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REPUBLIK INDONESIA
DEPARTEMEN PEKERJAAN UMUM
DIREKTORAT JENDERAL BINA MARGA

PROJECT CODE

LUWU ROAD BETTERMENT PROJECT
SOUTH SULAWESI

SUPERVISION MONTHLY REPORT
AUGUST - 1979



P. T. INDAH KARYA
CONSULTING ENGINEERS



LOUIS BERGER INTERNATIONAL, INC.
CONSULTING ENGINEERS

USAID/Indonesia
Information Center

PDAA N612



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CONSTRUCTION SUPERVISORY SERVICES

MONTHLY REPORT : AUGUST 1979

C O N T E N T S

1. I N T R O D U C T I O N
2. P R O J E C T D E S C R I P T I O N A N D H I S T O R Y
 - * P r o j e c t L o c a t i o n M a p
 - * C o n s u l t a n t ' s O r g a n i z a t i o n C h a r t
3. T H E A C T I V I T Y I N S E C T I O N I - S E K A M U I N T E R N A T I O N A L
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6. S O I L & M A T E R I A L T E S T I N G

1. INTRODUCTION

Attached are copies of detailed progress reports from Section I, Section II, The Materials Section and The Re-Design Section.

It is to be noted that both contractors were shut down from August 17th through August 27th because of national and religious holidays.

The pouring of concrete by P.T. Sekayu was halted in August of their inability to provide specified steel certificates. This is delaying (at contractor's fault and expense) the construction of 5 box culverts already started.

Most of P.T. Sekayu's equipment is in poor or non-operating condition. The Stone Crusher is still in non-operating condition because of the lack of parts. This is unfortunate as it has prevented him to take full opportunity of the August dry season.

On Section II, P.T. Jaya has started casting concrete pipe, based upon monetary weight of the original bid estimate, the contractor has completed 25.4% of the scheduled work. Based upon the revised estimate of quantities, but keeping the same bid prices as a base figure, the contractor has completed only 6.9% of the scheduled work.

The equipment of P.T. Jaya is in fairly good condition. Their maintenance appears adequate although they still lack spare parts.

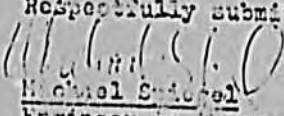
The Re-design team also was non operative during the latter part of August due to holidays and individual leaves granted at this time to minimize disruption of work at a later date.

Final plans & profiles for Segment 1 of Section II and Segment 1 of section I have been provided to the contractor. A revised estimate of quantities has also been submitted to the contractor for Segment of Section II.

The usual lack of logistical support continued to plague operations however, pledged cooperation from Bandung should alleviate problems somewhat.

The report from the Materials Engineer is self explanatory.

Respectfully submitted


Michael S. Lopez
Engineer-in-Charge.

2. PROJECT DESCRIPTION AND HISTORY

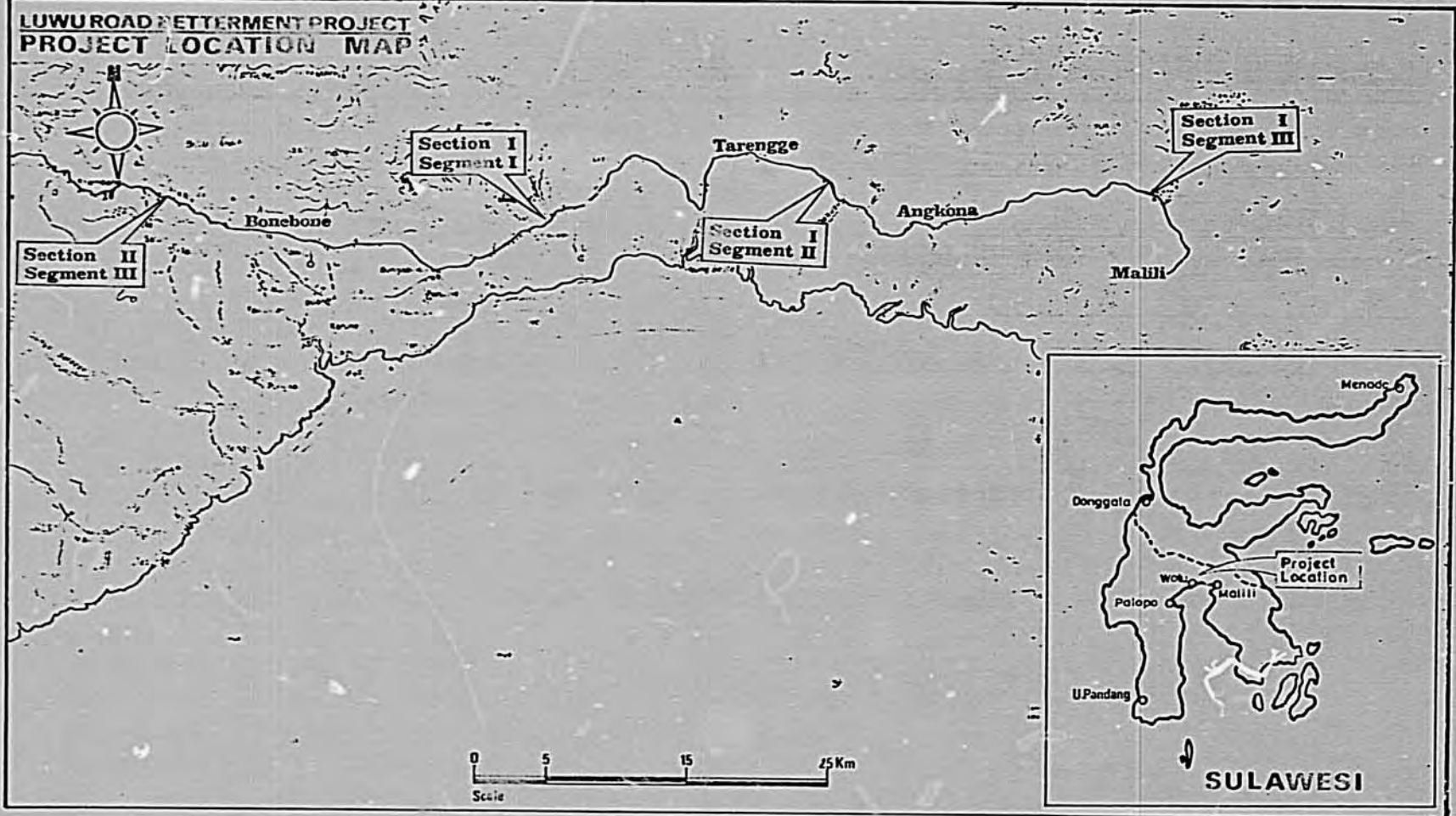
The project area lies in South Sulawesi Province, connect the several townships within the area of Luru Transmigration Project and comprise of two Sections approximately 176 Km. in length.

Section I connect the township of Bone-Bone - Tarengga - Ma lili approximately 78 Km. in length ; and Section II connect the township of Palopo - Masamba - Bone-Tone approximately 98 Km. in length.

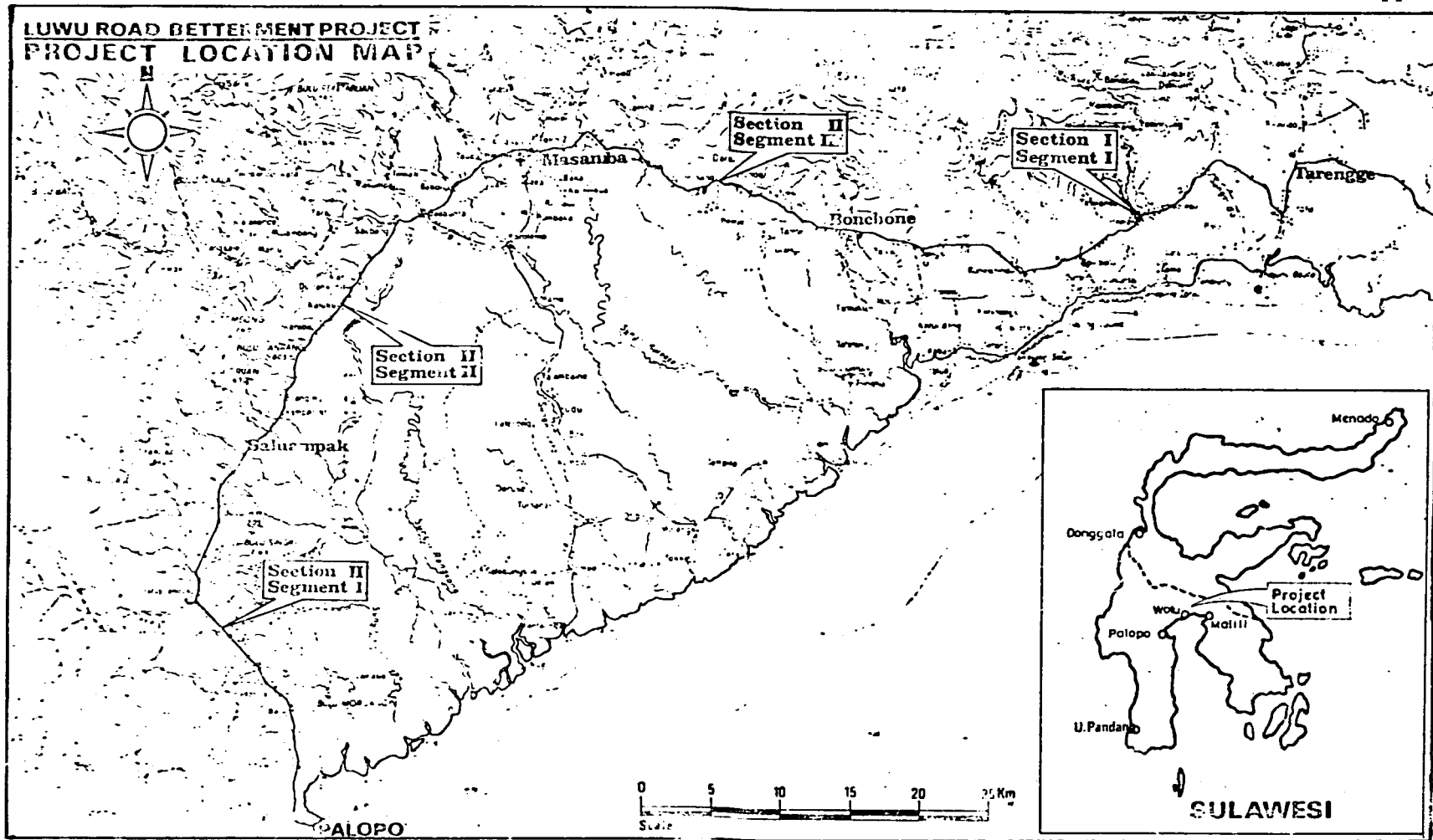
The Government of Indonesia construct the Luru Roads Betterment Project with the fund provided by USAID and by Government yearly budget (DIP). The Project has been subjected to a Final Engineering during the year of 1975.

P.T. INDAH KARMA undertakes and performs the consulting supervisory services along with LOUIS BERGER INTERNATIONAL Inc.

Whilst P.T. SIKAMU INTERNATIONAL and P.T. PEMBANGUNAN JAYA as Contractors, undertakes the construction works for Section I and Section II.

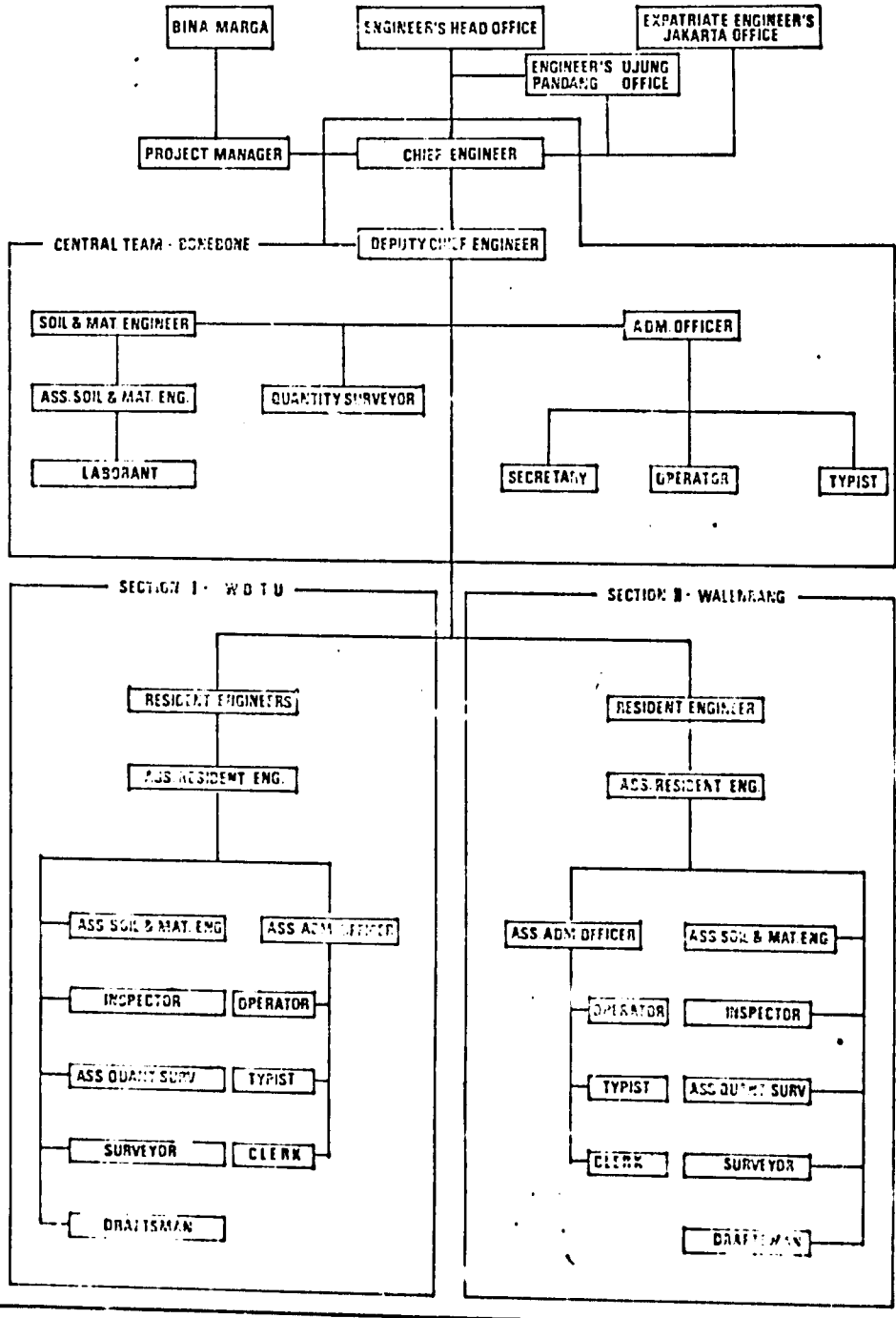


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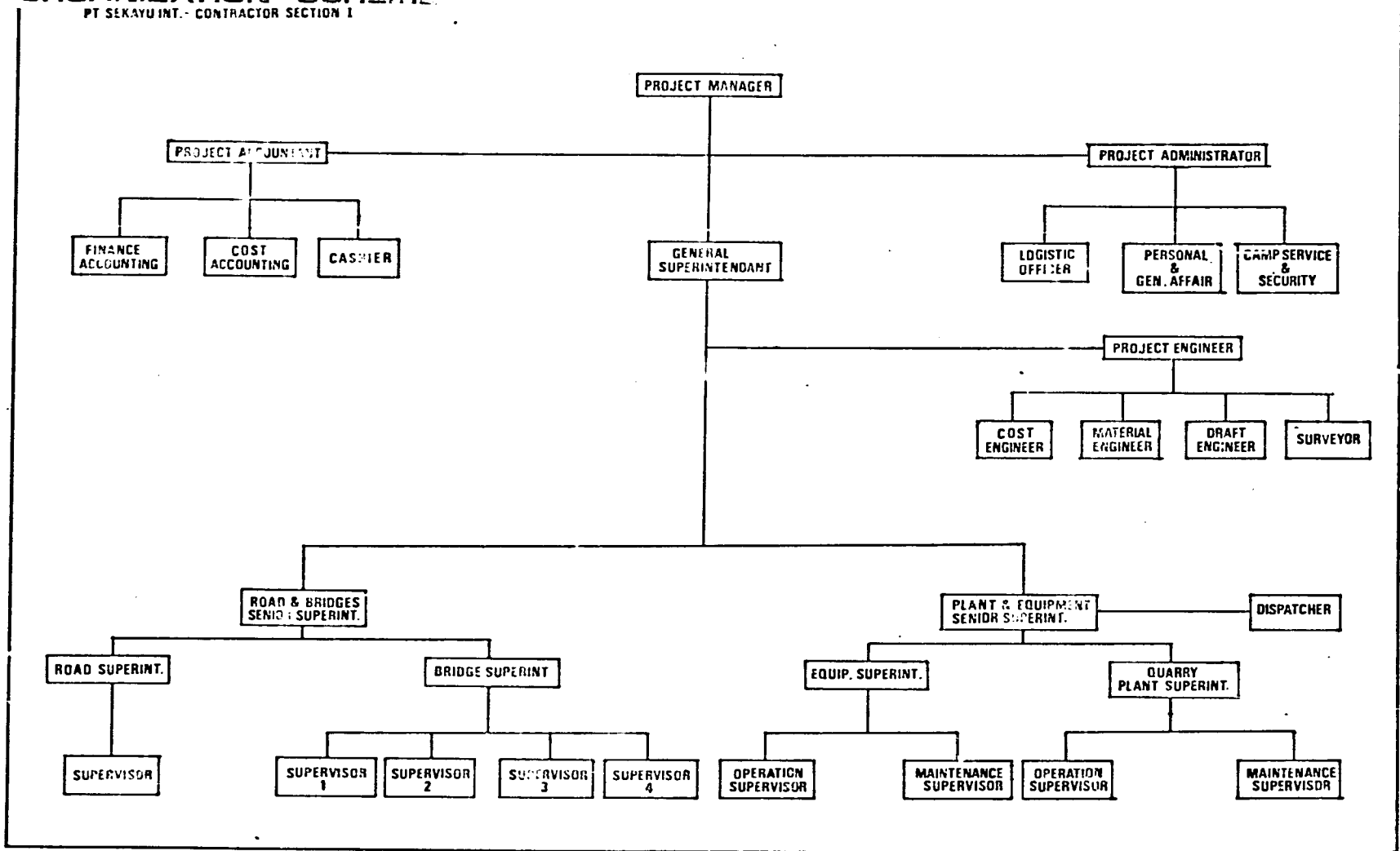


**LUWU ROADS BETTERMENT PROJECT
SUPERVISORY SERVICES**

ORGANIZATION - CHART



LUVU ROAD BETTERMENT PROJECT
ORGANIZATION SCHEME
 PT SEKAYU INT.- CONTRACTOR SECTION I



3. THE ACTIVITY IN SECTION I - SEKAYU INTERNATIONAL

I. WORKING/CLAIMING

- I.1. Fixing the stake of P.I. = Sta 17 + 925 }
 - I.1.a. Putting up the long. elevation = Sta 17 + 000 } Segment 2
 - I.1.b. Cross sectioning elevation = Sta 17 + 915 }
 - I.1.c. Strike out = Sta 18 + 000 } Segment 1
 - I.1.d. Centre line re-design
 - I.1.e. Cross section profile for the volume calculation :
Sta 21 + 275 Segment 1
- I.6. Putting stake fences at cross section ditch :
Revised Segment 1
- I.7. Drawings.
 - Cross section profile, up to Sta 8 + 000 } Segment 2
 - Longitudinal profile, up to Sta 9 + 600 } Segment 2
 - The planning of cross section profile } Segment 1
 - The planning of longitudinal profile } -
 - Calculating the volume of earth works : -
- I.8. Tools and equipment used :
 - a. 1 ea TRANSIT
 - b. 1 ea TRANSIT
 - c. 2 ea LEVEL
 - d. 1 ea TAPCON
 - e. Metering indicator
 - f. Graph papers
 - g. Drawing materials
 - h. Calculator
- I.9. Obstructions and delays
 1. Rain fall on date of 2nd, at dawn
 2. Extensive clearing of jungle vegetation necessary
 3. Graph paper used up, and not available enforcing idleness of draftsman for 2 weeks.
 4. The survey team of P.T. Sekayu Int'l. was not permitted to work after normal working hours from 1st August, 1979.

II. MAINTENANCE.

II.1. Excavation of Temp. Side Ditch Maintenance

Sta	to	Sta
6 + 700	-	7 + 900
8 + 700	-	9 + 950
11 + 000	-	14 + 675
13 + 250	-	13 + 800
24 + 400	-	25 + 100
27 + 100	-	27 + 300
28 + 100	-	28 + 600
29 + 000	-	29 + 115
30 + 600	-	30 + 640
30 + 975	-	31 + 975
32 + 200	-	32 + 800

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II. Excavation of Taro, Swamp Ditch & Maintenance.

Sta : 2 + 300
 2 + 945
 3 + 500
 11 + 625
 21 + 930
 22 + 235
 22 + 737
 23 + 212

II.3. Daylighting & Maintenance : None

II.4. Construction of Taro Bridge & Maintenance

Kapipo Bridge Sta 2 + 750
 2 + 945
 3 + 500

Lopa Lopa Bridge Sta 10 + 200
 Lab ngko Bridge Sta 11 + 625
 Mac Nute Bridge Sta 12 + 900
 Lumburoso Bridge Sta 12 + 900
 Bone Nute Bridge Sta 18 + 512
 Tuwo Bridge Sta 22 + 600
 Pejuro Bridge Sta 24 + 500

II.5. Existing Road Maintenance

Sta 8 + 700 - 9 + 950

II.6. Materials & Equipment used were

- a. Motor Grader, SIG-1, SIG-2, & SIG-3
- b. Light Compactor
- c. Dumptrucks
- d. Manpower
- e. Sandy gravel
- f. Hammers, axes.
- g. Nails, and wires
- h. Coconut trunks, and timber plank.

II.7. Obstructions

The ditches, being in erodable soil, are silting rapidly.

III. CLEARING AND GRADING.

III.1. Location : Tarengge Sta 32 + 100 - Sta 32 + 600

III.2. Equipment used was : Motor Grader SIG-2

III.3. Comments.

Contractor is not allowed to begin performance the work on Segment 2, because there are many items on Segment 1 still not being finished.

IV. SUBGRADE.

IV.1. Excavation : None

IV.2. Embankment :

Sta	to	Sta	Material	Embankment
18 + 500	-	18 + 600	114 M ³	Soil
26 + 850	-	26 + 950	159 M ³	Sandy gravel
27 + 300	-	27 + 360	18 M ³	Stones
27 + 600	-	28 + 650	1326 M ³	Sand

IV.3. Subgrade Construction

Sta	to	Sta	Total Pass	Equipment Used
17 + 300	-	18 + 400	-	Pneumatic Tyre Roller
26 + 300	-	26 + 900	-	Pneumatic Tyre Roller
27 + 300	-	27 + 700	-	Dynapac & SID-6
28 + 100	-	28 + 600	-	Pneumatic Tyre Roller

Notation :

Dynapac + SID-6/SID-7 = Sheep Foot Roller (Vibratory) to be towed by the Bulldozers (SID-6 or SID-7)

Obstructions and delays

During this month, the following compaction equipment were deadlined :

- SIG-3 Smooth Roller (Vibrator)
- SIG-5 Sheep Foot Roller (Vibrator)
- SIG-6 or SIG-1 = Tandem Roller

V. SEWERAGE PREPARATION

V.1. Rebankment (Fill).

Sta	to	Sta	Layer	Thick (cm)
24 + 500	-	24 + 925	I & II	20 + 20
25 + 100	-	25 + 250	I & II	20 + 20
27 + 375	-	27 + 475	I	20
25 + 300	-	26 + 700	I	20
30 + 275	-	30 + 775	I	20

V.2. Construction :

V.3. Equipments used were :

- a. 2 ea Wheel Loader WL-1, & WL-3
- b. 2 ea Bulldozers, on the I, III, & IV vecks (SID-5, SID-6, SID-7)
- c. 7 - 1) Dumptrucks
- d. 1 - 3 Motor Grader, SIG-1, SIG-2, and SIG-3.

V.4. Obstructions and delays.

- The breakdown of SIG-3) during August, 79
- SIG-6)
- The material source is too far from the work-location.
- Many Drivers of Motor Graders took the opportunity of their annual leave.

VI. LABORATORY

VI.1. Soil Survey

- Lab. Compaction Test

Sta	9 + 500	10 + 500	28 + 500	29 + 500
MDD	1,76	1,56	1,64	1,79
MFC	16,36	23,28	21,60	13,40

Sta	32 + 000	32 + 500	Mac Mate River
MDD	1,57	1,73	2,21
MFC	21,60	17,40	

- Field Density Test.

Sta	= 10 + 500	13 + 550	14 + 000	14 + 500	14 + 900
Result (%)	= 100,6	111	103	109,3	103,38
Sta	= 18 + 500	18 + 525	18 + 700	26 + 625	26 + 725
Result (%)	= 97,84	98,92	95,53	110,84	116,86
Sta	= 31 + 150	31 + 200	31 + 250	31 + 350	31 + 050
Result (%)	= 110	114	110	113	112

Sta	= 3 + 150	32 + 200	32 + 250	32 + 300	32 + 400
Result(%)	= 107	104	106	108,0	99,26
Sta	= 3 + 600	32 + 700	32 + 800	32 + 900	32 + 96
Result(%)	= 115	112,14	116,76	109,25	108,09

- Specific gravity.

Material	Ga
Bungadidi Sand	2,63
Bungadidi Gravel	2,68
Soil	
Sta 32 + 500	2,60
29 + 000	2,67
10 + 500	2,74

Gravel	Pang.	Watered	Ga
	3/4	4	2,65
	1 1/2	4	2,67

- Relative Density of Materials from Thwao River = 2,06
- The CBR Test of subbase materials :
 - From Bungadidi, the CBR value: 55
 - From Kao, the CBR value: 40
- Reading the swelling of compaction test for the CBR test/trial from the sample soil : Sta 12 + 000 and Sta 17 + 600
- Deciding the connection between the result of Speedy Moisture Tester with the conventional system.
- Surveying the dirt organic value/ quality of the River Kao materials. Result : Is not able to use as the materials for concrete making.
- Sieve analysis of subbase materials at Sta 3 + 000 (Segment 1)
- Sampling of soil from Sta 0 + 500 up to 1 + 000 (Segment 2)
 - Lagogo (gravel 1 1/2")
 - Bungadidi (gravel 3/4")
 - Tironggo
 - Kao Muto River and Embulu River
- Examining the thick of sandy gravel fill (embankment) from Sta 0 + 000 up to 25 + 000 (every 500 m)

VI.32 Concrete Survey.

Concrete Survey

- Taking concrete cubes from :

Date	Remark	The Cubes Amount	Slump (cm)
6	Concrete pipe Mix. 1 : 2 1/2 : 3 1/2	4	6
7	ditto	4	8
8	ditto	4	8
9	ditto	4	6 1/2
	<u>Mixture Planning</u> 1 : 3 : 3		
11	Concrete pipe Mix. 1 : 2 1/2 : 3 1/2	4	8
14	ditto	4	7
15	ditto	4	4
18	ditto	4	4
15	<u>Mixture Planning</u> 1 : 2 : 3	8	8

VI.4. Compressive Concrete Tests.

Result : a) The pouring of concrete pipes on date of 20th July, 1979 failed. (5 x 60 cm). Do not comply with the Specifications.

- b) The approved ones which comply with the Specifications are the the concrete pipes produced on date of : 18, 19, 21, 23, 24, 26, 28 July 1979. And on date of 6, 7, 8, 9, 11, 14, 15 August, 1979.
- c) The mixture planning 1 : 3 : 3 produces concrete which is classified as class B

VII. CONCRETE PIPE CONSTRUCTION & ACTIVITY AT MATERIAL SOURCE

VII.1. Activity at material source in Bungadidi

<u>Size (Ø) & Amount of concrete pipes.</u>	<u>Slump cm</u>	<u>Mixture Cement:Sand:Gravel</u>	<u>Date of Pour.</u>
4 Ø 80	6-8	1 : 2½ : 3½	6
1 Ø 60	6-10	ditto	7
5 Ø 80			
6 Ø 60	7-8½	ditto	8
1 Ø 80			
6 Ø 60	7-10	ditto	9
1 Ø 80			
1 Ø 60	7½-9	ditto	11
4 Ø 80			
4 Ø 60	7	ditto	14
3 Ø 80			
4 Ø 60	8	ditto	15
1 Ø 60	7-8	ditto	18
5 Ø 80			

Water used is 18 - 20 liters/l bag of cement.

Other activities are :

- Removing forms
- Maintenance and watering
- Washing and material sieving
- Cleaning
- Ironing with using the concrete iron which is not allowed by the Consultant (Ø 80)
- Maintenance of the roof of iron warehouse (go down)

From Aug. of 1 to 4 Aug. 1979 no concrete pouring activity because :

- Lack of fuel
- P.T. Sekaya Int'l. still not paying the wages of the labourers.

And the reason there is no concrete pouring since 18th Aug. 1979 is :

P.T. Sekaya Int'l. still not showing the result of tests by P.T. Parwaja on the reinforcing steel.

VII.2. Activity at material source in Sanggeni

Providing the material subbase, and the gathering materials was done by the Bulldozer SID-5

VII.3. Activity at material source in Tawao.

The activity at Tawao material source was limited to the 1st, 11th, 13th, 16th, and 28th August, 1979 only and using 1 wheel loader

VII.4. Activity at material source in Kao

- Making the ector way to material source (Kao) just to be performed up to 7 August, 1979.
- The material providing for embankment to the subgrade preparation was done by 1 Bulldozer SID-7 and 1 wheel Loader.

VII.5. Activity at material source in Tononi.

- Activity was begun on 19 Aug. 1979, i.e. channel re-location (diversion) of the river.

The gathering of subbase material was done by 1 Bulldozer SID-7 and 1 Wheel loader WL-3.

Note: The material from the River had excess oversize material, and does not comply with the General Specifications.

VII.6. Material and Equipment used were:

- 1 ea Concrete Mixer
- 2 ea Concrete Vibrators
- Sandy gravel
- Concrete iron (reinforced steel)

VII.7. Obstructions.

- No fuel up to 4th August, 1979
- P.T. Sakaya Int'l. is not allowed to pour concrete before showing the tested result of reinforcing steel from P.T. Barawaja.

VIII. CONCRETE CONSTRUCTION AND BRIDGE.

VIII.1. Making the double box culverts at Sta 8 + 517 (Lagego)

- Fill and compacted (to Hina direction)
- Leveling the approach road
- Removing the emergency bridge
- Excavating the soft soil and the hard soil for the left wing of the concrete building (wing wall)

VIII.2. Double box culverts " Jabungca " (Sta 11 + 623).

- Preparation and pillar erection
- Preparation, installing the cross section beams
- Installing the longitudinal beams
- Installing the bridge floor
- Constructing the temp. approach road.

VIII.3. Double box culverts " Kapipo " (Sta 3 + 500).

- Clearing the construction area
- Common excavation for construction
- Making the plasters for holding common
- Pillars erection, the longitudinal logs, and bridge floor
- Making the enter/approach road
- Installing the stake fences.

VIII.4. Double box culverts " Kapipo " (Sta 2 + 975).

- Making the temp. bridge
- Making the temp. approach road
- Pouring the blinding layer
- Installing non approved reinforcing steel
- Making the forms.

VIII.5. Double box culverts " Kapipo " (Sta 2 + 975)

- Erecting the pillars, installing the long. and cross section beams.
- Installing the plasters and bridge floor
- Inbankment of the temp. approach road

VIII.6. Making the temp. bridge at Kono Pita (Sta 18 + 625).

- Making the wooden plasters and making pillars.
- Consultant is suggesting for making the temp. bridge outside the area of planning culverts (planning culverts area).

VIII.7. The Concrete Pipes Amount Correction.

Because of inaccurate data recording, there are 2 concrete pipe amounts,

A.	B.
145 Ø 60	148 Ø 60
212 Ø 80	225 Ø 80
81 Ø 100	59 Ø 100
<hr/>	<hr/>
438 ea.	432 ea.

5. THE NUMBER OF ANNUAL LEAVE entitlements.

Most of the P.T. Sekayu's heavy equipment is in bad condition (broken down) and the only one of the new equipment is the roller w/ tyre wheel which began production on 6th Aug, 1977 (see attached list). The stone crusher still is not in production, having to wait for the arrival of :

- Conveyor belts
- Jaw
- Screen

The Manager of Finance of P.T. Sekayu Int'l. Mr. Emilio Furro from Jakarta had visited the office Wotu on 1st Aug. up to 3rd Aug. 1977. On 9th Aug. 1977 the truck drivers threatened to strike in order to get a better salary. The management of P.T. Sekayu had decided the dates of 23rd up to 25th Aug. as the public holidays for celebrating the Moslem Day. P.T. Sekayu had added the fleet with 3 sand dump-trucks, with Mercedes Benz trade mark, and the loading capacity is 6 tons.

THE LIST OF EMPLOYEES WHICH TOOK THE OPPORTUNITY OF HAVING ANNUAL LEAVES/COMPASSIONATE LEAVES.

Month of August / September 77)

No.	NAME	POSITION	L/C	DATE	
				Since	Until
1.	Hodun	Operator	L	13 Aug.	29 Aug.
2.	Rudani	Security	L	13 Aug.	29 Aug.
3.	Samuel K	Mechanic Helper	C	13 Aug.	16 Aug.
4.	Marcos	Chief Mechanic	L	14 Aug.	30 Aug.
5.	Masari	Mechanic	L	15 Aug.	31 Aug.
6.	R.S. Kokrodirajo	Dispatcher	L	15 Aug.	31 Aug.
7.	M. Sulisun	F/A. Driver	L	15 Aug.	31 Aug.
8.	Liberty-fai	Chief Operator	C	15 Aug.	27 Aug.
9.	Tomoo	Security	L	13 Aug.	29 Aug.
10.	Kobra Ali	Checker	L	13 Aug.	29 Aug.
11.	Jana	Office Boy	C	15 Aug.	31 Aug.
12.	Ariffin J.B.	Driver	C	20 Aug.	23 Aug.
13.	Uding	Driver	C	20 Aug.	23 Aug.
14.	Therain K	Mechanic	C	21 Aug.	23 Aug.
15.	M. Kartoprawira	Finance Acct.	C	21 Aug.	23 Aug.
16.	Abdul Thalib	Fleet. Helper	C	21 Aug.	23 Aug.
17.	S. Hissal	Load man road	C	21 Aug.	23 Aug.
18.	Da Lu Gau	Driver	C	22 Aug.	23 Aug.
19.	Alyen Hatibie	Cashier	C	22 Aug.	31 Aug.
20.	Hurni	Cook Helper	L	22 Aug.	25 Aug.
21.	Ikhomuddin	Secretary	L	27 Aug.	06 Sep.
22.	Dian Sunardi	Fleet. Helper	L	27 Aug.	04 Sep.
23.	Hartono	Driver	L	28 Aug.	08 Sep.
24.	Zuboruddin	Soil Technician	C	28 Aug.	31 Aug.
25.	Santiono Wibowo	Project Engineer	C	12 Aug.	18 Aug.
26.	Pudjianto			13 Aug.	13 Aug.
27.	Warren E	P.EE. Supt.		13 Aug.	18 Aug.
28.	Rondo A.C.	Project Manager		15 Aug.	18 Aug.
29.	Ib. Rudin S	Bridge Supt.		23 Aug.	31 Aug.
				22 Aug.	29 Aug.

Remark :

- L = Leave (Annual).
- C = Compassionate Leave

THE LIST OF HEAVY EQUIPMENTS FROM
1 AUGUST UP TO 31 AUGUST, 1979.

TYPE OF HEAVY EQUIP.	IDENTITY NO.	DATE		
		Broken	Idle	
<u>HELIOIDER</u>	SID - 3	1 up to 31	-	
	SID - 4	1 up to 14, except 12.	20, 21, 27, 28, 29, 30, 31.	
	SID - 5	-	-	
	SID - 6	6, 7, 8, 9, 10, 11, 13, 14, 15.	21, 27, 28, 29, 30, 31.	
	SID - 7	1	9, 13, 18, 20, 21, 27, 28, 31.	
	SID - 8	1 up to 31	-	
<u>MOTOR GRADER</u>	SIG - 7	-	2, 7, 8, 9, 10, 13, 14, 15, 16, 20, 21, 22, 27, 28, 29, 30, 31	
	SIG - 2	-	1, 10, 14, 15, 16, 20, 27, 28.	
	SIG - 3	-	-	
<u>ROLLER VIBRATOR</u>	a. Smooth Roller	SIC - 3	1 up to 31	-
	b. Sheep Foot Roller	SIC - 5	1 up to 31	-
	c. Sheep Foot Roller & be towed	D, map ac	27, 28, 29, 30, 31	6, 7, 8, 9, 10, 14, 18, 20, 21, 22.
<u>TANDEM ROLLER</u>	SIC - 6 or SRR-1	1, 2, 3, 4, 6, 7, 8, 9, 10, 11 13, 14, 15, 16, 17, 18, 20, 21, 22, 27, 28, 29, 30, 31.		
<u>TANDEM TIRE ROLLER</u>	SIC - 4	-	13, 15, 16, 18, 20, 21, 22, 27, 28, 29, 31.	
<u>LOADER</u>	a. Wheel Loader	WL - 1	-	2, 3, 20, 21, 22, 31.
		WL - 3	-	31.
	b. Track Loader	D 60 S	1 up to 31	
<u>CRANE</u>	L. GIANT	-	13, 14, 15, 16, 17, 18, 20, 21, 22, 27, 28, 29, 30, 31.	
<u>STONE CURBER</u>		-	Still being adjusted	

Remark : The Motor Graders are not in production, concerning with no available operators (Lack of operators).

- Preparing the Daily, Weekly and Monthly Report
- Take out planning at Segment 2 (up to Sta 13 + 000)
- Project Record Estimate No. 10 f or the month of July
- Supervising the re-aligning of the existing road and side ditch at Segment 1 (up to Sta 10 + 000) and (Sta 14 + 675 up to 21 + 000)
- Deciding the concrete mixings for the concrete pipe
- Receiving, and specify all the concrete iron which arrived at location
- The meeting between P.T. Indah Karya - LBII (R.E. Section I and EIC) - J. A.H., B.M. Merga, and Contractor (President Director, Technical Dept. of P.T. Sekayu Int'l.)
- Learning the article of 52.3 of the General Conditions of Contract
- Information Orders to Contractor, in executed the works :
 - a. Repairing the bridge of Was Hato
 - b. To upright the water line of Lepa Lepa river
 - c. Putting the concrete pipes at the side of the road :
 - Sta 24 + 750 (in front of Babur Fachman Mosque)
 - Sta 24 + 725 (in front of Consultant Office)
 - d. Maintenance to the Lepa Bridge abutment
 - e. Not using the sand of Kao River for concrete mixing
 - f. Making the wing walls of culverts which conform with the Drawing Contract.
 - g. To upright the water line of Lagogo River
 - i. Maintenance of Gumpang Bridge (Sta 29 + 200)
Lasa Bridge (Sta 29 + 490)
- Preparing the cost calculation (cost planning) which would be needed for road construction of Segment 1 without appraising.
- To get the permission of taking material at Tomoni River and channel re-location (diversion) of the river.
- Supervising the Lab. Activities of P.T. Sekayu International.

XI. WEATHER CONDITION & OTHERS

The rain fall during the month of August is very light, but the Contractor was not able to take advantage of this because most of his heavy equipment was broken down.

Rain falls on :	Date	Hours	to	Hours	
	2	07.00		10.00	
		17.00		21.00	
	3	23.00		01.00	
	4	22.00		24.00	
	5	23.00		Night	
	9	22.30		Night	
	13	Morning		Showery	
	18	02.00		04.30	(Dungadiol)
		03.15		07.15	(Dungadiol)
	19	21.00		Night	
	20	14.30		02.30	(Showery)

- The Dumptruck of P.T. Sekayu (BIT 019) turned over at Sta 20 + 100 but the driver was unhurt.
- A labourer of drilling crew, Mr. Kuru got the big toe of his right foot, and cut off.

Activities at Dago Camp Dago?

- The drilling well is already reached the depth, 71 meters, and water pipe lines will be soon connected to all family housing.
- Repairing of Mr. John R. Fowler and Mr. Raymond houses

Contractor is setting the concrete pipes at Sta :

- 1 + 505 (side culvert)
- 0 + 345)
- 1 + 915)
- 2 + 370)
- 2 + 500 (cross sectioning culverts)
- 3 + 805)
- 6 + 405)
- 6 + 605)
- 20 + 550)
- 5 + 600)
- 24 + 715 (side culverts)
- 24 + 775)

The Visitors which visited Section I. 1

<u>N. A. M. e</u>	<u>Position</u>	<u>Date</u>	<u>Purpose</u>
Mr. Henry Pondang	Project Manager PPJL	4, 7, & 8	Duty
Mr. Bambang TH	Chief of Technic Dept. of PPJL	4, 7, & 8	Duty
Mr. Bonar S	Hina Barga, Jakarta	7, & 8	Duty
Mr. Jack Le Micr	U S A I D	7, 8, & 9	Duty
Mr. Danie Barro	Finance Manager of P.T. Sekayu	1 - 13	Duty
Mr. Phillip B.T.	U S A I D	7, 8, & 9	Duty
Mr. Agastian	Director of Technic P.T. Sekayu	7 - 9	Duty
Mr. Kuncoro	President Director of P.T. Sekayu Int'l.	7 - 9	Duty.

The employees of P.T. Indah Karya - LBII which left the jobsite :

<u>N. A. M. e</u>	<u>Position</u>	<u>Date</u>
B. Suryanto	Asst. Resident Eng.	23 August, - 10 Sept. 79
T. S. priya	Inspector	10 August, -
Mawan Darmawan	Surveyor	10 August, - 13 Sept. 79
Bambang T	Dr. fman	16 August, - 13 Sept. 79

The Contractor had permission to work on Sunday, 5th and 12th August. P.T. Sekayu Int'l. had provided 29,6 tons of reinforcing steel without following the procedures which are manifested on Article 8.03 (c) 1 of the General Specifications.

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The work program of P.T. Indah Karya Int'l. during the August, is very low with an average 0.5% only, because :

1. The problem of fuel (up to 7th Aug. 1977)
2. No available construction equipment
3. The material source is too far from the work location.
4. Not permitted of concrete pouring
5. Many employees took the opportunities of having annual leave and many public holidays.

As additional information, the Toyota Jeep No. Pol DD 7847 is having trouble on the left front wheel (the cone bearing is broken), so must be repaired from 7th up to 14th Aug. 1977, regarding with no available stock of spare-parts in Contractor's workshop.

The survey team of P.T. Indah Karya and P.T. Solayu Int'l. had come back to Kupuro since 15th August, 1977.

Best Available Document

4. THE ACTIVITY IN SECTION II - PEMBANGUNAN JAYA

RESIDENT ENGINEER

Progress was impeded due to the slow down of activities because of the observance of the Holy Month of Ramadan. The Contractor, also, took advantage of the national and religious holidays during the period of 17 August through 26 August by shutting down construction activities in order to allow staff to take their contracted home leaves. No doubt in the overall picture, there is a decided advantage of a shortbreak in activities than a continuous period of disruptions caused by a random leave policy of various key personnel. It is noted due to fasting and other obligations during the Ramadan season, the efficiency of individual workers is curtailed greatly.

General Staff Meeting

The monthly staff meeting was held in the conference room of the Resident Engineers Office at Kamatan on 04 September 1979. The topics for discussion were the monthly estimate for August, problem areas confronting the contractor, the OBR testing program. Clearing & grubbing in swamp Areas, bridge repairs and roadway maintenance, and the ensuing patching program in the paved section of Segment I.

Drainage Ditches

The sub-contractors responsible for the excavation of special drainage ditches continued their operation during this report period. This work is a labor intensive effort. Excavation was executed in the areas stated as follows :

Station 12 + 000 through 18 + 000

The calculated amount of excavated material totaled 2,630 m³ during this period. These ditches are approximately 1.0 to 2.0 m/- metres in width. Survey crews set batter boards and the cut to grade line is generally taken directly from the plan. Occasionally, due to changes encountered in the field, the gradient may be revised to accommodate revised conditions because of construction activities or on the spot observation after a rain storm.

Pipe Culverts

The contractor initiated fabrication of unreinforced concrete pipe culverts during August. The Resident Engineer had reviewed and approved the concrete mix design for specification Class "B" (195 Kgs/Cy/2775 PSI + 25 %) having a maximum size aggregate of 1 1/2 inches (38.1 mm).

At the end of the month the casting yard had completed the following : unreinforced pipe culverts, each having one metre length per Section.

60 " ϕ	None
80 " ϕ	18
100 " ϕ	35

Towards the end of August the Contractor commenced the manufacturing of Reinforced Concrete Culvert Pipe (RCCP).

The formwork detail and cage placement technique was reviewed by the Consultant and approved in the early part of June for the three standard size pipes to be incorporated in the project.

Towards the end of August, (28 August 1979), a special design mix for the Class "B" specification strength was approved using 3/4 " (19.1 mm) maximum course aggregate.

Two one-metre sections were fabricated of the RCCP during this report period.

The Contractor was informed that internal rodding for consolidation of the concrete mass in the forms was not a substitute for the use of either pencil type internal vibrators or acceptable external vibrators.

Clearing & Grubbing

The following areas were cleared 90% effectively during August in zones of sparse vegetation (Item 3.03 (3)) :

<u>Direction</u>	<u>Sta</u>	<u>to Sta</u>	<u>Length</u> (M)	<u>Width</u> (M)	<u>Area</u> (M ²)
Lt	12 + 400	12 + 722	322	12	3 864
Lt	13 + 000	13 + 970	970	11.5	11 155
Rt	12 + 400	12 + 964	564	11	6 204
Rt	13 + 000	14 + 700	1700	11.5	19 550
Rt	14 + 700	15 + 450	750	5.5	4,125
Rt	15 + 450	15 + 660	210	12	2 520

47,418

August Progress 90 %

42,676

The Consultant allowed 15,971 square metres of clearing in swampy areas. This item was placed in the pay schedule as 3.03 (4). The Bina Marga orally approved an interim unit price of Rp 144 per square metre, which is the approved payment for clearing in jungle areas. Clearing in swamps was done on the left side of the roadway between station 13 + 970 and 15 + 660.

Clearing in jungle area was performed 90 % effectively between station 12 + 722 and 12 + 964 (Longitudinal length 242 linear metres). The average width of the existing roadway from toe-of-slope was measured at approximately 6.0 metres. The area cleared was calculated at 2,904 square metres.

The Consultant allowed the Contractor to invoice for 2,614 square metres pending final clean-up of the cleared sites.

The Contractor initiated clearing in areas classified as " rubber forests " according to the specifications and pay schedule. The rubber forests was an area to the right of the stationing between 14 + 700 through 15 + 450 on a distance of 750 metres. The median width cleared on the edge of old rubber plantation was approximately 6.0 metres. The Consultant allowed 100 % of this area, or 4,500 square metres, in the August estimate.

Common Excavation

Excavation of Common Material was carried out during August. The removal of unsuitable material from the roadway price amounted to 1072 cubic metres.

Work continued on the excavation of irrigation ditches. The material handled amounted to an additional 2,430 cubic metres.

The Engineer approved for the pay estimate a total of 3,502 cubic metres of Common Excavation to be paid under Item 3.04.

The total work performed on this item amounts to 25.18 % of the weighted original estimate of quantities.

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Compaction of Foundation Embankment

During August the Contractor initiated work under Pay Item 3.08 (5) The work was performed in a stretch of 552 metres long, between stations 13 + 411 and 13 + 963 for an average width of 4.0 metres. The Consultant verified and approved an area of 2,208 square metres of satisfactory work performed under this item. This payment shows that 8.07 % of the work item, according to the bid schedule, has been completed.

Embankment from Common / Borrow

The Consultant allowed the following quantities under Item 3.08 (1) during August :

Replacement of Unsuitable Material	601 Cubic Metres
Widening of Roadbed	1972 Cubic Metres
Raising the Platform (Embankment)	4, 010 Cubic Metres
Side Road Embankment	62 Cubic Metres
Maintenance (Segment II)	5,000 Cubic Metres
August Estimate	<u>11,435 Cubic Metres</u>

At the end of August the Contractor has moved 49,035 cubic metres or performed 49.57 % of the contracted item. Possibly only 50 % of the existing roadway of Segment I has been wide to 75 % of the sub-grade final grade. Most areas will require additional borrow conforming to the subgrade specifications to fill the void for the deletion of the selected sub-base material. This modification depends primarily on the results of the CBR laboratory testing.

Progress

At the end of August the Contractor had completed approximately 13.4 percent of the scheduled work, based on the monetary weights taken from the original bid schedule.

Revised Design Estimate

The revised design, compiled during July 1979 by Mr. Spiegel's unit, projects a bottom line cost for Section II of 4.2 billion rupiahs using the prevailing unit prices. This figure excludes bridges. Since the hiatus imposed due to the lack of a qualified bridge engineer precludes a viable estimate for these structures. Based on the above mentioned revised roadway estimate, the progress measured to date is approximately 6.85%.

Inspection

During August the following official visitations were made to the Project Site by representative from the Engineering Division of the USAID in Jakarta:

Mr. Abraham Grayson	Chief Engineer
Mr. Jacob Willebeck-Le Mair	Sub-Project Officer/Eng'r
Mr. Philip	General Engineer

Note : Project Monitor : Luwu Road & Bridges Betterment Project.

An inspection was made of the road and the Contractor's facilities at Karetan. Discussions were held with the Resident Engineer. Project progress and problems were among the topics on the agenda. Contractor personnel were briefed on the status of the contractor's plant and logistic support as well as warehousing of spare parts. The crusher site and the RCCP casting yard was inspected.

Logistic Support.

The water at the Karetan Base Camp is still unsatisfactory. The Contractor is still waiting on the drilling-rig to be removed from Bone Bone in order to drill a deep water well at Karetan.

The Consultant is still experiencing problems with the camp electrical distribution system. The whole system must be reviewed, automatic voltage regulators should be installed, possibly a bank of transformers may be required for operation of the Consultant house and field office.

The design is experiencing problems with production due to insufficient power to run the air conditioners at the field Office. The hot season is coming. This situation requires the immediate attention of the Contractor. The contractor must assign a man 24 hours a day to monitor the generator and to dispatch the load properly. The recent fire in the generator shack nearly eradicated the electrical system completely.

The Contractor stated they were in the process of redesigning the distribution system.

Consultants Staffing.

The listed personnel in the following tables are assigned to the Resident Engineer's Office at the Karetan Base Camp :

Table " A "
Construction Supervision

Alfred L. Foust	Resident Engineer	Louis Berger Int. Inc.
Ir. Maryanto Marin	Asst. Res. Eng'r	P.T. Indah Karya
Ir. Surya Wijaya	Asst. Materials Eng'r	"
M. Saleh B	Laboratory Technician	"
Acp Syaefuddin	" "	"
Jooce Kamu	" "	"
Zahlan K	Asst. Quantity Surveyor	"
Atai Hangat	Printer (Reproduction)	"
Sugian Moor	Inspector	"
Simon K.T.	Inspector	"
Y. Ngatinin	Surveyor	"
Sudarno	Surveyor	"
G. Sutrisno	Chairman	"
Suleman	Draftman	"
Yunus L. Renta	Asst. Adm. Officer	"
Paulus Rodarius	Typist	"
Johana Patandung	Clerk - Typist	"
Ahmad Yusa	Sr. Clerk	"
Mansyur Gani	Driver	"
Erwin A.R.	Driver	"
Dimmer Mannulang	Office Boy	"
Wandi Ajo S	Watchman	"
Marhana	House Maid	"
Sarfina	House Maid	"

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The supervisory staff and their supporting team members as shown in Table " B " devotes 50 % of their time to Section II activities :

Table " B "

<u>Bone-Bone H.Q. staff</u>		
Howard E. Raymond	Engineer-in-Charge	Louis Berger Int. Inc.
Kgs Ahmad	Deputy EIC	P.T. Indah Karya
Eusebio L. Arzvalo	Materials Engineer	Louis Berger Int. Inc.
E.P. Mowiles	Driver	P.T. Indah Karya
M. Natsir Kasim	Driver	- " -
Abdullah	Driver	- " -

Design Section Staff

The following listed personnel are engaged on the redesign of Section II. The Staff shown in Table " C " are stationed at the Karetan Field Office of the Resident Engineer, where logistic and administration support is provided :

Table " C "

Michael Spiegel	Design Engineer	Louis Berger Int. Inc.
Handono BS	Assist. Design Eng.	P.T. Indah Karya
Benny Taulu	Surveyor	- " -
Nana Thea	Draftsman	- " -
Paul Kairupan	Surveyor	- " -
P. Pattolah	Chairman	- " -
A. Haris	Chairman	- " -
Henry Vagay	Chairman	- " -
Paul Lantean	Chairman	- " -
Agus Sukarno	Draftsman	- " -
L. Syarifuddin	Administration	- " -
Adrian To	Driver	- " -
Muhammad	Driver	- " -
Astamang	Relief Driver	- " -

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Manpower Schedule

The following table of organization details the staffing pattern of the Contractor during August :

<u>Name</u>	<u>No.</u>	<u>Position</u>	<u>Remarks</u>
Mr. Suddh Ruslan	1	Project Manager	
Mr. Victor Stanipar	1	Deputy Project M.	
Ernest Kuznez	1	Const. Supt.	Expatriate
A. Sakran	1	Bridge & Culvert Superintendent	
S. Sudarna	2 6	Road Superintendent	
Richard T. Walsh	1	H.E. Specialist	Expatriate
Mr. L. Naibaho	1	Chief of H.E.	
Emil Sanjaya	1	Deputy Chief of H.E.	
	26	Drivers	
	22	Operator	
	6	Operator (Grubing)	
	15	Workshop	
	3	Installation	
	7	H.E. Logistic	
	3	H.E. Administration	
Marcus Stanipar	1	Surveyor's Chief	
	13	" Crew	
	1	Draftsman	
Alvaro Pinaen	1	Materials Engineer	Expatriate
Mr. Inode MSQ.	1	" "	
V. Sulandari S.S.	1	Laboratory's Chief	
	7	Laborant	
	2	Helper	
Paranto	1	Finance & Acc.	
	5	Civilian	
Paling Anwar	1	Logistic	
	2	Warehouse	
Soegiyono	1	Security's Chief	
	10	Security	
<hr/>			
Ma'ua	1	Labor Group Leader	
	30	Skilled / Unskilled Labor	
Karja	1	Labor Group Leader	
	52	Skilled / Unskilled Labor	
Kundi	1	Labor Group Leader	
	28	Skilled / Unskilled Labor	
<hr/>			
Total	256	Persons	

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Table of Equipment - Plant - Vehicles

The P.T. Pembangunan Jaya Water Pool was comprised of the following listed units during August 1979.

No.	Name of Equipment	Unit	Trade	Capacity	Condition
1.	Steel Roller	2	Sakai	8.5-20 T.	Good
2.	Three Wheel Roller	2	Sakai	8-10 T.	Good
3.	Three Wheel Roller	2	Sheld	6-8 T.	Fair
4.	Vibratory Compactor	1	I.R.	9.6-22 T.	Good
5.	Double Vibe Roller	1	Wacker	1- 4 T.	Fair
6.	Asphalt Sprayer	1	Robin	600 Ltr.	Fair
7.	Genset	1	Denyo	30 KVA.	Good
8.	Genset	1	Cummins	175KVA.	Excellent
9.	Genset	1	A E G	10 KVA.	Good
10.	Genset	1	Caterpillar	135KVA.	Good
11.	Air Compressor	1	Broer Wade	125GPM.	Good
12.	Concrete Mixer	1	Kikkō	400Ltr.	Good
13.	Concrete Mixer	1	Winget	250Ltr.	Good
14.	Concrete Mixer	1	Goliath	200Ltr.	Good
15.	Water pump	2	Kaynoto	4Inch.	Good
16.	Water Pump	1	Honda	5Inch.	Good
17.	Fuel pump	2	Rebda	2Inch.	Good
18.	Water Machine	1	Wagon	300 Amp.	Good
19.	Concrete Vibrator	3	Wacker	1 1/2Inch.	Good
20.	Plant Compressor	2	Wacker	-	Good
21.	Stampor	6	Wacker	-	Excellent
22.	Chain Saw	6	Mc. Culloch	-	Excellent
23.	Jaw Crusher	1	Jagusa	50 HP.	Excellent
24.	Cyrotory Crusher	1	Jagusa	50 HP.	Excellent
25.	Vibrating Screen	1	Hargill	-	Excellent
26.	Motor Grader 120 G.	2	Caterpillar	125 HP.	Excellent
27.	Wheel Loader 930	2	Caterpillar	100 HP.	Excellent
28.	Truck Loader	2	Caterpillar	125 HP.	Excellent
29.	Bulldozer DGD w/Winch	1	Caterpillar	140 HP.	Excellent
30.	- " - DGD	2	Caterpillar	140 HP.	Excellent
31.	Dump Truck TAD 40	23	Isuzu	6 T.	Excellent
32.	Light Truck TED53	1	Isuzu	2.5 T.	Excellent
33.	Pick-Up Car	1	Datsun	-	Good
34.	Land Crusher	4	Toyota	-	Good
35.	Motor Cycle	6	-	-	Good
Total Equipment		91	Units		

Consultant Actions

1. The following directives, orders, or informational material was passed to the Contractor by the Resident Engineer during August :
2. Damage abutment repairs at Station 6 + 734. The consultant ordered reparation of the North Abutment. (Y-299/004/085/130/79 dated 01 Aug. 79)
3. Berm Construction & Special Ditching. Due to changes overcabled during construction activities, the Engineer ordered the Contractor to cut a " V " type ditch and construct a protective berm between Sta 5 + 468 - 5 + 700. (Y-299/004/086/153/79 dated 03 Aug. 1979)
4. Gabions (Wire Mesh). A request for a unit price for Gabions. This item is covered by specifications but was not included in the bid-schedule. (Y-299/004/087/153/79 dated 01 Aug. 1979)
5. Washing machine plumbing order for R.E. house at Karetan Base Camp. (Y-299/004/088/156/79 dated 03 Aug. 1979.)
6. Pipe Culvert Fabrication. Confirmation that the preparatory work for manufacturing of reinforced and unreinforced concrete culvert pipes is satisfactory and casting work may proceed. Restated the necessity for proper vibratory equipment. (Y-299/004/089/157 dated 04 August, 1979.)
7. Instruction for collection of Meteorology Data at the Karetan Base Camp and at other work sites including bridges. (Y-299/004/090/160/79 dated 04 Aug. 1979.)
8. Transmittal of the Engineers Estimate for quantities in the revised of Segment 1 - Section I (Y-299/004/091/161/79 dated 02 Aug. 1979)
9. Transmittal of two sets of final plans for Segment 1 - Section II to the Contractor. (Y-299/004/092/162/79) dated 05 Aug. 1979.
10. Reconstruction of retaining wall, which failed at the Military Cemetery in the vicinity of KM 391 + 300 from U.P. on the left side of the center line. This was pointed out as a Contractor's obligation. (Y-299/004/093/167/ dated 08 Aug. 1979.)
11. Providing straightedges for sub-grade construction. A contract responsibility, under section 4 of the subgrade specifications. (Y-299/004/094/168/79 dated 08 Aug. 1979)
12. Approval of Class "C" PCC Mix Design. (Y-299/004/095/169/79, dated 06 Aug)
13. Approval of RCP design modification. This entailed the acceptance of a beveled type joint as exposed to a straight 90° lap for the tongue and groor lap. (Y-299/004/096/170/79, dated 09 Aug. 1979.)
14. Portland Cement storage procedures. (Y-299/004/097/173/79, dated 09 Aug.)
15. Form removal Time Schedule for RCP (Y-299/004/098/174, dated 09 Aug.)
16. Paint Specifications Requirement for ancillary concrete components. (Y-299/004/099/175, dated 11 Aug. 1979)
17. Request for soil Testing in the vicinity of Station 8 + 200. (Y-299/004/100/181/79, dated 13 Aug. 1979)
18. Request for an addition side road entry at Sta 14 + 000 (Right Side) Design modifications to be paid as Day Works. (Y-299/004/101/182/79, dated 13 Aug. 1979.)

19. Class "C" PCC Mix Design Approval. (Unreinforced Pipe, using 1.5 inch (3.81 cm) maximum size C.A.). Transmittal to all parties concerned. (Y-299/004/105/185/79, dated 14 August 1979.)
20. Transmittal of the locations where sodding is to be done in the first 5.0 kilometres of segment 1. (Y-299/004/105/186/79, dated 14 August, 79)
21. RCBC Reinforcing Bar Schedule-Revision. An error was transcribed on detail sheet DB 06/7, Item 4 for DBC. RCBC. This directives corrects the error. Recipients were requested to destroy the original sheet and replace with the revision of 15 August. (Y-299/004/106/187/79, dated 15 August 1979.)
22. Political Demarcation Marker - Day Work Schedule recommendation for Aug. pay estimate. (Y-299/004/107/188/79, dated 16 August 1979.)
23. Retaining Wall Strengthening Procedure. Military Cemetery. Reference is made to sketch and payout methods. (Y-299/004/108/192/79, dated 27, August, 1979.)
24. Project Signs. A reminder to fabricate and erect project signs according to AID regulations and contractual agreement (Y-299/004/109/199/ dated 28 August, 1979)
25. Approval of Class "B" PCC Mix Design using 3/4" (19.1 mm) Maximum size C.A. for reinforced concrete culvert pipes. (Y-299/004/110/203/79, dated 29 August, 1979)
26. Day Work Schedule Format. (Code # 39)
A form for control of men, machines, and materials for force account work. (Y-299/004/111/204/79, dated 29 August 1979.)
27. Maintenance Responsibilities for repair of timber bridge at Sta 15 + 660. Order to affect reparations and place signs and diversion warnings. (Y-299/004/112/205/79, dated 30 August 1979)
28. The stockpiling of subgrade material on the traveledway without immediate spreading causing traffic hazards, especially at night. Warning to spread immediately. (Y-299/004/113/206/79, dated 30 Aug. 79)

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Minutes of Meeting.

The monthly tripartite meeting was held on Tuesday afternoon 04 Sept. 1979 at 13 : 00 hours at the Karetan Field Office of the Consultant's Resident Engineer.

The following were in attendance :

Client:

Ir. Bambang T. Harimurti - Acting Project Manager
Ir. Tunggul T.H. Simbolon - Project Officer

Consultant

Alfred L. Foust - Resident Engineer
Michael Spiegel - Design Engineer
Ir. Surya Wijaya - Asst. Material Engineer

Contractor

Ir. Victor W. Sianipar - Acting Project Manager
Ernest Kurusz - Construction Superintendent
(Adviser)
Alvaro Pinson - Materials Engineer (Advisor)

Messrs. Raymond and Arevalo of the Consultants team sent their regrets.

The following items were discussed briefly :

- 1) The quantity estimate for August. Due to lack of sufficient staff, because of the holiday season ending with the EID AD Fitr celebration, the Consultant had not the time to review in depth the Contractors Monthly Invoice.
- 2) Clearing and Grubbing Item was discussed and the Consultant position was presented in graphic detail to the Contractor for re-examination.
- 3) The Bina Marga agreed to an interim figure of Rps. 144/M2 for Clearing and Grubbing in Swamp areas. This item was omitted from the final bid schedule. It is shown on the estimates quantities sheet as a table in the plan summation. It is also covered in the Specifications as Item 3.03 (4). It was agreed that the Contractor would negotiate with the Bina Marga for a final decision on this item.
- 4) Contractor requested the Consultant to waive the CBR testing procedure for determining the design thickness of the pavement structure in favor of density tests. This matter is being deferred until after consultation methodology would not be suitable guide.
- 5) The Contractor solicited information regarding the numbers of CBRs test which will be required. Since Mr. Arevalo was not in attendance this discussion was tabled. A procedure will be drafted and presented to the Contractor by the Materials Engineer.
- 6) The Resident Engineer requested the Contractor to immediately initiate repairs to the bridges in the construction zone under the maintenance obligation.

7) Price's were discussed for Materials used in the patching procedure. This work is being done under force account. However, certain material prices are not covered in the contract. Contractor was ask to prepare supporting data for his materials cost. The conferees were invited to interject their views as regards :

1). PROGRESS

2). PROBLEMS

3). OTHER MATTERS

Not hearing any complaints or observations the meeting was adjourned at approximately 15 : 00 hours.

Cold refreshment were offered and served to the staff.

APPENDIX II

Meteorology Report

Karetan Base Camp

Materials Laboratory

AUGUST 1979

Temperature Chart (C°)

Calcius (0° C)

Date Aug.1979	Inside				Outside			
	Morning 07.15	Noon 12.00	Afternoon 15.00	Mean Daily	Morning 07.15	Noon 12.00	Afternoon 15.00	Mean Daily
1	25	32	32	29.7	26	35	33	31.3
2	26	30	32	29.7	25.5	33	32	35.5
3	27	31	33	30.3	26	35	35	32.0
4	27	33	32	30.7	26	35	33	31.3
5	26	31	32	29.7	25	33	32	30.0
6	27	31.5	33	30.5	26	35	33.5	31.5
7	27	31	32	30.0	25.5	34	35	31.5
8	26.5	31.5	33	30.3	25.5	35	34	31.5
9	26	30.5	32	29.5	24	33.5	33	30.2
10	25	30	31	28.7	34	33	34	30.3
11	25	31	32	29.7	24	34	33	30.3
12	26	31.5	33	30.2	25	34	36	31.7
13	26	31.5	33	30.2	24.5	34	36	31.5
14	27	31	32.5	33.5	26	36	34	30.0
15	27	32	34	31.0	24	34	36	32.0
16	25	31.5	33	30.8	22	36	36	31.3
17	26	30	32.5	29.5	24	34	35	31.0
18	26.5	32	33	30.5	25.5	35	35	31.8
19	27	32	33	30.7	25.5	25	25	31.8
20	26	29.5	31	28.8	24	35	33	30.3
21	26	31.5	32.5	33.0	25	34	33	30.7
22	25	32	32.5	29.8	23.5	34	33.5	30.3
23	25	32	32.5	29.8	24	37	35.5	32.2
24	25	32	32.5	29.8	28	36	35	33.0
25	25	32	32.5	29.8	24	35	34	31.0
26	25	32	32.5	29.3	25.5	34	35.5	31.0
27	26	30	32.5	29.5	27	34	33	32.0
28	25	30.5	32	29.2	23.5	34	33	30.2
29	25	31.5	33	29.8	26	35	36	32.3
30	27	31.5	33	30.5	25	37	34	32.0
31	26	31.5	33	30.2	25	36	34	31.7
Monthly Average	25.9° (78.6°F)	30.3° (86.5°F)	32.5° (90.5°F)	29.57° (85.2°F)	25.0° (77.0°F)	34.7° (94.4°)	34.2° (93.6°)	31.3° (88.3°F)

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PrecipitationAPPENDIX IIMeteorology Report of
Karetan Base Camp.Materials LaboratoryAUGUST 1979

<u>Date</u>	<u>Measurement</u> (mm)	<u>Remarks</u>
01	-	Clear / Sunny
02	-	Partly cloudy
03	-	Clear / Sunny
04	24.0	Overcast / Clearing
05	47.0	Overcast / Clearing
06	2.0	Overcast / Clearing
07	-	Partly Cloudy
08	-	Partly Cloudy
09	112.9	Overcast
10	114.2	Partly Cloudy
11	-	Clear/Sunny
12	-	Clear / Sunny
13.	-	Clear / Sunny
14	9.2	Overcast
15	26.8	Overcast
16	-	Clear / Sunny
17	-	Partly Cloudy
18	-	Clear / Sunny
19	36.5	Cloudy
20	-	Clear / Sunny
21	-	C l e a r
22	-	Clear / Sunny
23	-	Clear / Sunny
24	9.1	Overcast
25	-	Clear / Sunny
26	3.2	C l o u d y
27	26.4	C l o u d y
28	-	C l e a r
29	-	C l e a r
30	8.0	Overcast/ Cloudy
31	10.4	Overcast/ Cloudy

Total 395.8 mm

(15.4 Inches)

Note : Rain Gauge ready daily at 7 hours.

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**IJWU ROAD BETTERMENT PROJECT
WORK PROGRESS SCHEDULE**

QUALIFICATION	NUMBER	DURATION (MONTH),																																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36						
INDONESIAN PERSONNEL																																											
Consultant principal	1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				
Deputy chief engineer	1					1																																					
Ass. resident engineer	2					1	2																																				
Ass. soil engineer	2					1	2																																				
Quantity surveyor	1																																										
Ass. quantity surveyor	2										1	2																															
Site Inspector	4					2		4																																			
Adm. Officer	1					1																																					
Ass. Adm. Officer	3					2																																					
Secretary/Typist	4	1						2																																			
Surveyor	4	2				4						5																															
Draftsman	8	2				5					5		4																														
Lab. Technician	4					1	2	5			3																																
Operator	2											2	1																														
Clerk	2											1	2																														
Chainman	4													4	6	7																											
Driver	10					5	5	9					10																														
Labourer	17												13	9	2																												
EXPATRIATE																																											
Chief Engineer	1	1																																									
Resident Engineer	2	1					2																																				
Soil/Material Engineer	1												1																														
Short Term Consultants		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	

Starting Date August 15-78

5. REDESIGN TEAM

1. Status - Surveys

- A. Segment 1 Section 1 - App 33 kms
Survey Complete
- B. Segment 2 Section 1 - App 20 kms
X-sections and alignment complete on 7½ kms
EDM to start 1 Sept. 1979.
- C. Segment 3 Section 1 - App 25 kms
EDM work to start middle of November 1979
Remainder of work to start Jan 15 1980
- D. Segment 1 Section 2 - App 34 kms
Survey Complete
- E. Segment 2 Section 2 - App 30 kms
EDM work complete. Alignment, levels, and cross sections
complete on 5 kms
- F. Segment 3 Section 2 - App 33 kms
EDM to start beginning October - Remainder of work to start
Dec. 15 1980.

It is to be noted that the above dates are based upon fielding 4 complete Survey teams by September 1 as agreed upon in a meeting on August 14, 1979 with Mr. Naray Mr. Ahmad, Mr. Anggoro of Indah Karya and Mr. Spiegel of Louis Berger.

Reference is made to my letter of July 5 1979 and the referenced progress schedule for augmentation of the survey party, which was based upon fielding 4 complete survey teams by July 20, 1979. Since this has not been done, the dates of completion as shown on the progress schedule will be somewhat delayed.

It is projected that with 4 full teams working, the survey work can be completed by early 1980.

2. Status - Design

- A. Segment 1 Section 1
Plans and profiles complete. Estimate of quantities and costs complete.
- B. Segment 2 Section 1
Some design work (minimal) being work on to facilitate work of Contractor
- C. Segment 3 Section 1
No work on this segment at present.

Best Available Document

D. Segment 1 Section 2
Plans profiles, special details complete and submitted to Bina Marga as well as to Contractor. Estimate of quantities and costs complete.

E. Segment 2 Section 2
Alignment calculated for entire segment
X-Sections reduced for 1 km. BM's and level run reduced for 5 kms. Preliminary plans prepared on 3 kms.

F. Segment 3 Section 2
No work on this segment at present.

3. Chronological activities

The design work was completed on segment 1 of section 2 by July 20, 1979. Two sets of plans profiles and special details were transmitted to the Contractor on August 5 1979 (See unusual problems)

On July 20th, a request was sent to P.T. Indah Karya for additional equipment with reference to the augmented survey teams.

On July 31th, a revised estimate of quantities and cost estimate was submitted to Mr. Raymond for eventual submittal to the concerned parties.

Many of the quantities had overruns in excess of 300 per cent, with 100 cm \emptyset reinforced concrete pipe having an overrun of almost 2500 per cent.

The estimated cost excluding bridges and excluding any adjustment due to devaluation and excessive quantity overrun was 1, 182, 000, 000 rupiahs.

On 1 August 1979, the Contractor was sent a detail for repair of an existing bridge abutment.

On 2 August 1979, the Contractor was sent the Engineer's estimate of quantities, excluding bridges.

On 3 August 1979, the Contractor was informed of drainage problems and the proposal solution at station 5 + 500 \pm .

On 4 August 1979, the Bina Marga was provided with 2 complete sets of prints and 2 sets of earthwork calculations.

On 7 August 1979, a summary of a weeklong traffic count at Karatan was prepared and transmitted parties.

On 8 August 1979, a field inspection ditching revealed a 30 meter length of retaining wall had failed. The Contractor was ordered to repair same.

On 9 August 1979, field inspection of the Contractor's storage facilities for cement resulted in a letter to the Contractor to correct said method of storage. The office was closed from August 17, 1979 through Aug.26 1979 inclusive because of national and religious holidays.

4. Unusual problems

The lack of logistical support in this period continued. There was a lack of equipment, personnel, vehicles and money, some of which will or has been alleviated (See 5).

Although the design work was complete July 20 prints of said work could not be transmitted to the Contractor until August 5 due to lack of reproduction facilities. There are no photo copy machines, except those in Palopo or at Bina Marga.

Diazo reproduction capabilities are tenuous at best, e.g. no ammonia, no power broken-down, etc.

Although the survey party chief as well as the design assistant are technically competent, the lack of full time supervision for either one reduces the efficiency of the team as a whole. As the survey crew gets further away from base camps, it further reduces the time that they are under expatriate supervision.

5. Alleviations of Design Problems

The design engineer had a meeting in Bandung on Aug. 14, 1979 with Messrs. Harry, Anggoro and Ahmad of Indah Karya. It was agreed that the survey team would be augmented with personnel and equipment. It was also agreed that Mr. Ahmad would no longer be responsible for the payment of salaries since he had failed to do so in the past with any efficiency. The assistants (Mr. Maryanto Section II), Mr. Harry Aryanto, Section I and Mr. Handono Redesign) will be responsible for all fiscal matters for the men.

Indah Karya agreed to have funds available for bi monthly salary payments.

Mr. Ahmad also is to stay out of technical affairs of the contrac.

An additional vehicle (pick-up) was also promised for the beginning of September.

Contractor facilities are being used for reproduction, overriding objections of costs by Mr. Ahmad, until such time as the facilities of Bina Marga become available with sufficient speed of reproduction.

The lack of supervision has not been alleviated, however. While I had been informed that an expatriate Chief of Surveys would become available, I have now been told that he will not be forthcoming.

The speed of the survey crew is 33 % less without supervision and had 10 - 15 % more errors. If I spend all the time in the field, the office design work will slow down at the same rate and if there is any unusual problems, it will stop.

6. Miscellaneous

With the augmented staffing and equipment, survey could be completed as early as February 1980, assuming a lighter than average rainy season, or in April 1980 with a normal rainy season.

Design should be complete 2 to 3 months after final survey data is completed.

6. SOIL AND MATERIAL TESTING

Section I (Bone2 - Millil)

The main activities of the Materials Testing Section during the month of August :

1. Field density testing of fill and subbase materials
2. Materials and concrete mix control of concrete pipe production at Bungadidi.
3. Determination of the thickness and Lab. C.B.R. of the completed subbase course.
4. Laboratory Concrete Design mix for Tonasa and Tiga Roda Cement.
5. Routine testing of fine and coarse concrete aggregate including bulking of fine-
aggregate
6. Lab. Compaction and C.B.R. testing of fill and subbase materials.
7. Compressive strength determination of concrete cube specimens.
8. Correlation studies :
 - a. Compressive strength vs Concrete Hammer
 - b. Speedy Moisture Content vs Oven Dried MC.

H o t o s

1. All concrete pour was stopped on August 13 by the R.E. because of non receipt of the re-bar test results that were sampled on May 13, and July 28, 1979.
2. Makyas Materials Testing Lab. at Popuro Base Camp is under construction.
3. Soundir (foundation investigation) field data for Segment 1 was received on August 15 from Bint Marga (P-lope).

Section II(Palopo - Bono2)

The activities of the Materials Section for the month of August, 1979 is rather limited because of the Contractor's decision to stop the work from Aug. 16 - to Aug. 27, 1979. The main activities of the Materials Section mentioned as follow :

1. Field density testing of fill materials from Sta 0 + 000 to Sta 13 + 000
2. Routine testing of fill materials.
3. Routine testing of base course materials
4. Trial blending of the crushed base course materials with fines coming from the proposed cut near Miring Bridge.
5. Control of concrete mix for un-reinforced pipe production.
6. Compressive strength testing of concrete mix samples.