

PD-AAN-576  
ISN: 32652



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. 23**  
**AUGUST 1980**

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

USAID/Indonesia  
Information Center



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**REPORT NO. 23  
AUGUST 1980**

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

BURNS & McDONNELL Engineering Co.

Architect - Engineers

A JOINT VENTURE

Consultants - Planners

TRANS-ASIA Engineering Associates, Inc.

Please Reply to: Kotak Pos 105  
Surakarta

284/BM/TAE/SKA/80  
05 September 1980

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

Subject : Contract for the Consultant Services for  
Surakarta Water System No. 01/WS-S/I/AID/78  
dated 26 October 1978

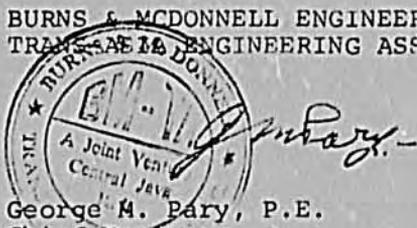
Dear Sir :

In accordance with Section 4.12 and Appendix I of the  
subject Contract, we are pleased to submit fifteen  
copies of Monthly Report No. 23 for the month of Sep-  
tember 1980.

We hope, that this report will meet with your approval.

Very truly yours,

BURNS & McDONNELL ENGINEERING CO./  
TRANS-ASIA ENGINEERING ASSOC, INC.

  
George M. Pary, P.E.  
Chief Engineer

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

GMP/lr

## TABLE OF CONTENTS

SECTION	TITLE	PAGE
I	GENERAL	1
I-A	NARRATIVE SUMMARY	1
I-B	PROBLEMS AND PROPOSED SOLUTIONS	3
II	ADMINISTRATION	4
II-A	SUBMISSIONS/APPROVALS	4
II-B	CONTRACT STATUS	4
II-C	PERSONNEL	5
III	ENGINEERING AND MANAGEMENT	8
III-A	OFF-SHORE PURCHASED MATERIALS	8
III-B	CONSTRUCTION OF TRANSMISSION PIPELINE	9
III-C	GROUNDWATER EXPLORATION AND WELL DEVELOPMENT PROGRAM	11
III-D	MANAGEMENT ASSISTANCE PROGRAM	11
III-E	O&M ASSISTANCE PROGRAM	11
III-F	WATER METER REPAIR TRAINING PROGRAM	12
III-G	NEW WATER DISTRIBUTION NET DESIGN	12
III-H	CONFERENCES	13
III-J	ACTIVITIES PLANNED FOR NEXT MONTH	13
IV	APPENDICES	

TABLE OF CONTENTS  
(Continued)

SECTION	TITLE
IV	APPENDICES
I	REPORT OF MAN-MONTHS EXPENDED BY THE CONSULTANT
II	REPORT ON ENGINEERING COSTS
III	SCHEDULE OF ACTIVITIES
IV	EXPATRIATES DEPLOYMENT SCHEDULE
V	REPORT OF CONSTRUCTION SPECIALIST
VI	REPORT OF WELL DRILLING SPECIALIST
VII	REPORT OF O&M SPECIALIST
VIII	REPORT OF DISTRIBUTION NET DESIGN ENGINEER
IX	REPORTS ON CONFERENCES

14

SECTION I  
GENERAL

I-A NARRATIVE SUMMARY

The progress during August was stymied due to the observance of the Year End Holidays and the Independence Day. The Consultant anticipated less than normal output from the contractors, however actual accomplishments on the transmission pipeline construction were far below even the reduced expectations. It is hoped, that in September the contractors will see fit to hire sufficient number of personnel to make a significant progress. Particularly important is the completion of Sections A and B, where the contractors are already in their "maintenance period" and Section A contractor is expected to go beyond it. As far as Sections C and D are concerned, completion cannot be expected on time, unless the contractors undergo complete change of attitude.

Now, that the construction of the transmission pipeline is drawing to completion, the Consultant is recommending the acquisition of equipment which would facilitate communications between SWE Headquarters, reservoirs and well sites. As soon as the new lines are put in operation, good coordination of the system will be essential. The equipment could be purchased in Indonesia, however considerable savings may be achieved if purchased in United States and airmailed (small size and little weight) to the project site.

Well drilling project is considerably behind schedule. Well No. 2 drilling (percussion method) started on 24th August. The drilling averages out to only about five meters a day. There is no drilling being performed at Well No. 1, because the contractor still did not obtain a mud pump. Also, contrary to Drilling Specialist's recommendations, the mud pits were lined with cement. As a result, the water in the pits became highly alkalized (pH14) and will have to be chemically neutralized before drilling mud can be mixed there.

Overhaul and Maintenance Assistance is progressing. O&M Specialist has prepared drawings for laboratory layout and for storage bins for the Auto Workshop. The drawings were submitted to Cipta Karya (CJWSP-I) and accepted. Additional drawings, for Materials Warehouse will be completed early in September. The later is particularly important, since it will enable the Project to store materials under positive control, instead of shipping crates as it is done at present.

Leak detection equipment, approved by Cipta Karya and USAID has been ordered by telex on 28th of August. It is expected to arrive at the project site within six weeks.

Rehabilitation of pipelines has slowed down, due to the lack of valves and fittings. The supplier has promised to deliver these materials by the 1st of September.

Tertiary water distribution system design is in progress. Survey work, performed by the Consultant is ahead of schedule. Plotting of topographical data

proceeds directly behind survey. Detailed design has been started, including the spotting of public hydrants.

A list of public latrines has been obtained and, following inspection, condition and necessary rehabilitation work to be done has been recorded. In addition a field survey has begun for the location of public bathhouses.

A preliminary list of materials needed for the construction of the tertiary distribution system has been prepared. The Consultant is awaiting replies from prospective suppliers in order to provide Cipta Karya with a preliminary estimate of cost.

#### I-B PROBLEMS AND PROPOSED SOLUTIONS

The interpreter position at SWE is still vacant and the Consultant must use part time the Material Coordinator in order to achieve progress in O&M department.

The problem which has now developed is the poor condition of the looping distribution main built two years ago. Considerable repairs and insertion of fittings are required, before this pipe can be put in service. CWSP has promised to commence the repairs on priority basis. Apparently, some of the required fittings may be obtained from the Semarang storage of CIWSP.

Well drilling is falling further behind schedule. Deadlines for the delivery of equipment to the site, set up by the contractor himself, has proved with no action having been taken. One of the standing orders of CIWSP is that all equipment should be personally inspected by the contractor.

SECTION II  
ADMINISTRATION

II-A SUBMISSIONS/APPROVALS

Consultant's Invoice No. 19 for April 1980 U.S. Dollar reimbursible expenses was submitted to Cipta Karya on May 5, 1980 and was approved by CK on May 20, 1980.

Consultant's Rupiah Invoice No. 10, submitted to Cipta Karya on 19 May 1980 was approved on 19 June 1980 and was paid on 7 July 1980.

These submittals are in accordance with the Contract Appendix II, page II-15. No further submittals can be made until after the contract extension has been signed by Cipta Karya.

II-B CONTRACT STATUS

The month of August was the fourth month of the new extension to the Consultant's contract. The extension proposal has been submitted to Cipta Karya, however no formal approval has been received as yet. The Consultant is working from their own funds, on the basis of the letter of intent and the instruction to continue as originally planned. Therefore no interruption in the work was suffered.

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. Subject to the signing of the Contract, these figures may be subject to adjustment.

## II-C PERSONNEL

The Surakarta office personnel in August were as follows :

### Expatriates

- George M. Pary, P.E., Chief Engineer  
arrived 17 August 1979
- James F. Baucom, Pipeline Engineer  
arrived 26 September 1979
- Albert G. Ringler, O&M Specialist  
arrived 9 May 1980
- Jerry E. Bragdon, Water Distribution Engineer  
arrived 8 June 1980
- William L. Lee, Well Drilling Specialist  
arrived 8 June 1980

### Indonesian

#### Professional and Technical :

- A.F. Dengah, Counterpart Chief Engineer  
arrived 8 November 1978
- Mohamad Khalil, Materials Coordinator  
arrived 9 October 1978
- Mohamad Syarif Lembah, Chief Inspector  
arrived 1 May 1979
- Gatot Bramono, Inspector  
arrived 19 November 1979

- Soewanto, Inspector  
arrived 11 March 1980
- Slamet Riyanto, Inspector  
arrived 7 July 1980
- Akhmad Aries, Draftsman  
arrived 13 April 1979
- Translator - Vacancy
- Jonathan Jowie, Accountant  
arrived 2 December 1978

Administrative :

- Dradjat Atmardjo, Office Manager  
arrived 2 October 1978
- Sri Hartati, Secretary  
hired 1 June 1979
- Typist - Vacancy
- Rubiyo, Clerk  
hired 1 November 1978
- Chaiz Hidayati, Administrative Clerk  
hired 8 October 1979
- Pamudji Rahardjo, Driver  
hired 2 October 1978
- Soedarno, Driver  
hired 1 December 1979

- Sutrisno, Driver  
hired 2 April 1979
  
- Heru Soewarto, Driver  
hired 22 May 1980
  
- Ermita Taher, Supply Clerk/Labor  
hired 19 March 1979
  
- Djumhan Hardi, Expeditor/Labor  
hired 2 January 1979
  
- Endang Tri Siwi, D.M., Receptionist/Labor  
hired 1 October 1979
  
- Suwarno Hadi, Office Boy/Labor  
hired 1 November 1978
  
- Mulyatmono, Watchman/Labor  
hired 9 October 1978
  
- E.M. Suprpto, Field Assistance/Labor  
hired 23 November 1979
  
- Memed Barmawi, Copy Machine Operator/Labor  
hired 23 June 1980

SECTION III  
ENGINEERING AND MANAGEMENT

III-A OFF-SHORE PURCHASED MATERIALS

III-A-1 American Cast Iron Pipe Company

Contract fulfilled and paid off.

III-A-2 Colcorindo Raya

Contract fulfilled and paid off.

III-A-3 Rohan Company

The final shipment of the equipment, which arrived in Semarang on 24 May has been cleared through Customs and delivered to Surakarta on 3 July. Missing and damaged materials from previous shipments have been shipped from Rohan on 8 August 1980.

No formal shipping lists have been received from Rohan as of this writing.

III-A-4 Clow Corporation

The package with missing and damaged materials has been shipped on the 20th of June. This shipment arrived in Semarang on 1 September, however no original shipping documents have been received. The importer, Pantja Niaga is attempting to obtain these documents from U.S.A.

III-A-5 Ford Meter Box Company

First major sea shipment of brass goods left the factory in July 1980. However, to date, no

sea shipping documents have been received, however a copy of packing list is on hand.

### III-B CONSTRUCTION OF TRANSMISSION PIPELINE

III-B-1 The transmission pipeline itself now nears completion. Section A contractor is working already beyond his "maintenance" period and Section B contractor received from CJWSP a thirty-day extension of the deadline. Sections C and D deadline is now 2 October, since the formal notice to proceed was dated 5 May.

Tapping of the pipeline and the installation of the corporation stops have been performed. Now that the deadline for Sections C and D has been extended, brass goods from the Ford Meter Box Company may arrive on time for the contractors to install the air release assemblies and sampling tap assemblies.

#### III-B-2 Work in Progress

A. The pipeline construction proper has been completed. One section of the pipe has been successfully tested, two more sections remain to be tested and the restoration and rip rap work is still being performed. Air vent assemblies are expected to be installed early in September, after the valve vaults have been completed.

This section is 97% completed.

B. The pipeline construction, testing and restoration work has been completed. Corrective work has been done on valve BV-13.

This section is considered to be 99.9% completed.

C. Additional polywrap pipe protecting material was received by the contractor, and the pipe laying operations continue. Brojo River crossing has been completed except for a small part of concrete protection wall and the steel bridge crossing on Pelemwulung River was put in place. Some steel bonds are still to be installed.

This section is 52% completed.

D. The railroad crossing has been completed and the two air valve vaults constructed. It remains for the contractor to test the pipe. Jebres reservoir painting has been completed. This includes all piping and the walls of the pipe gallery. The main is being filled for a test.

This section is 86% completed.

The total completion of the transmission pipeline at the end of August 1980 was 76.2 per cent. Full report of the Pipeline Construction Specialist will be found in Appendix V of this report.

III-C GROUNDWATER EXPLORATION AND WELL DEVELOPMENT PROGRAM

The well drilling program is being considerably delayed. Despite promises to the contrary, the contractor did not start drilling for Well No. 2 until 24 August and drilling for Well No. 1 did not start at all. Apparently the contractor has no mud pump, his old one having failed.

In addition there is still considerable doubt, as to whether the rig installed at the site has the capability (strength) to install all the casing that will be required for this deep well.

The Drilling Specialist has difficulties in performing his duties due to the lack of transportation. However it is believed, that a vehicle will be available for him early in September.

Full report of the Well Drilling Specialist will be found in Appendix VI of this report.

III-D MANAGEMENT ASSISTANCE PROGRAM

No action this month. USAID is attempting to obtain temporary services of a specialist in order to monitor SWE progress.

III-E O&M ASSISTANCE PROGRAM

The valve survey is continuing. There are problems with locating valves shown on the "as built" drawings but apparently not installed. Also, some of the valve survey on the 10E transmission line should be done between Sta. 15+270 to Sta. 15+310 where utility poles are. It will require a detailed survey to be done to ascertain the location of the valves.

Repairs required on the 300mm line have not been started as yet. Another list of needed repairs and materials will be prepared and forwarded to the Project.

Full report of the O&M Specialist will be found in Appendix VII of this report.

### III-F WATER METER REPAIR TRAINING PROGRAM

No action this month. The O&M Specialist will soon hold a seminar for repairmen, since it appears, that some undesirable short cuts in testing are being utilized. Also it seems, that the trained meter testing personnel are being transferred to other jobs, despite a great backlog in meter testing.

### III-G NEW WATER DISTRIBUTION NET DESIGN

The survey and design for the new water distribution system proceed a little ahead of schedule. Appendix VIII C shows the actual status of the work. Investigations are being made into the present condition of public latrines and what rehabilitation will be required.

Standard design of the public bathhouses was obtained, however some redesign (scaling down) appears to be necessary. This work, however will have to be postponed until after the property for the bathhouses has been acquired.

Standard design for public hydrants, yard hydrants and water service connections were prepared by the Consultant and submitted to CWSB. These designs were approved and included by CWSB into the construction contracts.

Full report of the Design Engineer will be found in Appendix VIII of this report.

### III-H CONFERENCES

Two conferences were held during August 1980 which considerably contributed to good coordination between the Cipta Karya and the Consultant.

On August 6 and 7 general monthly progress meeting was held in Surakarta, including some field trips by the visitors.

On August 26 a coordination meeting was held between CJWSP-I, SWE and the Consultant, during which current problems of the rehabilitation of the existing water distribution network were discussed.

Detailed reports of these meetings will be found in Appendix IX of this report.

### III-J ACTIVITIES PLANNED FOR NEXT MONTH

Complete the pipeline and start up the water flow. Continue drilling the first well and start the second well.

Continue the O&M program and start actual repairs. Continue survey and final planning of the first 12,000 meters of the distribution piping and proceed with final design of the tertiary distribution system.

Finalize preliminary list of materials and obtain prices for a preliminary cost estimate.

**SURAKARTA WATER PROJECT**  
**REPORT OF MAN-MONTHS EXPENDED BY CONSULTANT**  
**BURNS & McDONNELL / TRANS-ASIA ENGINEERING ASSOCIATES**

CONTRACT NUMBER CI/WS-S/AID/78 AID LOAN 497-U-044	MAN - MONTHS			
	FOR AUGUST - 1980	CUMULATIVE THROUGH AUGUST - 1980	% OF TOTAL SCHEDULE	TOTAL IN CONTRACT SCHEDULE
<b>EXPATRIATES</b>				
PROCUREMENT ENG. CHIEF ENGINEER	0 1	6.5 19.5	44.8 65	14.5 30
PIPELINE ENG. (TRANS) LIAISON OFFICER	1 0.09	11.1 2.88	50.4 52.3	22 5.5
PRINCIPAL	0	0.45	22.5	2
HYDROGEOLOGIST DRILLING SPECIALIST	0 1	5.7 5.5	47.5 45.8	12 12
O & M SPECIALIST METER SPECIALIST	1 0	19.4 8	70.5 100	27.5 8
MANAGEMENT SPECIALIST SPECIALIST	0 0	16 0	76.1 0	21 3
PIPELINE ENG. (DIST.)	1	2.7	22.5	12
EXPATRIATE TOTAL	5.09	97.04	57.2	169.5
<b>INDONESIAN PROFESSIONAL &amp; TECHNICAL</b>				
COUNTERPART CHIEF ENGINEER CONSTRUCTION SUPERVISOR	1 0	21.6 5.9	65.4 42.1	33 14
HYDROGEOLOGIST MATERIALS COORDINATOR	0 1	14.8 23	56.9 67.6	26 34
INSPECTORS DRAFTSMAN	4 1	62.4 19	86.6 55.8	72 37
ACCOUNTANT TECHNICAL TRANSLATOR	1 0	21 11.7	65.6 65	32 19
INDON. PROF. & TECH.	8	179.4	68.2	263

14

TECHNICAL TRANSLATOR	0	11.7	65	13
INDON. PROF. & TECH.	8	179.4	68.2	263

**INDONESIAN ADMINISTRATIVE**

OFFICE MANAGER	1	23	67.5	34
SECRETARY	1	22	64.7	34
TYPIST	0	12.6	32.3	39
CLERKS	3	66	89.1	74
DRIVER	4	77.3	48.3	165
LABORERS	6	105.2	43.1	249
<b>ADMINISTRATIVE TOTAL</b>	<b>15</b>	<b>306.1</b>	<b>52.3</b>	<b>515</b>

**INDONESIAN STAFF FOR DISTR. SYSTEM DESIGN AND SUPERVISION**

**INDONESIAN PROFESSIONAL & TECHNICAL**

DESIGN ENGINEER	1	1	12.5	5
SPEC./COST ESTIMATOR	0	0	0	3
CONSTRUCTION SUPV.	0	0	0	8
SR. SURVEYOR/PLOTTER	1	1	20	5
SURVEYOR	1	1	20	5
INSTRUMENTMAN	1.3	1.3	26	5
INSPECTORS	0	0	0	32
DRAFTSMEN	2	2	11.1	18
INDON. PROF. & TECH.	6.3	6.3	7.5	84

**INDONESIAN ADMINISTRATIVE**

SECRETARY (BI-LINGUAL)	1	1	16.6	6
TYPIST	1	1	8.3	12
DRIVER	1	1	3.8	26
RODMEN/CHAINMEN	1.8	1.8	18	10
<b>ADMINISTRATIVE TOTAL</b>	<b>4.8</b>	<b>4.8</b>	<b>8.8</b>	<b>54</b>

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15  
15

SURAKARTA WATER  
REPORT OF ENGINE  
BURNS & McDONNELL/TRANS-AS

CONTRACT NO. 01/WS-S/AID/78 SIGNED 26 OCT. 1978 START 1 JAN. 1978 END 31 JAN. 1981	COSTS FOR	CUMULATIVE COSTS THROUGH	
	AUGUST - 1980	AMOUNT	% OF TOTAL BUDGET ESTIMATE
REIMBURSABLE EXPENDITURES			
US DOLLARS			
Salaries and Related Costs	29,379.12	566,686.35	57.3
Transportation	-	36,013.68	33.3
Equipment	-	-	-
Miscellaneous	-	48,378.32	83.2
Training	-	-	-
Contingencies	-	-	-
<b>TOTAL DOLLARS</b>	<b>29,379.12</b>	<b>651,078.35</b>	<b>32.2</b>
INDONESIAN RUPIAH			
Salaries	4,114,667	77,729,632	44.6
Transportation	2,586,710	35,194,304	50.0
Housing	-	50,025,000	102.1
Vehicle Costs	605,000	30,771,472	71.3
Equipment Costs	299,000	15,882,935	65.4
Miscellaneous	567,525	58,853,015	82.0
Contingencies	-	19,416,960	44.9
<b>TOTAL RUPIAH</b>	<b>8,172,902</b>	<b>287,883,318</b>	<b>60.5</b>

ITA WATER PROJECT  
 ENGINEERING COSTS  
 TRANS-ASIA ENGINEERING ASSOC.

CUMULATIVE PAYMENTS THROUGH			TOTAL BUDGET ESTIMATE FOR CONTRACT
AMOUNT RECEIVED IN AUGUST - 1980.	TOTAL AMOUNT RECEIVED THROUGH	% OF TOTAL BUDGET ESTIMATE	
<b>DOLLARS</b>			
32,897.30	537,307.23	57.3	937,533
9,135.55	36,013.68	33.3	108,108
-	-	-	641,500
-	48,378.32	83.2	58,131
-	-	-	14,544
-	-	-	175,982
42,032.85	621,699.23	32.1	1,935,798
<b>ESIAN RUPIAH</b>			
-	64,530,966	37.0	174,029,000
-	25,803,206	36.7	70,257,600
-	33,000,000	67.3	48,975,000
-	28,956,472	67.1	43,140,000
-	18,233,935	75.1	24,253,000
-	23,640,935	32.9	71,710,000
-	19,416,960	44.9	43,236,460
-	213,582,474	44.9	475,601,060

# SURAKARTA SCHEDULE PERCENT COMPLETED

	ORIGINAL CONTRACT													
	1978			1979										
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
<b>CHIEF ENGINEER</b>														
GENERAL COORDINATION AND ENGINEERING & MANAGEMENT ASSISTANCE														
<b>O &amp; M SPECIALIST</b>														
REVIEW EXIST. O & M STANDARDS & CONDITION OF DISTRIB. SYSTEM														
PREPARE O & M MANUAL & PLAN FOR REHAB. OF EXIST. SYSTEM														
PREPARE O & M TRAINING MANUAL														
FORMAL CLASSROOM TRAINING														
END PHASE I. PREPARE REPORT														
CONDUCT LEAKAGE DETECTION AND DEVELOP REHABILITATION PLAN														
SET UP WAREHOUSING & RECOMMEND ADDITIONAL O & M EQUIPMENT														
OFFSHORE EQUIPMENT PROCUREMENT														
SET UP O & M SHOP														
SUPERVISE REHAB OF EXIST. DISTR. SYSTEM														
WRITE FINAL REPORT AND CERTIFICATION														





# SURAKARTA SCHEDULE PERCENT COMPLETED

	ORIGINAL CONTRACT														
	1978			1979											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	D
<b>MANAGEMENT SPECIALIST</b> REVIEW EXIST. SYSTEM & PREPARE MANAGEMENT & ACCOUNTING MANUAL  STAFF TRAINING  OVER SEEING TRAINED STAFF  FINANCIAL PROJECTIONS FOR FUTURE OPERATIONS SWE  FINAL REPORT AND CERTIFICATION  ADDITIONAL TRAINING/OVER SEEING VISITS BY MANAGEMENT SPECIALIST			100												
<b>METER SPECIALIST</b>  SET UP MODERN METER SHOP  GENERAL TRAINING OF ENG'G STAFF  TRAINING AND OVER SEEING METER REPAIR TECHNICIANS  FINAL REPORT AND CERTIFICATION															



**SURAKARTA W  
SCHEDULE O  
PERCENT COMPLETED A**

	ORIGINAL CONTRACT														
	1978			1979											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<b>GROUND WATER DEVELOPMENT</b>															
HYDROGEOLOGICAL INVESTIGATIONS, STUDIES AND ANALYZIS (Hydrogeologist)															
WRITE DRILLING SPECIFICATIONS															
SUPERVISION OF WELL DRILLING (WELL DRILLING SUPERINTENDENT)															
WELL TESTING AND EXPLOITATION DECISION (HYDROLOGIST)															
FINAL REPORT ON WELLS															
WELL EQUIPMENT (PUMPS, MOTORS PIPING) PROCUREMENT OFF-SHORE															
<b>TRANSMISSION MAIN</b>															
OFF-SHORE PROCUREMENT															
PIPELINE CONSTRUCTION															
PREPARE AS-BUILT DRAWINGS															
FINAL REPORT AND CERTIFICATION															



**SURAKARTA W  
SCHEDULE OF  
PERCENT COMPLETED A**

	ORIGINAL CONTRACT														
	1978			1979											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<b>WATER DISTRIBUTION NETWORK</b>															
TOPOGRAPHIC SURVEY AND PREPARATION OF PLANS															
DESIGN OF DISTRIBUTION NETWORK															
PROCUREMENT OF MATERIALS (PIPES, FITTINGS, VALVES ETC.)															
CONSTRUCTION SPECIFICATIONS															
PREQUALIFY, TENDER & AWARD CONTRACTS															
CONSTRUCTION SUPERVISION															
PREPARE AS-BUILT DRAWINGS															
FINAL REPORT AND CERTIFICATION															
<b>OFF-SHORE PROCUREMENT</b>															
PROCUREMENT ENGINEER (AS REQUIRED)															
<b>LIAISON CIPTA KARYA/USAID/BM/TAE</b>															
LIAISON OFFICER (AS REQUIRED)															







SURAKARTA WATER PROJECT  
TRANSMISSION MAIN  
MONTHLY PROGRESS REPORT NO. 11  
01 SEPTEMBER 1980

I. GENERAL :

Construction was stopped by the contractors for the holidays starting in some sections the first week of this reporting period. Work did not resume in full until midway through the third week. Even so, the overall project completion was brought nearer by the completion of hydrostatic testing in Section B and most of Section A. The pipeline was joined on the south side of the Brojo River and preparations for flushing operations begun. Except for Section C, the pipeline is in place and efforts are underway to finalize all tests and cleaning operations to initiate full use of the transmission main. With the advent of transmitting additional supply to both Kartasura and Jebres reservoirs, operation of the system will become critical. The following is a direct quote from subparagraph E.5. of the Report submitted by the Consultant under cover of letter No. 029/BNSMC/Ext/IX/75 dated 09 September 1975, "..... Communication will be essential to coordinate the operation of the two reservoirs, during periods of low, normal and peak demand. We recommend that the necessary radios be specified and purchased as part of the project's control equipment; same as meters, gages, tools, etc." Copies of the above quoted were included as "Appendix 6" in the Consultant's "Economic,

28

Administrative & Water Rate Study for the City of Surakarta, Indonesia" dated 1976. Local sources of suitable radio equipment have been located by the Consultant and efforts are being made to inform responsible parties of the need so that such equipment may be acquired.

A chain survey has been conducted by the Consultant along the route of the transmission main as it was installed. The information attained during such survey will be incorporated in the drawings to reflect any revisions brought about during the construction. It is planned to update the site plan as an operations map for the Surakarta Water Enterprise to use.

## II. WORK IN PROGRESS :

- A. Tukadmas has reduced the portion of main not tested to that between Stations 76+10 and 76+60 and 100+00 to 103+85. Preparations are being made to join last section of  $\emptyset$  450 mm. pipe at the blow-off in Section C, Station 108+75, which will permit testing between Station 100+00 and 110+00 to include the portion noted above. Tests should be complete first week of September. Work is still in progress on final restoration and the rip-rap retaining wall at Station 93+00.

Tops for the four air valve vaults are planned to be poured the first week in September after which the air vent assemblies will be installed. Actual completion as of 31 August 1980 is 97.3% .

- B. Lepen Kencana Utama successfully cleared BV-13 of all obstructions and backfilled the excavation.

Dye test was conducted as mentioned in previous report whereby it was determined the canal was leaking and the cause for some erosion but was not the cause of water standing in the existing tunnel. Consultant inspectors jointly with personnel of the Surakarta Water Enterprise walked the full length of the existing tunnel and found evidence where ground water was seeping through honeycombed areas of the wall opposite from the new transmission main only. The contractor stopped flow of irrigation canal long enough to reline bottom and sides with fresh mortar as directed by the Consultant and with the approval of the Irrigation District. All tests have been acceptable and as of this writing the contractor is considered sufficiently complete to request a final inspection. Percent complete is recorded to be 99.9%.

- C. Tukadmas obtained additional polywrap during this reporting period and continues with installation of  $\emptyset$  450 mm. piping with approximately forty meters yet to go.

The  $\emptyset$  600 mm. pipe installation is now in its last  $1\frac{1}{2}$  kilometers and the  $\emptyset$  500 mm. required to cross the highway to join at the interface with Section D remains to be done. Pipe was placed across the steel bridge over the Pelemwulung River but as of this writing

not all steel accessories are in place and the west approach to the bridge is not installed.

The Brojo River crossing has only approximately four meters of concrete protection wall to be built on the south side and about fifteen square meters of rip-rap to be placed. As of this report the contractor is 52.0% complete.

- D. Lepen Kencana Utama has completed painting at the Jebres reservoir and is in the process of filling the main for test. A tank truck is being used by the contractor to haul water from Co-krotulung Springs during the filling operation. The railroad crossing was completed and the two air valve vaults and their tops poured. Completion now stands at 86.5 %.

### III. PROBLEMS :

Same as previous report.

### IV. PLANNED :

- A. Complete testing and balance of work mentioned herein above then call for final inspection.
- B. Call for final inspection
- C. Complete Brojo and Pelemwulung Rivers crossings, flush and test  $\emptyset$  450 mm. pipe make highway crossing to interface with

Section D, paint Kartasura reservoir piping.

D. Test piping and complete air valve vaults and restoration of road surfaces and shoulders.

V. PIPELINE CONSTRUCTION SPECIALIST'S COMMENTS:

As the construction phase of the transmission main draws to a close, emphasis will be shifted to other areas. Namely, record documents will be updated to accompany the final report on construction; operation and maintenance training will be provided as required for the Surakarta Water Enterprise personnel who will be responsible for the transmission main and inspection staff will be redeployed to other construction activities within the Consultant's Contract.

Despite repeated requests from the Consultant and the Central Java Water Supply Project, the contractor for Sections A and C has continued to utilize his own priorities. Doing so has resulted in the transmission main still being unusable due to the lack of tests and cleaning, and in one location the pipe itself is not installed south of Kartasura. There were no circumstances which would have precluded the contractor from completing such work prior to this writing.

As soon as it is feasible, the main will be flushed, tested and put into operation wherever it can be. By next reporting date there should be additional supply for Surakarta Water Enterprise to distribute.

At the close of this reporting period Phase I stands at 98.7% complete, Phase II is 65.0% and the overall transmission main is 76.2% finished.

WELL DRILLING  
MONTHLY PROGRESS REPORT  
AUGUST 1980

I. TASKS ACCOMPLISHED :

1. Daily visits to Well Drilling sites
2. Attendance at Monthly Consultant Progress Meeting on 6 August 1980

II. COMMENTS

- A. Reported to members at the meeting of the Consultant, DSE and CJWSP on delays in getting the drilling program started and on doubtful capability of the rotary drilling machine to set 130 - 150 meters of 12 inch casing due to weight limitations of the machine. Mr. Aziz replied that he personally would ask the contractor for explanations. A letter was received by this office on 8-26-80 confirming that Mr. Aziz was indeed calling the contractor to discuss the problem. The letter was dated 25 August 80 and was from the Project Manager, Mr. Krisno Darusman.
- B. Daily visits to the well sites provided little information until the crews started returning from the holidays. Work on well number 1 is being held up pending the outcome of the investigation being conducted by Mr. Aziz. The drilling crew returned to work at well number 2 and was ready and commenced drilling on 24 August 1980. This crew is averaging 5 meters per day.

C. Percent of completion

C.1. Well #1 = 6%

C.2. Well #2 = 22%

III. RECOMMENDATIONS

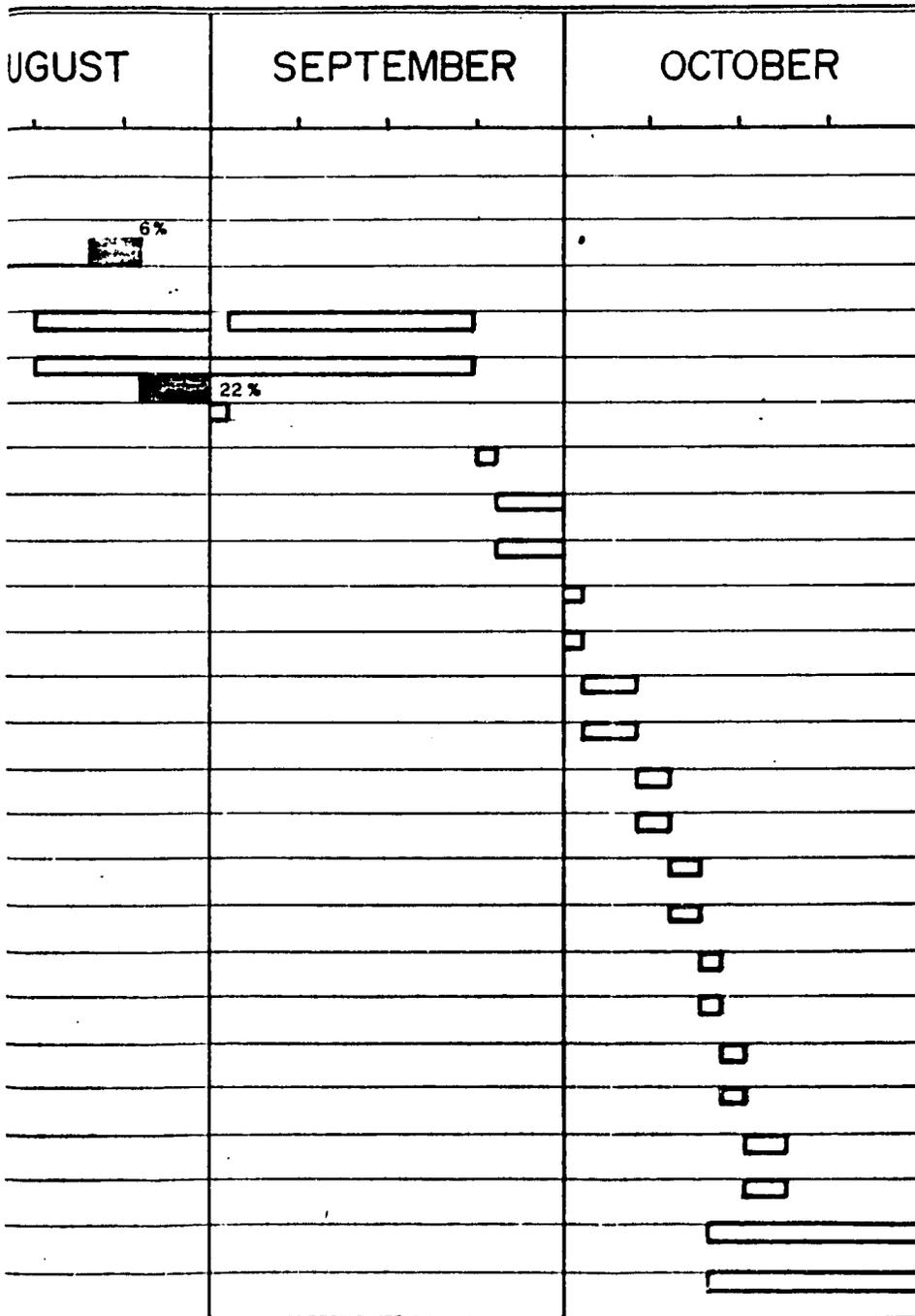
It is recommended that the agency responsible for providing transportation for the Drilling Specialist. Take actions and as soon as possible see that he is provided transportation. At the present he has to borrow a vehicle from another project and as a result can only make an occasional visit to the construction site and only remain there for a short time each day.

# WELL DRILLING SCHEDULE CJWSP PROJECT SURABAYA

WELL NO.	ACTIVITY	JULY	AUGUST
1 2	MOVE ON SITE	2 DAY 1 DAY	
1 2	SITE PREPARATION	3 DAY 3 DAY	
1 2	DRILLING	35 DAY 35 DAY	
1 2	LOGGING	1 DAY 1 DAY	
1 2	SCREEN & CASING	4 DAY 4 DAY	
1 2	GRAVEL PACK	1 DAY 1 DAY	
1 2	DEVELOPMENT	3 DAY 3 DAY	
1 2	DRAWDOWN TEST	2 DAY 2 DAY	
1 2	PRODUCTION TEST	2 DAY 2 DAY	
1 2	CEMENTING	1 DAY 1 DAY	
1 2	CAPPING WELL	1 DAY 1 DAY	
1 2	MOVE OF SITE	2 DAY 2 DAY	
1 2	DRAFT FINAL REPORT	10 DAY 15 DAY	

# SCHEDULE SURAKARTA

APPENDIX VI. A



SURAKARTA WATER PROJECT  
OVERHAUL AND MAINTENANCE ASSISTANCE  
PHASE II, PROGRESS REPORT NO. 3  
AUGUST 1980

Prepared drawings for the laboratory layout at Surakarta Water Enterprise, and for the storage bins for the Auto workshop. The drawing for the Materials Warehouse will be complete early in September. The laboratory drawings were submitted to Mr. Hari Wahyuadi and accepted.

I feel that the Material Warehouse could be completed on time and materials contract to speed up the program and to simplify the transfer of materials to the Project by having a facility to place them under positive control.

We are continuing on the valve survey. In the Surakarta Palace area we are finding a number of valves shown on the drawings which cannot be found on location. I was also informed that the south-east section of the Palace area has not had water service since 1942, even though the water lines are still connected. I am trying to locate a closed valve which might explain the problem. The personnel from SWE still will not open a valve when it is found in a closed position unless I am right there to direct it.

The Project has returned the leak detector, valve box locator and the line locator for our use for two months. Hopefully we will receive the equipment we are to purchase, before we have to return this equipment. The equipment has been ordered by telex on 28 August.

During the monthly progress meeting on the 6th and 7th of the month, it was recommended that we hold problem solving meetings with the Project and SWE every other week. Held the first meeting the 26th of August. Meeting report will be found in Appendix IX.

The lines that have been installed but not connected to existing systems are waiting for a back order of tees and valves. SWE indicates they should arrive by 1 September after which they will be installed.

In preparation of the increased amount of water to be received I went to Kartasura Station 16+240 on the old transmission line and conducted a valve survey to Station 28+520. None of the nine valves on that section can be readily operated for one reason or another.

The valve at Station 17+990 was located by me the 10th of June and to date SWE has made no effort to raise the valve box to the surface. It is believed by Mr. Saidi from SWE that this valve is only open part way.

The necessary repairs on the 300mm line to be done by the Project have not been started yet. I am going to go over the complete line again and give them another list of locations that are not connected and places that need repair. In addition a list of needed fittings will be prepared.

The newness of the meter testing facility is wearing off. The personnel from SWE that perform the tests are looking for short cuts to make the tests faster. A supervisor should be appointed who would assure proper procedures for testing and calibration, as they were taught by the Meter Specialist.

WATER DISTRIBUTION NETWORK  
MONTHLY PROGRESS REPORT  
AUGUST 1980

I. GENERAL

During the Monthly Progress Meeting held in Surakarta August 6 and 7, 22 Kelurahan were designated for tertiary water distribution design. Priorities were established for sequence of design. The selection of the 22 Kelurahan was based on proximity to adequate supply from the existing distribution system, incidence of water borne diseases, population density, least developed water distribution system and indications of desirability of a potable water supply. The selection is in coordination with the KIP program.

The personnel necessary to prepare specifications, drawings and appurtenances required for the Project have begun working as of August 1.

With the objectives of this project defined, progress is expected to be made rapidly. A preliminary design of the Kelurahan was prepared this month and a material list was developed from the design.

Time schedule has been prepared for the final design of the Kelurahan, rehabilitation of public latrines, public bath houses and distribution piping for the wells.

Locations of 47 public hydrants have been established and distribution piping is being designed to supply them.

Bids for two contracts tendered by CJWSP were evaluated and construction is expected to begin in early September. One contract is for the instal-

#### E. Design of Well Distribution Piping

No activity planned this month.

#### VII. COMMENTS OF THE WATER DISTRIBUTION SPECIALIST

A definite plan for the development of the yard hydrant water service has not yet been made. It is my understanding the yard hydrant would serve approximately 5 families totalling 30 persons and is intended to serve the customer who could not afford an individual service.

Since the distribution system presently being designed in 22 kelurahans will, for the most part, be available only to those families that cannot afford an individual water service, SWE will not realize any significant revenue from these new mains.

The Public Works has requested that sub-mains be installed in as many locations as possible. These sub-mains, actually a main parallel to and on the opposite side of the street of the originally proposed main, are intended to reduce the number of street crossings required to install water services to customers. The sub-mains require additional construction costs and eventually additional O&M costs for SWE. Public Works concerns regarding maintenance costs resulting from street excavation are understandable.

D. Design of 10 Public Bathhouses

It is tentatively proposed to utilize construction specifications prepared by Cipta Karya and modify as required.

E. Design for Well Distribution Piping

No progress has been made this month.

VI. ACTIVITIES PLANNED FOR NEXT MONTH

A. Tertiary Distribution System

Survey for the 11820 meters of 3" and 2" pipe to be installed by the CJWSP contract will be completed. Design and preparation of construction drawings for the 11820 meters of water mains will continue. Construction of the 3" and 2" pipe should begin in early September.

A list of materials and cost estimate for the distribution pipe should be completed early in September.

B. Public Hydrants, Yard Hydrants and Water Services

A detailed location map for the 47 Public Hydrants to be installed by the CJWSP will be completed.

A partial list of the 1100 water services should be received and transmitted to the contractor.

C. Rehabilitation of 147 Public Latrines

Preparation of construction specifications will be under way.

D. Design of 10 Public Bathhouses

A recommendation for the location of the 10 public bathhouses should be completed this month and submitted to CJWSP for approval and property acquisition.

D. Design of 10 Public Bathhouses

Materials required for this project are proposed to be furnished by the Contractor for this project.

E. Design for Well Distribution Piping

A list of materials will be prepared after the piping is designed tentatively scheduled in November.

V. CONSTRUCTION SPECIFICATIONS

A. Tertiary Distribution System

Construction Specifications for 11820 meters of 3" and 2" pipe were prepared by CJWSP and tendered on July 24, 1980. Construction drawings are presently being prepared for this contract by the Consultant and are scheduled to be completed in October.

No progress has been made on preparation of specifications for the balance of the distribution piping required to supply the remaining 12 kelurahans.

B. Public Hydrants, Yard Hydrants and Water Services

Construction specifications for 47 public hydrants and 1100 water services were prepared by CJWSP and tendered July 24, 1980.

No progress has been made on preparation of specifications for yard hydrants.

C. Rehabilitation of 147 Public Latrines

No progress has been made on specifications for public latrine rehabilitation.

tract tendered by CJWSP. A preliminary list of materials for the balance of the tertiary piping required for the 22 kelurahans has been prepared and Consultant is waiting for prices to complete the estimate of cost for these materials.

## B. Public Hydrants, Yard Hydrants and Water Services

### 1. Public Hydrants

All materials required to install 47 public hydrants in the contract tendered by CJWSP will be furnished by the contractor.

Material lists for the remaining 150 public hydrants have not been prepared.

### 2. Yard Hydrants

Presently there are 50 yard hydrants in stock at CJWSP in Surakarta. Saddle stops, corporation cocks and curb cock for yard hydrants have been ordered from Ford Meter Box Co.

Meters have been received, and are in CJWSP office in Surakarta. Pipe and other miscellaneous fittings will be furnished by the contracts tendered for installation of these services.

### 3. Water Services

Materials required to install 1100 water services in the contract tendered by CJWSP will be furnished by the contractor except for the corporation cocks and meters. Meters are in stock in CJWSP office in Surakarta. The corporation cocks have been ordered from Ford Meter Box Co.

## C. Rehabilitation of 147 Public Latrines

Materials required for this project are proposed to be furnished by the contractor for this project.

## 2. Yard Hydrants

A preliminary design for a standard yard hydrant is being prepared by the Consultant. A recommendation is forthcoming pending determination of availability of materials.

## 3. Water Services

A standard water service proposal was submitted by the Consultant in July and specified by CJWSP in the contract for 1100 water services.

### C. Rehabilitation of 147 Public Latrines

No progress has been made in the preparation of standard rehabilitation requirements for public latrines.

### D. Design of 10 Public Bathhouses

A standard public bathhouse design has been received by the Consultant. Modifications to this standard design, if required, will not be made until land acquisition is completed.

### E. Design for Well Distribution Mains

Design for discharge piping from the wells presently being drilled is scheduled to be completed in November. No progress has been made during this reporting period.

## IV. PROCUREMENT OF MATERIALS

### A. Tertiary Distribution Network

Approximately 12 kilometers of 3" and 2" pipe with valves and fittings are to be furnished in the con-

### C. Rehabilitation of 147 Public Latrines

A list of 129 Public Latrines has been obtained and a location map has been prepared. Visual inspection of these facilities has been made and condition of the latrines has been recorded. The Consultant is attempting to locate the remaining 18 of the total 147 required to be rehabilitated.

### D. Design of 10 Public Bathhouses

A field survey has begun for selecting sites to be recommended by the Consultant.

### E. Design for Well Distribution Piping

Survey and drawing preparation have been tentatively scheduled for October.

## III. DESIGN OF DISTRIBUTION NETWORK

### A. Tertiary Distribution System

A preliminary design has been prepared for all of the 22 kelurahans. Final design will be done as the drawings are completed.

### B. Public Hydrants, Yard Hydrants and Water Services

#### 1. Public Hydrants

A standard public hydrant design was prepared and specified by CJWSP in the contract for 1100 water services and 47 public hydrants.

This standard hydrant is presently being reviewed by the Consultant.

lation of 11820 meters of 3" and 2" water distribution mains. The contractor will be coordinating construction with a KIP contractor improving streets and drainage systems in Kelurahan Setabelan and Joyosuran. The KIP contractor began working in late August. The second contract tendered by CJWSP is for the installation of 1100 water services and 47 public hydrants. The contractor is required to coordinate work with the KIP contractor and CJWSP water main contractor. The locations of 1100 water services is being prepared by SWE. This information has not yet been received by the Consultant.

## II. TOPOGRAPHICAL SURVEY & PREPARATION OF PLANS

### A. Tertiary Distribution System

The field survey has been completed for Kelurahan Setabelan, Kemlayan, Joyosuran, Purwodiningratan, Semanggi and Pasar Kliwon. Survey work is approximately 22% completed.

Plotting of the survey and topographical data has been completed for Kelurahan Setabelan and Joyosuran, the two areas under construction by KIP.

Detailed design and preparation of final construction drawings remain to be done.

### B. Public Hydrants, Yard Hydrants & Water Services

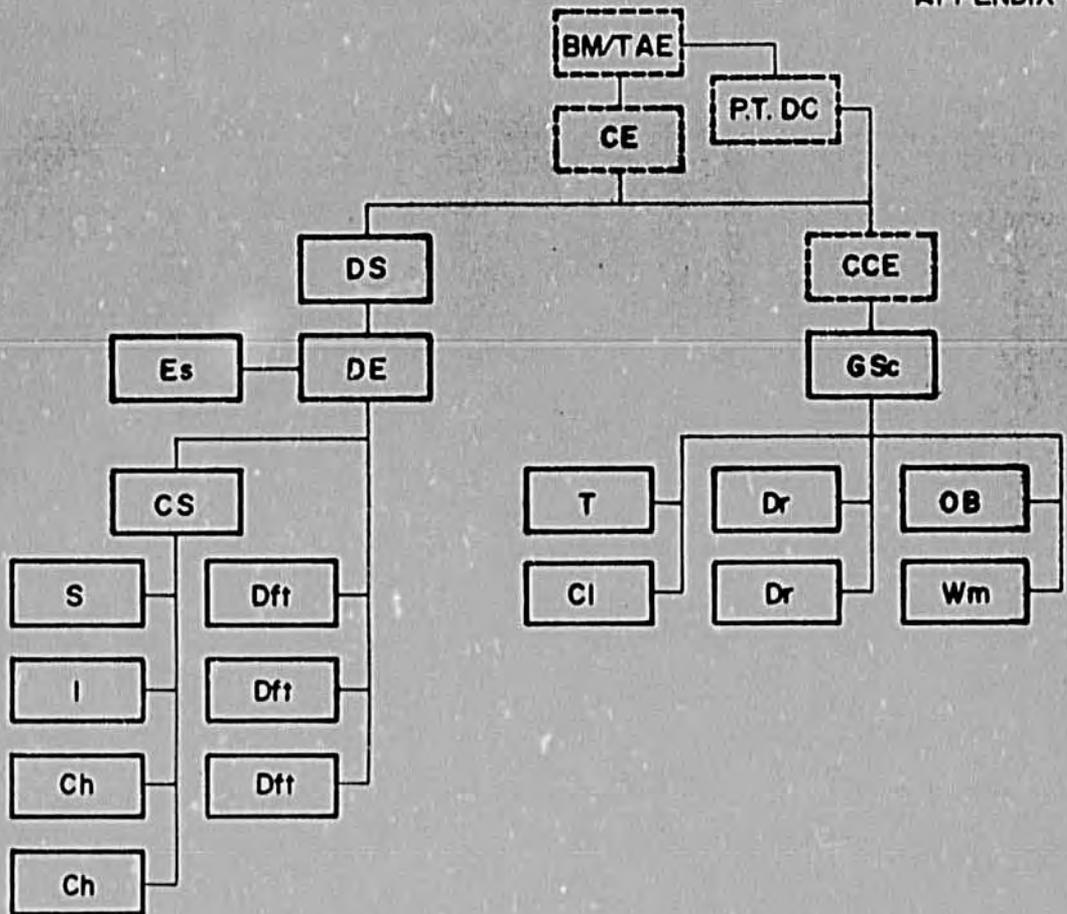
Construction drawings for the water distribution mains will also be utilized for Public Hydrants where these areas are the same. Plotting for 21 Public Hydrants in Kelurahan Setabelan to be installed by CJWSP has been completed.

46

# WATER DISTRIBUTION DESIGN

## ORGANIZATION CHART

APPENDIX VIII. A



**Abbreviations :**

BM/TAE : Burns & McDonnell/Trans-Asia

PTDC : P.T. Design Consult

CE : Chief Engineer

CCE : Counterpart Chief Engineer

DE : Design Engineer

DS : Design Specialist

CS : Chief Surveyor

GSc : General Secretary

S : Surveyor

I : Instrumentman

Dft : Draftsman

Es : Estimator

T : Typist

Cl : Clerk

Ch : Chainman

Dr : Driver

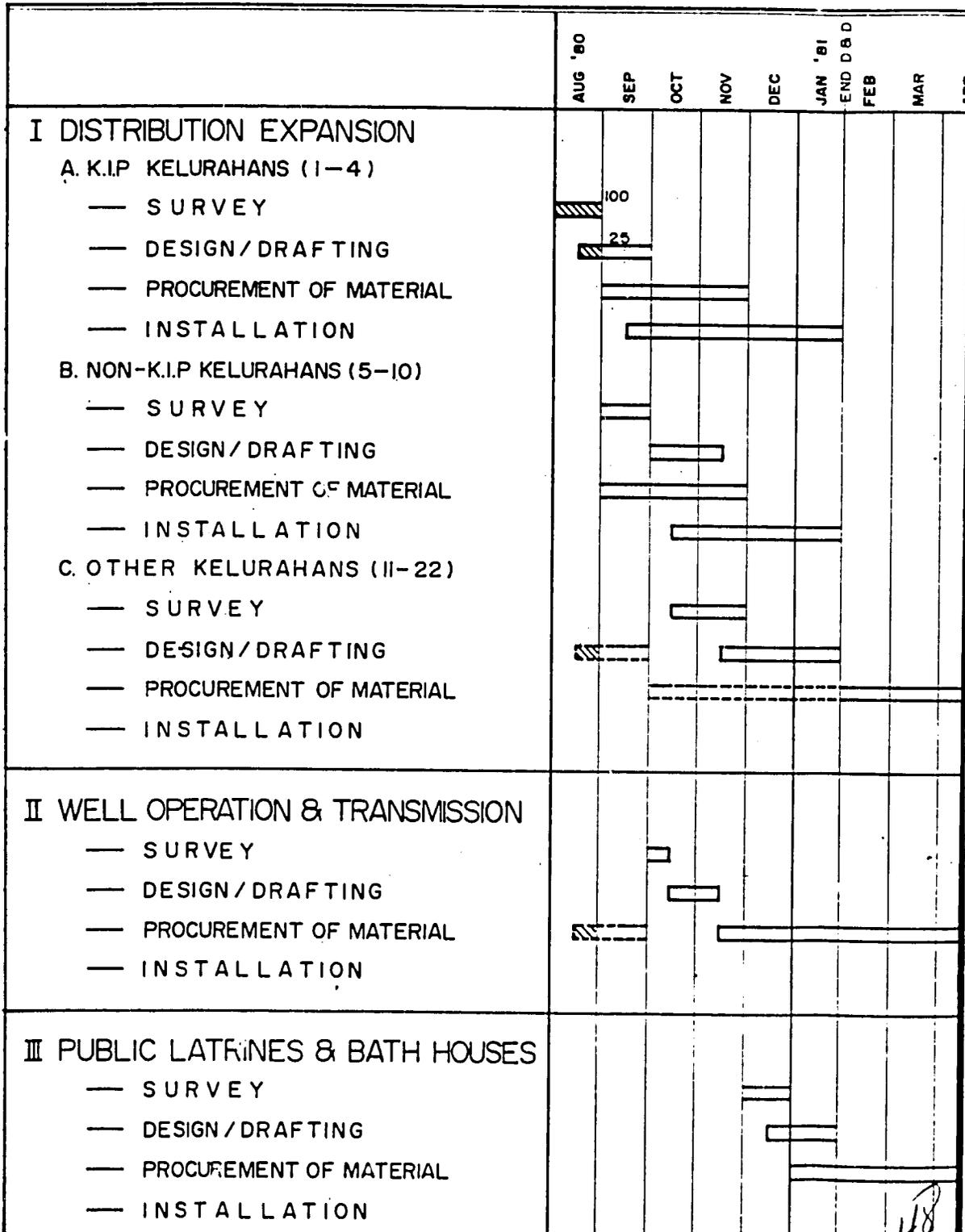
OB : Office Boy

Wm : Watchman

Full time effort

Assist on "as required" basis

# WATER DISTRIBUTION DESIGN, PROCUREMENT AND C



48

# DISTRIBUTION SYSTEM AND CONSTRUCTION SCHEDULE

APPENDIX VII.B

AUGUST 1980

FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN '82	FEB	MAR	REMARKS
														BY CONTRACTOR FY 1980-1981 BUDGET
														BY CONTRACTOR FY 1980-1981 BUDGET
														FY 1981-1982 BUDGET
														EXCLUDING PERUMNAS FY 1981-1982 BUDGET
														FY 1981-1982 BUDGET

# SURAKARTA WATER DISTRIBUTION SYSTEM

KELURAHAN	1980					JAN	FEB	MAR
	AUG	SEP	OCT	NOV	DEC			
SETABELAN	///	///	///					
JOYOSURAN	///	///	///					
PURWODININGRATAN	///	///						
K E M L A Y A N	///	///						
J E B R E S								
PASAR KLIWON								
S E M A N G G I								
K E P R A B O N								
G I L I N G A N								
M A N A H A N								
J A G A L A N								
K A M P U N G S E W U								
D A N U K U S U M A N								
G A J A H A N								
S E R E N G A N								
T I P E S								
P A N U L A R A N								
J A Y E N G A N								
K E P A T I H A N W E T A N								
K R A T O N A N								
K E S T A L A N								
N U S U K A N								



MEMORANDUM OF  
MONTHLY PROJECT PROGRESS MEETING

I. Date : Wednesday, August 6, 1980  
 Place : BM/TAE, Surakarta Office and SWE Office  
 Time : 10:30 a.m. - 01:30 p.m. 02:45 p.m. - 05:00 p.m.

II. Date : Thursday, August 7, 1980  
 Place : BM/TAE, Surakarta Office  
 Time : 10:00 a.m. - 01:00 p.m.

Attended by : Mr. Aziz	DSE, CK	
Mr. Krisno Darusman	CJWSP	(only Aug. 6, 1980)
Mr. Hari Wahyuadi	SWSP	
Mr. Abraham Grayson	USAID	
Mr. Paul Thorn	USAID	
Mr. Soedarto	SWE	
Mr. Soelarno	SWE	
Mr. Abimanyu	KIP	(only Aug. 7, 1980)
Mr. Djoko Imbarno	KIP	(only Aug. 7, 1980)
Mr. Fred Midgett	BM/TAE	
Mr. Frank Baucom	BM/TAE	
Mr. William Lee	BM/TAE	
Mr. Albert Ringler	BM/TAE	
Mr. Jerry Bragdon	BM/TAE	
Mr. A.F. Dengah	BM/TAE	
Mr. Soetono Soetomo	Design Consult	(only Aug. 6, 1980)
Mr. Abdul Kadir	Design Consult	

Results :

A. Distribution Extension Design Program :

1. C.K. Policy : Water Supply Projects to support as much as possible KIP
2. Coordination with Surakarta KIP for fiscal year 1980-1981 :

- Project to supply and install distribution lines within kelurahans : Setabelan, Joyosuran, Kemlayan, Purwodiningratan.
- Project to supply and install service lines and public hydrants (33) to Kelurahans : Setabelan (21) and Kemlayan (12)
- KIP to supply and install service lines and public hydrants to kelurahans : Joyosuran and Purwodiningratan.
- Contractors of KIP to commence the infrastructure contract (road, drain and sanitation) early September at Kelurahans Setabelan and Joyosuran
- Contractors of CJWSP to commence the 11.820 m installation of distribution lines early September at kelurahans Setabelan and Joyosuran
- Coordination of work between Contractors to be worked out before commencing time (late August) :
  - \* SWSP
  - \* SWE
  - \* KIP
  - \* BM/TAE
  - \* KIP Consultant

3. KIP for fiscal year 1981-1982 :

- joint survey to be done in October 1980 between SWSP, SWE and KIP.

4. CJWSP not to propose any budget to install public hydrants within 1981-1982 fiscal year.
5. KIP is free to plan any amount of public hydrants within Fiscal Year 1981-1982 budget.
6. Amount of public hydrants may exceed two hundred (200) by decreasing the amount of 13,000 yard hydrants, to maintain the limit of available amount of water. Consultant to advise the Project about this matter.
7. List of Kelurahans to be surveyed and designed in priority as follows :

- |   |                     |
|---|---------------------|
| 1. Setabelan  | 11. Jagalan         |
| 2. Joyosuran  | 12. Kampung Sewu    |
| 3. Purwodiningratan   | 13. Danukusuman     |
| 4. Kemlayan   | 14. Gajahan         |
| 5. Jebres   | 15. Serengan        |
| 6. Pasar Kliwon   | 16. Tipes           |
| 7. Semanggi   | 17. Panularan       |
| 8. Keprabon   | 18. Jayengan        |
| 9. Gilingan   | 19. Kepatihan Wetan |
| 10. Manahan   | 20. Kratonan        |
| (1-10: kelurahans proposed for<br>implementation of CJWSP 1980-<br>1981 fiscal year budget) | 21. Kestalan        |
|   | 22. Nusukan         |

8. Schedule (Bar Chart) to :
- survey
  - design
  - procure material
  - implement the design up to  
January 1982

to be submitted by the Consultant to CK & USAID not later than two (2) weeks from this date.

9. The whole design and its implementations will be turned over to SWE to complete, after January 1982, the amount of yard hydrants/service connections as projected in the SWE financial projection approved by CK and Surakarta Municipality.

B. Operation & Maintenance Program :

1. SWE reported:- succeeded in getting approval from the City Council to raise the water rate starting May 1980 from Rp 18.- to Rp 28.-/cubic meter
- the customers were satisfied to see improvement of water flow after placing the cross-ries on April 28, 1980 to May 1, 1980, but starting to get restless in the last month because of decreasing of pressure due to leaks and other matters.

- SWE is fully depending on the Project to show the Customers a better flow and pressure immediately by repairing leaks, completing the transmission main, completing the distribution mains

2. SWSP-BM/TAE to re-assign the implementation of spending the procured material (from 40 million budget) according to urgent need and limited budget (using off-shore purchased valves & accessories)
3. SWSP to review contracts of recently (1978-1980) installed distribution mains and instruct the contractors to repair all the discrepancies on each contractor's part of the main.
4. CJWSP immediately to connect the 300mm A.C. Distribution Main to the existing 450mm Transmission Main at Jl. Slamet Riyadi (Purwosari)
5. O & M Specialist complete surveying leaks on the 300 mm line installed in 1978 & 1979 by the Project by end September 1980.
6. O & M Specialist will be permanently assisted by personnel from SWE : Sayidi and Dardjo and three (3) laborers.
7. Reparation works reported as result of survey will be done by a separate team of the SWE, under supervision of SWSP.
8. Rehabilitation of 400 meter 400mm existing Transmission Main North of Kartasura Reservoir to be coordinated by CJWSP according to available budget.  
Cutting, of existing main to connect to new paralel laid main to be done after the New Transmission Main is completed.
9. Other recommended programs to be implemented in 1981-1982 Fiscal Year budget.

#### C. Management of SWE

1. Has been changed according to Consultant's Management Specialist's recommendation (See SWE report to Mayor on January 1980).

2. Further mutations planned, not yet implemented because of psychological reasons.

**D. Well Drilling Program :**

1. Contractor has mobilized rigs (2), but planned to start drilling after the holidays.
2. Drilling Specialist concerned about the capability of Cable Tool rig mobilized to TW-II to take the total weight of casing and screens and recommend to use bigger rig or separate equipment to install casing and screens.
3. Mr. Aziz to call Contractor to fulfill Drilling Specialist's recommendations.
4. Pump specifications to be submitted to USAID immediately after data is complete (approximately in month of October 1980)
5. Next Year to be drilled two (2) more wells under CK contract.

MEETING REPORT

Date : 26 August 1980  
 Time : 10.00 am - 11.30 am  
 Place : BM/TAE offices, Jl. Brig. Jen. Sudiarto 534, Surakarta

## Attended by:

Mr. Hari Wahyuadi	CJWSP-I
Mr. Soelarno	SWE
Mr. Suparno	SWE
Mr. G. M. Pary	BM/TAE
Mr. A. Ringler	BM/TAE
Mr. A. F. Dengah	BM/TAE

## Results:

## 1. Construction of new pipelines

Construction of new pipelines, where no pipes have been constructed before (e.g. Jl. Mawar) is being done in accordance with instructions from CJWSP. It is considered rehabilitation since there are already some 15 customers in this street, served at the present time by very long house services.

## 2. Fittings

Fittings for the pipe being laid have been ordered, however they have not yet been delivered to SWE by the supplier. It is understood, that they will be delivered to SWE by the end of August 1980.

## 3. Specifications

There are written specifications for the construction of the distribution pipeline, including bedding, cover and testing of the pipe. SWE will make sure, that the contractor will bury the pipe at the required depth (min. 65 cm cover)

4. Warehouse at SWE

At the present time the warehouse is full of PVC for the rehabilitation purposes. As soon as the pipe is used up SWE will start the remodelling of the warehouse, as much as the available finances will allow.

5. Distribution main loop

CJWSP-I requests the Consultant's O&M Specialist to make a list of fittings required to complete the 300 mm distribution main loop. The Project will supply these fittings from the Semarang warehouse if available and make purchases within the limits of the present budget. Whatever cannot be procured at present, will be acquired from the 1981/82 fiscal year budget.

6. Future planning of pipe replacement

SWE will send to the Consultant their program for the replacement of pipes, including the time schedule, so that the O&M Specialist will be able to plan out his time accordingly.