

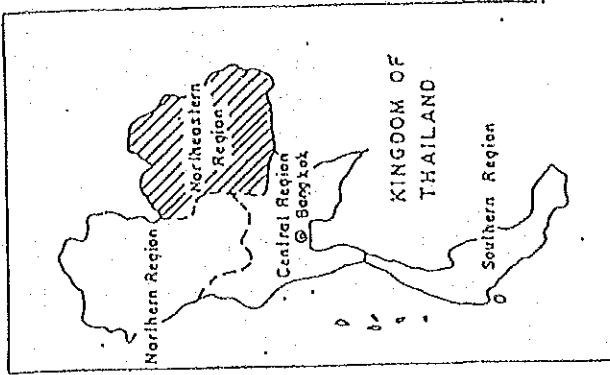
BRIDGE NO.	PROVINCE	NAME OF BRIDGE	ROUTE	LENGTH (M)	GROUP	STAGE
05.01	Nakhon Rachasima	Lam Klang	B. Non Sung -B. Lao	45.00 (42.00)	II	I
05.02	Nakhon Rachasima	Lam Nam Mun		70.00	II	II
05.03	Nakhon Rachasima	Lam Phra Phloeng	B. Makok -B. Phra Bung	55.00	II	I
05.04	Nakhon Rachasima	Lam Ta Khong No. 1	Rt. No. 2 -B. Mai Samrong	15.00	I	II
05.05	Nakhon Rachasima	Lam Ta Khong No. 2	Rt. No. 2 -B. Mai Samrong	20.00	I	II
06.01	Maha Sarakham	Huai Sieo	B. Daeng -B. Bom Thung	30.00 (28.00)	I	I
06.02	Maha Sarakham	Huai Lom Khom No. 1	B. Lom Khom -B. Khok Tao	10.00	I	II
06.03	Maha Sarakham	Huai Lom Khom No. 2	B. Lom Khom -B. Don Daeng	15.00 (11.00)	I	II
06.04	Maha Sarakham	Huai Na	B. Khok -B. Kok	15.00 (11.50)	I	II
07.01	Mukdahan	Huai Bang Sai		110.00	II	I
07.02	Mukdahan	Huai Ban	B. Som Poi -B. Na Si Nuan	40.00 (25.80)	I	I
07.03	Mukdahan	Huai Sai Phai	B. Som Poi -B. Na Si Nuan	46.00 (44.70)	II	I
07.04	Mukdahan	Huai Khong	Rt. 2034 -B. Nong Lom	16.00 (12.40)	I	II
07.05	Mukdahan	Huai Sang Tho No. 1	Rt. 2034 -B. Nong Lom	18.00 (12.40)	I	II
07.06	Mukdahan	Huai Sang Tho No. 2		18.00	I	II
08.01	Yasothon	Huai Wang Pla Sium	B. Sai Mun -B. Na Pong	25.00 (21.00)	I	I
08.02	Yasothon	Huai Na Pong	B. Sai Mun -B. Na Pong	20.00 (15.00)	I	I

LIST OF PROPOSED BRIDGES

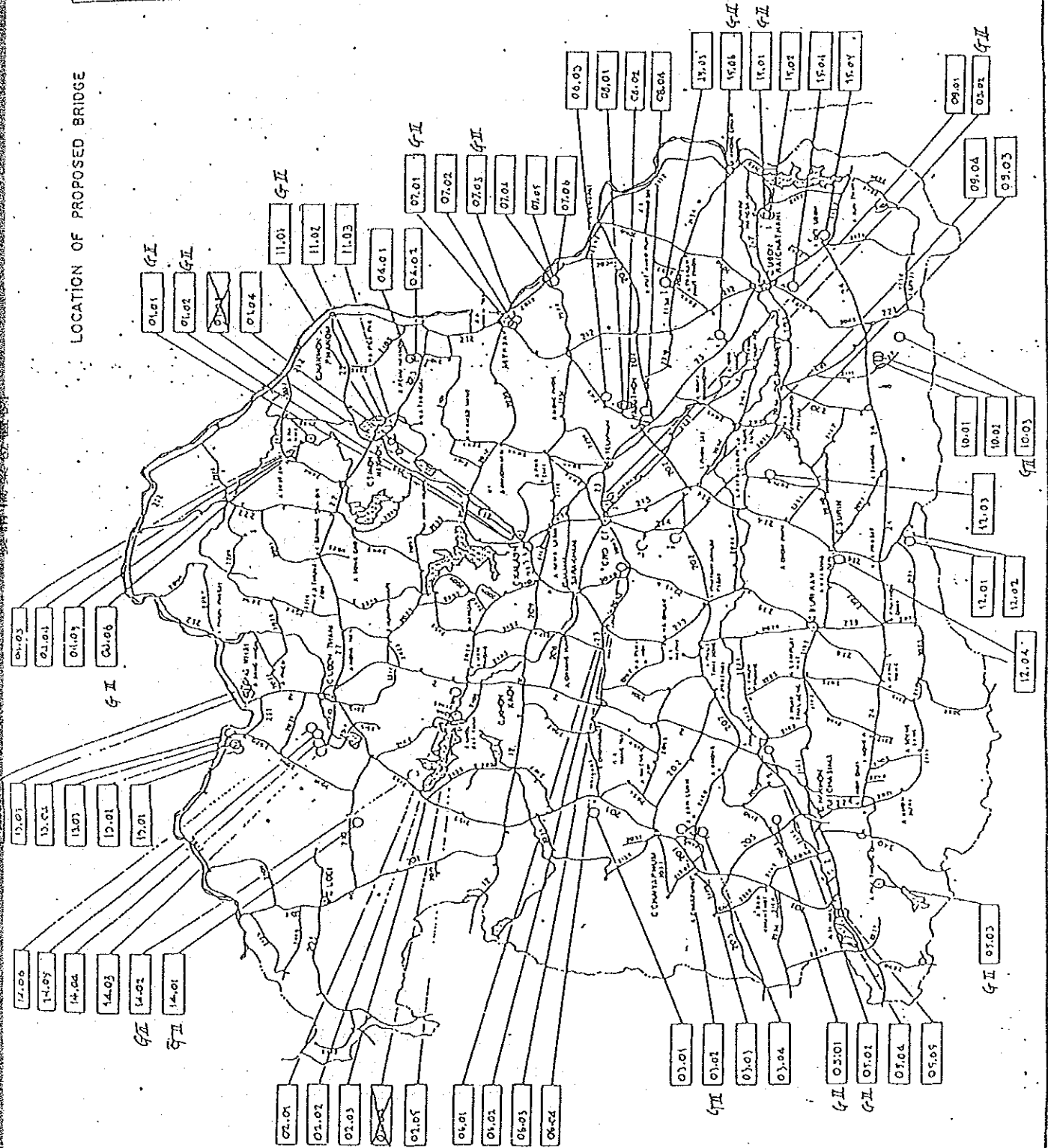
BRIDGE NO.	PROVINCE	NAME OF BRIDGE	ROUTE	LENGTH (M)	GROUP	STAGE
08.03	Yasothon	Huai Khaen	B. Kok Sung -B. Kut Chum Phatthana	20.00 (18.00)	I	I
08.04	Yasothon	Huai Khaen	B. Taptao -B. Kham Noi	35.00 (29.00)	I	II
09.01	Roi-et	Huai Puai Pong	B. Sathon -B. Non Yang	25.00 (20.00)	I	I
09.02	Roi-et	Lam Nam Chi	B. Nong Chok -B. Chi Lon	180.00	II	II
09.03	Roi-et	Huai Siao No. 1	Rt. 214 -B. Hua Nong	40.00 (24.00)	I	II
09.04	Roi-et	Huai Siao No. 2	B. 1-Khot -B. Hua Nong	40.00 (32.00)	I	II
10.01	Sisaket	Huai Palan Muang	B. Si Khunhan -B. Nong Phu	25.00	I	I
10.02	Sisaket	Huai Kantruat	B. Sikhunhan -Nong Phu	40.00 (22.00)	I	I
10.03	Sisaket	Huai Tha	B. Nam Kliang -B. Yang Noi	110.00 (106.00)	II	II
11.01	Sakon Nakhon	Huai Kut Suang	B. Tong Khop -B. Klang	70.00 (64.00)	II	I
11.02	Sakon Nakhon	Huai Pa Thao	B. Na Kung -B. Phon Kho	26.00 (21.00)	I	I
11.03	Sakon Nakhon	Huai Soeng No. 1	B. Phon Kangpla -B. Na Oi	30.00	I	I
12.01	Surin	Huai Soeng No. 2	B. Khok Sa-at B. Khok Rum	20.00	I	I
12.02	Surin	Huai Na Ngua	B. Chabok B. Lao	30.00	I	I
12.03	Surin	Huai Na Khoi	B. Non Puai -B. Nong Khu	30.00	I	I
12.04	Surin	Huai Na Krathum	B. Tham Nob -B. Ram Khuai	30.00	I	II
13.01	Nong Khai	Huai Sieo No. 1	B. Thewi -B. Dua	20.00 (16.00)	I	I

BRIDGE NO.	PROVINCE	NAME OF BRIDGE	ROUTE	LENGTH (M)	GROUP	STAGE
13.02	Nong Khai	Huai Sieo No. 2	B. Thewi -B. Dua	15.00 (9.00)	I	I
13.03	Nong Khai	Huai Ban Mui	B. Na Chang Nam -B. Nong Waeng	30.00 (12.00)	I	II
13.04	Nong Khai	Huai Ran	B. Na Chang Nam -B. Nong Waeng	20.00 (16.00)	I	II
13.05	Nong Khai	Huai Bang Phuan No. 1	B. That -B. Chuak	20.00 (12.00)	I	II
13.06	Nong Khai	Huai Bang Phuan No. 2	B. Taht -B. Chuak	20.00 (16.00)	I	II
14.01	Udon Thani	Huai Phaniang	B. Kok Pho -B. Kan	60.00 (40.00)	II	I
14.02	Udon Thani	Lam Nam Phuai	A. Si Bun Ruang -B. Pa Kha	110.00	II	I
14.03	Udon Thani	Huai Luang	B. Chiang Yun -B. Chiang Pheng	35.00 (32.50)	I	II
14.04	Udon Thani	Nong Bung Mo No. 1	B. Chiang Yun -B. Chiang Pheng	15.00 (8.00)	I	II
14.05	Udon Thani	Nong Bung Mo No. 2	B. Chiang Yun -B. Chiang Pheng	15.00 (12.00)	I	II
14.06	Udon Thani	Nong Bung Mo No. 3	B. Chiang Yun -B. Chiang Pheng	25.00 (23.00)	I	II
15.01	Ubol Rachathani	Huai Phra Rot	B. Sabng Tho -B. Hat	45.00 (25.00)	II	I
15.02	Ubol Rachathani	Huai Lak Thong	B. Ang Sila -B. Bua Daeng	35.00 (33.00)	I	I
15.03	Ubol Rachathani	Huai Sa Do	B. Ang Sila -B. Nong Hai	30.00 (25.00)	I	I
15.04	Ubol Rachathani	Huai So Phra	B. Na Wa -B. Khok Phra	25.00 (21.00)	I	II
15.05	Ubol Rachathani	Huai Choek	B. Nong Hai -B. Na Kae	30.00 (28.00)	I	II
15.06	Ubol Rachathani	Lam Nam Som	B. Na Kae -B. Sao Lao	45.00 (41.50)	II	II

LOCATION OF PROPOSED BRIDGE



- 01 Kalasin
- 02 Khon Kaen
- 03 Chaiyaphum
- 04 Nakhon Phanom
- 05 Nakhon Ratchasima
- 06 Maha Sarakham
- 07 Mukdahan
- 08 Yasothon
- 09 Roi Et
- 10 Sisaket
- 11 Sakon Nakhon
- 12 Surin
- 13 Nong Khai
- 14 Udon Thani
- 15 Ubon Ratchathani



2. Selected Bridges

List of Bridges for Group I

Phase I

No.	Bridge No.	Name of Bridge	Bridge Length (m)	Location
1.	02.02	Huai Nong Ben	25.89	Km. 5.200 Ban Kham Bong- Ban Non Dong Man Road (A. Nam Phong)
2.	02.03	Huai Yang	29.89	Km. 5.950 Ban Kham Bong- Ban Non Dong Mon Road (A. Nam Phong)
3.	03.01	Huai Khon Tha	20.46	Km. 1.100 A. Kaeng Khlo- Ban Nong Khu Road
4.	03.02	Huai Yai	29.89	Km. 5.950 A Kaeng Khlo- Ban Nong Khu Road
5.	03.03	Huai Phai No. 1	20.46	Km. 18.500 A. Kaeng Khlo- Ban Nong Khu Road (A. Ban Thaen)
6.	03.04	Huai Phai No. 2	19.46	Km. 18.700 A. Kaen Khlo- Ban Nong Khu Road (A. Ban Thaen)
7.	04.04	Huai Na Khoi	20.46	Km. 1.150 Ban Na Khoi-Ban Un Na Road (A. Na Wa)
8.	04.05	Huai Na Krathum	20.46	Km. 2.550 Ban Na Khoi-Ban Un Na Road (A. Na Wa)
9.	07.07	Huai Po	20.46	Km. 0.450 Rt. No. 212-Ban Kham Mek Road (A. Muang)
10.	07.08	Huai Ngui	30.89	Km. 0.850 Rt. No. 212-Ban Kham Mek Road (A. Muang)

List of Bridges for Group I

Phase I

No.	Bridge No.	Name of Bridge	Bridge Length (m)	Location
11.	11.03	Ban Na Kae	30.89	Ban Phon Kangpla-Ban Na Oi Road
12.	13.01	Huai Sieo No. 1	24.89	Ban Thewi-Ban Dua Road (A. Tha Bo)
13.	13.02	Huai Sieo No. 2	19.46	Ban Thewi-Ban Dua Road (A. Tha Bo)
14.	13.03	Huai Ban Mui	30.89	Ban Na Chang Nam-Ban Nong Waeng Road (A. Tha Bo)
15.	13.04	Huai Ran	22.89	Ban Na Chang Nam-Ban Nong Waeng Road (A. Tha Bo)
16.	13.05	Huai Bang Phuan No. 1	20.46	Km. 0.400 Ban That-Ban Chuak Road (A. Muang)
17.	13.06	Huai Bang Phuan No. 2	20.46	Km. 0.775 Ban That-Ban Chuak Road (A. Muang)
18.	14.04	Nong Bung Mo No. 1	18.46	Ban Chiang Yun-Ban Chiang Pheng Road (A. Kut Chap)
19.	14.05	Nong Bung Mo No. 2	18.46	Ban Chiang Yun-Ban Chiang Pheng Road (A. Kut Chap)
20.	14.06	Nong Bung Mo No. 3	25.89	Ban Chiang Yun-Ban Chiang Pheng Road (A. Kut Chap)
21.	14.07	Nong Bung Mo No. 4	20.46	Ban Chiang Yun-Ban Chiang Pheng Road (A. Kut Chap)

List of Bridges for Group I

Phase II

No.	Bridge No.	Name of Bridge	Bridge Length (m)	Location
1.	05.04	Lam Ta Khong No. 1	19.46	Ban Nam Mao (Lat Boa Khao, Sikhui)
2.	05.05	Lam Ta Khong No. 2	30.89	Ban Mai Samrong (Mai Samrong, Sikhui)
3.	06.01	Huai sieo	33.89	Km. 0.450 Ban Daeng-Ban Bon Thung Road (A. Wapipathum)
4.	06.03	Huai Lom Khom No. 2	19.46	Ban Lom Khom-Ban Don Daeng Road
5.	06.04	Huai Na	16.46	Km. 4.950 Ban Khok-Ban Kok Road (A. Wapipathum)
6.	08.01	Huai Wang Pla Sium	25.89	Km. 0.950 A. Sai Mun-Ban Na Pong Road (A. Sai Mun)
7.	08.02	Huai Na Pong	20.46	Km. 2.450 A. Sai Mun-Ban Na Pong Road (A. Sai Mun)
8.	08.03	Huai Khaen	20.46	Km. 0.800 A. Kut Chum-Ban Khok Sung Road (A. Kut Chum)
9.	08.04	Huai Khaen Long No. 1	20.46	Km. 0.650 A. Kut Chum-Ban Khok Sung Road (A. Kut Chum)
10.	08.05	Huai Khaen Long No. 2	23.89	Km. 1.000 A. Kut Chum-Ban Khok Sung Road (A. Kut Chum)
11.	09.01	Huai Pla Pong	25.89	Km. 1.700 Ban Non Yang-Ban Sathon Road (A. Selaphum) Ban Nong Chok (A. Selaphum)

List of Bridges for Group I

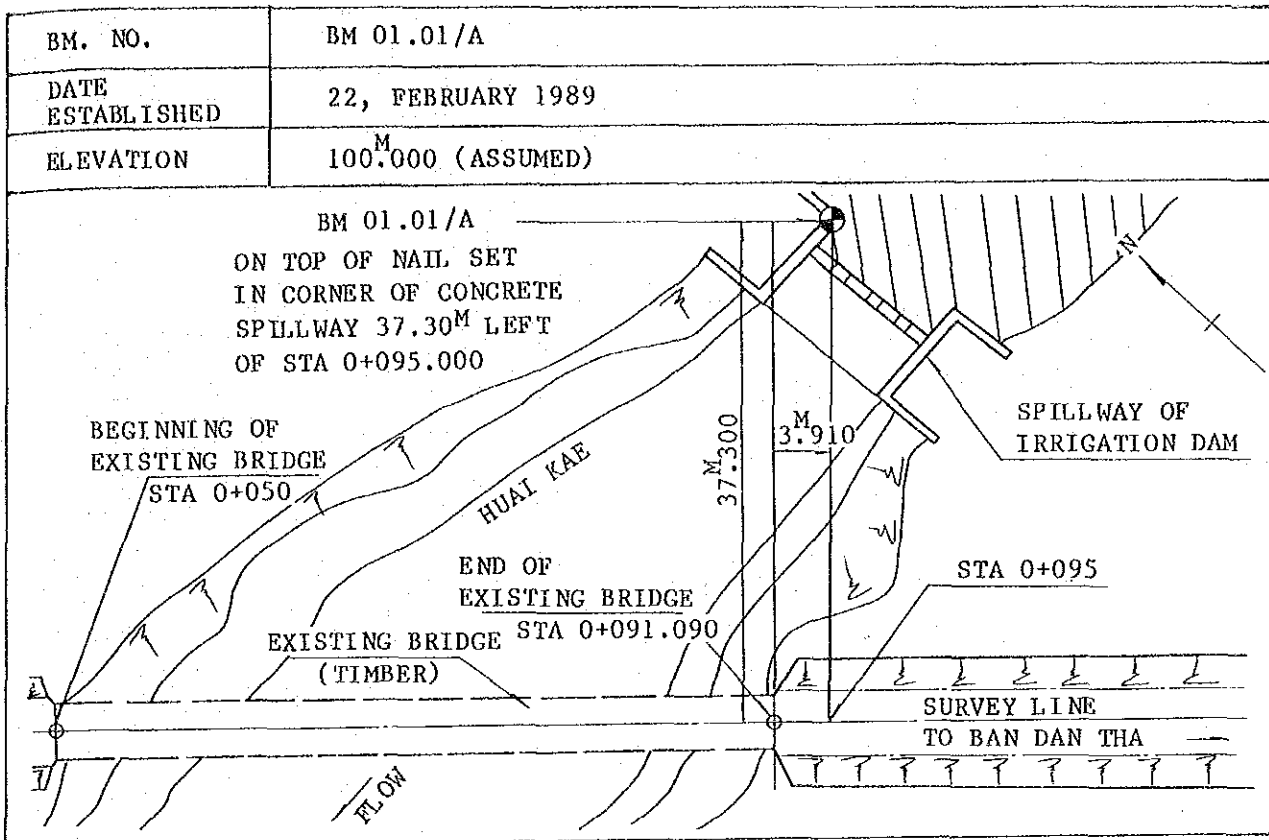
Phase II

No.	Bridge No.	Name of Bridge	Bridge Length (m)	Location
12.	09.03	Huai Siao No. 1	34.89	Km. 1.725 Rt. No. 214-Ban Hua Nong Road (A. Kaset Wisai)
13.	09.04	Huai Siao No. 2	25.89	Km. 1.215 Ban I-Knot-Ban Hua Nong Road (A. Kaset Wisai)
14.	10.01	Huai Palan Muang	25.89	Ban Sikhunhan-Ban Nong Phu Road
15.	10.02	Huai Kantruat	20.46	Ban Sikunhan-Ban Nong Phu Road (A. Khun Han)
16.	12.02	Huai Thamo	20.46	Km. 5.625 Ban Prasat Beng- Ban Khu Tan Road (A. Kap Choeng)
17.	15.03	Huai Sa Do	30.89	Km. 3.375 Rt. No. 2172-Ban Nong Hai Road (A. Phibun Mang Sahan)
18.	15.04	Huai So Phra	27.89	Ban Na Wa-Ban Khok Phra Road
19.	15.05	Huai Choek	30.89	Km. 0.350 Ban Nong Hai (Rt. No.2178)- Ban Na Kae Road (A. Samrong)
20.	15.06	Huai Khaen	32.89	Km. 4.800 Ban Nong Hai (Rt. No.2178)- Ban Na Kae Road (A. Samrong)

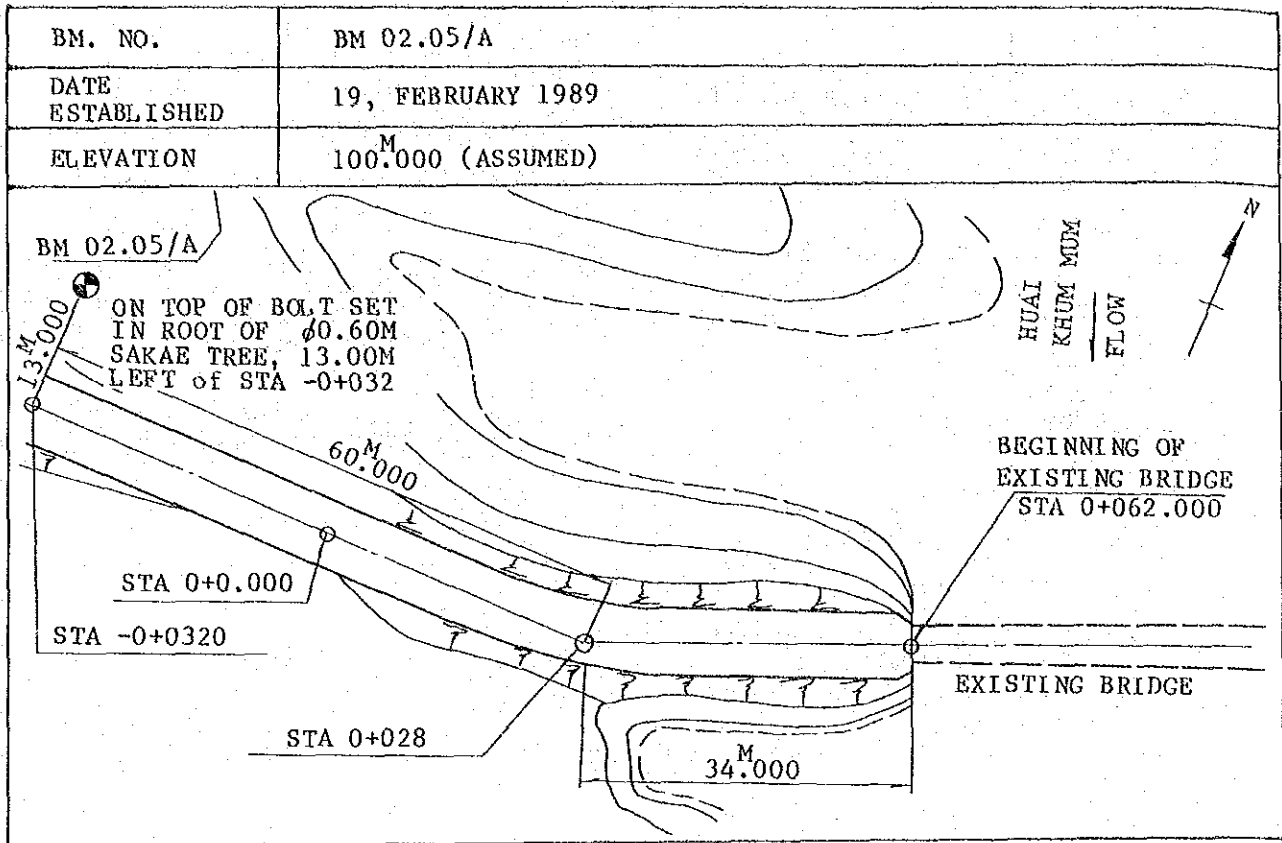
APPENDIX 4

Topographic Survey

DESCRIPTION OF BM-POINT
01.01 Huai Kae (Kalasin)

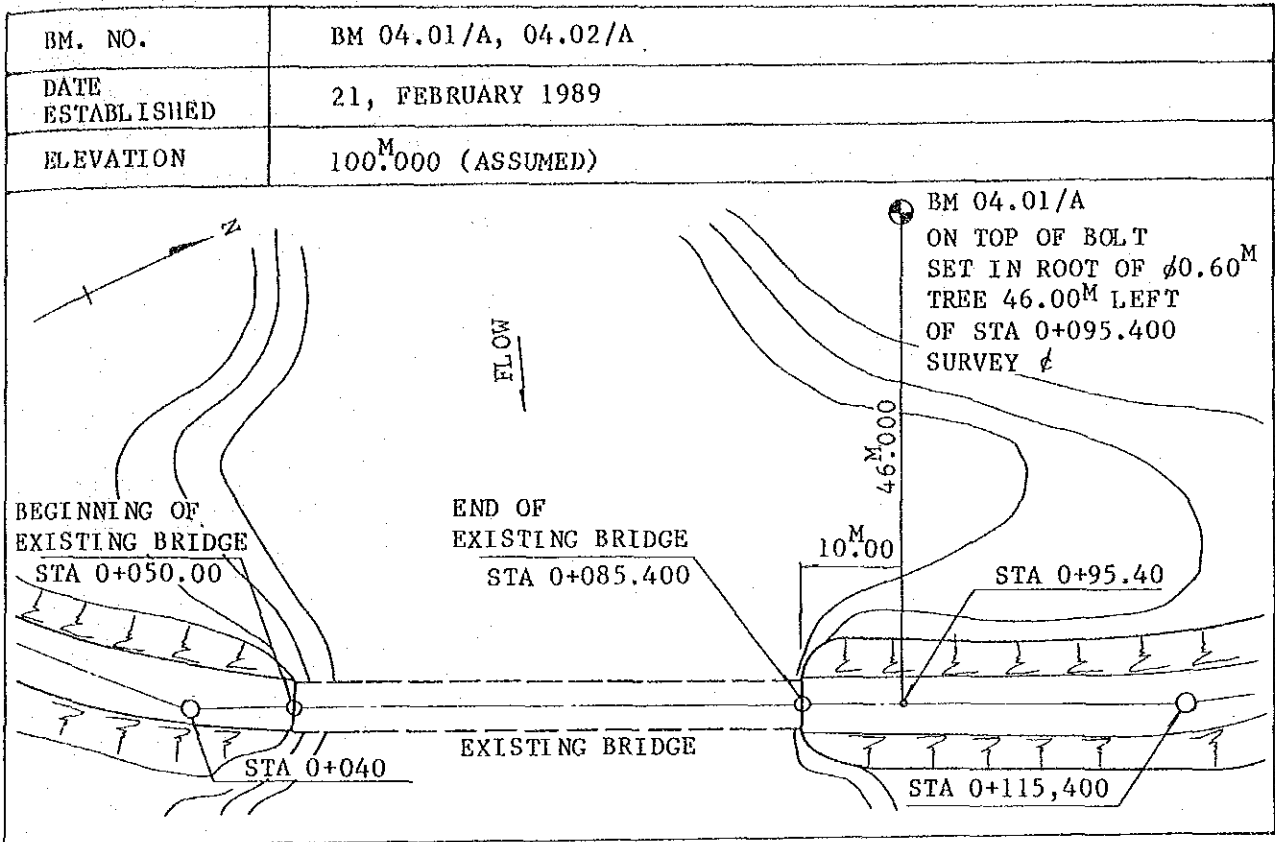


DESCRIPTION OF BM-POINT
 02.05 Huai Khum Mum ((Khon Kaen))



DESCRIPTION OF BM-POINT

04.01 Huai Soeng No. 1 (Nakhon Phanom)



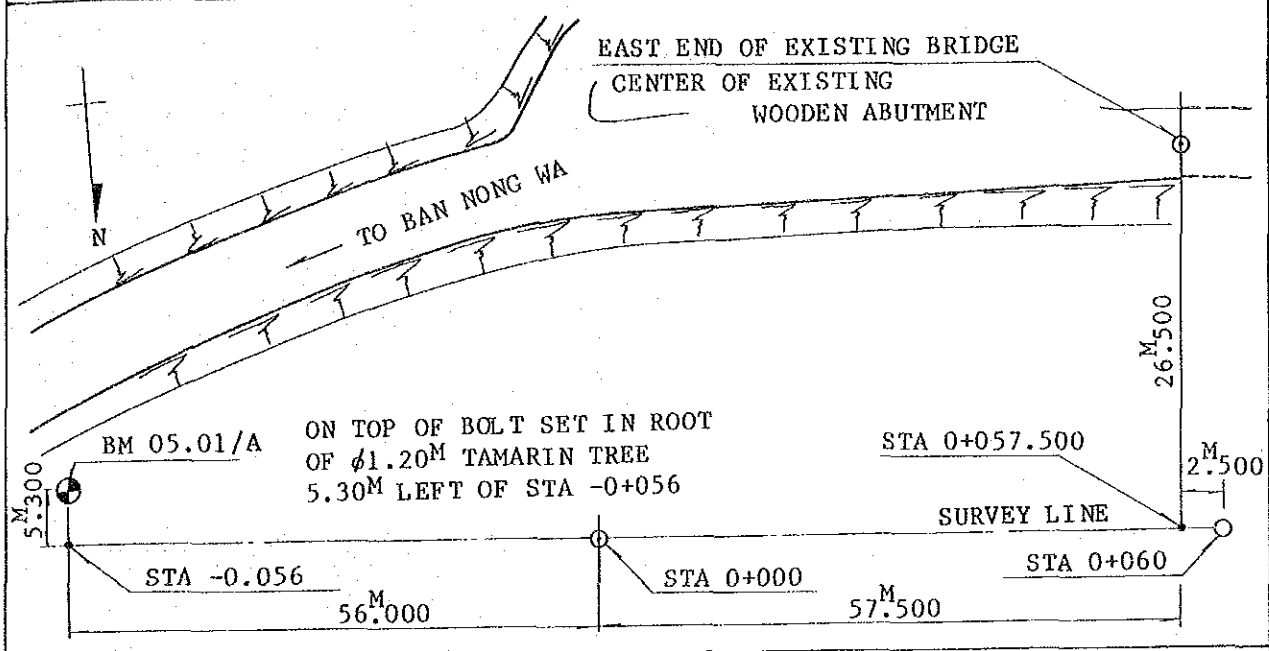
DESCRIPTION OF BM-POINT

04.02 Huai Soeng No. 2 (Nakhon Phanom)

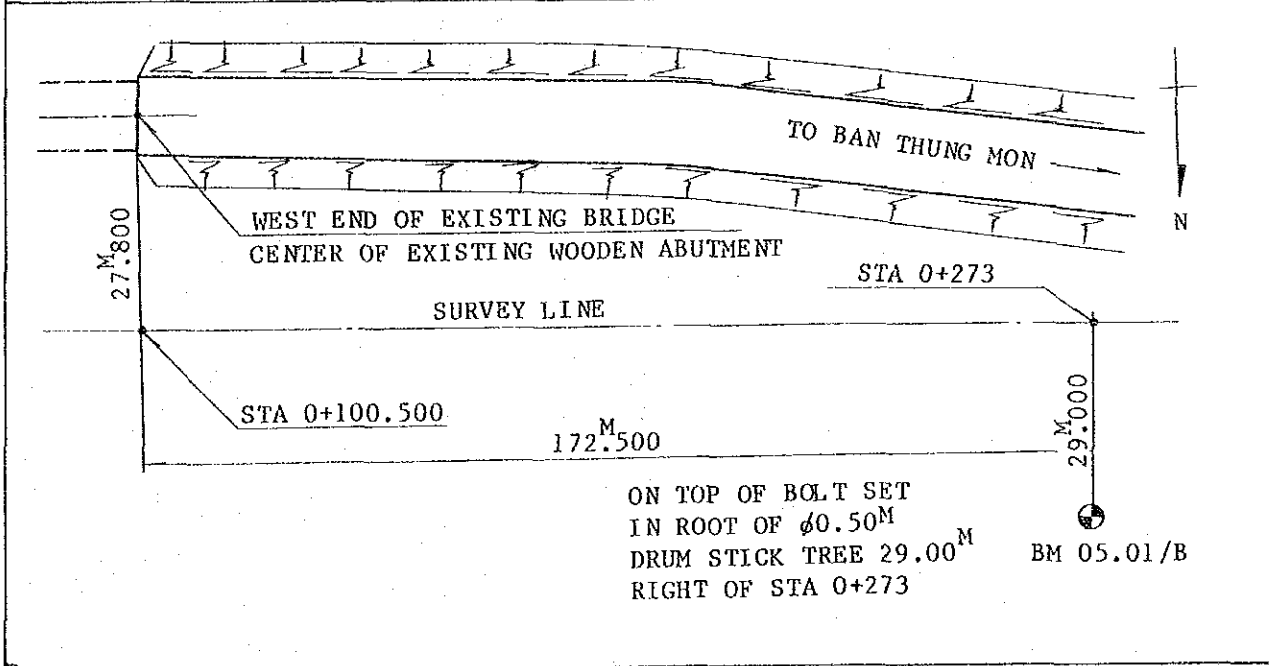
BM. NO.	BM 04.01/A, 04.02/A
DATE ESTABLISHED	22, FEBRUARY 1989
ELEVATION	100. ^M 000 (ASSUMED)
THE SAME BENCH MARK FOR BRIDGE NO. 04.01 IS AVAILABLE FOR BRIDGE NO. 04.02	

DESCRIPTION OF BM-POINT
05.01 Lam Klang (Nakhon Rachasima)

BM. NO.	BM 05.01/A
DATE ESTABLISHED	8, FEBRUARY 1989
ELEVATION	100 ^M .000 (ASSUMED)

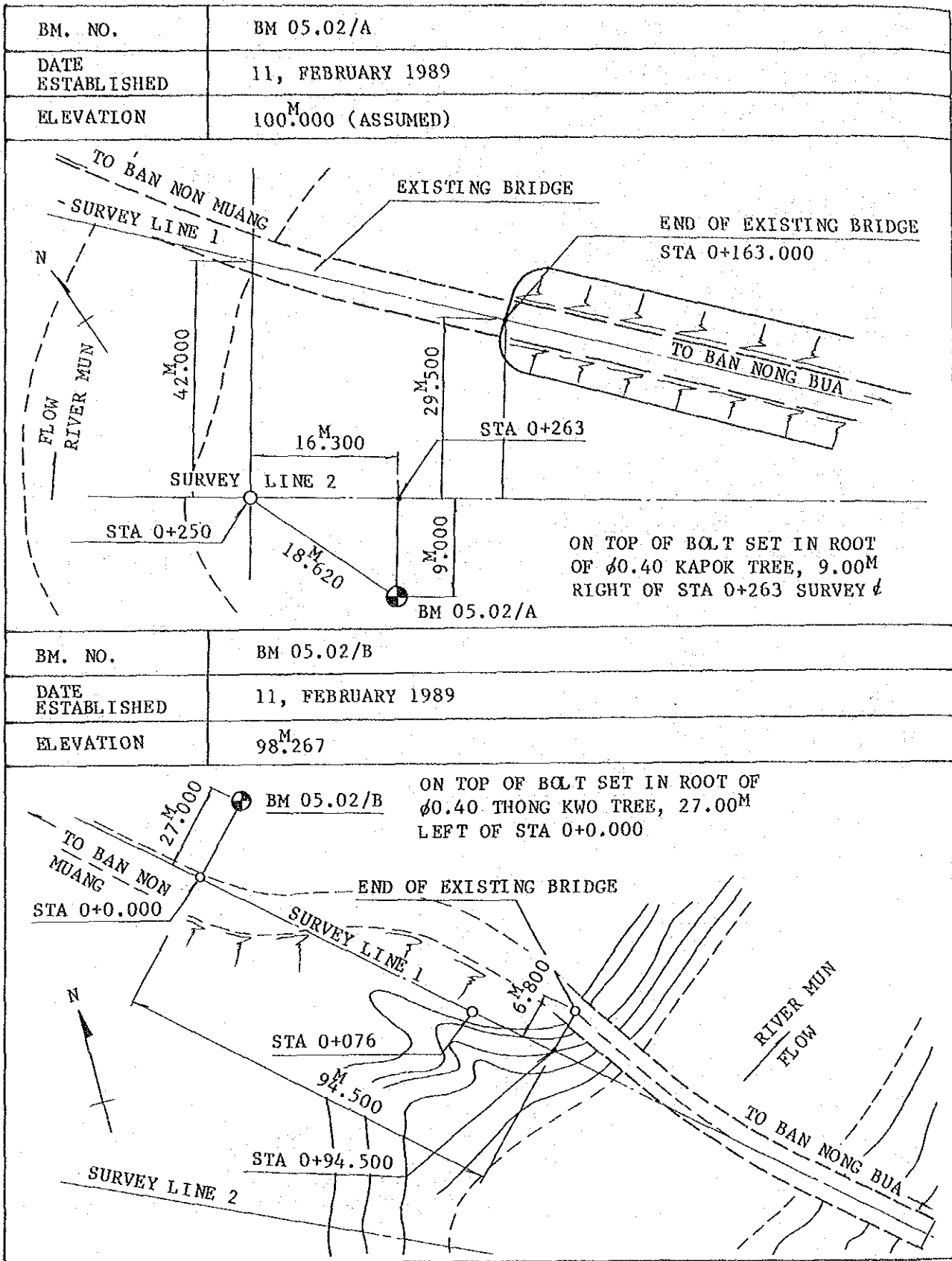


BM. NO.	BM 05.01/B
DATE ESTABLISHED	8, FEBRUARY 1989
ELEVATION	97 ^M .887

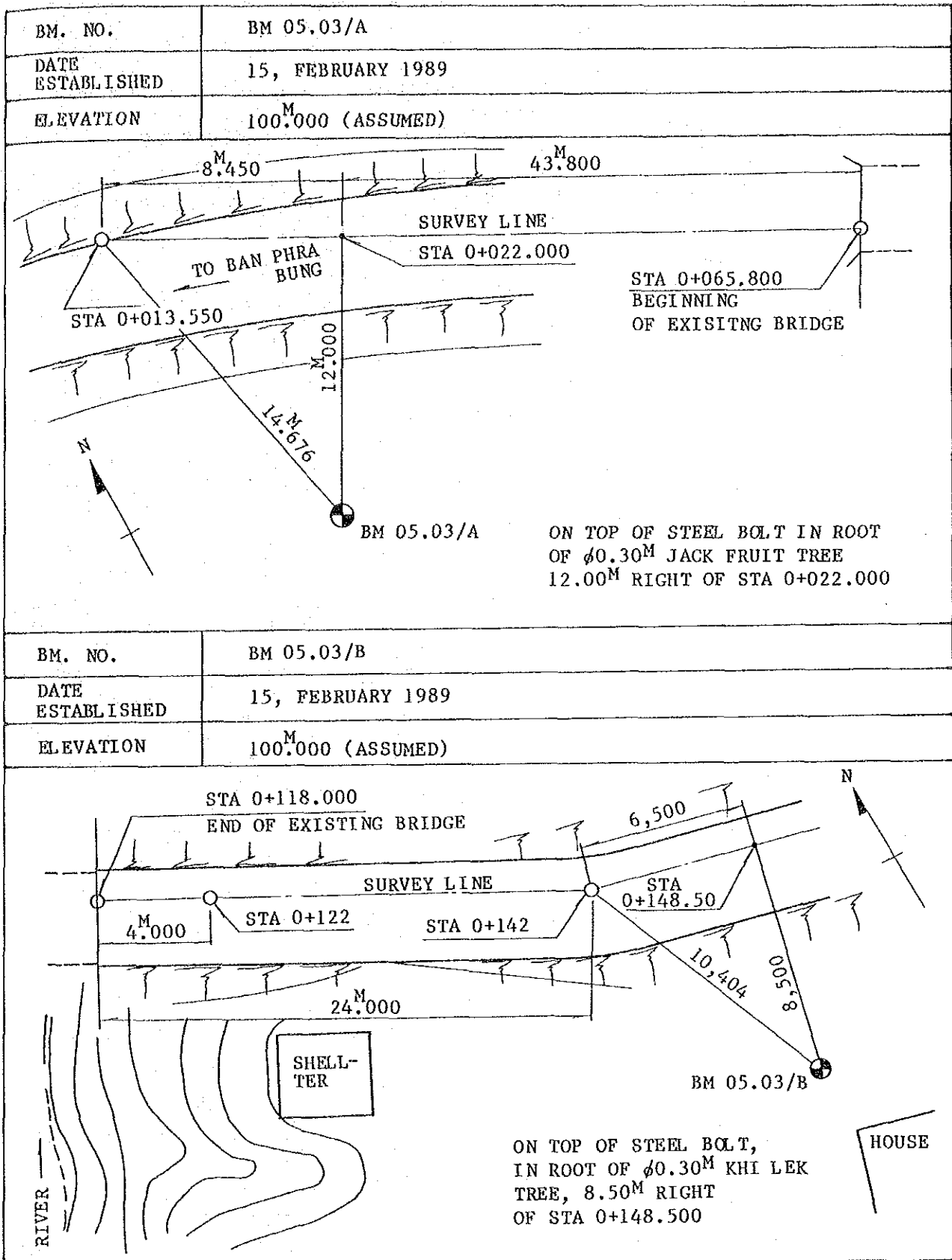


DESCRIPTION OF BM-POINT

05.02 Lam Nam Mun (Nakhon Rachasima)

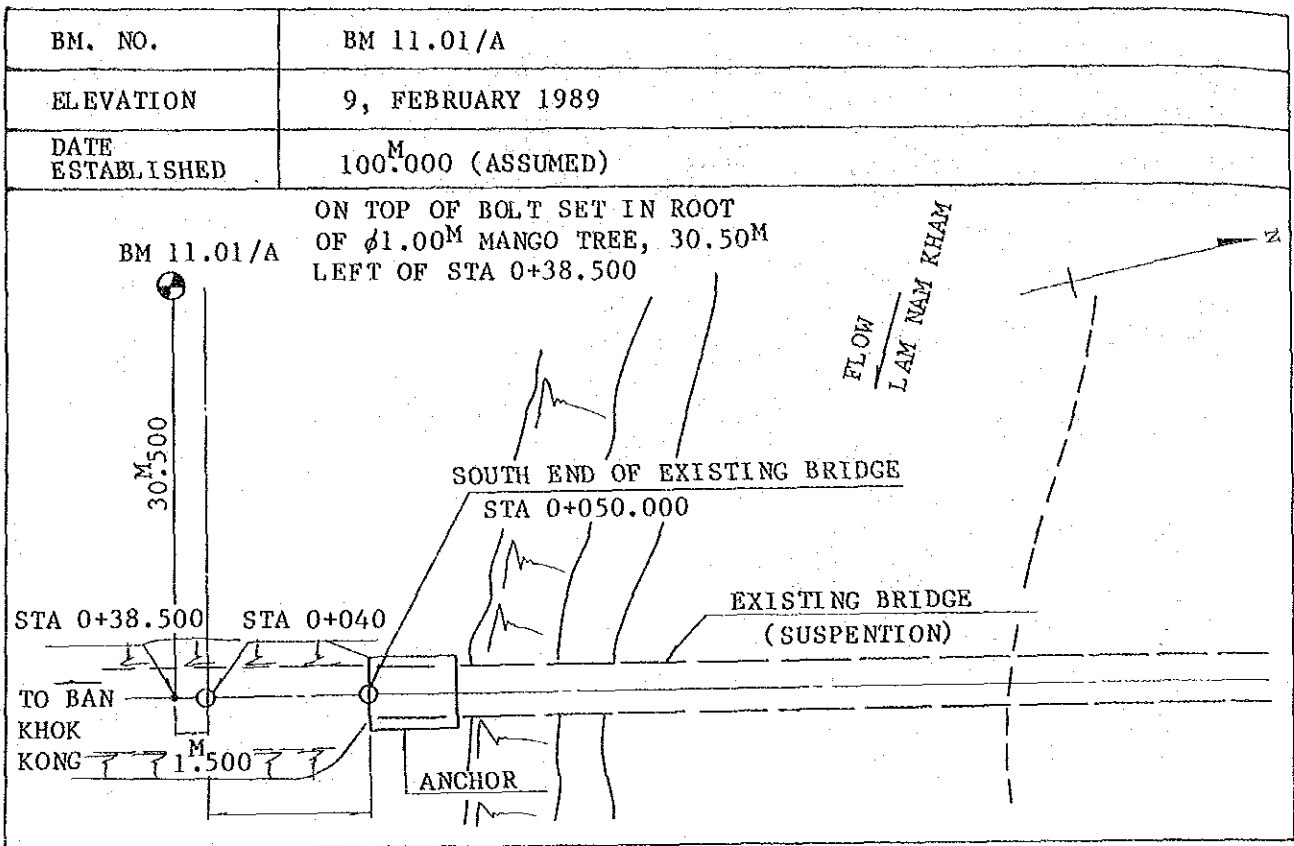


DESCRIPTION OF BM-POINT
 05.03 Lam Phra Phloeng (Nakhon Rachasima)



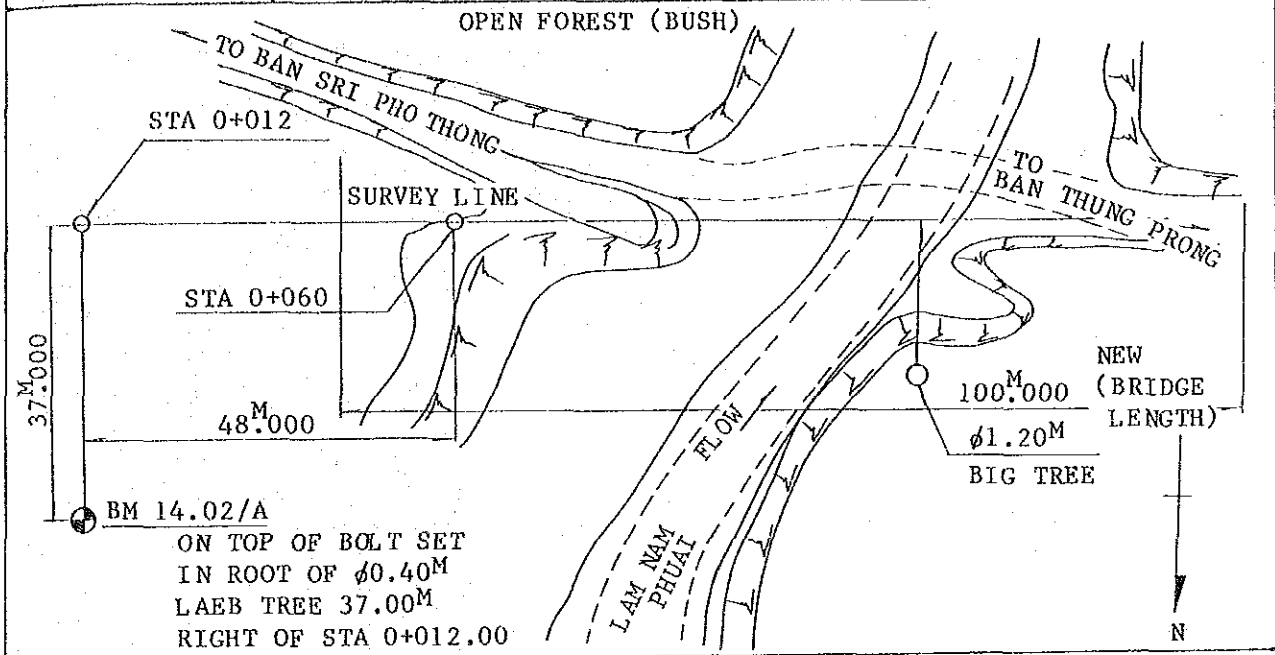
DESCRIPTION OF BM-POINT

11.01 Lam Nam Kham (Sakhon Nakhon)

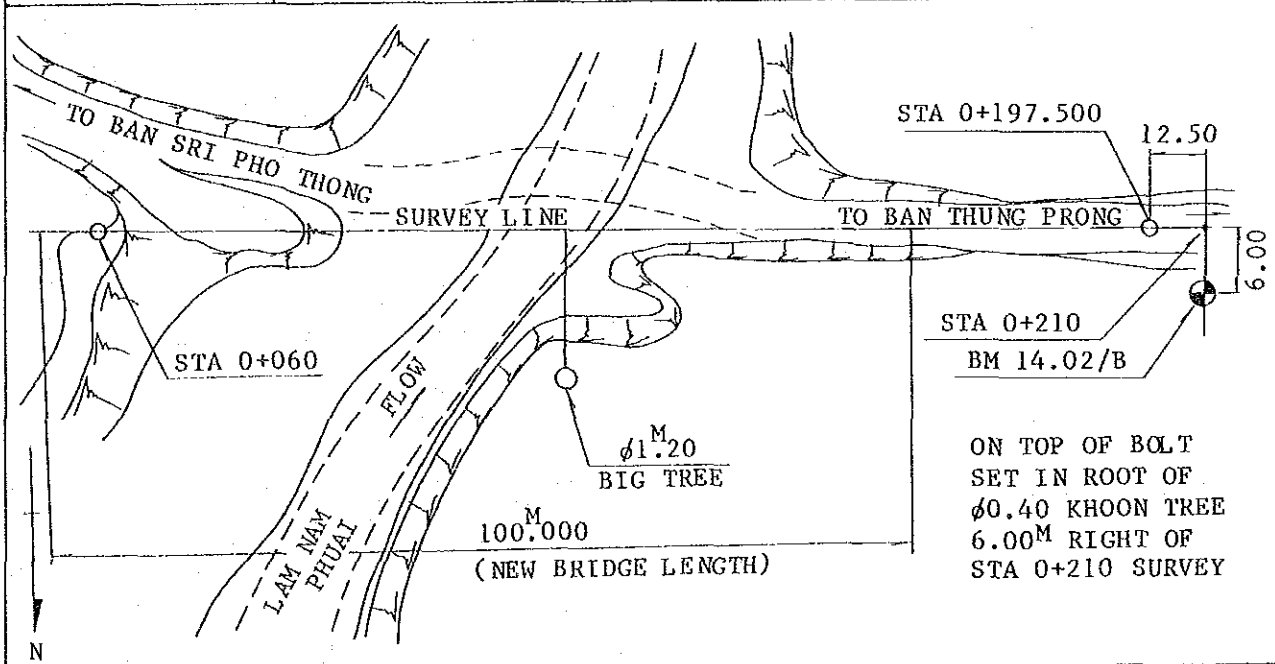


DESCRIPTION OF BM-POINT
 14.02 Lam Nam Phuai (Udon Thani)

BM. NO.	BM 14.02/A
DATE ESTABLISHED	17, FEBRUARY 1989
ELEVATION	100.000 ^M (ASSUMED)

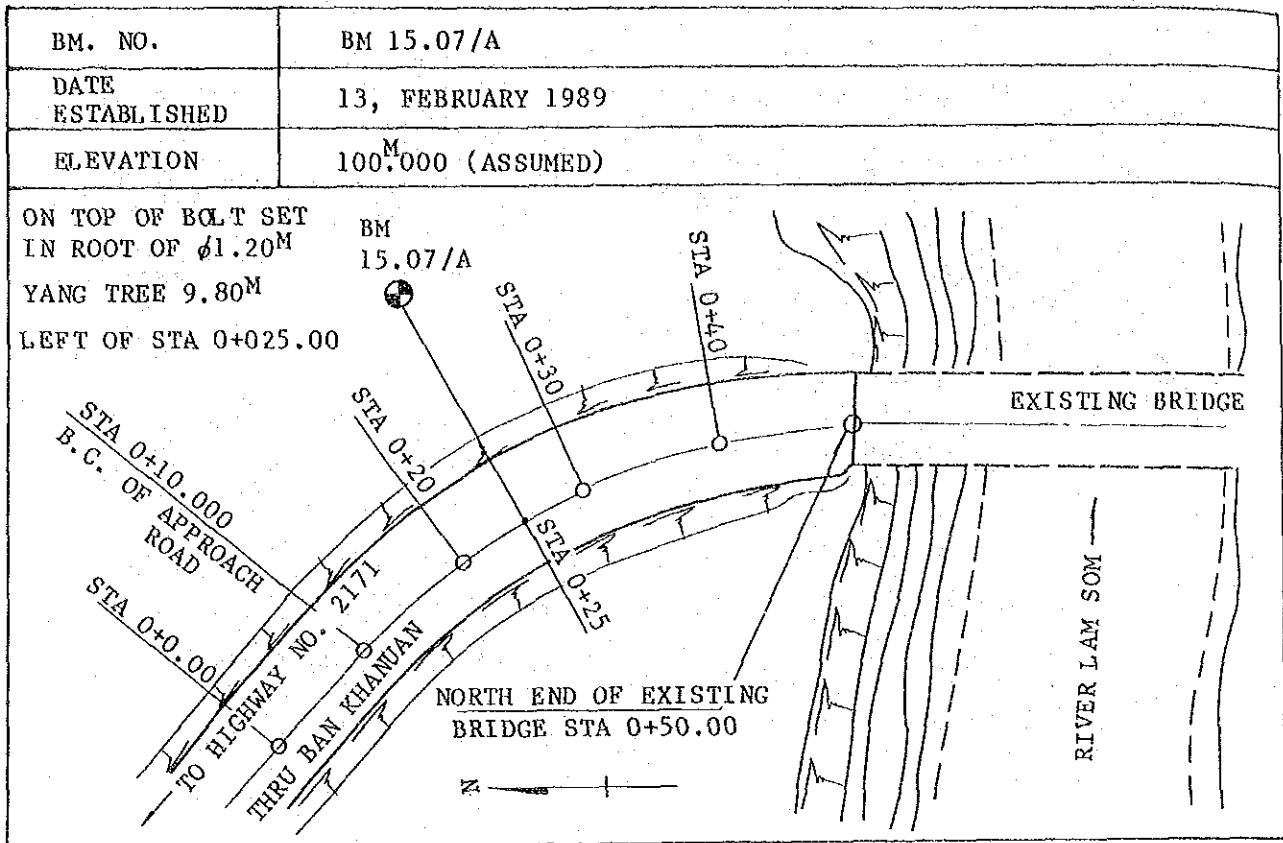


BM. NO.	BM 14.02/B
DATE ESTABLISHED	17, FEBRUARY
ELEVATION	99.979 ^M



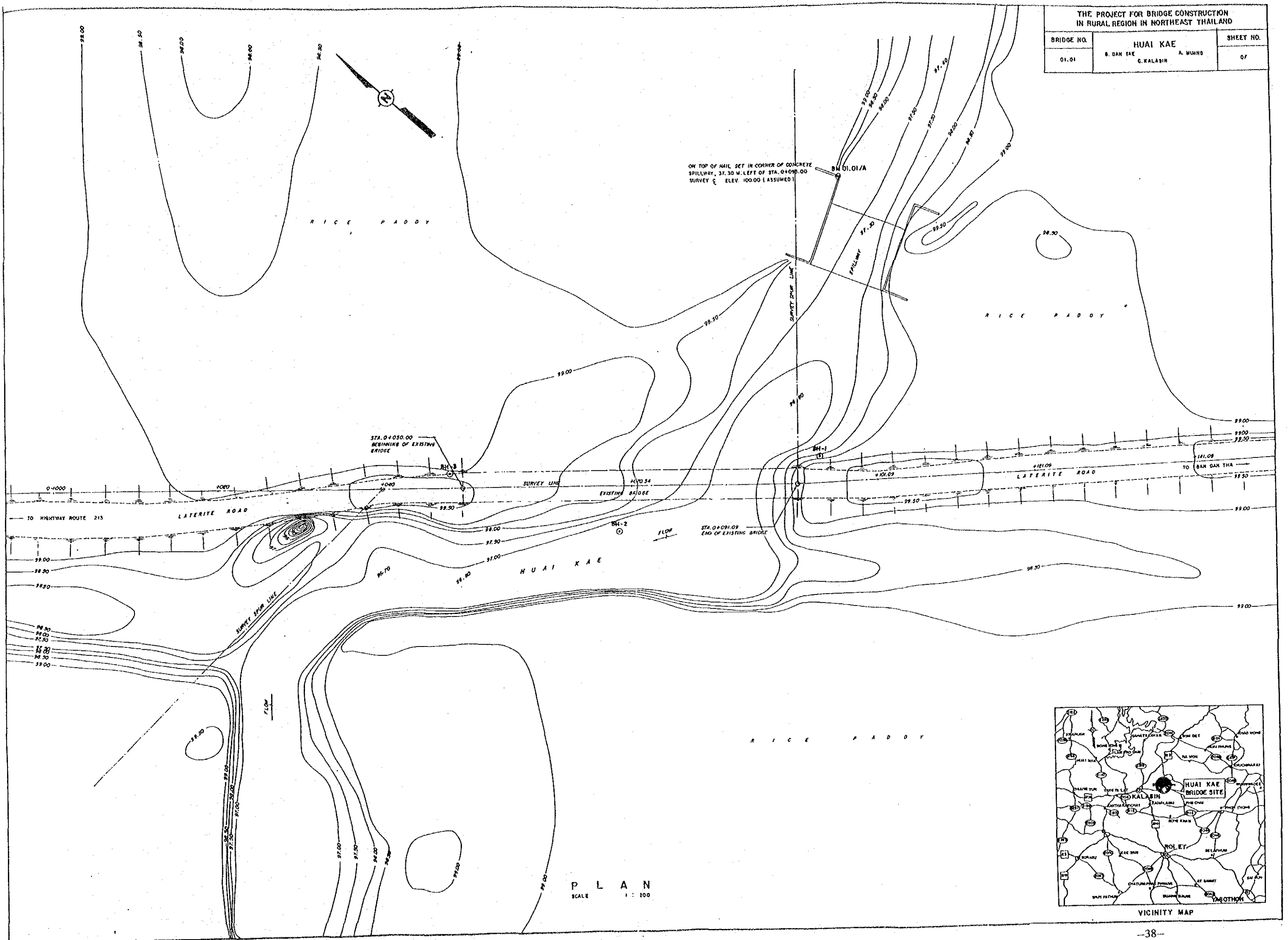
DESCRIPTION OF BM-POINT

15.07 Lam Som (No. 1) Ubon Ratschathani)



THE PROJECT FOR BRIDGE CONSTRUCTION
IN RURAL REGION IN NORTHEAST THAILAND

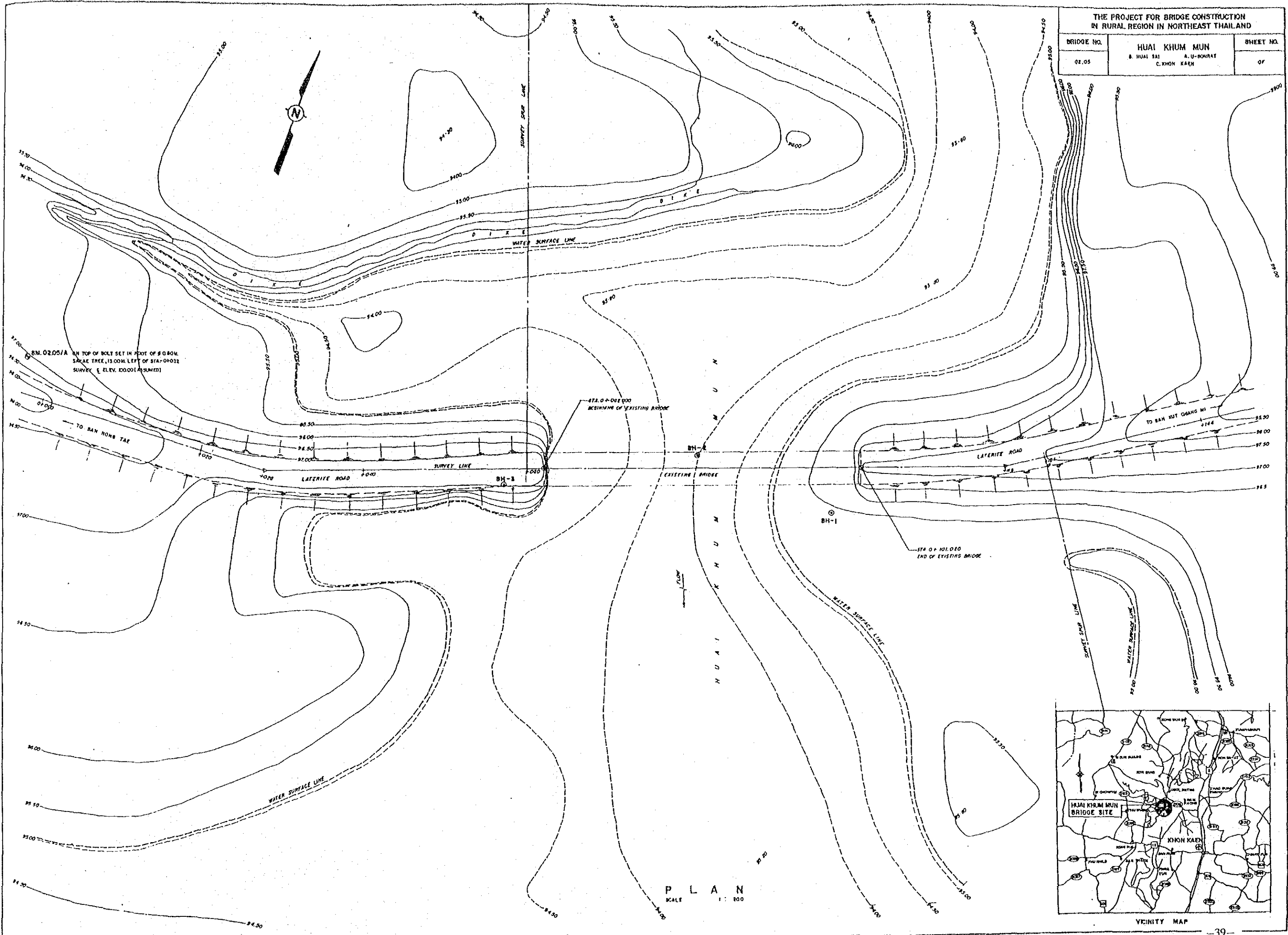
BRIDGE NO.	HUAI KAE		SHEET NO.
01.01	B. DAN YAE	A. MUANG	07
	C. KALASIN		



P L A N
SCALE 1 : 100

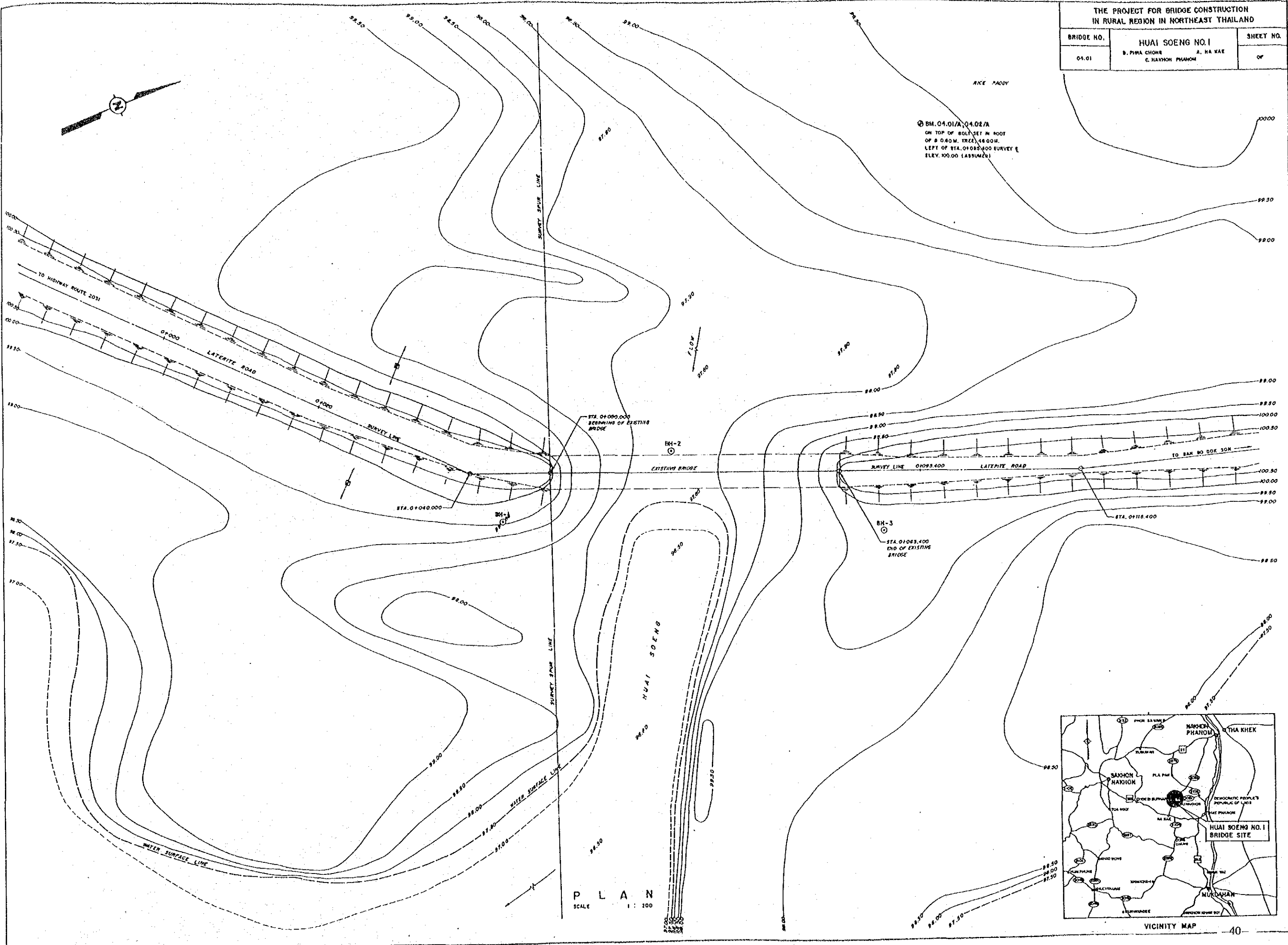
THE PROJECT FOR BRIDGE CONSTRUCTION
IN RURAL REGION IN NORTHEAST THAILAND

BRIDGE NO.	HUAI KHUM MUN	SHEET NO.
02.05	B. HUAI SAI A. U-SORRAT C. KHON KAEN	07

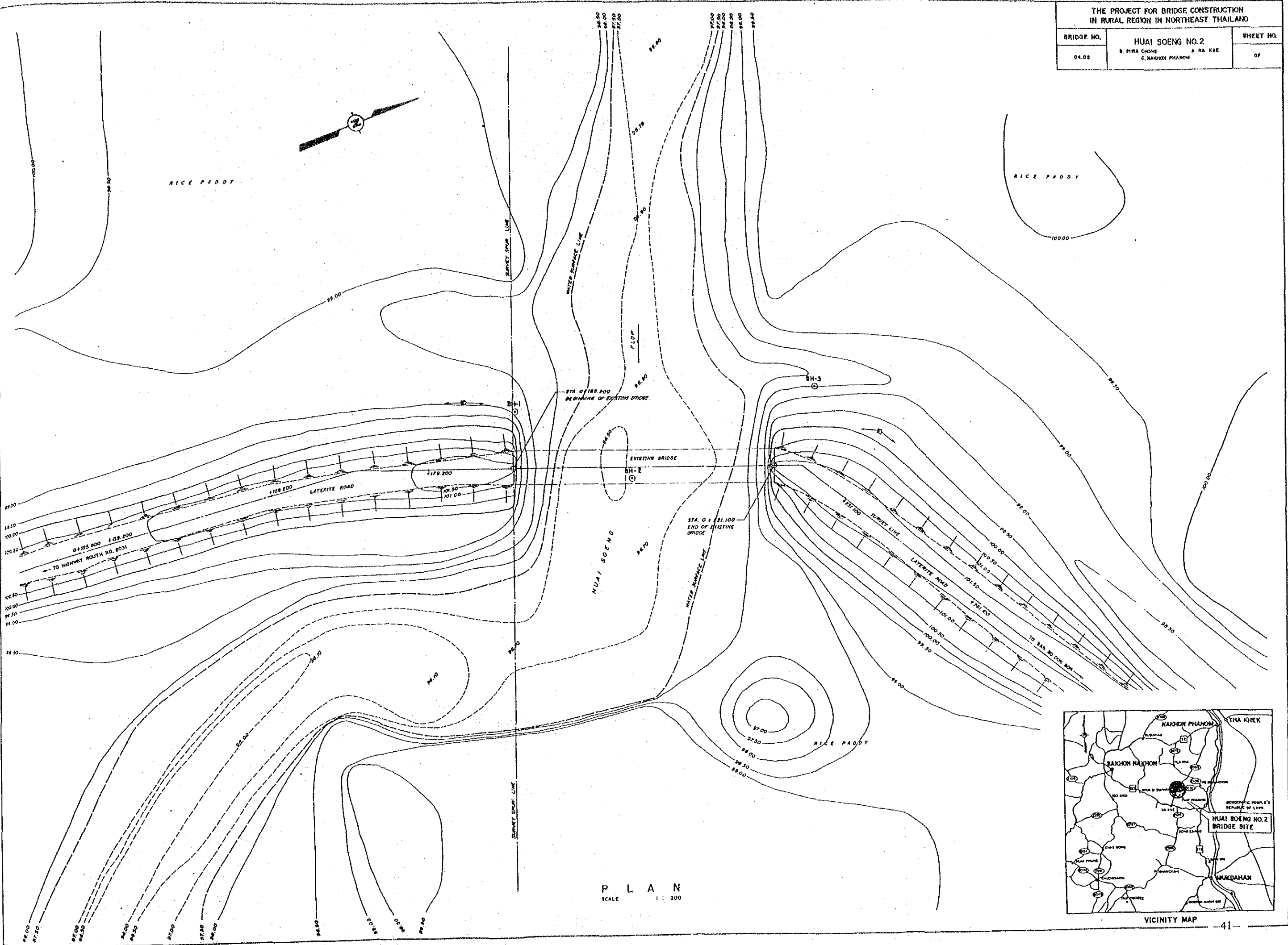


P L A N
SCALE 1:1000

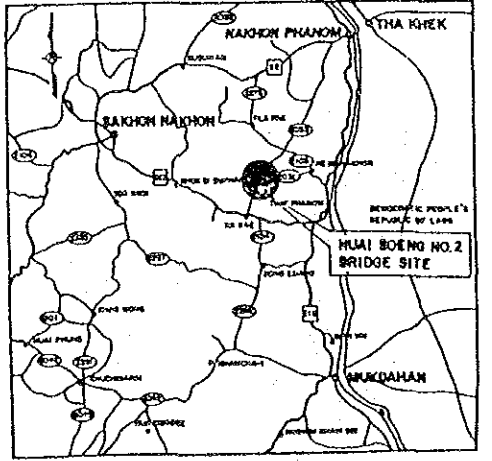
THE PROJECT FOR BRIDGE CONSTRUCTION IN RURAL REGION IN NORTHEAST THAILAND		
BRIDGE NO.	HUAI SOENG NO.1	SHEET NO.
04.01	B. PHRA CHONG A. HA KAE C. KHANOH PHANOM	OF



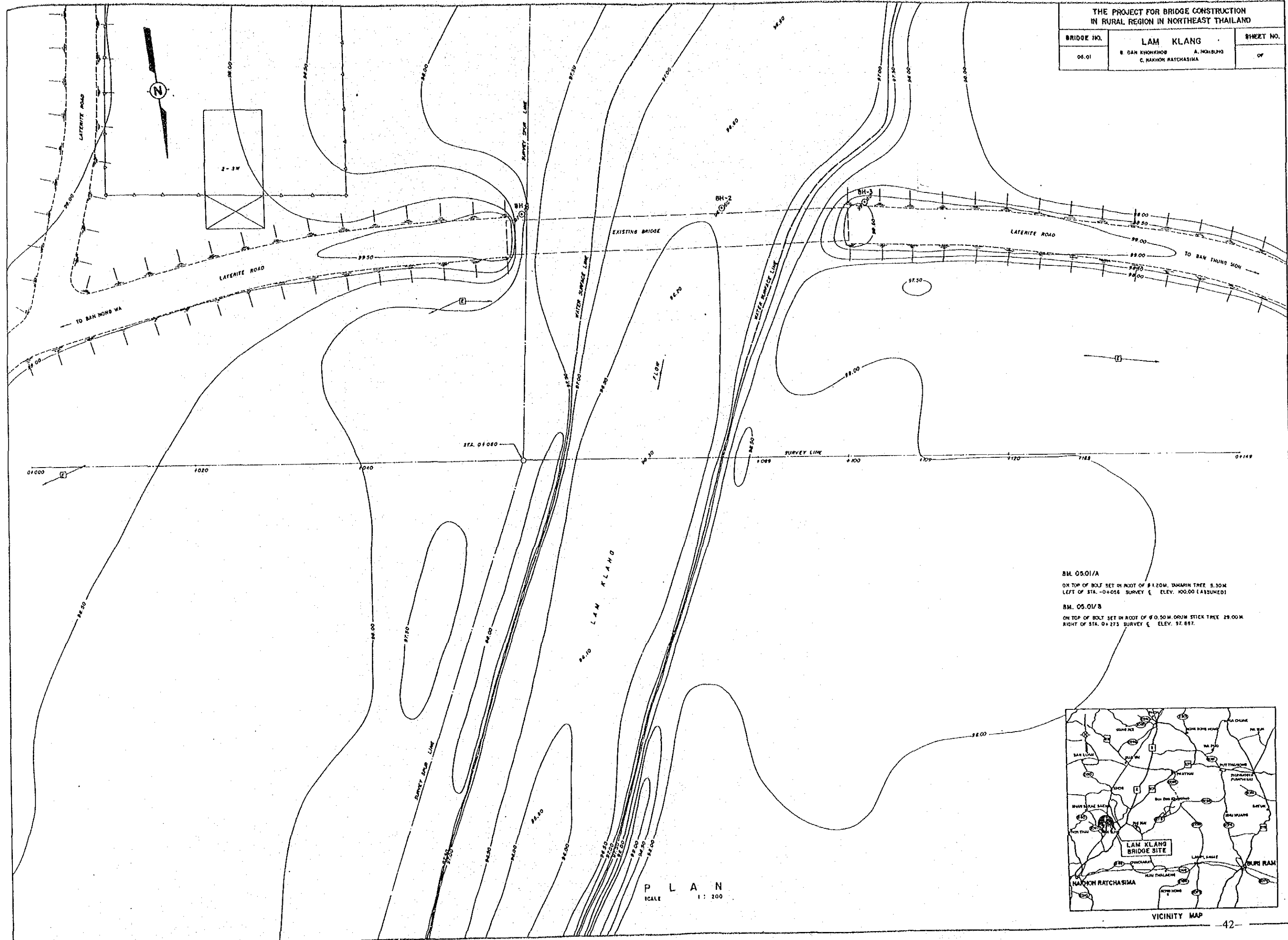
THE PROJECT FOR BRIDGE CONSTRUCTION IN RURAL REGION IN NORTHEAST THAILAND		
BRIDGE NO.	HUAI SOENG NO.2	SHEET NO.
04.02	B. PHA CHONG A. RA KAE C. NAKZEN PHANOM	07



P L A N
SCALE 1 : 200

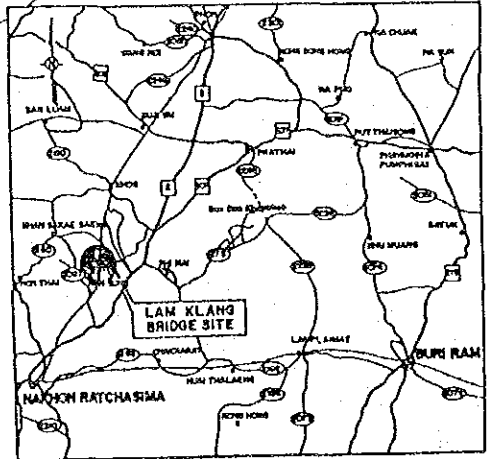


THE PROJECT FOR BRIDGE CONSTRUCTION IN RURAL REGION IN NORTHEAST THAILAND		
BRIDGE NO.	LAM KLANG	SHEET NO.
05.01	B. DAN KHONKHOB A. NOKHLUNG C. NAKHON RATCHASIMA	OF



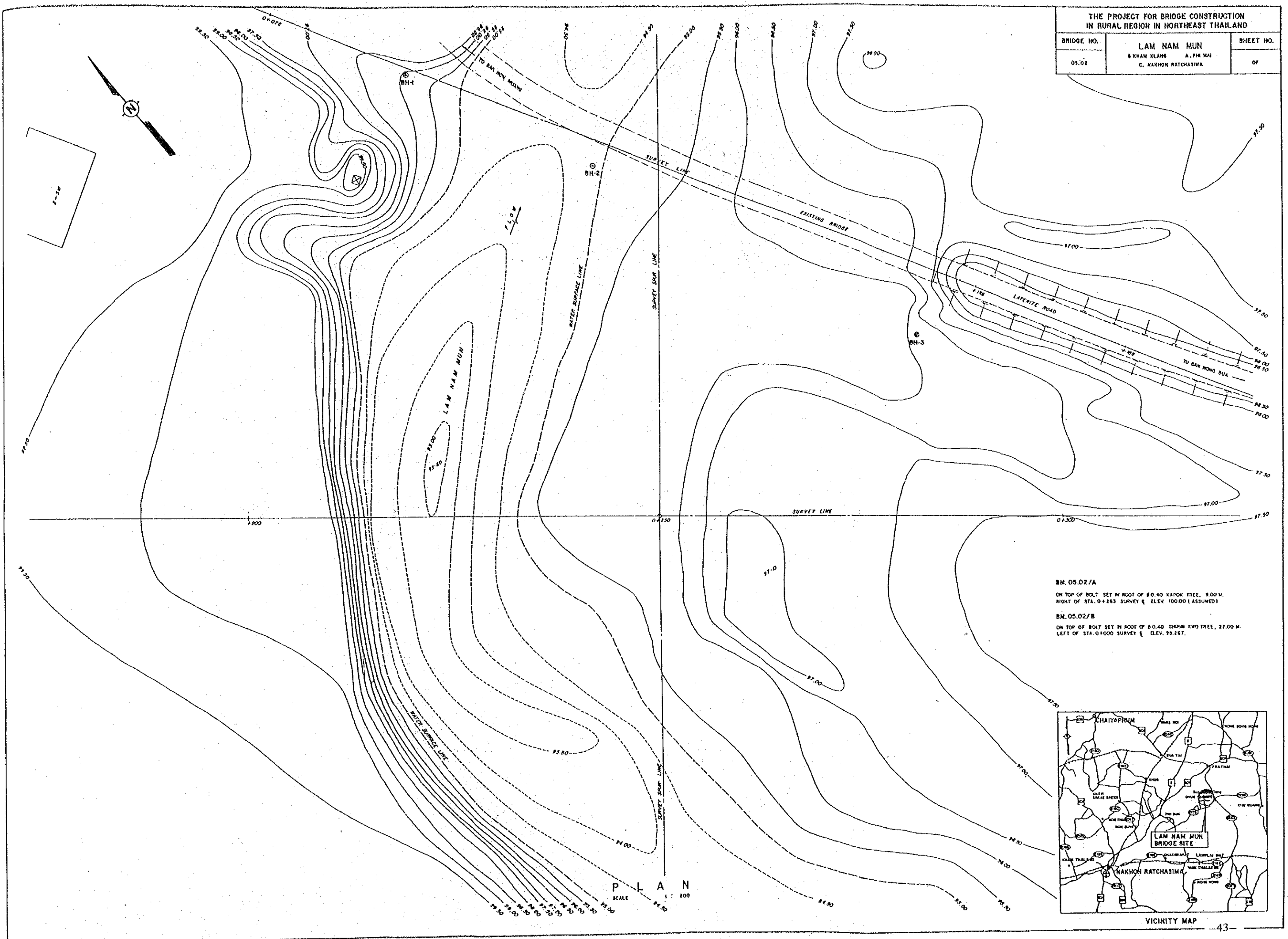
BM. 05.01/A
ON TOP OF BOLT SET IN ROOT OF 8.120M. TAMARIN TREE 5.30M
LEFT OF STA. 0+056 SURVEY ξ ELEV. 100.00 (ASSUMED)

BM. 05.01/B
ON TOP OF BOLT SET IN ROOT OF 9.0.50M DRUM STICK TREE 28.00M
RIGHT OF STA. 0+273 SURVEY ξ ELEV. 97.897



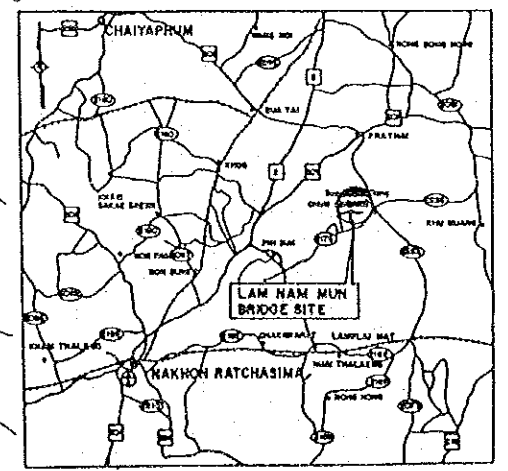
VICINITY MAP

THE PROJECT FOR BRIDGE CONSTRUCTION IN RURAL REGION IN NORTHEAST THAILAND		
BRIDGE NO.	LAM NAM MUN	SHEET NO.
05.02	B. KHAN KLANG A. PH. MAI C. NAKHON RATCHASIMA	07



BM. 05.02/A
 ON TOP OF BOLT SET IN ROOT OF 60.40 KAPOK TREE, 3.00 M.
 RIGHT OF STA. 0+253 SURVEY & ELEV. 100.00 (ASSUMED)

BM. 05.02/B
 ON TOP OF BOLT SET IN ROOT OF 60.40 THONG KWO TREE, 27.00 M.
 LEFT OF STA. 0+000 SURVEY & ELEV. 98.267.

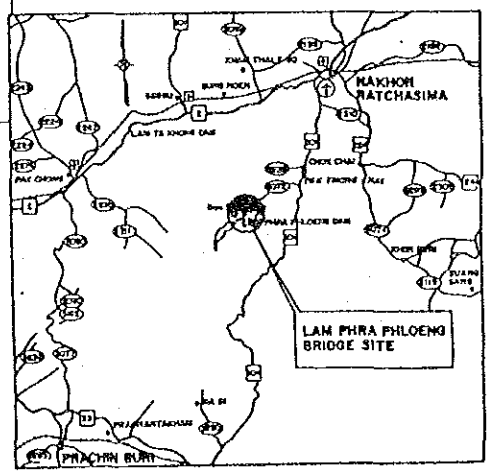


THE PROJECT FOR BRIDGE CONSTRUCTION IN RURAL REGION IN NORTHEAST THAILAND		
BRIDGE NO.	LAM PHRA PHLOENG	SHEET NO.
08.08	B. PHRA BUNG A. PHATHONGCHAI C. NAKHON RATCHASIMA	OF



BM. 0503/A
ON TOP OF STEEL BOLT SET IN FOOT
OF 80.30M JACK FRUIT TREE TRUNK
RIGHT OF STA. 0+022.000, ELEV. 90.000
(ASSUMED)

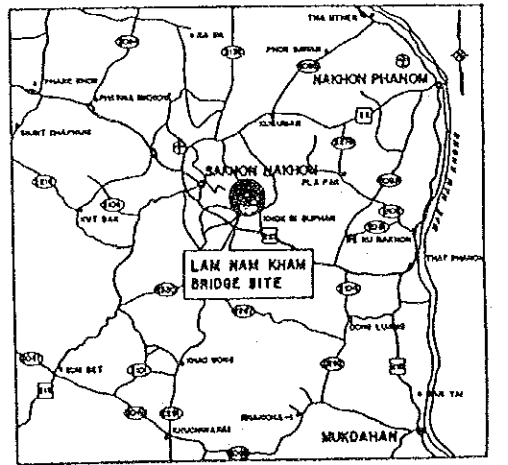
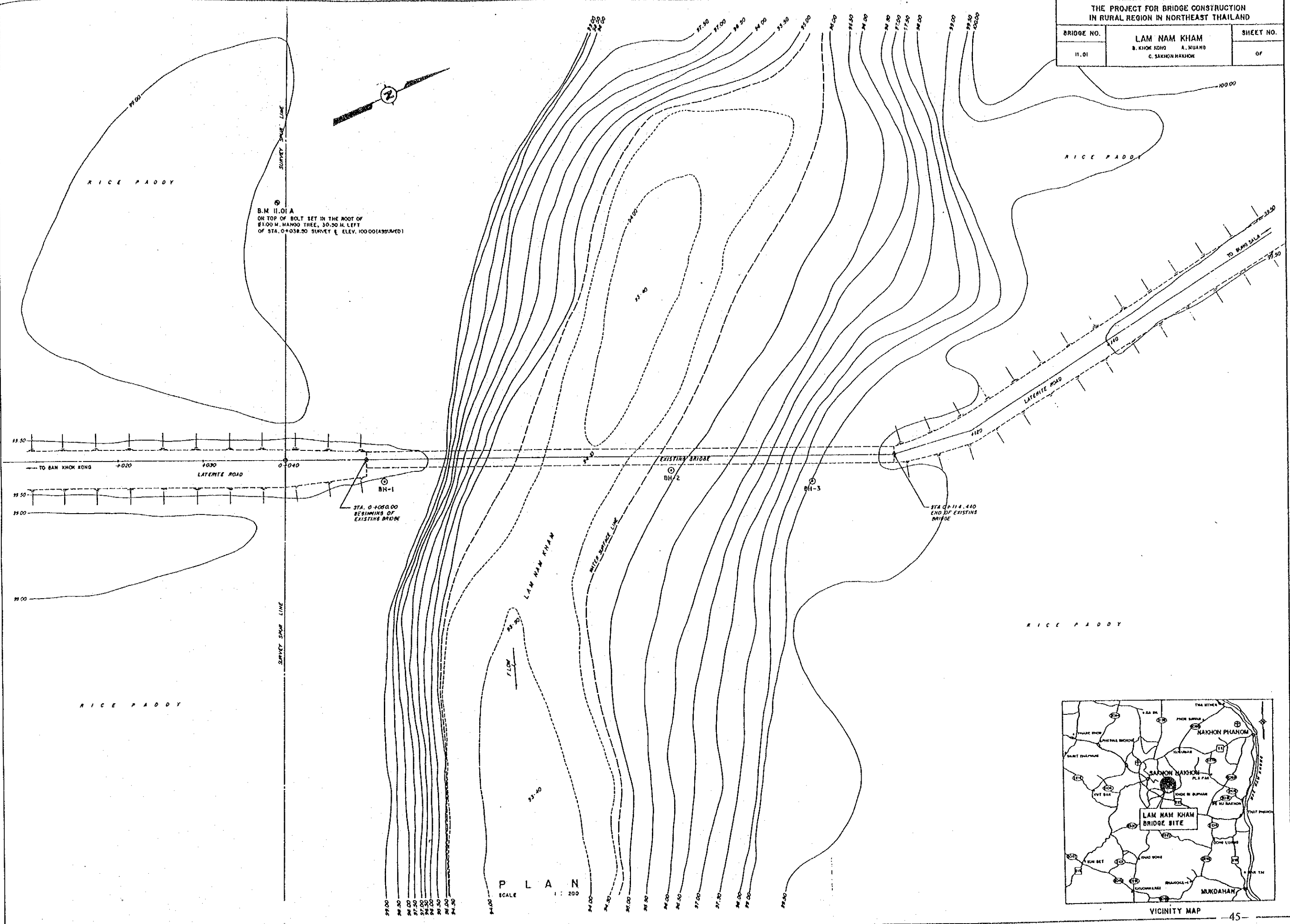
BM. 0503/B
ON TOP OF STEEL BOLT, IN FOOT OF
80.30M JACK FRUIT TREE, 8.50M RIGHT
OF STA. 0+148.500, ELEV. 90.000 (ASSUMED)



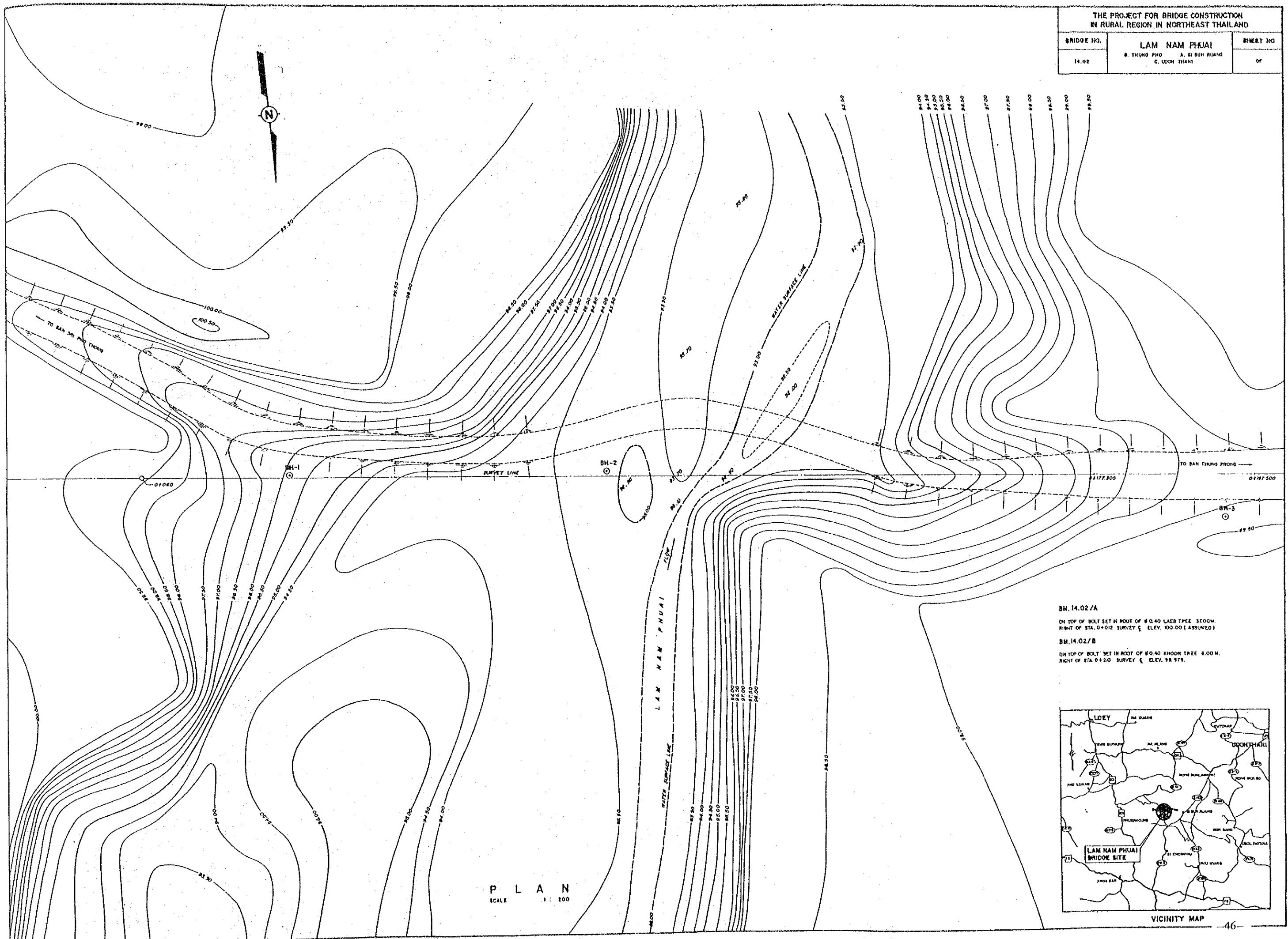
VICINITY MAP

PLAN
SCALE 1:200

THE PROJECT FOR BRIDGE CONSTRUCTION IN RURAL REGION IN NORTHEAST THAILAND		
BRIDGE NO.	LAM NAM KHAM	SHEET NO.
11.01	B. KHOK KHONG A. MUANG C. SAKHON HAKHON	OF

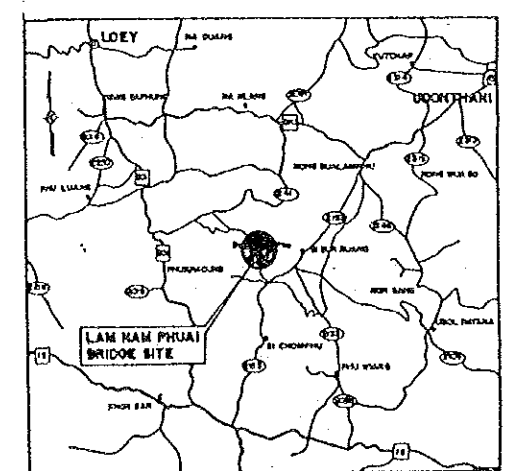


THE PROJECT FOR BRIDGE CONSTRUCTION IN RURAL REGION IN NORTHEAST THAILAND		
BRIDGE NO.	LAM NAM PHUAI	SHEET NO.
14.02	B. THUNG PHO A. SI BUN RUMANG C. UOON THIANI	OF



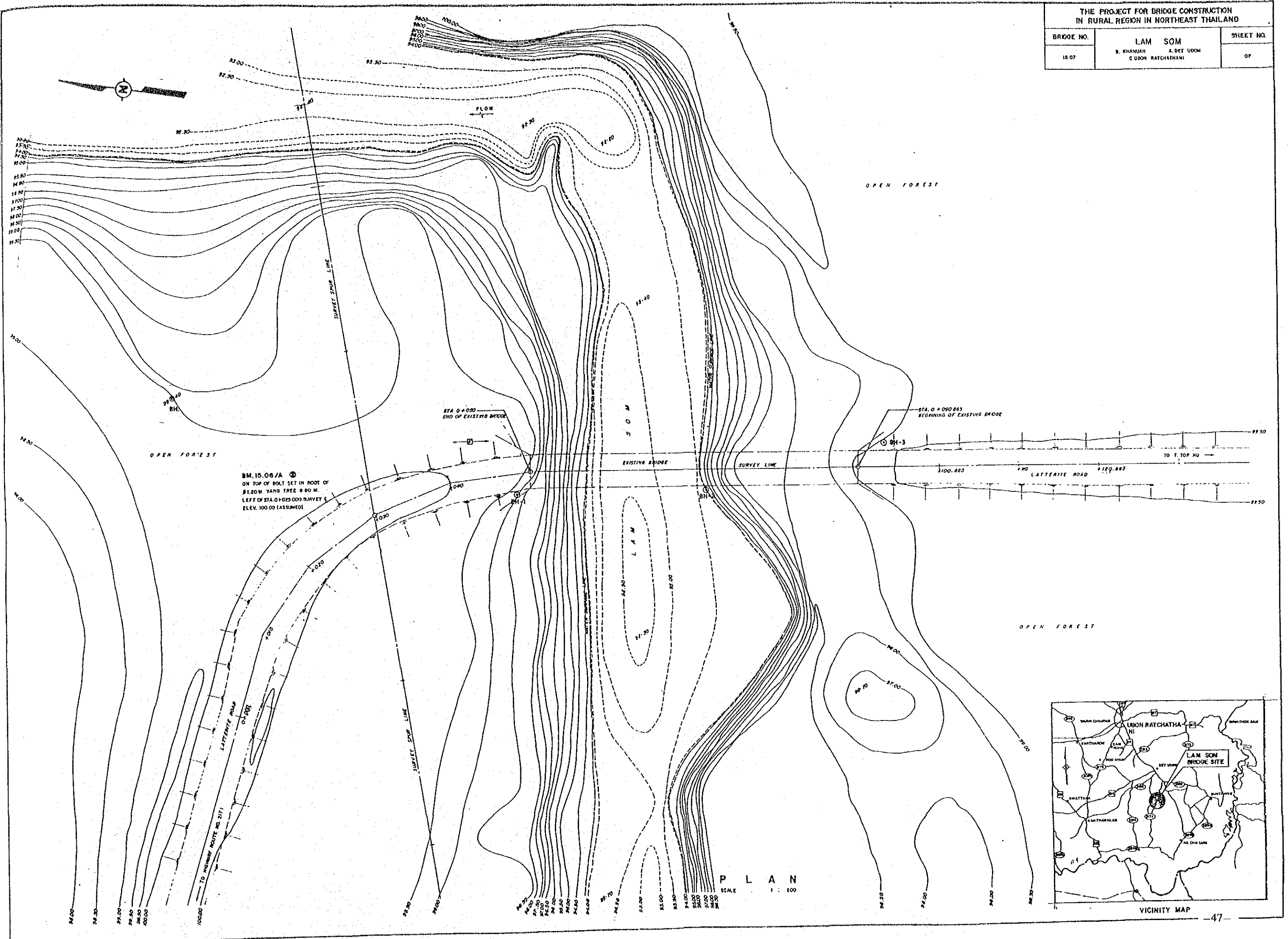
BH.14.02/A
ON TOP OF BOLT SET IN ROOT OF 60.40 LAEB TREE 37.00M.
RIGHT OF STA. 0+012 SURVEY (ELEV. 100.00 (ASSUMED))

BH.14.02/B
ON TOP OF BOLT SET IN ROOT OF 60.40 KHOOH TREE 6.00 M.
RIGHT OF STA. 0+210 SURVEY (ELEV. 98.978)



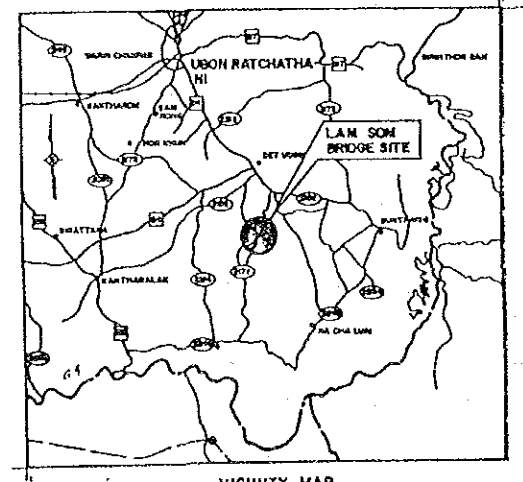
VICINITY MAP 46

THE PROJECT FOR BRIDGE CONSTRUCTION IN RURAL REGION IN NORTHEAST THAILAND		
BRIDGE NO.	LAM SOM	SHEET NO.
18.07	S. KHANSAH A. DET UDOM C. UDOM RATCHATHANI	OF



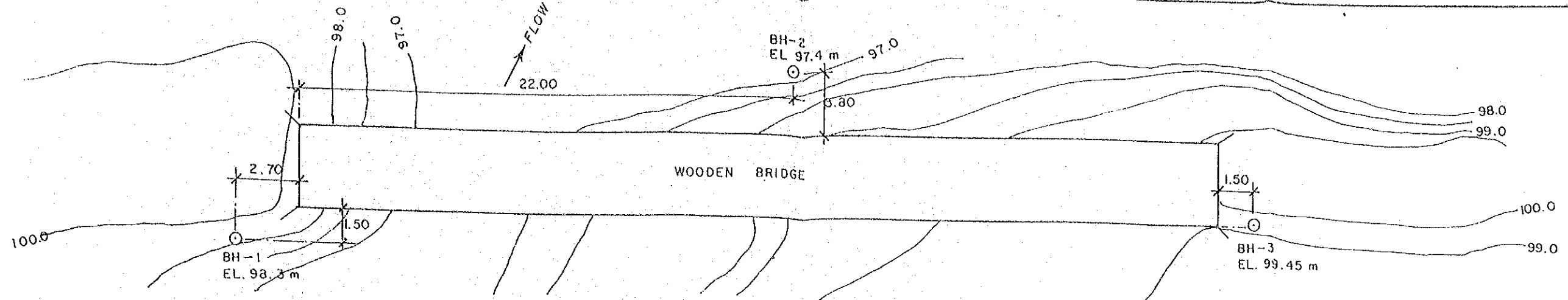
BM. 10.06/A
ON TOP OF BOLT SET IN FOOT OF
91.80 M. YANG TREE 9.80 M.
LEFT OF STA. 0+025.000 SURVEY C.
ELEV. 100.00 (ASSUMED)

P L A N
SCALE 1 : 100

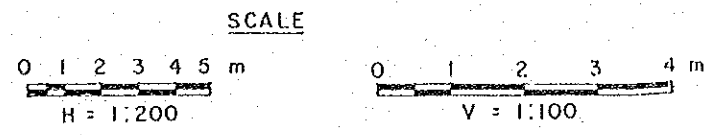
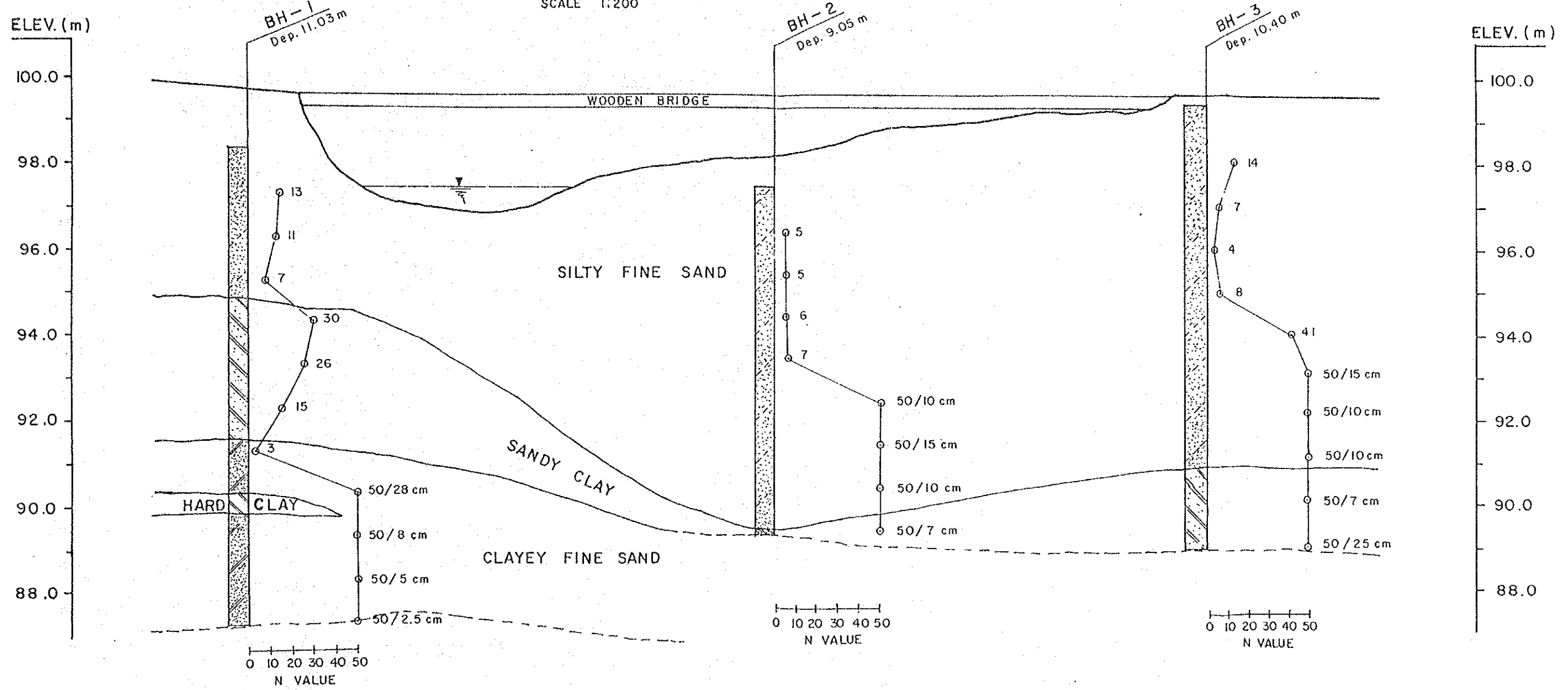


APPENDIX 5

Geological Survey

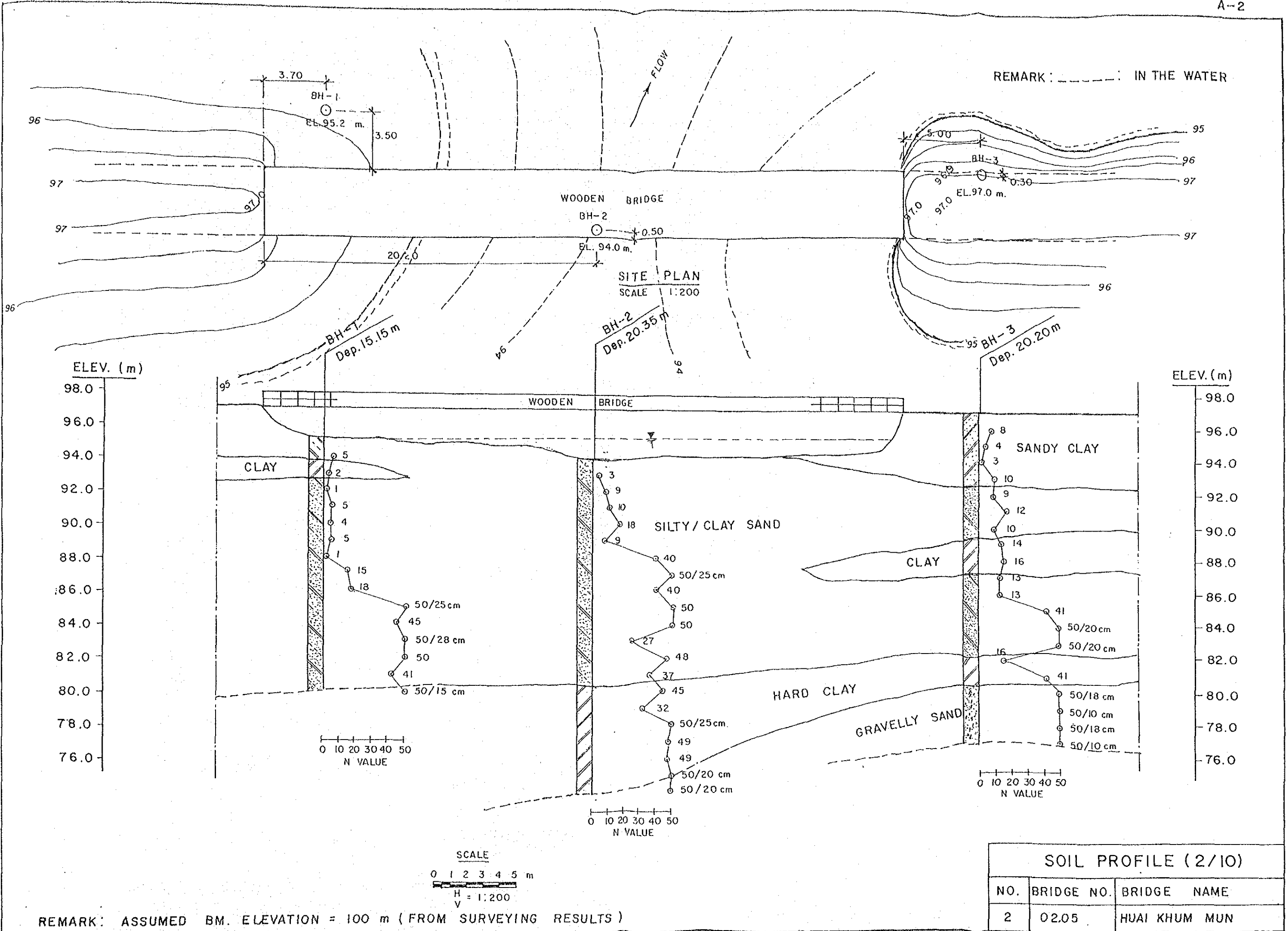


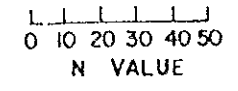
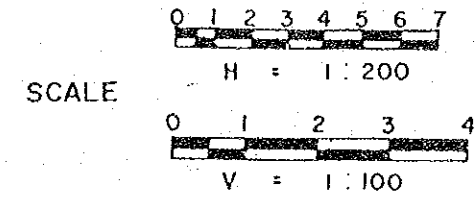
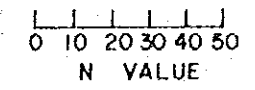
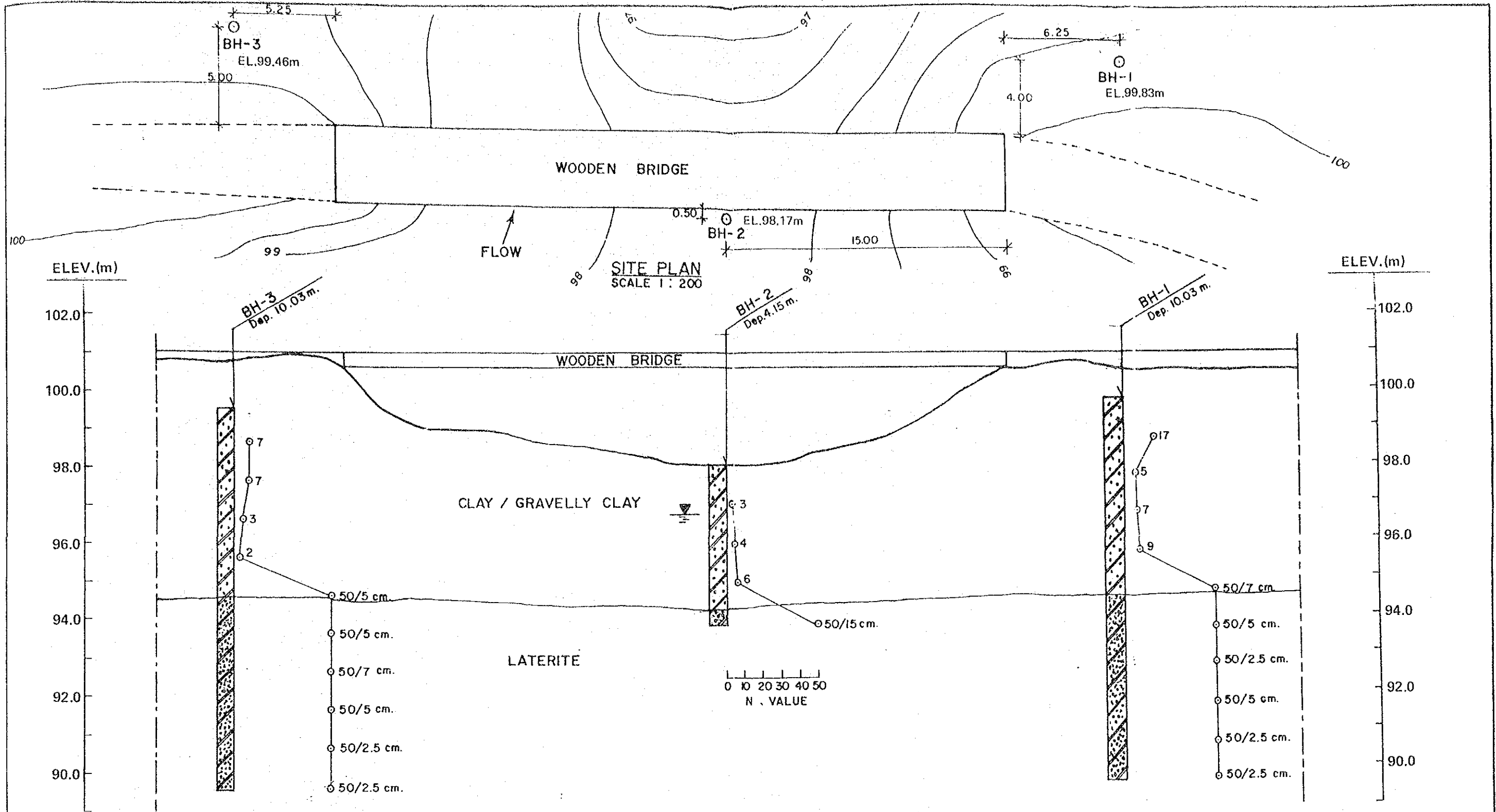
SITE PLAN
SCALE 1:200



REMARK: ASSUMED BM. ELEVATION = 100 m (FROM SURVEYING RESULTS)

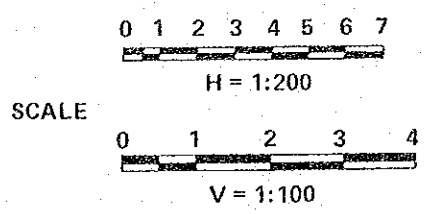
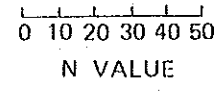
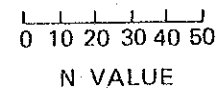
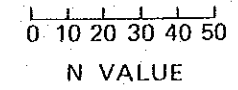
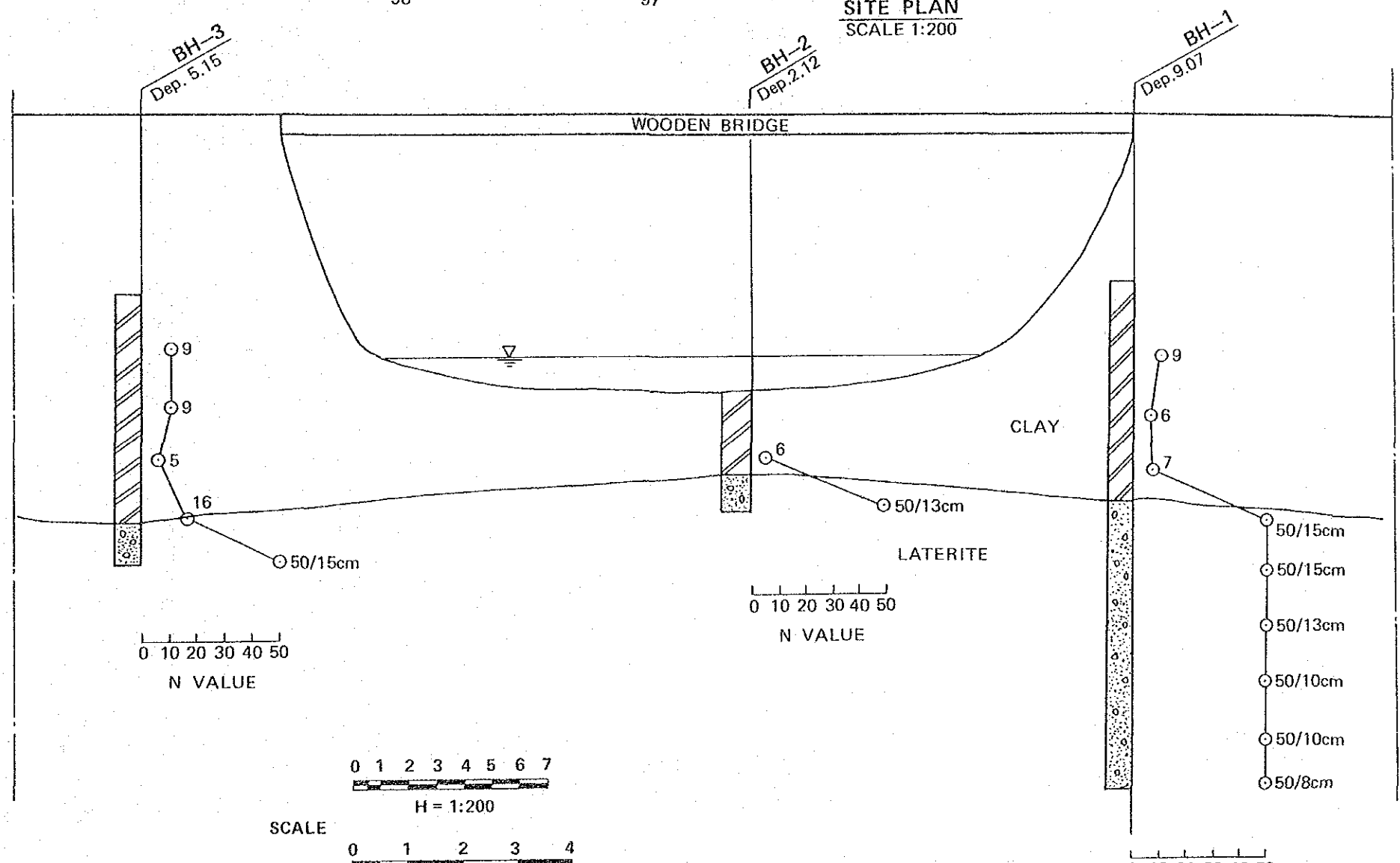
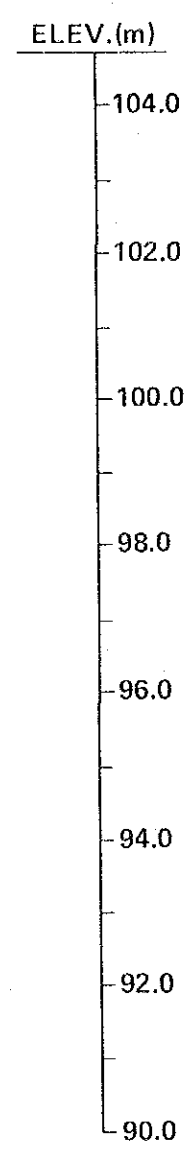
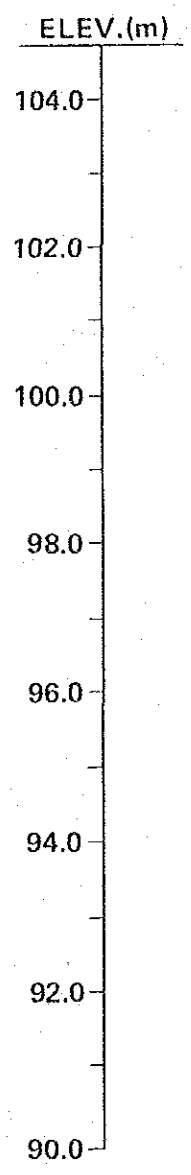
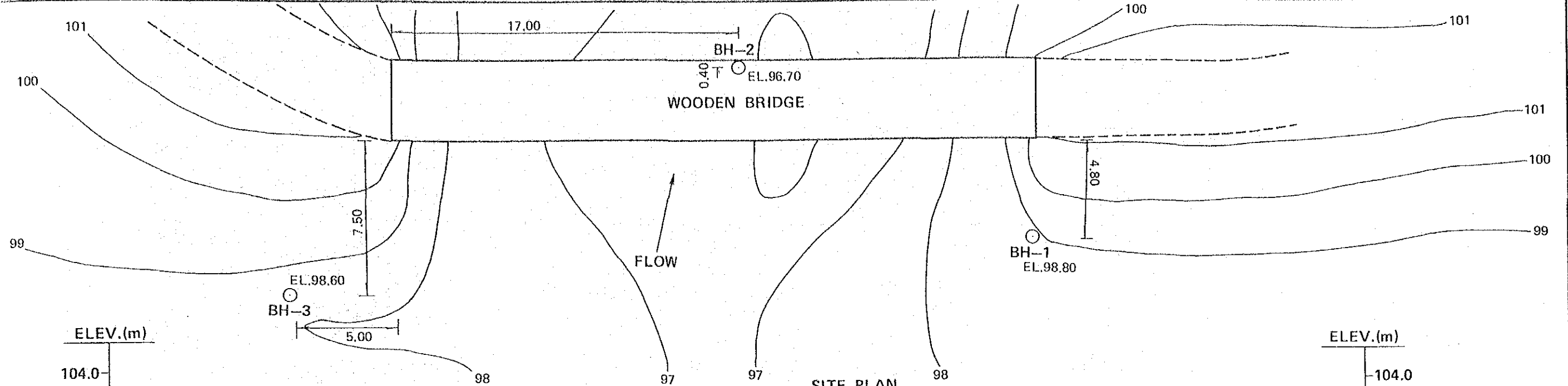
SOIL PROFILE (1/10)		
NO.	BRIDGE NO.	BRIDGE NAME
I	01.01	HUAI KAE





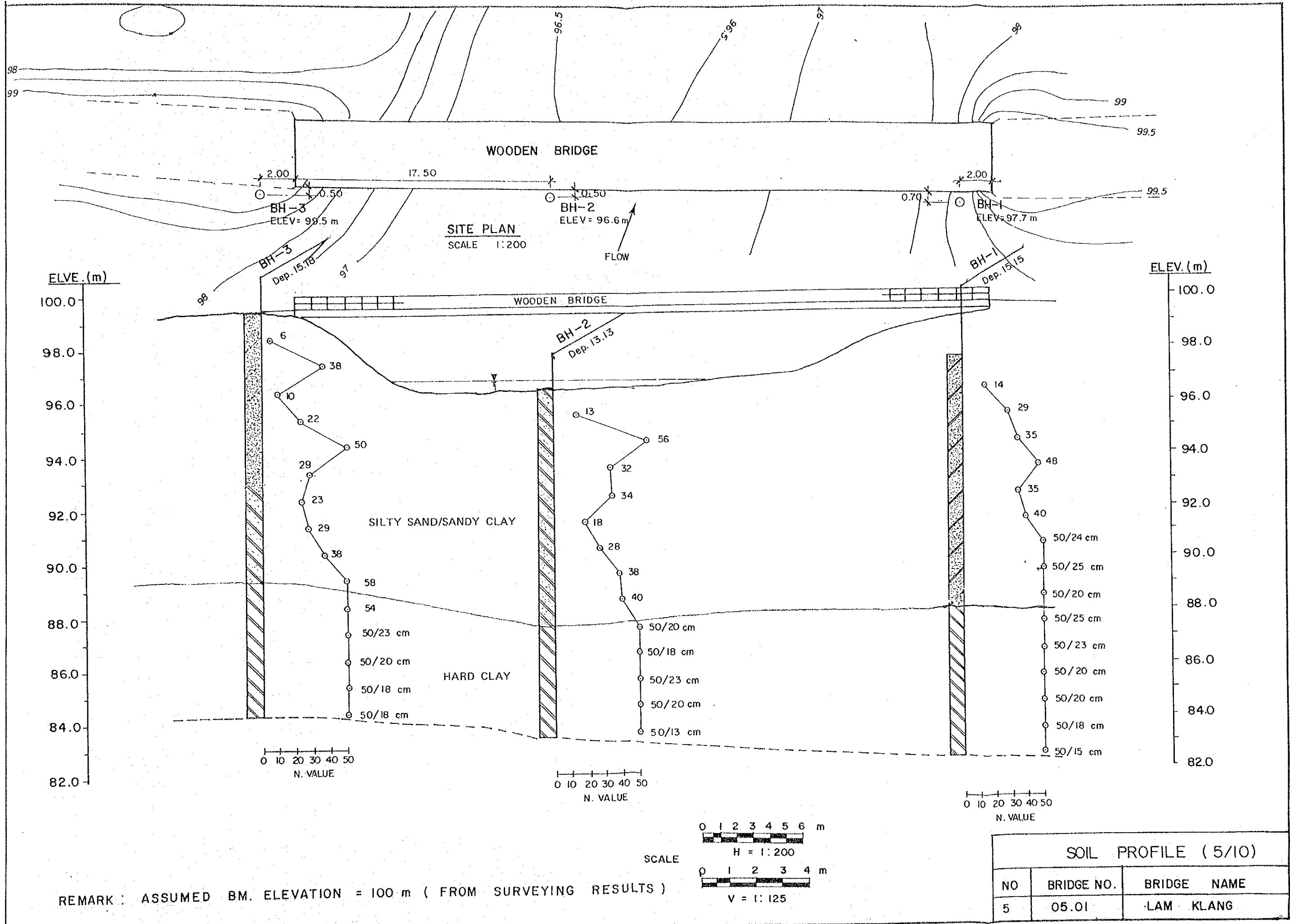
REMARK: ASSUMED BM. ELEVATION = 100 m (FROM SURVEYING RESULTS)

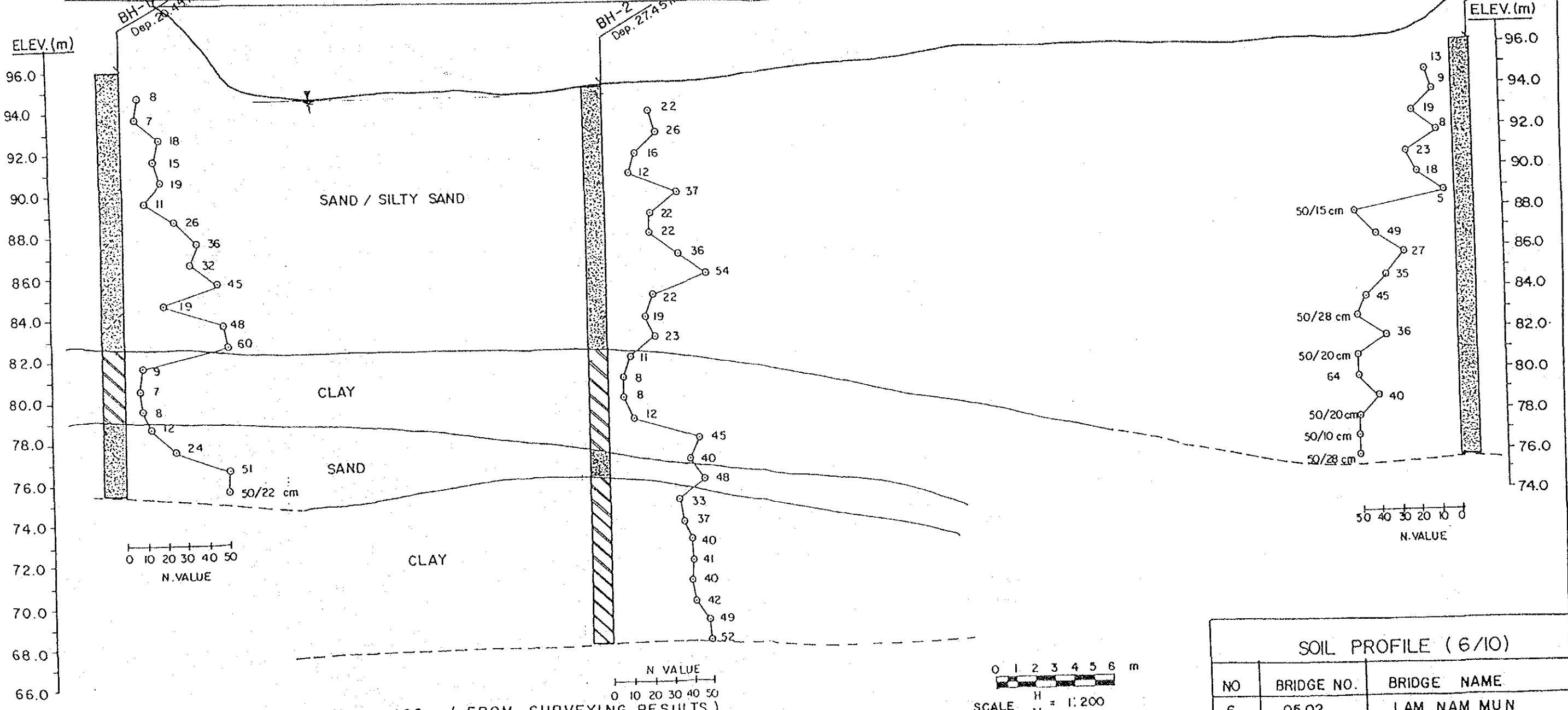
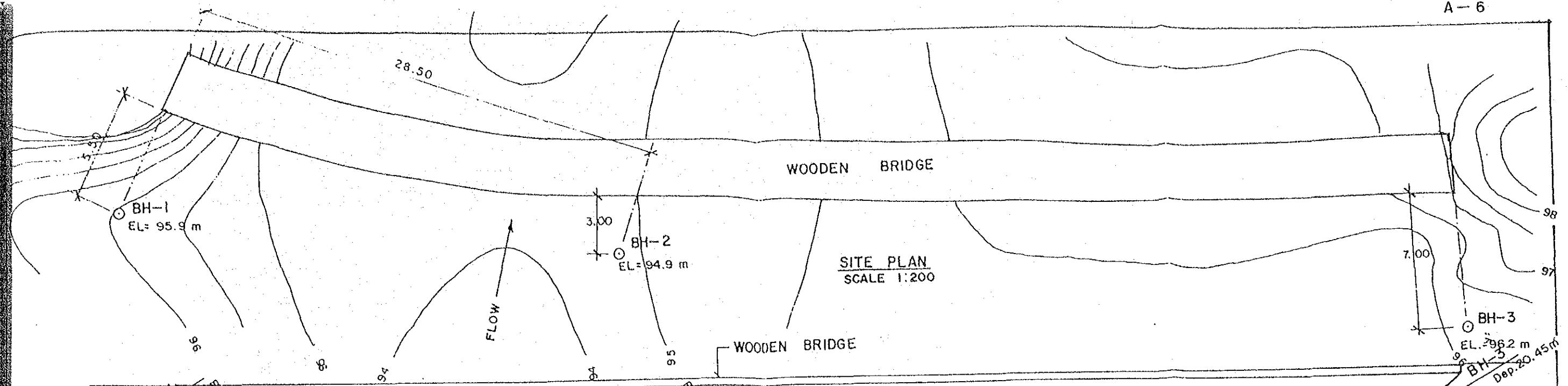
SOIL PROFILE (3/10)		
NO.	BRIDGE NO.	BRIDGE NAME
3	04.01	HUAI SOENG NO.1



REMARK: ASSUMED BM. ELEVATION = 100m (FROM SURVEYING RESULTS)

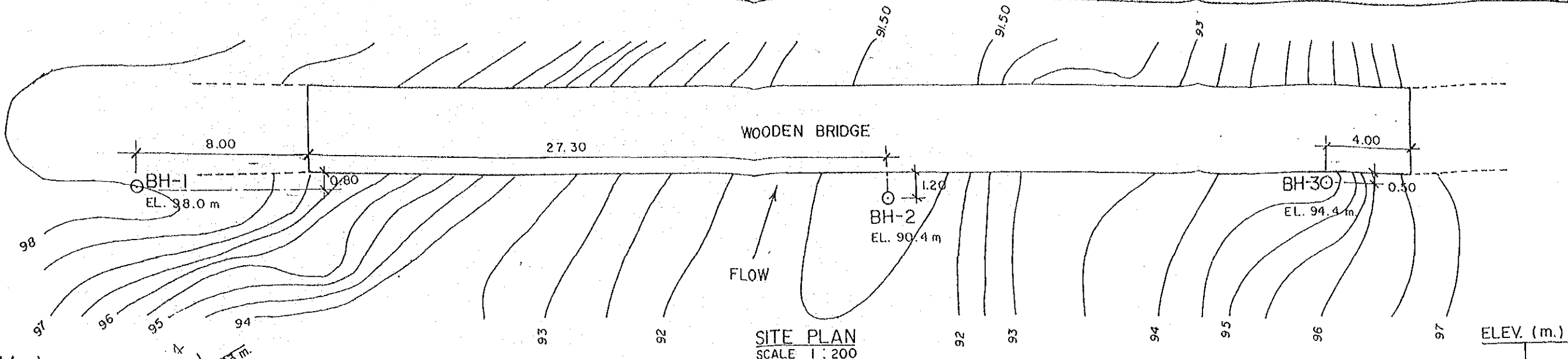
SOIL PROFILE (4/10)		
NO	BRIDGE NO	BRIDGE NAME
4	04.02	HUAI SOENG NO. 2



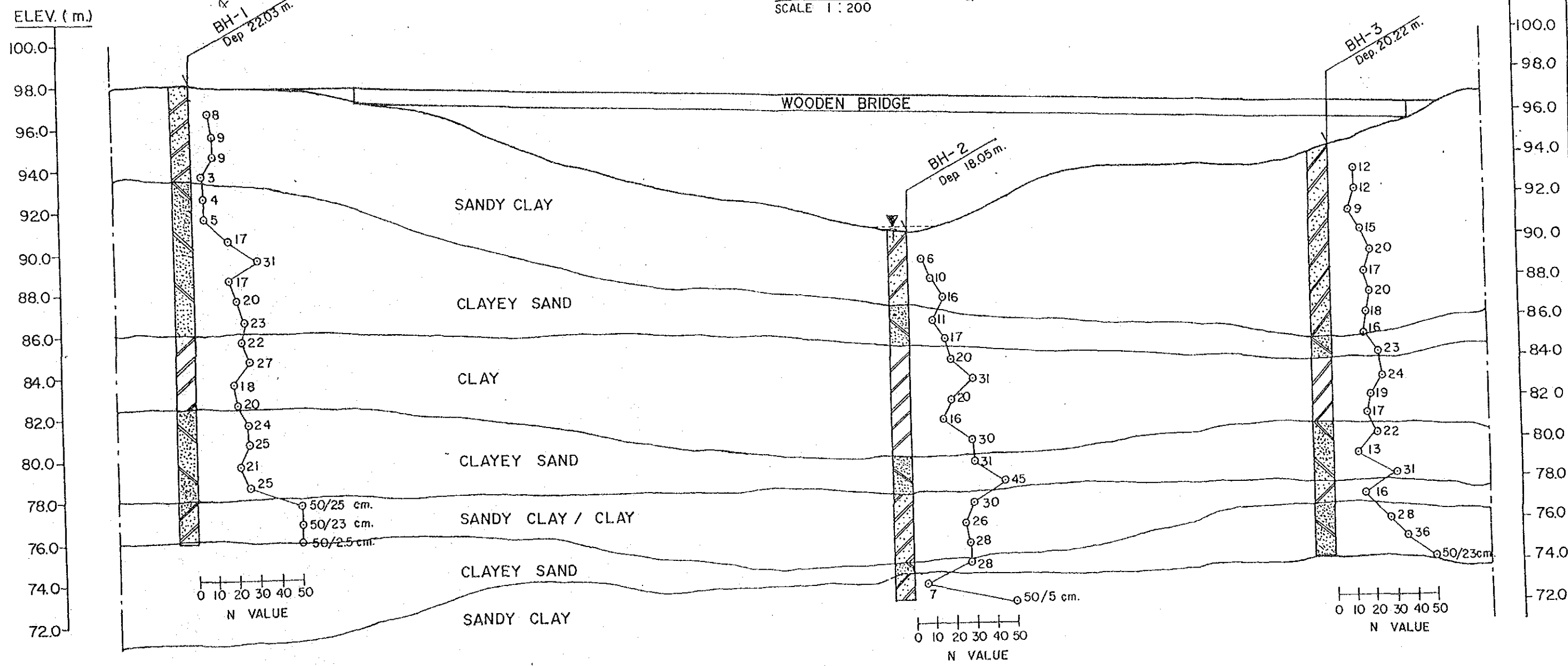


REMARK: ASSUMED BM. ELEVATION = 100 m (FROM SURVEYING RESULTS)

SOIL PROFILE (6/10)		
NO	BRIDGE NO.	BRIDGE NAME
6	05.02	LAM NAM MUN



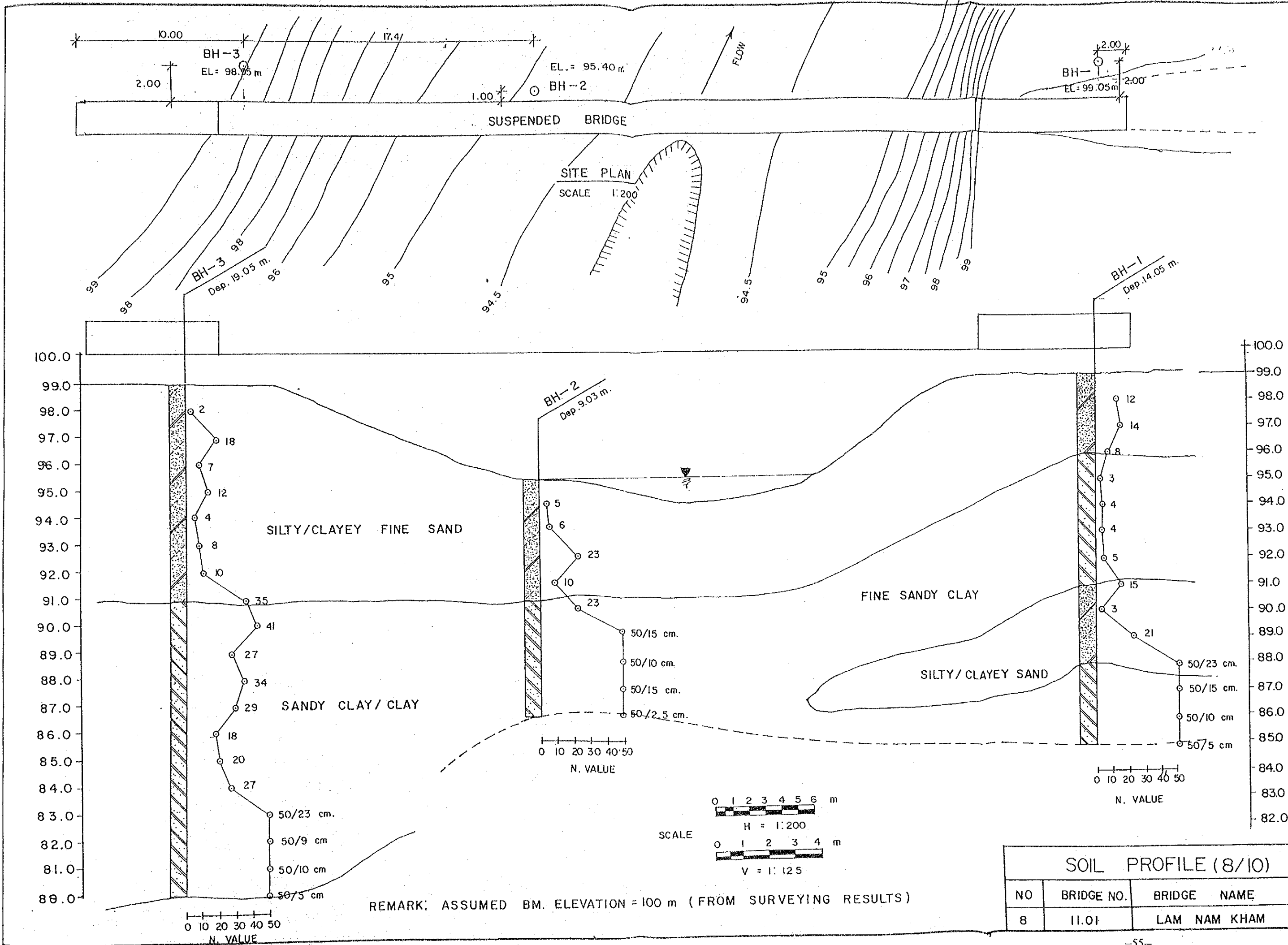
SITE PLAN
SCALE 1 : 200



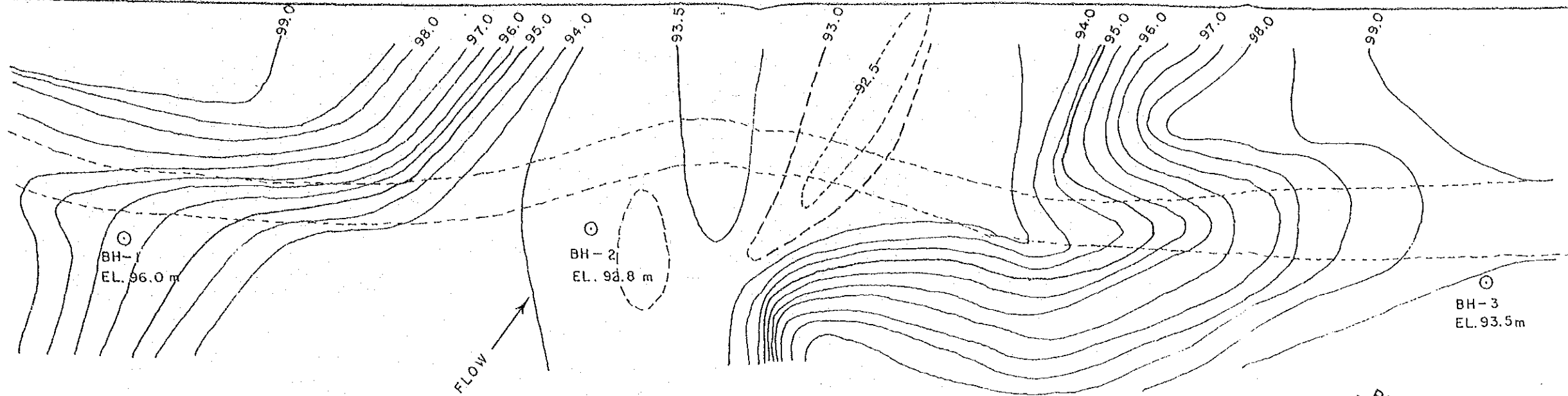
SCALE
H = 1 : 200

REMARK: ASSUMED BM. ELEVATION = 100 m (FROM SURVEYING RESULTS)

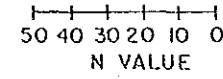
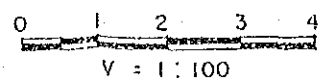
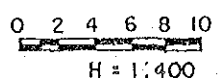
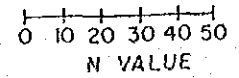
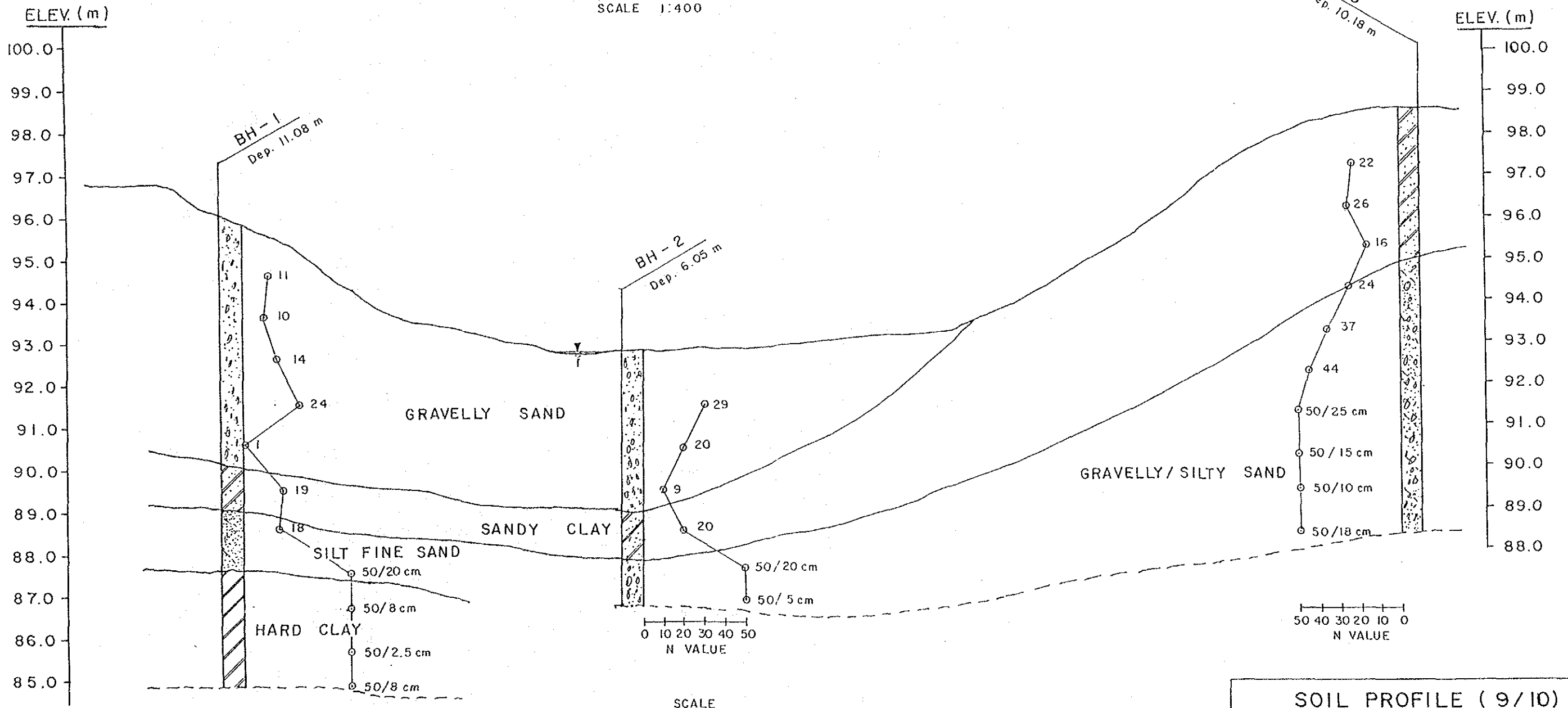
SOIL PROFILE (7/10)		
NO.	BRIDGE NO.	BRIDGE NAME
7	05.03.	LAM PHRA PLOENG



SOIL PROFILE (8/10)		
NO	BRIDGE NO.	BRIDGE NAME
8	11.01	LAM NAM KHAM



SITE PLAN
SCALE 1:400



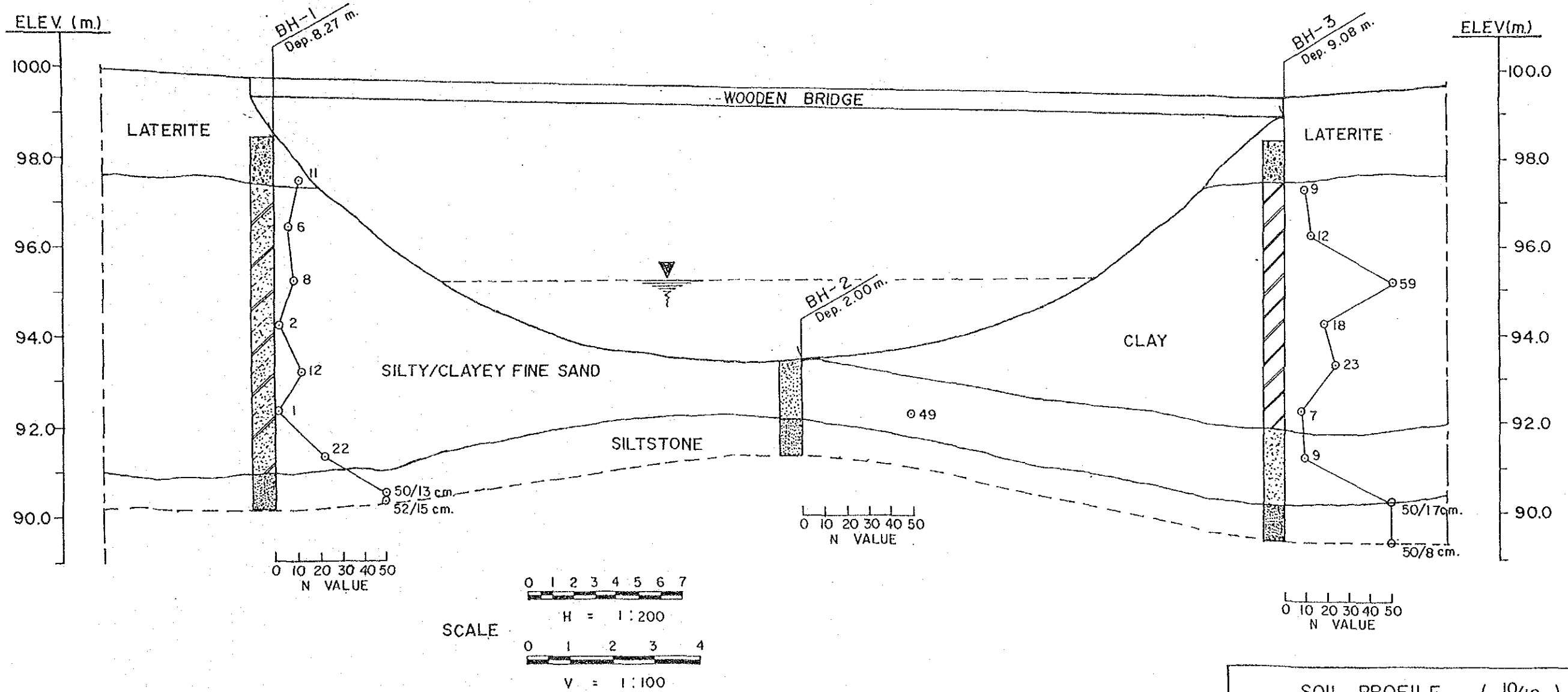
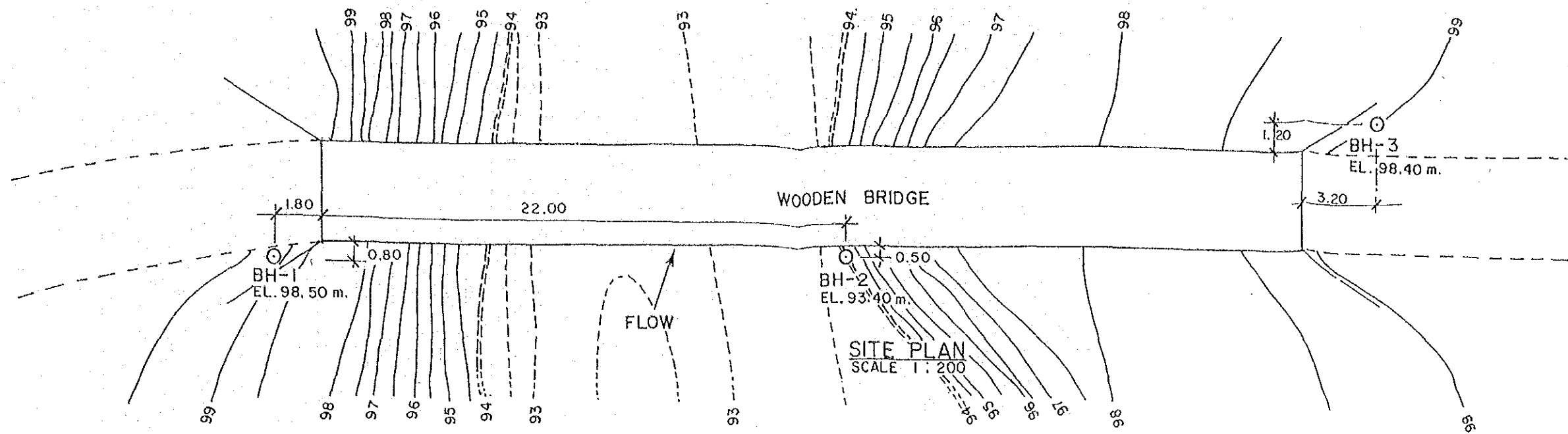
SCALE

H = 1:400

V = 1:100

SOIL PROFILE (9/10)		
NO.	BRIDGE NO.	BRIDGE NAME
9	14.02	LAM NAM PUI

REMARK: ASSUMED BM. ELEVATION = 100 m (FROM SURVEYING RESULTS)



REMARK: ASSUMED BM. ELEVATION = 100 m (FROM SURVEYING RESULTS)

SOIL PROFILE (10/10)		
NO.	BRIDGE NO.	BRIDGE NAME
10	15.07	LAM SOM NO.1

BORING LOG		BORING NO. <u>BH-1</u>		GROUND ELEV.(m.) <u>98.3</u>													
PROJECT <u>01.01 HUAI KAE</u>		DEPTH (m.) <u>11.03</u>		OBSERVED WL (m.) <u>-2.00</u>													
LOCATION <u>A. MUANG, KALASIN</u>		COORD. <u>-</u>		DATE STARTED <u>5/3/89</u>													
				DATE FINISHED <u>6/3/89</u>													
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N	PL	W _n	LL	S _u (t/m ²)				γ _t (t/m ³)				
					(blows / ft)	(%)	(%)	5	10	15	20	1.6	1.8	2.0			
LOOSE TO MEDIUM DENSE SILTY FINE SAND, LI-BROWN AND DARK BROWN (SM) (NO SALTY) 3.60	1		PA		13 (5,7)												
	2		PA		1 (5,6)												
	3		PA		7 (3,4)												
VERY STIFF FINE SANDY CLAY, GREYISH BROWN AND DARK BROWN (CL) (NO SALTY) 6.80	4		PA		30 (14,16)												
	5		PA		26 (11,15)												
	6		PA		15 (5,10)												
VERY LOOSE CLAYEY FINE SAND, DARK GREY (NO SALTY) (SC) 8.00	7		PA		3 (1,2)												
	8		PA		50/28 CM ¹⁰ (8,32/15CM)												
HARD SANDY CLAY, GREY AND DARK BROWN (CL) (NO SALTY) 8.50	9		PA		50/8 CM												
	10		PA		50/5 CM												
VERY DENSE CLAYEY SAND, DARK BROWN AND REDDISH BROWN (NO SALTY) (SC) 11.03	11		PA		50/2.5 CM												
	11		PA														
END OF BORING																	

BORING LOG				BORING NO. <u>BH-2</u>		GROUND ELEV.(m.) <u>97.4</u>													
PROJECT <u>01.01 HUAI KAE</u>				DEPTH (m.) <u>9.05</u>		OBSERVED WL (m.) <u>0.00</u>													
LOCATION <u>A. MUANG, KALASIN</u>				COORD. <u>---</u>		DATE STARTED <u>3/3/89</u>													
						DATE FINISHED <u>4/3/89</u>													
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows / ft)				PL W _n LL —○— (%)			S _u (1/m ²) ○ UCT △ PP X FVT □ TV				γ _t (1/m ³)			
					10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0
LOOSE SILTY FINE SAND, BROWN AND GREYISH BROWN (SM) (NO SALTY)	1		WO																
			SS 1	○	5	(2,3)													
	2		WO																
			SS 2	○	5	(2,3)													
4.50	3		WO																
			SS 3	○	6	(3,3)													
	4		WO																
			SS 4	○	7	(3,4)													
VERY DENSE SILTY FINE SAND, GREYISH BROWN AND BROWN (SM) (NO SALTY)	5		WO																
			SS 5		50/10	GM	○												
	6		WO																
			SS 6		50/15	CM	○												
8.00	7		WO																
			SS 7		50/10	CM	○												
	8		WO																
			SS 8		50/8	CM	○												
HARD FINE SAND CLAY, P-RODDISH BROWN (CL) (NO SALTY)	9.05		WO																
			SS 9		50/5	CM	○												
END OF BORING																			

BORING LOG

PROJECT 01.01 HUAI KAE
 LOCATION A. MUANG, KALASIN

BORING NO. BH-3
 DEPTH (m.) 10.40
 COORD. -

GROUND ELEV.(m.) 99.45
 OBSERVED WL (m.) -2.50
 DATE STARTED 3/3/89
 DATE FINISHED 4/3/89

SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows / ft)				PL W _n LL (%)				S _u (t/m ²)				γ _t (t/m ³)			
					10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0	
					○ UCT △ PP X FVT □ TV															
LOOSE TO MEDIUM DENSE SILTY FINE SAND, DARK BROWN AND GREYISH BROWN (SM) (NO SALTY)	1		PA																	
			SS 1	14	(7,7)															
	2		PA																	
			SS 2	7	(2,5)															
	3		PA																	
4	PA																			
5.00	5		SS 3	4	(2,2)															
			PA																	
			SS 4	8	(4,4)															
			PA																	
		SS 5	17	(24,4)																
		PA																		
		SS 6	50/15 CM	(24, 50/15 CM)																
		PA																		
		SS 7	50/10 CM	(37, 50/10 CM)																
		PA																		
		SS 8	50/10 CM	(30, 50/10 CM)																
		PA																		
		SS 9	50/8 CM	(28, 50/8 CM)																
		PA																		
		SS 10	50/25 CM	(30, 20/10 CM)																
		PA																		
END OF BORING	10.40																			

BORING LOG				BORING NO. BH-1		GROUND ELEV.(m) 95.2														
PROJECT 02.05 HUAI KHUM MUN				DEPTH (m) 15.15		OBSERVED WL (m) -0.10														
LOCATION A. UBON RATTANA, KHON KAEN				COORD. -		DATE STARTED 23/2/89														
						DATE FINISHED 25/2/89														
SOIL DESCRIPTION	DEPTH (m)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows / ft)				PL W _n LL (%)				S _u (1/m ²)				γ _i (1/m ³)			
					10	20	30	40	10	20	30	40	5	10	15	20	1.5	1.8	2.0	
LOOSE SILTY FINE SAND, BROWN (NO SALTY) (SM) 1.50	1	[Pattern]	PA																	
			SS 1	5	(2,3)															
SOFT FINE SANDY CLAY, BROWN (CL/SC) 2.50	2	[Pattern]	PA																	
			SS 2	2	(1,1)															
VERY LOOSE TO LOOSE SILTY AND CLAYEY FINE SAND, GREY (SM, SC) (NO SALTY) 8.00	3	[Pattern]	PA																	
			SS 3	1	(0,1)															
	4	[Pattern]	PA																	
			SS 4	5	(3,2)															
	5	[Pattern]	WO																	
			SS 5	4	(2,2)															
6	[Pattern]	WO																		
		SS 6	5	(3,2)																
7	[Pattern]	WO																		
		SS 7	1	(0,1)																
MEDIUM DENSE CLAYEY FINE SAND, GREY (SC) (NO SALTY) 10.00	8	[Pattern]	WO																	
			SS 8	15	(9,6)															
	9	[Pattern]	WO																	
			SS 9	18	(4,4)															
DENSE TO VERY DENSE FINE SAND, BROWN AND GREY (SP-SM) (NO SALTY) 15.15	10	[Pattern]	WO																	
			SS 10	50/25 CM	(25,25/10 CM)															
	11	[Pattern]	WO																	
			SS 11	(20,25) 45																
	12	[Pattern]	WO																	
			SS 12	50/27 CM	(25,25/13 CM)															
13	[Pattern]	WO																		
		SS 13	(22,28) 50																	
14	[Pattern]	WO																		
		SS 14	(6,25) 41																	
15	[Pattern]	WO																		
		SS 15	50/15 CM																	
END OF BORING																				

BORING LOG		BORING NO. BH-2		GROUND ELEV.(m) 94.0															
PROJECT 02.05 HUAI KHUM MUN		DEPTH (m.) 20.35		OBSERVED WL (m.) +1.00															
LOCATION A. UBON RATTANA, KHON KAEN		COORD. ---		DATE STARTED 26/2/89															
				DATE FINISHED 28/2/89															
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD SAMPLING & RECOVERY	SPT - N (blows / ft)				PL W _n LL (%)			S _u (1/m ²)				γ _i (1/m ³)				
				10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0	
LOOSE TO MEDIUM DENSE SILTY FINE SAND, BROWN (SM) (NO SALTY)	1		PA																
			SS 1	3	(2,1)														
	2		SS 2	9	(4,5)														
			WO																
	3		SS 3	10	(4,6)														
			WO																
DENSE TO VERY DENSE SILTY FINE SAND, GREY AND BROWN (SM) (NO SALTY)	4		SS 4	18	(10,18)														
			WO																
	5		SS 5	9	(5,4)														
			WO																
	6		SS 6	(20,20)	40														
			WO																
HARD CLAY, BROWN (CL) (NO SALTY)	7		SS 7	50/25 CM															
			WO																
	8		SS 8	(19,21)	40														
			WO																
	9		SS 9	(25,25)	50														
			WO																
END OF BORING	10		SS 10	(29,21)	50														
			WO																
	11		SS 11	(15,12)	27														
			WO																
	12		SS 12	(24,24)	48														
			WO																
END OF BORING	13		SS 13	(17,20)	37														
			WO																
	14		SS 14	(18,27)	45														
			WO																
	15		SS 15	(12,20)	32														
			WO																
END OF BORING	16		SS 16	50/25 CM															
			WO																
	17		SS 17	(20,29)	48														
			WO																
	18		SS 18	(21,28)	49														
			WO																
END OF BORING	19		SS 19	50/20 CM															
			WO																
END OF BORING	20		SS 20	50/20 CM															
			WO																

BORING LOG				BORING NO. BH-3		GROUND ELEV.(m) 97.0												
PROJECT 02.05 HUAI KHUM MUN				DEPTH (m) 20.20		OBSERVED WL (m) -1.90												
LOCATION A. UBON RATTANA, KHON KAEN				COORD. -		DATE STARTED 1/3/89												
						DATE FINISHED 3/3/89												
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD SAMPLING & RECOVERY	SPT - N (blows/ft)				PL W _n LL (%)				S _u (1/m ²)				γ ₁ (1/m ³)		
				10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0
SOFT TO MEDIUM AND STIFF FINE SANDY CLAY, BROWN AND GREY (CL) (NO SALTY) 4.50	1	PA																
		SS 1		8	(4,1)													
	2	PA																
		SS 2		4	(2,2)													
	3	PA																
		SS 3		2	(1,)													
	4	PA																
		SS 4		10	(4,6)													
MEDIUM DENSE SILTY SAND, BROWN (SM) (NO SALTY) 7.65	5	WO																
		SS 5		9	(4,5)													
	6	WO																
		SS 6		18	(8,10)													
STIFF CLAY, DARK BROWN (CL) (NO SALTY) 9.70	7	WO																
		SS 7		10	(2,8)													
	8	WO																
		SS 8		14	(6,8)													
MEDIUM DENSE SILTY FINE SAND, BROWN (SM) (NO SALTY) 12.00	9	WO																
		SS 9		16	(6,10)													
	10	WO																
		SS 10		13	(8,5)													
DENSE TO VERY DENSE SILTY FINE SAND BROWN (SM) (NO SALTY) 14.70	11	WO																
		SS 11		13	(8,5)													
	12	WO																
		SS 12		(18,23)	41													
VERY STIFF SANDY CLAY, DARK GREY (NO SALTY) (CL) 16.30	13	WO																
		SS 13		50/20 CM														
	14	WO																
		SS 14		50/20 CM														
VERY DENSE CLAYEY-GRAVELLY SAND, GREY (SC, SM) (NO SALTY)	15	WO																
		SS 15		16	(7,9)													
	16	WO																
		SS 16		9, 32	41													
END OF BORING 20.20	17	WO																
		SS 17		50/18 CM														
	18	WO																
		SS 18		50/10 CM														
	19	WO																
	SS 19		50/18 CM															
	20	WO																
	SS 20		50/5 CM															

BORING LOG				BORING NO. BH-1		GROUND ELEV.(m.) 99.83													
PROJECT 04.01 HUAI SOENG NO.1				DEPTH (m.) 10.03		OBSERVED WL (m.) -3.60													
LOCATION A. NAKAE, NAKHON PHANOM				COORD. -		DATE STARTED 23/2/89													
						DATE FINISHED 24/2/89													
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows/ft)				PL W _n LL (%)			S _u (t/m ²)				γ _t (t/m ³)			
					10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0
VERY STIFF CLAY, DARK BROWN AND GREY (NO SALTY) (CL)	1.50		PA																
			SS 1	17	(8,9)														
MEDIUM CLAY, BROWN AND GREY (CL) (NO SALTY)	5.00		SS 2	5	(2,3)														
			PA																
			SS 3	7	(3,4)														
			PA																
HARD SANDY-GRAVELLY CLAY, (LATERITE), REDDISH BROWN (CL) (NO SALTY)	10.03		SS 4	9	(4,5)														
			PA																
			SS 5	50/8	CM														
			WO																
			SS 6	50/5	CM														
			WO																
			SS 7	50/2.5	CM														
			WO																
			SS 8	50/5	CM														
			WO																
END OF BORING			SS 9	50/2.5	CM														
			WO																
			SS 10	50/2.5	CM														

BORING LOG				BORING NO. <u>BH-2</u>		GROUND ELEV.(m.) <u>98.17</u>																												
PROJECT <u>04.01 HUAI SOENG NO.1</u>				DEPTH (m.) <u>4.15</u>		OBSERVED WL (m.) <u>-0.30</u>																												
LOCATION <u>A. NAKAE, NAKHON PHANOM</u>				COORD. <u>-</u>		DATE STARTED <u>23/2/89</u>																												
						DATE FINISHED <u>23/2/89</u>																												
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows / ft)				PL W _n LL (%)			S _u (1/m ²)				γ _t (1/m ³)																		
					10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0															
SOFT TO MEDIUM CLAY, GREY AND BROWN (CL) (NO SALTY)	1		WO	1	3 (2)																													
																		2	2	4 (2,2)														
																		3	3	6 (3,3)														
																		4	4	50/15 CM														
VERY DENSE CLAYEY-GRAVELLY SAND (LATERITE), REDDISH BROWN (SC) (NO SALTY)	3.80		SS	4	50/15 CM																													
4.15																																		
END OF BORING																																		

BORING LOG		BORING NO. BH-3		GROUND ELEV.(m.) 99.46																			
PROJECT 04.01 HUAI SOENG NO.1		DEPTH (m.) 10.03		OBSERVED WL (m.) -3.00																			
LOCATION A. NAKAE, NAKHON PHANOM		COORD. -		DATE STARTED 25/2/89																			
				DATE FINISHED 26/2/89																			
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD SAMPLING & RECOVERY	SPT - N (blows / ft)				PL W _n LL (%)				S _u (t/m ²)				γ _t (t/m ³)							
				10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0					
SOFT TO MEDIUM CLAY, BROWN AND GREY (CL) (NO SALTY)	1		PA																				
			SS 1	7	(3,4)																		
	2		PA																				
			SS 2	7	(3,4)																		
	3		PA																				
HARD SANDY-GRAVELLY CLAY (LATERITE), REDDISH BROWN (CL) (NO SALTY)	4		SS 3	3	(1,2)																		
			PA																				
	5	5.00	SS 4	2	(1,1)																		
			PA																				
	6		SS 5	50	5 CM																		
			WO																				
	7		SS 6	50	5 CM																		
			WO																				
	8		SS 7	50	8 CM																		
			WO																				
END OF BORING	9		SS 8	50	5 CM																		
	10	10.03	WO																				

BORING LOG

PROJECT 04.02 HUAI SOENG NO.2
 LOCATION A.NAKAE, NAKHON PHANOM

BORING NO. BH-1
 DEPTH (m.) 9.07
 COORD. -

GROUND ELEV.(m.) 98.80
 OBSERVED WL (m.) -0.10
 DATE STARTED 27/2/89
 DATE FINISHED 28/2/89

SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows / ft)				PL W _n LL (%)				S _u (t/m ²)				γ ₁ (t/m ³)		
					10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0
MEDIUM TO STIFF CLAY, BROWN AND GREY (CH) (NO SALTY)	1		WO																
			SS 1	9	(4,5)														
	2		WO																
VERY DENSE CLAYEY-GRAVELLY SAND (LATERITE), REDDISH BROWN (SC/CL) (NO SALTY)			SS 2	6	(2,4)														
	3		WO																
			SS 3	7	(3,4)														
	3.80		WO																
			SS 4	50/15 CM															
			WO																
			SS 5	50/5 CM.															
			WO																
			SS 6	50/3 CM															
9.07			WO																
			SS 7	50/10 CM															
			WO																
END OF BORING			SS 8	50/10 CM.															
			WO																
			SS 9	50/8 CM.															
			WO																

BORING LOG		BORING NO. BH-2		GROUND ELEV.(m.) 66.70											
PROJECT 04.02 HUAI SOENG NO.2		DEPTH (m.) 2.12		OBSERVED WL (m.) +1.50											
LOCATION A.NAKAE, NAKHON PHANOM		COORD. -		DATE STARTED 1/3/89											
				DATE FINISHED 1/3/89											
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N	PL	W _n	LL	S _u (t/m ²)				γ _t (t/m ³)		
					(blows / ft)		(%)		○ UCT	△ PP	X FVT	□ TV	1.6	1.8	2.0
					10 20 30 40	10	20 30 40		5	10	15	20			
MEDIUM CLAY, TRACE OF SAND, GREY (NO SALTY) (CL) 1.50	1		PA	SS 1	0.6 (3,3)										
HARD SANDY CLAY (LATERITE) REDDISH BROWN (CL) (NO SALTY). 2.12	2		PA	SS 2	50/13 CM										
END OF BORING															

BORING LOG				BORING NO. <u>BH-3</u>		GROUND ELEV.(m.) <u>98.60</u>												
PROJECT <u>04.02 HUAI SOENG NO.2</u>				DEPTH (m.) <u>5.15</u>		OBSERVED WL (m.) <u>-1.30</u>												
LOCATION <u>A.NAKAE, NAKHON PHANOM</u>				COORD. <u>-</u>		DATE STARTED <u>27/2/89</u>												
						DATE FINISHED <u>27/2/89</u>												
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows / ft)				PL W _n LL (%)				S _u (t/m ²) ○ UCT △ PP X FVT □ TV				γ _t (t/m ³)	
					10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8
MEDIUM TO STIFF CLAY, TRACE OF SAND, GREY AND BROWN (CL) (NO SALTY) 4.50	1		PA	SS 1	9	(4,5)												
	2		PA	SS 2	9	(4,5)												
	3		PA	SS 3	5	(2,3)												
	4		PA	SS 4	16	(6,10)												
	5		PA	SS 5	50/15 CM.													
VERY DENSE CLAYEY-GRAVELLY SAND (LATERITE), REDDISH BROWN (SC) 5.15																		
END OF BORING																		

BORING LOG				BORING NO. BH-1		GROUND ELEV.(m.) 97.7												
PROJECT 05.01 : LAM KIANG				DEPTH (m.) 15.15		OBSERVED WL (m.) -1.20												
LOCATION A.NON SOONG, NAKHON RATCHASIMA				COORD. --		DATE STARTED 10/2/89												
						DATE FINISHED 11/2/89												
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows / ft)				PL W _n LL (%)			S _u (t/m ²)				γ ₁ (t/m ³)		
					10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8
MEDIUM DENSE CLAYEY FINE SAND, LI-GREY AND LI-BROWN (SC) (NO SALTY) 2.00	1	[Pattern]	PA	SS 1	14 (5,8)													
DENSE CLAYEY FINE SAND, LI-GREY (SC) (NO SALTY) 5.00	2	[Pattern]	PA	SS 2	29 (13,16)													
	3	[Pattern]	PA	SS 3	17, 18 35													
INTERMEDIATE SOIL (FINE SANDY CLAY OR CLAYEY FINE SAND), LI-BROWN AND LI-GREY (NO SALTY) (CL/SC) 6.50	4	[Pattern]	PA	SS 4	22, 28 48													
	5	[Pattern]	PA	SS 5	16, 19 35													
VERY DENSE CLAYEY SAND, LI-BROWN AND LI-GREY (SC) (NO SALTY) 9.50	6	[Pattern]	PA	SS 6	13, 27 100													
	7	[Pattern]	PA	SS 7	50/24 CM (28, 22/9 CM)													
HARD CLAY, REDDISH BROWN (CL) (NO SALTY) 15.15	8	[Pattern]	WO	SS 8	50/25 CM (28, 22/10 CM)													
	9	[Pattern]	WO	SS 9	50/20 CM (32, 18/5 CM)													
END OF BORING	10	[Pattern]	WO	SS 10	50/25 CM (26, 24/10 CM)													
	11	[Pattern]	WO	SS 11	50/23 CM (30, 20/8 CM)													
	12	[Pattern]	WO	SS 12	50/20 CM (32, 18/5 CM)													
	13	[Pattern]	WO	SS 13	50/20 CM (25, 25/5 CM)													
	14	[Pattern]	WO	SS 14	50/18 CM (38, 12/2.5 CM)													
	15	[Pattern]	WO	SS 15	50/15 CM													

BORING LOG				BORING NO. BH-2	GROUND ELEV.(m.) 96.6													
PROJECT 05.01 LAM KLANG				DEPTH (m.) 13.13	OBSERVED WL (m.) 10.30 (IN)													
LOCATION A.NON SOONG, NAKHON RATCHASIMA				COORD. -	DATE STARTED 14/2/89													
					DATE FINISHED 15/2/89													
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows/ft)				PL W _n LL (%)			S _u (1/m ²)				γ _t (1/m ³)		
					10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8
STIFF FINE SANDY CLAY, LI-GREY (CL) (NO SALTY) 2.00	1		PA															
			SS 1		13	(5,8)												
	2		WO															
			SS 2		(26,30)	56												
	3		WO															
VERY STIFF TO HARD FINE SANDY CLAY, LI-BROWN AND LI-GREY (CL) (NO SALTY)	4		SS 3		(4,18)	32												
			WO															
	5		SS 4		(17,17)	34												
			WO															
	6		SS 5		18	(8,10)												
			WO															
	7		SS 6		28	(13,15)												
			WO															
	8		SS 7		(18,20)	38												
			WO															
	9		SS 8		(5,25)	40												
			WO															
HARD CLAY, REDDISH BROWN (CL) (NO SALTY)	9.00		SS 9		50/20 CM													
			WO		(33,17/5 CM)													
	10		SS 10		50/19 CM													
			WO		(41,9/2.5 CM)													
	11		SS 11		50/23 CM													
			WO		(27,23/8 CM)													
	12		SS 12		50/20 CM													
			WO		(30,20/5 CM)													
	13		SS 13		50/13 CM													
END OF BORING																		

BORING LOG				BORING NO. BH-3		GROUND ELEV.(m.) 99.5													
PROJECT 05.01 LAM KLANG				DEPTH (m.) 15.18		OBSERVED WL (m.) -3.00													
LOCATION A.NON SOONG, NAKHON RATCHASIMA				COORD. -		DATE STARTED 12/2/89													
						DATE FINISHED 13/2/89													
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows/ft)				PL W _n LL (%)				S _u (t/m ²)				γ _t (t/m ³)		
					10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0
LOOSE TO MEDIUM DENSE AND DENSE SILTY FINE SAND, BROWN AND LI-GREY (SC) (NO SALTY)	1		PA																
			SS 1	■	06 (2,4)														
	2		PA																
			SS 2	■	(13,25)	038													
	3		PA																
			SS 3	■	10 (5,5)														
6.50	4		PA																
			SS 4	■	22 (9,13)														
	5		WO																
			SS 5	■	(24,26)	50													
	6		WO																
			SS 6	■	(17,12)	29													
VERY STIFF TO HARD FINE SANDY CLAY, LI-BROWN AND LI-GREY (CL) (NO SALTY)	7		WO																
			SS 7	■	23 (10,13)														
	8		WO																
			SS 8	■	(13,16)	29													
	9		WO																
			SS 9	■	(18,20)	38													
10.00	10		WO																
			SS 10	■	(26,32)	58													
	11		WO																
			SS 11	■	(20,34)	54													
	12		WO																
			SS 12	■	50/23 CM (29,21/8 CM)														
15.18	13		WO																
			SS 13	■	50/20 CM (33,18/5 CM)														
	14		WO																
			SS 14	■	50/18 CM (40,10/2.5 CM)														
	15		WO																
			SS 15	■	50/18 CM (35,15/2.5 CM)														
END OF BORING																			

BORING LOG				BORING NO. BH-1.		GROUND ELEV.(m.) 95.9												
PROJECT 05.02 LAM NAM MUN				DEPTH (m.) 20.45		OBSERVED WL (m.) -0.30												
LOCATION A. PHIMAI, NAKHON RATCHASIMA				COORD. --		DATE STARTED 8/2/89												
						DATE FINISHED 10/2/89												
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SPT - N (blows / ft)				PL W _n LL (%)			S _u (1/m ²)				γ ₁ (1/m ³)			
				10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0
LOOSE SILTY FINE SAND, YELLOWISH BROWN (SP-SM) (NO SALTY)	1	[Dotted pattern]	PA															
			SS 1	08	(4,4)													
			PA															
MEDIUM DENSE SILTY FINE SAND, GREY (SM) (NO SALTY)	2	[Dotted pattern]	SS 2	07	(4,3)													
			PA															
	3	[Dotted pattern]	SS 3	18	(8,10)													
			WO															
	4	[Dotted pattern]	SS 4	15	(5,10)													
			WO															
SS 5			19	(9,10)														
WO																		
5	[Dotted pattern]	SS 6	11	(3,8)														
		WO																
6	[Dotted pattern]	SS 7	26	(9,17)														
		WO																
7	[Dotted pattern]	SS 8	11,25	036														
		WO																
8	[Dotted pattern]	SS 9	15,17	032														
		WO																
9	[Dotted pattern]	SS 10	22,23	45														
		WO																
10	[Dotted pattern]	SS 11	19	(7,12)														
		WO																
11	[Dotted pattern]	SS 12	22,26	48														
		WO																
12	[Dotted pattern]	SS 13	28,32	60														
		WO																
13	[Dotted pattern]	SS 14	09	(4,5)														
		WO																
14	[Diagonal lines]	SS 15	07	(3,4)														
		WO																
15	[Diagonal lines]	SS 16	08	(4,4)														
		WO																
16	[Diagonal lines]	SS 17	12	(6,6)														
		WO																
17	[Diagonal lines]	SS 18	24	(5,9)														
		WO																
18	[Diagonal lines]	SS 19	25,26	51														
		WO																
19	[Diagonal lines]	SS 20	50/22 CM	(35,16/250)														
		WO																
END OF BORING	20.45	[Dotted pattern]																

BORING LOG				BORING NO. BH-2		GROUND ELEV.(m) 94.9													
PROJECT 05.02 LAM NAM MUN				DEPTH (m) 27.45		OBSERVED WL (m) -0.30													
LOCATION A. PHIMAI, NAKHON RATCHASIMA				COORD. -		DATE STARTED 11/2/89													
						DATE FINISHED 13/2/89													
SOIL DESCRIPTION	DEPTH (m)	GRAPHIC LOG	METHOD SAMPLING & RECOVERY	SPT - N (blows / ft)				PL W _n LL (%)				S _u (1/m ²)				γ ₁ (1/m ³)			
				10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0	
MEDIUM DENSE TO DENSE AND VERY DENSE SAND GREENISH GREY (SP-SM)	1		PA																
			SS 1																
	2		PA																
			SS 2																
			PA																
			SS 3																
			WO																
			SS 4																
			WO																
			SS 5																
			WO																
	STIFF CLAY, LI-GREENISH GREY (CL)	13.00		SS 6															
			WO																
			SS 7																
			WO																
			SS 8																
			WO																
			SS 9																
			WO																
			SS 10																
			WO																
			SS 11																
			WO																
HARD CLAY, GREENISH GREY (CL) (NO SALTY)	17.00		SS 12																
			WO																
			SS 13																
			WO																
HARD CLAY, GREENISH GREY (CL) (NO SALTY)	18.00		SS 14																
			WO																
DENSE SILTY FINE SAND, GREENISH GREY AND DARK BROWN (SP-SM) (SALTY)	19.50		SS 15																
			WO																
HARD CLAY, REDDISH BROWN (CL) (SALTY)	20.00		SS 16																
			WO																
		SS 17																	
		WO																	
		SS 18																	
		WO																	
		SS 19																	
		WO																	
		SS 20																	

BORING LOG				BORING NO. BH-2		GROUND ELEV.(m.) 94.9											
PROJECT 05.02 LAM NAM MUN				DEPTH (m.) 27.45		OBSERVED WL (m.) -0.30											
LOCATION A. PHIMAI, NAKHON RATCHASIMA				COORD. -		DATE STARTED 11/2/89											
						DATE FINISHED 13/2/89											
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING RECOVERY	SPT - N (blows / ft)			PL W _n LL (%)			S _u (1/m ²)				γ _i (1/m ³)		
					10	20	30	40	20	40	60	80	UCT	PP	FVT	TV	1.6
HARD CLAY, REDDISH BROWN (CL) (SALTY)	21		WO														
			SS	21		(15,2)											
	22		WO														
			SS	22		(16,24)											
	23		WO														
			SS	23		(18,23)											
	24		WO														
			SS	24		(18,22)											
	25		WO														
			SS	25		(20,22)											
26		WO															
		SS	26		(23,26)												
27	27.45		WO														
			SS	27		(23,29)											
END OF BORING																	

BORING LOG		BORING NO. BH-3		GROUND ELEV.(m.) 96.2																			
PROJECT 05.02 LAM NAM MUN		DEPTH (m.) 20.45		OBSERVED WL (m.) -1.35																			
LOCATION A. PHIMAI, NAKHON RATCHASIMA		COORD. -		DATE STARTED 14/2/89																			
				DATE FINISHED 16/2/89																			
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows / ft)				PL W _n LL (%)			S _u (1/m ²)				γ ₁ (1/m ³)							
					10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0				
LOOSE TO MEDIUM DENSE SAND, LI-BROWN AND GREENISH GREY (SM) (NO SALTY)	1		PA																				
			SS 1		13	(7,6)																	
	2		PA																				
			SS 2		9	(3,6)																	
	3		PA																				
			SS 3		19	(9,10)																	
	4		WO																				
			SS 4		8	(4,4)																	
PEAT TO LIGNITE, BLACK AND BROWN (PT)(SALTY) 8.50	5		WO																				
			SS 5		23	(10,13)																	
	6		WO																				
			SS 6		18	(8,10)																	
	7		WO																				
			SS 7		5	(2,3)																	
	8	8.35	WO																				
			SS 8		50/15 CM																		
DENSE TO VERY DENSE SAND, LI-GREENISH GREY AND GREY, SOME PEAT BETWEEN 19.00- 19.45 m DEPTH (SP-SM, SM) (SALTY)	9		WO																				
			SS 9		17	(32)	49																
	10		WO																				
			SS 10		27	(14,13)																	
	11		WO																				
			SS 11		16	(19)	35																
	12		WO																				
			SS 12		11	(34)	45																
END OF BORING 20.45	13		WO																				
			SS 13		50/28 CM																		
	14		WO																				
			SS 14		16	(20)	36																
	15		WO																				
			SS 15		50/20 CM																		
	16		WO																				
			SS 16		29	(35)	64																
END OF BORING 20.45	17		WO																				
			SS 17		14	(26)	40																
	18		WO																				
			SS 18		50/20 CM																		
END OF BORING 20.45	19		WO																				
			SS 19		50/10 CM																		
20		WO																					
		SS 20		50/28 CM																			

BORING LOG				BORING NO. BH-1		GROUND ELEV.(m.) 98.0														
PROJECT 05.03 LAM PHRA PHILOENG				DEPTH (m.) 22.03		OBSERVED WL (m.) -5.50														
LOCATION A. PAK THONG CHAI, NAKHON RATCHASIMA				COORD. -		DATE STARTED 11/2/89														
						DATE FINISHED 13/2/89														
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows/ft)				PL W _n LL (%)				S _u (t/m ²)				γ _t (t/m ³)			
					10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0	
SOFT TO STIFF FINE SANDY CLAY, DARK BROWN (CL) (NO SALTY)	1		PA																	
			SS 1	1	8	(3,5)														
	2		PA																	
			SS 2	2	9	(4,9)														
4.50	3		PA																	
			SS 3	3	9	(4,9)														
	4		PA																	
			SS 4	4	3	(2,1)														
LOOSE CLAYEY FINE SAND, DARK BROWN (SC) (NO SALTY)	5		PA																	
			SS 5	5	4	(2,2)														
	6		PA																	
			SS 6	6	5	(2,3)														
7.00	7		WO																	
			SS 7	7	17	(8,9)														
	8		WO																	
			SS 8	8	(3,18)	31														
MEDIUM DENSE CLAYEY AND SILTY SAND, DARK BROWN AND GREY (SC, SP-SM, SM) (NO SALTY)	9		PA																	
			SS 9	9	17	(7,10)														
	10		PA																	
			SS 10	10	20	(7,13)														
12.00	11		PA																	
			SS 11	11	23	(10,13)														
	12		PA																	
			SS 12	12	22	(9,13)														
VERY STIFF CLAY, TRACE OF SAND, DARK BROWN (CL) (NO SALTY)	13		PA																	
			SS 13	13	27	(12,15)														
	14		PA																	
			SS 14	14	18	(8,10)														
15.50	15		PA																	
			SS 15	15	20	(9,11)														
	16		PA																	
			SS 16	16	24	(11,13)														
DENSE CLAYEY FINE SAND (INTERMEDIATE SOIL), DARK BROWN (SC/CL) (NO SALTY)	17		PA																	
			SS 17	17	25	(12,9)														
	18		PA																	
			SS 18	18	21	(10,11)														
20.00	19		PA																	
			SS 19	19	(12,13)	25														
HARD SANDY CLAY (CL)	20		PA																	
			SS 20	20	50/25 CM	23/26/10 CM														

BORING LOG				BORING NO. BH-1		GROUND ELEV.(m) 98.0												
PROJECT 05.03 LAM PHRA PHLOENG				DEPTH (m.) 22.03		OBSERVED WL (m.) -5.50												
LOCATION A. PAK THONG CHAI, NAKHON RATCHASIMA				COORD. -		DATE STARTED 11/2/89												
						DATE FINISHED 13/2/89												
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows / ft)			PL W _n LL (%)			S _u (t/m ²)				γ _t (t/m ³)			
					10	20	30	40	20	40	60	80	5	10	15	20	1.6	1.8
HARD SANDY CLAY, LI-BROWN AND GREY (CL) (NO SALTY) 22.00	21		SS	20	50/25 CM (23, 26/10 CM)													
			WO															
VERY DENSE SANDSTONE, BROWNISH GREY (NO SALTY) (SM) 22.03	22		SS	21	50/23 CM (30, 20/8 CM)													
			WO															
END OF BORING																		

BORING LOG				BORING NO. BH-2	GROUND ELEV.(m.) 90.4		
PROJECT 05.03 LAM PHRA PHLOENG				DEPTH (m.) 18.05	OBSERVED WL (m.) +0.20		
LOCATION A. PAK THONG CHAI, NAKHON RATCHASIT MA				COORD. -	DATE STARTED 13/2/89		
					DATE FINISHED 15/2/89		
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD SAMPLING & RECOVERY	SPT - N (blows / ft) 10 20 30 40	PL W _n LL (%) 20 40 60 80	S _u (1/m ²) ○ UCT △ PP X FVT □ TV 5 10 15 20	γ _i (1/m ³) 1.6 1.8 2.0
STIFF TO VERY STIFF SANDY CLAY, GREYISH BROWN AND DARK BROWN (CL) (NO SALTY)	1		WO	6 (3,3)			
	2		SS 1	10 (5,5)			
	3		SS 2	16 (6,10)			
MEDIUM DENSE CLAYEY AND SILTY SAND, DARK BROWN AND GREY (NO SALTY) (SC, SM)	4		WO	11 (5,6)			
	5		SS 3	17 (7, 0)			
	6		SS 4	20 (8, 12)			
VERY STIFF TO HARD CLAY, DARK BROWN (CL) (NO SALTY)	7		WO	(14, 7) 31			
	8		SS 5	20 (9, 11)			
	9		SS 6	16 (7, 9)			
DENSE CLAYEY FINE SAND, DARK BROWN (NO SALTY) (SC)	10		WO	(13, 7) 30			
	11		SS 7	(13, 18) 31			
	12		SS 8	(25, 20) 45			
VERY STIFF CLAY, DARK BROWN (CL) (NO SALTY)	13		WO	(13, 17) 30			
	14		SS 9	(12, 14) 26			
	15		SS 10	(12, 16) 28			
MEDIUM DENSE CLAYEY FINE SAND, DARK GREY (SC/CL)	16		WO	(11, 17) 28			
	17		SS 11	7 (2, 3)			
MEDIUM SANDY CLAY, DARK GREY (NO SALTY) (CL)	18.00		WO				
VERY DENSE SANDSTONE, GREY (NO SALTY) (SM)	18.05		SS 12	50/50 (M)			
END OF BORING							

BORING LOG				BORING NO. BH-3		GROUND ELEV.(m.) 94.4											
PROJECT 05.03 IAM PHRA PHLOENG				DEPTH (m.) 20.22		OBSERVED WL (m.) -5.50											
LOCATION A, PAK THONG CHAI, NAKHON RATCHASIMA				COORD. -		DATE STARTED 8/2/89											
						DATE FINISHED 10/2/89											
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD SAMPLING & RECOVERY	SPT - N (blows/ft)				PL W _n LL (%)			S _u (1/m ²)				γ _t (1/m ³)		
				10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8
STIFF TO VERY STIFF FINE SANDY CLAY, DARK BROWN (CL) (NO SALTY)	1		PA														
			SS 1		12	(6,6)											
	2		PA														
			SS 2		2	(6,6)											
	3		PA														
			SS 3		9	(4,5)											
	4		PA														
			SS 4		15	(6,9)											
	5		PA														
		SS 5		20	(9,11)												
		PA															
		SS 6		17	(7,10)												
		PA															
		SS 7		20	(9,11)												
		PA															
		SS 8		18	(8,10)												
		PA															
9.50			SS 9		16	(7,9)											
			PA														
MEDIUM DENSE CLAYEY SAND, DARK BROWN (NO SALTY) (SC)	10.50		SS 10		23	(13,10)											
			PA														
VERY STIFF SANDY CLAY, DARK BROWN (CL) (NO SALTY)	13.50		SS 11		24	(12,12)											
			PA														
			SS 12		19	(8,11)											
			PA														
			SS 13		17	(8,9)											
			PA														
			SS 14		22	(8,14)											
			PA														
			SS 15		13	(6,7)											
			PA														
			SS 16		31	(15,16)											
			PA														
VERY STIFF FINE SANDY CLAY DARK BROWN (CL) (NO SALTY)	17.50		SS 17		16	(8,8)											
			PA														
			SS 18		28	(12,16)											
			PA														
			SS 19		36	(17,19)											
			PA														
(NO SALTY) END OF BORING	20.22		SS 20		50/23 CM	(32,20/8 CM)											

BORING LOG		BORING NO. <u>BH-1</u>		GROUND ELEV.(m.) <u>99.05</u>				
PROJECT <u>11.01 LAM NAM KAM</u>		DEPTH (m.) <u>14.05</u>		OBSERVED WL (m.) <u>-3.20</u>				
LOCATION <u>A.MUANG, SAKON NAKHON</u>		COORD. <u>-</u>		DATE STARTED <u>20/2/89</u>				
				DATE FINISHED <u>21/2/89</u>				
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows/ft)	PL W _n LL (%)	S _u (t/m ²)	γ _t (t/m ³)
					10 20 30 40	10 20 30 40	○ UCT △ PP X FVT □ TV	1.6 1.8 2.0
MEDIUM DENSE SILTY FINE SAND, BROWN (SM) (NO SALTY)	3.00	[Pattern]	PA		12 (5,7)			
			SS 1	■				
			PA		14 (7,7)			
			SS 2	■				
			PA		8 (4,4)			
			SS 3	■				
SOFT TO MEDIUM FINE SANDY CLAY, (CL) (NO SALTY)	7.00	[Pattern]	PA		3 (1,2)			
			SS 4	■				
			WO		4 (2,2)			
			SS 5	■				
			WO		4 (2,2)			
			SS 6	■				
			WO		5 (2,3)			
			SS 7	■				
			WO		15 (8,7)			
			SS 8	■				
			WO		3 (1,2)			
			SS 9	■				
			WO		21 (7,4)			
			SS 10	■				
			WO		50/23 CM (25/25/8CM)			
			SS 11	■				
			WO		50/15 CM			
			SS 12	■				
			WO		50/10 CM			
			SS 13	■				
			WO		50/5 CM			
			SS 14	■				
HARD CLAY, DARK BROWN (CL) (NO SALTY)	14.05	[Pattern]						
END OF BORING								

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BORING LOG		BORING NO. BH-2		GROUND ELEV.(m.) 95.40																
PROJECT 11.01 LAM NAM KAM		DEPTH (m.) 9.03		OBSERVED WL (m.) 0.00																
LOCATION A. MUANG, SAKON NAKHON		COORD. —		DATE STARTED 17/2/89																
				DATE FINISHED 19/2/89																
SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING RECOVERY	SPT - N (blows / ft)				PL W _n LL (%)				S _u (t/m ²)				γ _t (t/m ³)			
					10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0	
LOOSE TO MEDIUM DENSE CLAYEY SAND, BROWN AND GREYISH BROWN (SC, SP-SM) (NO SALTY) 4.50	1		WO																	
			SS 1	1	5	(2, 3)														
	2		WO																	
			SS 2	2	6	(4, 2)														
	3		WO																	
VERY STIFF SANDY CLAY, REDDISH BROWN AND LI-GREY (CL) 6.00	4		SS 3	3	23	(10, 13)														
		WO																		
	5		SS 4	4	10	(5, 5)														
HARD CLAY, DARK BROWN (CL) (NO SALTY) 9.03	6		WO																	
			SS 5	5	23	(11, 12)														
	7		WO																	
			SS 6	6	50/5 CM	(25, 50/15 CM)														
END OF BORING	8		WO																	
			SS 7	7	50/10 CM	(26, 50/10 CM)														
	9		WO																	
			SS 8	8	50/15 CM	(40, 10/2.5 CM)														
			WO																	
			SS 9	9	50/2.5 CM															

BORING LOG

PROJECT 11.01 LAM NAM KAM
 LOCATION A.MUANG, SAKON NAKHON

BORING NO. BH-3
 DEPTH (m.) 19.05
 COORD. ---

GROUND ELEV.(m.) 98.95
 OBSERVED WL (m.) -3.00
 DATE STARTED 17/2/89
 DATE FINISHED 19/2/89

SOIL DESCRIPTION	DEPTH (m.)	GRAPHIC LOG	METHOD	SAMPLING & RECOVERY	SPT - N (blows / ft)				PL W _n LL (%)				S _u (t/m ²)				γ _i (t/m ³)		
					10	20	30	40	10	20	30	40	5	10	15	20	1.6	1.8	2.0
					○ UCT Δ PP X FVT □ TV														
VERY LOOSE TO LOOSE AND MEDIUM DENSE SILTY AND CLAYEY FINE SAND, BROWN (SM, SC) (NO SALTY)	1		PA																
	2		SS 1	1	2	(1,1)													
	3		SS 2	2	16	(8,0)													
	4		SS 3	3	7	(4,3)													
	5		SS 4	4	12	(4,8)													
	6		SS 5	5	4	(2,2)													
	7		SS 6	6	8	(3,5)													
	8	8.00		SS 7	7	10	(4,6)												
VERY STIFF TO HARD SANDY CLAY, REDDISH BROWN AND LI-GREY (CL) (NO SALTY)	9		SS 8	8	(14,21)	35													
	10		SS 9	9	(16,25)	41													
	11		SS 10	10	(12,15)	27													
	12		SS 11	11	(14,20)	34													
	13		SS 12	12	(14,15)	29													
	14		SS 13	13	18	(8,10)													
HARD CLAY, DARK BROWN (CL) (NO SALTY)	15	15.50	SS 14	14	20	(10,10)													
	16		SS 15	15	(11,16)	27													
	17		SS 16	16	50/23 CM (35/15/8 CM)														
	18		SS 17	17	50/9 CM														
	19	19.05	SS 18	18	50/10 CM														
END OF BORING			SS 19	19	50/5 CM														