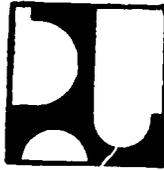


ISN-755
POAAI 351



**REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL CIPTA KARYA
DIRECTORATE OF SANITARY ENGINEERING**

**CONTRACT FOR CONSULTANT SERVICES
FOR
SURAKARTA WATER SYSTEM
NO. 01/WS-S/1/AID/78**

MONTHLY PROGRESS

**REPORT NO. 34
JULY 1981**

**BURNS & McDONNELL ENGINEERING COMPANY.
AND
TRANS-ASIA ENGINEERING ASSOCIATES, INC.
A JOINT VENTURE**



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**REPORT NO. 34
JULY 1981**

**BURNS & McDONNELL ENGINEERING COMPANY.
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A JOINT VENTURE**

Architect - Engineers

A JOINT VENTURE

Consultants - Planners

Please Reply to Kotak Pos 105
Surakarta

165/BM/TAE/SKA/81
06 August 1981

Mr. Soesanto Mertodiningrat, Director
Directorate of Sanitary Engineering
Directorate General Cipta Karya
Jl. Pattimura No. 20
Kebayoran Baru
Jakarta Selatan

Subject : Contract for the Consultant Services for
Surakarta Water System No.01/WS-S/I/AID/78
dated 28 October 1978 as Amended 23 July 1981

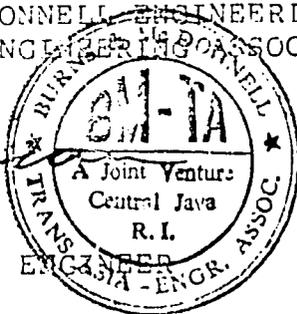
Dear Sir :

In accordance with Section 4.12 and Appendix I of the
subject Contract, we are pleased to submit fifteen
copies of the Monthly Report No. 34 for the month of
July 1981.

We trust that this report will meet with your approval.

Very truly yours,

BURNS & MC DONNELL ENGINEERING CO.
TRANS-ASIA ENGINEERING ASSOC., INC.

J.F. BAUCOM
ACTING CHIEF ENGINEER

cc	:	CJWSP	Semarang	(10 copies)
		USAID	Jakarta	(8 copies)
		BM/TAE	Jakarta	(2 copies)
		Burns & McDonnell	Kansas City	(1 copy)
		CJWSP - I	Surakarta	(1 copy)
		SWE	Surakarta	(1 copy)
		Mayor of Surakarta	Surakarta	(1 copy)
		File		

Encl.

JFB/yp

TABLE OF CONTENTS

SECTION	TITLE	PAGE
I	GENERAL	1
I-A	NARRATIVE SUMMARY	1
I-B	PROBLEMS AND PROPOSED SOLUTIONS	4
II	ADMINISTRATION	6
II-A	SUBMISSIONS/APPROVALS	6
II-B	CONTRACT STATUS	6
II-C	PERSONNEL	6
III	ENGINEERING AND MANAGEMENT	9
III-A	OFF-SHORE PURCHASED MATERIALS	9
III-B	CONSTRUCTION SUPERVISION	10
III-C	GROUNDWATER EXPLORATION AND WELL DEVELOPMENT PROGRAM	11
III-D	MANAGEMENT ASSISTANCE PROGRAM	11
III-E	O & M TRAINING AND ASSISTANCE PROGRAM	11
III-F	METER REPAIR TRAINING PROGRAM	12
III-G	NEW WATER DISTRIBUTION NETWORK DESIGN	12
III-H	CONFERENCES	12
III-J	ACTIVITIES PLANNED FOR NEXT MONTH	13

Cont'd

TABLE OF CONTENTS

(Continued)

SECTION	TITLE	PAGE
IV	APPENDICES	
I	REPORT OF MAN-MONTHS EXPENDED BY THE CONSULTANT	
II	REPORT ON ENGINEERING COSTS	
III	CHART-TECHNICAL WORK APPROACH	
IV	MEMORANDUM OF MEETING 06 JULY 1981	
V	EVALUATION ON TENDER-PHASE I 1981 - 1982	
VI	EVALUATION ON TENDER-PHASE II 1981 - 1982	
VII	MEMORANDUM OF MEETING 12 NOVEMBER 1975	

SECTION I
G E N E R A L

I-A NARRATIVE SUMMARY

Bids were received 06 July for the installation of almost fifty kilometers of distribution piping, replacement of over two kilometers of the old distribution mains, mostly exposed piping across the Pepe and Anyur Rivers, replacement of about 800 meters of the old ϕ 450 transmission main from the Jebres reservoir westward and modifications to the O & M facilities including storage bins, shelves, partitions, work benches equipment foundations, grease pit, etc. There were eight bids received on each of the two phases of work with the apparent low bidders being P.T. Antar Pribumi on Phase I at Rp. 119,416,000 and Candi Laksana on Phase II at Rp. 113,911,000. The Consultant after reviewing the bids recommended the two low bidders be awarded the construction contracts (See Appendices V and VI). The Project Manager indicated in the monthly progress meeting also held 06 July that the sum of the two low bidders was below budget and the Rp.18.9 millions transferred from their original 1981/1982 budget for public latrines and bath houses to piping could still be used (See Appendix IV).

The Surakarta Water Enterprise completed reconnecting the existing ϕ 150 mm distribution main on the bridge across the railroad on Jl. Ngemplak. Doing so has increased water to the north central part of Surakarta by being able to receive water directly from the new transmission main in that area. Then by mid month the leak survey was started but lack

of follow up repairs caused that effort to be postponed until after the Idul Fitri holidays.

Contractor P.T. Tukadmas responded to the request of the Director, DSE and began constructing the new public bath house and a special public hydrant adjacent to it in Kelurahan Serengan. These will be the facilities used to inaugurate the Surakarta Water Supply System in ceremonies presently scheduled for 22 August 1981. During the month the structure was topped out and most plaster and/or ceramic wall tile installed.

The Surakarta Water Enterprise contributed labor and material to connect a proposed (in Phase II) ϕ 100 mm PVC distribution main to the existing main in Jl. Veteran and extend it past the bath house site to the next intersection south, then installed a 1" service and meter assembly. The city DPU plans to pave the street next to the bath house.

The new asbestos cement piping continued to be delivered and the supplier relocated the previously delivered piping to the proper laydown area. The Head of PAB-I accompanied the Consultant on two field trips to inspect the facilities of C.V. Jaya Metal. The first was to one of their machine shops, the second to the foundry. Both facilities appeared to be well managed and the product good quality. Tests will be conducted on random selection, by the Consultant prior to acceptance in an independent laboratory at the expense of the supplier in accordance with the Contract Documents.

The final shipment from The Rohan Company was received in Surakarta 06 July 1981 and the Consultant immediately wrote a Certificate of compliance to release

the ten percent of the Contract which has been held pending completion of delivery. This shipment has been in the Port of Semarang since October of 1980 and consisted of repair or replacement parts for the damaged or lost goods in the original shipments. Customs made the release finally on the strength of a letter of guarantee from the Project Manager that the proper papers would be provided. Such papers were transmitted by the Project Manager the last of July. As of this report the valves which arrived in Port in May 1981 are still there awaiting clearance from customs. These valves are component parts of the distribution main construction contracts presently being reviewed for award.

The completion of Contract Documents on the Public Latrine rehabilitation program is pending receipt of information from the Head of DPU. Preliminary approval of the bath house Documents was received from U.S.A.I.D. and those are being finalized at this time. It is anticipated the tendering process will be completed on these structures by October 1981.

The Ground Water Study Completion Report was published by the Consultant and forwarded to Cipta Karya according to Contract during the month of July. Representatives of the DHV Consulting Engineers, headed up by Mr. C.M. Engelsman, Civil Engineer and Geohydrologist, visited the Head of PAB-I and the Consultant was requested to join the meeting. The DHV Consultants are working on the Perumnas housing area north of Surakarta near deep well TW-I. They were informed of the fact equipment for well TW-I will be several months coming from the United States as the tender process must be done after the Consultant received official authorization to do so.

They need to start construction on the approximately 3,000 houses but want to have the water supply established prior to starting. A recommendation was made that they obtain approval and coordinate installation of a booster pump to take water from Line "E" through the proposed ϕ 150 mm distribution main in Phase III. A similar recommendation utilizing a storage tank was made by the Consultant to the Mayor of Surakarta during a meeting in November 1975 (See Appendix VII). Mr. Engelsman later informed this office their client had approved the proposition regarding a booster pump and that whereas their total demand at the end of construction would be 30 l/s, he thought half that amount could be used to size the pump. The 15 l/s, he said, would take care of the demand until the TW - I well was put into operation.

Representatives of The SGV Group, who are assisting Cipta Karya in setting up a Project Monitoring System, were in Surakarta 09 July and discussed the program with the Head of PAB-I and the Consultant after visiting the CJWSP offices in Semarang. The Consultant was requested by the Head of PAB - I to develop a chart following the basic guidelines requested by The SGV Group. This chart was completed 30 July 1981.

The second Amendment to the Consultant Contract was signed 23 July 1981 which extends services to 30 September 1982. The staff has been reduced effective 31 July accordingly.

I-B PROBLEMS AND PROPOSED SOLUTIONS

The Surakarta Water Enterprise must adhere to the house and public service line installation details

which have been provided to them by the Consultant. Failure to do so only compounds the leak problem throughout the City. New services are still being installed with galvanized steel pipe - crossing heavily traveled thoroughfares with only 20 to 30 centimeters of uncompacted backfill. In less than one week many of such installations are broken by the large busses and trucks crossing the service line. Only when the installation crews are told to change to the Consultant's recommended procedure will they do so. This is the management's responsibility of the Surakarta Water Enterprise.

The leak survey was started 20 July but the Surakarta Water Enterprise would not follow the plans previously made to send repair crews out each day to correct any problems found during the previous days survey. All activity was stopped until after the Idul Fitri holidays.

The valves which were off loaded at the Port of Semarang 23 May 1981 must be cleared and delivered to Surakarta without further delay so as not to hold up start of construction of Phases I and II distribution piping.

SECTION II
ADMINISTRATION

II-A SUBMISSIONS/APPROVALS.

Consultant's Invoice No. 34 for June 1981 U.S. Dollar reimbursible expenses was submitted to Cipta Karya on 06 July 1981 and was approved by Cipta Karya on 12 July 1981.

Consultant's Rupiah Invoice No. 18 submitted to Cipta Karya on 24 July 1981 was approved on the same date. Second partial payment of Rupiah Invoice No. 17 was received on 21 July 1981.

These submittals are in accordance with the Contract Appendix II, page II-15.

II-B CONTRACT STATUS.

Appendix I shows the continuation of Consultant's effort in man-months from the beginning of the Contract.

Appendix II shows the billings of approved expenditures to date.

II-C PERSONNEL

The Surakarta Office personnel in July were as follows :

E x p a t r i a t e s

- James F. Baucom , Acting Chief Engineer
arrived 26 September 1979
- Albert G. Ringler, O & M Specialist
arrived 09 May 1980

Indonesian Professional and Technical :

- Mohamad Khalil, Material Coordinator
arrived 09 October 1978
- Mohamad Syarif Lembah, Construction Supervisor
arrived 01 May 1979
- Gatot Bramono, Inspector
arrived 19 November 1979
- Soewanto, Inspector
arrived 11 March 1980
- Abdul Rasyid, Inspector
arrived 11 June 1981
- Susena, Draftsman
arrived 20 October 1980
- Sri Sukanti, Accountant
hired 03 January 1981
Terminated 31 July 1981

Administrative :

- Dradjat Atmardjo, Office Manager
arrived 02 October 1978

- Haryani Puçyastuti, Secretary
hired 17 November 1980

- Rubiyo, Clerk
hired 01 November 1979

- Pamudji Rhardjo, Driver
hired 02 October 1978

- Sutrisno, Driver
hired 02 April 1979

- Puranto, Driver
hired 17 October 1980

- Mulyatmono, Watchman/Labor
hired 09 October 1978
Terminated 31 July 1981

- Tukino, Office Boy/ Labor
hired 10 November 1980

SECTION III

ENGINEERING AND MANAGEMENT

III-A OFF-SHORE PURCHASED MATERIALS	US.\$ COMMITTED	% PAID (ASSUMED)	US. \$ BAL. DUE
III-A-1 Direct Cipta Karya Procurement Contract			
III-A-1-1 American Cast Iron Pipe Co. Ductile Iron Pipe & Fittings Contract certified complete 01/07/80	2,595,511.60	100	- o -
II-A-1-2 Colombo Faya Flow Metering Equipment Contract certified complete 07/04/80	3,462.00	100	- o -
II-A-1-3 Roha Corporation Water Meters, Repairs Parts- Tools & Equipment Contract certified complete 06/07/81	668,712.83	100	- o -
II-A-1-4 Clow Corporation Casting, Auto Air Vents & Valves. Contract certified complete 15/05/81	125,912.00	100	- o -
II-A-1-5 Ford Meter Box Company Brass Valves Parts & Access- ories. Contract certified complete 12/02/81	390,775.15	100	- o -
Sub Total	3,784,373.58	100	- o -

III-A-2 Special Equipment Procurement/Consultant Contract

III-A-2-1 Western International Leak Detectors & Pipe Locators	2,496.14	100	- 0 -
III-A-2-2 Kennedy/MacLane Distribution Network Valves In Port of Semarang 23 May 1981	53,224.00	90	5,322.40
III-A-2-3 Laboratory Equipment-Variou Sources Partial Received Balance In Transit	10,775.00	90.3	1,044.29
III-A-2-4 Publication & Reference Data Various Sources - Balance In Transit	1,460.50	1.3	19.18
III-A-2-5 Repair Parts For Clow Various Sources - Complete	228.51	100	- 0 -
Total US \$	3,852,557.73	0.17	6,385.87

III-B CONSTRUCTION SUPERVISION

The Project Manager wrote a letter to P.T. Lepen Kencana regarding the needed repair on the (3) valves on ϕ 150 mm Line "L". The Contractor's Regional Director visited the site to initiate action which is anticipated to be early August.

No further work was done by either contractor on the completion of open items on the new transmission main. Construction Contract proposals are presently being evaluated by the Project prior to award. It is anticipated sufficient materials can be made available to begin distribution

main installation and/or replacement of existing piping during the month of August.

III-C GROUNDWATER EXPLORATION AND WELL DEVELOPMENT PROGRAM

The Ground Water Survey Completion Report 1981 was completed according to Contract Appendix I, Paragraph 205.7.4. This operational area is now considered complete.

III-D MANAGEMENT ASSISTANCE PROGRAM

Completed.

III-E O & M TRAINING AND ASSISTANCE PROGRAM

With the extension of the Consultant's Contract, a major effort will be made to obtain new quotations for all O & M equipment to outfit the machine and automotive shops. When the Contracts are awarded for the first two phases of distribution piping construction, the modifications to the existing O & M facilities will be taken care of.

The intensive leak survey was started 20 July but by 25 July no work had been done to correct deficiencies noted. The Head of PAB-I and the Consultant met with the Surakarta Water Enterprise Director and was promised repairs would start 27 July however the effort was not sufficient so the survey program was stopped until after the Idul Fitri holidays.

Early in July the Surakarta Water Enterprise finished reinstalling the ϕ 150 mm pipe over the rail road on Jl. Ngemplak. Doing so has increased available

water in the north central part of Surakarta. Many leaks in the area are now surfacing and some require immediate attention due to size. It has been noted that streets are being resurfaced in the area over existing water leaks. The Surakarta Water Enterprise has been requested to obtain better coordination with both DPU and KIP so that repairs can be made prior to street resurfacing.

The latter part of July Surakarta Water Enterprise made an installation of ϕ 100 mm distribution main and water service for the bath house and special public hydrant in Kelurahan Sereagan. These facilities are being erected for a dedication of the Surakarta Water Supply Project.

III-F METER REPAIR TRAINING PROGRAM

Completed.

III-G NEW WATER DISTRIBUTION NETWORK DESIGN

Completed.

III-H CONFERENCES

A regular Monthly Progress meeting was held 06 July 1981 (See Appendix IV). On the same date bids were received on Phases I and II distribution piping and an evaluation of each was made (See Appendices V and VI).

III-3 ACTIVITIES PLANNED FOR NEXT MONTH

Complete plans for the inaugural ceremonies as requested by the Project. Prepare to start construction on the distribution system expansion. Inspect materials being supplied by P.T. Antar Pribumi and P.T. Eslon Jaya and select random samples for testing. Reactivate the intensive leak survey program. Continue to inquire about customs clearance of Kennedy/McLane shipment of valves from the Port of Semarang.

MINUTES OF PROJECT PROGRESS MEETING

PLACE : BM/TAE & PAB-I Conference Room Surakarta
DATE : 06 July 1981
TIME : 0925 - 1430

ATTENDED BY : - Mr. Aziz Sasmitadihardja DSE
- Mr. Soedirman DSE
- Mr. Krisno Darusman CJWSP
- Mr. Hari Wahyuadi PAB-I
- Mr. Robert E. Davis USAID
- Mr. Philip B. Tjaksana USAID
- Mr. Soedarto PDAM
- Mr. Soelarno PDAM
- Mr. Fred Midgett BM/TAE
- Mr. Clare Copleman BM/TAE
- Mr. J. Frank Baucom BM/TAE
- Mr. Syarif Lemah BM/TAE
- Mr. M. Khalil BM/TAE
- Mr. Akbar Singgih P.T. Antar Pribumi
- Mr. S. Muljono C.V. Jaya Metal
- Mr. Singgih C.V. Jaya Metal

RESULTS

Mr. Aziz opened the meeting acknowledging there may have been some confusion regarding time as tenders were being received in another building on the premises at 10:00 this date for Phases I and II distribution piping installation.

Regarding the inaugural ceremonies Mr. Aziz advised the Minister had said it was impossible to hold them before 17 August 1981 and whereas the Director, DSE, would begin a seminar in Bali on 25 August it could be presumed those ceremonies would be sometime between 17 and 25 August. Preliminary planning called for the Project Manager CJWSP would open the ceremonies followed by the Mayor of Surakarta, the Governor of Central Java and the Minister. For U.S.A.I.D. it was assumed the

American Ambassador would contribute by speaking - possibly others.

It was recommended that all parties coordinate facts and figures concerning the loan, the Project, expenditures and commitments.

Regarding piping activities P.T. Antar Pribumi stated they had already delivered approximately sixty percent (60%) of the asbestos cement pipe (all ϕ 400 mm) to date without a signed contract from Cipta Karya. Mr. Aziz expressed his appreciation for the faith in Cipta Karya shown by the supplier's performance. When asked, the Consultant advised time for performance normally starts from the date of written notice of award and commitment to pay the funds which, in this case, was 25 May 1981. The Consultant had advised Cipta Karya by letter attachment 27 April 1981 that P.T. Antar Pribumi and C.V. Jaya Metal's submittals were approved. This was reconfirmed via another Consultant letter and attachments dated 22 May 1981.

The Consultant passed out the same sketch of the Jl. Pajang storage area as was provided all prospective suppliers in the prebid meeting with Addendum No. 1 dated 07 January 1981. It was pointed out that unscheduled pipe deliveries had resulted in it being unloaded and stacked in the wrong location. Mr. Aziz obtained an agreement from Mr. Akbar Singgih to move the material to the proper location at no additional cost. Mr. Aziz said there had been some problem with the AC pipe installed in Yogyakarta. It was not tested as installed and now it would not hold five atmospheres. He requested that the Consultant first - review the materials for conformance with the Specifications for this Project and see that tests are made properly immediately after installation. The Consultant advised the Specifications must be adhered to by Contractors and Suppliers alike.

C.V. Jaya Metal's report indicated they had not received any notification from P.T. Eslon Jaya but indicated to Mr. Aziz all castings could be done within three months. Those for P.T. Antar Pribumi are about sixty percent (60%) cast but machine work must be completed. Mr. Aziz said he would discuss this with Mr. Sonta at DSE upon his return to Jakarta. The Consultant advised a visit to C.V. Jaya Metal's foundry had been scheduled but was postponed when receipt of construction tenders were delayed by the Project due to conflict in appointments. Such a visit will be made as soon as possible following evaluation of the tenders received today. Mr. Aziz made sure each supplier understood the Consultant was representing Cipta Karya and should have free access to their plants or their sub contractor's plants to verify material quality. Also written changes in priority of certain fittings from one phase to another was agreed to.

The representatives of P.T. Antar Pribumi and C.V. Jaya Metal were then excused from the meeting.

Mr. Aziz then advised that the limitation on negotiated contracts as suggested for public bath houses and public latrines was up to twenty (20) millions Rupiah, in another words, not to exceed Rp. 19,999,999.--. Regarding the audit and records clause which U.S.A.I.D. has supplied, same will be included verbatim in all direct disbursement contracts. It was agreed such contracts would be written dual language with the English edition governing in case of disputes or conflicts.

The discussion then was directed to verification of data for presentation at the inauguration ceremonies. A question had been raised regarding the flow of water to Surakarta - 300 vs 400 L/S. It was pointed out that 300 l/s was a result of the 1971 Pre-Feasibility Study by Howard Humphreys & Sons, Consulting Engineers in association with Peat, Marwick, Mitchell & Co., Management Consultants. In the 1976 Economic, Administrative & Water Rate Study published by BM/TAE the Humphreys

Report was acknowledged and an increase in pipeline recommended from ϕ 400 mm to ϕ 450 mm which would provide 250 l/s through the new transmission main. That plus the 150 l/s delivered via the existing main would provide 400 l/s or 34,560 m³/d as opposed to the 1975 projected demand of 33,824 m³/d. Mr. Davis confirmed the Loan Agreement calls for 400 l/s as condition precedent to initial disbursement (see Section 3.01 (J) of the Loan Agreement).

It was then acknowledged that the original target per deep well was to be 30 l/s. The Consultant's March Report No.30 refers to the "Basic Considerations" under Paragraph 2.05 b of the Agreement between BM/TAE and Cipta Karya. There it is stated that at 30 l/s/well and if 2/3 of wells dug were useable then 15 wells would have to be dug to provide 10 good wells at 30 l/s to provide the needed 13,000 m³ daily when operating 12 hours per day. The Consultant pointed out the two wells now existing tested to be 50 and 60 l/s respectively. That by operating for 20 hours per day 60.9% of the needed 13,000 m³/d could be attained. Due to some complaints, it may be said the flow would be gradually increased although the Surakarta Water Enterprise stated there had been no drop in water flow from Cokrotulung Springs for irrigation.

It was acknowledged delivery of the replacement parts from The Rohan Company had been made. Mr. Aziz said it was accomplished by the Project Manager's letter but that even as of this date the paperwork on the shipment is not cleared. The Consultant requested the Project Manager to investigate receipt of paperwork by his office on the valve shipment now in port. If available, the clearance and transportation to Surakarta should be expedited so the valve will be on hand for the construction contracts being tendered.

Mr. Aziz advised that at the request of the Director, DSE he had brought Mr. Soedirman to establish ways to assist the Surakarta Water Enterprise in speeding up installation of

house services. Confirming the same information as was provided the Director, DSE on 29 June, the Consultant showed the saddlestops and meter valves as received from The Ford Meter Box Co. It was stated that except for the PVC pipe needed, the parts are already on hand to make over eleven thousand service connections. It is believed that the present services crews at the water enterprise could make a total of ten of the house services connections per full working day by working in conjunction with the new pipe installation. It appeared administrative activities would prohibit being able to make that many house service connections. After Mr. Aziz further explained some of the possibilities he got an agreement from Mr. Soedarto to proceed with service connections prior to finalization of the administrative and financial activities at the Water Enterprise on each application. The Consultant cautioned the Water Enterprise not to tell prospective applicants or those already applied when they will get water. The Consultant further advised that the meter readers be utilized by the Water Enterprise as salesman to collect more applications around the city so that locations can be plotted and a systematic approach to realization made. Mr. Soedirman will stay in Surakarta for a few days to help the Water Enterprise accordingly.

Mr. Syarif returned from receiving bids on the Phase I and II distribution piping construction contracts. The following tabulation was presented to this meeting :

<u>BIDDER</u>	<u>PHASE I</u>	<u>PHASE II</u>
1. Lepen Kencana	Rp. 133,891,000	Rp. 118,025,000
2. Cakra	Rp. 124,885,000	Rp. 115,738,000
3. Tukad Mas	Rp. 120,799,000	Rp. 115,945,000
4. Tri Komodo	Rp. 128,786,000	Rp. 117,757,000
5. Candi Laksana	Rp. 120,366,000	*Rp. 113,911,000
6. Pembangunan	Rp. 120,771,000	Rp. 114,434,000
7. Antar Pribumi	*Rp. 119,416,000	Rp. 114,944,000
8. Sarana Dwipa	Rp. 126,009,000	Rp. 119,254,000

* Apparent Low Bidder - to be reviewed

Mr. Krisno stated the combined apparent low bids allowed it to be under budget and the 18,9 millions were not used. Possibly more pipe rehabilitation could now be done it was said.

The Consultant requested clarification from U.S.A.I.D. and Cipta Karya on the water testing laboratory equipment as everything received to date has been placed in the Surakarta Water Testing Laboratory. The transfer of all materials and systems was mentioned as being still not completed between the Project and Surakarta Water Enterprise. The Consultant also mentioned the lack of activity by P.T. Lepen Kencana repairing valves on Lines "D" and "E" or completing final inspection deficiencies. Regarding P.T. Tukadmas, there has still been no final inspection on Section C and in fact is still carried as 94 % complete. Mainly because of the two railroad crossings not made. Mr. Aziz advised he would assist and would make contact with the Railway Enterprise in Jakarta.

The Consultant advised of the Surakarta Water Enterprise continuing work on the list of Priorities given them previously as part of the O & M work and that the O & M Manual was turned over to the Water Enterprise the last of June.

Mr. Davis provided U.S.A.I.D. emblems to be attached to the Project sign(s) and advised Cipta Karya of the need for quarterly shipping reports.

After the meeting work at the inaugural ceremony site was observed.

IMPORTANT MEETING

SURAKARTA

Conference at City Hall - Surakarta on 12 November 1975 at 9:00 A.M.

Attending

Mayor Soewari Mangsoewiro

Mr. Paranto

Mr. Soedjarwo

Mr. Rauli Masjin

Mr. Hock. Masifudin

Mr. Mustilaladi Soedono

Mr. Warren Sheldon

Mr. William Marshall

Mr. Weston Goodnow

Representing

City of Surakarta

City Council Secretary

Director of Public Works

Chief, Project Air Minura

Surakarta

Engineer, Coordinator

Engineer, Sanitary

James & McDonnell Eng. Co

Trans-Asia Eng. Ass. Inc

Joint Venture

Mr. Mustilaladi explained to the Mayor and his staff that design of water supply facilities to the Mojosoango area (location of the new university campus and associated development) is not part of our Emergency Project. This area is currently undeveloped and rises to an elevation of 130 meters, far above the existing hydraulic gradient. Overflow elevation of the Jekres Reservoir is 115.50 meters.

It was explained that the area could be initially served by constructing a booster pump station to draw supply from a 210cm water line proposed to be constructed as part of the Emergency Project distribution system.

Initial elevated storage of 1000 cubic meter capacity should be constructed to provide equalization and storage reserve for the new area. The elevated tank should be located on the 130 meter elevation ridge road near the proposed campus.

Mr. Sheldon and Mr. Masifudin explained the limitations of our contract with

Capta An extension or add-on to the contract would be required to authorize our Joint Venture to design the water supply facilities to the new area.

It was noted that future supply to the new area may be obtained from local borcholes. A groundwater survey has not been made in this area. This study should be authorized to be accomplished during the same time as borcholes are being drilled in the Kartasura area as part of the Emergency Project work.

The Joint Venture will furnish to Mr. Farli our data concerning population, projected demands, and proposed methods of supply, storage and the recommended sites of distribution trunk mains for this new area.

The Mayor requested that the Joint Venture furnish him with a set of prints (1: per set) showing the current distribution system, proposed improvements and extensions under the Emergency Project, plus the recommended future distribution trunk mains. These prints will be furnished to Mr. Farli for transmittal to the Mayor upon their completion early in December.

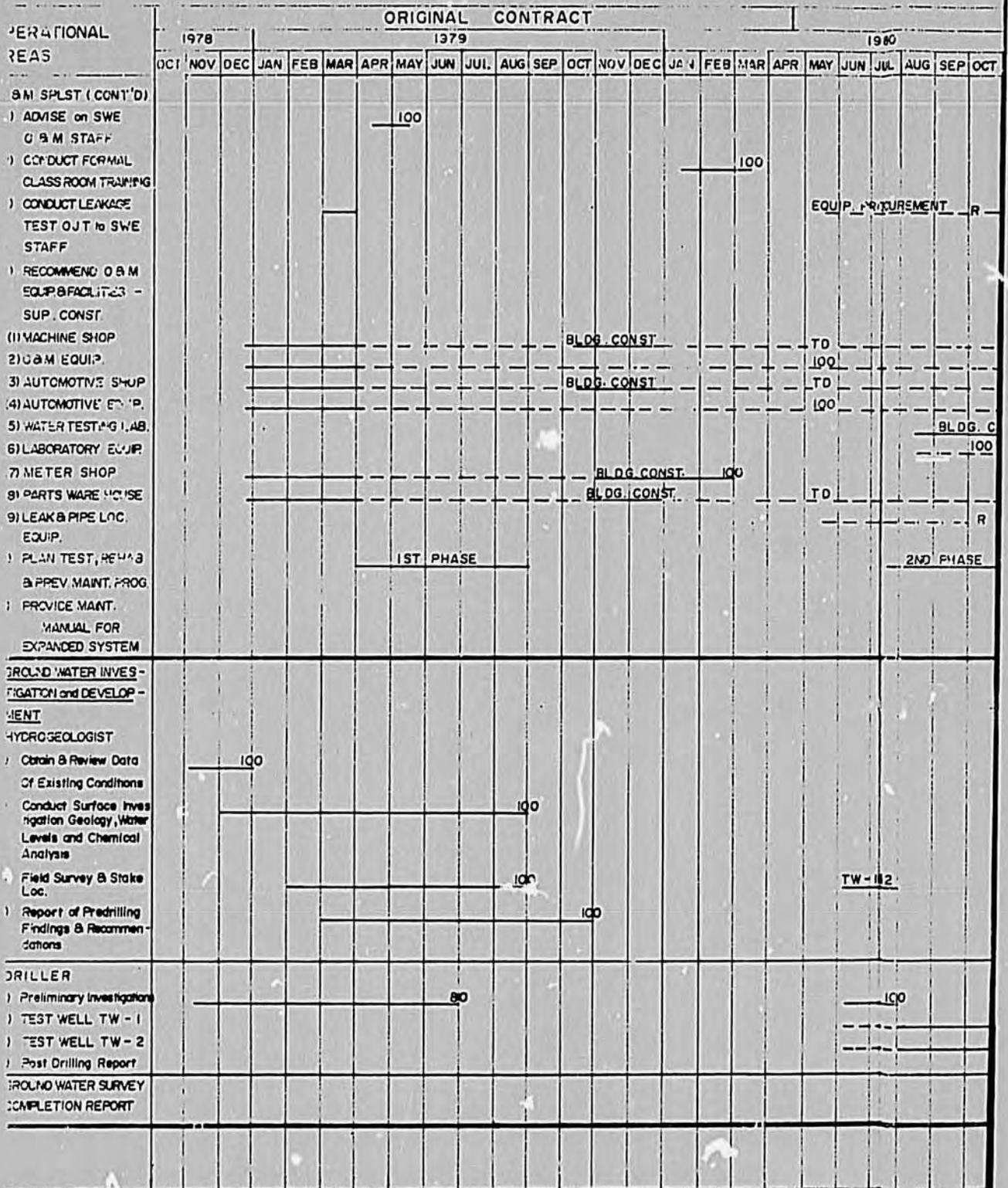
The Mayor thanked all participants of the conference for their attendance and information. He thanked him for his assistance and interest in our work. The meeting closed at 10:00 A.M.

ITEM REVIEWED	1. PT. LEPEN KENCANA UTAMA	2. PT. CAKRA ENTERPRISE	3. PT. UKADMA
Envelope	S	S	S
Bid Proposal	S	S	S
Cost Estimate	S	S	S
Unit Price List	S	S	S
Bid Bond	1.500.000	1.250.000	1.500.000
Time Schedule	S	S	S
Analysis of Unit Price	S	S	S
Working Method	S	S	S
List of Field Personnel	S	S	S
List of Equipments	S	S	S
Bank Letter	S	S	S, not shown The original
Tax Registration Numbers	S	S	S
Balance Sheet	S	S	S
	Economically weak	Economically weak	Economically weak
Investment Structure	S Not stating percentage of native ownership	S Not stating percentage of native ownership	S 60% Native 40% Non Native
Supervisory Board Structure	S	S	S
List of Expert	S	S	S
Business License	S	S	S
Bank Reference	S Directed to CJWSP	S Directed to CJWSP	S Directed to CJWSP
Regional Prequalification	S	S	S
Statement Receiving Pre Bid Memorandum	S	S	S

* S : Submit

KADMA	PT. TRI KODDO	S. PT. CANDI LAKSANA	J. T.T. SEPRANJANAN	PT. ANJAR P. I-BUMI	S. PT. SARANA DWIPA
	S	S	S	S	S
	S	S		S	S
	S	S	S	S	S
	S	S	S	S	S
000	1.500.000	1.250.000	1.500.000	1.500.000	1.200.000
	S	S	S	S	S
	S	S	S	S	S
	S	S	S	S	S
	S	S	S	S	S
Not shown	S	S	S	S	S. Not shown
Original					The original
	S	S	S	S	S
	S	S	S	S	S
Economically	Economically weak	Economically weak	Economically weak	Economically weak	Economically weak
	S	S	S	S	S
100% Native	100% Native	Not stating percentage of native ownership	Not stating percentage of native ownership	Not stating percentage of native ownership	100 % Native
on Native					
	S	S	S	S	S
	S	S	S	S	S
	S	S	S	S	S
	S	S	S	S	S
Directed to SP	Directed to CJWSP	Directed to CJWSP	Directed to Central In Central Java	Directed to CJWSP	Directed to CJWSP
	S	S	S	S	S
	S	S	S	S	S

SURAKARTA WATER PROJECT TECHNICAL WORK APPROXIMATE SCHEDULE



100

100

EQUIP. PROCUREMENT R

BLDG. CONST.

TD

100

BLDG. CONST.

TD

100

BLDG. C

100

BLDG. CONST.

100

TD

BLDG. CONST.

1ST PHASE

2ND PHASE

100

100

100

100

TW - 1 & 2

80

100

KURADVA	4. PT. TRI KONO	5. PT. CANDI LAKSANA	6. T. T. PEMBANGUNAN	7. PT. ANTAR JANTAR PREBUHI	8. PT. SARANA DWIPA
0.000	3.275.000	2.000.000	3.000.000	4.960.000	2.000.000
0.000	4.100.000	2.751.666	5.000.000	2.000.000	1.000.000
05.034	4.449.534	6.117.126	4.548.800	5.168.900	6.809.334
92.790	17.681.950	24.606.300	20.056.030	24.519.000	32.111.905
53.713	14.010.100	19.139.952	16.057.730	19.441.708	27.987.569
10.377	5.239.851	3.788.050	3.079.512	8.676.000	5.973.414
21.405	6.593.345	2.391.390	3.188.520	3.985.650	1.328.500
49.034	8.836.550	4.936.398	11.951.300	10.867.500	26.571.000
14.992	6.675.000	2.908.122	10.710.000	4.983.700	4.998.000
50.000	6.266.000	4.704.420	3.795.000	10.626.000	690.000
50.000	11.141.200	16.810.275	11.925.000	5.851.300	159.000
73.000	1.144.500	1.654.750	1.785.250	3.270.000	5.492.000
92.478	10.707.450	12.886.935	10.628.400	2.152.251	5.314.000
00.000	11.850.000	2.025.000	2.000.000	1.501.500	1.500.000
00.000	7.500.000	10.750.000	10.000.000	8.500.000	1.000.000
1.000	2.000	2.000	2.000	1.500	1.500
1.500	1.500	1.750	1.500	2.000	-
1.200	1.200	1.500	1.250	2.000	1.500
700	650	1.000	1.000	1.000	1.000

SUPPLY OF WATER TREATMENT PROJECT
 SUPS & NO DONNELLY / TRANS-ARTA ENGINEERING

EVALUATION ON TENDER : PHASE I - 1981 - 1982
 TECHNICAL ADEQUACY OF BIDS

No.	ITEM REVIEWED	AVERAGE	PT. LEPEN KENCANA (1)	PT. CASPA FINFRPRISF (2)	PT. TUKADNAS (3)
1.	TOTAL BID	124.365.375	133.801.000	124.85.000	120.799.000
	PRELIMINARIES	7.285.875	7.700.000	8.000.000	12.500.000
	EARTH WORKS	51.426.500	44.692.070	53.384.265	43.851.914
	CIVIL WORKS	18.674.329	7.194.780	14.566.250	29.737.982
	PIPE INSTALLATION	31.597.754	55.738.905	43.389.450	16.762.917
	MISCELLANEOUS	9.337.500	15.300.000	500.000	15.000.000
2.	TOTAL PRICE		Wrong item 8	Correct	Correct
3.	TIME SCHEDULE		Test start too late	Test without T. Block Demob no in schedule	In Ehs.Indonesia Acceptable
4.	WORKING METHOD		Acceptable	In Ehs.Indonesia not sufficient	Acceptable
5.	FIELD PERSONNEL		Enough No explanation of experience	Enough No explanation of experience	Acceptable
6.	EQUIPMENT		Sufficient	To be completed	Sufficient
7.	UNIT PRICES				
	MATERIAL		Acceptable Some too high	Acceptable Some too high	Acceptable Some too high
	LABOR		Acceptable	Acceptable	Too low
8.	UNIT COST		High in testing & Flush	Low in mobilization & Demob.	High in Conc Encasement & T. Block

APPENDIX V

KADNAS (3)	PT. TRI FONODO (4)	PT. CAWI LAKSANA (5)	PT. PERANGINAN (6)	PT. ANTAR PRI- BUMI (7)	PT. SARANA DIT (8)
799.000	128.786.000	120.366.000	120.771.000	119.416.000	125.009.000
500.000	7.375.000	4.751.666	8.000.000	6.960.000	3.000.000
851.914	41.381.435	53.651.486	41.812.078	57.806.220	72.892.522
737.982	20.415.300	23.308.147	20.420.250	15.606.420	12.149.500
762.917	44.823.205	24.969.143	29.563.220	27.631.440	33.903.750
000.000	11.650.000	10.750.000	10.000.000	8.500.000	1.000.000
Correct	Correct	Wrong	Correct	Correct	Correct
Indonesia table	Test without 1. Block Misc. permit start too late	Some pipe no Back Fill Misc. permit start too late	In Bl... Indonesia Test start... too late	Temp Office Transport of mat and demob. no in schedule	Not Acceptable
table	Not sufficient	Acceptable	Not Clear	Acceptable	Acceptable
table	Not Acceptable	Not enough	Not enough Supervision	Acceptable	Enough No explanation of experience
icient	To be completed	Sufficient	To be completed	Not explanation of Qty	To be completed
able oo high w	Acceptable Some too high Acceptable	Some too high Some too low Acceptable	Too high Acceptable	Some too high Some too low Acceptable	Too high Acceptable
n Conc ent & ck	High in Rail Road crossing	Low in Joint and Lay pipe High in stream crossing	High in remove and replace pavement	High in mobilization & demobilization	High in Joint Lay pipe Low in stream crossing

SURAKARTA WATER SUPPLY PROJECT
 BURNS & MCDONNELL/TANSA-A ENGINEERING
 EVALUATION OF TENDER : PHASE 1 / 11 1981 - 1982
 ADMINISTRATIVE ADEQUACY OF BIDS :

NO.	ITEM REVIEWED	1. PT. LEPEN KENCANA UTAMA	2. PT. CAKRA ENTERPRISE	3. PT. TUKADNAS
1.	Envelope	S	S	S
2.	Bid Proposal	S	S	S
3.	Cost Estimate	S	S	S
4.	Unit Prices List	S	S	S
5.	Bid Bond	1,500,000	1,250,000	1,500,000
6.	Time Schedule	S	S	S
7.	Analysis of Unit Price	S	S	S
8.	Working Method	S	S	S
9.	List of Field Personnel	S	S	S
10.	List of Equipment	S	S	S
11.	Fiscal letter	S	S	S, Not shown The original
12.	Tax Registration Numbers	S	S	S
13.	Balance Sheet	S	S	S
		Economically weak	Economically weak	Economically weak
14.	Investment Structure	S Not stating percentage of native ownership	S Not stating percentage of native ownership	S 60% Native 40% Non Native
15.	Supervisory Board Structure	S	S	S
16.	List of Experts	S	S	S
17.	Business License	S	S	S
18.	Bank Reference	S Directed to CJWSP	S Directed to CJWSP	S Directed to CJWSP
19.	Regional Prequalification	S	S	S
20.	Statement Receiving Pre Bid Memorandum	S	S	S

* S : Submit

TUKADMAS	4. PT. TRI KO- NODO	5. PT. CANDI LAKSANA	6. PT. P GUNAN	PT. ANTAR PRI- BUNI	P. PT. SAMINA DWIPA
	S	S	S	S	S
	S	S	S	S	S
	S	S	S	S	S
	S	S	S	S	S
.000	1.500.000	1.250.000	1.500.000	1.500.000	1.300.000
	S	S	S	S	S
	S	S	S	S	S
	S	S	S	S	S
	S	S	S	S	S
ot shown	S	S	S	S	S. Not shown
original					The original
	S	S	S	S	S
	S	S	S	S	S
mically k	Economically weak	Economically weak	Economically weak	Economically weak	Economically weak
	S	S	S	S	S
ative	100% Native	Not stating percentage of native owner- ship	Not stating percentage of native owner- ship	Not stating percentage of native owner- ship	100 % Native
on Native					
	S	S	S	S	S
	S	S	S	S	S
	S	S	S	S	S
	S	S	S	S	S
ted to SP	Directed to CJWSP	Directed to CJWSP	Directed to Central in Central Java	Directed to CJWSP	Directed to CJWSP
	S	S	S	S	S
	S	S	S	S	S

SURABAYA WATER SUPPLY PROJECT
 BURNS & MCDONNELL / TRANS-ASIA ENGINEERING
 EVALUATION OF TENDER : PHASE II - 1981 - 1982
 TECHNICAL ADAPTIVITY OF BIDS :

No.	ITEM REVIEWED	AVERAGE	PT. LEPEN KENCA- NA UTAMA (1)	P.T. CAKRA ENTERPRISE (2)	P.T. TUKAD MAS (3)
1.	TOTAL BID	115.251.000	118.025.000	115.738.000	115.945.000
	OFFICE INARIES	8.066.875	7.700.000	8.000.000	16.000.000
	PAVING WORK	41.845.670	39.335.940	44.377.193	35.968.075
	CIVIL WORK	24.741.051	8.711.800	19.035.350	31.859.870
	PIPE INSTALLATION	30.000.175	49.890.260	36.903.400	14.289.834
	MISCELLANEOUS	8.187.500	11.500.000	4.000.000	15.000.000
	TOTAL PRICE		Wrong Item 8	Correct	Correct
2.	TIME SCHEDULE		Test start too late	Test without T. Block Demob no in schedule	In Dis.Indonesia Acceptable
3.	WORKING METHOD		Acceptable	In Dis.Indonesia not sufficient	Acceptable
4.	FIELD PERSONNEL		Enough No Explanation of experience	Enough No Explanation of experience	Acceptable
5.	EQUIPMENT		Sufficient	To be completed	Sufficient
6.	UNIT PRICE				
	MATERIAL		Acceptable Some too high	Acceptable Some too high	Acceptable Some too high
	LABOR		Acceptable	Acceptable	Low
7.	UNIT COST		High in testing and flusing Low in remove and replace pavement	Low in mobilization and demob.	High in conc. placement & T. Block

APPENDIX VI

PT. KAD MAS (3)	P.T. TRI KOLDO (4)	P.T. CAMDI LAKSANA (5)	T.T. PEMBANGUNAN (6)	P.T. ANTAR PIRI BUMI (7)	PT. SIVANA DWIPA (8)
5.945.000	119.759.000	113.911.000	114.434.000	114.944.000	119.254.000
6.000.000	10.375.000	5.000.000	6.500.000	6.960.000	4.000.000
35.968.070	33.796.667	44.323.843	30.008.483	44.413.586	58.541.500
31.859.870	30.810.700	31.235.543	38.496.150	26.541.500	12.770.000
4.289.634	32.403.315	21.823.500	24.388.930	25.726.165	34.162.160
5.000.000	7.500.000	8.750.000	6.750.000	8.500.000	4.000.000
Correct	Correct	Correct	Correct	Correct	Wrong item 1211
In Indonesia Acceptable	Test without T.Block. Misc permit start too late	Some Pipe no Back Fill Misc.Permit start too late	In Bhs.Indonesia Test start too late	Temp Office Transport of mat and demob not in schedule	Not Acceptable
Acceptable	Not Sufficient	Acceptable	Not Clear	Acceptable	Acceptable
Acceptable	Not Acceptable	Not enough	Not enough Supervisor	Acceptable	Acceptable
Client	To be completed	Sufficient	To be completed	Not explanation of QTY	To be completed
Acceptable too high	Acceptable Some too high	Some too high Some too low	Too high	Some too high Some too low	Too high
LOW	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable
In conc. ement & lock	High in trans- port pipe	High in stream crossing	High in remove and replace pavement	Low in testing and flushing	High in joint and lay pipe Low in stream crossing

1. TUGAS	4. PT. TRI KODIMO	5. PT. CANDI LAKSANA	6. T.T. PEMBANGUNAN	7. PT. ANWAR PRIBUNI	8. PT. SARANA DWIPA
00.000	3.275.000	2.000.000	2.500.000	4.960.000	2.500.000
00.000	7.100.000	3.000.000	4.000.000	2.000.000	1.500.000
34.628	3.596.400	2.603.988	1.814.576	2.625.377	2.524.284
83.507	2.513.257	3.455.173	2.675.813	3.384.085	3.840.157
95.202	17.284.410	24.053.130	19.605.114	23.968.521	31.389.939
54.738	10.402.600	14.211.552	11.922.980	14.435.608	20.781.194
39.810	6.593.345	2.028.780	2.705.040	3.381.300	1.803.260
25.668	8.836.550	4.074.385	9.032.100	9.219.678	2.542.000
06.070	6.675.000	3.624.970	13.350.000	6.212.200	7.120.000
10.000	6.266.000	4.787.465	3.615.000	11.299.285	1.205.000
50.000	11.141.200	17.021.725	12.075.000	8.742.300	32.000
03.800	1.144.500	938.850	1.071.150	1.962.000	3.295.500
14.156	10.707.450	10.932.870	9.016.800	1.825.902	9.016.800
00.000	11.550.000	9.649.998	12.000.000	9.625.000	1.500.000
00.000	7.500.000	8.750.000	6.750.000	8.500.000	4.000.000
1.000	2.000	2.000	2.000	1.500	1.500
1.500	1.500	1.750	1.500	2.000	-
1.200	1.200	1.500	1.250	2.000	1.500
700	650	1.000	1.000	1.000	1.000

SURAKARTA WATER PRO
REPORT OF ENGINEERING
BURNS & McDONNELL/TRANS-ASIA EN

CONTRACT NO. 01/WS-S/AID/78 SIGNED 26 OCT. 1978 START 1 JAN. 1978 END 30 SEP. 1982 REIMBURSABLE EXPENDITURES	CCSTS FOR	CUMULATIVE COSTS THROUGH JULY 1981		
	JULY 1981	AMOUNT	% OF TOTAL BUDGET ESTIMATE	A RE JULY
US DOLLARS				
Salaries and Related Costs	14,850.37	898,577.36	79.3	17,1
Transportation	2,069.23	67,967.72	81.5	9,8
Equipment	35.48	12,456.36	77.8	9.7
Miscellaneous	72.00	49,631.48	85.4	1,1
Contingencies	-	53,470.70	85.5	
TOTAL DOLLARS	17,027.08	1,082,102.62	79.9	37,8
INDONESIAN RUPIAH				
Salaries	11,188,000	151,986,469	67.9	
Transportation	3,842,181	66,306,608	78.9	
Housing	-	50,775,000	80.6	
Vehicle Costs	7,903,000	45,109,472	84.0	
Equipment Costs	-	24,610,860	101.4	
Miscellaneous	6,806,775	62,723,260	68.3	
Contingencies	1,185,030	20,601,990	61.9	
TOTAL RUPIAH	30,924,986	*420,476,134	73.3	15,0

* as per Rp. Invoice No. 18

** second partial payment on Rp. Invo

WATER PROJECT
ENGINEERING COSTS
SIS-ASIA ENGINEERING ASSOC.

CUMULATIVE PAYMENTS THROUGH			TOTAL BUDGET ESTIMATE FOR CONTRACT
AMOUNT RECEIVED IN JULY 1981	TOTAL AMOUNT RECEIVED THROUGH JULY 1981	% OF TOTAL BUDGET ESTIMATE	
DOLLARS			
17,111.93	883,726.99	78.0	1,132,179
9,896.00	65,898.49	79.0	83,343
9,716.9	12,420.88	77.6	16,000
1,152.31	49,559.48	85.3	58,060
-	53,470.70	84.5	63,071
37,894.93	1,065,075.54	78.7	1,352,856
SIAM RUPIAH			
-	140,798,469	62.9	223,759,250
-	61,601,902	73.3	83,952,600
-	50,775,000	80.6	62,975,000
-	37,206,472	69.3	53,675,000
-	24,611,400	101.4	24,253,000
-	55,916,485	60.9	91,810,000
-	19,416,960	58.4	33,236,460
15,000,000 **	345,832,474	60.2	573,861,310

INDONESIAN PROFESSIONAL & TECHNICAL

COUNTY/ART CHIEF ENG	0	28.6	33	86	4.4
CONSTRUCTION SUPERVISOR	1	12.9	36	35	23.1
HYDROLOGIST	0	20.7	26	79.6	5.3
MATERIALS COORDINATOR	1	34	48	70.8	14
INSPECTORS	1	101	146	69.1	45
DRAFTSMAN	1	45	66	68.1	21
ACCOUNTANT	1	34	32	106.2	(2)
TECHNICAL TRANSLATOR	0	17.8	18	98.8	0.2
DESIGN ENGINEER	0	6	8	75	2
SPEC. / COST ESTIMATOR	0	4.6	3	153.3	(1.6)
SR. SURVEYOR / PLOTTER	0	5.4	5	108	(0.4)
SURVEYOR	0	5	5	100	0
INSTRUMENTMAN	0	6.3	5	126	(1.3)
INDON. PROF. & TECH.	7.0	321.3	431	74.5	109.7

INDONESIAN ADMINISTRATIVE

OFFICE MANAGER	1	34	48	70.8	14
SECRETARY (B - LINGUAL)	1	32.6	54	60.3	21.5
TYPIST	0	27.2	51	53.3	23.8
CLERKS	1	95.6	88	108.6	(7.6)
DRIVERS	3	142.3	223	63.8	80.7
LABORERS	2	161.2	258	62.4	96.8
ROOMMEN / CHAINMEN	8	13.8	10	138.0	(3.8)
ADMINISTRATIVE TOTAL	8	512.7	732	70	219.3

SURAKARTA WATER PROJECT
 REPORT OF MAN-MONTHS EXPENDED BY CONSULTANT
 GUY W. B. McDONNELL / THOMAS-ASIA ENGINEERING ASSOCIATES

CONTRACT NUMBER OI/WS-S/AID/78 AID LOAN 497-U-044	MAN - MONTHS				
	FOR JULY 1981	CUMULATIVE THROUGH JULY 1981	TOTAL IN CONTRACT SCHEDULE	% OF TOTAL USED PER SCHEDULE	BALANCE
EXPATRIATES					
PROCUREMENT ENG. CHIEF ENGINEER	0	6.5	14.5	44.8	8
	0	26.2	30	87.3	3.8
CONSTRUCTION SPECIALIST	1	22.1	36	61.3	13.9
LIAISON OFFICER	0.09	3.87	7.5	51.6	3.6
PRINCIPAL	0	0.71	2	35.8	1.3
HYDROGEOLOGIST	0	8.1	12	67.5	3.9
DRILLING SPECIALIST	0	10.5	12	87.5	1.5
O & M SPECIALIST	1	29.4	41.5	70.8	12.1
METER SPECIALIST	0	8	8	100	0
MANAGEMENT SPECIALIST	0	20.2	21	96.1	0.8
SPECIALIST	0	0	3	0	3
DESIGN SPECIALIST	0	10.9	12	90	1.1
EXPATRIATE TOTAL	2.09	148.39	199.5	74.3	51.1
INDONESIAN PROFESSIONAL & TECHNICAL					