

T-187. Unit Rate per Meter of Drain Pipe : Grade C1,C2,D1,D2								
Rate = 1,625 Baht/m F.C. = 287 Baht/m 18%								
Kok-Ing Tunnel L.C. = 1,338 Baht/m 82%								
Items	Unit	Quantity	Foreign Currency		Local Currency		Remark	
			Rate	Cost	Rate	Cost		
1. Operation Cost (Equipment & Fuel)								
Truck with Crane 4t x 2.9t lift	1	24.0 Hr	425	10,200	25	600	24.0 Hr x 1	
Subtotal				10,200		600	Baht / 100 m	
2. Material								
Filter mat W300, t=20		30 m2	260	7,800	0	0		
Concrete Pipe D300, m/Hole L=2m		100 m	90	9,000	810	81,000		
Drain Pit 200BK		4.0 Pcs	0	0	8,000	32,000		
Miscellaneous		10 %		1,680		11,300		
Subtotal				18,480		124,300	Baht / 100 m	
3. Labor								
Foreman Tunnel		1.0 day			720	720	1 day x 1.0	
Driver		3.0 day			350	1,050	1.5 day x 2.0	
Skilled Labor		6.0 day			260	1,560	1.5 day x 4.0	
Common Labor		24.0 day			230	5,520	1.5 day x 16.0	
Subtotal						8,850		
4. Total				28,680		133,750	162,430 Baht / 100 m	
5. Output Working Time per 1 day = 12 Hr x 2 shift per 100.0 m								
Rate = Baht/m 287 Baht/m 1,338 Baht/m = 1,625								

T-188. Unit Rate per Meter of Drain Pipe : Grade E1,E2								
Rate = 1,755 Baht/m F.C. = 304 Baht/m 17%								
Kok-Ing Tunnel L.C. = 1,451 Baht/m 83%								
Items	Unit	Quantity	Foreign Currency		Local Currency		Remark	
			Rate	Cost	Rate	Cost		
1. Operation Cost (Equipment & Fuel)								
Truck with Crane 4t x 2.9t lift	1	24.0 Hr	425	10,200	25	600	24.0 Hr x 1	
Subtotal				10,200		600	Baht / 100 m	
2. Material								
Filter mat W300, t=20		30 m2	260	7,800	0	0		
Concrete Pipe D300, m/Hole L=2m		100 m	90	9,000	810	81,000		
Drain Pit 200BK		4.0 Pcs	0	0	8,000	32,000		
Miscellaneous		20 %		3,360		22,600		
Subtotal				20,160		135,600	Baht / 100 m	
3. Labor								
Foreman Tunnel		1.0 day			720	720	1 day x 1.0	
Driver		3.0 day			350	1,050	1.5 day x 2.0	
Skilled Labor		6.0 day			260	1,560	1.5 day x 4.0	
Common Labor		24.0 day			230	5,520	1.5 day x 16.0	
Subtotal						8,850		
4. Total				30,360		145,050	175,410 Baht / 100 m	
5. Output Working Time per 1 day = 12 Hr x 2 shift per 100.0 m								
Rate = Baht/m 304 Baht/m 1,451 Baht/m = 1,755								

T-189. Unit Rate per Meter of Drain Pipe : Grade C1,C2,D1,D2							
Rate = 1,953 Baht/m				F.C. = 304 Baht/m		16%	
Ing-Yot Tunnel without Adit				L.C. = 1,649 Baht/m		84%	
Items	Unit	Quantity	Foreign Currency		Local Currency		Remark
			Rate	Cost	Rate	Cost	
1. Operation Cost (Equipment & Fuel)							
Truck with Crane 4t x 2.9t lift	1	24.0 Hr	425	10,200	25	600	24.0 Hr x 1
Subtotal				10,200		600	Baht / 100 m
2. Material							
Filter mat W300, t=20		30 m2	260	7,800	0	0	
Concrete Pipe D300, m/Hole L=2m		100 m	90	9,000	810	81,000	
Drain Pit 200BK		6.0 Pcs	0	0	8,000	48,000	
Miscellaneous		20 %		3,360		25,800	
Subtotal				20,160		154,800	Baht / 100 m
3. Labor							
Foreman Tunnel		1.0 day			720	720	1 day x 1.0
Driver		3.0 day			350	1,050	1.5 day x 2.0
Skilled Labor		6.0 day			260	1,560	1.5 day x 4.0
Common Labor		27.0 day			230	6,210	1.5 day x 18.0
Subtotal						9,540	
4. Total				30,360		164,940	195,300 Baht / 100 m
5. Output Working Time per 1 day = 12 Hr x 2 shift per 100.0 m							
Rate = Baht/m				304 Baht/m		1,649 Baht/m = 1,953	

T-190. Unit Rate per Meter of Drain Pipe : Grade E1,E2								
			Rate = 2,098 Baht/m		F.C. = 320 Baht/m		15%	
Ing-Yot Tunnel without Adit					L.C. = 1,778 Baht/m		85%	
Items	Unit	Quantity	Foreign Currency		Local Currency		Remark	
			Rate	Cost	Rate	Cost		
1. Operation Cost (Equipment & Fuel)								
Truck with Crane 4t x 2.9t lift	1	24.0 Hr	425	10,200	25	600	24.0 Hr x 1	
Subtotal				10,200		600	Baht / 100 m	
2. Material								
Filter mat W300, t=20		30 m2	260	7,800	0	0		
Concrete Pipe D300, m/Hole L=2m		100 m	90	9,000	810	81,000		
Drain Pit 200BK		6.0 Pcs	0	0	8,000	48,000		
Miscellaneous		30 %		5,040		38,700		
Subtotal				21,840		167,700	Baht / 100 m	
3. Labor								
Foreman Tunnel		1.0 day			720	720	1 day x 1.0	
Driver		3.0 day			350	1,050	1.5 day x 2.0	
Skilled Labor		6.0 day			260	1,560	1.5 day x 4.0	
Common Labor		27.0 day			230	6,210	1.5 day x 18.0	
Subtotal						9,540		
4. Total				32,040		177,840	209,880 Baht / 100 m	
5. Output Working Time per 1 day = 12 Hr x 2 shift per 100.0 m								
Rate = Baht/m			320 Baht/m		1,778 Baht/m =		2,098	

T-191. Unit Rate per Meter of Drain Pipe : Grade B,C1,C2,D1,D2								
			Rate = 1,755 Baht/m		F.C. = 304 Baht/m		17%	
Ing-Yot No.2 Tunnel with Adit					L.C. = 1,451 Baht/m		83%	
Items	Unit	Quantity	Foreign Currency		Local Currency		Remark	
			Rate	Cost	Rate	Cost		
1. Operation Cost (Equipment & Fuel)								
Truck with Crane 4t x 2.9t lift	1	24.0 Hr	425	10,200	25	600	24.0 Hr x	1
Subtotal				10,200		600	Baht / 100 m	
2. Material								
Filter mat W300, t=20		30 m ²	260	7,800	0	0		
Concrete Pipe D300, m/Hole L=2m		100 m	90	9,000	810	81,000		
Drain Pit 200BK		4.0 Pcs	0	0	8,000	32,000		
Miscellaneous		20 %		3,360		22,600		
Subtotal				20,160		135,600	Baht / 100 m	
3. Labor								
Foreman Tunnel		1.0 day			720	720	1 day x	1.0
Driver		3.0 day			350	1,050	1.5 day x	2.0
Skilled Labor		6.0 day			260	1,560	1.5 day x	4.0
Common Labor		24.0 day			230	5,520	1.5 day x	16.0
Subtotal						8,850		
4. Total				30,360		145,050	175,410 Baht / 100 m	
5. Output Working Time per 1 day = 12 Hr x 2 shift per 100.0 m								
Rate = Baht/m			304 Baht/m		1,451 Baht/m =		1,755	

T-192. Unit Rate per Meter of Drain Pipe : Grade E1,E2								
			Rate = 1,884 Baht/m			F.C. = 320 Baht/m		17%
Ing-Yot No.2 Tunnel with Adit						L.C. = 1,564 Baht/m		83%
Items	Unit	Quantity	Foreign Currency		Local Currency		Remark	
			Rate	Cost	Rate	Cost		
1. Operation Cost (Equipment & Fuel)								
Truck with Crane 4t x 2.9t lift	1	24.0 Hr	425	10,200	25	600	24.0 Hr x	1
Subtotal				10,200		600	Baht / 100 m	
2. Material								
Filter mat W300, t=20		30 m ²	260	7,800	0	0		
Concrete Pipe D300, m/Hole L=2m		100 m	90	9,000	810	81,000		
Drain Pit 200BK		4.0 Pcs	0	0	8,000	32,000		
Miscellaneous		30 %		5,040		33,900		
Subtotal				21,840		146,900	Baht / 100 m	
3. Labor								
Foreman Tunnel		1.0 day			720	720	1 day x	1.0
Driver		3.0 day			350	1,050	1.5 day x	2.0
Skilled Labor		6.0 day			260	1,560	1.5 day x	4.0
Common Labor		24.0 day			230	5,520	1.5 day x	16.0
Subtotal						8,850		
4. Total				32,040		156,350	188,390 Baht / 100 m	
5. Output								
			Working Time per 1 day = 12 Hr x 2 shift			per 100.0 m		
Rate = Baht/m			320 Baht/m			1,564 Baht/m = 1,884		

T-193. Unit Rate per Meter of Drain Pipe : Grade B,C1,C2,D1,D2							
Rate = 1,068 Baht/m				F.C. = 232 Baht/m		22%	
Adit for Ing-Yot No.2 Tunnel				L.C. = 836 Baht/m		78%	
Items	Unit	Quantity	Foreign Currency		Local Currency		Remark
			Rate	Cost	Rate	Cost	
1. Operation Cost (Equipment & Fuel)							
Truck with Crane 4t x 2.9t lift	1	24.0 Hr	425	10,200	25	600	24.0 Hr x 1
Subtotal				10,200		600	Baht / 100 m
2. Material							
Filter mat W300, t=20		30 m2	260	7,800	0	0	
Concrete Pipe D150		100 m	40	4,000	360	36,000	
Drain Pit 200BK		4.0 Pcs	0	0	8,000	32,000	
Miscellaneous		10 %		1,180		6,800	
Subtotal				12,980		74,800	Baht / 100 m
3. Labor							
Foreman Tunnel		1.0 day			720	720	1 day x 1.0
Driver		3.0 day			350	1,050	1.5 day x 2.0
Skilled Labor		6.0 day			260	1,560	1.5 day x 4.0
Common Labor		21.0 day			230	4,830	1.5 day x 14.0
Subtotal						8,160	
4. Total				23,180		83,560	106,740 Baht / 100 m
5. Output							
Working Time per 1 day = 12 Hr x 2 shift				per 100.0 m			
Rate = Baht/m				232 Baht/m		836 Baht/m = 1,068	

T-194. Unit Rate per Meter of Drain Pipe : Grade E1,E2									
				Rate = 1,148 Baht/m		F.C. = 244 Baht/m		21%	
Adit for Ing-Yot No.2 Tunnel						L.C. = 904 Baht/m		79%	
Items		Unit	Quantity	Foreign Currency		Local Currency		Remark	
				Rate	Cost	Rate	Cost		
1. Operation Cost (Equipment & Fuel)									
Truck with Crane 4t x 2.9t lift		1	24.0 Hr	425	10,200	25	600	24.0 Hr x 1	
Subtotal					10,200		600	Baht / 100 m	
2. Material									
Filter mat W300, t=20			30 m2	260	7,800	0	0		
Concrete Pipe D150			100 m	40	4,000	360	36,000		
Drain Pit 200BK			4.0 Pcs	0	0	8,000	32,000		
Miscellaneous			20 %		2,360		13,600		
Subtotal					14,160		81,600	Baht / 100 m	
3. Labor									
Foreman Tunnel			1.0 day			720	720	1 day x 1.0	
Driver			3.0 day			350	1,050	1.5 day x 2.0	
Skilled Labor			6.0 day			260	1,560	1.5 day x 4.0	
Common Labor			21.0 day			230	4,830	1.5 day x 14.0	
Subtotal							8,160		
4. Total					24,360		90,360	114,720 Baht / 100 m	
5. Output									
Working Time per 1 day = 12 Hr x 2 shift per 100.0 m									
Rate = Baht/m				244 Baht/m		904 Baht/m		= 1,148	

T-195. Receiving & Distribution Facilities for Electric Supply						
Kok-Ing No.1 Tunnel		Rate = 11,213,000 Baht/Station		F.C. = 10,729,000 Baht/Station 96%		
L = 3,046.99 m				L.C. = 484,000 Baht/Station 4%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Equipment & Operation Cost						per One Station
Electric Substation						
Transformer of Cubicle Type, Outside	2 set	1,280,000	2,560,000	0	0	500KVA
Transformer of Cubicle Type, Inside	1 set	1,190,000	1,190,000	0	0	300KVA
Transformer of Three Phase Type	2 set	380,000	760,000	0	0	300KVA
Transformer of Three Phase Type	2 set	280,000	560,000	0	0	200KVA
Transformer of Single Phase Type	2 set	130,000	260,000	0	0	100KVA
Transformer of Single Phase Type	3 set	50,000	150,000	0	0	30KVA
Circuit Breaker	2 set	60,000	120,000	0	0	200A
Lightning Arrester	3 set	19,000	57,000	0	0	
Truck with Crane 15t	36 Hr	1,035	37,260	35	1,260	12 Hr x 3
for Installation & Dismantling.						
Miscellaneous	10 %		569,400		130	
Subtotal			6,263,660		1,390	Baht / Station
2. Material						per One Station
Distribution Board of Outside Tunnel	23 set	7,200	165,600	0	0	
Distribution Board of Inside Tunnel	17 set	7,000	119,000	0	0	
Electric Wire of Outside Tunnel	950 m	210	199,500	20	19,000	
Electric Wire of Inside Tunnel	6,500 m	550	3,575,000	60	390,000	
Miscellaneous	10 %		405,910		40,900	
Subtotal			4,465,010		449,900	Baht / Station
3. Labor						per One Station
Foreman Tunnel	10.5 day			720	7,560	1.5 day x 7
Operator of Heavy	4.5 day			460	2,070	1.5 day x 3
Electrician	45.0 day			390	17,550	1.5 day x 30
Common Labor	22.5 day			230	5,175	1.5 day x 15
Subtotal					32,355	
4. Total			10,728,670		483,645	11,212,315 Baht / Station
5. Output		Rate = Baht/Station		10,729,000 Baht/Station		484,000 Baht/Station = 11,213,000

T-196. Receiving & Distribution Facilities for Electric Supply						
Kok-Ing No.2 Tunnel		Rate = 14,404,000 Baht/Station		F.C. = 13,603,000 Baht/Station 94%		
L = 5,415.02 m				L.C. = 801,000 Baht/Station 6%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Equipment & Operation Cost						per One Station
Electric Substation						
Transformer of Cubicle Type, Outside	2 set	1,280,000	2,560,000	0	0	500KVA
Transformer of Cubicle Type, Inside	1 set	1,190,000	1,190,000	0	0	300KVA
Transformer of Three Phase Type	2 set	380,000	760,000	0	0	300KVA
Transformer of Three Phase Type	2 set	280,000	560,000	0	0	200KVA
Transformer of Single Phase Type	2 set	130,000	260,000	0	0	100KVA
Transformer of Single Phase Type	3 set	50,000	150,000	0	0	30KVA
Circuit Breaker	2 set	60,000	120,000	0	0	200A
Lightning Arrester	3 set	19,000	57,000	0	0	
Truck with Crane 15t	36 Hr	1,035	37,260	35	1,260	12 Hr x 3
for Installation & Dismantling.						
Miscellaneous	10 %		569,400		130	
Subtotal			6,263,660		1,390	Baht / Station
2. Material						per One Station
Distribution Board of Outside Tunnel	23 set	7,200	165,600	0	0	
Distribution Board of Inside Tunnel	21 set	7,000	147,000	0	0	
Electric Wire of Outside Tunnel	950 m	210	199,500	20	19,000	
Electric Wire of Inside Tunnel	11,200 m	550	6,160,000	60	672,000	
Miscellaneous	10 %		667,210		69,100	
Subtotal			7,339,310		760,100	Baht / Station
3. Labor						per One Station
Foreman Tunnel	13.5 day			720	9,720	1.5 day x 9
Operator of Heavy	4.5 day			460	2,070	1.5 day x 3
Electrician	55.5 day			390	21,645	1.5 day x 37
Common Labor	28.5 day			230	6,555	1.5 day x 19
Subtotal					39,990	
4. Total			13,602,970		801,480	14,404,450 Baht / Station
5. Output		Rate = Baht/Station		13,603,000 Baht/Station		801,000 Baht/Station = 14,404,000

T-197. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.1 Tunnel		Rate = 9,754,000 Baht/Station		F.C. = 9,412,000 Baht/Station 96%		
L = 2,008.213 m				L.C. = 342,000 Baht/Station 4%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Equipment & Operation Cost						per One Station
Electric Substation						
Transformer of Cubicle Type, Outside	2 set	1,280,000	2,560,000	0	0	500KVA
Transformer of Cubicle Type, Inside	1 set	1,190,000	1,190,000	0	0	300KVA
Transformer of Three Phase Type	2 set	380,000	760,000	0	0	300KVA
Transformer of Three Phase Type	2 set	280,000	560,000	0	0	200KVA
Transformer of Single Phase Type	2 set	130,000	260,000	0	0	100KVA
Transformer of Single Phase Type	3 set	50,000	150,000	0	0	30KVA
Circuit Breaker	2 set	60,000	120,000	0	0	200A
Lightning Arrester	3 set	19,000	57,000	0	0	
Truck with Crane 15t	36 Hr	1,035	37,260	35	1,260	12 Hr x 3
for Installation & Dismantling.						
Miscellaneous	10 %		569,400		130	
Subtotal			6,263,660		1,390	Baht / Station
2. Material						per One Station
Distribution Board of Outside Tunnel	23 set	7,200	165,600	0	0	
Distribution Board of Inside Tunnel	11 set	7,000	77,000	0	0	
Electric Wire of Outside Tunnel	950 m	210	199,500	20	19,000	
Electric Wire of Inside Tunnel	4,400 m	550	2,420,000	60	264,000	
Miscellaneous	10 %		286,210		28,300	
Subtotal			3,148,310		311,300	Baht / Station
3. Labor						per One Station
Foreman Tunnel	9.0 day			720	6,480	1.5 day x 6
Operator of Heavy	4.5 day			460	2,070	1.5 day x 3
Electrician	42.0 day			390	16,380	1.5 day x 28
Common Labor	21.0 day			230	4,830	1.5 day x 14
Subtotal					29,760	
4. Total			9,411,970		342,450	9,754,420 Baht / Station
5. Output		Rate = Baht/Station		9,412,000 Baht/Station		342,000 Baht/Station = 9,754,000

T-198. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel, Div.1		Rate = 13,715,000 Baht/Station		F.C. = 12,983,000 Baht/Station 95%		
L=4,910.0 m				L.C. = 732,000 Baht/Station 5%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Equipment & Operation Cost						per One Station
Electric Substation						
Transformer of Cubicle Type, Outside	2 set	1,280,000	2,560,000	0	0	500KVA
Transformer of Cubicle Type, Inside	1 set	1,190,000	1,190,000	0	0	300KVA
Transformer of Three Phase Type	2 set	380,000	760,000	0	0	300KVA
Transformer of Three Phase Type	2 set	280,000	560,000	0	0	200KVA
Transformer of Single Phase Type	2 set	130,000	260,000	0	0	100KVA
Transformer of Single Phase Type	3 set	50,000	150,000	0	0	30KVA
Circuit Breaker	2 set	60,000	120,000	0	0	200A
Lightning Arrester	3 set	19,000	57,000	0	0	
Truck with Crane 15t	36 Hr	1,035	37,260	35	1,260	12 Hr x 3
for Installation & Dismantling.						
Miscellaneous	10 %		569,400		130	
Subtotal			6,263,660		1,390	Baht / Station
2. Material						per One Station
Distribution Board of Outside Tunnel	23 set	7,200	165,600	0	0	
Distribution Board of Inside Tunnel	19 set	7,000	133,000	0	0	
Electric Wire of Outside Tunnel	950 m	210	199,500	20	19,000	
Electric Wire of Inside Tunnel	10,200 m	550	5,610,000	60	612,000	
Miscellaneous	10 %		610,810		63,100	
Subtotal			6,718,910		694,100	Baht / Station
3. Labor						per One Station
Foreman Tunnel	12.0 day			720	8,640	1.5 day x 8
Operator of Heavy	4.5 day			460	2,070	1.5 day x 3
Electrician	51.0 day			390	19,890	1.5 day x 34
Common Labor	25.5 day			230	5,865	1.5 day x 17
Subtotal					36,465	
4. Total			12,982,570		731,955	13,714,525 Baht / Station
5. Output		Rate = Baht/Station		12,983,000 Baht/Station		732,000 Baht/Station = 13,715,000

T-199. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel Div.2, Adit No.1		Rate = 17,994,000 Baht/Station		F.C. = 17,288,000 Baht/Station 96%		
Div.2 L=4,550.0m, Adit No.1 L=1,981.99m				L.C. = 706,000 Baht/Station 4%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Equipment & Operation Cost						per One Station
Electric Substation						
Transformer of Cubicle Type, Outside	3 set	1,280,000	3,840,000	0	0	500KVA
Transformer of Cubicle Type, Inside	2 set	1,190,000	2,380,000	0	0	300KVA
Transformer of Three Phase Type	4 set	380,000	1,520,000	0	0	300KVA
Transformer of Three Phase Type	4 set	280,000	1,120,000	0	0	200KVA
Transformer of Single Phase Type	4 set	130,000	520,000	0	0	100KVA
Transformer of Single Phase Type	5 set	50,000	250,000	0	0	30KVA
Circuit Breaker	3 set	60,000	180,000	0	0	200A
Lightning Arrester	3 set	19,000	57,000	0	0	
Truck with Crane 15t for Installation & Dismantling.	48 Hr	1,035	49,680	35	1,680	12 Hr x 4
Miscellaneous	10 %		991,700		170	
Subtotal			10,908,380		1,850	Baht / Station
2. Material						per One Station
Distribution Board of Outside Tunnel	23 set	7,200	165,600	0	0	
Distribution Board of Inside Tunnel	30 set	7,000	210,000	0	0	
Electric Wire of Outside Tunnel	950 m	210	199,500	20	19,000	
Electric Wire of Inside Tunnel	9,500 m	550	5,225,000	60	570,000	
Miscellaneous	10 %		580,010		58,900	
Subtotal			6,380,110		647,900	Baht / Station
3. Labor						per One Station
Foreman Tunnel	18.0 day			720	12,960	1.5 day x 12
Operator of Heavy	6.0 day			460	2,760	1.5 day x 4
Electrician	81.0 day			390	31,590	1.5 day x 54
Common Labor	40.5 day			230	9,315	1.5 day x 27
Subtotal					56,625	
4. Total			17,288,490		706,375	17,994,865 Baht / Station
5. Output		Rate = Baht/Station		17,288,000 Baht/Station		706,000 Baht/Station = 17,994,000

T-200. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel Div.3, Adit No.2		Rate = 19,202,000 Baht/Station		F.C. = 18,377,000 Baht/Station 96%		
Div.3 L=5,435.0m, Adit No.2 L=1,785.19m				L.C. = 825,000 Baht/Station 4%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Equipment & Operation Cost						per One Station
Electric Substation						
Transformer of Cubicle Type, Outside	3 set	1,280,000	3,840,000	0	0	500KVA
Transformer of Cubicle Type, Inside	2 set	1,190,000	2,380,000	0	0	300KVA
Transformer of Three Phase Type	4 set	380,000	1,520,000	0	0	300KVA
Transformer of Three Phase Type	4 set	280,000	1,120,000	0	0	200KVA
Transformer of Single Phase Type	4 set	130,000	520,000	0	0	100KVA
Transformer of Single Phase Type	5 set	50,000	250,000	0	0	30KVA
Circuit Breaker	3 set	60,000	180,000	0	0	200A
Lightning Arrester	3 set	19,000	57,000	0	0	
Truck with Crane 15t for Installation & Dismantling.	48 Hr	1,035	49,680	35	1,680	12 Hr x 4
Miscellaneous	10 %		991,700		170	
Subtotal			10,908,380		1,850	Baht / Station
2. Material						per One Station
Distribution Board of Outside Tunnel	23 set	7,200	165,600	0	0	
Distribution Board of Inside Tunnel	30 set	7,000	210,000	0	0	
Electric Wire of Outside Tunnel	950 m	210	199,500	20	19,000	
Electric Wire of Inside Tunnel	11,300 m	550	6,215,000	60	678,000	
Miscellaneous	10 %		679,010		69,700	
Subtotal			7,469,110		766,700	Baht / Station
3. Labor						per One Station
Foreman Tunnel	18.0 day			720	12,960	1.5 day x 12
Operator of Heavy	6.0 day			460	2,760	1.5 day x 4
Electrician	81.0 day			390	31,590	1.5 day x 54
Common Labor	40.5 day			230	9,315	1.5 day x 27
Subtotal					56,625	
4. Total			18,377,490		825,175	19,202,665 Baht / Station
5. Output		Rate = Baht/Station		18,377,000 Baht/Station		825,000 Baht/Station = 19,202,000

T-201. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel Div.4, Adit No.3		Rate = 22,626,000 Baht/Station		F.C. = 21,551,000 Baht/Station 95%		
Div.4 L=7,215.0m, Adit No.3 L=2,193.75m				L.C. = 1,075,000 Baht/Station 5%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Equipment & Operation Cost						per One Station
Electric Substation						
Transformer of Cubicle Type, Outside	3 set	1,280,000	3,840,000	0	0	500KVA
Transformer of Cubicle Type, Inside	2 set	1,190,000	2,380,000	0	0	300KVA
Transformer of Three Phase Type	5 set	380,000	1,900,000	0	0	300KVA
Transformer of Three Phase Type	5 set	280,000	1,400,000	0	0	200KVA
Transformer of Single Phase Type	5 set	130,000	650,000	0	0	100KVA
Transformer of Single Phase Type	7 set	50,000	350,000	0	0	30KVA
Circuit Breaker	3 set	60,000	180,000	0	0	200A
Lightning Arrester	3 set	19,000	57,000	0	0	
Truck with Crane 15t for Installation & Dismantling.	48 Hr	1,035	49,680	35	1,680	12 Hr x 4
Miscellaneous	10 %		1,080,700		170	
Subtotal			11,887,380		1,850	Baht / Station
2. Material						per One Station
Distribution Board of Outside Tunnel	23 set	7,200	165,600	0	0	
Distribution Board of Inside Tunnel	40 set	7,000	280,000	0	0	
Electric Wire of Outside Tunnel	950 m	210	199,500	20	19,000	
Electric Wire of Inside Tunnel	14,800 m	550	8,140,000	60	888,000	
Miscellaneous	10 %		878,510		90,700	
Subtotal			9,663,610		997,700	Baht / Station
3. Labor						per One Station
Foreman Tunnel	25.5 day			720	18,360	1.5 day x 17
Operator of Heavy	6.0 day			460	2,760	1.5 day x 4
Electrician	106.5 day			390	41,535	1.5 day x 71
Common Labor	54.0 day			230	12,420	1.5 day x 36
Subtotal					75,075	
4. Total			21,550,990		1,074,625	22,625,615 Baht / Station
5. Output	Rate = Baht/Station		21,551,000 Baht/Station	1,075,000 Baht/Station	= 22,626,000	

T-202. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel Div.5, Adit No.4		Rate = 20,656,000 Baht/Station		F.C. = 19,689,000 Baht/Station 95%		
Div.5 L=6,440.0m, Adit No.4 L=3,171.48m				L.C. = 967,000 Baht/Station 5%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Equipment & Operation Cost						per One Station
Electric Substation						
Transformer of Cubicle Type, Outside	3 set	1,280,000	3,840,000	0	0	500KVA
Transformer of Cubicle Type, Inside	2 set	1,190,000	2,380,000	0	0	300KVA
Transformer of Three Phase Type	4 set	380,000	1,520,000	0	0	300KVA
Transformer of Three Phase Type	4 set	280,000	1,120,000	0	0	200KVA
Transformer of Single Phase Type	4 set	130,000	520,000	0	0	100KVA
Transformer of Single Phase Type	6 set	50,000	300,000	0	0	30KVA
Circuit Breaker	3 set	60,000	180,000	0	0	200A
Lightning Arrester	3 set	19,000	57,000	0	0	
Truck with Crane 15t for Installation & Dismantling.	48 Hr	1,035	49,680	35	1,680	12 Hr x 4
Miscellaneous	10 %		996,700		170	
Subtotal			10,963,380		1,850	Baht / Station
2. Material						per One Station
Distribution Board of Outside Tunnel	23 set	7,200	165,600	0	0	
Distribution Board of Inside Tunnel	36 set	7,000	252,000	0	0	
Electric Wire of Outside Tunnel	950 m	210	199,500	20	19,000	
Electric Wire of Inside Tunnel	13,300 m	550	7,315,000	60	798,000	
Miscellaneous	10 %		793,210		81,700	
Subtotal			8,725,310		898,700	Baht / Station
3. Labor						per One Station
Foreman Tunnel	22.5 day			720	16,200	1.5 day x 15
Operator of Heavy	6.0 day			460	2,760	1.5 day x 4
Electrician	94.5 day			390	36,855	1.5 day x 63
Common Labor	48.0 day			230	11,040	1.5 day x 32
Subtotal					66,855	
4. Total			19,688,690		967,405	20,656,095 Baht / Station
5. Output	Rate = Baht/Station		19,689,000 Baht/Station	967,000 Baht/Station	= 20,656,000	

T-203. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel Div.6, Adit No.5		Rate = 20,589,000 Baht/Station		F.C. = 19,628,000 Baht/Station 95%		
Div.6 L=6,400 m, Adit No.5 L=2,476.0 m				L.C. = 961,000 Baht/Station 5%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Equipment & Operation Cost						per One Station
Electric Substation						
Transformer of Cubicle Type, Outside	3 set	1,280,000	3,840,000	0	0	500KVA
Transformer of Cubicle Type, Inside	2 set	1,190,000	2,380,000	0	0	300KVA
Transformer of Three Phase Type	4 set	380,000	1,520,000	0	0	300KVA
Transformer of Three Phase Type	4 set	280,000	1,120,000	0	0	200KVA
Transformer of Single Phase Type	4 set	130,000	520,000	0	0	100KVA
Transformer of Single Phase Type	6 set	50,000	300,000	0	0	30KVA
Circuit Breaker	3 set	60,000	180,000	0	0	200A
Lightning Arrester	3 set	19,000	57,000	0	0	
Truck with Crane 15t for Installation & Dismantling.	48 Hr	1,035	49,680	35	1,680	12 Hr x 4
Miscellaneous	10 %		996,700		170	
Subtotal			10,963,380		1,850	Baht / Station
2. Material						per One Station
Distribution Board of Outside Tunnel	23 set	7,200	165,600	0	0	
Distribution Board of Inside Tunnel	36 set	7,000	252,000	0	0	
Electric Wire of Outside Tunnel	950 m	210	199,500	20	19,000	
Electric Wire of Inside Tunnel	13,200 m	550	7,260,000	60	792,000	
Miscellaneous	10 %		787,710		81,100	
Subtotal			8,664,810		892,100	Baht / Station
3. Labor						per One Station
Foreman Tunnel	22.5 day			720	16,200	1.5 day x 15
Operator of Heavy	6.0 day			460	2,760	1.5 day x 4
Electrician	94.5 day			390	36,855	1.5 day x 63
Common Labor	48.0 day			230	11,040	1.5 day x 32
Subtotal					66,855	
4. Total			19,628,190		960,805	20,588,995 Baht / Station
5. Output	Rate = Baht/Station		19,628,000 Baht/Station	961,000 Baht/Station =		20,589,000

T-204. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel Div.7, Adit No.6		Rate = 20,100,000 Baht/Station		F.C. = 19,189,000 Baht/Station 95%		
Div.7 L=6,060.6m, Adit No.6 L=3,338.6m				L.C. = 911,000 Baht/Station 5%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Equipment & Operation Cost						per One Station
Electric Substation						
Transformer of Cubicle Type, Outside	3 set	1,280,000	3,840,000	0	0	500KVA
Transformer of Cubicle Type, Inside	2 set	1,190,000	2,380,000	0	0	300KVA
Transformer of Three Phase Type	4 set	380,000	1,520,000	0	0	300KVA
Transformer of Three Phase Type	4 set	280,000	1,120,000	0	0	200KVA
Transformer of Single Phase Type	4 set	130,000	520,000	0	0	100KVA
Transformer of Single Phase Type	6 set	50,000	300,000	0	0	30KVA
Circuit Breaker	3 set	60,000	180,000	0	0	200A
Lightning Arrester	3 set	19,000	57,000	0	0	
Truck with Crane 15t for Installation & Dismantling.	48 Hr	1,035	49,680	35	1,680	12 Hr x 4
Miscellaneous	10 %		996,700		170	
Subtotal			10,963,380		1,850	Baht / Station
2. Material						per One Station
Distribution Board of Outside Tunnel	23 set	7,200	165,600	0	0	
Distribution Board of Inside Tunnel	34 set	7,000	238,000	0	0	
Electric Wire of Outside Tunnel	950 m	210	199,500	20	19,000	
Electric Wire of Inside Tunnel	12,500 m	550	6,875,000	60	750,000	
Miscellaneous	10 %		747,810		76,900	
Subtotal			8,225,910		845,900	Baht / Station
3. Labor						per One Station
Foreman Tunnel	21.0 day			720	15,120	1.5 day x 14
Operator of Heavy	6.0 day			460	2,760	1.5 day x 4
Electrician	90.0 day			390	35,100	1.5 day x 60
Common Labor	45.0 day			230	10,350	1.5 day x 30
Subtotal					63,330	
4. Total			19,189,290		911,080	20,100,370 Baht / Station
5. Output	Rate = Baht/Station		19,189,000 Baht/Station	911,000 Baht/Station =		20,100,000

T-205. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel Div.8, Adit No.7		Rate = 17,642,000 Baht/Station		F.C. = 16,888,000 Baht/Station 96%		
Div.8 L=4,950.0m, Adit No.7 L=2,431.92m				L.C. = 754,000 Baht/Station 4%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Equipment & Operation Cost						per One Station
Electric Substation						
Transformer of Cubicle Type, Outside	3 set	1,280,000	3,840,000	0	0	500KVA
Transformer of Cubicle Type, Inside	2 set	1,190,000	2,380,000	0	0	300KVA
Transformer of Three Phase Type	3 set	380,000	1,140,000	0	0	300KVA
Transformer of Three Phase Type	3 set	280,000	840,000	0	0	200KVA
Transformer of Single Phase Type	3 set	130,000	390,000	0	0	100KVA
Transformer of Single Phase Type	5 set	50,000	250,000	0	0	30KVA
Circuit Breaker	3 set	60,000	180,000	0	0	200A
Lightning Arrester	3 set	19,000	57,000	0	0	
Truck with Crane 15t for Installation & Dismantling.	48 Hr	1,035	49,680	35	1,680	12 Hr x 4
Miscellaneous	10 %		912,700		170	
Subtotal			10,039,380		1,850	Baht / Station
2. Material						per One Station
Distribution Board of Outside Tunnel	23 set	7,200	165,600	0	0	
Distribution Board of Inside Tunnel	28 set	7,000	196,000	0	0	
Electric Wire of Outside Tunnel	950 m	210	199,500	20	19,000	
Electric Wire of Inside Tunnel	10,300 m	550	5,665,000	60	618,000	
Miscellaneous	10 %		622,610		63,700	
Subtotal			6,848,710		700,700	Baht / Station
3. Labor						per One Station
Foreman Tunnel	16.5 day			720	11,880	1.5 day x 11
Operator of Heavy	6.0 day			460	2,760	1.5 day x 4
Electrician	73.5 day			390	28,665	1.5 day x 49
Common Labor	36.0 day			230	8,280	1.5 day x 24
Subtotal					51,585	
4. Total			16,888,090		754,135	17,642,225 Baht / Station
5. Output	Rate = Baht/Station		16,888,000 Baht/Station	754,000 Baht/Station =		17,642,000

T-206. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel, Div.9		Rate = 13,735,000 Baht/Station		F.C. = 13,001,000 Baht/Station 95%		
L=4,914.6 m				L.C. = 734,000 Baht/Station 5%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Equipment & Operation Cost						per One Station
Electric Substation						
Transformer of Cubicle Type, Outside	2 set	1,280,000	2,560,000	0	0	500KVA
Transformer of Cubicle Type, Inside	1 set	1,190,000	1,190,000	0	0	300KVA
Transformer of Three Phase Type	2 set	380,000	760,000	0	0	300KVA
Transformer of Three Phase Type	2 set	280,000	560,000	0	0	200KVA
Transformer of Single Phase Type	2 set	130,000	260,000	0	0	100KVA
Transformer of Single Phase Type	3 set	50,000	150,000	0	0	30KVA
Circuit Breaker	2 set	60,000	120,000	0	0	200A
Lightning Arrester	3 set	19,000	57,000	0	0	
Truck with Crane 15t for Installation & Dismantling.	36 Hr	1,035	37,260	35	1,260	12 Hr x 3
Miscellaneous	10 %		569,400		130	
Subtotal			6,263,660		1,390	Baht / Station
2. Material						per One Station
Distribution Board of Outside Tunnel	23 set	7,200	165,600	0	0	
Distribution Board of Inside Tunnel	19 set	7,000	133,000	0	0	
Electric Wire of Outside Tunnel	950 m	210	199,500	20	19,000	
Electric Wire of Inside Tunnel	10,230 m	550	5,626,500	60	613,800	
Miscellaneous	10 %		612,460		63,280	
Subtotal			6,737,060		696,080	Baht / Station
3. Labor						per One Station
Foreman Tunnel	12.0 day			720	8,640	1.5 day x 8
Operator of Heavy	4.5 day			460	2,070	1.5 day x 3
Electrician	51.0 day			390	19,890	1.5 day x 34
Common Labor	25.5 day			230	5,865	1.5 day x 17
Subtotal					36,465	
4. Total			13,000,720		733,935	13,734,655 Baht / Station
5. Output	Rate = Baht/Station		13,001,000 Baht/Station	734,000 Baht/Station =		13,735,000

T-207. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel Div.2, Adit No.1		Rate = 3,050,000 Baht/Station		F.C. = 2,747,000 Baht/Station 90%		
Adit No.1 L=1,981.99 m				L.C. = 303,000 Baht/Station 10%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Material						per One Station
Distribution Board of Inside Tunnel	11 set	7,000	77,000	0	0	
Electric Wire of Inside Tunnel	4,400 m	550	2,420,000	60	264,000	
Miscellaneous	10 %		249,700		26,400	
Subtotal			2,746,700		290,400	Baht / Station
2. Labor						per One Station
Foreman Tunnel	4.5 day			720	3,240	1.5 day x 3
Electrician	18.0 day			390	7,020	1.5 day x 12
Common Labor	10.5 day			230	2,415	1.5 day x 7
Subtotal					12,675	
4. Total			2,746,700		303,075	3,049,775 Baht / Station
5. Output	Rate = Baht/Station		2,747,000 Baht/Station	303,000 Baht/Station =	3,050,000	

T-208. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel Div.3, Adit No.2		Rate = 2,773,000 Baht/Station		F.C. = 2,497,000 Baht/Station 90%		
Adit No.2 L=1,785.19 m				L.C. = 276,000 Baht/Station 10%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Material						per One Station
Distribution Board of Inside Tunnel	10 set	7,000	70,000	0	0	
Electric Wire of Inside Tunnel	4,000 m	550	2,200,000	60	240,000	
Miscellaneous	10 %		227,000		24,000	
Subtotal			2,497,000		264,000	Baht / Station
2. Labor						per One Station
Foreman Tunnel	4.5 day			720	3,240	1.5 day x 3
Electrician	16.5 day			390	6,435	1.5 day x 11
Common Labor	9.0 day			230	2,070	1.5 day x 6
Subtotal					11,745	
4. Total			2,497,000		275,745	2,772,745 Baht / Station
5. Output	Rate = Baht/Station		2,497,000 Baht/Station	276,000 Baht/Station =	2,773,000	

T-209. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel Div.4, Adit No.3		Rate = 3,326,000 Baht/Station		F.C. = 2,996,000 Baht/Station 90%		
Adit No.3 L=2,193.75 m				L.C. = 330,000 Baht/Station 10%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Material						per One Station
Distribution Board of Inside Tunnel	12 set	7,000	84,000	0	0	
Electric Wire of Inside Tunnel	4,800 m	550	2,640,000	60	288,000	
Miscellaneous	10 %		272,400		28,800	
Subtotal			2,996,400		316,800	Baht / Station
2. Labor						per One Station
Foreman Tunnel	4.5 day			720	3,240	1.5 day x 3
Electrician	19.5 day			390	7,605	1.5 day x 13
Common Labor	12.0 day			230	2,760	1.5 day x 8
Subtotal					13,605	
4. Total			2,996,400		330,405	3,326,805 Baht / Station
5. Output	Rate = Baht/Station		2,996,000 Baht/Station	330,000 Baht/Station =	3,326,000	

T-210. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel Div.5, Adit No.4		Rate = 4,655,000 Baht/Station		F.C. = 4,192,000 Baht/Station 90%		
Adit No.4 L=3,171.48 m				L.C. = 463,000 Baht/Station 10%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Material						per One Station
Distribution Board of Inside Tunnel	18 set	7,000	126,000	0	0	
Electric Wire of Inside Tunnel	6,700 m	550	3,685,000	60	402,000	
Miscellaneous	10 %		381,100		40,200	
Subtotal			4,192,100		442,200	Baht / Station
2. Labor						per One Station
Foreman Tunnel	7.5 day			720	5,400	1.5 day x 5
Electrician	28.5 day			390	11,115	1.5 day x 19
Common Labor	16.5 day			230	3,795	1.5 day x 11
Subtotal					20,310	
4. Total			4,192,100		462,510	4,654,610 Baht / Station
5. Output		Rate = Baht/Station		4,192,000 Baht/Station		463,000 Baht/Station = 4,655,000

T-211. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel Div.6, Adit No.5		Rate = 3,721,000 Baht/Station		F.C. = 3,351,000 Baht/Station 90%		
Adit No.5 L=2,476.0 m				L.C. = 370,000 Baht/Station 10%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Material						per One Station
Distribution Board of Inside Tunnel	14 set	7,000	98,000	0	0	
Electric Wire of Inside Tunnel	5,360 m	550	2,948,000	60	321,600	
Miscellaneous	10 %		304,600		32,160	
Subtotal			3,350,600		353,760	Baht / Station
2. Labor						per One Station
Foreman Tunnel	6.0 day			720	4,320	1.5 day x 4
Electrician	22.5 day			390	8,775	1.5 day x 15
Common Labor	13.5 day			230	3,105	1.5 day x 9
Subtotal					16,200	
4. Total			3,350,600		369,960	3,720,560 Baht / Station
5. Output		Rate = Baht/Station		3,351,000 Baht/Station		370,000 Baht/Station = 3,721,000

T-212. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel, Div.7, Adit No.6		Rate = 4,932,000 Baht/Station		F.C. = 4,442,000 Baht/Station 90%		
Adit No.6 L=3,338.6m				L.C. = 490,000 Baht/Station 10%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Material						per One Station
Distribution Board of Inside Tunnel	19 set	7,000	133,000	0	0	
Electric Wire of Inside Tunnel	7,100 m	550	3,905,000	60	426,000	
Miscellaneous	10 %		403,800		42,600	
Subtotal			4,441,800		468,600	Baht / Station
2. Labor						per One Station
Foreman Tunnel	7.5 day			720	5,400	1.5 day x 5
Electrician	30.0 day			390	11,700	1.5 day x 20
Common Labor	18.0 day			230	4,140	1.5 day x 12
Subtotal					21,240	
4. Total			4,441,800		489,840	4,931,640 Baht / Station
5. Output		Rate = Baht/Station		4,442,000 Baht/Station		490,000 Baht/Station = 4,932,000

T-213. Receiving & Distribution Facilities for Electric Supply						
Ing-Yot No.2 Tunnel Div.8, Adit No.7		Rate = 3,680,000 Baht/Station		F.C. = 3,314,000 Baht/Station 90%		
Adit No.7 L=2,431.92m				L.C. = 366,000 Baht/Station 10%		
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Material						per One Station
Distribution Board of Inside Tunnel	14 set	7,000	98,000	0	0	
Electric Wire of Inside Tunnel	5,300 m	550	2,915,000	60	318,000	
Miscellaneous	10 %		301,300		31,800	
Subtotal			3,314,300		349,800	Baht / Station
2. Labor						per One Station
Foreman Tunnel	6.0 day			720	4,320	1.5 day x 4
Electrician	22.5 day			390	8,775	1.5 day x 15
Common Labor	13.5 day			230	3,105	1.5 day x 9
Subtotal					16,200	
4. Total			3,314,300		366,000	3,680,300 Baht / Station
5. Output		Rate = Baht/Station		3,314,000 Baht/Station		366,000 Baht/Station = 3,680,000

T-214. Electric Charge of Lighting for Tunnel															
Kok-Ing & Ing-Yot Tunnel										Baht/Station					
Item		Quantity				Foreign Currency		Local Currency		Total Cost					
Location	Length (m)	(Total kWh)				Rate Baht/kWh	Cost Baht	Rate Baht/kWh	Cost Baht	(Baht)					
		kW	hr	days	years					x efficiency =	Total kWh				
1 Kok-Ing Tunnel															
1-1 Kok-Ing No.1 Tunnel	3,046.99	560	24	365	x	3.6	x	60%	=	10,596,000	0	0	3	31,788,000	31,788,000
1-2 Kok-Ing No.2 Tunnel	5,415.02	560	24	365	x	3.2	x	100%	=	15,698,000	0	0	3	47,094,000	47,094,000
Subtotal ("1-1" + "1-2")	8,462.01									26,294,000		0		78,882,000	78,882,000
2 Ing-Yot Tunnel															
2-1 Ing-Yot No.1 Tunnel	2,008.21	560	24	365	x	2.4	x	60%	=	7,064,000	0	0	3	21,192,000	21,192,000
2-2 Ing-Yot No.2 Tunnel															
(1) Division 1	4,910.00	560	24	365	x	5.8	x	60%	=	17,071,000	0	0	3	51,213,000	51,213,000
(2) Division 2	4,550.00	560	24	365	x	4.1	x	70%	=	14,079,000	0	0	3	42,237,000	42,237,000
(3) Division 3	5,435.00	560	24	365	x	4.2	x	70%	=	14,422,000	0	0	3	43,266,000	43,266,000
(4) Division 4	7,215.00	560	24	365	x	4.2	x	70%	=	14,422,000	0	0	3	43,266,000	43,266,000
(5) Division 5	6,440.00	560	24	365	x	3.6	x	70%	=	12,362,000	0	0	3	37,086,000	37,086,000
(6) Division 6	6,400.00	560	24	365	x	3.9	x	70%	=	13,392,000	0	0	3	40,176,000	40,176,000
(7) Division 7	6,060.00	560	24	365	x	3.4	x	70%	=	11,675,000	0	0	3	35,025,000	35,025,000
(8) Division 8	4,950.00	560	24	365	x	4.0	x	70%	=	13,736,000	0	0	3	41,208,000	41,208,000
(9) Division 9	4,914.60	560	24	365	x	5.8	x	60%	=	17,071,000	0	0	3	51,213,000	51,213,000
2-2-1 Subtotal ("1" + "9")	50,874.60									128,230,000		0		384,690,000	384,690,000
(1) Adit No.1	1,981.99	560	24	365	x	1.7	x	70%	=	5,838,000	0	0	3	17,514,000	17,514,000
(2) Adit No.2	1,785.19	560	24	365	x	1.6	x	70%	=	5,494,000	0	0	3	16,482,000	16,482,000
(3) Adit No.3	2,193.75	560	24	365	x	1.8	x	70%	=	6,181,000	0	0	3	18,543,000	18,543,000
(4) Adit No.4	3,171.48	560	24	365	x	2.2	x	70%	=	7,555,000	0	0	3	22,665,000	22,665,000
(5) Adit No.5	2,476.00	560	24	365	x	1.9	x	70%	=	6,524,000	0	0	3	19,572,000	19,572,000
(6) Adit No.6	3,338.60	560	24	365	x	2.3	x	70%	=	7,898,000	0	0	3	23,694,000	23,694,000
(7) Adit No.7	2,431.92	560	24	365	x	1.9	x	70%	=	6,524,000	0	0	3	19,572,000	19,572,000
2-2-2 Subtotal ("1" + "7")	17,378.93									46,014,000		0		138,042,000	138,042,000
2-2-3 Subtotal ("2-2-1" + "2-2-2")	68,253.53									174,244,000		0		522,732,000	522,732,000
2-3 Subtotal ("2-1" + "2-2")	70,261.74									181,308,000		0		543,924,000	543,924,000
3 Total ("1" + "2")	78,723.75									207,602,000		0		622,806,000	622,806,000

T-215. Electric Charge of Ventilation for Tunnel											
Kok-Ing & Ing-Yot Tunnel					Baht/Station						
Item		Quantity					Foreign Currency		Local Currency		Total Cost
Location	Length (m)	(Total kWh)				Total kWh	Rate Baht/kWh	Cost Baht	Rate Baht/kWh	Cost Baht	(Baht)
		kW	hr	days	years						
1 Kok-Ing Tunnel											
1-1 Kok-Ing No.1 Tunnel	3,046.99	150	× 24	× 365	× 3.6	× 60% =	2,838,000	0	0	3	8,514,000
1-2 Kok-Ing No.2 Tunnel	5,415.02	150	× 24	× 365	× 3.2	× 100% =	4,205,000	0	0	3	12,615,000
Subtotal ("1-1" + "1-2")	8,462.01						7,043,000		0		21,129,000
2 Ing-Yot Tunnel											
2-1 Ing-Yot No.1 Tunnel	2,008.21	150	× 24	× 365	× 2.4	× 60% =	1,892,000	0	0	3	5,676,000
2-2 Ing-Yot No.2 Tunnel											
(1) Division 1	4,910.00	150	× 24	× 365	× 5.8	× 60% =	4,573,000	0	0	3	13,719,000
(2) Division 2	4,550.00	150	× 24	× 365	× 4.1	× 70% =	3,771,000	0	0	3	11,313,000
(3) Division 3	5,435.00	150	× 24	× 365	× 4.2	× 70% =	3,863,000	0	0	3	11,589,000
(4) Division 4	7,215.00	150	× 24	× 365	× 4.2	× 70% =	3,863,000	0	0	3	11,589,000
(5) Division 5	6,440.00	150	× 24	× 365	× 3.6	× 70% =	3,311,000	0	0	3	9,933,000
(6) Division 6	6,400.00	150	× 24	× 365	× 3.9	× 70% =	3,587,000	0	0	3	10,761,000
(7) Division 7	6,060.00	150	× 24	× 365	× 3.4	× 70% =	3,127,000	0	0	3	9,381,000
(8) Division 8	4,950.00	150	× 24	× 365	× 4.0	× 70% =	3,679,000	0	0	3	11,037,000
(9) Division 9	4,914.60	150	× 24	× 365	× 5.8	× 60% =	4,573,000	0	0	3	13,719,000
2-2-1 Subtotal ("1" +--+ "(9)")	50,874.60						34,347,000		0		103,041,000
(1) Adit No.1	1,981.99	150	× 24	× 365	× 1.7	× 70% =	1,564,000	0	0	3	4,692,000
(2) Adit No.2	1,785.19	150	× 24	× 365	× 1.6	× 70% =	1,472,000	0	0	3	4,416,000
(3) Adit No.3	2,193.75	150	× 24	× 365	× 1.8	× 70% =	1,656,000	0	0	3	4,968,000
(4) Adit No.4	3,171.48	150	× 24	× 365	× 2.2	× 70% =	2,024,000	0	0	3	6,072,000
(5) Adit No.5	2,476.00	150	× 24	× 365	× 1.9	× 70% =	1,748,000	0	0	3	5,244,000
(6) Adit No.6	3,338.60	150	× 24	× 365	× 2.3	× 70% =	2,116,000	0	0	3	6,348,000
(7) Adit No.7	2,431.92	150	× 24	× 365	× 1.9	× 70% =	1,748,000	0	0	3	5,244,000
2-2-2 Subtotal ("1" +--+ "(7)")	17,378.93						12,328,000		0		36,984,000
2-2-3 Subtotal ("2-2-1" + "2-2-2")	68,253.53						46,675,000		0		140,025,000
2-3 Subtotal ("2-1" + "2-2")	70,261.74						48,567,000		0		145,701,000
3 Total ("1" + "2")	78,723.75						55,610,000		0		166,830,000

T-216. Unit Rate per Meter of Installation & Dismantling of Air Pipe for Ventilation						
Kok-Ing & Ing-Yot Tunnel		Rate = 751 Baht/m		F.C. = 652 Baht/m		87%
Ventiration Facilities				L.C. = 99 Baht/m		13%
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Material						
SGP 200mm	100 m	621	62,100	69	6,900	
Miscellaneous	5 %		3,105		345	
Subtotal			65,205		7,245	Baht/100m
2. Labor						
Foreman Tunnel	0.3 day			720	216	
Steel Worker (Bender/Fixer)	3.0 day			350	1,050	1.5 day × 2
Common Labor	6.0 day			230	1,380	1.5 day × 4
Subtotal					2,646	
4. Total			65,205		9,891	75,096 Baht/100m
5. Output 100 m						
Rate = Baht/m		652 Baht/m		99 Baht/m =		751

T-217. Installation & Dismantling of Air Pipe for Ventilation							
Kok-Ing & Ing-Yot Tunnel		Ventiration Facilities		Baht/Station			
Item		Quantity	Foreign Currency		Local Currency		Total Cost
			Rate	Cost	Rate	Cost	
Location	Length (m)	Length (m)	Baht/m	Baht	Baht/m	Baht	(Baht)
1 Kok-Ing Tunnel							
1-1 Kok-Ing No.1 Tunnel	3,046.99	3,200	652	2,086,400	99	316,800	2,403,200
1-2 Kok-Ing No.2 Tunnel	5,415.02	5,600	652	3,651,200	99	554,400	4,205,600
Subtotal ("1-1" + "1-2")	8,462.01	8,800		5,737,600		871,200	6,608,800
2 Ing-Yot Tunnel							
2-1 Ing-Yot No.1 Tunnel	2,008.21	2,200	652	1,434,400	99	217,800	1,652,200
2-2 Ing-Yot No.2 Tunnel							
(1) Division 1	4,910.00	5,100	652	3,325,200	99	504,900	3,830,100
(2) Division 2	4,550.00	4,800	652	3,129,600	99	475,200	3,604,800
(3) Division 3	5,435.00	5,600	652	3,651,200	99	554,400	4,205,600
(4) Division 4	7,215.00	7,400	652	4,824,800	99	732,600	5,557,400
(5) Division 5	6,440.00	6,600	652	4,303,200	99	653,400	4,956,600
(6) Division 6	6,400.00	6,600	652	4,303,200	99	653,400	4,956,600
(7) Division 7	6,060.00	6,300	652	4,107,600	99	623,700	4,731,300
(8) Division 8	4,950.00	5,200	652	3,390,400	99	514,800	3,905,200
(9) Division 9	4,914.60	5,100	652	3,325,200	99	504,900	3,830,100
2-2-1 Subtotal ("1" + "9")	50,874.60	52,700		34,360,400		5,217,300	39,577,700
(1) Adit No.1	1,981.99	2,200	652	1,434,400	99	217,800	1,652,200
(2) Adit No.2	1,785.19	2,000	652	1,304,000	99	198,000	1,502,000
(3) Adit No.3	2,193.75	2,400	652	1,564,800	99	237,600	1,802,400
(4) Adit No.4	3,171.48	3,400	652	2,216,800	99	336,600	2,553,400
(5) Adit No.5	2,476.00	2,700	652	1,760,400	99	267,300	2,027,700
(6) Adit No.6	3,338.60	3,500	652	2,282,000	99	346,500	2,628,500
(7) Adit No.7	2,431.92	2,600	652	1,695,200	99	257,400	1,952,600
2-2-2 Subtotal ("1" + "7")	17,378.93	18,800		12,257,600		1,861,200	14,118,800
2-2-3 Subtotal ("2-2-1" + "2-2-2")	68,253.53	71,500		46,618,000		7,078,500	53,696,500
2-3 Subtotal ("2-1" + "2-2")	70,261.74	73,700		48,052,400		7,296,300	55,348,700
3 Total ("1" + "2")	78,723.75	82,500		53,790,000		8,167,500	61,957,500

T-218. Electric Charge of Fan for Tunnel													
Kok-Ing & Ing-Yot Tunnel				Ventilation Facilities				Baht/Station				Total Cost	
Item				Quantity				Foreign Currency		Local Currency		Total Cost	
				(Total kWh)									
Location													
				Length (m)	kW	hr	days	years	× efficiency	Total kWh	Rate	Cost	Baht
											Baht/kWh		(Baht)
1 Kok-Ing Tunnel													
1-1 Kok-Ing No.1 Tunnel				3,046.99	220	×	24	×	365	×	3.6	×	60% =
1-2 Kok-Ing No.2 Tunnel				5,415.02	220	×	24	×	365	×	3.2	×	100% =
Subtotal ("1-1" + "1-2")				8,462.01						10,330,000		0	30,990,000
2 Ing-Yot Tunnel													
2-1 Ing-Yot No.1 Tunnel				2,008.21	220	×	24	×	365	×	2.4	×	60% =
2-2 Ing-Yot No.2 Tunnel													
(1) Division 1				4,910.00	220	×	24	×	365	×	5.8	×	60% =
(2) Division 2				4,550.00	220	×	24	×	365	×	4.1	×	70% =
(3) Division 3				5,435.00	220	×	24	×	365	×	4.2	×	70% =
(4) Division 4				7,215.00	220	×	24	×	365	×	4.2	×	70% =
(5) Division 5				6,440.00	220	×	24	×	365	×	3.6	×	70% =
(6) Division 6				6,400.00	220	×	24	×	365	×	3.9	×	70% =
(7) Division 7				6,060.00	220	×	24	×	365	×	3.4	×	70% =
(8) Division 8				4,950.00	220	×	24	×	365	×	4.0	×	70% =
(9) Division 9				4,914.60	220	×	24	×	365	×	5.8	×	60% =
2-2-1 Subtotal ("1" + "2")				50,874.60						50,378,000		0	151,134,000
(1) Adit No.1				1,981.99	220	×	24	×	365	×	1.7	×	70% =
(2) Adit No.2				1,785.19	220	×	24	×	365	×	1.6	×	70% =
(3) Adit No.3				2,193.75	220	×	24	×	365	×	1.8	×	70% =
(4) Adit No.4				3,171.48	220	×	24	×	365	×	2.2	×	70% =
(5) Adit No.5				2,476.00	220	×	24	×	365	×	1.9	×	70% =
(6) Adit No.6				3,338.60	220	×	24	×	365	×	2.3	×	70% =
(7) Adit No.7				2,431.92	220	×	24	×	365	×	1.9	×	70% =
2-2-2 Subtotal ("1" + "2")				17,378.93						18,076,000		0	54,228,000
2-2-3 Subtotal ("2-2-1" + "2-2-2")				68,253.53						68,454,000		0	205,362,000
2-3 Subtotal ("2-1" + "2-2")				70,361.74						71,229,000		0	213,687,000
3 Total ("1" + "2")				78,723.75						81,559,000		0	244,677,000

T-219. Unit Rate per Meter of Installation & Dismantling of Air Pipe for Fan						
Kok-Ing & Ing-Yot Tunnel		Rate = 1,818 Baht/m		F.C. = 1,785 Baht/m		98%
Ventilation Facilities				L.C. = 33 Baht/m		2%
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Material						
Polyester Pipe 1,000mm	100 m	1,700	170,000	0	0	
Miscellaneous	5 %		8,500		0	
Subtotal			178,500		0	Baht/100m
2. Labor						
Foreman Tunnel	0.3 day			720	216	
Steel Worker (Bender/Fixer)	3.0 day			350	1,050	1.5 day × 2
Common Labor	9.0 day			230	2,070	1.5 day × 6
Subtotal					3,336	
4. Total			178,500		3,336	181,836 Baht/100m
5. Output 100 m						
Rate = Baht/m		1,785 Baht/m		33 Baht/m =		1,818

T-220. Installation & Dismantling of Air Pipe for Fan							
Kok-Ing & Ing-Yot Tunnel		Ventilation Facilities		Baht/Station			
Item	Quantity		Foreign Currency		Local Currency		Total Cost
	Length (m)	Length (m)	Rate	Cost	Rate	Cost	
Location			Baht/m	Baht	Baht/m	Baht	(Baht)
1 Kok-Ing Tunnel							
1-1 Kok-Ing No.1 Tunnel	3,046.99	3,050	1,785	5,444,000	33	101,000	5,545,000
1-2 Kok-Ing No.2 Tunnel	5,415.02	5,420	1,785	9,675,000	33	179,000	9,854,000
Subtotal ("1-1" + "1-2")	8,462.01	8,470		15,119,000		280,000	15,399,000
2 Ing-Yot Tunnel							
2-1 Ing-Yot No.1 Tunnel	2,008.21	2,010	1,785	3,588,000	33	66,000	3,654,000
2-2 Ing-Yot No.2 Tunnel							
(1) Division 1	4,910.00	4,910	1,785	8,764,000	33	162,000	8,926,000
(2) Division 2	4,550.00	4,550	1,785	8,122,000	33	150,000	8,272,000
(3) Division 3	5,435.00	5,440	1,785	9,710,000	33	180,000	9,890,000
(4) Division 4	7,215.00	7,220	1,785	12,888,000	33	238,000	13,126,000
(5) Division 5	6,440.00	6,440	1,785	11,495,000	33	213,000	11,708,000
(6) Division 6	6,400.00	6,400	1,785	11,424,000	33	211,000	11,635,000
(7) Division 7	6,060.00	6,060	1,785	10,817,000	33	200,000	11,017,000
(8) Division 8	4,950.00	4,950	1,785	8,836,000	33	163,000	8,999,000
(9) Division 9	4,914.60	4,910	1,785	8,764,000	33	162,000	8,926,000
2-2-1 Subtotal ("1" + "9")	50,874.60	50,880		90,820,000		1,679,000	92,499,000
(1) Adit No.1	1,981.99	1,980	1,785	3,534,000	33	65,000	3,599,000
(2) Adit No.2	1,785.19	1,790	1,785	3,195,000	33	59,000	3,254,000
(3) Adit No.3	2,193.75	2,190	1,785	3,909,000	33	72,000	3,981,000
(4) Adit No.4	3,171.48	3,170	1,785	5,658,000	33	105,000	5,763,000
(5) Adit No.5	2,476.00	2,480	1,785	4,427,000	33	82,000	4,509,000
(6) Adit No.6	3,338.60	3,340	1,785	5,962,000	33	110,000	6,072,000
(7) Adit No.7	2,431.92	2,430	1,785	4,338,000	33	80,000	4,418,000
2-2-2 Subtotal ("1" + "7")	17,378.93	17,380		31,023,000		573,000	31,596,000
2-2-3 Subtotal ("2-2-1" + "2-2-2")	68,253.53	68,260		121,843,000		2,252,000	124,095,000
2-3 Subtotal ("2-1" + "2-2")	70,261.74	70,270		125,431,000		2,318,000	127,749,000
3 Total ("1" + "2")	78,723.75	78,740		140,550,000		2,598,000	143,148,000

T-221. Unit Rate per Meter of Installation & Dismantling of Water Supply Pipe						
Kok-Ing & Ing-Yot Tunnel		Rate = 314 Baht/m		F.C. = 259 Baht/m		82%
Water Supply Facilities				L.C. = 55 Baht/m		18%
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Material						
SGP 65 mm	100 m	247	24,700	27	2,700	
Miscellaneous	5 %		1,235		135	
Subtotal			25,935		2,835	Baht/100m
2. Labor						
Foreman Tunnel	0.3 day			720	216	
Steel Worker (Bender/Fixer)	3.0 day			350	1,050	1.5 day × 2
Common Labor	6.0 day			230	1,380	1.5 day × 4
Subtotal					2,646	
4. Total			25,935		5,481	31,416 Baht/100m
5. Output	100 m					
Rate = Baht/m			259 Baht/m	55 Baht/m =	314	

T-222. Installation & Dismantling of Water Supply Pipe							
Kok-Ing & Ing-Yot Tunnel		Water Supply Facilities				Baht/Station	
Item	Quantity		Foreign Currency		Local Currency		Total Cost
			Rate	Cost	Rate	Cost	
Location	Length (m)	Length (m)	Baht/m	Baht	Baht/m	Baht	(Baht)
1 Kok-Ing Tunnel							
1-1 Kok-Ing No.1 Tunnel	3,046.99	3,350	259	868,000	55	184,000	1,052,000
1-2 Kok-Ing No.2 Tunnel	5,415.02	5,720	259	1,481,000	55	315,000	1,796,000
Subtotal ("1-1" + "1-2")	8,462.01	9,070		2,349,000		499,000	2,848,000
2 Ing-Yot Tunnel							
2-1 Ing-Yot No.1 Tunnel	2,008.21	2,310	259	598,000	55	127,000	725,000
2-2 Ing-Yot No.2 Tunnel							
(1) Division 1	4,910.00	5,210	259	1,349,000	55	287,000	1,636,000
(2) Division 2	4,550.00	4,850	259	1,256,000	55	267,000	1,523,000
(3) Division 3	5,435.00	5,740	259	1,487,000	55	316,000	1,803,000
(4) Division 4	7,215.00	7,520	259	1,948,000	55	414,000	2,362,000
(5) Division 5	6,440.00	6,740	259	1,746,000	55	371,000	2,117,000
(6) Division 6	6,400.00	6,700	259	1,735,000	55	369,000	2,104,000
(7) Division 7	6,060.00	6,360	259	1,647,000	55	350,000	1,997,000
(8) Division 8	4,950.00	5,250	259	1,360,000	55	289,000	1,649,000
(9) Division 9	4,914.60	5,210	259	1,349,000	55	287,000	1,636,000
2-2-1 Subtotal ("1") + "9")	50,874.60	53,580		13,877,000		2,950,000	16,827,000
(1) Adit No.1	1,981.99	2,280	259	591,000	55	125,000	716,000
(2) Adit No.2	1,785.19	2,090	259	541,000	55	115,000	656,000
(3) Adit No.3	2,193.75	2,490	259	645,000	55	137,000	782,000
(4) Adit No.4	3,171.48	3,470	259	899,000	55	191,000	1,090,000
(5) Adit No.5	2,476.00	2,780	259	720,000	55	153,000	873,000
(6) Adit No.6	3,338.60	3,640	259	943,000	55	200,000	1,143,000
(7) Adit No.7	2,431.92	2,730	259	707,000	55	150,000	857,000
2-2-2 Subtotal ("1") + "7")	17,378.93	19,480		5,046,000		1,071,000	6,117,000
2-2-3 Subtotal ("2-2-1" + "2-2-2")	68,253.53	73,060		18,923,000		4,021,000	22,944,000
2-3 Subtotal ("2-1" + "2-2")	70,261.74	75,370		19,521,000		4,148,000	23,669,000
3 Total ("1" + "2")	78,723.75	84,440		21,870,000		4,647,000	26,517,000

T-223. Electric Charge of Water Supply Pump for Tunnel													
Kok-Ing & Ing-Yot Tunnel				Water Supply Facilities				Baht/Station					
Item				Quantity				Foreign Currency		Local Currency		Total Cost	
				(Total kWh)									
Location				kW x hr x days x years x efficiency =				Rate	Cost	Rate	Cost	Rate	Cost
								Baht/WWh	Baht	Baht/WWh	Baht	Baht	(Baht)
1 Kok-Ing Tunnel													
1-1 Kok-Ing No.1 Tunnel				10 x 24 x 365 x 3.6 x 60% =				0	0	3	567,000		567,000
1-2 Kok-Ing No.2 Tunnel				10 x 24 x 365 x 3.2 x 100% =				0	0	3	840,000		840,000
Subtotal ("1-1" + "1-2")				8,462.01					0		1,407,000		1,407,000
2 Ing-Yot Tunnel													
2-1 Ing-Yot No.1 Tunnel				10 x 24 x 365 x 2.4 x 60% =				0	0	3	378,000		378,000
2-2 Ing-Yot No.2 Tunnel													
(1) Division 1				10 x 24 x 365 x 5.8 x 60% =				0	0	3	915,000		915,000
(2) Division 2				10 x 24 x 365 x 4.1 x 70% =				0	0	3	753,000		753,000
(3) Division 3				10 x 24 x 365 x 4.2 x 70% =				0	0	3	774,000		774,000
(4) Division 4				10 x 24 x 365 x 4.2 x 70% =				0	0	3	774,000		774,000
(5) Division 5				10 x 24 x 365 x 3.6 x 70% =				0	0	3	663,000		663,000
(6) Division 6				10 x 24 x 365 x 3.9 x 70% =				0	0	3	717,000		717,000
(7) Division 7				10 x 24 x 365 x 3.4 x 70% =				0	0	3	624,000		624,000
(8) Division 8				10 x 24 x 365 x 4.0 x 70% =				0	0	3	735,000		735,000
(9) Division 9				10 x 24 x 365 x 5.8 x 60% =				0	0	3	915,000		915,000
2-2-1 Subtotal ("1" + "2" + "9")				50,874.60					0		6,870,000		6,870,000
(1) Adit No.1				10 x 24 x 365 x 1.7 x 70% =				0	0	3	312,000		312,000
(2) Adit No.2				10 x 24 x 365 x 1.6 x 70% =				0	0	3	294,000		294,000
(3) Adit No.3				10 x 24 x 365 x 1.8 x 70% =				0	0	3	330,000		330,000
(4) Adit No.4				10 x 24 x 365 x 2.2 x 70% =				0	0	3	405,000		405,000
(5) Adit No.5				10 x 24 x 365 x 1.9 x 70% =				0	0	3	351,000		351,000
(6) Adit No.6				10 x 24 x 365 x 2.3 x 70% =				0	0	3	423,000		423,000
(7) Adit No.7				10 x 24 x 365 x 1.9 x 70% =				0	0	3	351,000		351,000
2-2-2 Subtotal ("1" + "2" + "7")				17,378.93					0		2,466,000		2,466,000
2-2-3 Subtotal ("2-2-1" + "2-2-2")				68,253.53					0		9,336,000		9,336,000
2-3 Subtotal ("2-1" + "2-2")				70,261.74					0		9,714,000		9,714,000
3 Total ("1" + "2")				78,723.75					0		11,121,000		11,121,000

T-224. Unit Rate per Meter of Installation & Dismantling of Drainage Pipe						
Kok-Ing & Ing-Yot Tunnel		Rate = 223 Baht/m		F.C. = 177 Baht/m		79%
Drainage Facilities				L.C. = 46 Baht/m		21%
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Material						
SGP 80 mm	100 m	169	16,900	19	1,900	
Miscellaneous	5 %		845		95	
Subtotal			17,745		1,995	Baht/100m
2. Labor						
Foreman Tunnel	0.3 day			720	216	
Steel Worker (Bender/Fixer)	3.0 day			350	1,050	1.5 day x 2
Common Labor	6.0 day			230	1,380	1.5 day x 4
Subtotal					2,646	
4. Total			17,745		4,641	22,386 Baht/100m
5. Output 100 m						
Rate = Baht/m		177 Baht/m		46 Baht/m =		223

T-225. Installation & Dismantling of Drainage Pipe							
Kok-Ing & Ing-Yot Tunnel		Drainage Facilities				Baht/Station	
Item	Quantity		Foreign Currency		Local Currency		Total Cost
			Rate	Cost	Rate	Cost	
Location	Length (m)	Length (m)	Baht/m	Baht	Baht/m	Baht	(Baht)
1 Kok-Ing Tunnel							
1-1 Kok-Ing No.1 Tunnel	3,046.99	3,350	177	593,000	46	154,000	747,000
1-2 Kok-Ing No.2 Tunnel	5,415.02	5,720	177	1,012,000	46	263,000	1,275,000
Subtotal ("1-1" + "1-2")	8,462.01	9,070		1,605,000		417,000	2,022,000
2 Ing-Yot Tunnel							
2-1 Ing-Yot No.1 Tunnel	2,008.21	2,310	177	409,000	46	106,000	515,000
2-2 Ing-Yot No.2 Tunnel							
(1) Division 1	4,910.00	5,210	177	922,000	46	240,000	1,162,000
(2) Division 2	4,550.00	4,850	177	858,000	46	223,000	1,081,000
(3) Division 3	5,435.00	5,740	177	1,016,000	46	264,000	1,280,000
(4) Division 4	7,215.00	7,520	177	1,331,000	46	346,000	1,677,000
(5) Division 5	6,440.00	6,740	177	1,193,000	46	310,000	1,503,000
(6) Division 6	6,400.00	6,700	177	1,186,000	46	308,000	1,494,000
(7) Division 7	6,060.00	6,360	177	1,126,000	46	293,000	1,419,000
(8) Division 8	4,950.00	5,250	177	929,000	46	242,000	1,171,000
(9) Division 9	4,914.60	5,210	177	922,000	46	240,000	1,162,000
2-2-1 Subtotal ("1" + "9")	50,874.60	53,580		9,483,000		2,466,000	11,949,000
(1) Adit No.1	1,981.99	2,280	177	404,000	46	105,000	509,000
(2) Adit No.2	1,785.19	2,090	177	370,000	46	96,000	466,000
(3) Adit No.3	2,193.75	2,490	177	441,000	46	115,000	556,000
(4) Adit No.4	3,171.48	3,470	177	614,000	46	160,000	774,000
(5) Adit No.5	2,476.00	2,780	177	492,000	46	128,000	620,000
(6) Adit No.6	3,338.60	3,640	177	644,000	46	167,000	811,000
(7) Adit No.7	2,431.92	2,730	177	483,000	46	126,000	609,000
2-2-2 Subtotal ("1" + "7")	17,378.93	19,480		3,448,000		897,000	4,345,000
2-2-3 Subtotal ("2-2-1" + "2-2-2")	68,253.53	73,060		12,931,000		3,363,000	16,294,000
2-3 Subtotal ("2-1" + "2-2")	70,261.74	75,370		13,340,000		3,469,000	16,809,000
3 Total ("1" + "2")	78,723.75	84,440		14,945,000		3,886,000	18,831,000

T-226. Electric Charge of Drainage Pump for Tunnel													
Kok-Ing & Ing-Yot Tunnel			Drainage Facilities					Foreign Currency			Local Currency		
Item			Quantity (Total kWh)					Rate		Cost		Cost	
Location	Length (m)		kW	x hr	x days	x years	x efficiency	Total kWh	Baht/kWh	Baht	Baht/kWh	Baht	Baht
1 Kok-Ing Tunnel													
1-1 Kok-Ing No.1 Tunnel	3,046.99		90	x	24	x	365	x	3.6	x	30%	=	851,000
1-2 Kok-Ing No.2 Tunnel	5,415.02		90	x	24	x	365	x	3.2	x	60%	=	1,514,000
Subtotal ("1-1" + "1-2")	8,462.01												2,365,000
2 Ing-Yot Tunnel													
2-1 Ing-Yot No.1 Tunnel	2,008.21		90	x	24	x	365	x	2.4	x	30%	=	568,000
2-2 Ing-Yot No.2 Tunnel													
(1) Division 1	4,910.00		90	x	24	x	365	x	5.8	x	30%	=	1,372,000
(2) Division 2	4,550.00		90	x	24	x	365	x	4.1	x	40%	=	1,293,000
(3) Division 3	5,435.00		90	x	24	x	365	x	4.2	x	40%	=	1,325,000
(4) Division 4	7,215.00		90	x	24	x	365	x	4.2	x	40%	=	1,325,000
(5) Division 5	6,440.00		90	x	24	x	365	x	3.6	x	40%	=	1,135,000
(6) Division 6	6,400.00		90	x	24	x	365	x	3.9	x	40%	=	1,230,000
(7) Division 7	6,060.00		90	x	24	x	365	x	3.4	x	40%	=	1,072,000
(8) Division 8	4,950.00		90	x	24	x	365	x	4.0	x	40%	=	1,261,000
(9) Division 9	4,914.60		90	x	24	x	365	x	5.8	x	30%	=	1,372,000
2-2-1 Subtotal ("1" + "2" + "9")	50,874.60												11,385,000
(1) Adit No.1	1,981.99		90	x	24	x	365	x	1.7	x	40%	=	536,000
(2) Adit No.2	1,785.19		90	x	24	x	365	x	1.6	x	40%	=	505,000
(3) Adit No.3	2,193.75		90	x	24	x	365	x	1.8	x	40%	=	568,000
(4) Adit No.4	3,171.48		90	x	24	x	365	x	2.2	x	40%	=	694,000
(5) Adit No.5	2,476.00		90	x	24	x	365	x	1.9	x	40%	=	599,000
(6) Adit No.6	3,338.60		90	x	24	x	365	x	2.3	x	40%	=	725,000
(7) Adit No.7	2,431.92		90	x	24	x	365	x	1.9	x	40%	=	599,000
2-2-2 Subtotal ("1" + "2" + "7")	17,378.93												4,226,000
2-2-3 Subtotal ("2-2-1" + "2-2-2")	68,253.53												15,611,000
2-3 Subtotal ("2-1" + "2-2")	70,261.74												16,179,000
3 Total ("1" + "2")	78,723.75												18,544,000
										0		0	55,632,000
										0		0	46,833,000
										0		0	48,537,000
										0		0	55,632,000

T-227. Electric Charge of Water Treatment Plant for Drainage System													
Kok-Ing & Ing-Yot Tunnel				Drainage Facilities				Baht/Station					
Item		Quantity						Foreign Currency		Local Currency		Total Cost	
		(Total kWh)						Rate	Cost	Rate	Cost	(Baht)	
Location	Length (m)	KW	hr	days	years	× efficiency	=	Total kWh	Baht/kWh	Baht	Baht/kWh	Baht	
1 Kok-Ing Tunnel													
1-1 Kok-Ing No.1 Tunnel	3,046.99	50	× 24	× 365	× 3.6	× 30%	=	473,000	0	0	3	1,419,000	1,419,000
1-2 Kok-Ing No.2 Tunnel	5,415.02	50	× 24	× 365	× 3.2	× 60%	=	841,000	0	0	3	2,523,000	2,523,000
Subtotal("1-1" + "1-2")	8,462.01							1,314,000		0		3,942,000	3,942,000
2 Ing-Yot Tunnel													
2-1 Ing-Yot No.1 Tunnel	2,008.21	50	× 24	× 365	× 2.4	× 30%	=	315,000	0	0	3	945,000	945,000
2-2 Ing-Yot No.2 Tunnel													
(1) Division 1	4,910.00	50	× 24	× 365	× 5.8	× 30%	=	762,000	0	0	3	2,286,000	2,286,000
(2) Division 2	4,550.00	50	× 24	× 365	× 4.1	× 40%	=	718,000	0	0	3	2,154,000	2,154,000
(3) Division 3	5,435.00	50	× 24	× 365	× 4.2	× 40%	=	736,000	0	0	3	2,208,000	2,208,000
(4) Division 4	7,215.00	50	× 24	× 365	× 4.2	× 40%	=	736,000	0	0	3	2,208,000	2,208,000
(5) Division 5	6,440.00	50	× 24	× 365	× 3.6	× 40%	=	631,000	0	0	3	1,893,000	1,893,000
(6) Division 6	6,400.00	50	× 24	× 365	× 3.9	× 40%	=	683,000	0	0	3	2,049,000	2,049,000
(7) Division 7	6,060.00	50	× 24	× 365	× 3.4	× 40%	=	596,000	0	0	3	1,788,000	1,788,000
(8) Division 8	4,950.00	50	× 24	× 365	× 4.0	× 40%	=	701,000	0	0	3	2,103,000	2,103,000
(9) Division 9	4,914.60	50	× 24	× 365	× 5.8	× 30%	=	762,000	0	0	3	2,286,000	2,286,000
2-2-1 Subtotal ("1" +--+ "(9)")	50,874.60							6,325,000		0		18,975,000	18,975,000
(1) Adit No.1	1,981.99	50	× 24	× 365	× 1.7	× 40%	=	298,000	0	0	3	894,000	894,000
(2) Adit No.2	1,785.19	50	× 24	× 365	× 1.6	× 40%	=	280,000	0	0	3	840,000	840,000
(3) Adit No.3	2,193.75	50	× 24	× 365	× 1.8	× 40%	=	315,000	0	0	3	945,000	945,000
(4) Adit No.4	3,171.48	50	× 24	× 365	× 2.2	× 40%	=	385,000	0	0	3	1,155,000	1,155,000
(5) Adit No.5	2,476.00	50	× 24	× 365	× 1.9	× 40%	=	333,000	0	0	3	999,000	999,000
(6) Adit No.6	3,338.60	50	× 24	× 365	× 2.3	× 40%	=	403,000	0	0	3	1,209,000	1,209,000
(7) Adit No.7	2,431.92	50	× 24	× 365	× 1.9	× 40%	=	333,000	0	0	3	999,000	999,000
2-2-2 Subtotal ("1" +--+ "(7)")	17,378.93							2,347,000		0		7,041,000	7,041,000
2-2-3 Subtotal ("2-2-1" + "2-2-2")	68,253.53							8,672,000		0		26,016,000	26,016,000
2-3 Subtotal ("2-1" + "2-2")	70,261.74							8,987,000		0		26,961,000	26,961,000
3 Total ("1" + "2")	78,723.75							10,301,000		0		30,903,000	30,903,000

T-228. Installation & Dismantling of Water Treatment Plant for Drainage Facilities						
Rate = 20,271,000 Baht/Station F.C. = 20,238,000 Baht/Station 99.8%						
Kok-Ing & Ing-Yot Tunnel L.C. = 33,000 Baht/Station 0.2%						
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Equipment & Operation Cost						per One Station
Water Treatment Plant including Pump, Pipe, Operation Room & etc.						
Muddy Water Treatment Equipment	2 set	4,130,000	8,260,000	0	0	20~30m3/hr
Filter Press Equipment	1 set	7,980,000	7,980,000	0	0	100m3
Neutralization Machine	1 set	2,060,000	2,060,000	0	0	25m3/hr
Truck with Crane 20t for Installation & Dismantling.	60 Hr	1,635	98,100	35	2,100	12 Hr x 5
Miscellaneous	10 %		1,840,000		210	
Subtotal			20,238,100		2,310	Baht / Station
2. Labor						per One Station
Foreman Tunnel	10.5 day			720	7,560	1.5 day x 7
Operator of Heavy Equipment	7.5 day			460	3,450	1.5 day x 5
Mechanics	21.0 day			390	8,190	1.5 day x 14
Electrician	10.5 day			390	4,095	1.5 day x 7
Common Labor	30.0 day			230	6,900	1.5 day x 20
Subtotal					30,195	
4. Total			20,238,100		32,505	20,270,605 Baht / Station
5. Output	Rate = Baht/Station 20,238,000 Baht/Station 33,000 Baht/Station = 20,271,000					

T-233. Transportation Cost of Equipment						
Rate = 435,000 Baht/Station F.C. = 377,000 Baht/Station 87%						
Kok-Ing & Ing-Yot Tunnel L.C. = 58,000 Baht/Station 13%						
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Operation Cost (Equipment & Fuel) for Installation & Dismantling.						per One Station
Truck 10t	144 Hr	760	109,440	50	7,200	24 Hr x 6
Trailer 25t	240 Hr	1,040	249,600	70	16,800	24 Hr x 10
Miscellaneous	5 %		18,000		1,200	
Subtotal			377,040		25,200	Baht / Station
2. Labor						per One Station
Foreman	6.0 day			350	2,100	1.5 day x 4
Driver	48.0 day			270	12,960	1.5 day x 32
Common Labor	96.0 day			180	17,280	1.5 day x 64
Subtotal					32,340	
4. Total			377,040		57,540	434,580 Baht / Station
5. Output	Rate = Baht/Station 377,000 Baht/Station 58,000 Baht/Station = 435,000					

T-229. Unit Rate per Day of Transportation of Sludge from Water Treatment Plant									
Rate = 4,326 Baht/day F.C. = 3,476 Baht/day 80%									
Kok-Ing & Ing-Yot Tunnel L.C. = 850 Baht/day 20%									
Items	Quantity		Foreign Currency		Local Currency		Remark		
			Rate	Cost	Rate	Cost			
1. Equipment & Operation Cost							per day		
Water Treatment Plant									
Backhoe Shovel 0.35m3	3	Hr	525	1,575	45	135	3	Hr ×	1
Dump Truck 8t	4	Hr	450	1,800	40	160	4	Hr ×	1
Miscellaneous	3	%		101		9			
Subtotal				3,476		304	Baht / day		
2. Labor									
Foreman Tunnel	0.1	day			720	72			
Operator of Heavy Equipment	0.4	day			460	184			
Driver	0.5	day			350	175			
Common Labor	0.5	day			230	115			
Subtotal						546			
4. Total				3,476		850	4,326 Baht / day		
5. Output			Rate = Baht/day		3,476 Baht/day		850 Baht/day =		4,326

T-230. Transportation of Sludge from Water Treatment Plant									
Kok-Ing & Ing-Yot Tunnel								Baht/Station	
Item		Quantity		Foreign Currency		Local Currency		Total Cost	
				Rate	Cost	Rate	Cost		
Location	Length (m)	days × years × efficiency =	Total days	Baht/day	Baht	Baht/day	Baht	(Baht)	
1 Kok-Ing Tunnel									
1-1 Kok-Ing No.1 Tunnel	3,046.99	365 × 3.6 × 25% =	329	3,476	1,144,000	850	280,000	1,424,000	
1-2 Kok-Ing No.2 Tunnel	5,415.02	365 × 3.2 × 50% =	584	3,476	2,030,000	850	496,000	2,526,000	
Subtotal ("1-1" + "1-2")	8,462.01		913		3,174,000		776,000	3,950,000	
2 Ing-Yot Tunnel									
2-1 Ing-Yot No.1 Tunnel	2,008.21	365 × 2.4 × 25% =	219	3,476	761,000	850	186,000	947,000	
2-2 Ing-Yot No.2 Tunnel									
(1) Division 1	4,910.00	365 × 5.8 × 25% =	529	3,476	1,839,000	850	450,000	2,289,000	
(2) Division 2	4,550.00	365 × 4.1 × 25% =	374	3,476	1,300,000	850	318,000	1,618,000	
(3) Division 3	5,435.00	365 × 4.2 × 25% =	383	3,476	1,331,000	850	326,000	1,657,000	
(4) Division 4	7,215.00	365 × 4.2 × 25% =	383	3,476	1,331,000	850	326,000	1,657,000	
(5) Division 5	6,440.00	365 × 3.6 × 25% =	329	3,476	1,144,000	850	280,000	1,424,000	
(6) Division 6	6,400.00	365 × 3.9 × 25% =	356	3,476	1,237,000	850	303,000	1,540,000	
(7) Division 7	6,060.00	365 × 3.4 × 25% =	310	3,476	1,078,000	850	264,000	1,342,000	
(8) Division 8	4,950.00	365 × 4.0 × 25% =	365	3,476	1,269,000	850	310,000	1,579,000	
(9) Division 9	4,914.60	365 × 5.8 × 25% =	529	3,476	1,839,000	850	450,000	2,289,000	
2-2-1 Subtotal ("1") + ("9")	50,874.60		3,558		12,368,000		3,027,000	15,395,000	
(1) Adit No.1	1,981.99	365 × 1.7 × 25% =	155	3,476	539,000	850	132,000	671,000	
(2) Adit No.2	1,785.19	365 × 1.6 × 25% =	146	3,476	507,000	850	124,000	631,000	
(3) Adit No.3	2,193.75	365 × 1.8 × 25% =	164	3,476	570,000	850	139,000	709,000	
(4) Adit No.4	3,171.48	365 × 2.2 × 25% =	201	3,476	699,000	850	171,000	870,000	
(5) Adit No.5	2,476.00	365 × 1.9 × 25% =	173	3,476	601,000	850	147,000	748,000	
(6) Adit No.6	3,338.60	365 × 2.3 × 25% =	210	3,476	730,000	850	179,000	909,000	
(7) Adit No.7	2,431.92	365 × 1.9 × 25% =	173	3,476	601,000	850	147,000	748,000	
2-2-2 Subtotal ("1") + ("7")	17,378.93		1,222		4,247,000		1,039,000	5,286,000	
2-2-3 Subtotal ("2-2-1" + "2-2-2")	68,253.53		4,780		16,615,000		4,066,000	20,681,000	
2-3 Subtotal ("2-1" + "2-2")	70,261.74		4,999		17,376,000		4,252,000	21,628,000	
3 Total ("1" + "2")	78,723.75		5,912		20,550,000		5,028,000	25,578,000	

T-231. Unit Rate per Meter of Operation Cost for Water Treatment Plant						
Rate = 895 Baht/m			F.C. = 725 Baht/m		81%	
Kok-Ing & Ing-Yot Tunnel			L.C. = 170 Baht/m		19%	
Items	Quantity	Foreign Currency		Local Currency		Remark
		Rate	Cost	Rate	Cost	
1. Material						
PAC	100 kg	6	600	0	0	
Carbonic Acid Gas	30 kg	3	90	0	0	
Miscellaneous	5 %		35		0	
Subtotal			725		0	Baht/m
2. Labor						
Foreman Tunnel	0.1 day			720	72	
Skilled Labor	0.2 day			260	52	
Common Labor	0.2 day			230	46	
Subtotal					170	
4. Total			725		170	895 Baht/m
5. Output	Rate = Baht/m		725	Baht/m	170	Baht/m = 895

T-232. Operation Cost for Water Treatment Plant							
Kok-Ing & Ing-Yot Tunnel							Baht/Station
Item	Quantity		Foreign Currency		Local Currency		Total Cost
	Length (m)	Length (m)	Rate Baht/m	Cost Baht	Rate Baht/m	Cost Baht	(Baht)
1 Kok-Ing Tunnel							
1-1 Kok-Ing No.1 Tunnel	3,046.99	3,050	725	2,211,000	170	519,000	2,730,000
1-2 Kok-Ing No.2 Tunnel	5,415.02	5,420	725	3,930,000	170	921,000	4,851,000
Subtotal ("1-1" + "1-2")	8,462.01	8,470		6,141,000		1,440,000	7,581,000
2 Ing-Yot Tunnel							
2-1 Ing-Yot No.1 Tunnel	2,008.21	2,010	725	1,457,000	170	342,000	1,799,000
2-2 Ing-Yot No.2 Tunnel							
(1) Division 1	4,910.00	4,910	725	3,560,000	170	835,000	4,395,000
(2) Division 2	4,550.00	4,550	725	3,299,000	170	774,000	4,073,000
(3) Division 3	5,435.00	5,440	725	3,944,000	170	925,000	4,869,000
(4) Division 4	7,215.00	7,220	725	5,235,000	170	1,227,000	6,462,000
(5) Division 5	6,440.00	6,440	725	4,669,000	170	1,095,000	5,764,000
(6) Division 6	6,400.00	6,400	725	4,640,000	170	1,088,000	5,728,000
(7) Division 7	6,060.00	6,060	725	4,394,000	170	1,030,000	5,424,000
(8) Division 8	4,950.00	4,950	725	3,589,000	170	842,000	4,431,000
(9) Division 9	4,914.60	4,920	725	3,567,000	170	836,000	4,403,000
2-2-1 Subtotal ("1" + "9")	50,874.60	50,890		36,897,000		8,652,000	45,549,000
(1) Adit No.1	1,981.99	1,990	725	1,443,000	170	338,000	1,781,000
(2) Adit No.2	1,785.19	1,790	725	1,298,000	170	304,000	1,602,000
(3) Adit No.3	2,193.75	2,200	725	1,595,000	170	374,000	1,969,000
(4) Adit No.4	3,171.48	3,180	725	2,306,000	170	541,000	2,847,000
(5) Adit No.5	2,476.00	2,480	725	1,798,000	170	422,000	2,220,000
(6) Adit No.6	3,338.60	3,340	725	2,422,000	170	568,000	2,990,000
(7) Adit No.7	2,431.92	2,440	725	1,769,000	170	415,000	2,184,000
2-2-2 Subtotal ("1" + "7")	17,378.93	17,420		12,631,000		2,962,000	15,593,000
2-2-3 Subtotal ("2-2-1" + "2-2-2")	68,253.53	68,310		49,528,000		11,614,000	61,142,000
2-3 Subtotal ("2-1" + "2-2")	70,261.74	70,320		50,985,000		11,956,000	62,941,000
3 Total ("1" + "2")	78,723.75	78,790		57,126,000		13,396,000	70,522,000

T-234. Construction Cost of Tunnel Portal									
Kok-Ing & Ing-Yot Tunnel					Rate = 1,569,000 Baht/Station F.C. = 898,000 Baht/Station 57%				
					L.C. = 671,000 Baht/Station 43%				
Item	Unit	Quantity	Rate		Cost × 1,000Baht			Remarks	
			F.C.	L.C.	F.C.	L.C.	Total		
1 Portal									
Structure Concrete	m ³	190	1,529	972	290,510	184,680	475,190	Con. Pump 30m3/hr	
Form work	m ²	715	104	401	74,360	286,715	361,075		
Reinforced Bar	ton	15	20,691	2,739	310,365	41,085	351,450		
Miscellaneous	%	5			33,762	25,624	59,386		
Subtotal					708,997	538,104	1,247,101		
2 Supplementary Works of The Portal									
Structure Concrete	m ³	115	1,393	670	160,195	77,050	237,245	Truck Crane 20t	
Form work	m ²	110	104	401	11,440	44,110	55,550		
Miscellaneous	%	10			17,164	12,116	29,280		
Subtotal					188,799	133,276	322,075		
3 Total					897,796	671,380	1,569,176		
					898,000	671,000	1,569,000		

T-235 Extension Power Line to Each Tunnel Portal

Back-data

Map Scale 1:50,000

	Project Area	Coordinate	High Voltage electricity cable area	Coordinate	approximately cable length (Km.)
1	Kok-Ing tunnel No.1	50957	Ban Chong Lom	25943	3.75
2	Kok-Ing tunnel No.2	145885	Ban San Muang Kham	82927	7.62
3	Ing-Yot No.1	256741	Ban Thung Khan Chai	261740	0.50
4	Ing-Yot No.2 Intake	356740	Ban Don Chai	350732	1.00
5	Adit 1	403742	Ban Pa Lat Luang	403730	1.40
6	Adit 2	450729	Ban Huak	480770	5.90
7	Adit 3	480700	Ban Thung Klui	445662	6.05
8	Adit 4	490599	Main Road of Ban Pang Tham	480588	1.60
9	Adit 5	542560	Pang Tham Road	533563	1.00
10	Adit 6	570550	Ban Ton Phung	570535	1.55
11	Adit 7	655458	Ban Sakoen	620413	7.00
12	Ing-Yot outlet	699437	Ban Sakoen-Adit 7	654436	5.25

Remark : Extension power line cost about 1.0 Million Baht/km. (Not include transformer)

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