CONSTRUCTION QUANTITIES AND COSTS (Project WD 7-6 Length = 64.000 Km) (Improved Length 64.000 Km)

Financial Economic cost Residual Value Financial Unit Cost Quantity Total cost-----ITEM Unit 1000 Baht % 1000 Baht % 1000 Baht Baht 83 90 EARTH WORK Clearing & Grubbing 128,000 128 SO.M 1 30 Roadway Excavation(Unclassified) CU.M 0 0 115,200 Embankment(Borrowed Material) CU.M 100 11,520 214,656 1,288 Stope Protection(Stripe Sodding) SQ.M 6 50 0 Sand Mat (t=0.5m) SQ.M 0 Excavate Existing SQ.M 0 0 Surface 2 14 166,400 2.330 Thickness Over 10Cm (2 Lay) SQ.M 12,670 11,403 15,266 SUB TOTAL 50 83 SUBBASE AND BASE 49,920 9,485 190 Subbase(Selected Material) CU,M 190 66,560 12,646 Subbase(Soil Aggregate) CU.M 280 23,040 6,451 Base Coarses(Crush Stone) CU.M 190 28,160 5,350 Shoulder(Soil Aggregate) CU.N 33,933 28,164 14,082 SUB TOTAL 50 83 SURFACE SQ.M 13 96,000 1,248 Asphaltic Prime coat 7 352,000 2,464 SQ.M Asphaltic Tack coat 22,400 42,560 1,900 Asphait concrete Surfacing CU.M 38,406 19,203 SUB TOTAL 46,272 50 83 STRUCTURES(Equivalent) -91 RC Pipe Culvert(D= 600 m) 1,380 66 (D≍ 800 m) 1,950 0 0 2,640 100 264 (D=1000 m) 17,100 RC Box Culvert(3-2.40*2.40 m) ÷ 0 0 RC Bridge (W=15.0 m) 96,000 0 ۰n RC Bridge Wideing 9,600 2,126 20,410 SQ.M PC Bridge Wideing 15,000 778 11,670 SQ.N 26,921 13,460 SUB TOTAL 32,435 -----. 127,905 106,161 58,149 TOTAL (a) 8,953 7,431 4,070 Miscellaneous Works [(a)*7%] Ls 1 _____ CONTRACT AMOUNT (b) 136,858 113,592 62,219 6,222 PHYSICAL CONTINGENCIES [(b)*10%] (c) 13,686 11,359 Ls 12,796 0 ENGINEERING & SUPERVISION 15,054 85 · 0 Ls 1 [((b)+(c))*10%] (d) LAND ACQUISITION(Average) (e) SQ.M 50 0 100 0 100 0 0 -----.......... -------137,748 68,441 PROJECT COST [(b)+(c)+(d)+(e)] 165,599 2,587 AVERAGE COST PER KM

MAINTENANCE BUDGET CALCULATION

MAINT	ENANCE BUDGET CALCUL	ATION				•	
	ct Road No, WD 7-6 ting Road)	Length	Na≠ Km=	9,300 1.16 64,000	Baht/Km/yea Km	F .	
		Length	-				
Later	ite Surface				1 A		
*****	0209===================================			Existing Roa	======================================	■ ************************************	
				Condition	Factor		
	2228378882222333222	*=======				.	
1. 2.	A.D.T Width Of Embankmen	+	A1 A3	1,800 10m	0.95	1	·
	(Surface & Shou			T OIL	0.01		
3.	R-O-W Width (m)		B1	60 m	0.31	a da da da da	
4.	Traffic Service Op	eration	82	0-3%	0.05	et and a fi	
5.	Topography Drainage Topograph		B3	0 - 3 %	0.00		an a
6.	Bridge Quantity (m		84	7	0.02	n na se ji	1
7.	NO. Of Lanes			2	•		
	$\{ (x_i)_{i \in \mathbb{N}} : i \in [x_i] : i \in [x_i] \}$: .				
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Maint	isting) =1+0.7(A1+A3 enance cost + Overhe	ad= Ks *	Km *	Na *1.28 =	31,095	Baht/Km/yeau	
Total	Cost(Existing)	=Length	T(BE Fina	nt/Km/year)= ncial Cost ≍	1,990,102	Baht/year Baht/year	511. L
	A second second second	1997 - 1897 -		iomic Cost =			114
				Ċ)Baht/year	
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	ct Road No, WD 7-6	÷ .	Na≈ Km=	8,200 1	Baht/Km/yeau		· · ·
(Prop	osed Road)	Length	=	64.000)	Cm		1.2
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	lt Pavement				· .		
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- ÷	ITEMS			Proposed Road		. .	
· .			÷.,	Condition	Factor		
			=====	***********	**********	=	
1.	Surface /Base Type		<u>_X1</u>	AC	0.00		
2.	Subgrade CBR A.D.T	•	X2 X3	4 % 2,500	0.50 0.86		
3. 4.	Service Life (year))	X4	10	1.40		
5.	Pavement Width (m)		X5	7 m	0.19		
6.	R-O-W Width (m)		Y1	60 m	0.10	1	
7.	Shoulder, Access, Med	dian	¥2	2.5 m	0.05		
8. ;	Width (m) Traffic Service Op Topography	eration	¥3	0 - 3 %	0.00	· · · ·	•
9	Drainage Topography	Y .	¥4	0 ~ 3 %	0.00		
10.	Bridge Quantity (m		¥5	7	0.00		
11.	NO. Of Lanes	ta su	· · ·	2	un en	· .	
2222)	***********************	-987225:	=====	*****	25082355555;	=	
Ka	= 1+0.5/11+12	+X3+X4+Y5	+ 1 1 + 1	/2+Y3+Y4+Y5)=	2,55	an the second	
	enance cost + Overhei					Baht/Km/year	
Total			*(Be	aht/Km/year)=	1,714,660	Baht/year	1.1.1.1.1
e di		an ann a'		incial Cost =			а. - С
			Ecor	nomic Cost =	1,423,000	Baht/year)Baht/year	• •
11		1. A.		, C	1,423,430	Your Your	•
				19 - 19 - 19 - 19 - 19 - 19 - 19 - 19 -		5	

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7) Construction Schedule

Project WD7-6 Route No. 401 from Phun Phin to 416

year and First Year Second Year Third Year Honth *********************** Work Items 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 Land Acquisition Preparatory Works ======= Earth Works Pavement Works S=465=22=2256668===22=2262586558258258668265826826882658825 Bridge Works Miscellaneous Works --**===== *********** Clearing -Up ******** ----Percentage Of 23 X Disbursement (%) 47 % 30 X

8) Economic Evaluation

		Noute no.	401 1100	111-241 7 11			1
					(unit ; 1000 Baht)	
 Year	Conct- ruction Cost	Mainte- nance Cost	Total Cost	VOC Saving	Time Saving	Balanc <i>e</i> Benefit= Cost=	Sensi. Analysis 0.8 1.2
1990 1991 1992 1993 1994 1995 1996	0 0 29,923 66,241 41,583 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 29,923 66,241 41,583 (508)	0 0 0 0 0 256	0 0 0 0 0 1,242	0 0 0 (29,923) (66,241) (41,583) 2,006	0 0 (35,907) (79,490) (49,900) 1,808
1997 1998 1999 2000 2001 2002	0 0 0 0 0 0	(508) (508) (508) (508) (508) (508)	(508) (508) (508) (508) (508) (508)	761 1,266 1,772 2,277 2,782 2,855	14,599 19,052 23,504 24,892	6,964 11,921 16,879 21,836 26,794 28,255	5,774 9,740 13,706 17,672 21,638 22,807
 2003 2004 2005 2006 2007 2008	0 0 0 0 0	(508) (508) (508) (508) (508) (508)	(508) (508) (508) (508) (508) (508)	2,927 3,000 3,072 3,145 3,145 3,145 3,145	26,280 27,668 29,056 30,444 30,444 30,444	29,715 31,176 32,636 34,097 34,097 34,097	23,975 25,144 26,312 27,481 27,481 27,481
2009 2010 Total	0 0 137,747	(508) (508) (7,620)	(508) (508) 130,127	3,145 3,145 36,693	30,444 30,444 334,354	34,097 34,097 240,920	27,481 27,481 140,685
					IRR = NPV (ì;12 B/C (1;12	10.77% (7,438) 0.90	6.26%

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Project WD7-6 Route No. 401 from Phun Phin to 416

PROJECT WD6-1

CHANGWAT: SATUN, TRANG

RT. 4137 / 417 PALIAN - KHUAN KALONG

3.17 Route No. 417 Palian - Khuan Kalong (WD6-1)

1) Summary

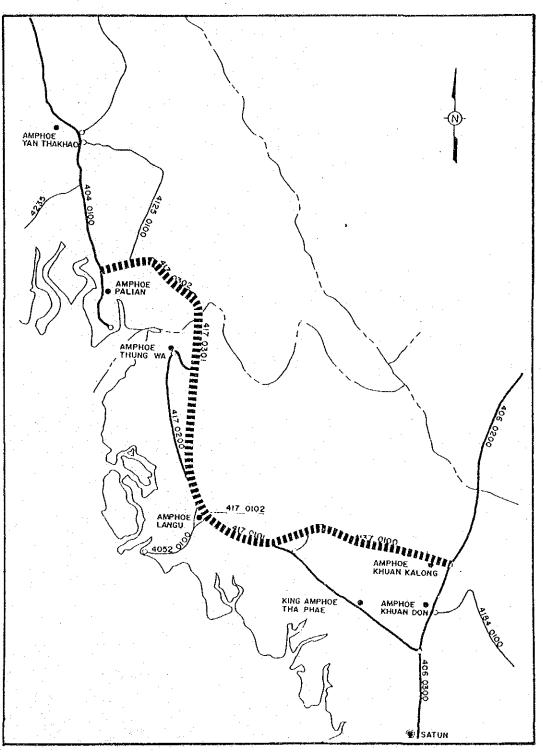
The project forms a part of the highway network development along the west coast, together with the project of WD7-3. The aim of the project is to improve the highway link between Route 404 from Trang and Route 406 to Satun and Hat Yai. Future extension of the highway to the further south will complete the highway network on the west coast.

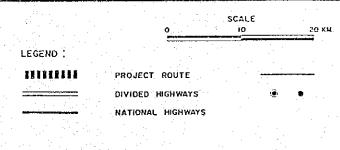
The existing highway is of "F4" standard with paved carriageway width of 5.0 meters and soil aggregate shoulders of about 1 meter. Surface condition is good to fair. The width of the existing right of way is 15 meters from the center line. The proposed highway is of "S3" standard with carriageway width of 6.0 meters and soil aggregate shoulders of 2.0 meters. Land acquisition is not required.

The project starts from the intersection with Route 406 in Amphoe Khuan Kalong and ends at the intersection with Route 404 in Amphoe Palian. The total length is 98.2 kilometers along the existing route. The project include improvement of horizontal alignment in two sections: one for bypassing amphoe Thung Wa with substantial distance saving; and another for short cut connection between Route 417 and 4137. The total saving of distance amounts to 19 kilometers in comparison with the existing highway. The project length amounts to 79.2 kilometers.

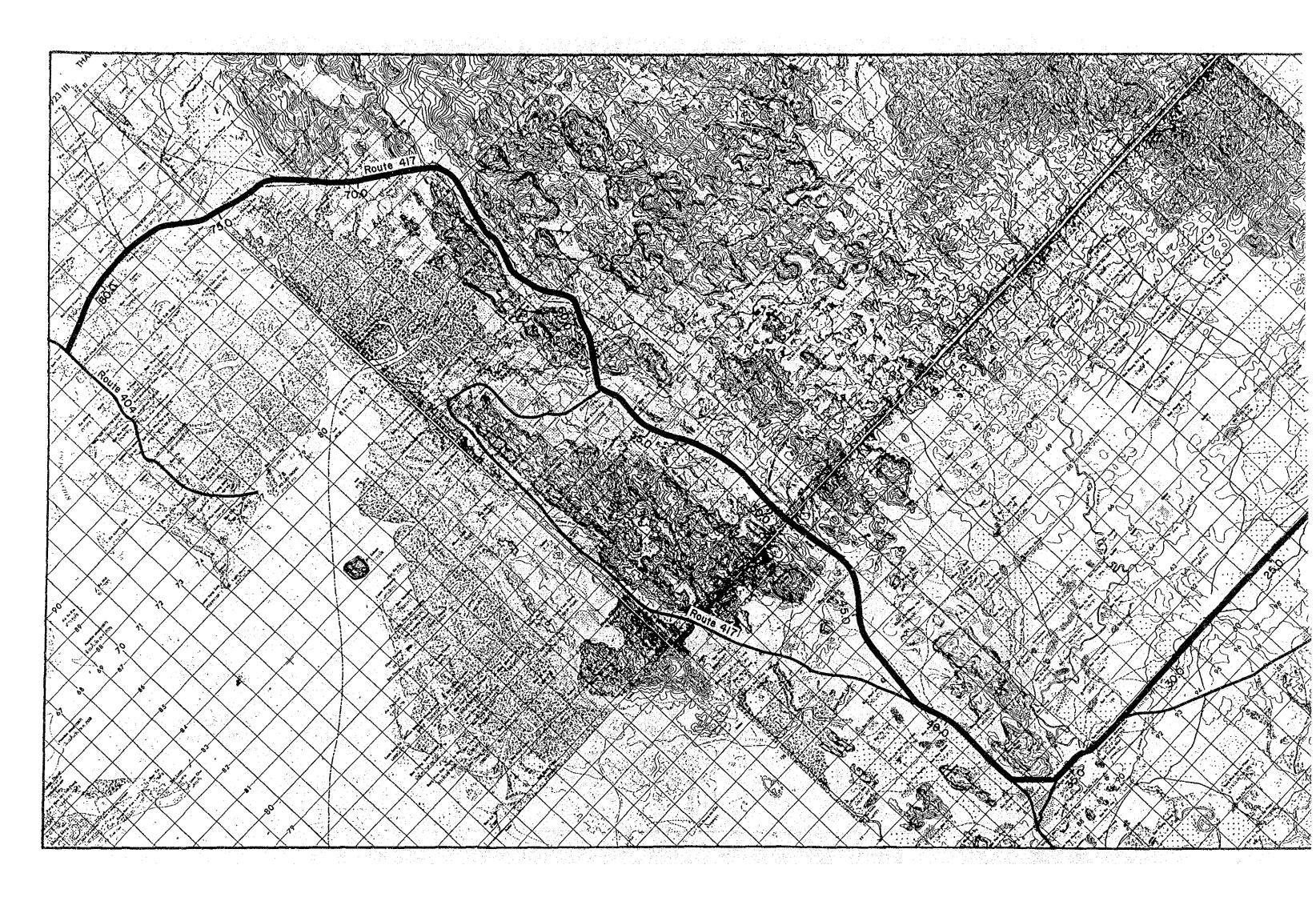
WD6-1	Description
Name or Location Road Class Cross Section (m) Surface Type Surface Condition Length: Total	: Satun and Trang : Rt.4137/417 Khuan Kalong - Palian : S3 (F4) : 2.00+6.00+2.00 (1.50+5.00+1.50) : SA /ASC / SA (SA /DBST/ SA) : (F and G/F) : 79.2 km : 59.8 km +19.4 km:New
AADT<'96/'01/'06>	: 900 / 1,400 / 3,200
NPV B/C	: 251.2 million baht : 117 million baht (12% discount rate) : 1.9 (12% discount rate) : 22.4 %

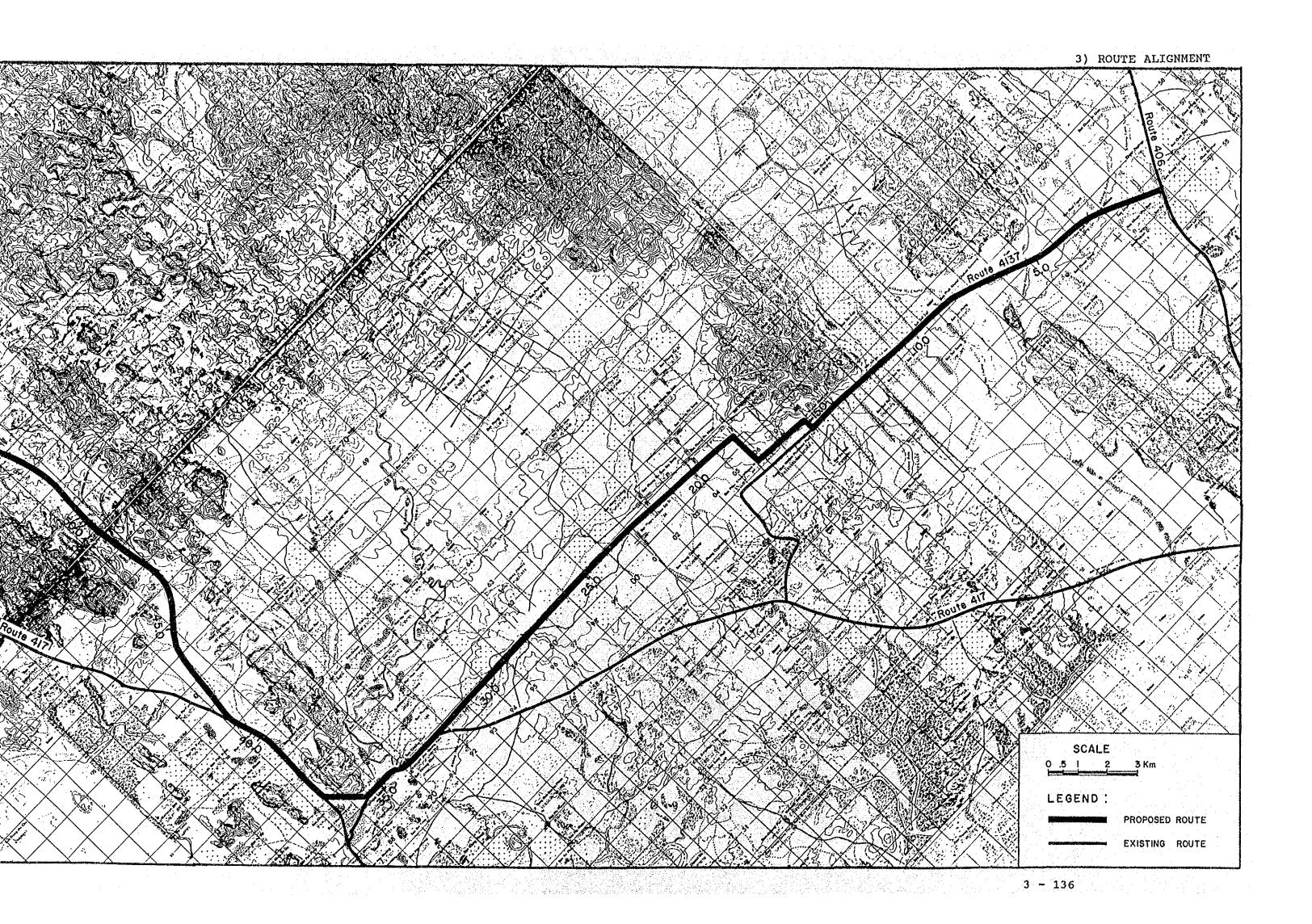
(): Existing Condition or Value





PROVINCIAL HIGHWAYS CHANGWAT, AMPHOE



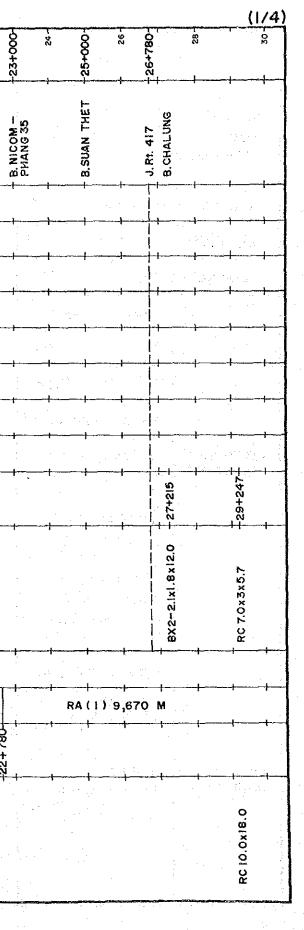


4) PROFILE OF PROJECT

3 - 137

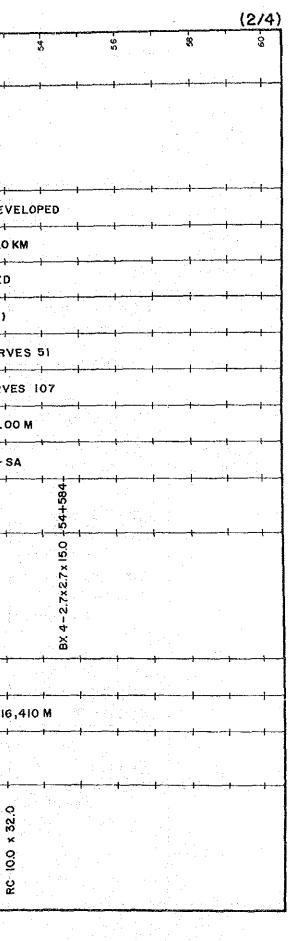
PROJECT NO. WD 6-I ROUTE NO. 417 PALIAN - KHUAN KALONG

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CONDITIONS	(Type ~ Wid	lth gth (m))			RC 10.0x 3x 10.0		}	RC 10.0x1x10.0					RC 10.0x3x6.7		1		RCIO.0x3x8.7	3	1			RC 10.0x3x6.7	RC10.0×1×10.0 RC10.0×1×10.0			



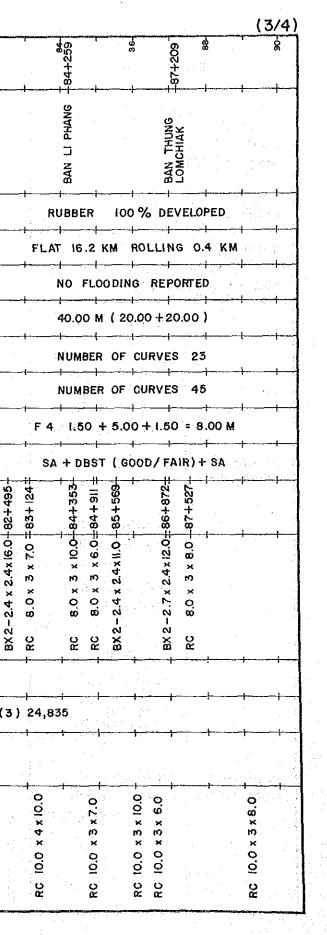
PROJECT NO. WD 6-1 ROUTE NO. 417 PALIAN - KHUAN KALONG

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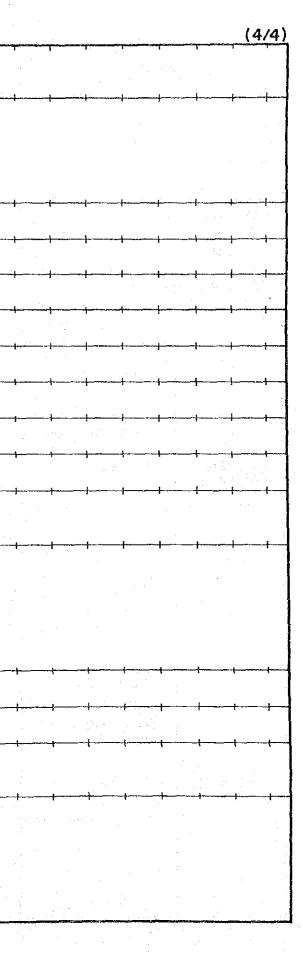
PROJECT NO. WD 6-1 ROUTE NO. 417 PALIAN - KHUAN KALONG

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LAND USE				······································	RIC	JE, RI	JBBER,	FRUIT		ŀ	<u>}</u> ∤		} -	R	ICE,	RU	BBER	, FF	דוט <u>ז,</u>	60)%[DEVELO	OPED	- -	 -				<u>.</u>
TERRAIN				 1		- 1							FLA	AT 4	.7 K	м,	ROLL	ING	6.0	КΜ,	MOUN	TAIN	0US 4	.o KI	4				
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	BOX CULVER (Width - Hei	gth (m)) RTS	BX2-3.3 x 3.3 x 18.0		RC 8.0 × 1 × 10.0			-BX 1-1.5 x 1.2 x 13.0		BX 1-2.7 x2.4 x12.0		BX 2-2.4 × 2.1 × 13.0-	0 × 3.0 × 14.	× × > >	RC 8.0 x 4 x 10.0				C 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	BX 2-3.0 × 3.0 × 10.0								RC 8.0 x 4 x 10.0-	BX2-2.4 × 2.4×16.0-
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PROPOSED	BRIDGES					- 1				}	<u>↓</u> †		l	- 		71+699		-1		ł			-]	- 1	<u>}</u> _	ł	⊧	· · · ·	⊦
CONDITIONS	(Type — Wid — Len	ith gth (m))					RC 10.0 × 10.0			· · · · · · · · · · · · · · · · · · ·						RC 10.0 × 21.0	RC 10.0 × 40.0	× 0.01				RC 10.0 × 3 × 5.0							

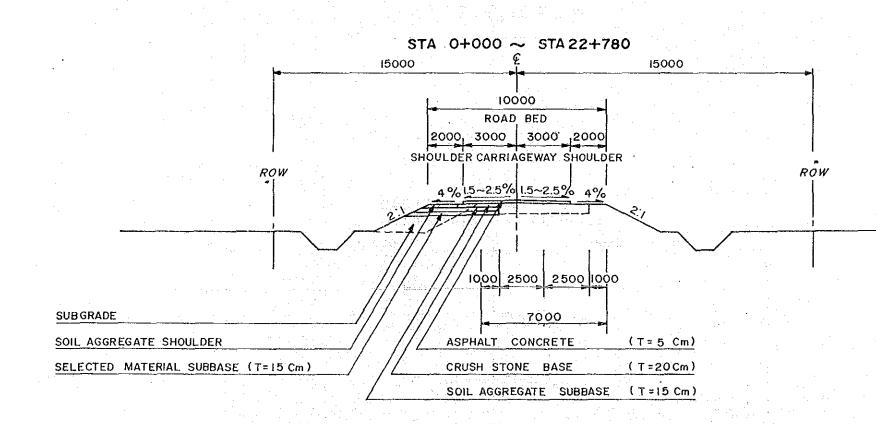


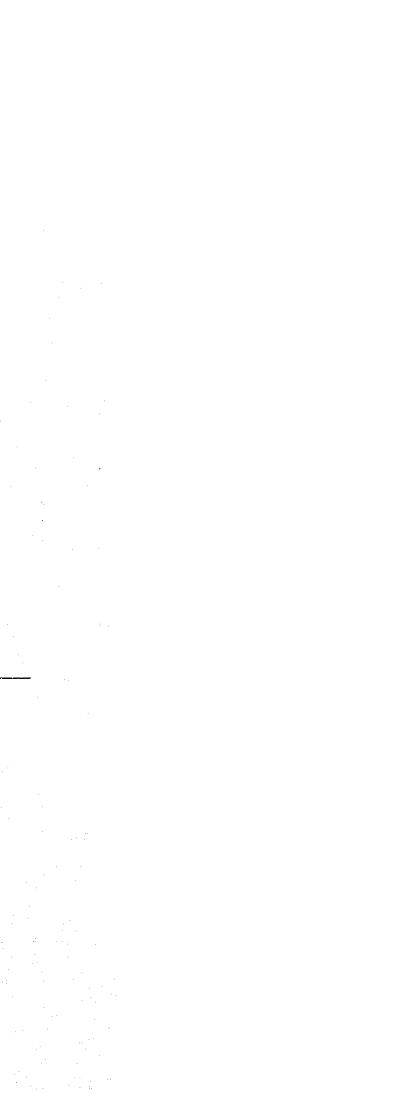
PROJECT NO. WD 6-1 ROUTE NO. 417 PALIAN - KHUAN KALONG

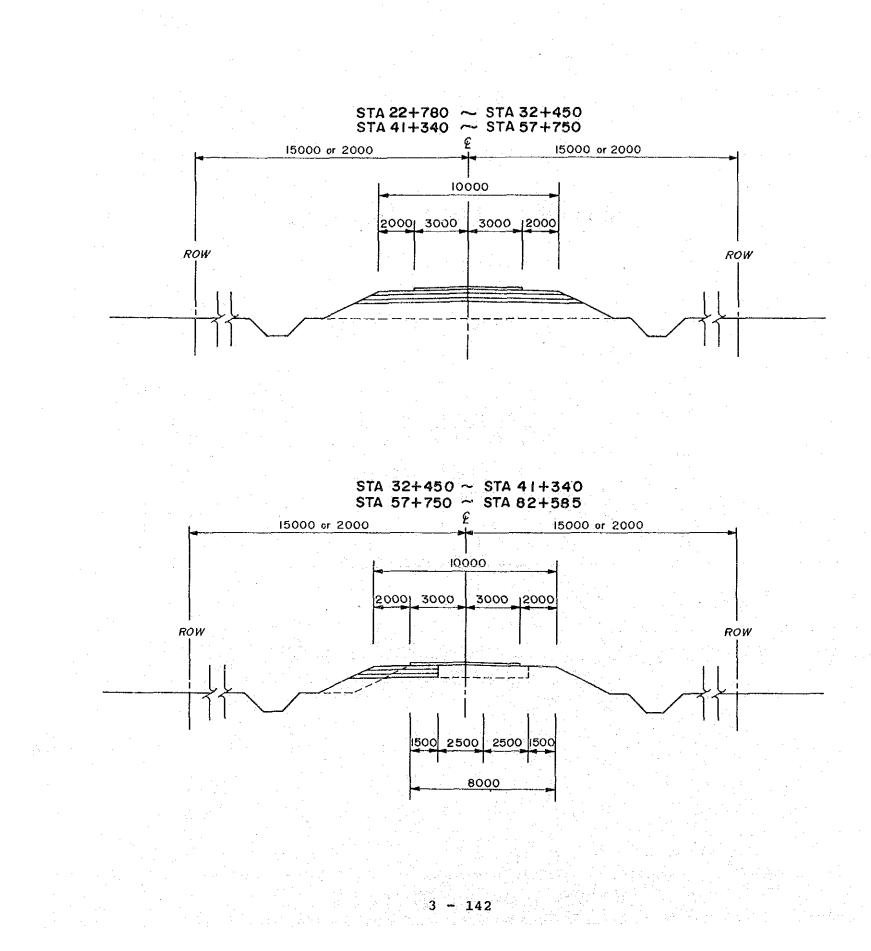
STA	TION (Km)		000	+ +	-92 + 559 -92 + 564	-94 + 459	96 [66]		g	₽ \$ ₽		2				••••••		j	p=====================================					
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LAND USE						·····	}	74 	· · ·	t	- - -	1	• • •	·		<u> </u>		1 1	L	L	L	· · · ·		L
TERRAIN	· · · · · · · · · · · · · · · · · · ·				ł	· · ·	L			t			4	 		I	· 		• •			·		ŧ~
FLOODING LE	NGTH			· · · · · · · · · · · · · · · · · · ·			• • • • • • • •	 		1 1		, ,	.	1 . 	, 	• •				{	•			∮∼ ⊷⊷⊷
	RIGHT OF W	YAY	· · ·	4	0.00 N	a (20.00+2	0.00)			- - 		• •	.		• •	• •		•	• •	ŀ	ء إس			ŧ
	ALIGNMENT	HOR.		- 4		· · · · · · · · · · · · · · · · · · ·	1 1	 		• • •	, }	•	• /*::::::::::::::::::::::::::::::::::::	• •	• •	• • •	• •	ŧ	↓	• •	}		⊦	{
		VER.			•* 		 }:	 	:	{[:]		· }		I	 	ł	├ ````	 	I	 	I		· · · · · · · · · · · · · · · · · · ·	· .
	CROSS SEC	TION		F 4	1.50	+ 5.00 + 1.5	0 = 8.00	 		}	· . · .	}	۲. ۱	ł	f	{	 		·····		} -	I	{	+
EXISTING CONDITIONS	SURFACF.			SA +	DBST	(GOOD/FAIF	1) + SA	i 		• •		. 			· .	<u>ا</u>	 	J	·	*		}	l'	+
	BRIDGES AN	۷D	-90+050-			-93 + 724	· ·	 	· ·		 				•									
	BOX CULVEI (Width Hei	igth (m)) RTS	RC 8.0 × 7 × 10.0			RC 8.0 x 6 x 9.3							,					•	1 .				1	
	CROSS SEC	TION		S 3	2.00 -	+ 6.00 +2.0	0 = 10.00	M		+ -			+	h		₩	1 _	+	1	1	1	,	۱ د	1
	TYPE OF IMPROVEMEN	ЧT		- 1	, ;	WD(3)	┎╶┈╼╴╌ ╆╶╌╴			┠╌╌╌╴	F	<u>↓</u>	1	┎ ┣────	€	1	۱ ۴	₽	•	ı	·	,	•	
PROPOSED	BRIDGES				• •	, ,		+ 86 + 534 (82 + 585			.		• •	.		1	ł	4	·	1	}	4	}	+
CONDITIONS	(Type – Wid – Len	(th igth (m))	RC 10.0 × 7 × 10.0			RC 10.0×6×9.3											•							











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CONSTRUCTION QUANTITIES AND COSTS (Project WD -6-1 Length = 98,234 Km) (Improved Length 79,184 Km)

ITCN	11-2-	Financial	Duan A day	Financial		mic cost	Resid	ual Value	· .
1TEH	Unit	Baht		Total cost- 1000 Baht	%	1000 Baht		1000 Baht	
EARTH WORK	*======		**********	***========	83	8중위설밝으는프로함	**==*** 90	725565656	
Clearing & Grubbing	SQ.M	1	451,648	452					
Roadway Excavation(Unclassified)	CU.M	30		0			÷ .		
Embankment(Borrowed Material)	CU.M	100				1.2			
Slope Protection(Stripe Sodding)	SQ.M	6				. *		1. A.	
•	SQ.M	50		0					
	90.M	50.	U	v					
Excavate Existing	60.41	·. 				· .			
Surface	SQ.M	2		0				· .	
Thickness Over 10Cm (2 Lay)	SQ.M	14	144,598	· · · · · · · · · · · · · · · · · · ·	• •				Service of the servic
SUB TOTAL				43,865		36,408		32,767	
en presidente de la construcción de		· · · · · · · · · · · · · · · · · · ·				_ * · · ·			and the set
SUBBASE AND BASE			na <u>la si</u> n		83		50		
Subbase(Selected Material)	CU,M	190	• •	14,892	18 11 1			· · · ·	1
Subbase(Soil Aggregate)	CU.M	190	78,379	14,892	11.1		• •		
Base Coarses(Crush Stone)	CU.M	280	49,298	13,804	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -				
Shoulder(Soil Aggregate)	CU.M	190	33,519	6.369	1 A.				
SUB TOTAL	× .	1997) - Alexandria 1997) - Alexandria	2.5	49,956	1.1.1.1	41,464	· .	20,732	and the second
	$\{ (i,j) \}_{i \in \mathbb{N}}$							•	· · ·
URFACE	1.1	1			83		50		
Asphaltic Prime coat	SQ.M	13	216,916	2,820					
Asphaltic Tack coat	SQ.M	7	258,188	1,807	1 A	1.1.1			
Asphalt concrete Surfacing	CU.M	1,900	23,755	45, 135	1 ¹⁶ 14	1.1.1			
SUB TOTAL	00111	1,700	در، پری	49,762	1	41,303		20,651	
VVV IVIAL		a da ser a ser		4711UL		41,000		20,021	
TRUCTURES(Equivalent)	~				83		50		11 A.
RC Pipe Culvert(D= 600 m)	м	1 790	274	378	0.3	•	00		
	M	1,380 1,950			in a second	· · ·			
(D = 800 m)	M .		816	1,591					
(D=1000 m)		2,650	399	1,057					
(0=1200 m)	M ₁	3,850		177					
RC Box Culvert(3-2.10*2.10 m)	M	11,400	120	1,368			- 1		
RC Bridge Wideing	SQ.M	9,600	1,893	18,173		, Yana a			
RC Bridge (W=13.0 m)	M	83,200	198	16,474		11 A.	-		1
PC Bridge (W=13.0 m)	H .	130,000	0	0	÷		· .	ente de la composición de la composición La composición de la c	· · ·
SUB TOTAL			a an	39,218	e de la composición d	32,551		16,276	
	+								
TOTAL (a)		1.1		182,801		151,725	, en este	90,426	
				un seu de pres	• • • • • • •	a na serie de la companya de la comp		er en ser de la ser en ser	an a
iscellaneous Works [(a)*7%]	Ls	1		12,796		10,621		6,330	

ONTRACT AMOUNT (b)	1.1	2		195,597	e presidente de la composición de la co	162,346	$4 \leq i \leq i$	96,755	· · ·
				10 545					
HYSICAL CONTINGENCIES [(b)*10%) (c)	LS	1	1.1	19,560		16,235	- 11 - L	9,676	· · · ·
	Le	· · · · •	· · · ·	21 544	96	19 300			
NGINEERING & SUPERVISION	LS	1	- 1	21,516	85	18,288	Q	0	
[((b)+(c))*10%] (d)			070 000	41 550	400	41 -	400		
AND ACQUISITION(Average) (e)	SQ.M	15	970,000	14,550	- 100	14,550	100	14,550	
			**********	054 007		344 /40		430 094	
ROJECT COST [(b)+(c)+(d)+(e)]	н. Население		an the state	251,223		211,419		120,981	
FRACE COST DED KN				7 172	· .	t en l	н. 1. н. н.	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	
VERAGE COST PER KM	· · · · ·			3,173			1999 - P. 1997 -	and the second second	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -

	· · ·
MAINTENANCE BUDGET	CALCULATION
Project Road No, W (Existing Road)	D 6-1
e Na ser a ser	Lengt
Laterite Surface	*================

Beeting.							
	t Road No. VD 6	-1	Na=		Baht/Km/yea	ar	
(EXIST	ing Road)	•	Km=	1.162			
· .	· .	Leng	th ≖	98.234	Km	·	
	te Surface				1		
*******	************	***********					
				Existing	3		
	ITEHS		•			•	
	and the second sec			Condition	Factor		
						•	
1.	A.D.T		A1	260	0.47		
2.	Hidth Of Emban		∆3	8.0 m	0,33		
	(Surface & S	Shouldar)					· · · .
3.	R-0-1 Vidth		81	40 R	0.13	· · · · ·	e 1
4.	Traffic Service	e Operation	82	0-3%	0.05		1.12
·	Topography		- <u>-</u>				
5.	Drainage Topogi	raphy	83	0-3%	0.00	Ê tê tê lê lê	
6.	Bridge Quantity	/ (m/Km)	84	7	0.02	• .	
7.	KO. Of Lanes			. 2.			
					1.1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
=====				*************		A .	
		<i></i>				1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	
1.1							
(s (Exi	sting)= 1+0.7((1+1-13)+0.30	81+82	B3+B4) ≃	1.620		
	nance cost + Ove					Baht/Km/year	la sue de t
	Cost(Existing)			ht/Km/year)=			- ·
		20131		mcial Cost =		Baht/year	
				nomic Cost =			
			1,000				
	and the second second				1,020,030)9aht/year	
	-				1		
			· · .	1.1			1
							2
				: · ·	· · · · · · · · · · · · · · · · · · ·		
	Road No, HD 6	-1	Na=		Baht/Km/yea	r	
	Road No, HD 6 ed Road)		Km≠	1.001		на н	
		-1 Lengt	Km≠			т т	:
(Propos	ed Road)		Km≠	1.001		т. 	
(Propos Asphalt	ed Road) Pavement		Km≠	1.001 98.234	Km	 	
(Propos Asphalt	ed Road)		Km≠	1.001 98.234		 	
(Propos Asphalt	ed Road) Pavement		Km≠ h ≅	1.001 98.234	Km 	 	
(Propos Asphalt	ed Road) Pavement		Km≠ h ≅	1.001 98.234	Km 	 	
(Propos Asphalt	ed Road) Pavement	Lengt	Km≠ h ≅	1.001 98.234	Km 	 	
(Propos Asphalt	ed Road) Pavement	Lengt	Km≠ h ≅	1.001 98.234 Proposed Roa Condition	Km 		
(Propos Asphalt	ed Road) Pavement	Lengt	Km≠ h ≅	1.001 98.234 Proposed Roa Condition	Km d Factor	• • • • • • • • • • • • • • • • • • •	
(Propos Asphalt 	ed Road) Pavement IIEHS Surface /Base I	Lengt	Km≠ h ≅ ===== x1	1.001 98.234 Proposed Roa Condition AC	Km d Fector 0.00	• • • • • • • • • • • • • • • • • • •	
(Propos Asphalt 	ed Road) Pavement IITEHS Surface /Base J Subgrada CBR	Lengt	Km± h ≅ ====== X1 X2	1.001 98.234 Proposed Roa Condition AC 4 %	Km d Factor 0.00 0.50	• • • • • • • • • • • • • • • • • • •	
(Propos Asphalt 	ed Road) Pavement ITEHS Surface /Base T Subgrade CBR A.D.T	Lengt	Km± h ≅ X1 X2 X3	1.001 98.234 Proposed Roa Condition AC 4 % 400	Km d Factor 0.00 0.50 0.00		
(Propos Asphalt Internet	ed Road) Pavement IITEHS Surface /Base I Subgrade CBR A.D.T Service Life (y	Lengt ======= ype ?er)	Km± h ≅ X1 X2 X3 X4	1.001 98.234 Proposed Roa Condition AC 4 % 400 10	Km d Factor 0.00 0.50 0.00 1.40		
(Propos Asphał t Constant Cons	ed Road) Pavement IITEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth	Lengt Lengt ype ?er) (m)	Km≐ h ≅ x1 x2 x3 x4 x5	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m	Km G Factor 0.00 0.50 0.00 1.40 0.05		
Propos sphał t serence s	ed Road) Pavement IITEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth R-O-V Width (1)	Lengt ====== ype %ar) (m)	Km± h ≅ X1 X2 X3 X4 X5 Y1	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m	Km Factor 0.00 0.50 0.00 1.40 0.05 0.00		
(Propos Asphalt Sectors I. S. S. S.	ed Road) Pavement IIEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth R-D-V Width () Shoulder, Access	Lengt ====== ype %ar) (m)	Km≐ h ≅ x1 x2 x3 x4 x5	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m	Km G Factor 0.00 0.50 0.00 1.40 0.05		
(Propos Asphałt Invente Invent	ed Road) Pavement IIEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth R-O-V Vidth (n Shoulder, Access Width (m)	Lengt Lengt ype ear) (m) M) Hedian	Km≐ h ≅ X1 X2 X3 X4 X5 Y1 Y2	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m	Km Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00		
(Propos Asphait Asphai	ed Road) Pavement IITEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth (Shoulder, Access Width (m) Traffic Service	Lengt Lengt ype ear) (m) M) Hedian	Km± h ≅ X1 X2 X3 X4 X5 Y1	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m	Km Factor 0.00 0.50 0.00 1.40 0.05 0.00		
(Propos Asphait Asphai	ed Road) Pavement IITEHS Surface /Base J Subgrade CBR A.D.T Service Life (y Pavement Vidth R-O-V Width (n Shoulder, Access Width (m) Traffic Service Topography	Lengt 	Km= h ≅ X1 X2 X3 X4 X5 Y1 Y2 Y3	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m 0 - 3 %	Km d Fector 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00		
(Propos Aspha { t 	ed Road) Pavement IITEHS Surface /Base J Subgrada CGR A.D.T Service Life (y Pavement Vidth R-O-V Width () Shoulder, Access Width (m) Traffic Service Topography Drainage Topogr	Lengt Lengt ype ear) (m) m) ,Hedian Operation aphy	Km= h ≅ X1 X2 X3 X4 X5 Y1 Y2 Y3 Y4	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m	Km Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00		
(Propos Aspha { t 	ed Road) Pavement ITEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth R-O-V Width () Shoulder, Access Width (m) Traffic Service Topography Drainage Topogr Bridge Quantity	Lengt Lengt ype ear) (m) m) ,Hedian Operation aphy	Km= h ≅ X1 X2 X3 X4 X5 Y1 Y2 Y3	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m 0 - 3 %	Km d Fector 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00		
(Propos Aspha { t 	ed Road) Pavement ITEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth R-O-V Width () Shoulder, Access Width (m) Traffic Service Topography Drainage Topogr. Bridge Quantity NO. Of Lanes	Lengt Lengt ype (m) ,Hedian Operation aphy (m/Km)	Km= h ≅ X1 X2 X3 X4 X5 Y1 Y2 Y3 Y4 Y5	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m 0 - 3 % 0 - 3 % 7 2	Km d Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00		
(Propos Aspha { t 	ed Road) Pavement ITEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth R-O-V Width () Shoulder, Access Width (m) Traffic Service Topography Drainage Topogr Bridge Quantity	Lengt Lengt ype (m) ,Hedian Operation aphy (m/Km)	Km= h ≅ X1 X2 X3 X4 X5 Y1 Y2 Y3 Y4 Y5	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m 0 - 3 % 0 - 3 % 7 2	Km d Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00		
(Propos Aspha { t 	ed Road) Pavement ITEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth R-O-V Width () Shoulder, Access Width (m) Traffic Service Topography Drainage Topogr. Bridge Quantity NO. Of Lanes	Lengt Lengt ype (m) ,Hedian Operation aphy (m/Km)	Km= h ≅ X1 X2 X3 X4 X5 Y1 Y2 Y3 Y4 Y5	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m 0 - 3 % 0 - 3 % 7 2	Km d Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00		
(Propos Asphalt 	ed Road) Pavement IITEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth R-O-V Width (i Shoulder, Access Width (m) Traffic Service Topography Drainage Topogra Bridge Quantity NO. Of Lanes	Lengt ype ear) (m) Median Operation aphy (m/Km)	Km= h ≅ X1 X2 X3 X4 X5 Y1 Y2 Y3 Y4 Y5	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 2.0 m 0 - 3 % 0 - 3 % 7 2	Km d Fector 0.00 0.50 0.00 1.40 0.05 0.05 0.00 0.00 0.00 0.00		
(Propos Asphait 1. 2. 3. 4. 4. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	ed Road) Pavement IITEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth (ro-V Vidth (n) Traffic Service Topography Orainage Topogr Bridge Quantity NO. Of Lanes ting) =1+0.5(X1	Lengt	Km= h = X1 X2 X3 X4 X5 Y1 Y2 Y3 Y4 Y5 5+Y1+Y3	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 2.0 m 0 - 3 % 7 2 2 2+Y3+Y4+Y5)=	Km d Fector 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00 0.00		
(Propos Asphait Asphait I. 2. 3. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.	ed Road) Pavement IITEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth (ro-V Width (n) Traffic Service Topography Orainage Topogr Bridge Quantity NO. Of Lanes ting) =1+0.5(X1 ance cost + Over	Lengt Lengt vpe (m) Modian Operation aphy (m/Km) Lengt Lengt (m) tedian	Km= h = X1 X2 X3 X4 X5 Y1 Y2 Y3 Y4 Y5 5+Y1+Y3 \$	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m 0 - 3 % 7 2 2 2+Y3+Y4+Y5)= Na * 1.28 =	Km d Fector 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00 0.00 0.00 0	= = = Balt/Km/year	
(Propos Asphait Asphait I. 2. 3. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.	ed Road) Pavement IITEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth (ro-V Vidth (n) Traffic Service Topography Orainage Topogr Bridge Quantity NO. Of Lanes ting) =1+0.5(X1	Lengt Lengt vpe (m) Modian Operation aphy (m/Km) Lengt Lengt (m) tedian	Km= h ≅ X1 X2 X3 X4 X5 Y1 Y2 Y3 Y4 Y5 S+Y1+Y] Km * (Bal	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m 0 - 3 % 7 2 2+Y3+Y4+Y5)= Na * 1.28 = ht/Km/year)=	Km d Fector 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00 0.00 0.00 0	= - - Bal₁t/Km/year Boht/year	
(Propos Asphalt 1. 2. 3. 5. 5. 7. 10. 11. (a(Exis iainten	ed Road) Pavement IITEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth (ro-V Width (n) Traffic Service Topography Orainage Topogr Bridge Quantity NO. Of Lanes ting) =1+0.5(X1 ance cost + Over	Lengt Lengt vpe (m) Modian Operation aphy (m/Km) Lengt Lengt (m) tedian	Km= h ≅ X1 X2 X3 X4 X5 Y1 Y2 Y3 Y4 Y5 S+Y1+Y1 * Km * i * (Bal Final	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m 0 - 3 % 0 - 3 % 7 2 2+Y3+Y4+Y5)= Na * 1.28 = ht/Km/year)= ncial Cost =	Km d Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00 0.00 0.00 0	= Baht/Km/year Baht/year Paht/year	
(Propos Asphalt 1. 2. 3. 5. 5. 7. 10. 11. (a(Exis iainten	ed Road) Pavement IITEHS Surface /Base I Subgrade CBR A.D.T Service Life (y Pavement Vidth (ro-V Width (n) Traffic Service Topography Orainage Topogr Bridge Quantity NO. Of Lanes ting) =1+0.5(X1 ance cost + Over	Lengt Lengt vpe (m) Modian Operation aphy (m/Km) Lengt Lengt (m) tedian	Km= h ≅ X1 X2 X3 X4 X5 Y1 Y2 Y3 Y4 Y5 S+Y1+Y1 * Km * i * (Bal Final	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m 0 - 3 % 7 2 2+Y3+Y4+Y5)= Na * 1.28 = ht/Km/year)=	Km d Fector 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00 0.00 0.00 0	= Baht/Km/year Baht/year Paht/year	

Project Road No, (Proposed Road)	HD 6 -1	
	Le	ngt
Asphalt Pavement		
######################################	¥7=0%4±292222	===;

I TEHS	
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	ct Road No, WD 6-1 ting Road)	Length	Na= Km= ¤	9,300 1,162 98,234	Baht/Km/yea Km	
Later	ite Surface					
	***********************		****		***********	=
	17710			Existing	9	
	ITEHS	•		Condition	Factor	•
		*********				z .
1.	A.D.T		A1	260	0.47	
2.	Hidth Of Embankment		۸3	8.0 m	0 33	
	(Surface & Shoul	•				
3.	R-O-U Vidth		81	40 FR	0.13	•
4.	Traffic Service Ope Topography	eración	82	0-3%	0.05	
5.	Drainage Topography	,	83	0-3%	0.00	
6.	Bridge Quantity (m/		84	7	0.02	
7.	NO. Of Lanes			2		
				· ·		10 A.
=====			====	***********		a
					· · ·	
Ks (F	kisting)= 1+0.7(A1+A	3)+0 3(01	+82+	R3+84) ≃	1.620	
	enance cost + Overhea					8aht/Km/y
					2,201,283	
÷ .				ncial Cost =		
			Econ	omic Cost =	1,827,000	
na an)9alit/yea
	•					
	1	1.1				
				1 - 1 - 1		
Proto	at Dood No. 150 6 -1	÷.,		9 200	n-h-s Wafar	
	ct Road No, HD 6 -1 osed Road)		Na= Km≠ ≘	8,200 1.001 98.234	Baht/Kn/yeau Km	
(Ргорс	osed Road)		Km≠	1.001	÷ -	· · · ·
(Propo Asphal	osed Road) t Pavement	Length	Km≠ ≞	1.001 98.234	Km	
(Propo Asphal	osed Road)	Length	Km= ≘	1.001 98.234	Km 	
(Propo Asphal	osed Road) It Pavement	Length	Km= ≘	1.001 98.234	Km 	
(Propo Asphal	osed Road) t Pavement	Length	Km= ≘	1.001 98.234	Km 	
(Propo Asphal	osed Road) It Pavement	Length	Km= ≅ ≈===	1.001 98.234 Proposed Roa Condition	Km 	• • • • • • • • •
(Propo Asphal ======	it Pavement ITEHS Surface /Base Type	Length	Km= ≅ ≈===	1.001 98.234 Proposed Roa Condition	Km d Factor	
(Propo Aspha(======== ======= 1. 2.	it Pavement ITEHS Surface /Base Type Subgrada CBR	Length	Km= = = ==== K1 X2	1.001 98.234 Proposed Roa Condition AC 4 %	Km d Factor 0.00 0.50	
(Propo Asphal	t Pavement ITEHS Surface /Base Type Subgrade CBR A.D.T	Length	Km≠ ≅ ===== K1 K2 K3	1.001 98.234 Proposed Roa Condition AC 4 % 400	Km d Factor 0.00 0.50 0.00	
(Propo Asphal 	t Pavement ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year)	Length	Km≠ ≅ ≈==== (1 x2 x3 x4	1.001 98.234 Proposed Roa Condition AC 4 % 400 10	Km d Factor 0.00 0.50 0.00 1.40	
(Propo Asphal ======= 1. 2. 3. 4. 5.	t Pavement ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year) Pavement Vidth (m)	Length	Km≠ = 1 x1 x2 x3 x4 x5	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m	Km G Factor 0.00 0.50 0.00 1.40 0.05	
(Propo Asphal 	t Pavement ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year) Pavement Vidth (m) R-D-V Vidth (m)	Length	Km≠ = 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m	Km Factor 0.00 0.50 0.00 1.40 0.05 0.00	
(Propo Asphal 	ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year) Pavement Vidth (m) Shoulder, Access, Hed	Length	Km≠ = 1 x1 x2 x3 x4 x5	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m	Km G Factor 0.00 0.50 0.00 1.40 0.05	
(Propo Asphal 	ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year) Pavement Vidth (m) Shoulder,Access,Hed Width (m)	Length	Km± ⊒ K1 K2 K3 K4 K5 Y1 Y2	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m	Km Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00	
(Propo Asphal 	ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year) Pavement Vidth (m) Shoulder, Access, Hed	Length	Km≠ = 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m	Km Factor 0.00 0.50 0.00 1.40 0.05 0.00	
(Propo Asphal 	ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year) Pavement Vidth (m) Shoulder, Access, Hed Width (m) Traffic Service Oper Topography Drainage Topography	Length	Km± ⊒ K1 K2 K3 K4 K5 Y1 Y2	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m	Km Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00	
(Propo Asphat 	ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year) Pavement Vidth (m) Shoulder,Access,Hed Width (m) Traffic Service Oper Tepography Drainage Topography Bridge Quantity (m/I	Length	Km±	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m 0 - 3 %	Km d Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00	
(Propo Asphal 	ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year) Pavement Vidth (m) R-O-V Width (m) Shoulder,Access,Hed Width (m) Traffic Service Ope Topography Drainage Topography Bridge Quantity (m/I NO. Of Lanes	Length	Km± ⊒ X1 X2 X3 X4 X5 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y2 Y2 Y2 Y2 Y2 Y2 Y2 Y2 Y2	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m 0 - 3 % 0 - 3 % 7 2	Km d Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00	
(Propo Asphal 	ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year) Pavement Vidth (m) Shoulder,Access,Hed Width (m) Traffic Service Oper Tepography Drainage Topography Bridge Quantity (m/I	Length	Km± ⊒ X1 X2 X3 X4 X5 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y1 Y2 Y2 Y2 Y2 Y2 Y2 Y2 Y2 Y2 Y2	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m 0 - 3 % 0 - 3 % 7 2	Km d Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00	
(Propo Asphal 	ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year) Pavement Vidth (m) Shoulder,Access,Hed Width (m) Traffic Service Ope Topography Drainage Topography Bridge Quantity (m/I NO. Of Lanes	Length	Km± 2 2 2 2 2 2 2 2 2 2 2 2 2	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 2.0 m 0 - 3 % 0 - 3 % 7 2	Km d Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00	
(Propo Asphal 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 	ITEHS ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year) Pavement Vidth (m) Shoulder,Access,Hed Width (m) Traffic Service Open Topography Drainage Topography Bridge Quantity (m/l NO. Of Lanes Sting) =1+0.5(X1+X2+1)	Length	Km± = K1 K1 K2 K3 K4 K5 Y1 Y2 Y1 Y1 Y2 Y1 Y1 Y2 Y1 Y1 Y1 Y1 Y1 Y1 Y1 Y1 Y1 Y1	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 2.0 m 0 - 3 % 7 2 2 2+Y3+Y4+Y5)=	Km d Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00 0.00	
(Propo Asphal 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 	ITEHS ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year) Pavement Vidth (m) Shoulder,Access,Hed Width (m) Traffic Service Open Topography Drainage Topography Bridge Quantity (m/l NO. Of Lanes sting) =1+0.5(X1+X2+) nance cost + Overhead	Length	Km= 2 4 4 4 4 4 4 5 7 7 7 7 7 7 7 7 7 7 7 7 7	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 2.0 m 0 - 3 % 7 2 2 2+Y3+Y4+Y5)= Na * 1.28 =	Km d Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00 0.00 0.00 0	: Baht/Km/γι
(Propo Asphal 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 	ITEHS ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year) Pavement Vidth (m) Shoulder,Access,Hed Width (m) Traffic Service Open Topography Drainage Topography Bridge Quantity (m/l NO. Of Lanes Sting) =1+0.5(X1+X2+1)	Length ======== ian ration Km) x3+x4+x5+ d≃ Ka * } =Length	Km= 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 2.0 m 0 - 3 % 7 2 2 +Y3+Y4+Y5)= Na * 1.28 = 1t/Km/year)=	Km d Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00 0.00 0.00 0	Baht/Km∕yı Baht/Year
(Propo Asphal 1. 2. 3. 4. 5. 6. 7. 8. 7. 8. 7. 8. (a. (Exi iainte	ITEHS ITEHS Surface /Base Type Subgrade CBR A.D.T Service Life (year) Pavement Vidth (m) Shoulder,Access,Hed Width (m) Traffic Service Open Topography Drainage Topography Bridge Quantity (m/l NO. Of Lanes sting) =1+0.5(X1+X2+) nance cost + Overhead	Length	Km= K1 K2 K3 K4 K3 K4 K3 K4 K5 K1 K2 K3 K4 K5 K1 K2 K3 K4 K5 K1 K2 K3 K4 K5 K1 K2 K3 K4 K5 K1 K2 K3 K4 K5 K1 K2 K3 K4 K5 K1 K5 K5 K1 K5 K5 K5 K5 K5 K5 K5 K5 K5 K5	1.001 98.234 Proposed Roa Condition AC 4 % 400 10 6.0 m 40 m 2.0 m 0 - 3 % 0 - 3 % 7 2 2 2+Y3+Y4+Y5)= Na * 1.28 = ht/Km/year)= ht/Km/year)= ht/Km/year)=	Km d Factor 0.00 0.50 0.00 1.40 0.05 0.00 0.00 0.00 0.00 0.00 0.00 0	Baht/Km/yu Baht/year Baht/year

7) Construction Schedule

Project WD6-1 Route 417 (4078) Palian - Khuan Don

year and First Year Second Year Third Year Month ------------.
Work Items
1
2
3
4
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6
7
8
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821222112822822772 Land Acquisition Preparatory Works ************* Earth Works Pavement Works Bridge Works Miscellaneous Works ----------23252225C ****** -------Clearing -Up Percentage Of Disbursement (%) 47 X 26 % 27 % Project WD6-1 Route 417 (4078) Palian - Khuan Don

3 - 144

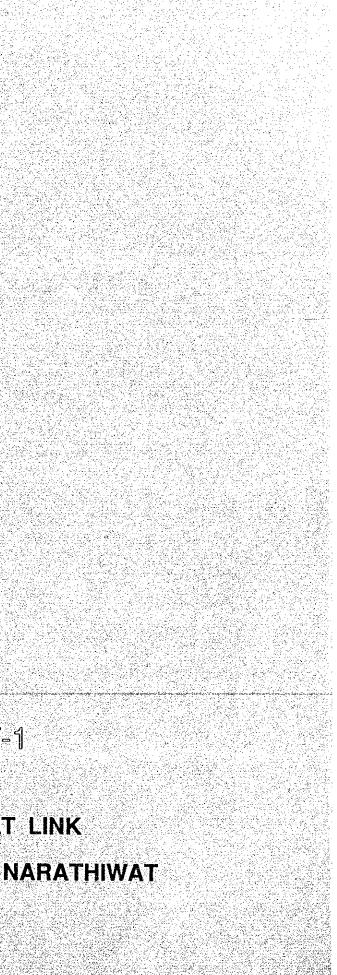
8) Economic Evaluation

•••••		********	(Umit ; 1000 Bant)				
Year	Const- ruction Cost	Mainte- nance	Total Cost	VOC Saving	Time Saving	Balance Benefit= Cost=	
1990	0	0	0	0	0	0	0
1991	0	0	Ō	n n	Ō	<u> </u>	Q
1992	õ	ō	Ō	, Õ.	ŏ	Õ	0
1993	56,969	Û	56,969	Ŏ	. 0	(56,969)	(68,363)
1994	104,865	0	104,865	Ó	Ó	(104,865)	(125,839)
1995	49,585	0	49,585	Ő	0	(49,585)	(59,502)
1996	0	1,263	1,263	3,690	44,303	46,730	36,879
1997	. 0	1,263	1,263	5,400	45,058	49, 195	38,851
1998	0	1,263	1,263	7,110	45,813	51,660	40,823
1999	. 0	1,263	1,263	8,821	46,567	54,125	42,795
2000	0	1,263	1,263	10,531	47,322	56,590	44,767
2001	0	1,263	1,263	12,241	48,077	59,055	46,739
2002	0	1,263	1,263	15,982	54,449	69,168	54,829
2003	0	1,263	1,263	19,723	60,821	79,281	62,920
2004	· · · · · 0	1 263	1,263	23,464	67 193	89,394	71,010
2005	0	1,263	1,263	27,205	73,565	99,507	79,100
2006	0	1,263	1,263	30,946	79 937	109,620	87,191
2007	0	1,263	1,263	30,946	79,937	109,620	87,191
2008	0	1,263	1,263	30,946	79,937	109,620	87,191
2009	0	1,263	1,263	30,946	79,937	109,620	87,191
2010	0	1,263	1,263	30,946	79,937	109,620	87,191
Total	211,420	18,945	230,365	288,897	932,853	991,385	700,962
				IRR =		22.38%	15.67
	an e staff			NPV (1;12		116,756	apprent for the
27				B/C (1;12	%) =	1.93	•

(unit : 1000 Baht)

PROJECT WD7-1

YALA - NARATHIWAT LINK CHANGWAT: YALA, NARATHIWAT



2) ROUTE MAP

3.18 Yala - Narathiwat Link (RW7-1)

1) Summary

The aim of the project is to support development of the Southern Border Provinces through constructing a direct highway link between the cities of Yala and Narathiwat.

The project which is to develop a "F1" standard highway in the above section comprises the following three sections:

- widening of the existing highways of 4063, 4066 and 4107;
- reconstruction of the existing ARD roads between Route 4060 and 42; and
- new construction of missing links between the above ARD roads.

The existing highways are of "F4" standard with carriageway width of 5.0 meters, accounting for about half of the total project length. The widening section includes realignment of about 2.0 kilometers near Kota Baru and reconstruction of embankment of 3.4 kilometers at the crossing point with the Sai Buri River. Reconstruction of the ARD roads of unpaved surface of 5 meter width amounts to 15.8 kilometer while new construction does to 9.7 kilometers.

The project starts from amphoe Yala and ends at the intersection with Route 42 in amphoe Yi-Ngo. The total length of the project is 51.7 kilometers.

RW7-1	Description
Surface Type Surface Condition Length: Total	
AADT<'96/'01/'06	> : 3,200 / 4,500 / 5,900
Financial Cost NPV B/C EIRR	: 309.1 million baht : 283 million baht (12% discount rate) : 2.9 (12% discount rate) : 26.7 %

(): Existing Condition or Value

