

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF PUBLIC WORKS
THE GOVERNMENT OF THE REPUBLIC OF INDONESIA

THE DEVELOPMENT STUDY
ON
WASTEWATER DISPOSAL FOR DENPASAR
DRAWING

JANUARY 1993

PACIFIC CONSULTANTS INTERNATIONAL

SSS

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JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

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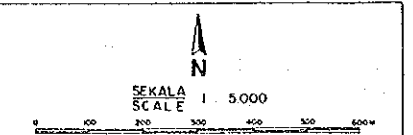
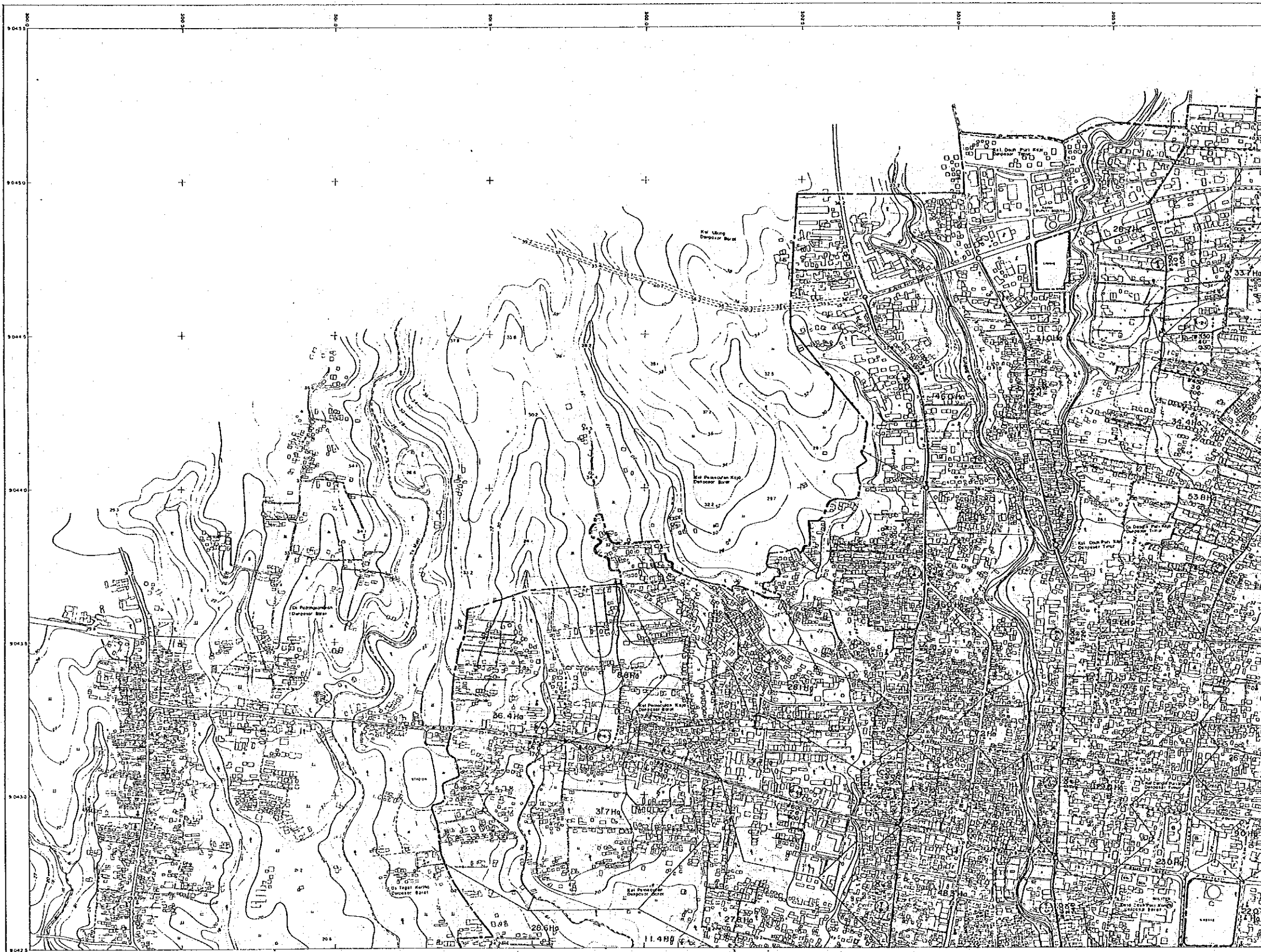


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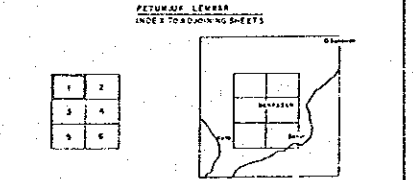
LIST OF FIGURES

FIG. NO.	T I T L E
FIG. 1.1	SEWER NETWORK PLAN (1)
FIG. 1.2	SEWER NETWORK PLAN (2)
FIG. 1.3	SEWER NETWORK PLAN (3)
FIG. 1.4	SEWER NETWORK PLAN (4)
FIG. 1.5	SEWER NETWORK PLAN (5)
FIG. 1.6	SEWER NETWORK PLAN (6)
FIG. 1.7	SEWER NETWORK PLAN (7)
FIG. 1.8	SEWER NETWORK PLAN (8)
FIG. 2.1 (1)	PROFILE OF MAIN SEWER-(A) OF DENPASAR
FIG. 2.1 (2)	PROFILE OF MAIN SEWER-(A) OF DENPASAR
FIG. 2.1 (3)	PROFILE OF MAIN SEWER-(B) OF DENPASAR
FIG. 2.1 (4)	PROFILE OF MAIN SEWER-(C) OF DENPASAR
FIG. 2.1 (5)	PROFILE OF MAIN SEWER-(D) OF DENPASAR
FIG. 2.1 (6)	PROFILE OF MAIN SEWER-(E) OF DENPASAR
FIG. 2.1 (7)	PROFILE OF MAIN SEWER-(F) OF DENPASAR
FIG. 2.1 (8)	PROFILE OF MAIN SEWER-(F) OF DENPASAR
FIG. 2.2 (1)	PROFILE OF MAIN SEWER-(A) & (B) OF SANUR
FIG. 2.2 (2)	PROFILE OF MAIN SEWER-(C) & (E) OF SANUR
FIG. 3	DETAIL OF TYPICAL MANHOLES



- LEGEND**
- Boundary of Overall Sewerage Development Area
 - - - Boundary of Wastewater Collection Sector
 - > Conveyance Sewer
 - > Main Sewer
 - > Force Main
 - > Secondary/Tertiary Sewer
 - (M) Manhole with Pump
 - (P) Lift Pump Station
 - (B) Booster Pump Station
 - Line Number
 - (A-1) Sewer Diameter (mm)
 - 4.50 Sewer Gradient (%)
 - 2.0 Sewer Length (m)
 - 410
 - 12.5 Ha Wastewater Collection Sector Area

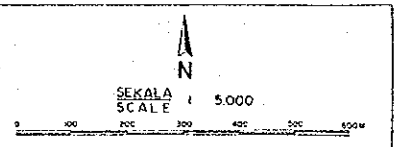
Note: Secondary and Tertiary Sewer lines corresponding to longest Main Sewers only shown.



This Map was prepared in February, 1992 based on the data of 1:25,000 Aerial Photograph taken in July, 1989.

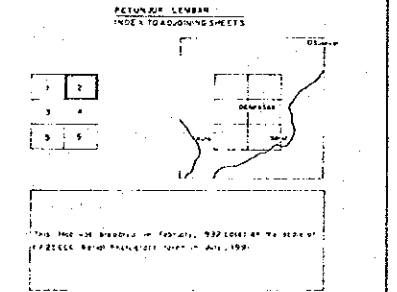
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SEWER NETWORK PLAN (I)
 FIG. 1.1 SCALE 1 : 5,000
 THE DEVELOPMENT STUDY
 ON
 WASTEWATER DISPOSAL FOR DENPASAR
 JAPAN INTERNATIONAL COOPERATION AGENCY



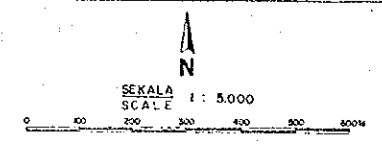
- LEGEND**
- Boundary of Overall Sewerage Development Area
 - - - Boundary of Wastewater Collection Sector
 - Conveyance Sewer
 - Main Sewer
 - - - Force Main
 - - - Secondary/Tertiary Sewer
 - (M) Manhole with Pump
 - (P) Lili Pump Station
 - (B) Booster Pump Station
 - Line Number
 - 400 Sewer Diameter (mm)
 - 3.0 Sewer Gradient (%)
 - 410 Sewer Length (m)
 - 12.5 Ha Wastewater Collection Sector Area

Note: Secondary and Tertiary Sewer lines corresponding to longest Main Sewers only shown.



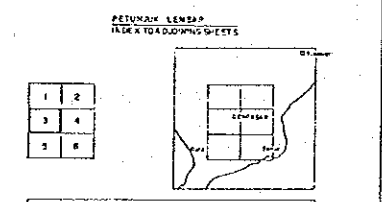
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SEWER NETWORK PLAN (2)
FIG. 1.2 SCALE 1 : 5,000
ON
THE DEVELOPMENT STUDY
WASTEWATER DISPOSAL FOR DENPASAR
JAPAN INTERNATIONAL COOPERATION AGENCY



- LEGEND**
- : Boundary of Overall Sewerage Development Area
 - - - : Boundary of Wastewater Collection Sector
 - : Conveyance Sewer
 - : Main Sewer
 - : Force Main
 - : Secondary/Tertiary Sewer
 - (M) : Manhole with Pump
 - (P) : Lift Pump Station
 - (B) : Booster Pump Station
 - Line Number
 - : Sewer Diameter (mm)
 - : Sewer Gradient (%)
 - : Sewer Length (m)
 - : Wastewater Collection Sector Area

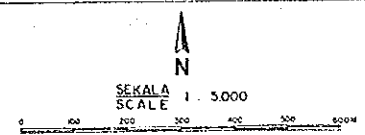
Note: Secondary and Tertiary Sewer lines corresponding to longest Main Sewers only shown.



This Map was prepared in February, 1973 based on the 1:50,000 Scale Photogrammetric Map of July, 59.

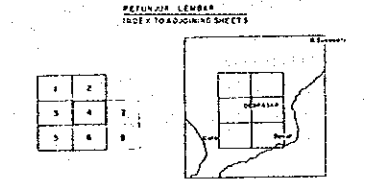
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SEWER NETWORK PLAN (3)
FIG. 1.3 SCALE 1 : 5,000
THE DEVELOPMENT STUDY
ON
WASTEWATER DISPOSAL FOR DENPASAR
JAPAN INTERNATIONAL COOPERATION AGENCY



- LEGEND**
- Boundary of Overall Sewerage Development Area
 - Boundary of Wastewater Collection Sector
 - Conveyance Sewer
 - Main Sewer
 - Force Main
 - Secondary/Tertiary Sewer
 - Manhole with Pump
 - Lift Pump Station
 - Booster Pump Station
 - Line Number
 - Sewer Diameter (mm)
 - Sewer Gradient (%)
 - Sewer Length (m)
 - Wastewater Collection Sector Area

Note: Secondary and Tertiary Sewer lines corresponding to longest Main Sewers only shown.

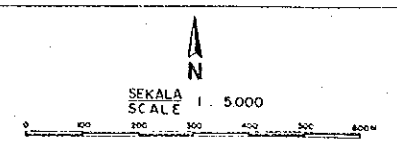
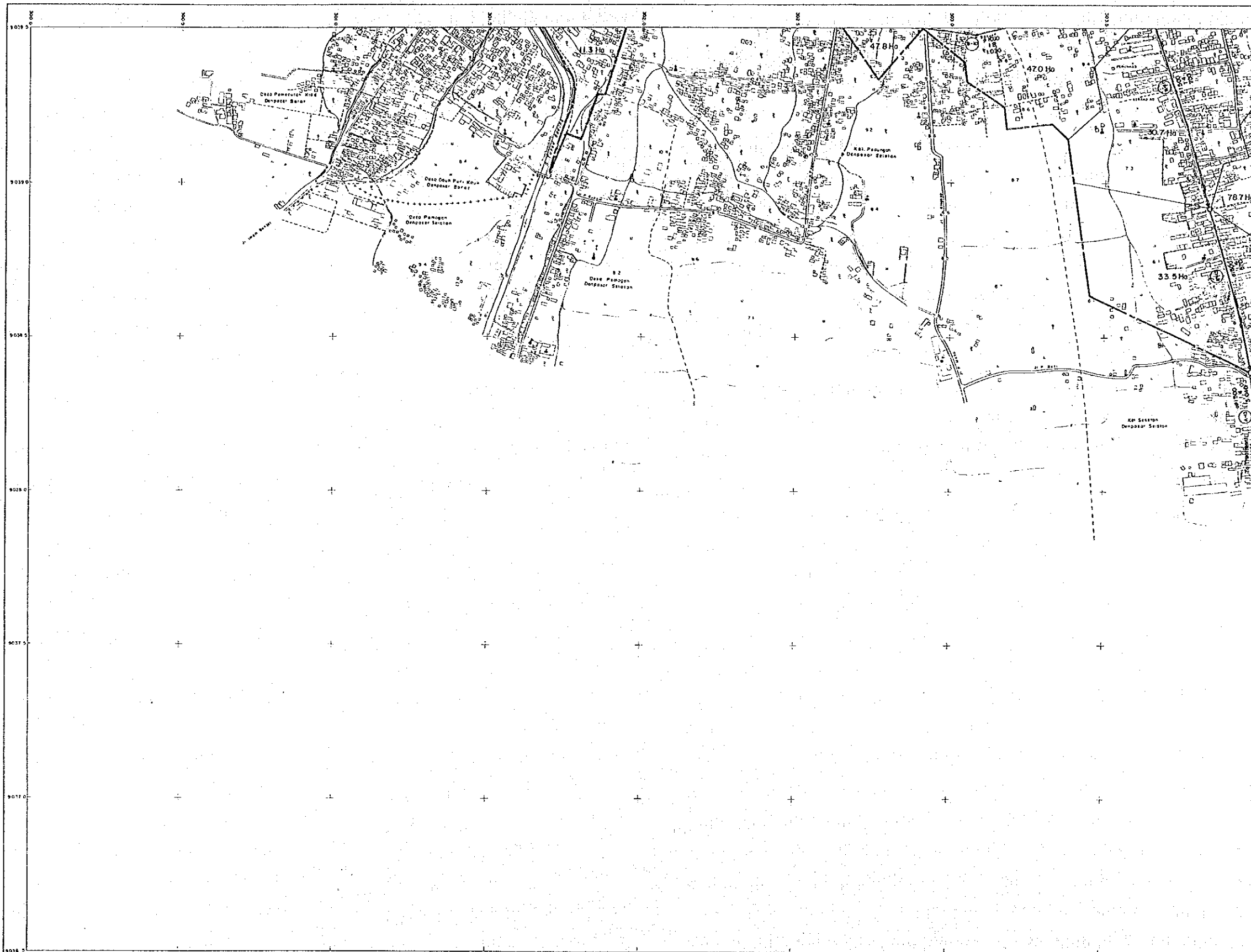


This Map was prepared in February, 1992 based on the scale of 1:25,000 Aerial Photograph taken in July, 1989.

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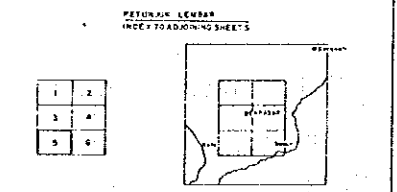
SEWER NETWORK PLAN (4)

FIG. 1.4 SCALE 1 : 5.000
 THE DEVELOPMENT STUDY
 ON
 WASTEWATER DISPOSAL FOR DENPASAR
 JAPAN INTERNATIONAL COOPERATION AGENCY



- LEGEND**
- Boundary of Overall Sewerage Development Area
 - - - Boundary of Wastewater Collection Sector
 - > Conveyance Sewer
 - Main Sewer
 - - - Force Main
 - - - Secondary/Tertiary Sewer
 - (M) Manhole with Pump
 - (P) Lift Pump Station
 - (B) Booster Pump Station
 - Line Number
 - ⬡ Sewer Diameter (mm)
 - ⬡ Sewer Gradient (%)
 - ⬡ Sewer Length (m)
 - ⬡ Wastewater Collection Sector Area

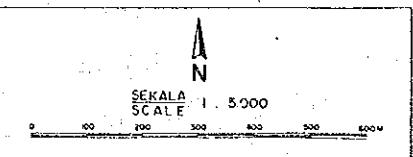
Note: Secondary and Tertiary Sewer lines corresponding to longest Main Sewers only shown.



This Map was prepared in February, 1992 based on the work of 1:25,000 Aerial Photograph taken in July, 1991.

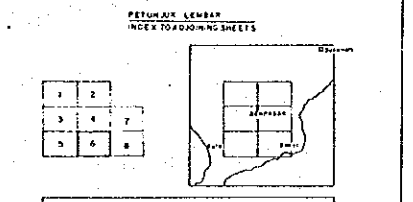
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SEWER NETWORK PLAN (5)
FIG. 1.5 SCALE 1 : 5,000
ON
THE DEVELOPMENT STUDY
ON
WASTEWATER DISPOSAL FOR DENPASAR
JAPAN INTERNATIONAL COOPERATION AGENCY



- LEGEND**
- : Boundary of Overall Sewerage Development Area
 - - - : Boundary of Wastewater Collection Sector
 - : Conveyance Sewer
 - : Main Sewer
 - - - : Force Main
 - · · : Secondary/Tertiary Sewer
 - (M) : Manhole with Pump
 - (P) : Lift Pump Station
 - (B) : Booster Pump Station
 - : Line Number
 - ⬡ : Sewer Diameter (mm)
 - ⬡ : Sewer Gradient (%)
 - ⬡ : Sewer Length (m)
 - ⬡ : Wastewater Collection Sector Area

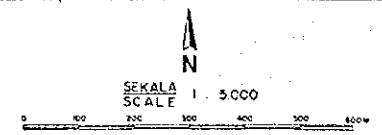
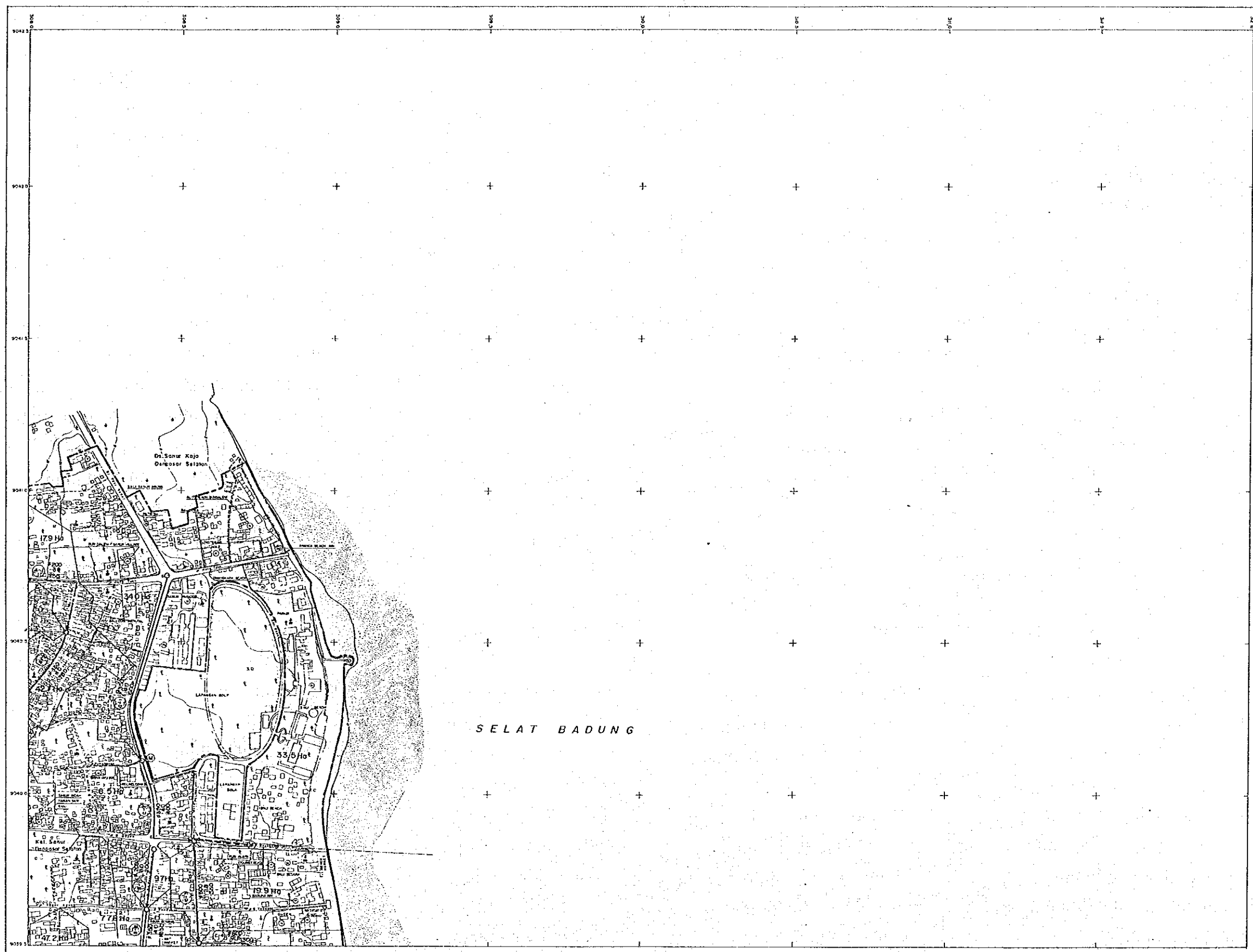
Note: Secondary and Tertiary Sewer lines corresponding to longest Main Sewers only shown.



This Map was prepared in February, 1992 based on the works of 1:25,000 Scale of Photogrammetry taken in July, 1979

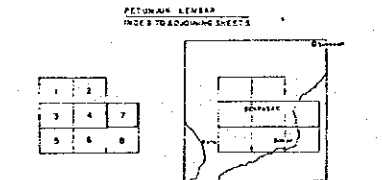
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SEWER NETWORK PLAN (6)
FIG. 1.6 SCALE 1 : 5,000
THE DEVELOPMENT STUDY
ON
WASTEWATER DISPOSAL FOR DENPASAR
JAPAN INTERNATIONAL COOPERATION AGENCY



- LEGEND**
- : Boundary of Overall Sewerage Development Area
 - - - : Boundary of Wastewater Collection Sector
 - : Conveyance Sewer
 - : Main Sewer
 - : Force Main
 - : Secondary/Tertiary Sewer
 - (M) : Manhole with Pump
 - (P) : Lift Pump Station
 - (B) : Booster Pump Station
 - Line Number
 - : Sewer Diameter (mm)
 - : Sewer Gradient (%)
 - : Sewer Length (m)
 - : Wastewater Collection Sector Area

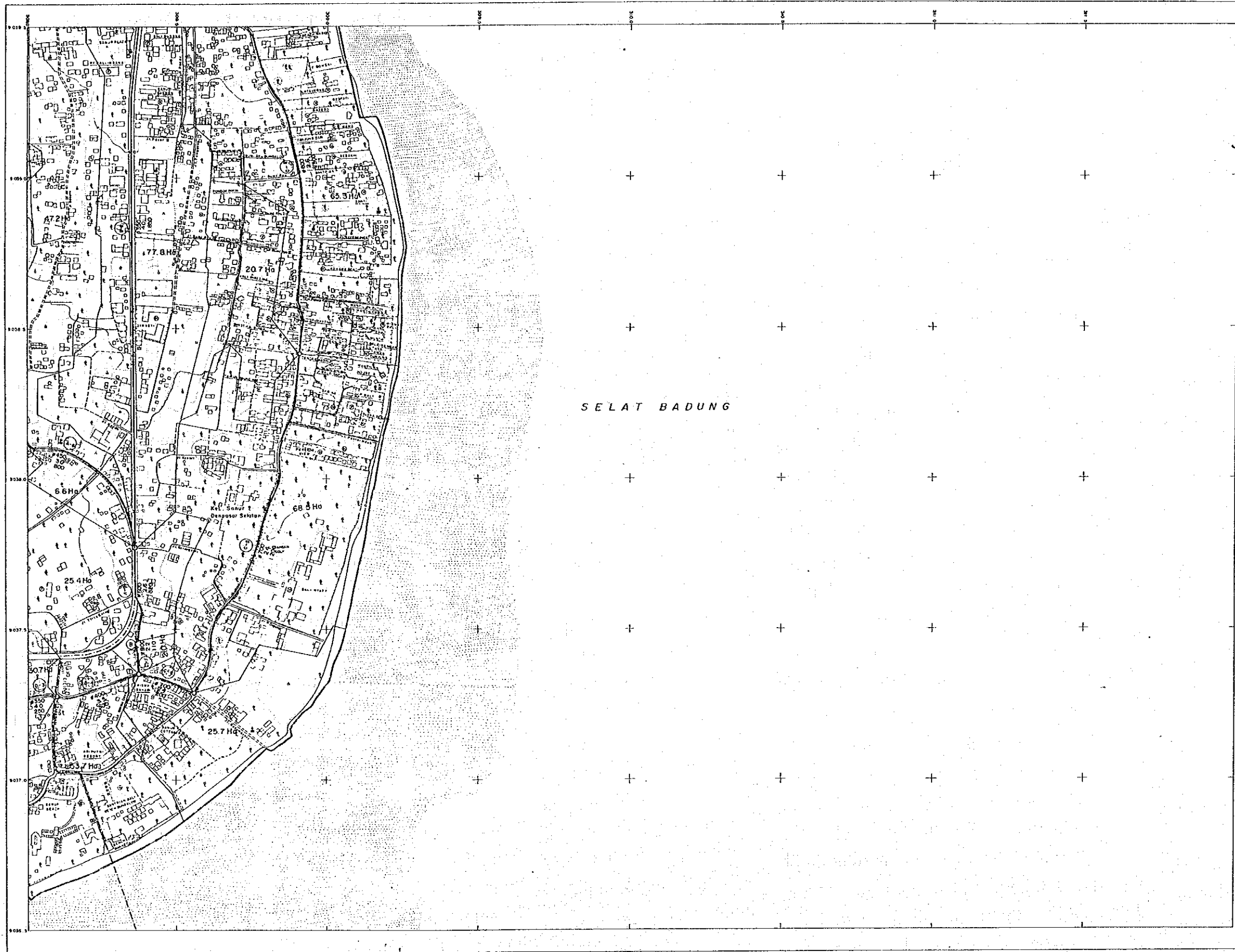
Note: Secondary and Tertiary Sewer lines corresponding to longest Main Sewers only shown.



This Map was prepared in February, 1992 based on the data of 1:25,000 Aerial Photograph taken in July, 1989.

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SEWER NETWORK PLAN (7)
 FIG. 1.7 SCALE 1 : 5,000
 THE DEVELOPMENT STUDY
 ON
 WASTEWATER DISPOSAL FOR DENPASAR
 JAPAN INTERNATIONAL COOPERATION AGENCY



SEKALA
SCALE 1 : 5000

N

0 100 200 300 400 500 600

LEGEND

- : Boundary of Overall Sewerage Development Area
- : Boundary of Wastewater Collection Sector
- >--- : Conveyance Sewer
- >--- : Main Sewer
- >--- : Force Main
- >--- : Secondary/Tertiary Sewer
- (M) : Manhole with Pump
- (L) : Lift Pump Station
- (B) : Booster Pump Station
- : Line Number
- (A.1) : Sewer Diameter (mm)
- (2.1) : Sewer Gradient (%)
- (20) : Sewer Length (m)
- (12.5 Ha) : Wastewater Collection Sector Area

Note: Secondary and Tertiary Sewer lines corresponding to longest Main Sewers only shown.

REKUNCIK LEMBAR
NO. 1 "D" BAWAH SHEETS

1	2
3	4
5	6

This Map was prepared in February, 1967 based on the maps of 1:25,000 Aerial Photograph taken in July, 1958

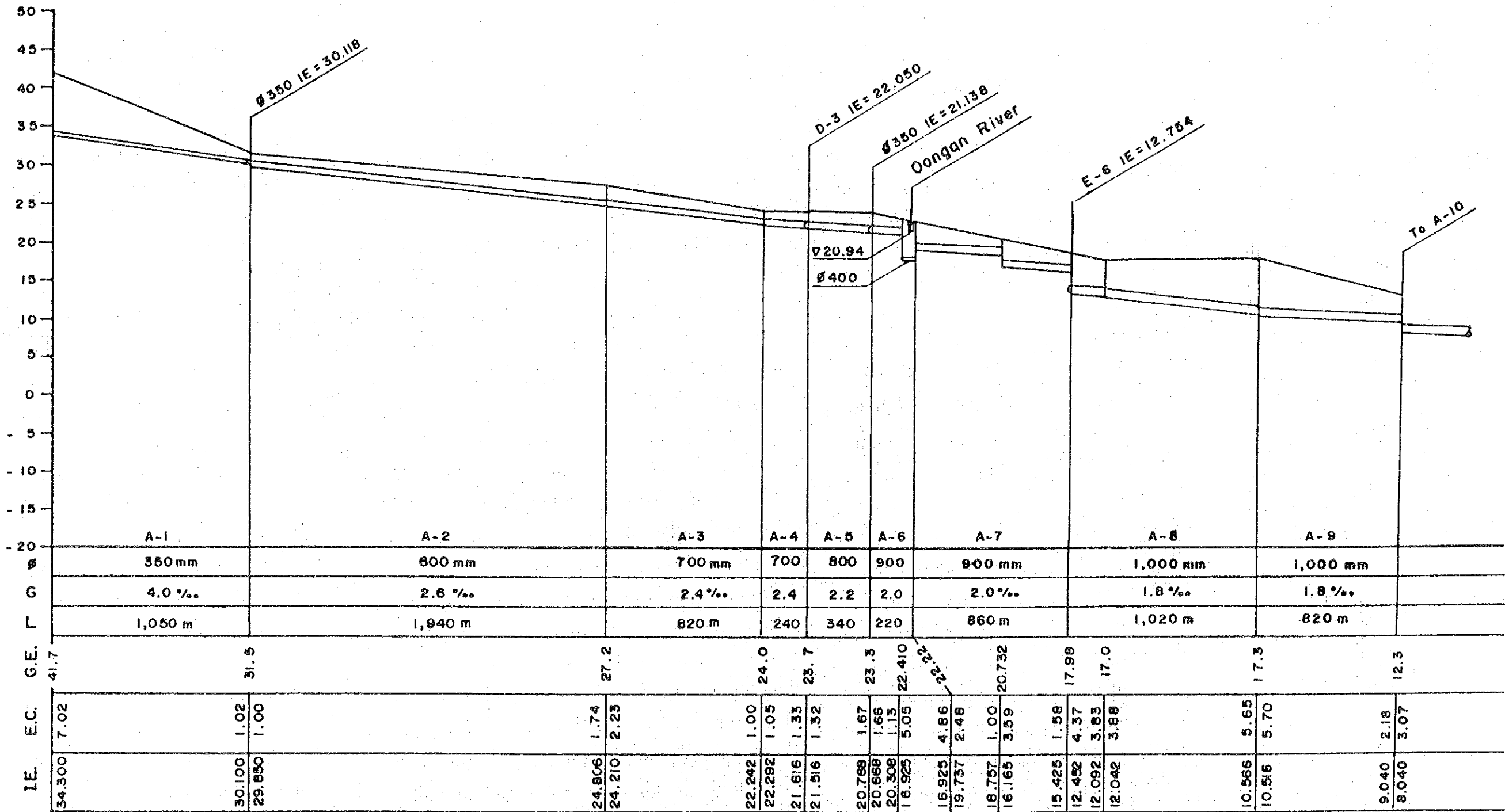
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SEWER NETWORK PLAN (8)

FIG. 1.8 SCALE 1 : 5,000

THE DEVELOPMENT STUDY
ON
WASTEWATER DISPOSAL FOR DENPASAR

JAPAN INTERNATIONAL COOPERATION AGENCY

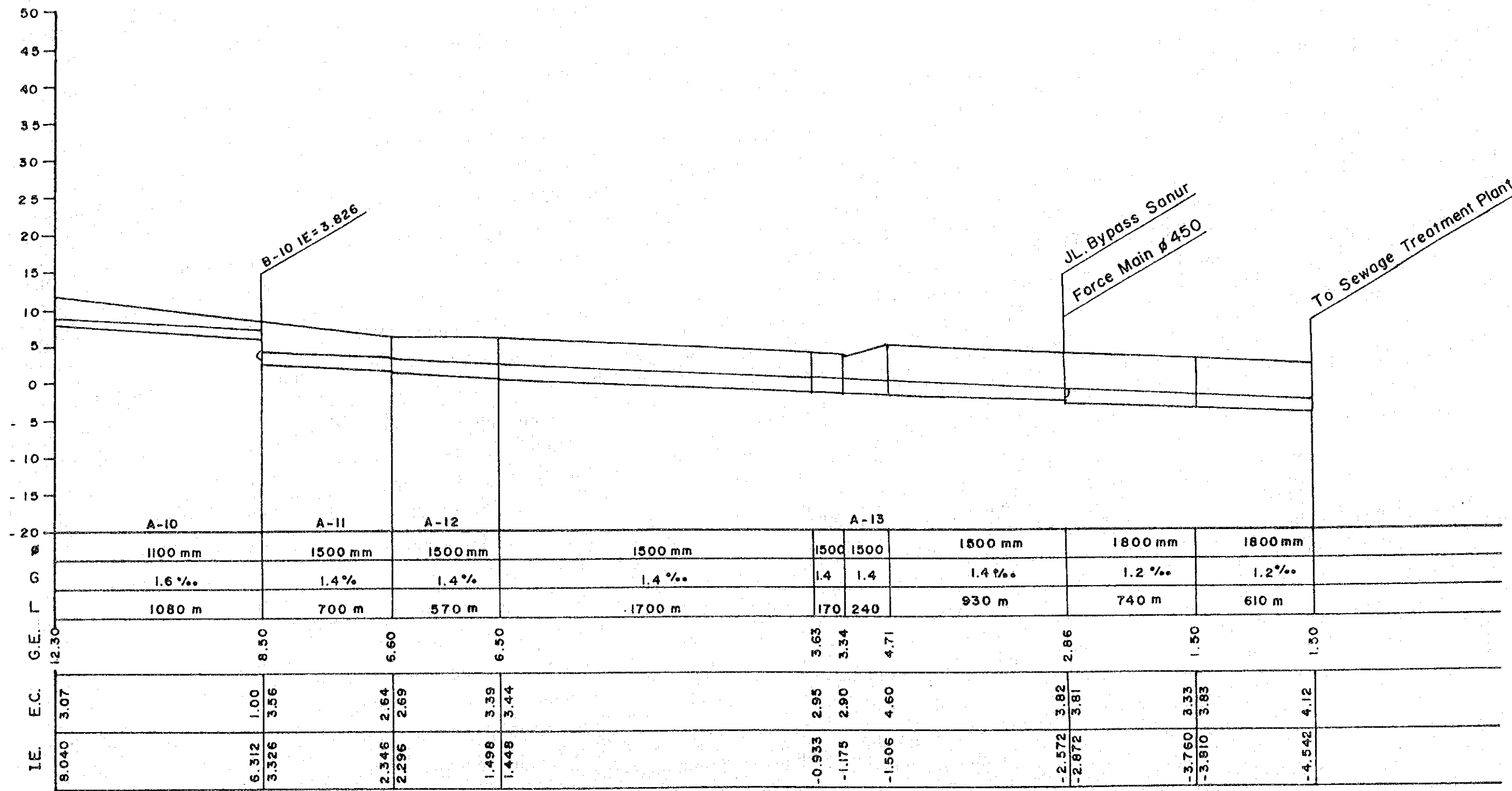


PROFILE OF MAIN SEWER-(A)
OF DENPASAR

THE DEVELOPMENT STUDY
ON
WASTEWATER DISPOSAL FOR DENPASAR

FIG. 2.1(1)

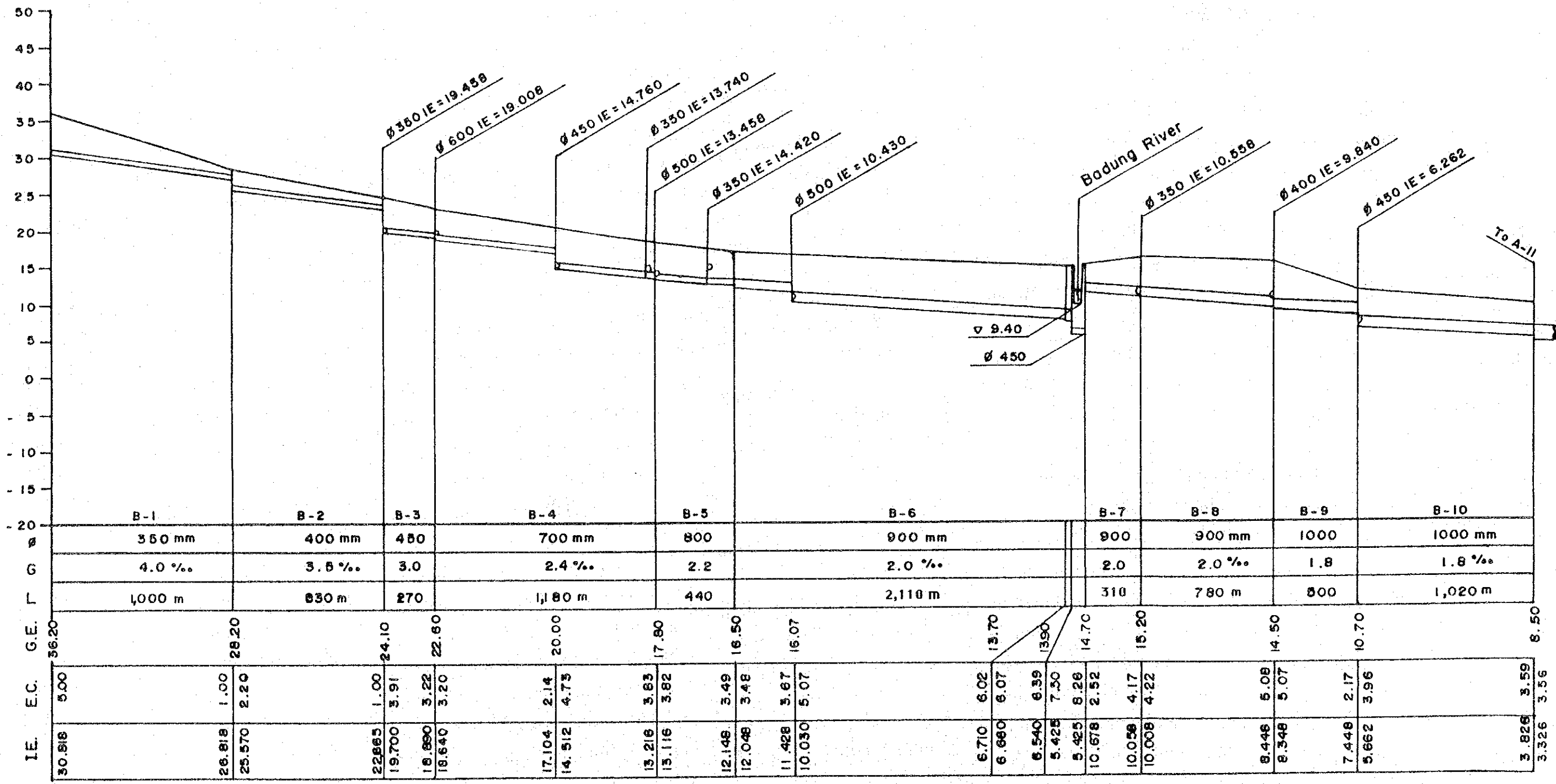
JAPAN INTERNATIONAL COOPERATION AGENCY



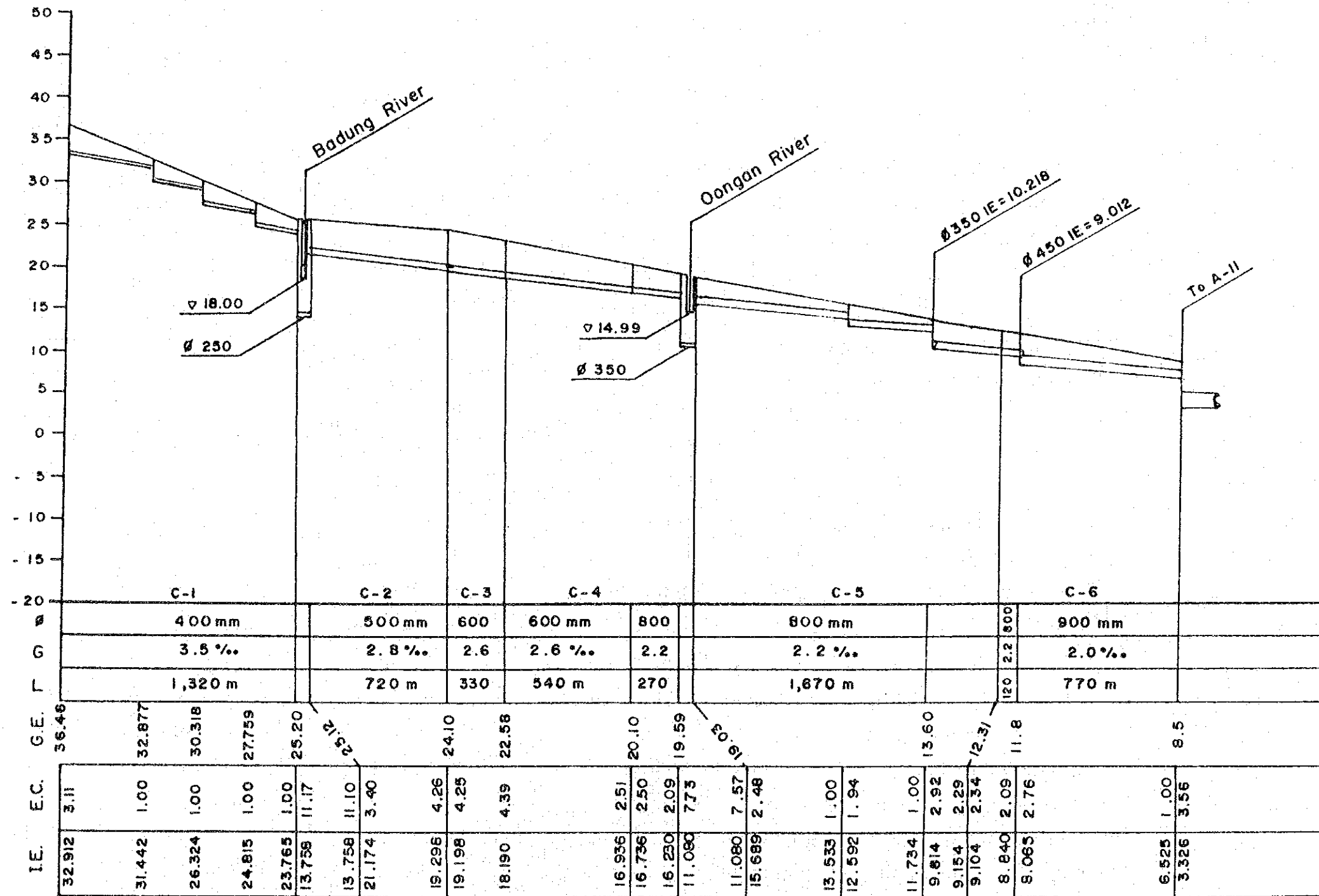
PROFILE OF MAIN SEWER-(A)
OF DENPASAR

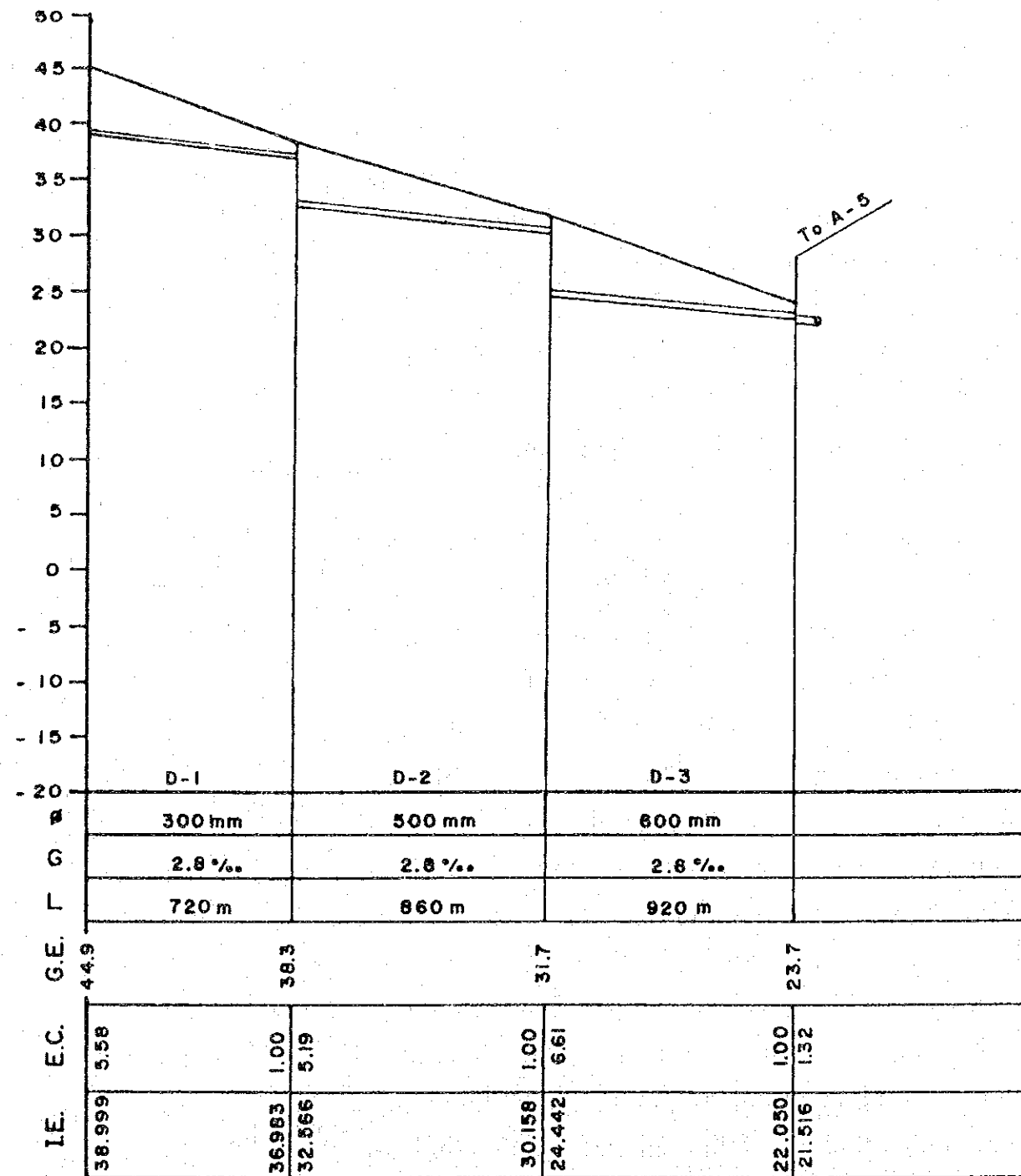
FIG. 2.1(2)

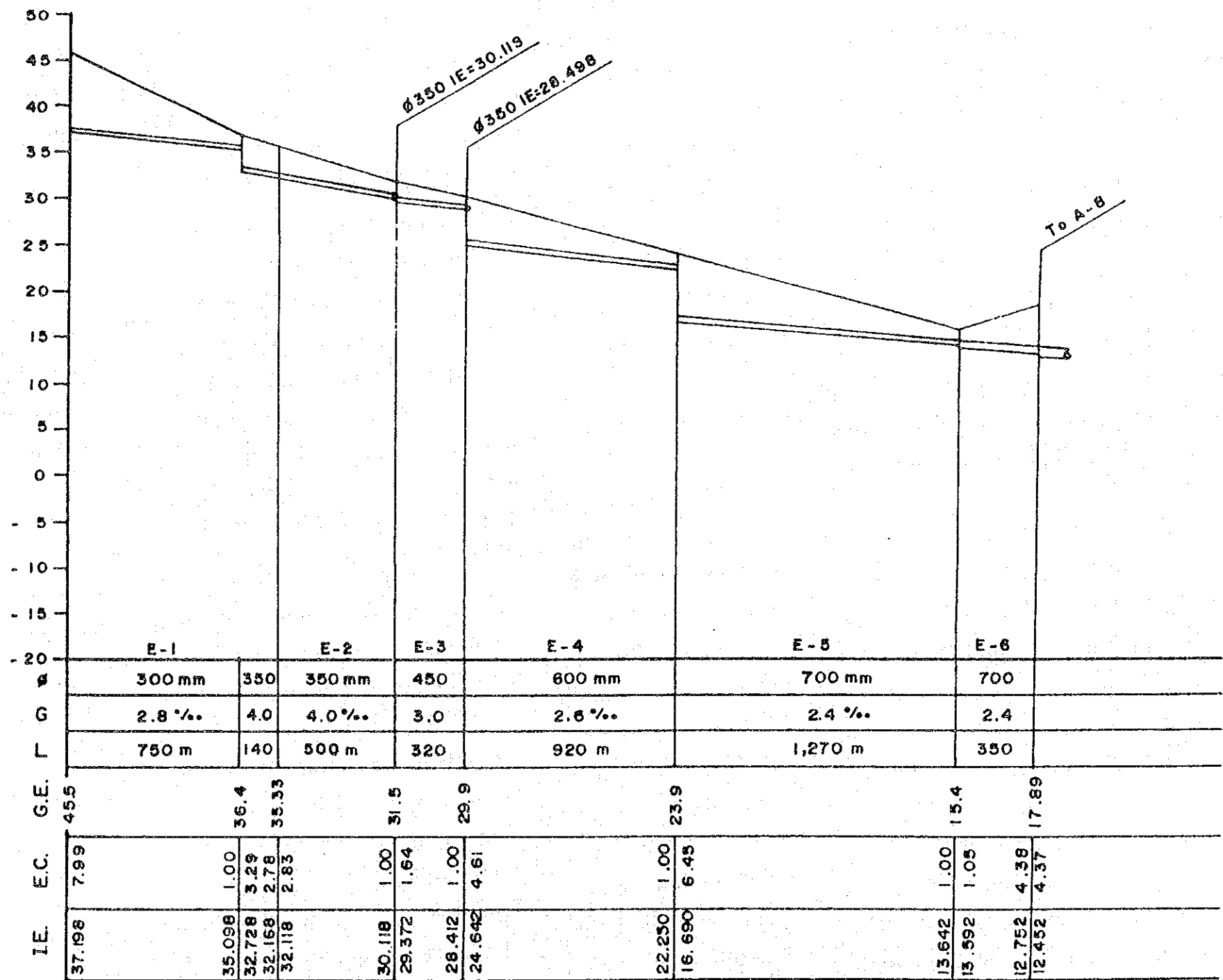
THE DEVELOPMENT STUDY
ON
WASTEWATER DISPOSAL FOR DENPASAR
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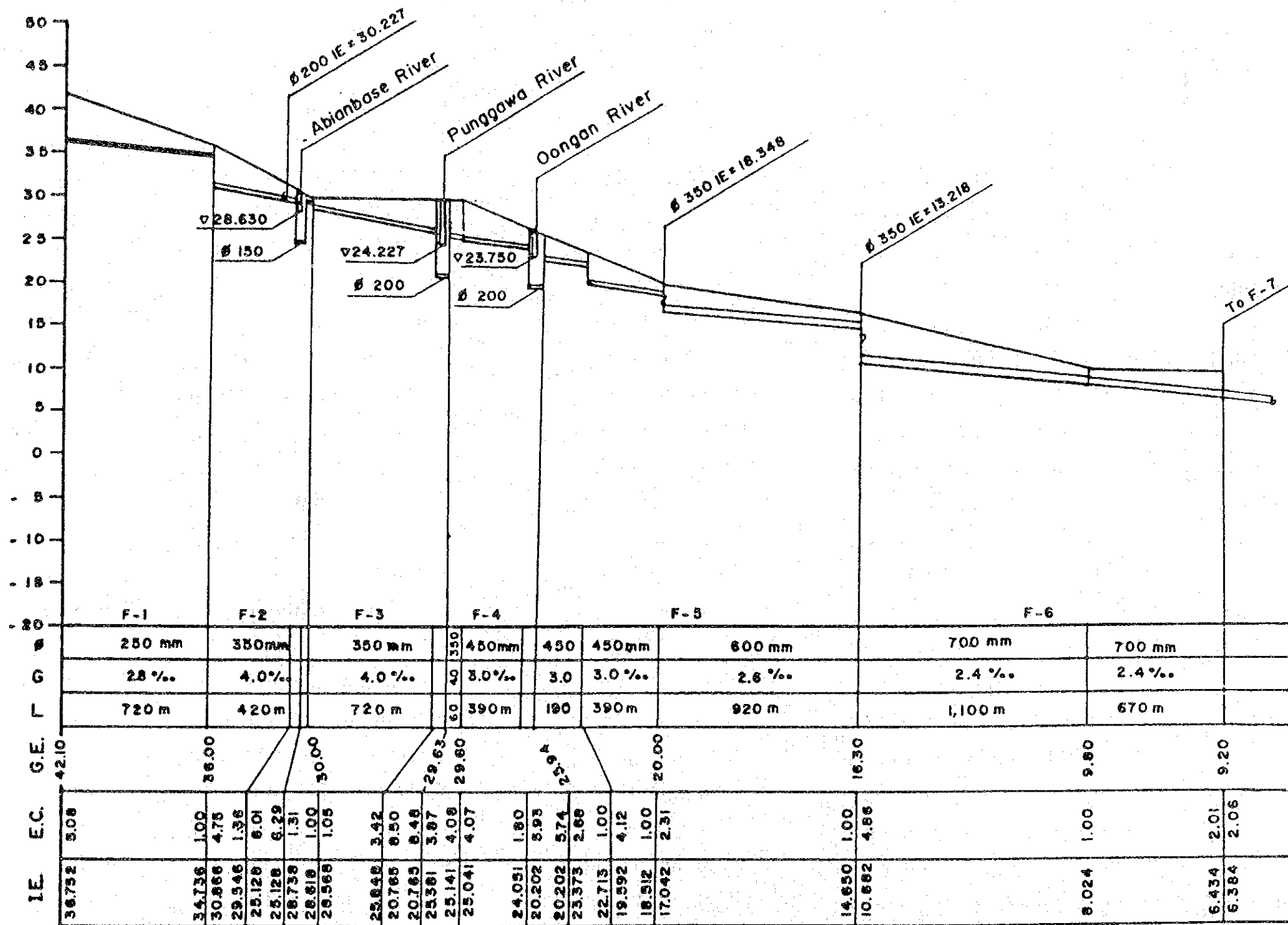


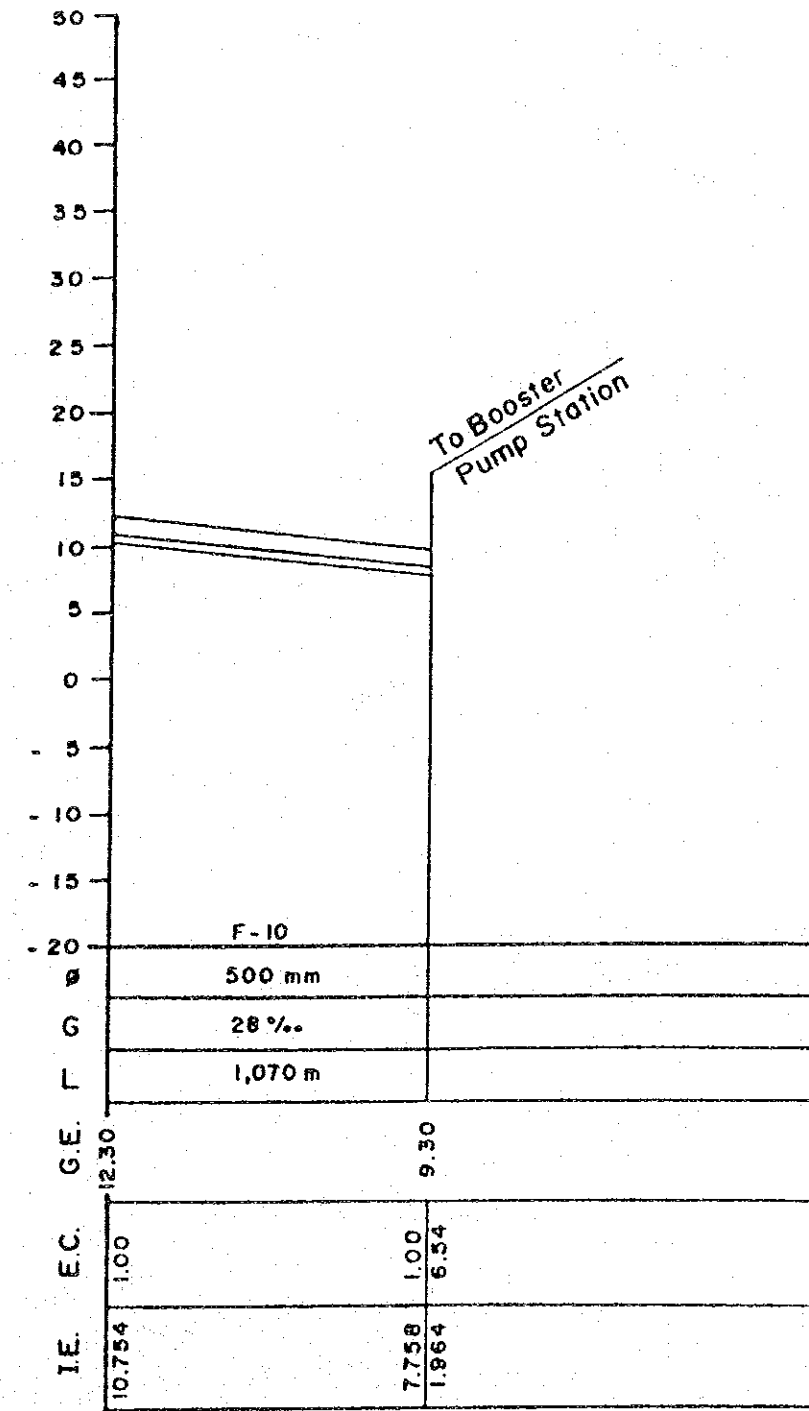
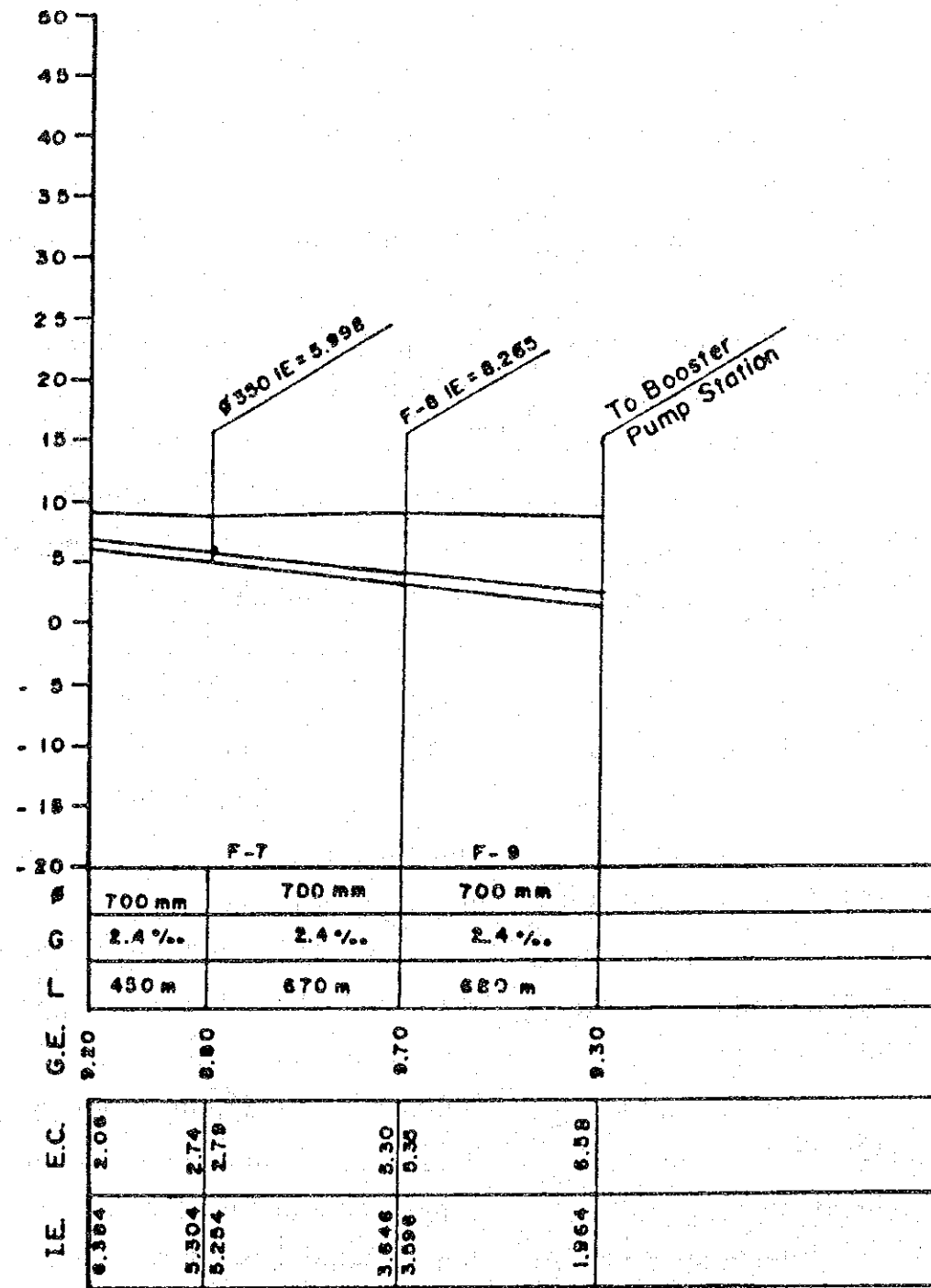
PROFILE OF MAIN SEWER (B) OF DENPASAR
 THE DEVELOPMENT STUDY ON WASTEWATER DISPOSAL FOR DENPASAR
 FIG. 2.1(3)
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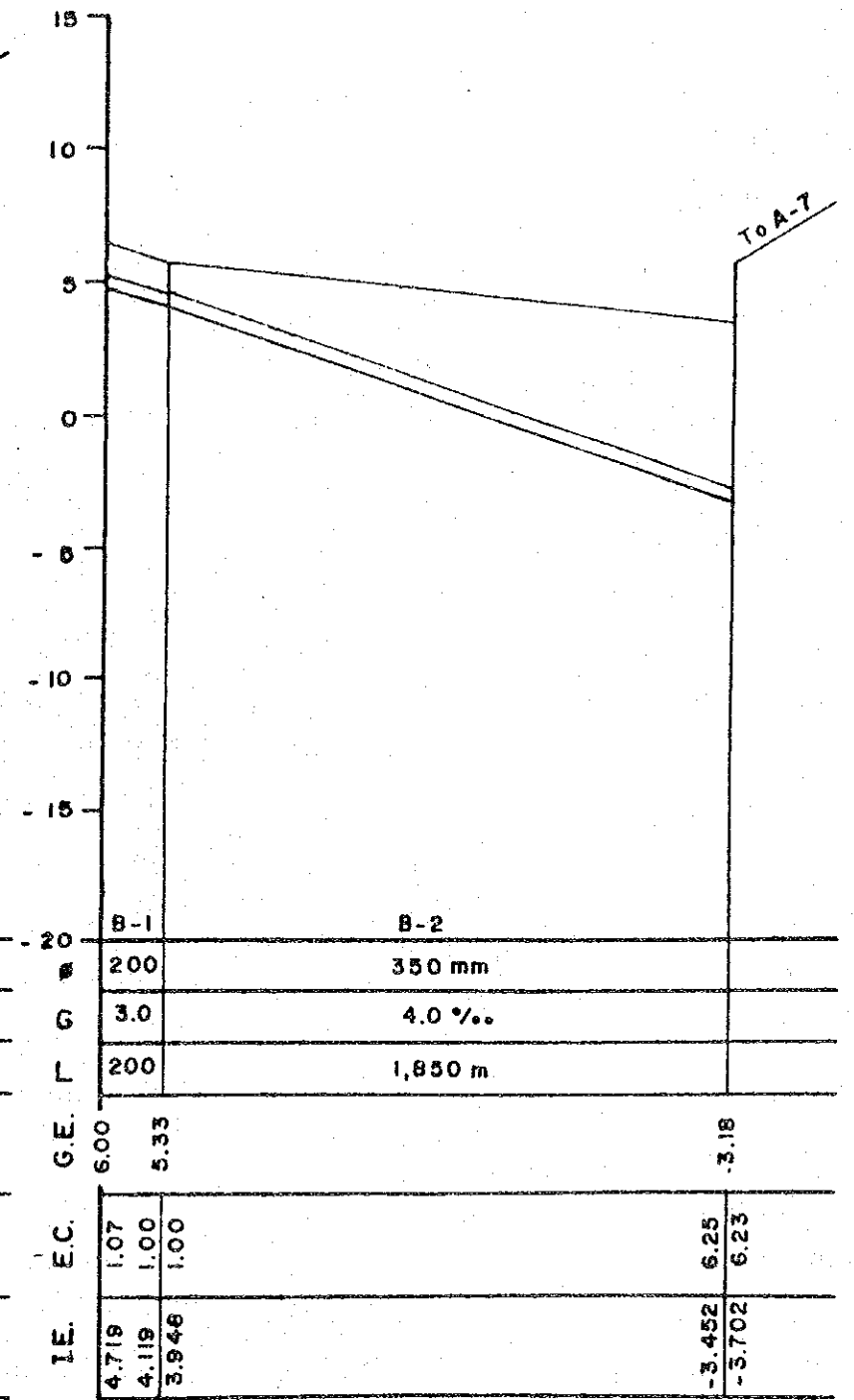
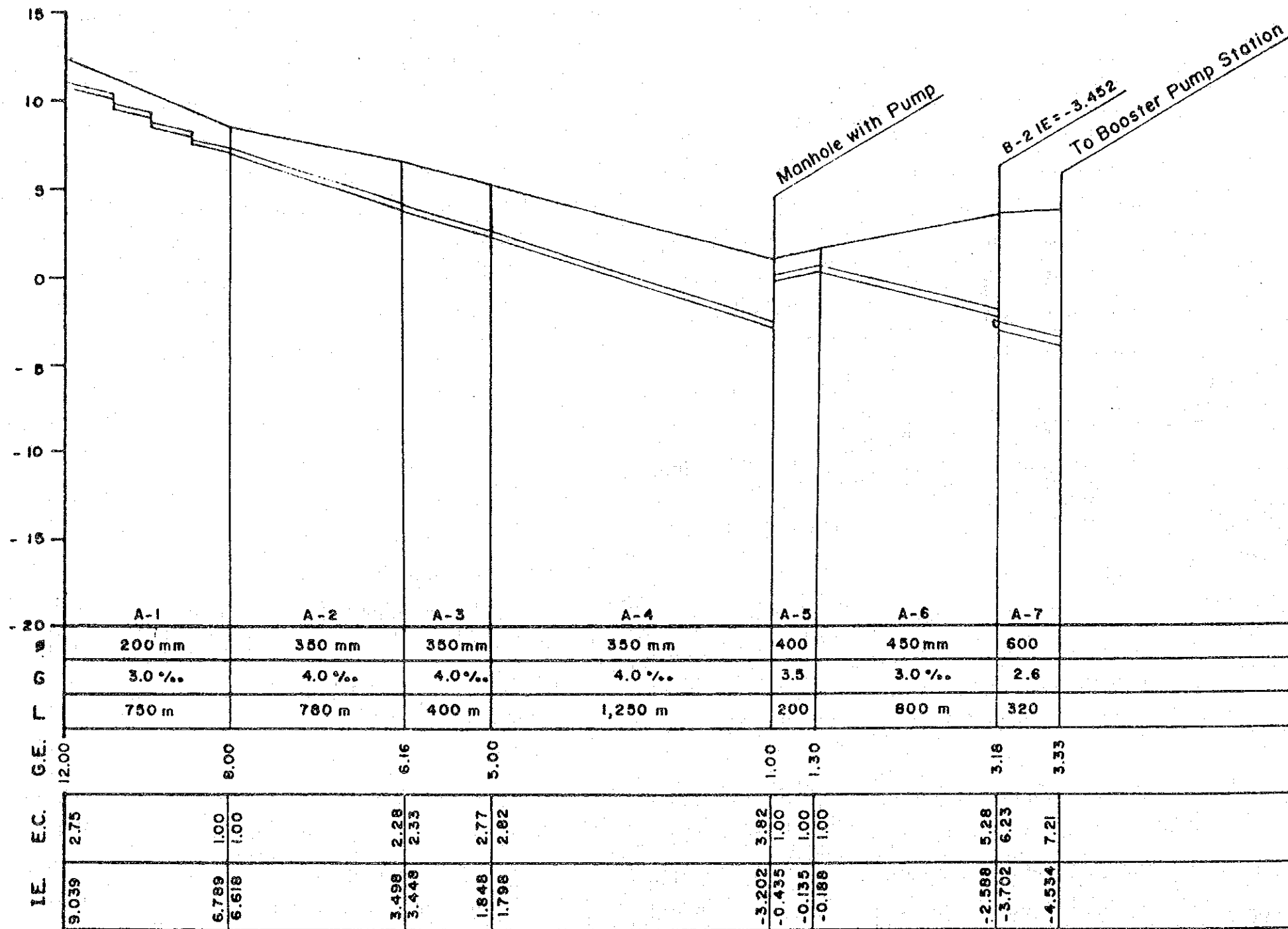


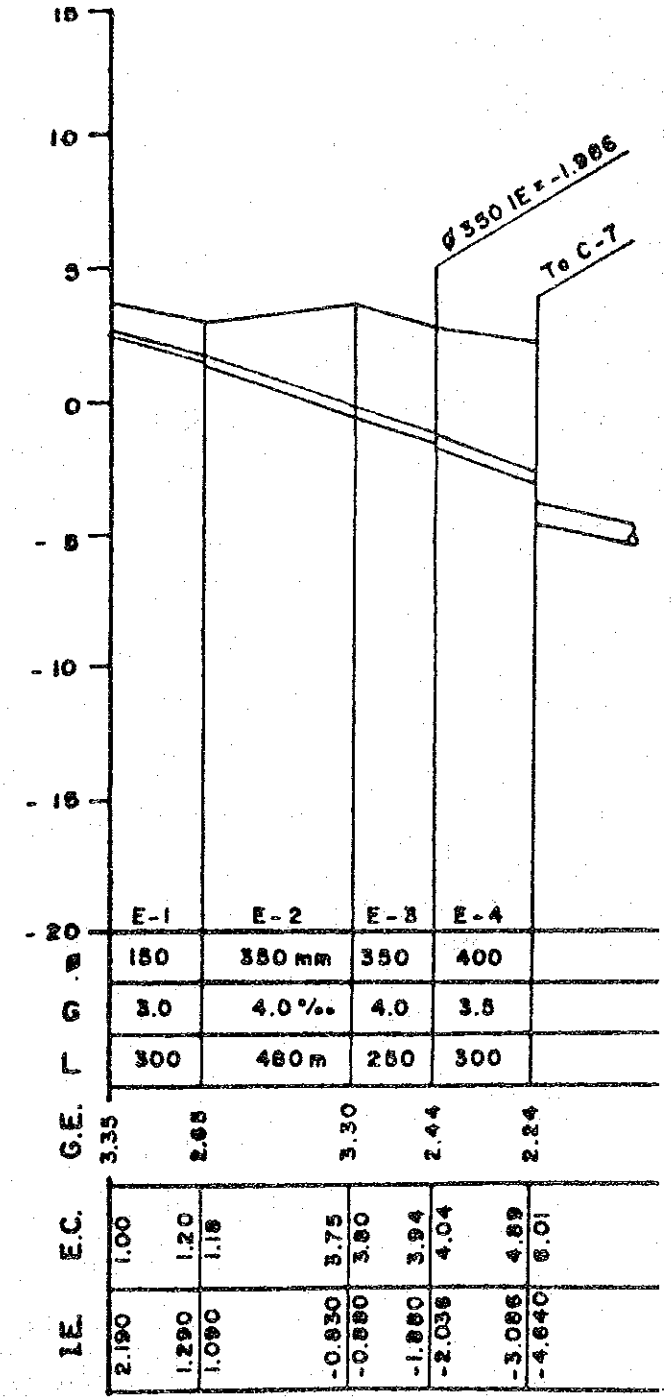
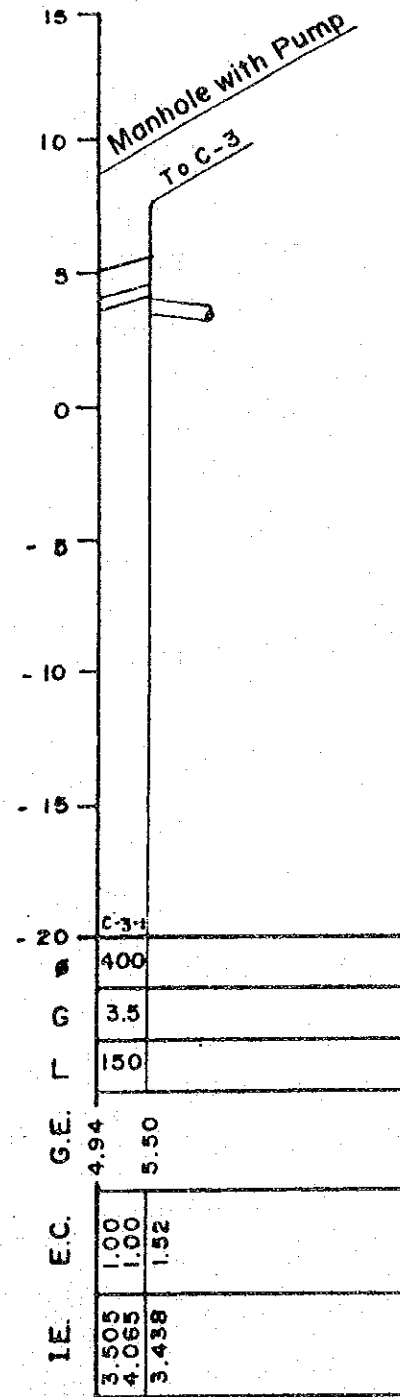
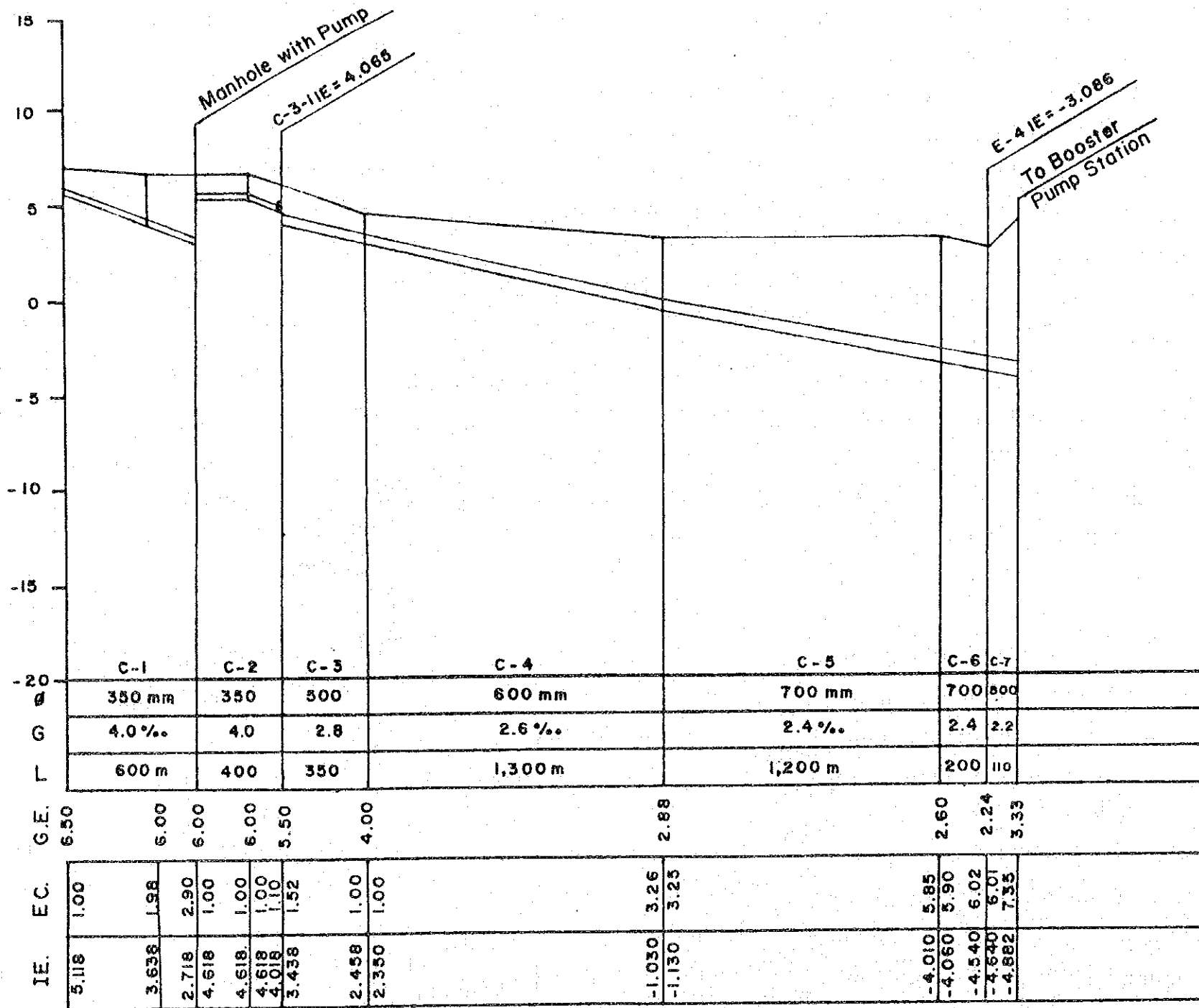






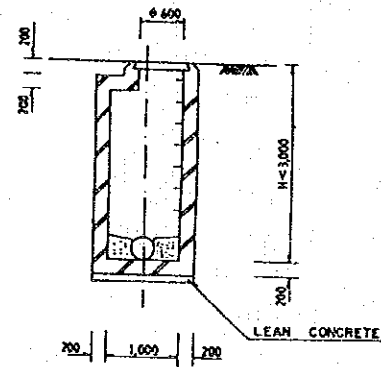
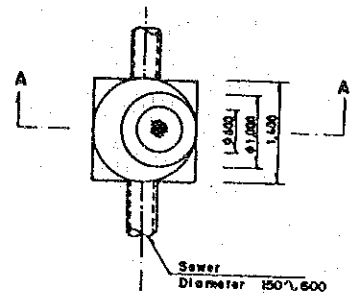






TYPE 1 MANHOLE

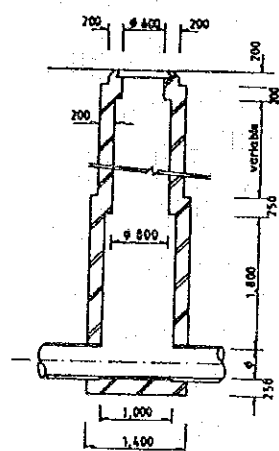
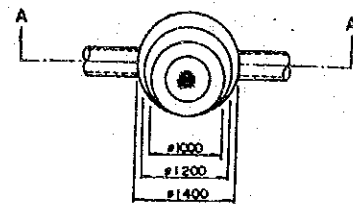
SEWER #150~#600mm
MANHOLE DEPTH UP TO 3.0m



SECTION A - A

TYPE 2 MANHOLE

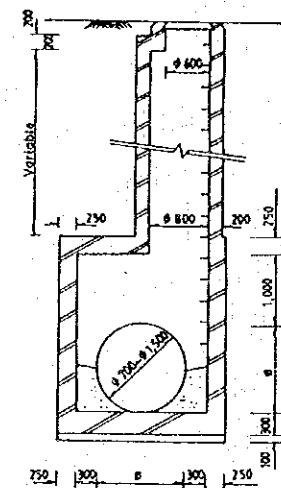
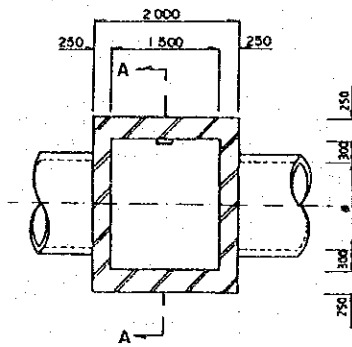
SEWER #150~#600mm
MANHOLE DEPTH OVER 3.0m



SECTION A - A

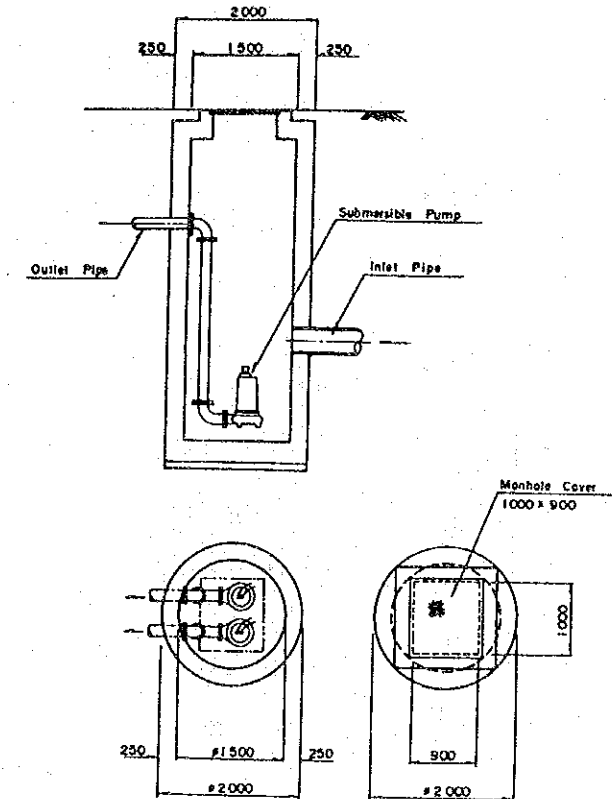
TYPE 3 MANHOLE

SEWER #700~#1500mm



SECTION A - A

MANHOLE WITH PUMP





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