Table 9.3.4 (2/5) BASIC EQUIPMENT COST

New ID No.	Description of Equipment	Unit	Applicated Cost			
			PF/C	IF/C	L/C	Total
A-2-1-53	Dumptruck; 32 ton for Rock	hourly	353,849	6,350	240,348	600,547
A-2-1-54	Dumptruck; 4 ton	hourly	30,204	1,376	28,632	60,211
A-2-1-55	Dumptruck; 8 ton	hourly	58,770	2,200	53,721	114,691
A-2-1-56	Dumptruck; 8 ton for Rock	hourly	64,647	2,276	58,517	125,440
A-2-1-57	Macadam Roller; 10-12 ton	hourly	73,027	912	73,401	147,340
A-2-1-58	Mortor Sprayer; 0.8-1.2m3/h	daily	0	2,448	9,792	12,240
A-2-1-59	Motorgrader; 3.1 m	hourly	122,998	1,116	118,868	242,982
A-2-1-60	Road Roller; Tandem 8-10 ton	hourly	63,475	696	63,413	127,583
A-2-1-61	Submergible pump; D 100 mm; 3.7 kW	daily	21,522	0	10,871	32,394
A-2-1-62	Submergible pump; D 150 mm; 11 kW	daily	39,099	0	19,749	58,848
A-2-1-63	Submergible pump; D 200 mm; 15 kW	daily	65,404	0	33,036	98,440
A-2-1-64	Submergible pump; D 50 mm; 0.75 kW	daily	6,576	0	3,322	9,898
A-2-1-65	Turbine Pump Dia. 200mm 75kW	daily	177,383	0	112,624	290,007
A-2-1-66	Swamp Bulldozer; 13 ton	hourly	161,131	2,160	146,095	309,386
A-2-1-67	Swamp Bulldozer; 16 ton	hourly	180,013	2,280	162,683	344,976
A-2-1-68	Tire Roller; 8-20 ton	hourly	81,684	864	82,451	164,999
A-2-1-69	Trailer; 20 ton	hourly	119,879	2,160	102,572	224,611
A-2-1-70	Trailer; 32 ton	hourly	153,758	2,160	129,118	285,036
A-2-1-71	Truck Crane; 11(10) ton, Oil Pressure	hourly	99,322	1,020	85,929	186,271
A-2-1-72	Truck Crane; 16 ton, Oil Pressure	hourly	135,641	1,020	115,858	252,520
A-2-1-73	Truck Crane; 22 ton, Oil Pressure	hourly	154,913	1,032	131,788	287,732
A-2-1-74	Truck Crane; 35 ton, Oil Pressure	hourly	255,717	1,440	216,490	473,647
A-2-1-75	Truck Crane; 4.9 ton, Oil Pressure	hourly	55,146	720	48,324	104,190
A-2-1-76	Truck Crane; 60 ton, Oil Pressure	hourly	421,006	1,560	353,180	775,747
A-2-1-77	Truck Mixer; 1.6 m3	hourly	35,073	996	28,463	64,532
A-2-1-78	Truck Mixer; 3 m3	hourly	51,377	1,164	40,516	93,057
A-2-1-79	Truck Mixer; 4.5 m3	hourly	77,958	1,560	60,652	140,169
A-2-1-80	Truck; 11 ton	hourly	96,932	1,560	95,161	193,653
A-2-1-81	Truck; 3.5 ton	hourly	27,195	744	27,924	55,863
A-2-1-82	Truck; 4 ton	hourly	37,005	876	37,451	75,332
A-2-1-83	Truck; 8 ton	hourly	60,898	1,200	60,665	122,763
A-2-1-84	Tugboat; 15 ton	hourly	129,433	4,440	140,042	273,915
A-2-1-85	Vibrating Hammer; 30 kW	hourly	86,428	0	52,870	139,298
A-2-1-86	Vibrating Hammer; 40 kW	hourly	105,466	0	64,516	169,982
A-2-1-87	Vibrating Hammer; 60 kW	hourly	150,191	0	91,875	242,066
A-2-1-88	Vibrating Roller; 0.8-1.1 ton (Hand Guide)	hourly	17,057	144	14,791	31,992
A-2-1-89	Vibrating Roller; 11-12 ton	hourly	212,629	2,400	186,791	401,821
A-2-1-90	Vibrating Roller; 15-18 ton	hourly	300,975	2,640	261,373	564,988
A-2-1-91	Vibrating Roller; 3-5 ton	hourly	67,982	528	58,763	127,273
A-2-1-92	Water Jet; 45 kW	hourly	84,280	0	58,824	143,104
A-2-1-93	Water Tank; 3000 litter	daily	8,864	0	4,432	13,295
A-2-1-94	Wheel Loader; 1 m3	hourly	68,964	1,032	55,719	125,715
A-2-1-95	Wheel Loader; 1 m3 for Rock	hourly	62,694	1,032	51,029	114,756
A-2-1-96	Wheel Loader; 1.2 m3	hourly	72,404	1,116	58,629	132,149
A-2-1-97	Wheel Loader; 10 m3	hourly	1,222,719	11,040	958,866	2,192,625
A-2-1-98	Wheel Loader; 10 m3 for Rock	hourly	1,344,991	11,040	1,050,337	2,406,367
A-2-1-99	Wheel Loader; 3.1 m3	hourly	246,941	3,600	199,135	449,676
A-2-1-100	Wheel Loader; 3.1 m3 for Rock	hourly	271,635	3,600	217,608	492,844
A-2-1-101	Wheel Loader; 5.4 m3	hourly	625,744	5,760	491,154	1,122,659
A-2-1-102	Wheel Loader; 5.4 m3 for Rock	hourly	688,319	5,760	537,966	1,232,045
A-2-1-103	Concrete Pump Truck 55m3/hr	hourly	184,434	1,200	116,778	302,412
A-2-1-104	Water Tanker; 4000 litter	hourly	46,828	1,076	35,138	83,041
A-2-1-105	Tandem Roller 8/12 ton	hourly	191,666	1,200	164,522	357,388
A-2-1-108	Motorgrader; 2.8 m	hourly	104,320	0	97,032	201,352

Table 9.3.4 (3/5) BASIC EQUIPMENT COST

New ID No.	Description of Equipment	Unit	Applicated Cost			
			PF/C	IF/C	L/C	Total
A-2-1-109	Crawler Crane 16t	hourly	143,706	0	126,996	270,702
A-2-1-110	Crawler Crane 50t	hourly	355,844	0	314,467	670,310
A-2-1-111	Chain Saw	daily	42,825	0	17,538	60,363
A-2-1-113	Truck Crane; 80 ton, Oil Pressure	hourly	770,856	888	638,795	1,410,539
A-2-1-114	Truck Crane; 120 ton, Oil Pressure	hourly	1,082,164	888	895,335	1,978,387
A-2-1-115	Truck Crane; 160 ton, Oil Pressure	hourly	1,437,944	1,110	1,189,412	2,628,466
A-2-1-116	Truck Crane; 200 ton, Oil Pressure	hourly	1,913,305	1,154	1,581,323	3,495,783
A-2-2-1	Concrete Breaker; 600 kg	daily	232,611	0	93,259	325,870
A-2-2-2	Stabilizer	hourly	743,276	1,092	502,608	1,246,975
A-2-2-3	Truck with crane; 6 ton	hourly	62,784	0	57,595	120,379
A-2-2-4	Truck with crane; 8 ton	hourly	79,818	0	73,222	153,040
A-2-2-5	Cement Silo; 30 ton, 20t/h	daily	7,768	0	3,276	11,044
A-2-2-6	Compressor; 10.5-11 m3/min	daily	319,521	11,520	248,930	579,971
A-2-2-7	Compressor; 3.5-3.7 m3/min	daily	120,290	4,032	92,495	216,817
A-2-2-8	Compressor; 20~21 m3/min	daily	730,012	17,280	532,572	1,279,864
A-2-2-9	Compressor; 7.5 m3/min	daily	226,296	8,640	178,225	413,161
A-2-2-10	Concrete Breaker; 20 kg	daily	9,136	0	3,181	12,317
A-2-2-11	Concrete Breaker; 30 kg	daily	11,420	0	3,977	15,397
A-2-2-12	Concrete Bucket; 1 m3	daily	92,239	0	45,461	137,700
A-2-2-14	Generator; 10 kVA	daily	65,615	1,440	41,622	108,678
A-2-2-15	Generator; 100 kVA	daily	215,064	10,800	160,745	386,609
A-2-2-16	Generator; 125 kVA	daily	271,912	15,120	209,096	496,128
A-2-2-17	Generator; 15 kVA	daily	82,875	1,800	52,496	137,171
A-2-2-18	Generator; 20 kVA	daily	104,107	2,448	66,693	173,248
A-2-2-19	Generator; 200 kVA	daily	415,060	23,760	321,895	760,715
A-2-2-20	Generator; 250 kVA	daily	569,851	29,520	429,537	1,028,908
A-2-2-21	Generator; 300 kVA	daily	658,206	36,720	506,628	1,201,554
A-2-2-22	Generator; 35 kVA	daily	121,915	3,816	81,898	207,629
A-2-2-23	Generator; 75 kVA	daily	211,639	9,360	153,113	374,113
A-2-2-24	Grout Mixer; 2x200 ltr 2.3kw Yoko	daily	45,124	259	35,784	81,167
A-2-2-25	Grout Plant; 150 l/min	daily	1,114,557	12,960	522,644	1,650,162
A-2-2-26	Grout Pressure Meter; 120 l/min	daily	428,848	0	230,918	659,767
A-2-2-27	Grout Pump; 37-100 l/min 7.8kw Yoko	daily	110,621	864	88,638	200,123
A-2-2-30	Oil Pressure Jack	daily	36,093	0	17,857	53,950
A-2-2-31	Leg Hammer; 30 kg	daily	40,345	0	14,239	54,584
A-2-2-32	Leg Hammer; 40 kg	daily	45,409	0	16,027	61,435
A-2-2-33	Motor grader; 4.01 m x 0.62 m	hourly	220,940	0	205,503	426,444
A-2-2-35	Pick Hammer	daily	5,717	0	2,030	7,747
A-2-2-36	Guide Sell Feed 4m 150kg class	daily	248,497	0	85,886	334,383
A-2-2-37	Pontoon Barge; 100 ton	daily	314,821	0	237,791	552,612
A-2-2-38	Grout Center Plant Automatic 150litre/min	daily	1,114,557	0	470,804	1,585,362
A-2-2-39	Rotary Boring Machine; 11 kW	daily	241,735	1,224	191,040	433,999
A-2-2-40	Rotary Boring Machine; 5.5 kW	daily	142,653	648	112,440	255,742
A-2-2-41	Drifter Air Type : 150kg class	daily	257,007	0	88,827	345,834
A-2-2-42	Submergible pump; D 100 mm; 3.7 kW	daily	21,522	0	10,871	32,394
A-2-2-43	Submergible pump; D 150 mm; 7.5 kW	daily	28,458	0	14,374	42,831
A-2-2-44	Submergible pump; D 200 mm; 15 kW	daily	65,404	0	33,036	98,440
A-2-2-45	Submergible pump; D 50 mm; 0.75 kW	daily	6,576	0	3,322	9,898
A-2-2-46	Submergible pump; D 80 mm; 1.5 kW	daily	14,587	0	7,368	21,956
A-2-2-47	Submergible Pump; D100mm 5.5 kW	daily	26,903	0	13,589	40,492
A-2-2-48	Submergible Pump; D150mm 10.6 kW	daily	39,099	0	19,749	58,848
A-2-2-49	Submergible Pump; D200mm 22kW	daily	81,666	0	41,250	122,915
A-2-2-50	Submergible Pump; D50mm 1.5 kW	daily	11,837	0	5,979	17,816
A-2-2-51	Tamper; 60-100 kg	daily	35,109	1,080	16,859	53,047

Table 9.3.4 (4/5) BASIC EQUIPMENT COST

New ID No.	Description of Equipment	Unit	Applicated Cost			
			PF/C	IF/C	L/C	Total
A-2-2-52	Vibrating Roller; 1 ton	hourly	22,526	144	19,348	42,018
A-2-2-53	Vibrating Roller; 2 ton	hourly	56,452	468	48,915	105,835
A-2-2-54	Vibrating Roller; 4 ton	hourly	67,982	528	58,763	127,273
A-2-2-55	Concrete Vibrator; 60 mm Engine Type	daily	20,241	2,280	16,494	39,015
A-2-2-56	Vibro hammer; 30 kW	hourly	86,428	0	52,870	139,298
A-2-2-57	Vibro hammer; 40 kW	hourly	105,466	0	64,516	169,982
A-2-2-58	Shotcrete Machine Wet Type : 0.8~1.2	hourly	68,498	0	40,476	108,975
A-2-2-59	Concrete Vibrator; High Wave	daily	55,125	0	26,706	81,831
A-2-2-60	Portable Concrete Mixer 0.5m3	daily	236,747	360	116,739	353,846
A-2-2-61	Portable Concrete Mixer 0.2m3	daily	198,699	576	99,073	298,348
A-2-2-62	Asphalt Plant 30ton/hr, 110kw	hourly	584,193	0	399,236	983,429
A-2-2-63	Asphalt Finisher 2.4m	hourly	170,054	0	150,540	320,594
A-2-2-64	Asphalt Sprayer 30ton/hr	daily	32,295	0	11,398	43,693
A-2-2-65	Dragline 3.0m3	hourly	774,072	4,200	748,374	1,526,645
A-2-2-66	Dredger	hourly	636,080	0	464,469	1,100,550
A-2-2-67	Concrete Cutter	daily	33,629	0	13,589	47,218
A-2-3-1	Backet Elevator; 20 t/h per 10m	hourly	1,329	132	837	2,298
A-2-3-2	Belt Conveyer; W 450 mm per 10m(~15m)	hourly	23,775	7	5,390	29,172
A-2-3-3	Belt Conveyer; W 600 mm per 10m(~15m)	hourly	30,643	10	6,950	37,602
A-2-3-4	Belt Conveyer; W 750 mm per 10m(~15m)	hourly	39,836	12	9,031	48,878
A-2-3-5	Cable Crane; 13.5 ton	hourly	2,325,389	6,840	1,530,844	3,863,073
A-2-3-6	Classifyer; 1050 x 7500 mm	hourly	80,444	0	36,813	117,257
A-2-3-7	Classifyer; 900 x 6500 mm	hourly	68,167	0	31,243	99,410
A-2-3-8	Concrete Plant; 15 m3/hour DSS system	hourly	2,581,812	0	1,556,284	4,138,095
A-2-3-9	Concrete Plant; 1.5 m3 x 3	hourly	709,473	5,200	331,877	1,046,550
A-2-3-10	Corn Crusher; 1000 mm	hourly	237,187	0	109,916	347,102
A-2-3-11	Corn Crusher; 750 mm	hourly	189,420	0	87,780	277,200
A-2-3-12	High Pressure Washer	daily	20,979	0	10,597	31,576
A-2-3-13	Slaim Sweeper	hourly	12,868	0	3,603	16,471
A-2-3-14	Jaw Crusher; ST 600 x 900	hourly	187,114	0	85,761	272,875
A-2-3-15	Plate Feader; 200 t/h	hourly	57,257	0	26,479	83,736
A-2-3-16	Rod Mill; 2100 x 3600 mm	hourly	473,476	0	219,416	692,892
A-2-3-20	Screw Conveyer; 20 t/h per 7m	hourly	5,781	0	1,304	7,085
A-2-3-21	Vibrating Feader; 65 t/h	daily	27,169	0	12,590	39,759
A-2-4-1	Breaker; 1300 kg	daily	665,211	0	266,698	931,909
A-2-4-4	Sand Bin	daily	404,049	0	85,063	489,112
A-2-4-5	Electromagnetic Feader; 50 t/h	daily	23,377	0	10,833	34,210
A-2-4-8	Tunnel Excavator for Diversion	hourly	1,172,031	0	583,753	1,755,785
A-2-4-9	Tunnel Excavator for Intake	hourly	1,172,031	0	583,753	1,755,785
A-2-4-10	Load Haul Dump 1.7m3	hourly	239,227	972	150,129	390,328
A-2-4-11	Guniting Machine 5~10m3/hour class	hourly	154,652	0	99,419	254,071
A-2-4-12	Spray Robot R=6m class	hourly	174,366	0	105,106	279,472
A-2-4-13	Drill Jumbo crawler 2boom oilpressure 150kg	hourly	1,122,624	1,920	760,208	1,884,752
A-2-4-14	Drill Jumbo wheel 3boom oilpressure 150kg	hourly	1,692,883	3,120	1,137,038	2,833,041
A-2-4-15	Grout Mixer; 100litre x 1 bucket	daily	19,840	302	16,487	36,630
A-2-4-16	Grout Pump; 15~30litre/min	daily	53,168	367	41,565	95,100
A-2-4-17	Concrete Pump Truck for Pipe : 90~100	hourly	251,803	1,440	158,640	411,883
A-2-4-18	Pipe for Concrete Pump, Dia150mm, 4m	hourly	1,226	0	151	1,377
A-2-4-19	Accelerator Supplier	daily	293,663	0	144,274	437,937
A-2-4-20	Dust Chamber; 300m3/min	hourly	214,326	0	93,185	307,511
A-2-4-21	Backhoe 0.35m3 with Exhaust Gas Control	hourly	75,601	1,320	55,144	132,065
A-2-4-22	Turbid Water Treatment Facility 20~30m3/h	daily	2,073,618	0	979,454	3,053,072
A-2-4-23	Grout Data Recorder	daily	21,373	0	9,020	30,393
A-2-4-24	Grout Treatment Facility	daily	85,494	0	20,393	105,887

Table 9.3.4 (5/5) BASIC EQUIPMENT COST

New ID No.	Description of Equipment	Unit	Applicated Cost			
			PF/C	IF/C	L/C	Total
A-2-4-25	Air Tamper 18kg Class	daily	14,355	1,320	10,407	26,081
A-2-4-26	Tamping Roller 20.7~34.5ton	hourly	124,303	1,320	95,987	221,610
A-2-4-27	Inkline Vibrating Sieve 1200x3000 2-floor	hourly	51,479	0	23,345	74,824
A-2-4-28	Vibrating Sieve 1200x3000 2-floor	hourly	56,719	0	25,918	82,638
A-2-4-29	Belt Conveyer; W 450 mm per 10m(~30m)	hourly	11,095	0	2,502	13,597
A-2-4-30	Belt Conveyer; W 600 mm per 10m(~30m)	hourly	13,525	0	3,050	16,575
A-2-4-31	Belt Conveyer; W 750 mm per 10m(~30m)	hourly	15,744	0	3,550	19,294
A-2-4-32	Belt Conveyer; W 450 mm per 10m(~50m)	hourly	8,421	0	1,899	10,320
A-2-4-33	Belt Conveyer; W 600 mm per 10m(~50m)	hourly	9,943	0	2,242	12,185
A-2-4-34	Belt Conveyer; W 750 mm per 10m(~50m)	hourly	11,517	0	2,597	14,115
A-2-4-35	Belt Conveyer; W 450 mm per 10m(>50m)	hourly	6,403	0	1,444	7,847
A-2-4-36	Belt Conveyer; W 600 mm per 10m(>50m)	hourly	7,344	0	1,656	9,000
A-2-4-37	Belt Conveyer; W 750 mm per 10m(>50m)	hourly	8,284	0	1,868	10,152
A-2-4-38	Belt Conveyer; W 900 mm per 10m(~15m)	hourly	47,866	0	10,793	58,660
A-2-4-39	Belt Conveyer; W 1,050 mm per 10m(~15m)	hourly	58,961	0	13,295	72,256
A-2-4-40	Belt Conveyer; W 1,200 mm per 10m(~15m)	hourly	65,724	0	14,820	80,544
A-2-4-41	Belt Conveyer; W 900 mm per 10m(~30m)	hourly	19,125	0	4,313	23,438
A-2-4-42	Belt Conveyer; W 1,050 mm per 10m(~30m)	hourly	22,718	0	5,123	27,841
A-2-4-43	Belt Conveyer; W 1,200 mm per 10m(~30m)	hourly	25,360	0	5,718	31,078
A-2-4-44	Belt Conveyer; W 900 mm per 10m(~50m)	hourly	13,948	0	3,145	17,093
A-2-4-45	Belt Conveyer; W 1,050 mm per 10m(~50m)	hourly	16,378	0	3,693	20,071
A-2-4-46	Belt Conveyer; W 1,200 mm per 10m(~50m)	hourly	17,963	0	4,050	22,014
A-2-4-47	Belt Conveyer; W 900 mm per 10m(>50m)	hourly	10,017	0	2,259	12,276
A-2-4-48	Belt Conveyer; W 1,050 mm per 10m(>50m)	hourly	11,623	0	2,621	14,244
A-2-4-49	Belt Conveyer; W 1,200 mm per 10m(>50m)	hourly	12,680	0	2,859	15,539

Table 9.4.1 (1/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
CW-1-1	Backfill (Soil) A	m3	6,076	87	5,043	11,206	Width is equal or more than 4m
CW-1-2	Backfill (Soil) B	m3	7,022	103	6,326	13,451	Width is equal or more than 0~4m
CW-1-3	Backfill (Soil) C	m3	6,392	98	6,338	12,828	Width is less than 4m
CW-1-4	Backfill (Soil) D	m3	6,038	132	7,114	13,284	Width is less than 1m
CW-1-5	Spreading A	m3	2,941	35	2,823	5,799	Bulldozer 21t
CW-1-6	Manpower Excavation	m3	0	0	15,800	15,800	Soil:Clay, Sand, Gravel
CW-1-7	Manpower Embankment/Backfill & Tamper	m3	1,760	60	9,620	11,440	Soil:Clay, Sand, Gravel
CW-1-8	Tamper Loading	m3	1,760	60	2,600	4,420	60~100kg
CW-1-9	Slope Clearing for Embankment 1	m2	2,674	35	2,902	5,611	Bulldozer 15t (S=1:2~3)
CW-1-10	Slope Clearing for Embankment 2	m2	3,265	54	2,660	5,979	Backhoe 0.6m3 by Cutting, Soil:Sand and Clay
CW-1-11	Slope Clearing for Embankment 3	m2	4,018	66	3,325	7,409	Backhoe 0.6m3 by Additional Soil (Sand)
CW-1-12	Slope Clearing of Excavation by Machine	m2	4,018	66	3,760	7,844	Backhoe 0.6m3 by Cutting (Sand)
CW-1-13	Slope Clearing of Excavation by Manpower	m2	0	0	2,202	2,202	Soil: Sand
CW-1-14	Sodding	m2	0	0	5,761	5,761	
CW-1-15	Gravel Bedding	m3	0	1,360	31,260	32,620	Under Flat and Thin Concrete Structure
CW-1-16	Backfilling Gravel A	m3	0	4,060	83,560	87,620	Behind Revetment
CW-1-17	Backfilling Gravel B	m3	0	3,980	84,740	88,720	Behind Concrete Wall
CW-1-18	Backfilling Concrete	m3	0	47,100	203,180	250,280	Behind or Between Concrete Walls
CW-1-19	Foundation River Gravel (Rubble Stone)	m3	0	2,790	62,080	64,870	Under Concrete Structure and so on
CW-1-20	Concrete Work for Reinforced Concrete C1 by Pump	m3	20,270	41,770	183,330	245,370	by Boom, Standard Concreting Volume=75m3
CW-1-21	Concrete Work for Small Structure : Type-D	m3	120	42,570	193,500	236,190	by Manpower
CW-1-22	Concrete Work for Levelling Concrete	m3	120	37,130	158,740	195,990	by Manpower
CW-1-23	Form Work A	m2	60	0	44,798	44,858	Reinforced Concrete less than 4m high
CW-1-24	Form Work B	m2	10,030	75	52,910	63,015	Reinforced Concrete more than 4m high
CW-1-25	Form Work C	m2	59	0	43,844	43,903	Plain Concrete less than 4m high
CW-1-26	Form Work D	m2	0	0	43,547	43,547	Small Concrete Structure
CW-1-27	Form Work E	m2	0	0	46,438	46,438	Small Concrete Structure II
CW-1-28	Form Work F	m2	0	0	36,510	36,510	Levelling Concrete
CW-1-29	Reinforcing Bar Setup 1	t	0	3,120,900	3,325,100	6,446,000	SD295A, Construction scale : less than 10t, less than 5m high
CW-1-30	Reinforcing Bar Setup by using Crane 1	t	137,000	3,122,000	3,442,150	6,701,150	SD295A, Construction Scale : less than 10t, more than 5m high
CW-1-31	Reinforcing Bar Setup 2	t	0	2,808,810	2,992,590	5,801,400	SD295A, Construction scale : more than 10t, less than 5m high
CW-1-32	Reinforcing Bar Setup by using Crane 2	t	123,300	2,809,800	3,097,935	6,031,035	SD295A, Construction Scale : more than 10t, more than 5m high
CW-1-33	Reinforcing Bar Setup A	t	0	3,120,900	3,342,700	6,463,600	SD295A (D10~D13), less than 5m high
CW-1-34	Reinforcing Bar Setup B	t	137,000	3,122,000	3,459,800	6,718,800	SD295A(D10~D13), higher than 5m high
CW-1-35	Reinforcing Bar Setup C	t	0	3,120,900	3,307,500	6,428,400	SD295A (D16~D25), less than 5m high
CW-1-36	Reinforcing Bar Setup D	t	137,000	3,122,000	3,424,500	6,683,500	SD295A(D16~D25), higher than 5m high
CW-1-37	Prefabricated Scaffold for Re-Con I	m2	6,600	0	8,678	15,278	Less than 4m high (Lease)

Table 9.4.1 (2/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
CW-1-38	Prefabricated Scaffold for Re-Con II	m2	14,739	62	15,629	30,430	equal or higher than 4m high (Lease)
CW-1-39	Tublar Scaffold for Re-Con I	m2	224,200	0	26,570	250,770	Less than 4m high
CW-1-40	Tublar Scaffold for Re-Con II	m2	232,340	70	32,690	265,100	Higher than 4m high
CW-1-41	Tublar Scaffold for Re-Con III	m2	16,830	0	17,490	34,320	Less than 4m high (Scaffold : Lease)
CW-1-42	Tublar Scaffold for Re-Con IV	m2	24,970	70	23,610	48,650	Higher than 4m high (Scaffold : Lease)
CW-1-43	Pipe Support	m3	5,940	0	28,640	34,580	Height is 0~4m
CW-1-44	Frame Support	m3	11,370	50	22,310	33,730	Height is 4~10m <2t/m2
CW-1-45	Curing Work	m3	110	0	350	460	Reinforced Concrete
CW-1-46	Excavation A	m3	2,361	39	1,711	4,111	Original Soil (Condition:good)
CW-1-47	Excavation B	m3	2,951	48	2,138	5,137	Original Soil (Condition:common)
CW-1-48	Excavation C	m3	3,943	65	2,857	6,865	Original Soil (Condition:bad(less than water level))
CW-1-49	Excavation D	m3	2,361	39	1,711	4,111	Loosed Soil (Condition:good)
CW-1-50	Excavation E	m3	2,725	45	1,974	4,744	Loosed Soil (Condition:common)
CW-1-51	Excavation F	m3	3,541	58	2,566	6,165	Loosed Soil (Condition:bad(less than water level))
CW-1-52	Excavation G	m3	2,725	45	1,974	4,744	Loosed Soil (Condition:good, Material:Rock or Cobble)
CW-1-53	Excavation H	m3	3,541	58	2,566	6,165	Loosed Soil (Condition:common, Material:Rock or Cobble)
CW-1-54	Excavation I	m3	5,072	83	3,675	8,830	Loosed Soil (Condition:bad(less than water level), Material:Rock or Cobble)
CW-1-55	Spreading and Compaction-A	m3	1,900	23	1,939	3,862	Tire Roller 8~20t
CW-1-56	Spreading and Compaction for Gravel Pavement	m3	5,117	43	16,431	21,592	Width is less than 4m
CW-1-57	Reinforced Concrete Work Type D by Pump	m3	20,270	40,730	179,170	240,170	by Boom, Standard Concreting Volume=75m3
CW-1-58	Spreading and Compaction for Earth Filling	m3	2,834	36	2,633	5,503	Tire Roller 8~20t
CW-1-59	Spreading and Compaction-D	m3	1,509	19	1,473	3,001	Tire Roller 8~20t
CW-1-60	Concrete Work for Type-C by Shoot Hopper	m3	120	43,660	197,860	241,640	by Manpower
CW-1-61	Concrete Work for Type-C3 by Shoot Hopper	m3	120	43,660	197,860	241,640	by Manpower
CW-1-62	Reinforced Concrete Work Type B by Pump	m3	20,270	43,850	191,650	255,770	by Boom, Standard Concreting Volume=75m3
CW-1-63	Light Concrete (Concrete 1:3:5)	m3	0	26,756	408,184	434,940	
CW-1-64	Excavation by Backhoe 0.35m3	m3	2,688	45	1,954	4,687	Loosed Soil (Condition:common)
CW-1-65	Spreading by Swamp Bulldozer	m3	4,284	54	4,047	8,386	Swamp Bulldozer 16t (Loosed and Bad Condition)
CW-2-1	Temporary Fence of Corrugated Iron Sheet, 2m high	m	0	3,400	70,500	73,900	SK SNI T-01-1991-03
CW-2-2	Making of Wood Temporary Fence	m2	0	20,300	377,300	397,600	SK SNI T-01-1991
CW-2-3	Clearing Area	m2	0	0	6,900	6,900	
CW-2-4	Bowplank Installation	m	0	100	12,000	12,100	
CW-2-5	Cutting Common Earth, 1m depth	m3	0	0	16,000	16,000	
CW-2-6	Cutting Solid Earth, 1m depth	m3	0	0	25,000	25,000	
CW-2-7	Cutting Muddy Earth, 1m depth	m3	0	0	7,400	7,400	
CW-2-8	Removing Earth for 150m distance	m3	0	0	4,300	4,300	
CW-2-9	Backfilling Earth	m3	0	0	7,700	7,700	
CW-2-10	Flatting and Compaction Earth	m3	0	0	20,000	20,000	

Table 9.4.1 (3/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
CW-2-11	Filling Solid Earth for Road Body/berm	m3	0	800	15,300	16,100	
CW-2-12	Filling Sand	m3	0	1,800	86,700	88,500	
CW-2-13	Masonry/Riprap Protection, 20cm thickness	m3	0	2,900	96,000	98,900	
CW-2-14	Masonry of Crushed Stone/Riverstone with 1cement : 2 sand	m3	0	28,800	188,500	217,300	SK SNI T-02-1991
CW-2-15	Masonry of Crushed Stone, 1cement : 3sand	m3	0	22,400	207,600	230,000	
CW-2-16	Masonry of Crushed Stone, 1cement : 5sand	m3	0	14,100	178,300	192,400	
CW-2-17	Masonry of Crushed Stone, 1cement : 3lime : 10sand	m3	0	9,800	166,600	176,400	
CW-2-18	Masonry of Brick Stone/Brickwork, 1cement : 2sand, 1Brick thickness	m2	0	8,800	152,000	160,800	SK SNI T-03-1991
CW-2-19	Masonry of Brick Stone/Brickwork, 1cement : 4sand, 1Brick thickness	m2	0	4,300	105,500	109,800	
CW-2-20	Masonry of Brick Stone/Brickwork, 1cement : 3lime : 10sand, 1Brick	m2	0	700	92,400	93,100	
CW-2-21	Masonry of Brick Stone/Brickwork, 1cement : 2sand, 1/2Brick thickness	m2	0	3,400	57,200	60,600	
CW-2-22	Masonry of Brick Stone/Brickwork, 1cement : 4sand, 1/2brick thickness	m2	0	2,200	52,600	54,800	
CW-2-23	Masonry of Brick Stone/Brickwork, 1cement : 3lime : 10sand, 1/2brick thickness	m2	0	1,300	50,700	52,000	
CW-2-24	Wall Masonry of Concrete Block, 1cement : 5sand	m2	0	5,800	39,600	45,400	
CW-2-25	Tile Floor Work of 20cm x 20cm, 1lime : 3sand	m2	0	1,400	25,900	27,300	
CW-2-26	Tile Floor Work of 20cm x 20cm, 1cement : 1/2lime : 5sand	m2	0	2,200	29,000	31,200	
CW-2-27	Plint Tile Work, 15cm x 20cm or 10cm x 20cm 1cement : 2sand	m	0	7,300	73,600	80,900	
CW-2-28	PVC pipe Installation with Dia.0.75", 1m length	piece	0	0	36,700	36,700	
CW-2-29	PVC pipe Installation with Dia.1", 1m length	piece	0	0	54,000	54,000	
CW-2-30	Cutting Earth for Installation of PVC, ACP and GIP	m2	0	0	0	0	
CW-2-31	Filling Sand for Installation of PVC, ACP and GIP	m2	0	0	0	0	
CW-2-32	Concrete Work with 1cement : 3/2sand : 5/2lime	m3	0	47,500	507,000	554,500	
CW-2-33	Concrete Work with 1cement : 2sand : 4gravel	m3	0	36,000	466,600	502,600	
CW-2-34	Concrete Work with 1cement : 2sand : 3gravel	m3	0	37,300	467,700	505,000	
CW-2-35	Concrete Work with 1cement : 3sand : 6gravel	m3	0	26,700	408,800	435,500	
CW-2-36	Reinforcing-Bar Work	kg	0	3,343	10,815	14,158	
CW-2-37	Steel-net with Dia.4-15"	m2	0	800	1,700	2,500	
CW-2-38	Form Work for 1m3 of Concrete	m3	0	9,600	821,800	831,400	
CW-2-39	Form Work for Drainage Channel	m2	0	300	143,800	144,100	
CW-2-40	Breaking-up the Concrete Form	m2	0	0	3,700	3,700	
CW-2-41	Reinforced Concrete with 1cement : 3/2sand : 5/2gravel/aggregate	m3	0	424,900	2,518,500	2,943,400	
CW-2-42	Reinforced Concrete with 1cement : 2sand : 4gravel/aggregate	m3	0	463,500	2,640,300	3,103,800	
CW-2-43	Reinforced Concrete with 1cement : 2sand : 3gravel/aggregate	m3	0	414,700	2,479,200	2,893,900	
CW-2-44	Plastering 15mm thickness with 1cement : 2sand	m2	0	1,200	10,000	11,200	SK-SNI T-03-1991-03
CW-2-45	Plastering 15mm thickness with 1cement : 3sand	m2	0	900	9,100	10,000	SK-SNI T-03-1991-03
CW-2-46	Plastering 15mm thickness with 1cement : 4sand	m2	0	800	8,600	9,400	SK-SNI T-03-1991-03
CW-2-47	Plastering 15mm thickness with 1cement : 6sand	m2	0	600	7,900	8,500	SK-SNI T-03-1991-03
CW-2-48	Plastering 15mm thickness with 1cement : 3lime : 10sand	m2	0	400	7,200	7,600	SK-SNI T-03-1991-03
CW-2-49	Plastering 20mm thickness with 1cement : 2sand	m2	0	1,900	13,900	15,800	SK-SNI T-03-1991-03
CW-2-50	Plastering 20mm thickness with 1cement : 3sand	m2	0	1,500	12,300	13,800	SK-SNI T-03-1991-03

Table 9.4.1 (4/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
CW-2-51	Plastering 28mm thickness with 1cement : 4sand per	m2	0	1,200	11,300	12,500	SK-SNI T-03-1991-03
CW-2-52	Plastering 28mm thickness with 1cement : 6sand	m2	0	900	10,100	11,000	SK-SNI T-03-1991-03
CW-2-53	Seam Work at Brick Masonry with 1cement : 3sand per 1m	m2	0	600	21,400	22,000	SK-SNI T-03-1991-03
CW-2-54	Roof Trust/Trestle with Max Span of 8m	m3	78,400	7,200	9,348,600	9,434,200	SK-SNI T-11-1993-03
CW-2-55	Roof Trust/Trestle with Max Span of 6m	m3	78,400	7,200	3,188,600	3,274,200	SK-SNI T-11-1993-03
CW-2-56	Roof Trust/Trestle with Max Span of 6-9m	m3	78,400	7,200	9,653,800	9,739,400	SK-SNI T-11-1993-03
CW-2-57	Roof Trust/Trestle with Max Span of 6-9m	m3	78,400	7,200	3,259,900	3,345,500	SK-SNI T-11-1993-03
CW-2-58	Teak Wood Purlin Installation	m3	0	5,300	8,666,500	8,671,800	SK-SNI T-11-1993-03
CW-2-59	Kamper Wood Purlin Installation	m3	0	5,300	2,435,400	2,440,700	SK-SNI T-11-1993-03
CW-2-60	Roof Trust for Iron Roof	m2	0	300	93,200	93,500	
CW-2-61	Roof Frame 5/7 & Roof-lath 2/8	m2	0	400	37,600	38,000	SK-SNI T-11-1993-03
CW-2-62	Roof Frame 5/7 & Roof-lath 3/4	m2	0	600	55,300	55,900	SK-SNI T-11-1993-03
CW-2-63	Roof Frame 5/7 & Roof-lath 3/4, Concrete Tile Roof	m2	0	400	41,400	41,800	SK-SNI T-11-1993-03
CW-2-64	Ridge and Hip Covering with 1cement : 1sand :5lime	m	0	2,200	37,900	40,100	
CW-2-65	Door/Window Work of Teak Wood	m3	0	124,800	10,280,800	10,405,600	SK-SNI T-11-1993-03
CW-2-66	Door/Window Work of Camphol Wood	m3	0	124,800	2,651,500	2,776,300	SK-SNI T-11-1993-03
CW-2-67	Door/Window Work (Covered by Three Plywood and Aluminium)	m2	0	300	3,237,100	3,237,400	SK-SNI T-11-1993-03
CW-2-68	Venitian Blind Door/Window Work of Teak Wood	m2	0	500	546,200	546,700	SK-SNI T-11-1993-03
CW-2-69	Venitian Blind Door/Window Work of Teak Wood	m2	0	500	253,000	253,500	SK-SNI T-11-1993-03
CW-2-70	Door/Window Work of Plywood with Teak Wood as the Frame	m2	0	4,200	444,600	448,800	SK-SNI T-11-1993-03
CW-2-71	Door/Window Work of Plywood with Camphol Wood as the Frame	m2	0	4,200	198,200	202,400	SK-SNI T-11-1993-03
CW-2-72	Glass Door/Window Work of Plywood with Teak Wood as the Frame	m2	0	6,700	2,424,200	2,430,900	SK-SNI T-11-1993-03
CW-2-73	Clamp Door/Window Work, with Camphol Wood Framework	m2	0	300	130,800	131,100	SK-SNI T-11-1993-03
CW-2-74	Panel Door/Window Work, with Teak Wood Framework	m2	0	300	455,700	456,000	
CW-2-75	Panel Door/Window Work, with Camphol Wood Framework	m2	0	300	209,200	209,500	
CW-2-76	Ceiling Frame, Grid of 50cm x 100cm, with Camphol wood	m2	0	500	80,800	81,300	
CW-2-77	Ceiling Frame, Grid of 30cm x 60cm, with Camphol wood	m2	0	600	101,500	102,100	
CW-2-78	Ceiling Frame, Grid of 30cm x 30cm, with Camphol wood per	m2	0	700	116,900	117,600	
CW-2-79	Plank Wood Work of 3cm x 20cm, with Teak wood	m	0	200	65,600	65,800	
CW-2-80	Plank Wood Work of 3cm x 30cm, with Teak wood	m	0	200	93,500	93,700	
CW-2-81	Partition Wall Work of Teak wood, with Frame of Camphol Wood	m2	0	4,400	103,300	107,700	
CW-2-82	Installation of Metal Sheet Ridge Gutter	m	0	72,100	433,500	505,600	
CW-2-83	Installation of Bag Gutter	m	0	113,200	598,000	711,200	
CW-2-84	Corrugated Iron Roof BJLS 0.30	m2	0	22,200	25,200	47,400	
CW-2-85	Eaves Gutter Installation	m2	0	61,800	365,200	427,000	
CW-2-86	Installation of Drainage Gutter	m2	0	5,150	27,590	32,740	
CW-2-87	Puttying, Foundation Paint	m2	0	1,190	8,010	9,200	(1 1/2 k2 + k30 + k28/m2)
CW-2-88	Two Times Shiny Painting	m2	0	1,740	9,060	10,800	
CW-2-89	Polishing and 2times Shiny Painting	m2	0	3,800	21,600	25,400	(k28+k30/m2)
CW-2-90	Simple Polishing Work per 1m2	m2	0	200	20,800	21,000	
CW-2-91	Good Polishing Work2xk15	m2	0	400	41,600	42,000	

Table 9.4.1 (5/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
CW-2-92	Wall Painting Work	m2	0	1,200	18,800	20,000	
CW-2-93	Wall Painting Work per 10m2	m2	0	1,430	17,930	19,360	
CW-2-94	Wood Painting Work	m2	0	4,100	30,520	34,620	
CW-2-95	Cost of Rolling	m2	1,498	16	2,614	4,128	
CW-2-96	Road Foundation (Base Layer) 15cm thickness	m2	1,500	600	26,600	28,700	
CW-2-97	Subcoarse Layer (Support Layer) 8cm thickness	m2	2,996	506	17,044	20,546	
CW-2-98	Rolling Cost for Month	month	0	130,800	9,184,000	9,314,800	
CW-2-99	Asphalt Covering with Hot Asphalt	m2	6,000	6,900	586,900	599,800	
CW-2-100	Sand Beneath Rond Base Layer	m3	0	1,700	44,500	46,200	
CW-2-101	Crushed Stone Layer, Size of 5/7	m2	1,500	200	19,800	21,500	
CW-2-102	Foundation Layer	m2	15	102	4,161	4,278	
CW-2-103	Surface Layer with 6mm thickness	m2	1,500	2,900	20,500	24,900	
CW-2-104	Asphlt Work	m2	0	362	4,662	5,024	
CW-2-105	Reinforced Concrete with 1:2:3 Duiker Slab Type A/B (with Re-bar-110kg/m3)	m3	0	85,500	805,600	891,100	
CW-2-106	Masonry of Kanstin Casted Concrete	m3	0	31,100	450,800	481,900	
CW-2-107	Masonry of Kanstin Concrete Pavement Border with ratio of 1:2:3	m	0	0	35,900	35,900	
CW-2-108	Masonry of Kanstin Brick with ratio of 1:2	m	0	1,000	104,100	105,100	
CW-2-109	Masonry of Kanstin Brick with ratio of 1:4	m	0	500	40,500	41,000	
CW-2-110	Masonry of U-shapes Casfed Concrete U-20	m	0	1,600	34,700	36,300	
CW-2-111	Masonry of U-shapes Casfed Concrete U-30	m	0	2,400	36,500	38,900	
CW-2-112	Masonry of Paving Block	m2	0	5,700	44,800	50,500	
CW-4-1	Temporary Bridge	m2	917,232	19,318	861,666	1,798,215	Width is 3m. Number of Working Day is 180 days including Installation and Removal
CW-4-1-1	Temporary Bridge	ton	8,878,764	186,999	8,340,887	17,406,649	Width is 3m. Number of Working Day is 180 days including Installation and Removal
CW-4-2	Temporary Sign for Railway Work	unit	0	119,900	266,300	386,200	
CW-4-3	Install and Demolish Temporary Coffer for Rail Work	m3	0	16,913	327,531	344,443	
CW-4-4	Site Clearing for Railwork	m2	0	0	4,935	4,935	
CW-4-5	Removal/Demolish/Carriage of Tool	ton	97,117	1,449	249,735	348,301	10km Distance
CW-4-6	Replacing Ballast with Sleeper Mattress executed between Train Operation	m3	0	0	107,510	107,510	
CW-4-7	Sand Bags	nos	89	759	4,200	5,047	
CW-4-8	Temporary Steel Sheet Pile (Type-C)	nos	1,420,686	86	949,535	2,370,307	L=9.0 long and 6.0m of Driving and Pulling Out (Type-II)
CW-4-9	Installation of Tierod and Wale (Temporary)	ton	520,420	3,640	543,270	1,067,330	Excluding Material
CW-4-10	Removal of Tierod and Wale (Temporary)	ton	295,700	2,230	301,270	599,200	Excluding Material
CW-4-11	Temporary Double Steel Sheet Pile	m	11,624,101	15,806	8,175,660	19,815,566	L=9.0 and 15.0m long and 4.7 and 10.7m of Driving and Pulling Out (Type-II)
CW-4-12	Temporary Dewatering by D100mm	m	291,464	12,974	212,461	516,899	Width is 3m. Number of Working Day is 180 days including Installation and Removal
CW-4-12-1	Temporary Dewatering per 1 place (60days non-stop driving) D=100mm	place	14,573,175	648,720	10,623,031		

Table 9.4.1 (6/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
CW-4-13	Angsana Species	tree	0	150	93,560	93,710	Total height from the root is 220cm
CW-4-14	Glodogan Species	tree	0	150	128,560	128,710	Total height from the root is 170cm
CW-4-15	Flamboyant Species	tree	0	150	228,560	228,710	Total height from the root is 220cm
CW-4-16	Relocating Trees	tree	0	375	239,925	240,300	Total height from the root is 220cm
CW-4-17	Temporary Double Steel Sheet Pile for Drainage Component	m	936,106	10,719	818,076	1,764,901	L=8m long and 3.3m of Driving and Pulling Out (Type-II)
CW-4-18	Temporary Steel Sheet Pile with Support for Drainage	m	913,737	7,006	855,994	1,776,737	L=7.5m long and 7.5 and 3.0m of Driving and Pulling Out (Type-II)
CW-4-19	Palm Botol Planting	tree	0	150	328,560	328,710	Total height from the root is minimum 200cm
CW-4-20	Bougainvillea Planting	tree	0	150	103,560	103,710	Total height from the root is minimum 100cm
CW-4-21	Temporary Dewatering by D200mm	day	353,884	15,124	251,251	620,260	Assumption : Working Day is 180 days including Installation and Removal
CW-4-22	Temporary Dewatering by D180mm	day	339,696	15,124	244,084	598,904	Assumption : Working Day is 180 days including Installation and Removal
CW-4-23	Temporary Dewatering by D160mm	day	319,831	15,124	234,051	569,006	Assumption : Working Day is 180 days including Installation and Removal
CW-6-1	Furnishing of Main Beam with Reinforcing Bar	Beam	6,101,929	5,128,787	25,816,683	37,047,399	L = 21.8 m long
CW-6-2	Temporary Work for Furnishing of Main Beam with Reinforcing Bar	Beam	28,375,138	3,096	30,035,364	58,413,597	L = 21.8 m long
CW-6-3	Election of Main Beam with Anchoring Work	Beam	3,286,228	596,217	4,530,225	8,412,670	L = 21.8 m long
CW-6-4	Furnishing of Diaphram with Reinforcing Bar	Piece	1,986,742	392,608	1,836,043	4,215,392	
CW-6-5	Depreciation of Equipment for Construction	piece	28,375,138	3,096	28,305,763	56,683,996	
CW-6-6	Setup of PC Cable	kg	6,250	65	21,799	28,114	
CW-6-7	Grout Work	m3	0	19,173	545,192	564,365	
CW-6-8	Concrete Work for Beam	m3	0	50,130	220,668	270,798	Utilization of Derrick Crane
CW-6-9	Hole Work for PC Cable	m	11,590	0	1,714	13,304	Cross Direction
CW-6-10	Stringing Work	cable	652,536	108,756	390,496	1,151,788	Type 195ton
CW-6-11	Temporary Placing for Beam	beam	0	0	282,500	282,500	
CW-6-12	Clean-up of Board for Furnishing Beam	beam	0	0	32,799	32,799	
CW-6-13	Furnishing, Installing and Removing Board for Furnishing Beam	m	0	0	33,161	33,161	
CW-6-14	Installing and Removing Derrick Crane	crane	0	0	443,810	443,810	Type : 3ton
CW-6-15	Installing and Removing Railing System for Derrick Crane	m	0	0	9,848	9,848	
CW-6-16	Erection of Beam	ton	0	0	12,463	12,463	
CW-6-17	Installation and Removal of Equipment for Erection	L.S.	1,534,301	8,640	6,433,439	7,976,379	
CW-6-18	Cost of Equipment and Tools	Bridge	14,870,000	2,978,000	11,892,000	29,740,000	Application : 20 ~ 30 m
CW-6-19	Anchoring for Bridge Work	place	67,545	0	447,245	514,790	
CW-6-20	Concrete Work of Beam at A2 by Crane	m3	120	50,980	223,080	274,180	
CW-6-21	Concrete Work for Diaphram at Type-A2 by Pump	m3	20,270	51,140	238,540	309,950	by Boom, Standard Concreting Volume=75m3
CW-6-22	Concrete Work of Type-B by Pump	m3	20,270	43,850	209,410	273,530	by Boom, Standard Concreting Volume=75m3
CW-7-1	Excavation of Upper Part for Diversion	cycle	5,818,420	15,052	3,599,996	9,433,469	

Table 9.4.1 (7/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
CW-7-2	Excavation of Lower Part for Diversion	cycle	5,384,462	13,023	3,115,985	8,513,471	
CW-7-3	Operation of Shotcrete Machines for Diversion	hour	441,624	2,540	297,922	742,086	
CW-7-4	Operation of Mortar Injection Machines for Diversion	day	73,008	670	58,053	131,730	
CW-7-5	Material of Shotcrete of upper part of Diversion	m2	0	29,019	95,700	124,719	
CW-7-6	Material of Shotcrete of lower part of Diversion	m2	0	25,794	85,067	110,861	
CW-7-7	Material for Rockbolt Working of Diversion L=3.0m	piece	87,038	718	7,545	95,301	
CW-7-8	Material of Wire Mesh Work	m2	0	3,888	9,072	12,960	
CW-7-9	Material of Steel Support of Diversion in Typical Section	set	2,517,054	0	132,477	2,649,530	
CW-7-10	Production of Form of Invert of Diversion	m2	0	0	4,269	4,269	
CW-7-11	Installation & Removal of Invert Form of Diversion	m2	0	0	18,263	18,263	
CW-7-12	Invert Concrete Work	m3	24,090	43,836	195,155	263,081	
CW-7-13	Concrete Lining Work	m	5,389,897	2,279,877	10,223,012	17,892,786	
CW-7-14	Installation & Removal of Slide Centre	time	38,121,644	0	2,652,152	40,773,797	
CW-7-15	Operation of Air Compressor	month	5,879,191	211,968	7,007,379	13,098,538	
CW-7-16	Installation & Removal of Air Compressor	cmprssr	1,936,406	12,900	2,534,994	4,484,301	
CW-7-17	Installation & Removal of Shotcrete Plant	plant	5,809,219	38,700	8,785,483	14,633,402	
CW-7-18	Initial Setting & Final Removal of Slide Centre	centre	9,682,031	64,500	14,028,172	23,774,703	
CW-7-19	Installation & Removal of Water Proofing Working Car	car	1,936,406	12,900	2,918,394	4,867,701	
CW-7-20	Installation & Removal of Air Ventilation Pipe	m	0	0	3,120	3,120	
CW-7-21	Maintenance of Temporary Facility	month	0	0	5,852,925	5,852,925	
CW-7-22	Material of Steel Support of Diversion in Plug Section	set	2,749,370	0	144,704	2,894,074	
CW-8-1	Excavation of Upper Part for Intake	cycle	3,033,145	8,993	1,932,635	4,974,773	
CW-8-2	Operation of Shotcrete Machines for Intake	hour	267,257	2,540	192,817	462,614	
CW-8-3	Operation of Mortar Injection Machines for Intake	day	73,008	670	58,053	131,730	
CW-8-4	Material of Shotcrete of Intake Tunnel	m2	0	29,019	95,700	124,719	
CW-8-5	Material for Rockbolt Working of Intake	piece	41,138	718	5,129	46,985	
CW-8-6	Material of Wire Mesh Work of Intake	m2	0	3,888	9,072	12,960	
CW-8-7	Material of Steel Support of Typical Section of Intake	set	1,608,105	0	84,637	1,692,742	
CW-8-8	Material of Steel Support of Plug Section of Intake	set	1,731,350	0	91,124	1,822,474	
CW-8-9	Production of Form for Concrete of Intake	m2	0	0	4,269	4,269	
CW-8-10	Installation & Removal of Form & Pipe of Intake	m2	0	0	21,451	21,451	
CW-8-11	Invert Concrete Work of Intake	m3	26,278	43,836	195,424	265,539	
CW-8-12	Operation of Air Compressor for Intake Tunnel	month	5,879,191	211,968	7,007,379	13,098,538	
CW-8-13	Installation & Removal of Air Compressor for Intake	cmprssr	1,936,406	12,900	2,534,994	4,484,301	
CW-8-14	Installation & Removal of Shotcrete Plant for Intake	plant	5,809,219	38,700	8,785,483	14,633,402	
CW-8-15	Installation & Removal of Water Proofing Working Car for Intake	car	1,936,406	12,900	2,918,394	4,867,701	
CW-8-16	Installation & Removal of Air Ventilation Pipe for Intake	m	0	0	3,120	3,120	
CW-8-17	Maintenance of Temporary Facility	month	0	0	5,852,925	5,852,925	
CW-9-1	Installing Turbid Water Treatment Plant	place	1,626,581	10,836	2,261,469	3,898,887	

Table 9.4.1 (8/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
CW-9-2	Removal of Turbid Water Treatment Facility	place	1,626,581	10,836	1,869,469	3,506,887	
CW-9-3	Mud Soil Treatment	time	67,152	2,010	66,632	135,794	
CW-9-4	Operation of Turbid Water Treatment Facility	day	2,087,784	6,498	1,004,336	3,098,618	
CW-9-5	Turbid Water Treatment Shed	shed	0	580,000	2,900,000	3,480,000	
CW-10-1	Rotally Boring Dia.66mm with Core 1	m	437,154	279	159,799	597,232	Direction:Vertical, Depth:0~50m, Rock Type:Soft Rock
CW-10-2	Rotally Boring Dia.66mm with Core 2	m	442,019	315	183,100	625,434	Direction:Inkline, Depth:0~50m, Rock Type:Soft Rock
CW-10-3	Rotally Boring Dia.66mm with Core 3	m	442,857	326	141,156	584,340	Direction:Vertical, Depth:50~80m, Rock Type:Soft Rock
CW-10-4	Rotally Boring Dia.66mm with Core 4	m	446,877	368	190,726	637,971	Direction:Inkline, Depth:50~80m, Rock Type:Soft Rock
CW-10-5	Rotally Boring Dia.46mm without Core (1)	m	129,797	119	40,063	169,980	Direction:Vertical, Depth:0~50m, Rock Type:Concrete
CW-10-6	Rotally Boring Dia.46mm with Core (2)	m	132,248	135	39,166	171,549	Direction:Inkline, Depth:0~50m, Rock Type:Concrete
CW-10-7	Rotally Boring Dia.46mm without Core (3)	m	133,590	142	38,827	172,560	Direction:Vertical, Depth:0~50m, Rock Type:Concrete in Tunnel
CW-10-8	Rotally Boring Dia.46mm without Core (4)	m	137,221	161	38,114	175,495	Direction:Inkline, Depth:0~50m, Rock Type:Concrete in Tunnel
CW-10-9	Rotally Boring Dia.46mm without Core (5)	m	139,056	175	37,616	176,847	Direction:Horizontal, Depth:0~50m, Rock Type:Concrete in Tunnel
CW-10-10	Rotally Boring Dia.46mm without Core (6)	m	142,328	196	37,032	179,556	Direction:Upper, Depth:0~50m, Rock Type:Concrete in Tunnel
CW-10-11	Rotally Boring Dia.46mm without Core (7)	m	132,561	133	39,325	172,018	Direction:Vertical, Depth:0~50m, Rock Type:Soft Rock
CW-10-12	Rotally Boring Dia.46mm without Core (8)	m	134,919	150	38,494	173,563	Direction:Inkline, Depth:0~50m, Rock Type:Soft Rock
CW-10-13	Rotally Boring Dia.46mm without Core (9)	m	137,913	163	38,035	176,111	Direction:Horizon, Depth:0~50m, Rock Type:Soft Rock
CW-10-14	Rotally Boring Dia.46mm without Core (10)	m	141,453	183	37,426	179,062	Direction:Upper Drill, Depth:0~50m, Rock Type:Soft Rock
CW-10-15	Rotally Boring Dia.46mm without Core (11)	m	136,199	158	38,181	174,538	Direction:Vertical, Depth:0~50m, Rock Type:Soft Rock in Tunnel
CW-10-16	Rotally Boring Dia.46mm without Core (12)	m	139,993	178	37,529	177,700	Direction:Inkline, Depth:0~50m, Rock Type:Soft Rock in Tunnel
CW-10-17	Rotally Boring Dia.46mm without Core (13)	m	143,120	194	37,129	180,443	Direction:Horizon, Depth:0~50m, Rock Type:Soft Rock in Tunnel
CW-10-18	Rotally Boring Dia.46mm without Core (14)	m	146,834	218	36,598	183,650	Direction:Upper Drill, Depth:0~50m, Rock Type:Soft Rock in Tunnel

Table 9.4.1 (9/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
CW-10-19	Pressing Water Work Dia. 66mm (1)	m	32,675	45	22,185	54,906	Case that there is center palnt
CW-10-20	Pressing Water Work Dia. 66mm (2)	m	36,275	45	24,727	61,047	Case that there is individual palnt
CW-10-21	Pressing Water Work Dia. 46mm (1)	m	32,434	45	22,172	54,651	Case that there is center palnt
CW-10-22	Pressing Water Work Dia. 46mm (2)	m	36,033	45	24,714	60,793	Case that there is individual palnt
CW-10-23	Grout Work Dia. 66mm	m	108,280	168	57,228	165,676	Case that there is center palnt
CW-10-24	Grout Work Dia. 44mm (1)	m	105,997	168	57,108	163,273	Case that there is a center palnt
CW-10-25	Grout Work Dia. 44mm (2)	m	101,964	120	56,844	158,927	Case that there is indipendent palnt
CW-10-26	Center Plant	prty dy	238,283	2,174	118,950	359,407	9.5hour Operation
CW-10-27	Displacement Measuring System	place	500,000	0	611,697	1,111,697	
CW-11-1	RippingWork by Bulldozer of 21ton	m3	1,130	30	1,070	2,230	Work Volume : less than 20,000m3/month
CW-11-2	RippingWork by Bulldozer of 32ton	m3	960	30	900	1,890	Work Volume : less than 20,000m3/month
CW-11-3	Clay Excavation by Bulldozer of 21ton - 1	m3	1,890	50	1,790	3,730	Bulldozer : with Ripper, Original Soil, L=20m
CW-11-4	Clay Excavation by Bulldozer of 21ton - 2	m3	2,270	60	2,150	4,480	Bulldozer : with Ripper, Original Soil, L=30m
CW-11-5	Cobble Excavation by Bulldozer of 21ton - 1	m3	2,730	70	2,580	5,380	Bulldozer : with Ripper, Original Soil, L=20m
CW-11-6	Cobble Excavation by Bulldozer of 21ton - 2	m3	3,280	80	3,110	6,470	Bulldozer : with Ripper, Original Soil, L=30m
CW-11-7	Loosed Soft Rock Excavation by Bulldozer of 21ton - 1	m3	2,440	60	2,310	4,810	Bulldozer : with Ripper, Loosed Rock, L=20m
CW-11-8	Loosed Soft Rock Excavation by Bulldozer of 21ton - 2	m3	2,950	70	2,790	5,810	Bulldozer : with Ripper, Loosed Rock, L=30m
CW-11-9	Clay Excavation by Bulldozer of 32ton - 1	m3	1,740	40	1,640	3,420	Bulldozer : with Ripper, Original Soil, L=20m
CW-11-10	Clay Excavation by Bulldozer of 32ton - 2	m3	2,100	50	1,980	4,130	Bulldozer : with Ripper, Original Soil, L=30m
CW-11-11	Cobble Excavation by Bulldozer of 32ton - 1	m3	2,500	60	2,360	4,920	Bulldozer : with Ripper, Original Soil, L=20m
CW-11-12	Cobble Excavation by Bulldozer of 32ton - 2	m3	3,020	70	2,850	5,940	Bulldozer : with Ripper, Original Soil, L=30m
CW-11-13	Loosed Soft Rock Excavation by Bulldozer of 32ton - 1	m3	2,260	60	2,130	4,450	Bulldozer : with Ripper, Loosed Rock, L=20m
CW-11-14	Loosed Soft Rock Excavation by Bulldozer of 32ton - 2	m3	2,720	70	2,560	5,350	Bulldozer : with Ripper, Loosed Rock, L=30m
CW-11-15	Combined Excavation ; Ripper Bull : 21ton	m3	3,570	90	3,380	7,040	Ripping & Excavation
CW-11-16	Combined Excavation ; Ripper Bull : 32ton	m3	2,140	60	2,030	4,230	Ripping & Excavation
CW-11-17	Bench Cutting for Dam Bench : 2.5m (1)	m3	29,690	80	16,600	46,370	Soft Rock
CW-11-18	Bench Cutting for Dam Bench : 2.5m (2)	m3	35,830	90	18,930	54,850	Hard Rock
CW-11-19	Bench Cutting for Dam Bench : 5.0m (1)	m3	20,219	67	11,868	32,154	Soft Rock
CW-11-20	Bench Cutting for Dam Bench : 5.0m (2)	m3	24,019	71	13,293	37,383	Hard Rock
CW-11-21	Small Bench Cutting for Dam (1)	m3	29,685	147	10,012	39,844	Soft Rock
CW-11-22	Small Bench Cutting for Dam (2)	m3	38,836	164	11,184	50,184	Hard Rock
CW-11-23	Excavation for Gallary (1)	m3	31,296	178	8,792	40,266	Soft Rock
CW-11-24	Excavation for Gallary (2)	m3	32,381	206	9,910	42,497	Hard Rock
CW-11-25	Excavation at Quarry Site: Bench; 8m high (1)	m3	16,709	59	9,649	26,417	Soft Rock
CW-11-26	Excavation at Quarry Site: Bench; 8m high (2)	m3	19,312	62	10,510	29,884	Hard Rock
CW-11-27	Excavation at Quarry Site: Bench; 15m high (1)	m3	6,687	35	4,153	10,875	Soft Rock
CW-11-28	Excavation at Quarry Site: Bench; 15m high (2)	m3	7,935	36	4,660	12,631	Hard Rock
CW-11-29	Small Breaks of Rock by Giant Breaker	m3	33,190	160	12,878	46,228	
CW-11-30	Small Breaks of Rock by Blasting	m3	16,572	300	12,651	29,523	
CW-11-31	Loading by Wheel Loader 3.1m3 (1)	m3	2,340	40	1,880	4,260	Soil

Table 9.4.1 (10/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
CW-11-32	Loading by Wheel Loader 3.1m3 (2)	m3	3,370	50	2,700	6,120	Rock
CW-11-33	Loading by Wheel Loader 5.4m3 (1)	m3	3,380	30	2,640	6,050	Soil
CW-11-34	Loading by Wheel Loader 5.4m3 (2)	m3	4,820	50	3,770	8,640	Rock
CW-11-35	Loading by Wheel Loader 10.0m3 (1)	m3	3,500	30	2,740	6,270	Soil
CW-11-36	Loading by Wheel Loader 10.3m3 (2)	m3	4,980	50	3,890	8,920	Rock
CW-11-37	Loading by Backfoe 1.2m3 (1)	m3	3,280	60	2,380	5,720	Soil
CW-11-38	Loading by Backfoe 1.2m3 (2)	m3	3,610	60	2,590	6,260	Rock
CW-11-39	Hauling of Soil Material for Disposal : 1km	m3	5,410	220	4,960	10,590	Soil, Distance: 1km
CW-11-40	Hauling of Dam Material for Core : 2km	m3	5,710	230	5,230	11,170	for Core from Stockpile
CW-11-41	Hauling of Dam Material ; Coarse Aggregate: 25km	m3	19,370	770	17,730	37,870	for Core and Filter Embankment and Concrete from Quarry
CW-11-42	Hauling of Filter Material : 2km	m3	5,980	240	5,470	11,690	for Core and Filter Embankment from stockpile
CW-11-43	Hauling of Fine Aggregate for Concrete : 25km	m3	20,580	820	18,840	40,240	for Concrete Work from Quarry
CW-11-44	Hauling of Dam Material ; Hard Rock : 25km	m3	33,290	1,260	30,230	64,780	for Rock Embankment from Quarry
CW-11-45	Final Excavation for Dam Foundation	m2	9,967	346	25,630	35,943	Soft Rock
CW-11-46	Foundation Rocks Cleaning	m2	9,578	346	30,875	40,799	Soft Rock
CW-11-47	Hauling of Dam Material ; Soft Rock : 25km	m3	31,960	1,210	29,030	62,200	for Rock Embankment from Quarry
CW-11-48	Hauling of Dam Material ; Hard Rock : 0.5km	m3	7,250	280	6,580	14,110	for Aggregate from Excavation Site to Products
CW-11-49	Hauling of Dam Material ; Soft Rock : 0.5km	m3	6,960	270	6,320	13,550	for Aggregate from Excavation Site to Products
CW-11-50	Top Soil Excavation and Disposal at Quarry	m3	10,580	330	9,130	20,040	
CW-11-51	Top Soft Rock Excavation and Disposal at Quarry	m3	12,300	400	10,800	23,500	
CW-11-52	Soft Rock for Rock Material of Dam	m3	48,190	1,470	42,630	92,290	Cost at Dam Site
CW-11-53	Hard Rock for Rock Material of Dam	m3	49,520	1,520	43,830	94,870	Cost at Dam Site
CW-11-54	Soft Rock from Damsite for Inner Rock Material	m3	14,500	390	12,510	27,400	
CW-11-55	Hard Rock Excavation & Hauling for Aggregate Product	ton	9,470	170	6,470	16,110	Cost at Products Site
CW-11-56	Crushed Coarse Aggregate from Quarry	m3	56,550	1,420	46,940	104,910	Cost at Stockpile Site
CW-11-57	Purchased Sand	m3	0	1,350	26,001	27,351	
CW-11-58	Spreading of Stockpile for Core by Bulldozer of 21ton	m3	3,030	40	2,730	5,800	Bulldozer : 21ton, Loosed Soil, L=20m
CW-11-59	Mixing of Stockpile for Core by Bulldozer of 21ton	m3	3,240	40	2,920	6,200	Bulldozer : 21ton, Loosed Soil, L=20m
CW-11-60	Spreading of Stockpile for Filter by Bulldozer of 21ton	m3	2,530	30	2,280	4,840	Bulldozer : 21ton, Loosed Soil, L=20m
CW-11-61	Mixing of Stockpile for Filter by Bulldozer of 21ton	m3	2,680	40	2,410	5,130	Bulldozer : 21ton, Loosed Soil, L=20m
CW-11-62	Stockpiling for Filter Material	m3	2,530	30	2,990	5,550	
CW-11-63	Stockpiling for Core Material	m3	3,030	40	3,440	6,510	
CW-11-64	Mixing, Loading and Hauling of Filter to Embankment Site	m3	12,270	340	11,180	23,790	from Stockpile Site (2km)
CW-11-65	Mixing, Loading and Hauling of Core to Embankment Site	m3	12,560	330	11,450	24,340	from Stockpile Site (2km)
CW-12-1	Slurry Treatment	m2	40	10	1,490	1,540	
CW-12-2	Product of Slurry	m3	19,400	800	17,800	38,000	
CW-12-3	Small Scale Compaction at Core by Air Tamper (1)	m3	9,996	318	35,352	45,666	Thickness : 5cm, Horizontal Area
CW-12-4	Small Scale Compaction at Core by Air Tamper (2)	m3	11,431	450	68,290	80,171	Thickness : 5cm, Inkline Area
CW-12-5	Small Scale Compaction at Core by Air Tamper (3)	m3	9,278	252	47,503	57,033	Thickness : 10cm, Inkline Area

Table 9.4.1 (11/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
CW-12-6	Small Scale Compaction at Core by Tamper	m3	10,651	207	22,320	33,178	Thickness : 10cm, Horizontal Area
CW-12-7	Spreading for Rock Embankment; Bull : 21t (1)	m3	4,163	45	3,730	7,938	Bulldozer :21ton, Loosed Soft Rock, L=20m
CW-12-8	Spreading for Rock Embankment; Bull : 21t (2)	m3	3,843	42	3,443	7,328	Bulldozer :21ton, Loosed Hard Rock, L=20m
CW-12-9	Spreading for Rock Embankment; Bull : 32t (1)	m3	3,731	37	3,331	7,099	Bulldozer : 32ton, Loosed Rock, L=20m
CW-12-10	Spreading for Rock Embankment; Bull : 32t (2)	m3	3,443	35	3,074	6,552	Bulldozer : 32ton, Loosed Rock, L=20m
CW-12-11	Spreading for Core Embankment; Bull : 21t	m3	2,726	33	2,455	5,214	Bulldozer : 21ton, Loosed Soil
CW-12-12	Spreading for Filter Embankment; Bull : 21t	m3	2,241	27	2,018	4,286	Bulldozer : 21ton, Loosed Soil
CW-12-13	Compaction for Rock Embankment	m3	437	4	379	820	Vibratong Roller : 8~18ton
CW-12-14	Compaction for Filter Embankment	m3	991	9	860	1,860	Vibratong Roller : 8~18ton
CW-12-15	Compaction for Core Embankment	m3	4,976	44	4,321	9,341	Vibratong Roller : 8~18ton
CW-12-16	Riprap Works	m2	14,360	186	12,489	27,035	
CW-12-17	Laking	m3	2,100	25	1,961	4,086	
CW-12-18	Oversize Disposal	m3	9,020	280	7,550	16,850	
CW-12-19	Transition Embankment Work	m3	63,690	1,590	54,530	119,810	
CW-12-20	Small Transition Embankment Work	m3	59,350	2,100	64,110	125,560	
CW-12-21	Excavated Fine Material from Dam Site	m3	0	0	590	590	
CW-13-1	Production of Aggregate (>5.0mm)	ton	10,557	152	8,009	18,718	Productivity: 564ton/day
CW-13-2	Maintenance & Inspection of Facilities	hour	0	0	25,620	25,620	
CW-13-3	Primary Breaking Facilities	hour	326,000	4,000	201,000	531,000	
CW-13-4	Secondary Breaking Facilities	hour	855,000	13,000	671,000	1,539,000	
CW-13-5	Gurizuri Bar	hour	4,440	120	10,150	14,710	
CW-13-6	Supporting of Belt Conveyer for Primary Breaking Facilities	hour	9,590	770	22,950	33,310	
CW-13-7	Cat Walk of Belt Conveyer for Primary Breaking Facilities	hour	3,970	490	13,470	17,930	
CW-13-8	Screen Tower	hour	60,210	1,860	150,410	212,480	
CW-13-9	Supporting of Belt Conveyer for Secondary Breaking Facilities	hour	35,900	1,490	100,790	138,180	
CW-13-10	Cat Walk of Belt Conveyer for Secondary Breaking Facilities	hour	23,070	3,300	82,780	109,150	
CW-13-11	Rock Laddar	hour	3,800	90	10,210	14,100	
CW-13-12	Screen Shoot	hour	40	250	4,150	4,440	
CW-13-13	Screen Hopper	hour	210	20	930	1,160	
CW-13-14	Production of Aggregate (<5.0mm)	ton	43,988	427	23,324	67,739	Productivity: 253ton/day
CW-13-15	Aggregate (<5.0mm) Product Facilities	hour	973,000	8,000	446,000	1,427,000	
CW-13-16	Supporting of Belt Conveyer for Sand Product Facilities	hour	25,540	1,900	76,980	104,420	
CW-13-17	Cat Walk of Belt Conveyer for Sand Product Facilities	hour	7,670	1,080	27,520	36,270	
CW-13-18	Crushed Fine Aggregate from Quarry	m3	111,260	1,910	72,550	185,720	Cost at Stockpile Site
CW-14-1	Product of Concrete	m3	16,669	183	8,509	25,360	
CW-14-2	Transportation of Cement	day	64,700	2,900	59,700	127,300	
CW-14-3	Concrete Product Facility	day	5,675,800	58,000	2,838,000	8,571,800	
CW-14-4	Transportation of Aggregate	day	93,000	3,000	80,000	176,000	
CW-14-5	Curing and Surface Lining	m3	1,000	20	5,200	6,220	

Table 9.4.1 (12/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
CW-14-6	Concrete Work by Concrete Pump	m3	9,329	82	8,173	17,584	
CW-14-7	Installation & Removal of Pipe for Concreting	m	0	0	1,720	1,720	
CW-14-8	Concrete Work by Crawler Crane 40ton	m3	19,108	122	21,317	40,547	
CW-14-9	Concreting by Crawler Crane 40ton	day	2,539,740	9,450	2,404,170	4,953,360	
CW-14-10	Compaction of Concrete	day	116,000	7,000	558,000	681,000	
CW-14-11	Concrete Work by Shoot Hopper	m3	5,860	220	10,170	16,250	
CW-14-12	Form Work for High Area	m2	14,560	340	33,180	48,080	Higher Place than 2 lift
CW-14-13	Depreciation Cost of Form of Higher Area	m2	2,150	70	10,050	12,270	B x H = 3.0m x 1.7m
CW-14-14	Form Work for Separate Area	m2	11,920	280	27,740	39,940	within 2 lift
CW-14-15	Form Work for Plywood Circle >= H=4.0m	m2	5,260	190	23,190	28,640	
CW-14-16	Form Work for Plywood Circle < H=4.0m	m2	0	120	18,590	18,710	
CW-14-17	Form Work for General Concrete >= H=4.0m	m2	8,500	230	20,770	29,500	
CW-14-18	Form Work for General Concrete < H=4.0m	m2	0	120	14,410	14,530	
CW-14-19	Form Work for Horizontal Area of Gallary	m2	12,240	540	47,820	60,600	including supporting
CW-14-20	Depreciation Cost of Form of Horizontal Gallary Area	m2	1,540	280	10,540	12,360	L = 6 m including supporting
CW-14-21	Form Work for Oblique Area of Gallary	m2	12,770	630	51,020	64,420	including supporting
CW-14-22	Depreciation Cost of Form of Horizontal Gallary Area	m2	2,050	360	13,650	16,060	including supporting
CW-14-23	Frame Scaffolding (H<4.0m)	m2	0	0	5,030	5,030	Height is average of Structure.
CW-14-24	Frame Scaffolding (H>=4.0m)	m2	4,560	60	8,240	12,860	Height is average of Structure.
CW-14-25	Pipe Scaffolding (H<4.0m)	m2	0	0	6,730	6,730	Height is average of Structure. Site : Horizon
CW-14-26	Pipe Scaffolding (H>=4.0m)	m2	4,330	60	9,100	13,490	Height is average of Structure. Site : Horizon
CW-14-27	Pipe Scaffolding (H<4.0m) at Inkline Area	m2	0	0	3,840	3,840	Height is average of Structure
CW-14-28	Pipe Scaffolding (H>=4.0m) at Inkline Area	m2	4,250	60	6,710	11,020	Height is average of Structure.
CW-14-29	Frame Supporting	m3	3,990	60	9,660	13,710	
CW-14-30	Pipe Supporting	m3	2,260	30	8,500	10,790	
CW-14-31	Reinforcing-Bar Arrangement D13	ton	0	3,090,000	3,309,600	6,399,600	
CW-14-32	Reinforcing-Bar Arrangement D16~D25	ton	0	3,090,000	3,274,700	6,364,700	
CW-14-33	Reinforcing-Bar Arrangement D29~D32	ton	0	3,090,000	3,197,900	6,287,900	
CW-14-34	Installation of Water Stop	m	76,000	0	12,400	88,400	
CW-14-35	Installation of Cooling Pipe	ton	9,784,000	108,800	2,887,500	12,780,300	
CW-14-36	Mortar Grout	m3	21,150	75,125	352,700	448,975	for Closing
CW-14-37	Lining Chipping	m2	5,050	170	7,640	12,860	
CW-14-38	Installation of Air Ventilation	L.S.	559,550	0	97,650	657,200	
CW-14-39	Installation of Pipe for Mortar Grout in Closing Work	L.S.	987,780	0	196,480	1,184,260	
CW-14-40	Installation of Pipe for Cement Milk Grout in Closing Work	L.S.	2,914,670	0	442,290	3,356,960	
CW-14-41	Cement Milk	m3	21,150	75,975	320,625	417,750	Cement : Water = 1:1
CW-14-42	Shotcrete Work for Slope Protection t=10cm	m2	15,180	9,890	58,960	84,030	
CW-14-43	Shotcrete Work for Slope Protection t=15cm	m2	21,880	19,470	97,040	138,390	
CW-14-44	Shotcrete Work for Slope Protection t=20cm	m2	28,500	19,720	113,400	161,620	
CW-14-45	Drilling for Anchor Work of Slope Protection	m	34,950	420	25,960	61,330	
CW-14-46	Installation of Re-Bar	pieces	0	57,750	62,850	120,600	

Table 9.4.1 (13/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
CW-14-47	Mortar Grout Injection for Anchor of Slope	m3	162,330	124,150	944,970	1,231,450	Mortar ; Cement : Sand = 1:2
CW-14-48	Anchor Head Treatment	set	0	0	13,320	13,320	
CW-14-49	Concrete Type A	m3	102,900	43,440	237,210	383,550	270kgf/cm2
CW-14-50	Concrete Type B	m3	104,360	39,700	223,190	367,250	225kgf/cm2
CW-14-51	Concrete Type C	m3	104,360	39,700	223,190	367,250	225kgf/cm2
CW-14-52	Concrete Type D	m3	106,090	35,210	206,350	347,650	180kgf/cm2
CW-14-53	Concrete Type E	m3	107,250	32,220	195,140	334,610	150kgf/cm2
CW-14-54	Concrete Pavement Work by Manpower	m2	20,300	98,310	141,660	260,270	
CW-14-55	Hauling of Concrete by Truck Mixer	m3	6,680	140	5,200	12,020	Distance: 1km
CW-14-56	Grating Steel	kg	7,132	0	5,741	12,874	
CW-14-57	Installation of Grout Pipe	ton	10,110,100	112,400	3,546,700	13,769,200	
Unit Rates for Building Construction							
S-B1-Bq-1	Earth Cut, 1 m depth	m3	0	0	16,000	16,000	
S-B1-Bq-2	Earth Fill (Old)	m3	0	0	7,700	7,700	
S-B1-Bq-3	Earth Fill (New)	m3	502	495	17,061	18,059	
S-B1-Bq-4	Sand Fill	m3	0	1,620	41,800	43,420	
S-B1-Bq-5	Sand Fill Under Foundation	m3	0	1,620	41,800	43,420	
S-B2-Bq-1	Dry Stone Masonry	m3	0	2,900	96,000	98,900	
S-B2-Bq-2	Brick block 1:3:10	m3	0	6,960	326,310	333,270	
S-B2-Bq-3	Stone Masonry 1:3:10	m3	0	9,800	166,600	176,400	
S-B2-Bq-4	Masonry of Coble Stone, 1cement : 3sand	m3	0	23,240	224,610	247,850	
S-B3-Bq-1	Brickwall/brickwork 1:3:10 1/2 brick thick	m3	0	6,960	336,310	343,270	
S-B3-Bq-2	Brickwall/brickwork 1:3 1/2 brick thick	m3	0	16,610	368,140	384,750	
S-B3-Bq-3	Mortar plastering 15 mm of thickness, 1:3:10	m2	0	400	7,200	7,600	
S-B3-Bq-4	Mortar plastering 15 mm of thickness, 1:3	m2	0	900	9,100	10,000	
S-B3-Bq-5	Mortar plastering 15 mm of thickness, 1:2	m2	0	1,200	10,000	11,200	
S-B3-Bq-6	Hole Ridge Mortar Plastering	m	0	600	21,400	22,000	
S-B3-Bq-7	Water Proofing Mortar H = 100 (for Wall Base)	m	0	190	1,390	1,580	
S-B3-Bq-8	Concrete Plastering (for Floor)	m2	0	1,200	10,000	11,200	
S-B3-Bq-9	Expose Plastering for Column H=800 & Base	m2	0	900	9,100	10,000	
S-B4-Bq-1	Concrete K-225	m3	0	43,680	184,460	228,140	
S-B4-Bq-2	Light Concrete (Concrete 1:3:5)	m3	0	30,410	422,790	453,200	
S-B4-Bq-3	Concrete 1:2:3	m3	0	37,300	467,700	505,000	
S-B4-Bq-4	Steel Bar	Kg	0	3,350	10,820	14,170	
S-B4-Bq-5	Supported Concrete Coster	m2	10	1,690	94,170	95,870	
S-B4-Bq-6	Concrete Coster	m2	10	970	80,220	81,200	
S-B4-Bq-7	Steel Bar Dia. 12 mm	Kg	0	1,203	9,128	10,331	
S-B4-Bq-8	Steel Bar Deformed Dia. 16 mm	Kg	0	1,286	9,320	10,606	
S-B4-Bq-9	Precast RC	m3	100	197,375	2,410,900	2,608,375	
S-B4-Bq-10	Fence's Foundation (RC)	m3	100	203,755	2,127,660	2,331,515	
S-B4-Bq-11	Fence's Tie Beam (RC)	m3	100	197,375	2,410,900	2,608,375	

Table 9.4.1 (14/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
S-B4-Bq-12	Concrete K-250	m3	0	45,870	193,200	239,070	
S-B4-Bq-13	Scaffolding	m2	14,740	70	15,630	30,440	
S-B4-Bq-14	Concrete for Drainage O-300	m3	100	197,375	2,410,900	2,608,375	
S-B4-Bq-15	Concrete Tower for Watertank	m3	100	205,945	2,136,400	2,342,445	
S-B4-Bq-16	Reinforcement Concrete for Gutter	m3	100	197,375	2,410,900	2,608,375	
S-B5-Bq-1	Metal Sheet Roof	m2	0	26,700	76,530	103,230	
S-B5-Bq-2	Metal Sheet Ridge	m	0	12,360	7,640	20,000	
S-B5-Bq-3	Ceramic Roof Tile	m2	0	12,150	40,350	52,500	
S-B5-Bq-4	Ceramic Ridge Tile	m	0	8,790	46,890	55,680	
S-B5-Bq-5	Timber Raften and Timber Batten	m2	0	420	25,890	26,310	
S-B5-Bq-6	Steel Truss	Kg	6,310	0	5,699	12,009	
S-B5-Bq-7	Steel Purlin	Kg	6,310	0	5,699	12,009	
S-B5-Bq-8	Steel Facing	Kg	6,310	0	5,699	12,009	
S-B5-Bq-9	Asphalt Sheet Roof Cover	m2	0	1,050	15,160	16,210	
S-B5-Bq-10	Colour Bond Metal Sheet (Gutter)	m2	0	18,600	56,130	74,730	
S-B5-Bq-11	Gutter Timber Batten	m2	0	600	41,310	41,910	
S-B5-Bq-12	Facing Timber Batten 30 x 300 mm	m2	0	240	83,060	83,300	
S-B5-Bq-13	Plywood Roof Cover	m2	0	2,090	28,020	30,110	
S-B5-Bq-14	Aluminium Sheet	m2	0	19,580	58,410	77,990	
S-B5-Bq-15	Glasswool Layer	m2	0	10,470	37,160	47,630	
S-B5-Bq-16	Facing	m	0	0	30,000	30,000	
S-B5-Bq-17	Wood Truss	m3	78,400	7,200	3,259,900	3,345,500	
S-B5-Bq-18	Wood Purlin	m3	0	5,300	2,435,400	2,440,700	
S-B5-Bq-19	Termite Protection	L.S	0	0	300,000	300,000	
S-B5-Bq-20	Fiber Cement Roof Tile	m2	0	800	13,200	14,000	
S-B5-Bq-21	Truss Beugel & Bolt	Kg	0	1,300	3,974	5,274	
S-B5-Bq-22	Chanel C Purlin	Kg	6,310	0	5,699	12,009	
S-B5-Bq-23	Facing Plate I	m2	0	0	26,500	26,500	
S-B5-Bq-24	Facing Plate II	m2	0	0	29,000	29,000	
S-B5-Bq-25	Sandwich Layer & Steel Roof	m2	0	63,870	190,220	254,090	
S-B5-Bq-26	Capping	m	0	8,280	21,320	29,600	
S-B5-Bq-27	Polycarbonat Frame	Kg	7,133	0	5,742	12,875	
S-B5-Bq-28	Polycarbonat Roof Sheet	m2	0	530	113,960	114,490	
S-B5-Bq-29	Aluminium Capping	m	0	8,280	21,320	29,600	
S-B5-Bq-30	Asphalt Sheet Water Proofing 5 mm	m2	0	14,070	23,110	37,180	
S-B5-Bq-31	Steel Roof	m2	0	26,700	76,530	103,230	
S-B5-Bq-32	Roof Ventilation Frame	m3	0	480	3,183,590	3,184,070	
S-B6-Bq-1	Ceramic Floor Tile, 200 x 200 mm	m2	0	9,660	36,550	46,210	
S-B6-Bq-2	Ceramic Floor Tile, 200 x 200 mm (Nonslip Texture)	m2	0	9,660	36,550	46,210	
S-B6-Bq-3	Ceramic Floor Tile, 300 x300 mm	m2	0	9,660	36,550	46,210	
S-B6-Bq-4	Ceramic Floor Tile, 300 x300 mm, (Nonslip Texture)	m2	0	9,660	36,550	46,210	

Table 9.4.1 (15/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
S-B6-Bq-5	Wall Base Mortar Fin w/ Waterproof Paint	m	0	190	1,390	1,580	
S-B6-Bq-6	Stair Nosing Ceramic Tile	m	0	1,740	6,580	8,320	
S-B6-Bq-7	Granito Tile for Entrance Wall	m2	0	47,160	124,050	171,210	
S-B6-Bq-8	Terracota	m2	0	9,660	36,550	46,210	
S-B7-Bq-1	Water Supply Installation (PVC Pipes D= 19.05 mm)	m	0	0	36,700	36,700	
S-B7-Bq-2	Waste Water Installation (PVC Pipes D= 110 mm)	m	0	2,750	55,470	58,220	
S-B7-Bq-3	Septic tank	unit	0	49,390	1,289,080	1,338,470	
S-B7-Bq-4	PVC Gutter (1/2 D= 110 mm)	m	0	1,380	52,270	53,650	
S-B7-Bq-5	Closet	pieces	0	730	86,410	87,140	
S-B7-Bq-6	Washbak	pieces	0	40	442,480	442,520	
S-B7-Bq-7	Hand Zink (Washtafel)	pieces	0	40	242,480	242,520	
S-B7-Bq-8	Water Stop Valve	pieces	0	0	67,530	67,530	
S-B7-Bq-9	Bath Tub (Watertank)	pieces	0	200	140,170	140,370	
S-B7-Bq-10	Kitchen table (Reinforcement Concrete)	m3	100	197,375	2,410,900	2,608,375	
S-B7-Bq-11	Floor Drain	pieces	0	0	60,000	60,000	
S-B7-Bq-12	Drainage Box	pieces	0	12,320	134,950	147,270	
S-B7-Bq-13	Drainage U-300	m	0	2,400	36,500	38,900	
S-B7-Bq-14	Water Cock	pieces	0	0	67,530	67,530	
S-B7-Bq-15	New Installation from PDAM	Unit	0	0	500,000	500,000	
S-B7-Bq-16	Urinoir	pieces	0	100	402,100	402,200	
S-B7-Bq-17	Soap Case	pieces	0	40	71,480	71,520	
S-B7-Bq-18	Deepwell	unit	0	0	50,000,000	50,000,000	
S-B7-Bq-19	PVC Gutter (D = 110 mm)	m	0	2,750	55,470	58,220	
S-B7-Bq-20	Roof Drain	pieces	0	0	50,000	50,000	
S-B7-Bq-21	Drainage O 300	m	0	5,200	41,900	47,100	
S-B7-Bq-22	Stainless Steel Watertank 2000 lt	unit	0	0	2,000,000	2,000,000	
S-B8-Bq-1	Wood Frame for Ventilation	m3	0	480	3,183,590	3,184,070	
S-B8-Bq-2	Double Plywood Door	m2	0	5,010	143,830	148,840	
S-B8-Bq-3	Aluminium Door	m2	0	31,470	193,320	224,790	
S-B8-Bq-4	Aluminium awakening	m	0	7,950	67,320	75,270	
S-B8-Bq-5	Aluminium Rolling Door	m2	0	26,780	90,570	117,350	
S-B8-Bq-6	Aluminium Door Frame	m	0	6,330	63,540	69,870	
S-B8-Bq-7	Aluminium Sliding-Window Frame	m	0	6,330	42,860	49,190	
S-B8-Bq-8	Door Keys for Aluminium Door	pieces	0	15,600	48,570	64,170	
S-B8-Bq-9	Espagnolette	pieces	0	10,920	37,650	48,570	
S-B8-Bq-10	Door Hings (125 mm)	pieces	0	1,320	15,950	17,270	
S-B8-Bq-11	Windows Hings (75 mm)	pieces	0	1,320	15,950	17,270	
S-B8-Bq-12	Al-Louvre	m2	0	10,200	150,040	160,240	
S-B8-Bq-13	Door Stopper	pieces	0	12,480	41,290	53,770	
S-B8-Bq-14	Door Keys for Wood Door	pieces	0	11,550	39,110	50,660	
S-B8-Bq-15	Door Keys for Toilet Door	pieces	0	15,600	48,570	64,170	

Table 9.4.1 (16/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
S-B8-Bq-16	Double Teakwood Door (w/ Louvre)	m2	0	500	546,200	546,700	
S-B8-Bq-17	Light Concrete for Ventilation	pieces	0	30	2,830	2,860	
S-B8-Bq-18	Aluminium Window Frame	m	0	4,170	58,500	62,670	
S-B8-Bq-19	Door Handle for Aluminium Door	pieces	0	18,720	55,850	74,570	
S-B8-Bq-20	Door Hinge (125 mm) f/ Al.Door	pieces	0	3,440	20,180	23,620	
S-B8-Bq-21	Shaft Door (fr Steel Plate)	m2	0	57,260	259,840	317,100	
S-B8-Bq-22	Steel Frame for Teakwood Door	m	8,970	0	7,250	16,220	
S-B8-Bq-23	Door Handle for Entrance Door	pieces	0	78,000	194,170	272,170	
S-B8-Bq-24	Teakwood Panel	m2	0	300	455,700	456,000	
S-B8-Bq-25	Aluminium Panel	m2	0	19,580	58,410	77,990	
S-B8-Bq-26	Louvre for Ventilation Door	m2	0	500	253,000	253,500	
S-B8-Bq-27	Mirror Stainless Steel Sheet t=1.2 mm	m2	0	0	329,690	329,690	
S-B8-Bq-28	Aluminium Rolling Shutter (Motorize)	m2	0	156,000	376,170	532,170	
S-B8-Bq-29	Door Closer	pieces	0	46,800	121,370	168,170	
S-B8-Bq-30	Steel Frame	kg	7,133	0	5,742	12,875	
S-B8-Bq-31	Steel Plate 0.5 mm	kg	0	2,430	11,034	13,464	
S-B8-Bq-32	Steel Door Frame	kg	7,133	0	5,742	12,875	
S-B8-Bq-33	Door Keys for Steel Door	pieces	0	15,600	45,100	60,700	
S-B9-Bq-1	Wall Painting	m2	0	1,430	8,570	10,000	
S-B9-Bq-2	Wood Painting	m2	0	4,100	14,800	18,900	
S-B9-Bq-3	Ceiling Painting	m2	0	1,440	8,660	10,100	
S-B9-Bq-4	Steel Painting	m2	0	1,740	9,060	10,800	
S-B9-Bq-5	Wood Protection Painting	m2	0	70	3,920	3,990	
S-B9-Bq-6	Steel Protection Painting	m	0	80	7,690	7,770	
S-B9-Bq-7	Float Glass H = 100 mm, Rayband (For Wall base)	m	0	2,950	8,280	11,230	
S-B9-Bq-8	Float Glass H = 5 mm, (Natural Colour)	m2	0	14,900	36,850	51,750	
S-B9-Bq-9	Stairs/Steel Protection Painting	m2	0	80	7,690	7,770	
S-B9-Bq-10	Float Glass H = 8 mm, (Natural Colour)	m2	0	28,010	67,420	95,430	
S-B9-Bq-11	Mirror for Lavatory 5 mm	m2	0	25,030	60,480	85,510	
S-B9-Bq-12	Etching Glass 5 mm	m2	0	14,900	36,850	51,750	
S-B9-Bq-13	Wood Protection Painting	L.S	0	0	300,000	300,000	
S-B9-Bq-14	Wood Protection Painting	L.S	0	0	180,000	180,000	
S-B9-Bq-15	Wood polytur	m2	0	200	20,800	21,000	
S-B9-Bq-16	Sandblasting Glass f/ Lobby	m2	0	68,960	162,970	231,930	
S-B9-Bq-17	Ceiling Polytur	m2	0	1,930	9,790	11,720	
S-B9-Bq-18	Gypsum Cornice Painting	m	0	770	5,450	6,220	
S-B9-Bq-19	Float Glass 5 mm (Cloudy Glass)	m2	0	19,820	48,310	68,130	
S-B10-Bq-1	Fiber Cement Ceiling, 1200 x 1200 mm x 6 mm + Ceiling Frame	m2	0	2,220	85,170	87,390	
S-B10-Bq-2	Wood Cornice	m	0	30	4,810	4,840	
S-B10-Bq-3	Stainless Steel Hand Rail	m	144,220	0	37,413	181,633	
S-B10-Bq-4	Stainless Steel Railing	m	361,152	0	93,711	454,863	

Table 9.4.1 (17/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
S-B10-Bq-5	Waterproof Gypsum Board 10 mm + Wood Frame	m2	0	420	100,470	100,890	
S-B10-Bq-6	Gypsum Cornice for Ceiling	m	0	30	15,810	15,840	
S-B10-Bq-7	Lumbersering Skirting for Wall Base	m2	0	480	57,720	58,200	
S-B10-Bq-8	Lumbersering Skirting for Ceiling	m2	0	330	56,170	56,500	
S-B10-Bq-9	Wood Cornice for Lumbersering Ceiling	m	0	30	4,810	4,840	
S-B10-Bq-10	Stainless Steel Railing + 10 mm Float Glass	m	361,152	9,443	116,392	486,988	
S-B10-Bq-11	Wood Profile for Lambersering Skirting	m	0	30	3,540	3,570	
S-B10-Bq-12	Aluminium Border for Urinoir	m2	0	26,940	150,350	177,290	
S-B10-Bq-13	Ventilation Hole 200 x 200	pieces	0	10	11,700	11,710	
S-B10-Bq-14	Ventilation Hole D = 1000 + Steel Frame	pieces	105,100	15,000	212,500	332,600	
S-B10-Bq-15	Gypsumboard Panel	m2	0	420	89,990	90,410	
S-B10-Bq-16	Access Floor	m2	0	0	610,000	610,000	
S-B10-Bq-17	Aluminium Spandrel for Ceiling	m2	0	750	145,000	145,750	
S-B10-Bq-18	Aluminium Frame for Partition	m	0	4,170	58,500	62,670	
S-B10-Bq-19	Ventilation Hole D = 600 + Steel Frame	pieces	63,000	9,000	127,500	199,500	
S-B10-Bq-20	Ventilation Hole for garage	pieces	0	10	15,130	15,140	
S-B10-Bq-21	Waterproof Gypsum Board 12 mm + Wood Frame	m2	0	420	103,580	104,000	
S-B11-Bq-1	Installation and Lighting 40W-1 FL	pieces	0	0	128,060	128,060	
S-B11-Bq-2	Installation and Lighting 40W-2 FL	pieces	0	0	233,060	233,060	
S-B11-Bq-3	Installation and Lighting 20W-1 FL	pieces	0	0	108,060	108,060	
S-B11-Bq-4	Installation and Lighting 15W-2 FL	pieces	0	0	185,560	185,560	
S-B11-Bq-5	Installation and Lighting 15W-1 FL	pieces	0	0	103,060	103,060	
S-B11-Bq-6	Air Condition Installation (2 PK)	pieces	0	0	6,312,240	6,312,240	
S-B11-Bq-7	Fuse	pieces	0	0	26,310	26,310	
S-B11-Bq-8	Lighting Switch (Single)	pieces	0	0	10,440	10,440	
S-B11-Bq-9	Lighting Switch (Double)	pieces	0	0	10,440	10,440	
S-B11-Bq-10	Outlet Socket Switch	pieces	0	0	11,440	11,440	
S-B11-Bq-11	Outlet Socket Installation	pieces	0	0	32,420	32,420	
S-B11-Bq-12	Lightning Protector	pieces	0	0	750,000	750,000	
S-B11-Bq-13	Outlet Socket and Installation for AC	pieces	0	0	77,420	77,420	
S-B11-Bq-14	Fuse Box	pieces	0	0	31,310	31,310	
S-B11-Bq-15	New Installation from PLN for 3500 VA	pieces	0	0	1,300,000	1,300,000	
S-B11-Bq-16	Water Pump	pieces	0	0	600,000	600,000	
S-B11-Bq-17	Extinguisher	pieces	0	0	1,500,000	1,500,000	
S-B11-Bq-18	New Installation from PLN for 450 VA	pieces	0	0	108,000	108,000	
S-B11-Bq-19	New Installation from PLN for 2200 VA	pieces	0	0	528,000	528,000	
S-B11-Bq-20	Wall Lighting Switch	pieces	0	0	51,440	51,440	
S-B11-Bq-21	General Lighting Installation	pieces	0	0	53,060	53,060	
S-B11-Bq-22	General Lighting 36W-2 + Pole	pieces	112,820	1,540	263,320	377,680	
S-B11-Bq-23	New Installation from PLN for 1300 VA	pieces	0	0	528,000	528,000	
S-B11-Bq-24	Installation and Lighting 10W-1 FL	pieces	0	0	70,560	70,560	

Table 9.4.1 (18/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
S-B11-Bq-25	Installation and Lighting 250W-1 H	pieces	0	0	1,283,060	1,283,060	
S-B11-Bq-26	Air Condition (1PK)	pieces	0	0	4,057,240	4,057,240	
S-B11-Bq-27	New Installation from PLN (8800 VA)	pieces	0	0	1,300,000	1,300,000	
S-B11-Bq-28	Lightning Spit	pieces	0	0	75,000	75,000	
S-B11-Bq-29	Ground Cable D = 12 mm	m	0	0	32,063	32,063	
S-B11-Bq-30	Lightning Protection Equipment	pieces	0	0	250,000	250,000	
S-B11-Bq-31	Grounding Box	pieces	0	0	100,000	100,000	
S-B11-Bq-32	T-Dos	pieces	0	0	12,500	12,500	
S-B11-Bq-33	Switch	pieces	0	0	21,440	21,440	
S-B11-Bq-34	Wall Switch	pieces	0	0	91,440	91,440	
S-B11-Bq-35	PVC Pipe D = 1.25	m	0	9,750	27,790	37,540	
S-B11-Bq-36	Main Panel	pieces	0	0	500,000	500,000	
S-B11-Bq-37	Distribution Panel	pieces	0	0	300,000	300,000	
S-B11-Bq-38	Outlet Socket 200 W	pieces	0	0	22,420	22,420	
S-B11-Bq-39	Outlet Socket 400 W	pieces	0	0	22,420	22,420	
S-B11-Bq-40	Outlet Socket 1000 W	pieces	0	0	82,420	82,420	
S-B11-Bq-41	H 1 x 300 W	pieces	0	0	260,560	260,560	
S-B11-Bq-42	H 1 x 400 W	pieces	0	0	355,060	355,060	
S-B11-Bq-43	FNB 100 A	pieces	0	0	363,310	363,310	
S-B11-Bq-44	FNB 63 A	pieces	0	0	476,310	476,310	
S-B11-Bq-45	NCB 32 A	pieces	0	0	61,310	61,310	
S-B11-Bq-46	NCB 16 A	pieces	0	0	51,310	51,310	
S-B11-Bq-47	NCB 6 A	pieces	0	0	51,310	51,310	
S-B11-Bq-48	Grounding Cable D = 6 mm	m	0	0	9,783	9,783	
S-B11-Bq-49	Cable NYY 4 x 16 mm	m	0	0	62,813	62,813	
S-B11-Bq-50	Cable NYM 3 x 4 mm	m	0	0	8,657	8,657	
S-B11-Bq-51	Cable NYM 3 x 2.5 mm	m	0	0	5,580	5,580	
S-B11-Bq-52	Cable NYM 2 x 2.5 mm	m	0	0	5,983	5,983	
S-B11-Bq-53	Air Blower (inhouse) 0.5 PK	unit	0	0	531,870	531,870	
S-B11-Bq-54	Emergency Lamp 20 W	unit	0	0	200,000	200,000	
S-B11-Bq-55	PABX (20 Output Line)	unit	0	0	5,000,000	5,000,000	
S-B11-Bq-56	Telephone Outlet Switch	pieces	0	0	21,440	21,440	
S-B11-Bq-57	Telephone Cable + Installation	m	0	0	8,307	8,307	
S-B11-Bq-58	NCB 2 A	pieces	0	0	51,310	51,310	
S-B11-Bq-59	Cable NYY 3 x 16 mm	m	0	0	55,173	55,173	
S-B11-Bq-60	NCB 10 A	pieces	0	0	51,310	51,310	
S-B11-Bq-61	FL 2 x 40 W + Pole	pieces	112,820	1,540	386,470	500,830	
S-B11-Bq-62	New Installation from PLN for 900 VA	pieces	0	0	216,000	216,000	
S-B12-Bq-1	Meeting Room Table	unit	0	0	2,125,000	2,125,000	
S-B12-Bq-2	Meeting Room Chair	unit	0	0	200,000	200,000	
S-B12-Bq-3	Office Table	unit	0	0	500,000	500,000	

Table 9.4.1 (19/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
S-B12-Bq-4	Filling Cabinet	unit	0	0	800,000	800,000	
S-B12-Bq-5	Computer Table	unit	0	0	600,000	600,000	
S-B12-Bq-6	Dining Table	unit	0	0	658,333	658,333	
S-B12-Bq-7	Single Bed	unit	0	0	500,000	500,000	
S-B12-Bq-8	Portable Stove	unit	0	0	500,000	500,000	
S-B12-Bq-9	Kitchen Set	unit	0	0	1,000,000	1,000,000	
S-B12-Bq-10	Sofa	unit	0	0	833,333	833,333	
S-B12-Bq-11	Credensa	unit	0	0	350,000	350,000	
S-B12-Bq-12	Dining Cupboard	unit	0	0	300,000	300,000	
S-B12-Bq-13	Bed Room Set	unit	0	0	1,500,000	1,500,000	
S-B12-Bq-14	Front Office Table + 2 Chairs	unit	0	0	3,000,000	3,000,000	
S-B12-Bq-15	Garden Chair	unit	0	0	200,000	200,000	
S-B12-Bq-16	Double Bed Set	unit	0	0	1,000,000	1,000,000	
S-B12-Bq-17	Locker Cabinet	unit	0	0	2,800,000	2,800,000	
S-B12-Bq-18	Hot & Cold Dispenser	unit	0	0	1,000,000	1,000,000	
S-B12-Bq-19	Office Chair	unit	0	0	200,000	200,000	
S-B13-Bq-1	Ventilation Hole	Kg	7,133	0	5,742	12,875	
S-B13-Bq-2	Stairs	Kg	7,133	0	5,742	12,875	
S-B13-Bq-3	Steel Fence	m	58,367	26,700	145,667	230,733	
S-B13-Bq-4	Gate	m	0	0	65,000	65,000	
S-B13-Bq-5	H-Beam	Kg	6,310	0	7,173	13,483	
S-B13-Bq-6	Galvanish Pipe D=50.8 mm	m	17,210	0	18,910	36,120	
S-B13-Bq-7	Galvanish Pipe D=38.1 mm	m	11,480	0	14,510	25,990	
S-B13-Bq-8	Galvanish Pipe D=25.4 mm	m	6,700	0	9,190	15,890	
S-B13-Bq-9	Pipe Plandes	pieces	0	0	6,000	6,000	
S-B13-Bq-10	Turn Bucle	pieces	0	0	19,500	19,500	
S-B13-Bq-11	Steel Door (Sliding)	Kg	6,310	0	7,173	13,483	
S-B13-Bq-12	Steel Door (Swing)	Kg	6,310	0	7,173	13,483	
S-B13-Bq-13	Steel Staircase	Kg	6,310	0	7,173	13,483	
S-B13-Bq-14	Steel Grill for Pipe Line	Kg	6,310	0	7,173	13,483	
S-B13-Bq-15	Steel Rail for Crab	Kg	6,310	0	7,173	13,483	
S-B13-Bq-16	Stainless Steel - Air Duct Head	unit	0	0	1,250,000	1,250,000	
S-B13-Bq-17	Stainless Steel Cover Enterance Column	m2	359,100	0	126,190	485,290	
S-B13-Bq-18	Maintenance Stair	kg	7,133	0	5,742	12,875	
S-B13-Bq-19	I-Beam for Runway Rail	kg	7,133	0	5,742	12,875	
S-B13-Bq-20	Runway Rail	kg	7,133	0	5,742	12,875	
S-B13-Bq-21	Bracket, Holding Plates, Bolt, Nut, etc.	kg	0	1,300	3,974	5,274	
S-B14-Bq-1	Uitzet & Bouwplank	m2	0	0	3,500	3,500	
S-B14-Bq-2	Water & Electricity for Work	L.S	0	0	3,750,000	3,750,000	
S-B14-Bq-3	Administration & Documentation	L.S	0	0	2,500,000	2,500,000	
S-B15-Bq-1	Paving Kansteen (Paving Border)	m	0	0	35,900	35,900	

Table 9.4.1 (20/20) UNIT RATES OF WORKING COST

ID No.	Base Working Item	Unit	PF/C	IF/C	L/C	Total	Application
S-B15-Bq-2	Gravel	m3	0	1,360	31,260	32,620	
S-B15-Bq-3	Plantation 1	m2	0	0	7,500	7,500	
S-B15-Bq-4	Demolition Wall	m3	32,595	843	38,073	71,511	
S-B15-Bq-5	Paving Block	m2	0	5,700	44,800	50,500	
S-B15-Bq-6	Plantation 2	m2	0	0	250,000	250,000	
S-B15-Bq-7	Plantation 3	m2	0	0	25,000	25,000	
S-B15-Bq-8	Plantation 4	m2	0	0	15,000	15,000	
S-B15-Bq-9	Plantation 5	m2	0	0	5,000	5,000	

Table 9.4.2 THE NUMBER OF TRUCK IN GENERAL TRANSPORTATION FOR MOBILIZATION AND DEMOBILIZATION OF PACKAGE-1

NUMBER OF TRUCK IN GENERAL

Construction Equipment	Capacity/ Specification	Number of Equipment							
		2002		2003		2004		Total	
		M	D	M	D	M	D	M	D
Dump Truck	10 ton	11	11	5	3		2	16	16
Ordinary Truck	10 ton	1	1	1	1			2	2
Truck with Crane A	4 ton	1	1	1			1	2	2
Truck with Crane B	6 ton	1		1	1		1	2	2
Agitator Truck B	4.5 m3	2		4	5		1	6	6

NUMBER OF TRAILER

Construction Equipment	Capacity/ Specification	Number of Equipment			Total
		2002	2003	2004	
Buldozer A	15 ton	3	1	1	5
Backhoe A	0.20 m3	2	1	1	4
Backhoe B	0.35 m3	4	3	1	8
Giant Breaker	600/800 kg	2	0	0	2
Truck Crane A	16 ton	0	3	0	3
Truck Crane B	20 ton	0	1	1	2
Truck Crane C	25 ton	1	1	0	2
Portable Concrete Mixer A	0.20 m3	0	1	1	2
Concrete Pump A	30 m3/hour	1	1	0	2
Tamper	60/100 kg	2	4	1	7
Vibrating Roller A	4 ton	2	3	1	6
Hidraulic Jack	50 t	0	2	0	2
Diesel Engine Generator B	60 KVA	1	0	1	2
Diesel Engine Generator C	90 KVA	0	1	1	2
Air Compresor A	30 m3	1	0	1	2
Air Compresor B	90 m3	0	1	1	2
Number of Trailer for Mobilization		7	7	0	14
Number of Trailer for Demobilization		5	5	4	14

Table 9.4.3 THE NUMBER OF TRUCK IN GENERAL TRANSPORTATION FOR MOBILIZATION AND DEMOBILIZATION OF PACKAGE-2

NUMBER OF TRUCK IN GENERAL

Construction Equipment	Capacity/ Specification	Number of Equipment							
		2002		2003		2004		Total	
		M	D	M	D	M	D	M	D
Dump Truck	10 ton	11	11	5	3		2	16	16
Ordinary Truck	10 ton	1	1	1	1			2	2
Truck with Crane A	4 ton	1	1	1			1	2	2
Truck with Crane B	6 ton	1		1	1		1	2	2
Agitator Truck B	4.5 m3	2		4	5		1	6	6

NUMBER OF TRAILER

Construction Equipment	Capacity/ Specification	Number of Equipment			Total
		2002	2003	2004	
Buldozer A	15 ton	3	1	1	5
Backhoe A	0.20 m3	2	1	1	4
Backhoe B	0.35 m3	4	3	1	8
Giant Breaker	600/800 kg	2	0	0	2
Truck Crane A	16 ton	0	3	0	3
Truck Crane B	20 ton	0	1	1	2
Truck Crane C	25 ton	1	1	0	2
Portable Concrete Mixer A	0.20 m3	0	1	1	2
Concrete Pump A	30 m3/hour	1	1	0	2
Tamper	60/100 kg	2	4	1	7
Vibrating Roller A	4 ton	2	3	1	6
Hidraulic Jack	50 t	0	2	0	2
Diesel Engine Generator B	60 KVA	1	0	1	2
Diesel Engine Generator C	90 KVA	0	1	1	2
Air Compresor A	30 m3	1	0	1	2
Air Compresor B	90 m3	0	1	1	2
Number of Trailer for Mobilization		7	7	0	14
Number of Trailer for Demobilization		5	5	4	14

Table 9.5.1 (1/4) PAYMENT ITEMS AND THE COSTS FOR PACKAGE-1

Component: Construction of Jatibarang Multipurpose Dam

Package-1: Jatibarang Multipurpose Dam including Appurtenant Structures

ID No.	BQ Item		Unit	Quantity	Unit Cost				Cost			
					PF/C	IF/C	L/C	Total	PF/C	IF/C	L/C	Total
JD-P1-Bq-1	A.	General										
JD-P1-Bq-2	A.1	Mobilisation and Demobilisation	L.S.	1	444,683,400	9,513,900	348,597,800	802,795,100	444,683,400	9,513,900	348,597,800	802,795,100
JD-P1-Bq-3	A.2	Establishment	L.S.	1	7,006,952,496	853,756,602	5,544,010,068	13,404,719,166	7,006,952,496	853,756,602	5,544,010,068	13,404,719,166
JD-P1-Bq-4	A.3	Drawings	L.S.	1	24,855,400	3,000,000	80,256,700	108,112,100	24,855,400	3,000,000	80,256,700	108,112,100
JD-P1-Bq-5	A.4	Transport Facilities										
JD-P1-Bq-6	A.4.1	Supply, operation and maintaince of new four-door four-wheel drive station jeep	month	150	4,572,388	75,323	2,456,045	7,103,757	685,858,250	11,298,500	368,406,750	1,065,563,500
JD-P1-Bq-7	A.4.2	Supply, operation and maintaince of new station wagon	month	80	1,368,886	31,053	1,391,463	2,791,403	109,510,867	2,484,267	111,317,067	223,312,200
JD-P1-Bq-8	A.4.3	Supply, operation and maintaince of new motor cycle with capacity greater than 100 cc	month	160	335,802	25,613	955,325	1,316,740	53,728,267	4,098,133	152,852,000	210,678,400
JD-P1-Bq-9	B.	Water Control										
JD-P1-Bq-10	B.1	Water Control	L.S.	1	615,848,300	10,886,400	333,325,300	960,060,000	615,848,300	10,886,400	333,325,300	960,060,000
JD-P1-Bq-11	C.	Surface Excavation and Earth Works										
JD-P1-Bq-12	C.1	Clearing and Grubbing :										
JD-P1-Bq-13	C.1.1	for Areas to be Excavated	m^2	320,000	593	9	683	1,285	189,760,000	2,880,000	218,560,000	411,200,000
JD-P1-Bq-14	C.1.2	for Reservoir	ha	70	2,239,000	28,000	2,787,000	5,054,000	156,730,000	1,960,000	195,090,000	353,780,000
JD-P1-Bq-15	C.2	Stripping Top Soil	m^2	320,000	5,560	110	3,720	9,390	1,779,200,000	35,200,000	1,190,400,000	3,004,800,000
JD-P1-Bq-16	C.3	Surface Excavation :										
JD-P1-Bq-17	C.3.1	for Diversion Facilities (Cofferdam, Upstream and Downstream Portals)	m^3	8,000	35,370	420	16,150	51,940	282,960,000	3,360,000	129,200,000	415,520,000
JD-P1-Bq-18	C.3.2	for Embankment Dam	m^3	174,000	25,140	440	16,070	41,650	4,374,360,000	76,560,000	2,796,180,000	7,247,100,000
JD-P1-Bq-19	C.3.3	for Gallery	m^3	7,000	70,230	680	30,900	101,810	491,610,000	4,760,000	216,300,000	712,670,000
JD-P1-Bq-20	C.3.4	for Spillway	m^3	453,500	27,200	500	17,300	45,000	12,335,200,000	226,750,000	7,845,550,000	20,407,500,000
JD-P1-Bq-21	C.3.5	for Inclined Intake Structure	m^3	11,000	21,440	400	14,510	36,350	235,840,000	4,400,000	159,610,000	399,850,000
JD-P1-Bq-22	C.3.6	for Hydropower Station	m^3	400	22,650	310	13,630	36,590	9,060,000	124,000	5,452,000	14,636,000
JD-P1-Bq-23	C.3.7	for Dam management Complex	m^3	36,000	19,000	370	12,610	31,980	684,000,000	13,320,000	453,960,000	1,151,280,000
JD-P1-Bq-24	C.4	Exploratory Trench Excavation in Common	m^3	6,000	12,680	140	7,860	20,680	76,080,000	840,000	47,160,000	124,080,000
JD-P1-Bq-25	C.5	Exploratory Trench Excavation in Rock	m^3	500	20,970	230	13,060	34,260	10,485,000	115,000	6,530,000	17,130,000
JD-P1-Bq-26	C.6	Construction of Common Fill or Backfill	m^3	22,000	16,980	320	11,810	29,110	373,560,000	7,040,000	259,820,000	640,420,000
JD-P1-Bq-27	C.7	Construction of Backfill Gravel or Gravel Bedding (Crushed Stone)	m^3	3,000	15,710	3,250	69,940	88,900	47,130,000	9,750,000	209,820,000	266,700,000
JD-P1-Bq-28	C.8	Clearing Surfaces in Exposed Foundation for Inspection	m^2	6,000	36,700	700	59,690	97,090	220,200,000	4,200,000	358,140,000	582,540,000
JD-P1-Bq-29	C.9	Construction of Random Fill for Temporary Cofferdam	m^3	24,000	14,410	330	10,050	24,790	345,840,000	7,920,000	241,200,000	594,960,000
JD-P1-Bq-30	D.	Tunneling										
JD-P1-Bq-31	D.1	Underground Excavation :										
JD-P1-Bq-32	D.1.1	for Diversion Tunnel	m^3	18,300	137,550	380	167,710	305,640	2,517,165,000	6,954,000	3,069,093,000	5,593,212,000
JD-P1-Bq-33	D.1.2	for Outlet Tunnel	m^3	2,300	165,050	390	194,910	360,350	379,615,000	897,000	448,293,000	828,805,000
JD-P1-Bq-34	D.2	Furnishing and Installing Steel Rib Support and Accessories :										
JD-P1-Bq-35	D.2.1	for Diversion Tunnel	tonne	200	7,067,300	0	551,100	7,618,400	1,413,460,000	0	110,220,000	1,523,680,000
JD-P1-Bq-36	D.2.2	for Outlet Tunnel	tonne	37	6,946,600	0	541,700	7,488,300	257,024,200	0	20,042,900	277,067,100
JD-P1-Bq-37	D.3	Production and Placing Shotcrete Lining :										
JD-P1-Bq-38	D.3.1	for Diversion Tunnel	m^3	1,800	1,228,590	138,350	1,024,330	2,391,270	2,211,462,000	249,030,000	1,843,794,000	4,304,286,000
JD-P1-Bq-39	D.3.2	for Outlet Tunnel	m^3	360	1,424,310	31,650	799,100	2,255,060	512,751,600	11,394,000	287,676,000	811,821,600
JD-P1-Bq-40	D.4	Furnishing and Installing Steel Mesh Reinforcement :										
JD-P1-Bq-41	D.4.1	for Diversion Tunnel	kg	11,400	1,360	1,830	4,520	7,710	15,504,000	20,862,000	51,528,000	87,894,000
JD-P1-Bq-42	D.4.2	for Outlet Tunnel	kg	5,400	1,360	1,830	4,520	7,710	7,344,000	9,882,000	24,408,000	41,634,000
JD-P1-Bq-43	D.5	Furnishing and Installing Rock Bolts :										
JD-P1-Bq-44	D.5.1	for Diversion Tunnel (25mm dia.)	m	17,400	119,290	380	51,180	170,850	2,075,646,000	6,612,000	890,532,000	2,972,790,000
JD-P1-Bq-45	D.5.3	for Outlet Tunnel (22mm dia.)	m	1,200	48,520	440	16,810	65,770	58,224,000	528,000	20,172,000	78,924,000
JD-P1-Bq-46	E.	Drilling and Grouting										
JD-P1-Bq-47	E.1	Core Drilling (66mm dia.) :										
JD-P1-Bq-48	E.1.1	from within Gallary	m	1,200	571,650	290	186,790	758,730	685,980,000	348,000	224,148,000	910,476,000
JD-P1-Bq-49	E.1.2	from Surface	m	4,900	571,760	290	187,040	759,090	2,801,624,000	1,421,000	916,496,000	3,719,541,000
JD-P1-Bq-50	E.2	Rotary Drilling Holes for Grouting (46mm dia.) :										
JD-P1-Bq-51	E.2.1	from within Gallary	m	5,200	171,110	140	46,430	217,680	889,772,000	728,000	241,436,000	1,131,936,000
JD-P1-Bq-52	E.2.2	from Surface	m	14,400	171,230	140	46,410	217,780	2,465,712,000	2,016,000	668,304,000	3,136,032,000
JD-P1-Bq-53	E.2.3	from Tunnels	m	1,100	173,050	150	45,970	219,170	190,355,000	165,000	50,567,000	241,087,000
JD-P1-Bq-54	E.3	Drill set-up for drilling grout hole	No.	4,100	55,160	1,300	63,320	119,780	226,156,000	5,330,000	259,612,000	491,098,000
JD-P1-Bq-55	E.4	Wash and Water pressure testing	No.	4,100	232,290	230	127,260	359,780	952,389,000	943,000	521,766,000	1,475,098,000
JD-P1-Bq-56	E.5	Cement used in Pressure Grouting	tonne	410	7,266,000	113,500	3,638,000	11,017,500	2,979,060,000	46,535,000	1,491,580,000	4,517,175,000
JD-P1-Bq-57	E.6	Fine aggregate used in Pressure Grouting	tonne	2	6,630	1,490	29,400	37,520	13,260	2,980	58,800	75,040
JD-P1-Bq-58	E.7	Hook-up to Holes and Connections for Grouting	No.	4,100	1,100	0	5,120	6,220	4,510,000	0	20,992,000	25,502,000
JD-P1-Bq-59	E.8	Casing Pipe for Pressure Grouting	tonne	10	6,830,250	0	2,255,000	9,085,250	68,302,500	0	22,550,000	90,852,500
JD-P1-Bq-60	F.	Embankment Construction										
JD-P1-Bq-61	F.1	Dam Embankment Impervious Zone including Contact Slurry and Contact Material	m^3	119,000	75,068	1,496	56,335	132,899	8,933,092,000	178,024,000	6,703,865,000	15,814,981,000
JD-P1-Bq-62	F.2	Dam Embankment in Semi-pervious Zone :										
JD-P1-Bq-63	F.2.1	in Upstream Semi-pervious Zone	m^3	33,000	97,935	1,953	69,738	169,626	3,231,855,000	64,449,000	2,301,354,000	5,597,658,000
JD-P1-Bq-64	F.2.2	in Downstream Fine Semi-pervious Zone	m^3	24,000	62,884	1,757	55,056	119,697	1,509,216,000	42,168,000	1,321,344,000	2,872,728,000
JD-P1-Bq-65	F.2.3	in Downstream Coarse Semi-pervious Zone	m^3	25,000	108,080	1,801	69,867	179,748	2,702,000,000	45,025,000	1,746,675,000	4,493,700,000
JD-P1-Bq-66	F.3	Dam Embankment Pervious Zone :										
JD-P1-Bq-67	F.3.1	in Inner Pervious Zone	m^3	96,000	54,449	1,076	36,724	92,249	5,227,104,000	103,296,000	3,525,504,000	8,855,904,000
JD-P1-Bq-68	F.3.2	in Outer Pervious Zone including Surface Treatment	m^3	495,000	62,284	1,257	42,089	105,630	30,830,580,000	622,215,000	20,834,055,000	52,286,850,000

Table 9.5.1 (2/4) PAYMENT ITEMS AND THE COSTS FOR PACKAGE-1

ID No.	BQ Item		Unit	Quantity	Unit Cost				Cost			
					PF/C	IF/C	L/C	Total	PF/C	IF/C	L/C	Total
JD-P1-Bq-69	F.3.3	in Riprap Zone	m^3	10,000	81,593	1,502	54,940	138,035	815,930,000	15,020,000	549,400,000	1,380,350,000
JD-P1-Bq-70	F.4	Special Compaction for Dam Embankment :										
JD-P1-Bq-71	F.4.1	in Impervious Zone Embankment	m^3	1,600	82,140	1,630	72,610	156,380	131,424,000	2,608,000	116,176,000	250,208,000
JD-P1-Bq-72	F.4.2	in Upstream and Downstream Semi-pervious Zone	m^3	3,000	60,990	1,780	54,680	117,450	182,970,000	5,340,000	164,040,000	352,350,000
JD-P1-Bq-73	G.	**Protection and Support of Excavation**										
JD-P1-Bq-74	G.1	Construction of Wet Stone Masonry	m^3	500	47,310	15,510	204,920	267,740	23,655,000	7,755,000	102,460,000	133,870,000
JD-P1-Bq-75	G.2	Construction of Stone Pitched Slope Protection	m^3	300	51,610	16,920	223,550	292,080	15,483,000	5,076,000	67,065,000	87,624,000
JD-P1-Bq-76	G.3	Construction of Cobble Stone Foundation	m^3	200	15,340	2,120	45,130	62,590	3,068,000	424,000	9,026,000	12,518,000
JD-P1-Bq-77	G.4	Construction of Mat Gabions	m^3	100	666,570	3,060	134,750	804,380	66,657,000	306,000	13,475,000	80,438,000
JD-P1-Bq-78	G.5	Shotcrete Concrete in Surface Excavation including Drain Pipe and Gravel; 10 cm in Thickness	m^2	13,000	35,220	10,270	67,930	113,420	457,860,000	133,510,000	883,090,000	1,474,460,000
JD-P1-Bq-79	G.6	Furnishing and Installing Steel Mesh Reinforcement in Surface Excavation	kg	34,000	1,120	0	5,210	6,330	38,080,000	0	177,140,000	215,220,000
JD-P1-Bq-80	G.7	Furnishing and Placing Full Face Sodding and Strip Sodding including Maintenance Watering	m^2	35,000	2,600	0	12,110	14,710	91,000,000	0	423,850,000	514,850,000
JD-P1-Bq-81	G.8	Furnishing and Installing Grouted Anchor Bar including Drilling and Grouting; 25 mm in Diameter	m	12,500	55,290	12,160	46,320	113,770	691,125,000	152,000,000	579,000,000	1,422,125,000
JD-P1-Bq-82	H.	**Drainage**										
JD-P1-Bq-83	H.1	Construction of Surface Drains :										
JD-P1-Bq-84	H.1.1	Type 1-1 (Wet Stone Masonry)	m	2,700	19,050	8,820	107,090	134,960	51,435,000	23,814,000	289,143,000	364,392,000
JD-P1-Bq-85	H.1.2	Type 1-2 (Wet Stone Masonry)	m	2,700	13,070	6,420	73,090	92,580	35,289,000	17,334,000	197,343,000	249,966,000
JD-P1-Bq-86	H.1.3	Type 2-1 (Wet Stone Masonry) with Concrete Cover	m	80	148,440	63,230	840,110	1,051,780	11,875,200	5,058,400	67,208,800	84,142,400
JD-P1-Bq-87	H.1.4	Type 2-2 (Wet Stone Masonry) with Grating Cover	m	50	1,531,600	26,950	1,410,760	2,969,310	76,580,000	1,347,500	70,538,000	148,465,500
JD-P1-Bq-88	H.1.5	Type 3-1 (Reinforced Concrete)	m	420	20,860	24,000	73,180	118,040	8,761,200	10,080,000	30,735,600	49,576,800
JD-P1-Bq-89	H.1.6	Type 3-2 (Reinforced Concrete) with Grating Cover	m	30	288,110	24,000	240,740	552,850	8,643,300	720,000	7,222,200	16,585,500
JD-P1-Bq-90	H.2	Construction of Catch Basin (Wet Stone Masonry)	m3	50	52,180	25,470	292,110	369,760	2,609,000	1,273,500	14,605,500	18,488,000
JD-P1-Bq-91	I.	**Concrete Production and Concrete Construction**										
JD-P1-Bq-92	I.1	Furnishing and Placing PVC Waterstop; 300 mm in Width	m	4,500	95,760	0	16,070	111,830	430,920,000	0	72,315,000	503,235,000
JD-P1-Bq-93	I.2	Furnishing and Installing PVC pipe drains 50 mm dia. :										
JD-P1-Bq-94	I.2.1	50 mm in Diameter as Weephole	m	100	7,590	2,600	42,870	53,060	759,000	260,000	4,287,000	5,306,000
JD-P1-Bq-95	I.2.2	100 mm in Diameter for Bridge	m	15	3,300	4,240	15,830	23,370	49,500	63,600	237,450	350,550
JD-P1-Bq-96	I.3	Furnishing and Installing Perforated PVC Pipe 250 mm dia.	m	900	43,820	58,500	145,670	247,990	39,438,000	52,650,000	131,103,000	223,191,000
JD-P1-Bq-97	I.4	Furnishing and Installing Perforated PVC Pipe 200 mm dia.	m	300	17,379	23,018	57,965	98,362	5,213,700	6,905,400	17,389,500	29,508,600
JD-P1-Bq-98	I.5	Furnishing and Placing Joint Filler or Joint Sealant :										
JD-P1-Bq-99	I.5.1	Elastic Joint Filler; 10 mm in Thickness	m^2	350	7,119	9,075	24,096	40,290	2,491,650	3,176,250	8,433,600	14,101,500
JD-P1-Bq-100	I.5.2	Polysulphide Mastic Joint Sealant	liter	600	319,410	0	73,420	392,830	191,646,000	0	44,052,000	235,698,000
JD-P1-Bq-101	I.5.3	Bitumen-Rubber Mastic Joint Filler (IGAS or equivalent)	liter	6,400	175,880	0	27,200	203,080	1,125,632,000	0	174,080,000	1,299,712,000
JD-P1-Bq-102	I.6	Furnishing and Installing Deformed Reinforcement Bars :										
JD-P1-Bq-103	I.6.1.	in Diversion Tunnel	tonne	290	1,430,200	3,090,000	3,574,640	8,094,840	414,758,000	896,100,000	1,036,645,600	2,347,503,600
JD-P1-Bq-104	I.6.2.	in Spillway	tonne	500	1,430,200	3,090,000	3,574,640	8,094,840	715,100,000	1,545,000,000	1,787,320,000	4,047,420,000
JD-P1-Bq-105	I.6.3.	in Gallery	tonne	260	1,430,200	3,090,000	3,574,640	8,094,840	371,852,000	803,400,000	929,406,400	2,104,658,400
JD-P1-Bq-106	I.6.4.	in Hydropower Station	tonne	140	1,430,200	3,090,000	3,574,640	8,094,840	200,228,000	432,600,000	500,449,600	1,133,277,600
JD-P1-Bq-107	I.6.5.	in Other Structures	tonne	100	1,430,200	3,090,000	3,574,640	8,094,840	143,020,000	309,000,000	357,464,000	809,484,000
JD-P1-Bq-108	I.7	Furnishing and Placing Dowel Bars 25mm dia. including PVC sleeve	tonne	3	1,854,230	3,404,400	5,236,210	10,494,840	5,562,690	10,213,200	15,708,630	31,484,520
JD-P1-Bq-109	I.8	Furnishing and Placing Metal Seals	m	40	14,240	0	2,890	17,130	569,600	0	115,600	685,200
JD-P1-Bq-110	I.9	Production and Construction of Concrete Type A for Diversion Tunnel Lining	m^3	6,800	441,905	102,735	502,762	1,047,402	3,004,954,000	698,598,000	3,418,781,600	7,122,333,600
JD-P1-Bq-111	I.10	Production and Construction of Concrete Type B :										
JD-P1-Bq-112	I.10.1	in Gallery and Entrance	m^3	5,700	247,040	40,480	315,540	603,060	1,408,128,000	230,736,000	1,798,578,000	3,437,442,000
JD-P1-Bq-113	I.10.2	in Inclined Intake Structure	m^3	900	237,300	40,190	291,980	569,470	213,570,000	36,171,000	262,782,000	512,523,000
JD-P1-Bq-114	I.10.3	in Hydropower Station	m^3	4,500	243,120	40,370	310,670	594,160	1,094,040,000	181,665,000	1,398,015,000	2,673,720,000
JD-P1-Bq-115	I.10.4	in Other Structures	m^3	50	282,720	40,820	357,950	681,490	14,136,000	2,041,000	17,897,500	34,074,500
JD-P1-Bq-116	I.11	Production and Construction of Concrete Type C	m^3	120	243,770	40,350	310,950	595,070	29,252,400	4,842,000	37,314,000	71,408,400
JD-P1-Bq-117	I.12	Production and Construction of Concrete Type D :										
JD-P1-Bq-118	I.12.1	in Spillway	m^3	52,000	220,850	35,590	257,330	513,770	11,484,200,000	1,850,680,000	13,381,160,000	26,716,040,000
JD-P1-Bq-119	I.12.2	in Outlet Tunnel	m^3	1,400	207,230	35,450	237,070	479,750	290,122,000	49,630,000	331,898,000	671,650,000
JD-P1-Bq-120	I.12.3	in Concrete Plug in Diversion Tunnel	m^3	1,000	661,290	56,120	741,410	1,458,820	661,290,000	56,120,000	741,410,000	1,458,820,000
JD-P1-Bq-121	I.12.4	in Adit	m^3	100	271,360	36,350	338,030	645,740	27,136,000	3,635,000	33,803,000	64,574,000
JD-P1-Bq-122	I.12.5	in Other Structures	m^3	2,500	226,640	35,580	262,170	524,390	566,600,000	88,950,000	655,425,000	1,310,975,000
JD-P1-Bq-123	I.13	Production and Construction of Concrete Type E :										
JD-P1-Bq-124	I.13.1	in Structures	m^3	1,000	260,260	33,410	320,200	613,870	260,260,000	33,410,000	320,200,000	613,870,000
JD-P1-Bq-125	I.13.2	Backfill Concrete in Seams, Defects and Faults	m^3	200	194,280	32,360	228,130	454,770	38,856,000	6,472,000	45,626,000	90,954,000
JD-P1-Bq-126	I.14	Furnishing and Installing Precast Prestressed Concrete Beams Spillway Bridge including Tensioning and Erection	L.S.	1	168,914,300	17,184,300	208,102,100	394,200,700	168,914,300	17,184,300	208,102,100	394,200,700
JD-P1-Bq-127	I.15	Furnishing and Installing Precast Concrete Diaphragms for Spillway Bridge including Tensioning and Erection	L.S.	1	16,435,200	2,355,700	13,204,100	31,995,000	16,435,200	2,355,700	13,204,100	31,995,000
JD-P1-Bq-128	I.16	Furnishing and Installing Precast Concrete Panels for Spillway Bridge including Erection	L.S.	1	1,795,400	2,188,000	8,020,500	12,003,900	1,795,400	2,188,000	8,020,500	12,003,900
JD-P1-Bq-129	J.	**Road Construction**										
JD-P1-Bq-130	J.1	Excavation for Road Construction	m^3	152,000	19,950	384	15,587	35,921	3,032,445,600	58,383,200	2,369,148,000	5,459,976,800
JD-P1-Bq-131	J.2	Placing and Compacting Suitable Fill for Common Embankment	m^3	6,100	16,540	320	13,460	30,320	100,894,000	1,952,000	82,106,000	184,952,000
JD-P1-Bq-132	J.3	Production and Construction of Crushed Stone Sub-Base Course	m^3	7,300	133,310	2,220	81,560	217,090	973,163,000	16,206,000	595,388,000	1,584,757,000
JD-P1-Bq-133	J.4	Production and Construction of Penetration Macadam Base Course	m^3	2,000	144,750	27,870	141,020	313,640	289,500,000	55,740,000	282,040,000	627,280,000
JD-P1-Bq-134	J.5	Production and Construction of Hot Asphalt Mix Surface Course; Minimum 50 mm thick	m^2	17,000	33,710	2,010	29,730	65,450	573,070,000	34,170,000	505,410,000	1,112,650,000
JD-P1-Bq-135	J.6	Production and Construction of Concrete Pavement; 150 mm thick	m^2	1,700	78,480	98,310	152,470	329,260	133,416,000	167,127,000	259,199,000	559,742,000
JD-P1-Bq-136	J.7	Furnishing and Installing Guard Rail	m	1,000	123,810	5,710	129,770	259,290	123,810,000	5,710,000	129,770,000	259,290,000