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. 24
SEPTEMBER 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

345/BM/TAE/SKA/80
05 October 1980

Mr. Soesanto Mertodiningrat
Director of Sanitary Engineering
Directorate General Cipta Karya
Jl. Pattimura 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 the Monthly Report No. 24 for the month of September 1980.

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

Very truly yours,

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

BURNS & McDONNELL TRANS-ASIA ASSOC. BM-TA A Joint Venture Central Java

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	Surakarta	(1 ")
	File		

GMP/mr

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PART I

GENERAL

I-A NARRATIVE SUMMARY

During the month of September, several items of work progressed considerably. However, the previous report stated, that there is little chance of the completion of the transmission pipeline on time unless the contractors make an extra effort. No such effort was made, and the pipeline is far from completion as of this date, although the formal completion deadline was 2nd October. The contractors will have to perform the construction work during the "maintenance period" of sixty days. It is hoped, that the pipeline will be completed during this period.

The Consultant has requested their Kansas City office to obtain three bids from the prospective suppliers of radio equipment. As soon as these bids are on hand recommendations will be submitted to Cipta Karya as to the best method of acquisition of this equipment. It is expected, that even allowing for air transportation, considerable savings can be made over equivalent apparatus purchased locally.

Good news were received from Ford Meter Box Company. Two shipments have left the factory with most of the order. The final shipment is expected to leave the plant early in October. This would complete all offshore purchases contracted to date, except for the shipments of missing and damaged materials from Rohan Company and the Clow Corporation.

Well construction, although considerably behind schedule, is at present time progressing satisfactorily. At Well No. 1 the pilot hole (200 mm diameter) has been completed to 150 meters. Well No. 2 has suffered a broken cable, however the cable has been replaced and the work restarted. The well, which is being constructed full-bore has reached approximately 70 meter depth. The Consultant was unable to locate water testing kit in country, so efforts are being made to import one from the United States. This item is urgently needed.

Management Assistance Specialist reported on site on 25th September. He immediately started work — as first item of business to check how well the accounting and management procedures recommended in his final report are being implemented.

O&M operation are stymied due to the lack of pipe and fittings. Although at the meeting on 25 July SWE reported receiving 9,000 meters of pipe, after installation of a total of 4,851 meters they reported running out of pipe. During the operation of cross-tie valves in the Tegalgondo village, the old line showed leaks in at least sixteen places. This line will have to be repaired on priority basis. Otherwise the benefits of the double transmission will be denied the project.

O&M Specialist has also held meeting with the meter reading crews. A comprehensive meter record form was introduced and its use and advantages thoroughly explained. The crews were instructed to start using the new form.

The survey of the city proceeds and the planning and design of the distribution system proceeds as rapidly as required information is obtained from KIP.

I-B PROBLEMS AND PROPOSED SOLUTIONS

The interpreter position at SWF is still vacant and the Consultant must use part time the Material Coordinator as interpreter 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 the pipe can be put in service. CJWSP has promised to commence the repairs on priority basis, however to date no work has been started. The Consultant offered his help in finding out what fittings can be obtained from storage in Semarang, but no permission has yet been granted by CJWSP.

Well drilling is falling further behind schedule. Several delays have been caused due to the contractor's ignoring the recommendations of the Well Drilling Specialist. Efforts are being made to contact the contractor's Management in Jakarta in order to remedy the situation.

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 September was the fifth 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 September were as follows :

E x p a t r i a t e s

- 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

- Bernardo B. Bayongan, Management Specialist
  arrived 25 September 1980

I n d o n e s i a n

<u>Professional and Technical</u> :

- 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 Prasmono, 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
  resigned 30 September 1980

- 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

- Sri Rejeki, Typist
  hired 8 September 1980

- Rubiyo, Clerk
  hired 1 November 1978

- Ermita Taher, Supply Clerk
  hired 19 March 1979

- 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

- Suharman, Driver
  hired 8 September 1980

- 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. Suprapto, Field Assistance/Labor
  hired 23 November 1979

- Memed Barmawi, Copy Machine Operator/Labor
  hired 23 June 1980

Survey and Design

Professional and Technical :

- Abdul Kadir, Design Engineer
  arrived 1 August 1980

- Budiman Sinaga, Sr. Surveyor
  hired 2 August 1980

- Harry Triyanto, Surveyor
  hired 1 August 1980

- Sutiyono, Instrumentman
  hired 22 August 1980

- Hadi Harsanto, Instrumentman
  hired 1 August 1980

- Wardoyo, Draftsman
  hired 1 August 1980

- Marry Suyatno, Draftsman
  hired 1 August 1980

Local Support :

- Hermani Guntur, Secretary
  hired 1 August 1980

- Endang Widiastuti, Typist
  hired 2 August 1980

- Budi D. Putranto, Driver
  hired 1 August 1980

- Darwin [illegible] Rodman/Chairman
  hired 6 August

- Bb. Eddy Harsono, Rodman/Chairman
  hired 2 August 1980

- Ciepta S., Clerk
  hired 6 August 1980

- Suharman, Office Boy
  hired 1 August 1980

SECTION III

ENGINEERING AND MANAGEMENT

III-A OFF-SHORE PURCHASED MATERIALS

III-A-1 American Cast Iron Pipe Company

The Consultant certified fulfillment of the contract on 1 February, 1980.

III-A-2 Colcorindo Raya

The Consultant certified fulfillment of the contract on 7 April 1980.

III-A-3 Rohan Company

Missing and damaged materials from previous shipments have been shipped from Rohan on 8 August 1980. Formal shipping lists have been received and as of this writing are being processed by the Bank Indonesia.

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 sc shipment of brass goods left the factory in July 1980. Formal shipping documents have been received and processed. As of this writing the shipment is in Singapore and is expected to arrive in Semarang in the first half of October 1980.

III-B CONSTRUCTION OF TRANSMISSION PIPELINE

III-B-1 General

Both contractors are nearing completion of the pipeline. Sections A and B have undergone final inspection and punch lists have been prepared.
Section D has all the pipe in the ground however testing is still to be performed. Section C contractor has installed all but approximately 100 meters of pipe.

III-B-2 Work in Progress

A. The contractor requested, and was granted a final inspection, despite of the fact that the original contract work has not been completed. The inspection, carried out at this time, resulted in an extensive "punch list" which is enclosed in this report. Until such time, as all the items on the punch list are completed in accordance with the Specifications, the Consultant will be unable to certify the completion of Section A.

Completion of this section is considered to be 40.1%.

B. The contractor has been granted the final inspection, which resulted in a punch list enclosed in this report. The section is considered completed, for practical purposes. Presently the contractor is working off the punch list and preparing as-built drawings, the preconditions to receive final payment.

C. All of the 450mm diameter pipeline has been satisfactorily tested. 500mm and 600mm pipeline has very short lengths to be completed. Both Brojo River and Pelemwulung River crossings have been completed.

This section is 71.5% completed.

D. There was no progress at all on this section of the pipeline during September. The Contractor was explaining his lack of any progress with the unavailability of water for hydrostatic testing. The Consultant pointed out to the contractor a considerable number of bid items unconnected with hydrostatic testing, in a letter of 11 September, however neither an answer was received nor any action attempted by the contractor.

This section is still 86% completed.

The total completion of the transmission pipeline at the end of September 1980 was 84.6 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 is falling further behind schedule. This is due not only to the late start, but also to the fact, that in several instances the recommendations of Well Drilling Specialist were ignored and as a result, the contractor had to do the same work twice, thereby wasting time.

Also, it apprears, that the field personnel have no authority to make any decisions and there is no authorized representative of the contractor in Surakarta, contrary to contract requirements. Completion of Well No. 1 is 50% and Well No.2, 40%.

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

III-D MANAGEMENT ASSISTANCE PROGRAM

The Consultant's Management Specialist, Mr. B.B. Bayongan has returned to the project on 25th September in order to review the implementation of approved methods and provide any additional help which will be necessary. Duration of his stay is expected to be three months.

III-E O&M ASSISTANCE PROGRAM

The repairs of the main line A (1978-79) have not been performed except for the repair of one air valve. These repairs must be completed soon, otherwise the connection of the new distribution system now under construction may be jeopardized.

During the hydrostatic test of transmission main in the area of Tegalgondo Village, the old main has developed considerable number of leaks. The line was found to be in extremely deteriorated condition. It is imperative to replace part of this line, otherwise the benefit of two transmission mains will be negated.

At the July monthly meeting it was stated, that SWE acquired 9,000 meters of PVC pipe and fittings for rehabilitation of the existing system. However now, after the installation of 4,851 meters, the Consultant was informed, that there is no more pipe available.
It is imperative, that the Surakarta Water Enterprise start long range planning and storage control, as recommended in the Report and Recommendations of O&M Phase I.

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

III-F METER REPAIR TRAINING PROGRAM

No action this month.

III-G NEW WATER DISTRIBUTION NET DESIGN

Primary effort is being made in the design of the KIP kampongs, where the contract for the installation of the distribution system has already started. The design is coordinated with KIP and approximately 50% of the system has already been designed.

Also, the construction drawings for 1100 services are being finalized and are expected to be ready for approval early in October.

Topographic survey work is proceeding on schedule and the field notes are being reduced onto plan drawings as soon as available.

Preliminary list of materials for the remaining 14 kampongs has been prepared and draft specifications were completed. Final specifications and special conditions will be prepared in October.

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

III-H DISTRIBUTION SYSTEM CONSTRUCTION

The construction of the tertiary distribution system for Surakarta started with the KIP areas, since they are already subject to other KIP planned improvements. Therefore, Setabelan, Joyosuran, Purwodiningratan and Kemlayan kelurahans are first priority.

As of the end of the reporting period, the contractor has installed approximately 800 linea meters of piping, however no tests or flushing has been performed, nor connection to the existing system effected. Taking this into account, the completion of the construction contract is estimated at 5 percent.

The full report of the Construction Specialist will be found in Appendix IX of this report.

III-J CONFERENCES

Two formal conferences were held during September 1980 which considerably contributed to good coordination between the Cipta Karya, the contractors and the Consultant.

On September 4 general monthly progrees meeting was held in Surakarta, including some field trips by cisitors.

On September 9 a coordination meeting was held between CJWSP-I, Construction Contractors and the Consultant, during which a general review of the construction requirements was made.

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

III-K ACTIVITIES PLANNED FOR NEXT MONTH

Complete the transmission pipeline and start up the water flow.
Complete drilling both wells and install screen and casing. Start up pumping.
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 construction materials for tertiary distribution system and obtain prices for a preliminary cost estimate.
Continue the review of the financial status and accounting and management systems at the Surakarta Water Enterprise.

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 SEPTEMBER 1980	CUMULATIVE THROUGH SEPTEMBER 1980	% OF TOTAL SCHEDULE	TOTAL IN CONTRACT SCHEDULE
EXPATRIATES				
PROJECT ENG	0	6.5	44.8	14.5
CHIEF ENGINEER	1	20.5	68.3	30
PIPELINE ENG (TRANS)	1	12.1	40.3	22
LIAISON OFFICER	0.09	2.97	54	5.5
PRINCIPAL	0	0.45	22.5	2
HYDROGEOLOGIST	0	5.7	47.5	12
DRILLING SPECIALIST	1	6.5	54.1	12
O & M SPECIALIST	1	20.4	74.1	27.5
ETER SPECIALIST	0	8	100	8
MANAGEMENT SPECIALIST	0.2	16.2	77.1	21
SPECIALIST	0	0	0	3
PIPELINE ENG (DIST.)	1	3.7	30.8	12
EXPATRIATE TOTAL	5.29	102.33	60.3	169.5
INDONESIAN PROFESSIONAL & TECHNICAL				
DEPUTY CHIEF ENGINEER	1	22.6	68.4	33
CONSTRUCTION SUPERVISOR	0	5.9	42.1	14
HYDROGEOLOGIST	0	14.8	56.9	26
MATERIALS COORDINATOR	1	24	70.5	34
INSPECTORS	4	66.4	92.2	72
DRAFTSMAN	1	30	58.8	51
ACCOUNTANT	1	22	68.7	32
TECHNICAL TRANSLATOR	0	11.7	65	18
INDON PROF & TECH	8	182.4	71.2	190
INDONESIAN ADMINISTRATIVE				
OFFICE MANAGER	1	24	70.5	34
SECRETARY	1	23	67.6	34
TYPIST	0.7	13.3	34.1	39
CLERKS	5	71	95.9	74
DRIVER	4	81.3	50.8	160
GARDENER	8	113.7	46.3	244
ADMINISTRATIVE TOTAL	19.7	325.8	55.6	585
INDONESIAN STAFF FOR DISTR. SYSTEM DESIGN AND SUPERVISION				
INDONESIAN PROFESSIONAL & TECHNICAL				
DESIGN ENGINEER	1	2	25	8
SPECIALIST ESTIMATOR	0	0	0	5
CONSTRUCTION SUPV	0	0	0	8
SR SURVEYOR/PLOTTER	0.5	1.6	32	5
SURVEYOR	1	[illegible]	40	4
INSTRUMENTMAN	1	2.3	46	5
INSPECTORS	0	0	0	22
DRAFTSMEN	1.4	3.4	34.4	10
INDO PROF & TECH	5	13.3	14.6	64
INDONESIAN ADMINISTRATIVE				
SECRETARY (BILINGUAL)	1	2	33.3	6
TYPIST	1	2	16.6	12
DRIVER	1	2	7.6	26
STORKEEPERMEN	1	3.8	38	10
ADMINISTRATIVE TOTAL	5	9.8	18.1	54

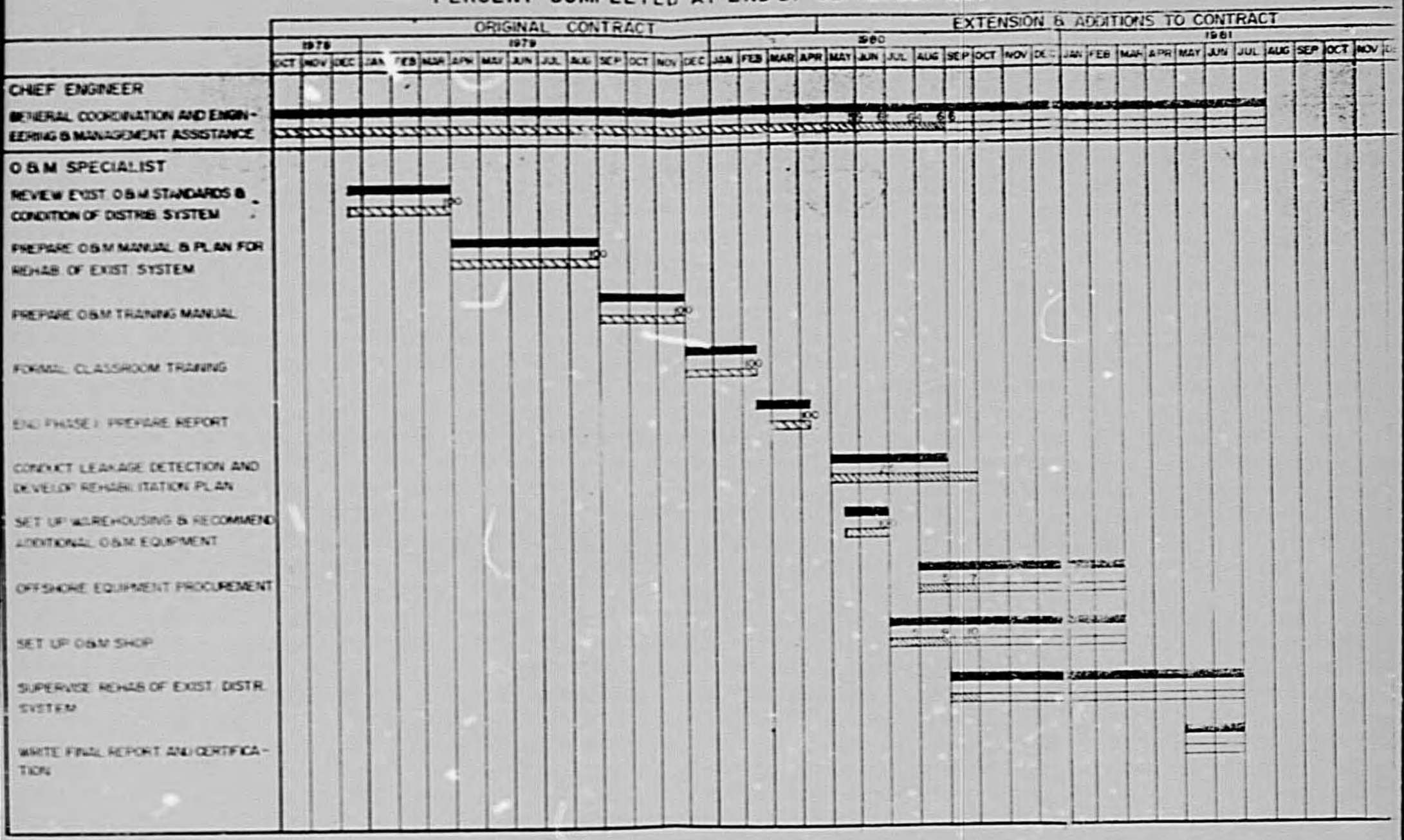
SYNAKARTA WATER PROJECT

REPORT OF ENGINEERING COSTS

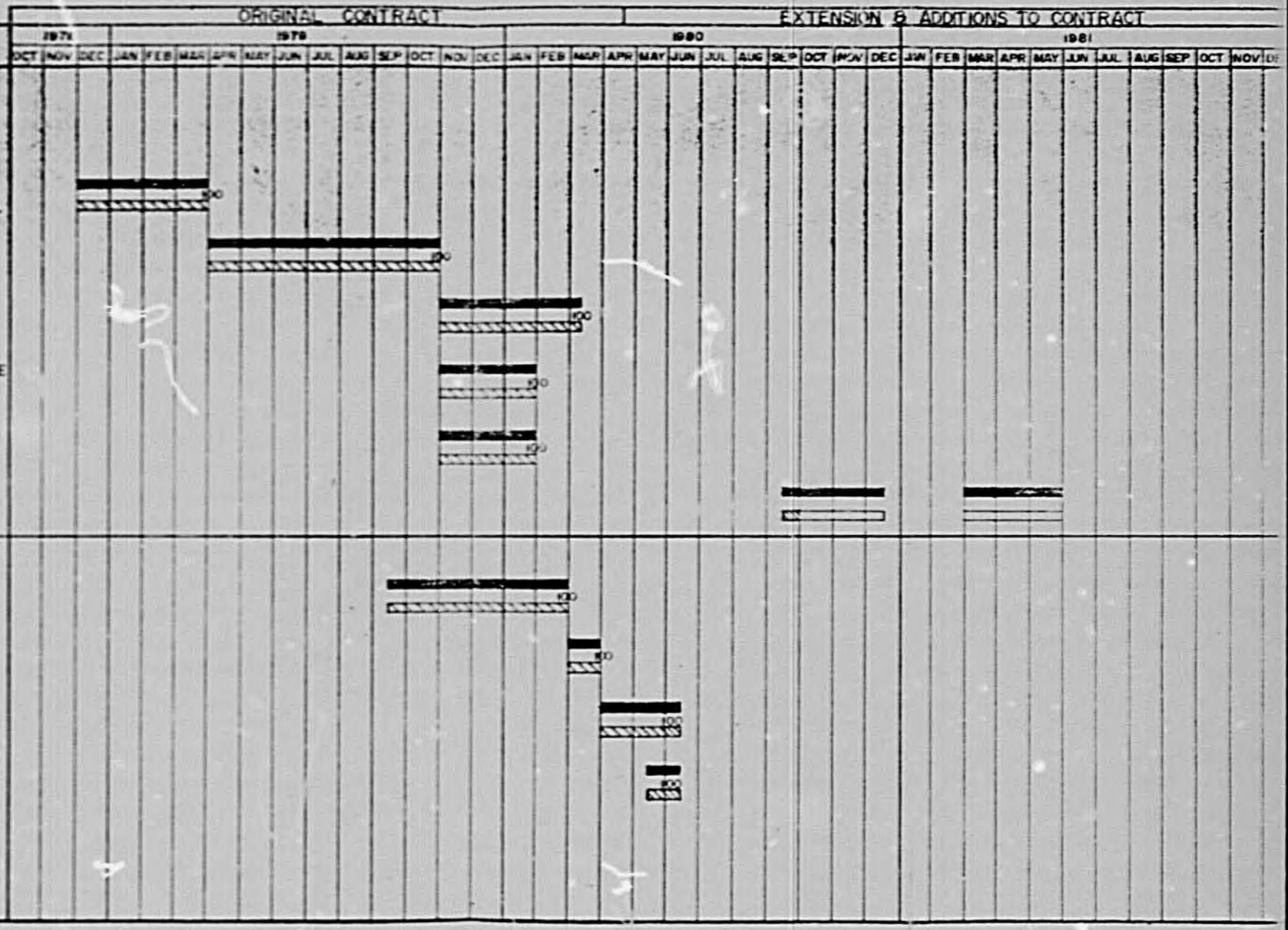
BURNS & McDONNELL/TRANS-ASIA ENGINEERING ASSOC

CONTRACT NO 01/WS-S/410/78 SIGNED 26 OCT 1978 START 1 JAN 1978 END 31 JAN 1981 REIMBURSABLE EXPENDITURES	COSTS FOR SEPTEMBER, 1980	CUMULATIVE COSTS THROUGH AMOUNT	CUMULATIVE COSTS THROUGH % OF TOTAL BUDGET ESTIMATE	CUMULATIVE PAYMENTS THROUGH AMOUNT RECEIVED IN SEPTEMBER, 1980.	CUMULATIVE PAYMENTS THROUGH TOTAL AMOUNT RECEIVED THROUGH SEPTEMBER, 1980.	CUMULATIVE PAYMENTS THROUGH % OF TOTAL BUDGET ESTIMATE	TOTAL BUDGET ESTIMATE FOR CONTRACT
US DOLLARS							
Salaries and Related Costs	20,324.23	587,010.58	62.6	29,379.12	566,686.35	57.3	937,533
Transportation	8,883.53	44,897.21	41.5	-	36,013.68	33.3	108,108
Equipment	-	-	-	-	-	-	631,500
Miscellaneous	-	48,378.32	83.2	-	48,378.32	83.2	58,131
Training	-	-	-	-	-	-	14,544
Contingencies	-	-	-	-	-	-	175,982
TOTAL DOLLARS	29,207.76	680,286.11	35.1	29,379.12	651,078.35	32.2	1,935,798
INDONESIAN RUPIAH							
Salaries	4,114,667	77,729,632	44.6	-	64,580,966	37.0	174,029,000
Transportation	2,586,710	35,194,304	50	-	25,803,206	36.7	70,257,600
Housing	-	50,025,000	102.1	-	33,000,000	67.3	48,975,000
Vehicle Costs	605,000	30,771,472	71.3	-	28,956,472	67.1	43,140,000
Equipment Costs	299,000	15,882,935	65.4	-	18,233,935	75.1	24,253,000
Miscellaneous	567,525	58,863,015	82.0	-	23,640,935	32.9	71,710,000
Contingencies	-	19,416,960	44.9	-	19,416,960	44.9	43,236,460
TOTAL RUPIAH	8,172,902	297,883,318	60.5	-	213,582,474	44.9	475,601,060

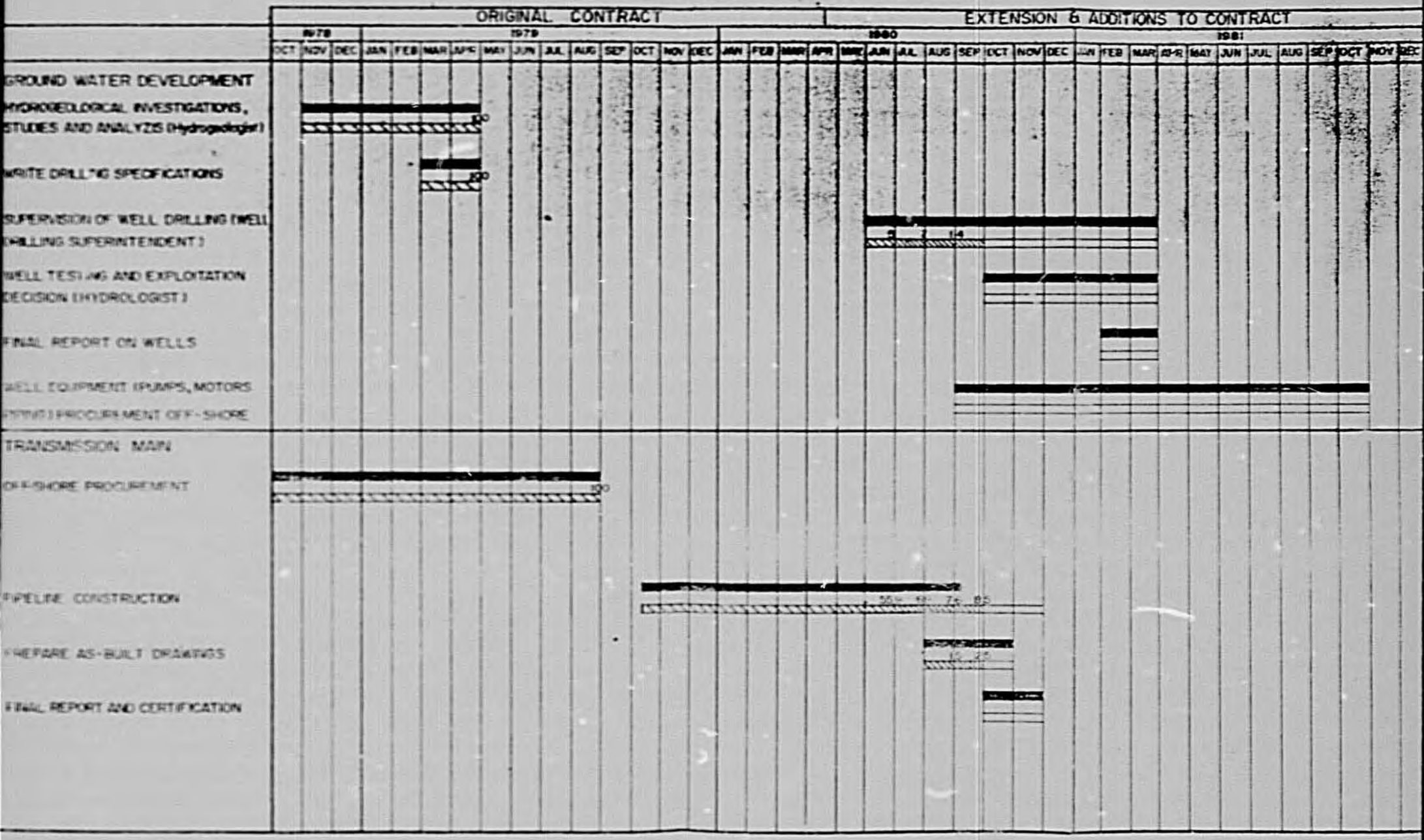
SURAKARTA WATER PROJECT
SCHEDULE OF ACTIVITIES
PERCENT COMPLETED AT END OF SEPTEMBER 1980



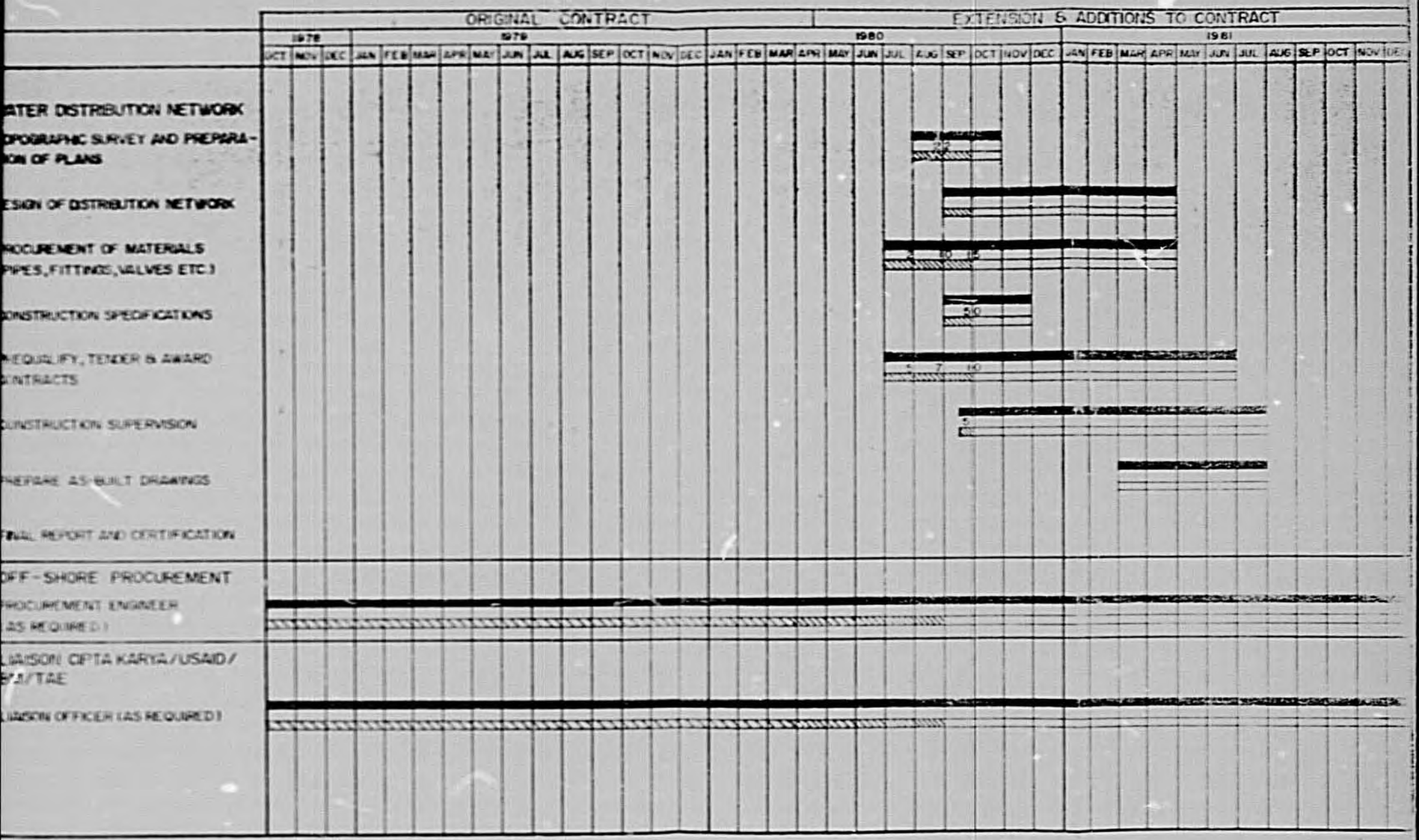
SURAKARTA WATER PROJECT
SCHEDULE OF ACTIVITIES
PERCENT COMPLETED AT END OF SEPTEMBER 1980



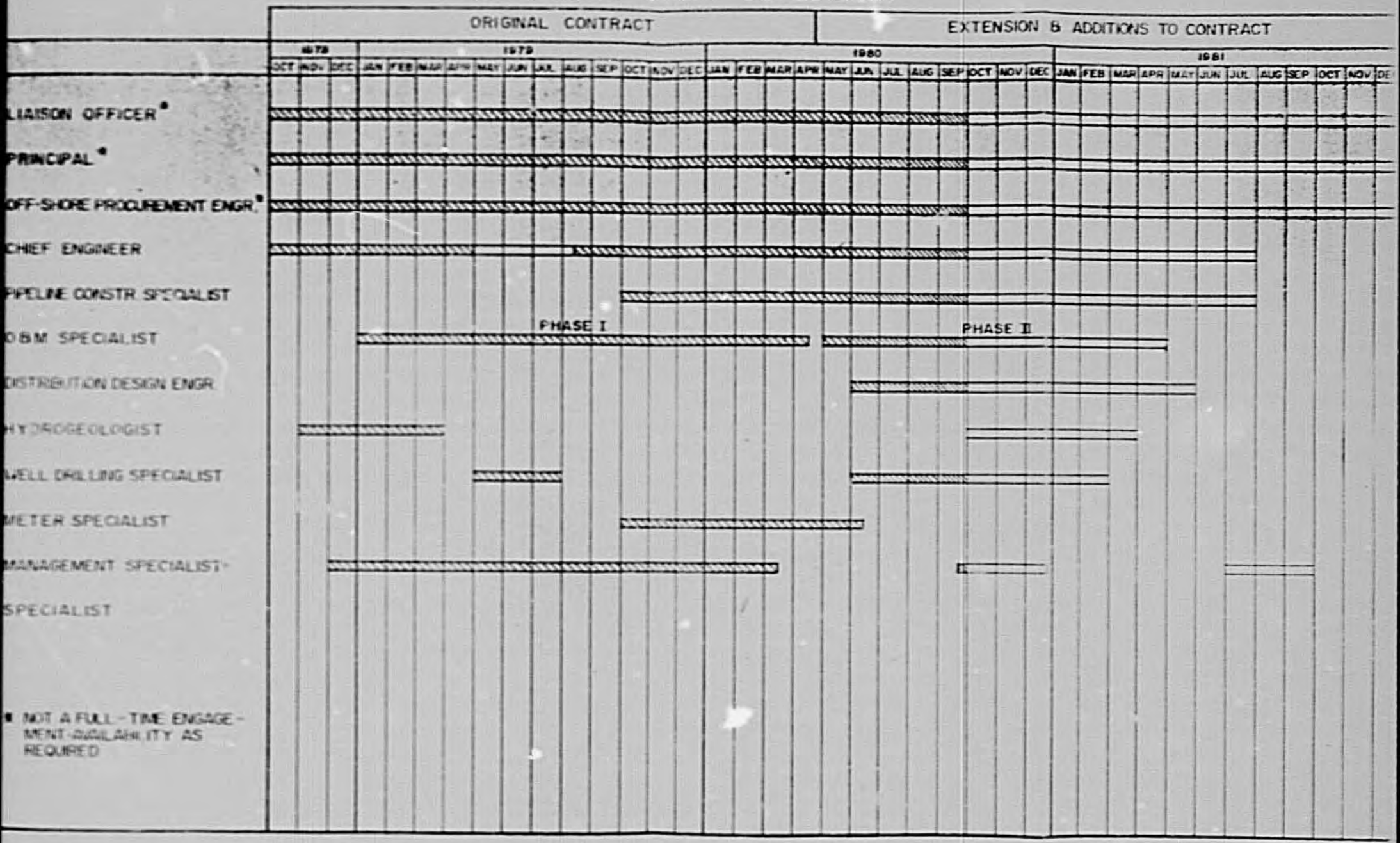
SURAKARTA WATER PROJECT
SCHEDULE OF ACTIVITIES
PERCENT COMPLETED AT END OF SEPTEMBER 1980



SCHEDULE OF ACTIVITIES
PERCENT COMPLETED AT END OF SEPTEMBER 1980



SURAKARTA WATER PROJECT
EXPATRIATE STAFF DEPLOYMENT



* NOT A FULL-TIME ENGAGEMENT-AVAILABILITY AS REQUIRED

BURNS & McDONNELL ENGINEERING CO.
TRANS ASIA ENGINEERING ASSOCIATES INC

SURAKARTA WATER PROJECT
TRANSMISSION MAIN
MONTHLY PROGRESS REPORT NO. 12
01 OCTOBER 1980

I. GENERAL

The full length of the pipe line from Cokrotulung Springs to Jebres is within one hundred meters of being installed as of this writing. The original two construction sections have been tested and final inspections conducted. Some rework is underway at the Kartasura reservoir afterwhich the water will be flushed through the new main between the two reservoirs. By manipulating the new valves on the bypass at Tegalgondo village additional water can be flowed through the old transmission main into the Kartasura Reservoir. However, the existing condition of the old main on its approach into the west side of Delanggu village is such that any sudden change in pressure from surge creates multiple leaks in that vicinity. Recommendation has been made by the Consultant to replace or possibly reline those weak areas to enchance system operation. Since August 1978 the Water Enterprise has logged more than forty five repair clamps installed from Delanggu westward. The area North of the Kartasura Reservoir is also heavily deteriorated and as many or possibly more repair clamps were installed there over the same period of time. With the advent of utilizing the Kartasura Reservoir, the additional pressure/flow from same has increased the instance of leakage. The archaic method of repair by SWP in itself adds to the resistance of flow by increasing the loss due to

to friction as the media flows over the wooden pegs driven into the leak over which a steel clamp is placed.

The first shipment from the Ford Meter Box Co. has arrived at Singapore. It is not known when it will arrive at the port of Semarang. All automatic vent valves are only temporarily installed pending receipt of the brass goods. The information obtained through actual construction is being incorporated into the drawings at this time. Upon completion of the pipeline installation, all "as built" information will be finalized and applied according to the Consultant's contract.

Some of the construction inspectors have been redeployed to supervise the installation of secondary and tertiary water distribution piping, public hydrants and house services within the city of Surakarta. Those activities are contained in a separate report.

II. WORK IN PROGRESS :

A. Hydrostatic tests were completed on the Ø 450 mm piping to station 103+80 on 16 September 1980. The contractor has been using spools of pipe on the last few butterfly valves, where two piping crews meet, that is cut too short. Filling the pipeline for test has caused the butterfly valves to push off causing a leak as the Consultant had warned so many times. As of this writing the same situation is prevalent at BV-12, the Ø 600 mm valve on the outlet main piping leading to Surakarta and installed under section I contract.

The contractor is presently making corrections after which he will be required to hydrostatically test all piping within the area bounded by the existing gate valve in the Kartasura reservoir pipe gallery and BV-5, BV-6, BV-7, BV-8, BV-9, BV-11 and BV-12. Despite having unfinished original Contract work, the contractor requested and received a final inspection which was conducted 30 September 1980, Eighty six (86) days after the extended date for completion of 03 July 1980. A copy of the " punch list" from said inspection is attached hereto and made a part hereof. As of the end of this reporting period, Section A is recorded to be 99.28% complete.

B. Lepen Kencana Utama requested and received a final inspection which was conducted 17 September 1980, forty six (46) days after the extended date for completion of 02 August 1980. A copy of the "Punch List" from said inspection is attached hereto and made a part hereof. The contractor is recorded to be 100% complete, has submitted one (1) of two (2) required volumes of total project progress photographs and he is presently working off the punch list and preparing his "as built" drawings, all conditions precedent to receiving final payment.

C. Tukadmas has completed hydrostatic testing of all Ø 450 mm transmission main piping. The Ø 500 mm pipe from Section D interface across highway is presently being installed with approximately twenty meters yet to go. In five separate areas along the Ø 600 mm pipeline there is only a total of less than eighty meters to be installed.

The contractor has promised to have all pipe in place by 05 October 1980, including the Ø 100 and Ø 200 mm PVC distribution main branches that cross the highway and railroad west of the city gate of Surakarta. The AWWA taps for the air valve vaults were made by SWE during this reporting period.
Brojo river crossing has been completed and the steel accessories installed on the pipe bridge over the Pelemwulung River. Replacement of rip rap abutment on the bridge is not complete as of this writing. Problems mentioned under Section A above relative to BV-12 are delaying continuation of testing. The contractor has not completed the blow off pipe installation South of the Brojo River which is also delaying the flushing operation. At the end of this reporting period, Section C is recorded to be 71.45% finished.

D. Lepen Kencana Utama made no progress on the completion of his contract during the month of September - basically due to the lack of water with which to test the pipeline. The Consultant brought the contractor's attention all Bid items requiring work in a letter dated 11 September 1980.

III. PROBLEMS :

Same as Report No. 10.

IV. PLANNED :

A. Complete testing of Kartasura Reservoir piping and all punch list discrepancies.

B. Complete all punch list discrepancies

C. Complete installation of pipeline and distribution main braches and test. Continue installing rip rap retaining walls along highway where required and construct the concrete air valve vaults. Flush piping and put into service then call for final inspection.

D. Start testing piping and complete air valve vault installation and repair of street crossings. Flush piping and put into service then call for final inspection.

V. PIPELINE CONSTRUCTION SPECIALIST'S COMMENTS :

With the manner in which the pipeline is being tested the Surakarta Water Enterprise will be receiving a transmission main that will provide many years of trouble free service. Immediately upon completion of flushing operations, the water will be introduced into those primary distribution mains to which the transmission main was connected so that those installed by C.J.W.S.P. within the last few years, in turn, may be tested and flushed. Those primary distribution mains which existed prior to this expansion program will be opened to the new transmission main for the added water made available to balance out the entire system.

It is interesting to note the originally projected time of 30 September 1980, for completion of phase II, as mentioned in Progress Report No. 3, was very nearly met. The inspection staff are to be commended for a difficult job involving long work days, being done well. The proof of their efforts are evidenced by the attached final inspection reports. No single item of discrepancy is of major importance or requires a great expenditure of labor or materials to correct. It is anticipated the final inspection reports on the second phase work will be of similar substance.

As of the end of this report period, Phase I is 99.7% complete, Phase II is 77.2% and the total is recorded to be 84.6%.

MORRIS & MACNEILL ENGINEERING CO.

TRANS - ASIA ENGINEERING ASSOCIATES, INC.

A JOINT VENTURE

FINAL INSPECTION - PATCH LIST

SECTION : A CONTRACTOR : P.T. DUADMAS DATE : 30 SEPTEMBER 1980.

1. TRANSMISSION MAIN (SEE ADDITIONAL DISCREPANCIES)
2. AIR VALVE VAULT NO. 7 INSTALL CONCRETE & IRON COVER & AUTO VENT VALVE CLEAN OUT TRENCH INVESTIGATE CONCRETE ON TOP
3. AIR VALVE VAULT NO. 8 SAME AS AIR VALVE VAULT No. 7
4. AIR VALVE VAULT NO. 9 SAME AS AIR VALVE VAULT No. 7
5. AIR VALVE VAULT NO. 10 SAME AS AIR VALVE VAULT No. 7
6. STREAM CROSSING NO. 4 OK WONOSO CO RIVER
7. STREAM CROSSING NO. 5 FILL SOUTH APPROACH MAKE SOUTH RIPRAP 1.5m FROM CONCRETE FILL NORTH APPROACH
8. STREAM CROSSING NO. 6 POINT UP CONCRETE WALL ON SOUTH SIDE WITH MORTAR
9. BV - 6 REPLACE VALVE BOX WITH 150mm ϕ PVC RISER PIPE
10. BV - 9 OK
11. BV - 10 LOWER VALVE BOX
12. BV - 11 OK
13. BV - 12 NOT ACCEPTABLE - REPLACE AND RE-TEST - INSTALL VALVE BOX - BACKFILL AND COMPACT
14. BV - [illegible] CUT 5CM OFF TOP OF PVC RISER PIPE.
15. BV - 23 - 2 OK
16. BV - 24 EITHER RAISE VALVE BOX OR REMOVE EXCESS FILL
17. BV - 25 SAME AS BV-24
18. BV - 26 RAISE VALVE BOX TO SURFACE OF HIGHWAY ASPHAULT
19. BV - 27 - 2 CUT 5CM OFF TOP OF PVC OR RAISE COVER 5CM ADD BACKFILL.
20. BV - 28 - 2 FILL TO TOP OF VALVE BOX & INSTALL COVER
21. BV - 29 - 2 FILL TO TOP OF VALVE BOX & TO TOP OF ADJACENT ROAD REPAIR
22. BLOW - OFF NO. 1 COMPLETE FILL AT VALVE BOX
23. CROSS TIE NO. 1 PROVIDE LETTER FROM BINA MARGA
24. CROSS TIE NO. 2 & BV [illegible] PROVIDE LETTER FROM BINA MARGA - CLEAN DRAINAGE DITCH ON EAST SIDE OF HIGHWAY
25. KARTASURA RESERVOIR SITE - [illegible] TEST - REMOVE EXCESS SOIL REPAIR FENCE - REPLACE DRIVEWAY ASPHAULT - GRASS EMBANKMENT
26. TEMPORARY FIELD OFFICE REMOVE TENTS & MATERIALS - GENERAL CLEANUP
27. KARTASURA RESERVOIR CATCHMENT SECTION & MOTTERSIER TEST - REPLACE HARNESS ROCK OVER MAIN K-9 & SC, INSTALL SPACERS IN CR-4 BUTT (SEE PAGE 2)

for

FOR THE CONSULTANT
J. F. BALLCUM

FOR THE CONTRACTOR

FOR THE OWN.

FINAL INSPECTION - FINISH LIST

SECTION : A CONTRACTOR : F.T. TUKAUNAS DATE : 30 SEPTEMBER 1980.

ADDITIONAL DISCREPANCIES :

1. FILL SHOLDER OF ROAD STA. 56+00.
2. REPLACE TREE AT STA. 61+00.
3. FILL SHOLDER OF ROAD STA. 63+00.
4. REPLACE (2) TREES AT STA. 63+50.
5. FILL SHOLDER OF ROAD STA. 69+50.
6. REPLACE TREE AT STA. 69+50
7. REPAIR PRIVATE BRIDGE APPROACH AT STA. 80+00, NORTH & SOUTH W/SAND & THEN FILL TO GRADE TO NEXT BRIDGE NORTH.
8. FILL TO PREVIOUS GRADE AT CULVERT & REPLACE (2) HIGHWAY POSTS STA. 81+00.
9. REPAIR ASPHALT ROAD AT CROSSING STA. 83+50.
10. FILL SHOLDER OF HIGHWAY AT STA. 87+00.
11. FILL SHOLDER OF HIGHWAY AT STA. 90+00. FOR 10 METERS TO KL. KATIGUHAN
12. FILL ALONG RIPRAP RETAINING WALL & REPAIR TOP FOR 100 METERS SOUTH OF AIR VALVE VAULT No. 9
13. FILL SHOLDER EACH SIDE OF BRIDGE TO RICE MILL AT STA. SOUTH OF BV-28-2 & ALSO NORTH EAST 2ND PRIVATE BRIDGE.
14. REPAIR EXISTING SLUICE GATE STRUCTURE & EXTEN RIPRAP SOUTH FOR PIPE PROTECTION & REPAIR WALLS AT PIPE PENETRATION STA. 94+00
15. FILL SHOLDER FOR ONE METER MINIMUM COVER OVER PIPE FOR 100 METERS.
16. REPLACE RIPRAP REMOVED FROM SPILLWAY.
17. BACKFILL & TAMP AT STA. 121+60.
18. KABUGAO RESERVOIR (CONT'D) INSTALL BOLTS & SPACERS BV-6 & BV-5 ALSO BV-1 & BV-2 CORRECT BOLTS ON BOTH LEVEL GAUGES, INSTALL BENT TUBE ON AIR VENTS, PROPERLY HANG 25mm SERVICELINE, SUPPORT 25mm DRAIN, CLEAN STRUCTURE TIGHTEN HANGER BOLT OVER AKR K-13 & SC.

J.F. BALLESTEROS	FOR THE CONTRACTOR	FOR THE N.S.A.M.	FOR THE P.D.A.M.

BURNS & MCDONNELL ENGINEERING CO.

TRANS - ASIA ENGINEERING ASSOCIATE

A JOINT VENTURE

SECTION : B CONTRACTOR: LEPEN KENCANA UTAMA DATE: 17 SEP '80

1. INTAKE STRUCTURE CLEAN TRASH FROM ROOF TOP & BOTTOM PATCH
2. DIVISION CHAMBER OK
3. GRIT CHAMBER OK
4. AIR VALVE VAULT NO. 1 RAISE CURB EVEN WITH TOP SLAB
5. AIR VALVE VAULT NO. 2 ~~OK~~ REPAIR WALL LEAK FROM OUTSIDE
6. AIR VALVE VAULT NO. 3 OK
7. AIR VALVE VAULT NO. 4 REPAIR ANTI SYPHON TUBE
8. AIR VALVE VAULT NO. 5 MAKE EAST CURB 10CM AND PATCH HONEYCOMB
9. AIR VALVE VAULT NO. 6 OK
10. STREAM CROSSING NO. 1 OK
11. STREAM CROSSING NO. 2 PATCH CONCRETE SOUTH SIDE
12. STREAM CROSSING NO. 3 SLOPE SIDES 60°
13. BV-13 OK
14. BV-17 OK
15. BV-18 RAISE VALVE BOX 5CM
16. BV-19 RAISE VALVE BOX 10 CM
17. BV-20 OK
18. BV-21 RAISE VALVE BOX 3 CM
19. TUNNEL OK
20. TRANSMISSION MAIN (SEE BELOW)
21. TEMPORARY FIELD OFFICE REPLACE(1) BROKEN WINDOW GLASS, PATCH FLOOR

ADDITIONAL DISCREPANCIES :

(1) AREA AROUND DIVISION CHAMBER - BACKFILL TO ORIGINAL GR.
(2) STA. 0+00 TO STA 0+50 REPLACE STONE AROUND TREE, REPLACE TREES ON NORTH SIDE OF PUSUR & REPLACE PARKING STONE AROUND AIR VALVE VAULT.
(3) STA. 0+50 TO STA. 2+00 REPLACE DRAINAGE CANAL OVER TRANSMISSION MAIN AND REPAIR TWO (2) CAVE IN AREAS PLUS ADJACENT TO PDAM TUNNEL ENTRY.
(4) STA. 2+00 TO STA. 5+00 REPLACE BACKFILL NORTH OF CIKEROTALUNG STREET, & AND ELEVATION EXCAVATION (2) BACKFILL BETWEEN ROAD & AIR VALVE VAULT 2.
(5) STA. 48+41 BACKFILL AROUND AIR VALVE VAULT #6.

FOR THE CONSULTANT	FOR THE CONTRACTOR	FOR THE C.J.V.P.
J. F. BAUCOM	ACHMAD DAHAN	IR. HARI WAHYUADI

FOR THE PDAM

WELL DRILLING

MONTHLY PROGRESS REPORT

SEPTEMBER 1980

I. TASKS ACCOMPLISHED :

1. Daily Inspection of Drilling Progress.
2. Attendance at Monthly Consultants Progress Meeting
3. Investigated deep well pump companies for possible recommendation as a supplier.

II. COMMENTS :

A. Discussion of the well drilling program at the 4 September 1980 Monthly Consultants Meeting attended by Consultant, DSE, CJWSP and the Drilling contractor Mr. Amar Kasa covered a variety of problems . It was determined at the meeting that the contractor was fully responsible for the capacity of the mobilized equipment and should provide additional equipment as necessary. The other problems and solutions discussed were agreed on by all concerned partics in attendance. Transportation for the Drilling Specialist was Temporarily arranged by the Project.

B. Inspection of the drilling was conducted daily. Progress at well #2 went well until 14 September 1980. At that time the drilling cable broke and six days elapsed before the cable was replaced and drilling resumed. Some problems with swelling clays are still effecting the progress on this well.

Drilling on well #1 commenced on 18 September 1980. A Pilot hole of 8 inch diameter was drilled to 160 meters and the E-Log was completed on 27 September 1980. The drill crew started immediatly to ream the well to 18 inch.

C. The investigation of pump companies in Jakarta revealed that they are primarily agents with little or no facilities. Letters requesting model numbers and basic pump data has been sent & several companies in the U.S. and we are now awaiting their reply.

D. The percentage of completion on 30 October 1980 for wells number 1 and 2 are as follows

D.1. Well #1 = 50 % complete

D.2. Well #2 = 40 % complete

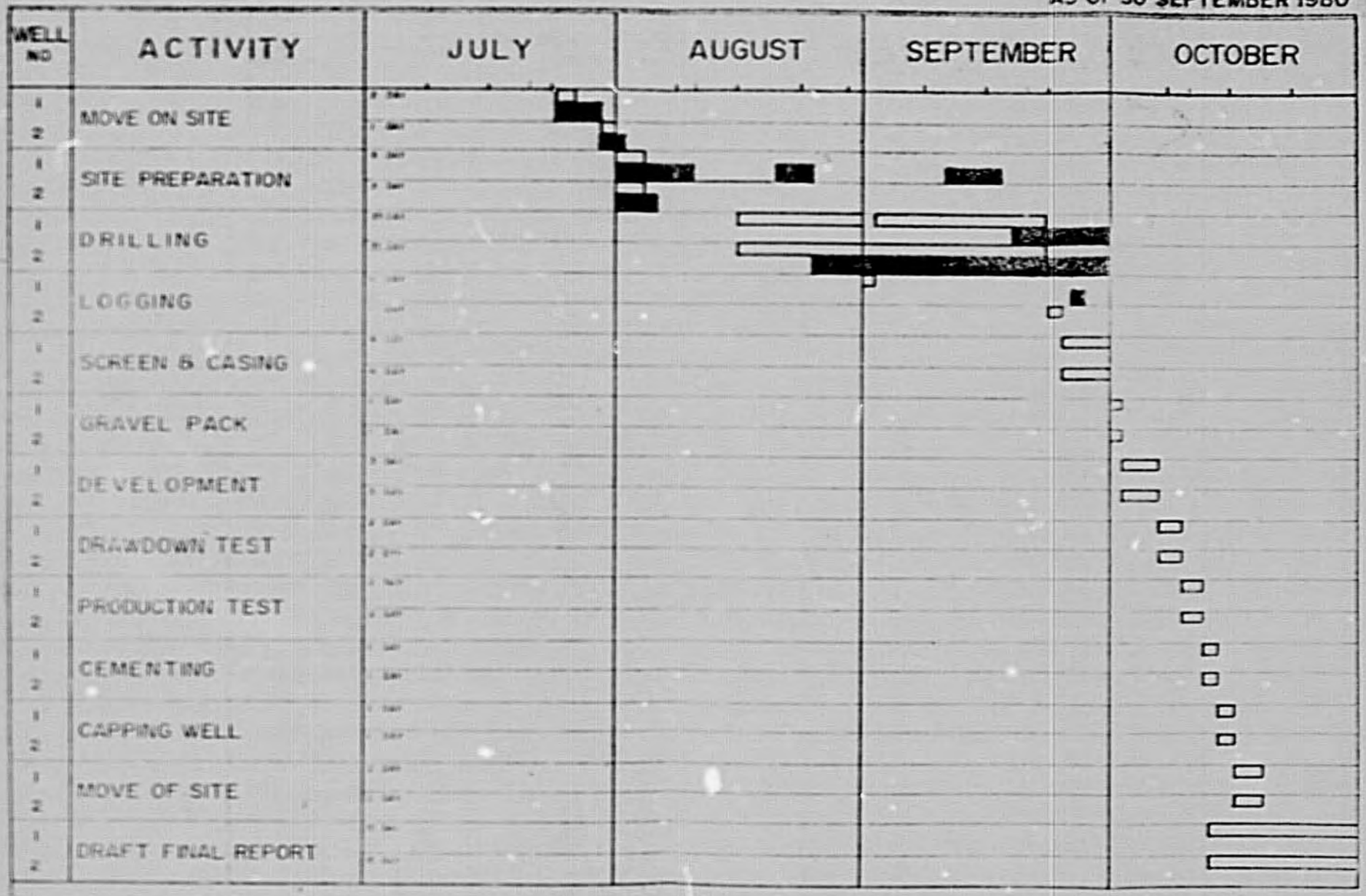
III. RECOMMENDATIONS :

Supervision seems to be a problem at Well #2. There has been 3 different drillers assigned to this job and although they are capable machine operators they lack experience and training on what is happening "down the hole". The present driller is the best of those assigned and accepts advice well. It appears he lacks the authority to make decisions that will keep the work progressing. It is recommended that lines of authority be clearly established and that the contractor maintain an experienced crew on this project.

WELL DRILLING SCHEDULE
CJWSP PROJECT SURAKARTA

APPENDIX VI A

AS OF 30 SEPTEMBER 1980



SURAKARTA WATER PROJECT
OVERHAUL AND MAINTENANCE ASSISTANCE
PHASE II, PROGRESS REPORT NO. 5
SEPTEMBER 1980

The monthly meeting was held 4 September 1980 at the Surakarta office of BM/TAE. The Project indicated P.T. Tukadmas (contractor for line A) previous contract A 78-79 would make repairs needed. To date only the air valve at Station 10+00 has been repaired. The leaking dresser at Station 32 +85 has not been repaired. The valve survey on line A was completed on 10 September. To install this line into service I recommend the installation of manual air relief valve at Station 102+75.

Mr. Soelarno from SWE is convinced the Check and Altitude Control valve at Jebres reservoir is broken. I went with him on Monday night 8th September and put 70 cm of water into Jebres, indicating the valve is operable. I am having Khalil translate the instructions for this valve into Indonesian for him.

Mr. Aziz requested that Mr. Hari and myself go to Yogyakarta to witness a pressure test on the 600 mm line that city is having installed. The pipe is A.C. manufactured by James Hardie in Indonesia. This is the first 600 mm pipe manufactured locally. It seems they have not machined the spigot end far enough to make the proper seal. While we were there I found a field lathe needed for the repair on line A.

In conducting a hydrostatic test in Tegalgondo village it was necessary to operate the valves within the cross tie which caused some vibration on the old transmission line, making the old line leak in a total of sixteen places from

station 2+425 through station 6+590 near the Jute factory west of Delanggu. I observed this line to be a very deteriorated condition, with as many as four repairs made in a 2 meters area. Method of repair, wooden plug with a strap iron band to hold it into place. This line will need some attention after the new transmission line is complete.

The O&M Equipment Specifications for off-shore procurement is completed and submitted for approval. To date there has been no progress on the O&M facilities. SWE has not requisitioned any O&M material that we presently have.They have not submitted to the Consultant working schedules of pipe rehabilitation. They have completed two connections,one at Jl. Mawar and Jl. Dr. Muwardi, which also requires a connection on Jl. Slamet Riyadi to complete that line. They did make the connection on Jl. Bawean.

We were told that SWE had purchased 9,000 meters of P.V.C. pipe and fittings. The eleven projects that are being rehabilitated require a total of 4,851 meters. Mr. Soelarno has informed me on 26 September 1980, Water Enterprise could not start any more projects because of no pipe. Someone at SWE has to start long range planning and procurement of materials.

The twentyforth, I held a meeting with the fifteen employees of SWE meter reading department. I introduced a form we propose they use to record; (1) Meter Condition, (2) location, (3) Number, (4) If meter has a meter valve (explained where this valve should be and why), (5) Meter box condition (if there is no box) record this information for follow up and installation by meter installation department. Asked them if they would remind each customer to be more conservative and in comment section record the existence of cross connections. Each customer's piping is to be checked for this condition.

WATER DISTRIBUTION NETWORK
MONTHLY PROGRESS REPORT NO. 4
SEPTEMBER 1980

I. GENERAL

Construction of 11820 meters of 3" and 2" tertiary water mains began September 22, 1980. The Contractor for the CJWSP contract is Sarana Alam. Work began in Kelurahan Setabelan and Joyosuran the two areas presently under construction by the Kampung Improvement Program.

Palagan Construction Co. was advised to proceed with the installation of 1100 water services and 47 public hydrants for the second CJWSP contract.

These projects are being coordinated with the KIP program. All parties concerned attended a meeting held in the CJWSP office in Surakarta September 11 to ensure cooperation between the projects. KIP is scheduled to begin construction in Kelurahan Kemlayan and Purwodiningratan during October.

Construction drawings are being prepared as rapidly as information can be obtained from KIP. Approximately 50% of the 11820 meters has been designed and 25% of the drawings have been completed and approved.

As the detailed design of the 3" and 2" tertiary mains for the CJWSP contract continue it is apparent that the 12 kilometers of pipe will serve only 8 of the 10 Kelurahans initially proposed to be served. This is partly due to the locations of the public hydrants proposed in these Kelurahans.

Since some of the proposed public hydrants were outside the areas of the kelurahans originally proposed for construction, additional pipe is required. As a result the small amount left was added to the first eight kelurahans rather than construct only portions of the total required in Kelurahan Gilingan and Manahan.

The construction drawings for 1147 services is undergoing final revisions and will be completed in early October.

Surakarta Water Enterprise began an intensive promotional campaign for new water service applications in September in an effort to obtain 1100 water services. It is hoped the goal can be reached by November 1.

Preparation continued for the purchase of materials to supply those kelurahans designated for water distribution design. It is expected that material bids will be received in October or early November.

II. TOPOGRAPHICAL SURVEY & PREPARATION OF PLANS

A. Tertiary Distribution System

The field survey has been completed for Kelurahans Jebres and Keprabon. This completes the survey work required for the construction drawings for the CJWSP contract.

Plotting of the survey and topographical data has been completed for Kelurahan Kemlayan and Purwodiningratan.

Survey work has not begun in the remaining 14 kelurahans scheduled in future construction phases.

B. Public Hydrants, Yard Hydrants and Water Services

Additional field survey was required when it was determined that some of the public hydrant sites were not suitable for the CJWSP standard public hydrant proposed to be constructed.
The survey and some minor revisions of the design of the water service remain to be done before the plans can be completed.

C. Rehabilitation of 147 Public Latrines

No progress has been made this month. A location map and list was prepared in August. Survey work is expected to resume in October.

D. Design of 10 Public Bathhouses

No progress has been made this month.

E. Design for Well Distribution Piping

The survey and drawing of plans is scheduled for October.

III. DESIGN OF DISTRIBUTION NETWORK

A. Tertiary Distribution System

Design has been completed for 92% of Kelurahan Setabelan, 95% of Joyosuran, 87% of Kemlayan and 25% Purwaningratan. Total length of pipe required in these 4 KIP kelurahans is approximately 7000 meters, about 60% of the total required in the CJWSP contract and approximately 10% of the total anticipated for all 22 Kelurahans.

B. Public Hydrants, yard Hydrants and Water Services

A proposal for a "Typical Public Hydrant Service" to supply a CJWSP Typical Public Hidrant was submitted in September and some minor revisions remain to be done.
One or possibly two additional "Typical Public Hydrants" may have to be utilized to fit some of the sites provided by the Kelurahans.
A proposal for a "Typical Water Service" was submitted with the "Typical Public Hydrant Service". It is being revised to accomodate some material considerations and to combine the design with the "Yard Hydrant".
It is planned to complete design in early October so construction can begin.

C. Rehabilitation of Public Latrines

No progres has been mada this mont on the survey of public latrines.

D. Design of 10 Public Bathhouses

No progress has been made for recommendation of sites for public bathhouses.

E. Design for Well Distribution Main

No progress has been made toward design of well distribution piping. Design will begin when the wells are completed.

IV. PROCUREMENT OF MATERIALS

A. Tertiary Distribution Network
A preliminary list of materials for the remaining fourteen (14) Kelurahans proposed to be served was prepared in August. During September a detailed list was

prepared and a preliminary draft of the specifications was completed. The final draft of specifications and tender documents should be completed in early October.

B. Public Hydrants, Yard Hydrants and Water Services

1. Public Hydrants

The design for the Public Hydrant to be installed by Palagan has not been finalized but most of the materials required will be furnished by Palagan for the 47 public hydrants in the CJWSP contract. The saddle clamps and curb stops purchased in Off-Shore Material Order will not arrive in time to use in the contract. Those materials will be used in a contract scheduled in Fiscal Year 1981.

2. Yard Hydrants and Water Services

The mat rial situation for yard hydrants and water services is the same as it is for public hydrants.

C. Rehabilitation of Public Latrines

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

D. Design of Public Bathhouses

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

E. Design of Well Distribution Piping

The material required for the well presently under

construction south of Kartasura Reservoir is scheduled to be ordered in October.

V. CONSTRUCTION SPECIFICATIONS

A. Tertiary Distribution System

A preliminary draft of the typical contract documents proposed for the 14 kelurahan construction has been prepared. Construction drawings will be under way in October.

B. Public Hydrants, Yard Hydrants and Water Services

Construction drawings for CJWSO contract for 1100 Water Services and 47 Public Hydrants are undergoing final revisions.

C. Rehabilitation of 147 Public Latrines

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

D. Design of 10 Public Bathhouses

No progress has been made on specifications for public bathhouses. It is proposed to utilize standard specifications prepared by CJWSP and modify as required.

D. Design of Well Distribution Piping

No progress has been made this month.

VI. ACTIVITIES PLANNED FOR NEXT MONTH

A. Tertiary Distribution System

Survey work will be started in the 14 kelurahans not included in the current CJWSP contract.

All of the construction drawings required for the CJWSP contract for Sarana Alam will be completed.

Preparation of construction drawings for the 14 kelurahans will be under way.

Tender Documents for the purchase of materials for the 14 kelurahans will be issued for bids.

B. Public Hydrants, Yard Hydrants and Water Services

The final design of the Public Hydrant and Water Service for the CJWSP contract with Palagan will be completed.

C. Rehabilitation of 147 Public Latrines

A detailed field survey will be made for each public latrine to determine the requirements for rehabilitation.

D. Design of 10 Public Bathhouse

A recommendation for the location of at least some of the 10 bathhouses will be submitted to CJWSP for approval and site acquisition.

E. Design of Well Distribution Piping

A field survey will be made in October and construction drawings and design should be in progress.

VII. COMMENTS OF THE WATER DISTRIBUTION SPECIALIST

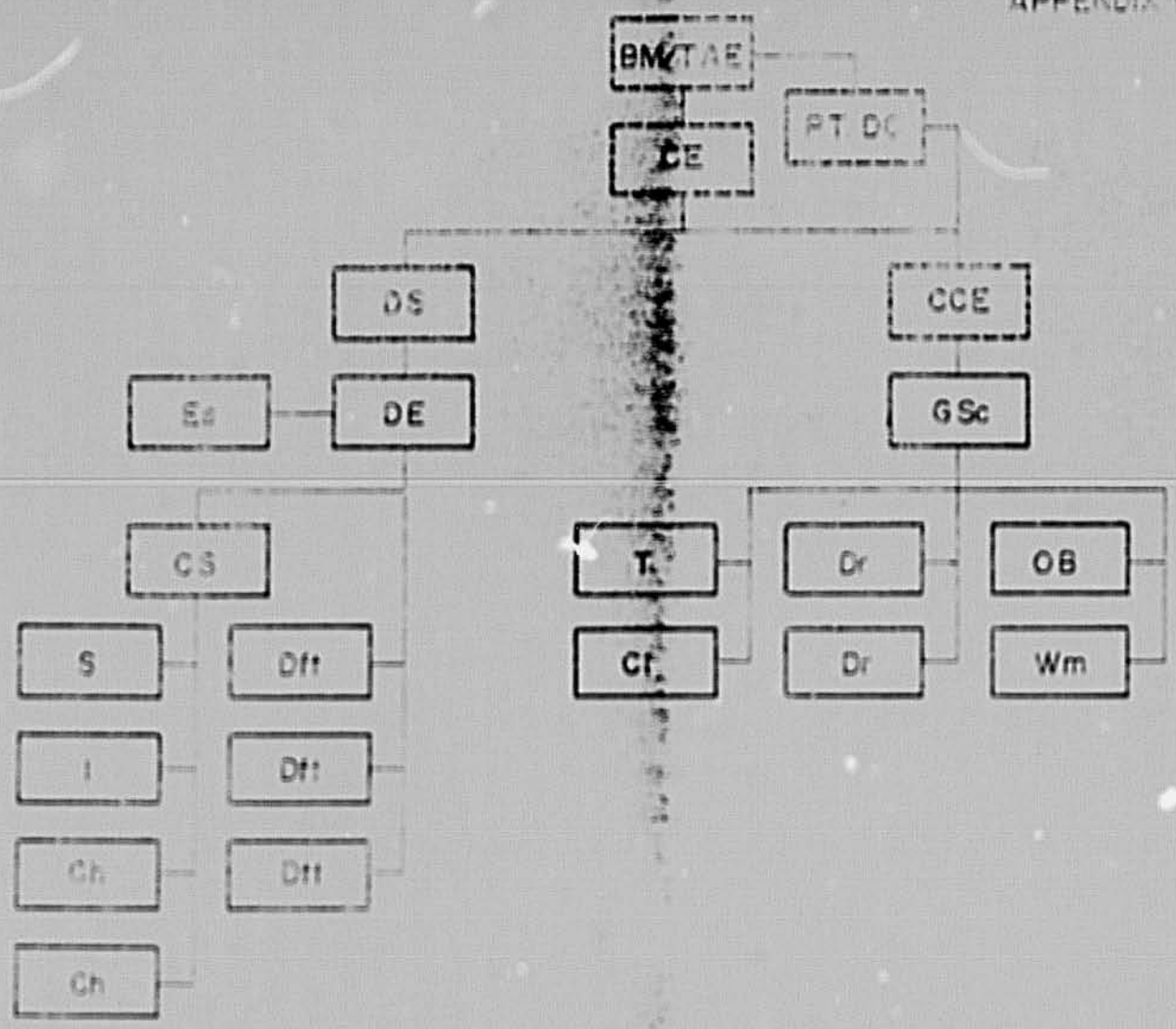
The project involving the tertiary distribution design is now moving very rapidly. Every effort is being made to keep the various assignments moving toward completion but in some cases progress is not as rapid as I would like to be.

It is hoped the Project's efforts to obtain applications for water service is successful.

WATER DISTRIBUTION DESIGN

ORGANIZATION CHART

APPENDIX VI.4



Abbreviations :

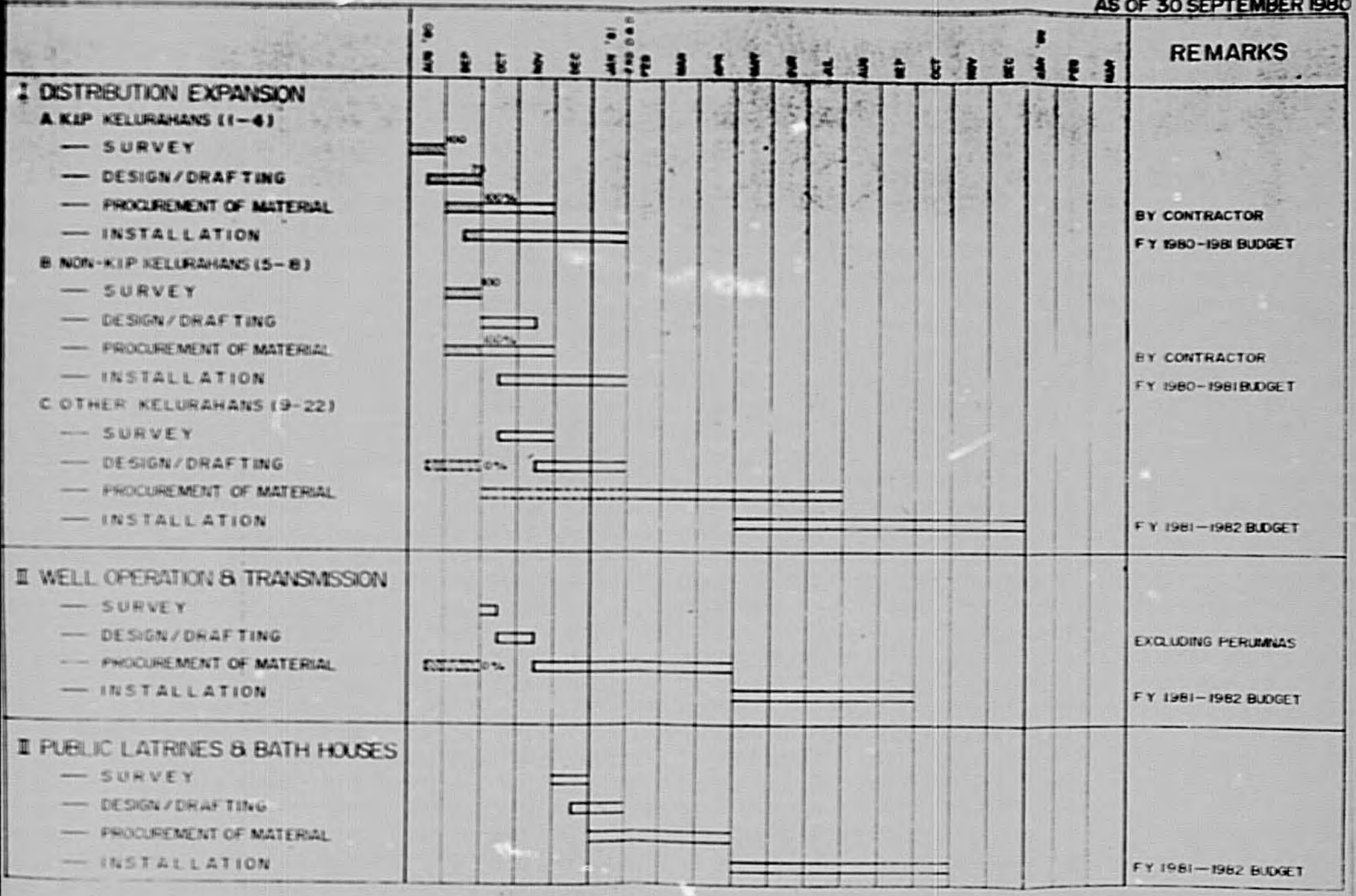
BM/TAE	: Burns & McDonnell/Trans-Asia		
PTDC	: P.T. Design Consult	I	: Instrumentman
CE	: Chief Engineer	Dft	: Draftsman
CCE	: Counterpart Chief Engineer	Es	: Estimator
DE	: Design Engineer	T	: Typist
DS	: Design Specialist	Cl	: Clerk
		Ch	: Chainman
Cf	: Chief Surveyor	Dr	: Driver
GSc	: General Secretary	OB	: Office Boy
S	: Surveyor	Wm	: Watchman

[ ] : Full time effort

[ ] : Assist on "as required" basis

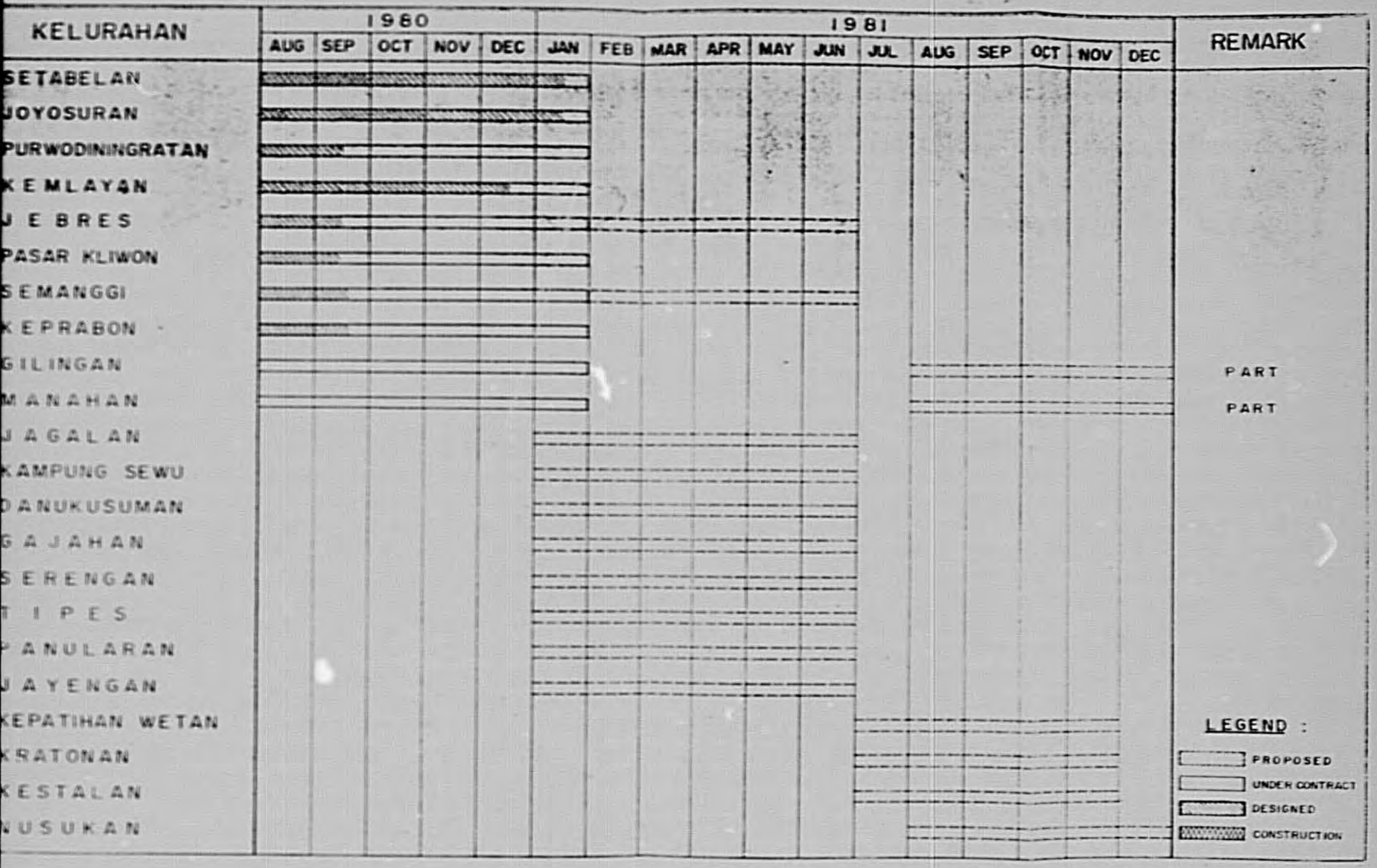
WATER DISTRIBUTION SYSTEM
DESIGN, PROCUREMENT AND CONSTRUCTION SCHEDULE

AS OF 30 SEPTEMBER 1980



SURAKARTA WATER PROJECT
DISTRIBUTION SYSTEM COMPLETION

AS OF 30 SEPTEMBER 1980 APPENDIX VI



SURAKARTA WATER SUPPLY PROJECT
DISTRIBUTION SYSTEM
CONSTRUCTION PROGRESS REPORT NO. 1
01 OCTOBER 1980

I. GENERAL :

The Central Java Water Supply Project has in its Surakarta budget for fiscal 1980/1981 monies to supply materials and labor to install 11,820 linear meters of small piping, 47 public hydrants and 1,100 individual house services. As the Consultant is designing the overall water supply system for the city of Surakarta it becomes incumbent for him to incorporate design and supervision of construction of the C.J.W.S.P. activity for Surakarta. This report will address only the construction portion as it relates to the distribution network, public facilities and appurtenances thereto. Percentages quoted hereinafter will reflect installed linear meters of pipe and/or items of public facilities and house services as may be in each contractor's Agreement. With the funding of construction labor on behalf of the distribution network being the responsibility of Cipta Karya, their realistic those funds available will govern the total amount of construction done during the life of the Consultant's Contract. The funding will also dictate the time frame and extent construction supervision will be required. In that light, no attempt will be made to gauge the total installation of the overall project, rather, there the report

included with the Consultant's Monthly Reports that define time spans and staff requirements which can be referred to.

II. WORK IN PROGRESS :

A. P.T. Sarana Alam was issued a notice to proceed with the construction dated 28 August 1980. His contract calls for the supplying of materials and installation of same to complete 11,820 linear meters of tertiary water mains of size 75 mm and smaller including all required accessories to connect same to the existing distribution network. The total value of his contract is Rp.85,280,000/=-. In order to coordinate the contractor's activities with the Kampong Improvement Program (KIP) now underway in Surakarta, it was decided on sixth and seventh August 1980 to make the KIP areas the highest priority where they are presently working, namely; Kelurahans Setabelan Joyosuran, Purwadiningratan and Kemlayan. As of this writing, there are approximately 1,017 lm of piping designed to be installed by the contractor in Kelurahan Setabelan and 4,554 lm in Kelurahan Joyosuran. Should this become typical, one could reasonably assume all 11,820 lm in his total contract will be within the four named kelurahans. As at the close of business 30 September 1980, the contractor had installed 304 lm of pipe in Kelurahan Setabelan and 402 lm of pipe in Kelurahan Joyosuran. Since the installed pipe has not been tested and flushed for [illegible] the entire distribution network, the [illegible]

will not recognize 25 % of the installed work total pending completion of those items. With that criteria as a guide line we can state the contractor is 29.06% complete in Kelurahan Setabelan 6.62% done in Kelurahan Joyosuran and 5.05% finished with his total Contract.

B. P.T. Palagan was lssued a notice to procced with the construction dated 28 August 1980. His contract calls for the installation of 1,100 house connections (services) and 47 public hydrants. The total value of his Contract is Rp.36,829.000/-. The same coordination with KIP mentioned above is applied to this Contract. The contractor is responsible to furnish certain accessories, concrete meter boxes and concrete/masonry stuctures for the public hydrants. He has been mobilizing and working with the Project on determining locations for public hydrants for the acquisition of property. As of the close of business 30 September 1980, the contractor had installed no work, therefore,we will not consider any completion percentage on his contract at this time.

III. PROBLEMS :

A. Contractor is having to obtain permission to cross paved streets on a case by case situation. This can become such a burden when working multiple streets in various kelurahans. It will also delay having required repairs

to existing water mains, testing and flushing the new work then putting same into operation for the new customers.

B. The Surakarta Water Enterprise is responsible for obtaining the applications for new services and receiving the fee therefor prior to notification of the house address to the contractor. It will be very difficult to keep the areas of work confined to the priority kelurahans based upon either shortage of customer requests or speed in which applications and fees are processed by SWE. Regarding public hydrant locations, the Project is responsible for easements and land acquisition which should be done for the total to be designed well in advance of award for construction so as to not delay the contractor.

IV. PLANNED :

Proceed with the construction as design drawings are completed and issued for same.

V. CONTRACTOR UTILIZATION :

The same inspection team utilized on the transmission main are being redeployed to supervise the construction of the distribution system. Presently, each of the above named contractors has one inspector assigned to him. Others will be moved to the distribution system as required pending completion status of their areas of responsibility.

The two named contractors appear to be qualified and eager to pursue their work. It is necessary to insist, however, that the installed pipe be completed as they go for many reasons but paramount, to assure the people of Surakarta receive water in the shortest time possible.

MEMORANDUM OF
MONTHLY PROGRESS MEETING

D a t e : Thursday, September 4, 1980
T i m e : 10.15 a.m. - 02.30 p.m.
Place : Consultant Office, Surakarta

Attended by :

1.	Mr. Aziz	DSE/CK
2.	Mr. Paul Thorn	USAID
3.	Mr. Krisno Darusman	CJWSP
4.	Mr. Hari Wahyuadi	SWSP
5.	Mr. Soedarto	SWE
6.	Mr. Soelarno	SWE
7.	Mr. Frank Baucom	BM/TAE
8.	Mr. Al Ringler	BM/TAE
9.	Mr. William Lee	BM/TAE
10.	Mr. Jerry Bragdon	BM/TAE
11.	Mr. A.F. Dongah	BM/TAE
12.	Abdul Kadir	BM/TAE
13.	Mr. Amar Kasa	City Cipta
14.	Mr. Su Chiang Jung	City Cipta

Results :

I. Well Drilling Program :

1. Well Drilling Contractor fully responsible for capacity of mobilized equipment and should provide additional equipment as necessary.
2. Drilling Water to be used should be clear from bacteria and neutralized for proper PH due to lining mud pits with cement mortar.
3. Completion of Drilling Contract estimated end of October 1980.
4. SWE will loan Rp. 5 million to Drilling Program, after written request from the Project.

5. Before Contract Document is completed, BM/TAE asked for translated copy of Contract Proposal as guideline.
6. Contractor's responsible person should and will be on site 2 - 3 days a week.
7. Transportation for Consultant : temporarily arranged by the Project.
8. Contractor to deliver mud pump for Well #1 Monday 08 September - test pump is in Yogyakarta to be delivered to site when needed.

II. Distribution System Program :

1. Contracts awarded on August 28, 1980 to PT. Sarana Alam for Distribution Lines and PT. Palagan for house connections & public hydrants includes labor and materials.
   Contractor(s) to have all pipe stored in Solo by 6th September and accessories at Pajang storage the following week .. 12.
2. Coordination meeting with KIP and Contractors will be held on Thursday, September 11, 1980
3. Design :
   - part of Stabelan and Joyosuran (KIP) complete, except for the construction drawings.
   - survey work completed in Stabelan, Joyosuran, Kemlayan, Pasar Kliwon and Nerangsi.
4. Public hydrant locations :
   - 21 at Kel. Stabelan
   - 12 at Kel. Kemlayan
   - 4 at Kel. Pa. Kliwon
   - 3 at Kel. Nerangsi
   - 3 at Kel. Jebres
   - 3 still pending
5. House Connections :
   - about 500 applicants has been listed and submitted by SWE to the Project.
   - about 600 disconnected old consumers can be considered for reconnections.

- everyday new applicants are filling in forms available at the SWE. Several are from outside the areas under present design and intended construction.
- after the water is flowing better, more applicants is expected daily.
- campaign by SWE has been started by Radio and through Lurah's.
- campaign to be carried out through mass media, TV, Radio, slides, pamphlets and R.K's, submittance of applications through RT to SWE.
- separate notice to existing customers to be alert for leaks due to higher pressure in lines.
- will reduce connection fee to Rp 10,000.- if applicant does not have it SWE will tack payback on monthly billing.

III. O&M Program :

1. Investigation has been completed along the whole 300mm trunk and all the system south of Slamet Riyadi.
2. Tukadmas to start immediately with reparation to the 300mm trunk.
3. Warehouse to be started early October 1980. Project to arrange it.

IV. Miscellaneous :

1. Communication between Kartasura Reservoir, Jebres Reservoir, SWE, Wells, and automobiles/trucks by Radio, purchased through USAID. SWSP to get informations from Kodim and Telkom about needed licenses or permits.
2. BM/TAE letter dated August 22, 1980, has been settled :
   - "new areas" were actually included in program.

- "fittings" to be supplied by material-purchase contractor.
- "specifications" as directed by DSE.

3. USAID letter about procurement activities, to be followed by all parties.

MEMORANDUM OF MEETING

Subject: Distribution Contracts Preconstruction Meeting.
Date : Tuesday, September 9, 1980.
Time : 09.15 am - 11.20 am.
Place : BM/TAE Office, Ska.

Attended by:

1.	Mr. Hari Wahyuadi	SWSP
2.	Mr. Jerry Bragdon	BM/TAE
3.	Mr. A.F. Dengah	BM/TAE
4.	Mr. Abdul Kadir	BM/TAE
5.	Mr. Ariadi	Palagan (P)
6.	Mr. Haryono	Palagan (P)
7.	Mr. Sukmanadi	Sarana Alam (SA)
8.	Mr. Kuswandono	Sarana Alam (SA)

Results:

1. No galvanized pipes are permitted to be laid in the ground.
   - SA to replace galvanized pipes supplied with PVC pipes except for: twenty five (25) lengths of 20' diameter 25 mm
     fifteen (15) lengths of 20' diameter 18 mm,
     which will be used for public hydrants after the meter.
   - P to recalculate needed galvanized fittings to be supplied and replace the balance of to be supplied galvanized fittings with PVC fittings.

2. SA to stop temporarily with supply of 75 mm and 50 mm PVC pipes.
   Sept. 6, 1980 has been supplied: 2,300 lenghts of 75 mm
   352 lengths of 50 mm
   About 335 lengths of 100 mm PVC pipes needed to be supplied.

3. SA to chlorinate installed lines with tablets or slugs.

4. SA and P to work in such a manner to supply clean/potable water.

5. Backfill compacted as original before excavation, not using dirty earth, stones or clay.

6. SA and P to submit to Project/Consultant: Shop drawings and sample or catalog of material to be supplied (valves, street boxes, etc.)

7. SA initially to work with two (2) crews, expected to install at least 100 m a crew a day; 7 days a week, whole daylight.

8. P initially to work with five (5) crews, 7 days a week, whole daylight.

9. SA & P to submit list of competent field personnel, with all field personnel and address where to be contacted in Solo.

10. P has started constructing Meter Boxes, with inside measurements of 250 mm x 600 mm.

11. Priority list of locations:

SA		P	
Joyosuran - Central part		Setabelan	20 p.h
Setabelan - Southern part		Kemlayan	12 p.h
Joyosuran - Southern part		Pasar Kliwon	4 p.h
Setabelan - Northern part		Semanggi	4 p.h
Joyosuran - Northern part	) depending	Jebres	3 p.h
Setabelan - Central East part	) on) KIP	to be followed immediately by	
Kemlayan	, drawings	Setabelan	1 p.h
Purwosaningratan	)	undecided	3 p.h
Pasar Kliwon			
Semanggi			
Jebres			
Gilingan			
Manahan			
Keprabon			

12. SA intended to start staking out as soon as possible at KIP areas, earliest on Friday, Sept. 12, 1980.

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