Table 4.1.9 (35/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No. S-B9-Bq-9 | Working Name: Stairs/Steel Protection Painting | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.1	0	0	48800	0	0	4,880	
	L-2-23	Common Labour	day	2	0	0	35100	0	0	70200	
Material											
	M-C-3	Cut-back Asphalt	kg	4	0	195	455	0	780	1,820	
Others											
		Miscellaneous	L.S.					0	20	0	Round Up
Total for		10 m2						0	800	76,900	
Unit Cost for		1 m2						0	80	7,690	

ID No. S-B9-Bq-10 | Working Name: Float Glass H = 8 mm. (Natural Colour) | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-12	Carpenter	day	0.27	0	0	39000	0	0	10,530	
	L-2-23	Common Labour	day	0.27	0	0	35100	0	0	9477	
Material											
	M-K-34	Glaziers Putty for Wood	kg	10	0	3300	7700	0	33,000	77,000	
		Glass of 8 mm thick (Natural Colour)	m2	10.5	0	22500	52500	0	236,250	551,250	
Others											
		Tools						0	10770	25930.28	
		Miscellaneous	L.S.					0	80	13	Round Up
Total for		10 m2						0	280,100	674,200	
Unit Cost for		1 m2						0	28,010	67,420	

Assumption : Glass loss of 5%.

ID No. S-B9-Bq-11 | Working Name: Mirror for Lavatory 5 mm | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-12	Carpenter	day	0.27	0	0	39000	0	0	10,530	
	L-2-23	Common Labour	day	0.27	0	0	35100	0	0	9477	
Material											
		Mirror of 5 mm thick	m2	10.5	0	22917	53472	0	240,625	561,458	
Others											
		Tools						0	9625	23258.61333	
		Miscellaneous	L.S.					0	50	76	Round Up
Total for		10 m2						0	250,300	604,800	
Unit Cost for		1 m2						0	25,030	60,480	

Assumption : Glass loss of 5%.

ID No. S-B9-Bq-12 | Working Name: Etching Glass 5 mm | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-12	Carpenter	day	0.27	0	0	39000	0	0	10,530	
	L-2-23	Common Labour	day	0.27	0	0	35100	0	0	9477	
Material											
	M-K-34	Glaziers Putty for Wood	kg	10	0	3300	7700	0	33,000	77,000	
	M-K-53	Glass of 5 mm thick (Natural Colour)	m2	10.5	0	10500	24500	0	110,250	257,250	
Others											
		Tools						0	5730	14170.28	
		Miscellaneous	L.S.					0	20	73	Round Up
Total for		10 m2						0	149,000	368,500	
Unit Cost for		1 m2						0	14,900	36,850	

Assumption : Glass loss of 5%.

ID No. S-B9-Bq-13 | Working Name: Wood Protection Painting | Calculation Quantity: 1 L.S | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Wood Protection Painting	L.S.	1	0	0	300000	0	0	300000	
Total for		1 L.S						0	0	300,000	
Unit Cost for		1 L.S						0	0	300,000	

ID No. S-B9-Bq-14 | Working Name: Wood Protection Painting | Calculation Quantity: 1 L.S | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Wood Protection Painting	L.S.	1	0	0	180000	0	0	180000	
Total for		1 L.S						0	0	180,000	
Unit Cost for		1 L.S						0	0	180,000	

ID No. S-B9-Bq-15 | Working Name: Wood polytur | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Working Base Cost											
	CW-2-90	Simple Polishing Work per 1m2	m2	10	0	200	20800	0	2000	208000	
Others											
		Miscellaneous	L.S.					0	0	0	Round Up
Total for		10 m2						0	2,000	208,000	
Unit Cost for		1 m2						0	200	20,800	

ID No. S-B9-Bq-16 | Working Name: Sandblasting Glass f/ Lobby | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-12	Carpenter	day	0.27	0	0	39000	0	0	10,530	
	L-2-23	Common Labour	day	0.27	0	0	35100	0	0	9477	
Material											
	M-K-34	Glaziers Putty for Wood	kg	10	0	3300	7700	0	33,000	77,000	
		Sandblasting Glass f/ Lobby	m2	10.5	0	60000	140000	0	630,000	1,470,000	
Others											
		Tools						0	26520	62680.28	
		Miscellaneous	L.S.					0	80	13	Round Up
Total for		10 m2						0	689,600	1,629,700	
Unit Cost for		1 m2						0	68,960	162,970	

ID No. S-B9-Bq-17 | Working Name: Ceiling Polytur | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.025	0	0	48800	0	0	1,220	
	L-2-30	Chief of Painter	day	0.075	0	0	58600	0	0	4395	
	L-2-20	Painter	day	0.75	0	0	39000	0	0	29250	
	L-2-23	Common Labour	day	0.5	0	0	35100	0	0	17550	
Material											
	M-K-41	Polish	kg	2.5	0	5040	11760	0	12,600	29,400	
	M-K-34	Glaziers Putty for Wood	kg	1.5	0	3300	7700	0	4950	11550	
	M-K-42	Sand Paper	sheet	2	0	750	1750	0	1500	3500	
Others											
		Tools	L.S.	1				0	190.5	968.65	Roller, Stutwerk
		Miscellaneous	L.S.					0	60	66	Round Up
Total for		10 m2						0	19,300	97,900	
Unit Cost for		1 m2						0	1,930	9,790	

Table 4.1.9 (37/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No.	Working Name	Calculation Quantity	Remarks
S-B9-Bq-18	Gypsum Cornice Painting	10 m	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.0175	0	0	48800	0	0	854	
	L-2-30	Chief of Painter	day	0.0525	0	0	58600	0	0	3076.5	
	L-2-20	Painter	day	0.525	0	0	39000	0	0	20475	
	L-2-23	Common Labour	day	0.35	0	0	35100	0	0	12285	
Material											
	M-K-30	Wall Paint	kg	1.75	0	3750	8750	0	6,563	15,313	
	M-K-42	Sand Paper	sheet	1.4	0	750	1750	0	1050	2450	
Others											
		Miscellaneous	L.S.					0	88	47	Round Up
Total for	10 m							0	7,700	54,500	
Unit Cost for	1 m							0	770	5,450	

ID No.	Working Name	Calculation Quantity	Remarks
S-B9-Bq-19	Float Glass 5 mm (Cloudy Glass)	10 m2	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-12	Carpenter	day	0.27	0	0	39000	0	0	10,530	
	L-2-23	Common Labour	day	0.27	0	0	35100	0	0	9477	
Material											
	M-K-34	Glaziers Putty for Wood	kg	10	0	3300	7700	0	33,000	77,000	
		Glass of 5 mm thick (Cloudy Glass)	m2	10.5	0	15000	35000	0	157,500	367,500	Material Loss Factor 5%
Others											
		Tools						0	7620	18580.28	
		Miscellaneous	L.S.					0	80	13	Round Up
Total for	10 m2							0	198,200	483,100	
Unit Cost for	1 m2							0	19,820	48,310	

X. INTERIOR FINISHING WORK

ID No.	Working Name	Calculation Quantity	Remarks
S-B10-Bq-1	Fiber Cement Ceiling, 1200 x 1200 mm x 6 mm + Ceiling Frame	10 m2	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.14	0	0	48,800	0	0	6,832	
	L-2-26	Chief of Carpenter	day	0.8	0	0	58,600	0	0	46880	
	L-2-12	Carpenter	day	8	0	0	39,000	0	0	312000	
	L-2-23	Common Labour	day	2.8	0	0	35,100	0	0	98280	
Material											
	M-D-20	Timbering for roof	m3	0.28	0	0	1,200,000	0	0	336,000	
	M-E-54	Nail for Lath	kg	2.5	0	1,650	3,850	0	4125	9625	
	M-C-59	Fiber Cement for Ceiling, 1200 x 1200 mm x 6 mm	m2	10	0	1,800	4,200	0	18000	42000	
Others											
		Miscellaneous	L.S.					0	75	83	Round Up
Total for		10 m2						0	22,200	851,700	
Unit Cost for		1 m2						0	2,220	85,170	

ID No.	Working Name	Calculation Quantity	Remarks
S-B10-Bq-2	Wood Cornice	10 m	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.010	0	0	48,800	0	0	478	
	L-2-26	Chief of Carpenter	day	0.06	0	0	58,600	0	0	3281.6	
	L-2-12	Carpenter	day	0.56	0	0	39,000	0	0	21840	
	L-2-23	Common Labour	day	0.20	0	0	35,100	0	0	6879.6	
Material											
	M-D-26	Wood Cornice	m	10	0	0	1,500	0	0	15,000	
	M-E-54	Nail for Lath	kg	0.14	0	1,650	3,850	0	231	539	
Others											
		Miscellaneous	L.S.					0	69	82	Round Up
Total for		10 m						0	300	48,100	
Unit Cost for		1 m						0	30	4,810	

ID No.	Working Name	Calculation Quantity	Remarks
S-B10-Bq-3	Stainless Steel Hand Rail	25.94 m	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	2.16	0	0	58,600	0	0	126,576	
	L-2-16	Steel Worker	day	7.21	0	0	39,000	0	0	281,190	
	L-2-23	Common Labour	day	9.37	0	0	35,100	0	0	328,887	
Material											
		Stainless Steel Pipe, Dia. 50.8 mm	kg	187.5	19,000	0	1,000	3,562,500	0	187,500	Material loss factor 30%
Others											
		Tools	%	5				178,125	0	46,208	Weld Machine, generator and etc.
		Miscellaneous	L.S.					75	0	39	Round Up
Total for		25.94 m						3,740,700	0	970,400	
Unit Cost for		1 m						144,220	0	37,413	

ID No. S-B10-Bq-4 | Working Name: Stainless Steel Railing | Calculation Quantity: 19.79 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	4.13	0	0	58,600	0	0	242,018	
	L-2-16	Steel Worker	day	13.78	0	0	39,000	0	0	537,420	
	L-2-23	Common Labour	day	17.91	0	0	35,100	0	0	628,641	
Material											
		Stainless Steel Pipe, Dia. 50.8 mm	kg	167.6	19,000	0	1,000	3,185,340	0	167,649	Material loss factor 30%
		Stainless Steel Pipe, Dia. 25.4 mm	kg	99.6	19,000	0	1,000	1,892,641	0	99,613	
		Stainless Steel Pipe, Dia. 38.1 mm	kg	91.0	19,000	0	1,000	1,729,397	0	91,021	
Others											
		Tools	%	5				340,369	0	88,318	Weld Machine, generator and etc.
		Miscellaneous	L.S.					54	0	20	Round Up
Total for	19.79 m							7,147,800	0	1,854,700	
Unit Cost for	1 m							361,152	0	93,711	

ID No. S-B10-Bq-5 | Working Name: Waterproof Gypsum Board 10 mm + Wood Frame | Calculation Quantity: 10.0 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.14	0	0	48,800	0	0	6,832	
	L-2-26	Chief of Carpenter	day	0.8	0	0	58,600	0	0	46,880	
	L-2-12	Carpenter	day	8	0	0	39,000	0	0	312,000	
	L-2-23	Common Labour	day	2.8	0	0	35,100	0	0	98,280	
Material											
	M-D-20	Timbering for roof	m3	0.3	0	0	1,200,000	0	0	336,000	
	M-E-54	Nail for Lath	kg	2.5	0	1,650	3,850	0	4,125	9,625	
		Waterproof Gypsum Board 10 mm, 1200 mm x 2400 mm	m2	10.0	0	0	19,500	0	0	195,000	
Others											
		Miscellaneous	L.S.					0	75	83	Round Up
Total for	10 m2							0	4,200	1,004,700	
Unit Cost for	1 m2							0	420	100,470	

ID No. S-B10-Bq-6 | Working Name: Gypsum Cornice for Ceiling | Calculation Quantity: 10 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.010	0	0	48,800	0	0	478	
	L-2-26	Chief of Carpenter	day	0.06	0	0	58,600	0	0	3281.6	
	L-2-12	Carpenter	day	0.56	0	0	39,000	0	0	21840	
	L-2-23	Common Labour	day	0.20	0	0	35,100	0	0	6879.6	
Material											
		Gypsum Cornice	m	10	0	0	12,500	0	0	125,000	
	M-E-54	Nail for Lath	kg	0.14	0	1,650	3,850	0	231	539	
Others											
		Miscellaneous	L.S.					0	69	82	Round Up
Total for	10 m							0	300	158,100	
Unit Cost for	1 m							0	30	15,810	

ID No. S-B10-Bq-7 | Working Name: Lumbersering Skirting for Wall Base | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.14	0	0	48,800	0	0	6,832	
	L-2-26	Chief of Carpenter	day	0.80	0	0	58,600	0	0	46,880	
	L-2-12	Carpenter	day	8.00	0	0	39,000	0	0	312,000	
	L-2-23	Common Labour	day	2.80	0	0	35,100	0	0	98,280	
Material											
	M-E-48	Nails for Wood	kg	2.0	0	2,400	5,600	0	4,800	11,200	
	M-D-4	Timber	m3	0.12	0	0	850,000	0	0	102,000	
Others											
		Miscellaneous	L.S.					0	0	8	Round Up
Total for	10 m2							0	4,800	577,200	
Unit Cost for	1 m2							0	480	57,720	

ID No. S-B10-Bq-8 | Working Name: Lumbersering Skirting for Ceiling | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.14	0	0	48,800	0	0	6,832	
	L-2-26	Chief of Carpenter	day	0.80	0	0	58,600	0	0	46,880	
	L-2-12	Carpenter	day	8.00	0	0	39,000	0	0	312,000	
	L-2-23	Common Labour	day	2.80	0	0	35,100	0	0	98,280	
Material											
	M-E-54	Nail for Lath	kg	2.0	0	1,650	3,850	0	3,300	7,700	
	M-D-24	Ceiling Wood	m3	0.12	0	0	750,000	0	0	90,000	
Others											
		Miscellaneous	L.S.					0	0	8	Round Up
Total for		10 m2						0	3,300	561,700	
Unit Cost for		1 m2						0	330	56,170	

ID No. S-B10-Bq-9 | Working Name: Wood Cornice for Lumbersering Ceiling | Calculation Quantity: 10 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.010	0	0	48,800	0	0	478	
	L-2-26	Chief of Carpenter	day	0.06	0	0	58,600	0	0	3281.6	
	L-2-12	Carpenter	day	0.56	0	0	39,000	0	0	21840	
	L-2-23	Common Labour	day	0.20	0	0	35,100	0	0	6879.6	
Material											
	M-D-26	Wood Cornice	m	10	0	0	1,500	0	0	15,000	
	M-E-54	Nail for Lath	kg	0.14	0	1,650	3,850	0	231	539	
Others											
		Miscellaneous	L.S.					0	69	82	Round Up
Total for		10 m						0	300	48,100	
Unit Cost for		1 m						0	30	4,810	

ID No. S-B10-Bq-10 | Working Name: Stainless Steel Railing + 10 mm Float Glass | Calculation Quantity: 19.79 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	4.13	0	0	58,600	0	0	242,018	
	L-2-16	Steel Worker	day	13.95	0	0	39,000	0	0	543,925	
	L-2-23	Common Labour	day	18.08	0	0	35,100	0	0	634,496	
Material											
		Stainless Steel Pipe, Dia. 50.8 mm	kg	167.6	19,000	0	1,000	3,185,340	0	167,649	Material loss factor 30%
		Stainless Steel Pipe, Dia. 25.4 mm	kg	99.6	19,000	0	1,000	1,892,641	0	99,613	
		Stainless Steel Pipe, Dia. 38.1 mm	kg	91.0	19,000	0	1,000	1,729,397	0	91,021	
	M-K-54	Glass of 10 mm thick (Rayband, for wall base)	m2	6.18	0	28,800	67,200	0	177,926	415,160	Material loss factor 5%
Others											
		Tools	%	5				340,369	8,896	109,694	Weld Machine, generator and etc.
		Miscellaneous	L.S.					54	78	23	Round Up
Total for		19.79 m						7,147,800	186,900	2,303,600	
Unit Cost for		1 m						361,152	9,443	116,392	

ID No. S-B10-Bq-11 | Working Name: Wood Profile for Lambersering Skirting | Calculation Quantity: 10 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.008	0	0	48,800	0	0	376	
	L-2-26	Chief of Carpenter	day	0.04	0	0	58,600	0	0	2,578	
	L-2-12	Carpenter	day	0.44	0	0	39,000	0	0	17,160	
	L-2-23	Common Labour	day	0.15	0	0	35,100	0	0	5,405	
Material											
	M-D-4	Timber	m3	0.011	0	0	850,000	0	0	9,180	
	M-E-48	Nails for Wood	kg	0.11	0	2,400	5,600	0	264	616	
Others											
		Miscellaneous	L.S.					0	36	84	Round Up
Total for		10 m						0	300	35,400	
Unit Cost for		1 m						0	30	3,540	

Table 4.1.9 (41/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No. S-B10-Bq-12 | Working Name: Aluminium Border for Urinoir | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.13	0	0	48,800	0	0	6,344	
	L-2-26	Chief of Carpenter	day	1.3	0	0	58,600	0	0	76180	
	L-2-12	Carpenter	day	13	0	0	39,000	0	0	507000	
	L-2-23	Common Labour	day	3	0	0	35,100	0	0	105300	
Material											
	M-D-20	Timbering for roof	m3	0.15	0	0	1,200,000	0	0	180,000	
	M-E-73	Aluminium Sheet t=0.5mm	sheet	6	0	44,100	102,900	0	264,600	617,400	
	M-E-48	Nails for Wood	kg	2	0	2,400	5,600	0	4800	11200	
Others											
		Miscellaneous	L.S.					0	0	76	Round Up
Total for		10 m2						0	269,400	1,503,500	
Unit Cost for		1 m2						0	26,940	150,350	

ID No. S-B10-Bq-13 | Working Name: Ventilation Hole 200 x 200 | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Working Base Cost											
	S-B8-Bq-1	Wood Frame for Ventilation	m3	0.03672	0	480	3,183,590	0	18	116,901	
Others											
		Miscellaneous	L.S.					0	82	99	Round Up
Total for		10 pieces						0	100	117,000	
Unit Cost for		1 pieces						0	10	11,700	

ID No. S-B10-Bq-14 | Working Name: Ventilation Hole D = 1000 + Steel Frame | Calculation Quantity: 1 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Labour											
	L-2-29	Chief of Steel Worker	day	0.35	0	0	58,600	0	0	20,510	
	L-2-16	Steel Worker	day	1.13	0	0	39,000	0	0	44,070	
	L-2-23	Common Labour	day	1.39	0	0	35,100	0	0	48,789	
Material											
	M-E-7	Steel Plate SS41	kg	17.03	5,225	0	275	88,982	0	4,683	Material loss factor 15%
		Galvanized Steel Pipe, Dia. 25.4 mm	m	2	5,510	0	290	11,020	0	580	Material loss factor 15%
Working Base Cost											
	S-B10-Bq-14.1	Forming Using Multiplex	m2	1.4	0	10,830	63,710	0	14945.4	87919.8	
Others											
		Tools	%	5				5,000	0	5,932	Weld Machine, generator and etc.
		Miscellaneous	L.S.					98	55	16	Round Up
Total for		1 pieces						105,100	15,000	212,500	
Unit Cost for		1 pieces						105,100	15,000	212,500	

ID No. S-B10-Bq-14.1 | Working Name: Forming Using Multiplex | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.5	0	0	48,800	0	0	24,400	
	L-2-26	Chief of Carpenter	day	1.5	0	0	58,600	0	0	87,900	
	L-2-12	Carpenter	day	1.5	0	0	39,000	0	0	58,500	
	L-2-23	Common Labour	day	2.7	0	0	35,100	0	0	94,770	
Material											
	M-M-2	Multiplex 18mm	sheet	3.47	0	30,000	70,000	0	104,100	242,900	
	M-D-4	Timber	m3	0.14	0	0	850,000	0	0	119,000	
	M-E-54	Nail for Lath	kg	2.5	0	1,650	3,850	0	4,125	9,625	
Others											
		Miscellaneous	L.S.					0	75	5	Round Up
Total for		10 m2						0	108,300	637,100	
Unit Cost for		1 m2						0	10,830	63,710	

ID No.	Working Name	Calculation Quantity	Remarks
S-B10-Bq-15	Gypsumboard Panel	10 m2	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.14	0	0	48,800	0	0	6,832	
	L-2-26	Chief of Carpenter	day	0.8	0	0	58,600	0	0	46,880	
	L-2-12	Carpenter	day	8	0	0	39,000	0	0	312,000	
	L-2-23	Common Labour	day	2.8	0	0	35,100	0	0	98,280	
Material											
	M-D-20	Timbering for roof	m3	0.3	0	0	1,200,000	0	0	336,000	
	M-E-54	Nail for Lath	kg	2.5	0	1,650	3,850	0	4,125	9,625	
		Gypsum Board 9 mm, 1200 mm x 2400 mm	m2	10	0	0	9,020	0	0	90,200	
Others											
		Miscellaneous	L.S.					0	75	83	Round Up
Total for		10 m2						0	4,200	899,900	
Unit Cost for		1 m2						0	420	89,990	

ID No.	Working Name	Calculation Quantity	Remarks
S-B10-Bq-16	Access Floor	10 m2	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Access Floor	m2	10	0	0	610,000	0	0	6100000	
Total for		10 m2						0	0	6,100,000	
Unit Cost for		1 m2						0	0	610,000	

ID No.	Working Name	Calculation Quantity	Remarks
S-B10-Bq-17	Aluminium Spandrel for Ceiling	10 m2	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.14	0	0	48,800	0	0	6,832	
	L-2-26	Chief of Carpenter	day	0.8	0	0	58,600	0	0	46880	
	L-2-12	Carpenter	day	8	0	0	39,000	0	0	312000	
	L-2-23	Common Labour	day	2.8	0	0	35,100	0	0	98280	
Material											
	M-D-20	Timbering for roof	m3	0.28	0	0	1,200,000	0	0	336,000	
	M-E-49	Nails for Iron(Steel) Sheet	kg	2.5	0	3,000	7,000	0	7500	17500	
		Aluminium Plat t=0.6mm	m2	10	0	0	63,250	0	0	632500	
Others											
		Miscellaneous	L.S.					0	0	8	Round Up
Total for		10 m2						0	7,500	1,450,000	
Unit Cost for		1 m2						0	750	145,000	

ID No.	Working Name	Calculation Quantity	Remarks
S-B10-Bq-18	Aluminium Frame for Partition	10 m	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-26	Chief of Carpenter	day	2	0	0	58,600	0	0	117,200	
	L-2-12	Carpenter	day	5	0	0	39,000	0	0	195000	
	L-2-23	Common Labour	day	5	0	0	35,100	0	0	175500	
Material											
		Aluminium Frame	m	10	0	4,170	9,730	0	41,700	97,300	
Others											
		Miscellaneous	L.S.					0	0	0	Round Up
Total for		10 m						0	41,700	585,000	
Unit Cost for		1 m						0	4,170	58,500	

Table 4.1.9 (43/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No. S-B10-Bq-19 | Working Name: Ventilation Hole D = 600 + Steel Frame | Calculation Quantity: 1 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	0.21	0	0	58,600	0	0	12,306	
	L-2-16	Steel Worker	day	0.68	0	0	39,000	0	0	26,520	
	L-2-23	Common Labour	day	0.83	0	0	35,100	0	0	29,133	
Material											
	M-E-7	Steel Plate SS41	kg	10.21	5,225	0	275	53,347	0	2,808	Material loss factor 15%
		Galvanized Steel Pipe, Dia. 25.4 mm	m	1.2	5,510	0	290	6,612	0	348	Material loss factor 15%
Working Base Cost											
	S-B10-Bq-14.1	Forming Using Multiplex	m2	0.8	0	10,830	63,710	0	8978.07	52815.59	
Others											
		Tools	%	5				2,998	0	3,556	Weld Machine, generator and etc.
		Miscellaneous	L.S.					43	22	14	Round Up
Total for		1 pieces						63,000	9,000	127,500	
Unit Cost for		1 pieces						63,000	9,000	127,500	

ID No. S-B10-Bq-20 | Working Name: Ventilation Hole for garage | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Working Base Cost											
	S-B8-Bq-1	Wood Frame for Ventilation	m3	0.04752	0	480	3,183,590	0	23	151,284	
Others											
		Miscellaneous	L.S.					0	77	16	Round Up
Total for		10 pieces						0	100	151,300	
Unit Cost for		1 pieces						0	10	15,130	

ID No. S-B10-Bq-21 | Working Name: Waterproof Gypsum Board 12 mm + Wood Frame | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-1	Foreman	day	0.14	0	0	48,800	0	0	6,832	
	L-2-26	Chief of Carpenter	day	0.8	0	0	58,600	0	0	46,880	
	L-2-12	Carpenter	day	8	0	0	39,000	0	0	312,000	
	L-2-23	Common Labour	day	2.8	0	0	35,100	0	0	98,280	
Material											
	M-D-20	Timbering for roof	m3	0.3	0	0	1,200,000	0	0	336,000	
	M-E-54	Nail for Lath	kg	2.5	0	1,650	3,850	0	4,125	9,625	
		Waterproof Gypsum Board 12 mm, 1200 mm x 2400 mm	m2	10	0	0	22,610	0	0	226,100	
Others											
		Miscellaneous	L.S.					0	75	83	Round Up
Total for		10 m2						0	4,200	1,035,800	
Unit Cost for		1 m2						0	420	103,580	

XI. ELECTRICAL WORK

ID No. S-B11-Bq-1 | Working Name: Installation and Lighting 40W-1 FL | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.54	0	0	39,000	0	0	21,060	
	L-2-23	Common Labour	day	0.27	0	0	35,100	0	0	9,477	
Material											
		Lighting 40W-1 FL	pieces	10.00	0	0	125,000	0	0	1,250,000	
Others											
		Miscellaneous	L.S.					0	0	63	Round Up
Total for		10 pieces						0	0	1,280,600	
Unit Cost for		1 pieces						0	0	128,060	

ID No. S-B11-Bq-2 | Working Name: Installation and Lighting 40W-2 FL | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.54	0	0	39,000	0	0	21,060	
	L-2-23	Common Labour	day	0.27	0	0	35,100	0	0	9,477	
Material											
		Lighting 40W-2 FL	pieces	10.00	0	0	230,000	0	0	2,300,000	
Others											
		Miscellaneous	L.S.					0	0	63	Round Up
Total for		10 pieces						0	0	2,330,600	
Unit Cost for		1 pieces						0	0	233,060	

ID No. S-B11-Bq-3 | Working Name: Installation and Lighting 20W-1 FL | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.54	0	0	39,000	0	0	21,060	
	L-2-23	Common Labour	day	0.27	0	0	35,100	0	0	9,477	
Material											
		Lighting 20W-1 FL	pieces	10.00	0	0	105,000	0	0	1,050,000	
Others											
		Miscellaneous	L.S.					0	0	63	Round Up
Total for		10 pieces						0	0	1,080,600	
Unit Cost for		1 pieces						0	0	108,060	

ID No. S-B11-Bq-4 | Working Name: Installation and Lighting 15W-2 FL | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.54	0	0	39,000	0	0	21,060	
	L-2-23	Common Labour	day	0.27	0	0	35,100	0	0	9,477	
Material											
		Lighting 15W-2 FL	pieces	10.00	0	0	182,500	0	0	1,825,000	
Others											
		Miscellaneous	L.S.					0	0	63	Round Up
Total for		10 pieces						0	0	1,855,600	
Unit Cost for		1 pieces						0	0	185,560	

ID No. S-B11-Bq-5 | Working Name: Installation and Lighting 15W-1 FL | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.54	0	0	39,000	0	0	21,060	
	L-2-23	Common Labour	day	0.27	0	0	35,100	0	0	9,477	
Material											
		Lighting 15W-1FL	pieces	10.00	0	0	100,000	0	0	1,000,000	
Others											
		Miscellaneous	L.S.					0	0	63	Round Up
Total for		10 pieces						0	0	1,030,600	
Unit Cost for		1 pieces						0	0	103,060	

ID No. S-B11-Bq-6 | Working Name: Air Condition Installation (2 PK) | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	5.7	0	0	39,000	0	0	222,300	
	L-2-23	Common Labour	day	5.7	0	0	35,100	0	0	200,070	
Material											
		Air Condition 2 PK	pieces	10.00	0	0	6,270,000	0	0	62,700,000	
Others											
		Miscellaneous	L.S.					0	0	30	Round Up
Total for		10 pieces						0	0	63,122,400	
Unit Cost for		1 pieces						0	0	6,312,240	

ID No. S-B11-Bq-7 | Working Name: Fuse | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	2	0	0	39,000	0	0	78,000	
	L-2-23	Common Labour	day	1	0	0	35,100	0	0	35,100	
Material											
		Fuse	pieces	10.00	0	0	15,000	0	0	150,000	
Others											
		Miscellaneous	L.S.					0	0	0	Round Up
Total for		10 pieces						0	0	263,100	
Unit Cost for		1 pieces						0	0	26,310	

ID No. S-B11-Bq-8 | Working Name: Lighting Switch (Single) | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.25	0	0	39,000	0	0	9,750	
	L-2-23	Common Labour	day	0.13	0	0	35,100	0	0	4,563	
Material											
		Lighting Switch (Single)	pieces	10.00	0	0	9,000	0	0	90,000	
Others											
		Miscellaneous	L.S.					0	0	87	Round Up
Total for		10 pieces						0	0	104,400	
Unit Cost for		1 pieces						0	0	10,440	

ID No. S-B11-Bq-9 | Working Name: Lighting Switch (Double) | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.25	0	0	39,000	0	0	9,750	
	L-2-23	Common Labour	day	0.13	0	0	35,100	0	0	4,563	
Material											
		Lighting Switch (Double)	pieces	10.00	0	0	9,000	0	0	90,000	
Others											
		Miscellaneous	L.S.					0	0	87	Round Up
Total for		10 pieces						0	0	104,400	
Unit Cost for		1 pieces						0	0	10,440	

ID No. S-B11-Bq-10 | Working Name: Outlet Socket Switch | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.25	0	0	39,000	0	0	9,750	
	L-2-23	Common Labour	day	0.13	0	0	35,100	0	0	4,563	
Material											
		Outlet Socket Switch	pieces	10.00	0	0	10,000	0	0	100,000	
Others											
		Miscellaneous	L.S.					0	0	87	Round Up
Total for		10 pieces						0	0	114,400	
Unit Cost for		1 pieces						0	0	11,440	

ID No. S-B11-Bq-11 | Working Name: Outlet Socket Installation | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.43	0	0	39,000	0	0	16,770	
	L-2-23	Common Labour	day	0.21	0	0	35,100	0	0	7,371	
Material											
		Outlet Socket	pieces	10.00	0	0	30,000	0	0	300,000	
Others											
		Miscellaneous	L.S.					0	0	59	Round Up
Total for		10 pieces						0	0	324,200	
Unit Cost for		1 pieces						0	0	32,420	

ID No. S-B11-Bq-12 | Working Name: Lightning Protector | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Lightning Protector	pieces	10	0	0	750,000	0	0	7,500,000	
Total for		10 pieces						0	0	7,500,000	
Unit Cost for		1 pieces						0	0	750,000	

ID No. S-B11-Bq-13 | Working Name: Outlet Socket and Installation for AC | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.43	0	0	39,000	0	0	16,770	
	L-2-23	Common Labour	day	0.21	0	0	35,100	0	0	7,371	
Material											
		Outlet Socket and Installation for AC	pieces	10.00	0	0	75,000	0	0	750,000	
Others											
		Miscellaneous	L.S.					0	0	59	Round Up
Total for		10 pieces						0	0	774,200	
Unit Cost for		1 pieces						0	0	77,420	

ID No. S-B11-Bq-14 | Working Name: Fuse Box | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	2	0	0	39,000	0	0	78,000	
	L-2-23	Common Labour	day	1	0	0	35,100	0	0	35,100	
Material											
		Fuse Box	pieces	10.00	0	0	20,000	0	0	200,000	
Others											
		Miscellaneous	L.S.					0	0	0	Round Up
Total for		10 pieces						0	0	313,100	
Unit Cost for		1 pieces						0	0	31,310	

ID No. S-B11-Bq-15 | Working Name: New Installation from PLN for 3500 VA | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		New Installation from PLN for 3500 VA	pieces	10	0	0	1,300,000	0	0	13,000,000	
Total for		10 pieces						0	0	13,000,000	
Unit Cost for		1 pieces						0	0	1,300,000	

ID No. S-B11-Bq-16 | Working Name: Water Pump | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Water Pump	pieces	10	0	0	600,000	0	0	6,000,000	
Total for		10 pieces						0	0	6,000,000	
Unit Cost for		1 pieces						0	0	600,000	

Table 4.1.9 (47/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No.	Working Name	Calculation Quantity	Remarks
S-B11-Bq-17	Extinguisher	10 pieces	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Extinguisher	pieces	10	0	0	1,500,000	0	0	15,000,000	
Total for		10 pieces						0	0	15,000,000	
Unit Cost for		1 pieces						0	0	1,500,000	

ID No.	Working Name	Calculation Quantity	Remarks
S-B11-Bq-18	New Installation from PLN for 450 VA	10 pieces	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		New Installation from PLN for 450 VA	pieces	10	0	0	108,000	0	0	1,080,000	
Total for		10 pieces						0	0	1,080,000	
Unit Cost for		1 pieces						0	0	108,000	

ID No.	Working Name	Calculation Quantity	Remarks
S-B11-Bq-19	New Installation from PLN for 2200 VA	10 pieces	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		New Installation from PLN for 2200 VA	pieces	10	0	0	528,000	0	0	5,280,000	
Total for		10 pieces						0	0	5,280,000	
Unit Cost for		1 pieces						0	0	528,000	

ID No.	Working Name	Calculation Quantity	Remarks
S-B11-Bq-20	Wall Lighting Switch	10 pieces	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.25	0	0	39,000	0	0	9,750	
	L-2-23	Common Labour	day	0.13	0	0	35,100	0	0	4,563	
Material											
		Wall Lighting Switch	pieces	10.00	0	0	50,000	0	0	500,000	
Others											
		Miscellaneous	L.S.					0	0	87	Round Up
Total for		10 pieces						0	0	514,400	
Unit Cost for		1 pieces						0	0	51,440	

ID No.	Working Name	Calculation Quantity	Remarks
S-B11-Bq-21	General Lighting Installation	10 pieces	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.54	0	0	39,000	0	0	21,060	
	L-2-23	Common Labour	day	0.27	0	0	35,100	0	0	9,477	
Material											
		General Lighting Installation	pieces	10.00	0	0	50,000	0	0	500,000	
Others											
		Miscellaneous	L.S.					0	0	63	Round Up
Total for		10 pieces						0	0	530,600	
Unit Cost for		1 pieces						0	0	53,060	

ID No. S-B11-Bq-22 | Working Name: General Lighting 36W-2 + Pole | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.3	0	0	39,000	0	0	11,700	
	L-2-23	Common Labour	day	1	0	0	35,100	0	0	35,100	
	L-2-29	Chief of Steel Worker	day	3.3	0	0	58,600	0	0	193,380	
	L-2-16	Steel Worker	day	14.7	0	0	39,000	0	0	573,300	
	L-2-23	Common Labour	day	17.2	0	0	35,100	0	0	603,720	
Material											
		General Lighting 36W-2		10			100,000	0	0	1,000,000	
	M-E-27	Galvanized Steel Pipe, Dia. 50mm	m	75.4	14,250	0	750	1,074,450	0	56,550	Material loss factor 15%
	M-E-74	Steel/Reinforcing Bar Dia.12 mm	kg	13.89	0	1,050	2,450	0	14,585	34,031	Material loss factor 15%
Working Base Cost											
Others											
		Tools	%	5				53,723	729	125,389	
		Miscellaneous	L.S.					28	86	30	Round Up
Total for		10 pieces						1,128,200	15,400	2,633,200	
Unit Cost for		1 pieces						112,820	1,540	263,320	

ID No. S-B11-Bq-23 | Working Name: New Installation from PLN for 1300 VA | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		New Installation from PLN for 1300 VA	pieces	10	0	0	528,000	0	0	5,280,000	
Total for		10 pieces						0	0	5,280,000	
Unit Cost for		1 pieces						0	0	528,000	

ID No. S-B11-Bq-24 | Working Name: Installation and Lighting 10W-1 FL | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.54	0	0	39,000	0	0	21,060	
	L-2-23	Common Labour	day	0.27	0	0	35,100	0	0	9,477	
Material											
		Lighting 10W-1 FL	pieces	10.00	0	0	67,500	0	0	675,000	
Others											
		Miscellaneous	L.S.					0	0	63	Round Up
Total for		10 pieces						0	0	705,600	
Unit Cost for		1 pieces						0	0	70,560	

ID No. S-B11-Bq-25 | Working Name: Installation and Lighting 250W-1 H | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.54	0	0	39,000	0	0	21,060	
	L-2-23	Common Labour	day	0.27	0	0	35,100	0	0	9,477	
Material											
		Lighting 250W-2 FL	pieces	10.00	0	0	1,280,000	0	0	12,800,000	
Others											
		Miscellaneous	L.S.					0	0	63	Round Up
Total for		10 pieces						0	0	12,830,600	
Unit Cost for		1 pieces						0	0	1,283,060	

ID No. S-B11-Bq-26 | Working Name: Air Condition (1PK) | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	5.7	0	0	39,000	0	0	222,300	
	L-2-23	Common Labour	day	5.7	0	0	35,100	0	0	200,070	
Material											
		Air Condition 1 PK	pieces	10.00	0	0	4,015,000	0	0	40,150,000	
Others											
		Miscellaneous	L.S.					0	0	30	Round Up
Total for		10 pieces						0	0	40,572,400	
Unit Cost for		1 pieces						0	0	4,057,240	

Table 4.1.9 (49/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No. S-B11-Bq-27 | Working Name: New Installation from PLN (2800 VA) | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		New Installation from PLN (8800 VA)	pieces	10	0	0	1,300,000	0	0	13,000,000	
Total for		10 pieces						0	0	13,000,000	
Unit Cost for		1 pieces						0	0	1,300,000	

ID No. S-B11-Bq-28 | Working Name: Lightning Spit | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Lightning Spit	pieces	10	0	0	75,000	0	0	750,000	
Total for		10 pieces						0	0	750,000	
Unit Cost for		1 pieces						0	0	75,000	

ID No. S-B11-Bq-29 | Working Name: Ground Cable D = 12 mm | Calculation Quantity: 30 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	2.47	0	0	39,000	0	0	96,330	
	L-2-23	Common Labour	day	1.24	0	0	35,100	0	0	43,524	
Material											
		Grounding Cable D =12mm	m	30.00	0	0	27,400	0	0	822,000	
Others											
		Miscellaneous	L.S.					0	0	46	Round Up
Total for		30 m						0	0	961,900	
Unit Cost for		1 m						0	0	32,063	

ID No. S-B11-Bq-30 | Working Name: Lightning Protection Equipment | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Lightning Protection Equipme	pieces	10	0	0	250,000	0	0	2,500,000	
Total for		10 pieces						0	0	2,500,000	
Unit Cost for		1 pieces						0	0	250,000	

ID No. S-B11-Bq-31 | Working Name: Grounding Box | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Grounding Box	pieces	10	0	0	100,000	0	0	1,000,000	
Total for		10 pieces						0	0	1,000,000	
Unit Cost for		1 pieces						0	0	100,000	

ID No. S-B11-Bq-32 | Working Name: T-Dos | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		T-Dos	pieces	10	0	0	12,500	0	0	125,000	
Total for		10 pieces						0	0	125,000	
Unit Cost for		1 pieces						0	0	12,500	

ID No. S-B11-Bq-33 | Working Name: Switch | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.25	0	0	39,000	0	0	9,750	
	L-2-23	Common Labour	day	0.13	0	0	35,100	0	0	4,563	
Material											
		Switch	pieces	10.00	0	0	20,000	0	0	200,000	
Others											
		Miscellaneous	L.S.					0	0	87	Round Up
Total for		10 pieces						0	0	214,400	
Unit Cost for		1 pieces						0	0	21,440	

ID No. S-B11-Bq-34 | Working Name: Wall Switch | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.25	0	0	39,000	0	0	9,750	
	L-2-23	Common Labour	day	0.13	0	0	35,100	0	0	4,563	
Material											
		Wall Switch	pieces	10.00	0	0	90,000	0	0	900,000	
Others											
		Miscellaneous	L.S.					0	0	87	Round Up
Total for		10 pieces						0	0	914,400	
Unit Cost for		1 pieces						0	0	91,440	

ID No. S-B11-Bq-35 | Working Name: PVC Pipe D = 1.25 | Calculation Quantity: 30 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	2.67	0	0	39,000	0	0	104,130	
	L-2-23	Common Labour	day	1.34	0	0	35,100	0	0	47,034	
Material											
	M-G-1	PVC Pipe, Dia. 250mm	m	5.00	0	58,500	136,500	0	292,500	682,500	
Others											
		Miscellaneous	L.S.					0	0	36	Round Up
Total for		30 m						0	292,500	833,700	
Unit Cost for		1 m						0	9,750	27,790	

ID No. S-B11-Bq-36 | Working Name: Main Panel | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Main Panel	pieces	10	0	0	500,000	0	0	5,000,000	
Total for		10 pieces						0	0	5,000,000	
Unit Cost for		1 pieces						0	0	500,000	

ID No. S-B11-Bq-37 | Working Name: Distribution Panel | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Distribution Panel	pieces	10	0	0	300,000	0	0	3,000,000	
Total for		10 pieces						0	0	3,000,000	
Unit Cost for		1 pieces						0	0	300,000	

ID No. S-B11-Bq-38 | Working Name: Outlet Socket 200 W | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.43	0	0	39,000	0	0	16,770	
	L-2-23	Common Labour	day	0.21	0	0	35,100	0	0	7,371	
Material											
		Outlet Socket 200 W	pieces	10.00	0	0	20,000	0	0	200,000	
Others											
		Miscellaneous	L.S.					0	0	59	Round Up
Total for		10 pieces						0	0	224,200	
Unit Cost for		1 pieces						0	0	22,420	

Table 4.1.9 (51/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No. S-B11-Bq-39 | Working Name: Outlet Socket 400 W | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.43	0	0	39,000	0	0	16,770	
	L-2-23	Common Labour	day	0.21	0	0	35,100	0	0	7,371	
Material											
		Outlet Socket 400 W	pieces	10.00	0	0	20,000	0	0	200,000	
Others											
		Miscellaneous	L.S.					0	0	59	Round Up
Total for		10 pieces						0	0	224,200	
Unit Cost for		1 pieces						0	0	22,420	

ID No. S-B11-Bq-40 | Working Name: Outlet Socket 1000 W | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.43	0	0	39,000	0	0	16,770	
	L-2-23	Common Labour	day	0.21	0	0	35,100	0	0	7,371	
Material											
		Outlet Socket 1000 W	pieces	10.00	0	0	80,000	0	0	800,000	
Others											
		Miscellaneous	L.S.					0	0	59	Round Up
Total for		10 pieces						0	0	824,200	
Unit Cost for		1 pieces						0	0	82,420	

ID No. S-B11-Bq-41 | Working Name: H 1 x 300 W | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.54	0	0	39,000	0	0	21,060	
	L-2-23	Common Labour	day	0.27	0	0	35,100	0	0	9,477	
Material											
		H 1 x 300 W	pieces	10.00	0	0	257,500	0	0	2,575,000	
Others											
		Miscellaneous	L.S.					0	0	63	Round Up
Total for		10 pieces						0	0	2,605,600	
Unit Cost for		1 pieces						0	0	260,560	

ID No. S-B11-Bq-42 | Working Name: H 1 x 400 W | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.54	0	0	39,000	0	0	21,060	
	L-2-23	Common Labour	day	0.27	0	0	35,100	0	0	9,477	
Material											
		H 1 x 400 W	pieces	10.00	0	0	352,000	0	0	3,520,000	
Others											
		Miscellaneous	L.S.					0	0	63	Round Up
Total for		10 pieces						0	0	3,550,600	
Unit Cost for		1 pieces						0	0	355,060	

ID No. S-B11-Bq-43 | Working Name: FNB 100 A | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	2	0	0	39,000	0	0	78,000	
	L-2-23	Common Labour	day	1	0	0	35,100	0	0	35,100	
Material											
		FNB 100 A	pieces	10.00	0	0	352,000	0	0	3,520,000	
Others											
		Miscellaneous	L.S.					0	0	0	Round Up
Total for		10 pieces						0	0	3,633,100	
Unit Cost for		1 pieces						0	0	363,310	

ID No. S-B11-Bq-44 | Working Name FNB 63 A | Calculation Quantity 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	2	0	0	39,000	0	0	78,000	
	L-2-23	Common Labour	day	1	0	0	35,100	0	0	35,100	
Material											
		FNB 63 A	pieces	10.00	0	0	465,000	0	0	4,650,000	
Others											
		Miscellaneous	L.S.					0	0	0	Round Up
Total for		10 pieces						0	0	4,763,100	
Unit Cost for		1 pieces						0	0	476,310	

ID No. S-B11-Bq-45 | Working Name NCB 32 A | Calculation Quantity 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	2	0	0	39,000	0	0	78,000	
	L-2-23	Common Labour	day	1	0	0	35,100	0	0	35,100	
Material											
		NCB 32 A	pieces	10.00	0	0	50,000	0	0	500,000	
Others											
		Miscellaneous	L.S.					0	0	0	Round Up
Total for		10 pieces						0	0	613,100	
Unit Cost for		1 pieces						0	0	61,310	

ID No. S-B11-Bq-46 | Working Name NCB 16 A | Calculation Quantity 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	2	0	0	39,000	0	0	78,000	
	L-2-23	Common Labour	day	1	0	0	35,100	0	0	35,100	
Material											
		NCB 16 A	pieces	10.00	0	0	40,000	0	0	400,000	
Others											
		Miscellaneous	L.S.					0	0	0	Round Up
Total for		10 pieces						0	0	513,100	
Unit Cost for		1 pieces						0	0	51,310	

ID No. S-B11-Bq-47 | Working Name NCB 6 A | Calculation Quantity 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	2	0	0	39,000	0	0	78,000	
	L-2-23	Common Labour	day	1	0	0	35,100	0	0	35,100	
Material											
		NCB 6 A	pieces	10.00	0	0	40,000	0	0	400,000	
Others											
		Miscellaneous	L.S.					0	0	0	Round Up
Total for		10 pieces						0	0	513,100	
Unit Cost for		1 pieces						0	0	51,310	

ID No. S-B11-Bq-48 | Working Name Grounding Cable D = 6 mm | Calculation Quantity 30 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.68	0	0	39,000	0	0	26,520	
	L-2-23	Common Labour	day	0.34	0	0	35,100	0	0	11,934	
Material											
		Grounding Cable D = 6 mm	m	30.00	0	0	8,500	0	0	255,000	
Others											
		Miscellaneous	L.S.					0	0	46	Round Up
Total for		30 m						0	0	293,500	
Unit Cost for		1 m						0	0	9,783	

Table 4.1.9 (53/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No. S-B11-Bq-49 | Working Name: Cable NYY 4 x 16 mm | Calculation Quantity: 30 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	17.6	0	0	39,000	0	0	686,400	
	L-2-23	Common Labour	day	8.8	0	0	35,100	0	0	308,880	
Material											
		Cable NYM 4 x 16 mm	m	30.00	0	0	29,636	0	0	889,091	
Others											
		Miscellaneous	L.S.					0	0	29	Round Up
Total for	30 m							0	0	1,884,400	
Unit Cost for	1 m							0	0	62,813	

ID No. S-B11-Bq-50 | Working Name: Cable NYM 3 x 4 mm | Calculation Quantity: 30 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.85	0	0	39,000	0	0	33,150	
	L-2-23	Common Labour	day	0.43	0	0	35,100	0	0	15,093	
Material											
		Cable NYM 3 x 4 mm	m	30.00	0	0	7,045	0	0	211,364	
Others											
		Miscellaneous	L.S.					0	0	94	Round Up
Total for	30 m							0	0	259,700	
Unit Cost for	1 m							0	0	8,657	

ID No. S-B11-Bq-51 | Working Name: Cable NYM 3 x 2.5 mm | Calculation Quantity: 30 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.43	0	0	39,000	0	0	16,770	
	L-2-23	Common Labour	day	0.21	0	0	35,100	0	0	7,371	
Material											
		Cable NYM 3 x 2.5 mm	m	30.00	0	0	4,773	0	0	143,182	
Others											
		Miscellaneous	L.S.					0	0	77	Round Up
Total for	30 m							0	0	167,400	
Unit Cost for	1 m							0	0	5,580	

ID No. S-B11-Bq-52 | Working Name: Cable NYM 2 x 2.5 mm | Calculation Quantity: 30 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.44	0	0	39,000	0	0	17,160	
	L-2-23	Common Labour	day	0.22	0	0	35,100	0	0	7,722	
Material											
		Cable NYM 2 x 2.5 mm	m	30.00	0	0	5,152	0	0	154,545	
Others											
		Miscellaneous	L.S.					0	0	73	Round Up
Total for	30 m							0	0	179,500	
Unit Cost for	1 m							0	0	5,983	

ID No. S-B11-Bq-53 | Working Name: Air Blower (inhouse) 0.5 PK | Calculation Quantity: 10 unit | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	4.3	0	0	39,000	0	0	167,700	
	L-2-23	Common Labour	day	4.3	0	0	35,100	0	0	150,930	
Material											
		Air Blower (inhouse) 0.5 PK	pieces	10.00	0	0	500,000	0	0	5,000,000	
Others											
		Miscellaneous	L.S.					0	0	70	Round Up
Total for	10 unit							0	0	5,318,700	
Unit Cost for	1 unit							0	0	531,870	

ID No. S-B11-Bq-54 | Working Name: Emergency Lamp 20 W | Calculation Quantity: 10 unit | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Emergency Lamp 20 W	unit	10	0	0	200,000	0	0	2,000,000	
Total for		10 unit						0	0	2,000,000	
Unit Cost for		1 unit						0	0	200,000	

ID No. S-B11-Bq-55 | Working Name: PABX (20 Output Line) | Calculation Quantity: 10 unit | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		PABX (20 Output Line)	unit	10	0	0	5,000,000	0	0	50,000,000	
Total for		10 unit						0	0	50,000,000	
Unit Cost for		1 unit						0	0	5,000,000	

ID No. S-B11-Bq-56 | Working Name: Telephone Outlet Switch | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.25	0	0	39,000	0	0	9,750	
	L-2-23	Common Labour	day	0.13	0	0	35,100	0	0	4,563	
Material											
		Telephone Outlet Switch	pieces	10.00	0	0	20,000	0	0	200,000	
Others											
		Miscellaneous	L.S.					0	0	87	Round Up
Total for		10 pieces						0	0	214,400	
Unit Cost for		1 pieces						0	0	21,440	

ID No. S-B11-Bq-57 | Working Name: Telephone Cable + Installation | Calculation Quantity: 30 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	0.43	0	0	39,000	0	0	16,770	
	L-2-23	Common Labour	day	0.21	0	0	35,100	0	0	7,371	
Material											
		Telephone Cable	m	30.00	0	0	7,500	0	0	225,000	
Others											
		Miscellaneous	L.S.					0	0	59	Round Up
Total for		30 m						0	0	249,200	
Unit Cost for		1 m						0	0	8,307	

ID No. S-B11-Bq-58 | Working Name: NCB 2 A | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	2	0	0	39,000	0	0	78,000	
	L-2-23	Common Labour	day	1	0	0	35,100	0	0	35,100	
Material											
		NCB 2 A	pieces	10.00	0	0	40,000	0	0	400,000	
Others											
		Miscellaneous	L.S.					0	0	0	Round Up
Total for		10 pieces						0	0	513,100	
Unit Cost for		1 pieces						0	0	51,310	

ID No. S-B11-Bq-59 | Working Name: Cable NYY 3 x 16 mm | Calculation Quantity: 30 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	13.2	0	0	39,000	0	0	514,800	
	L-2-23	Common Labour	day	6.6	0	0	35,100	0	0	231,660	
Material											
		Cable NYY 3 x 16 mm	m	30.00	0	0	30,291	0	0	908,727	
Others											
		Miscellaneous	L.S.					0	0	13	Round Up
Total for		30 m						0	0	1,655,200	
Unit Cost for		1 m						0	0	55,173	

Table 4.1.9 (55/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No. S-B11-Bq-60 | Working Name: NCB 10 A | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-4	Electrician	day	2	0	0	39,000	0	0	78,000	
	L-2-23	Common Labour	day	1	0	0	35,100	0	0	35,100	
Material											
		NCB 10 A	pieces	10.00	0	0	40,000	0	0	400,000	
Others											
		Miscellaneous	L.S.					0	0	0	Round Up
Total for	10 pieces							0	0	513,100	
Unit Cost for	1 pieces							0	0	51,310	

ID No. S-B11-Bq-61 | Working Name: FL 2 x 40 W + Pole | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	3.3	0	0	58,600	0	0	193,380	
	L-2-16	Steel Worker	day	14.7	0	0	39,000	0	0	573,300	
	L-2-23	Common Labour	day	17.2	0	0	35,100	0	0	603,720	
Material											
	M-E-27	Galvanized Steel Pipe, Dia. 50mm	m	75.4	14,250	0	750	1,074,450	0	56,550	Material loss factor 15%
	M-E-74	Steel/Reinforcing Bar Dia.12 mm	kg	13.89	0	1,050	2,450	0	14,585	34,031	Material loss factor 15%
Working Base Cost											
	S-B11-Bq-2	Installation and Lighting 40W-2 FL	pieces	10	0	0	233,060	0	0	2,330,600	
Others											
		Tools	%	5				53,723	729	73,049	
		Miscellaneous	L.S.					28	86	70	Round Up
Total for	10 pieces							1,128,200	15,400	3,864,700	
Unit Cost for	1 pieces							112,820	1,540	386,470	

ID No. S-B11-Bq-62 | Working Name: New Installation from PLN for 900 VA | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		New Installation from PLN for 900 VA	pieces	10	0	0	216,000	0	0	2,160,000	
Total for	10 pieces							0	0	2,160,000	
Unit Cost for	1 pieces							0	0	216,000	

XII. FURNITURE

ID No. S-B12-Bq-1 Working Name Meeting Room Table — Calculation Quantity Remarks 10 unit

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Meeting Room Table	unit	10	0	0	2,125,000	0	0	21,250,000	
Total for	10 unit							0	0	21,250,000	
Unit Cost for	1 unit							0	0	2,125,000	

ID No. S-B12-Bq-2 Working Name Meeting Room Chair — Calculation Quantity Remarks 10 unit

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Meeting Room Chair	unit	10	0	0	200,000	0	0	2,000,000	
Total for	10 unit							0	0	2,000,000	
Unit Cost for	1 unit							0	0	200,000	

ID No. S-B12-Bq-3 Working Name Office Table — Calculation Quantity Remarks 10 unit

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Office Table	unit	10	0	0	500,000	0	0	5,000,000	
Total for	10 unit							0	0	5,000,000	
Unit Cost for	1 unit							0	0	500,000	

ID No. S-B12-Bq-4 Working Name Filling Cabinet — Calculation Quantity Remarks 10 unit

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Filling Cabinet	unit	10	0	0	800,000	0	0	8,000,000	
Total for	10 unit							0	0	8,000,000	
Unit Cost for	1 unit							0	0	800,000	

ID No. S-B12-Bq-5 Working Name Computer Table — Calculation Quantity Remarks 10 unit

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Computer Table	unit	10	0	0	600,000	0	0	6,000,000	
Total for	10 unit							0	0	6,000,000	
Unit Cost for	1 unit							0	0	600,000	

ID No. S-B12-Bq-6 Working Name Dining Table — Calculation Quantity Remarks 10 unit

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Dining Table	unit	10	0	0	658,333	0	0	6,583,333	
Total for	10 unit							0	0	6,583,333	
Unit Cost for	1 unit							0	0	658,333	

ID No. S-B12-Bq-7 Working Name Single Bed — Calculation Quantity Remarks 10 unit

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Single Bed	unit	10	0	0	500,000	0	0	5,000,000	
Total for	10 unit							0	0	5,000,000	
Unit Cost for	1 unit							0	0	500,000	

Table 4.1.9 (57/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No. S-B12-Bq-8 Working Name Portable Stove — Calculation Quantity 10 unit — Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Portable Stove	unit	10	0	0	500,000	0	0	5,000,000	
Total for		10 unit						0	0	5,000,000	
Unit Cost for		1 unit						0	0	500,000	

ID No. S-B12-Bq-9 Working Name Kitchen Set — Calculation Quantity 10 unit — Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Kitchen Set	unit	10	0	0	1,000,000	0	0	10,000,000	
Total for		10 unit						0	0	10,000,000	
Unit Cost for		1 unit						0	0	1,000,000	

ID No. S-B12-Bq-10 Working Name Sofa — Calculation Quantity 10 unit — Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Sofa	unit	10	0	0	833,333	0	0	8,333,333	
Total for		10 unit						0	0	8,333,333	
Unit Cost for		1 unit						0	0	833,333	

ID No. S-B12-Bq-11 Working Name Credensa — Calculation Quantity 10 unit — Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Credensa	unit	10	0	0	350,000	0	0	3,500,000	
Total for		10 unit						0	0	3,500,000	
Unit Cost for		1 unit						0	0	350,000	

ID No. S-B12-Bq-12 Working Name Dining Cupboard — Calculation Quantity 10 unit — Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Dining Cupboard	unit	10	0	0	300,000	0	0	3,000,000	
Total for		10 unit						0	0	3,000,000	
Unit Cost for		1 unit						0	0	300,000	

ID No. S-B12-Bq-13 Working Name Bed Room Set — Calculation Quantity 10 unit — Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Bed Room Set	unit	10	0	0	1,500,000	0	0	15,000,000	
Total for		10 unit						0	0	15,000,000	
Unit Cost for		1 unit						0	0	1,500,000	

ID No. S-B12-Bq-14 Working Name Front Office Table + 2 Chairs — Calculation Quantity 10 unit — Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Front Office Table + 2 Chairs	unit	10	0	0	3,000,000	0	0	30,000,000	
Total for		10 unit						0	0	30,000,000	
Unit Cost for		1 unit						0	0	3,000,000	

Table 4.1.9 (58/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No. S-B12-Bq-15 | Working Name: Garden Chair | Calculation Quantity: 10 unit | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Garden Chair	unit	10	0	0	200,000	0	0	2,000,000	
Total for	10 unit							0	0	2,000,000	
Unit Cost for	1 unit							0	0	200,000	

ID No. S-B12-Bq-16 | Working Name: Double Bed Set | Calculation Quantity: 10 unit | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Double Bed Set	unit	10	0	0	1,000,000	0	0	10,000,000	
Total for	10 unit							0	0	10,000,000	
Unit Cost for	1 unit							0	0	1,000,000	

ID No. S-B12-Bq-17 | Working Name: Locker Cabinet | Calculation Quantity: 10 unit | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Locker Cabinet	unit	10	0	0	2,800,000	0	0	28,000,000	
Total for	10 unit							0	0	28,000,000	
Unit Cost for	1 unit							0	0	2,800,000	

ID No. S-B12-Bq-18 | Working Name: Hot & Cold Dispenser | Calculation Quantity: 10 unit | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Hot & Cold Dispenser	unit	10	0	0	1,000,000	0	0	10,000,000	
Total for	10 unit							0	0	10,000,000	
Unit Cost for	1 unit							0	0	1,000,000	

ID No. S-B12-Bq-19 | Working Name: Office Chair | Calculation Quantity: 10 unit | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Office Chair	unit	10	0	0	200,000	0	0	2,000,000	
Total for	10 unit							0	0	2,000,000	
Unit Cost for	1 unit							0	0	200,000	

XI. METAL WORK

ID No. S-B13-Bq-1 | Working Name: Ventilation Hole | Calculation Quantity: 100 Kg | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	1.5	0	0	58600	0	0	87,900	
	L-2-16	Steel Worker	day	5	0	0	39000	0	0	195,000	
	L-2-23	Common Labour	day	6.5	0	0	35100	0	0	228,150	
Material											
	M-E-4	Structural Steel(Purchasing), SS41	kg	130	5225	0	275	679,250	0	35,750	Material loss factor 30%
Others											
		Tools	%	5				33,963	0	27,340	Weld Machine, generator and etc.
		Miscellaneous	L.S.					88	0	60	Round Up
Total for	100 Kg							713,300	0	574,200	
Unit Cost for	1 Kg							7,133	0	5,742	

ID No. S-B13-Bq-2 | Working Name: Stairs | Calculation Quantity: 100 Kg | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	1.5	0	0	58600	0	0	87,900	
	L-2-16	Steel Worker	day	5	0	0	39000	0	0	195,000	
	L-2-23	Common Labour	day	6.5	0	0	35100	0	0	228,150	
Material											
	M-E-4	Structural Steel(Purchasing), SS41	kg	130	5225	0	275	679,250	0	35,750	Material loss factor 30%
Others											
		Tools	%	5				33,963	0	27,340	Weld Machine, generator and etc.
		Miscellaneous	L.S.					88	0	60	Round Up
Total for	100 Kg							713,300	0	574,200	
Unit Cost for	1 Kg							7,133	0	5,742	

ID No. S-B13-Bq-3 | Working Name: Steel Fence | Calculation Quantity: 6 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	1.77	0	0	58600	0	0	103,722	
	L-2-6	Welder	day	3	0	0	39000	0	0	117,000	
	L-2-16	Steel Worker	day	3.7	0	0	39000	0	0	144,300	
	L-2-23	Common Labour	day	8.47	0	0	35100	0	0	297,297	
Material											
	M-E-27	Galvanized Steel Pipe, Dia. 50mm	m	15.6	14250	0	750	222,300	0	11,700	
	M-E-28	Galvanized Steel Pipe, Dia. 75mm	m	5.85	19000	0	1000	111,150	0	5,850	
	M-E-1	Reinforcing Bar, Round U-30	kg	61	0	2500	2500	0	152,500	152,500	
Others											
		Small Tool	%	5				16,673	7,625	41,618	Weld Machine, generator and etc.
		Miscellaneous	L.S.					78	75	13	Round Up
Total for	6 m							350,200	160,200	874,000	
Unit Cost for	1 m							58,367	26,700	145,667	

*1 : All production rate are quated from Indonesian Standard

ID No. S-B13-Bq-4 | Working Name: Gate | Calculation Quantity: 10 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Gate	m	10	0	0	65000	0	0	650000	
Total for	10 m							0	0	650,000	
Unit Cost for	1 m							0	0	65,000	

Table 4.1.9 (60/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No. S-B13-Bq-5 | Working Name: H-Beam | Calculation Quantity: 100 Kg | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	2	0	0	58600	0	0	117,200	
	L-2-16	Steel Worker	day	6.5	0	0	39000	0	0	253,500	
	L-2-23	Common Labour	day	8	0	0	35100	0	0	280,800	
Material											
	M-E-9	H-beam (Purchasing), SS41	kg	115	5225	0	275	600,875	0	31,625	Material loss factor 15%
Others											
		Tools	%	5				30,044	0	34,156	Weld Machine, generator and etc.
		Miscellaneous	L.S.					81	0	19	Round Up
Total for	100 Kg							631,000	0	717,300	
Unit Cost for	1 Kg							6,310	0	7,173	

ID No. S-B13-Bq-6 | Working Name: Galvanish Pipe D=50.8 mm | Calculation Quantity: 10 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	0.53	0	0	58600	0	0	31,058	
	L-2-16	Steel Worker	day	1.71	0	0	39000	0	0	66,690	
	L-2-23	Common Labour	day	2.1	0	0	35100	0	0	73,710	
Material											
	M-E-27	Galvanized Steel Pipe, Dia. 50mm	m	11.5	14250	0	750	163,875	0	8,625	Material loss factor 15%
Others											
		Tools	%	5				8,194	0	9,004	Weld Machine, generator and etc.
		Miscellaneous	L.S.					31	0	13	Round Up
Total for	10 m							172,100	0	189,100	
Unit Cost for	1 m							17,210	0	18,910	

ID No. S-B13-Bq-7 | Working Name: Galvanish Pipe D=38.1 mm | Calculation Quantity: 10 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	0.41	0	0	58600	0	0	24,026	
	L-2-16	Steel Worker	day	1.32	0	0	39000	0	0	51,480	
	L-2-23	Common Labour	day	1.62	0	0	35100	0	0	56,862	
Material											
	M-E-26	Galvanized Steel Pipe, Dia. 150mm	m	11.5	71250	0	3750	819,375	0	43,125	Material loss factor 15%
Others											
		Tools	%	5				40,969	0	8,775	Weld Machine, generator and etc.
		Miscellaneous	L.S.					56	0	32	Round Up
Total for	10 m							860,400	0	184,300	
Unit Cost for	1 m							86,040	0	18,430	

ID No. S-B13-Bq-8 | Working Name: Galvanish Pipe D=25.4 mm | Calculation Quantity: 10 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	0.26	0	0	58600	0	0	15,236	
	L-2-16	Steel Worker	day	0.84	0	0	39000	0	0	32,760	
	L-2-23	Common Labour	day	1.03	0	0	35100	0	0	36,153	
Material											
	M-E-27	Galvanized Steel Pipe, Dia. 25.4mm	m	11.5	5542	0	292	63,729	0	3,354	Material loss factor 15%
Others											
		Tools	%	5				3,186	0	4,375	Weld Machine, generator and etc.
		Miscellaneous	L.S.					84	0	22	Round Up
Total for	10 m							67,000	0	91,900	
Unit Cost for	1 m							6,700	0	9,190	

Table 4.1.9 (61/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No. S-B13-Bq-9 | Working Name: Pipe Plandes | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Pipe Plandes	pieces	10	0	0	6000	0	0	60000	
Total for		10 pieces						0	0	60,000	
Unit Cost for		1 pieces						0	0	6,000	

ID No. S-B13-Bq-10 | Working Name: Turn Bucle | Calculation Quantity: 10 pieces | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Turn Bucle	0	10	0	0	19500	0	0	195000	
Total for		10 pieces						0	0	195,000	
Unit Cost for		1 pieces						0	0	19,500	

ID No. S-B13-Bq-11 | Working Name: Steel Door (Sliding) | Calculation Quantity: 100 Kg | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	2	0	0	58600	0	0	117,200	
	L-2-16	Steel Worker	day	6.5	0	0	39000	0	0	253,500	
	L-2-23	Common Labour	day	8	0	0	35100	0	0	280,800	
Material											
	M-E-4	Structural Steel(Purchasing), SS41	kg	115	5225	0	275	600,875	0	31,625	Material loss factor 15%
Others											
		Tools	%	5				30,044	0	34,156	Weld Machine, generator and etc.
		Miscellaneous	L.S.					81	0	19	Round Up
Total for		100 Kg						631,000	0	717,300	
Unit Cost for		1 Kg						6,310	0	7,173	

ID No. S-B13-Bq-12 | Working Name: Steel Door (Swing) | Calculation Quantity: 100 Kg | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	2	0	0	58600	0	0	117,200	
	L-2-16	Steel Worker	day	6.5	0	0	39000	0	0	253,500	
	L-2-23	Common Labour	day	8	0	0	35100	0	0	280,800	
Material											
	M-E-4	Structural Steel(Purchasing), SS41	kg	115	5225	0	275	600,875	0	31,625	Material loss factor 15%
Others											
		Tools	%	5				30,044	0	34,156	Weld Machine, generator and etc.
		Miscellaneous	L.S.					81	0	19	Round Up
Total for		100 Kg						631,000	0	717,300	
Unit Cost for		1 Kg						6,310	0	7,173	

Table 4.1.9 (62/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No. S-B13-Bq-13 | Working Name: Steel Staircase | Calculation Quantity: 100 Kg | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	2	0	0	58600	0	0	117,200	
	L-2-16	Steel Worker	day	6.5	0	0	39000	0	0	253,500	
	L-2-23	Common Labour	day	8	0	0	35100	0	0	280,800	
Material											
	M-E-4	Structural Steel(Purchasing), SS41	kg	115	5225	0	275	600,875	0	31,625	Material loss factor 15%
Others											
		Tools	%	5				30,044	0	34,156	Weld Machine, generator and etc.
		Miscellaneous	L.S.					81	0	19	Round Up
Total for	100 Kg							631,000	0	717,300	
Unit Cost for	1 Kg							6,310	0	7,173	

ID No. S-B13-Bq-14 | Working Name: Steel Grill for Pipe Line | Calculation Quantity: 100 Kg | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	2	0	0	58600	0	0	117,200	
	L-2-16	Steel Worker	day	6.5	0	0	39000	0	0	253,500	
	L-2-23	Common Labour	day	8	0	0	35100	0	0	280,800	
Material											
	M-E-4	Structural Steel(Purchasing), SS41	kg	115	5225	0	275	600,875	0	31,625	Material loss factor 15%
Others											
		Tools	%	5				30,044	0	34,156	Weld Machine, generator and etc.
		Miscellaneous	L.S.					81	0	19	Round Up
Total for	100 Kg							631,000	0	717,300	
Unit Cost for	1 Kg							6,310	0	7,173	

ID No. S-B13-Bq-15 | Working Name: Steel Rail for Crab | Calculation Quantity: 100 Kg | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	2	0	0	58600	0	0	117,200	
	L-2-16	Steel Worker	day	6.5	0	0	39000	0	0	253,500	
	L-2-23	Common Labour	day	8	0	0	35100	0	0	280,800	
Material											
	M-E-4	Structural Steel(Purchasing), SS41	kg	115	5225	0	275	600,875	0	31,625	Material loss factor 15%
Others											
		Tools	%	5				30,044	0	34,156	Weld Machine, generator and etc.
		Miscellaneous	L.S.					81	0	19	Round Up
Total for	100 Kg							631,000	0	717,300	
Unit Cost for	1 Kg							6,310	0	7,173	

ID No. S-B13-Bq-16 | Working Name: Stainless Steel - Air Duct Head | Calculation Quantity: 10 unit | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Stainless Steel - Air Duct Head	unit	10	0	0	1250000	0	0	12500000	
Total for	10 unit							0	0	12,500,000	
Unit Cost for	1 unit							0	0	1,250,000	

Table 4.1.9 (63/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No. S-B13-Bq-17 | Working Name: Stainless Steel Cover Entrance Column | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	3.1	0	0	58600	0	0	181,660	
	L-2-16	Steel Worker	day	10.2	0	0	39000	0	0	397,800	
	L-2-23	Common Labour	day	12.6	0	0	35100	0	0	442,260	
Material											
		Stainless Steel Plate	kg	180	19000	0	1000	3,420,000	0	180,000	Material loss factor 15%
Others											
		Tools	%	5				171,000	0	60,086	Weld Machine, generator and etc.
		Miscellaneous	L.S.					0	0	94	Round Up
Total for	10 m2							3,591,000	0	1,261,900	
Unit Cost for	1 m2							359,100	0	126,190	

ID No. S-B13-Bq-18 | Working Name: Maintenance Stair | Calculation Quantity: 100 kg | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	1.5	0	0	58600	0	0	87,900	
	L-2-16	Steel Worker	day	5	0	0	39000	0	0	195,000	
	L-2-23	Common Labour	day	6.5	0	0	35100	0	0	228,150	
Material											
	M-E-4	Structural Steel(Purchasing), SS41	kg	130	5225	0	275	679,250	0	35,750	Material loss factor 30%
Others											
		Tools	%	5				33,963	0	27,340	Weld Machine, generator and etc.
		Miscellaneous	L.S.					88	0	60	Round Up
Total for	100 kg							713,300	0	574,200	
Unit Cost for	1 kg							7,133	0	5,742	

ID No. S-B13-Bq-19 | Working Name: I-Beam for Runway Rail | Calculation Quantity: 100 kg | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	1.5	0	0	58600	0	0	87,900	
	L-2-16	Steel Worker	day	5	0	0	39000	0	0	195,000	
	L-2-23	Common Labour	day	6.5	0	0	35100	0	0	228,150	
Material											
	M-E-9	H-beam (Purchasing), SS41	kg	130	5225	0	275	679,250	0	35,750	Material loss factor 30%
Others											
		Tools	%	5				33,963	0	27,340	Weld Machine, generator and etc.
		Miscellaneous	L.S.					88	0	60	Round Up
Total for	100 kg							713,300	0	574,200	
Unit Cost for	1 kg							7,133	0	5,742	

Table 4.1.9 (64/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

ID No.	Working Name	Calculation Quantity	Remarks
S-B13-Bq-20	Runway Rail	100 kg	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-29	Chief of Steel Worker	day	1.5	0	0	58600	0	0	87,900	
	L-2-16	Steel Worker	day	5	0	0	39000	0	0	195,000	
	L-2-23	Common Labour	day	6.5	0	0	35100	0	0	228,150	
Material											
	M-E-4	Structural Steel(Purchasing), SS41	kg	130	5225	0	275	679,250	0	35,750	Material loss factor 30%
Others											
		Tools	%	5				33,963	0	27,340	Weld Machine, generator and etc.
		Miscellaneous	L.S.					88	0	60	Round Up
Total for	100 kg							713,300	0	574,200	
Unit Cost for	1 kg							7,133	0	5,742	

ID No.	Working Name	Calculation Quantity	Remarks
S-B13-Bq-21	Bracket, Holding Plates, Bolt, Nut, etc.	100 kg	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Labour											
	L-2-16	Steel Worker	day	0.5	0	0	39000	0	0	19,500	
	L-2-23	Common Labour	day	2	0	0	35100	0	0	70,200	
Material											
	M-E-36	Bolt and Nut	kg	10	0	12375	28875	0	123,750	288,750	
Others											
		Tools	%	5				0	6,188	18,923	
		Miscellaneous	L.S.					0	63	28	Round Up
Total for	100 kg							0	130,000	397,400	
Unit Cost for	1 kg							0	1,300	3,974	

XIV. TEMPORARY WORK

ID No. S-B14-Bq-1 | Working Name: Uitzet & Bouwplank | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Uitzet & Bouwplank	m2	10	0	0	3500	0	0	35000	
Total for	10 m2							0	0	35,000	
Unit Cost for	1 m2							0	0	3,500	

ID No. S-B14-Bq-2 | Working Name: Water & Electricity for Work | Calculation Quantity: 10 L.S | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Water & Electricity for Work	L.S	10	0	0	3750000	0	0	37500000	
Total for	10 L.S							0	0	37,500,000	
Unit Cost for	1 L.S							0	0	3,750,000	

ID No. S-B14-Bq-3 | Working Name: Administration & Documentation | Calculation Quantity: 10 L.S | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Administration & Documentation	L.S	10	0	0	2500000	0	0	25000000	
Total for	10 L.S							0	0	25,000,000	
Unit Cost for	1 L.S							0	0	2,500,000	

Table 4.1.9 (66/67) UNIT RATE CALCULATION TABLE OF BUILDING WORK

XV. LANSCAPING WORK

ID No. S-B15-Bq-1 | Working Name: Paving Kansteen (Paving Border) | Calculation Quantity: 10 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Working Base Cost											
	CW-2-107	Masonry of Kanstin Concrete Pavement Border with ratio of	m	10	0	0	35900	0	0	359000	
Others											
		Miscellaneous	L.S.					0	0	0	Round Up
Total for	10 m							0	0	359,000	
Unit Cost for	1 m							0	0	35,900	

ID No. S-B15-Bq-2 | Working Name: Gravel | Calculation Quantity: 10 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-1-15	Gravel Bedding	m3	10	0	1360	31260	0	13600	312600	
Total for	10 m3							0	13,600	312,600	
Unit Cost for	1 m3							0	1,360	31,260	

ID No. S-B15-Bq-3 | Working Name: Plantation 1 | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Plantation	m2	10	0	0	7500	0	0	75000	
Total for	10 m2							0	0	75,000	
Unit Cost for	1 m2							0	0	7,500	

ID No. S-B15-Bq-4 | Working Name: Demolition Wall | Calculation Quantity: 100 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Equipment											
	A-2-1-7	Backhoe; 0.6 m3	hourly	8.33	125,543	2,040	90,965	1,045,772	16,993	757,739	
	A-2-2-35	Pick Hammer	daily	14.49	5716.91	0	2030.09	82,854	0	29,422	
	A-2-1-48	Dumptruck; 10 ton	hourly	17.13	77269	3060	70744.1	1,323,618	52,418	1,211,847	
	A-2-2-17	Generator; 15 kVA	daily	3.62	82875	1800	52496.1	300,008	6,516	190,036	
Labour											
	L-2-1	Foreman	day	3.62	0	0	48800	0	0	176,812	
	L-2-10	Drill Worker	day	14.49	0	0	39000	0	0	565,217	
	L-2-23	Common Labour	day	14.49	0	0	35100	0	0	508,696	
Working Base Cost											
	CW-1-54	Excavation I	m3	100	5072	83	3675	507,200	8,300	367,500	
		Miscellaneous	L.S.					48	73	32	Round Up
Total for	100 m3							3,259,500	84,300	3,807,300	
Unit Cost for	1 m3							32,595	843	38,073	

Manpower Composition; Foreman : 1 man/day
Common Labor : 4 man/day
Drill Worker : 4 man/day

*1 50m3 x Ta / (T x 60) x Composition of Manpower = Foreman 3.62, Drill Worker 14.49, Common 14.49

*2 100m3 x Tb / 60 = Dump Truck 17.13 hour

*3 50m3 x Ta / (T x 60) = Generator 3.62 days

*4 50m3 x Tc / 60 = Backhoe 8.33 hour

*5 Average Daily Working Time of Generator, Labor, Breaker: T = 690 / 100 = 6.9 (hour/day)

Working Time by Hand Breaker / 1m3 (Ta): Ta = 30 minutes/m3

Working Time by Dump Truck / 1m3 (Tb): Tb = (5 km(one way) x 2 / 40 km/hour + 20 minutes)/ 10 ton truck = 10.28 minutes/m3

Working Time by Backhoe and Pick Hammer / 1m3 (Tc): Tc = 10 minutes/m3

ID No. S-B15-Bq-5 | Working Name: Paving Block | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Working Base Cost											
	CW-2-112	Masonry of Paving Block	m2	10	0	5700	44800	0	57000	448000	
Total for	10 m2							0	57,000	448,000	
Unit Cost for	1 m2							0	5,700	44,800	

ID No. S-B15-Bq-6 | Working Name: Plantation 2 | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Plantation	m2	10	0	0	250000	0	0	2500000	
Total for	10 m2							0	0	2,500,000	
Unit Cost for	1 m2							0	0	250,000	

ID No. S-B15-Bq-7 | Working Name: Plantation 3 | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Plantation	m2	10	0	0	25000	0	0	250000	
Total for	10 m2							0	0	250,000	
Unit Cost for	1 m2							0	0	25,000	

ID No. S-B15-Bq-8 | Working Name: Plantation 4 | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Plantation	m2	10	0	0	15000	0	0	150000	
Total for	10 m2							0	0	150,000	
Unit Cost for	1 m2							0	0	15,000	

ID No. S-B15-Bq-9 | Working Name: Plantation 5 | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
		Plantation	m2	10	0	0	5000	0	0	50000	
Total for	10 m2							0	0	50,000	
Unit Cost for	1 m2							0	0	5,000	

Table 4.2.1 SCHEDULE OF TRUCK IN GENERAL AND TRAILER NEEDED FOR MOBILIZATION AND DEMOBILIZATION OF PACKAGE-I

SCHEDULE OF TRUCK IN GENERAL

Code No.	Construction Equipment	Capacity/ Specification	2001												2002												2003												2004											
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
EQ08	Dump Truck	10 ton				6		1	6	1	2	2	2	2				6		1	6	1	2	2	2	2		2	2	1	1	1				1						1	1							
EQ09	Ordinary Truck	10 ton						1		1										1		1									1	1																		
EQ10	Truck with Crane A	4 ton						1		1										1		1									1												1							
EQ11	Truck with Crane B	6 ton						1												1											1						1							1						
EQ28	Agitator Truck B	4.5 m^3							2												2							2	2		2	2					1						1							

SCHEDULE OF TRAILER

Code No.	Construction Equipment	Capacity/ Specification	2001												2002												2003												2004											
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
EQ01	Bulldozer A	15 ton				1		1	1									1		1	1															1							1							
EQ03	Backhoe A	0.20 m^3						1		1										1		1										1										1								
EQ04	Backhoe B	0.35 m^3				1			1		1			1				1			1		1			1		1				1				1							1							
EQ06	Giant Breaker	600/800 kg						1	1											1	1																													
EQ13	Truck Crane A	16 ton																										1		1							1													
EQ14	Truck Crane B	20 ton																																			1						1							
EQ15	Truck Crane C	25 ton						1												1								1																						
EQ22	Portable Concrete Mixer A	0.2 m^3																												1												1							
EQ24	Concrete Pump A	30 m^3/h							1												1																1													
EQ29	Tamper	60/100 kg									1			1									1			1		1		1		1				1							1							
EQ30	Vibrating Roller A	4 ton									1			1									1			1		1				1				1						1								
EQ37	Hydrulic Jack	50 t																											1		1																			
EQ46	Diesel Engine Generator B	60 KVA							1												1																					1									
	Diesel Engine Generator C	90 KVA																																			1						1							
EQ47	Air Compressor A	30 m3						1												1																						1								
EQ48	Air Compressor B	90 m3																																			1						1							
Number of Trailer for Mobilization						2		3	1		1							2		3	1		1					2	1	1		1				1	1													
Number of Trailer for Demobilization									3	1				1							3	1				1		1		1	1	1					1						2	2						

Mobilization
Demobilization

Table 4.2.2 SCHEDULE OF TRUCK IN GENERAL AND TRAILER NEEDED FOR MOBILIZATION AND DEMOBILIZATION OF PACKAGE-2

SCHEDULE OF TRUCK IN GENERAL

Code No.	Construction Equipment	Capacity/ Specification	2002												2003												2004											
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
EQ08	Dump Truck	10 ton				6		1	6	1	2	2	2	2		2	2	1	1	1				1						1	1							
EQ09	Ordinary Truck	10 ton						1		1									1	1																		
EQ10	Truck with Crane A	4 ton						1		1									1											1								
EQ11	Truck with Crane B	6 ton						1											1					1							1							
EQ28	Agitator Truck B	4.5 m^3							2							2	2		2	2					1					1								

SCHEDULE OF TRAILER

Code No.	Construction Equipment	Capacity/ Specification	2002												2003												2004											
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
EQ01	Bulldozer A	15 ton				1		1	1															1							1							
EQ03	Backhoe A	0.20 m^3						1		1										1										1								
EQ04	Backhoe B	0.35 m^3				1			1		1			1		1				1				1							1							
EQ06	Giant Breaker	600/800 kg						1	1																													
EQ13	Truck Crane A	16 ton														1		1							1													
EQ14	Truck Crane B	20 ton																							1					1								
EQ15	Truck Crane C	25 ton						1								1																						
EQ22	Portable Concrete Mixer A	0.2 m^3																1												1								
EQ24	Concrete Pump A	30 m^3/h							1																1													
EQ29	Tamper	60/100 kg									1			1		1		1		1				1							1							
EQ30	Vibrating Roller A	4 ton									1			1		1				1				1						1								
EQ37	Hydrulic Jack	50 t															1		1																			
EQ46	Diesel Engine Generator B	60 KVA							1																					1								
	Diesel Engine Generator C	90 KVA																						1							1							
EQ47	Air Compressor A	30 m3						1																						1								
EQ48	Air Compressor B	90 m3																						1							1							
Number of Trailer for Mobilization						2		3	1		1					2	1	1		1				1	1													
Number of Trailer for Demobilization									3	1				1		1		1	1	1					1					2	2							

Mobilization

Demobilization

Table 4.2.3 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 4.2.4 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 4.2.5 (1/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-2 | Working Name: Mobilisation and Demobilisation | Calculation Quantity: 1 L.S. | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Equipment	A-2-1-69	Trailer; 20 ton	hourly	1,120	119,879	2,160	102,572	134,264,946	2,419,200	114,880,271	
	A-2-1-48	Dumptruck; 10 ton	hourly	2,112	77,269	3,060	70,744	163,192,120	6,462,720	149,411,583	
	A-2-1-82	Truck; 4 ton	hourly	24	37,005	876	37,451	888,120	21,024	898,824	
	A-2-1-83	Truck; 8 ton	hourly	8	60,898	1,200	60,665	487,184	9,600	485,323	
	A-2-1-80	Truck; 11 ton	hourly	48	96,932	1,560	95,161	4,652,726	74,880	4,567,734	
	A-2-1-104	Water Tanker; 4000 litter	hourly	88	46,828	1,076	35,138	4,120,828	94,688	3,092,103	
	A-2-1-31	Truck with crane; 4 ton, Crane : 2.9 ton	hourly	56	48,670	780	47,768	2,725,506	43,680	2,674,988	
	A-2-1-32	Truck with crane; 6 ton	hourly	104	62,784	912	61,243	6,529,534	94,848	6,369,315	
	A-2-1-78	Truck Mixer; 3 m3	hourly	16	51,377	1,164	40,516	822,039	18,624	648,249	
	A-2-1-79	Truck Mixer; 4.5 m3	hourly	176	77,958	1,560	60,652	13,720,586	274,560	10,674,683	
Indirect Cost											
Site Expense			%	15	0.5		0.5	47,596,537	0	47,596,537	
Profit and Overhead Cost			%	10	0.9		0.1	65,683,220	0	7,298,136	
		Miscellaneous	L.S.					53	76	55	Round Up
Total for	1 L.S.							444,683,400	9,513,900	348,597,800	
Unit Cost for	1 L.S.							444,683,400	9,513,900	348,597,800	

*1 : All Equipment : Land Transportation : 4 hours land trasnportation.

*2 : Number of Mobilized and Demobilized Equipment

	Mobilization	Demobilization
Trailer	141	139
Dump Truck 10t	264	264
Ordinary Truck 4t	3	3
Ordinary Truck 8t	1	1
Ordinary Truck 10t	6	6
Track with Watertank	11	11
Truck with Crane 4 t	7	7
Truck with Crane 6 t	13	13
Agitator Truck A	2	2
Agitator Truck B	22	22

ID No. JD-P1-Bq-3 | Working Name: Establishment | Calculation Quantity: 1 L.S. | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost	Engineering Site Office										
		Install of Buildings	m2	300	12,000	18,000	220,000	3,600,000	5,400,000	66,000,000	
		Removal of Office	%	30				1,080,000	1,620,000	19,800,000	
		Rental of Land	%	10				468,000	702,000	8,580,000	
	Engineering Site Dormitory										
		Install of Buildings	m2	200	12,000	18,000	220,000	2,400,000	3,600,000	44,000,000	
		Removal of Office	%	30				720,000	1,080,000	13,200,000	
		Rental of Land	%	10				312,000	468,000	5,720,000	
	Contractor's Site Office										
		Install of Office and Others	m2	4000	12,000	18,000	220,000	48,000,000	72,000,000	880,000,000	including Dormitory
		Removal of Office	%	30				14,400,000	21,600,000	264,000,000	
		Rental of Land	%	10				6,240,000	9,360,000	114,400,000	
	Furniture for Engineer's Site Office										
		Desks	No.	21	0	0	200,000	0	0	4,200,000	
		Desk Lumps	No.	19	0	0	100,000	0	0	1,900,000	
		Conference Table	No.	2	0	0	250,000	0	0	500,000	
		Layout Table	No.	2	0	0	300,000	0	0	600,000	
		Chairs for Conference Table and Layout Table	No.	17	0	0	75,000	0	0	1,275,000	
		Drafting Table and Stool Complete with Drawing instruments	No.	2	0	0	1,500,000	0	0	3,000,000	
		Vertical Plan Hanging Rack	No.	4	0	0	1,750,000	0	0	7,000,000	
		Lockable 4-drawer fining cabinet	No.	23	0	0	1,000,000	0	0	23,000,000	
		Lockable Cupboard	No.	23	0	0	850,000	0	0	19,550,000	
		White Board	No.	1	0	0	1,500,000	0	0	1,500,000	
	Furniture for Engineer's Site Office		L.S.	1	0	0	22,575,000	0	0	22,575,000	
	Electrical Charge										
		Basic Electrical Charge	months	48	0	300,000	700,000	0	14,400,000	33,600,000	
	M-K-15	Electrical Charge	kWh	1051200	0	36	84	0	37,843,200	88,300,800	
	Installing & Removal of Turbid Water Treatment										
	CW-9-1	Installing Turbid Water Treatment Plant	place	1	1,626,581	10,836	2,261,469	1,626,581	10,836	2,261,469	
	CW-9-2	Removal of Turbid Water Treatment Facility	place	1	1,626,581	10,836	1,869,469	1,626,581	10,836	1,869,469	
	CW-9-3	Mud Soil Treatment	time	24	67,152	2,010	66,632	1,611,648	48,240	1,599,157	
	CW-9-4	Operation of Turbid Water Treatment Facility	day	400	2,087,784	6,498	1,004,336	835,113,598	2,599,200	401,734,242	
	CW-9-5	Turbid Water Treatment Shed	shed	1	0	580,000	2,900,000	0	580,000	2,900,000	
Temporary Facilities											
	CW-1-47	Excavation B	m3	180000	2,951	48	2,138	531,180,000	8,640,000	384,840,000	1
	CW-1-5	Spreading A	m3	7200	2,941	35	2,823	21,175,200	252,000	20,325,600	2
	CW-1-58	Spreading and Compaction for Earth Filling	m3	121000	2,834	36	2,633	342,890,155	4,386,492	318,546,790	3
	CW-1-62	Reinforced Concrete Work Type B by Pump	m3	700	20,270	43,850	191,650	14,189,000	30,695,000	134,155,000	4
	CW-1-1	Backfill (Soil) A	m3	250	6,076	87	5,043	1,519,000	21,750	1,260,750	5
	CW-14-42	Shotcrete Work for Slope Protection t=10cm	m2	19000	15,180	9,890	58,960	288,420,000	187,910,000	1,120,240,000	6
	CW-14-51	Concrete Type C	m3	700	104,360	39,700	223,190	73,052,000	27,790,000	156,233,000	7
	CW-14-32	Reinforcing-Bar Arrangement	ton	100	0	3,090,000	3,274,700	0	309,000,000	327,470,000	8
Material	M-E-4	Structural Steel(Purchasing), S	kg	350000	5,225	0	275	1,828,750,000	0	96,250,000	9
Others and Working Cost			%	20				620,235,071	113,739,048	511,864,228	20 % of (1~9)
Indirect Cost											
Site Expense			%	15	0.8		0.2	1,271,593,913	0	317,898,478	
Profit and Overhead Cost			%	10	0.9		0.1	1,096,749,750	0	121,861,083	
		Miscellaneous	L.S.								Round Up
Total for	1 L.S.							7,006,952,496	853,756,602	5,544,010,068	
Unit Cost for	1 L.S.							7,006,952,496	853,756,602	5,544,010,068	

Note : *1 : Water Supply System, Electrical Supply in Building and Telecommunication System are included in Building Cost.

*2 : Electrical Charge 2 kW/100m2/hour x 24 hours x 365 days x 4 years x 1500 m2 = 1051200 kWh

Table 4.2.5 (2/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No.	Working Name	Calculation Quantity	Remarks
JD-P1-Bq-4	Drawings	1 L.S.	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Labour											
	L-2-34	Cad Operator	day	600	0	0	54700	0	0	32,820,000	
	L-2-35	Draft Man	day	600	0	0	39000	0	0	23,400,000	
Material											
	M-L-15	Drawing Paper (A1)	sheet	1000	8000	0	2000	8,000,000	0	2,000,000	
	M-L-16	Blue Copy (A1)	sheet	1000	0	2500	2500	0	2,500,000	2,500,000	
Others											
		Tools	%	20				1,600,000	500,000	12,144,000	Computer, Plotter, Drafer and etc.
Indirect Cost											
Site Expense			%	15	0.5		0.5	6,409,800	0	6,409,800	
Profit and Overhead Cost			%	10	0.9		0.1	8,845,524	0	982,836	
		Miscellaneous	L.S.					76	0	64	Round Up
Total for	1 L.S.							24,855,400	3,000,000	80,256,700	
Unit Cost for	1 L.S.							24,855,400	3,000,000	80,256,700	

ID No.	Working Name	Calculation Quantity	Remarks
JD-P1-Bq-6	Supply, operation and maintaince of new four-door four-wheel drive station jeep	120 month	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Labour											
	L-2-7	Driver	day	2400	0	0	35,100	0	0	84,240,000	
Material											
		New four-door four-wheel drive station jeep	Unit	1	428,400,000	0	47,600,000	428,400,000	0	47,600,000	Assumption: Toyota Land Cruiser Class
	M-A-2	Light Oil (Diesel Oil)	ltr	15000	0	120	480	0	1,800,000	7,200,000	
		TMOG	ltr	108	0	6,500	26,000	0	702,000	2,808,000	
		Filter Oil	ltr	12	0	11,400	45,600	0	136,800	547,200	
		tyres	pieces	16	0	400,000	1,600,000	0	6,400,000	25,600,000	
		Accu (Baterei), 70 A MZ	pieces	5	0	0	360,000	0	0	1,800,000	
Others											
		Administration	%	4				0	0	19,040,000	
		Tools	%	10						47,600,000	
Indirect Cost											
Site Expense			%	15	0.5		0.5	50,540,550	0	50,540,550	
Profit and Overhead Cost			%	10	0.9		0.1	69,745,959	0	7,749,551	
		Miscellaneous	L.S.					91	0	99	Round Up
Total for	120 month							548,686,600	9,038,800	294,725,400	
Unit Cost for	1 month							4,572,388	75,323	2,456,045	

Driver		20 day/month	tyres	4	pieces/	30000	km
		2400 day/120 months		4	pieces/	30	months
Car running	50 km/day	1000 km/month		16	pieces/	120	months
Diesel Oil	8 km/ltr						
	0.13 ltr/km	125 ltr/month	Batere, 70A MZ	1	pieces/	24000	km
		15000 ltr/120 months		1	pieces/	24	months
TMOG	9 ltr/10000km	0.9 ltr/month		5	pieces/	120	months
		108 ltr/120 months					
Filter Oil	1 ltr/10000km	**0.1** ltr/month					
		12 ltr/120 months					

Table 4.2.5 (3/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-7 | Working Name: Supply, operation and maintaince of new station wagon | Calculation Quantity: 120 month | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Labour											
	L-2-7	Driver	day	2400	0	0	35,100	0	0	84,240,000	
Material											
		New Station Wagon	unit	1	117,000,000	0	13,000,000	117,000,000	0	13,000,000	Assumption: New Toyota Kijang Class
	M-A-1	Gasoline	ltr	15000	0	200	800	0	3,000,000	12,000,000	
	M-A-10	SAE 40	ltr	144	0	600	2,400	0	86,400	345,600	
		tyres	pieces	16	0	40000	160000	0	640,000	2,560,000	
		Accu (Baterei), 40 A	pieces	5	0	0	145000	0	0	725,000	
Others											
		Administration	%	4				0	0	5,200,000	
		Tools	%	20				0	0	26,000,000	
Indirect Cost											
Site Expense			%	15	0.5		0.5	19,859,775	0	19,859,775	
Profit and Overhead Cost			%	10	0.9		0.1	27,406,490	0	3,045,166	
		Miscellaneous	L.S.					36	0	60	Round Up
Total for	120	month						164,266,300	3,726,400	166,975,600	
Unit Cost for	1	month						1,368,886	31,053	1,391,463	

Driver: 20 day/month; 2400 day/120 month; 1000 km/month

Car running: 50 km/day; Gasoline: 8 km/ltr; 0.13 ltr/km; 125 ltr/month; 15000 ltr/120 month

SAE 40: 3 ltr/2500km; 1.2 ltr/month; 144 ltr/120 month

tyres: 4 pieces/ 30000 km; 4 pieces/ 30 months; 16 pieces/ 120 months

Batere, 40A: 1 pieces/ 24000 km; 1 pieces/ 24 months; 5 pieces/ 120 months

ID No. JD-P1-Bq-8 | Working Name: Supply, operation and maintaince of new motor cycle with capacity greater than 100 cc | Calculation Quantity: 60 month | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Labour											
	L-2-7	Driver	day	1200	0	0	35,100	0	0	42,120,000	
Material											
		Motor cycle	unit	1	9,000,000	0	1,000,000	9,000,000	0	1,000,000	Assumption: Four Stroke Motor Cycle
	M-A-1	Gasoline	ltr	4000	0	200	800	0	800,000	3,200,000	
	M-A-10	SAE 40	ltr	28	0	600	2,400	0	16,800	67,200	
		Accu (Baterei)	pieces	5	0	0	50,000	0	0	250,000	
		tyres	pieces	48	0	15,000	60,000	0	720,000	2,880,000	
Others											
		Administration	%	4				0	0	400,000	
		Tools	%	20				0	0	2,000,000	
Indirect Cost											
Site Expense			%	15	0.5		0.5	4,684,050	0	4,684,050	
Profit and Overhead Cost			%	10	0.9		0.1	6,463,989	0	718,221	
		Miscellaneous	L.S.					61	0	29	Round Up
Total for	60	month						20,148,100	1,536,800	57,319,500	
Unit Cost for	1	month						335,802	25,613	955,325	

Driver: 20 day/month; 1200 day/month; 2000 km/month

Car running: 100 km/day; Gasoline: 30 km/ltr; 0.03 ltr/km; 66.67 ltr/month; 4000 day/month

SAE 40: 0.7 ltr/2000 km; 0.47 ltr/month; 28 day/month

tyres: 2 pieces/ 10000 km; 2 pieces/ 5 months; 48 pieces/ 120 months

Batere, 40A: 1 pieces/ 48000 km; 1 pieces/ 24 months; 5 pieces/ 120 months

Table 4.2.5 (4/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No.	Working Name	Calculation Quantity	Remarks
JD-P1-Bq-10	Water Control	1 L.S.	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Equipment											
	A-2-2-16	Generator; 125 kVA	daily	720	271,912	15,120	209,096	195,776,777	10,886,400	150,549,102	
	A-2-1-93	Water Tank; 3000 litter	daily	720	8,864	0	4,432	6,381,802	0	3,190,901	
	A-2-2-49	Submergible Pump; D200mm 22kW	daily	1080	81,666	0	41,250	88,199,156	0	44,549,574	
	A-2-2-48	Submergible Pump; D150mm 10.6 kW	daily	720	39,099	0	19,749	28,151,414	0	14,219,337	
	A-2-1-65	Turbine Pump Dia. 200mm 75kW	daily	720	177,383	0	112,624	127,715,863	0	81,089,437	
Labour											
	L-2-1	Foreman	day	6.4	0	0	48,800	0	0	312,320	
	L-2-23	Common Labour	day	89.6	0	0	35,100	0	0	3,144,960	
	L-2-4	Electrician	day	122.4	0	0	39,000	0	0	4,773,600	
Indirect Cost											
Site Expense			%	15	0.8		0.2	91,072,877	0	22,768,219	
Profit and Overhead Cost			%	10	0.9		0.1	78,550,356	0	8,727,817	
		Miscellaneous	L.S.					54	0	33	Round Up
Total for		1 L.S.						615,848,300	10,886,400	333,325,300	
Unit Cost for		1 L.S.						615,848,300	10,886,400	333,325,300	

Dewatering by Submersible Pump

	*1:	D200mm		6 month x	30 days/month x		2 years x		6 units
			x	12 hrs/day =	1080 days				
	*2:	D150mm		6 month x	30 days/month x		2 years x		4 units
			x	12 hrs/day =	720 days				
Dewatering by Turbine Pump									
	*3:	D200mm		6 month x	30 days/month x		2 years x		4 units
			x	12 hrs/day =	720 days				
Water Tank									
	*4:	3000litre		6 month x	30 days/month x		2 years x		2 units
			=	720 days					
Generator									
	*5:	125kVA		6 month x	30 days/month x		2 years x		2 units
			=	720 days					
Labor	*6:	Foreman		0.2 person x	2 times x	16 units in total=		6.4 persons	
	*6:	Common Labor		2.8 person x	2 times x	16 units in total=		89.6 persons	
	*7:	Electrician		0.17 person x	720 days =	122.4 persons			

Table 4.2.5 (5/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-13 | Working Name: Clearing and Grubbing : for Areas to be Excavated | Calculation Quantity: 1,000 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Equipment											
	A-2-1-7	Backhoe; 0.6 m3	hourly	1	125,543	2,040	90,965	125,543	2,040	90,965	
	A-2-1-48	Dumptruck; 10 ton	hourly	2	77,269	3,060	70,744	154,538	6,120	141,488	for Disposal
	A-2-1-111	Chain Saw	daily	2	42,825	0	17,538	85,651	0	35,076	Cutting Tree
Labour											
	L-2-1	Foreman	day	1.6	0	0	48,800	0	0	78,080	
	L-2-13	Rigger	day	3.5	0	0	39,000	0	0	136,500	
	L-2-23	Common Labour	day	4.5	0	0	35,100	0	0	157,950	
Indirect Cost											
Site Expense			%	15	1		0	121,674	0	30,419	
Profit and Overhead Cost			%	10	1		0	104,914	0	11,660	
		Miscellaneous	L.S.					650	840	862	Round Up
Total for	1000 m2							593,000	9,000	683,000	
Unit Cost for	1 m2							593	9	683	

Note : *1 : Production Rates are quoted from Japanese Standard mainly.

ID No. JD-P1-Bq-14 | Working Name: Clearing and Grubbing : for Reservoir | Calculation Quantity: 1 ha | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Equipment											
	A-2-1-7	Backhoe; 0.6 m3	hourly	3	125,543	2,040	90,965	376,629	6,120	272,895	
	A-2-1-48	Dumptruck; 10 ton	hourly	7	77,269	3,060	70,744	540,883	21,420	495,209	for Disposal
	A-2-1-111	Chain Saw	daily	10	42,825	0	17,538	428,254	0	175,380	Cutting Tree
Labour											
	L-2-1	Foreman	day	8	0	0	48,800	0	0	390,400	
	L-2-13	Rigger	day	15	0	0	39,000	0	0	585,000	
	L-2-23	Common Labour	day	20	0	0	35,100	0	0	702,000	
Indirect Cost											
Site Expense			%	15	1		0	479,303	0	119,826	
Profit and Overhead Cost			%	10	1		0	413,399	0	45,933	
		Miscellaneous	L.S.					533	460	357	Round Up
Total for	1 ha							2,239,000	28,000	2,787,000	
Unit Cost for	1 ha							2,239,000	28,000	2,787,000	

ID No. JD-P1-Bq-15 | Working Name: Stripping Top Soil | Calculation Quantity: 100 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-11-4	Clay Excavation by Bulldozer of 21ton - 2	m3	15	2,270	60	2,150	34,050	900	32,250	
	CW-11-6	Cobble Excavation by Bulldozer of 21ton - 2	m3	15	3,280	80	3,110	49,200	1,200	46,650	
	CW-11-34	Loading by Wheel Loader 5.4m3 (2)	m3	30	4,820	50	3,770	144,600	1,500	113,100	
	CW-11-39	Hauling of Soil Material for Disposal : 1km	m3	30	5,410	220	4,960	162,300	6,600	148,800	
Indirect Cost											
Site Expense			%	15	1		0	88,938	0	22,235	
Profit and Overhead Cost			%	10	1		0	76,709	0	8,523	
		Miscellaneous	L.S.					203	800	442	Round Up
Total for	100 m2							556,000	11,000	372,000	
Unit Cost for	1 m2							5,560	110	3,720	

Note : *1 : Assumed Thickness of Excavated Soil : 30 cm

Table 4.2.5 (6/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-17 Working Name: Surface Excavation : for Diversion Facilities (Cofferdam, Upstream and Downstream Portals) Calculation Quantity: 10 m3 Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-1-47	Excavation B	m3	5	2,951	48	2,138	14,755	240	10,690	for soil
	CW-11-21	Small Bench Cutting for Dam	m3	5	29,685	147	10,012	148,425	735	50,060	for rock
	CW-11-33	Loading by Wheel Loader 5.4m3 (1)	m3		3,380	30	2,640	0	0	0	for soil
	CW-11-34	Loading by Wheel Loader 5.4m3 (2)	m3		4,820	50	3,770	0	0	0	for rock
	CW-11-37	Loading by Backfoe 1.2m3 (1)	m3	5	3,280	60	2,380	16,400	300	11,900	for soil
	CW-11-38	Loading by Backfoe 1.2m3 (2)	m3	5	3,610	60	2,590	18,050	300	12,950	for rock
	CW-11-40	Hauling of Dam Material for Core : 2km	m3	5	5,710	230	5,230	28,550	1,150	26,150	for soil
	CW-11-40	Hauling of Dam Material for Core : 2km	m3	6.25	5,710	230	5,230	35,688	1,438	32,688	for rock
Indirect Cost											
Site Expense			%	15	1		0	49,256	0	12,314	
Profit and Overhead Cost			%	10	1		0	42,483	0	4,720	
		Miscellaneous	L.S.					93	38	28	Round Up
Total for	10 m3							353,700	4,200	161,500	
Unit Cost for	1 m3							35,370	420	16,150	

Note : *1 : Assumed Excavation Proportion : Soil : 50% Rock : 50%
*2 : Cofficient of Soil Volume Soil : 1: 1 Rock : 1: 1.25 for Dump Truck
*3 : Cofficient of Soil Volume Rock : 1: 1 Soil : 1: 0.62 for Loading

ID No. JD-P1-Bq-18 Working Name: Surface Excavation : for Embankment Dam Calculation Quantity: 100 m3 Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-11-9	Clay Excavation by Bulldozer of 32ton - 1	m3	10	1,740	40	1,640	17,400	400	16,400	
	CW-11-11	Cobble Excavation by Bulldozer of 32ton - 1	m3	10	2,500	60	2,360	25,000	600	23,600	
	CW-11-15	Combined Excavation ; Ripper Bull : 21ton	m3	25	3,570	90	3,380	89,250	2,250	84,500	
	CW-11-17	Bench Cutting for Dam Bench : 2.5m (1)	m3	5	29,690	80	16,600	148,450	400	83,000	
	CW-11-19	Bench Cutting for Dam Bench : 5.0m (1)	m3	5	20,219	67	11,868	101,095	335	59,340	
	CW-11-13	Loosed Soft Rock Excavation by Bulldozer of 32ton - 1	m3	45	2,260	60	2,130	101,700	2,700	95,850	
	CW-11-29	Small Breaks of Rock by Giant Breaker	m3	1	33,190	160	12,878	33,190	160	12,878	
	CW-11-38	Loading by Backfoe 1.2m3 (2)	m3	100	3,610	60	2,590	361,000	6,000	259,000	
	CW-11-39	Hauling of Soil Material for Disposal : 1km	m3	125	5,410	220	4,960	676,250	27,500	620,000	
	CW-1-12	Stope Clearing of Excavation by Machine	m2	1	4,018	66	3,760	4,018	66	3,760	
	CW-1-5	Spreading A	m3	75	2,941	35	2,823	220,575	2,625	211,725	at Disposal Site
Indirect Cost											
Site Expense			%	15	0.8		0.2	394,922	0	98,731	
Profit and Overhead Cost			%	10	0.9		0.1	340,620	0	37,847	
		Miscellaneous	L.S.					530	964	370	Round Up
Total for	100 m3							2,514,000	44,000	1,607,000	
Unit Cost for	1 m3							25,140	440	16,070	

Note : *1 : Assumed Excavation Proportion : 5.5m : 5% 2.5m : 5% Bull : 45% Ripper : 25%
Soil : 20%
*2 : Assumed Proportaion of Breaking : 10%
*3 : Cofficient of Soil Volume Soil : 1: 1 Rock : 1: 1.25 for Dump Truck

Table 4.2.5 (7/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-19 | Working Name: Surface Excavation : for Gallery | Calculation Quantity: 10 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-11-23	Excavation for Gallary (1)	m3	7	31,296	178	8,792	219,072	1,246	61,544	
	CW-11-24	Excavation for Gallary (2)	m3	3	32,381	206	9,910	97,143	618	29,730	
	CW-11-38	Loading by Backfoe 1.2m3 (2)	m3	10	3,610	60	2,590	36,100	600	25,900	
	CW-11-39	Hauling of Soil Material for Disposal : 1km	m3	13	5,410	220	4,960	67,625	2,750	62,000	
	CW-1-12	Slope Clearing of Excavation by Machine	m2	20	4,018	66	3,760	80,360	1,320	75,200	
	CW-1-5	Spreading A	m3	7.5	2,941	35	2,823	22,058	263	21,173	
Indirect Cost											
Site Expense			%	15	1		0	96,564	0	24,141	
Profit and Overhead Cost			%	10	1		0	83,287	0	9,254	
		Miscellaneous	L.S.					92	4	58	Round Up
Total for	10 m3							702,300	6,800	309,000	
Unit Cost for	1 m3							70,230	680	30,900	

Note : *1 : Cofficient of Soil Volume Soil : 1: 1 Rock : 1: 1.25 for Dump Truck
*2 : Soft Rock : Hard Rock = 70% : 30%

ID No. JD-P1-Bq-20 | Working Name: Surface Excavation : for Spillway | Calculation Quantity: 10 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-11-15	Combined Excavation ; Ripper Bull : 21ton	m3	1.7	3,570	90	3,380	6,069	153	5,746	
	CW-11-17	Bench Cutting for Dam Bench : 2.5m (1)	m3	0.3	29,690	80	16,600	8,907	24	4,980	
	CW-11-19	Bench Cutting for Dam Bench : 5.0m (1)	m3	0.5	20,219	67	11,868	10,110	34	5,934	
	CW-11-9	Clay Excavation by Bulldozer of 32ton - 1	m3	0.05	1,740	40	1,640	87	2	82	
	CW-11-11	Cobble Excavation by Bulldozer of 32ton - 1	m3	0.05	2,500	60	2,360	125	3	118	
	CW-11-21	Small Bench Cutting for Dam (1)	m3	0.3	29,685	147	10,012	8,906	44	3,004	
	CW-11-13	Loosed Soft Rock Excavation by Bulldozer of 32ton - 1	m3	7.1	2,260	60	2,130	16,046	426	15,123	
	CW-11-29	Small Breaks of Rock by Giant Breaker	m3	0.055	33,190	160	12,878	1,825	9	708	
	CW-11-30	Small Breaks of Rock by Blasting	m3	0.055	16,572	300	12,651	911	17	696	
	CW-11-38	Loading by Backfoe 1.2m3 (2)	m3	10	3,610	60	2,590	36,100	600	25,900	
	CW-11-39	Hauling of Soil Material for Disposal : 1km	m3	13	5,410	220	4,960	67,625	2,750	62,000	
	CW-1-12	Slope Clearing of Excavation by Machine	m2	3.3	4,018	66	3,760	13,259	218	12,408	
	CW-1-5	Spreading A	m3	7.5	2,941	35	2,823	22,058	263	21,173	at Disposal Site
Indirect Cost											
Site Expense			%	15	1		0	42,533	0	10,633	
Profit and Overhead Cost			%	10	1		0	36,685	0	4,076	
		Miscellaneous	L.S.					755	459	420	Round Up
Total for	10 m3							272,000	5,000	173,000	
Unit Cost for	1 m3							27,200	500	17,300	

Note : *1 : Assumed Excavation Proportion : 5.5m : 5% 2.5m : 3% Small : 3% Ripper Bull : 17%
Bull : 71% Soil : 1%
*2 : Assumed Proportaion of Breaking : 10%
*3 : Cofficient of Soil Volume Soil : 1: 1 Rock : 1: 1.25 for Dump Truck

Table 4.2.5 (8/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-21 | Working Name: Surface Excavation : for Inclined Intake Structure | Calculation Quantity: 10 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-11-9	Clay Excavation by Bulldozer of 32ton - 1	m3	4.5	1,740	40	1,640	7,830	180	7,380	for soil
	CW-11-11	Cobble Excavation by Bulldozer of 32ton - 1	m3	4.5	2,500	60	2,360	11,250	270	10,620	for rock
	CW-11-13	Loosed Soft Rock Excavation by Bulldozer of 32ton - 1	m3	1	2,260	60	2,130	2,260	60	2,130	
	CW-11-37	Loading by Backfoe 1.2m3 (1)	m3	10	3,280	60	2,380	32,800	600	23,800	
	CW-11-40	Hauling of Dam Material for Core : 2km	m3	9	5,710	230	5,230	51,390	2,070	47,070	for soil
	CW-11-40	Hauling of Dam Material for Core : 2km	m3	1.25	5,710	230	5,230	7,138	288	6,538	for rock
	CW-1-12	Slope Clearing of Excavation by Machine	m2	4.2	4,018	66	3,760	16,876	277	15,792	
	CW-1-5	Spreading A	m3	7	2,941	35	2,823	20,587	245	19,761	for rock
Indirect Cost											
Site Expense			%	15	1		0	34,465	0	8,616	
Profit and Overhead Cost			%	10	1		0	29,726	0	3,303	
		Miscellaneous	L.S.					78	10	90	Round Up
Total for	10 m3							214,400	4,000	145,100	
Unit Cost for	1 m3							21,440	400	14,510	

Note : *1 : Assumed Excavation Proportion : Soil : 90% Ripper : 10%
*2 : Cofficient of Soil Volume Soil : 1: 1 Rock : 1: 1.25 for Dump Truck
*3 : Cofficient of Soil Volume Rock : 1: 1 Soil : 1: 0.62 for Loading

ID No. JD-P1-Bq-22 | Working Name: Surface Excavation : for Hydropower Station | Calculation Quantity: 10 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-1-47	Excavation B	m3	1	2,951	48	2,138	2,951	48	2,138	
	CW-11-19	Bench Cutting for Dam Bench : 5.0m (1)	m3	3	20,219	67	11,868	60,657	201	35,604	
	CW-11-3	Clay Excavation by Bulldozer of 21ton - 1	m3	1	1,890	50	1,790	1,890	50	1,790	
	CW-11-5	Cobble Excavation by Bulldozer of 21ton - 1	m3	2	2,730	70	2,580	5,460	140	5,160	
	CW-11-15	Combined Excavation ; Ripper Bull : 21ton	m3	3	3,570	90	3,380	10,710	270	10,140	
	CW-11-37	Loading by Backfoe 1.2m3 (1)	m3	4	3,280	60	2,380	13,120	240	9,520	
	CW-11-38	Loading by Backfoe 1.2m3 (2)	m3	3	3,610	60	2,590	10,830	180	7,770	
	CW-11-39	Hauling of Soil Material for Disposal : 1km	m3	4	5,410	220	4,960	21,640	880	19,840	
	CW-11-39	Hauling of Soil Material for Disposal : 1km	m3	3.75	5,410	220	4,960	20,288	825	18,600	
	CW-1-5	Spreading A	m3	4.85	2,941	35	2,823	14,264	170	13,692	
Others											
Indirect Cost											
Site Expense			%	15	1		0	34,688	0	8,672	
Profit and Overhead Cost			%	10	1		0	29,918	0	3,324	
		Miscellaneous	L.S.					84	96	50	Round Up
Total for	10 m3							226,500	3,100	136,300	
Unit Cost for	1 m3							22,650	310	13,630	

Note : *1 : Assumed Excavation Proportion : Soil : 10% Backhoe Soil : 10% Bull21ton Cobble : 20% Bull21ton Rock : 30% Ripper
Soil : 30% with bench
*2 : Cofficient of Soil Volume Soil : 1: 1 Rock : 1: 1.25 for Dump Truck Hawling Rock

Table 4.2.5 (9/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-23 Working Name: Surface Excavation : for Dam management Complex

Calculation Quantity: 10 m3 Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-1-47	Excavation B	m3	3	2,951	48	2,138	8,853	144	6,414	
	CW-11-3	Clay Excavation by Bulldozer of 21ton - 1	m3	4	1,890	50	1,790	7,560	200	7,160	
	CW-11-5	Cobble Excavation by Bulldozer of 21ton - 1	m3	2	2,730	70	2,580	5,460	140	5,160	
	CW-11-15	Combined Excavation ; Ripper Bull : 21ton	m3	1	3,570	90	3,380	3,570	90	3,380	
	CW-11-37	Loading by Backfoe 1.2m3 (1)	m3	9	3,280	60	2,380	29,520	540	21,420	
	CW-11-38	Loading by Backfoe 1.2m3 (2)	m3	1	3,610	60	2,590	3,610	60	2,590	
	CW-11-39	Hauling of Soil Material for Disposal : 1km	m3	9	5,410	220	4,960	48,690	1,980	44,640	
	CW-11-39	Hauling of Soil Material for Disposal : 1km	m3	1.25	5,410	220	4,960	6,763	275	6,200	
	CW-1-5	Spreading A	m3	6.6	2,941	35	2,823	19,411	231	18,632	
Others											
Indirect Cost											
Site Expense			%	15	1		0	30,323	0	7,581	
Profit and Overhead Cost			%	10	1		0	26,154	0	2,906	
		Miscellaneous	L.S.					87	40	17	Round Up
Total for	10 m3							190,000	3,700	126,100	
Unit Cost for	1 m3							19,000	370	12,610	

Note : *1 : Assumed Excavation Proportion : Soil : 30% Backhoe, Soil : 40% Bull21ton, Cobble : 20% Bull21ton, Rock : 10% Ripper

*2 : Cofficient of Soil Volume Soil : 1: 1 Rock : 1: 1.25 for Dump Truck Hawling Rock

ID No. JD-P1-Bq-24 Working Name: Exploratory Trench Excavation in Common

Calculation Quantity: 10 m3 Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-1-47	Excavation B	m3	10	2,951	48	2,138	29,510	480	21,380	
	CW-1-1	Backfill (Soil) A	m3	10	6,076	87	5,043	60,760	870	50,430	
Indirect Cost											
Site Expense			%	15	1		0	19,612	0	4,903	
Profit and Overhead Cost			%	10	1		0	16,915	0	1,879	
		Miscellaneous	L.S.					3	50	8	Round Up
Total for	10 m3							126,800	1,400	78,600	
Unit Cost for	1 m3							12,680	140	7,860	

ID No. JD-P1-Bq-25 Working Name: Exploratory Trench Excavation in Rock

Calculation Quantity: 10 m3 Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-1-47	Excavation B	m3	14	2,951	48	2,138	42,199	686	30,573	for Rock
	CW-1-1	Backfill (Soil) A	m3	18	6,076	87	5,043	106,938	1,531	88,757	for Rock
Indirect Cost											
Site Expense			%	15	1		0	32,482	0	8,121	
Profit and Overhead Cost			%	10	1		0	28,016	0	3,113	
		Miscellaneous	L.S.					65	82	36	Round Up
Total for	10 m3							209,700	2,300	130,600	
Unit Cost for	1 m3							20,970	230	13,060	

Note : *1 : Extra Ratio for Rock : 10% for Depreciation Cost
60% for Backfill
30% for Excavation

Hence, 143% as Extra Volume for Excavation
176% as Extra Volume for Backfill

Table 4.2.5 (10/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-26 | Working Name: Construction of Common Fill or Backfill | Calculation Quantity: 10 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-11-39	Hauling of Soil Material for Disposal : 1km	m3	10	5,410	220	4,960	54,100	2,200	49,600	Not Disposal In place of Hauling
	CW-1-1	Backfill (Soil) A	m3	4	6,076	87	5,043	24,304	348	20,172	
	CW-1-2	Backfill (Soil) B	m3	3	7,022	103	6,326	21,066	309	18,978	
	CW-1-3	Backfill (Soil) C	m3	2	6,392	98	6,338	12,784	196	12,676	
	CW-1-4	Backfill (Soil) D	m3	1	6,038	132	7,114	6,038	132	7,114	
Indirect Cost											
Site Expense			%	15	1		0	27,602	0	6,901	
Profit and Overhead Cost			%	10	1		0	23,807	0	2,645	
		Miscellaneous	L.S.					99	15	14	Round Up
Total for	10 m3							169,800	3,200	118,100	
Unit Cost for	1 m3							16,980	320	11,810	

Note : *1 : Assumed Excavation Proportion : A : 40% B : 30% C : 20% D : 10%

ID No. JD-P1-Bq-27 | Working Name: Construction of Backfill Gravel or Gravel Bedding (Crushed Stone) | Calculation Quantity: 10 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Labour											
	L-2-23	Common Labour	day	1.5	0	0	35,100	0	0	52,650	
Material											
	M-B-12	Crushed Stone for Pavement and Concrete	m3	10	0	3,250	61,750	0	32,500	617,500	
Indirect Cost											
Site Expense			%	15	1		0	84,318	0	21,080	
Profit and Overhead Cost			%	10	1		0	72,724	0	8,080	
		Miscellaneous	L.S.					58	0	90	Round Up
Total for	10 m3							157,100	32,500	699,400	
Unit Cost for	1 m3							15,710	3,250	69,940	

Note : *1 :

ID No. JD-P1-Bq-28 | Working Name: Clearing Surfaces in Exposed Foundation for Inspection | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-11-45	Final Excavation for Dam Foundation	m2	10	9,967	346	25,630	99,670	3,460	256,300	
	CW-11-46	Foundation Rocks Cleaning	m2	10	9,578	346	30,875	95,780	3,460	308,750	
Indirect Cost											
Site Expense			%	15	1		0	92,090	0	23,023	
Profit and Overhead Cost			%	10	1		0	79,428	0	8,825	
		Miscellaneous	L.S.					32	80	2	Round Up
Total for	10 m2							367,000	7,000	596,900	
Unit Cost for	1 m2							36,700	700	59,690	

ID No. JD-P1-Bq-29 | Working Name: Construction of Random Fill for Temporary Cofferdam | Calculation Quantity: 10 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-11-39	Hauling of Soil Material for Disposal : 1km	m3	13	5,410	220	4,960	71,953	2,926	65,968	
	CW-1-58	Spreading and Compaction for Earth Filling	m3	10	2,834	36	2,633	28,338	363	26,326	
Indirect Cost											
Site Expense			%	15	1		0	23,505	0	5,876	
Profit and Overhead Cost			%	10	1		0	20,273	0	2,253	
		Miscellaneous	L.S.					31	11	77	Round Up
Total for	10 m3							144,100	3,300	100,500	
Unit Cost for	1 m3							14,410	330	10,050	

Note : *1 : Extra Rate of Coffer Dam : Loosed Soil : 1.2 Compacted Soil : 0.9
Hnece, 1.33

Table 4.2.5 (11/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-32 | Working Name: Underground Excavation : for Diversion Tunnel | Calculation Quantity: 10 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost I/C	Cost PF/C	Cost IF/C	Cost I/C	Remarks
Direct Cost											
Equipment											
	A-2-4-13	Drill Jumbo crawler 2boom oilpressure 150kg	hourly	-0.40425	1,122,624	1,920	760,208	-453,821	-776	-307,314	
	A-2-1-77	Truck Mixer; 1.6 m3	hourly	-0.349965	35,073	996	28,463	-12,274	-349	-9,961	
	A-2-4-19	Accelerator Supplier	daily	-0.062139	293,663	0	144,274	-18,248	0	-8,965	
	A-2-4-20	Dust Chamber; 300m3/min	hourly	-0.199584	214,326	0	93,185	-42,776	0	-18,598	
	A-2-3-8	Concrete Plant; 15 m3/hour DSS system	hourly	-0.1155	2,581,812	0	1,556,284	-298,199	0	-179,751	
	A-2-1-31	Truck with crane; 4 ton, Crane : 2.9 ton	hourly	-0.05775	48,670	780	47,768	-2,811	-45	-2,759	
	A-2-4-13	Drill Jumbo crawler 2boom oilpressure 150kg	hourly	-0.077372	1,122,624	1,920	760,208	-86,860	-149	-58,819	
	A-2-1-77	Truck Mixer; 1.6 m3	hourly	-0.171216	35,073	996	28,463	-6,005	-171	-4,873	
	A-2-4-19	Accelerator Supplier	daily	-0.031204	293,663	0	144,274	-9,163	0	-4,502	
	A-2-4-20	Dust Chamber; 300m3/min	hourly	-0.100224	214,326	0	93,185	-21,481	0	-9,339	
	A-2-3-8	Concrete Plant; 15 m3/hour DSS system	hourly	-0.058	2,581,812	0	1,556,284	-149,745	0	-90,264	
	A-2-1-31	Truck with crane; 4 ton, Crane : 2.9 ton	hourly	-0.029	48,670	780	47,768	-1,411	-23	-1,385	
Working Base Cost											
	CW-7-3	Operation of Shotcrete Machines for Diversion	hour	-0.102608	441,624	2,540	297,922	-45,314	-261	-30,569	
	CW-7-4	Operation of Mortar Injection Machines for Diversion	day	-0.030935	73,008	670	58,053	-2,258	-21	-1,796	
	CW-7-15	Operation of Air Compressor	month	0.00274	5,879,191	211,968	7,007,379	16,114	581	19,207	
	CW-7-16	Installation & Removal of Air Compressor	cmprsr	0.00055	1,936,406	12,900	2,534,994	1,062	7	1,390	
	CW-7-20	Installation & Removal of Air Ventilation Pipe	m	350	0	0	3,120	0	0	1,092,000	
	CW-7-1	Excavation of Upper Part for Diversion	cycle	0.231	5,818,420	15,052	3,599,996	1,344,055	3,477	831,599	
	CW-7-2	Excavation of Lower Part for Diversion	cycle	0.116	5,384,462	13,023	3,115,985	624,598	1,511	361,454	
Indirect Cost											
Site Expense			%	15	0.8		0.2	289,920	0	72,480	
Profit and Overhead Cost			%	10	0.9		0.1	250,056	0	27,784	
		Miscellaneous	L.S.					62	17	82	Round Up
Total for	10 m3							1,375,500	3,800	1,677,100	
Unit Cost for	1 m3							137,550	380	167,710	

Note : *1 : Excavation Volume of Upper Part at 1.0 cycle 21.3 m2 x 1 m = 21.3 m3
*2 : Excavation Volume of Lower Part at 1.0 cycle 21.9 m2 x 2 m = 43.8 m3
*3 : Ratio between Upper and Lower Part : 21.3 : 21.9 = 0.493 : 0.507
*4 : Air Compressor 5 months / 18242 m3 x 10 m3 = 0.00274 months

Table 4.2.5 (12/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-33 Working Name: Underground Excavation : for Outlet Tunnel — Calculation Quantity: 10 m3 — Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Equipment											
	A-2-2-32	Leg Hammer; 40 kg	daily	-0.4372	45408.606	0	16026.567	-19,853	0	-7,007	
	A-2-1-8	Backhoe; 0.6 m3 for Rock	hourly	-0.13116	138097.2	2040	99245.566	-18,113	-268	-13,017	
	A-2-1-49	Dumptruck; 10 ton for Rock	hourly	-0.36069	84995.896	3210	77194.516	-30,657	-1,158	-27,843	for supporting & Wire Net
	A-2-1-77	Truck Mixer; 1.6 m3	hourly	-2.060305	35072.552	996	28463.4	-72,260	-2,052	-58,643	
	A-2-4-19	Accelerator Supplier	daily	-0.289645	293663.17	0	144273.54	-85,058	0	-41,788	
	A-2-4-20	Dust Chamber; 300m3/min	hourly	-1.406691	214326.14	0	93185.278	-301,491	0	-131,083	
	A-2-3-8	Concrete Plant; 15 m3/hour DSS system	hourly	-0.5465	2581811.6	0	1556283.7	-1,410,960	0	-850,509	
	A-2-1-31	Truck with crane; 4 ton, Crane : 2.9 ton	hourly	-0.27325	48669.751	780	47767.648	-13,299	-213	-13,053	
Working Base Cost											
	CW-8-2	Operation of Shotcrete Machines for Intake	hour	-1.406691	267257.5	2539.908	192816.74	-375,949	-3,573	-271,234	
	CW-8-3	Operation of Mortar Injection Machines for Intake	day	-0.289645	73007.781	669.6	58052.526	-21,146	-194	-16,815	
	CW-8-12	Operation of Air Compressor for Intake Tunnel	month	0.00661	5879190.5	211968	7007379.2	38,849	1,401	46,304	
	CW-8-13	Installation & Removal of Air Compressor for Intake	cmprsr	0.00441	1936406.3	12900	2534994.4	8,530	57	11,167	
	CW-8-16	Installation & Removal of Air Ventilation Pipe for Intake	m	350	0	0	3120	0	0	1,092,000	
	CW-8-1	Excavation of Upper Part for Intake	cycle	1.093	3033145.1	8992.551	1932635	3,315,228	9,829	2,112,370	
Indirect Cost											
Site Expense			%	15	0.8		0.2	341,820	0	85,455	
Profit and Overhead Cost			%	10	0.9		0.1	294,820	0	32,758	
		Miscellaneous	L.S.					38	71	37	Round Up
Total for	10 m3							1,650,500	3,900	1,949,100	
Unit Cost for	1 m3							165,050	390	194,910	

Note : *1 : Excavation Volume of Upper Part at 1.0 cycle 6.1 m2 x 1.5 m = 9.15 m3

*2 : Air Compressor 1.5 months / 2270 m3 x 10 m3 = 0.00661 months

ID No. JD-P1-Bq-35 Working Name: Furnishing and Installing Steel Rib Support and Accessories : for Diversion Tunnel — Calculation Quantity: 1 ton — Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-7-9	Material of Steel Support of Diversion in Typical Section	set	2.273	2517053.9	0	132476.52	5,721,263	0	301,119	
Indirect Cost											
Site Expense			%	15	0.8		0.2	722,686	0	180,671	
Profit and Overhead Cost			%	10	0.9		0.1	623,317	0	69,257	
		Miscellaneous	L.S.					34	0	52	Round Up
Total for	1 ton							7,067,300	0	551,100	
Unit Cost for	1 ton							7,067,300	0	551,100	

Note : *1 : Material Steel Support : 1 set = 400 kg + 10% accessory = 440 kg/set

ID No. JD-P1-Bq-36 Working Name: Furnishing and Installing Steel Rib Support and Accessories : for Outlet Tunnel — Calculation Quantity: 1 ton — Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-8-7	Material of Steel Support of Typical Section of Intake	set	3.497	1608104.5	0	84637.08	5,623,542	0	295,976	
Indirect Cost											
Site Expense			%	15	0.8		0.2	710,342	0	177,586	
Profit and Overhead Cost			%	10	0.9		0.1	612,670	0	68,074	
		Miscellaneous	L.S.					46	0	64	Round Up
Total for	1 ton							6,946,600	0	541,700	
Unit Cost for	1 ton							6,946,600	0	541,700	

Note : *1 : Material Steel Support : 1 set = 260 kg + 10% accessory = 286 kg/set

Table 4.2.5 (13/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-38 | Working Name: Production and Placing Shotcrete Lining : for Diversion Tunnel | Calculation Quantity: 10 m3 of excavation | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Equipment											
	A-2-4-8	Tunnel Excavator for Diversion	hourly	-0.145299	1,172,031	0	583,753	-170,295	0	-84,819	
	A-2-4-13	Drill Jumbo crawler 2boom oilpressure 150kg	hourly	-0.40425	1122623.6	1920	760207.91	-453,821	-776	-307,314	
	A-2-1-8	Backhoe; 0.6 m3 for Rock	hourly	-0.09933	138097.2	2040	99245.566	-13,717	-203	-9,858	
	A-2-1-49	Dumptruck; 10 ton for Rock	hourly	-0.393624	84995.896	3210	77194.516	-33,456	-1,264	-30,386	
	A-2-4-10	Load Haul Dump 1.7m3	hourly	-0.231	239227.1	972	150129.3	-55,261	-225	-34,680	in Tunnel
	A-2-1-31	Truck with crane; 4 ton, Crane : 2.9 ton	hourly	-0.05775	48669.751	780	47767.648	-2,811	-45	-2,759	
Labour											
	L-2-36	Chief of Tunnel Worker	day	-0.139755	0	0	70300	0	0	-9,825	
	L-2-37	Tunnel Specialist	day	-0.698313	0	0	60500	0	0	-42,248	
	L-2-9	Tunnel Worker	day	-0.139755	0	0	46900	0	0	-6,555	
Material											
	M-J-6	Cutter Bit (RM 8-25)	pcs	-0.196812	631125	0	33217.105	-124,213	0	-6,538	
Equipment											
	A-2-4-8	Tunnel Excavator for Diversion	hourly	-0.15022	1,172,031	0	583,753	-176,063	0	-87,691	
	A-2-1-8	Backhoe; 0.6 m3 for Rock	hourly	-0.05104	138097.2	2040	99245.566	-7,048	-104	-5,065	
	A-2-1-49	Dumptruck; 10 ton for Rock	hourly	-0.20416	84995.896	3210	77194.516	-17,353	-655	-15,760	
	A-2-4-10	Load Haul Dump 1.7m3	hourly	-0.116	239227.1	972	150129.3	-27,750	-113	-17,415	
	A-2-1-31	Truck with crane; 4 ton, Crane : 2.9 ton	hourly	-0.029	48669.751	780	47767.648	-1,411	-23	-1,385	
Labour											
	L-2-36	Chief of Tunnel Worker	day	-0.07018	0	0	70300	0	0	-4,934	
	L-2-37	Tunnel Specialist	day	-0.280604	0	0	60500	0	0	-16,977	
	L-2-9	Tunnel Worker	day	-0.07018	0	0	46900	0	0	-3,291	
Material											
	M-J-6	Cutter Bit (RM 8-25)	pcs	-0.10208	631125	0	33217.105	-64,425	0	-3,391	
Working Base Cost											
	CW-7-4	Operation of Mortar Injection Machines for Diversion	day	-0.093343	73007.781	669.6	58052.526	-6,815	-63	-5,419	
	CW-7-1	Excavation of Upper Part for Diversion	cycle	0.231	5818420	15052.44	3599996.1	1,344,055	3,477	831,599	
	CW-7-2	Excavation of Lower Part for Diversion	cycle	0.116	5384462.3	13022.97	3115985.3	624,598	1,511	361,454	
	CW-7-5	Material of Shotcrete of upper part of Diversion	m2	2.4717	0	29018.53	95700.343	0	71,725	236,543	
	CW-7-6	Material of Shotcrete of lower part of Diversion	m2	2.5984	0	25794.25	85066.972	0	67,024	221,038	
	CW-7-17	Installation & Removal of Shotcrete Plant	plant	0.000548	5809218.8	38700	8785483.3	3,185	21	4,816	
Indirect Cost											
Site Expense			%	15	0.8		0.2	230,019	0	57,505	
Profit and Overhead Cost			%	10	0.9		0.1	198,392	0	22,044	
Total for	10	m3 of excavation						1,245,808	140,289	1,038,690	
Unit Cost for	1	m3 of excavation						124,581	14,029	103,869	
Unit Cost for	1	m3 of shotcrete						1,228,584	138,349	1,024,329	
		Miscellaneous	L.S.					6	1	1	Round Up
Unit Cost for	1	m3	shotcrete					1,228,590	138,350	1,024,330	

Note : *1 : Shotcrete Volume of Upper Part at 1.0 cycle

20 cm x 10.7 m2 x 1 m = 2.140 m3

*2 : Shotvrete Volume of Lower Part at 1.0 cycle

20 cm x 11.2 m2 x 2 m = 4.480 m3

*3 : Volume of Shotcrete per 10m3 of excavation 1.01402 m3

*4 : Shotcrete 1 point x 10 m3 / 18,242 m3 = 0.000548 plant

Table 4.2.5 (14/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-39 | Working Name: Production and Placing Shotcrete Lining : for Outlet Tunnel | Calculation Quantity: 10 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Equipment											
	A-2-4-8	Tunnel Excavator for Diversion	hourly	-0.444851	1,172,031	0	583,753	-521,379	0	-259,683	
	A-2-2-32	Leg Hammer; 40 kg	daily	-0.437	45408.606	0	16026.567	-19,853	0	-7,007	
	A-2-1-8	Backhoe; 0.6 m3 for Rock	hourly	-0.13116	138097.2	2040	99245.566	-18,113	-268	-13,017	
	A-2-1-49	Dumptruck; 10 ton for Rock	hourly	-0.57929	84995.896	3210	77194.516	-49,237	-1,860	-44,718	
	A-2-1-49	Dumptruck; 10 ton for Rock	hourly	-0.36069	84995.896	3210	77194.516	-30,657	-1,158	-27,843	for supporting & Wire Net
	A-2-4-10	Load Haul Dump 1.7m3	hourly	-0.3279	239227.1	972	150129.3	-78,443	-319	-49,227	
	A-2-1-31	Truck with crane; 4 ton, Crane : 2.9 ton	hourly	-0.27325	48669.751	780	47767.648	-13,299	-213	-13,053	
Labour											
	L-2-36	Chief of Tunnel Worker	day	-0.650335	0	0	70300	0	0	-45,719	
	L-2-37	Tunnel Specialist	day	-3.253861	0	0	60500	0	0	-196,859	
	L-2-9	Tunnel Worker	day	-0.650335	0	0	46900	0	0	-30,501	
Material											
	M-J-6	Cutter Bit (RM 8-25)	pcs	-0.400038	631125	0	33217.105	-252,474	0	-13,288	
Working Base Cost											
	CW-8-4	Material of Shotcrete of Intake Tunnel	m2	2.277266	0	29018.53	95700.343	0	66,083	217,935	
	CW-8-3	Operation of Mortar Injection Machines for Intake	day	-0.289645	73007.781	669.6	58052.526	-21,146	-194	-16,815	
	CW-8-1	Excavation of Upper Part for Intake	cycle	1.093	3033145.1	8992.551	1932635	3,315,228	9,829	2,112,370	
	CW-8-14	Installation & Removal of Shotcrete Plant for Intake	plant	0.004405	5809218.8	38700	8785483.3	25,591	170	38,703	
Indirect Cost											
Site Expense			%	15	0.8		0.2	487,148	0	121,787	
Profit and Overhead Cost			%	10	0.9		0.1	420,165	0	46,685	
Total for	10 m3							3,243,531	72,072	1,819,751	
Unit Cost for	1 m3							324,353	7,207	181,975	
Unit Cost for	1 m3 of shotcrete							1,424,310	31,648	799,095	
		Miscellaneous	L.S.					0	2	5	Round Up
Unit Cost for	1 m3		shotcrete					1,424,310	31,650	799,100	

Note : *1 : Shotcrete Volume of Upper Part at 1.0 cycle

15 cm x 9.26 m2 x 2 m = 2.084 m3

*2 : Volume of Shotcrete per 10m3 of excavation 2.2772655 m3

*3 : Shotcrete 1 point x 10 m3 / 2,270 m3 = 0.004405 plant

ID No. JD-P1-Bq-41 | Working Name: Furnishing and Installing Steel Mesh Reinforcement : for Diversion Tunnel | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-7-8	Material of Wire Mesh Work	m2	10	0	3888	9072	0	38,880	90,720	
Indirect Cost											
Site Expense			%	15	0.8		0.2	15,552	0	3,888	
Profit and Overhead Cost			%	10	0.9		0.1	13,414	0	1,490	
Total for	10 m2							28,966	38,880	96,098	
Unit Cost for	1 m2							2,897	3,888	9,610	
Unit Cost for	1 kg							1,360	1,825	4,512	
		Miscellaneous	L.S.					0	5	8	Round Up
Unit Cost for	1 kg							1,360	1,830	4,520	

Note : *1 : Labor and Equipment Costs are included in Other Cost.

*2 : Steel Wire Mesh : 2.13 kg/m2

ID No. JD-P1-Bq-42 | Working Name: Furnishing and Installing Steel Mesh Reinforcement : for Outlet Tunnel | Calculation Quantity: 10 m2 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-7-8	Material of Wire Mesh Work	m2	10	0	3888	9072	0	38,880	90,720	
Indirect Cost											
Site Expense			%	15	0.8		0.2	15,552	0	3,888	
Profit and Overhead Cost			%	10	0.9		0.1	13,414	0	1,490	
Total for	10 m2							28,966	38,880	96,098	
Unit Cost for	1 m2							2,897	3,888	9,610	
Unit Cost for	1 kg							1,360	1,825	4,512	
		Miscellaneous	L.S.					0	5	8	Round Up
Unit Cost for	1 kg							1,360	1,830	4,520	

Note : *1 : Labor and Equipment Costs are included in Other Cost.

*2 : Steel Wire Mesh : 2.13 kg/m2

Table 4.2.5 (15/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-44 Working Name: Furnishing and Installing Rock Bolts : for Diversion Tunnel (25mm dia.)

Calculation Quantity: 10 m3 of excavation

Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost LC	Cost PF/C	Cost IF/C	Cost LC	Remarks
Direct Cost											
Equipment											
	A-2-4-8	Tunnel Excavator for Diversion	hourly	-0.145299	1,172,031	0	583,753	-170,295	0	-84,819	
	A-2-1-49	Dumptruck; 10 ton for Rock	hourly	-0.393624	84995.896	3210	77194.516	-33,456	-1,264	-30,386	
	A-2-4-10	Load Haul Dump 1.7m3	hourly	-0.231	239227.1	972	150129.3	-55,261	-225	-34,680	in Tunnel
	A-2-1-77	Truck Mixer; 1.6 m3	hourly	-0.349965	35072.552	996	28463.4	-12,274	-349	-9,961	
	A-2-4-19	Accelerator Supplier	daily	-0.062139	293663.17	0	144273.54	-18,248	0	-8,965	
	A-2-4-20	Dust Chamber; 300m3/min	hourly	-0.199584	214326.14	0	93185.278	-42,776	0	-18,598	
	A-2-3-8	Concrete Plant; 15 m3/hour DSS system	hourly	-0.1155	2581811.6	0	1556283.7	-298,199	0	-179,751	
Labour											
	L-2-36	Chief of Tunnel Worker	day	-0.139755	0	0	70300	0	0	-9,825	
	L-2-37	Tunnel Specialist	day	-0.698313	0	0	60500	0	0	-42,248	
	L-2-9	Tunnel Worker	day	-0.139755	0	0	46900	0	0	-6,555	
Material											
	M-J-6	Cutter Bit (RM 8-25)	pcs	-0.196812	631125	0	33217.105	-124,213	0	-6,538	
Equipment											
	A-2-4-8	Tunnel Excavator for Diversion	hourly	-0.15022	1,172,031	0	583,753	-176,063	0	-87,691	
	A-2-4-13	Drill Jumbo crawler 2boom oilpressure 150kg	hourly	-0.077372	1122623.6	1920	760207.91	-86,860	-149	-58,819	
	A-2-1-49	Dumptruck; 10 ton for Rock	hourly	-0.20416	84995.896	3210	77194.516	-17,353	-655	-15,760	
	A-2-4-10	Load Haul Dump 1.7m3	hourly	0.116	239227.1	972	150129.3	27,750	113	17,415	
	A-2-1-77	Truck Mixer; 1.6 m3	hourly	-0.171216	35072.552	996	28463.4	-6,005	-171	-4,873	
	A-2-4-19	Accelerator Supplier	daily	-0.031204	293663.17	0	144273.54	-9,163	0	-4,502	
	A-2-4-20	Dust Chamber; 300m3/min	hourly	-0.100224	214326.14	0	93185.278	-21,481	0	-9,339	
	A-2-3-8	Concrete Plant; 15 m3/hour DSS system	hourly	-0.058	2581811.6	0	1556283.7	-149,745	0	-90,264	
Labour											
	L-2-36	Chief of Tunnel Worker	day	-0.07018	0	0	70300	0	0	-4,934	
	L-2-37	Tunnel Specialist	day	-0.280604	0	0	60500	0	0	-16,977	
	L-2-9	Tunnel Worker	day	-0.07018	0	0	46900	0	0	-3,291	
Material											
	M-J-6	Cutter Bit (RM 8-25)	pcs	-0.10208	631125	0	33217.105	-64,425	0	-3,391	
Working Base Cost											
	CW-7-3	Operation of Shotcrete Machines for Diversion	hour	-0.290092	441623.67	2539.908	297922.48	-128,111	-737	-86,425	
	CW-7-1	Excavation of Upper Part for Diversion	cycle	0.231	5818420	15052.44	3599996.1	1,344,055	3,477	831,599	
	CW-7-2	Excavation of Lower Part for Diversion	cycle	0.116	5384462.3	13022.97	3115985.3	624,598	1,511	361,454	
	CW-7-7	Material for Rockbolt Working of Diversion L=3.0m	piece	2.543	87037.875	718.485	7544.6558	221,337	1,827	19,186	
Indirect Cost											
Site Expense			%	15	0.8		0.2	146,191	0	36,548	
Profit and Overhead Cost			%	10	0.9		0.1	126,089	0	14,010	
Total for	10 m3 of excavation							1,076,091	3,380	461,621	
Unit Cost for	1 m3 of excavation							107,609	338	46,162	
Unit Cost for	1 m of Rockbolt							119,287	375	51,172	
Unit Cost for	1 m	Miscellaneous	L.S. Rockbolt					3	5	8	Round Up
								119,290	380	51,180	

Note : *1 : Rockbolt Length of Upper Part at 1.0 cycle 3 m x 9 pieces x 1 m = 27.000 m

*2 : Rockbolt Length of Lower Part at 1.0 cycle 3 m x 4 pieces x 2 m = 24.000 m

*3 : Length of Rockbolt per 10m3 of excavation 9.021 m

Table 4.2.5 (16/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-45 Working Name: Furnishing and Installing Rock Bolts : for Outlet Tunnel (22mm dia.)

Calculation Quantity: 10 m3 of excavation Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Equipment											
	A-2-4-8	Tunnel Excavator for Diversion	hourly	-0.444851	1,172,031	0	583,753	-521,379	0	-259,683	
	A-2-1-49	Dumptruck; 10 ton for Rock	hourly	-0.57929	84995.896	3210	77194.516	-49,237	-1,860	-44,718	
	A-2-1-49	Dumptruck; 10 ton for Rock	hourly	-0.36069	84995.896	3210	77194.516	-30,657	-1,158	-27,843	for supporting & Wire Net
	A-2-4-10	Load Haul Dump 1.7m3	hourly	-0.3279	239227.1	972	150129.3	-78,443	-319	-49,227	
	A-2-1-77	Truck Mixer; 1.6 m3	hourly	-2.060305	35072.552	996	28463.4	-72,260	-2,052	-58,643	
	A-2-4-19	Accelerator Supplier	daily	-0.289645	293663.17	0	144273.54	-85,058	0	-41,788	
	A-2-4-20	Dust Chamber; 300m3/min	hourly	-1.406691	214326.14	0	93185.278	-301,491	0	-131,083	
	A-2-3-8	Concrete Plant; 15 m3/hour DSS system	hourly	-0.5465	2581811.6	0	1556283.7	-1,410,960	0	-850,509	
Labour											
	L-2-36	Chief of Tunnel Worker	day	-0.650335	0	0	70300	0	0	-45,719	
	L-2-37	Tunnel Specialist	day	-3.253861	0	0	60500	0	0	-196,859	
	L-2-9	Tunnel Worker	day	-0.650335	0	0	46900	0	0	-30,501	
Material											
	M-J-6	Cutter Bit (RM 8-25)	pcs	-0.400038	631125	0	33217.105	-252,474	0	-13,288	
Working Base Cost											
	CW-8-2	Operation of Shotcrete Machines for Intake	hour	-1.406691	267257.5	2539.908	192816.74	-375,949	-3,573	-271,234	
	CW-8-1	Excavation of Upper Part for Intake	cycle	1.093	3033145.1	8992.551	1932635	3,315,228	9,829	2,112,370	
	CW-8-5	Material for Rockbolt Working of Intake	piece	3.279	41137.875	718.485	5128.8663	134,891	2,356	16,818	
Indirect Cost											
Site Expense			%	15	0.8		0.2	46,023	0	11,506	
Profit and Overhead Cost			%	10	0.9		0.1	39,695	0	4,411	
Total for	10	m3 of excavation						357,929	3,224	124,009	
Unit Cost for	1	m3 of excavation						35,793	322	12,401	
Unit Cost for	1	m of Rockbolt						48,515	437	16,809	
		Miscellaneous	L.S.					5	3	1	Round Up
Unit Cost for	1	m	Rockbolt					48,520	440	16,810	

Note : *1 : Rockbolt Length of Upper Part at 1.0 cycle

1.5 m x 3 pieces x 1.5 m = 6.750 m

*2 : Length of Rockbolt per 10m3 of excavation 7.37775 m

Table 4.2.5 (17/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. Working Name — Calculation Quantity — Remarks

JD-P1-Bq-48 Core Drilling (66mm dia.) : from within Gallary — 10 m

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-10-1	Rotally Boring Dia.66mm with Core 1	m	9.1	437154.1	278.7986	159799.2	3,978,102	2,537	1,454,173	
	CW-10-2	Rotally Boring Dia.66mm with Core 2	m	0.9	442019.2	314.7606	183099.8	397,817	283	164,790	
Indirect Cost											
Site Expense			%	15	0.8		0.2	719,724	0	179,931	
Profit and Overhead Cost			%	10	0.9		0.1	620,762	0	68,974	
		Miscellaneous	L.S.					94	80	33	Round Up
Total for	10 m							5,716,500	2,900	1,867,900	
Unit Cost for	1 m							571,650	290	186,790	

Note : *1 : Total Length of Vertical Boring : 1000 m
*2 : Total Length of Oblique Boring : 100 m

ID No. Working Name — Calculation Quantity — Remarks

JD-P1-Bq-49 Core Drilling (66mm dia.) : from Surface — 10 m

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-10-1	Rotally Boring Dia.66mm with Core 1	m	9	437154.1	278.7986	159799.2	3,934,386	2,509	1,438,193	
	CW-10-2	Rotally Boring Dia.66mm with Core 2	m	1	442019.2	314.7606	183099.8	442,019	315	183,100	
Indirect Cost											
Site Expense			%	15	0.8		0.2	720,063	0	180,016	
Profit and Overhead Cost			%	10	0.9		0.1	621,054	0	69,006	
		Miscellaneous	L.S.					78	76	86	Round Up
Total for	10 m							5,717,600	2,900	1,870,400	
Unit Cost for	1 m							571,760	290	187,040	

ID No. Working Name — Calculation Quantity — Remarks

JD-P1-Bq-51 Rotary Drilling Holes for Grouting (46mm dia.) : from within Gallary — 10 m

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-10-5	Rotally Boring Dia.46mm without Core (1)	m	0.43	129797.3	119.337	40063.4	55,813	51	17,227	
	CW-10-6	Rotally Boring Dia.46mm with Core (2)	m	0.04	132248.5	134.8796	39165.74	5,290	5	1,567	
	CW-10-11	Rotally Boring Dia.46mm without Core (7)	m	8.66	132560.8	132.6316	39324.68	1,147,976	1,149	340,552	
	CW-10-12	Rotally Boring Dia.46mm without Core (8)	m	0.87	134918.7	149.8513	38494.41	117,379	130	33,490	
Indirect Cost											
Site Expense			%	15	0.8		0.2	206,476	0	51,619	
Profit and Overhead Cost			%	10	0.9		0.1	178,085	0	19,787	
		Miscellaneous	L.S.					81	64	58	Round Up
Total for	10 m							1,711,100	1,400	464,300	
Unit Cost for	1 m							171,110	140	46,430	

Note : *1 : Total Length of Vertical Boring in Concrete : 100 m
*2 : Total Length of Oblique Boring in Concrete : 10 m
*3 : Total Length of Vertical Boring in Rock : 2000 m
*4 : Total Length of Vertical Boring in Rock : 200 m

Table 4.2.5 (18/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. Working Name Calculation Quantity Remarks

JD-P1-Bq-52 Rotary Drilling Holes for Grouting (46mm dia.) : from Surface 10 m

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-10-5	Rotally Boring Dia.46mm without Core (1)	m	0.09	129797.3	119.337	40063.4	11,682	11	3,606	
	CW-10-6	Rotally Boring Dia.46mm with Core (2)	m	0.01	132248.5	134.8796	39165.74	1,322	1	392	
	CW-10-11	Rotally Boring Dia.46mm without Core (7)	m	9	132560.8	132.6316	39324.68	1,193,047	1,194	353,922	
	CW-10-12	Rotally Boring Dia.46mm without Core (8)	m	0.9	134918.7	149.8513	38494.41	121,427	135	34,645	
Indirect Cost											
Site Expense			%	15	0.8		0.2	206,566	0	51,641	
Profit and Overhead Cost			%	10	0.9		0.1	178,163	0	19,796	
		Miscellaneous	L.S.					93	59	98	Round Up
Total for	10 m							1,712,300	1,400	464,100	
Unit Cost for	1 m							171,230	140	46,410	

ID No. Working Name Calculation Quantity Remarks

JD-P1-Bq-53 Rotary Drilling Holes for Grouting (46mm dia.) : from Tunnels 10 m

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-10-7	Rotally Boring Dia.46mm without Core (3)	m	0.1	133590.3	142.1053	38827.22	13,359	14	3,883	Concrete, Vertical
	CW-10-8	Rotally Boring Dia.46mm without Core (4)	m	0.3	137221.1	160.5096	38113.76	41,166	48	11,434	Concrete, Inclined
	CW-10-9	Rotally Boring Dia.46mm without Core (5)	m	0.1	139055.6	174.7977	37616.3	13,906	17	3,762	Concrete, Horizontal
	CW-10-10	Rotally Boring Dia.46mm without Core (6)	m	0.5	142327.7	196.1089	37031.9	71,164	98	18,516	Concrete, Upper
	CW-10-11	Rotally Boring Dia.46mm without Core (7)	m	0.9	132560.8	132.6316	39324.68	119,305	119	35,392	Rock, Vertical
	CW-10-11	Rotally Boring Dia.46mm without Core (7)	m	2.7	132560.8	132.6316	39324.68	357,914	358	106,177	Rock, Inclined
	CW-10-11	Rotally Boring Dia.46mm without Core (7)	m	0.9	132560.8	132.6316	39324.68	119,305	119	35,392	Rock, Horizontal
	CW-10-12	Rotally Boring Dia.46mm without Core (8)	m	4.5	134918.7	149.8513	38494.41	607,134	674	173,225	Rock, Upper
Indirect Cost											
Site Expense			%	15	0.8		0.2	207,898	0	51,974	
Profit and Overhead Cost			%	10	0.9		0.1	179,312	0	19,924	
		Miscellaneous	L.S.					38	51	22	Round Up
Total for	10 m							1,730,500	1,500	459,700	
Unit Cost for	1 m							173,050	150	45,970	

ID No. Working Name Calculation Quantity Remarks

JD-P1-Bq-54 Drill set-up for drilling grout hole 5 No.

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Equipment											
	A-2-1-49	Dumptruck; 10 ton for Rock	hourly	2	84,996	3,210	77,195	169,992	6,420	154,389	
Labour											
	L-2-1	Foreman	day	1	0	0	48,800	0	0	48,800	
	L-2-23	Common Labour	day	1	0	0	35,100	0	0	35,100	
	L-2-24	Light Labour	day	2	0	0	29,300	0	0	58,600	
Indirect Cost											
Site Expense			%	15	0.8		0.2	56,796	0	14,199	
Profit and Overhead Cost			%	10	0.9		0.1	48,987	0	5,443	
		Miscellaneous	L.S.					25	80	69	Round Up
Total for	5 No.							275,800	6,500	316,600	
Unit Cost for	1 No.							55,160	1,300	63,320	

Table 4.2.5 (19/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-55 | Working Name: Wash and Water pressure testing | Calculation Quantity: 10 test | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-10-19	Pressing Water Work Dia. 66mm (1)	m	2.0895522	32675.16	45.47368	22184.97	68,276	95	46,357	
	CW-10-20	Pressing Water Work Dia. 66mm (2)	m	0.1492537	36274.9	45.47368	24726.99	5,414	7	3,691	
	CW-10-21	Pressing Water Work Dia. 46mm (1)	m	29.850746	32433.58	45.47368	22172.26	968,166	1,357	661,858	
	CW-10-22	Pressing Water Work Dia. 46mm (2)	m	17.910448	36033.32	45.47368	24714.28	645,373	814	442,644	
Indirect Cost											
Site Expense			%	15	0.8		0.2	341,286	0	85,322	
Profit and Overhead Cost			%	10	0.9		0.1	294,359	0	32,707	
		Miscellaneous	L.S.					24	26	22	Round Up
Total for	10 test							2,322,900	2,300	1,272,600	
Unit Cost for	1 test							232,290	230	127,260	

Note : *1 : Length of a Stage 5 m
*2 : The total number of test of dia. 66mm by Center Plant : 70
*3 : The total number of test of dia. 66mm by Indipendent Plant : 5
*4 : The total number of test of dia. 46mm by Center Plant : 1000
*5 : The total number of test of dia. 46mm by Indipendent Plant : 600
Total 1675

ID No. JD-P1-Bq-56 | Working Name: Cement used in Pressure Grouting | Calculation Quantity: 10 m | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Material											
	M-C-1	Portland Cement	kg	210	0	100	400	0	21,000	84,000	
Working Base Cost											
	CW-10-23	Grout Work Dia. 66mm	m	3.08	108,280	168	57,228	333,502	518	176,262	
	CW-10-24	Grout Work Dia. 44mm (1)	m	6.15	105,997	168	57,108	651,881	1,034	351,214	
	CW-10-25	Grout Work Dia. 44mm (2)	m	0.77	101,964	120	56,844	78,512	92	43,770	for Tunnel
Indirect Cost											
Site Expense			%	15	0.8		0.2	209,014	0	52,254	
Profit and Overhead Cost			%	10	0.9		0.1	180,275	0	20,031	
		Miscellaneous	L.S.					16	57	70	Round Up
Total for	10 m							1,453,200	22,700	727,600	
Unit Cost for	1 m							145,320	2,270	72,760	
Unit Cost for	1 ton		1000	kg				7,266,000	113,500	3,638,000	

Note : *1 : The Amount of Cment : 20 kg/m Loss : 5%
*2 : Total Grout Length : 6500 m
*3 : Dia. 66mm Grout Length : 2000 m
Dia. 46mm Grout Length : 4000 m of Dam & Gallary
Dia. 46mm Grout Length : 500 m of Tunnel

ID No. JD-P1-Bq-57 | Working Name: Fine aggregate used in Pressure Grouting | Calculation Quantity: 10 ton | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Material											
	M-B-1	Fine Aggregate (washed sand)	m3	7.06	0	2100	39900	0	14,826	281,694	
Indirect Cost											
Site Expense			%	15	0.8		0.2	35,582	0	8,896	
Profit and Overhead Cost			%	10	0.9		0.1	30,690	0	3,410	
		Miscellaneous	L.S.					28	74	0	Round Up
Total for	10 ton							66,300	14,900	294,000	
Unit Cost for	1 ton							6,630	1,490	29,400	

Note : *1 : Unit Weight of Loosed Aggregate : 1.7 t/m3
*2 : Loss of Aggregate : 20%

Table 4.2.5 (20/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No.	Working Name	Calculation Quantity	Remarks
JD-P1-Bq-58	Hook-up to Holes and Connections for Grouting	10 stage	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Labour											
	L-2-23	Common Labour	day	0.7	0	0	35100	0	0	24,570	2 person
Indirect Cost											
Site Expense			%	15	0.8		0.2	2,948	0	737	
Profit and Overhead Cost			%	10	0.9		0.1	2,543	0	283	
		Miscellaneous	L.S.					9	0	10	Round Up
Total for	5 stage							5,500	0	25,600	
Unit Cost for	1 stage							1,100	0	5,120	
Unit Cost for	5 m							1,100	0	5,120	

Note : *1 : The Length per One Stage : 5 m
*2 : Time of Hook-up per One Stage : 30 minutes/stage

ID No.	Working Name	Calculation Quantity	Remarks
JD-P1-Bq-59	Casing Pipe for Pressure Grouting	40 kg	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Labour											
	L-2-1	Foreman	day	0.32	0	0	48,800	0	0	15,616	
	L-2-19	Grout Worker	day	0.63	0	0	46,900	0	0	29,547	
	L-2-23	Common Labour	day	0.63	0	0	35,100	0	0	22,113	
Material											
		Cost of Casing Pipe	kg	40	5,225	0	275	209,000	0	11,000	
Indirect Cost											
Site Expense			%	15	0.8		0.2	34,473	0	8,618	
Profit and Overhead Cost			%	10	0.9		0.1	29,733	0	3,304	
		Miscellaneous	L.S.					4	0	2	Round Up
Total for	40 kg							273,210	0	90,200	
Unit Cost for	1 ton							6,830,250	0	2,255,000	

Note : *1 : Boring Length at 1kg of casing pipe : approx. 4.814286 m
*2 : Foreman 0.5 person x 55 minutes/m / 7hours x 4.814285714 m = 0.31522109
*3 : Grout Worker 1 person x 55 minutes/m / 7hours x 4.814285714 m = 0.63044218
*4 : Common Labor 1 person x 55 minutes/m / 7hours x 4.814285714 m = 0.63044218

Table 4.2.5 (21/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-61 | Working Name: Dam Embankment Impervious Zone including Contact Slurry and Contact Material | Calculation Quantity: 100 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-12-1	Slurry Treatment	m2	1	40	10	1,490	40	10	1,490	for slurry
	CW-12-2	Product of Slurry	m3	0.1	19,400	800	17,800	1,940	80	1,780	for slurry
	CW-12-5	Small Scale Compaction at Core by Air Tamper (3)	m3		9,278	252	47,503	0	0	0	for slurry
	CW-12-6	Small Scale Compaction at Core by Tamper	m3		10,651	207	22,320	0	0	0	for slurry
	CW-12-21	Excavated Fine Material from Dam Site	m3	35.7	0	0	590	0	0	21,063	
	CW-11-57	Purchased Sand	m3	30.69	0	1,350	26,001	0	41,432	797,971	
	CW-11-56	Crushed Coarse Aggregate from Quarry	m3	63.52	56,550	1,420	46,940	3,592,056	90,198	2,981,629	
	CW-11-58	Spreading of Stockpile for Core by Bulldozer of 21ton	m3	129.91	3,030	40	2,730	393,627	5,196	354,654	at Stock Pile
	CW-11-59	Mixing of Stockpile for Core by Bulldozer of 21ton	m3	123.72	3,240	40	2,920	400,853	4,949	361,262	at Stock Pile
	CW-12-11	Spreading for Core Embankment; Bull : 21t	m3	100	2,726	33	2,455	272,600	3,300	245,500	
	CW-12-15	Compaction for Core Embankment	m3	100	4,976	44	4,321	497,600	4,400	432,100	
Indirect Cost											
Site Expense			%	15	0.8		0.2	1,260,688	0	315,172	
Profit and Overhead Cost			%	10	0.9		0.1	1,087,343	0	120,816	
		Miscellaneous	L.S.					53	35	63	Round Up
Total for	100 m3							7,506,800	149,600	5,633,500	
Unit Cost for	1 m3							75,068	1,496	56,335	

Note : *1 : Material :

Clay :	Excavated Fine Material from Dam Site :	1.1 t/m3 (Dry)
Sand :	Purchased Sand	1.6 t/m3 (Dry)
Gravel :	Crushed Rock Material from Quarry	1.7 t/m3 (Dry)
After Compaction :		1.87 t/m3 (Dry)

*2 : Mixing Proportion — Clay : 20% Sand : 25% Gravel : 55% by weight

*3 : Unit Weight of Core (Dry)

		weight ratio per 1.0t	Volume	Volume	unit weight
Clay :	20%	0.2	0.1818	0.274788	0.302267231
Sand :	25%	0.25	0.1563	0.236245	0.377992745
Gravel :	55%	0.55	0.3235	0.488966	0.831242443
		1	0.6616	1	1.511502418

*4 : Loss : Clay : 5% Sand : 5% Gravel : 5%

*5 : Required Volume :

Clay : 100 m3 x 0.274788 m3 x (1.87 / 1.5115024) x 105% for loss = 35.7 m3

Sand : 100 m3 x 0.236245 m3 x (1.87 / 1.5115024) x 105% for loss = 30.69 m3

Gravel : 100 m3 x 0.488966 m3 x (1.87 / 1.5115024) x 105% for loss = 63.52 m3

*6 : Slurry Treatment

Table 4.2.5 (22/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No.	Working Name	Calculation Quantity	Remarks
JD-P1-Bq-63	Dam Embankment in Semi-pervious Zone : in Upstream Semi-pervious Zone	100 m3	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-12-21	Excavated Fine Material from Dam Site	m3	0	0	0	590	0	0	0	
	CW-11-57	Purchased Sand	m3	27.3	0	1,350	26,001	0	36,855	709,827	
	CW-11-56	Crushed Coarse Aggregate from Quarry	m3	102.78	56,550	1,420	46,940	5,812,209	145,948	4,824,493	
	CW-11-60	Spreading of Stockpile for Filter by Bulldozer of 21ton	m3	130.08	2,530	30	2,280	329,102	3,902	296,582	at Stock Pile
	CW-11-61	Mixing of Stockpile for Filter by Bulldozer of 21ton	m3	123.89	2,680	40	2,410	332,025	4,956	298,575	at Stock Pile
	CW-12-12	Spreading for Filter Embankment, Bull : 21t	m3	100	2,241	27	2,018	224,100	2,700	201,800	
	CW-12-14	Compaction for Filter Embankment	m3	100	991	9	860	99,100	900	86,000	
Indirect Cost											
Site Expense			%	15	0.8		0.2	1,609,089	0	402,272	
Profit and Overhead Cost			%	10	0.9		0.1	1,387,839	0	154,204	
		Miscellaneous	L.S.					35	39	46	Round Up
Total for	100 m3							9,793,500	195,300	6,973,800	
Unit Cost for	1 m3							97,935	1,953	69,738	

Note : *1 : Material :

Clay :	Excavated Fine Material from Dam Site :	1.1	t/m3 (Dry)
Sand :	Purchased Sand	1.6	t/m3 (Dry)
Gravel :	Crushed Rock Material from Quarry	1.7	t/m3 (Dry)
After Compaction :		2.08	t/m3 (Dry)

*2 : Mixing Proportion — Clay : Sand : 18% Gravel : 72% by weight

*3 : Unit Weight of Core (Dry)

	weight ratio	per 1.0t	Volume	Volume	unit weight
Clay :	0%	0	0	0	0
Sand :	18%	0.18	0.1125	0.209888	0.335820896
Gravel :	72%	0.72	0.4235	0.790112	1.343190299
		0.9	0.536	1	1.679011194

*4 : Loss : Clay : 5% Sand : 5% Gravel : 5%

*5 : Required Volume :

Clay : 100 m3 x 0 m3 x (2.08 / 1.6790112)
x 105% for loss = 0 m3

Sand : 100 m3 x 0.209888 m3 x (2.08 / 1.6790112)
x 105% for loss = 27.3 m3

Gravel : 100 m3 x 0.790112 m3 x (2.08 / 1.6790112)
x 105% for loss = 102.78 m3

Table 4.2.5 (23/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No.	Working Name		Calculation Quantity	Remarks
JD-P1-Bq-64	Dam Embankment in Semi-pervious Zone :	in Downstream Fine Semi-pervious Zone	100 m3	

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-12-21	Excavated Fine Material from Dam Site	m3	0	0	0	590	0	0	0	
	CW-11-57	Purchased Sand	m3	61.03	0	1,350	26,001	0	82,391	1,586,841	
	CW-11-56	Crushed Coarse Aggregate from Quarry	m3	57.44	56,550	1,420	46,940	3,248,232	81,565	2,696,234	
	CW-11-60	Spreading of Stockpile for Filter by Bulldozer of 21ton	m3	118.47	2,530	30	2,280	299,729	3,554	270,112	at Stock Pile
	CW-11-61	Mixing of Stockpile for Filter by Bulldozer of 21ton	m3	112.83	2,680	40	2,410	302,384	4,513	271,920	at Stock Pile
	CW-12-12	Spreading for Filter Embankment; Bull : 21t	m3	100	2,241	27	2,018	224,100	2,700	201,800	
	CW-12-14	Compaction for Filter Embankment	m3	100	991	9	860	99,100	900	86,000	
Indirect Cost											
Site Expense			%	15	0.8		0.2	1,135,449	0	283,862	
Profit and Overhead Cost			%	10	0.9		0.1	979,325	0	108,814	
		Miscellaneous	L.S.					81	77	17	Round Up
Total for	100 m3							6,288,400	175,700	5,505,600	
Unit Cost for	1 m3							62,884	1,757	55,056	

Note : *1 : Material :

Clay :	Excavated Fine Material from Dam Site :	1.1	t/m3 (Dry)
Sand :	Purchased Sand	1.6	t/m3 (Dry)
Gravel :	Crushed Rock Material from Quarry	1.7	t/m3 (Dry)
After Compaction :		1.86	t/m3 (Dry)

*2 : Mixing Proportion — Clay : Sand : 50% Gravel : 50% by weight

*3 : Unit Weight of Core (Dry)

	weight ratio per 1.0t	Volume	Volume	unit weight
Clay :	0%	0	0	0
Sand :	50%	0.5	0.3125	0.515167	0.824266403
Gravel :	50%	0.5	0.2941	0.484833	0.824216947
		1	0.6066	1	1.64848335

*4 : Loss : Clay : 5% Sand : 5% Gravel : 5%

*5 : Required Volume :

Clay : 100 m3 x 0 m3 x (1.86 / 1.6484833) x 105% for loss = 0 m3

Sand : 100 m3 x 0.515167 m3 x (1.86 / 1.6484833) x 105% for loss = 61.03 m3

Gravel : 100 m3 x 0.484833 m3 x (1.86 / 1.6484833) x 105% for loss = 57.44 m3

Table 4.2.5 (24/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-65 | Working Name: Dam Embankment in Semi-pervious Zone ; in Downstream Coarse Semi-pervious Zone | Calculation Quantity: 100 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-12-21	Excavated Fine Material from Dam Site	m3	0	0	0	590	0	0	0	
	CW-11-57	Purchased Sand	m3	0	0	1,350	26,001	0	0	0	
	CW-11-56	Crushed Coarse Aggregate from Quarry	m3	118.59	56,550	1,420	46,940	6,706,265	168,398	5,566,615	
	CW-11-60	Spreading of Stockpile for Filter by Bulldozer of 21ton	m3	118.59	2,530	30	2,280	300,033	3,558	270,385	at Stock Pile
	CW-11-61	Mixing of Stockpile for Filter by Bulldozer of 21ton	m3	112.94	2,680	40	2,410	302,679	4,518	272,185	at Stock Pile
	CW-12-12	Spreading for Filter Embankment; Bull : 21t	m3	100	2,241	27	2,018	224,100	2,700	201,800	
	CW-12-14	Compaction for Filter Embankment	m3	100	991	9	860	99,100	900	86,000	
Indirect Cost											
Site Expense			%	15	0.8		0.2	1,705,108	0	426,277	
Profit and Overhead Cost			%	10	0.9		0.1	1,470,656	0	163,406	
		Miscellaneous	L.S.					60	27	32	Round Up
Total for	100 m3							10,808,000	180,100	6,986,700	
Unit Cost for	1 m3							108,080	1,801	69,867	

Note : *1 : Material :
Clay : Excavated Fine Material from Dam Site : 1.1 t/m3 (Dry)
Sand : Purchased Sand 1.6 t/m3 (Dry)
Gravel : Crushed Rock Material from Quarry 1.7 t/m3 (Dry)
After Compaction : 1.92 t/m3 (Dry)

*2 : Mixing Proportion Clay : Sand : 0% Gravel : 100% by weight

*3 : Unit Weight of Core (Dry)

	weight ratio per 1.0t	Volume	Volume	unit weight
Clay :	0%	0	0	0
Sand :	0%	0	0	0
Gravel :	100%	1	0.5882	1	1.7
		1	0.5882	1	1.7

*4 : Loss : Clay : 5% Sand : 5% Gravel : 5%

*5 : Required Volume :

Clay : 100 m3 x 0 m3 x (1.92 / 1.7)
x 105% for loss = 0 m3
Sand : 100 m3 x 0 m3 x (1.92 / 1.7)
x 105% for loss = 0 m3
Gravel : 100 m3 x 1 m3 x (1.92 / 1.7)
x 105% for loss = 118.59 m3

ID No. JD-P1-Bq-67 | Working Name: Dam Embankment Pervious Zone : in Inner Pervious Zone | Calculation Quantity: 100 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-11-52	Soft Rock for Rock Material of Dam	m3	8.6	48,190	1,470	42,630	414,434	12,642	366,618	
	CW-11-54	Soft Rock from Damsite for Inner Rock Material	m3	26.76	14,500	390	12,510	388,020	10,436	334,768	
	CW-11-53	Hard Rock for Rock Material of Dam	m3	53	49,520	1,520	43,830	2,624,560	80,560	2,322,990	
	CW-12-10	Spreading for Rock Embankment; Bull : 32t (2)	m3	100	3,443	35	3,074	344,300	3,500	307,400	
	CW-12-13	Compaction for Rock Embankment	m3	100	437	4	379	43,700	400	37,900	
Indirect Cost											
Site Expense			%	15	0.8		0.2	875,067	0	218,767	
Profit and Overhead Cost			%	10	0.9		0.1	754,746	0	83,861	
		Miscellaneous	L.S.					73	62	97	Round Up
Total for	100 m3							5,444,900	107,600	3,672,400	
Unit Cost for	1 m3							54,449	1,076	36,724	

Note : *1 : Material :
Rock-1 : Soft Rock from Quarry 2.3 t/m3 (Dry)
Rock-2 : Soft Rock from Damsite 1.7 t/m3 (Dry)
Rock-3 : Hard Rock from Qaurry 2.5 t/m3 (Dry)
After Compaction : 1.92 t/m3 (Dry)

*2 : Mixing Proportion Rock-1 : 10% Rock-2 : 23% Rock-3 : 67% by weight

*3 : Unit Weight of Core (Dry)

	weight ratio per 1.0t	Volume	Volume	unit weight
Clay :	10%	0.1	0.0435	0.097359	0.223925694
Sand :	23%	0.23	0.1353	0.30282	0.514794091
Gravel :	67%	0.67	0.268	0.599821	1.499552372
		1	0.4468	1	2.238272158

*4 : Loss : Rock-1 : 3% Rock-2 : 3% Rock-3 : 3%

*5 : Required Volume :

Rock-1 : 100 m3 x 0.097359 m3 x (1.92 / 2.2382722)
x 103% for loss = 8.6 m3
Rock-2 : 100 m3 x 0.30282 m3 x (1.92 / 2.2382722)
x 103% for loss = 26.76 m3
Rock-3 : 100 m3 x 0.599821 m3 x (1.92 / 2.2382722)
x 103% for loss = 53 m3

Table 4.2.5 (25/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-68 | Working Name: Dam Embankment Pervious Zone : in Outer Pervious Zone including Surface Treatment | Calculation Quantity: 100 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-11-52	Soft Rock for Rock Material of Dam	m3	21.5	48,190	1,470	42,630	1,036,085	31,605	916,545	
	CW-11-54	Soft Rock from Damsite for Inner Rock Material	m3	0	14,500	390	12,510	0	0	0	
	CW-11-53	Hard Rock for Rock Material of Dam	m3	59.33	49,520	1,520	43,830	2,938,022	90,182	2,600,434	
	CW-12-10	Spreading for Rock Embankment; Bull : 32t (2)	m3	100	3,443	35	3,074	344,300	3,500	307,400	
	CW-12-13	Compaction for Rock Embankment	m3	100	437	4	379	43,700	400	37,900	
Indirect Cost											
Site Expense			%	15	0.8		0.2	1,002,009	0	250,502	
Profit and Overhead Cost			%	10	0.9		0.1	864,232	0	96,026	
		Miscellaneous	L.S.					52	13	93	Round Up
Total for	100 m3							6,228,400	125,700	4,208,900	
Unit Cost for	1 m3							62,284	1,257	42,089	

Note : *1 : Material :

Rock-1 :	Soft Rock from Quarry	2.3	t/m3 (Dry)
Rock-2 :	Soft Rock from Damsite	1.7	t/m3 (Dry)
Rock-3 :	Hard Rock from Quarry	2.5	t/m3 (Dry)
After Compaction :		1.92	t/m3 (Dry)

*2 : Mixing Proportion — Rock-1 : 25% Rock-2 : 0% Rock-3 : 75% by weight

*3 : Unit Weight of Core (Dry)

	weight ratio per 1.0t	Volume	Volume	unit weight
Clay :	25%	0.25	0.1087	0.265965	0.611720088
Sand :	0%	0	0	0	0
Gravel :	75%	0.75	0.3	0.734035	1.835086861
		1	0.4087	1	2.446806949

*4 : Loss : Rock-1 : 3% Rock-2 : 3% Rock-3 : 3%

*5 : Required Volume :

Rock-1 : 100 m3 x 0.265965 m3 x (1.92 / 2.4468069)
x 103% for loss = 21.5 m3
Rock-2 : 100 m3 x 0 m3 x (1.92 / 2.4468069)
x 103% for loss = 0 m3
Rock-3 : 100 m3 x 0.734035 m3 x (1.92 / 2.4468069)
x 103% for loss = 59.33 m3

ID No. JD-P1-Bq-69 | Working Name: Dam Embankment Pervious Zone : in Riprap Zone | Calculation Quantity: 100 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-11-52	Soft Rock for Rock Material of Dam	m3	0	48,190	1,470	42,630	0	0	0	
	CW-11-54	Soft Rock from Damsite for Inner Rock Material	m3	0	14,500	390	12,510	0	0	0	
	CW-11-53	Hard Rock for Rock Material of Dam	m3	86.52	49,520	1,520	43,830	4,284,470	131,510	3,792,172	
	CW-12-16	Riprap Works	m2	100	14,360	186	12,489	1,436,000	18,600	1,248,900	
Indirect Cost											
Site Expense			%	15	0.8		0.2	1,309,398	0	327,350	
Profit and Overhead Cost			%	10	0.9		0.1	1,129,356	0	125,484	
		Miscellaneous	L.S.					75	90	95	Round Up
Total for	100 m3							8,159,300	150,200	5,494,000	
Unit Cost for	1 m3							81,593	1,502	54,940	

Note : *1 : Material :

Rock-1 :	Soft Rock from Quarry	2.3	t/m3 (Dry)
Rock-2 :	Soft Rock from Damsite	1.7	t/m3 (Dry)
Rock-3 :	Hard Rock from Quarry	2.5	t/m3 (Dry)
After Compaction :		2.1	t/m3 (Dry)

*2 : Mixing Proportion — Rock-1 : 0% Rock-2 : 0% Rock-3 : 100% by weight

*3 : Unit Weight of Core (Dry)

	weight ratio per 1.0t	Volume	Volume	unit weight
Clay :	0%	0	0	0	0
Sand :	0%	0	0	0	0
Gravel :	100%	1	0.4	1	2.5
		1	0.4	1	2.5

*4 : Loss : Rock-1 : 3% Rock-2 : 3% Rock-3 : 3%

*5 : Required Volume :

Rock-1 : 100 m3 x 0 m3 x (2.1 / 2.5)
x 103% for loss = 0 m3
Rock-2 : 100 m3 x 0 m3 x (2.1 / 2.5)
x 103% for loss = 0 m3
Rock-3 : 100 m3 x 1 m3 x (2.1 / 2.5)
x 103% for loss = 86.52 m3

*6 : Rip Rap Work : 1 m thick hence, 100 m3 / 1 m thick = 100 m2

Table 4.2.5 (26/72) CALCULATION TABLE FOR UNIT COST OF EACH PAYMENT ITEM IN PACKAGE-1

ID No. JD-P1-Bq-71 | Working Name: Special Compaction for Dam Embankment : in Impervious Zone Embankment | Calculation Quantity: 10 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-12-6	Small Scale Compaction at Core by Tamper	m3	10	10,651	207	22,320	106,510	2,070	223,200	for slurry
	CW-12-21	Excavated Fine Material from Dam Site	m3	3.57	0	0	590	0	0	2,106	
	CW-11-57	Purchased Sand	m3	3.07	0	1,350	26,001	0	4,145	79,823	
	CW-11-56	Crushed Coarse Aggregate from Quarry	m3	6.35	56,550	1,420	46,940	359,093	9,017	298,069	
	CW-11-58	Spreading of Stockpile for Core by Bulldozer of 21ton	m3	12.99	3,030	40	2,730	39,360	520	35,463	at Stock Pile
	CW-11-59	Mixing of Stockpile for Core by Bulldozer of 21ton	m3	12.37	3,240	40	2,920	40,079	495	36,120	at Stock Pile
Indirect Cost											
Site Expense			%	15	0.8		0.2	148,328	0	37,082	
Profit and Overhead Cost			%	10	0.9		0.1	127,933	0	14,215	
		Miscellaneous	L.S.					98	54	22	Round Up
Total for	10 m3							821,400	16,300	726,100	
Unit Cost for	1 m3							82,140	1,630	72,610	

Note : *1 : Material :

Clay : Excavated Fine Material from Dam Site : 1.1 t/m3 (Dry)
Sand : Purchased Sand 1.6 t/m3 (Dry)
Gravel : Crushed Rock Material from Quarry 1.7 t/m3 (Dry)
After Compaction : 1.87 t/m3 (Dry)

*2 : Mixing Proportion
*3 : Unit Weight of Core (Dry)

Clay : 20% Sand : 25% Gravel : 55% by weight

	weight ratio	per 1.0t	Volume	Volume	unit weight
Clay :	20%	0.2	0.1818	0.274788	0.302267231
Sand :	25%	0.25	0.1563	0.236245	0.377992745
Gravel :	55%	0.55	0.3235	0.488966	0.831242443
		1	0.6616	1	1.511502418

*4 : Loss :
*5 : Required Volume :

Clay : Sand : 5% Gravel : 5%

Clay : 10 m3 x 0.274788 m3 x (1.87 / 1.5115024) x 105% for loss = 3.57 m3
Sand : 10 m3 x 0.236245 m3 x (1.87 / 1.5115024) x 105% for loss = 3.07 m3
Gravel : 10 m3 x 0.488966 m3 x (1.87 / 1.5115024) x 105% for loss = 6.35 m3

ID No. JD-P1-Bq-72 | Working Name: Special Compaction for Dam Embankment : in Upstream and Downstream Semi-pervious Zone | Calculation Quantity: 10 m3 | Remarks

Major Item	ID No.	Description	Unit	Quantity	Unit Cost PF/C	Unit Cost IF/C	Unit Cost L/C	Cost PF/C	Cost IF/C	Cost L/C	Remarks
Direct Cost											
Working Base Cost											
	CW-11-57	Purchased Sand	m3	6.1	0	1,350	26,001	0	8,235	158,606	
	CW-11-56	Crushed Coarse Aggregate from Quarry	m3	5.74	56,550	1,420	46,940	324,597	8,151	269,436	
	CW-11-60	Spreading of Stockpile for Filter by Bulldozer of 21ton	m3	11.84	2,530	30	2,280	29,955	355	26,995	at Stock Pile
	CW-11-61	Mixing of Stockpile for Filter by Bulldozer of 21ton	m3	11.28	2,680	40	2,410	30,230	451	27,185	at Stock Pile
	CW-1-8	Tamper Loading	m3	10	1,760	60	2,600	17,600	600	26,000	
Indirect Cost											
Site Expense			%	15	0.8		0.2	111,408	0	27,852	
Profit and Overhead Cost			%	10	0.9		0.1	96,089	0	10,677	
		Miscellaneous	L.S.					21	8	50	Round Up
Total for	10 m3							609,900	17,800	546,800	
Unit Cost for	1 m3							60,990	1,780	54,680	

Note : *1 : Material :

Clay : Excavated Fine Material from Dam Site : 1.1 t/m3 (Dry)
Sand : Purchased Sand 1.6 t/m3 (Dry)
Gravel : Crushed Rock Material from Quarry 1.7 t/m3 (Dry)
After Compaction : 1.86 t/m3 (Dry)

*2 : Mixing Proportion
*3 : Unit Weight of Core (Dry)

Clay : Sand : 50% Gravel : 50% by weight

	weight ratio	per 1.0t	Volume	Volume	unit weight
Clay :	0%	0	0	0	0
Sand :	50%	0.5	0.3125	0.515167	0.824266403
Gravel :	50%	0.5	0.2941	0.484833	0.824216947
		1	0.6066	1	1.64848335

*4 : Loss :
*5 : Required Volume :

Clay : Sand : 5% Gravel : 5%

Clay : 10 m3 x 0 m3 x (1.86 / 1.6484833) x 105% for loss = 0 m3
Sand : 10 m3 x 0.515167 m3 x (1.86 / 1.6484833) x 105% for loss = 6.1 m3
Gravel : 10 m3 x 0.484833 m3 x (1.86 / 1.6484833) x 105% for loss = 5.74 m3