

Cost Comparison	Total Price				Hours			
	Bidder 1	Bidder 2	Bidder 3	JM Estimate	Bidder 1	Bidder 2	Bidder 3	JM Estimate
Indirects	211,868,052	169,661,922	108,541,650	68,240,172	1,116,138	484,914	523,579	428,722
General	10,435,734	6,781,250	7,632,160	6,158,218	57,518	13,969	32,027	27,076
Temp bridge	7,849,347	10,425,000	6,773,000	8,085,000	33,516	14,950	19,300	32,941
Upstream cofferdam	24,967,626	23,557,471	27,024,660	19,832,821	118,057	46,525	90,440	85,855
Downstream cofferdam	963,339	846,577	984,125	594,833	5,514	2,793	4,459	2,999
Intake cofferdam	1,420,271	1,346,467	2,069,710	983,361	8,221	4,463	8,386	4,743
South dam	10,489,632	9,851,010	11,429,660	6,580,254	58,174	24,112	46,482	30,722
North dam	115,211,992	85,339,980	132,820,940	81,434,623	693,104	269,468	587,856	248,376
Tailrace work	11,176,972	6,838,893	11,423,603	9,551,543	52,819	18,374	37,256	41,006
Travel		7,691,689						
<b>Totals</b>	<b>394,382,966</b>	<b>322,340,257</b>	<b>308,699,508</b>	<b>201,460,827</b>	<b>2,143,061</b>	<b>879,568</b>	<b>1,349,785</b>	<b>902,441</b>



Price Item	Description	Qty	Units	Total Price				Labour Cost				Hours				Labour Rate			
				Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate
1	Mobilization	1.0	LS	4,852,341	73,240,798	30,000,000	5,324,550	-	8,100,000	1,976,349	2,500,000	-	83,638	28,109	38,824	-	97	70	64
2	Site Installation	1.0	LS	24,003,605	46,000,000	22,800,000	34,434,477	5,607,319	13,000,000	6,369,932	16,510,400	70,182	151,227	60,693	194,240	80	86	105	85
3	Management, Staff, employees and Consultants	1.0	LS	149,735,966	45,150,000	44,133,000	18,028,395	74,639,085	41,500,000	38,671,076	12,992,000	905,459	234,434	332,250	152,847	82	177	116	85
4	Health and Safety, Environmental and Quality Requirements	1.0	LS	14,428,200	3,065,000	8,878,000	5,584,425	10,331,476	2,400,000	8,694,583	2,925,000	140,497	14,143	102,527	34,694	74	170	85	84
5	Credit, Guarantee and Insurance	1.0	LS	9,577,027	991,000	2,030,650	3,234,000	-	-	-	-	-	-	-	-	-	-	-	-
6	Warranty, per Article 17 of the Agreement	1.0	LS	7,366,944	300,000	450,000	-	-	100,000	225,000	-	-	-	-	-	-	-	-	-
7	Demobilization	1.0	LS	1,903,969	915,124	250,000	1,634,325	-	135,124	-	250,000	-	1,472	-	8,118	-	92	-	31
8	Dewatering of Structure Areas	1.0	LS	1,960,861	2,190,000	1,550,000	1,605,450	748,087	290,000	872,408	500,000	9,243	3,174	8,180	5,882	81	91	107	85
9	Excavation of Existing Embankment cofferdams 1, 2 and 3, and Existing Ramps	177,000.0	m³	2,941,033	1,904,520	2,389,950	2,222,501	1,415,084	304,440	915,179	1,054,414	17,685	3,343	8,272	12,405	80	91	111	85
10	Excavation of Downstream section of RCC riverside cofferdam	20,000.0	m³	623,612	433,800	663,000	500,115	243,134	86,000	268,045	-	2,750	933	2,455	2,038	88	92	109	-
11	Overburden Excavation	8,000.0	m³	105,493	71,040	156,800	138,635	48,720	19,040	65,008	66,500	610	206	640	782	80	92	102	85
12	Approved Compactable Material	44,000.0	m³	1,906,595	140,800	545,600	564,792	867,863	80,960	212,541	271,229	10,625	873	2,092	3,191	82	93	102	85
13	Granular "B" Material	5,800.0	m³	299,820	330,658	316,680	270,206	136,482	38,976	137,101	28,600	1,686	418	1,666	336	81	93	118	85
14	Granular "C" Material	4,000.0	m³	209,506	233,040	204,000	162,741	95,601	32,000	86,776	19,590	1,180	347	735	230	81	92	118	85
15	Maintenance Grade 3 material	4,500.0	m³	257,127	254,205	259,200	231,375	116,161	30,015	113,581	24,200	1,434	326	983	376	81	92	116	64
16	CSP culvert, dia. 900 mm	48.0	m	26,758	26,000	41,280	15,881	6,066	11,000	22,201	1,450	76	110	213	17	79	100	104	85
17	Guide Rails	400.0	m	50,957	72,516	161,200	55,440	19,083	42,000	104,532	-	243	458	1,040	113	79	92	101	-
18	Gate Type 1	2.0	unit	1,527	15,100	25,600	5,775	688	10,000	15,864	-	9	55	154	24	79	182	103	-
19	Approved Compactable Material	26,000.0	m³	1,126,624	80,080	322,400	-	512,828	40,040	125,638	-	6,278	426	1,238	-	82	94	101	-
20	Granular "C" Material	7,500.0	m³	392,823	390,000	382,500	-	179,253	23,025	162,705	-	2,213	248	1,379	-	81	93	118	-
21	Overburden Excavation	2,000.0	m³	26,373	81,000	41,000	34,650	12,180	41,000	17,541	12,000	153	442	174	141	80	93	101	85
22	Non-woven Geotextile, min 300 g/m2	2,500.0	m2	64,047	16,850	63,750	20,213	44,787	7,000	40,346	7,500	568	74	400	88	79	95	101	85
23	Rockfill Protection, 100 - 250 mm	1,000.0	m³	52,674	69,720	62,000	28,298	28,151	11,000	36,022	12,000	351	109	348	141	80	101	104	85
24	Rockfill Protection, Zone 3E Material	2,500.0	m³	129,520	214,800	66,500	109,841	56,282	28,000	29,382	43,000	691	307	290	506	82	91	101	85
25	Non-woven Geotextile, min 530 g/m2	4,500.0	m2	123,121	37,125	38,700	46,778	80,617	16,020	17,898	18,000	1,023	166	180	212	79	97	99	85
26	Chain Link Fence and Gates	720.0	m	137,262	219,996	342,000	145,530	55,373	184,997	232,633	-	700	1,954	2,088	593	79	95	111	-
27	Engineering of Temporary Upstream Bridge	1.0	LS	217,767	50,000	116,000	8,085,000	-	-	116,000	-	-	-	-	32,941	-	-	-	-
28	Supply of Temporary Upstream Bridge	1.0	LS	3,595,200	7,650,000	2,020,000	-	-	-	37,204	-	-	-	375	-	-	-	99	-
29	Installation, removal and handover of Temporary Upstream Bridge	1.0	LS	4,036,381	2,725,000	4,637,000	-	2,716,156	1,425,000	1,968,523	-	33,516	14,950	18,925	-	81	95	104	-
30	Overburden excavation	2,500.0	m3	32,967	11,500	87,500	51,975	15,225	6,000	38,471	15,000	191	64	346	176	80	94	111	85
31	Foundation Cleaning (water/air jets and Vacuum trucks)	1,200.0	m2	30,016	45,000	144,000	124,082	25,336	29,004	122,561	83,530	322	313	1,080	983	79	98	113	85
32	Rock Excavation including dental excavation and Scaling	500.0	m3	31,814	81,110	105,000	40,425	20,638	22,000	42,459	10,000	255	238	395	118	81	92	107	85
33	Dental Concrete	800.0	m3	525,064	620,856	600,000	460,568	291,115	156,000	170,224	137,160	3,763	1,685	1,535	2,528	77	93	111	54
34	Slush Grout	1,200.0	m2	175,284	60,996	37,560	42,973	61,589	42,996	25,941	3,600	787	462	240	42	78	93	108	85
35	Dry Pack	6.0	m3	6,235	33,000	42,000	5,313	846	21,000	32,796	1,000	11	217	300	27	79	97	109	37
36	Compacted Till - Zones 1 and 1C Materials	19,000.0	m3	558,908	781,090	1,140,000	418,414	265,259	261,060	504,853	101,118	3,303	2,877	4,690	1,190	80	91	108	85
37	Dumped Till - Zone 1A Material	134,000.0	m3	2,831,904	3,859,200	5,025,000	2,354,514	1,264,078	1,070,660	1,806,499	569,560	15,885	11,788	16,795	6,701	80	91	108	85
38	Compacted Granular - Zone 2A Material	20,700.0	m3	1,188,917	1,450,035	1,304,100	798,989	537,984	150,075	615,284	101,500	6,641	1,607	5,710	2,751	81	93	108	37
39	Compacted Granular - Zone 2G Material	8,700.0	m3	477,399	617,091	548,100	275,589	217,102	66,990	259,206	42,630	2,681	711	2,394	911	81	94	108	47
40	Dumped Granular - Zone 2E Material	26,300.0	m3	1,728,694	1,509,094	1,183,500	791,273	747,110	99,940	458,088	102,605	9,249	1,037	4,240	2,445	81	96	108	42
41	Dumped Rockfill - Zone 3 Material	143,000.0	m3	3,405,298	1,714,570	2,288,000	2,497,641	1,593,703	264,550	946,331	1,123,100	19,419	2,850	8,882	13,801	82	93	107	85
42	Dumped Large Blocks (300-1000 mm) - Zone 3 Class 1	37,000.0	m3	946,481	435,120	851,000	985,810	438,938	68,080	324,255	397,800	5,337	738	3,034	4,680	82	92	107	85
43	Dumped Large Blocks (≥1000 mm) - Zone 3 Class 2	65,000.0	m3	2,042,187	1,950,000	3,120,000	1,913,462	820,058	293,150	1,160,352	772,127	10,209	3,189	10,780	9,084	80	92	108	85
44	Dumped Large Blocks (≥1300 mm) - Zone 3 Class 3	15,000.0	m3	471,274	450,900	930,000	464,657	189,244	61,950	321,951	187,500	2,356	675	3,025	2,206	80	92	106	85
45	Compacted Crushed Stone - Zone 3A Material	10,950.0	m3	567,298	714,488	810,300	504,158	246,513	84,972	394,714	122,500	3,025	914	3,479	2,472	82	93	113	50
46	Compacted Rockfill - Zone 3C Material	33,740.0	m3	1,513,899	1,565,199	910,980	732,784	653,096	315,132	383,979	345,770	8,009	3,397	3,510	4,068	82	93	109	85
47	Compacted Rockfill - Zone 3D Material	33,900.0	m3	945,887	555,960	915,300	462,826	463,049	130,854	385,800	219,190	5,640	1,428	3,525	2,579	82	92	109	85
48	Dumped Crushed Stone - Zone 3F Material	21,000.0	m3	1,163,070	1,175,790	1,060,500	932,131	470,764	77,070	451,629	214,380	5,779	828	3,440	4,499	81	98	131	48
49	Percussion Drill Holes in embankments, river sediments and bedrock	1,000.0	m	100,670	126,400	109,000	73,920	19,654	22,400	30,520	28,000	250	230	250	329	79	97	122	85
50	Verification Core Drilling in jet grouting cut-off wall and bedrock	200.0	m	43,633	93,736	85,400	-	11,006	12,336	17,080	-	140	132	144	-	79	93	119	-
51	Core Diamond Drill Rig in Standby	140.0	hour	16,376	18,480	19,320	80,850	-	-	-	-	-	-	329	-	-	-	-	-
52	Mobilization and demobilization	1.0	LS	2,850,625	1,112,715	1,585,000	-	628,932	239,568	554,750	-	8,000	2,155	2,342	-	79	111	237	-
53	Drilling Holes for Jet Grouting in embankment, river sediments and bedrock	9,600.0	m	1,483,778	1,534,368	1,257,600	166,320	390,527	439,968	686,566	-	4,948	4,416	5,400	678	79	100	127	-
54	Jet Grouted Cut-off wall	2,800.0	m2	1,421,352	2,949,436	2,744,000	5,497,800	92,891	412,888	478,388	-	1,176	4,376	4,344	22,400	79	94	110	-
55	Drilling Holes for Grouting in embankment, jet grouting cut-off wall and bedrock, if required	1,300.0	m	253,590	29,848	26,000	100,423	10,220	5										



Price Item	Description	Qty	Units	Total Price				Labour Cost				Hours				Labour Rate			
				Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate
73	Dry Pack	9.0	m3	9,352	46,000	63,000	6,122	1,269	31,000	49,194	500	16	325	450	27	79	95	109	18
74	Compacted Till - Zones 1 and 1C	6,300.0	m3	185,322	237,006	485,100	140,194	87,954	87,003	197,889	93,875	1,095	954	1,800	399	80	91	110	85
75	Compacted Granular - Zone 2C	4,900.0	m3	266,415	320,901	445,900	192,238	121,299	39,004	175,632	24,450	1,497	411	1,425	663	81	95	123	37
76	Compacted Rockfill - Zone 3C	5,200.0	m3	292,290	199,004	270,400	112,399	125,087	48,984	109,273	53,035	1,541	522	1,000	624	81	94	109	85
77	Compacted Rockfill - Zone 3D	1,400.0	m3	51,386	25,508	72,800	19,831	24,278	5,502	29,420	9,395	298	59	268	111	82	93	110	85
78	Overburden excavation	94,000.0	m3	1,239,540	749,180	1,457,000	899,864	572,459	229,360	616,264	432,621	7,168	2,514	5,430	5,090	80	91	113	85
79	Foundation cleaning (water/air jets and Vacuum trucks)	3,400.0	m2	85,044	126,990	408,000	351,276	71,786	80,988	347,257	236,640	911	886	3,060	2,784	79	91	113	85
80	Rock excavation including dental excavation and scaling	2,000.0	m3	127,258	267,440	420,000	160,129	82,553	88,000	169,837	39,180	1,019	953	1,580	461	81	92	107	85
81	Dental Concrete	1,200.0	m3	787,597	903,024	900,000	376,490	436,673	234,000	255,395	114,300	5,644	2,527	2,303	2,107	77	93	111	54
82	Slush Grout	3,400.0	m2	496,637	170,238	106,420	118,734	174,501	119,986	73,501	9,900	2,229	1,309	680	116	78	92	108	85
83	Dry Pack	20.0	m3	20,783	91,000	140,000	13,283	2,821	67,000	109,319	1,000	36	722	1,000	58	79	93	109	17
84	Drilling Holes for Grouting	1,200.0	m	146,253	245,004	144,000	256,191	17,852	99,432	115,200	22,165	219	1,094	840	1,108	82	91	137	20
85	Dry cement incorporated in the grout	42,000.0	kg	189,927	188,160	327,600	72,765	55,032	48,300	238,031	21,000	700	386	1,680	247	79	125	142	85
86	Cored Drill Check Holes	30.0	m	11,070	10,744	15,000	13,860	11,070	490	3,744	12,750	6	44	48	-	82	85	266	-
87	Percussion Drilling Check holes	60.0	m	7,313	10,471	7,200	13,860	893	3,471	5,760	-	11	44	48	-	82	79	120	-
88	Grouting - Successful connections	250.0	unit	438,848	39,000	102,500	153,286	125,973	11,500	94,175	85,680	1,543	121	733	1,008	82	95	129	85
89	Water pressure test (Lugeon - 5 Stages)	8.0	hour	10,070	6,840	5,200	4,620	5,225	2,040	3,432	-	64	22	24	19	82	93	143	-
90	Water test - Successful connections	18.0	unit	18,510	6,840	5,220	10,568	10,286	2,040	3,445	6,150	126	22	24	72	82	93	144	85
91	Uplift gauges	20.0	m	7,078	15,745	12,000	11,550	1,731	3,745	6,000	-	21	44	48	47	82	85	125	-
92	Thermistors (measure rock temperature in grout holes)	1.0	unit	4,036	12,744	10,000	4,620	1,388	3,744	6,400	-	17	44	48	19	82	85	133	-
93	Compacted Till - Zones 1 and 1C	26,000.0	m3	764,821	908,180	1,508,000	576,285	362,986	333,060	652,679	139,249	4,521	3,678	6,007	1,638	80	91	109	85
94	Compacted Granular - Zone 2A	28,000.0	m3	1,576,392	1,876,560	1,680,000	1,076,518	714,981	234,920	734,039	136,886	8,821	2,527	6,618	3,711	81	93	111	37
95	Compacted Crushed Stone - Zone 3A	12,000.0	m3	676,833	807,480	876,000	559,693	290,864	101,040	418,021	58,514	3,585	1,083	3,574	2,341	81	93	117	25
96	Compacted Crushed Stone - Zone 3B	16,000.0	m3	717,913	1,068,160	1,168,000	491,414	309,707	135,040	560,848	99,006	3,798	1,444	4,765	2,326	82	94	118	43
97	Compacted Rockfill - Zone 3C	21,000.0	m3	943,306	882,840	504,000	456,076	406,808	182,910	219,424	215,204	4,989	1,977	1,932	2,532	82	93	114	85
98	Compacted Rockfill - Zone 3D	46,000.0	m3	1,582,751	900,680	1,104,000	624,518	735,746	150,880	480,644	295,770	9,025	1,646	4,232	3,480	82	92	114	85
99	Riprap - Zone 4	6,000.0	m3	213,841	419,340	330,000	263,273	101,286	58,020	126,621	107,532	1,235	626	1,104	1,265	82	93	115	85
100	Compacted Crushed Stone - Zone 5	310.0	m3	18,637	25,214	25,420	13,207	7,933	6,501	11,926	1,565	98	69	94	55	81	94	127	28
101	Jersey Barrier	600.0	m	365,771	9,000	120,000	50,012	166,078	4,500	46,442	-	2,216	46	392	204	75	98	118	-
102	V-Notch Weirs, excluding Shelters	2.0	unit	10,368	69,136	35,000	4,620	5,097	23,000	15,612	-	64	247	136	19	79	93	115	-
103	Shelters for V-Notch Weirs	2.0	unit	20,635	34,000	11,600	2,310	7,646	4,000	7,879	-	97	37	67	9	79	108	118	-
104	Survey Monuments at South Dam Crest	3.0	unit	8,399	6,000	7,500	1,733	887	-	1,760	-	11	-	16	7	82	-	110	-
105	Clearing of the North Abutment	3.0	Ha	74,606	208,000	150,000	99,330	30,849	68,000	63,805	-	382	736	224	405	81	92	285	-
106	Overburden Excavation	72,000.0	m3	949,435	700,560	1,584,000	920,997	438,479	200,880	660,926	442,286	5,491	2,208	6,112	5,203	80	91	108	85
107	Foundation Cleaning (water/air jets and vacuum)	13,500.0	m2	337,676	501,930	2,700,000	1,387,594	285,033	321,975	2,258,191	934,730	3,618	3,519	20,250	10,997	79	91	112	85
108	Rock Excavation including Dental Excavation and Scaling	6,000.0	m3	381,773	711,300	1,500,000	480,480	247,658	262,980	651,830	117,540	3,058	2,858	6,032	1,383	81	92	108	85
109	Dental Concrete	4,000.0	m3	2,625,322	752,560	3,000,000	2,153,519	1,455,576	195,000	851,118	653,796	18,813	8,424	7,675	12,052	77	23	111	54
110	Slush Grout	13,500.0	m2	1,971,943	656,910	422,550	471,379	692,873	475,065	291,841	39,300	8,850	5,199	2,700	462	78	91	108	85
111	Dry Pack	70.0	m3	72,739	308,768	490,000	47,528	9,873	235,000	382,617	3,500	125	2,527	3,500	204	79	93	109	17
112	Drilling Holes in RCC and Bedrock for Grouting	4,200.0	m	1,700,477	1,265,586	1,092,000	955,462	996,789	654,528	884,520	88,660	12,647	6,578	5,838	4,149	79	100	152	21
113	Grouting - Successful Connections	720.0	unit	1,263,883	90,900	291,600	441,470	362,803	18,900	261,636	246,760	4,444	198	216	2,903	82	95	1,211	85
114	Dry Cement incorporated in the grout	126,000.0	kg	569,780	340,200	793,800	226,380	165,095	75,600	549,346	70,000	2,100	695	1,260	824	79	109	436	85
115	Cored Drill Check Holes	60.0	m	22,140	27,012	20,700	27,720	980	9,252	15,111	-	12	99	108	113	82	93	140	-
116	Percussion Drilling Check Holes	120.0	m	48,585	40,375	30,600	27,720	28,480	14,455	23,868	-	361	153	168	113	79	94	142	-
117	Water pressure test (Lugeon - 5 Stages)	15.0	hour	18,882	11,670	9,000	8,663	9,796	4,080	6,840	-	120	44	48	35	82	93	143	-
118	Water Pressure Test - Successful connections	36.0	unit	37,020	11,676	9,000	21,137	20,572	4,080	6,840	12,300	252	44	48	145	82	93	143	85
119	Uplift gauges	60.0	m	21,235	39,852	36,000	2,310	5,192	9,252	16,200	-	64	99	108	9	82	93	150	-
120	Thermistor (measure temperature in grout holes)	1.0	unit	4,036	11,796	10,000	4,620	1,388	3,750	6,500	-	17	44	48	19	82	85	135	-
121	Drilling Holes for Drainage in Foundation from Drainage Gallery, Ø76 mm	3,200.0	m	478,238	856,768	864,000	386,324	48,418	426,752	708,480	177,320	593	4,239	4,608	2,086	82	101	154	85
122	PVC Caps for Drainage Holes	125.0	unit	6,865	3,500	4,125	36,094	3,582	-	12,500	-	46	-	147	79	-	-	85	-
123	Drilling Holes Upward for Drainage from Drainage Gallery into RCC, Ø76 mm	3,200.0	m	502,150	908,032	992,000	772,649	50,839	478,016	826,412	354,640	623	5,122	5,568	4,172	82	93	148	85
124	Drilling Holes for piezometers	100.0	m	36,901	29,600	15,500	-	1,633	-	11,956	-	20	-	104	-	82	-	115	-
125	Vibrating Wire and Standpipe Piezometers TYPE - 1, excluding Cables	8.0	unit	278,914	108,800	48,000	41,580	20,389	-	28,800	4,000	258	-	272	198	79	-	106	20
126	Vibrating Wire and Standpipe Piezometers TYPE - 2, excluding Cables	2.0	unit	69,728	6,000	23,500	-	5,097	-	14,100	-	64	-	136	-	79	-	104	-
127	Instrument Cable including PVC Conduits and Pull Boxes	2,700.0	m	252,489	75,600	140,400	31,185	103,218	-	49,140	-	1,305	-	405	127	79	-	121	-
128	Thermistors Cable in RCC	8.0	unit	12,280	40,000	120,000	49,665	271	-	60,000	-	3	-	5,800	202	79	-	10	-
129	V-notch Weirs	4.0	unit	16															



Price Item	Description	Qty	Units	Total Price				Labour Cost				Hours				Labour Rate							
				Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate				
142	Air-entraining Admixture	315,000.0	litre	1,092,750	434,700	1,354,500	808,500	-	-	-	-	-	-	-	-	-	-	3,294	-	-	-	-	
143	Retarder Admixture	336,000.0	litre	1,746,584	514,080	1,579,200	693,000	-	-	-	-	-	-	-	-	-	-	2,824	-	-	-	-	
144	Precast Concrete	1,150.0	m3	3,155,658	1,793,500	2,415,000	1,394,663	1,645,346	43,500	336,513	115,000	20,801	478	3,165	5,682	79	91	106	20	-	-	-	
145	Gallery Floor CVC Concrete	275.0	m3	196,220	592,001	687,500	356,248	122,606	320,001	505,482	110,000	1,600	3,437	3,726	1,294	77	93	136	85	-	-	-	
146	Steel Reinforcement	500,000.0	kg	2,777,237	2,365,000	4,000,000	1,732,500	1,556,004	155,000	2,433,679	-	20,264	1,711	10,200	7,059	77	91	239	-	-	-	-	
147	Steel Guardrails	5,200.0	kg	45,950	92,664	226,200	893,970	13,059	14,664	181,643	-	166	161	1,560	3,642	79	91	116	-	-	-	-	
148	Waterstop	1,350.0	m	101,627	105,503	256,500	160,221	30,673	76,505	227,946	86,372	390	815	2,025	1,016	79	94	113	85	-	-	-	
149	Exothermic Connections.	20.0	unit	8,623	34,200	23,000	11,550	4,663	-	17,250	-	48	-	160	47	97	-	108	-	-	-	-	
150	Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil	815.0	m	96,132	111,655	93,725	117,666	32,786	-	74,980	-	337	-	693	479	97	-	108	-	-	-	-	
151	Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG	16.0	m	924	1,300	1,840	1,848	348	-	1,380	-	4	-	13	8	97	-	108	-	-	-	-	
152	Embedded Copper Grounding Plates	7.0	unit	6,857	12,000	2,450	8,085	2,720	-	245	-	28	-	2	33	97	-	117	-	-	-	-	
153	Overburden Excavation, excluding excavation of Cofferdam 3 - Dry Conditions	12,000.0	m3	158,239	96,960	264,003	153,575	73,080	18,960	112,043	73,745	915	203	955	868	80	93	117	85	-	-	-	
154	Tailrace Rock Plug Excavation including access ramp to powerhouse -Dry Conditions	170,000.0	m3	6,517,040	4,304,400	6,664,000	4,476,740	2,148,525	1,004,700	2,800,862	1,462,050	24,016	10,964	18,600	17,201	89	92	151	85	-	-	-	
155	Tailrace Rock Plug - Underwater Excavation	34,000.0	m3	2,941,312	2,120,240	3,740,000	3,282,442	1,198,813	480,080	1,470,923	983,733	11,458	5,232	13,548	11,573	105	92	109	85	-	-	-	
156	Grouted Rock Bolts Type A	70.0	unit	22,095	35,001	259,000	53,361	6,220	15,000	149,998	14,520	77	161	1,345	171	81	93	112	85	-	-	-	
157	Grouted Rock Bolts Type C	20.0	unit	16,217	17,900	136,000	19,866	2,612	8,500	78,551	5,200	32	92	704	61	81	92	112	85	-	-	-	
158	Chain Link Wire Mesh - Installation	2,500.0	m2	231,640	171,000	125,000	202,495	132,041	76,000	69,765	107,520	1,664	828	625	1,265	79	92	112	85	-	-	-	
159	Chain Link Wire Mesh - Removal	20,300.0	m2	1,190,625	73,892	162,400	1,343,084	1,072,173	69,020	117,038	831,805	13,514	747	1,015	9,786	79	92	115	85	-	-	-	
160	Existing Temporary Safety Fence - Removal	1,200.0	m	99,804	19,500	73,200	19,982	90,377	15,000	52,754	-	1,142	147	464	81	79	102	114	-	-	-	-	
164	ESIMATE OF TRAVEL ALLOWANCES - TRADES LABOUR, LOCAL STAFF AND U.S. STAFF			-	7,691,689	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ01	Fuel price reduction			-	(3,434,000)	(4,288,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ02	Travel cost removal			-	(7,691,689)	(6,131,552)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ03	Bussing cost			-	-	(1,876,766)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ04	Eliminate 1 RCC batchplant			-	-	(2,300,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ05	Spillway bridge (rent vs purchase)			-	-	(500,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ06	Winter dewatering and maintenance by Company			-	-	(600,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ07	Rock plug removal (no requirement for tailrace bridge)			-	-	(390,800)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ08	Bubble curtain removal (PH rock plug removal)			-	-	(130,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ09	Warranty (1 year only)			-	-	(450,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ10	Alternate borrow pits			-	-	(2,000,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ11	Option 1 risk sharing on staff and craft labour			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ12	RCC optimization			-	(9,400,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ13	Combining gradations and screening			-	(2,700,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ14	Eliminate jet grouting (Items 49-57)			-	(4,800,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ15	Apprentice time			-	(4,800,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ADJ16	Revised upstream dam			-	(4,000,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Totals</b>				<b>394,382,966</b>	<b>285,514,568</b>	<b>290,032,390</b>	<b>201,460,827</b>	<b>171,571,712</b>	<b>102,342,653</b>	<b>152,980,833</b>	<b>64,237,237</b>	<b>2,143,061</b>	<b>879,568</b>	<b>1,349,785</b>	<b>902,441</b>	<b>80</b>	<b>116</b>	<b>113</b>	<b>71</b>				
<b>Indirect</b>				<b>211,868,052</b>	<b>177,353,611</b>	<b>108,541,650</b>	<b>68,240,172</b>	<b>90,577,879</b>	<b>65,235,124</b>	<b>55,936,940</b>	<b>35,177,400</b>	<b>1,116,138</b>	<b>484,914</b>	<b>523,579</b>	<b>428,722</b>	<b>236</b>	<b>621</b>	<b>376</b>	<b>349</b>				
<b>Direct</b>				<b>182,514,913</b>	<b>108,160,958</b>	<b>181,490,740</b>	<b>133,220,655</b>	<b>80,993,832</b>	<b>37,107,529</b>	<b>97,043,893</b>	<b>29,059,837</b>	<b>1,026,923</b>	<b>394,654</b>	<b>826,206</b>	<b>473,719</b>	<b>79</b>	<b>94</b>	<b>117</b>	<b>61</b>				
<b>Cost Comparison</b>																							
IND				211,868,052	177,353,611	108,541,650	68,240,172	90,577,879	65,235,124	55,936,940	35,177,400	1,116,138	484,914	523,579	428,722								
GEN				10,435,734	6,781,250	7,632,160	6,158,218	4,666,440	1,295,513	3,475,399	2,058,482	57,518	13,969	32,027	27,076								
TB				7,849,347	10,425,000	6,773,000	8,085,000	2,716,156	1,425,000	2,121,727	-	33,516	14,950	19,300	32,941								
USCD				24,967,626	23,557,471	27,024,660	19,832,821	9,519,525	4,365,761	10,270,578	4,701,075	118,057	46,525	90,440	85,855								
DSCD				963,339	846,577	984,125	594,833	440,135	259,522	495,385	220,706	5,514	2,793	4,459	2,999								
KCD				1,420,271	1,346,467	2,069,710	983,361	656,490	414,493	943,387	340,230	8,221	4,463	8,386	4,743								
SD				10,489,632	9,851,010	11,429,660	6,580,254	4,669,678	2,231,221	5,332,602	2,022,363	58,174	24,112	46,482	30,722								
ND				115,211,992	85,339,980	132,820,940	81,434,623	53,601,567	25,428,759	69,552,879	16,238,407	693,104	269,468	587,856	248,376								
TRW				11,176,972	6,838,893	11,423,603	9,551,543	4,723,841	1,687,260	4,851,935	3,478,573	52,819	18,374	37,256	41,006								
ADJ				-	(36,825,689)	(18,667,118)	-	-	-	-	-	-	-	-									
Labour cost from subs in estimate																							
<b>Totals</b>				<b>394,382,966</b>	<b>285,514,568</b>	<b>290,032,390</b>	<b>201,460,827</b>	<b>171,571,712</b>	<b>102,342,653</b>	<b>152,980,833</b>	<b>76,707,476</b>	<b>2,143,061</b>	<b>879,568</b>	<b>1,349,785</b>	<b>902,441</b>								
<b>Average labour cost per hour</b>								<b>80.06</b>	<b>116.36</b>	<b>113.34</b>	<b>85.00</b>												



Price Item	Description	Materials Cost				Equipment Cost				Subcontractor Cost				Other Costs		Profit			
		Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate
1	Mobilization	120,000	31,390,798	2,912,838	-	-	28,250,000	25,110,813	110,000	-	5,500,000	-	2,000,000	4,414,899	-	317,443	-	-	714,550
2	Site Installation	4,679,449	5,000,000	2,909,282	7,805,000	766,318	26,500,000	13,520,787	5,498,000	-	1,500,000	-	-	11,380,190	-	1,570,329	-	-	4,621,077
3	Management, Staff, employees and Consultants	5,044,144	2,500,000	4,625,085	-	1,852,782	1,000,000	836,839	2,617,000	-	150,000	-	-	58,404,144	-	9,795,811	-	-	2,419,395
4	Health and Safety, Environmental and Quality Requirements	280,105	550,000	125,671	505,000	278,474	-	57,745	1,345,000	-	115,000	-	60,000	2,594,244	-	943,901	-	-	749,425
5	Credit, Guarantee and Insurance	-	991,000	2,030,650	2,800,000	-	-	-	-	-	-	-	-	8,950,492	-	626,534	-	-	434,000
6	Warranty, per Article 17 of the Agreement	-	100,000	-	-	-	100,000	225,000	-	-	-	-	-	6,884,995	-	481,950	-	-	-
7	Demobilization	-	430,000	-	-	-	350,000	250,000	65,000	-	-	-	1,100,000	1,779,411	-	124,559	-	-	219,325
8	Dewatering of Structure Areas	568,248	400,000	397,703	220,000	516,246	1,500,000	279,889	670,000	-	-	-	-	-	-	128,281	-	-	215,450
9	Excavation of Existing Embankment cofferdams 1, 2 and 3, and Existing Ramps	523,317	-	18,721	-	810,228	1,600,080	1,456,051	869,829	-	-	-	-	-	-	192,404	-	-	298,258
10	Excavation of Downstream section of RCC riverside cofferdam	64,114	97,800	68,340	-	102,750	250,000	326,616	-	-	-	433,000	172,818	-	40,797	-	-	67,115	
11	Overburden Excavation	19,297	-	-	-	30,574	52,000	91,792	53,530	-	-	-	-	-	-	6,901	-	-	18,605
12	Approved Compactable Material	373,684	-	-	-	540,317	59,840	333,059	217,769	-	-	-	-	-	-	124,731	-	-	75,795
13	Granular "B" Material	57,563	256,708	1,585	168,960	86,162	34,974	177,995	36,385	-	-	-	-	-	-	19,614	-	-	36,261
14	Granular "C" Material	40,126	177,040	1,092	96,000	60,072	24,000	116,132	25,311	-	-	-	-	-	-	13,706	-	-	21,840
15	Maintenance Grade 3 material	50,018	199,170	1,232	145,125	74,126	25,020	144,387	11,650	-	-	-	19,350	-	-	16,821	-	-	31,050
16	CSP culvert, dia. 900 mm	18,185	-	10,131	12,000	757	15,000	8,948	300	-	-	-	-	-	-	1,751	-	-	2,131
17	Guide Rails	28,030	20,016	46,683	24,000	510	10,500	9,986	-	-	-	24,000	-	-	-	3,334	-	-	7,440
18	Gate Type 1	729	1,700	6,918	-	10	3,400	2,818	-	-	-	5,000	-	-	-	100	-	-	775
19	Approved Compactable Material	220,813	-	-	-	319,278	40,040	196,762	-	-	-	-	-	-	-	73,704	-	-	-
20	Granular "C" Material	75,237	331,950	2,048	-	112,635	35,025	217,747	-	-	-	-	-	-	-	25,699	-	-	-
21	Overburden Excavation	4,824	-	-	-	7,644	40,000	23,459	18,000	-	-	-	-	-	-	1,725	-	-	4,650
22	Non-woven Geotextile, min 300 g/m2	14,607	7,650	13,165	10,000	463	2,200	10,239	-	-	-	-	-	-	-	4,190	-	-	2,713
23	Rockfill Protection, 100 - 250 mm	6,696	42,720	-	-	14,381	16,000	25,978	12,500	-	-	-	-	-	-	3,446	-	-	3,798
24	Rockfill Protection, Zone 3E Material	19,416	106,800	-	-	45,350	80,000	37,118	52,100	-	-	-	-	-	-	8,473	-	-	14,741
25	Non-woven Geotextile, min 530 g/m2	33,617	17,595	16,260	22,500	833	3,510	4,542	-	-	-	-	-	-	-	8,055	-	-	6,278
26	Chain Link Fence and Gates	71,446	-	49,799	-	1,464	34,999	59,568	-	-	-	126,000	-	-	-	8,980	-	-	19,530
27	Engineering of Temporary Upstream Bridge	-	-	-	-	-	-	-	-	-	50,000	-	7,000,000	203,520	-	14,246	-	-	1,085,000
28	Supply of Temporary Upstream Bridge	3,360,000	7,650,000	1,967,840	-	-	-	14,956	-	-	-	-	-	-	-	235,200	-	-	-
29	Installation, removal and handover of Temporary Upstream Bridge	453,421	750,000	1,148,045	-	602,742	550,000	1,520,432	-	-	-	-	-	-	-	264,062	-	-	-
30	Overburden excavation	6,090	-	-	-	9,554	5,500	49,029	30,000	-	-	-	-	-	-	2,157	-	-	6,975
31	Foundation Cleaning (water/air jets and Vacuum trucks)	2,189	-	-	800	527	15,996	21,439	23,100	-	-	-	-	-	-	1,964	-	-	16,652
32	Rock Excavation including dental excavation and Scaling	3,655	11,110	12,327	10,000	5,440	48,000	50,214	15,000	-	-	-	-	-	-	2,081	-	-	5,425
33	Dental Concrete	118,045	425,000	411,217	-	81,554	-	18,560	67,200	-	39,856	-	194,400	-	-	34,350	-	-	61,808
34	Slush Grout	96,535	15,000	10,373	30,690	5,693	3,000	1,245	2,916	-	-	-	-	-	-	11,467	-	-	5,767
35	Dry Pack	4,825	9,000	7,630	-	156	3,000	1,574	300	-	-	-	3,300	-	-	408	-	-	713
36	Compacted Till - Zones 1 and 1C Materials	98,456	-	-	-	158,629	520,030	635,147	261,146	-	-	-	-	-	-	36,564	-	-	56,151
37	Dumped Till - Zone 1A Material	525,928	-	-	-	856,633	2,788,540	3,218,501	1,468,980	-	-	-	-	-	-	185,265	-	-	315,974
38	Compacted Granular - Zone 2A Material	230,092	949,923	-	-	343,061	350,037	688,816	259,465	-	-	-	330,800	-	-	77,780	-	-	107,224
39	Compacted Granular - Zone 2C Material	91,303	385,062	-	-	137,762	165,039	288,894	108,975	-	-	-	87,000	-	-	31,232	-	-	36,984
40	Dumped Granular - Zone 2B Material	347,702	1,164,038	-	-	520,734	245,116	725,412	319,480	-	-	-	263,000	-	-	113,088	-	-	106,188
41	Dumped Rockfill - Zone 3 Material	614,377	-	-	-	974,441	1,450,020	1,341,669	989,360	-	-	-	-	-	-	222,777	-	-	335,181
42	Dumped Large Blocks (300-1000 mm) - Zone 3 Class 1	175,987	-	-	-	269,637	367,040	526,745	455,715	-	-	-	-	-	-	61,919	-	-	132,295
43	Dumped Large Blocks (≥1000 mm) - Zone 3 Class 2	406,792	-	-	-	681,736	1,656,850	1,959,648	884,550	-	-	-	-	-	-	133,601	-	-	256,785
44	Dumped Large Blocks (≥1300 mm) - Zone 3 Class 3	93,875	-	-	-	157,324	388,950	608,049	214,800	-	-	-	-	-	-	30,831	-	-	62,357
45	Compacted Crushed Stone - Zone 3A Material	85,041	489,465	3,011	-	198,632	140,051	412,574	95,000	-	-	-	219,000	-	-	97,113	-	-	67,658
46	Compacted Rockfill - Zone 3C Material	251,785	-	-	-	509,978	1,250,067	527,001	288,675	-	-	-	-	-	-	99,040	-	-	98,339
47	Compacted Rockfill - Zone 3D Material	162,791	-	-	-	258,166	425,106	529,500	181,525	-	-	-	-	-	-	61,880	-	-	62,111
48	Dumped Crushed Stone - Zone 3F Material	180,005	938,700	5,739	-	436,212	160,020	603,132	172,660	-	-	420,000	-	-	-	76,089	-	-	125,091
49	Percussion Drill Holes in embankments, river sediments and bedrock	-	-	-	14,000	-	-	78,480	22,000	-	-	104,000	-	74,430	-	6,586	-	-	9,920
50	Verification Core Drilling in jet grouting cut-off wall and bedrock	-	-	2,562	-	-	-	65,758	-	-	81,400	-	-	29,772	-	2,854	-	-	-
51	Core Diamond Drill Rig in Standby	-	-	-	-	-	-	19,320	-	-	18,480	-	70,000	15,305	-	1,071	-	-	10,850
52	Mobilization and demobilization	-	-	-	-	-	-	1,030,250	-	-	873,147	-	2,035,203	186,489	-	186,489	-	-	-
53	Drilling Holes for Jet Grouting in embankment, river sediments and bedrock	27,055	-	52,632	-	11,609	-	518,402	-	-	1,094,400	-	144,000	957,519	-	97,070	-	-	22,320
54	Jet Grouted Cut-off wall	398,430	128,940	1,405,782	-	4,194	22,008	859,830	-	-	2,385,600	-	4,760,000	832,851	-	92,986	-	-	737,800
55	Drilling Holes for Grouting in embankment, jet grouting cut-off wall and bedrock, if required	-	-	-	8,736	-	-	19,500	32,126	-	24,700	-	-	226,780	-	16,590	-	-	13,477
56	Dry cement incorporated in the grout, if required	3,932	-	12,799	-	-	-	7,019	11,000	-	11,000	-	-	28,144	-	3,254	-	-	2,558
57	Grouting - Successful connections, if required	415	-	-	10,500	583	-	24,300	-	-	38,520	-	-	67,202	-	6,890	-	-	4,948
58	Overburden excavation	1,206	-	-	-	1,911	7,200	9,318	3,550	-	-	-	-	-	-	431	-	-	1,248
59	Foundation cleaning (water/air jets and Vacuum trucks)	2,280	-	-	800	549	16,500	22,332	24,170	-	-	-	-	-	-	2,045	-	-	17,448
60	Rock excavation including dental excavation and scaling	3,655	11,110	12,327	10,000	5,440	45,000	50,214	15,000	-	-	-	-	-	-	2,081	-	-	5,425
61	Dental Concrete	29,511	101,560	102,804	-	20,389	-	4,640	14,240	-	9,966	-	46,440	-	-	8,588	-	-	14,484
62	Slush Grout	100,558	14,063	10,806	31,545	5,930	3,000	1,297	2,835	-	-	-	-	-	-	11,945	-	-	5,897
63	Dry Pack	4,825	9,000	7,630	-	156	3,000	1,574	300	-	-	-	3,300	-	-	408	-	-	605



Price Item	Description	Materials Cost				Equipment Cost				Subcontractor Cost				Other Costs		Profit			
		Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate
73	Dry Pack	7,237	12,000	11,445	-	234	3,000	2,361	900	-	-	-	4,500	-	-	612	-	-	822
74	Compacted Till - Zones 1 and 1C	32,646	-	18,093	-	52,598	150,003	274,118	87,505	-	-	-	-	-	-	12,124	-	-	18,814
75	Compacted Granular - Zone 2C	50,930	216,874	4,995	-	76,756	65,023	265,273	62,280	-	-	-	79,710	-	-	17,429	-	-	25,798
76	Compacted Rockfill - Zone 3C	50,021	-	10,667	-	98,061	150,020	150,461	44,280	-	-	-	-	-	-	19,122	-	-	15,084
77	Compacted Rockfill - Zone 3D	9,101	-	2,872	-	14,646	20,006	40,509	7,775	-	-	-	-	-	-	3,362	-	-	2,661
78	Overburden excavation	226,742	-	-	-	359,247	519,820	840,736	346,049	-	-	-	-	-	-	81,091	-	-	120,694
79	Foundation cleaning (water/air jets and Vacuum trucks)	6,202	-	-	2,150	1,492	46,002	60,743	65,345	-	-	-	-	-	-	5,564	-	-	47,141
80	Rock excavation including dental excavation and scaling	14,620	44,440	49,307	39,490	21,760	135,000	200,855	59,970	-	-	-	-	-	-	8,325	-	-	21,489
81	Dental Concrete	177,067	609,228	616,825	-	122,331	-	27,840	49,665	-	-	-	59,796	-	-	51,525	-	-	50,525
82	Slush Grout	273,517	38,250	29,391	85,250	16,129	12,002	3,528	7,650	-	-	-	-	-	-	32,490	-	-	15,934
83	Dry Pack	16,083	20,000	25,434	-	519	4,000	5,247	600	-	-	-	9,900	-	-	1,360	-	-	1,783
84	Drilling Holes for Grouting	749	15,972	-	4,200	1,052	6,000	28,800	15,445	-	-	-	123,600	-	-	117,033	-	-	34,381
85	Dry cement incorporated in the grout	15,011	-	38,421	42,000	-	-	51,147	-	-	-	-	139,860	-	-	107,459	-	-	9,765
86	Cored Drill Check Holes	-	-	-	12,000	-	-	2,250	-	-	-	-	7,000	-	-	9,856	-	-	1,860
87	Percussion Drilling Check holes	37	-	-	12,000	53	-	1,440	-	-	-	-	7,000	-	-	5,852	-	-	1,860
88	Grouting - Successful connections	1,728	-	-	5,580	2,428	-	8,325	41,455	-	-	-	27,500	-	-	280,010	-	-	20,571
89	Water pressure test (Lugeon - 5 Stages)	-	-	-	-	-	-	1,768	-	-	-	-	4,800	-	-	4,187	-	-	620
90	Water test - Successful connections	-	-	-	100	-	-	3,775	2,900	-	-	-	4,800	-	-	7,013	-	-	1,418
91	Uplift gauges	-	-	4,320	-	-	-	1,680	-	-	-	-	12,000	-	-	4,884	-	-	1,550
92	Thermistors (measure rock temperature in grout holes)	-	-	3,600	-	-	-	-	-	-	-	-	9,000	-	-	2,384	-	-	620
93	Compacted Till - Zones 1 and 1C	134,730	-	-	-	217,071	575,120	855,321	359,699	-	-	-	-	-	-	50,035	-	-	77,337
94	Compacted Granular - Zone 2A	304,668	1,251,600	-	-	453,615	390,040	945,961	348,788	-	-	-	446,376	-	-	103,128	-	-	144,468
95	Compacted Crushed Stone - Zone 3A	106,803	536,400	3,319	-	234,887	170,040	454,661	74,983	-	-	-	351,086	-	-	44,279	-	-	75,110
96	Compacted Crushed Stone - Zone 3B	119,400	708,160	4,499	-	241,839	224,960	602,652	79,765	-	-	-	246,696	-	-	46,966	-	-	65,947
97	Compacted Rockfill - Zone 3C	156,773	-	-	-	318,013	699,930	284,576	179,667	-	-	-	-	-	-	61,712	-	-	61,205
98	Compacted Rockfill - Zone 3D	284,866	-	-	-	458,595	749,800	623,356	244,938	-	-	-	-	-	-	103,544	-	-	83,810
99	Riprap - Zone 4	38,505	256,320	-	-	60,061	105,000	203,379	120,410	-	-	-	-	-	-	13,990	-	-	35,331
100	Compacted Crushed Stone - Zone 5	2,898	13,714	86	-	6,588	5,999	13,408	2,110	-	-	-	7,760	-	-	1,219	-	-	1,772
101	Jersey Barrier	166,614	-	56,504	-	9,151	4,500	17,054	-	-	-	-	43,300	-	-	23,929	-	-	6,712
102	V-Notch Weirs, excluding Shelters	2,151	24,136	18,621	-	115	22,000	767	-	-	-	-	4,000	-	-	678	-	-	620
103	Shelters for V-Notch Weirs	7,977	30,000	3,164	-	173	-	557	-	-	-	-	2,000	-	-	3,489	-	-	310
104	Survey Monuments at South Dam Crest	4,200	-	5,658	-	-	-	82	-	-	-	-	6,000	-	-	2,763	-	-	233
105	Clearing of the North Abutment	15,381	-	-	-	23,495	140,000	86,195	-	-	-	-	86,000	-	-	4,881	-	-	13,330
106	Overburden Excavation	173,675	-	-	-	275,168	499,680	923,074	355,114	-	-	-	-	-	-	62,113	-	-	123,597
107	Foundation Cleaning (water/air jets and vacuum)	24,627	-	-	8,500	5,926	179,955	441,809	258,150	-	-	-	-	-	-	22,091	-	-	186,214
108	Rock Excavation including Dental Excavation and Scaling	43,859	133,320	146,382	118,470	65,280	315,000	701,788	179,990	-	-	-	-	-	-	24,976	-	-	64,480
109	Dental Concrete	590,225	507,730	2,056,084	-	407,771	-	92,799	284,083	-	-	-	49,830	-	-	171,750	-	-	289,000
110	Slush Grout	1,086,023	151,875	116,701	338,445	64,042	29,970	14,008	30,375	-	-	-	-	-	-	129,006	-	-	63,259
111	Dry Pack	56,290	61,768	89,018	-	1,817	12,000	18,365	3,000	-	-	-	34,650	-	-	4,759	-	-	6,378
112	Drilling Holes in RCC and Bedrock for Grouting	23,177	23,058	-	16,800	159,649	38,010	207,480	61,780	-	-	-	549,990	-	-	111,246	-	-	128,222
113	Grouting - Successful Connections	4,978	-	-	16,070	6,991	-	29,964	119,395	-	-	-	72,000	-	-	806,427	-	-	59,245
114	Dry Cement incorporated in the grout	45,034	-	127,620	126,000	-	-	116,834	-	-	-	-	264,600	-	-	322,376	-	-	30,380
115	Cored Drill Check Holes	-	-	-	-	-	-	5,589	-	-	-	-	17,760	-	-	19,712	-	-	3,720
116	Percussion Drilling Check Holes	662	-	-	-	4,561	-	6,732	-	-	-	-	25,920	-	-	11,703	-	-	3,720
117	Water pressure test (Lugeon - 5 Stages)	-	-	-	-	-	-	2,160	-	-	-	-	7,590	-	-	7,850	-	-	1,163
118	Water Pressure Test - Successful connections	-	-	-	200	-	-	2,160	5,800	-	-	-	7,596	-	-	14,025	-	-	2,837
119	Uplift gauges	-	-	14,400	-	-	-	5,400	-	-	-	-	30,600	-	-	14,653	-	-	310
120	Thermistor (measure temperature in grout holes)	-	-	3,500	-	-	-	-	-	-	-	-	8,046	-	-	2,384	-	-	620
121	Drilling Holes for Drainage in Foundation from Drainage Gallery, Ø76 mm	2,396	-	-	33,600	3,365	-	155,520	123,560	-	-	-	430,016	-	-	392,772	-	-	51,844
122	PVC Caps for Drainage Holes	2,797	-	4,125	18,750	36	-	-	-	-	-	-	3,500	-	-	449	-	-	4,844
123	Drilling Holes Upward for Drainage from Drainage Gallery into RCC, Ø76 mm	2,516	-	11,801	67,200	3,534	-	153,787	247,120	-	-	-	430,016	-	-	412,411	-	-	103,689
124	Drilling Holes for piezometers	-	-	1,899	-	-	-	1,646	-	-	-	-	29,600	-	-	32,854	-	-	-
125	Vibrating Wire and Standpipe Piezometers TYPE - 1, excluding Cables	22,205	-	19,200	-	462	-	-	-	-	-	-	108,800	-	-	217,612	-	-	5,580
126	Vibrating Wire and Standpipe Piezometers TYPE - 2, excluding Cables	5,551	-	9,400	-	115	-	-	-	-	-	-	6,000	-	-	54,403	-	-	-
127	Instrument Cable including PVC Conduits and Pull Boxes	23,989	-	91,260	-	2,337	-	-	-	-	-	-	75,600	-	-	106,427	-	-	4,185
128	Thermistors Cable in RCC	11,203	-	60,000	-	2	-	-	-	-	-	-	40,000	-	-	803	-	-	6,665
129	V-notch Weirs	4,051	32,972	35,664	8,000	115	-	6,201	-	-	-	-	24,000	-	-	6,256	-	-	1,240
130	Vibrating Wire Weir Monitors	251	-	90,000	8,000	115	-	-	-	-	-	-	64,000	-	-	6,058	-	-	1,240
131	Data logger, Terminal Box, Barometer Box including Grounding	7,776	-	96,000	-	58	-	-	-	-	-	-	150,000	-	-	5,233	-	-	1,550
132	Crest Survey Monuments	2,800	-	8,452	-	-	-	183	-	-	-	-	8,000	-	-	1,842	-	-	372
133	Roller Compacted Concrete (RCC)	20,445,344	33,476,100	22,656,004	23,542,731	14,972,719	705,600	16,701,195	4,047,425	-	-	-	411,600	-	-	4,584,441	-	-	5,942,245
133.A	RCC Trial Demonstration Sections	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
133.B	Leveling Concrete (Rate Only)	-	1,485,000	-	-	-	195,000	-	-	-	-	-	-	-	-	-	-	-	-
134	Conventional Vibrated Concrete (CVC) (Crest and Flip Bucket)	1,971,001	6,500,049	3,225,292	4,612,919	1,759,161	474,969	2,429,117	1,266,342	-	-	-	181,485	-	-	1,012,268	-	-	1,554,899
135	Facing Concrete	1,506,877	4,250,034	1,705,414	3,573,974	826,639	189,974	1,874,002	981,130	-	-	-	266,772	-	-	351,209	-	-	1,204,696
136	GERCC or GEVR - Formed Faces (Rate Only)	814,765	0	606,685	930,000	446,962	0	1,128,216	134,731	-	-	-	-	-	-	189,898	-	-	201,995



Price Item	Description	Materials Cost				Equipment Cost				Subcontractor Cost				Other Costs		Profit															
		Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate	Bidder 1	Estimate	Bidder 1	Bidder 2	Bidder 3 Alt	Estimate												
142	Air-entraining Admixture	1,021,262	434,700	1,354,500	-	-	-	-	-	-	-	700,000	-	-	71,488	-	-	108,500													
143	Retarder Admixture	1,632,322	514,080	1,579,200	-	-	-	-	-	-	-	600,000	-	-	114,263	-	-	93,000													
144	Precast Concrete	462,585	1,750,000	1,945,726	57,500	841,282	-	132,762	115,000	-	-	-	-	-	206,445	-	-	187,163													
145	Gallery Floor CVC Concrete	33,936	220,000	100,875	151,250	26,841	16,500	81,143	47,190	-	-	35,500	-	-	12,837	-	-	47,808													
146	Steel Reinforcement	733,074	40,000	1,366,881	-	4,099	115,000	199,440	-	-	2,055,000	-	1,500,000	302,373	181,688	-	-	232,500													
147	Steel Guardrails	28,881	78,000	32,906	-	1,004	-	11,651	-	-	-	774,000	-	-	3,006	-	-	119,970													
148	Waterstop	63,818	28,998	28,554	52,347	487	-	-	-	-	-	-	-	6,648	-	-	21,502														
149	Exothermic Connections	-	-	5,750	-	-	-	-	-	-	34,200	-	10,000	3,396	564	-	-	1,550													
150	Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil	-	-	18,745	-	-	-	-	-	-	111,655	-	101,875	57,057	6,289	-	-	15,791													
151	Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG	-	-	460	-	-	-	-	-	-	1,300	-	1,600	515	60	-	-	248													
152	Embedded Copper Grounding Plates	-	-	2,205	-	-	-	-	-	-	12,000	-	7,000	3,689	449	-	-	1,085													
153	Overburden Excavation, excluding excavation of Cofferdam 3 - Dry Conditions	28,946	-	-	-	45,861	78,000	151,960	59,220	-	-	-	-	2,533,770	10,352	-	-	20,610													
154	Tailrace Rock Plug Excavation including access ramp to powerhouse - Dry Conditions	539,753	1,200,200	631,032	1,009,290	868,644	2,099,500	3,232,106	1,404,625	-	-	-	-	426,348	192,422	-	-	600,775													
155	Tailrace Rock Plug - Underwater Excavation	107,674	750,040	739,446	765,136	173,133	890,120	1,529,631	1,093,072	-	-	-	-	1,269,269	1,445	-	-	440,501													
156	Grouted Rock Bolts Type A	13,201	5,000	73,362	24,000	1,228	15,000	35,640	7,680	-	-	-	-	-	1,061	-	-	2,666													
157	Grouted Rock Bolts Type C	12,051	1,400	38,827	9,100	493	8,000	18,622	2,900	-	-	-	-	-	15,154	-	-	27,175													
158	Chain Link Wire Mesh - Installation	82,889	65,000	38,197	25,000	1,556	30,000	17,037	42,800	-	-	-	-	-	77,891	-	-	180,241													
159	Chain Link Wire Mesh - Removal	27,928	-	-	-	12,633	4,872	45,362	331,039	-	-	-	-	-	6,529	-	-	2,682													
160	Existing Temporary Safety Fence - Removal	1,935	-	-	-	963	4,500	20,446	-	-	-	17,300	-	-	-	-	-	-													
164	ESIMATE OF TRAVEL ALLOWANCES - TRADES LABOUR, LOCAL STAFF AND U.S. STAFF	-	-	-	-	-	7,691,689	-	-	-	-	-	-	-	-	-	-	-													
ADJ01	Fuel price reduction	-	(3,434,000)	(4,288,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ02	Travel cost removal	-	(7,691,689)	(6,131,552)	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ03	Bussing cost	-	-	(1,876,766)	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ04	Eliminate 1 RCC batch plant	-	-	(2,300,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ05	Spillway bridge (rent vs purchase)	-	-	(500,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ06	Winter dewatering and maintenance by Company	-	-	(600,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ07	Rock plug removal (no requirement for tailrace bridge)	-	-	(390,800)	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ08	Bubble curtain removal (with rock plug removal)	-	-	(130,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ09	Warranty (1 year only)	-	-	(450,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ10	Alternate borrow pits	-	-	(2,000,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ11	Option 1 risk sharing on staff and craft/labour	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ12	RCC optimization	-	(9,400,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ13	Combining gradations and screening	-	(2,700,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ14	Eliminate jet grouting (Items 49-57)	-	(4,800,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ15	Apprentice time	-	(4,800,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
ADJ16	Revised upstream dam	-	(4,000,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
<b>Totals</b>		<b>54,439,913</b>	<b>75,929,996</b>	<b>40,021,607</b>	<b>47,811,439</b>	<b>35,956,728</b>	<b>89,304,584</b>	<b>97,029,950</b>	<b>31,200,684</b>	<b>-</b>	<b>17,937,336</b>	<b>-</b>	<b>31,175,599</b>	<b>106,613,858</b>	<b>-</b>	<b>25,800,755</b>	<b>-</b>	<b>27,035,868</b>													
<b>Indirect</b>		<b>10,123,698</b>	<b>40,961,798</b>	<b>12,603,526</b>	<b>11,110,000</b>	<b>2,897,574</b>	<b>63,891,689</b>	<b>40,001,184</b>	<b>9,635,000</b>	<b>-</b>	<b>7,265,000</b>	<b>-</b>	<b>3,160,000</b>	<b>94,408,374</b>	<b>-</b>	<b>13,860,527</b>	<b>-</b>	<b>9,157,772</b>													
<b>Direct</b>		<b>44,316,215</b>	<b>34,968,198</b>	<b>27,418,081</b>	<b>36,701,439</b>	<b>33,059,153</b>	<b>25,412,895</b>	<b>57,028,766</b>	<b>21,565,684</b>	<b>-</b>	<b>10,672,336</b>	<b>-</b>	<b>28,015,599</b>	<b>12,205,484</b>	<b>-</b>	<b>11,940,228</b>	<b>-</b>	<b>17,878,096</b>													
<b>Cost Comparison</b>																															
IND		10,123,698	40,961,798	12,603,526	11,110,000	2,897,574	63,891,689	40,001,184	9,635,000	-	7,265,000	-	3,160,000	94,408,374	-	13,860,527	-	9,157,772													
GEN		2,189,966	1,659,149	633,676	698,585	2,723,798	3,826,588	3,523,085	1,967,373	-	-	-	607,350	172,818	-	682,712	-	826,428													
TB		3,813,421	8,400,000	3,115,885	-	602,742	550,000	1,535,388	-	-	50,000	-	7,000,000	203,520	-	513,509	-	1,085,000													
USCD		3,925,245	4,516,238	1,924,078	74,726	5,622,253	10,004,370	14,830,009	5,903,972	-	4,671,103	-	6,491,500	4,267,206	-	1,633,396	-	2,661,547													
DSCD		245,964	246,383	133,567	42,345	214,217	330,706	355,173	166,346	-	9,966	-	85,610	-	-	63,022	-	79,826													
IQD		353,028	390,475	203,530	57,525	317,839	529,041	922,793	296,230	-	12,458	-	157,410	-	-	92,915	-	131,966													
SD		2,061,342	3,548,220	859,150	202,770	2,525,119	3,670,213	5,237,907	1,999,439	-	401,356	-	1,472,618	547,255	-	686,238	-	883,064													
ND		30,912,872	51,011,782	37,694,455	33,792,962	19,948,675	3,371,985	25,573,606	8,290,988	-	5,527,453	-	12,183,810	3,211,646	-	7,537,233	-	10,928,456													
TRW		814,377	2,021,640	1,520,864	1,832,526	1,104,511	3,129,992	5,050,804	2,941,335	-	-	-	17,300	3,803,039	-	731,204	-	1,281,809													
ADJ		-	(36,825,689)	(18,667,118)	-	-	-	-	-	-	-	-	-	-	-	-	-	-													
Labour cost from subs in estimate																															
<b>Totals</b>		<b>54,439,913</b>	<b>75,929,996</b>	<b>40,021,607</b>	<b>47,811,439</b>	<b>35,956,728</b>	<b>89,304,584</b>	<b>97,029,950</b>	<b>31,200,684</b>	<b>-</b>	<b>17,937,336</b>	<b>-</b>	<b>18,705,359</b>	<b>106,613,858</b>	<b>-</b>	<b>25,800,755</b>	<b>-</b>	<b>27,035,868</b>													

Average labour cost per hour