Material	44,000	44,000	44,000	m³	140,800	545,600	165,000	506,000	165,000	519,200	564,792	80,960	212,541	87,560	223,438	87,560	229,266	271,229
13	0	Granular "B" Material	5,800			m³	330,658	316,680					270,206	38,976	137,101					28,600
14	0	Granular "C" Material	4,000			m³	233,040	204,000					162,741	32,000	86,776					19,590
15	13	Maintenance Grade 3 material	4,500	6,000	6,000	m³	254,205	259,200	402,000	324,000	402,000	331,200	231,375	30,015	113,581	43,140	149,856	43,140	153,186	24,200
16	14	CSP culvert, dia. 900 mm	48.0	48.0	48.0	m	26,000	41,280	24,000	40,800	24,000	41,760	15,881	11,000	22,201	10,985	23,133	10,985	23,677	1,450
17	15	Guide Rails	400.0	400.0	400.0	m	72,516	161,200	76,000	166,000	76,000	167,200	55,440	42,000	104,532	45,416	110,677	45,416	111,477	-
18	16	Gate Type 1	2.0	2.0	2.0	unit	15,100	25,600	16,000	26,000	16,000	26,000	5,775	10,000	15,864	11,127	16,725	11,127	16,725	-
19	0	Approved Compactable Material	26,000			m³	80,080	322,400					-	40,040	125,638					-
20	0	Granular "C" Material	7,500			m³	390,000	382,500					-	23,025	162,705					-
21	17	Overburden Excavation	2,000	2,000	2,000	m³	81,000	41,000	84,000	38,000	84,000	38,000	34,650	41,000	17,541	43,940	17,458	43,940	17,458	12,000
22	18	Non-woven Geotextile, min 300 g/m2	2,500	2,500	2,500	m2	16,850	63,750	17,500	61,250	17,500	62,500	20,213	7,000	40,346	7,325	39,518	7,325	40,324	7,500
23	19	Rockfill Protection, 100 - 250 mm	1,000	1,000	1,000	m³	69,720	62,000	77,000	58,000	77,000	59,000	28,298	11,000	36,022	10,880	35,264	10,880	35,872	12,000
24	20	Rockfill Protection, Zone 3E Material	2,500	2,500	2,500	m³	214,800	66,500	225,000	61,250	225,000	62,500	109,841	28,000	29,382	30,350	29,059	30,350	29,652	43,000
25	21	Non-woven Geotextile, min 530 g/m2	4,500	4,500	4,500	m2	37,125	38,700	38,250	37,125	38,250	38,250	46,778	16,020	17,898	16,380	17,412	16,380	17,940	18,000
26	22	Chain Link Fence and Gates	720	720	720	m	219,996	342,000	230,400	331,200	230,400	342,000	145,530	184,997	232,633	200,642	228,676	200,642	238,615	-
27	23	Engineering of Temporary Upstream Bridge	1.0	1.0	1.0	LS	50,000	116,000	50,000	115,000	50,000	115,000	8,085,000	-	116,000	-	115,000	-	115,000	-
28	24	Supply of Temporary Upstream Bridge	1.0	1.0	1.0	LS	7,650,000	2,020,000	7,500,000	2,000,000	7,500,000	2,000,000	-	-	37,204	-	39,381	-	39,381	-
29	25	Installation, removal and handover of Temporary Upstream Bridge	1.0	1.0	1.0	LS	2,725,000	4,637,000	2,725,000	4,500,000	2,725,000	4,500,000	-	1,425,000	1,968,523	1,527,505	2,026,189	1,527,505	2,026,189	-
30	26	Overburden excavation	2,500	2,500	2,500	m3	11,500	87,500	11,500	78,750	11,500	81,875	51,975	6,000	38,471	6,425	37,085	6,425	39,266	15,000
31	27	Foundation Cleaning (water/air jets and Vacuum trucks)	1,200	1,200	1,200	m2	45,000	144,000	45,600	138,000	45,600	144,000	124,082	29,004	122,561	31,008	119,151	31,008	125,035	83,530
32	28	Rock Excavation including dental excavation and Scaling	500	500	500	m3	81,110	105,000	62,500	100,000	62,500	102,500	40,425	22,000	42,459	23,725	42,336	23,725	44,735	10,000
33	29	Dental Concrete	800	800	800	m3	620,856	600,000	480,000	560,000	480,000	568,000	460,568	156,000	170,224	167,648	159,130	167,648	165,517	137,160
34	30	Slush Grout	1,200	1,200	1,200	m2	60,996	37,560	57,600	36,600	57,600	38,400	42,973	42,996	25,941	45,768	25,329	45,768	26,862	3,600
35	31	Dry Pack	6.0	6.0	6.0	m3	33,000	42,000	26,400	42,000	26,400	42,900	5,313	21,000	32,796	21,591	32,870	21,591	33,830	1,000
36	32	Compacted Till - Zones 1 and 1C Materials	19,000	19,000	19,000	m3	781,090	1,140,000	781,090	1,045,000	781,090	1,083,000	418,414	261,060	504,853	283,100	472,003	283,100	497,047	101,118
37	33	Dumped Till - Zone 1A Material	134,000	134,000	134,000	m3	3,859,200	5,025,000	3,886,000	4,690,000	3,886,000	4,824,000	2,354,514	1,870,660	1,806,499	1,159,100	1,770,262	1,159,100	1,860,578	569,560
38	34	Compacted Granular - Zone 2A Material	20,700	20,700	20,700	m3	1,450,035	1,304,100	1,221,300	1,200,600	1,221,300	1,242,000	798,989	150,075	615,284	323,955	578,651	323,955	607,921	101,500
39	35	Compacted Granular - Zone 2C Material	8,700	8,700	8,700	m3	617,091	548,100	522,000	504,600	522,000	522,000	275,589	66,990	259,206	139,722	243,792	139,722	256,113	42,630
40	36	Dumped Granular - Zone 2B Material	26,300	26,300	26,300	m3	1,509,094	1,183,500	1,315,000	1,078,300	1,315,000	1,104,600	791,273	99,940	458,088	310,340	417,858	310,340	434,904	102,605
41	37	Dumped Rockfill - Zone 3 Material	143,000	143,000	143,000	m3	1,714,570	2,288,000	1,573,000	2,073,500	1,573,000	2,145,000	2,497,641	264,550	946,331	283,140	926,359	283,140	988,729	1,173,100
42	38	Dumped Large Blocks (300-1000 mm) - Zone 3 Class 1	37,000	37,000	37,000	m3	435,120	851,000	407,000	777,000	407,000	795,500	985,810	68,080	324,255	73,260	322,776	73,260	337,196	397,800
43	39	Dumped Large Blocks (≥1000 mm) - Zone 3 Class 2	65,000	65,000	65,000	m3	1,950,000	3,120,000	1,755,000	2,795,000	1,755,000	2,925,000	1,913,462	293,150	1,160,352	317,850	1,137,540	317,850	1,227,471	772,127
44	40	Dumped Large Blocks (≥1300 mm) - Zone 3 Class 3	15,000	15,000	15,000	m3	450,900	930,000	405,000	825,000	405,000	858,750	464,657	61,950	321,951	67,200	314,580	67,200	340,456	187,500
45	41	Compacted Crushed Stone - Zone 3A Material	10,950	10,950	10,950	m3	714,488	810,300	657,000	744,600	657,000	766,500	504,158	84,972	394,714	177,719	380,847	177,719	396,249	122,500
46	42	Compacted Rockfill - Zone 3C Material	33,740	33,740	33,740	m3	1,565,199	910,980	1,484,560	826,630	1,484,560	860,370	732,784	315,132	383,979	339,762	373,281	339,762	395,955	345,770
47	43	Compacted Rockfill - Zone 3D Material	33,900	33,900	33,900	m3	555,960	915,300	542,400	830,550	542,400	864,450	462,826	130,854	385,800	141,702	375,051	141,702	397,832	219,190
48	44	Dumped Crushed Stone - Zone 3F Material	21,000	21,000	21,000	m3	1,175,790	1,060,500	1,050,000	955,500	1,050,000	976,500	932,131	77,070	451,629	247,800	427,236	247,800	439,717	214,380
52	0	Mobilization and demobilization	1.0			LS	1,112,715	1,585,000					-	239,568	554,750					-
53	0	Drilling Holes for Jet Grouting in embankment, river sediments and bedrock	9,600			m	1,534,368	1,257,600					166,320	439,968	686,566					-
54	0	Jet Grouted Cut-off wall	2,800			m2	2,949,436	2,744,000					5,497,800	412,888	478,388					-
55	0	Drilling Holes for Grouting in embankment, jet grouting cut-off wall and bedrock, if required	1,300			m	29,848	26,000					100,423	5,148	6,500					46,085
56	0	Dry cement incorporated in the grout, if required	11,000			kg	11,000	55,000					19,058	-	35,181					5,500
57	0	Grouting - Succesful connections, if required	60.0			unit	50,490	40,500					36,868	11,970	16,200					21,420
58	48	Overburden excavation	500	500	500	m3	10,700	17,500	10,500	16,125	10,500	16,750	9,298	3,500	8,182	3,630	8,046	3,630	8,504	4,500
59	49	Foundation cleaning (water/air jets and Vacuum trucks)	1,250	1,250	1,250	m2	46,500	150,000	47,500	143,750	47,500	150,000	130,018	30,000	127,668	32,300	121,322	32,300	127,286	87,600
60	50	Rock excavation including dental excavation and scaling	500	500	500	m3	78,110	105,000	62,500	100,000	62,500	102,500	40,425	22,000	42,459	23,725	42,756	23,725	45,159	10,000
61	51	Dental Concrete	200	200	200	m3	150,526	150,000	120,000	140,000	120,000	142,000	107,931	39,000	42,556	41,912	38,711	41,912	40,272	32,767
62	52	Slush Grout	1,250	1,250	1,250	m2	61,063	39,125	60,000	38,125	60,000	40,000	43,942	44,000	27,022	47,675	26,384	47,675	27,981	3,665
63	53	Dry Pack	6.0	6.0	6.0	m3	33,000	42,000	26,400	42,000	26,400	42,900	4,505	21,000	32,796	21,591	32,870	21,591	33,830	300
64	54	Compacted Till - Zones 1 and 1C	2,000	2,000	2,000	m3	73,000	120,000	74,000	110,000	74,000	114,000	44,883	28,000	52,804	29,800	49,359	29,800	51,981	10,840
65	55	Compacted Granular - Zone 2C	2,500	2,500	2,500	m3	165,650	162,500	145,000	150,000	145,000	155,000	86,706	20,000	73,408	40,925	69,245	40,925	72,705	11,000
66	56	Compacted Rockfill - Zone 3C	4,600	4,600	4,600	m3	194,028	138,000	179,400	119,600	179,400	124,200	99,992	44,022	61,676	47,380	57,086	47,380	60,365	47,183
67	57	Compacted Rockfill - Zone 3D	2,000	2,000	2,000	m3	34,000	60,000	32,000	52,000	32,000	54,000	27,134	8,000	26,816	8,360	24,820	8,360	26,246	12,851
68	58	Overburden excavation	8,800	8,800	8,800	m3	71,984	140,800	79,200	127,600	79,200	132,000	84,904	22,000	58,963	23,232	57,941	23,232	61,078	40,840
69	59	Foundation cleaning (water/air jets and Vacuum trucks)	1,700	1,700	1,700	m2	66,011	204,000	74,800	195,500	74,800	204,000	175,652	41,004	173,628	43,928	164,440	43,928	172,541	118,320
70	60	Rock excavation including dental excavation and scaling	700	700	700	m3	106,554	147,000	91,000	140,000	91,000	143,500	56,058	31,003	59,443	33,215	58,977	33,215	62,332	13,715
71	61	Dental Concrete	250	250	250	m3	188,380	187,500	150,000	175,000	150,000	177,500	136,596	49,000	53,195	52,390	49,488	52,390	51,476	41,150
72	62	Slush Grout	1,700	1,700	1,700	m2	85,119	53,210	81,600	51,850	81,600	54,400	59,367	59,993	36,750	64,838	35,994	64,838	38,171	4,950
73	63	Dry Pack	9.0	9.0	9.0	m3	46,000	63,000	39,600	63,000	39,600	64,350	6,122	31,000	49,194	32,379	49,499	32,379	50,940	500
74	64	Compacted Till - Zones 1 and 1C	6,300	6,300	6,300	m3	237,006	485,100	252,000	447,300	252,000	459,900	140,194	87,003	197,889	93,870	192,081	93,870	200,052	33,875
75	65	Compacted Granular - Zone 2C	4,900	4,900	4,900	m3	320,901	445,900	318,500	418,950	318,500	431,200	192,238	39,004	175,632	79,723	172,328	79,723	179,458	24,450
76	66	Compacted Rockfill - Zone 3C	5,200	5,200	5,200	m3	199,004	270,400	234,000	247,000	234,000	254,800	112,399	48,984	109,273	52,260	107,589	52,260	112,036	53,035
77	67	Compacted Rockfill - Zone 3D	1,400	1,400	1,400	m3	25,508	72,800	26,600	66,500	26,600	68,600	19,831	5,502	29,420	5,852	28,966	5,852	30,163	9,395
78	68	Overburden excavation	94,000	94,000	94,000	m3	749,180	1,457,000	752,000	1,316,000	752,000	1,410,000	899,364	229,360	616,264	248,160	602,442	248,160	659,704	432,621
79	69	Foundation cleaning (water/air jets and Vacuum trucks)	3,400	3,400	3,400	m2	126,990	408,000	149,600	408,000	149,600	408,000	351,276	80,988	347,257	87,856	353,486	87,856	355,435	236,640
80	70	Rock excavation including dental excavation and scaling	2,000	2,000	2,000	m3	267,440	420,000	260,000	400,000	260,000	410,000	160,129	88,000	169,837	94,900	170,245	94,900	181,466	39,180
81	71	Dental Concrete	1,200	1,200	1,200	m3	903,024	900,000	720,000	840,000	720,000	852,000	376,490	234,000	255,335	251,472	244,778	251,472	255,663	114,300
82	72	Slush Grout	3,400	3,400	3,400	m2	170,238	106,420	163,200	103,700	163,200	108,800	118,734	119,986	73,501	129,676	72,763	129,676	77,292	9,900

A2.1 Compare

Price Item Orig Bid	Price Item Rebid	Description	Qty (Bid)	Qty (Rebid Bidder 2)	Qty (Rebid Bidder 3)	Units	Total Price: Bidder 2	Bidder 3 (Alt)	Bidder 2 Rebid Option 1	Bidder 3 Rebid Option 1	Bidder 2 Rebid Option 2	Bidder 3 Rebid Option 2	Estimate	Labour Cost: Bidder 2	Bidder 3 (Alt)	Bidder 2 Rebid Option 1	Bidder 3 Rebid Option 1	Bidder 2 Rebid Option 2	Bidder 3 Rebid Option 2	Estimate
83	73	Dry Pack	20.0	20.0	20.0	m3	91,000	140,000	88,000	140,000	88,000	143,000	13,283	67,000	109,319	71,953	110,825	71,953	114,180	1,000
84	74	Drilling Holes for Grouting	1,200	1,200	1,200	m	245,004	144,000	246,000	144,000	246,000	150,000	256,191	99,432	115,200	32,136	115,200	32,136	120,000	22,165
85	75	Dry cement incorported in the grout	42,000	42,000	42,000	kg	188,160	327,600	336,000	258,300	336,000	273,000	72,765	48,300	238,031	-	154,980	-	163,800	21,000
86	76	Cored Drill Check Holes	30.0	30.0	30.0	m	10,744	15,000	12,000	16,950	12,000	17,400	13,860	3,744	12,750	-	14,476	-	14,864	-
87	77	Percussion Drilling Check holes	60.0	60.0	60.0	m	10,471	7,200	10,500	6,900	10,500	7,260	13,860	3,471	5,760	-	5,520	-	5,808	-
88	78	Grouting - Successful connections	250	250	250	unit	39,000	102,500	39,000	100,000	39,000	103,750	153,286	11,500	94,175	-	92,258	-	95,939	85,680
89	79	Water pressure test (Lugeon - 5 Stages)	8.0	8.0	8.0	hour	6,840	5,200	6,840	5,000	6,840	5,160	4,620	2,040	3,432	-	3,300	-	3,406	-
90	80	Water test - Successful connections	18.0	18.0	18.0	unit	6,840	5,220	6,840	4,950	6,840	5,220	10,568	2,040	3,445	-	3,267	-	3,445	6,150
91	81	Uplift gauges	20.0	20.0	20.0	m	15,745	12,000	15,760	11,700	15,760	12,000	11,550	3,745	6,000	-	5,850	-	6,000	-
92	82	Thermistors (measure rock temperature in grout holes)	1.0	1.0	1.0	unit	12,744	10,000	13,000	11,500	13,000	11,700	4,620	3,744	6,400	-	-	-	-	-
93	83	Compacted Till - Zones 1 and 1C	26,000	26,000	26,000	m3	908,180	1,508,000	910,000	1,404,000	910,000	1,456,000	576,285	333,060	652,679	361,660	623,475	361,660	658,924	139,249
94	84	Compacted Granular - Zone 2A	28,000	28,000	28,000	m3	1,876,560	1,680,000	1,736,000	1,540,000	1,736,000	1,596,000	1,076,518	234,920	734,039	473,760	685,702	473,760	724,198	136,886
95	85	Compacted Crushed Stone - Zone 3A	12,000	12,000	12,000	m3	807,480	876,000	744,000	792,000	744,000	828,000	559,693	101,040	418,021	203,040	397,009	203,040	420,234	58,514
96	86	Compacted Crushed Stone - Zone 3B	16,000	16,000	16,000	m3	1,068,160	1,168,000	992,000	1,040,000	992,000	1,080,000	491,414	135,040	560,848	270,720	525,205	270,720	552,232	99,006
97	87	Compacted Rockfill - Zone 3C	21,000	21,000	21,000	m3	882,840	504,000	882,000	462,000	882,000	483,000	456,076	182,910	219,424	197,820	215,066	197,820	229,701	215,204
98	88	Compacted Rockfill - Zone 3D	46,000	46,000	46,000	m3	900,680	1,104,000	828,000	1,012,000	828,000	1,058,000	624,518	150,880	480,644	163,300	471,096	163,300	503,155	295,770
99	89	Riprap - Zone 4	6,000	6,000	6,000	m3	419,340	330,000	456,000	294,000	456,000	306,000	263,273	58,020	126,621	62,340	122,751	62,340	130,762	107,532
100	90	Compacted Crushed Stone - Zone 5	310.0	310.0	310.0	m3	26,214	25,420	28,520	23,560	28,520	24,180	13,207	6,501	11,926	6,832	11,530	6,832	11,987	1,565
101	91	Jersey Barrier	600.0	600.0	600.0	m	9,000	120,000	9,000	114,000	9,000	120,000	50,012	4,500	46,442	4,560	44,584	4,560	48,069	-
102	92	V-Notch Weirs, excluding Shelters	2.0	2.0	2.0	unit	69,136	35,000	72,000	23,000	72,000	24,000	4,620	23,000	15,612	24,594	15,170	24,594	16,052	-
103	93	Shelters for V-Notch Weirs	2.0	2.0	2.0	unit	34,000	11,600	34,000	11,250	34,000	11,800	2,310	4,000	7,879	3,812	7,663	3,812	8,140	-
104	94	Survey Monuments at South Dam Crest	3.0	3.0	3.0	unit	6,000	7,500	6,000	2,850	6,000	3,000	1,733	-	1,760	-	1,751	-	1,873	-
105	95	Clearing of the North Abutment	3.0	3.0	3.0	Ha	208,000	150,000	225,000	141,000	225,000	144,000	99,330	68,000	63,805	73,399	60,656	73,399	62,425	-
106	96	Overburden Excavation	72,000	72,000	72,000	m3	700,560	1,584,000	720,000	1,440,000	720,000	1,512,000	920,997	200,880	660,926	217,440	650,220	217,440	695,793	442,286
107	97	Foundation Cleaning (water/air jets and vacuum)	13,500	13,500	13,500	m2	501,930	2,700,000	675,000	2,565,000	675,000	2,700,000	1,387,594	321,975	2,258,191	435,915	2,178,864	435,915	2,305,554	934,730
108	98	Rock Excavation including Dental Excavation and Scaling	6,000	6,000	6,000	m3	711,300	1,500,000	714,000	1,380,000	714,000	1,500,000	480,480	262,980	651,830	284,700	627,407	284,700	700,249	117,540
109	99	Dental Concrete	4,000	500	4,000	m3	3,010,240	3,000,000	300,000	2,800,000	300,000	2,840,000	2,153,519	780,000	851,118	104,715	795,652	104,715	827,583	653,796
99A		Leveling CVC		3,500	1	m3			1,680,000	710	1,680,000	725				315,490	194	315,490	199	
110	100	Slush Grout	13,500	13,500	13,500	m2	656,910	422,550	648,000	411,750	648,000	432,000	471,379	475,065	291,841	514,890	284,951	514,890	302,198	39,300
111	101	Dry Pack	70	70	70	m3	308,768	490,000	308,000	490,000	308,000	500,500	47,528	235,000	382,617	251,836	383,482	251,836	394,681	3,500
112	102	Drilling Holes in RCC and Bedrock for Grouting	4,200	4,200	4,200	m	1,265,586	1,092,000	1,264,200	1,155,000	1,264,200	1,197,000	955,462	654,528	884,520	120,498	924,000	120,498	957,600	88,660
113	103	Grouting - Successful Connections	720	720	720	unit	90,900	291,600	90,720	288,000	90,720	298,800	441,470	18,900	261,636	-	239,009	-	249,370	246,760
114	104	Dry Cement incorported in the grout	126,000	126,000	126,000	kg	340,200	793,800	630,000	592,200	630,000	630,000	226,380	75,600	549,346	-	503,370	-	535,500	70,000
115	105	Cored Drill Check Holes	60.0	60.0	60.0	m	27,012	20,700	27,000	20,100	27,000	20,700	27,720	9,252	15,111	-	16,080	-	16,560	-
116	106	Percussion Drilling Check Holes	120.0	120.0	120.0	m	40,375	30,600	40,320	29,400	40,320	30,000	27,720	14,455	23,868	-	26,460	-	27,000	-
117	107	Water pressure test (lugeon - 5 Stages)	15.0	15.0	15.0	hour	11,670	9,000	11,670	8,700	11,670	9,000	8,663	4,080	6,840	-	5,742	-	5,940	-
118	108	Water Pressure Test - Successful connections	36.0	36.0	36.0	unit	11,676	9,000	11,700	8,820	11,700	9,000	21,137	4,080	6,840	-	5,821	-	5,940	12,300
119	109	Uplift gauges	60.0	60.0	60.0	m	39,852	36,000	39,900	35,100	39,900	36,000	2,310	9,252	16,200	-	17,550	-	18,000	-
120	110	Thermistor (measure temperature in grout holes)	1.0	1.0	1.0	unit	11,796	10,000	11,800	11,500	11,800	11,700	4,620	3,750	6,500	-	-	-	-	-
121	111	Drilling Holes for Drainage in Foundation from Drainage Gallery, Φ76 mm	3,200	3,200	3,200	m	856,768	864,000	854,400	1,088,000	854,400	1,120,000	386,324	426,752	708,480	-	892,160	-	918,400	177,320
122	112	PVC Caps for Drainage Holes	125	125	125	unit	3,500	4,125	3,500	4,000	3,500	4,094	36,094	-	-	-	-	-	-	12,500
123	113	Drilling Holes Upward for Drainage from Drainage Gallery into RCC, Φ76 mm	3,200	3,200	3,200	m	908,032	992,000	1,200,000	1,488,000	1,200,000	1,520,000	772,649	478,016	826,412	-	1,243,391	-	1,270,357	354,640
124	114	Drilling Holes for piezometers	100	100	100	m	29,600	15,500	29,600	15,000	29,600	16,000	-	-	11,956	-	11,594	-	12,480	-
125	115	Vibrating Wire and Standpipe Piezometers TYPE - 1, excluding Cables	8.0	8.0	8.0	unit	108,800	48,000	108,800	46,000	108,800	48,000	41,580	-	28,800	-	27,600	-	28,800	4,000
126	116	Vibrating Wire and Standpipe Piezometers TYPE - 2, excluding Cables	2.0	2.0	2.0	unit	6,000	23,500	6,000	11,500	6,000	12,000	-	-	14,100	-	6,900	-	7,200	-
127	117	Instrument Cable including PVC Conduits and Pull Boxes	2,700	2,700	2,700	m	75,600	140,400	75,600	155,250	75,600	157,950	31,185	-	49,140	-	54,338	-	55,283	-
128	118	Thermistors Cable in RCC	8.0	8.0	8.0	unit	40,000	120,000	40,000	36,000	40,000	37,600	49,665	-	60,000	-	18,000	-	18,800	-
129	119	V-notch Weirs	4.0	4.0	4.0	unit	56,972	92,000	56,972	70,000	56,972	74,000	9,240	-	50,135	-	50,088	-	53,571	-
130	120	Vibrating Wire Weir Monitors.	4.0	4.0	4.0	unit	64,000	120,000	64,000	23,000	64,000	24,000	9,240	-	30,000	-	5,750	-	6,000	-
131	121	Data logger, Terminal Box, Barometer Box including Grounding	1.0	1.0	1.0	LS	150,000	120,000	150,000	57,000	150,000	60,000	11,550	-	24,000	-	11,400	-	12,000	-
132	122	Crest Survey Monuments	4.0	4.0	4.0	unit	8,000	12,000	8,000	4,500	8,000	4,800	2,772	-	3,365	-	2,985	-	3,229	400
133	123	Roller Compacted Concrete (RCC)	210,000	202,131	210,000	m3	50,059,800	78,960,000	58,617,990	78,750,000	58,617,990	81,900,000	44,279,311	15,466,500	39,602,801	16,736,447	38,676,577	16,736,447	41,001,539	5,060,364
133.A	123A	RCC Trial Demonstration Sections		4,500	4,500		-	-	1,305,000	2,835,000	1,305,000	2,925,000	-	-		148,455	1,755,000	148,455	1,797,750	
133.B	0	Leveling Conrete (Rate Only)					-	-					-	-						
134	124	Conventional Vibrated Concrete (CVC) (Crest and Flip Bucket)	11,100	11,100	11,100	m3	10,841,481	15,262,500	6,660,000	16,650,000	6,660,000	17,205,000	11,586,504	3,684,978	9,608,091	2,514,039	10,019,240	2,514,039	10,474,411	4,152,344
135	125	Facing Concrete	8,600	16,469	8,600	m3	5,866,748	8,944,000	8,234,500	8,600,000	8,234,500	9,030,000	8,976,931	1,159,968	5,364,584	1,840,740	5,199,125	1,840,740	5,536,640	3,217,131
136	126	GERCC or GEVR - Formed Faces (Rate Only)	4,650	1.0	4,650.0	m3	2	3,952,500	2	3,720,000	2	3,952,500	1,505,187	1	2,217,599	1	2,149,439	1	2,338,635	238,462
136.1	126.1	Facing In Place Of GERCC		4,650	-		2,185,500	-	2,325,000	-	2,325,000	-	-	651,077		715,635	-	715,635	-	
137	127	Conventional Vibrated Concrete (North Abutment Crest Surface and Training Wall)	270.0	270.0	270.0	m3	414,480	371,250	324,000	351,000	324,000	364,500	281,834	150,001	243,110	160,234	230,526	160,234	242,016	101,003
138	128	Increase or decrease in quantity of cement - Bid Mix (rate only)	1.0	1.0	-	Kg	-	-	0	-	0	-	-	-	-	-	-	-		-
139	129	Increase or decrease in quantity of flyash - Bid Mix (rate only)	1.0	1.0	-	Kg	-	-	0	-	0	-	-	-	-	-	-	-		-
140	130	Increase or decrease in quantity of cement - Source B (rate only)	1.0	1.0	-	Kg	-	-	0	-	0	-	-	-	-	-	-	-		-
141	131	Increase or decrease in quantity of flyash - Source B (rate only)	1.0	1.0	-	Kg	-	-	0	-	0	-	-	-	-	-	-	-		-
142	132	Air-entraining Admixture	315,000	315,000	315,000	litre	434,700	1,354,500	472,500	409,500	472,500	409,500	808,500	-	-	-	-	-	-	-
143	133	Retarder Admixture	336,000	336,000	336,000	litre	514,080	1,579,200	514,080	588,000	514,080	588,000	693,000	-	-	-	-	-	-	-
144	134	Precast Concrete	1,150	1	1,150	m3	1,793,500	2,415,000	1,750,000	2,357,500	1,750,000	2,357,500	1,394,663	43,500	336,513	46,870	329,872	46,870	329,872	115,000
145	135	Gallery Floor CVC Concrete	275.0	275.0	275.0	m3	592,001	687,500	605,000	646,250	605,000	660,000	356,248	320,001	505,482	342,166	477,069	342,166	487,219	110,000
146	136	Steel Reinforcement	500,000	500,000	500,000	kg	2,365,000	4,000,000	2,600,000	3,900,000	2,600,000	4,000,000	1,732,500	155,000	2,433,679	170,000	2,378,272	170,000	2,457,507	-
147	137	Steel Guardrails	5,200	5,200	5,200	kg	92,664	226,200	93,600	222,300	93,600	234,000	893,970	14,664	181,643	15,912	179,263	15,912	190,168	-
148	138	Waterstop	1,350	1,350	1,350	m	105,503	256,500	109,350	256,500	109,350	270,000	160,221	76,505	227,946	81,216	227,946	81,216	241,050	86,372
149	139	Exothermic Connections.	20.0	20.0	20.0	unit	34,200	23,000	34,200	23,000	34,200	23,500	11,550	-	17,250	-	17,250	-	17,625	-
150	140	Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil	815.0	815.0	815.0	m	111,655	93,725	111,655	93,725	111,655	93,725	117,666	-	74,980	-	74,980	-	74,980	-
151	141	Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG	16.0	16.0	16.0	m	1,300	1,840	1,200	1,840	1,200	1,840	1,848	-	1,380	-	1,472	-	1,472	-
152	142	Embedded Copper Grounding Plates	7.0	7.0	7.0	unit	12,000	2,450	11,970	2,415	11,970	2,450	8,085	-	245	-	242	-	245	-
153	143	Overburden Excavation, excluding excavation of Cofferdam 3 - Dry Conditions	12,000	12,000	12,000	m3	96,960	264,003	96,000	225,000	96,000	234,000	153,575	18,960	112,043	20,040	103,240	20,040	109,392	73,745
154	144	Tailrace Rock Plug Excavation including access ramp to powerhouse -Dry Conditions	170,000	170,000	170,000	m3	4,304,400	6,664,000	4,304,400	6,247,500	4,304,400	6,375,000	4,476,740	1,004,700	2,800,862	1,089,700	2,761,745	1,089,700	2,851,525	1,462,050
155	145	Tailrace Rock Plug - Underwater Excavation	34,000	34,000	34,000	m3	2,120,240	3,740,000	2,120,240	3,570,000	2,120,240	3,672,000	3,282,442	480,080	1,470,923	520,540	1,459,700	520,540	1,523,972	983,733
156	146	Grouted Rock Bolts Type A	70.0	70.0	70.0	unit	35,001	259,000	35,000	252,000	35,000	262,500	53,361	15,000	149,998	16,134	147,865	16,134	156,656	14,520
157	147	Grouted Rock Bolts Type C	20.0	20.0	20.0	unit	17,900	136,000	17,900	132,000	17,900	138,000	19,866	8,500	78,551	9,096	77,256	9,096	82,106	5,200
158	148	Chain Link Wire Mesh - Installation	2,500	2,500	2,500	m2	171,000	125,000	171,000	120,625	171,000	125,000	202,495	76,000	69,765	82,250	68,389	82,250	71,979	107,520
159	149	Chain Link Wire Mesh - Removal	20,300	20,300	20,300	m2	73,892	162,400	79,170	152,250	79,170	157,325	1,343,084	69,020	117,038	73,892	113,330	73,892	118,093	831,805

A2.1 Compare

Price Item Orig Bid	Price Item Rebid	Description	Qty (Bid)	Qty (Rebid Bidder 2)	Qty (Rebid Bidder 3)	Units	Total Price: Bidder 2	Bidder 3 (Alt)	Bidder 2 Rebid Option 1	Bidder 3 Rebid Option 1	Bidder 2 Rebid Option 2	Bidder 3 Rebid Option 2	Estimate	Labour Cost: Bidder 2	Bidder 3 (Alt)	Bidder 2 Rebid Option 1	Bidder 3 Rebid Option 1	Bidder 2 Rebid Option 2	Bidder 3 Rebid Option 2	Estimate
160	150	Existing Temporary Safety.Fence - Removal	1,200	1,200	1,200	m	19,500	73,200	19,500	69,600	19,500	72,000	19,982	15,000	52,754	14,652	51,808	14,652	54,045	-
164	164	ESIMATE OF TRAVEL ALLOWANCES - TRADES LABOUR, LOCAL STAFF AND U.S. STAFF		1.0	-		7,691,689	-	4,191,689	-	4,191,689	-	-	-	-	-	-	-	-	-
	151	Overhaul of Borrowed Construction Material (rate only)		-	-				2		2	-					-			
	152	Other Material or Rockfill		28,000.0	28,000.0				350,000	315,000	350,000	315,000				106,400	133,000	106,400	133,000	
	153	Maintenance Grade No 3		4,000.0	4,000.0				300,000	144,000	300,000	144,000				28,760	70,080	28,760	70,080	
	154	Production of blasted rockfill from the quarry Q5		50,000.0	50,000.0				750,000	310,000	750,000	325,000				164,000	145,000	164,000	150,000	
	155	Mobilization and demobilization		1.0	1.0				1,100,000	1,195,000	1,100,000	1,224,000				-	402,500	-	412,000	
	156	Drilling Holes for Jet Grouting in embankment, river sediments and bedrock		9,600.0	9,600.0				1,536,000	1,440,000	1,536,000	1,476,000				-	782,400	-	801,600	
	157	Jet Grouted Cut-off wall		2,800.0	2,800.0				2,948,400	3,220,000	2,948,400	3,304,000				120,512	560,000	120,512	579,600	
	158	Drilling Holes for Grouting in embankment, jet grouting cut-off wall and bedrock, if required		1,300.0	1,300.0				29,900	29,575	29,900	30,550				-	7,410	-	7,670	
	159	Dry cement incorporated in the grout, if required		11,000.0	11,000.0				11,000	57,750	11,000	57,750				-	36,300	-	36,300	
	160	Grouting - Succesful connections, if required		60.0	60.0				50,700	46,200	50,700	47,400				-	18,480	-	18,900	
49	45	Percussion Drill Holes in embankments, river sediments and bedrock	1,000.0	1,000.0	1,000.0	m	126,400	109,000	126,000	115,000	126,000	120,000	73,920	22,400	30,520	-	32,200	-	33,600	28,000
50	46	Verification Core Drilling in jet grouting cut-off wall and bedrock	200.0	200.0	200.0	m	93,736	85,400	93,800	93,000	93,800	95,000	-	12,336	17,080	-	18,600	-	19,000	-
51	47	Core Diamond Drill Rig in Standby	140.0	140.0	140.0	hour	18,480	19,320	18,480	21,000	18,480	21,700	80,850	-	-	-	-	-	-	-
ADJ18	ADJ18	Flip Bucket reduction			-		-	-	(2,000,000)		(2,000,000)	-	-					-	-	
		Totals					304,648,137	304,828,708	312,120,691	294,410,525	337,120,691	308,509,134	201,460,827	102,678,653	152,980,833	61,819,550	146,855,941	61,819,550	156,082,481	64,237,237
		Indirect					177,353,611	108,541,650	157,915,000	97,540,000	182,915,000	104,755,000	68,240,172	65,235,124	55,936,940	24,061,614	49,327,760	24,061,614	53,492,130	35,177,400
		Direct					127,294,527	196,287,058	154,205,691	196,870,525	154,205,691	203,754,134	133,220,655	37,443,529	97,043,893	37,757,936	97,528,182	37,757,936	102,590,351	29,059,837
		Cost Comparison																		
		IND					177,353,611	108,541,650	162,106,689	97,540,000	187,106,689	104,755,000	68,240,172	65,235,124	55,936,940	24,061,614	49,327,760	24,061,614	53,492,130	35,177,400
		GEN					6,781,250	7,632,160	5,913,470	6,085,875	5,913,470	6,191,310	6,158,218	1,295,513	3,475,399	1,265,465	2,983,940	1,265,465	3,068,105	2,058,482
		TB					10,425,000	6,773,000	10,275,000	6,615,000	10,275,000	6,615,000	8,085,000	1,425,000	2,121,727	1,527,505	2,180,570	1,527,505	2,180,570	-
		USCD					23,318,855	26,810,940	16,282,950	19,301,630	16,282,950	19,945,345	19,678,051	4,331,025	10,222,978	4,160,815	8,156,134	4,160,815	8,615,413	4,673,075
		DSCD					846,577	984,125	757,300	911,600	757,300	941,350	594,833	259,522	495,385	297,298	470,601	297,298	494,330	220,706
		CD					1,346,467	2,069,710	1,347,300	1,932,700	1,347,300	1,990,250	983,361	414,493	943,387	481,687	917,303	481,687	958,245	340,230
		SD					9,851,010	11,429,660	9,516,260	10,485,660	9,516,260	10,907,270	6,580,254	2,231,221	5,332,602	2,688,592	5,070,392	2,688,592	5,362,328	2,022,363
		ND					85,668,660	132,820,940	93,764,230	133,782,560	93,764,230	138,967,384	81,434,623	25,764,759	69,552,879	25,090,598	70,759,938	25,090,598	74,681,841	16,238,407
		TRW					6,838,893	11,423,603	6,843,210	10,768,975	6,843,210	11,035,825	9,551,543	1,687,260	4,851,935	1,826,305	4,783,332	1,826,305	4,967,769	3,478,573
		Opt					238,616	213,720	7,314,282	6,986,525	7,314,282	7,160,400	154,770	34,736	47,600	419,672	2,205,970	419,672	2,261,750	28,000
		ADJ					(18,020,800)	(3,870,800)			-	-	-	-	-			-	-	-
		ADJBid3					-	-	(2,000,000)		(2,000,000)	-	-							
		Labour cost from subs in estimate																		12,470,239
		Totals Before Optional Work					304,409,521	304,614,988	304,806,409	287,424,000	329,806,409	301,348,734	201,306,057	102,643,917	152,933,233	61,399,878	144,649,971	61,399,878	153,820,731	76,679,476
		Totals					304,648,137	304,828,708	312,120,691	294,410,525	337,120,691	308,509,134	201,460,827	102,678,653	152,980,833	61,819,550	146,855,941	61,819,550	156,082,481	76,707,476
		Average labour cost per hour												116.74	113.34	71.04	114.14	71.04	119.12	85.00

A2.1 Compare

Price Item Orig Bid	Price Item Rebid	Description	Hours: Bidder 2	Hours: Bidder 3 (Alt)	Hours: Bidder 2 Rebid Option 1	Hours: Bidder 3 Rebid Option 1	Hours: Bidder 2 Rebid Option 2	Hours: Bidder 3 Rebid Option 2	Hours: Estimate	Labour Rate: Bidder 2	Labour Rate: Bidder 3 (Alt)	Labour Rate: Bidder 2 Rebid Option 1	Labour Rate: Bidder 3 Rebid Option 1	Labour Rate: Bidder 2 Rebid Option 2	Labour Rate: Bidder 3 Rebid Option 2	Labour Rate: Estimate	Non-Labour Cost: Bidder 2	Non-Labour Cost: Bidder 3 (Alt)	Non-Labour Cost: Bidder 2 Rebid Option 1	Non-Labour Cost: Bidder 3 Rebid Option 1	Non-Labour Cost: Bidder 2 Rebid Option 2	Non-Labour Cost: Bidder 3 Rebid Option 2	Non-Labour Cost: Estimate
1	1	Mobilization	83,638	28,109	130,514	28,108	130,514	28,108	38,824	97	70	111	72	111	73	64	65,140,798	28,023,651	45,519,493	26,969,111	53,519,493	27,937,625	2,824,550
2	2	Site Installation	151,227	60,693	86,318	61,021	86,318	61,021	194,240	86	105	96	108	96	111	85	33,000,000	16,430,068	35,405,023	13,888,708	41,705,023	15,365,729	17,924,077
3	3	Management, Staff, employees and Consultants	234,434	332,250	236,717	286,750	236,717	302,400	152,847	177	116	-	119	-	123	85	3,650,000	5,461,924	45,000,000	4,868,796	55,000,000	5,376,208	5,036,395
4	4	Health and Safety, Environmental and Quality Requirements	14,143	102,527	4,503	73,546	4,503	81,166	34,694	170	85	253	86	253	90	84	665,000	183,417	1,860,430	170,625	2,060,430	178,307	2,659,425
5	5	Credit, Guarantee and Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	991,000	2,030,650	5,000,000	1,840,000	5,500,000	1,930,000	3,234,000
6	6	Warranty, per Article 17 of the Agreement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200,000	225,000	300,000	225,000	300,000	225,000	-
7	7	Demobilization	1,472	-	1,600	-	1,600	-	8,118	92	-	92	-	92	-	31	780,000	250,000	768,439	250,000	768,439	250,000	1,384,325
8	8	Dewatering of Structure Areas	3,174	8,180	3,450	8,179	3,450	8,179	5,882	91	107	91	104	91	106	85	1,900,000	677,592	1,836,191	645,766	1,836,191	634,145	1,105,450
9	9	Excavation of Existing Embankment cofferdams 1, 2 and 3, and Existing Ramps	3,343	8,272	3,634	8,272	3,634	8,272	12,405	91	111	91	110	91	114	85	1,600,080	1,474,771	1,573,530	1,261,697	1,573,530	1,268,979	1,168,086
10	10	Excavation of Downstream section of RCC riverside cofferdam	933	2,455	1,014	2,455	1,014	2,455	2,038	92	109	91	107	91	112	-	347,800	394,955	341,200	356,624	341,200	365,509	500,115
11	11	Overburden Excavation	206	640	224	639	224	639	782	92	102	91	107	91	110	85	52,000	91,792	49,680	79,439	49,680	81,156	72,135
12	12	Approved Compactable Material	873	2,092	949	2,092	949	2,092	3,191	93	102	92	107	92	110	85	59,840	333,059	77,440	282,562	77,440	289,934	293,563
13	0	Granular "B" Material	418	1,166					336	93	118					85	291,682	179,579		-		-	241,606
14	0	Granular "C" Material	347	735					230	92	118					85	201,040	117,224		-		-	143,151
15	13	Maintenance Grade 3 material	326	983	473	1,319	473	1,319	376	92	116	91	114	91	116	64	224,190	145,619	358,860	174,144	358,860	178,014	207,175
16	14	CSP culvert, dia. 900 mm	110	213	120	213	120	213	17	100	104	92	109	92	111	85	15,000	19,079	13,015	17,667	13,015	18,083	14,431
17	15	Guide Rails	458	1,040	497	1,040	497	1,040	113	92	101	91	106	91	107	-	30,516	56,668	30,584	55,323	30,584	55,723	55,440
18	16	Gate Type 1	55	154	120	154	120	154	24	182	103	93	109	93	109	-	5,100	9,736	4,873	9,275	4,873	9,275	5,775
19	0	Approved Compactable Material	426	1,238					-	94	101					-	40,040	196,762		-		-	-
20	0	Granular "C" Material	248	1,379					-	93	118					-	366,975	219,795		-		-	-
21	17	Overburden Excavation	442	174	480	173	480	173	141	93	101	92	101	92	101	85	40,000	23,459	40,060	20,542	40,060	20,542	22,650
22	18	Non-woven Geotextile, min 300 g/m2	74	400	80	400	80	400	88	95	101	92	99	92	101	85	9,850	23,404	10,175	21,732	10,175	22,176	12,713
23	19	Rockfill Protection, 100 - 250 mm	109	348	119	348	119	348	141	101	104	91	101	91	103	85	58,720	25,978	66,120	22,736	66,120	23,128	16,298
24	20	Rockfill Protection, Zone 3E Material	307	290	333	290	333	290	506	91	101	91	100	91	102	85	186,800	37,118	194,650	32,191	194,650	32,848	66,841
25	21	Non-woven Geotextile, min 530 g/m2	166	180	180	180	180	180	212	97	99	91	97	91	100	85	21,105	20,802	21,870	19,713	21,870	20,310	28,778
26	22	Chain Link Fence and Gates	1,954	2,088	2,124	2,088	2,124	2,088	593	95	111	94	110	94	114	-	34,999	109,367	29,758	102,524	29,758	103,385	145,530
27	23	Engineering of Temporary Upstream Bridge	-	-	-	-	-	-	32,941	-	-	-	-	-	-	-	50,000	-	50,000	-	50,000	-	8,085,000
28	24	Supply of Temporary Upstream Bridge	-	375	-	373	-	373	-	-	99	-	106	-	106	-	7,650,000	1,982,796	7,500,000	1,960,619	7,500,000	1,960,619	-
29	25	Installation, removal and handover of Temporary Upstream Bridge	14,950	18,925	16,250	18,924	16,250	18,924	-	95	104	94	107	94	107	-	1,300,000	2,668,477	1,197,495	2,473,811	1,197,495	2,473,811	-
30	26	Overburden excavation	64	346	70	346	70	346	176	94	111	92	107	92	113	85	5,500	49,029	5,075	41,665	5,075	42,609	36,975
31	27	Foundation Cleaning (water/air jets and Vacuum trucks)	313	1,080	340	1,080	340	1,080	983	93	113	91	110	91	116	85	15,996	21,439	14,592	18,849	14,592	18,965	40,552
32	28	Rock Excavation including dental excavation and Scaling	238	395	259	394	259	394	118	92	107	92	107	92	113	85	59,110	62,541	38,775	57,664	38,775	57,765	30,425
33	29	Dental Concrete	1,685	1,535	1,831	1,533	1,831	1,533	2,528	93	111	92	104	92	108	54	464,856	429,776	312,352	400,870	312,352	402,483	323,408
34	30	Slush Grout	462	240	502	240	502	240	42	93	108	91	106	91	112	85	18,000	11,619	11,832	11,271	11,832	11,538	39,373
35	31	Dry Pack	217	300	236	300	236	300	27	97	109	92	110	92	113	37	12,000	9,204	4,809	9,130	4,809	9,070	4,313
36	32	Compacted Till - Zones 1 and 1C Materials	2,877	4,690	3,127	4,473	3,127	4,473	1,190	91	108	91	106	91	111	85	520,030	635,147	497,990	572,997	497,990	585,953	317,296
37	33	Dumped Till - Zone 1A Material	11,788	16,795	12,813	16,795	12,813	16,795	6,701	91	108	90	105	90	111	85	2,788,540	3,218,501	2,726,900	2,919,738	2,726,900	2,963,422	1,784,954
38	34	Compacted Granular - Zone 2A Material	1,607	5,710	3,552	5,889	3,552	5,889	2,751	93	108	91	98	91	103	37	1,299,960	688,816	897,345	621,949	897,345	634,079	697,489
39	35	Compacted Granular - Zone 2C Material	711	2,394	1,531	2,469	1,531	2,469	911	94	108	91	99	91	104	47	550,101	288,894	382,278	260,808	382,278	265,887	232,959
40	36	Dumped Granular - Zone 2E Material	1,037	4,240	3,420	4,467	3,420	4,467	2,445	96	108	91	94	91	97	42	1,409,154	725,412	1,004,660	660,442	1,004,660	669,696	688,668
41	37	Dumped Rockfill - Zone 3 Material	2,850	8,882	3,098	8,882	3,098	8,882	13,801	93	107	91	104	91	111	85	1,450,020	1,341,669	1,289,860	1,147,141	1,289,860	1,156,271	1,324,541
42	38	Dumped Large Blocks (300-1000 mm) - Zone 3 Class 1	738	3,034	802	3,034	802	3,034	4,680	92	107	91	106	91	111	85	367,040	526,745	333,740	454,224	333,740	458,304	588,010
43	39	Dumped Large Blocks (≥1000 mm) - Zone 3 Class 2	3,189	10,780	3,467	10,779	3,467	10,779	9,084	92	108	92	106	92	114	85	1,656,850	1,959,648	1,437,150	1,657,461	1,437,150	1,697,529	1,141,335
44	40	Dumped Large Blocks (≥1300 mm) - Zone 3 Class 3	675	3,025	733	3,025	733	3,025	2,206	92	106	92	104	92	113	85	388,950	608,049	337,800	510,420	337,800	518,294	277,157
45	41	Compacted Crushed Stone - Zone 3A Material	914	3,479	1,948	3,495	1,948	3,495	2,472	93	113	91	109	91	113	50	629,516	415,586	479,282	363,753	479,282	370,251	381,658
46	42	Compacted Rockfill - Zone 3C Material	3,397	3,510	3,692	3,509	3,692	3,509	4,068	93	109	92	106	92	113	85	1,250,067	527,001	1,144,798	453,349	1,144,798	464,415	387,014
47	43	Compacted Rockfill - Zone 3D Material	1,428	3,525	1,552	3,526	1,552	3,526	2,579	92	109	91	106	91	113	85	425,106	529,500	400,698	455,499	400,698	466,618	243,636
48	44	Dumped Crushed Stone - Zone 3F Material	828	3,440	2,731	3,888	2,731	3,888	4,499	93	131	91	110	91	113	48	1,098,720	608,871	802,200	528,264	802,200	536,783	717,751
52	0	Mobilization and demobilization	2,155	2,342					-	111	237					-	873,147	1,030,250		-		-	-
53	0	Drilling Holes for Jet Grouting in embankment, river sediments and bedrock	4,416	5,400					678	100	127					-	1,094,400	571,034		-		-	166,320
54	0	Jet Grouted Cut-off wall	4,876	4,344					22,400	94	110					-	2,536,548	2,265,612		-		-	5,497,800
55	0	Drilling Holes for Grouting in embankment , Jet grouting cut-off wall and bedrock, if required	60	65					542	86	100					85	24,700	19,500		-		-	54,338
56	0	Dry cement incorported in the grout, if required	-	345					65	-	102					85	11,000	19,819		-		-	13,558
57	0	Grouting - Succesful connections, if required	138	150					252	87	108					85	38,520	24,300		-		-	15,448
58	48	Overburden excavation	37	74	40	74	40	74	53	95	111	91	109	91	115	85	7,200	9,318	6,872	8,079	6,872	8,246	4,798
59	49	Foundation cleaning (water/air jets and Vacuum trucks)	326	1,125	354	1,125	354	1,125	1,031	92	113	91	108	91	113	85	16,500	22,332	15,200	22,428	15,200	22,714	42,418
60	50	Rock excavation including dental excavation and scaling	238	395	259	401	259	401	118	92	107	92	107	92	113	85	56,110	62,541	38,775	57,244	38,775	57,341	30,425
61	51	Dental Concrete	421	384	458	383	458	383	604	93	111	92	101	92	105	54	111,526	107,444	78,088	101,289	78,088	101,728	75,164
62	52	Slush Grout	481	250	523	250	523	250	43	91	108	91	106	91	112	85	17,063	12,103	12,325	11,741	12,325	12,019	40,277
63	53	Dry Pack	217	300	236	300	236	300	19	97	109	92	110	92	113	16	12,000	9,204	4,809	9,130	4,809	9,070	4,205
64	54	Compacted Till - Zones 1 and 1C	303	490	329	465	329	465	128	92	108	91	106	91	112	85	45,000	67,196	44,200	60,641	44,200	62,019	34,043
65	55	Compacted Granular - Zone 2C	212	675	448	696	448	696	298	94	109	91	100	91	105	37	145,650	89,092	104,075	80,755	104,075	82,295	75,706
66	56	Compacted Rockfill - Zone 3C	474	534	515	534	515	534	555	93	115	92	107	92	113	85	150,006	76,324	132,020	62,514	132,020	63,835	52,809
67	57	Compacted Rockfill - Zone 3D	84	232	92	232	92	232	151	95	116	91	107	91	113	85	26,000	33,184	23,640	27,180	23,640	27,754	14,282
68	58	Overburden excavation	235	540	256	540	256	540	550	94	109	91	107	91	113	74	49,984	81,837	55,968	69,659	55,968	70,922	44,064
69	59	Foundation cleaning (water/air jets and Vacuum trucks)	443	1,530	482	1,530	482	1,530	1,392	93	113	91	107	91	113	85	25,007	30,372	30,872	31,060	30,872	31,459	57,332
70	60	Rock excavation including dental excavation and scaling	333	553	362	547	362	547	161	93	107	92	108	92	114	85	75,551	87,557	57,785	81,023	57,785	81,168	42,343
71	61	Dental Concrete	526	480	572	476	572	476	759	93	111	92	104	92	108	54	139,380	134,305	97,610	125,512	97,610	126,024	95,446
72	62	Slush Grout	655	340	712	340	712	340	58	92	108	91	106	91	112	85	25,126	16,460	16,762	15,856	16,762	16,229	54,417
73	63	Dry Pack	325	450	353	450	353	450	27	95	109	92	110	92	113	18	15,000	13,806	7,221	13,501	7,221	13,410	5,622
74	64	Compacted Till - Zones 1 and 1C	954	1,800	1,037	1,798	1,037	1,798	399	91	110	91	107	91	111	85	150,003	287,211	158,130	255,219	158,130	259,848	106,319
75	65	Compacted Granular - Zone 2C	411	1,425	873	1,522	873	1,522	663	95	123	91	113	91	118	37	281,897	270,258	238,777	246,622	238,777	251,742	167,788
76	66	Compacted Rockfill - Zone 3C	522	1,000	568	995	568	995	624	94	109	92	108	92	113	85	150,020	161,127	181,740	139,411	181,740	142,764	59,364
77	67	Compacted Rockfill - Zone 3D	59	268	64	268	64	268	111	93	110	91	108	91	113	85	20,006	43,380	20,748	37,534	20,748	38,437	10,436
78	68	Overburden excavation	2,514	5,430	2,732	5,431	2,732	5,431	5,090	91	113	91	111	91	121	85	519,820	840,736	504,215	713,558	504,215	750,296	466,743
79	69	Foundation cleaning (water/air jets and Vacuum trucks)	886	3,060	964	3,060	964	3,060	2,784	91	113	91	116	91	116	85	46,002	60,743	61,744	54,514	61,744	52,565	114,636
80	70	Rock excavation including dental excavation and scaling	953	1,580	1,035	1,554	1,035	1,554	461	92	107	92	110	92	117	85	179,440	250,163	165,100	229,755	165,100	228,534	120,949
81	71	Dental Concrete	2,527	2,303	2,747	2,300	2,747	2,300	2,107	93	111	92	106	92	111	54	669,024	644,665	468,528	595,222	468,528	596,337	262,190
82	72	Slush Grout	1,309	680	1,423	680	1,423	680	116	92	108	91	107	91	114	85	50,252	32,919	33,524	30,937	33,524	31,508	108,834

A2.1 Compare

Price Item Orig Bid	Price Item Rebid	Description	Hours: Bidder 2	Hours: Bidder 3 (Alt)	Hours: Bidder 2 Rebid Option 1	Hours: Bidder 3 Rebid Option 1	Hours: Bidder 2 Rebid Option 2	Hours: Bidder 3 Rebid Option 2	Hours: Estimate	Labour Rate: Bidder 2	Labour Rate: Bidder 3 (Alt)	Labour Rate: Bidder 2 Rebid Option 1	Labour Rate: Bidder 3 Rebid Option 1	Labour Rate: Bidder 2 Rebid Option 2	Labour Rate: Bidder 3 Rebid Option 2	Labour Rate: Estimate	Non-Labour Cost: Bidder 2	Non-Labour Cost: Bidder 3 (Alt)	Non-Labour Cost: Bidder 2 Rebid Option 1	Non-Labour Cost: Bidder 3 Rebid Option 1	Non-Labour Cost: Bidder 2 Rebid Option 2	Non-Labour Cost: Bidder 3 Rebid Option 2	Non-Labour Cost: Estimate
83	73	Dry Pack	722	1,000	785	1,000	785	1,000	58	93	109	92	111	92	114	17	24,000	30,681	16,047	29,175	16,047	28,820	12,283
84	74	Drilling Holes for Grouting	1,094	840	350	840	350	840	1,108	91	137	92	137	92	143	20	145,572	28,800	213,864	28,800	213,864	30,000	234,026
85	75	Dry cement incorported in the grout	386	1,680	-	1,680	-	1,680	247	125	142	-	92	-	98	85	139,860	89,569	336,000	103,320	336,000	109,200	51,765
86	76	Cored Drill Check Holes	44	48	-	54	-	54	-	85	266	-	269	-	277	-	7,000	2,250	12,000	2,474	12,000	2,536	13,860
87	77	Percussion Drilling Check holes	44	48	-	48	-	48	-	79	120	-	115	-	121	-	7,000	1,440	10,500	1,380	10,500	1,452	13,860
88	78	Grouting - Successful connections	121	733	-	733	-	733	1,008	95	129	-	126	-	131	85	27,500	8,325	39,000	7,742	39,000	7,811	67,606
89	79	Water pressure test (Lugeon - 5 Stages)	22	24	-	24	-	24	19	93	143	-	138	-	142	-	4,800	1,768	6,840	1,700	6,840	1,754	4,620
90	80	Water test - Successful connections	22	24	-	24	-	24	72	93	144	-	136	-	144	85	4,800	1,775	6,840	1,683	6,840	1,775	4,418
91	81	Uplift gauges	44	48	-	48	-	48	47	85	125	-	122	-	125	-	12,000	6,000	15,760	5,850	15,760	6,000	11,550
92	82	Thermistors (measure rock temperature in grout holes)	44	48	-	48	-	48	19	85	133	-	-	-	-	-	9,000	3,600	13,000	11,500	13,000	11,700	4,620
93	83	Compacted Till - Zones 1 and 1C	3,678	6,007	3,998	5,780	3,998	5,780	1,638	91	109	90	108	90	114	85	575,120	855,321	548,340	780,525	548,340	797,076	437,036
94	84	Compacted Granular - Zone 2A	2,527	6,618	5,188	6,859	5,188	6,859	3,711	93	111	91	100	91	106	37	1,641,640	945,961	1,262,240	854,298	1,262,240	871,802	939,632
95	85	Compacted Crushed Stone - Zone 3A	1,083	3,574	2,224	3,590	2,224	3,590	2,341	93	117	91	111	91	117	25	706,440	457,979	540,960	394,991	540,960	407,766	501,179
96	86	Compacted Crushed Stone - Zone 3B	1,444	4,765	2,965	4,787	2,965	4,787	2,326	94	118	91	110	91	115	43	933,120	607,152	721,280	514,795	721,280	527,768	392,409
97	87	Compacted Rockfill - Zone 3C	1,977	1,932	2,149	1,932	2,149	1,932	2,532	93	114	92	111	92	119	85	699,930	284,576	684,180	246,934	684,180	253,299	240,872
98	88	Compacted Rockfill - Zone 3D	1,646	4,232	1,789	4,232	1,789	4,232	3,480	92	114	91	111	91	119	85	749,800	623,356	664,700	540,904	664,700	554,845	328,748
99	89	Riprap - Zone 4	626	1,104	680	1,104	680	1,104	1,265	93	115	92	111	92	118	85	361,320	203,379	393,660	171,249	393,660	175,238	155,741
100	90	Compacted Crushed Stone - Zone 5	69	94	75	100	75	100	55	94	127	91	115	91	119	28	19,713	13,494	21,688	12,030	21,688	12,193	11,642
101	91	Jersey Barrier	46	392	50	392	50	392	204	98	118	91	114	91	123	-	4,500	73,558	4,440	69,416	4,440	71,931	50,012
102	92	V-Notch Weirs, excluding Shelters	247	136	268	135	268	135	19	93	115	92	112	92	118	-	46,136	19,388	47,406	7,830	47,406	7,949	4,620
103	93	Shelters for V-Notch Weirs	37	67	40	67	40	67	9	108	118	95	115	95	122	-	30,000	3,721	30,188	3,587	30,188	3,660	2,310
104	94	Survey Monuments at South Dam Crest	-	16	-	16	-	16	7	-	110	-	109	-	117	-	6,000	5,740	6,000	1,099	6,000	1,127	1,733
105	95	Clearing of the North Abutment	736	224	800	224	800	224	405	92	285	92	271	92	279	-	140,000	86,195	151,601	80,344	151,601	81,575	99,330
106	96	Overburden Excavation	2,208	6,112	2,400	6,112	2,400	6,112	5,203	91	108	91	106	91	114	85	499,680	923,074	502,560	789,780	502,560	816,207	478,711
107	97	Foundation Cleaning (water/air jets and vacuum)	3,519	20,250	4,781	20,250	4,781	20,250	10,997	91	112	91	108	91	114	85	179,955	441,809	239,085	386,136	239,085	394,446	452,864
108	98	Rock Excavation including Dental Excavation and Scaling	2,858	6,032	3,106	6,032	3,106	6,032	1,383	92	108	92	104	92	116	85	448,320	848,170	429,300	752,593	429,300	799,751	362,940
109	99	Dental Concrete	8,424	7,675	1,144	7,667	1,144	7,667	12,052	93	111	92	104	92	108	54	2,230,240	2,148,882	195,285	2,004,348	195,285	2,012,417	1,499,723
99A		Leveling CVC			3,465	2	3,465	2				91	104	91	106				1,364,510	516	1,364,510	526	
110	100	Slush Grout	5,199	2,700	5,651	2,700	5,651	2,700	462	91	108	91	106	91	112	85	181,845	130,709	133,110	126,799	133,110	129,802	432,079
111	101	Dry Pack	2,527	3,500	2,747	3,500	2,747	3,500	204	93	109	92	110	92	113	17	73,768	107,383	56,164	106,518	56,164	105,819	44,028
112	102	Drilling Holes in RCC and Bedrock for Grouting	6,578	5,838	1,313	5,838	1,313	5,838	4,149	100	152	92	158	92	164	21	611,058	207,480	1,143,702	231,000	1,143,702	239,400	866,802
113	103	Grouting - Successful Connections	198	216	-	1,750	-	1,750	2,903	95	1,211	-	137	-	143	85	72,000	29,964	90,720	48,991	90,720	49,430	194,710
114	104	Dry Cement incorported in the grout	695	1,260	-	1,260	-	1,260	824	109	436	-	400	-	425	85	264,600	244,454	630,000	88,830	630,000	94,500	156,380
115	105	Cored Drill Check Holes	99	108	-	108	-	108	113	93	140	-	149	-	153	-	17,760	5,589	27,000	4,020	27,000	4,140	27,720
116	106	Percussion Drilling Check Holes	153	168	-	168	-	168	113	94	142	-	158	-	161	-	25,920	6,732	40,320	2,940	40,320	3,000	27,720
117	107	Water pressure test (lugeon - 5 Stages)	44	48	-	48	-	48	35	93	143	-	120	-	124	-	7,590	2,160	11,670	2,958	11,670	3,060	8,663
118	108	Water Pressure Test - Successful connections	44	48	-	48	-	48	145	93	143	-	122	-	124	85	7,596	2,160	11,700	2,999	11,700	3,060	8,837
119	109	Uplift gauges	99	108	-	108	-	108	9	93	150	-	163	-	167	-	30,600	19,800	39,900	17,550	39,900	18,000	2,310
120	110	Thermistor (measure temperature in grout holes)	44	48	-	48	-	48	19	85	135	-	-	-	-	-	8,046	3,500	11,800	11,500	11,800	11,700	4,620
121	111	Drilling Holes for Drainage in Foundation from Drainage Gallery, Φ76 mm	4,239	4,608	-	4,608	-	4,608	2,086	101	154	-	194	-	199	85	430,016	155,520	854,400	195,840	854,400	201,600	209,004
122	112	PVC Caps for Drainage Holes	-	-	-	-	-	-	147	-	-	-	-	-	-	85	3,500	4,125	3,500	4,000	3,500	4,094	23,594
123	113	Drilling Holes Upward for Drainage from Drainage Gallery into RCC, Φ76 mm	5,122	5,568	-	5,568	-	5,568	4,172	93	148	-	223	-	228	85	430,016	165,588	1,200,000	244,609	1,200,000	249,643	418,009
124	114	Drilling Holes for piezometers	-	104	-	102	-	102	-	-	115	-	113	-	122	-	29,600	3,544	29,600	3,406	29,600	3,520	-
125	115	Vibrating Wire and Standpipe Piezometers TYPE - 1, excluding Cables	-	272	-	272	-	272	198	-	106	-	101	-	106	20	108,800	19,200	108,800	18,400	108,800	19,200	37,580
126	116	Vibrating Wire and Standpipe Piezometers TYPE - 2, excluding Cables	-	136	-	68	-	68	-	-	104	-	101	-	106	-	6,000	9,400	6,000	4,600	6,000	4,800	-
127	117	Instrument Cable including PVC Conduits and Pull Boxes	-	405	-	405	-	405	127	-	121	-	134	-	137	-	75,600	91,260	75,600	100,913	75,600	102,668	31,185
128	118	Thermistors Cable in RCC	-	5,800	-	200	-	200	202	-	10	-	90	-	94	-	40,000	60,000	40,000	18,000	40,000	18,800	49,665
129	119	V-notch Weirs	-	456	-	456	-	456	-	-	110	-	110	-	117	-	56,972	41,865	56,972	19,912	56,972	20,429	9,240
130	120	Vibrating Wire Weir Monitors.	-	2,900	-	100	-	100	-	-	10	-	58	-	60	-	64,000	90,000	64,000	17,250	64,000	18,000	9,240
131	121	Data logger, Terminal Box, Barometer Box including Grounding	-	225	-	225	-	225	47	-	107	-	51	-	53	-	150,000	96,000	150,000	45,600	150,000	48,000	11,550
132	122	Crest Survey Monuments	-	28	-	27	-	27	14	-	120	-	110	-	119	28	8,000	8,635	8,000	1,515	8,000	1,571	2,372
133	123	Roller Compacted Concrete (RCC)	158,485	331,770	181,925	332,939	181,925	333,299	86,294	98	119	92	116	92	123	59	34,593,300	39,357,199	41,881,543	40,073,423	41,881,543	40,898,461	39,218,947
133.A	123A	RCC Trial Demonstration Sections	300		1,616	15,390	1,616	15,390		-		92	114	92	117		-	-	1,156,545	1,080,000	1,156,545	1,127,250	-
133 B	0	Leveling Conrete (Rate Only)	-							-							-	-					-
134	124	Conventional Vibrated Concrete (CVC) (Crest and Flip Bucket)	39,834	87,966	27,350	87,099	27,350	87,099	48,851	93	109	92	115	92	120	85	7,156,503	5,654,409	4,145,961	6,630,760	4,145,961	6,730,589	7,434,160
135	125	Facing Concrete	12,719	49,820	19,845	49,826	19,845	49,826	37,849	91	108	93	104	93	111	85	4,706,780	3,579,416	6,393,760	3,400,875	6,393,760	3,493,360	5,759,800
136	126	GERCC or GEVR - Formed Faces (Rate Only)	-	20,256	0	20,264	0	20,264	2,805	-	109	55	106	55	115	85	1	1,734,901	1	1,570,561	1	1,613,865	1,266,726
136.1	126.1	Facing In Place Of GERCC	7,139		7,760	-	7,760	-		91		92	-	92	-		1,534,423	-	1,609,365	-	1,609,365	-	-
137	127	Conventional Vibrated Concrete (North Abutment Crest Surface and Training Wall)	1,603	1,664	1,743	2,136	1,743	2,136	1,188	94	146	92	108	92	113	85	264,479	128,140	163,766	120,474	163,766	122,484	180,831
138	128	Increase or decrease in quantity of cement - Bid Mix (rate only)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	-	-
139	129	Increase or decrease in quantity of flyash - Bid Mix (rate only)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	-	-
140	130	Increase or decrease in quantity of cement - Source B (rate only)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	-	-
141	131	Increase or decrease in quantity of flyash - Source B (rate only)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	-	-
142	132	Air-entraining Admixture	-	-	-	-	-	-	3,294	-	-	-	-	-	-	-	434,700	1,354,500	472,500	409,500	472,500	409,500	808,500
143	133	Retarder Admixture	-	-	-	-	-	-	2,824	-	-	-	-	-	-	-	514,080	1,579,200	514,080	588,000	514,080	588,000	693,000
144	134	Precast Concrete	478	3,165	-	3,165	-	3,165	5,682	91	106	-	104	-	104	20	1,750,000	2,078,487	1,703,130	2,027,628	1,703,130	2,027,628	1,279,663
145	135	Gallery Floor CVC Concrete	3,437	3,726	3,736	4,208	3,736	4,208	1,294	93	136	92	113	92	116	85	272,000	182,018	262,834	169,181	262,834	172,781	246,248
146	136	Steel Reinforcement	1,711	10,200	1,860	10,200	1,860	10,200	7,059	91	239	91	233	91	241	-	2,210,000	1,566,321	2,430,000	1,521,728	2,430,000	1,542,493	1,732,500
147	137	Steel Guardrails	161	1,560	175	1,560	175	1,560	3,642	91	116	91	115	91	122	-	78,000	44,557	77,688	43,037	77,688	43,832	893,970
148	138	Waterstop	815	2,025	886	2,025	886	2,025	1,016	94	113	92	113	92	119	85	28,998	28,554	28,134	28,554	28,134	28,950	73,848
149	139	Exothermic Connections	-	160	-	160	-	160	47	-	108	-	108	-	110	-	34,200	5,750	34,200	5,750	34,200	5,875	11,550
150	140	Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil	-	693	-	693	-	693	479	-	108	-	108	-	108	-	111,655	18,745	111,655	18,745	111,655	18,745	117,666
151	141	Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG	-	13	-	13	-	13	8	-	108	-	115	-	115	-	1,300	460	1,200	368	1,200	368	1,848
152	142	Embedded Copper Grounding Plates	-	2	-	2	-	2	33	-	117	-	115	-	117	-	12,000	2,205	11,970	2,174	11,970	2,205	8,085
153	143	Overburden Excavation, excluding excavation of Cofferdam 3 - Dry Conditions	203	955	240	955	240	955	868	93	117	84	108	84	115	85	78,000	151,960	75,960	121,760	75,960	124,608	79,830
154	144	Tailrace Rock Plug Excavation including access ramp to powerhouse -Dry Conditions	10,964	18,600	11,917	18,598	11,917	18,598	17,201	92	151	91	148	91	153	85	3,299,700	3,863,138	3,214,700	3,485,755	3,214,700	3,523,475	3,014,690
155	145	Tailrace Rock Plug - Underwater Excavation	5,232	13,548	5,686	13,549	5,686	13,549	11,573	92	109	92	108	92	112	85	1,640,160	2,269,077	1,599,700	2,110,300	1,599,700	2,148,028	2,298,709
156	146	Grouted Rock Bolts Type A	161	1,345	175	1,344	175	1,344	171	93	112	92	110	92	117	85	20,000	109,002	18,866	104,135	18,866	105,844	38,841
157	147	Grouted Rock Bolts Type C	92	704	100	704	100	704	61	92	112	91	110	91	117	85	9,400	57,449	8,804	54,744	8,804	55,894	14,666
158	148	Chain Link Wire Mesh - Installation	828	625	900	625	900	625	1,265	92	112	91	109	91	115	85	95,000	55,235	88,750	52,236	88,750	53,021	94,975
159	149	Chain Link Wire Mesh - Removal	747	1,015	812	1,015	812	1,015	9,786	92	115	91	112	91	116	85	4,872	45,362	5,278	38,920	5,278	39,232	511,279

A2.1 Compare

Price Item Orig Bid	Price Item Rebid	Description	Hours: Bidder 2	Hours: Bidder 3 (Alt)	Hours: Bidder 2 Rebid Option 1	Hours: Bidder 3 Rebid Option 1	Hours: Bidder 2 Rebid Option 2	Hours: Bidder 3 Rebid Option 2	Hours: Estimate	Labour Rate: Bidder 2	Labour Rate: Bidder 3 (Alt)	Labour Rate: Bidder 2 Rebid Option 1	Labour Rate: Bidder 3 Rebid Option 1	Labour Rate: Bidder 2 Rebid Option 2	Labour Rate: Bidder 3 Rebid Option 2	Labour Rate: Estimate	Non-Labour Cost: Bidder 2	Non-Labour Cost: Bidder 3 (Alt)	Non-Labour Cost: Bidder 2 Rebid Option 1	Non-Labour Cost: Bidder 3 Rebid Option 1	Non-Labour Cost: Bidder 2 Rebid Option 2	Non-Labour Cost: Bidder 3 Rebid Option 2	Non-Labour Cost: Estimate
160	150	Existing Temporary Safety Fence - Removal	147	464	160	464	160	464	81	102	114	92	112	92	116	-	4,500	20,446	4,848	17,792	4,848	17,955	19,982
164	164	ESIMATE OF TRAVEL ALLOWANCES - TRADES LABOUR, LOCAL STAFF AND U.S. STAFF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,691,689	-	4,191,689	-	4,191,689	-	-
	151	Overhaul of Borrowed Construction Material (rate only)				-	-					-	-	-	-				-	-	-	-	
	152	Other Material or Rockfill			1,164	1,400	1,164	1,400				91	95	91	95				243,600	182,000	243,600	182,000	
	153	Maintenance Grade No 3			315	760	315	760				91	92	91	92				271,240	73,920	271,240	73,920	
	154	Production of blasted rockfill from the quarry QS			1,782	2,500	1,782	2,500				92	58	92	60				586,000	165,000	586,000	175,000	
	155	Mobilization and demobilization			-	2,342	-	2,342				-	172	-	176				1,100,000	792,500	1,100,000	812,000	
	156	Drilling Holes for Jet Grouting in embankment, river sediments and bedrock			-	5,376	-	5,376				-	146	-	149				1,536,000	657,600	1,536,000	674,400	
	157	Jet Grouted Cut-off wall			1,313	4,340	1,313	4,340				92	129	92	134				2,827,888	2,660,000	2,827,888	2,724,400	
	158	Drilling Holes for Grouting in embankment, jet grouting cut-off wall and bedrock, if required			-	65	-	65				-	114	-	118				29,900	22,165	29,900	22,880	
	159	Dry cement incorported in the grout, if required			-	330	-	330				-	110	-	110				11,000	21,450	11,000	21,450	
	160	Grouting - Succesful connections, if required			-	150	-	150				-	123	-	126				50,700	27,720	50,700	28,500	
49	45	Percussion Drill Holes in embankments, river sediments and bedrock	230	250	-	250	-	250	329	97	122	-	129	-	134	85	104,000	78,480	126,000	82,800	126,000	86,400	45,920
50	46	Verification Core Drilling in jet grouting cut-off wall and bedrock	132	144	-	144	-	144	-	93	119	-	129	-	132	-	81,400	68,320	93,800	74,400	93,800	76,000	-
51	47	Core Diamond Drill Rig in Standby	-	-	-	-	-	-	329	-	-	-	-	-	-	-	18,480	19,320	18,480	21,000	18,480	21,700	80,850
ADJ18	ADJ18	Flip Bucket reduction			-	-	-	-									-	-	(2,000,000)	-	(2,000,000)	-	-
		Totals	**879,568**	**1,349,785**	**870,266**	**1,286,615**	**870,266**	**1,310,245**	**902,441**	**117**	**113**	**71**	**114**	**71**	**119**	**71**	**201,969,484**	**151,847,875**	**250,301,517**	**147,554,584**	**275,301,517**	**152,426,653**	**137,223,590**
		Indirect	**484,914**	**523,579**	**459,652**	**449,425**	**459,652**	**472,695**	**428,722**								**112,118,487**	**52,604,710**	**133,853,386**	**48,212,240**	**158,853,386**	**51,262,870**	**33,062,772**
		Direct	**394,654**	**826,206**	**410,615**	**837,190**	**410,615**	**837,550**	**473,719**								**89,850,998**	**99,243,165**	**116,448,131**	**99,342,343**	**116,448,131**	**101,163,783**	**104,160,818**
		Cost Comparison																					
		IND	484,914	523,579	459,652	449,425	459,652	472,695	428,722								112,118,487	52,604,710	138,045,075	48,212,240	163,045,075	51,262,870	33,062,772
		GEN	13,969	32,027	13,798	27,841	13,798	27,841	27,076								5,485,737	4,156,761	4,648,005	3,101,935	4,648,005	3,123,205	4,099,736
		TB	14,950	19,300	16,250	19,297	16,250	19,297	32,941								9,000,000	4,651,273	8,747,495	4,434,430	8,747,495	4,434,430	8,085,000
		USCD	46,169	90,046	45,705	78,125	45,705	78,125	85,196								18,987,831	16,587,962	12,122,135	11,145,496	12,122,135	11,329,932	15,004,976
		DSCD	2,793	4,459	3,254	4,460	3,254	4,460	2,999								587,055	488,740	460,004	440,999	460,004	447,020	374,127
		ICD	4,463	8,386	5,279	8,466	5,279	8,466	4,743								931,974	1,126,323	865,613	1,015,397	865,613	1,032,005	643,131
		SD	24,112	46,482	29,461	46,517	29,461	46,517	30,722								7,619,789	6,097,058	6,828,043	5,415,268	6,828,043	5,544,942	4,557,891
		ND	269,468	587,856	272,303	597,572	272,303	597,932	248,376								59,903,900	63,268,061	68,673,632	63,022,622	68,673,632	64,285,543	65,196,216
		TRW	18,374	37,256	19,991	37,254	19,991	37,254	41,006								5,151,632	6,571,668	5,016,906	5,985,643	5,016,906	6,068,056	6,072,970
		Opt	362	394	4,574	17,657	4,574	17,657	659								203,880	166,120	6,894,608	4,780,555	6,894,608	4,898,650	126,770
		ADJ	-	-	-	-	-	-	-								(18,020,800)	(3,870,800)	-	-	-	-	-
		ADJBid3																					
		Labour cost from subs in estimate																					
		Totals Before Optional Work	**879,206**	**1,349,391**	**865,693**	**1,268,958**	**865,693**	**1,292,588**	**901,782**	-	-	-	-	-	-	-	**201,765,604**	**151,681,755**	**245,406,909**	**142,774,029**	**270,406,909**	**147,528,003**	**137,096,820**
		Totals	**879,568**	**1,349,785**	**870,266**	**1,286,615**	**870,266**	**1,310,245**	**902,441**								**201,969,484**	**151,847,875**	**252,301,517**	**147,554,584**	**277,301,517**	**152,426,653**	**137,223,590**

Average labour cost per hour

A2.1 Compare

Price Item Orig Bid	Price Item Rebid	Description	Materials Cost: Bidder 2	Bidder 3 (Alt)	Bidder 2 Rebid Option 1	Bidder 3 Rebid Option 1	Bidder 2 Rebid Option 2	Bidder 3 Rebid Option 2	Estimate	Equipment Cost: Bidder 2	Bidder 3 (Alt)	Bidder 2 Rebid Option 1	Bidder 3 Rebid Option 1	Bidder 2 Rebid Option 2	Bidder 3 Rebid Option 2	Estimate	Unit Prices: Bidder 2	Bidder 3 (Alt)	Bidder 2 Rebid Option 1	Bidder 3 Rebid Option 1	Bidder 2 Rebid Option 2	Bidder 3 Rebid Option 2	Estimate
1	1	Mobilization	31,390,798	2,912,838		2,806,237		2,849,744	-	28,250,000	25,110,813		24,162,874		25,087,881	110,000	73,240,798	30,000,000	60,000,000	29,000,000	68,000,000	30,000,000	5,324,550
2	2	Site Installation	5,000,000	2,909,282		2,778,861		3,288,928	7,805,000	26,500,000	13,520,787		11,109,847		12,076,801	5,498,000	46,000,000	22,800,000	43,700,000	20,500,000	50,000,000	22,125,000	34,434,477
3	3	Management, Staff, employees and Consultants	2,500,000	4,625,085		4,009,752		4,279,072	-	1,000,000	836,839		859,045		1,097,136	2,617,000	45,150,000	44,133,000	45,000,000	39,000,000	55,000,000	42,500,000	18,028,395
4	4	Health and Safety, Environmental and Quality Requirements	550,000	125,671		121,301		126,762	505,000	-	57,745		49,324		51,545	1,345,000	3,065,000	8,878,000	3,000,000	6,500,000	3,200,000	7,500,000	5,584,425
5	5	Credit, Guarantee and Insurance	991,000	2,030,650		1,840,000		1,930,000	2,800,000	-	-		-		-	-	991,000	2,030,650	5,000,000	1,840,000	5,500,000	1,930,000	3,234,000
6	6	Warranty, per Article 17 of the Agreement	100,000	-		-		-	-	100,000	225,000		225,000		225,000	-	300,000	450,000	300,000	450,000	300,000	450,000	-
7	7	Demobilization	430,000	-		-		-	-	350,000	250,000		250,000		250,000	65,000	915,124	250,000	915,000	250,000	915,000	250,000	1,634,325
8	8	Dewatering of Structure Areas	400,000	397,703		389,418		382,410	220,000	1,500,000	279,889		256,348		251,735	670,000	2,190,000	1,550,000	2,150,000	1,500,000	2,150,000	1,500,000	1,605,450
9	9	Excavation of Existing Embankment cofferdams 1, 2 and 3, and Existing Ramps	-	18,721		18,099		18,203	-	1,600,080	1,456,051		1,243,598		1,250,776	869,829	10.76	13.50	10.76	12.25	10.76	12.50	12.56
10	10	Excavation of Downstream section of RCC riverside cofferdam	97,800	68,340		67,149		68,822	-	250,000	326,616		289,475		296,686	-	21.69	33.15	21.69	31.00	21.69	32.00	25.01
11	11	Overburden Excavation	-	-		-		-	-	52,000	91,792		79,439		81,156	53,530	8.88	19.60	8.75	18.50	8.75	18.90	17.33
12	12	Approved Compactable Material	-	-		-		-	-	59,840	333,059		282,562		289,934	217,769	3.20	12.40	3.75	11.50	3.75	11.80	12.84
13	0	Granular "B" Material	256,708	1,585					168,960	34,974	177,995					36,385	57.01	54.60					46.59
14	0	Granular "C" Material	177,040	1,092					96,000	24,000	116,132					25,311	58.26	51.00					40.69
15	13	Maintenance Grade 3 material	199,170	1,232		1,631		1,667	145,125	25,020	144,387		172,513		176,346	11,650	56.49	57.60	89.33	72.00	89.33	73.60	51.42
16	14	CSP culvert, dia. 900 mm	-	10,131		9,866		10,098	12,000	15,000	8,948		7,801		7,985	300	542	860	500	850	500	870	331
17	15	Guide Rails	20,016	46,683		46,188		46,522	24,000	10,500	9,986		9,135		9,201	-	181	403	190	415	190	418	139
18	16	Gate Type 1	1,700	6,918		6,807		6,807	-	3,400	2,818		2,468		2,468	-	7,550	12,800	8,000	13,000	8,000	13,000	2,888
19	0	Approved Compactable Material	-	-					-	40,040	196,762					-	3.08	12.40					-
20	0	Granular "C" Material	331,950	2,048					-	35,025	217,747					-	52.00	51.00					-
21	17	Overburden Excavation	-	-		-		-	-	40,000	23,459		20,542		20,542	18,000	40.50	20.50	42.00	19.00	42.00	19.00	17.33
22	18	Non-woven Geotextile, min 300 g/m2	7,650	13,165		12,895		13,158	10,000	2,200	10,239		8,838		9,018	-	6.74	25.50	7.00	24.50	7.00	25.00	8.09
23	19	Rockfill Protection, 100 - 250 mm	42,720	-		-		-	-	16,000	25,978		22,736		23,128	12,500	69.72	62.00	77.00	58.00	77.00	59.00	28.30
24	20	Rockfill Protection, Zone 3E Material	106,800	-		-		-	-	80,000	37,118		32,191		32,848	52,100	85.92	26.60	90.00	24.50	90.00	25.00	43.94
25	21	Non-woven Geotextile, min 530 g/m2	17,595	16,260		15,818		16,298	22,500	3,510	4,542		3,894		4,012	-	8.25	8.60	8.50	8.25	8.50	8.50	10.40
26	22	Chain Link Fence and Gates	-	49,799		48,951		49,362	-	34,999	59,568		53,573		54,023	-	306	475	320	460	320	475	202
27	23	Engineering of Temporary Upstream Bridge	-	-		-		-	-	-	-		-		-	-	50,000	116,000	50,000	115,000	50,000	115,000	8,085,000
28	24	Supply of Temporary Upstream Bridge	7,650,000	1,967,840		1,946,918		1,946,918	-	-	14,956		13,700		13,700	-	7,650,000	2,020,000	7,500,000	2,000,000	7,500,000	2,000,000	-
29	25	Installation, removal and handover of Temporary Upstream Bridge	750,000	1,148,045		1,138,362		1,138,362	-	550,000	1,520,432		1,335,449		1,335,449	-	2,725,000	4,637,000	2,725,000	4,500,000	2,725,000	4,500,000	-
30	26	Overburden excavation	-	-		-		-	-	5,500	49,029		41,665		42,609	30,000	4.60	35.00	4.60	31.50	4.60	32.75	20.79
31	27	Foundation Cleaning (water/air jets and Vacuum trucks)	-	-		-		-	800	15,996	21,439		18,849		18,965	23,100	37.50	120.00	38.00	115.00	38.00	120.00	103.40
32	28	Rock Excavation including dental excavation and Scaling	11,110	12,327		12,291		12,313	10,000	48,000	50,214		45,372		45,453	15,000	162	210	125	200	125	205	81
33	29	Dental Concrete	425,000	411,217		384,418		385,966	-	-	18,560		16,451		16,517	67,200	776	750	600	700	600	710	576
34	30	Slush Grout	15,000	10,373		10,128		10,368	30,690	3,000	1,245		1,143		1,170	2,916	50.83	31.30	48.00	30.50	48.00	32.00	35.81
35	31	Dry Pack	9,000	7,630		7,647		7,597	-	3,000	1,574		1,483		1,473	300	5,500	7,000	4,400	7,000	4,400	7,150	886
36	32	Compacted Till - Zones 1 and 1C Materials	-	-		-		-	-	520,030	635,147		572,997		585,953	261,146	41.11	60.00	41.11	55.00	41.11	57.00	22.02
37	33	Dumped Till - Zone 1A Material	-	-		-		-	-	2,788,540	3,218,501		2,919,738		2,963,422	1,468,980	28.80	37.50	29.00	35.00	29.00	36.00	17.57
38	34	Compacted Granular - Zone 2A Material	949,923	-		-		-	-	350,037	688,816		621,949		634,079	259,465	70.05	63.00	59.00	58.00	59.00	60.00	38.60
39	35	Compacted Granular - Zone 2C Material	385,062	-		-		-	-	165,039	288,894		260,808		265,887	108,975	70.93	63.00	60.00	58.00	60.00	60.00	31.68
40	36	Dumped Granular - Zone 2E Material	1,164,038	-		-		-	-	245,116	725,412		660,442		669,696	319,480	57.38	45.00	50.00	41.00	50.00	42.00	30.09
41	37	Dumped Rockfill - Zone 3 Material	-	-		-		-	-	1,450,020	1,341,669		1,147,141		1,156,271	989,360	11.99	16.00	11.00	14.50	11.00	15.00	17.47
42	38	Dumped Large Blocks (300-1000 mm) - Zone 3 Class 1	-	-		-		-	-	367,040	526,745		454,224		458,304	455,715	11.76	23.00	11.00	21.00	11.00	21.50	26.64
43	39	Dumped Large Blocks (≥1000 mm) - Zone 3 Class 2	-	-		-		-	-	1,656,850	1,959,648		1,657,461		1,697,529	884,550	30.00	48.00	27.00	43.00	27.00	45.00	29.44
44	40	Dumped Large Blocks (≥1300 mm) - Zone 3 Class 3	-	-		-		-	-	388,950	608,049		510,420		518,294	214,800	30.06	62.00	27.00	55.00	27.00	57.25	30.98
45	41	Compacted Crushed Stone - Zone 3A Material	489,465	3,011		3,025		3,079	-	140,051	412,574		360,729		367,172	95,000	65.25	74.00	60.00	68.00	60.00	70.00	46.04
46	42	Compacted Rockfill - Zone 3C Material	-	-					-	1,250,067	527,001		453,349		464,415	288,675	46.39	27.00	44.00	24.50	44.00	25.50	21.72
47	43	Compacted Rockfill - Zone 3D Material	-	-					-	425,106	529,500		455,499		466,618	181,525	16.40	27.00	16.00	24.50	16.00	25.50	13.65
48	44	Dumped Crushed Stone- Zone 3F Material	938,700	5,739		5,752		5,845	-	160,020	603,132		522,512		530,938	172,660	55.99	50.50	50.00	45.50	50.00	46.50	44.39
52	0	Mobilization and demobilization	-	-					-	-	1,030,250					-	1,112,715	1,585,000					-
53	0	Drilling Holes for Jet Grouting in embankment, river sediments and bedrock	-	52,682					-	-	518,402					-	159.83	131.00					17.33
54	0	Jet Grouted Cut-off wall	128,940	1,405,782					-	22,008	859,830					-	1,053	980					1,964
55	0	Drilling Holes for Grouting in embankment, jet grouting cut-off wall and bedrock, if required							8,736	-	19,500					32,126	22.96	20.00					77.25
56	0	Dry cement incorporated in the grout, if required	-	12,799					-	-	7,019					11,000	1.00	5.00					1.73
57	0	Grouting - Succesful connections, if required	-	-					10,500	-	24,300					-	842	675					614
58	48	Overburden excavation	-	-		-		-	-	7,200	9,318		8,079		8,246	3,550	21.40	35.00	21.00	32.25	21.00	33.50	18.60
59	49	Foundation cleaning (water/air jets and Vacuum trucks)	-	-		-		-	800	16,500	22,332		22,428		22,714	24,170	37.20	120.00	38.00	115.00	38.00	120.00	104.01
60	50	Rock excavation including dental excavation and scaling	11,110	12,327		12,175		12,195	10,000	45,000	50,214		45,069		45,145	15,000	156.22	210.00	125.00	200.00	125.00	205.00	80.85
61	51	Dental Concrete	101,560	102,804		93,322		93,727	-	-	4,640		7,966		8,001	14,240	753	750	600	700	600	710	540
62	52	Slush Grout	14,063	10,806		10,550		10,800	31,545	3,000	1,297		1,190		1,218	2,835	48.85	31.30	48.00	30.50	48.00	32.00	35.15
63	53	Dry Pack	9,000	7,630		7,647		7,597	-	3,000	1,574		1,483		1,473	300	5,500	7,000	4,400	7,000	4,400	7,150	751
64	54	Compacted Till - Zones 1 and 1C	-	-					-	45,000	67,196		60,641		62,019	28,020	36.50	60.00	37.00	55.00	37.00	57.00	22.44
65	55	Compacted Granular - Zone 2C	110,650	-		-		-	-	35,000	89,092		80,755		82,295	28,200	66.26	65.00	58.00	60.00	58.00	62.00	34.68
66	56	Compacted Rockfill - Zone 3C	-	-		-		-	-	150,006	76,324		62,514		63,835	39,390	42.18	30.00	39.00	26.00	39.00	27.00	21.74
67	57	Compacted Rockfill - Zone 3D	-	-		-		-	-	26,000	33,184		27,180		27,754	10,641	17.00	30.00	16.00	26.00	16.00	27.00	13.57
68	58	Overburden excavation	-	-		-		-	-	49,984	81,837		69,659		70,922	17,790	8.18	16.00	9.00	14.50	9.00	15.00	9.65
69	59	Foundation cleaning (water/air jets and Vacuum trucks)	-	-		-		-	1,075	25,007	30,372		31,060		31,459	32,685	38.83	120.00	44.00	115.00	44.00	120.00	103.32
70	60	Rock excavation including dental excavation and scaling	15,554	17,258		17,289		17,320	13,825	59,997	70,299		63,734		63,848	20,995	152.22	210.00	130.00	200.00	130.00	205.00	80.08
71	61	Dental Concrete	126,923	128,505		120,612		121,103	-	-	5,800		4,901		4,921	18,795	754	750	600	700	600	710	546
72	62	Slush Grout	19,125	14,696		14,439		14,780	42,625	6,001	1,764		1,416		1,450	3,825	50.07	31.30	48.00	30.50	48.00	32.00	34.92
73	63	Dry Pack	12,000	11,445		11,553		11,476	-	3,000	2,361		1,948		1,935	300	5,111	7,000	4,400	7,000	4,400	7,150	680
74	64	Compacted Till - Zones 1 and 1C	-	13,093		12,709		12,939	-	150,003	274,118		242,511		246,909	87,505	37.62	77.00	40.00	71.00	40.00	73.00	22.25
75	65	Compacted Granular - Zone 2C	216,874	4,995		4,901		5,003	-	65,023	265,273		241,721		246,740	62,280	65.49	91.00	65.00	85.50	65.00	88.00	39.23
76	66	Compacted Rockfill - Zone 3C	-	10,667		10,502		10,755	-	150,020	150,461		128,909		132,010	44,280	38.27	52.00	45.00	47.50	45.00	49.00	21.62
77	67	Compacted Rockfill - Zone 3D	-	2,872		2,828		2,896	-	20,006	40,509		34,706		35,541	7,775	18.22	52.00	19.00	47.50	19.00	49.00	14.17
78	68	Overburden excavation	-	-		-		-	-	519,820	840,736		713,558		750,296	346,049	7.97	15.50	8.00	14.00	8.00	15.00	9.57
79	69	Foundation cleaning (water/air jets and Vacuum trucks)	-	-		-		-	2,150	46,002	60,743		54,514		52,565	65,345	37.35	120.00	44.00	120.00	44.00	120.00	103.32
80	70	Rock excavation including dental excavation and scaling	44,440	49,307		49,027		48,766	39,490	135,000	200,855		180,728		179,768	59,970	134	210	130	200	130	205	80
81	71	Dental Concrete	609,228	616,825		570,795		571,864	-	-	27,840		24,427		24,473	49,665	753	750	600	700	600	710	314
82	72	Slush Grout	38,250	29,391		28,174		28,694	85,250	12,002	3,528		2,763		2,814	7,650	50.07	31.30	48.00	30.50	48.00	32.00	34.92

A2.1 Compare

Price Item Orig Bid	Price Item Rebid	Description	Materials Cost Bidder 2	Bidder 3 (Alt)	Bidder 2 Rebid Option 1	Bidder 3 Rebid Option 1	Bidder 2 Rebid Option 2	Bidder 3 Rebid Option 2	Estimate	Equipment Cost Bidder 2	Bidder 3 (Alt)	Bidder 2 Rebid Option 1	Bidder 3 Rebid Option 1	Bidder 2 Rebid Option 2	Bidder 3 Rebid Option 2	Estimate	Unit Prices Bidder 2	Bidder 3 (Alt)	Bidder 2 Rebid Option 1	Bidder 3 Rebid Option 1	Bidder 2 Rebid Option 2	Bidder 3 Rebid Option 2	Estimate
83	73	Dry Pack	20,000	25,434		24,967		24,662	-	4,000	5,247		4,209		4,158	600	4,550	7,000	4,400	7,000	4,400	7,150	664
84	74	Drilling Holes for Grouting	15,972	-		-		-	4,200	6,000	28,800		28,800		30,000	15,445	204	120	205	120	205	125	213
85	75	Dry cement incorported in the grout	-	38,421		64,575		68,250	42,000	-	51,147		38,745		40,950	-	4.48	7.80	8.00	6.15	8.00	6.50	1.73
86	76	Cored Drill Check Holes	-	-		-		-	12,000	-	2,250		2,474		2,536	-	358	500	400	565	400	580	462
87	77	Percussion Drilling Check holes	-	-		-		-	12,000	-	1,440		1,380		1,452	-	175	120	175	115	175	121	231
88	78	Grouting - Successful connections	-	-		-		-	5,580	-	8,325		7,742		7,811	41,455	156	410	156	400	156	415	613
89	79	Water pressure test (Lugeon - 5 Stages)	-	-		-		-		-	1,768		1,700		1,754	-	855	650	855	625	855	645	578
90	80	Water test - Successful connections	-	-		-		-	100	-	1,775		1,683		1,775	2,900	380	290	380	275	380	290	587
91	81	Uplift gauges	-	4,320		4,212		4,320	-	-	1,680		1,638		1,680	-	787	600	788	585	788	600	578
92	82	Thermistors (measure rock temperature in grout holes)	-	3,600		7,360		7,488	-	-	-		4,140		4,212	-	12,744	10,000	13,000	11,500	13,000	11,700	4,620
93	83	Compacted Till - Zones 1 and 1C	-	-		-		-	-	575,120	855,321		780,525		797,076	359,699	34.93	58.00	35.00	54.00	35.00	56.00	22.16
94	84	Compacted Granular - Zone 2A	1,251,600	-		-		-	-	390,040	945,961		854,298		871,802	348,788	67.02	60.00	62.00	55.00	62.00	57.00	38.45
95	85	Compacted Crushed Stone - Zone 3A	536,400	3,319		3,284		3,391	-	170,040	454,661		391,706		404,376	74,983	67.29	73.00	62.00	66.00	62.00	69.00	46.64
96	86	Compacted Crushed Stone - Zone 3B	708,160	4,499		4,393		4,504	-	224,960	602,652		510,402		523,265	79,765	66.76	73.00	62.00	65.00	62.00	67.50	30.71
97	87	Compacted Rockfill - Zone 3C	-	-		-		-	-	699,930	284,576		246,934		253,299	179,667	42.04	24.00	42.00	22.00	42.00	23.00	21.72
98	88	Compacted Rockfill - Zone 3D	-	-		-		-	-	749,800	623,356		540,904		554,845	244,938	19.58	24.00	18.00	22.00	18.00	23.00	13.58
99	89	Riprap - Zone 4	256,320	-		-		-	-	105,000	203,379		171,249		175,238	120,410	69.89	55.00	76.00	49.00	76.00	51.00	43.88
100	90	Compacted Crushed Stone - Zone 5	13,714	86		85		86	-	5,999	13,408		11,945		12,107	2,110	84.56	82.00	92.00	76.00	92.00	78.00	42.60
101	91	Jersey Barrier	-	56,504		54,244		56,210	-	4,500	17,054		15,171		15,721	-	15.00	200.00	15.00	190.00	15.00	200.00	83.35
102	92	V-Notch Weirs, excluding Shelters	24,136	18,621		7,133		7,241	-	22,000	767		697		708	-	34,568	17,500	36,000	11,500	36,000	12,000	2,310
103	93	Shelters for V-Notch Weirs	30,000	3,164		3,078		3,141	-	-	557		509		519	-	17,000	5,800	17,000	5,625	17,000	5,900	1,155
104	94	Survey Monuments at South Dam Crest	-	5,658		1,023		1,049	-	-	82		76		78	-	2,000	2,500	2,000	950	2,000	1,000	578
105	95	Clearing of the North Abutment	-	-		-		-	-	140,000	86,195		80,344		81,575	-	69,333	50,000	75,000	47,000	75,000	48,000	33,110
106	96	Overburden Excavation	-	-		-		-	-	499,680	923,074		789,780		816,207	355,114	9.73	22.00	10.00	20.00	10.00	21.00	12.79
107	97	Foundation Cleaning (water/air jets and vacuum)	-	-		-		-	8,500	179,955	441,809		386,136		394,446	258,150	37.18	200.00	50.00	190.00	50.00	200.00	102.78
108	98	Rock Excavation including Dental Excavation and Scaling	133,320	146,382		140,897		149,726	118,470	315,000	701,788		611,695		650,025	179,990	118.55	250.00	119.00	230.00	119.00	250.00	80.08
109	99	Dental Concrete	2,030,920	2,056,084		1,922,092		1,929,830	-	-	92,799		82,256		82,587	284,083	753	750	75	700	75	710	538
99A		Leveling CVC				495		504					21		22								
110	100	Slush Grout	151,875	116,701		113,945		116,644	338,445	29,970	14,008		12,854		13,158	30,375	48.66	31.30	48.00	30.50	48.00	32.00	34.92
111	101	Dry Pack	61,768	89,018		89,219		88,634	-	12,000	18,365		17,298		17,185	3,000	4,411	7,000	4,400	7,000	4,400	7,150	679
112	102	Drilling Holes in RCC and Bedrock for Grouting	23,058	-		-		-	16,800	38,010	207,480		231,000		239,400	61,780	301	260	301	275	301	285	227
113	103	Grouting - Successful Connections	-	-		22,246		22,445	16,070	-	29,964		26,745		26,984	119,395	126	405	126	400	126	415	613
114	104	Dry Cement incorported in the grout	-	127,620		-		-	126,000	-	116,834		88,830		94,500	-	2.70	6.30	5.00	4.70	5.00	5.00	1.80
115	105	Cored Drill Check Holes	-	-		-		-	-	-	5,589		4,020		4,140	-	450	345	450	335	450	345	462
116	106	Percussion Drilling Check Holes	-	-		-		-	-	-	6,732		2,940		3,000	-	336	255	336	245	336	250	231
117	107	Water pressure test (lugeon - 5 Stages)	-	-		-		-	-	-	2,160		2,958		3,060	-	778	600	778	580	778	600	578
118	108	Water Pressure Test - Successful connections	-	-		-		-	200	-	2,160		2,999		3,060	5,800	324	250	325	245	325	250	587
119	109	Uplift gauges	-	14,400		12,636		12,960	-	-	5,400		4,914		5,040	-	664	600	665	585	665	600	39
120	110	Thermistor (measure temperature in grout holes)	-	3,500		7,360		7,488	-	-	-		4,140		4,212	-	11,796	10,000	11,800	11,500	11,800	11,700	4,620
121	111	Drilling Holes for Drainage in Foundation from Drainage Gallery, Φ76 mm	-	-		-		-	33,600	-	155,520		195,840		201,600	123,560	268	270	267	340	267	350	121
122	112	PVC Caps for Drainage Holes	-	4,125		4,000		4,094	18,750	-	-		-		-	-	28.00	33.00	28.00	32.00	28.00	32.75	288.75
123	113	Drilling Holes Upward for Drainage from Drainage Gallery into RCC, Φ76 mm	-	11,801		11,449		11,685	67,200	-	153,787		233,160		237,959	247,120	284	310	375	465	375	475	241
124	114	Drilling Holes for piezometers	-	1,899		1,841		1,903	-	-	1,646		1,565		1,617	-	296	155	296	150	296	160	-
125	115	Vibrating Wire and Standpipe Piezometers TYPE - 1, excluding Cables	-	19,200		18,400		19,200	-	-	-		-		-	-	13,600	6,000	13,600	5,750	13,600	6,000	5,198
126	116	Vibrating Wire and Standpipe Piezometers TYPE - 2, excluding Cables	-	9,400		4,600		4,800	-	-	-		-		-	-	3,000	11,750	3,000	5,750	3,000	6,000	-
127	117	Instrument Cable including PVC Conduits and Pull Boxes	-	91,260		-		-	-	-	-		100,913		102,668	-	28.00	52.00	28.00	57.50	28.00	58.50	11.55
128	118	Thermistors Cable in RCC	-	60,000		18,000		18,800	-	-	-		-		-	-	5,000	15,000	5,000	4,500	5,000	4,700	6,208
129	119	V-notch Weirs	32,972	35,664		14,046		14,411	8,000	-	6,201		5,866		6,018	-	14,243	23,000	14,243	17,500	14,243	18,500	2,310
130	120	Vibrating Wire Weir Monitors.	-	90,000		-		-	8,000	-	-		17,250		18,000	-	16,000	30,000	16,000	5,750	16,000	6,000	2,310
131	121	Data logger, Terminal Box, Barometer Box including Grounding	-	96,000		45,600		48,000	-	-	-		-		-	-	150,000	120,000	150,000	57,000	150,000	60,000	11,550
132	122	Crest Survey Monuments	-	8,452		1,362		1,413	-	-	183		153		158	-	2,000	3,000	2,000	1,125	2,000	1,200	693
133	123	Roller Compacted Concrete (RCC)	33,476,100	22,656,004		24,379,162		24,881,084	23,542,731	705,600	16,701,195		15,694,261		16,017,377	4,047,425	238	376	279	375	279	390	211
133 A	123A	RCC Trial Demonstration Sections	-			614,250		650,250		-			465,750		477,000								
133 B	0	Leveling Conrete (Rate Only)	-							-													
134	124	Conventional Vibrated Concrete (CVC) (Crest and Flip Bucket)	6,500,049	3,225,292		3,866,470		3,924,681	4,612,919	474,969	2,429,117		2,764,290		2,805,908	1,266,342	977	1,375	600	1,500	600	1,550	1,044
135	125	Facing Concrete	4,250,034	1,705,414		1,653,510		1,698,476	3,573,974	189,974	1,874,002		1,747,365		1,794,884	981,130	682	1,040	958	1,000	958	1,050	1,044
136	126	GERCC or GEVR - Formed Faces (Rate Only)	0	606,685		579,890		595,879	930,000	0	1,128,216		990,671		1,017,986	134,731	0.00	850.00	0.00	800.00	0.00	850.00	323.70
136.1	126.1	Facing In Place Of GERCC	1,074,096			-		-		460,327			-		-								
137	127	Conventional Vibrated Concrete (North Abutment Crest Surface and Training Wall)	250,001	83,753		79,418		80,742	112,206	-	44,387		41,056		41,741	30,803	1,535	1,375	1,200	1,300	1,200	1,350	1,044
138	128	Increase or decrease in quantity of cement - Bid Mix (rate only)	-	-		-			-	-	-		-			-	-	-	0.38	-	0.38	-	-
139	129	Increase or decrease in quantity of flyash - Bid Mix (rate only)	-	-		-			-	-	-		-			-	-	-	0.38	-	0.38	-	-
140	130	Increase or decrease in quantity of cement - Source B (rate only)	-	-		-			-	-	-		-			-	-	-	0.38	-	0.38	-	-
141	131	Increase or decrease in quantity of flyash - Source B (rate only)	-	-		-			-	-	-		-			-	-	-	0.38	-	0.38	-	-
142	132	Air-entraining Admixture	434,700	1,354,500		409,500		409,500	-	-	-		-		-	-	1.38	4.30	1.50	1.30	1.50	1.30	2.57
143	133	Retarder Admixture	514,080	1,579,200		588,000		588,000	-	-	-		-		-	-	1.53	4.70	1.53	1.75	1.53	1.75	2.06
144	134	Precast Concrete	1,750,000	1,945,726		1,907,332		1,907,332	57,500	-	132,762		120,295		120,295	115,000	1,560	2,100	1,522	2,050	1,522	2,050	1,213
145	135	Gallery Floor CVC Concrete	220,000	100,875		95,205		97,231	151,250	16,500	81,143		73,976		75,550	47,190	2,153	2,500	2,200	2,350	2,200	2,400	1,295
146	136	Steel Reinforcement	40,000	1,366,881		1,335,762		1,353,990	-	115,000	199,440		185,966		188,503	-	4.73	8.00	5.20	7.80	5.20	8.00	3.47
147	137	Steel Guardrails	78,000	32,906		32,475		33,075	-	-	11,651		10,562		10,757	-	17.82	43.50	18.00	42.75	18.00	45.00	171.92
148	138	Waterstop	28,998	28,554		28,554		28,950	52,347	-	-		-		-	-	78.15	190.00	81.00	190.00	81.00	200.00	118.68
149	139	Exothermic Connections.	-	5,750		5,750		5,875	-	-	-		-		-	-	1,710	1,150	1,710	1,150	1,710	1,175	578
150	140	Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil	-	18,745		18,745		18,745	-	-	-		-		-	-	137	115	137	115	137	115	144
151	141	Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG	-	460		368		368	-	-	-		-		-	-	81.25	115.00	75.00	115.00	75.00	115.00	115.50
152	142	Embedded Copper Grounding Plates	-	2,205		2,174		2,205	-	-	-		-		-	-	1,714	350	1,710	345	1,710	350	1,155
153	143	Overburden Excavation, excluding excavation of Cofferdam 3 - Dry Conditions	-	-		-		-	-	78,000	151,960		121,760		124,608	59,220	8.08	22.00	8.00	18.75	8.00	19.50	12.80
154	144	Tailrace Rock Plug Excavation including access ramp to powerhouse -Dry Conditions	1,200,200	631,032		622,219		628,952	1,009,290	2,099,500	3,232,106		2,863,536		2,894,523	1,404,625	25.32	39.20	25.32	36.75	25.32	37.50	26.33
155	145	Tailrace Rock Plug - Underwater Excavation	750,040	739,446		753,879		767,357	765,136	890,120	1,529,631		1,356,421		1,380,671	1,093,072	62.36	110.00	62.36	105.00	62.36	108.00	96.54
156	146	Grouted Rock Bolts Type A	5,000	73,362		72,319		73,505	24,000	15,000	35,640		31,816		32,338	7,680	500	3,700	500	3,600	500	3,750	762
157	147	Grouted Rock Bolts Type C	1,400	38,827		38,186		38,988	9,100	8,000	18,622		16,558		16,906	2,900	895	6,800	895	6,600	895	6,900	993
158	148	Chain Link Wire Mesh - Installation	65,000	38,197		37,444		38,006	25,000	30,000	17,037		14,793		15,015	42,800	68.40	50.00	68.40	48.25	68.40	50.00	81.00
159	149	Chain Link Wire Mesh - Removal	-	-		-		-	-	4,872	45,362		38,920		39,232	331,039	3.64	8.00	3.90	7.50	3.90	7.75	66.16

A2.1 Compare

Price Item Orig Bid	Price Item Rebid	Description	Materials Cost: Bidder 2	Materials Cost: Bidder 3 (Alt)	Materials Cost: Bidder 2 Rebid Option 1	Materials Cost: Bidder 3 Rebid Option 1	Materials Cost: Bidder 2 Rebid Option 2	Materials Cost: Bidder 3 Rebid Option 2	Materials Cost: Estimate	Equipment Cost: Bidder 2	Equipment Cost: Bidder 3 (Alt)	Equipment Cost: Bidder 2 Rebid Option 1	Equipment Cost: Bidder 3 Rebid Option 1	Equipment Cost: Bidder 2 Rebid Option 2	Equipment Cost: Bidder 3 Rebid Option 2	Equipment Cost: Estimate	Unit Prices: Bidder 2	Unit Prices: Bidder 3 (Alt)	Unit Prices: Bidder 2 Rebid Option 1	Unit Prices: Bidder 3 Rebid Option 1	Unit Prices: Bidder 2 Rebid Option 2	Unit Prices: Bidder 3 Rebid Option 2	Unit Prices: Estimate
160	150	Existing Temporary Safety Fence - Removal	-	-		-		-	-	4,500	20,446		17,792		17,955	-	16.25	61.00	16.25	58.00	16.25	60.00	16.65
164	164	ESIMATE OF TRAVEL ALLOWANCES - TRADES LABOUR, LOCAL STAFF AND U.S. STAFF	-	-	-		-	-	-	7,691,689	-		-		-	-							
	151	Overhaul of Borrowed Construction Material (rate only)											-										
	152	Other Material or Rockfill			-		-						182,000		182,000								
	153	Maintenance Grade No 3			1,080		1,080						72,840		72,840								
	154	Production of blasted rockfill from the quarry Q5			65,000		70,000						100,000		105,000								
	155	Mobilization and demobilization			39,000		46,500						753,500		765,500								
	156	Drilling Holes for Jet Grouting in embankment, river sediments and bedrock			49,920		51,360						607,680		623,040								
	157	Jet Grouted Cut-off wall			1,668,800		1,708,000						991,200		1,016,400								
	158	Drilling Holes for Grouting in embankment, jet grouting cut-off wall and bedrock, if required			-		-						22,165		22,880								
	159	Dry cement incorported in the grout, if required			13,750		13,750						7,700		7,700								
	160	Grouting - Succesful connections, if required			-		-						27,720		28,500								
49	45	Percussion Drill Holes in embankments, river sediments and bedrock	-	-	-		-		14,000	-	78,480		82,800		86,400	22,000	126	109	126	115	126	120	74
50	46	Verification Core Drilling in jet grouting cut-off wall and bedrock	-	2,562	2,790		2,850		-	-	65,758		71,610		73,150	-	469	427	469	465	469	475	-
51	47	Core Diamond Drill Rig in Standby	-	-	-		-		-	-	19,320		21,000		21,700	-	132	138	132	150	132	155	578
ADJ18	ADJ18	Flip Bucket reduction			-		-						-		-								
		Totals	94,773,075	54,817,925					47,811,439	89,109,584	97,029,950					31,200,684							
		Indirect	40,961,798	12,603,526	-	11,556,150	-	12,474,506	11,110,000	63,891,689	40,001,184	-	36,656,090	-	38,788,363	9,635,000							
		Direct	53,811,277	42,214,399					36,701,439	25,217,895	57,028,766					21,565,684							
		Cost Comparison																					
		IND	40,961,798	12,603,526					11,110,000	63,891,689	40,001,184					9,635,000							
		GEN	1,659,149	633,676					698,585	3,826,588	3,523,085					1,967,373							
		TB	8,400,000	3,115,885					-	550,000	1,535,388					-							
		USCD	4,516,238	1,921,511					60,726	10,004,370	14,666,451					5,881,972							
		DSCD	246,383	133,567					42,345	330,706	355,173					166,346							
		ICD	390,475	203,530					57,525	529,041	922,793					296,230							
		SD	3,548,220	859,150					202,770	3,670,213	5,237,907					1,999,439							
		ND	51,049,972	37,694,455					33,792,962	3,176,985	25,573,606					8,290,988							
		TRW	2,021,640	1,520,864					1,832,526	3,129,992	5,050,804					2,941,335							
		Opt	-	2,562					14,000	-	163,558					22,000							
		ADJ	(18,020,800)	(3,870,800)					-	-	-					-							
		ADJBid3																					
		Labour cost from subs in estimate																					
		Totals Before Optional Work	94,773,075	54,815,363	-	-	-	-	47,797,439	89,109,584	96,866,392	-	-	-	-	31,178,684	-	-	-	-	-	-	-
		Totals	94,773,075	54,817,925					47,811,439	89,109,584	97,029,950					31,200,684							

Average labour cost per hour