SUPPORTING REPORT D

PLAN OF WATER SUPPLY FACILITIES FOR 30 IKKs

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SUPPORTING REPORT D

PLAN OF WATER SUPPLY FACILITIES FOR 30 IKKS

1. DESIGN CONDITIONS

Refer to Chapter 6 in Main Report.

2. DESIGN METHODOLOGY

.c2.2.1 System Design

Design methodology of water supply systems is as follows.

(1) Water supply systems should be designed as economical as possible from the view point of both construction cost and maintenance cost.

(2) In case that reservoir can not be installed on the ground having the elevation enough to distribute water to the consumers, elevated tank for pressure adjustment should be installed.

(3) If the required hight of elevated tank would be more than 15 m from the ground level, a hydrophore (pressure tank) will be installed instead of a elevated tank.
Therefore the hight of elevated tank should be less than 15 m.

(4) The water pressure inside the pipe should be kept less than 80 m, therefore in case that more than 80 m of water pressure would be required, break pressure tank should be installed to reduce the pressure inside the pipeline.
And in case that more than 80 m head of water supply pump would be required, booster pump would be provided to keep the head of pump less than 80 m.

2.2 Design Methodology of The Facilities

(1) Module Systems

Considering the Standardization of design, manufacturing, installation and maintenance, modular systems of the following facilities have been adopted based on the comments from Cipta Karya.

1) Water Supply Capacities per Population Ranges

According to the population ranges calculated for year 2,000, water supply capacities have been proposed as shown in Table D.1.

Table D.1 Water Supply Capacities per Population

Module Sizes (l/sec)	Population Ranges
10	4,900 - 8,800
15	9,200 - 11,500
20	14,100 - 16,400
25	17,800 - 20,400

2) Reservoir and Elevated Tank

Reservoir and elevated tank having a total capacity of 2 hours retention time are proposed as shown in Table D.2.
The hight of elevated tank would be kept less than 15 m.

Table D.2 Capacity of Reservoir and Elevated Tank

Type	I	II	
System Capacity (l/sec)	Reservoir Only (M3)	Reservoir + Elevated Tank (M3)	
		Reservoir	Elevated Tank
10	80	60	20
15	120	90	30
20	160	120	40
25	200	150	50

3) Hydrophore

In case that the hight of elevated tank would be more than 15 m, hydrophore instead of elevated tank would be proposed to be standardized as shown in Table D.3.

Table D.3 Standard Size of Hydrophore

System Capacity (l/sec)	Volume of Hydrophore (l)
10	5,000
15	6,500
20	9,000
25	9,000
For small supply in branch pipes	
2.5	2,000
5	3,000

4) Pumps

Pumps for wells and Transmission/Distribution are proposed as shown in Table D.4 and Table D.5.

And motors for pumps are proposed as shown in Table D.6 and Table D.7 respectively.

Table D.4 Well Pump Capacity and Combination

System Capacity (l/sec)	No, of Well Required	Pumps Capacity and Combination (l/sec)
10	1	10.0
	2	5.0 + 5.0
15	1	15.0
	2	10.0 + 10.0
20	1	20.0
	2	10.0 + 10.0
	3	10.0 + 10.0 + 10.0
	4	5.0 + 5.0 + 5.0 + 5.0
25	1	25.0
	2	15.0 + 15.0
	3	10.0 + 10.0 + 10.0

Table D.5 Transmission/Distribution Pumps

System Capacity (l/sec)	Pump Capacity and Combination (l/sec)	
	On Duty	Standby
10	5.0 + 5.0	5.0
15	5.0 + 5.0 + 5.0	5.0
20	10.0 + 10.0	10.0
25	15.0 + 15.0	15.0
For small booster pump		
2.5	2.5	2.5
5.0	5.0	5.0

Table D.6 Motor Selection for Well Pumps

(KW)

Pump Capacity (l/sec)	Head (m)			
	30	40	60	80
5.0	3.7	3.7	5.5	7.5
10.0	5.5	5.5	11.0	15.0
15.0	7.5	11.0	15.0	18.5
20.0	11.0	15.0	18.5	30.0
25.0	15.0	18.5	30.0	37.0

Table D.7 Motor Selection for Transmission/Distribution Pumps

(KW)

Pump Capacity (l/sec)	Head (m)			
	30	40	60	80
2.5	2.2	3.7	5.5	5.5
5.0	3.7	5.5	7.5	11.0
10.0	5.5	7.5	11.0	15.0
15.0	7.5	11.0	15.0	22.0

5) Electrical Power Supply

(i) Standard generator sets will be 20 KVA, 40 KVA, 60 KVA, 80 KVA and 100 KVA.

(ii) As for power supply from PLN, JICA Team made Questionnaire to PLN for each project site. The answers to the questionnaire were that before 1993 there would be no power supply in each project site.
Therefore, it was decided after consulting with Cipta Karya that two (2) kinds of generator sets would be installed in each site, that is one for duty and one for stand-by.

(2) Pipeline

1) Materials

For water Supply pipeline, the following 2 (two) kinds of pipes will be used.

(i) Polyvinyl chloride pipe (PVCP) for under ground pipeline.

(ii) Galvanized steel pipe (GSP) for above ground pipelines.

2) Design

(i) Hazen-Williams formula will be used for the design.
And roughness factor for PVCP and GSP (C) will be 140.

(ii) Water pressure inside the pipes will be less than 80 m.

(iii) Minimum residual pressure at the end of pipeline (at the tap) will be more than 5 m.

3) Accessories

Accessories and Fittings for pipeline such as air valves, gate valves, etc. will be installed at the required points.

3. WATER SUPPLY FACILITIES FOR 30 IKKS

Water Supply Facilities required for 30 IKKs have been designed based on the detailed field surveys, study on water sources, design conditions and design methodology.

3.1 Required Water Supply Facilities

Required Water Supply Facilities for 30 IKKs are summarized in Table D.8.

In the Table, abbreviations of each item are as follows.

(1) Type of Water Supply

Refer to Fig. 6.1.2 in Main Report.

(2) Water Source

S : Spring, W : Well, E : from existing facilities

1) S - A

Intake facilities required. Refer to Drw. No.1 in Fig. D.1.

2) S - B

Water intake pipe only required from existing pond. Refer to Drw. No. 2 in Fig. D.1.

3) S - C

Water intake facilities already exist. Water intake pipe and pump pit are required.
Refer to Drw. No. 3 in Fig. D.1.

4) W - A

Sallow well. Less than 40 m deep. Refer to Type 1 in Drw. No. 4 in Fig. D.1.

5) W - B

Deep well with casing pipe. More than 40 m deep. Refer to Type 1 in Drw. No. 4 in Fig. D.1.

6) W - C

Deep well without casing pipe.
More than 40 m deep.
Refer to Type 2 in Drw. No. 4 in Fig. D.1.

7) E

From existing facilities.
In Batangan refer to Drw. No.5 in Fig. D.1.

(3) Water Treatment Facility : T

In Madukara refer to Drw No. 6 in Fig. D.1
In Kemiri, Jepon refer to Drw No. 7 in Fig. D.1

(4) Reservoir

1) R - A

Upper ground type reservoir.
Refer to Drw. No. 11 in Fig. D.1.

2) R - B

Upper ground type reservoir and elevated tank.
Refer to Drw. No. 11 and No. 13 in Fig. D.1.

(5) Pump

1) P - A

Well pump. Refer to Drw. No. 8 in Fig. D.1.

2) P - B

Main feed pump.

3) P - C

Booster pump. Refer to Drw. No. 15 in Fig. D.1.

4) P - D

Without pump. (by gravity)

(6) Hydrophore : H

Refer to Drw. No. 10 in Fig. D.1.

(7) Break Pressure Tank : B

Refer to Drw. No. 12 in Fig. D.1.

(8) Chlorination : C

Refer to Drw. No. 14 in Fig. D.1.

(9) Generator : G

Refer to Drw. No. 9 in Fig. D.1.

Table D. 8 Required Water Supply Facilities for 30 IKKS

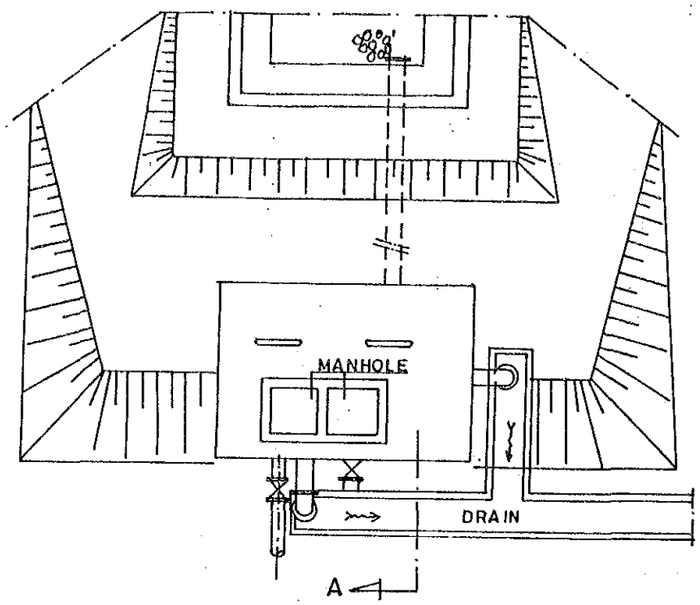
1. Name Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2. Name of IKK	Bulakamba	Jeruklegi	Kemiri	Madukara	Punggelan	Karanggayam	Petanahan	Sukorejo	Jepon	Batangan	Gondang	Jenar	Giriwoyo	Bawen	Balen
3. Type of Water Supply	D－b	E－b	C	B－a	A－a	E－b	D－b	A－b	D－a	E－a	D－a	C	A－a	A－b	D－b
4. Module Size (ℓ /sec)	25	25	20	10	10	10	10	20	20	15	25	10	10	25	20
5. Water Source															
S－A				○	○										
S－B								○							
S－C													○	○	
W－A			○									○			
W－B	○						○				○				○
W－C									○						
E		○				○				○					
6. Water Treatment Facility															
T			○	○					○	○					
7. Reservoir															
R－A		○	○		○	○		○	○		○	○	○	○	
R－B	○			○			○			○					○
8. Pump															
P－A	○		○				○		○		○	○			○
P－B	○	○	○	○	○	○	○			○		○	○		○
P－C				○	○						○	○		○	
P－D								○							
9. Hydrophore															
H		○	○			○					○	○		○	
10. Break Pressure Tank															
B				○	○			○	○					○	
11. Chlorination															
C	○		○	○	○		○	○	○	○	○	○	○	○	○
12. Generator															
G	○	○	○	○	○	○	○		○	○	○	○	○	○	○

1. Name Code 2. Name of IKK	16 Baureno	17 Jenu	18 Jiwan	19 Kembangbahu	20 Diwek	21 Kutorejo	22 Tempeh	23 Kunir	24 Tempursari	25 Banyuanyar	26 Sumberasih	27 Tampak Siring	28 Ketewel	29 Menanga	30 Sibetan
3. Type of Water Supply	D－C	D－C	D－C	D－C	D－b	D－C	D－C	D－b	B－b	D－C	D－b	B－a	D－b	B－b	B－a
4. Module Size (ℓ /sec)	15	15	25	10	20	20	20	25	15	20	15	10	15	10	15
5. Water Source															
S－A															
S－B									○						
S－C												○		○	○
W－A															
W－B	○		○	○	○	○	○	○		○	○		○		
W－C		○													
E															
6. Water Treatment Facility															
T															
7. Reservoir															
R－A	○	○	○	○		○	○		○	○				○	
R－B					○			○			○	○	○		○
8. Pump															
P－A	○	○	○	○	○	○	○	○		○	○		○		
P－B	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
P－C														○	○
P－D															
9. Hydrophore															
H	○	○	○	○		○	○		○	○				○	
10. Break Pressure Tank															
B														○	○
11. Chlorination															
C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
12. Generator															
G	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

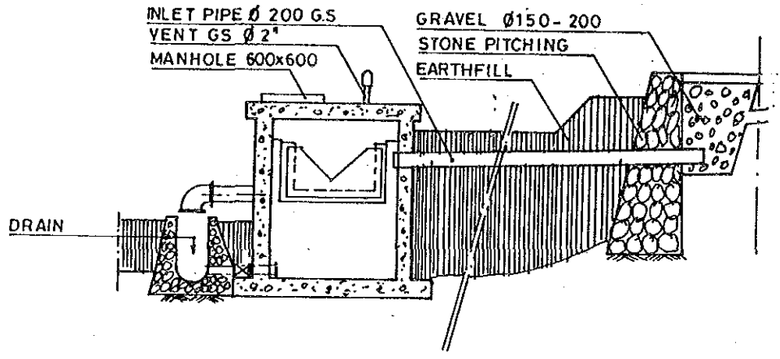
Fig. D.1 Standard Drawing for Facilities

Drawing List

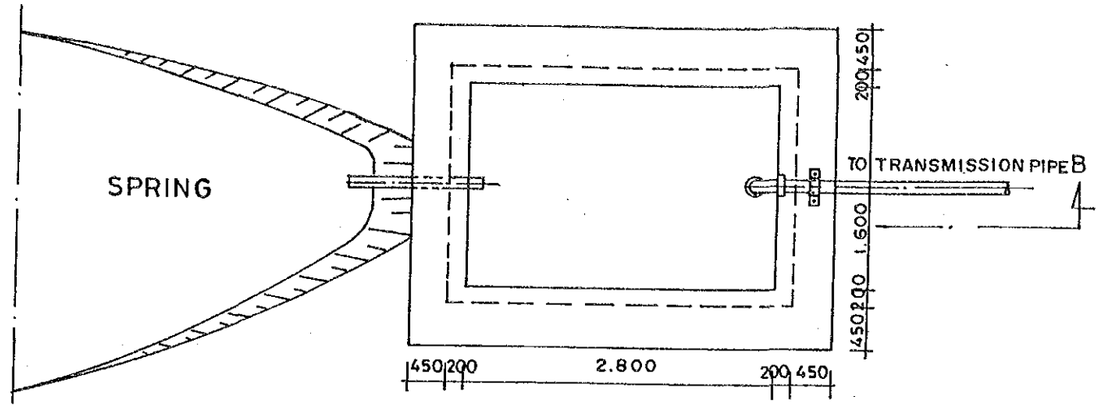
Drawing No.	Name of Standard Drawing
1	Intake facilities for spring
2	Intake facilities for spring (pond)
3	Intake facilities for spring (ditch)
4	Typical production well
5	Schematic lay-out of treatment plant
6	Schematic flow of treatment fasilities for Lead
7	Schematic flow of treatment facilities for Iron
8	Typical deep well pump
9	Power house
10	Typical hydrophore
11	Reservoir
12	Break pressure tank
13	Elevated tank
14	Gravity chlorine dosing
15	Booster pump pit
16	Pipe bridge
17	Typical washout
18	Typical valve chamber
19	Typical air valve chamber
20	Typical house connection and public hydrant
21	Typical pipe trench work



SITUATION SPRING
NOT TO SCALE



SECTION A-A
NOT TO SCALE



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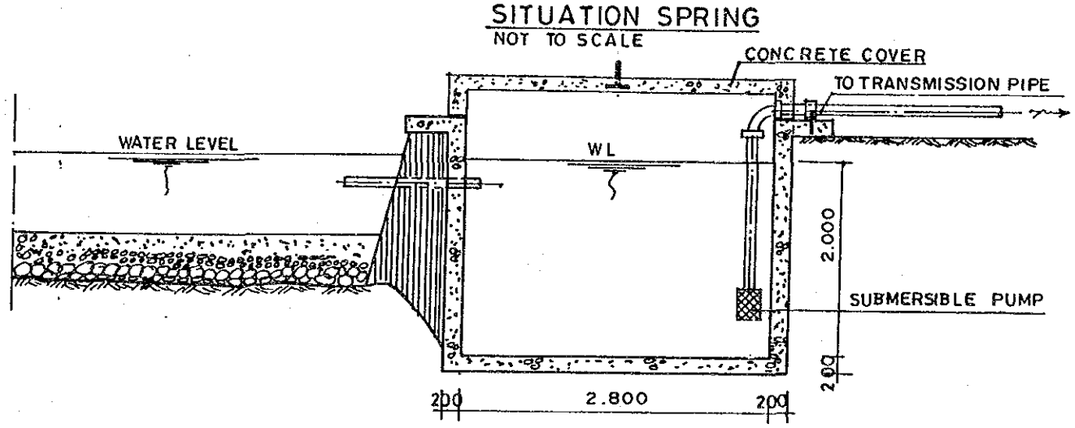
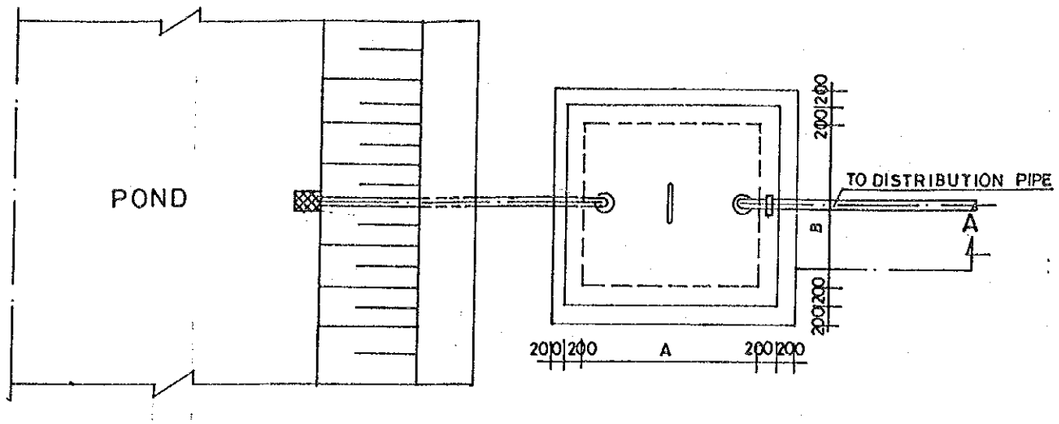
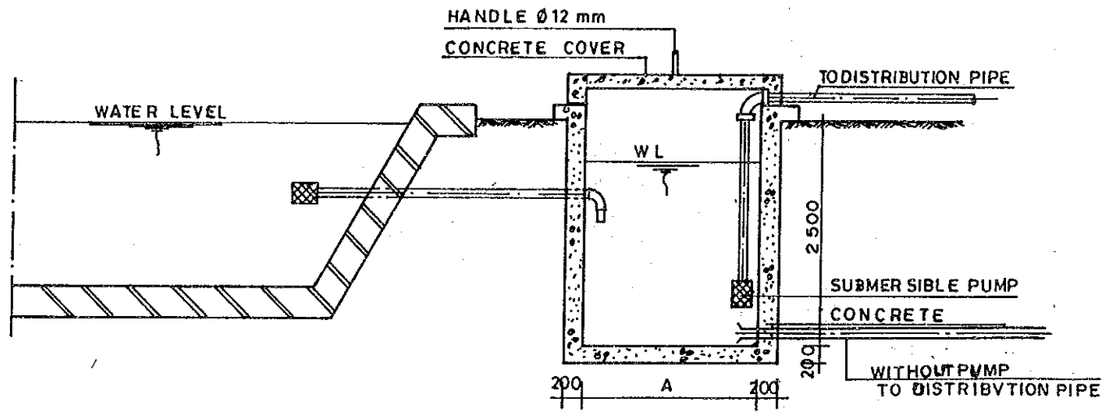


SECTION B-B
NOT TO SCALE

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA	
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI	
INTAKE FACILITIES SPRING	
DRAWING NO : 1	SCALE : NOT TO SCALE
JAPAN INTERNATIONAL COOPERATION AGENCY	

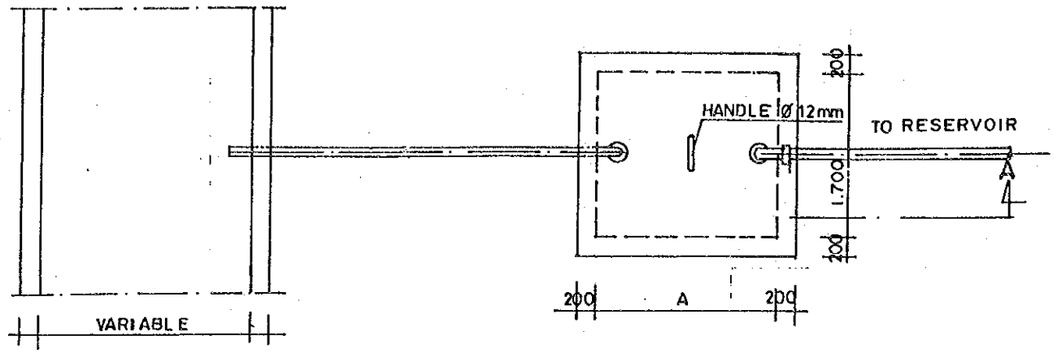


SITUATION POND
NOT TO SCALE



SECTION A-A
NOT TO SCALE

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA	
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI	
INTAKE FACILITIES FOR SPRING (POND)	
DRAWING NO : 2	SCALE : NOT TO SCALE
JAPAN INTERNATIONAL COOPERATION AGENCY	



SITUATION DITCH
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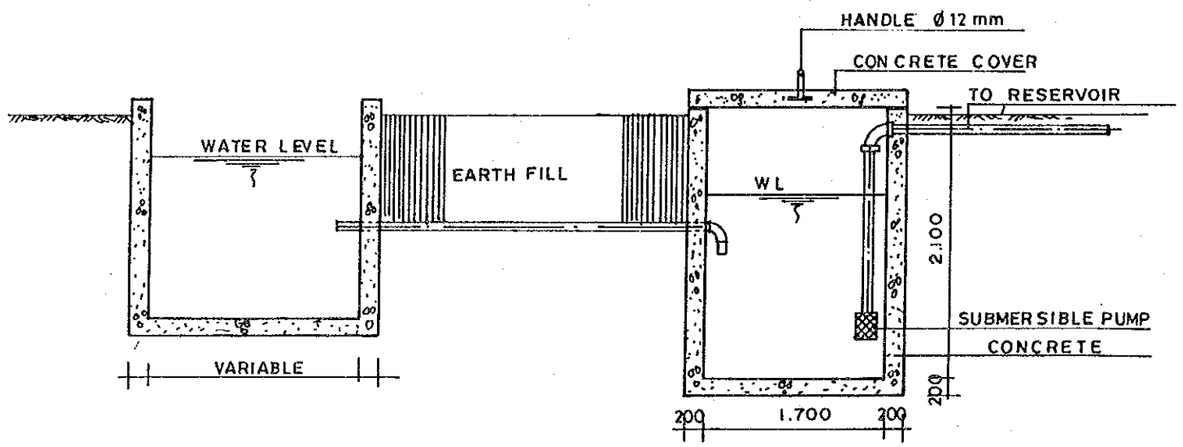
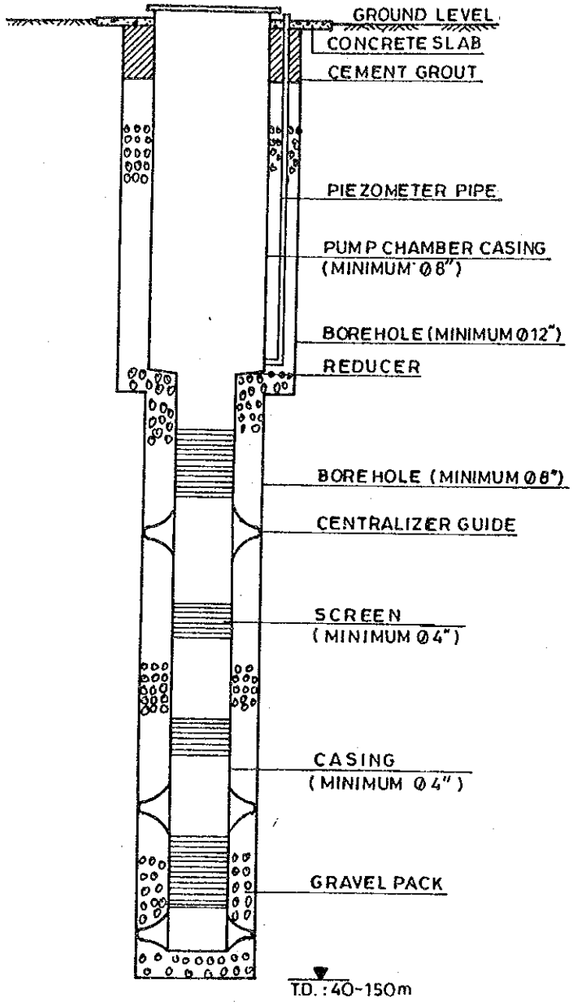
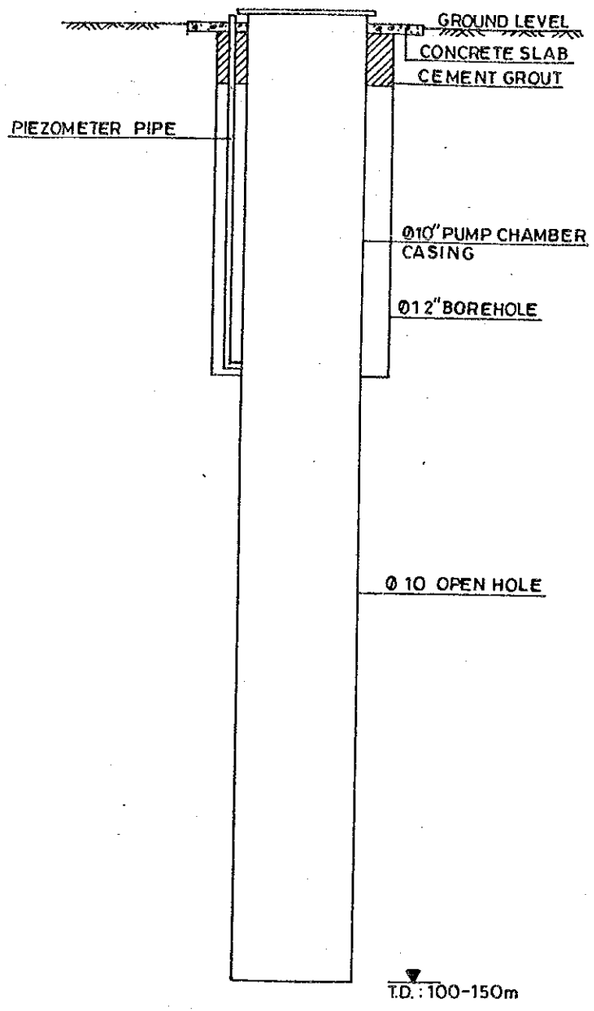


SECTION A-A
NOT TO SCALE

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA EASTJAVA AND BALI
INTAKE FACILITIES FOR SPRING (DITCH)
DRAWING NO : 3 | SCALE : NOT TO SCALE
JAPAN INTERNATIONAL COOPERATION AGENCY



TYPE I
UNCONSOLIDATED FORMATION
(ALLUVIUM)

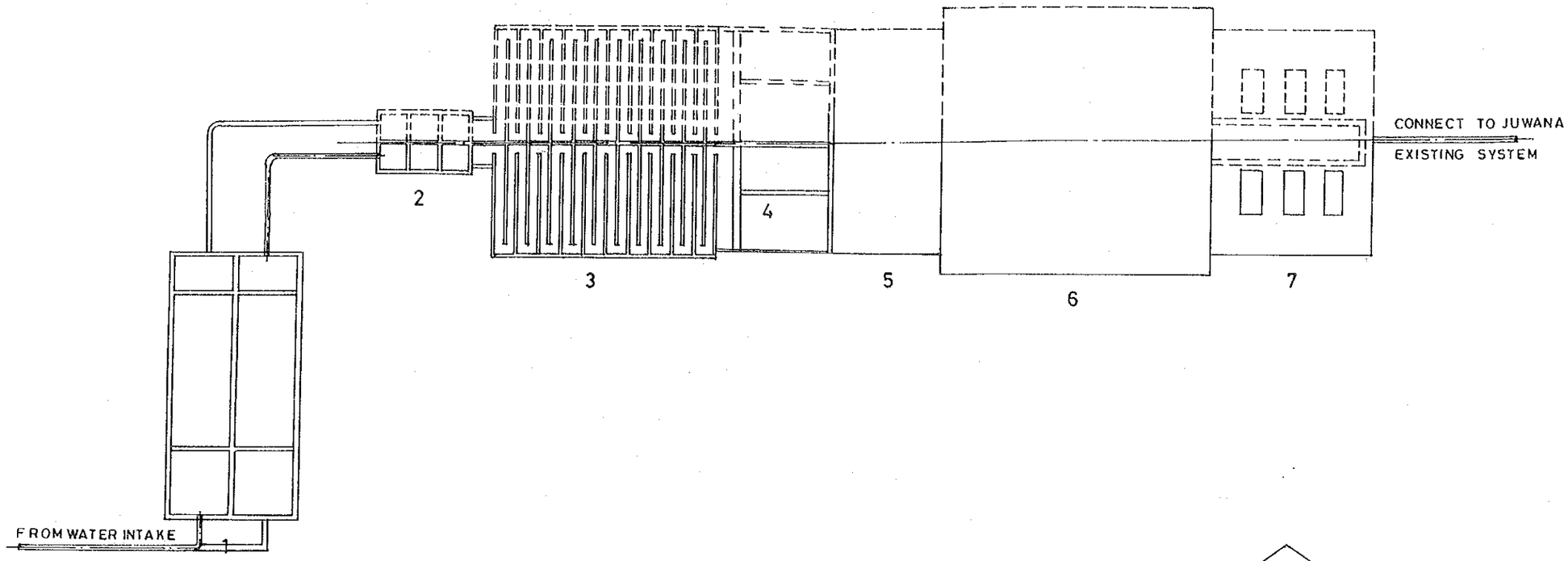


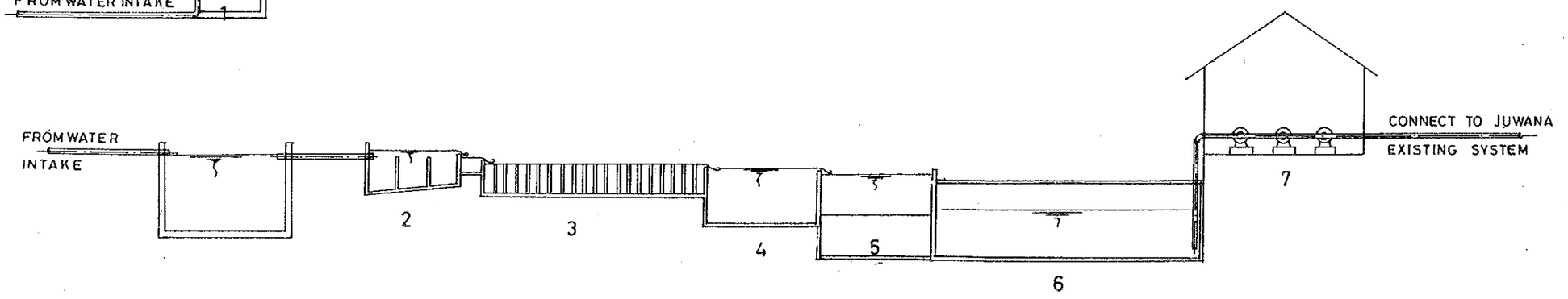
TYPE II
HARD ROCK
(LIME STONE)

Q (l/s)	ND OF CASING AND SCREEN (mm)	ND OF PUMP CHAMBER CASING (mm)
5	100	200
6 - 10	150	200
11r 20	200	250
21-25	250	300

NOTE : TYPE II WILL BE APPLIED FOR IKK JEPON CENTRAL JAVA AND IKK JENU EAST JAVA

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI
TYPICAL OF PRODUCTION WELL
DRAWING NO: 4 — SCALE : NOT TO SCALE
JAPAN INTERNATIONAL COOPERATION AGENCY





SCHEMATIC LOYOUT OF TREATMENT PLANT
(BATANGAN)

REMARK :

1. PRESEDIMENTATION
2. MIXING BOX (ALLUM AND CHLORINATION)
3. FLOCCULATION CHANNEL
4. SEDIMENTATION TANK
5. SAND FILTER
6. RESERVOIR
7. PUMP HOUSE

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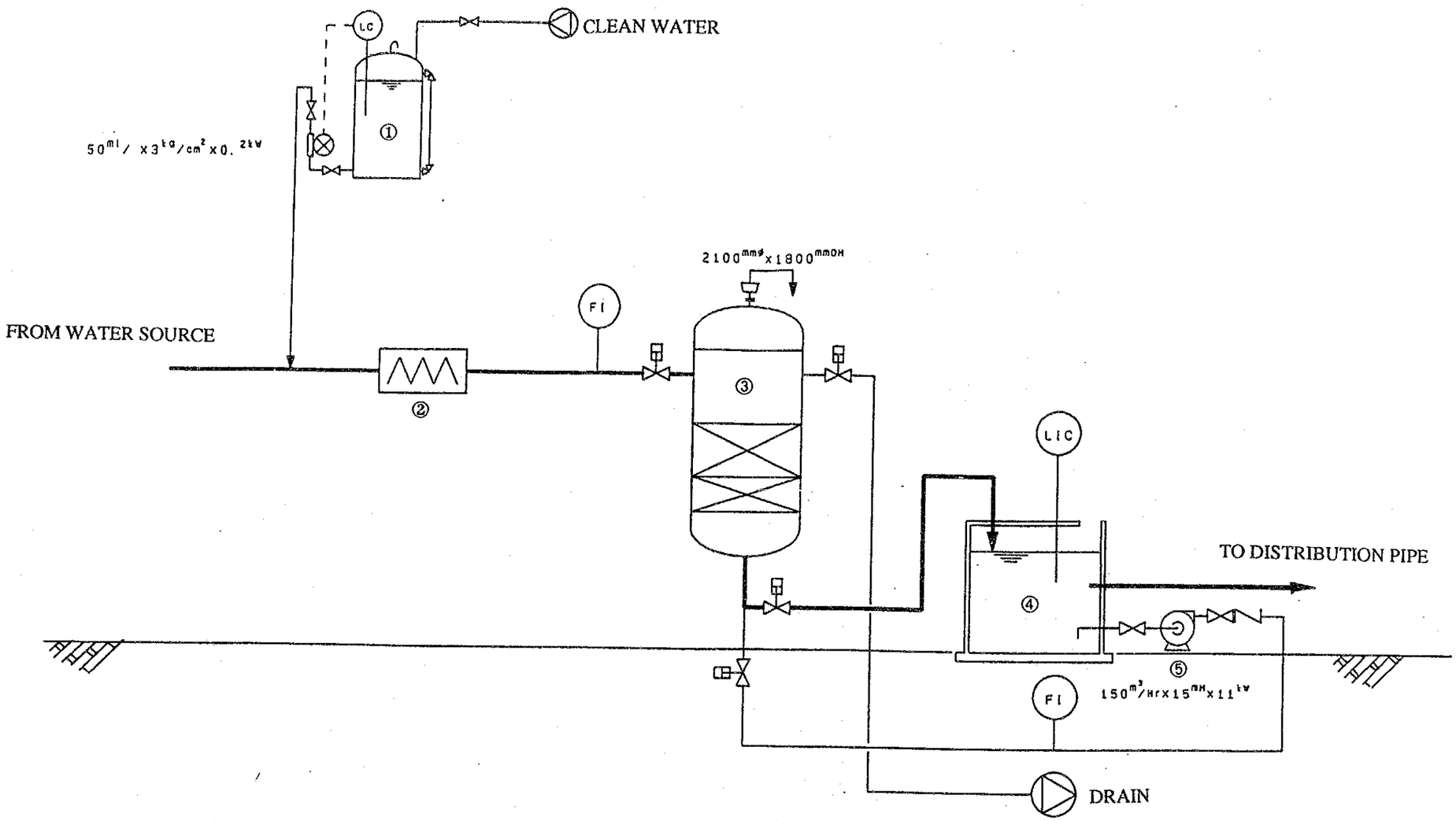
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA EAST JAVA AND BALI
SCHEMATIC LAYOUT OF TREATMENT PLANT
DRAWING NO : 5 | SCALE : NOT TO SCALE
JAPAN INTERNATIONAL COOPERATION AGENCY

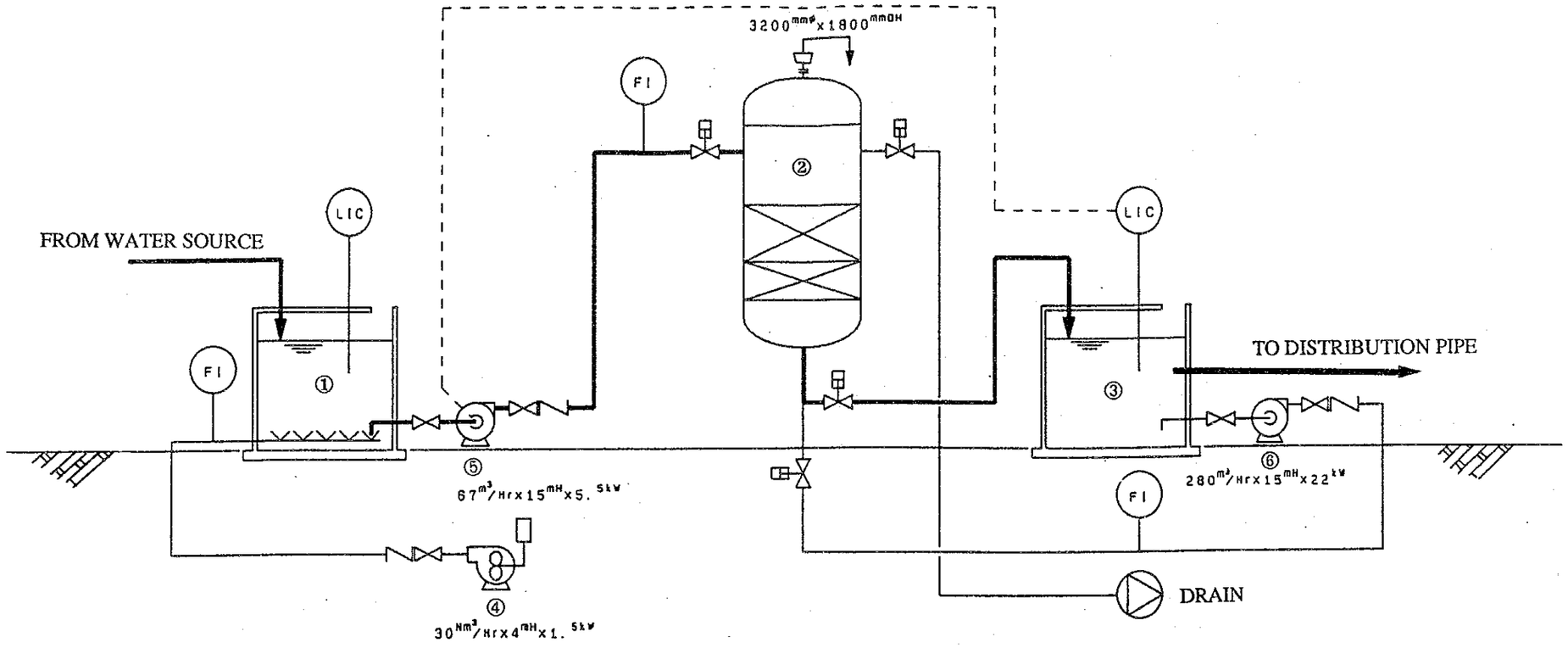


SCHEMATIC FLOW OF TREATMENT FACILITIES FOR LEAD (Pb)
(IKK MADUKARA)

REMARK

①. CHEMICAL DOSING UNIT
②. LINE MIXER
③. FILTERATION TANK
④. RESERVOIR
⑤. BACK WASHING PUMP

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA	
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA EAST JAVA AND BALI	
SCHEMATIC FLOW OF TREATMENT FACILITIES FOR LEAD (Pb)	
DRAWING NO : 6	SCALE : NOT TO SCALE
JAPAN INTERNATIONAL COOPERATION AGENCY	

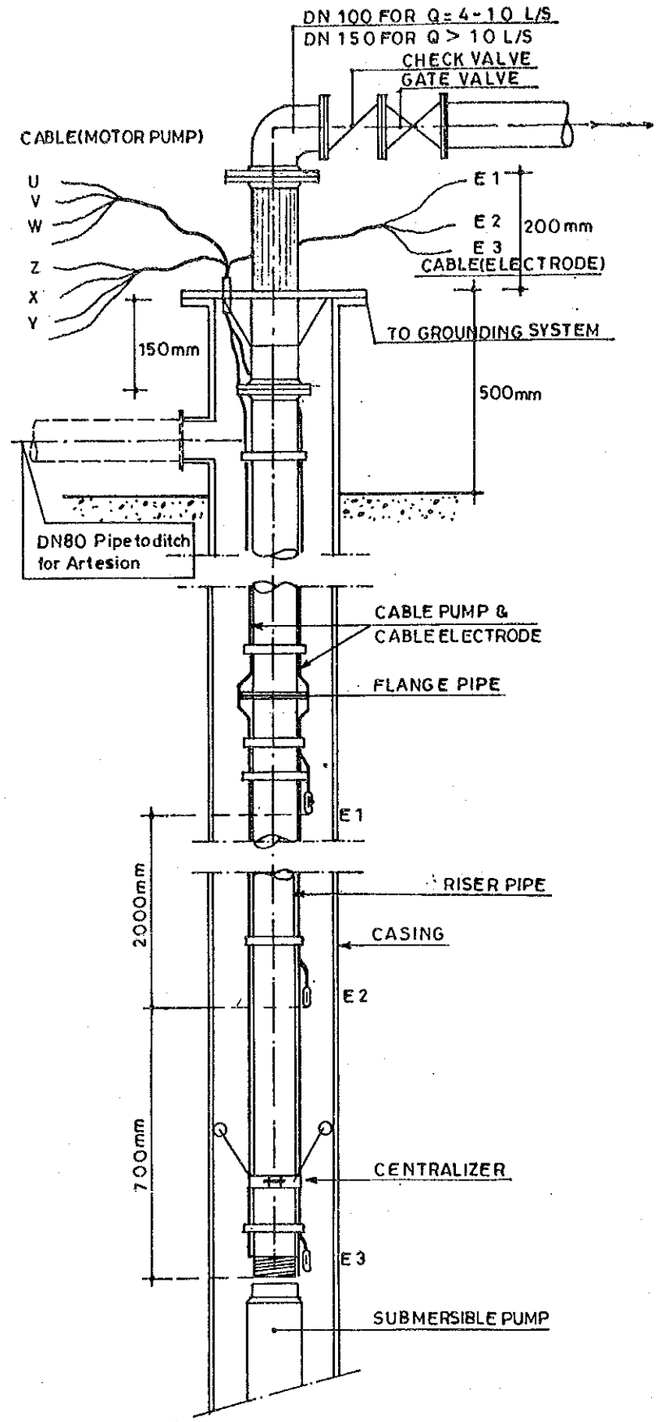


SCHEMATIC FLOW OF TREATMENT FACILITIES FOR IRON (Fe)
(IKK KEMIRI, IKK JEPON)

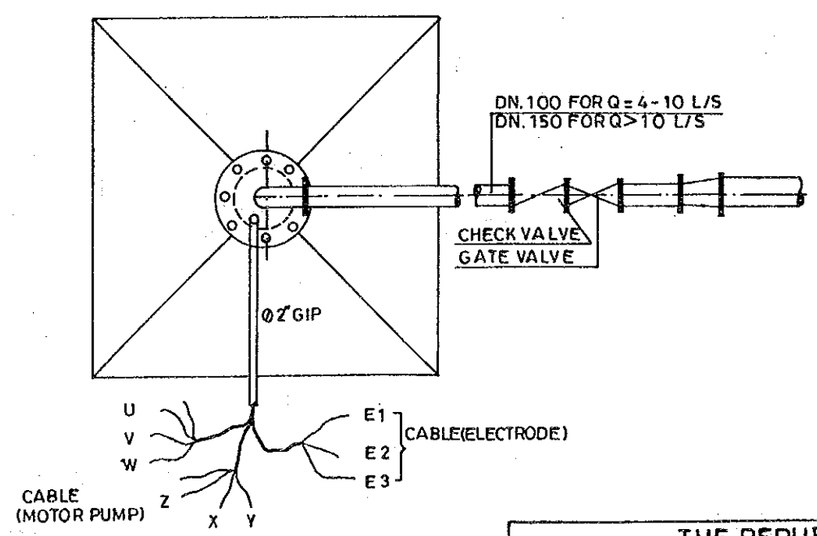
REMARK

①. AERATION PIT
②. FILTERATION TANK
③. RESERVOIR
④. BLOWER
⑤. PUMP
⑥. BACK WASHING PUMP

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA	
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA EAST JAVA AND BALI	
SCHEMATIC FLOW OF TREATMENT FACILITIES FOR IRON (Fe)	
DRAWING NO : 7	SCALE : NOT TO SCALE
JAPAN INTERNATIONAL COOPERATION AGENCY	



Q (l/s)	ND OF RISER PIPE (mm)	D MAX. OF PUMP (mm)
≤ 5	100	95
6 - 10	100	95 - 145
11 - 20	150	145 - 193
> 20	150	> 193



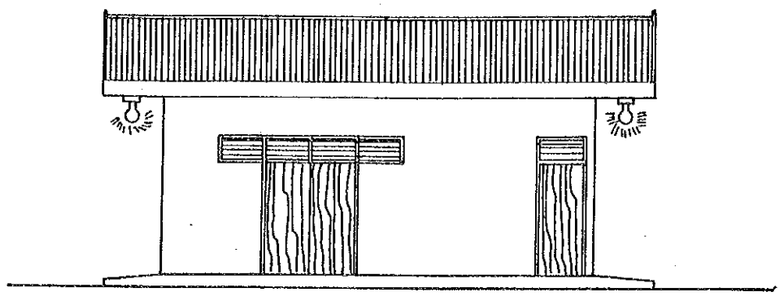
THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
CIPTA KARYA

THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI

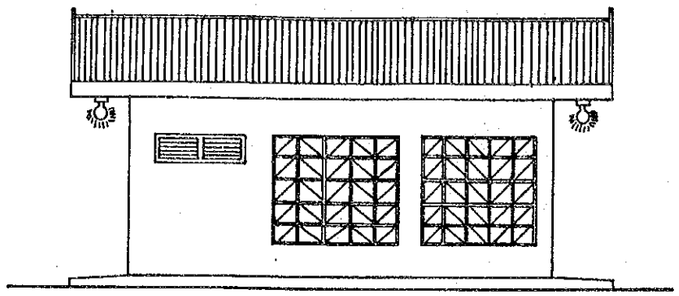
TYPICAL OF DEEP WELL PUMP

DRAWING NO: 8 | SCALE : NOT TO SCALE

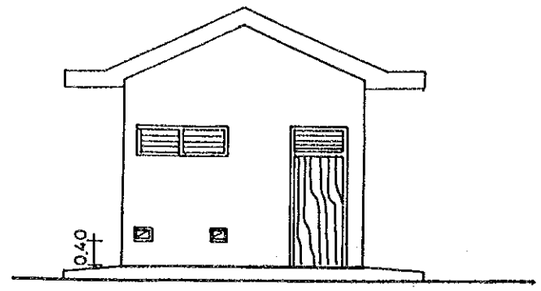
JAPAN INTERNATIONAL COOPERATION AGENCY



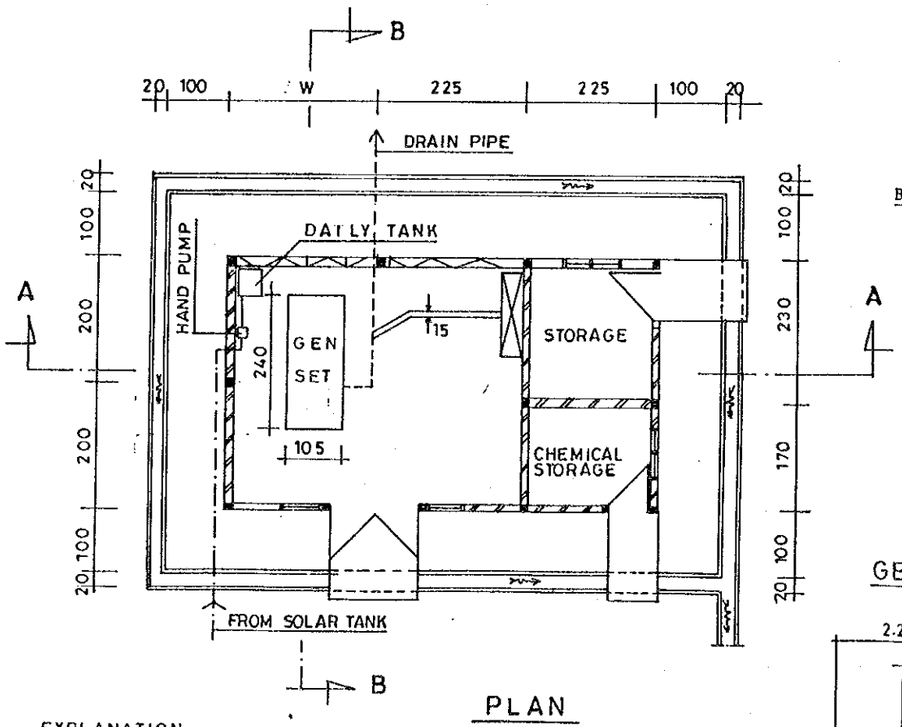
FRONT VIEW



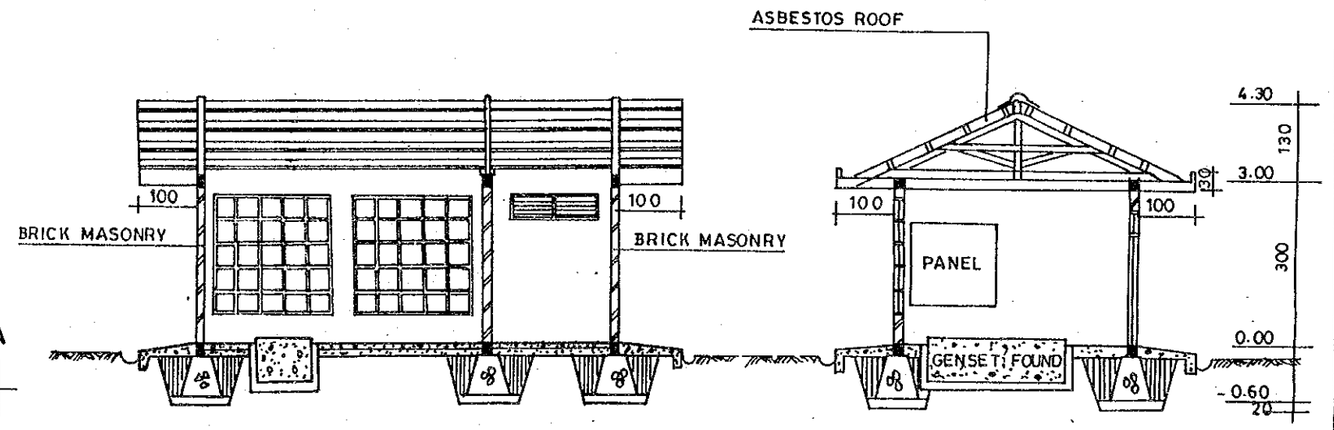
RARE VIEW



SIDE VIEW



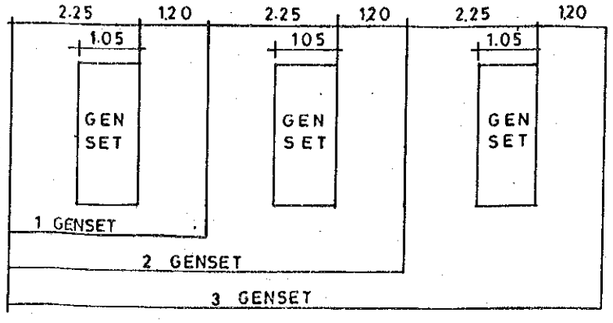
PLAN



SECTION A-A

SECTION B-B

GENSET SPACE



EXPLANATION

W = FLEXIBLE

1 GENSET → W = 3.45 M

2 GENSET → W = 6.90 M

3 GENSET → W = 10.35 M

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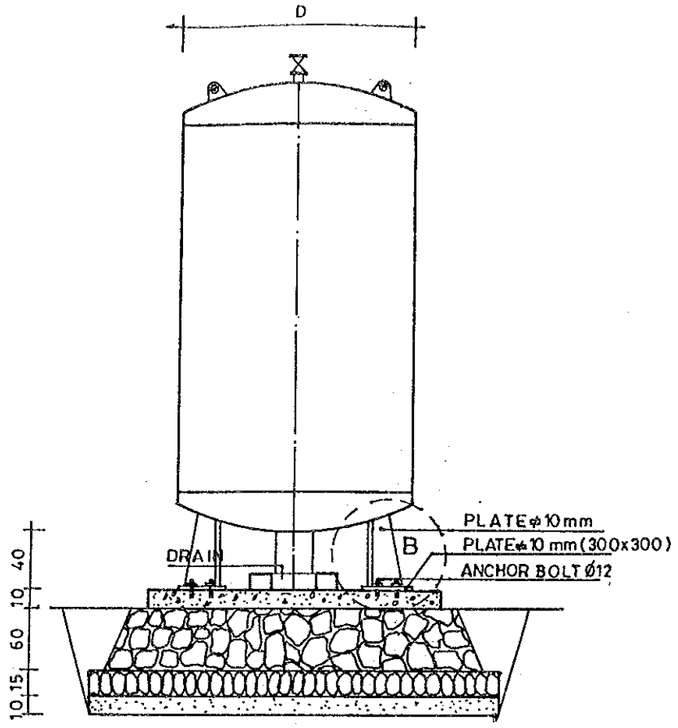
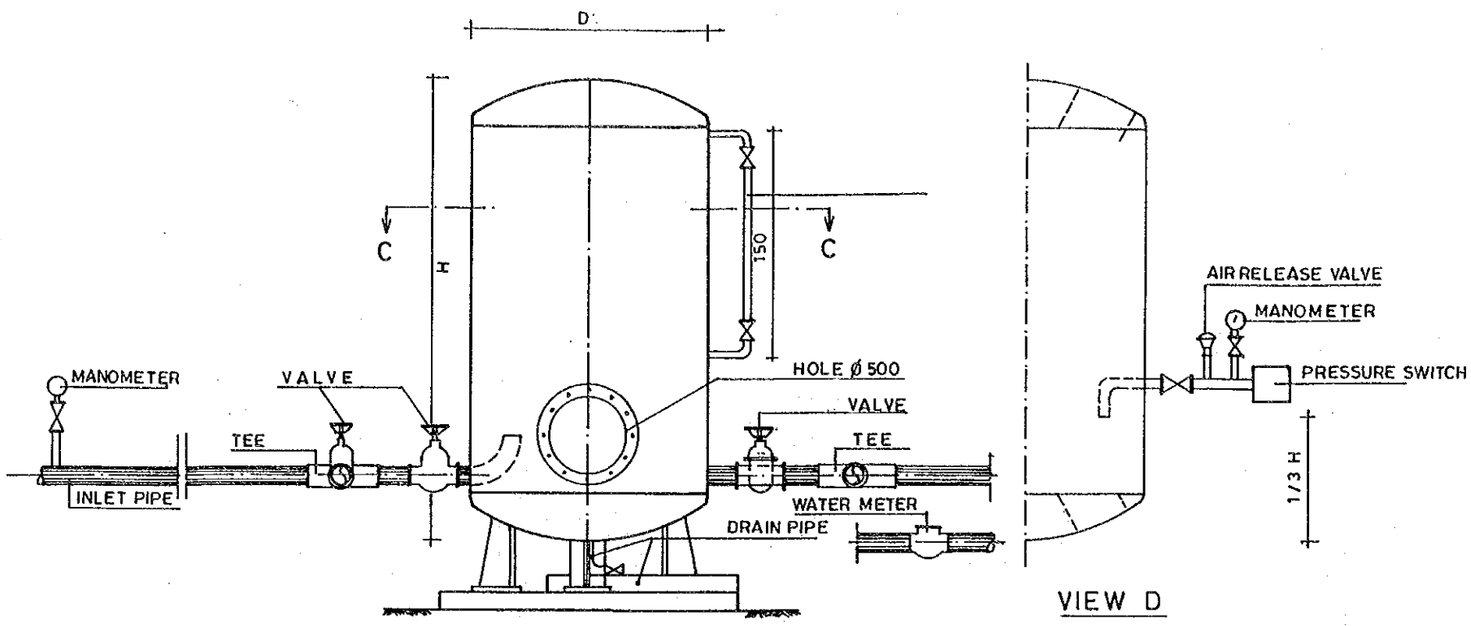
POWER HOUSE

DRAWING NO : 9 | SCALE : NOT TO SCALE

JAPAN INTERNATIONAL COOPERATION AGENCY

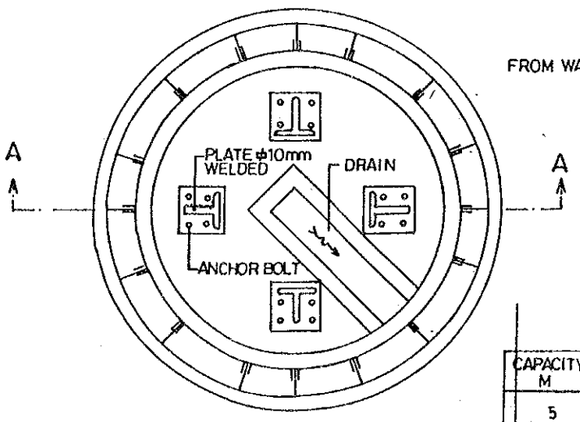


HYDROPHORE FOUNDATION

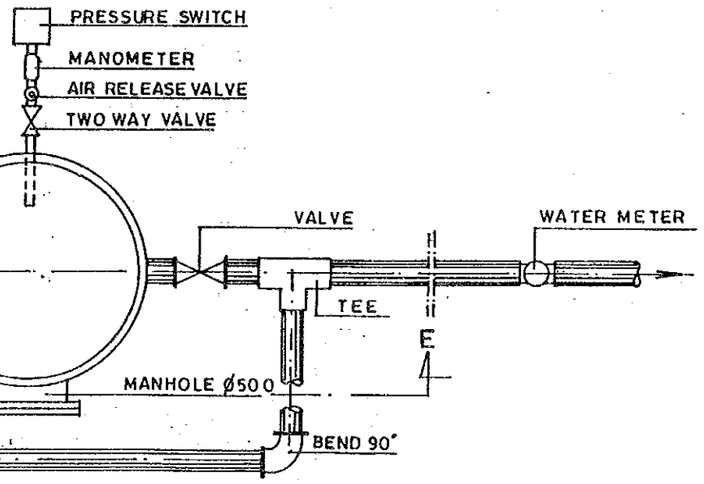


DETAIL HYDROPHORE (E-E)

VIEW D



SECTION A-A



SECTION C - C

CAPACITY M	WORK PRESSURE (l/s)	SITES
5	6	IKK. JENAR IKK. KEMBANG BAHU
5	8	IKK. KARANG GAYAM IKK. MENANGA
6.5	6	IKK. JENU IKK. TEMPURSARI
6.5	8	IKK. BAURENO
9	6	IKK. JERUKLEGI IKK. JIWAN IKK KEMIRI IKK. TEMPEH IKK. KUTOREJO IKK BANYUANYAR IKK BAWEN

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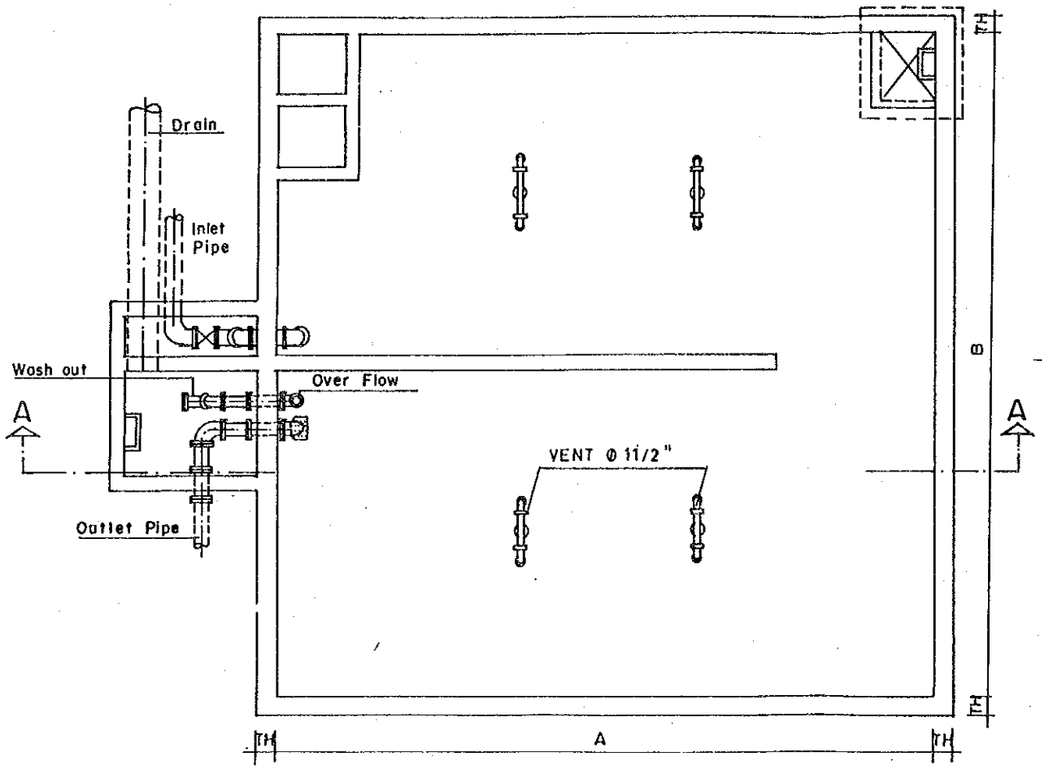
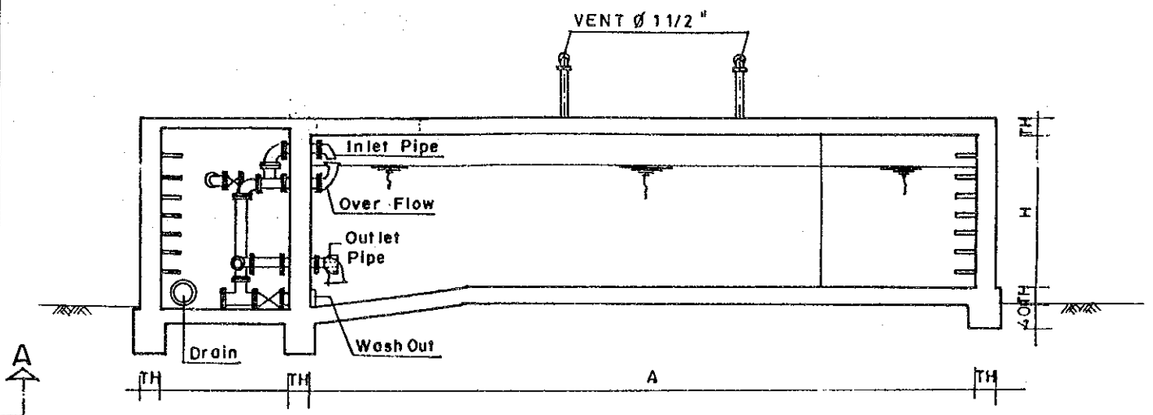
TYPICAL HYDROPHORE

DRAWING NO : 10 | SCALE : NOT TO SCALE

JAPAN INTERNATIONAL COOPERATION AGENCY



TYPICAL RESERVOIR
NOT TO SCALE



SECTION A-A
NOT TO SCALE

CAPACITY (M^3)	A (M)	B (M)	H (M)	TH (CM)
20	3.0	3.4	2.0	15
30	3.4	4.5	2.0	15
40	4.0	5.0	2.0	15
60	5.0	6.0	2.0	15
80	5.2	6.2	2.5	15
90	5.5	6.6	2.5	20
120	5.6	7.2	3.0	20
150	6.2	8.2	3.0	20
160	6.4	8.4	3.0	30
200	7.5	9	3.0	30

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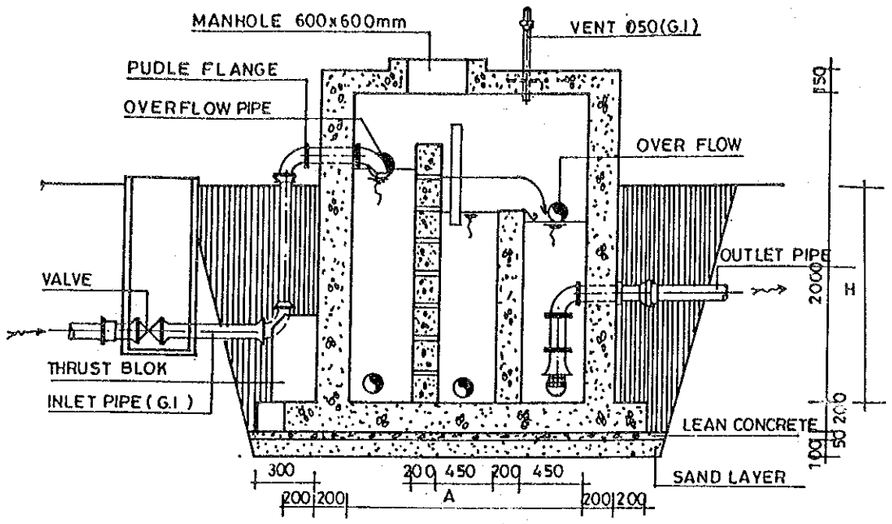
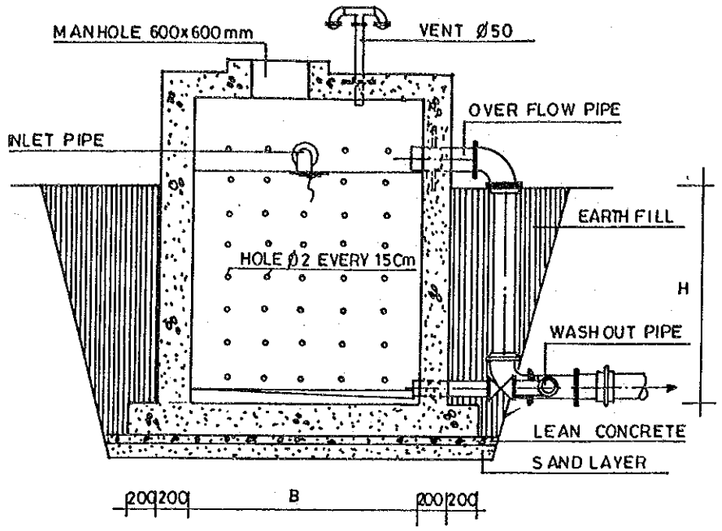
RESERVOIR

DRAWING NO : 11 | SCALE : NOT TO SCALE

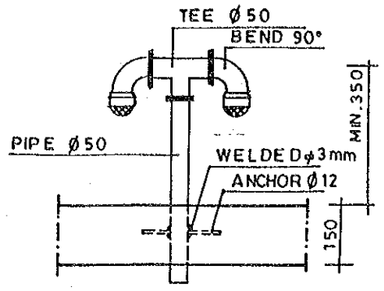
JAPAN INTERNATIONAL COOPERATION AGENCY



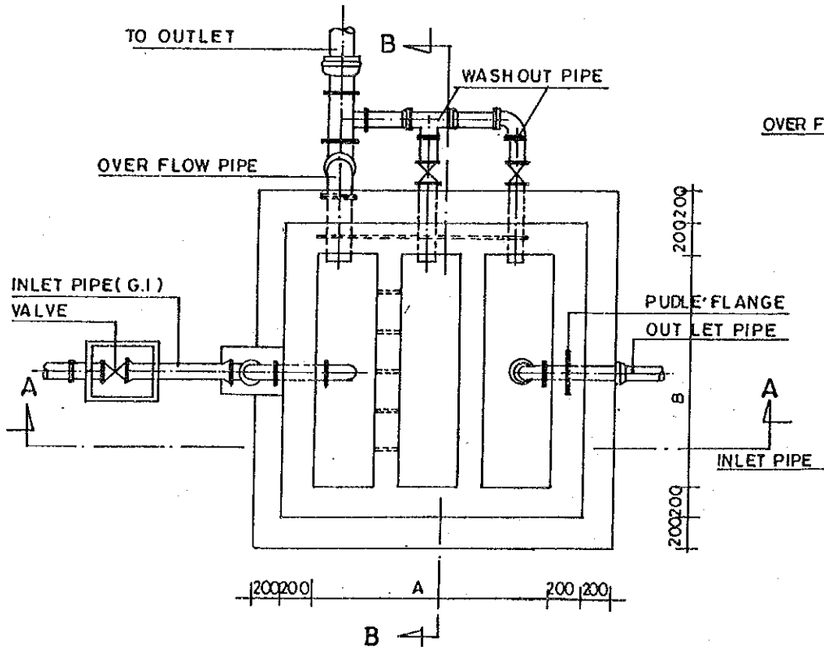
SECTION A-A
NOT TO SCALE



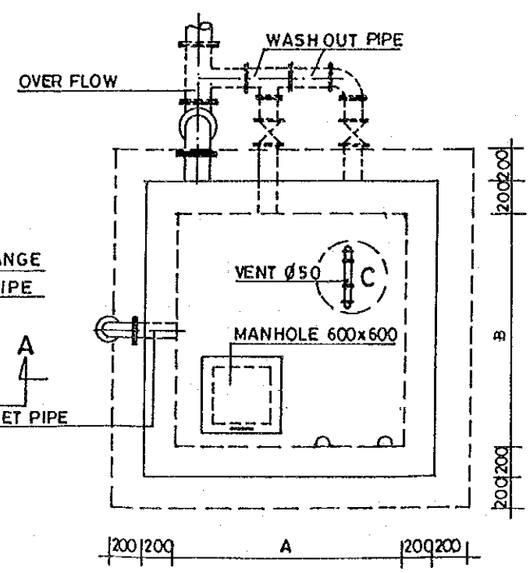
SECTION B-B
NOT TO SCALE



DETAIL VENT C
NOT TO SCALE



PLAN
NOT TO SCALE



UPPER SIDE
NOT TO SCALE

CAPACITY (M3)	A (M)	B (M)	H (M)
1.5	1.1	1.1	1.25
3	1.4	1.4	1.6
6	1.7	1.7	2.1
9	1.9	1.9	2.5
10	2.0	2.0	2.5
12	2.2	2.2	2.5

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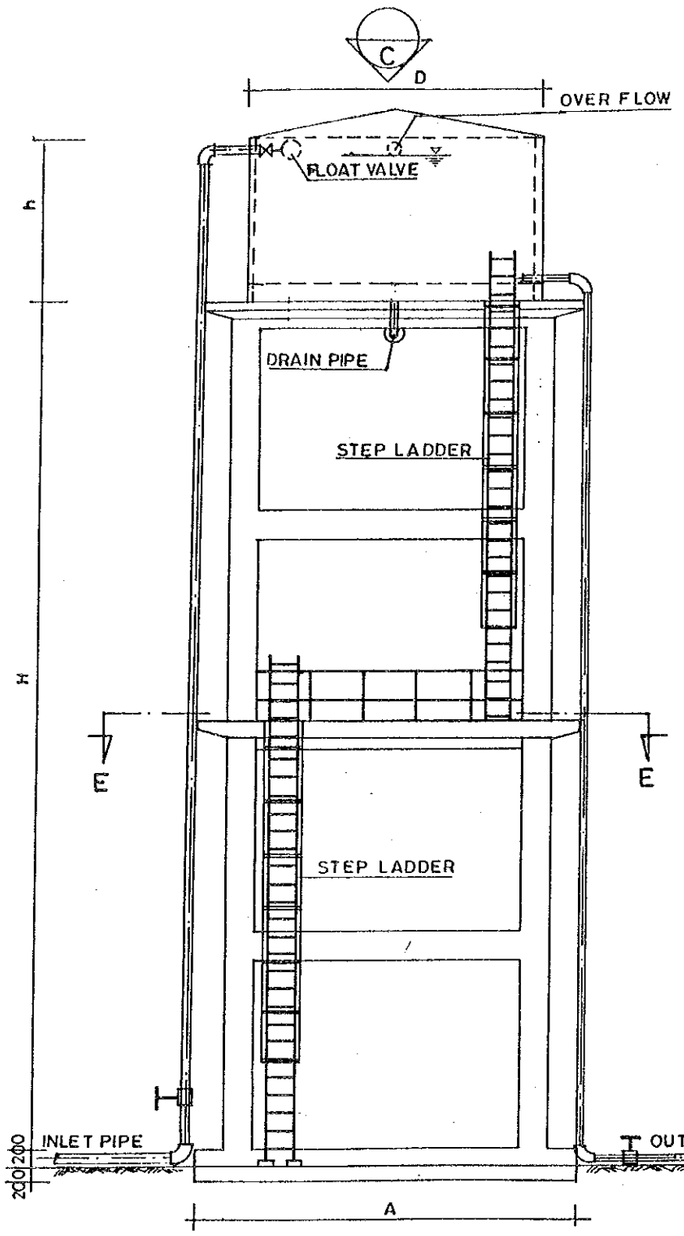
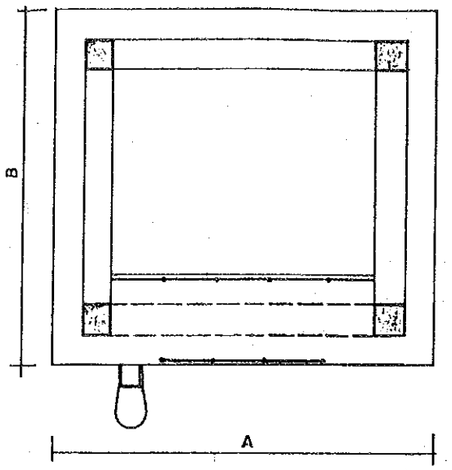
BREAK PRESSURE TANK

DRAWING NO : 12 | SCALE : NOT TO SCALE

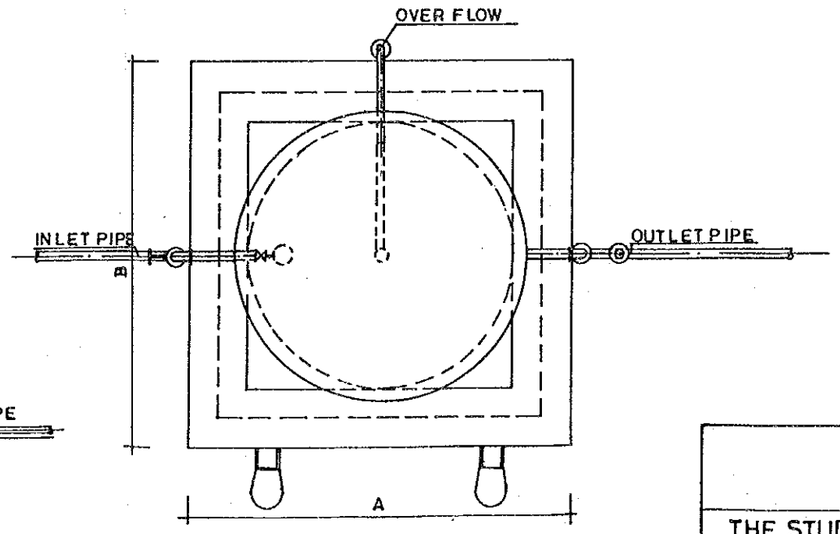
JAPAN INTERNATIONAL COOPERATION AGENCY



ELEVATION



SECTION E-E



SECTION C-C

TABLE: DIMENSION

CAPACITY (M3)	H (M)	h (M)	A (M)	B (M)	D (M)	SITES
20	15	3	4.70	4.70	3.50	IKK. MADUKARA IKK. PETANAHAN
20	11.5	3	4.70	4.70	3.50	IKK. TAMPAK SIRING
30	15	3	5.40	5.40	4.20	IKK. BATANGAN IKK SUMBERASIH
30	11	3	5.40	5.40	4.20	IKK. SIBETAN
30	10.5	3	5.40	5.40	4.20	IKK. KETAWEL
40	15	3.5	5.70	5.70	4.50	IKK. BALEN IKK. DIWEK
50	15	3.5	6.20	6.20	5.00	IKK. BULAKAMBA IKK. KUNIR

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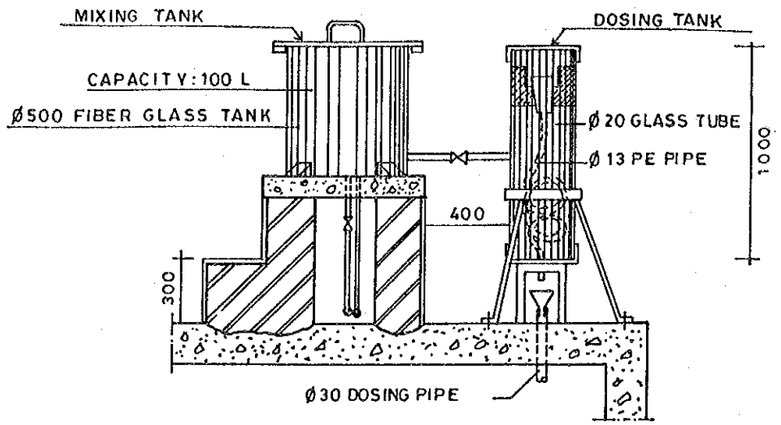
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA EAST JAVA AND BALI

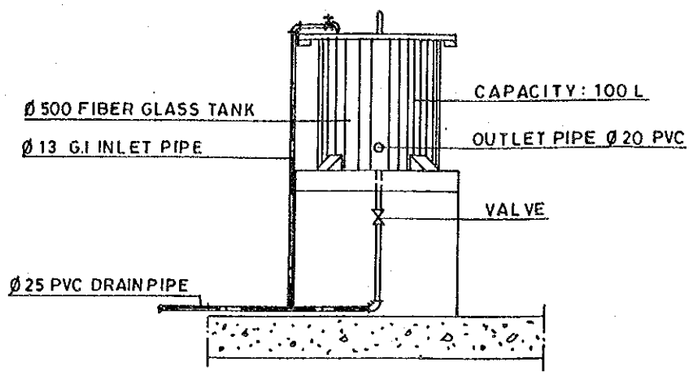
ELEVATED TANK

DRAWING NO : 13 | SCALE : NOT TO SCALE

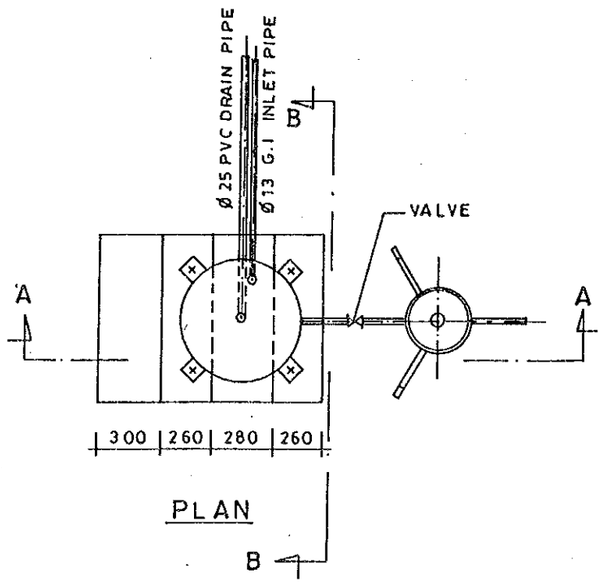
JAPAN INTERNATIONAL COOPERATION AGENCY



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE



DRIP CHLORINATION FEED UNIT
NOT TO SCALE

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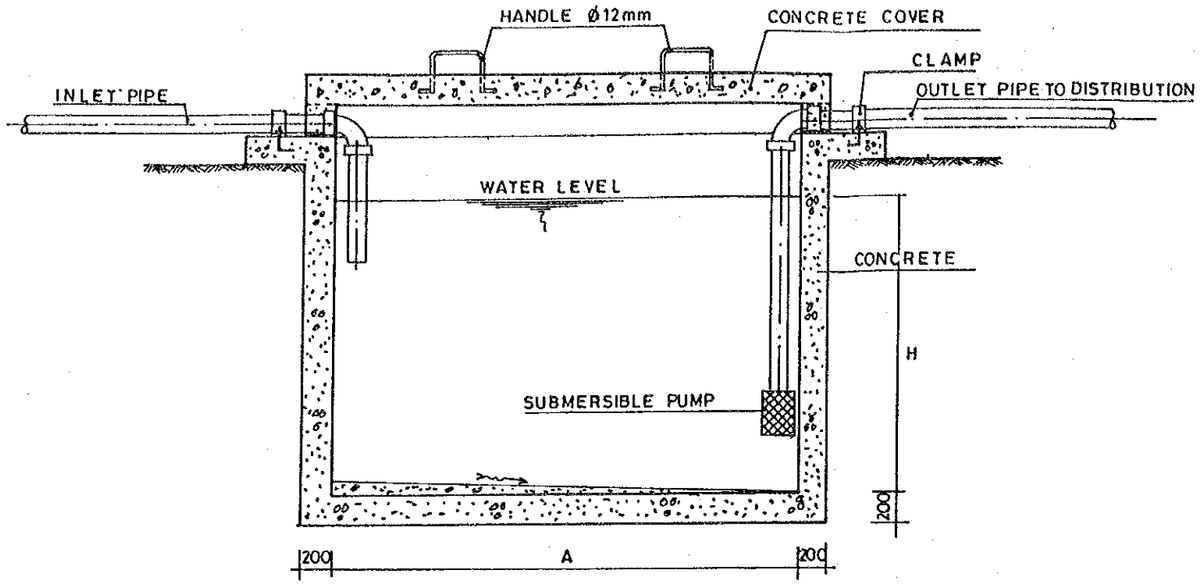
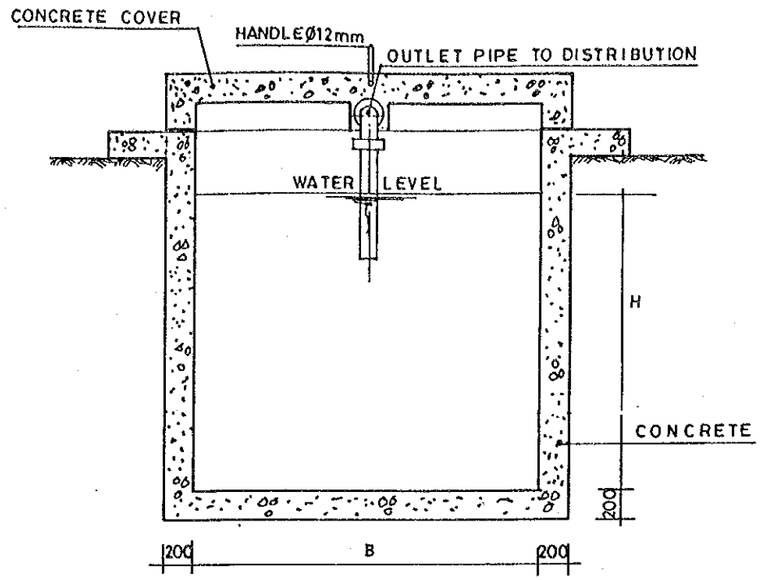
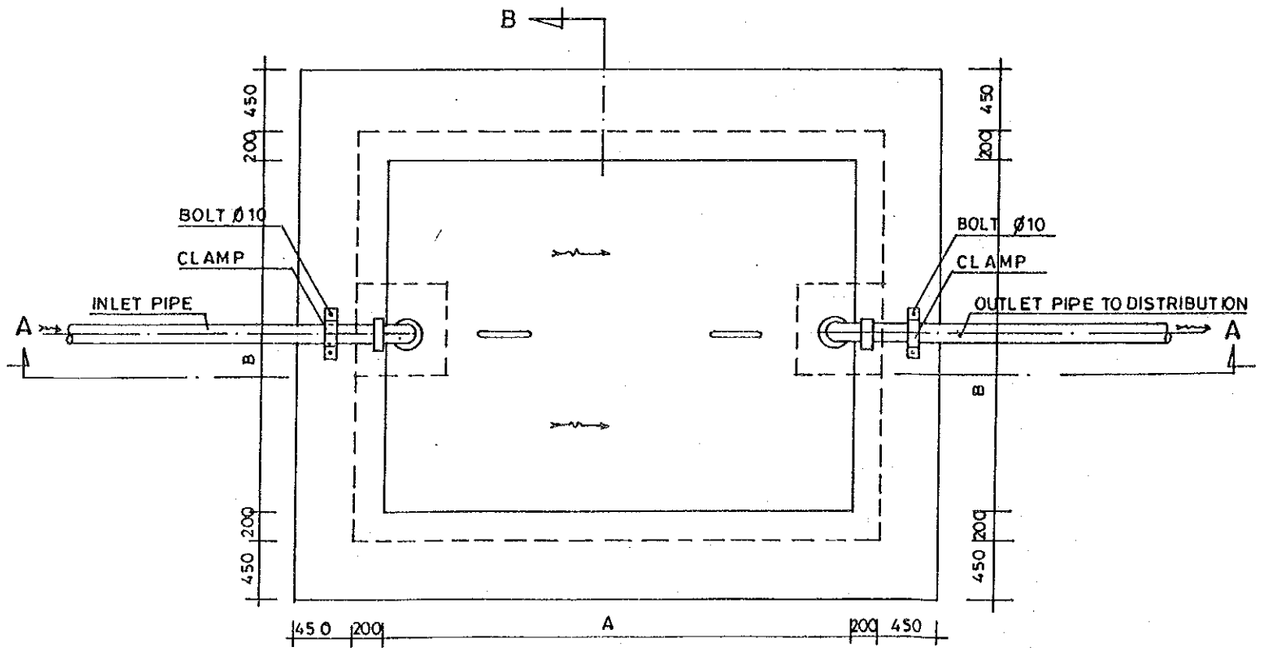
GRAVITY CHLORINE DOSING	
DRAWING NO : 14	SCALE : NOT TO SCALE
JAPAN INTERNATIONAL COOPERATION AGENCY	



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE



PLAN OF BOOSTER PUMP PIT
NOT TO SCALE

CAPACITY (M^3)	A (M)	B (M)	H (M)
1.5	1.1	1.1	1.25
3	1.4	1.4	1.6
6	1.7	1.7	2.1
9	2.0	2.0	2.25

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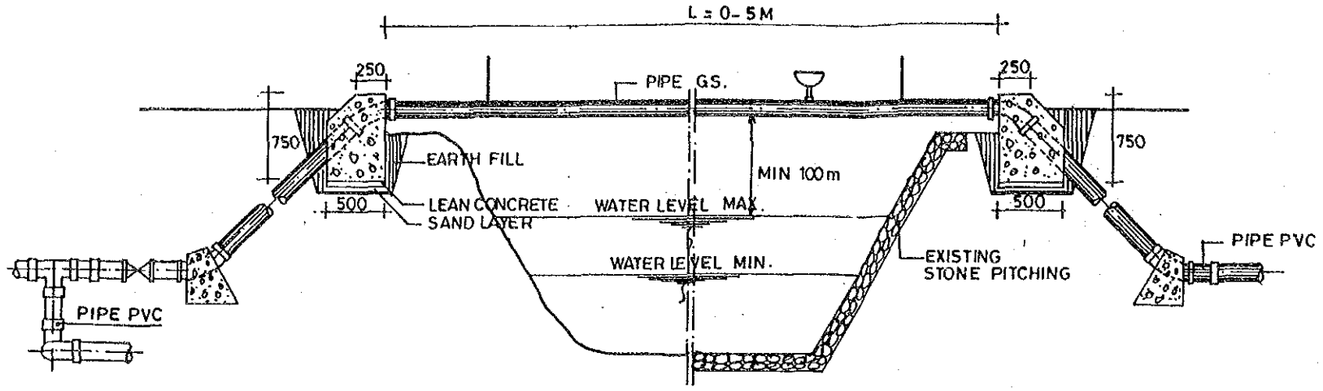
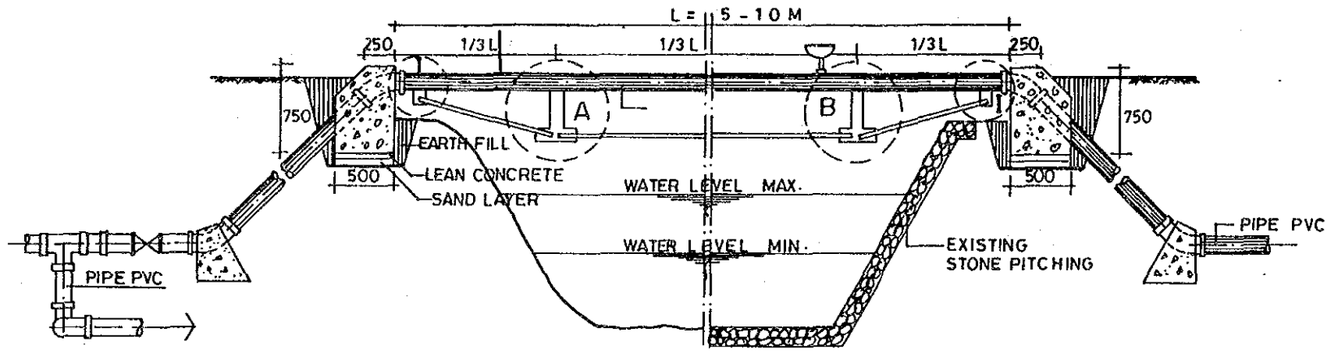
BOOSTER PUMP PIT

DRAWING NO: 15 | SCALE: NOT TO SCALE

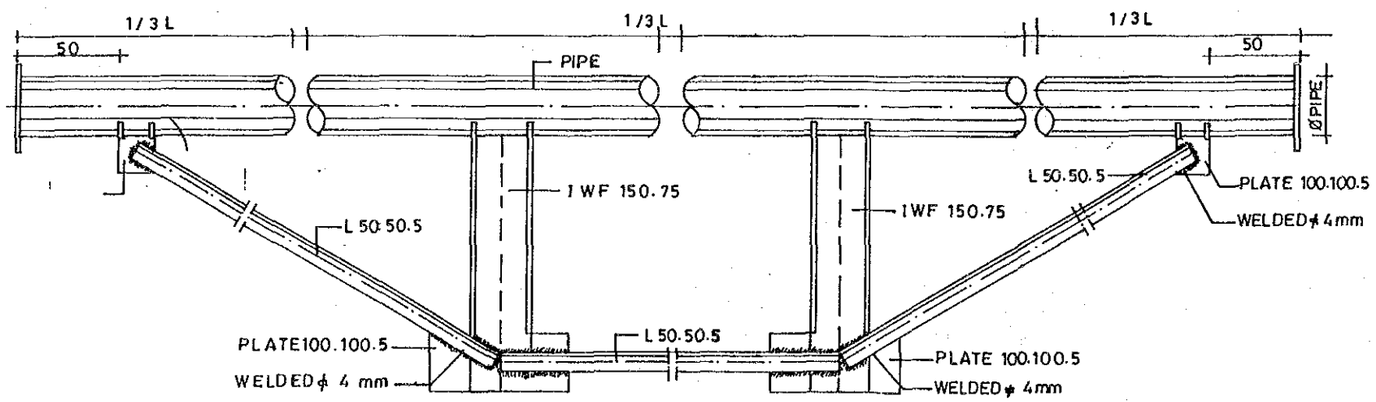
JAPAN INTERNATIONAL COOPERATION AGENCY



PIPE BRIDGE TYPE I
NOT TO SCALE



PIPE BRIDGE TYPE II
NOT TO SCALE



DETAIL A&B
NOT TO SCALE

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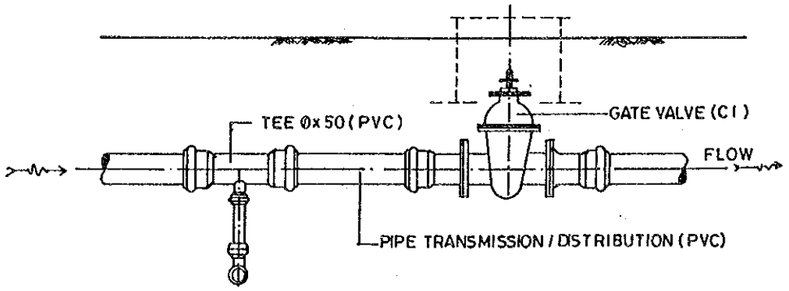
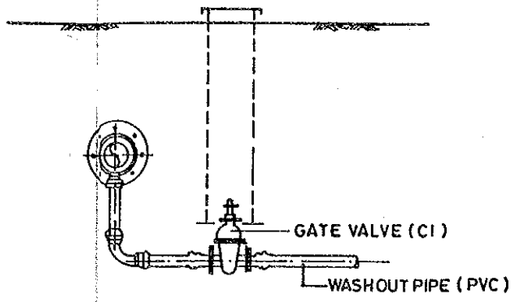
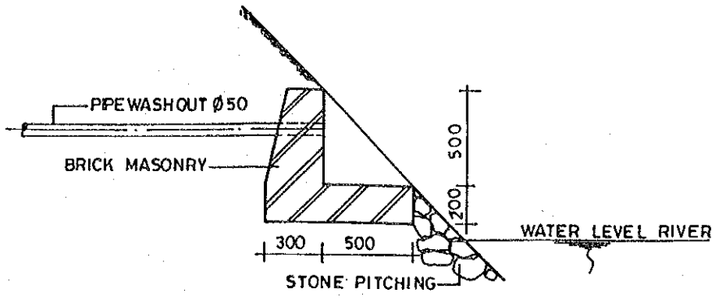
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA EAST JAVA AND BALI
PIPE BRIDGE
DRAWING NO : 16 | SCALE : NOT TO SCALE
JAPAN INTERNATIONAL COOPERATION AGENCY



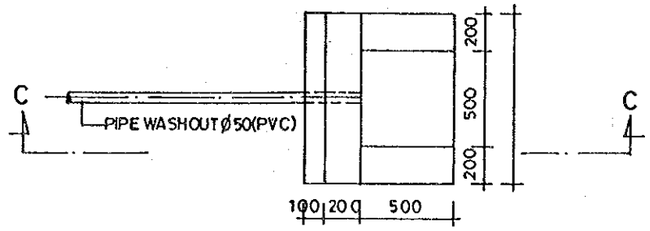
SECTION A-A
NOT TO SCALE



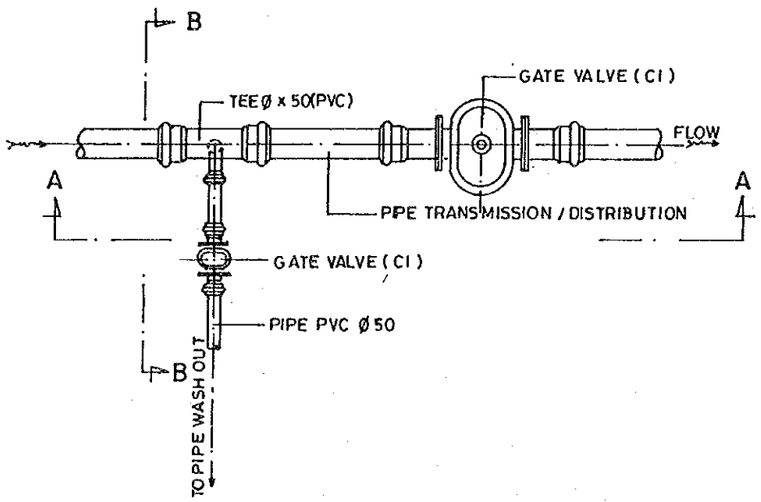
SECTION B-B
NOT TO SCALE



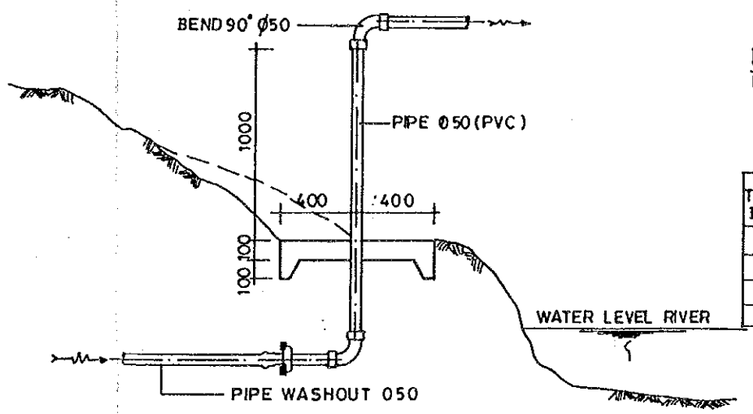
SECTION C-C
NOT TO SCALE



DETAIL TYPE 2
NOT TO SCALE



TYPICAL WASH OUT
NOT TO SCALE



DETAIL TYPE 1
NOT TO SCALE

Ø PIPE TRANSMISSION /DISTRIBUTION (mm)	Ø PIPE WASH OUT (mm)
100	50
150	50
200	50
250	50

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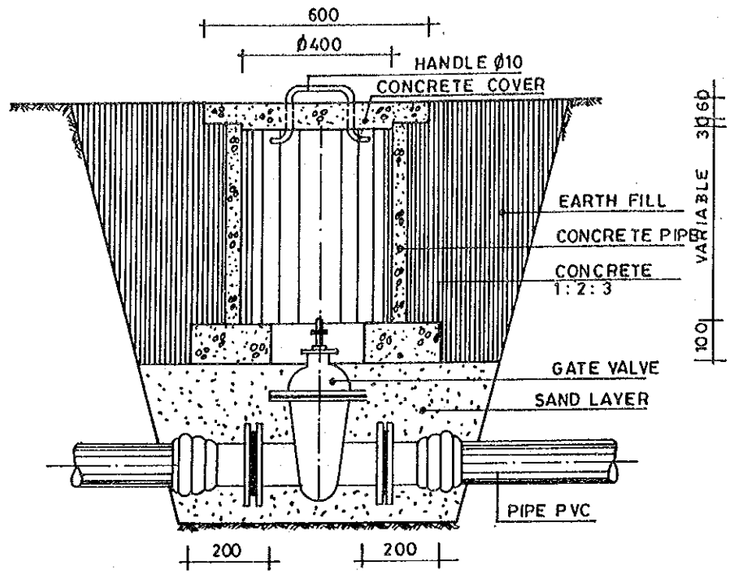
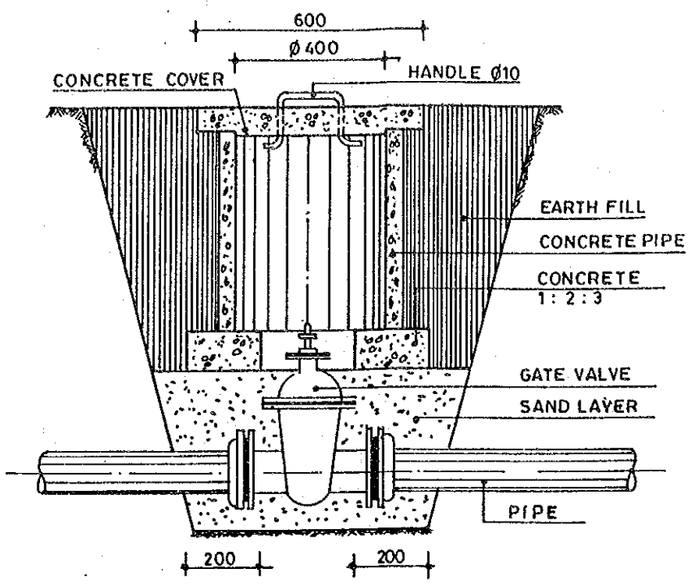
TYPICAL WASH OUT

DRAWING NO : 17 | SCALE : NOT TO SCALE

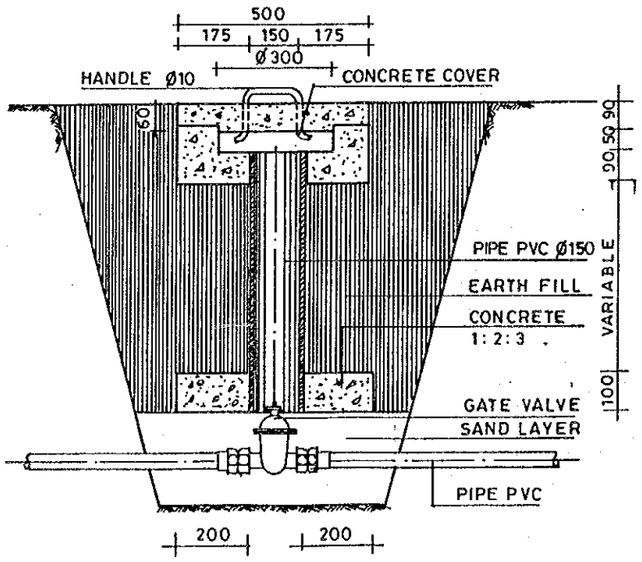
JAPAN INTERNATIONAL COOPERATION AGENCY



VALVE CHAMBER TYPE II
NOT TO SCALE



VALVE CHAMBER TYPE III
NOT TO SCALE



VALVE CHAMBER TYPE I
NOT TO SCALE

REMARK:

TYPE I : FOR SMALL PIPE Ø 25, Ø40, Ø50, Ø75 mm
TYPE II FOR PVC PIPE Ø 100mm, Ø150 mm, Ø 200mm, Ø250mm
TYPE III FOR GALVANIZED STEEL PIPE Ø 100mm, Ø150 mm, Ø200mm, Ø250 mm

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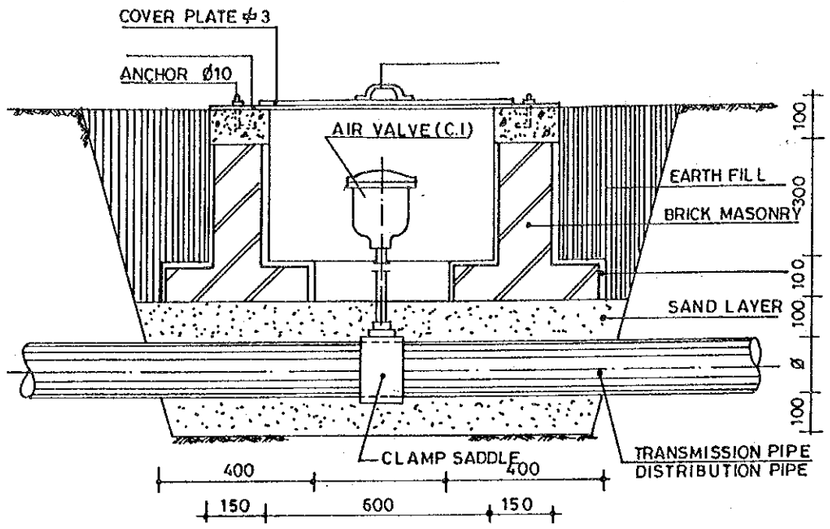
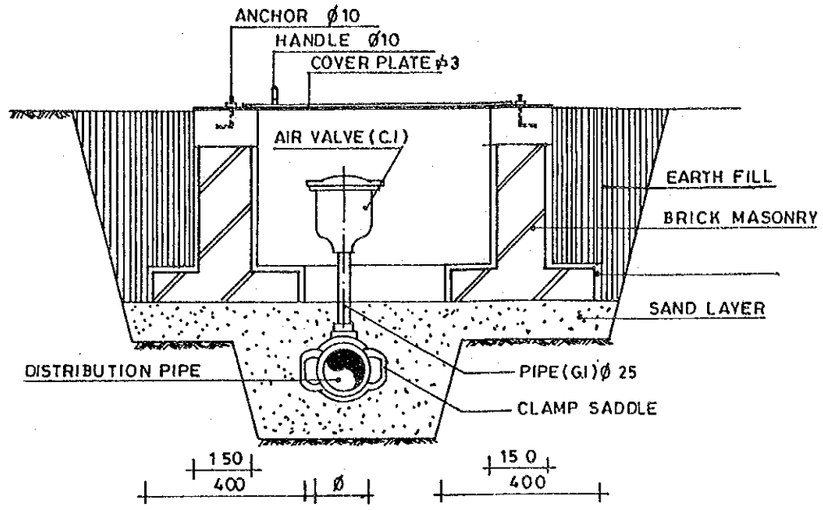
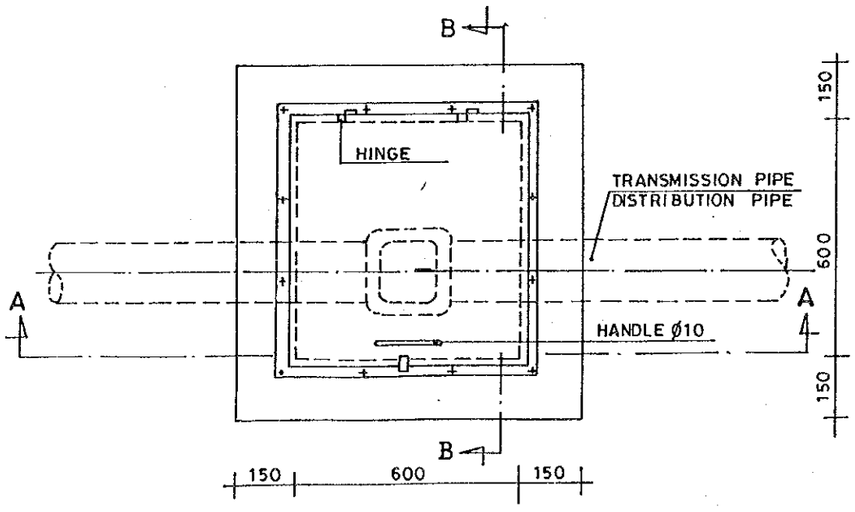
TYPICAL VALVE CHAMBER	
DRAWING NO: 18	SCALE : NOT TO SCALE
JAPAN INTERNATIONAL COOPERATION AGENCY	



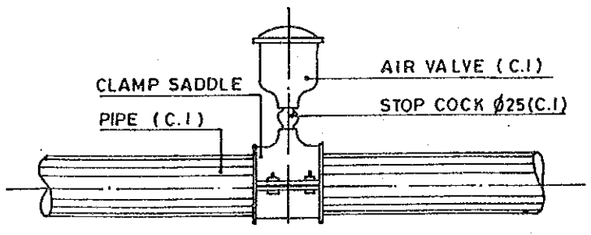
SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE



PLAN
NOT TO SCALE



AIR VALVE ON PIPE BRIDGE
NOT TO SCALE

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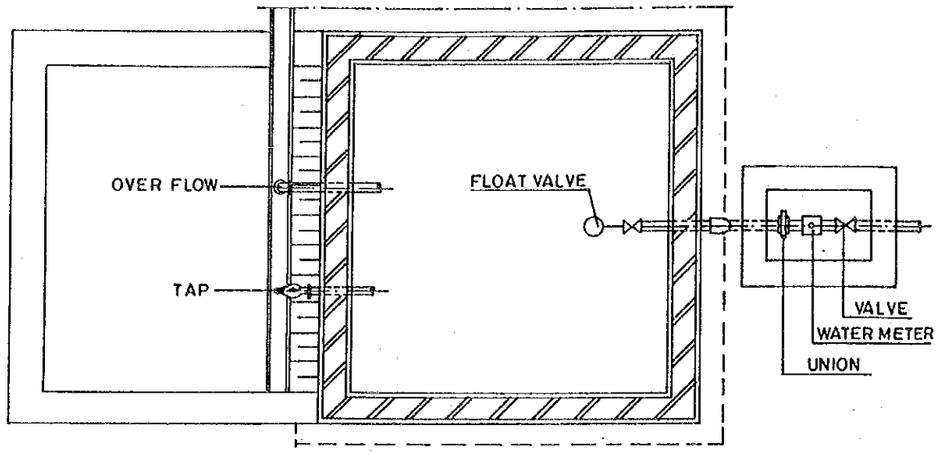
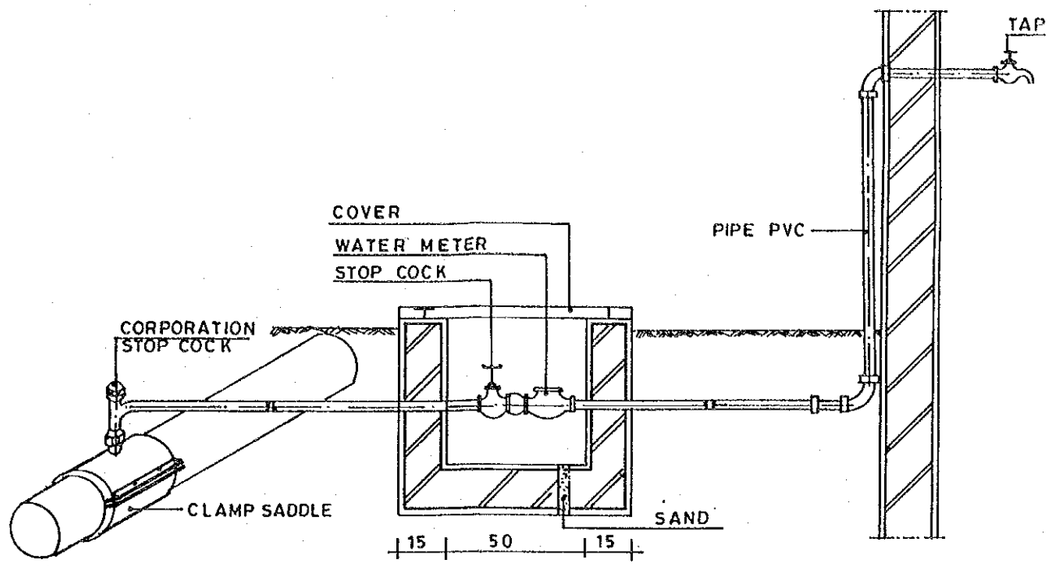
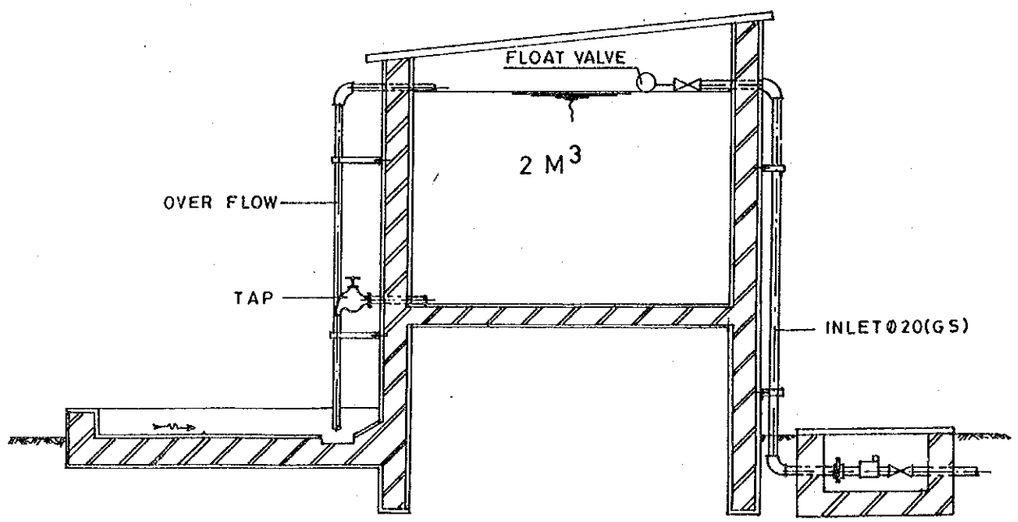
TYPICAL AIR VALVE CHAMBER	
DRAWING NO : 19	SCALE : NOT TO SCALE
JAPAN INTERNATIONAL COOPERATION AGENCY	



TOP VIEW



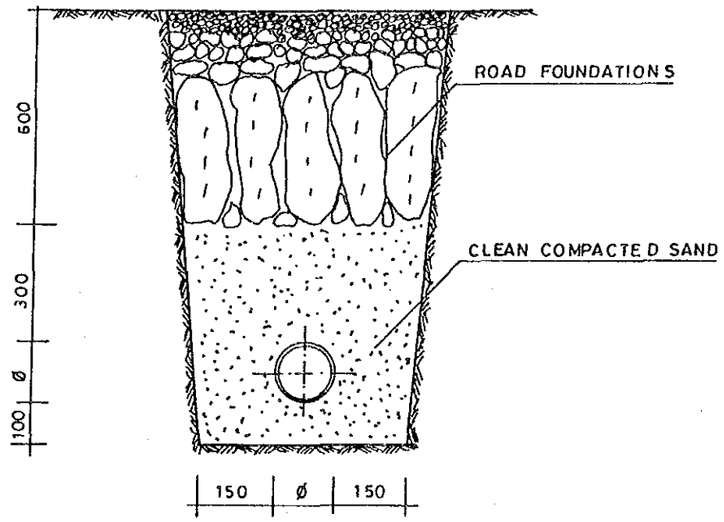
TYPICAL HOUSE CONNECTION



SIDE VIEW

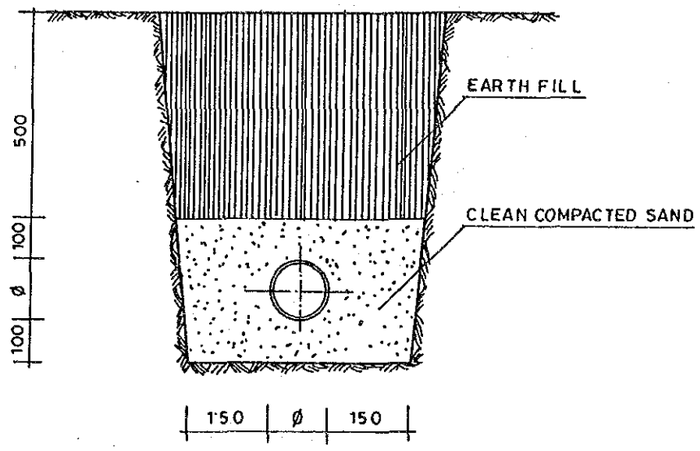
PUBLIC HYDRANT

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA	
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA ,EAST JAVA AND BALI	
TYPICAL HOUSE CONNECTION AND PUBLIC HYDRANT	
DRAWING NO : 20	SCALE : NOT TO SCALE
JAPAN INTERNATIONAL COOPERATION AGENCY	



EXCAVATION BELOW ROAD

NOT TO SCALE
(ALL DIMENSIONS IN mm)



NORMAL EXCAVATION

NOT TO SCALE

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA	
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA EAST JAVA AND BALI	
TYPICAL PIPE TRENCH WORK	
DRAWING NO : 21	SCALE : NOT TO SCALE
JAPAN INTERNATIONAL COOPERATION AGENCY	

Fig. D.2 Location Plan of Pipeline

Drawing List

Drawing No.	IKK	Number of Drawing
1	BULAKAMBA	1
2	JERUKLEGI	2
3	KEMIRI	1
4	MADUKARA	1
5	PUNGGELAN	1
6	KARANGGAYAM	1
7	PETANAHAN	1
8	SUKOREJO	3
9	JEPON	1
10	BATANGAN	1
11	GONDANG	1
12	JENAR	1
13	GIRIWOYO	1
14	BAWEN	2
15	BALEN	1
16	BAURENO	1
17	JENU	1
18	JIWAN	1
19	KEMBANGBAHU	1
20	DIWEK	1
21	KUTOREJO	1
22	TEMPEH	1
23	KUNIR	1
24	TEMPURSARI	1
25	BANYUANYAR	1
26	SUMBERASIH	1
27	TAMPAKSIRING	1
28	KETEWEL	1
29	MENANGA	1
30	SIBETAN	1

LEGEND

- : LOCATION OF WATER SOURCE
- : GROUND RESERVOIR
- : ELEVATED TANK
- : PUMP PIT
- : HYDROPHORE
- : BREAK PRESSURE TANK
- : AIR VALVE
- : WASH OUT
- : TREATMENT FACILITIES FOR LEAD
- : TREATMENT FACILITIES FOR IRON

- : TRANSMISSION PIPELINE
- : DISTRIBUTION PIPELINE
- : EXISTING PIPELINE
- : FLOW DIRECTION
- : GATE VALVE
- : END CAP
- Ø150 Ø100 : CHANGE OF DIAMETER PIPE
- : IKK SERVICE AREA BOUNDARY
- L : LENGTH OF PIPE (IN M)

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
LEGEND		
NOVEMBER 1991	SCALE NOT TO SCALE	DRAWING NO. 00
JAPAN INTERNATIONAL COOPERATION AGENCY		

THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
CIPTA KARYA

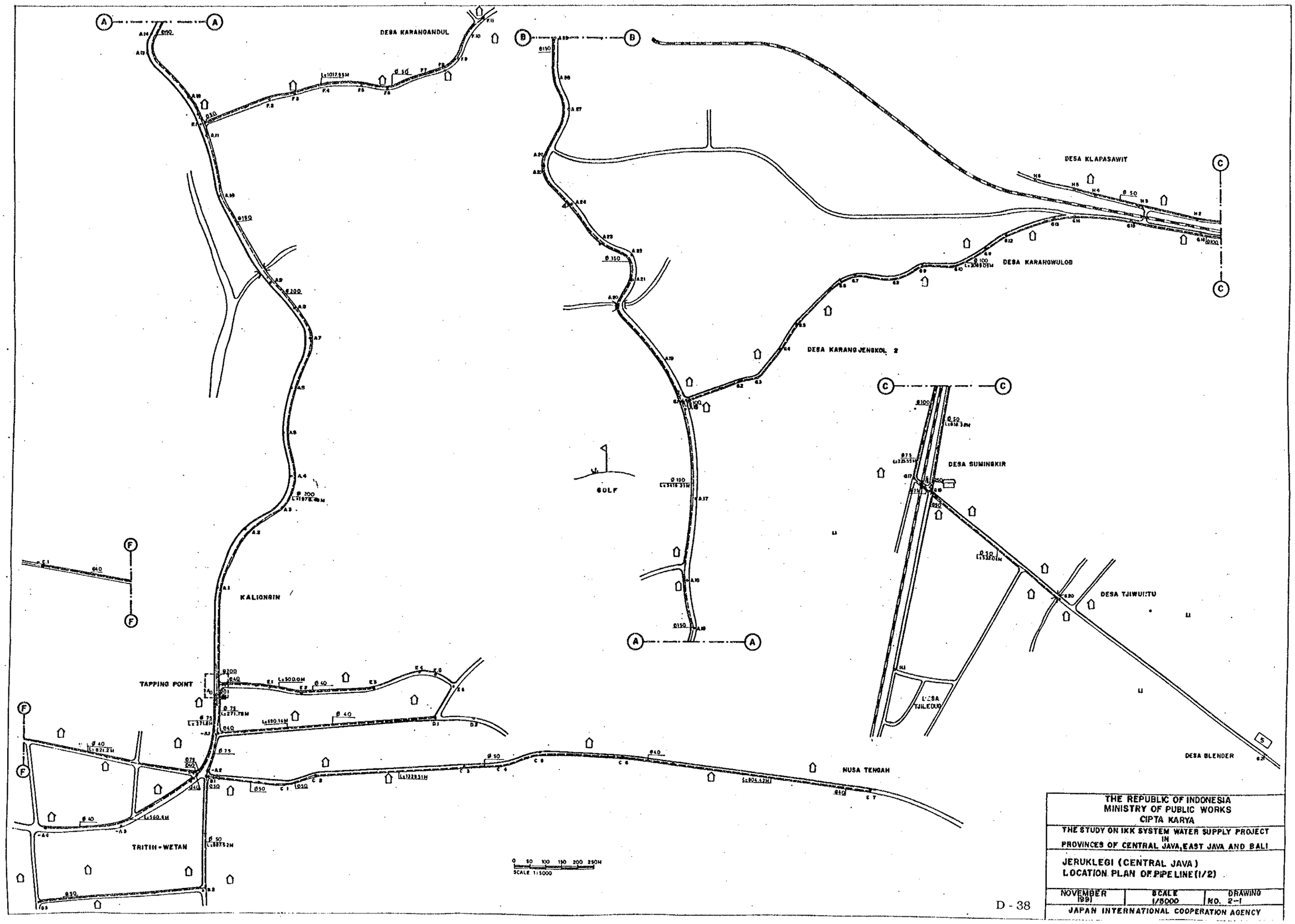
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI

BULAKAMBA (CENTRAL JAVA)

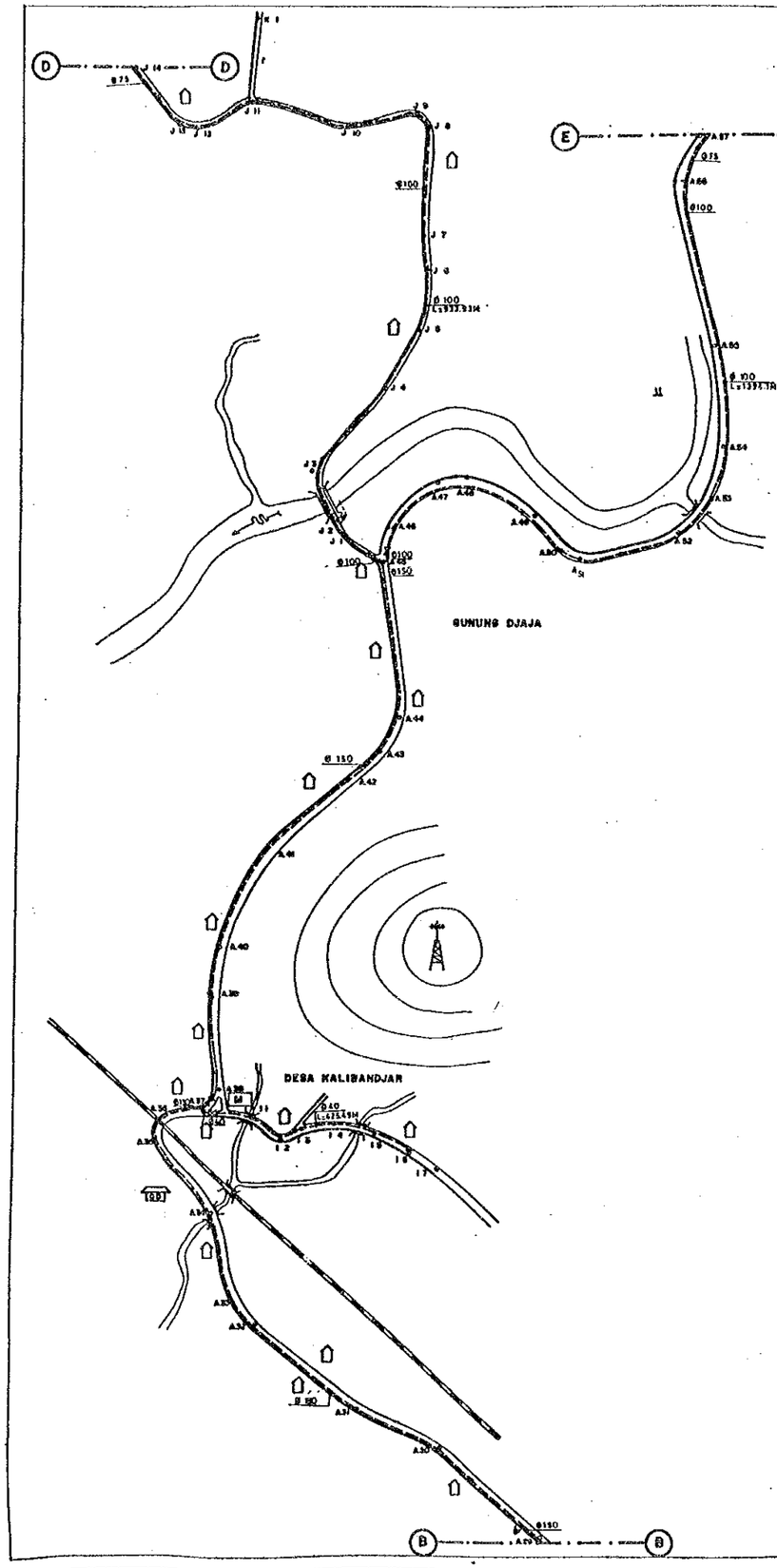
LOCATION OF PIPELINE

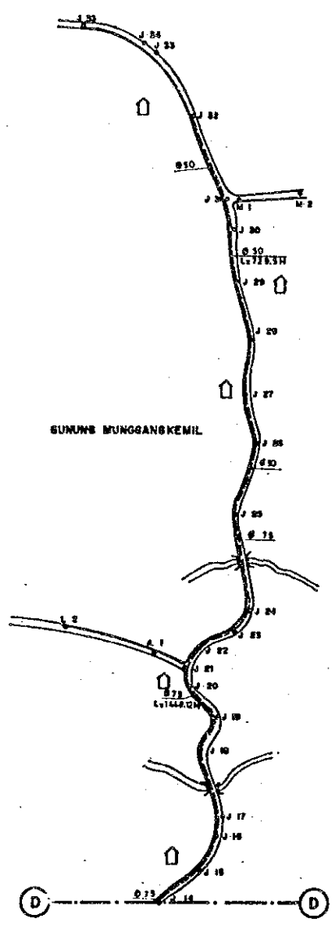
NOVEMBER 1991	SCALE 1/5000	DRAWING NO. I-1

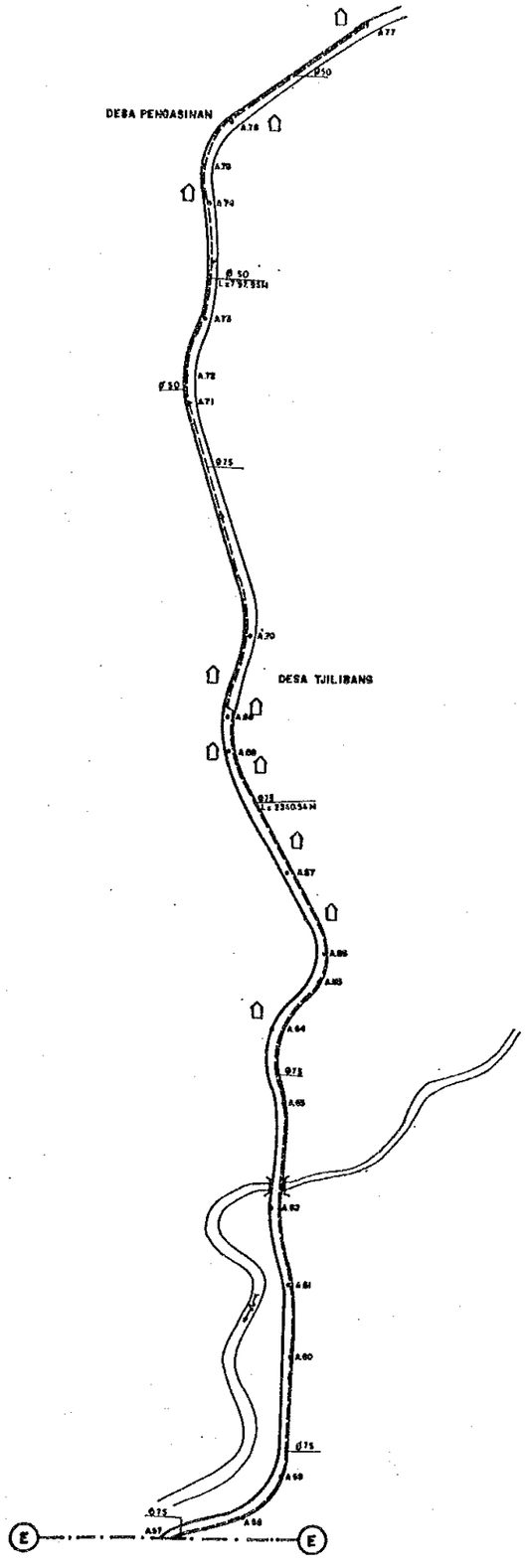
JAPAN INTERNATIONAL COOPERATION AGENCY



THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA	
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI	
JERUKLEGI (CENTRAL JAVA) LOCATION PLAN OF PIPE LINE (1/2)	
NOVEMBER 1991	SCALE 1/5000 / DRAWING NO. 2-1
JAPAN INTERNATIONAL COOPERATION AGENCY	

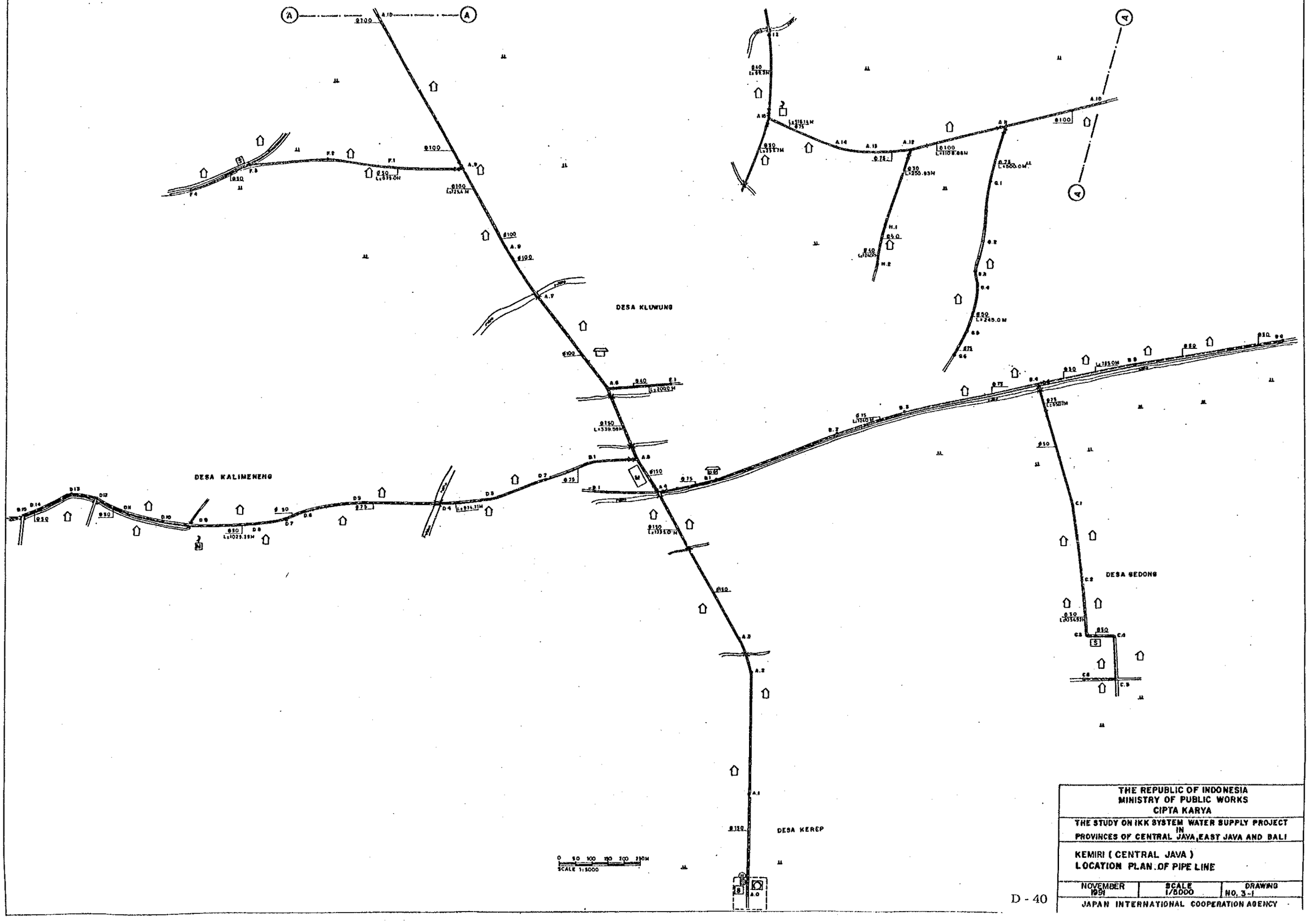






0 50 100 150 200 250M
SCALE 1:5000

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA	
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI	
JERUKLEGI (CENTRAL JAVA). LOCATION PLAN OF PIPE LINE.(2/2)	
NOVEMBER 1991	SCALE 1/5000
DRAWING NO. 2-2	
JAPAN INTERNATIONAL COOPERATION AGENCY	



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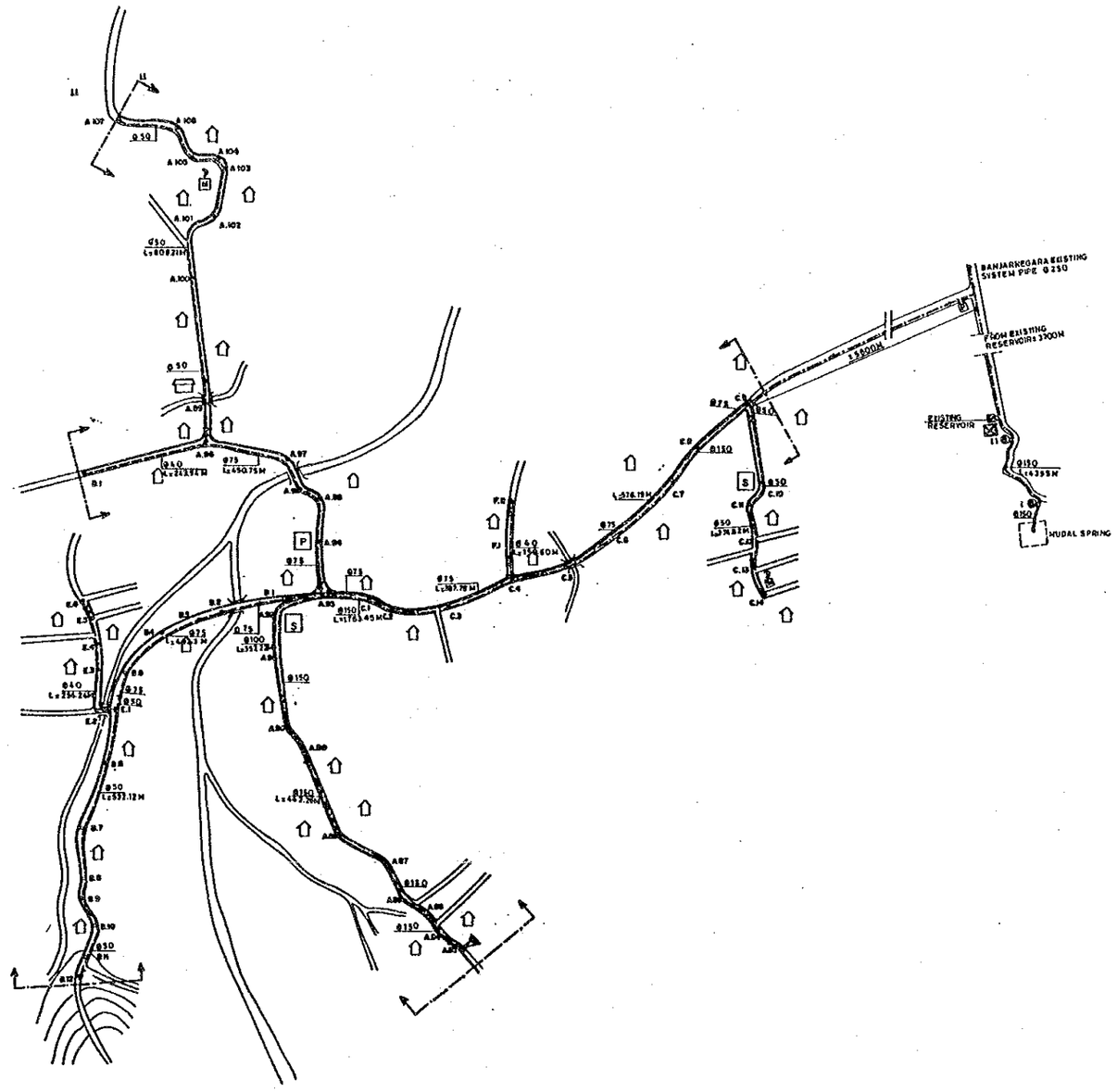
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI

KEMIRI (CENTRAL JAVA)
LOCATION PLAN OF PIPE LINE

NOVEMBER 1991	SCALE 1/5000	DRAWING NO. 3-1

JAPAN INTERNATIONAL COOPERATION AGENCY



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THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
MADUKARA (CENTRAL JAVA) LOCATION PLAN OF PIPELINE		
NOVEMBER 1991	SCALE 1/5000	DRAWING NO. 4-1
JAPAN INTERNATIONAL COOPERATION AGENCY		

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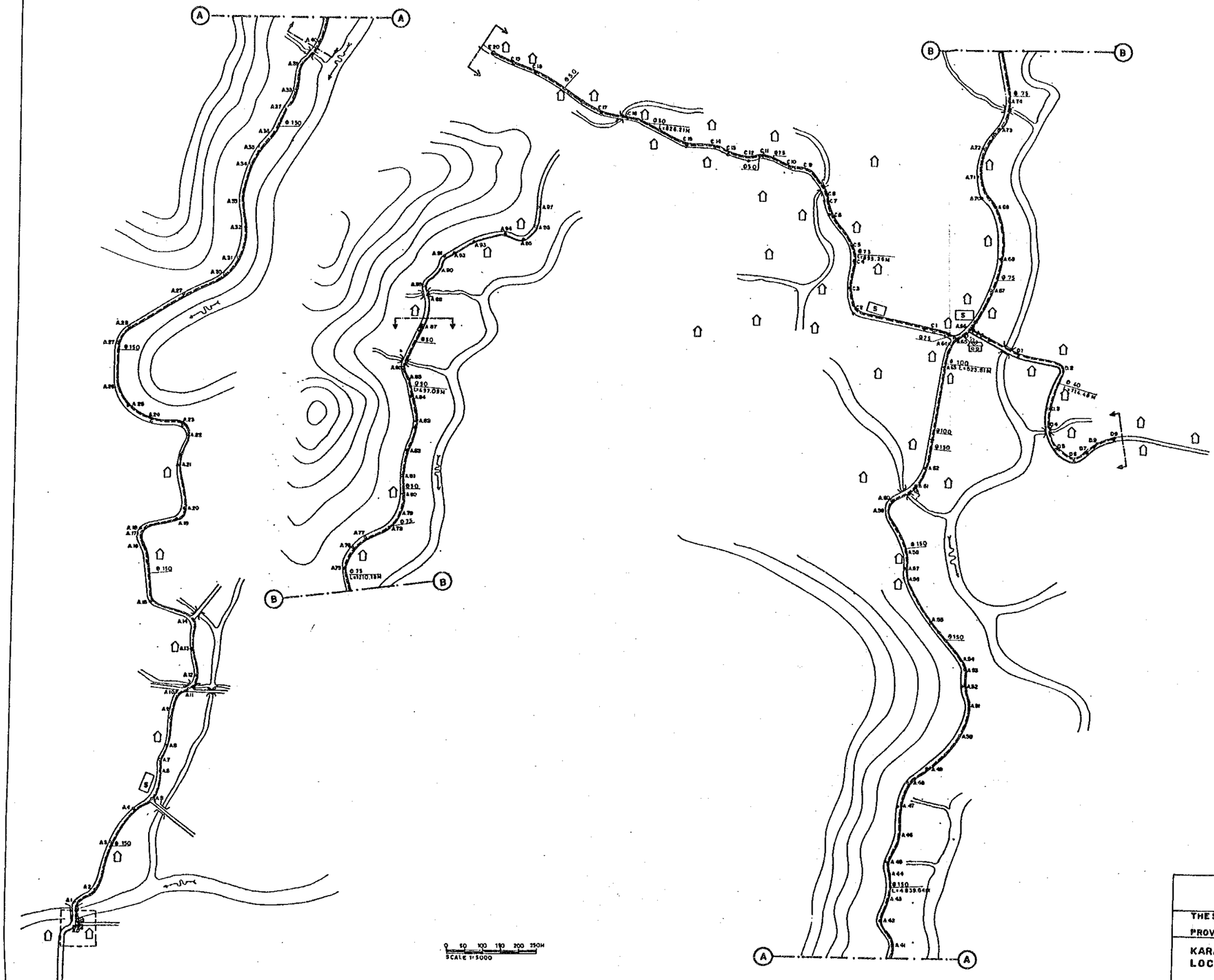
CIPTA KARYA

THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI

PUNGGELAN (CENTRAL JAVA)
LOCATION PLAN OF PIPE LINE

NOVEMBER 1991	SCALE 1/5000	DRAWING NO. D - 1

JAPAN INTERNATIONAL COOPERATION AGENCY



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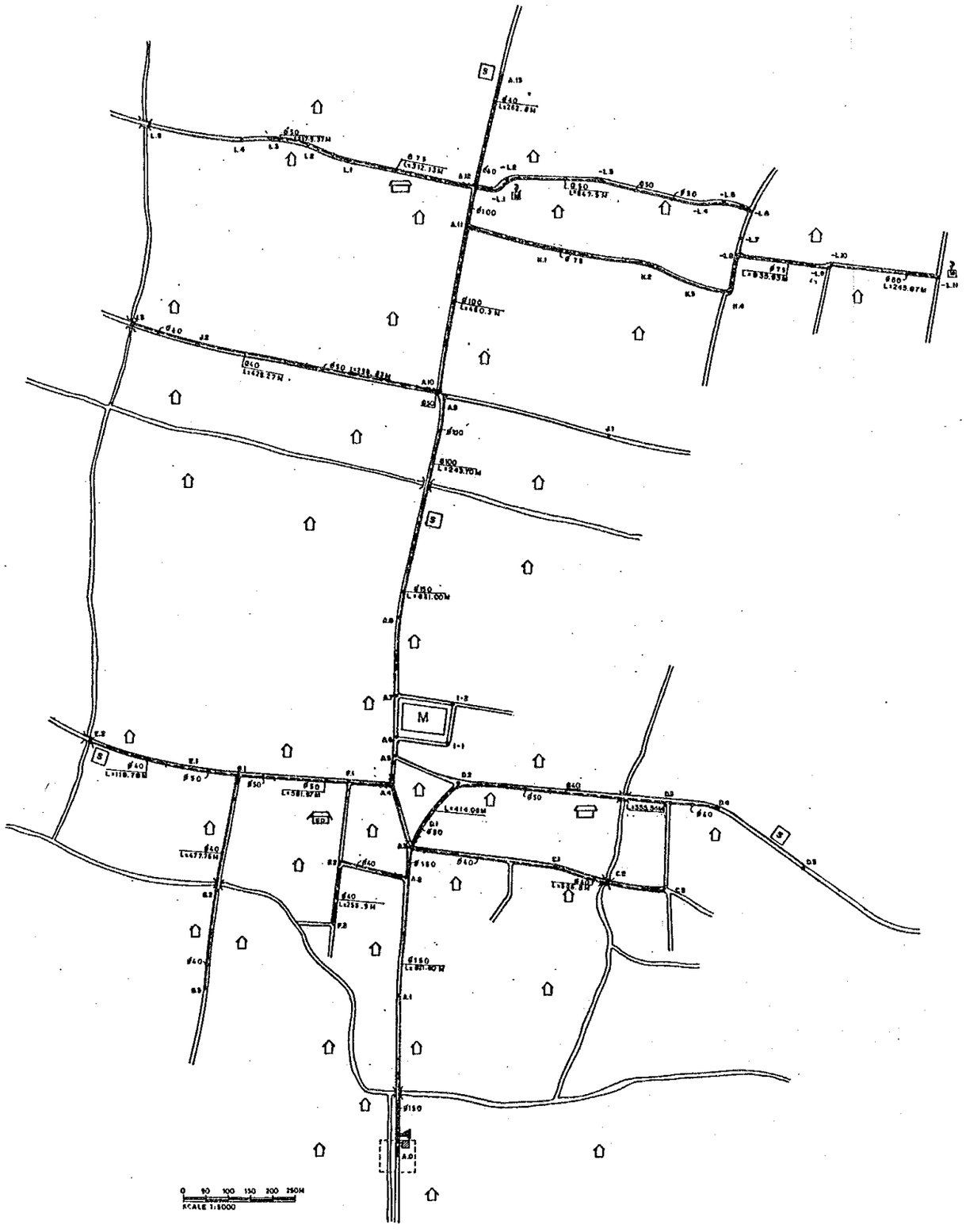
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT
IN
PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI

KARANGGAYAM (CENTRAL JAVA)
LOCATION PLAN OF PIPE LINE

NOVEMBER 1991	SCALE 1/5000	DRAWING NO. 6-1

JAPAN INTERNATIONAL COOPERATION AGENCY



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THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
PETANAHAN (CENTRAL JAVA) LOCATION PLAN OF PIPE LINE		
NOVEMBER 1991	SCALE 1/5000	DRAWING NO. 7-1

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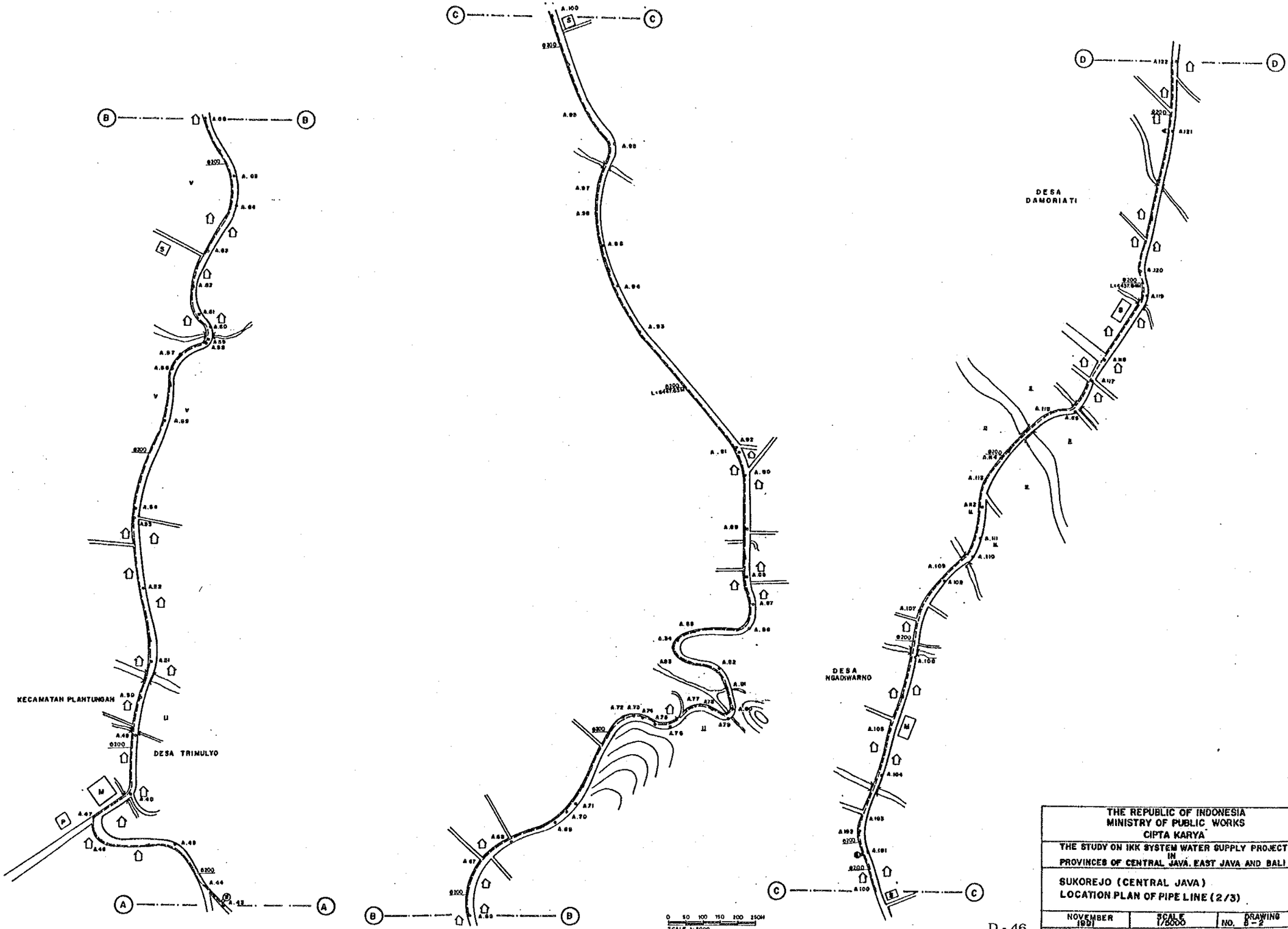
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
SUKOREJO (CENTRAL JAVA) LOCATION PLAN OF PIPE LINE (1/3)		
NOVEMBER 1991	SCALE 1/5000	DRAWING NO. D-1
JAPAN INTERNATIONAL COOPERATION AGENCY		



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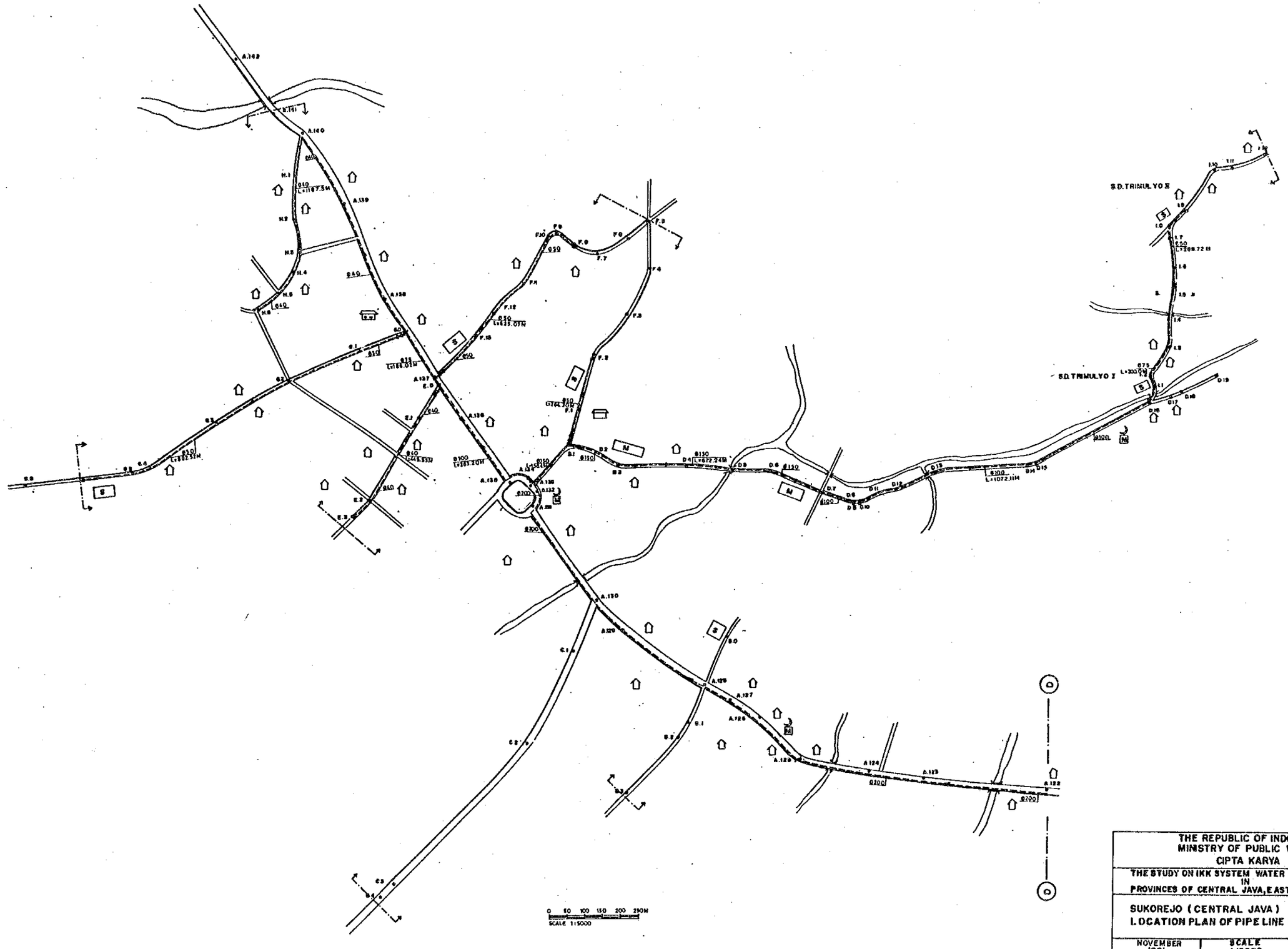
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
SUKOREJO (CENTRAL JAVA) LOCATION PLAN OF PIPE LINE (2/3)		
NOVEMBER 1991	SCALE 1/5000	NO. DRAWING S-2
JAPAN INTERNATIONAL COOPERATION AGENCY		



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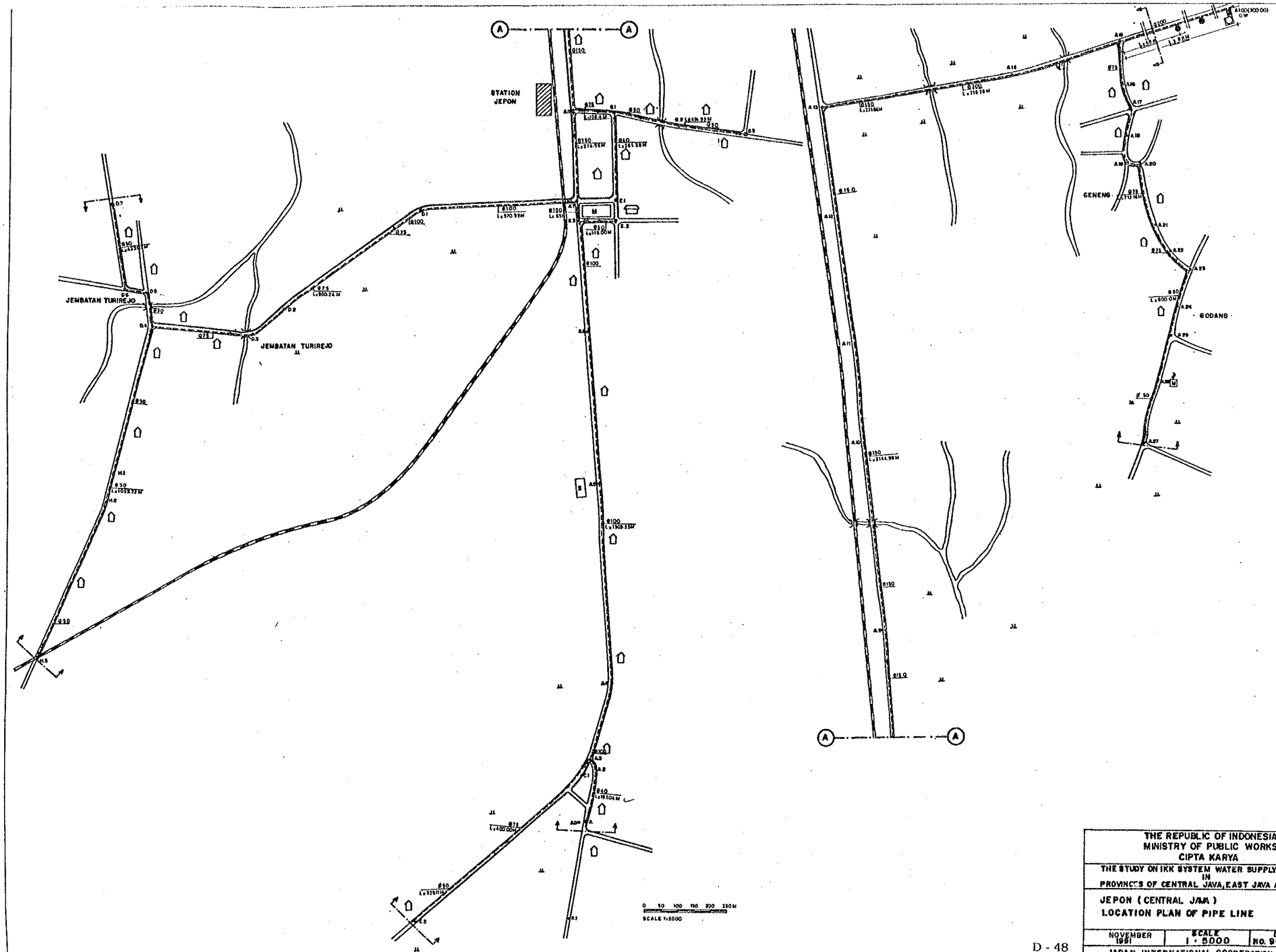
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT
IN
PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI

SUKOREJO (CENTRAL JAVA)
LOCATION PLAN OF PIPE LINE (3 /3)

NOVEMBER 1991	SCALE 1/5000	DRAWING NO. 8-3

JAPAN INTERNATIONAL COOPERATION AGENCY



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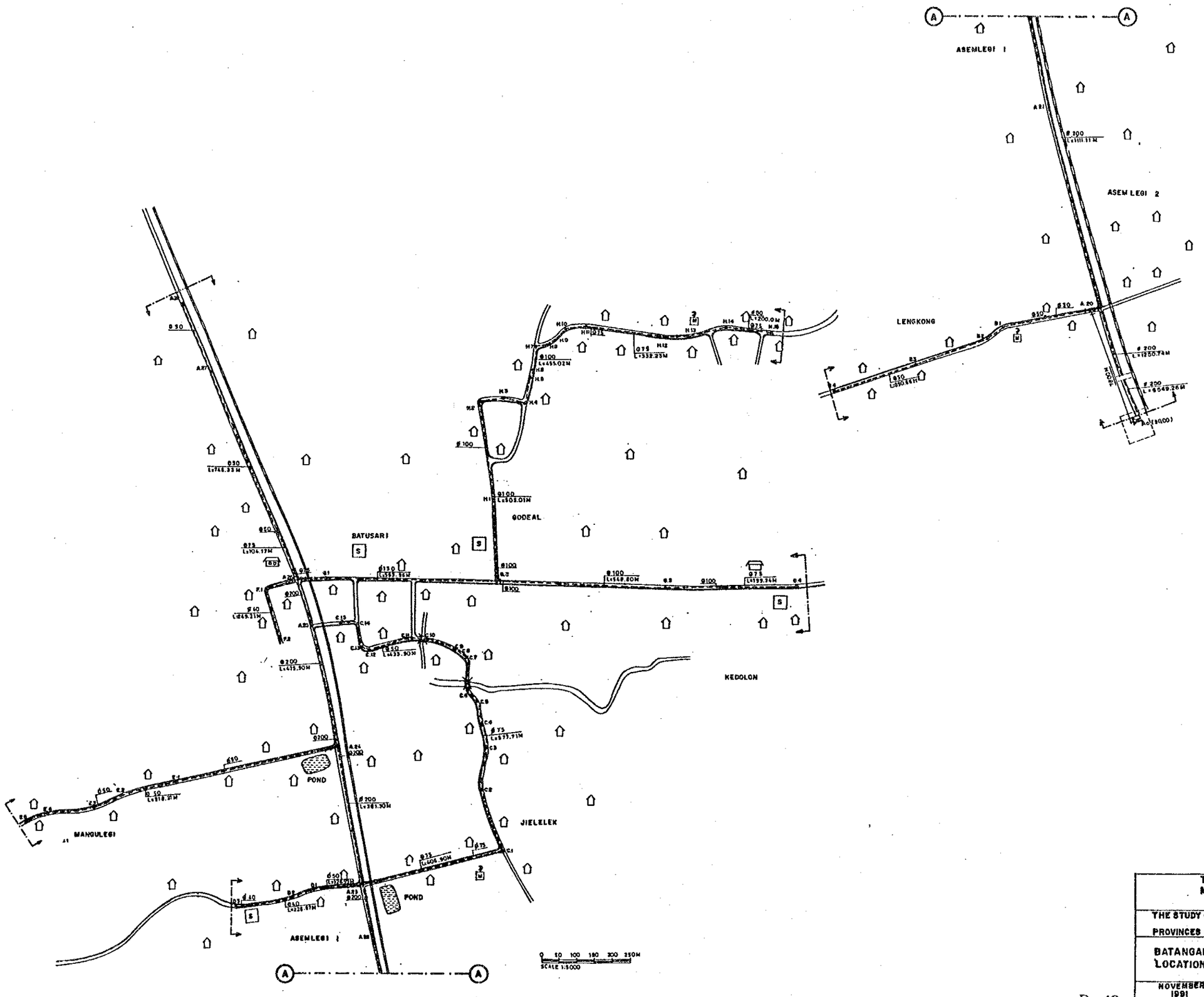
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
JEPON (CENTRAL JAVA) LOCATION PLAN OF PIPE LINE		
NOVEMBER 1981	SCALE 1 : 5000	DRAWING NO. 9-1
JAPAN INTERNATIONAL COOPERATION AGENCY		



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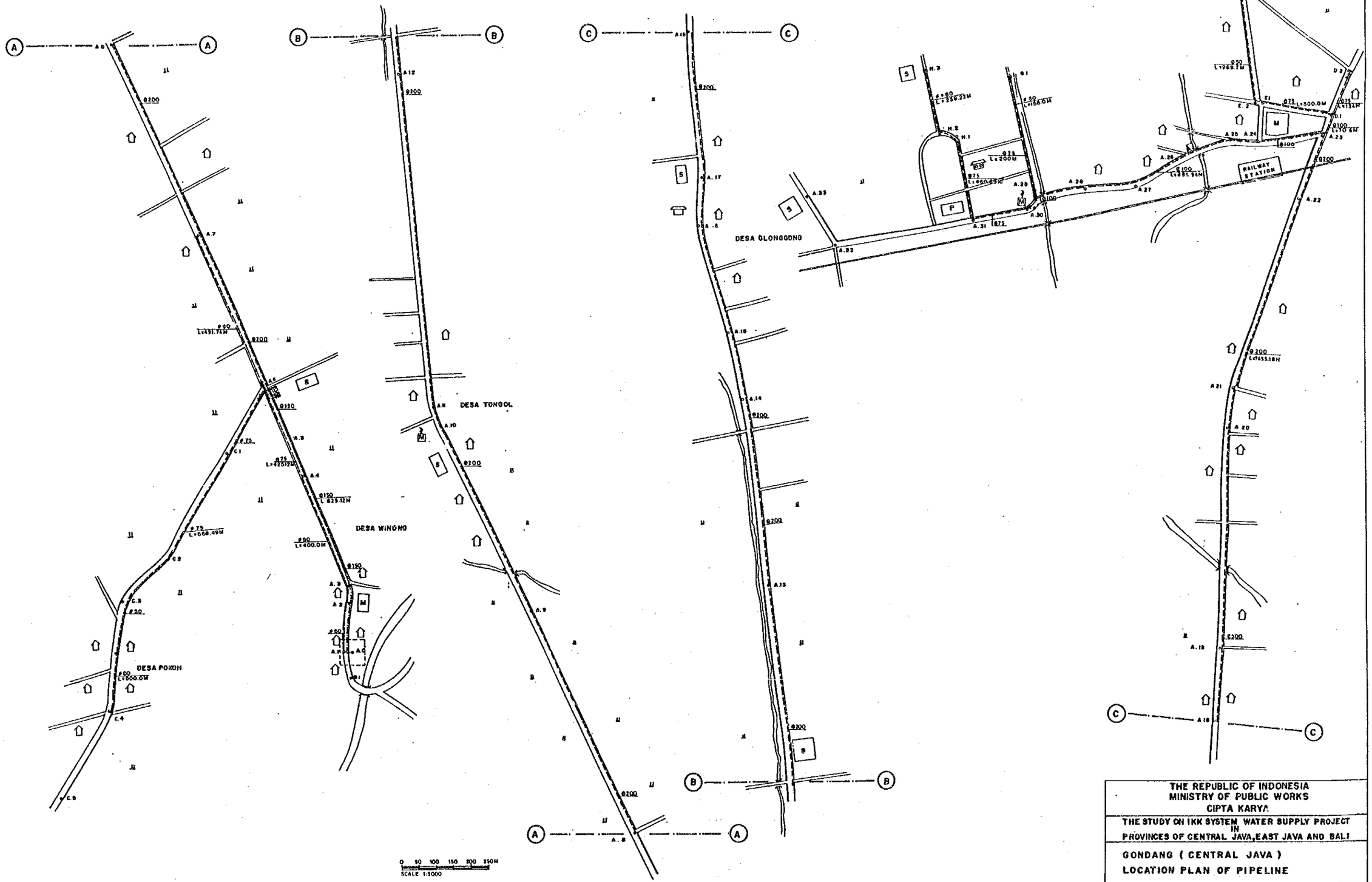
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI

BATANGAN (CENTRAL JAVA)
LOCATION PLAN OF PIPE LINE

NOVEMBER 1991	SCALE 1/6000	DRAWING NO. 10-1

JAPAN INTERNATIONAL COOPERATION AGENCY



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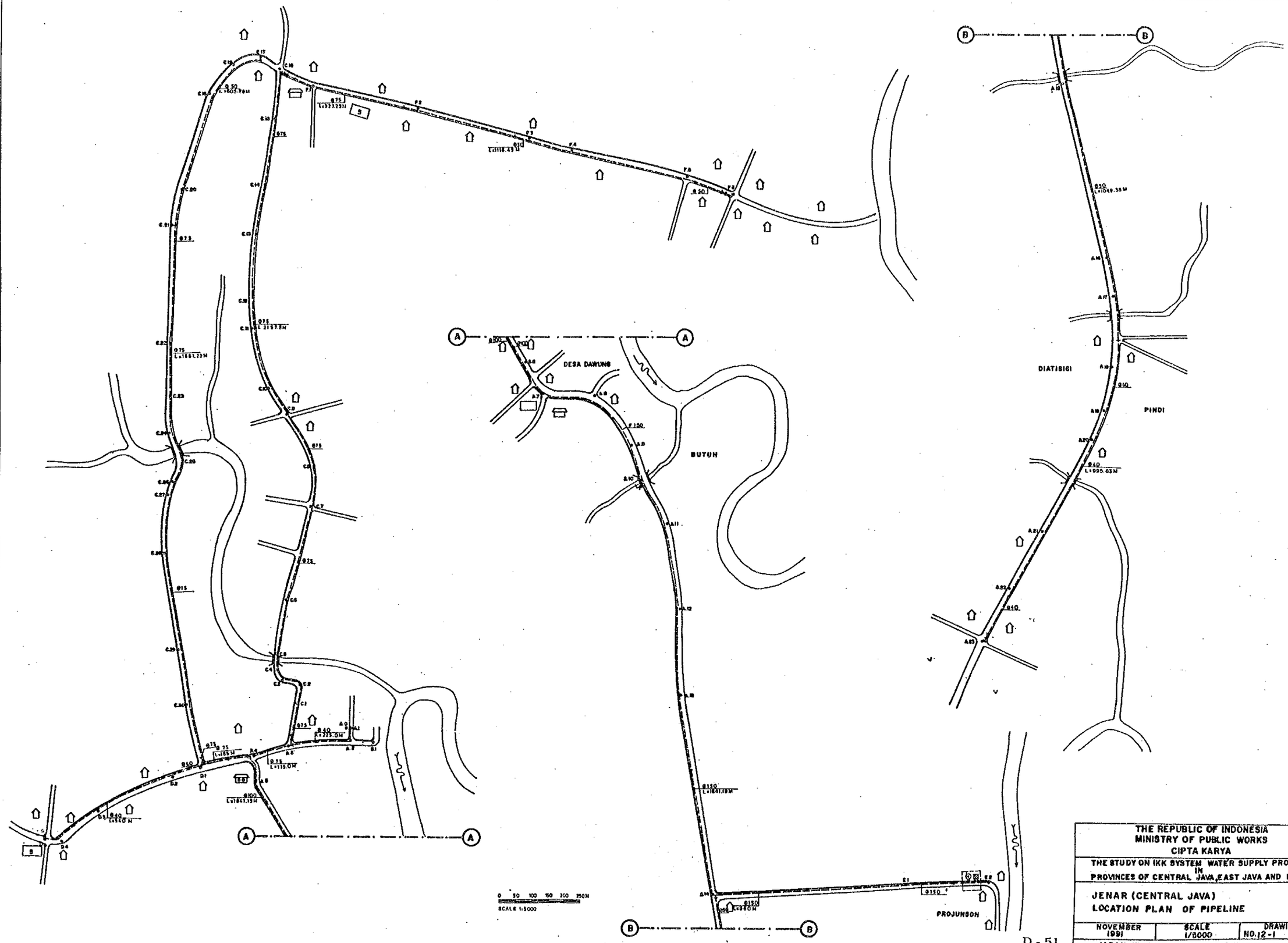
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI

GONDANG (CENTRAL JAVA)
LOCATION PLAN OF PIPELINE

NOVEMBER 1981	SCALE 1/5000	DRAWING NO. II-1

JAPAN INTERNATIONAL COOPERATION AGENCY



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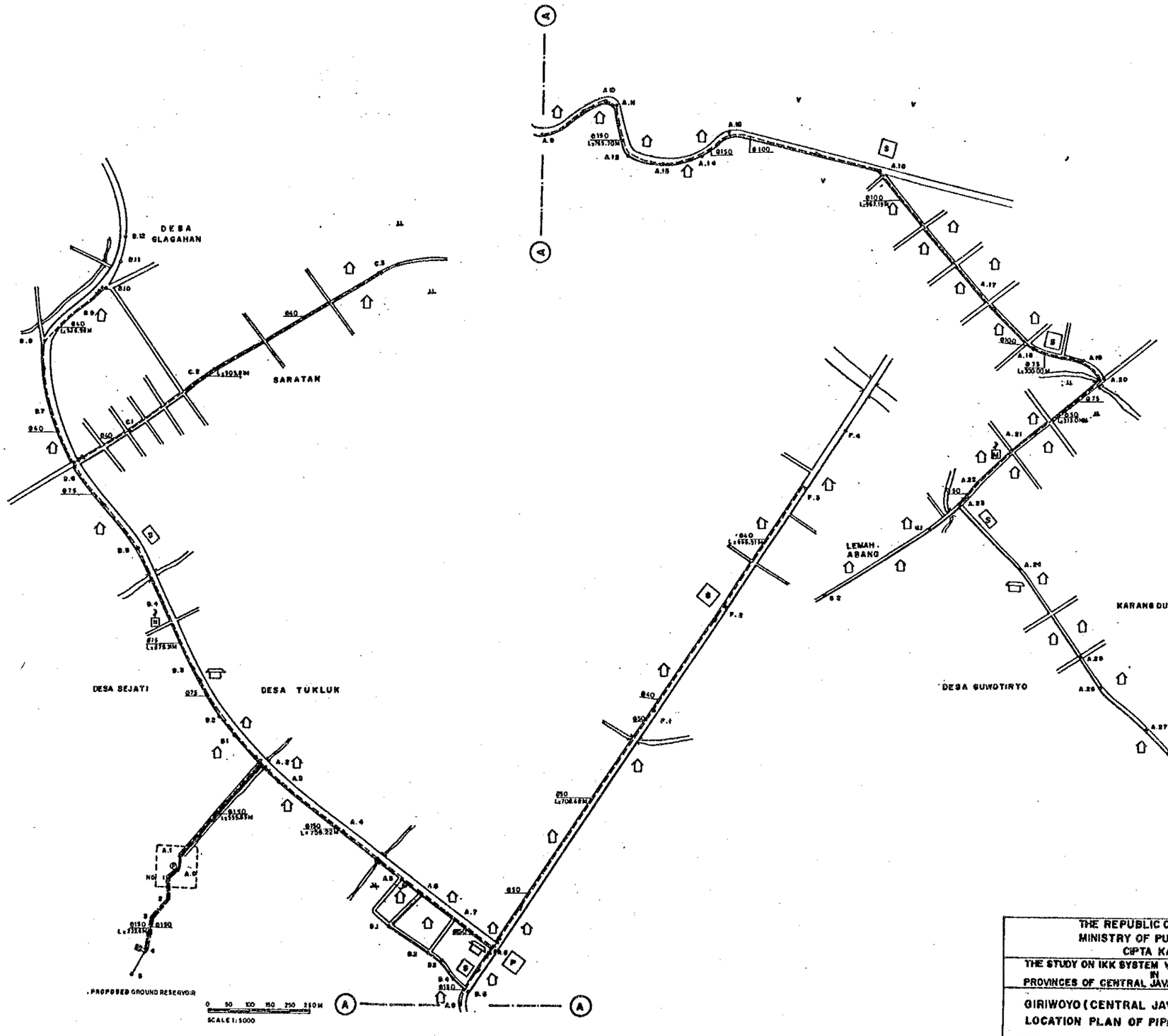
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI

JENAR (CENTRAL JAVA)
LOCATION PLAN OF PIPELINE

NOVEMBER 1991	SCALE 1/5000	DRAWING NO.12-1

JAPAN INTERNATIONAL COOPERATION AGENCY



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MINISTRY OF PUBLIC WORKS
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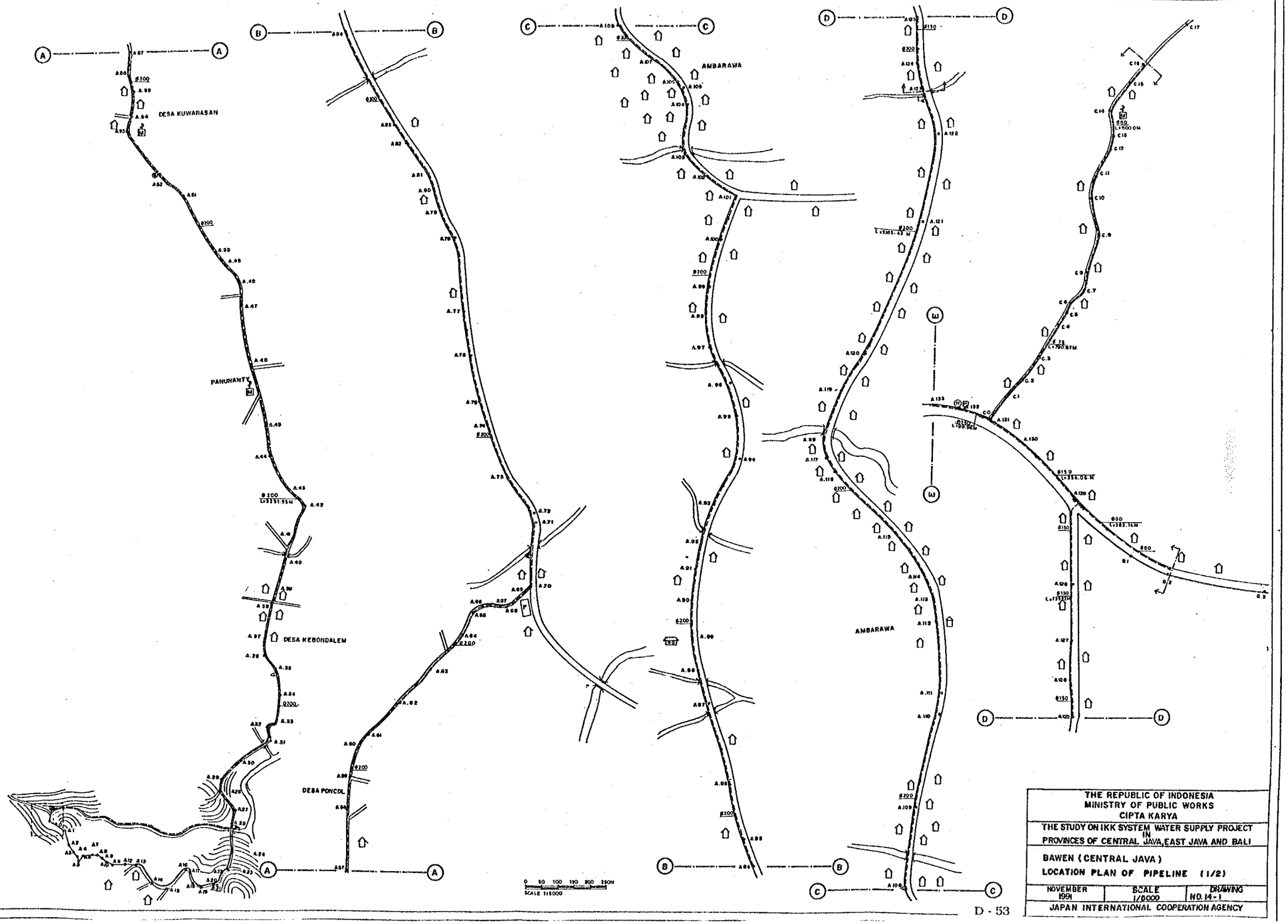
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI

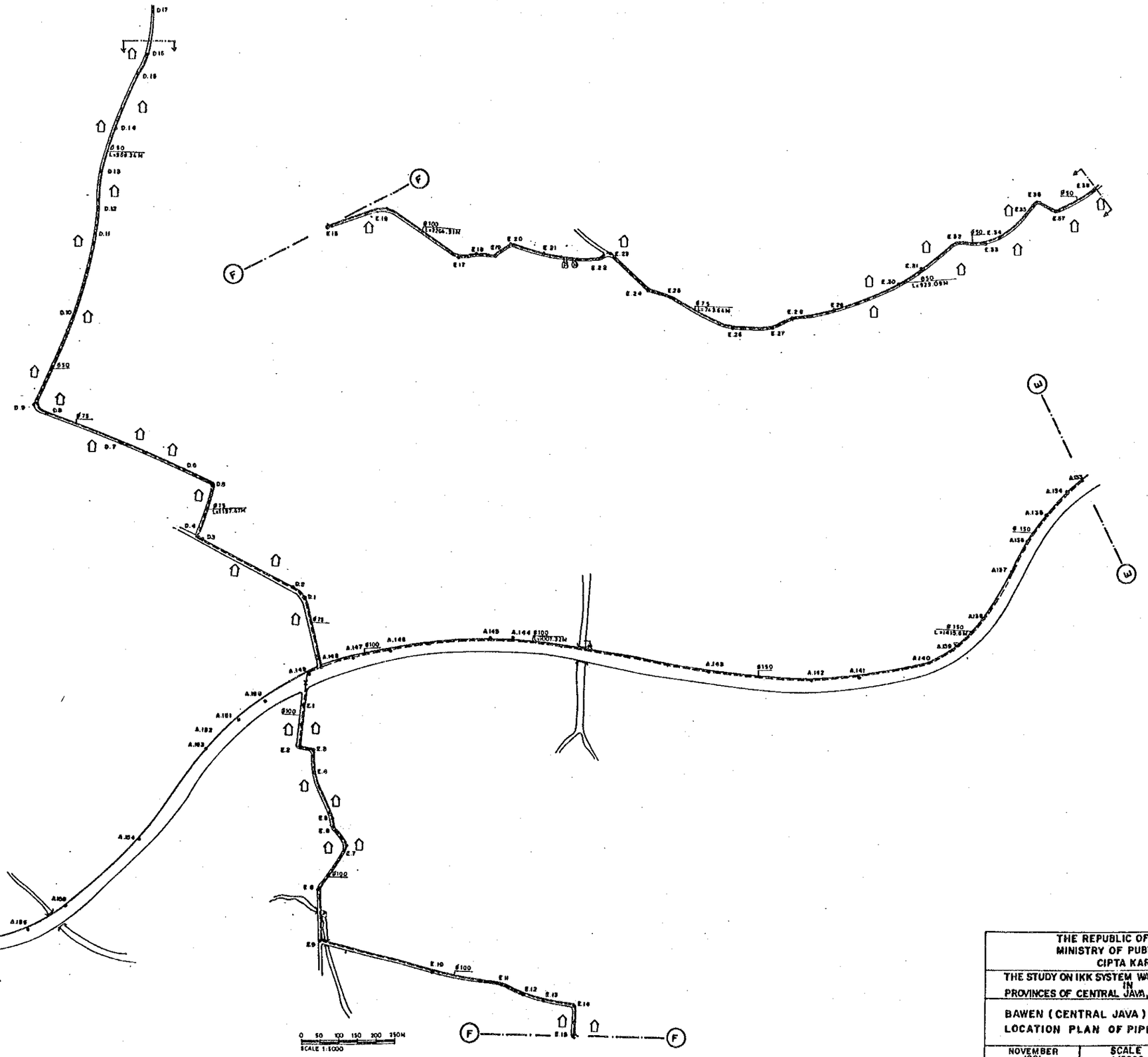
GIRIWOYO (CENTRAL JAVA)
LOCATION PLAN OF PIPELINE

NOVEMBER 1991	SCALE 1/6000	DRAWING NO. 13-1

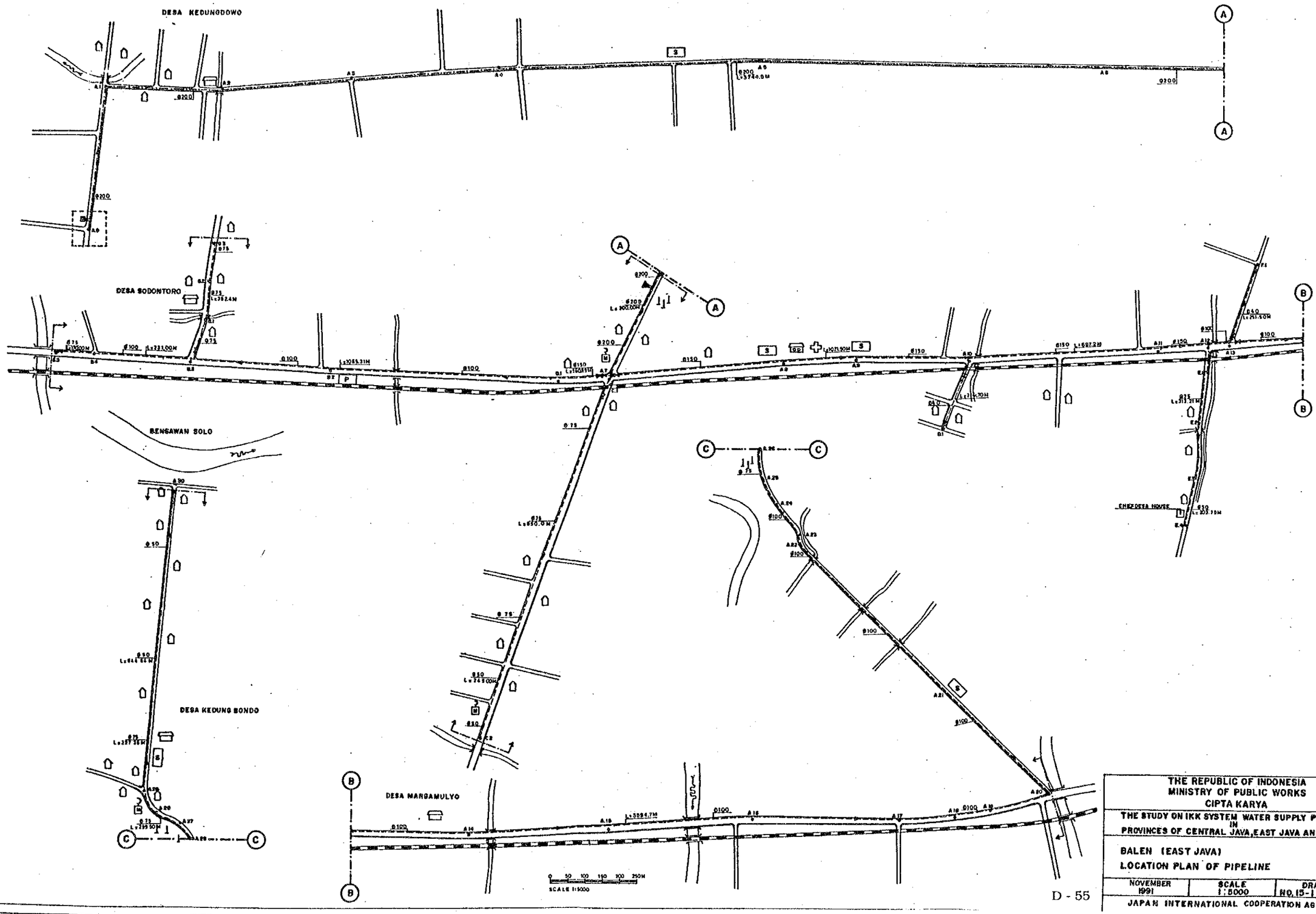
JAPAN INTERNATIONAL COOPERATION AGENCY



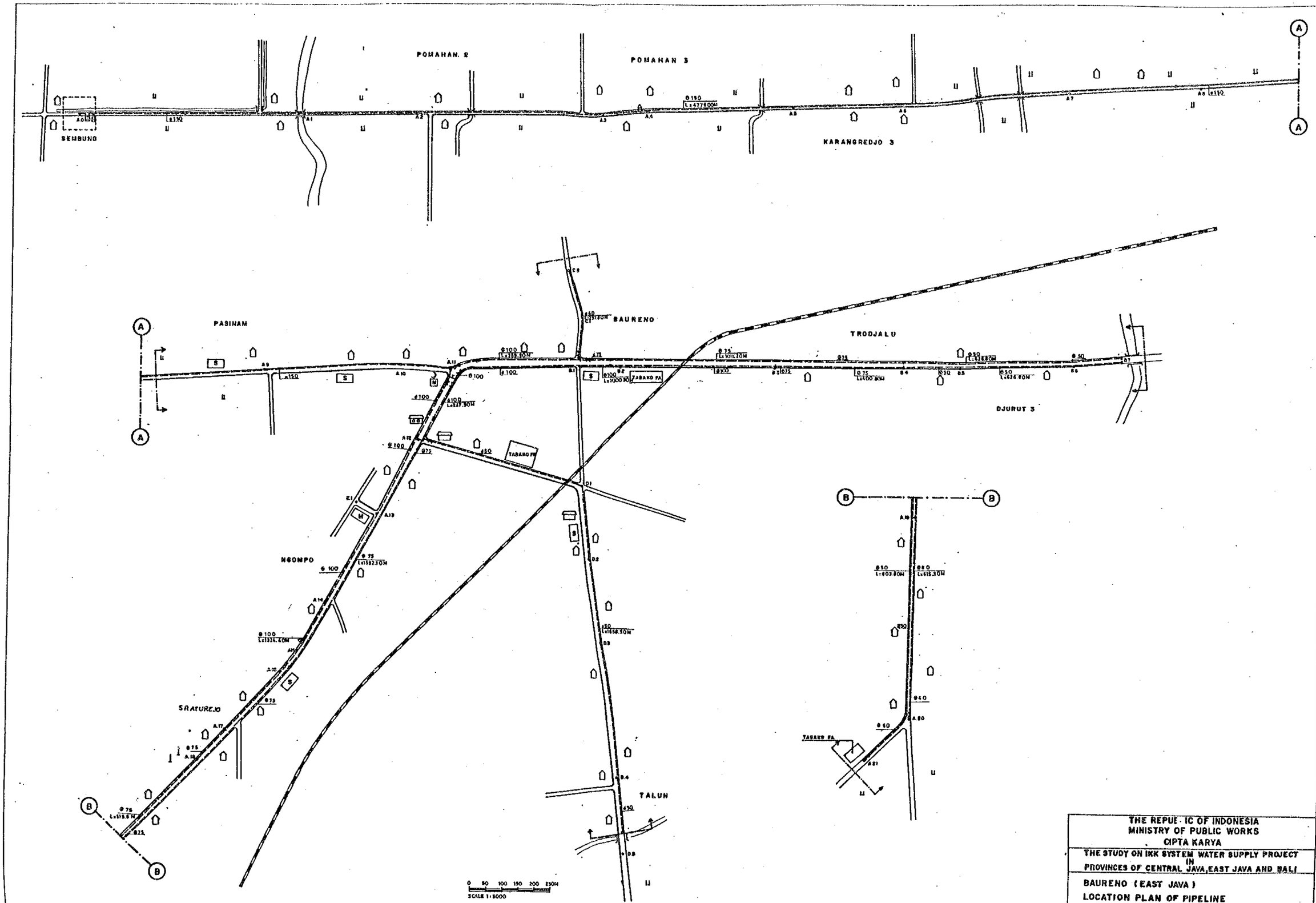
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
BAWEN (CENTRAL JAVA) LOCATION PLAN OF PIPELINE (1/2)		
NOVEMBER 1991	SCALE 1/5000	DRAWING NO. M-1
JAPAN INTERNATIONAL COOPERATION AGENCY		



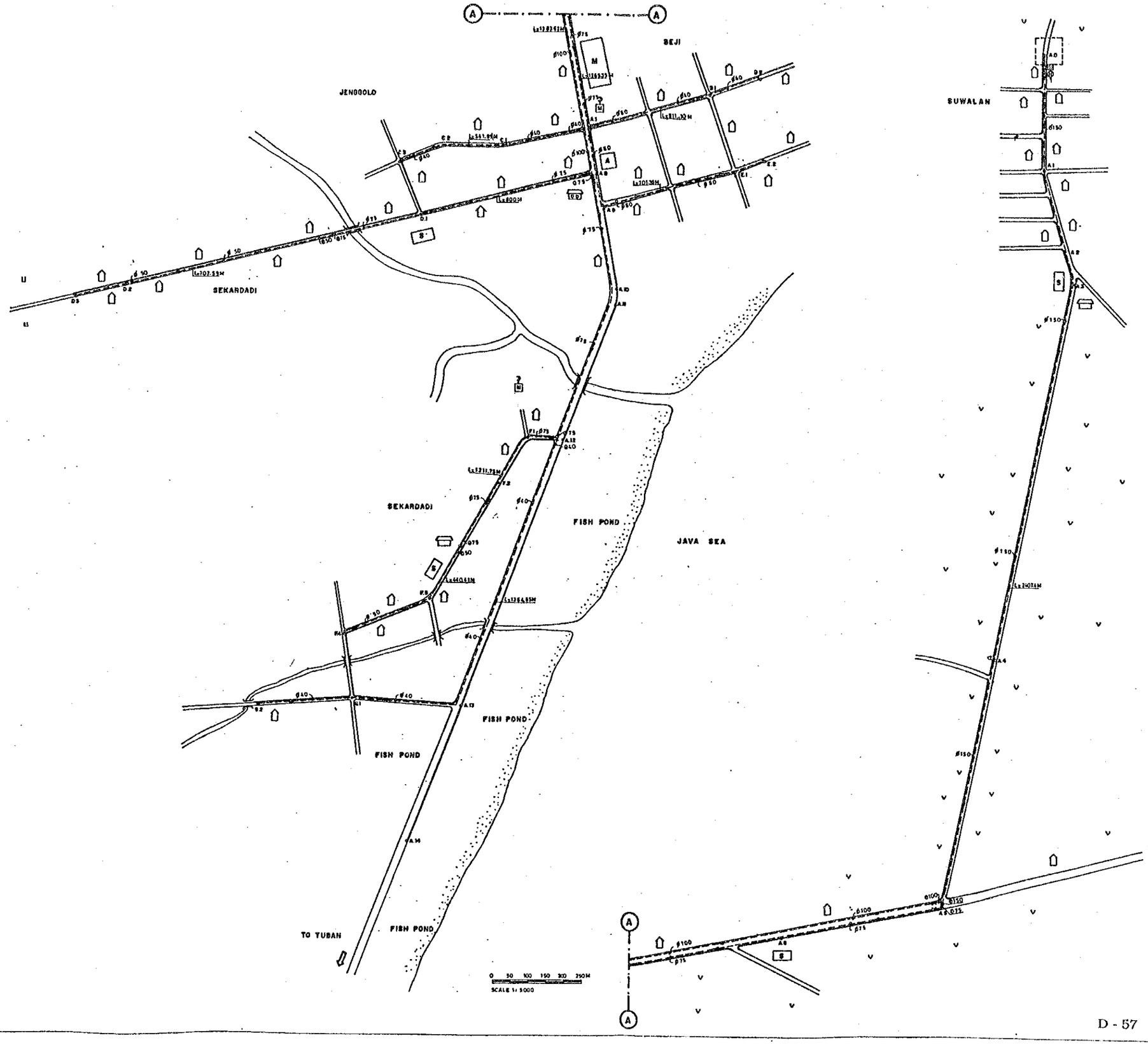
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
BAWEN (CENTRAL JAVA) LOCATION PLAN OF PIPELINE (2/2)		
NOVEMBER 1991	SCALE 1/5000	DRAWING NO. 14-2
JAPAN INTERNATIONAL COOPERATION AGENCY		



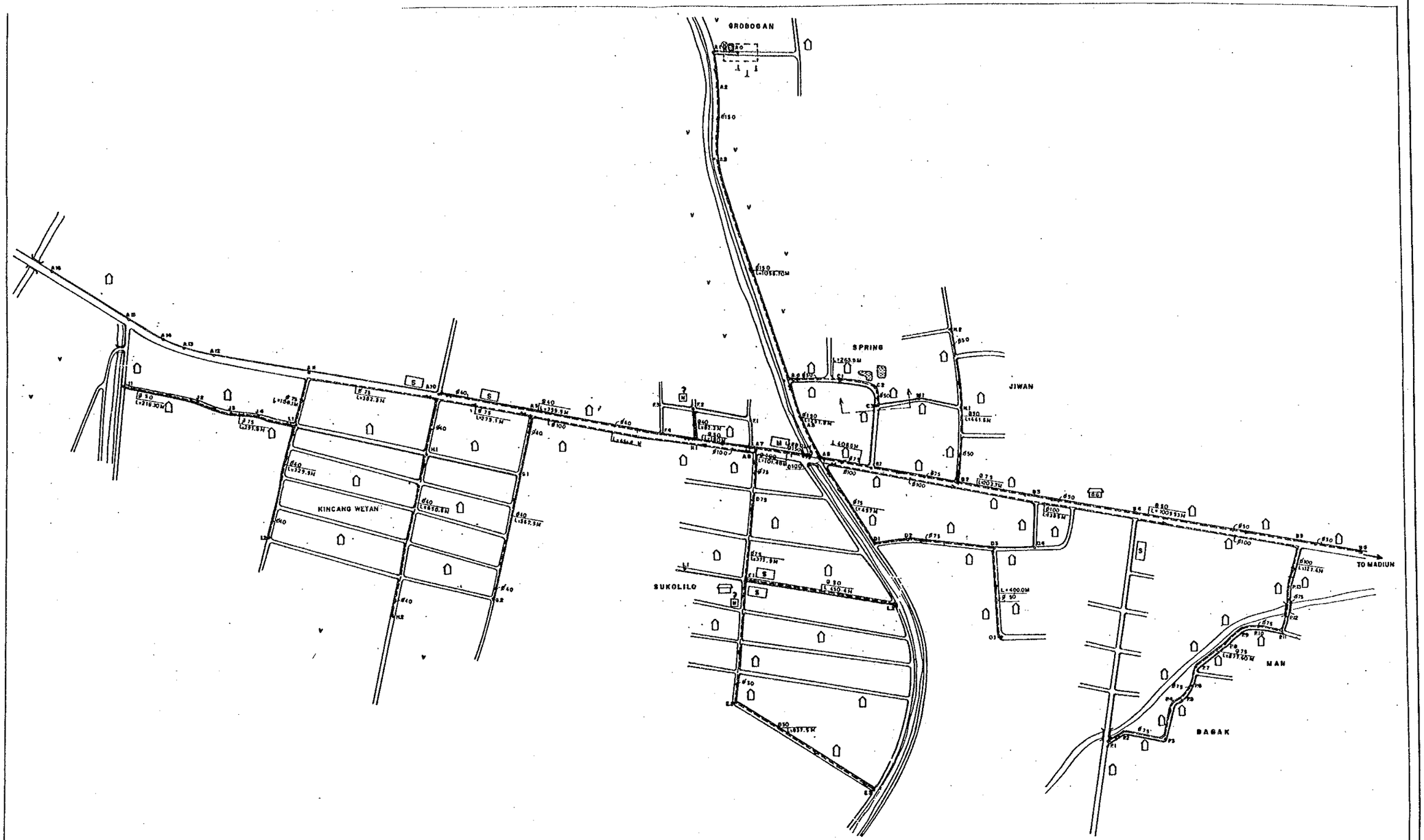
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA	
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI	
BALEN (EAST JAVA) LOCATION PLAN OF PIPELINE	
NOVEMBER 1991	SCALE 1 : 5000 — DRAWING NO. 15-1
JAPAN INTERNATIONAL COOPERATION AGENCY	



THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA	
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI	
BAURENO (EAST JAVA) LOCATION PLAN OF PIPELINE	
NOVEMBER 1991	SCALE 1/5000 — DRAWING NO. IC-1
JAPAN INTERNATIONAL COOPERATION AGENCY	

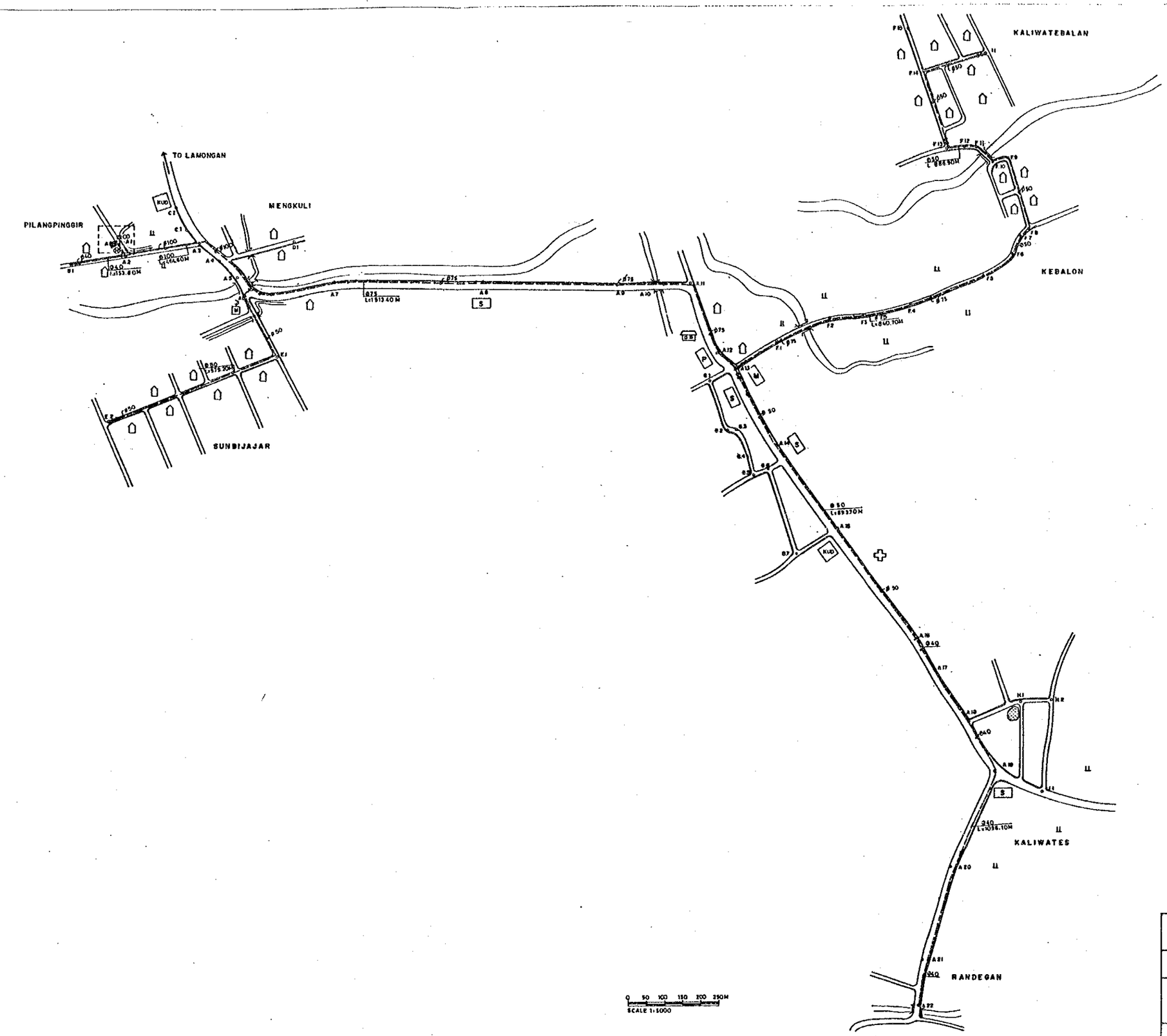


THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
JENU (EAST JAVA) LOCATION PLAN OF PIPELINE		
NOVEMBER 1991	SCALE 1/5000	DRAWING NO. IX - 1
JAPAN INTERNATIONAL COOPERATION AGENCY		



0 50 100 150 200 250
SCALE 1:5000

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
JIWAN (EAST JAVA) LOCATION PLAN OF PIPELINE		
NOVEMBER 1991	SCALE 1:5000	DRAWING NO. 18-1
JAPAN INTERNATIONAL COOPERATION AGENCY		



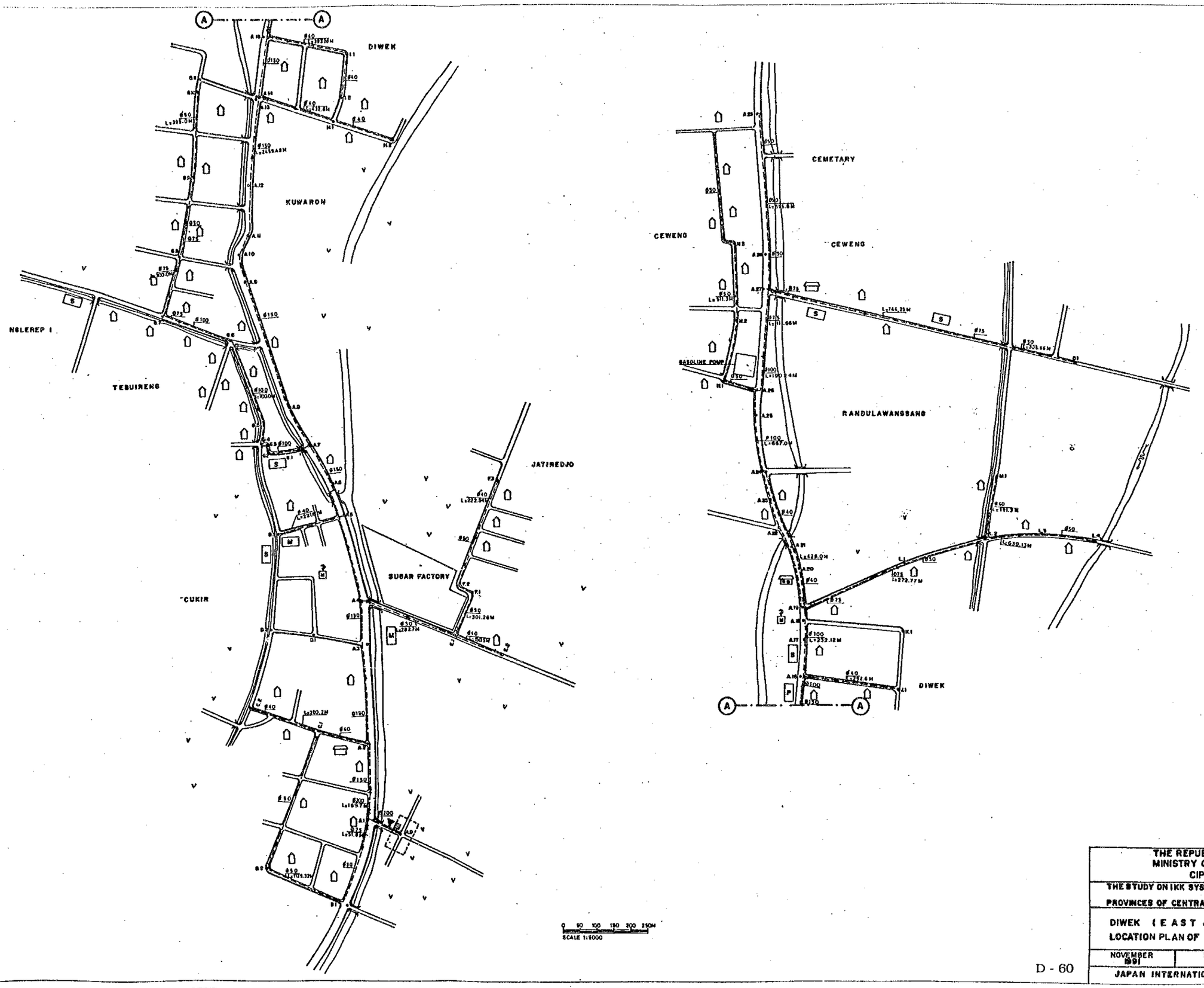
THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
CIPTA KARYA

THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI

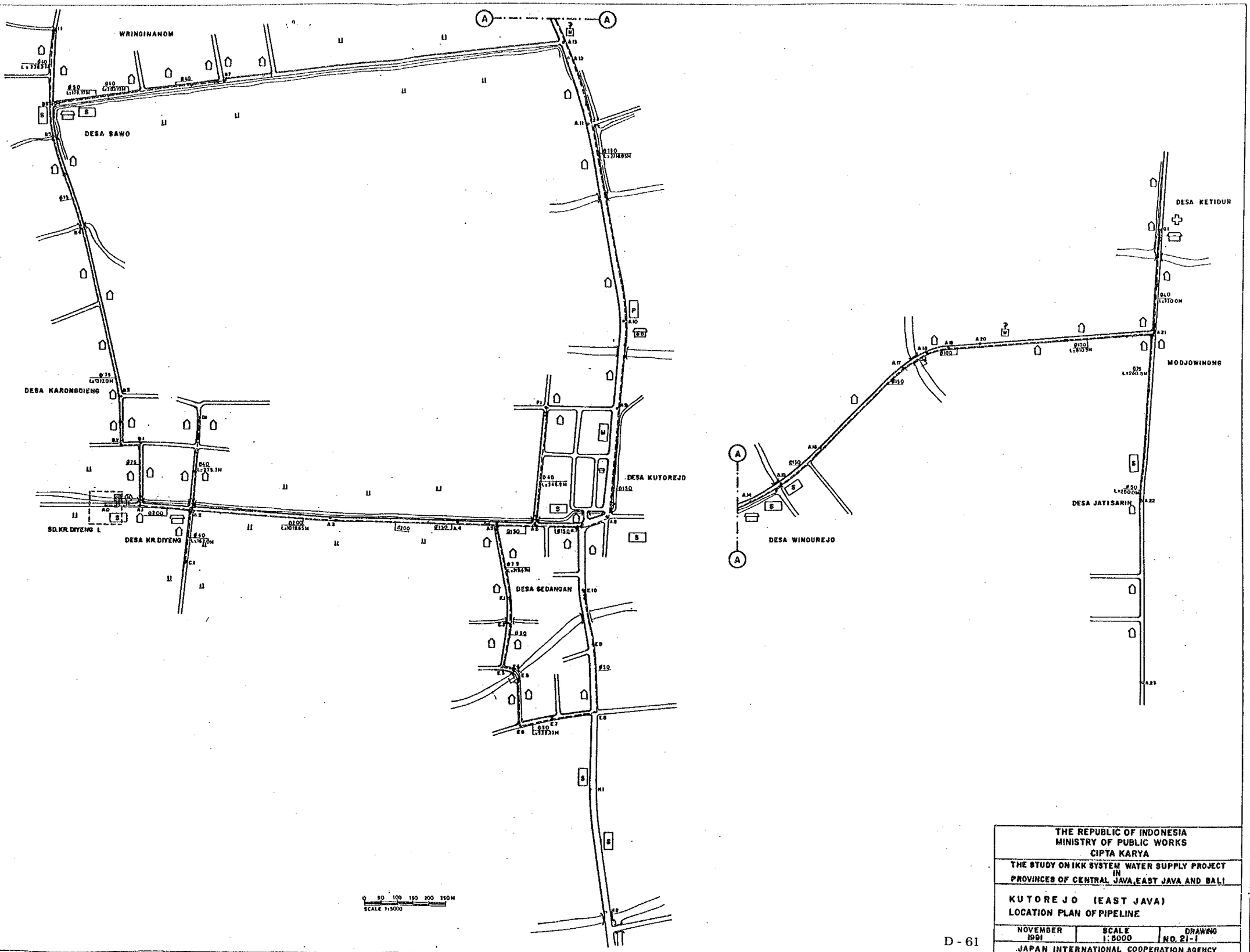
KEMBANG BAHU (EAST JAVA)
LOCATION PLAN OF PIPELINE

NOVEMBER 1991	SCALE 1:5000	DRAWING NO. 19-1

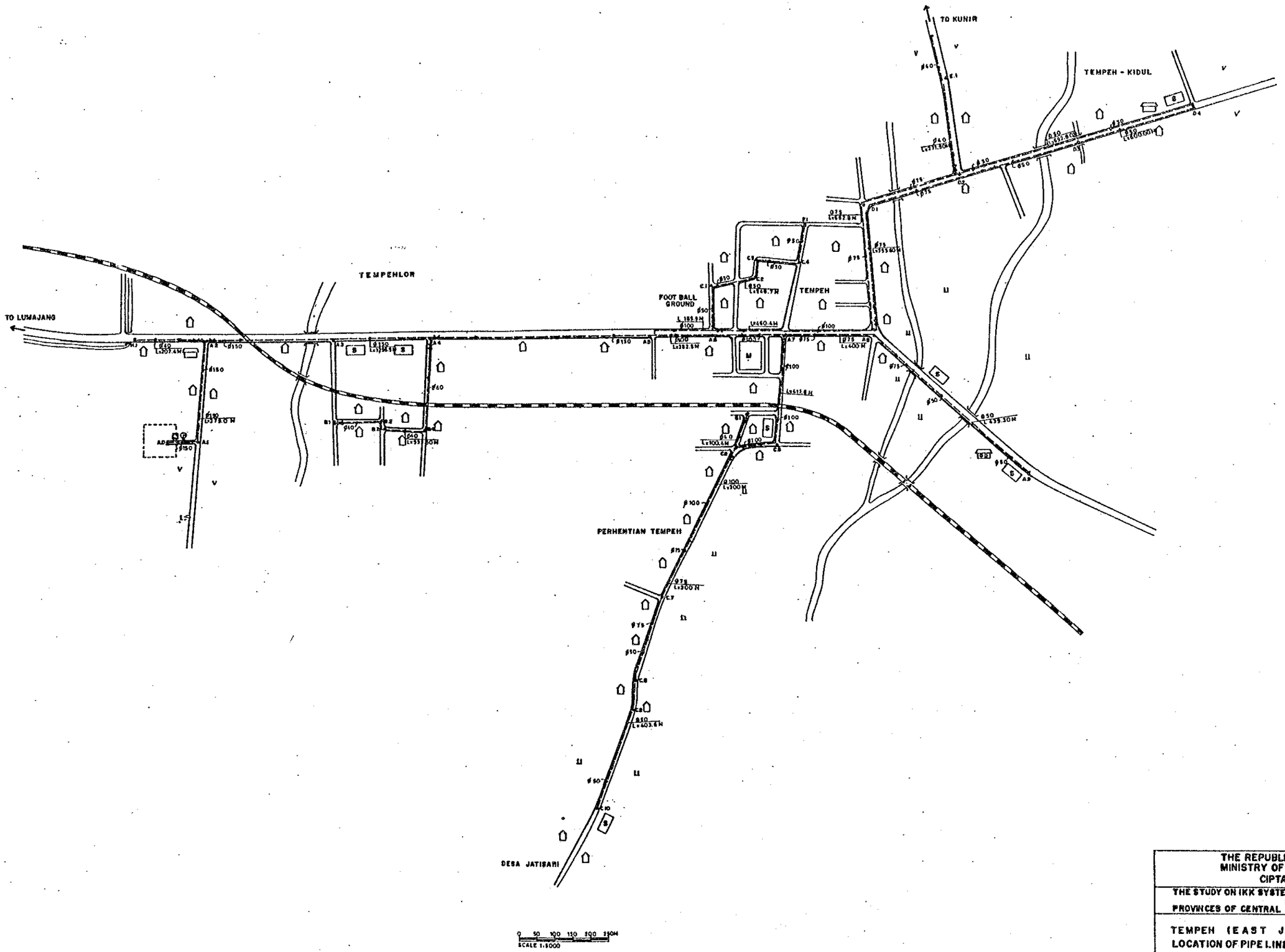
JAPAN INTERNATIONAL COOPERATION AGENCY



THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
DIWEK (E A S T JAVA) LOCATION PLAN OF PIPELINE		
NOVEMBER 1991	SCALE 1 : 5000	DRAWING NO. 20-1
JAPAN INTERNATIONAL COOPERATION AGENCY		



THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
KUTOREJO (EAST JAVA) LOCATION PLAN OF PIPELINE		
NOVEMBER 1991	SCALE 1:5000	DRAWING NO. 21-1
JAPAN INTERNATIONAL COOPERATION AGENCY		



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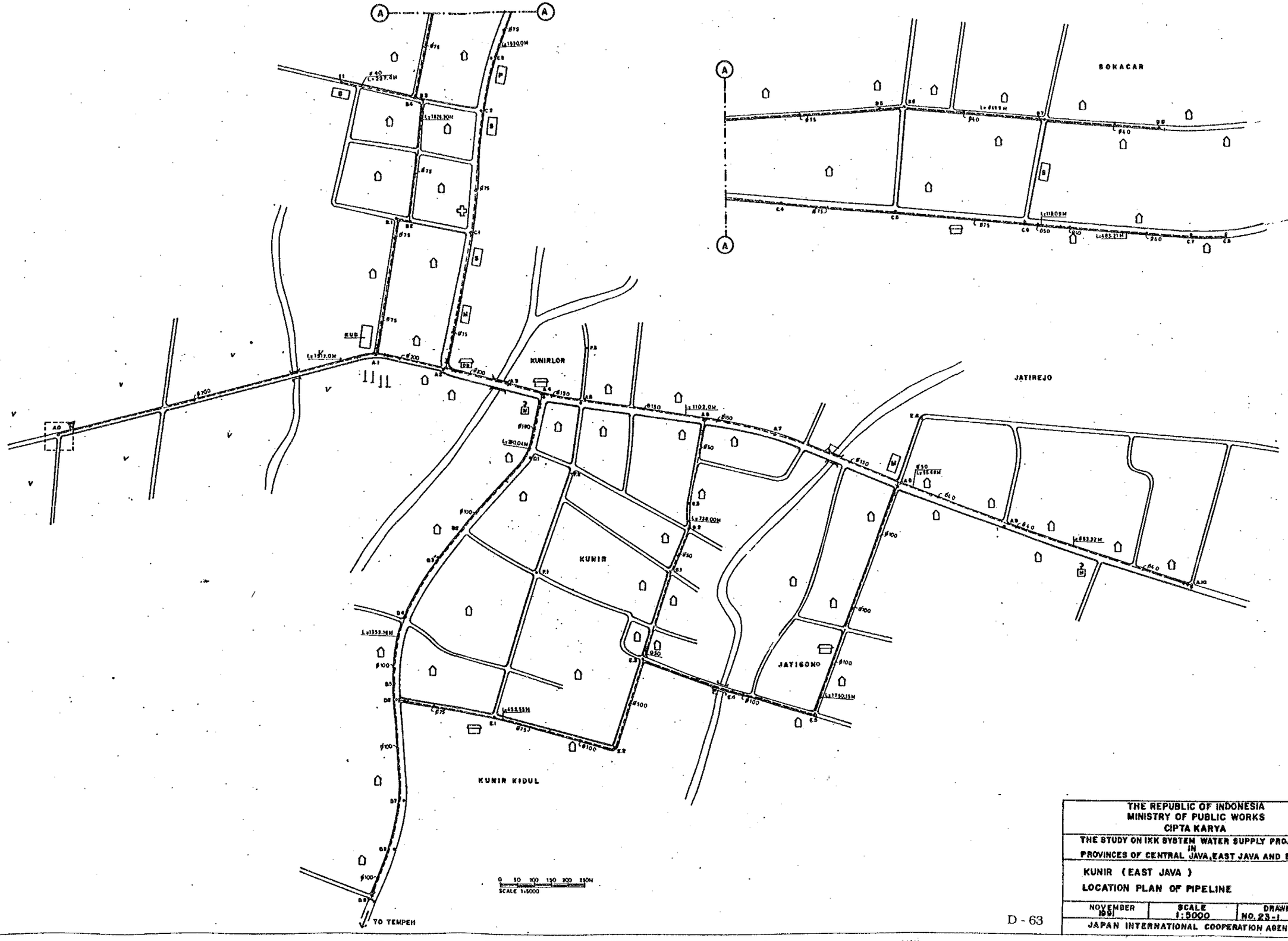
MINISTRY OF PUBLIC WORKS
CIPTA KARYA

THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI

TEMPEH (EAST JAVA)
LOCATION OF PIPE LINE

NOVEMBER 1991	SCALE 1 : 5000	DRAWING NO. 22-1

JAPAN INTERNATIONAL COOPERATION AGENCY



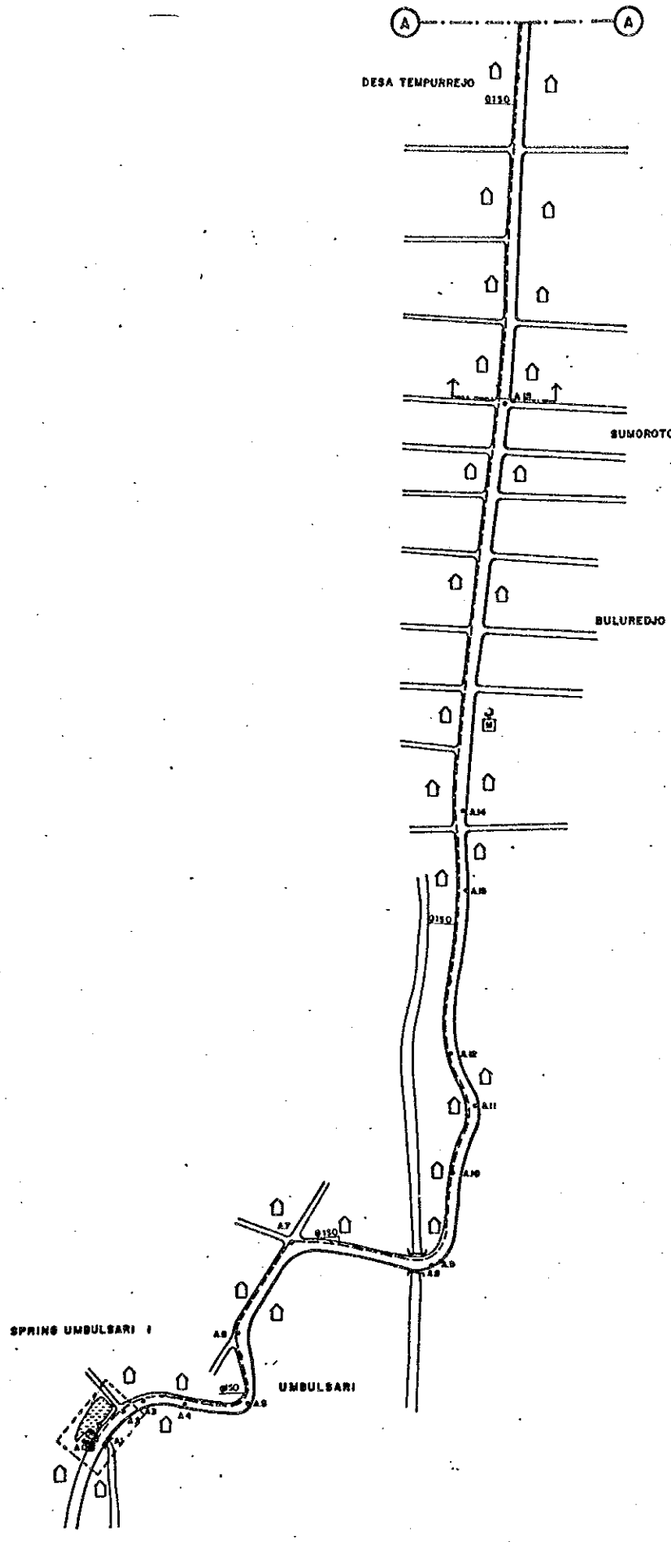
THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
CIPTA KARYA

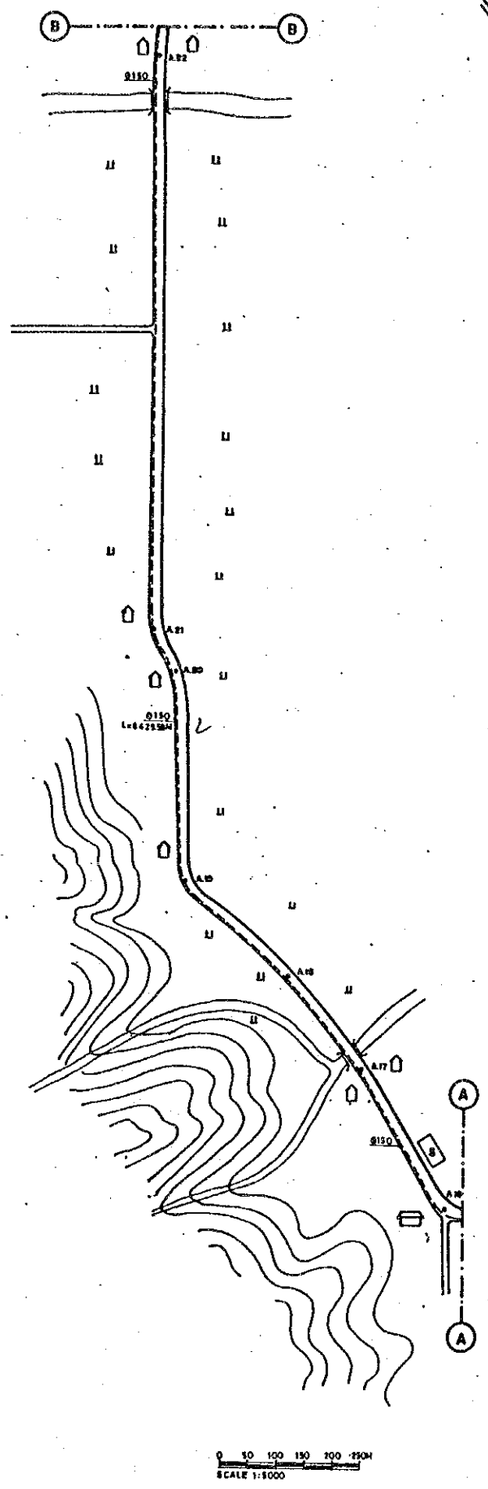
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI

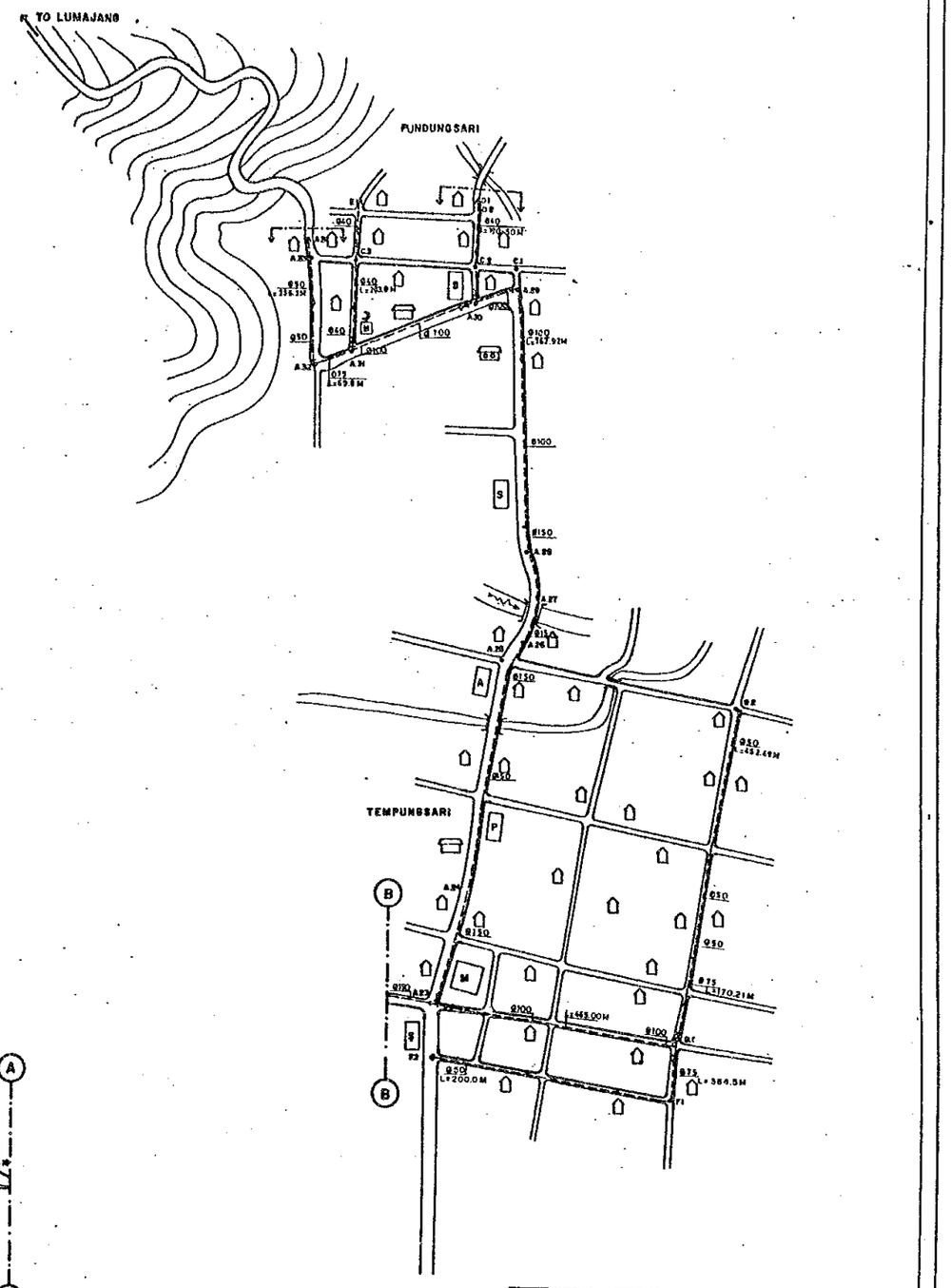
KUNIR (EAST JAVA)
LOCATION PLAN OF PIPELINE

NOVEMBER 1991	SCALE 1:5000	DRAWING NO. 23-1

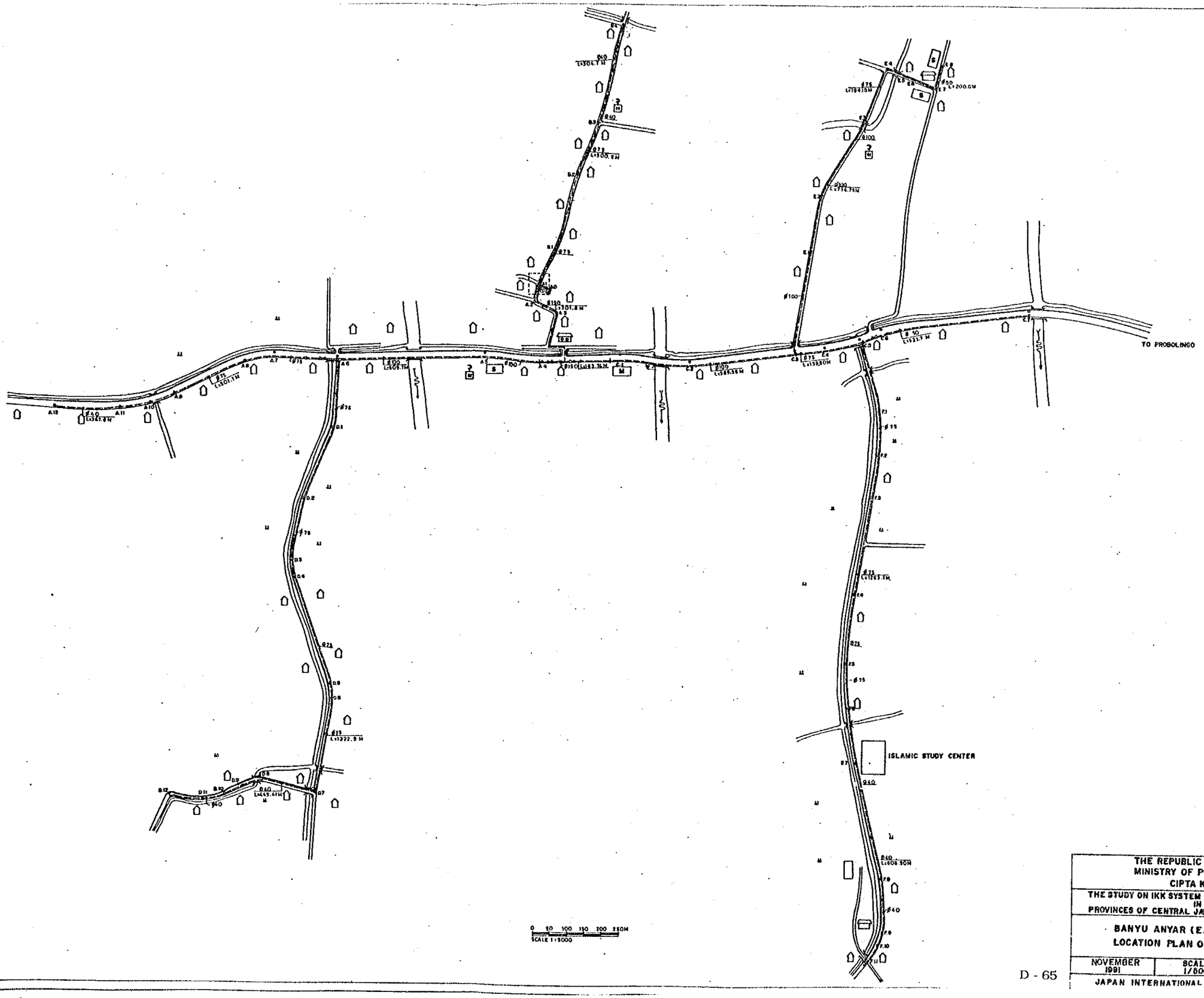
JAPAN INTERNATIONAL COOPERATION AGENCY



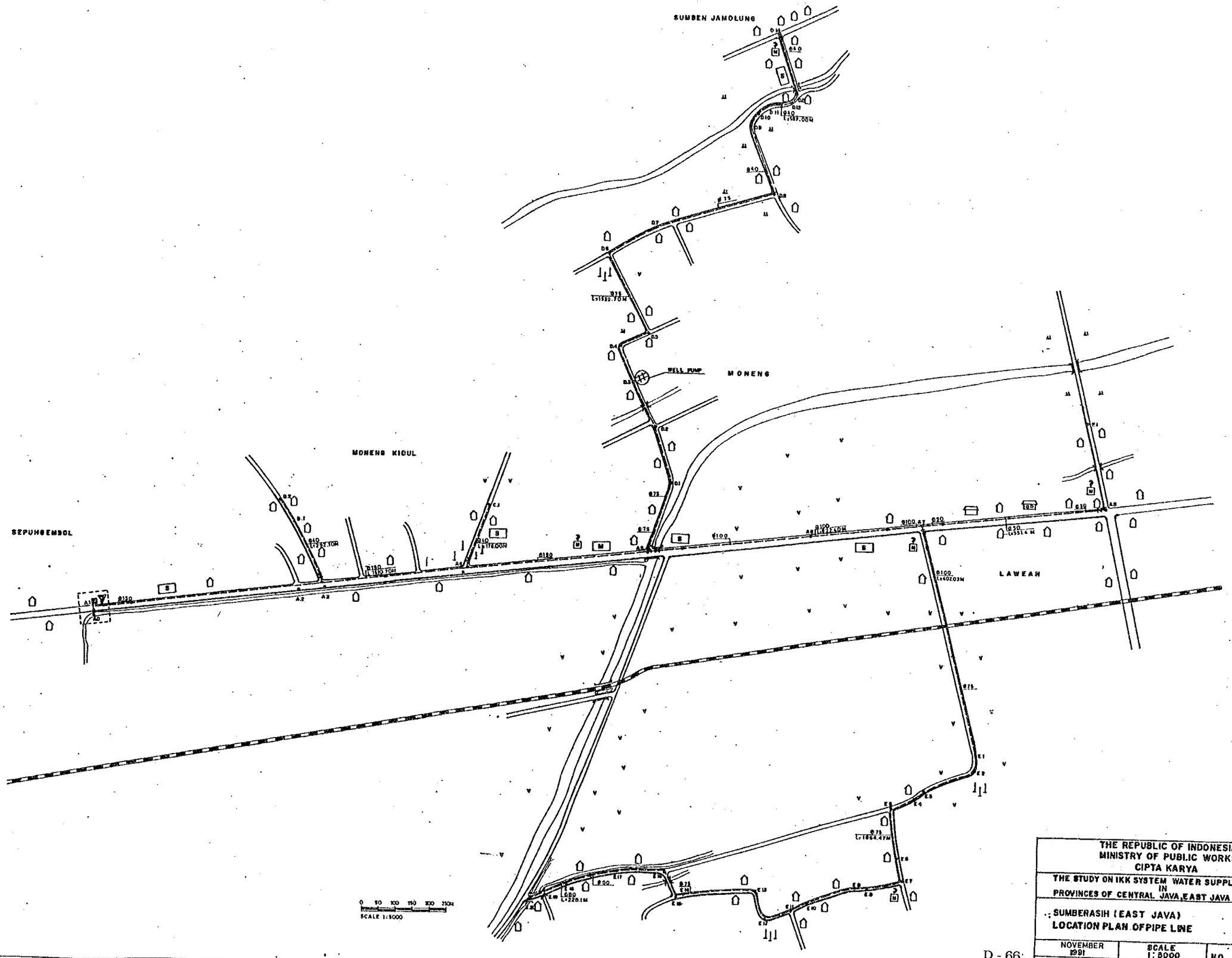




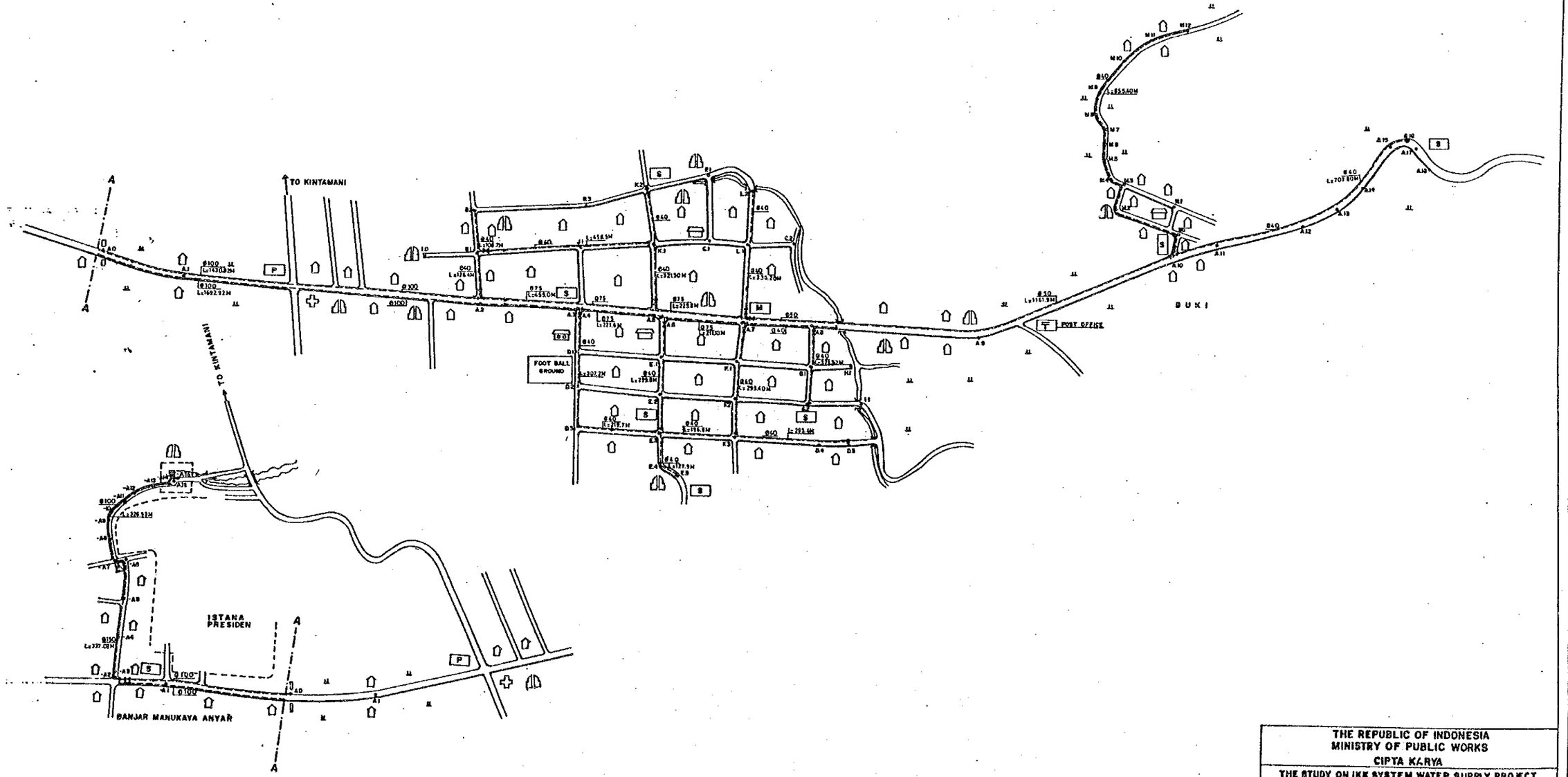
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
TEMPUR SARI (EAST JAVA) LOCATION PLAN OF PIPELINE		
NOVEMBER 1991	SCALE 1/5000	DRAWING NO. 24-1
JAPAN INTERNATIONAL COOPERATION AGENCY		



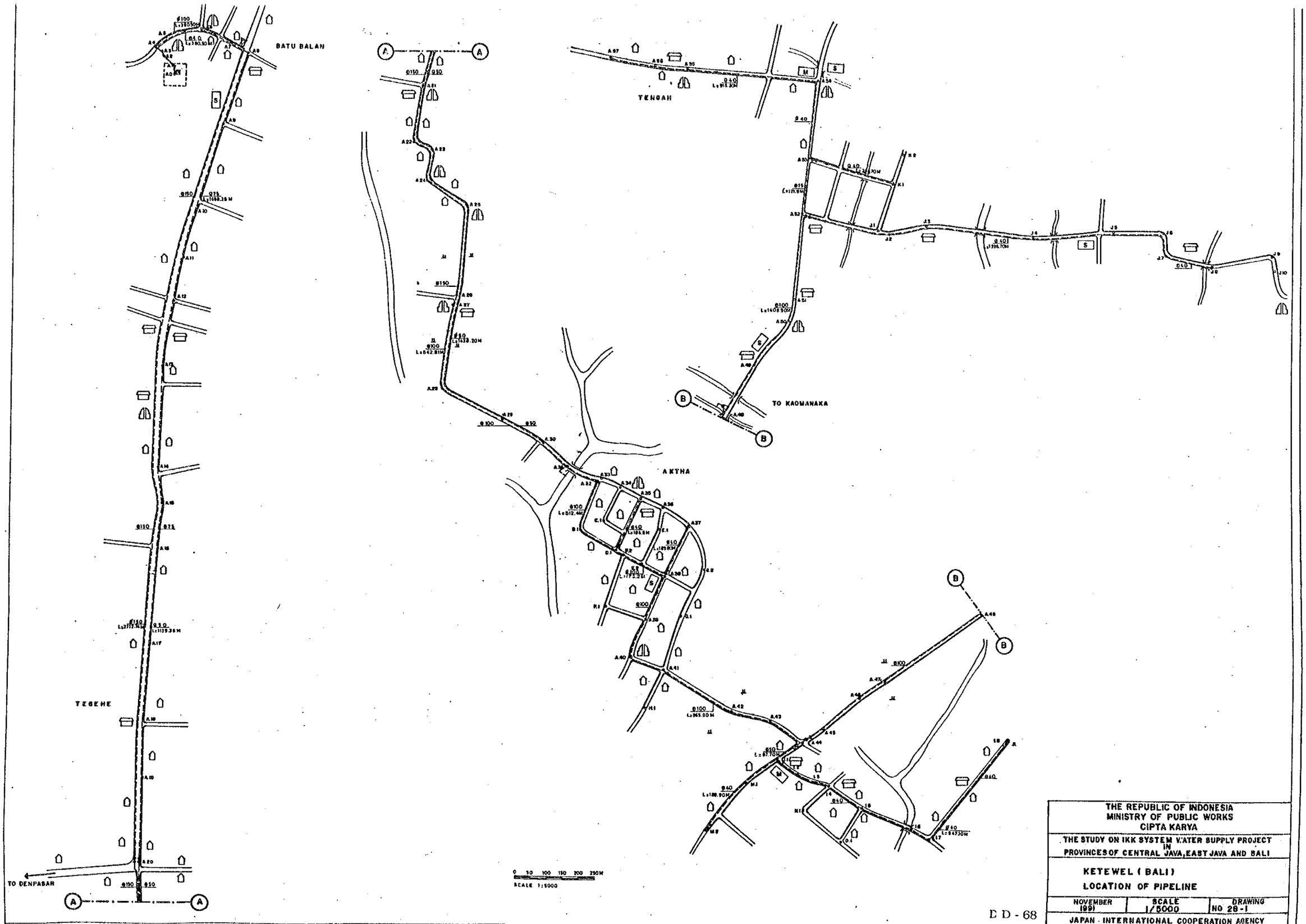
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
BANYU ANYAR (EAST JAVA) LOCATION PLAN OF PIPELINE		
NOVEMBER 1991	SCALE 1/5000	DRAWING NO. 25 - 1
JAPAN INTERNATIONAL COOPERATION AGENCY		



THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
SUMBERASIH (EAST JAVA) LOCATION PLAN OF PIPE LINE		
NOVEMBER 1991	SCALE 1:5000	DRAWING NO. 26-1
JAPAN INTERNATIONAL COOPERATION AGENCY		



THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
TAMPAK SIRING (BALI) LOCATION PLAN OF PIPELINE		
NOVEMBER 1991	SCALE 1:5000	DRAWING NO. 27-1
JAPAN INTERNATIONAL COOPERATION AGENCY		



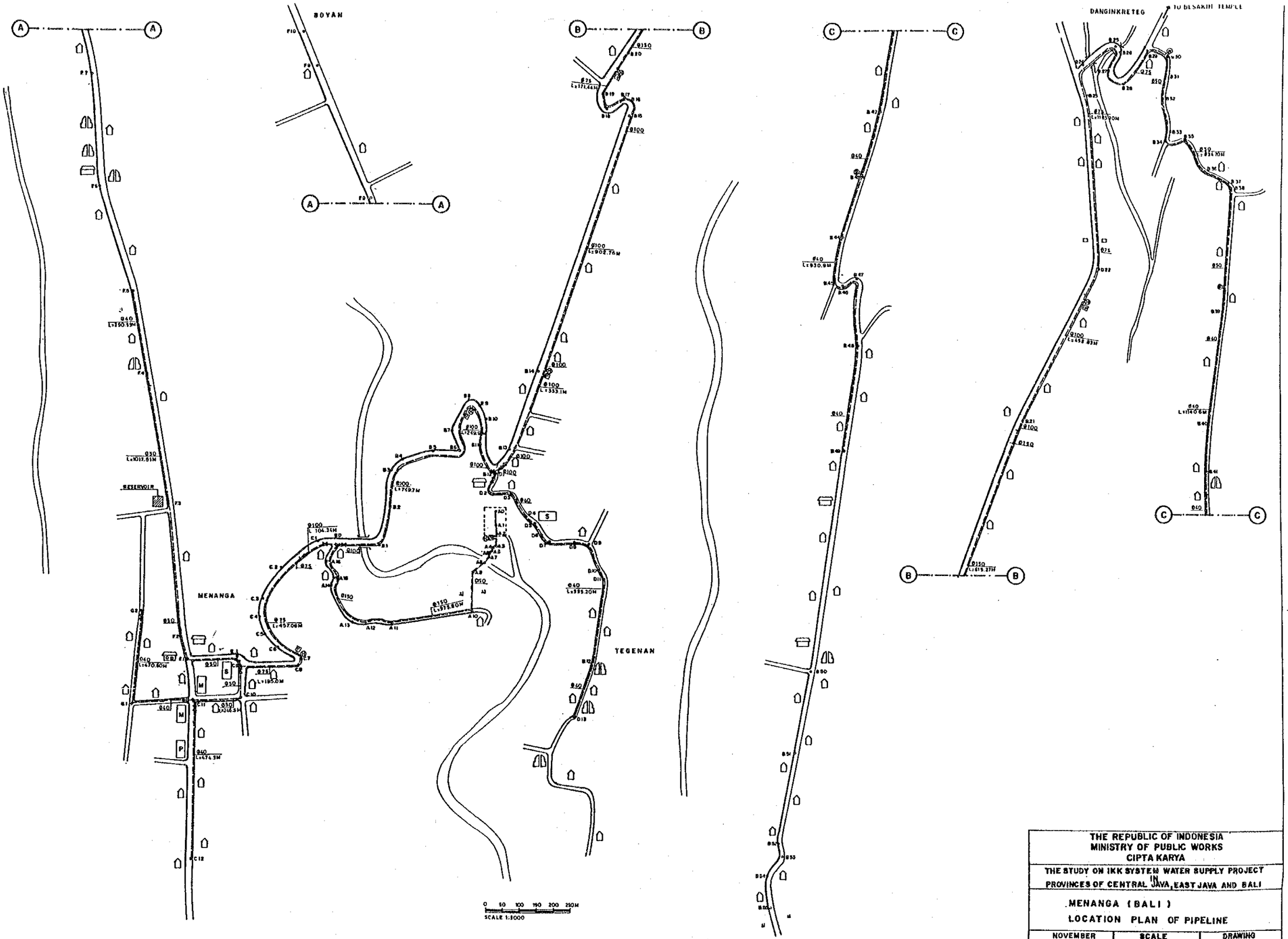
THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
CIPTA KARYA

THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI

KETEWEL (BALI)
LOCATION OF PIPELINE

NOVEMBER 1991	SCALE 1/5000	DRAWING NO 28-1

JAPAN · INTERNATIONAL COOPERATION AGENCY



THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
MENANGA (BALI) LOCATION PLAN OF PIPELINE		
NOVEMBER 1991	SCALE 1:5000	DRAWING NO 29-1
JAPAN INTERNATIONAL COOPERATION AGENCY		

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT IN PROVINCES OF CENTRAL JAVA, EAST JAVA AND BALI		
SIBETAN (BALI) LOCATION PLAN OF PIPELINE		
NOVEMBER 1991	SCALE 1:5000	DRAWING NO. 30-1
JAPAN INTERNATIONAL COOPERATION AGENCY		

SUPPORTING REPORT E

MANAGEMENT PLAN

SUPPORTING REPORT E

MANAGEMENT PLAN

(Detailed Direct Cost of 30 IKKs)

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 1
KABUPATEN : BREBES
KECAMATAN : BULAKAMBA
I K K : BULAKAMBA PROVINCE : CENTRAL JAVA SERVED POPULATION: 19,100

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec		No	-	-
3.	Deep Well	Depth 75 m	2	No	32,585,000	65,170,000
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity 15 l/sec Head 30 m	2	Unit	10,500,000	21,000,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 15 l/sec Head 30 m	3	Unit	10,000,000	30,000,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 60 KVA	2	Unit	47,250,000	94,500,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 150 m3	1	No	42,063,000	42,063,000
3.	Elevatied Tank	Capacity 50 m3 Height 15 m	1	No	140,981,280	140,981,280
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				399,674,280
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	2,005	m	96,064	181,653,000
		PVC diameter 200 mm	2,144	m	65,231	128,640,000
		PVC diameter 150 mm	3,256	m	42,762	128,286,400
		PVC diameter 100 mm	3,278	m	21,895	66,871,200
		PVC diameter 75 mm	1,957	m	15,411	29,942,100
		PVC diameter 50 mm	1,021	m	9,641	10,056,850
		PVC diameter 40 mm	-	m	7,715	-
		GSP diameter 250 mm	322	m	206,076	66,364,200
		GSP diameter 200 mm	24	m	146,833	3,525,600
		GSP diameter 150 mm	36	m	111,745	4,024,800
		GSP diameter 100 mm	34	m	70,838	2,410,600
		GSP diameter 75 mm	26	m	33,114	860,600
		GSP diameter 50 mm	7	m	17,955	12,600
		GSP diameter 40 mm	-	m	14,145	-
			TOTAL	COST	OF PIPING	622,647,950
2.	Public Tap		38	No	2,200,000	83,600,000
3.	House Connection		1,528	No	250,000	382,000,000
4.	Others					43,731,553
5.	Internal Transportation Fee for Imported Materials					6,540,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,538,193,783

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 2
KABUPATEN : CILACAP
KECAMATAN : JERUKLEGI
I K K : JERUKLEGI PROVINCE : CENTRAL JAVA SERVED POPULATION: 18,370

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity 21 l/sec (Labour joint)	1	No	13,650,000	13,650,000
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity - l/sec Head - m	-	Unit	-	-
6.	Main Distribution Pump (Submersible Pump)	Capacity 15 l/sec Head 60 m	3	Unit	13,000,000	39,000,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 80 KVA	2	Unit	54,000,000	108,000,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity - l/hr	-	Unit	-	-
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 200 m3	1	No	55,691,057	55,691,057
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity 9 m3 W.P. 6 kg/cm2	1	No	24,255,000	24,255,000
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				244,096,057
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	96,064	-
		PVC diameter 200 mm	1,481	m	65,231	96,607,111
		PVC diameter 150 mm	5,416	m	42,762	231,598,992
		PVC diameter 100 mm	4,403	m	21,895	96,403,685
		PVC diameter 75 mm	4,573	m	15,411	70,474,503
		PVC diameter 50 mm	6,114	m	9,641	58,945,074
		PVC diameter 40 mm	3,802	m	7,715	29,332,430
		GSP diameter 250 mm	-	m	206,076	-
		GSP diameter 200 mm	16	m	146,833	2,349,328
		GSP diameter 150 mm	60	m	111,745	6,704,700
		GSP diameter 100 mm	50	m	70,838	3,541,900
		GSP diameter 75 mm	50	m	33,114	1,655,700
		GSP diameter 50 mm	67	m	17,955	1,202,985
		GSP diameter 40 mm	42	m	14,145	594,090
		TOTAL COST OF PIPING				599,410,498
2.	Public Tap		55	No	2,200,000	121,000,000
3.	House Connection		1,286	No	250,000	321,500,000
4.	Others					41,519,006
5.	Internal Transportation Fee for Imported Materials					4,515,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,332,040,561

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 3
KABUPATEN : PURWOREJO
KECAMATAN : KEMIRI
I K K : KEMIRI PROVINCE : CENTRAL JAVA SERVED POPULATION: 14,860

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Water Facility	Capacity 18 l/sec	1	No	184,100,000	184,100,000
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth 40 m	3	No	24,990,000	74,970,000
5.	Submersible Pump	Capacity 10 l/sec Head 30 m	3	Unit	9,250,000	27,750,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 10 l/sec Head 60 m	3	Unit	11,500,000	34,500,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity 1.5 m3	-	Unit	7,250,000	-
9.	Emergency Genset	Capacity 80 KVA	2	Unit	54,000,000	108,000,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 160 m3	1	No	50,770,854	50,770,854
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity 9 m3 W.P. 6 kg/cm2	1	No	24,255,000	24,255,000
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				510,305,854
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	96,064	-
		PVC diameter 200 mm	-	m	65,231	-
		PVC diameter 150 mm	1,800	m	42,762	76,971,600
		PVC diameter 100 mm	1,835	m	21,895	40,177,325
		PVC diameter 75 mm	3,296	m	15,411	50,794,656
		PVC diameter 50 mm	4,494	m	9,641	43,326,654
		PVC diameter 40 mm	424	m	7,715	3,271,160
		GSP diameter 250 mm	-	m	206,076	-
		GSP diameter 200 mm	100	m	146,833	14,683,300
		GSP diameter 150 mm	20	m	111,745	2,234,900
		GSP diameter 100 mm	20	m	70,838	1,416,760
		GSP diameter 75 mm	39	m	33,114	1,291,446
		GSP diameter 50 mm	47	m	17,955	843,885
		GSP diameter 40 mm	11	m	14,145	155,595
		TOTAL COST OF PIPING				235,167,281
2.	Public Tap		30	No	2,200,000	66,000,000
3.	House Connection		1,189	No	250,000	297,250,000
4.	Others					33,681,606
5.	Internal Transportation Fee for Imported Materials					5,895,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,148,299,741

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 4
KABUPATEN : BANJARNEGARA
KECAMATAN : MADUKARA
I K K : MADUKARA PROVINCE : CENTRAL JAVA SERVED POPULATION: 7,320

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Water Facility	Capacity 8 l/sec	1	No	110,700,000	110,700,000
2.	Water Source from Spring	Capacity 10 l/sec	1	No	7,500,000	7,500,000
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity - l/sec Head - m	-	Unit	-	-
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 80 m	3	Unit	9,000,000	27,000,000
7.	Booster Pump	Capacity 5 l/sec Head 60 m	3	Unit	8,500,000	25,500,000
8.	Pump Pit	Capacity 6 m3	1	Unit	17,080,000	17,080,000
9.	Emergency Genset	Capacity 40 KVA	2	Unit	33,000,000	66,000,000
		Capacity 60 KVA	2	Unit	47,250,000	94,500,000
10.	Fuel Tank	Capacity 2 Kl	1	No	2,500,000	2,500,000
		Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity 6 m3	2	No	16,100,000	32,200,000
2.	Service Reservoir	Capacity 60 m3	1	No	17,548,403	17,548,403
3.	Elevatied Tank	Capacity 20 m3 Height 15 m	1	No	66,615,489	66,615,489
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				473,103,892
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	96,064	-
		PVC diameter 200 mm	-	m	65,231	-
		PVC diameter 150 mm	12,400	m	42,762	530,248,800
		PVC diameter 100 mm	357	m	21,895	7,816,515
		PVC diameter 75 mm	1,907	m	15,411	29,388,777
		PVC diameter 50 mm	1,715	m	9,641	16,534,315
		PVC diameter 40 mm	649	m	7,715	5,007,035
		GSP diameter 250 mm	-	m	206,076	-
		GSP diameter 200 mm	-	m	146,833	-
		GSP diameter 150 mm	177	m	111,745	19,778,865
		GSP diameter 100 mm	4	m	70,838	283,352
		GSP diameter 75 mm	21	m	33,114	695,394
		GSP diameter 50 mm	19	m	17,955	341,145
		GSP diameter 40 mm	7	m	14,145	99,015
		TOTAL COST OF PIPING				610,193,213
2.	Public Tap		22	No	2,200,000	48,400,000
3.	House Connection		512	No	250,000	128,000,000
4.	Others					41,121,355
5.	Internal Transportation Fee for Imported Materials					3,563,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,304,381,460

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 5
KABUPATEN : BANJARNEGARA
KECAMATAN : PUNGGELAN
I K K : PUNGGELAN PROVINCE : CENTRAL JAVA SERVED POPULATION: 6,450

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity 35 l/sec	1	No	22,750,000	22,750,000
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity - l/sec Head - m	-	Unit	-	-
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 80 m	3	Unit	9,000,000	27,000,000
7.	Booster Pump	Capacity 5 l/sec Head 60 m	3	Unit	8,500,000	25,500,000
8.	Pump Pit	Capacity 6 m3	1	Unit	17,080,000	17,080,000
9.	Emergency Genset	Capacity 80 KVA	2	Unit	54,000,000	108,000,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity 6 m3	5	No	16,100,000	80,500,000
2.	Service Reservoir	Capacity 20 m3	1	No	11,698,935	11,698,935
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				298,488,935
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	96,064	-
		PVC diameter 200 mm	-	m	65,231	-
		PVC diameter 150 mm	-	m	42,762	-
		PVC diameter 100 mm	7,088	m	21,895	155,191,760
		PVC diameter 75 mm	3,818	m	15,411	58,839,198
		PVC diameter 50 mm	764	m	9,641	7,365,724
		PVC diameter 40 mm	311	m	7,715	2,399,365
		GSP diameter 250 mm	-	m	206,076	-
		GSP diameter 200 mm	-	m	146,833	-
		GSP diameter 150 mm	-	m	111,745	-
		GSP diameter 100 mm	78	m	70,838	5,525,364
		GSP diameter 75 mm	42	m	33,114	1,390,788
		GSP diameter 50 mm	8	m	17,955	143,640
		GSP diameter 40 mm	3	m	14,145	42,435
		TOTAL COST OF PIPING				230,898,274
2.	Public Tap		19	No	2,200,000	41,800,000
3.	House Connection		452	No	250,000	113,000,000
4.	Others					24,549,282
5.	Internal Transportation Fee for Imported Materials					4,892,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					713,628,491

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 6
KABUPATEN : KEBUMEN
KECAMATAN : KARANGGAYAM
I K K : KARANGGAYAM PROVINCE : CENTRAL JAVA SERVED POPULATION: 4,920

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity 6 l/sec (Labour joint)	1	No	4,500,000	4,500,000
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity - l/sec Head - m	-	Unit	-	-
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 80 m	3	Unit	9,000,000	27,000,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 60 KVA	2	Unit	47,250,000	94,500,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity - l/hr	-	Unit	-	-
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 80 m3	1	No	23,079,404	23,079,404
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity 5 m3 W.P. 8 kg/cm2	1	No	13,475,000	13,475,000
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				166,054,404
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	96,064	-
		PVC diameter 200 mm	-	m	65,231	-
		PVC diameter 150 mm	4,840	m	42,762	206,968,080
		PVC diameter 100 mm	424	m	21,895	9,283,480
		PVC diameter 75 mm	2,106	m	15,411	32,455,566
		PVC diameter 50 mm	1,323	m	9,641	12,755,043
		PVC diameter 40 mm	715	m	7,715	5,516,225
		GSP diameter 250 mm	-	m	206,076	-
		GSP diameter 200 mm	-	m	146,833	-
		GSP diameter 150 mm	53	m	111,745	5,922,485
		GSP diameter 100 mm	5	m	70,838	354,190
		GSP diameter 75 mm	23	m	33,114	761,622
		GSP diameter 50 mm	15	m	17,955	269,325
		GSP diameter 40 mm	8	m	14,145	113,160
		TOTAL COST OF PIPING				274,399,176
2.	Public Tap		15	No	2,200,000	33,000,000
3.	House Connection		344	No	250,000	86,000,000
4.	Others					22,931,541
5.	Internal Transportation Fee for Imported Materials					4,477,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					586,862,121

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 7
KABUPATEN : KEBUMEN
KECAMATAN : PETANAHAN
I K K : PETANAHAN PROVINCE : CENTRAL JAVA SERVED POPULATION: 8,420

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth 60 m	1	No	36,660,000	36,660,000
5.	Submersible Pump	Capacity 10 l/sec Head 30 m	1	Unit	9,250,000	9,250,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 30 m	3	Unit	8,000,000	24,000,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 40 KVA	2	Unit	33,000,000	66,000,000
10.	Fuel Tank	Capacity 2 Kl	1	No	2,500,000	2,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 60 m3	1	No	17,548,403	17,548,403
3.	Elevatied Tank	Capacity 20 m3 Height 15 m	1	No	66,615,489	66,615,489
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				225,033,892
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	96,064	-
		PVC diameter 200 mm	-	m	65,231	-
		PVC diameter 150 mm	1,453	m	42,762	62,133,186
		PVC diameter 100 mm	704	m	21,895	15,414,080
		PVC diameter 75 mm	1,248	m	15,411	19,232,928
		PVC diameter 50 mm	2,368	m	9,641	22,829,888
		PVC diameter 40 mm	2,484	m	7,715	19,164,060
		GSP diameter 250 mm	-	m	206,076	-
		GSP diameter 200 mm	-	m	146,833	-
		GSP diameter 150 mm	116	m	111,745	12,962,420
		GSP diameter 100 mm	8	m	70,838	566,704
		GSP diameter 75 mm	16	m	33,114	529,824
		GSP diameter 50 mm	24	m	17,955	430,920
		GSP diameter 40 mm	27	m	14,145	381,915
		TOTAL COST OF PIPING				153,645,925
2.	Public Tap		25	No	2,200,000	55,000,000
3.	House Connection		589	No	250,000	147,250,000
4.	Others					19,729,136
5.	Internal Transportation Fee for Imported Materials					3,752,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					604,410,953

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 8
KABUPATEN : KENDAL
KECAMATAN : SUKOREJO
I K K : SUKOREJO PROVINCE : CENTRAL JAVA SERVED POPULATION: 15,010

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity 20 l/sec	1	No	39,000,000	39,000,000
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity - l/sec Head - m	-	Unit	-	-
6.	Main Distribution Pump (Submersible Pump)	Capacity - l/sec Head - m	-	Unit	-	-
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity - KVA	-	Unit	-	-
10.	Fuel Tank	Capacity - Kl	-	No	-	-
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity 10 m3	2	No	26,500,000	53,000,000
2.	Service Reservoir	Capacity 40 m3	1	No	13,950,000	13,950,000
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				108,410,000
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	96,064	-
		PVC diameter 200 mm	13,454	m	65,231	877,617,874
		PVC diameter 150 mm	831	m	42,762	35,535,222
		PVC diameter 100 mm	1,355	m	21,895	29,667,725
		PVC diameter 75 mm	486	m	15,411	7,489,746
		PVC diameter 50 mm	2,061	m	9,641	19,870,101
		PVC diameter 40 mm	1,633	m	7,715	12,598,595
		GSP diameter 250 mm	-	m	206,076	-
		GSP diameter 200 mm	146	m	146,833	21,437,618
		GSP diameter 150 mm	9	m	111,745	1,005,705
		GSP diameter 100 mm	15	m	70,838	1,062,570
		GSP diameter 75 mm	9	m	33,114	298,026
		GSP diameter 50 mm	19	m	17,955	341,145
		GSP diameter 40 mm	18	m	14,145	254,610
		TOTAL COST OF PIPING				1,007,178,937
2.	Public Tap		45	No	2,200,000	99,000,000
3.	House Connection		1,051	No	250,000	262,750,000
4.	Others					41,890,768
5.	Internal Transportation Fee for Imported Materials					4,500,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,523,729,705

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 9
KABUPATEN : BLORA
KECAMATAN : JEPON
I K K : JEPON PROVINCE : CENTRAL JAVA SERVED POPULATION: 14,650

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Water Facility	Capacity 18 l/sec	1	No	184,100,000	184,100,000
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth 150 m	4	No	50,979,000	203,916,000
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity 5 l/sec Head 40 m	4	Unit	8,750,000	35,000,000
6.	Main Distribution Pump (Submersible Pump)	Capacity - l/sec Head - m	-	Unit	-	-
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 40 KVA	2	Unit	33,000,000	66,000,000
10.	Fuel Tank	Capacity 2 Kl	1	No	2,500,000	2,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity 10 m3	2	No	26,500,000	53,000,000
2.	Service Reservoir	Capacity 160 m3	1	No	50,770,854	50,770,854
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				597,746,854
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	96,064	-
		PVC diameter 200 mm	8,716	m	65,231	568,553,396
		PVC diameter 150 mm	2,716	m	42,762	116,141,592
		PVC diameter 100 mm	2,074	m	21,895	45,410,230
		PVC diameter 75 mm	2,102	m	15,411	32,393,922
		PVC diameter 50 mm	2,952	m	9,641	28,460,232
		PVC diameter 40 mm	458	m	7,715	3,533,470
		GSP diameter 250 mm	-	m	206,076	-
		GSP diameter 200 mm	96	m	146,833	14,095,968
		GSP diameter 150 mm	30	m	111,745	3,352,350
		GSP diameter 100 mm	823	m	70,838	58,299,674
		GSP diameter 75 mm	35	m	33,114	1,158,990
		GSP diameter 50 mm	21	m	17,955	377,055
		GSP diameter 40 mm	5	m	14,145	70,725
		TOTAL COST OF PIPING				871,847,604
2.	Public Tap		29	No	2,200,000	63,800,000
3.	House Connection		1,172	No	250,000	293,000,000
4.	Others					50,271,631
5.	Internal Transportation Fee for Imported Materials					4,588,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,881,254,089

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : **10**
KABUPATEN : PATI
KECAMATAN : BATURSARI
I K K : BATANGAN PROVINCE : CENTRAL JAVA SERVED POPULATION: 10,100

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Water Treatment Facility	Capacity 15 l/sec (Labour joint)	1	No	226,277,287	226,277,287
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity - l/sec Head - m	-	Unit	-	-
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 30 m	4	Unit	8,000,000	32,000,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 20 KVA	2	Unit	11,250,000	22,500,000
10.	Fuel Tank	Capacity 1 Kl	1	No	1,500,000	1,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity - l/hr	-	Unit	-	-
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 90 m3	1	No	25,969,897	25,969,897
3.	Elevatied Tank	Capacity 30 m3 Height 15 m	1	No	89,922,110	89,922,110
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				398,169,294
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	6,549	m	96,064	629,123,136
		PVC diameter 200 mm	3,219	m	65,231	209,978,589
		PVC diameter 150 mm	564	m	42,762	24,117,768
		PVC diameter 100 mm	1,630	m	21,895	35,688,850
		PVC diameter 75 mm	1,616	m	15,411	24,904,176
		PVC diameter 50 mm	3,220	m	9,641	31,044,020
		PVC diameter 40 mm	525	m	7,715	4,050,375
		GSP diameter 250 mm	72	m	206,076	14,837,472
		GSP diameter 200 mm	35	m	146,833	5,139,155
		GSP diameter 150 mm	6	m	111,745	670,470
		GSP diameter 100 mm	18	m	70,838	1,275,084
		GSP diameter 75 mm	20	m	33,114	662,280
		GSP diameter 50 mm	33	m	17,955	592,515
		GSP diameter 40 mm	6	m	14,145	84,870
		TOTAL COST OF PIPING				982,168,760
2.	Public Tap		20	No	2,200,000	44,000,000
3.	House Connection		808	No	250,000	202,000,000
4.	Others					47,427,602
5.	Internal Transportation Fee for Imported Materials					658,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,674,423,656

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : **11**
KABUPATEN : SRAGEN
KECAMATAN : GONDANG
I K K : GONDANG PROVINCE : CENTRAL JAVA SERVED POPULATION: 20,330

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth 150 m	2	No	54,296,000	108,592,000
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity 15 l/sec Head 60 m	2	Unit	13,000,000	26,000,000
6.	Main Distribution Pump (Submersible Pump)	Capacity - l/sec Head - m	-	Unit	-	-
7.	Booster Pump	Capacity 5 l/sec Head 60 m	2	Unit	8,500,000	17,000,000
8.	Pump Pit	Capacity 3 m3	1	Unit	12,200,000	12,200,000
9.	Emergency Genset	Capacity 60 KVA	2	Unit	47,250,000	94,500,000
		Capacity 20 KVA	2	Unit	11,250,000	22,500,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
		Capacity 1 Kl	1	No	1,500,000	1,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity 3 m3	1	No	9,500,000	9,500,000
2.	Service Reservoir	Capacity 200 m3	1	No	55,691,057	55,691,057
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity 3 m3 W.P. 6 kg/cm2	1	No	6,612,500	6,612,500
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				360,055,557
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	96,064	-
		PVC diameter 200 mm	-	m	65,231	-
		PVC diameter 150 mm	8,280	m	42,762	354,069,360
		PVC diameter 100 mm	952	m	21,895	20,844,040
		PVC diameter 75 mm	1,984	m	15,411	30,575,424
		PVC diameter 50 mm	1,698	m	9,641	16,370,418
		PVC diameter 40 mm	492	m	7,715	3,795,780
		GSP diameter 250 mm	-	m	206,076	-
		GSP diameter 200 mm	82	m	146,833	12,040,306
		GSP diameter 150 mm	329	m	111,745	36,764,105
		GSP diameter 100 mm	3	m	70,838	212,514
		GSP diameter 75 mm	28	m	33,114	927,192
		GSP diameter 50 mm	5	m	17,955	89,775
		GSP diameter 40 mm	-	m	14,145	-
		TOTAL COST OF PIPING				475,688,914
2.	Public Tap		61	No	2,200,000	134,200,000
3.	House Connection		1,423	No	250,000	355,750,000
4.	Others					40,224,376
5.	Internal Transportation Fee for Imported Materials					5,241,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,371,159,847

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 12
KABUPATEN : SRAGEN
KECAMATAN : JENAR
I K K : JENAR PROVINCE : CENTRAL JAVA SERVED POPULATION: 7,900

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth 30 m	2	No	23,300,000	46,600,000
5.	Submersible Pump	Capacity 5 l/sec Head 30 m	2	Unit	8,750,000	17,500,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 60 m	3	Unit	8,500,000	25,500,000
7.	Booster Pump	Capacity 5 l/sec Head 30 m	2	Unit	8,000,000	16,000,000
8.	Pump Pit	Capacity 1.5 m3	1	Unit	7,250,000	7,250,000
9.	Emergency Genset	Capacity 60 KVA	2	Unit	47,250,000	94,500,000
		Capacity 20 KVA	2	Unit	11,250,000	22,500,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
		Capacity 1 Kl	1	No	1,500,000	1,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	10,500,000	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 80 m3	1	No	23,079,404	23,079,404
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity 3 m3 W.P. 6 kg/cm2	1	No	13,475,000	13,475,000
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				273,864,404
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	96,064	-
		PVC diameter 200 mm	-	m	65,231	-
		PVC diameter 150 mm	2,701	m	42,762	115,500,162
		PVC diameter 100 mm	366	m	21,895	8,013,570
		PVC diameter 75 mm	4,436	m	15,411	68,363,196
		PVC diameter 50 mm	2,771	m	9,641	26,715,211
		PVC diameter 40 mm	1,760	m	7,715	13,578,400
		GSP diameter 250 mm	-	m	206,076	-
		GSP diameter 200 mm	-	m	146,833	-
		GSP diameter 150 mm	30	m	111,745	3,352,350
		GSP diameter 100 mm	104	m	70,838	7,367,152
		GSP diameter 75 mm	64	m	33,114	2,119,296
		GSP diameter 50 mm	39	m	17,955	700,245
		GSP diameter 40 mm	27	m	14,145	381,915
		TOTAL COST OF PIPING				246,091,497
2.	Public Tap		24	No	2,200,000	52,800,000
3.	House Connection		553	No	250,000	138,250,000
4.	Others					27,703,211
5.	Internal Transportation Fee for Imported Materials					4,921,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					743,630,112

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 13
KABUPATEN : MONOGIRI
KECAMATAN : GIRIWOYO
I K K : GIRIWOYO PROVINCE : CENTRAL JAVA SERVED POPULATION: 6,050

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity 10 l/sec	1	No	19,500,000	19,500,000
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity - l/sec Head - m	-	Unit	-	-
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 80 m	3	Unit	9,000,000	27,000,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 60 KVA	2	Unit	47,250,000	94,500,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 20 m3	1	No	11,698,935	11,698,935
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				158,658,935
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	96,064	-
		PVC diameter 200 mm	-	m	65,231	-
		PVC diameter 150 mm	2,264	m	42,762	96,813,168
		PVC diameter 100 mm	1,005	m	21,895	22,004,475
		PVC diameter 75 mm	1,179	m	15,411	18,169,569
		PVC diameter 50 mm	1,082	m	9,641	10,431,562
		PVC diameter 40 mm	2,099	m	7,715	16,193,785
		GSP diameter 250 mm	-	m	206,076	-
		GSP diameter 200 mm	-	m	146,833	-
		GSP diameter 150 mm	25	m	111,745	2,793,625
		GSP diameter 100 mm	11	m	70,838	779,218
		GSP diameter 75 mm	13	m	33,114	430,482
		GSP diameter 50 mm	12	m	17,955	215,460
		GSP diameter 40 mm	23	m	14,145	325,335
		TOTAL COST OF PIPING				168,156,679
2.	Public Tap		12	No	2,200,000	26,400,000
3.	House Connection		484	No	250,000	121,000,000
4.	Others					19,508,584
5.	Internal Transportation Fee for Imported Materials					3,681,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					497,405,198

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 14
KABUPATEN : SEMARANG
KECAMATAN : HARJOSARI
I K K : BAWEN PROVINCE : CENTRAL JAVA SERVED POPULATION: 17,880

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity 25 l/sec	1	No	19,500,000	19,500,000
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity - l/sec Head - m	-	Unit	-	-
6.	Main Distribution Pump (Submersible Pump)	Capacity - l/sec Head - m	-	Unit	-	-
7.	Booster Pump	Capacity 15 l/sec Head 80 m	2	Unit	14,500,000	29,000,000
		Capacity 5 l/sec Head 40 m	2	Unit	8,000,000	16,000,000
8.	Pump Pit	Capacity 1.5 m3	2	Unit	7,250,000	14,500,000
9.	Emergency Genset	Capacity 80 KVA	2	Unit	54,000,000	108,000,000
		Capacity 20 KVA	2	Unit	11,250,000	22,500,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
		Capacity 1 Kl	1	No	1,500,000	1,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity 12 m3	1	No	30,000,000	30,000,000
2.	Service Reservoir	Capacity 200 m3	1	No	55,691,000	55,691,000
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity 3 m3 W.P. 6 kg/cm2	1	No	6,612,500	6,612,500
		Capacity 6.5 m3 W.P. 8 kg/cm2	1	No	17,517,500	17,517,500
	TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)					326,781,000
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	96,064	-
		PVC diameter 200 mm	12,617	m	65,231	823,019,527
		PVC diameter 150 mm	2,610	m	42,762	111,608,820
		PVC diameter 100 mm	3,266	m	21,895	71,509,070
		PVC diameter 75 mm	2,731	m	15,411	42,087,441
		PVC diameter 50 mm	2,800	m	9,641	26,994,800
		PVC diameter 40 mm	-	m	7,715	-
		GSP diameter 250 mm	-	m	206,076	-
		GSP diameter 200 mm	139	m	146,833	20,409,787
		GSP diameter 150 mm	29	m	111,745	3,240,605
		GSP diameter 100 mm	36	m	70,838	2,550,168
		GSP diameter 75 mm	40	m	33,114	1,324,560
		GSP diameter 50 mm	21	m	17,955	377,055
		GSP diameter 40 mm	-	m	14,145	-
		TOTAL COST OF PIPING				1,103,121,833
2.	Public Tap		36	No	2,200,000	79,200,000
3.	House Connection		1,430	No	250,000	357,500,000
4.	Others					59,400,370
5.	Internal Transportation Fee for Imported Materials					4,055,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,930,058,203

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 15
KABUPATEN : BOJONEGORO
KECAMATAN : BALEN
I K K : BALEN PROVINCE : EAST JAVA SERVED POPULATION: 14,900

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth 70 m	2	No	38,226,000	76,452,000
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity 10 l/sec Head 40 m	2	Unit	9,500,000	19,000,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 10 l/sec Head 30 m	3	Unit	9,250,000	27,750,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 60 KVA	2	Unit	47,250,000	94,500,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 120 m3	1	No	39,947,895	39,947,895
3.	Elevatied Tank	Capacity 40 m3 Height 15 m	1	No	120,601,430	120,601,430
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				384,211,325
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	98,466	-
		PVC diameter 200 mm	4,045	m	66,862	257,666,500
		PVC diameter 150 mm	1,930	m	43,831	80,867,000
		PVC diameter 100 mm	4,943	m	22,422	107,757,400
		PVC diameter 75 mm	2,152	m	15,796	35,508,000
		PVC diameter 50 mm	1,118	m	9,882	12,074,400
		PVC diameter 40 mm	466	m	7,908	4,054,200
		GSP diameter 250 mm	-	m	211,228	-
		GSP diameter 200 mm	44	m	150,504	6,622,000
		GSP diameter 150 mm	21	m	114,539	2,404,500
		GSP diameter 100 mm	104	m	72,609	7,550,400
		GSP diameter 75 mm	24	m	33,942	816,000
		GSP diameter 50 mm	12	m	20,454	220,800
		GSP diameter 40 mm	5	m	14,499	72,500
		TOTAL COST OF PIPING				515,613,700
2.	Public Tap		45	No	2,400,000	108,000,000
3.	House Connection		1,043	No	270,000	281,610,000
4.	Others					37,936,231
5.	Internal Transportation Fee for Imported Materials					11,520,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,338,891,256

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 16
KABUPATEN : BOJONEGORO
KECAMATAN : BAURENO
I K K : BAURENO PROVINCE : EAST JAVA SERVED POPULATION: 12,410

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth 70 m	2	No	23,300,000	46,600,000
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity 10 l/sec Head 30 m	2	Unit	9,250,000	18,500,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 80 m	4	Unit	9,000,000	36,000,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 80 KVA	2	Unit	54,000,000	108,000,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 120 m3	1	No	39,947,895	39,947,895
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity 6.5 m3 W.P. 8 kg/cm2	1	No	17,517,500	17,517,500
			TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)			272,525,395
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	98,466	-
		PVC diameter 200 mm	-	m	66,862	-
		PVC diameter 150 mm	4,776	m	43,831	209,336,856
		PVC diameter 100 mm	3,000	m	22,422	67,266,000
		PVC diameter 75 mm	3,520	m	15,796	55,601,920
		PVC diameter 50 mm	3,708	m	9,882	36,642,456
		PVC diameter 40 mm	913	m	7,908	7,220,004
		GSP diameter 250 mm	-	m	211,228	-
		GSP diameter 200 mm	-	m	150,504	-
		GSP diameter 150 mm	53	m	114,539	6,070,567
		GSP diameter 100 mm	133	m	72,609	9,656,997
		GSP diameter 75 mm	39	m	33,942	1,323,738
		GSP diameter 50 mm	41	m	20,454	838,614
		GSP diameter 40 mm	10	m	14,499	144,990
			TOTAL COST OF PIPING			394,102,142
2.	Public Tap		25	No	2,400,000	60,000,000
3.	House Connection		993	No	270,000	268,110,000
4.	Others					33,631,470
5.	Internal Transportation Fee for Imported Materials					11,644,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,040,013,007

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 17
KABUPATEN : TUBAN
KECAMATAN : JENU
I K K : JENU PROVINCE : EAST JAVA SERVED POPULATION: 10,740

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth 100 m	1	No	44,670,000	44,670,000
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity 15 l/sec Head 40 m	1	Unit	11,000,000	11,000,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 60 m	4	Unit	8,500,000	34,000,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 80 KVA	2	Unit	54,000,000	108,000,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 120 m3	1	No	39,947,895	39,947,895
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity 6.5 m3 W.P. 6 kg/cm2	1	No	17,517,500	17,517,500
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				261,095,395
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	98,466	-
		PVC diameter 200 mm	-	m	66,862	-
		PVC diameter 150 mm	2,407	m	43,831	105,501,217
		PVC diameter 100 mm	1,384	m	22,422	31,032,048
		PVC diameter 75 mm	3,277	m	15,796	51,763,492
		PVC diameter 50 mm	1,849	m	9,882	18,271,818
		PVC diameter 40 mm	2,418	m	7,908	19,121,544
		GSP diameter 250 mm	-	m	211,228	-
		GSP diameter 200 mm	-	m	150,504	-
		GSP diameter 150 mm	76	m	114,539	8,704,964
		GSP diameter 100 mm	15	m	72,609	1,089,135
		GSP diameter 75 mm	36	m	33,942	1,221,912
		GSP diameter 50 mm	20	m	20,454	409,080
		GSP diameter 40 mm	27	m	14,499	391,473
		TOTAL COST OF PIPING				237,506,683
2.	Public Tap		32	No	2,400,000	76,800,000
3.	House Connection		752	No	270,000	203,040,000
4.	Others					27,563,106
5.	Internal Transportation Fee for Imported Materials					10,294,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					816,299,184

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : **18**
KABUPATEN : MADIUN
KECAMATAN : JIWAN
I K K : JIWAN PROVINCE : EAST JAVA SERVED POPULATION: 19,070

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity – l/sec (Labour joint)	–	No	–	–
2.	Water Source from Spring	Capacity – l/sec	–	No	–	–
3.	Deep Well	Depth 100 m	1	No	44,670,000	44,670,000
4.	Shallow Well	Depth – m	–	No	–	–
5.	Submersible Pump	Capacity 25 l/sec Head 40 m	1	Unit	16,750,000	16,750,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 15 l/sec Head 60 m	3	Unit	13,000,000	39,000,000
7.	Booster Pump	Capacity – l/sec Head – m	–	Unit	–	–
8.	Pump Pit	Capacity – m3	–	Unit	–	–
9.	Emergency Genset	Capacity 100 KVA	2	Unit	67,250,000	134,500,000
10.	Fuel Tank	Capacity 4 Kl	1	No	4,500,000	4,500,000
11.	Power Station from PLN	Capacity – KVA	–	LS	–	–
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity – m3	–	No	–	–
2.	Service Reservoir	Capacity 200 m3	1	No	65,970,517	65,970,517
3.	Elevatied Tank	Capacity – m3 Height – m	–	No	–	–
4.	Hydrophore	Capacity 9 m3 W.P. 6 kg/cm2	1	No	24,255,000	24,255,000
					TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)	332,105,517
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	–	m	98,466	–
		PVC diameter 200 mm	–	m	66,862	–
		PVC diameter 150 mm	1,397	m	43,831	61,231,907
		PVC diameter 100 mm	2,446	m	22,422	54,844,212
		PVC diameter 75 mm	2,986	m	15,796	47,166,856
		PVC diameter 50 mm	4,278	m	9,882	42,275,196
		PVC diameter 40 mm	2,390	m	7,908	18,900,120
		GSP diameter 250 mm	–	m	211,228	–
		GSP diameter 200 mm	–	m	150,504	–
		GSP diameter 150 mm	65	m	114,539	7,445,035
		GSP diameter 100 mm	27	m	72,609	1,960,443
		GSP diameter 75 mm	38	m	33,942	1,289,796
		GSP diameter 50 mm	42	m	20,454	859,068
		GSP diameter 40 mm	25	m	14,499	362,475
					TOTAL COST OF PIPING	236,335,108
2.	Public Tap		38	No	2,400,000	91,200,000
3.	House Connection		1,526	No	270,000	412,020,000
4.	Others					34,193,186
5.	Internal Transportation Fee for Imported Materials					10,974,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,116,827,811

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : **19**
KABUPATEN : LAMONGAN
KECAMATAN : KEMBANGBAHU
I K K : KEMBANGBAHU PROVINCE : EAST JAVA SERVED POPULATION: 6,420

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth 125 m	1	No	52,500,000	52,500,000
		Depth 125 m	1	No	32,500,000	32,500,000
5.	Submersible Pump	Capacity 5 l/sec Head 40 m	2	Unit	9,000,000	18,000,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 60 m	3	Unit	8,500,000	25,500,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 20 KVA	2	Unit	11,250,000	22,500,000
		Capacity 40 KVA	2	Unit	33,000,000	66,000,000
10.	Fuel Tank	Capacity 1 KI	1	No	1,500,000	1,500,000
		Capacity 2 KI	1	No	2,500,000	2,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 80 m3	1	No	27,256,762	27,256,762
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity 5 m3 W.P. 6 kg/cm2	1	No	13,475,000	13,475,000
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				264,191,762
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	98,466	-
		PVC diameter 200 mm	-	m	66,862	-
		PVC diameter 150 mm	-	m	43,831	-
		PVC diameter 100 mm	2,465	m	22,422	55,270,230
		PVC diameter 75 mm	2,354	m	15,796	37,183,784
		PVC diameter 50 mm	2,460	m	9,882	24,309,720
		PVC diameter 40 mm	1,250	m	7,908	9,885,000
		GSP diameter 250 mm	-	m	211,228	-
		GSP diameter 200 mm	-	m	150,504	-
		GSP diameter 150 mm	-	m	114,539	-
		GSP diameter 100 mm	5	m	72,609	363,045
		GSP diameter 75 mm	333	m	33,942	11,302,686
		GSP diameter 50 mm	20	m	20,454	409,080
		GSP diameter 40 mm	14	m	14,499	202,986
		TOTAL COST OF PIPING				138,926,531
2.	Public Tap		19	No	2,400,000	45,600,000
3.	House Connection		449	No	270,000	121,230,000
4.	Others					20,229,872
5.	Internal Transportation Fee for Imported Materials					7,686,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					597,864,165

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 20
KABUPATEN : JOMBAN
KECAMATAN : DIWEK
I K K : DIWEK PROVINCE : EAST JAVA SERVED POPULATION: 14,350

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I.	FACILITIES					
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth 100 m	1	No	44,170,000	44,170,000
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity 20 l/sec Head 40 m	1	Unit	14,250,000	14,250,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 10 l/sec Head 30 m	3	Unit	9,250,000	27,750,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 60 KVA	2	Unit	47,250,000	94,500,000
10.	Fuel Tank	Capacity 3 KI	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II.	CIVIL WORK					
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 120 m3	1	No	39,947,895	39,947,895
3.	Elevatied Tank	Capacity 40 m3 Height 15 m	1	No	120,601,430	120,601,430
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
	TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)					347,179,325
III.	PIPE LAYING					
1.	Piping	PVC diameter 250 mm	-	m	98,466	-
		PVC diameter 200 mm	170	m	66,862	11,366,540
		PVC diameter 150 mm	2,451	m	43,831	107,429,781
		PVC diameter 100 mm	1,789	m	22,422	40,112,958
		PVC diameter 75 mm	1,481	m	15,796	23,393,876
		PVC diameter 50 mm	3,982	m	9,882	39,350,124
		PVC diameter 40 mm	2,710	m	7,908	21,430,680
		GSP diameter 250 mm	-	m	211,228	-
		GSP diameter 200 mm	2	m	150,504	301,008
		GSP diameter 150 mm	77	m	114,539	8,819,503
		GSP diameter 100 mm	19	m	72,609	1,379,571
		GSP diameter 75 mm	16	m	33,942	543,072
		GSP diameter 50 mm	44	m	20,454	899,976
		GSP diameter 40 mm	30	m	14,499	434,970
		TOTAL COST OF PIPING				255,462,059
2.	Public Tap		29	No	2,400,000	69,600,000
3.	House Connection		1,148	No	270,000	309,960,000
4.	Others					29,187,952
5.	Internal Transportation Fee for Imported Materials					8,283,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,019,672,336

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 21
KABUPATEN : MOJOKERIO
KECAMATAN : KUTOREJO
I K K : KUTOREJO PROVINCE : EAST JAVA SERVED POPULATION: 16,150

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth 100 m	1	No	44,170,000	44,170,000
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity 20 l/sec Head 40 m	1	Unit	14,250,000	14,250,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 10 l/sec Head 60 m	3	Unit	11,500,000	34,500,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 80 KVA	2	Unit	54,000,000	108,000,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 160 m3	1	No	59,251,750	59,251,750
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity 9 m3 W.P. 6 kg/cm2	1	No	24,255,000	24,255,000
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				290,386,750
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	98,466	-
		PVC diameter 200 mm	1,019	m	66,862	68,132,378
		PVC diameter 150 mm	2,719	m	43,831	119,176,489
		PVC diameter 100 mm	811	m	22,422	18,184,242
		PVC diameter 75 mm	1,892	m	15,796	29,886,032
		PVC diameter 50 mm	1,366	m	9,882	13,498,812
		PVC diameter 40 mm	1,709	m	7,908	13,514,772
		GSP diameter 250 mm	-	m	211,228	-
		GSP diameter 200 mm	11	m	150,504	1,655,544
		GSP diameter 150 mm	80	m	114,539	9,163,120
		GSP diameter 100 mm	9	m	72,609	653,481
		GSP diameter 75 mm	24	m	33,942	814,608
		GSP diameter 50 mm	12	m	20,454	245,448
		GSP diameter 40 mm	19	m	14,499	275,481
		TOTAL COST OF PIPING				275,200,407
2.	Public Tap		48	No	2,400,000	115,200,000
3.	House Connection		1,131	No	270,000	305,370,000
4.	Others					31,768,613
5.	Internal Transportation Fee for Imported Materials					11,004,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,028,929,770

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 22
KABUPATEN : LUMAJANG
KECAMATAN : TEMPEH
I K K : TEMPEH PROVINCE : EAST JAVA SERVED POPULATION: -

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth 80 m	1	No	33,910,000	33,910,000
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity 20 l/sec Head 40 m	1	Unit	14,250,000	14,250,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 10 l/sec Head 30 m	3	Unit	9,250,000	27,750,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 60 KVA	2	Unit	47,250,000	94,500,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 160 m3	1	No	59,251,750	59,251,750
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity 9 m3 W.P. 6 kg/cm2	1	No	24,255,000	24,255,000
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				259,876,750
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	98,466	-
		PVC diameter 200 mm	-	m	66,862	-
		PVC diameter 150 mm	1,636	m	43,831	71,707,516
		PVC diameter 100 mm	1,004	m	22,422	22,511,688
		PVC diameter 75 mm	2,971	m	15,796	46,929,916
		PVC diameter 50 mm	2,674	m	9,882	26,424,468
		PVC diameter 40 mm	1,113	m	7,908	8,801,604
		GSP diameter 250 mm	-	m	211,228	-
		GSP diameter 200 mm	-	m	150,504	-
		GSP diameter 150 mm	68	m	114,539	7,788,652
		GSP diameter 100 mm	19	m	72,609	1,379,571
		GSP diameter 75 mm	22	m	33,942	746,724
		GSP diameter 50 mm	23	m	20,454	470,442
		GSP diameter 40 mm	12	m	14,499	173,988
		TOTAL COST OF PIPING				186,934,569
2.	Public Tap		42	No	2,400,000	100,800,000
3.	House Connection		991	No	270,000	267,570,000
4.	Others					26,867,488
5.	Internal Transportation Fee for Imported Materials					10,140,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					852,188,807

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 23
KABUPATEN : LUMAJANG
KECAMATAN : KUNIR
I K K : KUNIR PROVINCE : EAST JAVA SERVED POPULATION: 19,220

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth 100 m	1	No	44,670,000	44,670,000
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity 25 l/sec Head 40 m	1	Unit	16,750,000	16,750,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 15 l/sec Head 30 m	3	Unit	10,000,000	30,000,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 80 KVA	2	Unit	54,000,000	108,000,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 150 m3	1	No	49,825,881	49,825,881
3.	Elevatied Tank	Capacity 50 m3 Height 15 m	1	No	151,864,700	151,864,700
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
	TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)					407,070,581
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	98,466	-
		PVC diameter 200 mm	1,513	m	66,862	101,162,206
		PVC diameter 150 mm	1,392	m	43,831	61,012,752
		PVC diameter 100 mm	3,103	m	22,422	69,575,466
		PVC diameter 75 mm	4,070	m	15,796	64,289,720
		PVC diameter 50 mm	953	m	9,882	9,417,546
		PVC diameter 40 mm	2,411	m	7,908	19,066,188
		GSP diameter 250 mm	-	m	211,228	-
		GSP diameter 200 mm	17	m	150,504	2,558,568
		GSP diameter 150 mm	65	m	114,539	7,445,035
		GSP diameter 100 mm	34	m	72,609	2,468,706
		GSP diameter 75 mm	45	m	33,942	1,527,390
		GSP diameter 50 mm	10	m	20,454	204,540
		GSP diameter 40 mm	27	m	14,499	391,473
		TOTAL COST OF PIPING				339,119,590
2.	Public Tap		58	No	2,400,000	139,200,000
3.	House Connection		1,345	No	270,000	363,150,000
4.	Others					36,350,396
5.	Internal Transportation Fee for Imported Materials					9,519,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,294,409,567

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 24
KABUPATEN : LUMAJANG
KECAMATAN : TEMPURSARI
I K K : TEMPURSARI PROVINCE : EAST JAVA SERVED POPULATION: 11,480

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity 15 l/sec	1	No	29,500,000	29,500,000
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity - l/sec Head - m	-	Unit	-	-
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 60 m	4	Unit	8,500,000	34,000,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 60 KVA	2	Unit	47,250,000	94,500,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 30 m3	1	No	13,580,700	13,580,700
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity 6.5 m3 W.P. 6 kg/cm2	1	No	17,517,500	17,517,500
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				195,058,200
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	98,466	-
		PVC diameter 200 mm	-	m	66,862	-
		PVC diameter 150 mm	6,430	m	43,831	281,833,330
		PVC diameter 100 mm	1,228	m	22,422	27,534,216
		PVC diameter 75 mm	605	m	15,796	9,556,580
		PVC diameter 50 mm	899	m	9,882	8,883,918
		PVC diameter 40 mm	474	m	7,908	3,748,392
		GSP diameter 250 mm	-	m	211,228	-
		GSP diameter 200 mm	-	m	150,504	-
		GSP diameter 150 mm	71	m	114,539	8,132,269
		GSP diameter 100 mm	14	m	72,609	1,016,526
		GSP diameter 75 mm	9	m	33,942	305,478
		GSP diameter 50 mm	8	m	20,454	163,632
		GSP diameter 40 mm	6	m	14,499	86,994
		TOTAL COST OF PIPING				341,261,335
2.	Public Tap		23	No	2,400,000	55,200,000
3.	House Connection		918	No	270,000	247,860,000
4.	Others					28,808,488
5.	Internal Transportation Fee for Imported Materials					8,854,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					877,042,023

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 25
KABUPATEN : PROBOLINGGO
KECAMATAN : BANYUANYAR
I K K : BANYUANYAR PROVINCE : EAST JAVA SERVED POPULATION: 16,330

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth 50 m	3	No	30,485,000	91,455,000
5.	Submersible Pump	Capacity 10 l/sec Head 40 m	3	Unit	9,500,000	28,500,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 10 l/sec Head 40 m	3	Unit	9,250,000	27,750,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 60 KVA	2	Unit	47,250,000	94,500,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 160 m3	1	No	59,251,750	59,251,750
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity 9 m3 W.P. 6 kg/cm2	1	No	24,255,000	24,255,000
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				331,671,750
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	98,466	-
		PVC diameter 200 mm	-	m	66,862	-
		PVC diameter 150 mm	491	m	43,831	21,521,021
		PVC diameter 100 mm	1,914	m	22,422	42,915,708
		PVC diameter 75 mm	3,984	m	15,796	62,931,264
		PVC diameter 50 mm	322	m	9,882	3,182,004
		PVC diameter 40 mm	1,729	m	7,908	13,672,932
		GSP diameter 250 mm	-	m	211,228	-
		GSP diameter 200 mm	-	m	150,504	-
		GSP diameter 150 mm	6	m	114,539	687,234
		GSP diameter 100 mm	600	m	72,609	43,565,400
		GSP diameter 75 mm	46	m	33,942	1,561,332
		GSP diameter 50 mm	6	m	20,454	122,724
		GSP diameter 40 mm	6	m	14,499	86,994
		TOTAL COST OF PIPING				190,246,613
2.	Public Tap		33	No	2,400,000	79,200,000
3.	House Connection		1,306	No	270,000	352,620,000
4.	Others					29,708,025
5.	Internal Transportation Fee for Imported Materials					9,671,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					993,117,388

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 26
KABUPATEN : PROBOLINGGO
KECAMATAN : SUMBERASIH
I K K : SUMBERASIH PROVINCE : EAST JAVA SERVED POPULATION: 9,860

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth 80 m	1	No	33,910,000	33,910,000
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity 15 l/sec Head 40 m	1	Unit	11,000,000	11,000,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 30 m	4	Unit	8,000,000	32,000,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 60 KVA	2	Unit	47,250,000	94,500,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 90 m3	1	No	30,939,000	30,939,000
3.	Elevatied Tank	Capacity 30 m3 Height 15 m	1	No	96,864,300	96,864,300
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				305,173,300
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	98,466	-
		PVC diameter 200 mm	-	m	66,862	-
		PVC diameter 150 mm	1,611	m	43,831	70,611,741
		PVC diameter 100 mm	1,224	m	22,422	27,444,528
		PVC diameter 75 mm	3,407	m	15,796	53,816,972
		PVC diameter 50 mm	775	m	9,882	7,658,550
		PVC diameter 40 mm	1,055	m	7,908	8,342,940
		GSP diameter 250 mm	-	m	211,228	-
		GSP diameter 200 mm	-	m	150,504	-
		GSP diameter 150 mm	68	m	114,539	7,788,652
		GSP diameter 100 mm	13	m	72,609	943,917
		GSP diameter 75 mm	40	m	33,942	1,357,680
		GSP diameter 50 mm	11	m	20,454	224,994
		GSP diameter 40 mm	13	m	14,499	188,487
		TOTAL COST OF PIPING				178,378,461
2.	Public Tap		20	No	2,400,000	48,000,000
3.	House Connection		789	No	270,000	213,030,000
4.	Others					24,517,403
5.	Internal Transportation Fee for Imported Materials					8,313,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					777,412,164

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 27
KABUPATEN : GIANYAR
KECAMATAN : TAMPAKSIRING
I K K : TAMPAKSIRING PROVINCE : BALI SERVED POPULATION: 8,730

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity 10 l/sec	1	No	19,500,000	19,500,000
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity - l/sec Head - m	-	Unit	-	-
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 40 m	3	Unit	8,000,000	24,000,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 40 KVA	2	Unit	33,000,000	66,000,000
10.	Fuel Tank	Capacity 2 Kl	1	No	2,500,000	2,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 20 m3	1	No	13,357,000	13,357,000
3.	Elevatied Tank	Capacity 20 m3 Height 11.5 m	1	No	71,757,630	71,757,630
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				199,574,630
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	100,927	-
		PVC diameter 200 mm	-	m	68,533	-
		PVC diameter 150 mm	777	m	44,927	33,100,200
		PVC diameter 100 mm	3,440	m	23,003	75,680,000
		PVC diameter 75 mm	1,118	m	16,191	18,223,400
		PVC diameter 50 mm	1,162	m	10,129	12,201,000
		PVC diameter 40 mm	5,028	m	8,106	42,235,200
		GSP diameter 250 mm	-	m	216,509	-
		GSP diameter 200 mm	-	m	154,266	-
		GSP diameter 150 mm	9	m	117,402	1,056,600
		GSP diameter 100 mm	38	m	74,424	2,827,200
		GSP diameter 75 mm	12	m	34,790	417,600
		GSP diameter 50 mm	13	m	18,864	244,400
		GSP diameter 40 mm	55	m	14,861	803,000
		TOTAL COST OF PIPING				186,788,600
2.	Public Tap		26	No	2,450,000	63,700,000
3.	House Connection		611	No	288,000	175,968,000
4.	Others					20,440,297
5.	Internal Transportation Fee for Imported Materials					11,124,000
		TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)				657,595,527

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 28
KABUPATEN : GIANYAR
KECAMATAN : SUKAWATI
I K K : KETEWEL PROVINCE : BALI SERVED POPULATION: -

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity - l/sec	-	No	-	-
3.	Deep Well	Depth 80 m	1	No	-	-
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity 15 l/sec Head 40 m	1	Unit	11,000,000	11,000,000
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 40 m	4	Unit	8,000,000	32,000,000
7.	Booster Pump	Capacity - l/sec Head - m	-	Unit	-	-
8.	Pump Pit	Capacity - m3	-	Unit	-	-
9.	Emergency Genset	Capacity 60 KVA	2	Unit	47,250,000	94,500,000
10.	Fuel Tank	Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity - m3	-	No	-	-
2.	Service Reservoir	Capacity 90 m3	1	No	36,289,179	36,289,179
3.	Elevatied Tank	Capacity 30 m3 Height 10.5 m	1	No	91,863,200	91,863,200
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				271,612,379
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	100,927	-
		PVC diameter 200 mm	-	m	68,533	-
		PVC diameter 150 mm	3,714	m	44,927	166,858,878
		PVC diameter 100 mm	3,904	m	23,003	89,803,712
		PVC diameter 75 mm	1,870	m	16,191	30,277,170
		PVC diameter 50 mm	2,665	m	10,129	26,993,785
		PVC diameter 40 mm	4,491	m	8,106	36,404,046
		GSP diameter 250 mm	-	m	216,509	-
		GSP diameter 200 mm	-	m	154,266	-
		GSP diameter 150 mm	91	m	117,402	10,683,582
		GSP diameter 100 mm	43	m	74,424	3,200,232
		GSP diameter 75 mm	21	m	34,790	730,590
		GSP diameter 50 mm	29	m	18,864	547,056
		GSP diameter 40 mm	49	m	14,861	728,189
		TOTAL COST OF PIPING				366,227,240
2.	Public Tap		19	No	2,450,000	46,550,000
3.	House Connection		740	No	288,000	213,120,000
4.	Others					29,629,053
5.	Internal Transportation Fee for Imported Materials					16,800,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					943,938,672

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 29
KABUPATEN : KARANGASEM
KECAMATAN : RENDANG
I K K : MENANGA PROVINCE : BALI SERVED POPULATION: -

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I.	FACILITIES					
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity 10 l/sec	1	No	19,500,000	19,500,000
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity - l/sec Head - m	-	Unit	-	-
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 80 m	3	Unit	9,000,000	27,000,000
7.	Booster Pump	Capacity 5 l/sec Head 60 m	2	Unit	8,500,000	17,000,000
		Capacity 5 l/sec Head 80 m	2	Unit	9,000,000	18,000,000
		Capacity 5 l/sec Head 60 m	2	Unit	8,500,000	17,000,000
		Capacity 5 l/sec Head 80 m	4	Unit	9,000,000	36,000,000
8.	Pump Pit	Capacity 1.5 m3	2	Unit	7,250,000	14,500,000
		Capacity 3 m3	3	Unit	12,200,000	36,600,000
9.	Emergency Genset	Capacity 20 KVA	4	Unit	11,250,000	45,000,000
		Capacity 40 KVA	6	Unit	33,000,000	198,000,000
		Capacity 60 KVA	2	Unit	47,250,000	94,500,000
10.	Fuel Tank	Capacity 1 Kl	1	No	1,500,000	1,500,000
		Capacity 2 Kl	1	No	2,500,000	2,500,000
		Capacity 3 Kl	1	No	3,500,000	3,500,000
11.	Powerstation from PLN	Capacity 10 m3	-	No	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II.	CIVIL WORK					
1.	Break Pressure Tank	Capacity 1.5 m3	3	No	8,500,000	25,500,000
2.	Service Reservoir	Capacity 20 m3	1	No	13,357,000	13,357,000
3.	Elevatied Tank	Capacity - m3 Height - m	-	No	-	-
4.	Hydrophore	Capacity 5 m3 W.P. 8 kg/cm2	1	No	13,475,000	13,475,000
		Capacity 3 m3 W.P. 8 kg/cm2	2	No	6,612,500	13,225,000
		Capacity 2 m3 W.P. 8 kg/cm2	1	No	4,887,500	4,887,500
		Capacity 3 m3 W.P. 6 kg/cm2	1	No	6,612,500	6,612,500
		Capacity 2 m3 W.P. 6 kg/cm2	1	No	4,887,500	4,887,500
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				615,004,500

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : 29
KABUPATEN : KARANGASEM
KECAMATAN : RENDANG
I K K : MENANGA PROVINCE : BALI SERVED POPULATION: -

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	100,927	-
		PVC diameter 200 mm	-	m	68,533	-
		PVC diameter 150 mm	1,592	m	44,927	71,523,784
		PVC diameter 100 mm	2,503	m	23,003	57,576,509
		PVC diameter 75 mm	2,305	m	16,191	37,320,255
		PVC diameter 50 mm	2,099	m	10,129	21,260,771
		PVC diameter 40 mm	4,303	m	8,106	34,880,118
		GSP diameter 250 mm	-	m	216,509	-
		GSP diameter 200 mm	-	m	154,266	-
		GSP diameter 150 mm	18	m	117,402	2,113,236
		GSP diameter 100 mm	28	m	74,424	2,083,872
		GSP diameter 75 mm	25	m	34,790	869,750
		GSP diameter 50 mm	23	m	18,864	433,872
		GSP diameter 40 mm	47	m	14,861	698,467
			TOTAL	COST	OF PIPING	228,760,634
2.	Public Tap		12	No	2,450,000	29,400,000
3.	House Connection		461	No	288,000	132,768,000
4.	Others					47,297,782
5.	Internal Transportation Fee for Imported Materials					61,759,000
TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)						1,114,989,916

MANAGEMENT PLAN (DETAILED DIRECT COST OF 30 IKKs)

NAME CODE : **30**
KABUPATEN : KARANGASEM
KECAMATAN : BEBANDAN
I K K : SIBETAN PROVINCE : BALI SERVED POPULATION: -

No.	FACILITIES	SPECIFICATION	QTY.	UNIT	UNIT PRICE (Rupiah)	TOTAL PRICE (Rupiah)
I. FACILITIES						
1.	Connection Cost	Capacity - l/sec (Labour joint)	-	No	-	-
2.	Water Source from Spring	Capacity 12 l/sec	1	No	7,800,000	7,800,000
3.	Deep Well	Depth - m	-	No	-	-
4.	Shallow Well	Depth - m	-	No	-	-
5.	Submersible Pump	Capacity - l/sec Head - m	-	Unit	-	-
6.	Main Distribution Pump (Submersible Pump)	Capacity 5 l/sec Head 80 m	4	Unit	9,000,000	36,000,000
7.	Booster Pump	Capacity 5 l/sec Head 80 m	4	Unit	9,000,000	36,000,000
8.	Pump Pit	Capacity 9 m3	1	Unit	25,500,000	25,500,000
9.	Emergency Genset	Capacity 100 KVA	2	Unit	67,250,000	134,500,000
10.	Fuel Tank	Capacity 4 Kl	1	No	4,500,000	4,500,000
11.	Power Station from PLN	Capacity - KVA	-	LS	-	-
12.	Chlorination	Capacity 2.7 l/hr	1	Unit	2,460,000	2,460,000
II. CIVIL WORK						
1.	Break Pressure Tank	Capacity 9 m3	1	No	22,000,000	22,000,000
		Capacity 3 m3	1	No	9,500,000	9,500,000
2.	Service Reservoir	Capacity 90 m3	1	No	36,289,179	36,289,179
3.	Elevatied Tank	Capacity 30 m3 Height 11 m	1	No	93,700,400	93,700,400
4.	Hydrophore	Capacity - m3 W.P. - kg/cm2	-	No	-	-
		TOTAL COST OF FACILITIES AND CIVIL WORK (I + II)				408,249,579
III. PIPE LAYING						
1.	Piping	PVC diameter 250 mm	-	m	100,927	-
		PVC diameter 200 mm	1,056	m	68,533	72,370,848
		PVC diameter 150 mm	1,284	m	44,927	57,686,268
		PVC diameter 100 mm	2,858	m	23,003	65,742,574
		PVC diameter 75 mm	409	m	16,191	6,622,119
		PVC diameter 50 mm	4,467	m	10,129	45,246,243
		PVC diameter 40 mm	4,421	m	8,106	35,836,626
		GSP diameter 250 mm	-	m	216,509	-
		GSP diameter 200 mm	12	m	154,266	1,851,192
		GSP diameter 150 mm	14	m	117,402	1,643,628
		GSP diameter 100 mm	31	m	74,424	2,307,144
		GSP diameter 75 mm	5	m	34,790	173,950
		GSP diameter 50 mm	49	m	18,864	924,336
		GSP diameter 40 mm	49	m	14,861	728,189
		TOTAL COST OF PIPING				291,133,117
2.	Public Tap		19	No	2,450,000	46,550,000
3.	House Connection		777	No	288,000	223,776,000
4.	Others					34,085,627
5.	Internal Transportation Fee for Imported Materials					28,260,000
	TOTAL COST OF FACILITIES, CIVIL WORK AND PIPE LAYING (I + II + III)					1,032,054,323