

SCALE  
1:5,000

LEGEND

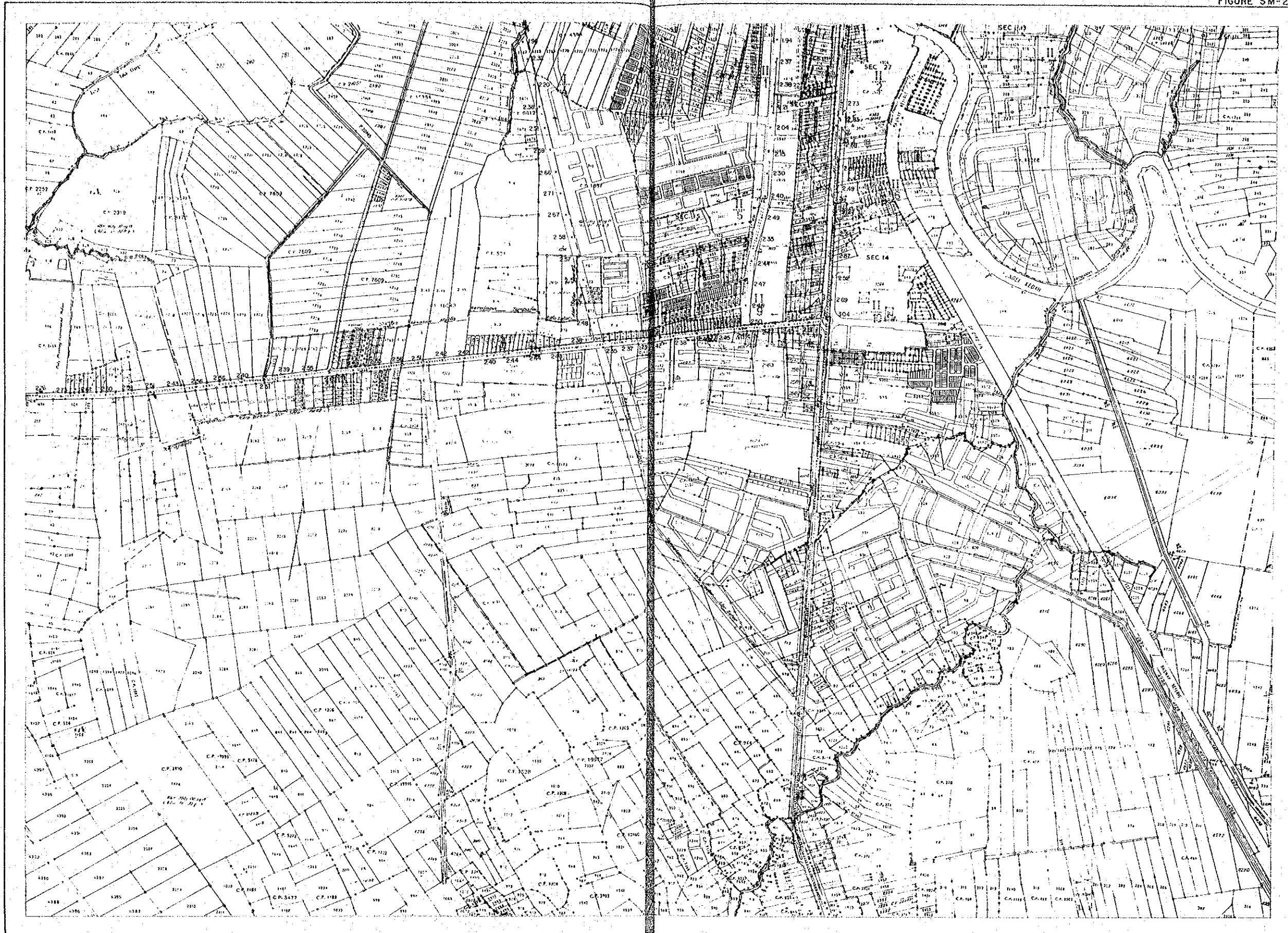
• 2.00 Levelling point with ground elevation in meter

0 0.5 KILOMETRE  
0 0.5 MILE

MASTER PLAN AND FEASIBILITY STUDY FOR  
SEWERAGE AND DRAINAGE SYSTEM PROJECT IN  
ALOR SETAR AND ITS URBAN ENVIRONS

JAPAN INTERNATIONAL COOPERATION AGENCY  
URBAN SURVEILLANTS CO., LTD.  
TOKYO, JAPAN

RESULTS OF LEVELING ON MAIN SEWER ROUTES  
FIGURE SM-26



87.B

88.B

SCALE  
1:6,336

0 0.6 KILOMETRE

0 0.3 MILE

LEGEND

• 240 Leveling points with ground elevation in meter

MASTER PLAN AND FEASIBILITY STUDY FOR SEWERAGE AND DRAINAGE SYSTEM PROJECT IN ALOR SETAR AND ITS URBAN ENVIRONS	
JAPAN INTERNATIONAL COOPERATION AGENCY	NIHON SUIDO CONSULTANTS CO., LTD. TOKYO, JAPAN
RESULTS OF LEVELING ON MAIN SEWER ROUTES	FIGURE SM-27



75-C



75-D

SCALE  
1:6,336



LEGEND

• 320 Leveling point with ground elevation in meter

88 B

MASTER PLAN AND FEASIBILITY STUDY FOR SEWERAGE AND DRAINAGE SYSTEM PROJECT IN ALOR SETAR AND ITS URBAN ENVIRONS	
JAPAN INTERNATIONAL COOPERATION AGENCY	NIHON SUDO CONSULTANTS CO., LTD. TOKYO, JAPAN
RESULTS OF LEVELING ON MAIN SEWER ROUTES	FIGURE SM-28





SCALE  
1:6,336



LEGEND

• 1.91 Leveling point with ground elevation in meter

MASTER PLAN AND FEASIBILITY STUDY FOR SEWERAGE AND DRAINAGE SYSTEM PROJECT IN ALOR SETAR AND ITS URBAN ENVIRONS	
JAPAN INTERNATIONAL COOPERATION AGENCY	NIHON SUIKO CONSULTANTS CO., LTD. TOKYO, JAPAN
RESULTS OF LEVELING ON MAIN SEWER ROUTES	FIGURE SM-29





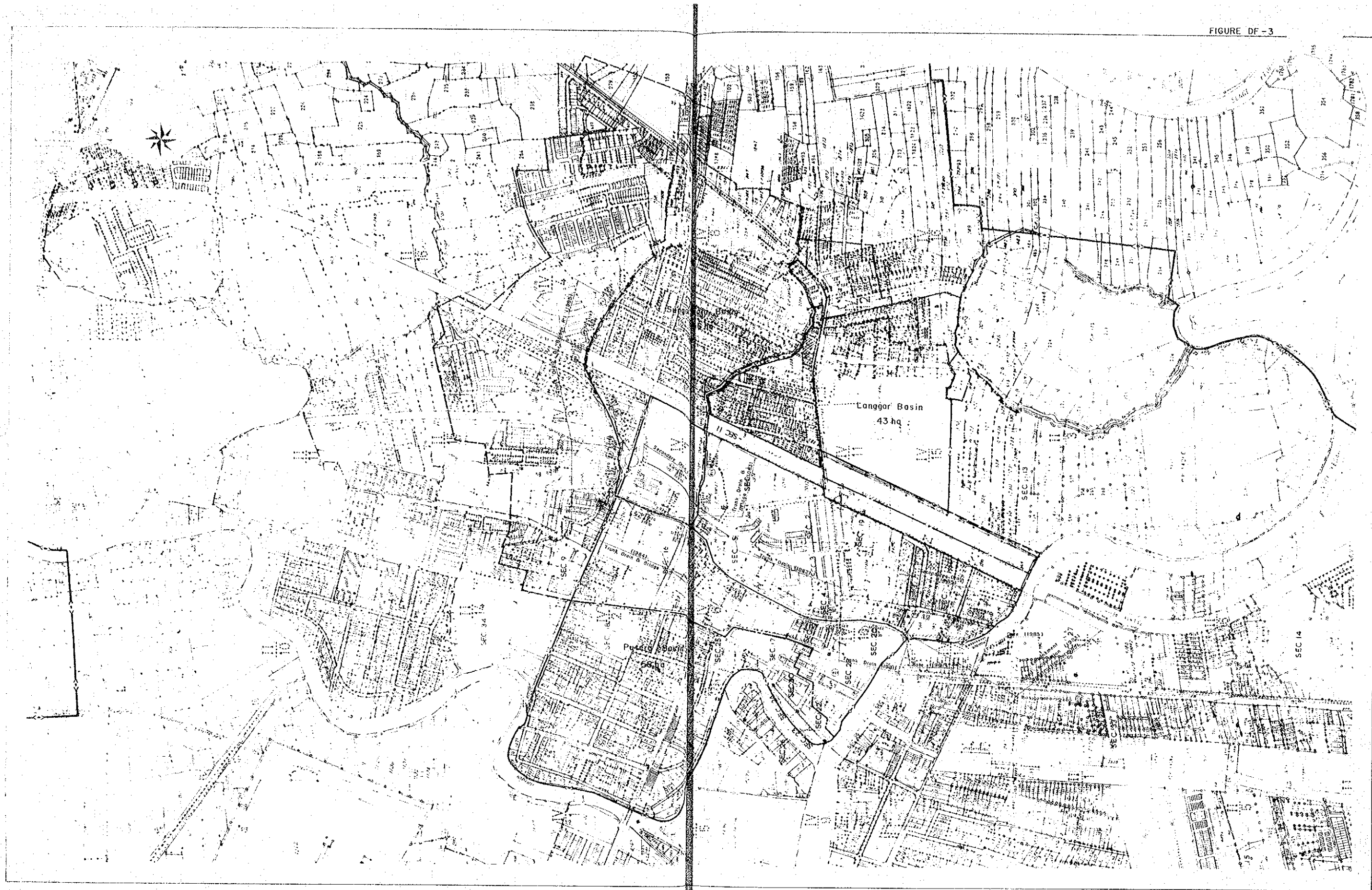
SCALE  
1:5000

- LEGEND**
- Boundary Delineated by Master Plan
  - Boundary of Feasibility Study Area
  - Boundary of Contributing Area
  - Boundary of Basin
  - Proposed Trunk Drain
  - Proposed Secondary Drain
  - Drain Number and Section (m)
  - 0.25 Invert Slope (% = 1/1000)
  - 50.00 Drain Length (m)
  - 6.5 m Upper Width
  - 4.5 m Bottom Width
  - 2.0 m Depth
  - Drain section
  - Open channel (Rubble Wall Drain)
  - Box Culvert

- Embankment
- Pumping station
- Reservoir
- Outlet Gate
- Bridge

MASTER PLAN AND FEASIBILITY STUDY FOR SEWERAGE AND DRAINAGE SYSTEM PROJECT IN ALOR SETAR AND ITS URBAN ENVIRONS	
JAPAN INTERNATIONAL COOPERATION AGENCY	NIHON SUBO CONSULTANTS CO., LTD. TOKYO, JAPAN
PLAN OF OVERALL DRAINAGE SYSTEM	FIGURE DF-2





SCALE

LEGEND	
	Boundary Delineated by Master Plan
	Boundary of Feasibility Study Area
	Boundary of Contributing Area
	Boundary of Basin
	Proposed Trunk Drain
	Proposed Secondary Drain
	Drain Number and Section (m)
	Invert Slope (1% = 1/100)
	6.5 m Upper Width
	4.5 m Bottom Width
	2.0 m Depth
	Drain section
	Open channel (Rubble Wall Drain)
	Box Culvert

	Embankment
	Pumping station
	Reservoir
	Outlet Gate
	Bridge

MASTER PLAN AND FEASIBILITY STUDY FOR SEWERAGE AND DRAINAGE SYSTEM PROJECT IN ALOR SETAR AND ITS URBAN ENVIRONS

JAPAN INTERNATIONAL COOPERATION AGENCY      NIPON SOKU CHOUSAKAISU CO., LTD. TOKYO, JAPAN

IMPLEMENTATION PROGRAMME FOR PROPOSED DRAINAGE SYSTEM

FIGURE DF-3

FIGURE DF-4-1

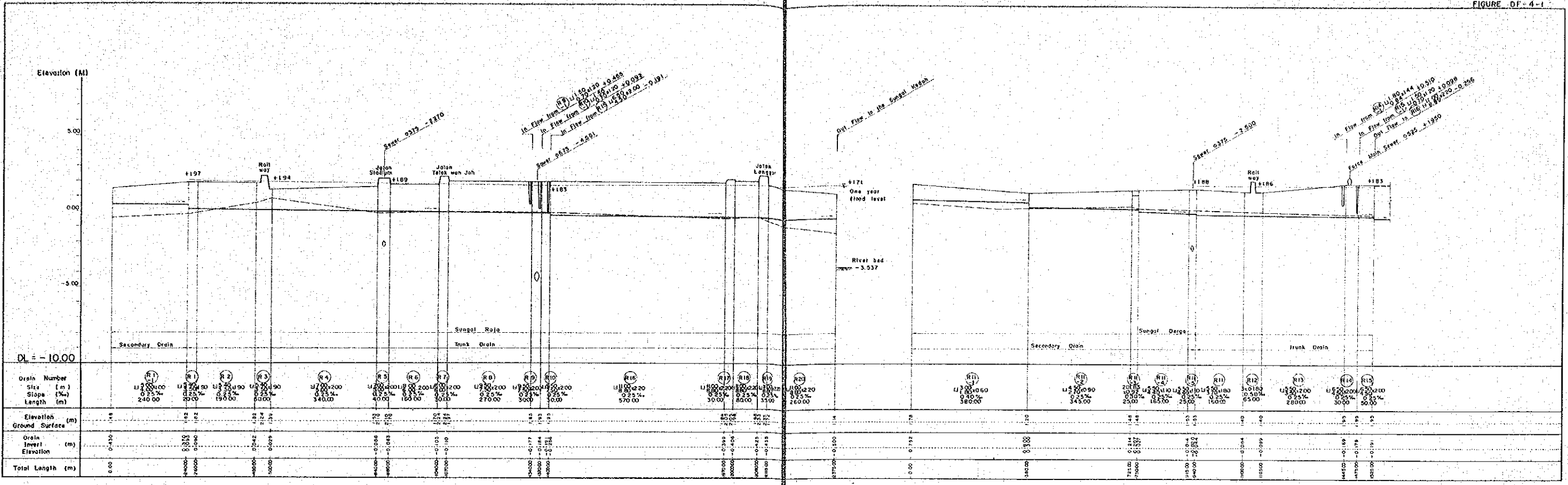
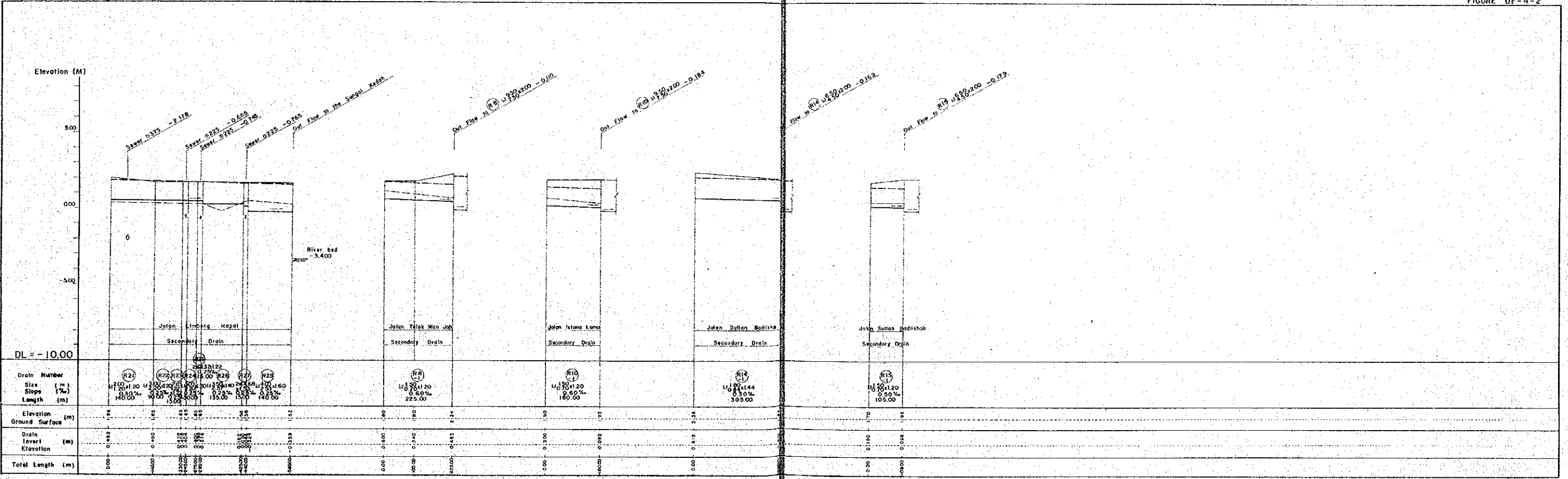


FIGURE DF-4-2



SCALE  
Horizontal 1 : 5000  
Vertical 1 : 100

- LEGEND**
- Crown Level of Proposed Drain
  - Back water Level
  - Existing Invert
  - Proposed Invert
  - Line No.
  - Rubble Wall Channel
  - Concrete Box Culvert
  - 7.50 : 7.50 m : Upper Width
  - 5.50 : 5.50 m : Bottom Width
  - 12.00 : 2.00 m : Depth

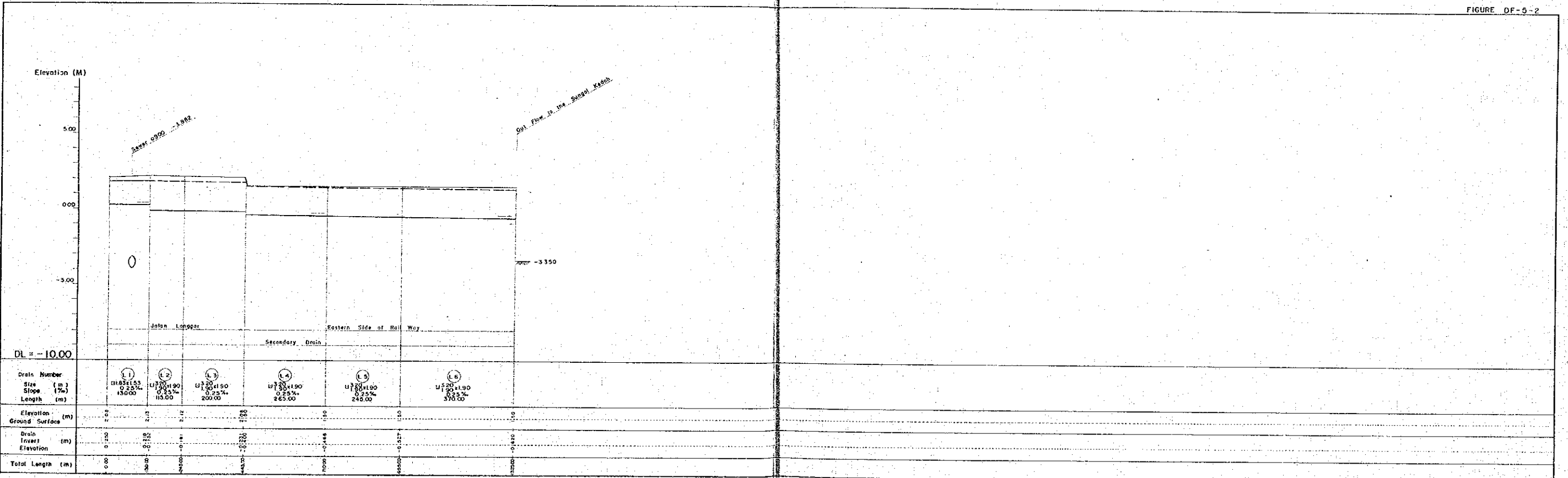
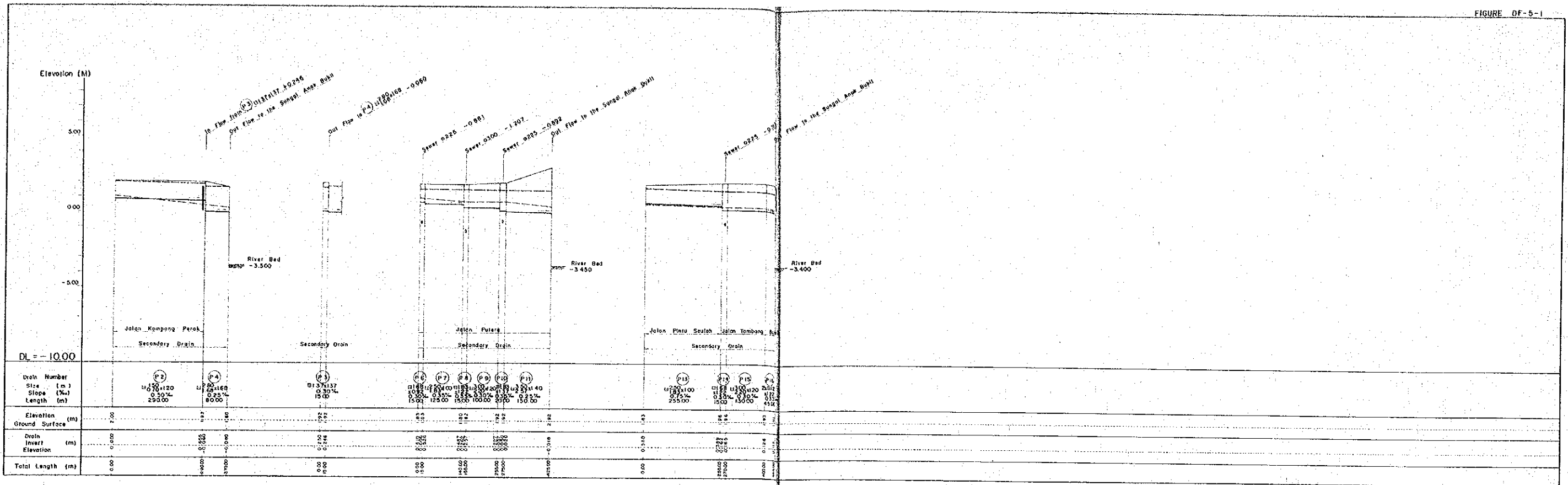
Note: 1) Crown level of proposed trunk drain is the same line as ground level.  
2) The water level is expected in trunk drains at the time of major storm (10 year frequency) is about 0.6m (2ft) higher than the bottom level of the proposed trunk drains.

MASTER PLAN AND FEASIBILITY STUDY FOR SEWERAGE AND DRAINAGE SYSTEM PROJECT IN ALOR SETAR AND ITS URBAN ENVIRONS

JAPAN INTERNATIONAL COOPERATION AGENCY      NIHON SUDO CONSULTANTS CO., LTD. TOKYO, JAPAN

PROFILE OF PROPOSED DRAIN (Sungai Raja Basin)      FIGURE DF-4





SCALE  
Horizontal 1 : 5,000  
Vertical 1 : 100

LEGEND  
 - - - - - Crown Level of Proposed Drain  
 - - - - - Proposed Invert  
 - - - - - Existing Invert  
 (P) Line No.  
 U Rubble Wall Channel  
 C Concrete Box Culvert  
 3.00m : Upper Width  
 2.20x1.20 : Bottom Width  
 1.50m : Depth  
 % Invert Slope 1/1,000

MASTER PLAN AND FEASIBILITY STUDY FOR SEWERAGE AND DRAINAGE SYSTEM PROJECT IN ALOR SETAR AND ITS URBAN ENVIRONS

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PROFILE OF PROPOSED DRAIN (Putera and Langgar Basin) | FIGURE OF-5

JICA