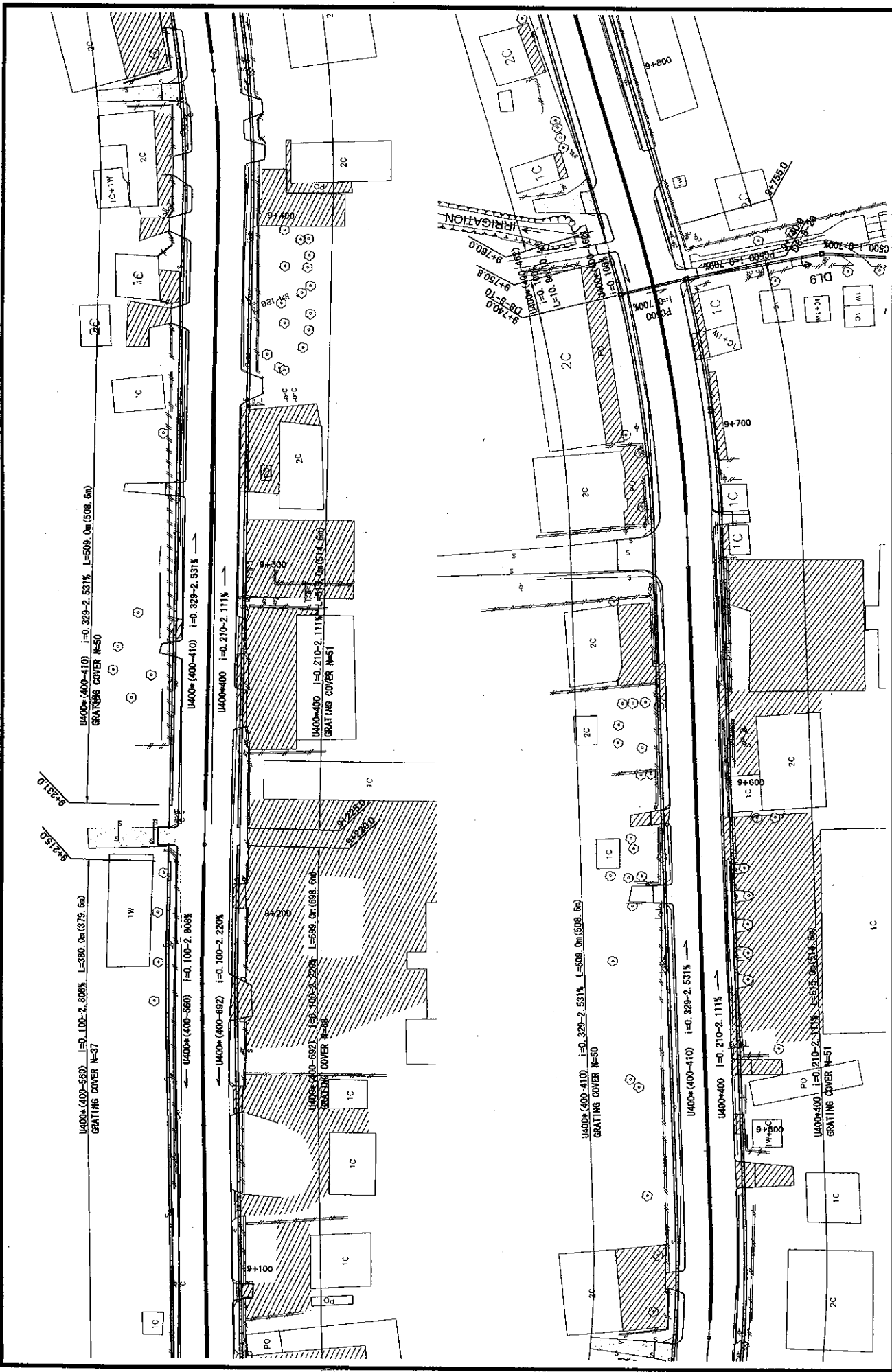
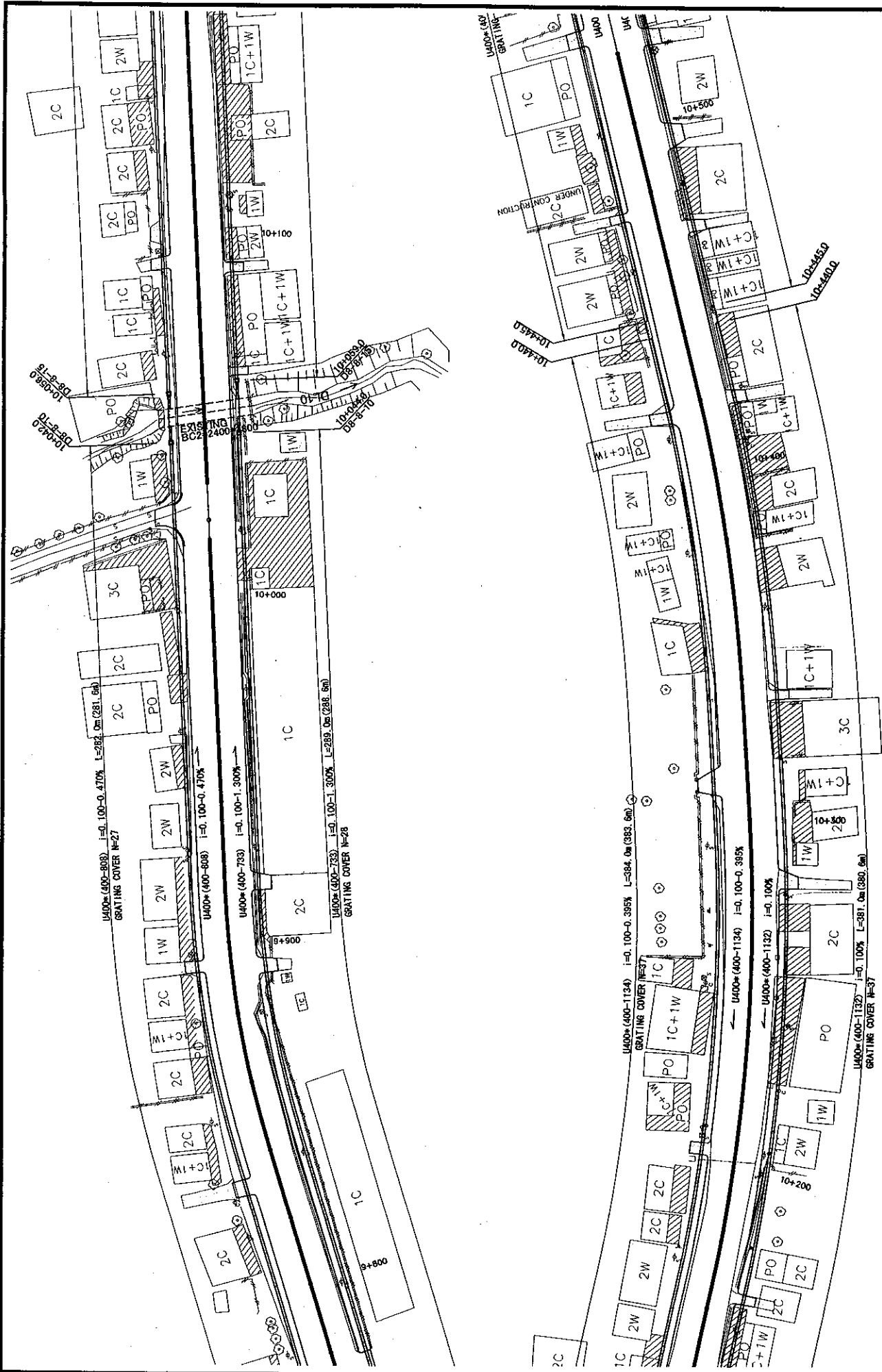


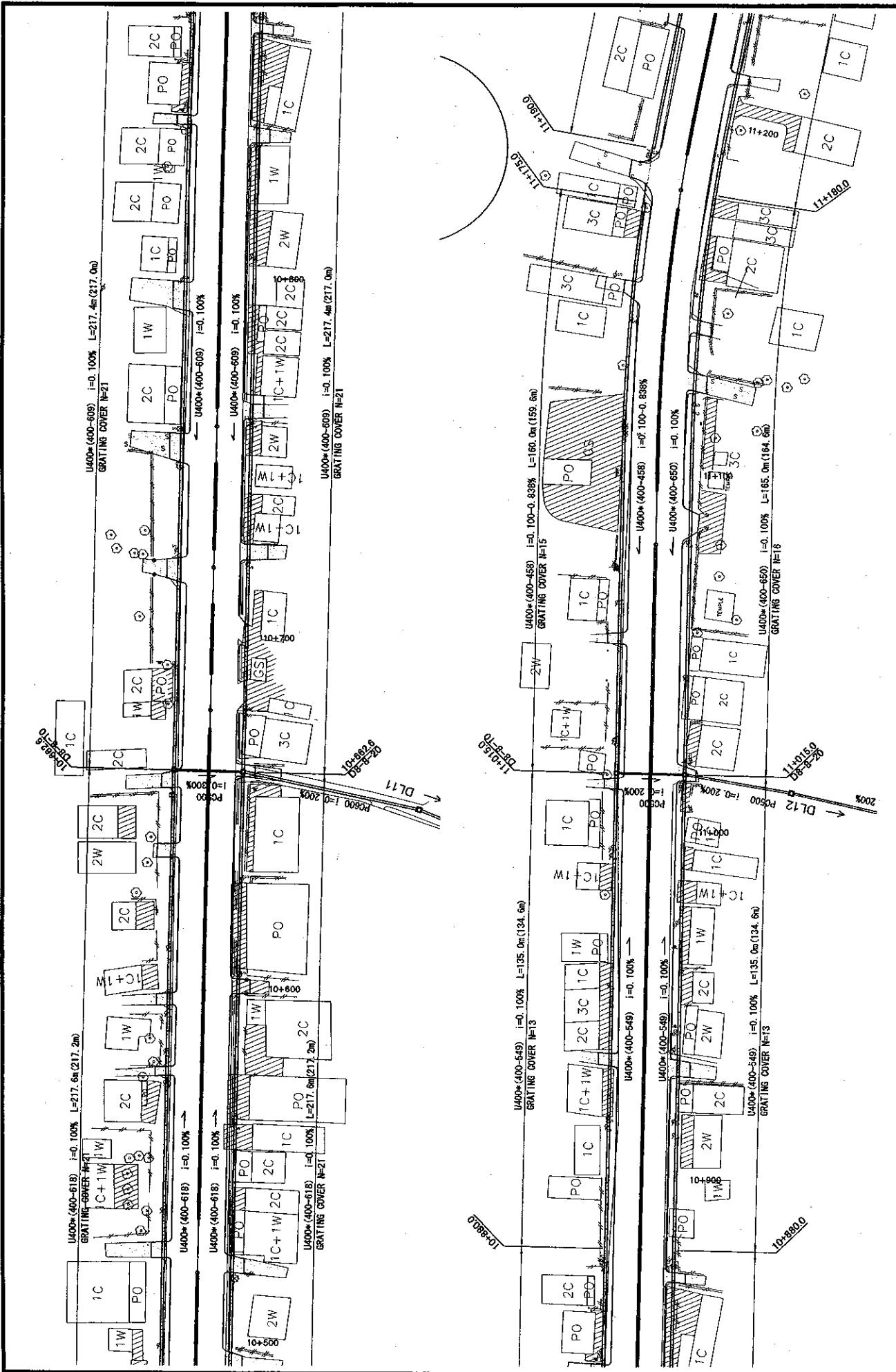
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO., LTD	SCALE:	DRAWING NO:
			1:1000	DR-21
PROPOSED OVERALL DRAINAGE PLAN (18/40)				



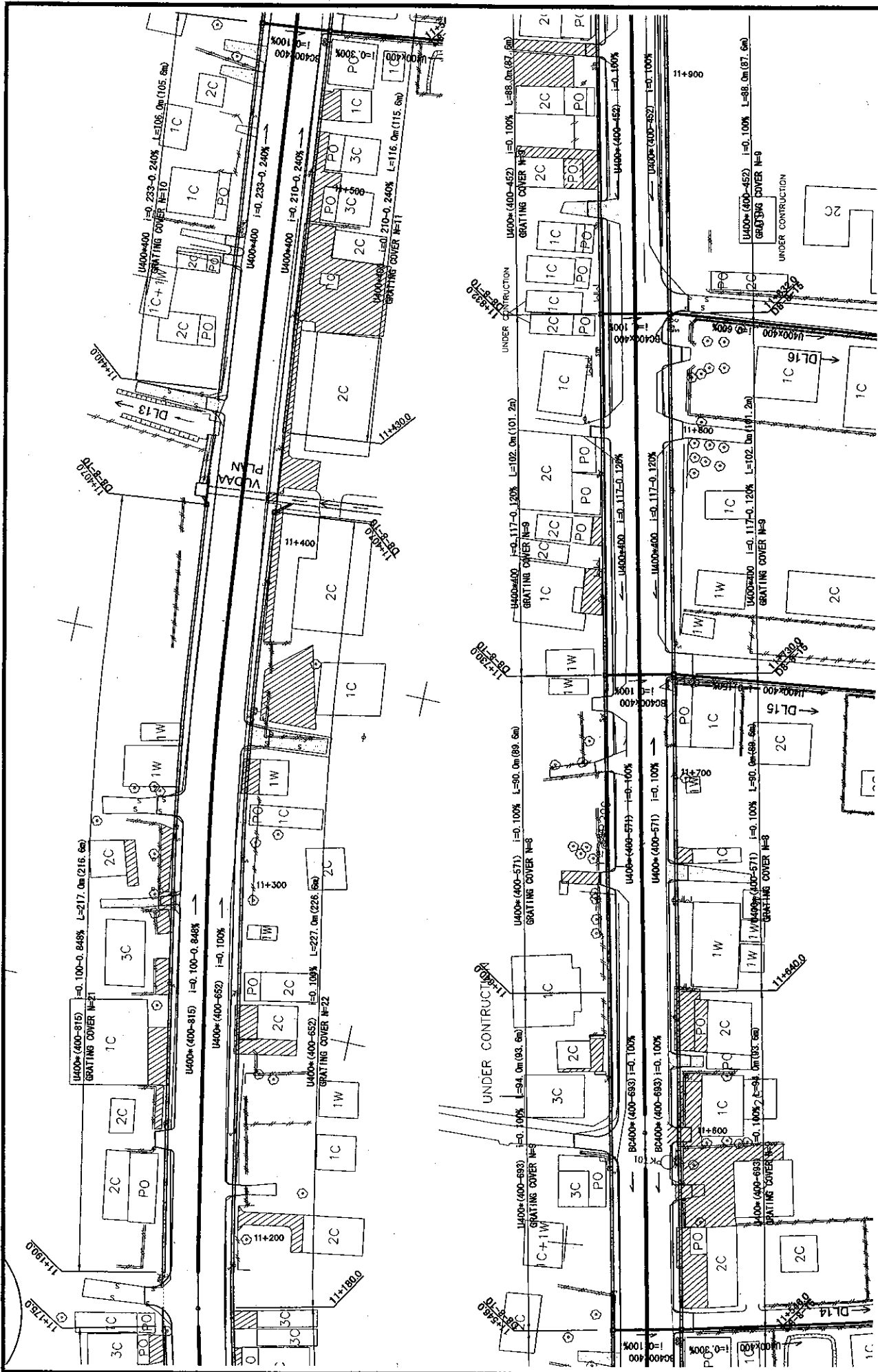
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION, TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	SCALE:	DRAWING NO:
			1:1000	DR-22
PROPOSED OVERALL DRAINAGE PLAN (19/40)				Rv.



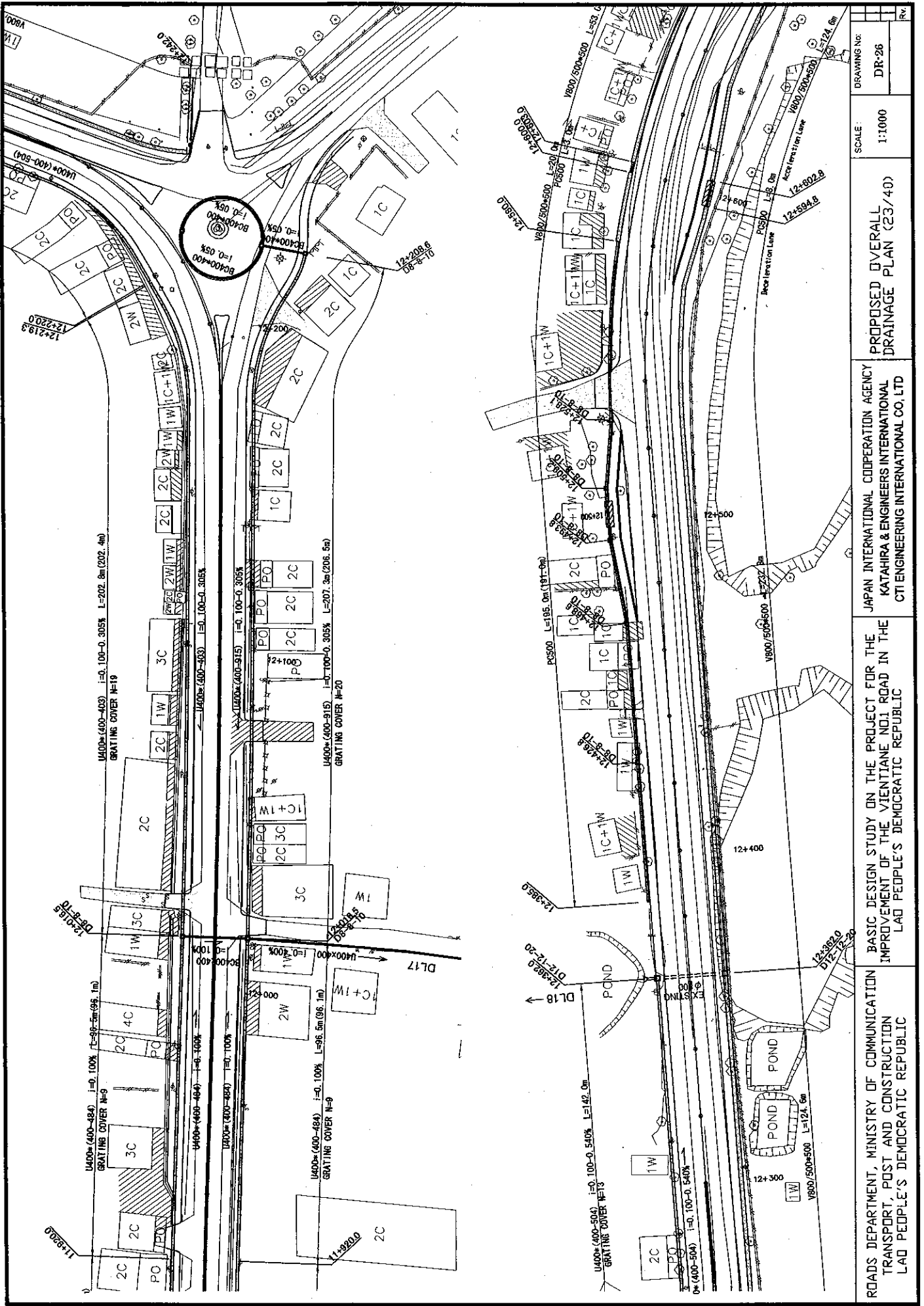
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAD PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NDI ROAD IN THE LAD PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO., LTD	PROPOSED OVERALL DRAINAGE PLAN (20/40)	SCALE: 1:1000	DRAWING No: DR-23	Rv.
---	---	--	---	------------------	----------------------	-----



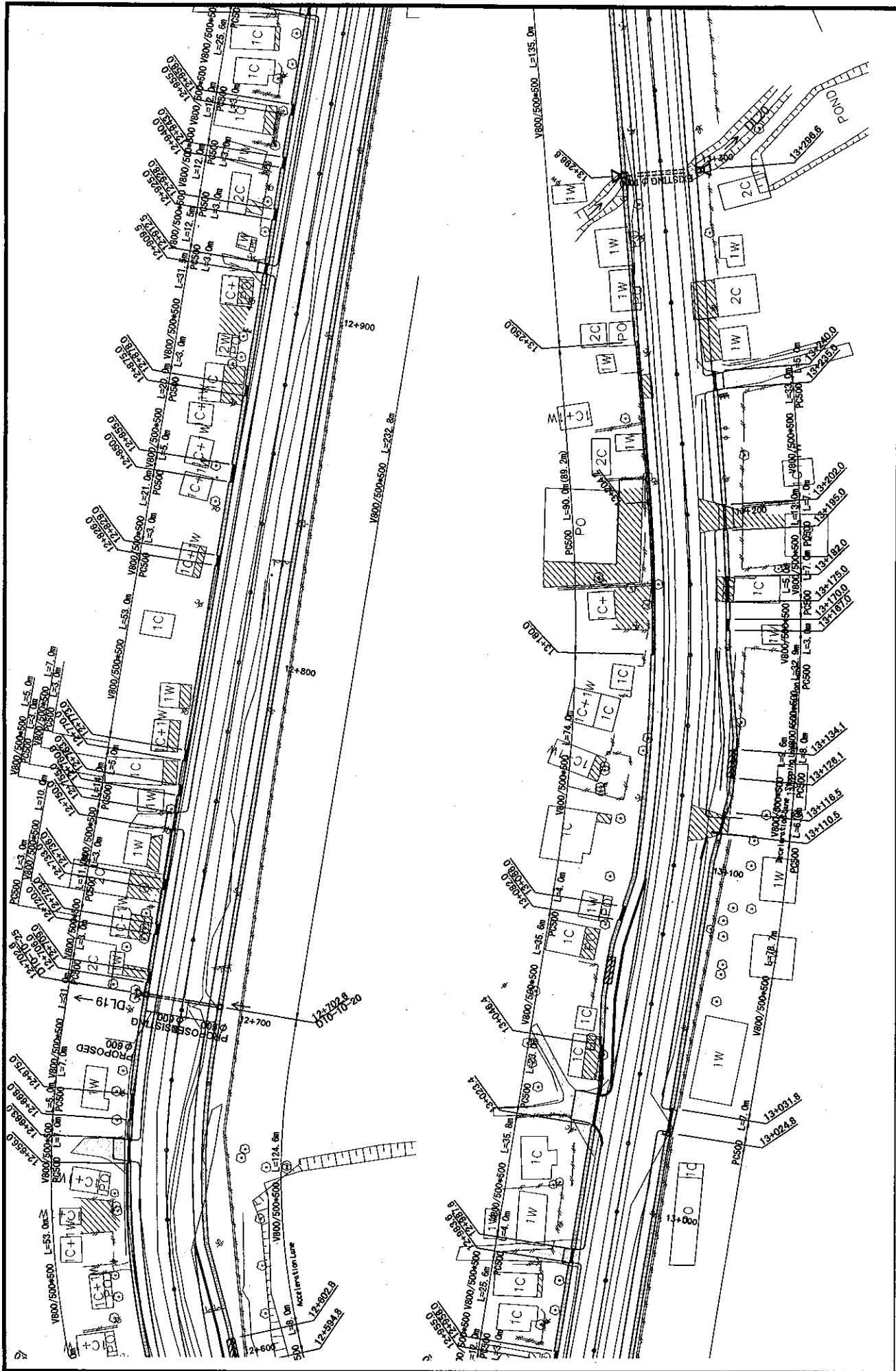
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	SCALE:	1:1000	DRAWING NO:	DR-24	Rv.
			PROPOSED OVERALL DRAINAGE PLAN (21/40)				



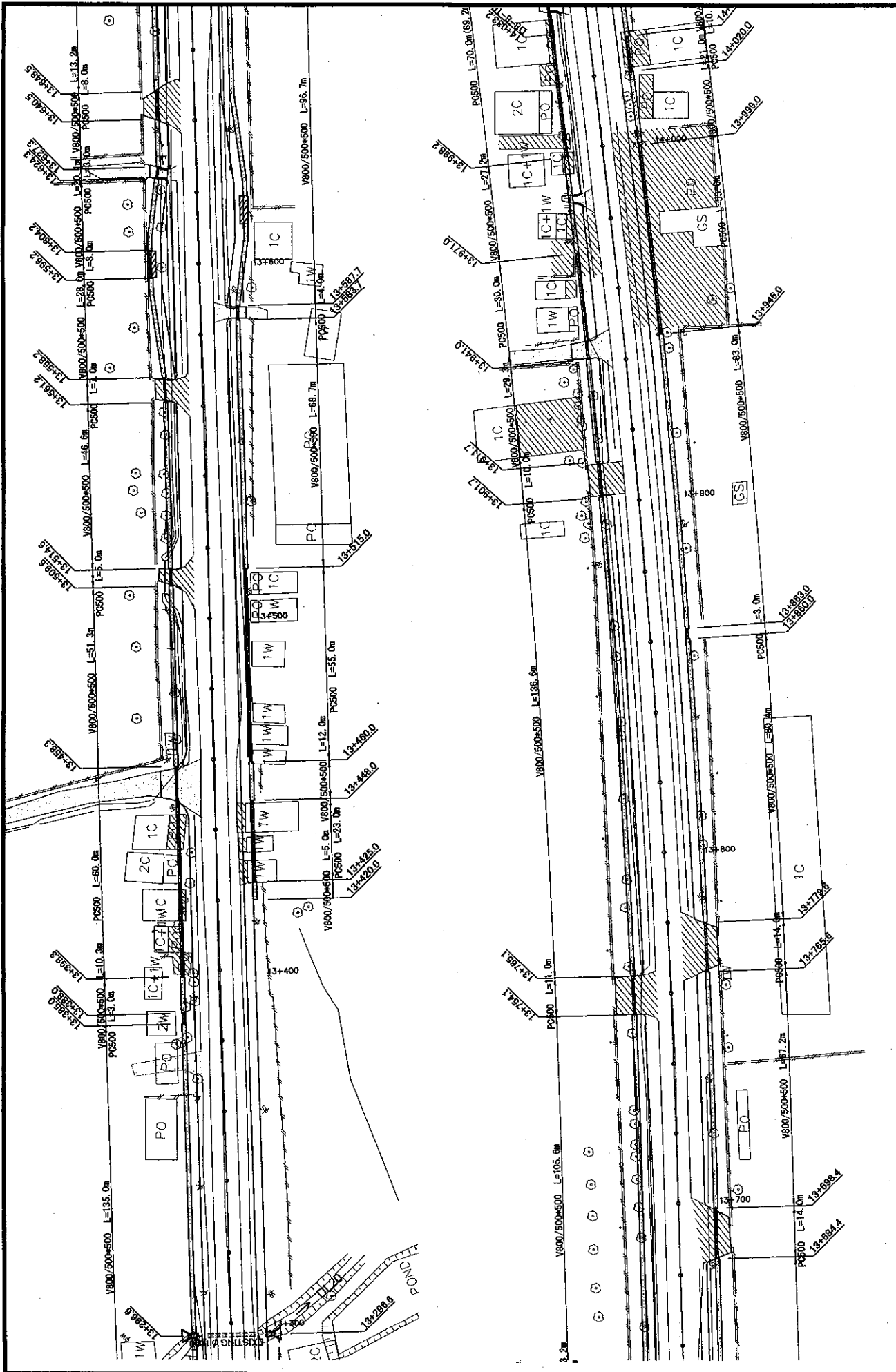
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NGLI ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO., LTD	SCALE:	DRAWING NO:
			1:1000	DR-25
PROPOSED OVERALL DRAINAGE PLAN (22/40)				



ROADS DEPARTMENT, MINISTRY OF CONSTRUCTION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	SCALE:	1:1000	DRAWING NO:	DR-26
			PROPOSED OVERALL DRAINAGE PLAN (23/40)		REV:	

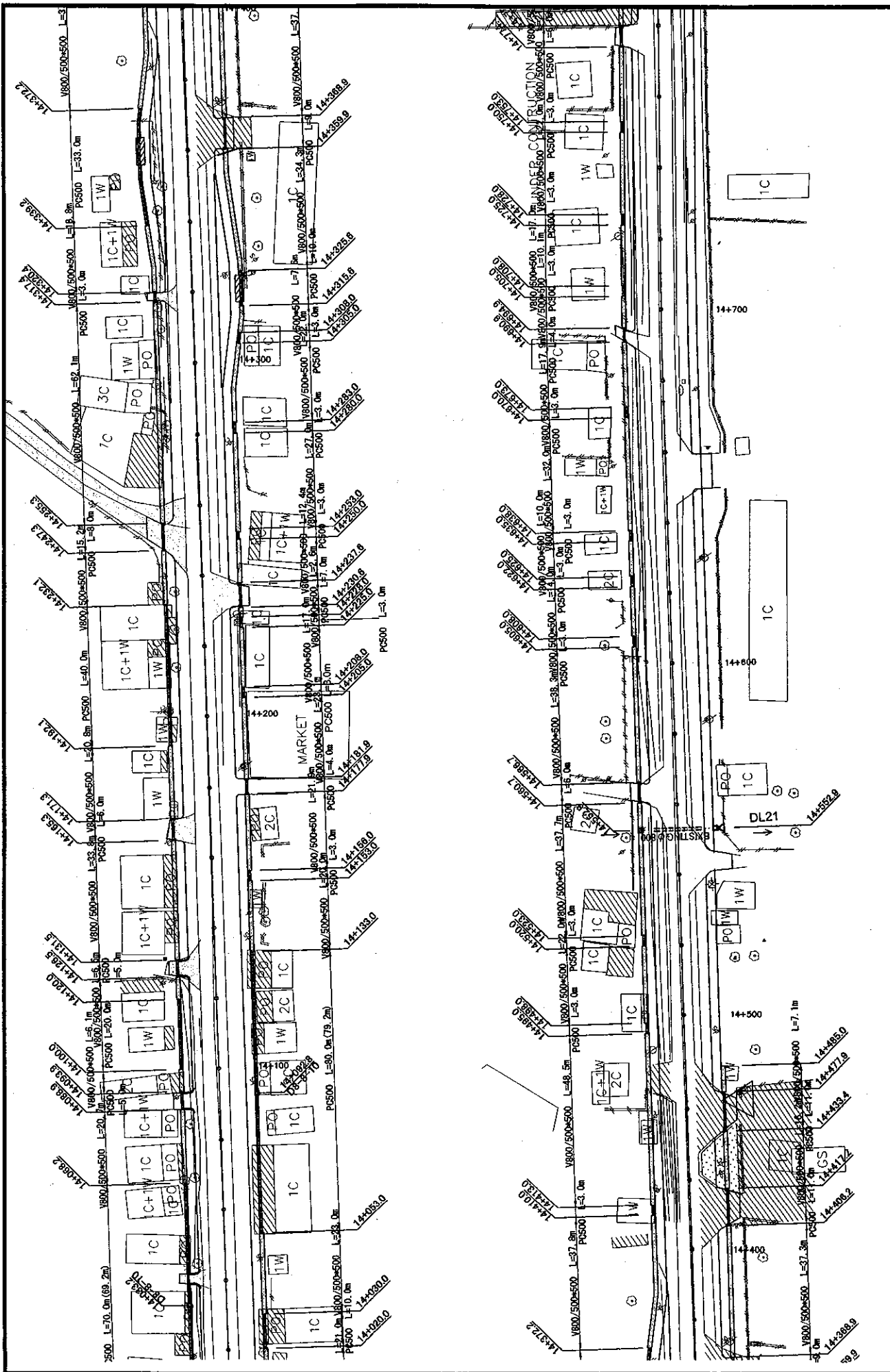


ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NOI ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	SCALE:	DRAWING No:	Rev.
			1:1000	DR-27	
PROPOSED OVERALL DRAINAGE PLAN (24/40)					

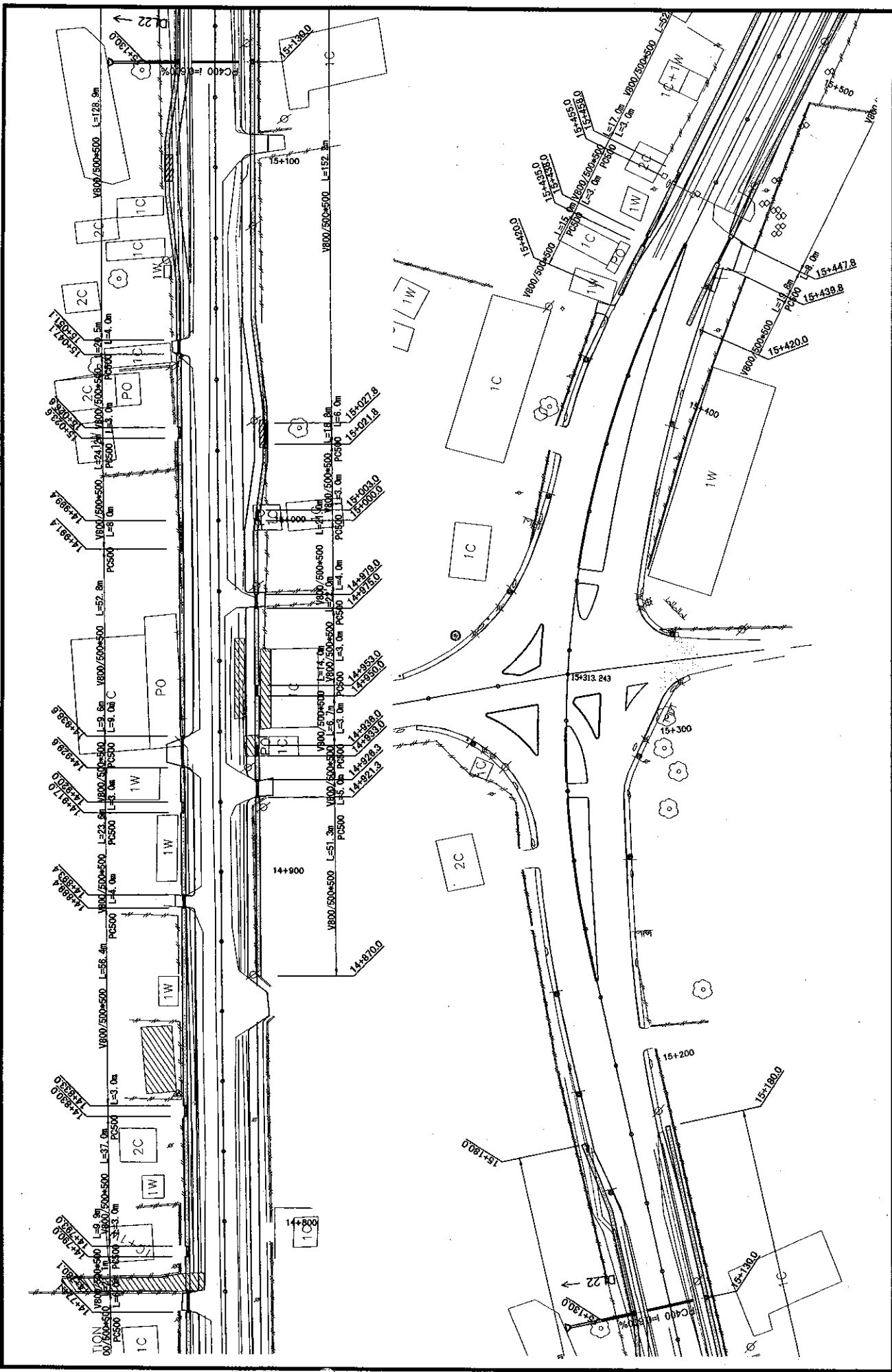


ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	SCALE:	1:1000	DRAWING NO:	DR-28
			PROPOSED OVERALL DRAINAGE PLAN (25/40)			

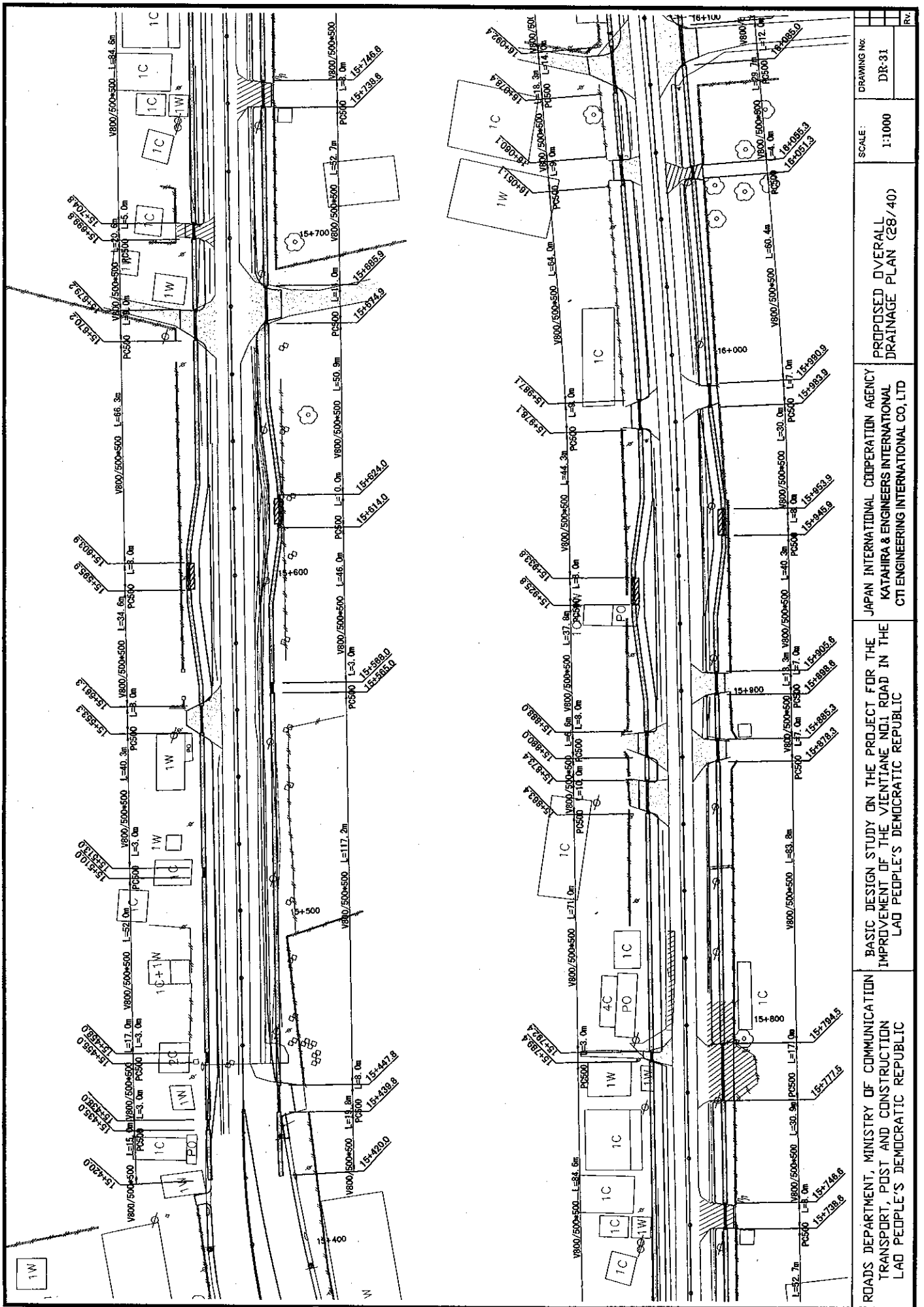




ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NDI ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	SCALE:	DRAWING No:
			1:1000	DR-29
PROPOSED OVERALL DRAINAGE PLAN (26/40)				REV



ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	SCALE:	DRAWING NO:
			1:1000	DR-80
			PROPOSED OVERALL DRAINAGE PLAN (27/40)	RV



ROADS DEPARTMENT, MINISTRY OF COMMUNICATION  
TRANSPORT, POST AND CONSTRUCTION  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

BASIC DESIGN STUDY ON THE PROJECT FOR THE  
IMPROVEMENT OF THE VIENTIANE NDI1 ROAD IN THE  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

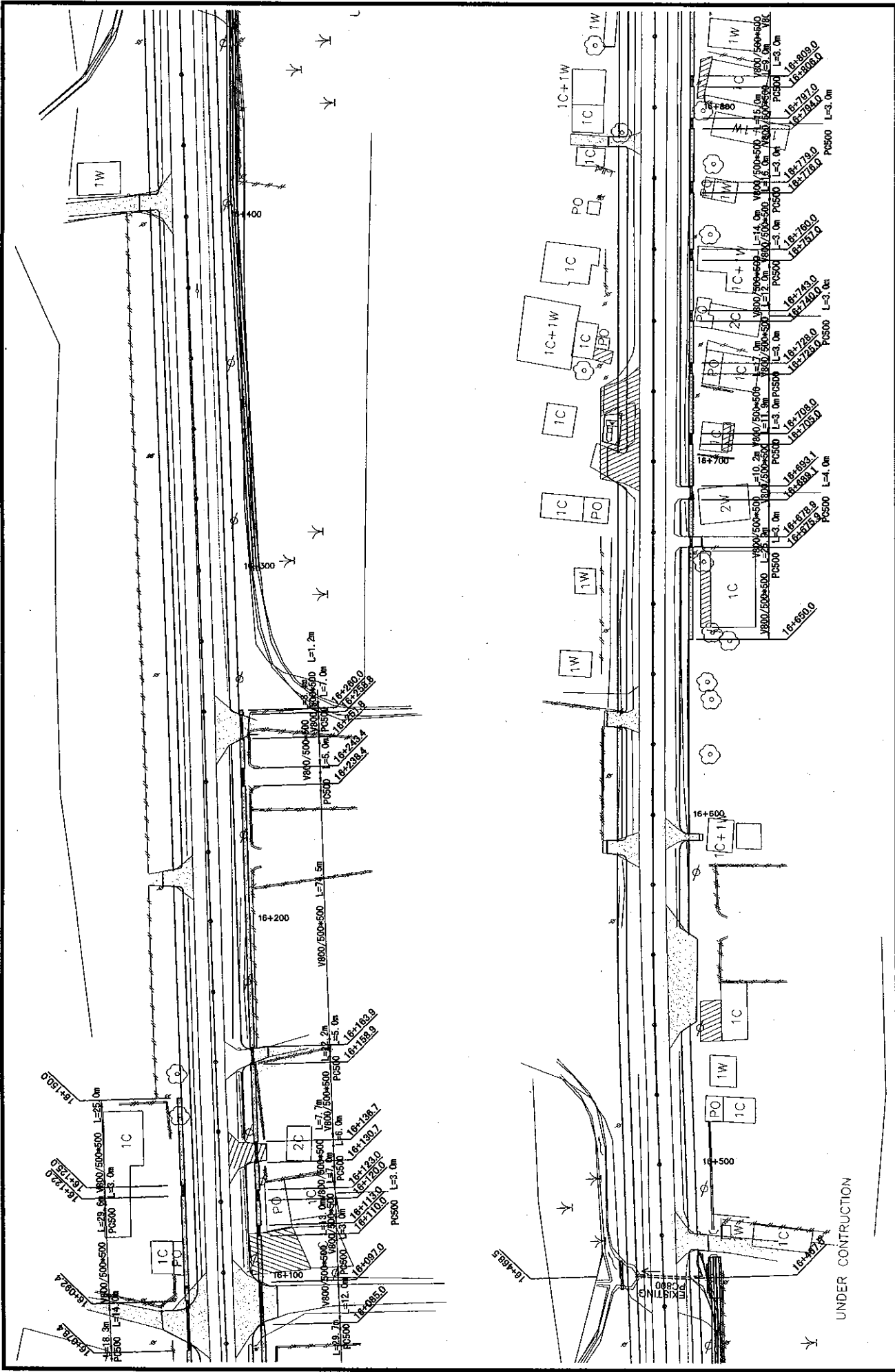
JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL  
CTI ENGINEERING INTERNATIONAL CO., LTD

PROPOSED OVERALL  
DRAINAGE PLAN (28/40)

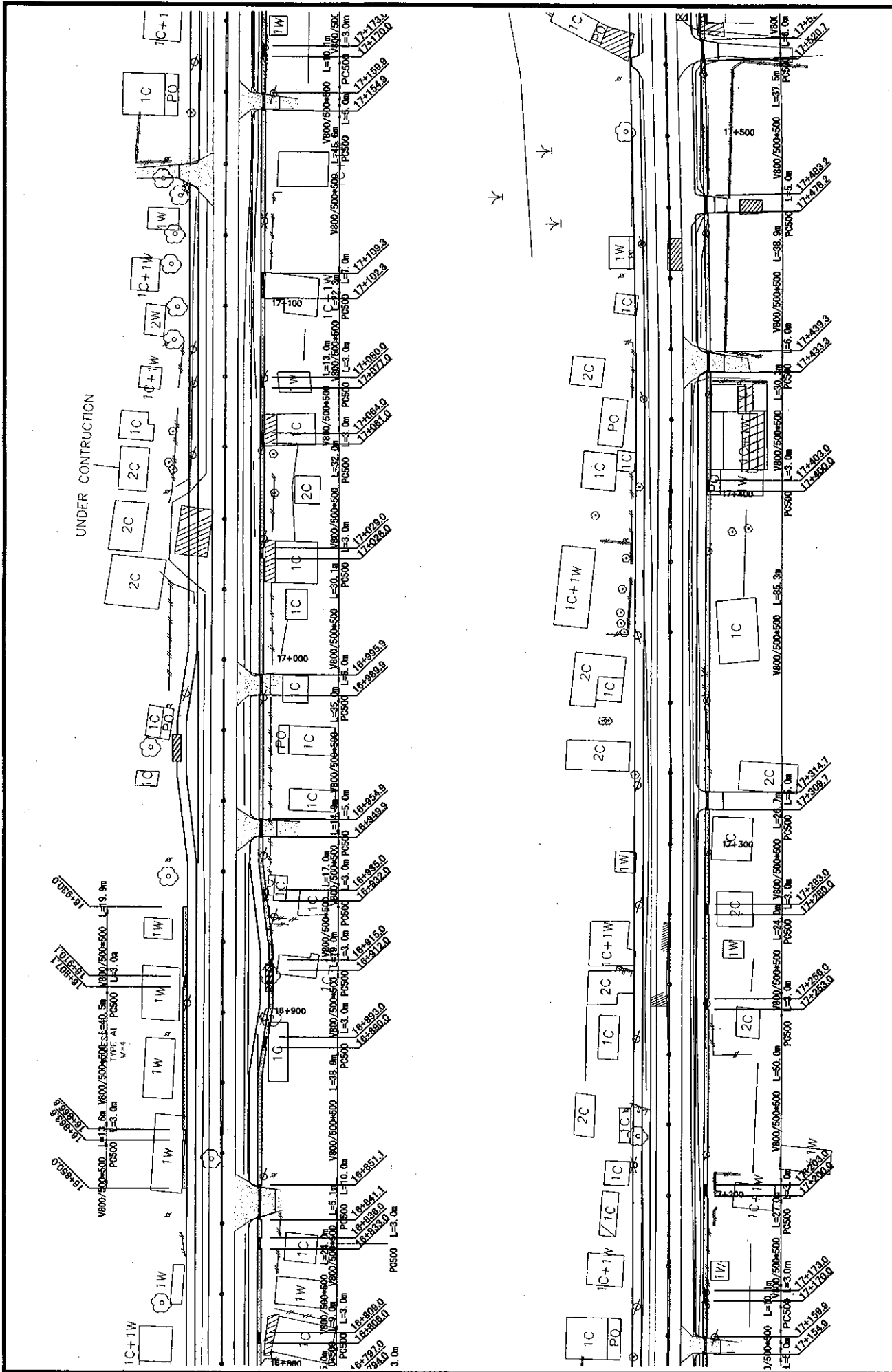
SCALE: 1:1000

DRAWING No: DR-31

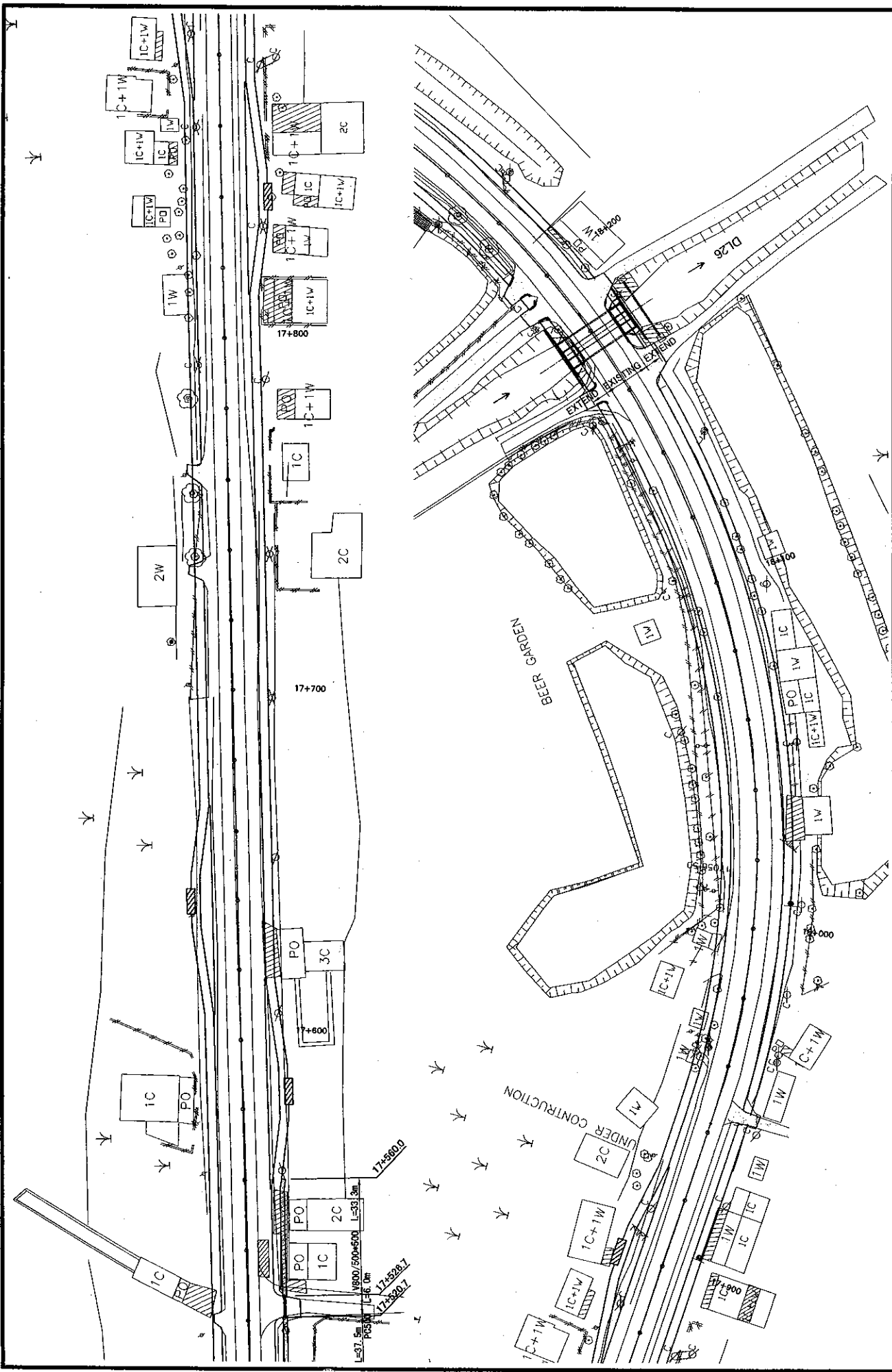
REV.



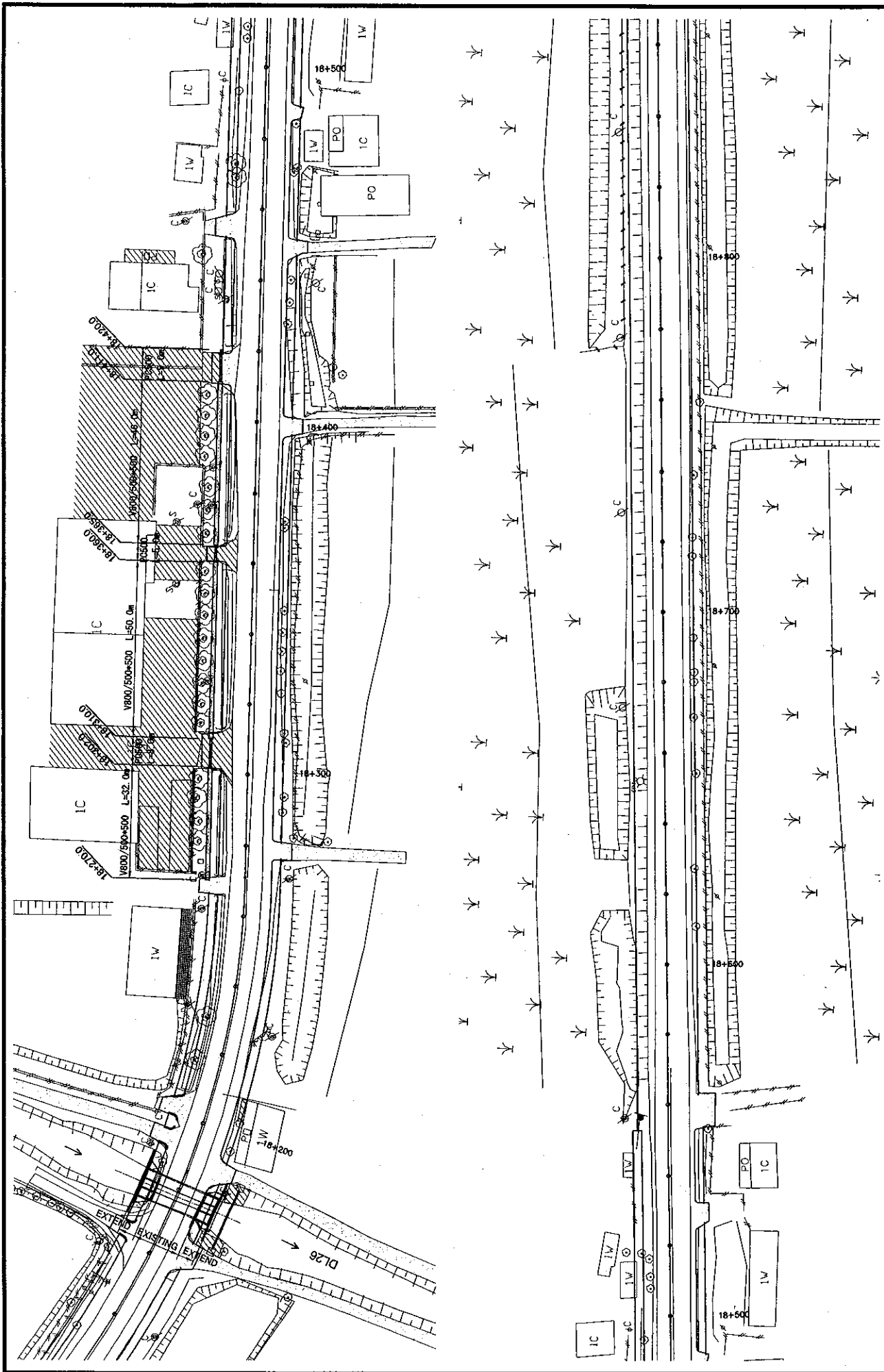
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	SCALE:	DRAWING NO:
			1:1000	DR-32
			PROPOSED OVERALL DRAINAGE PLAN (29/40)	Rv



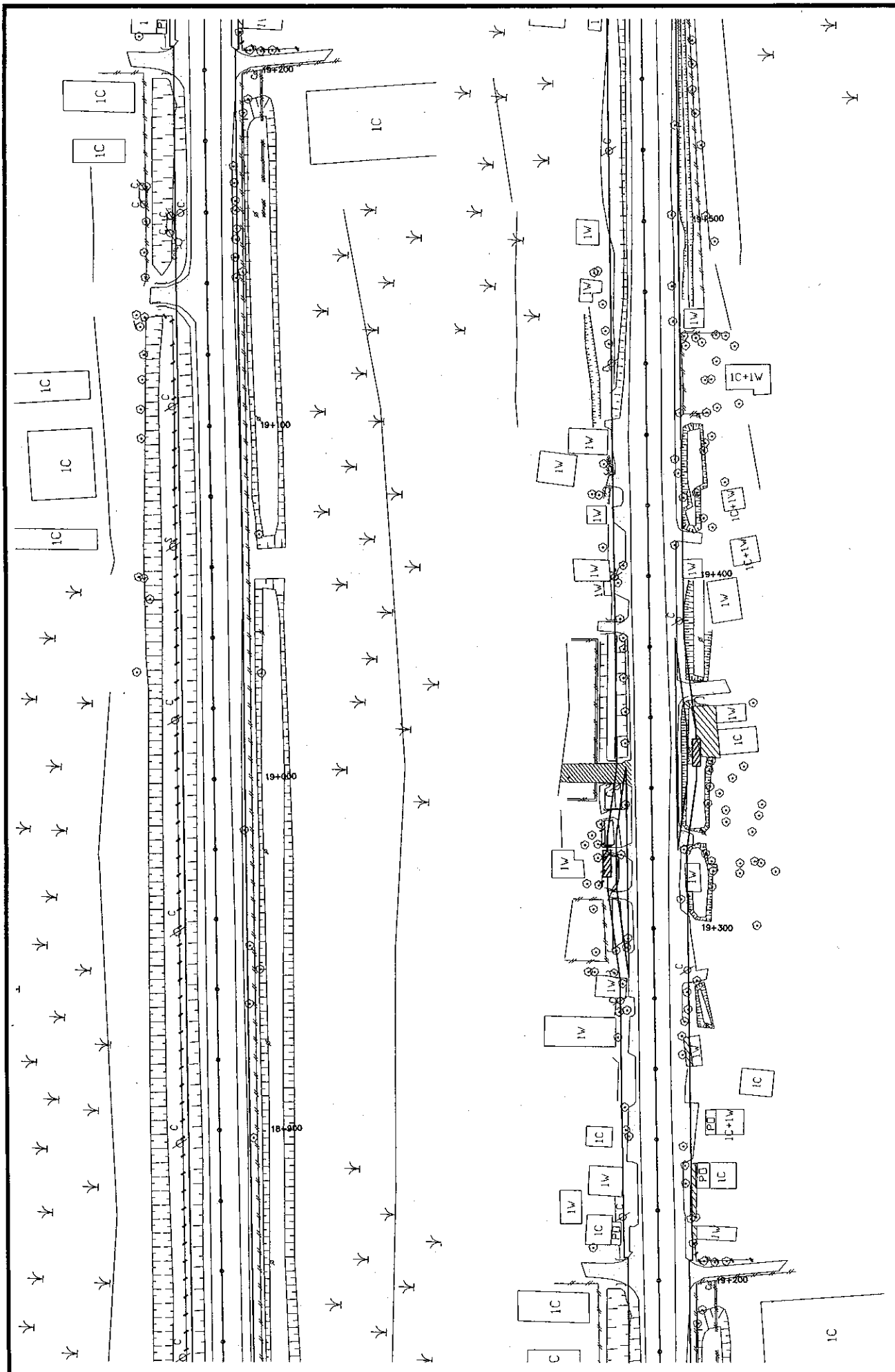
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NOI ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	SCALE:	DRAWING No:
			1:1000	DR-33
PROPOSED OVERALL DRAINAGE PLAN (30/40)				
				Rv



ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CT ENGINEERING INTERNATIONAL CO, LTD	SCALE:	1:1000	DRAWING NO:	DR-34	Rv.
			PROPOSED OVERALL DRAINAGE PLAN (31/40)				

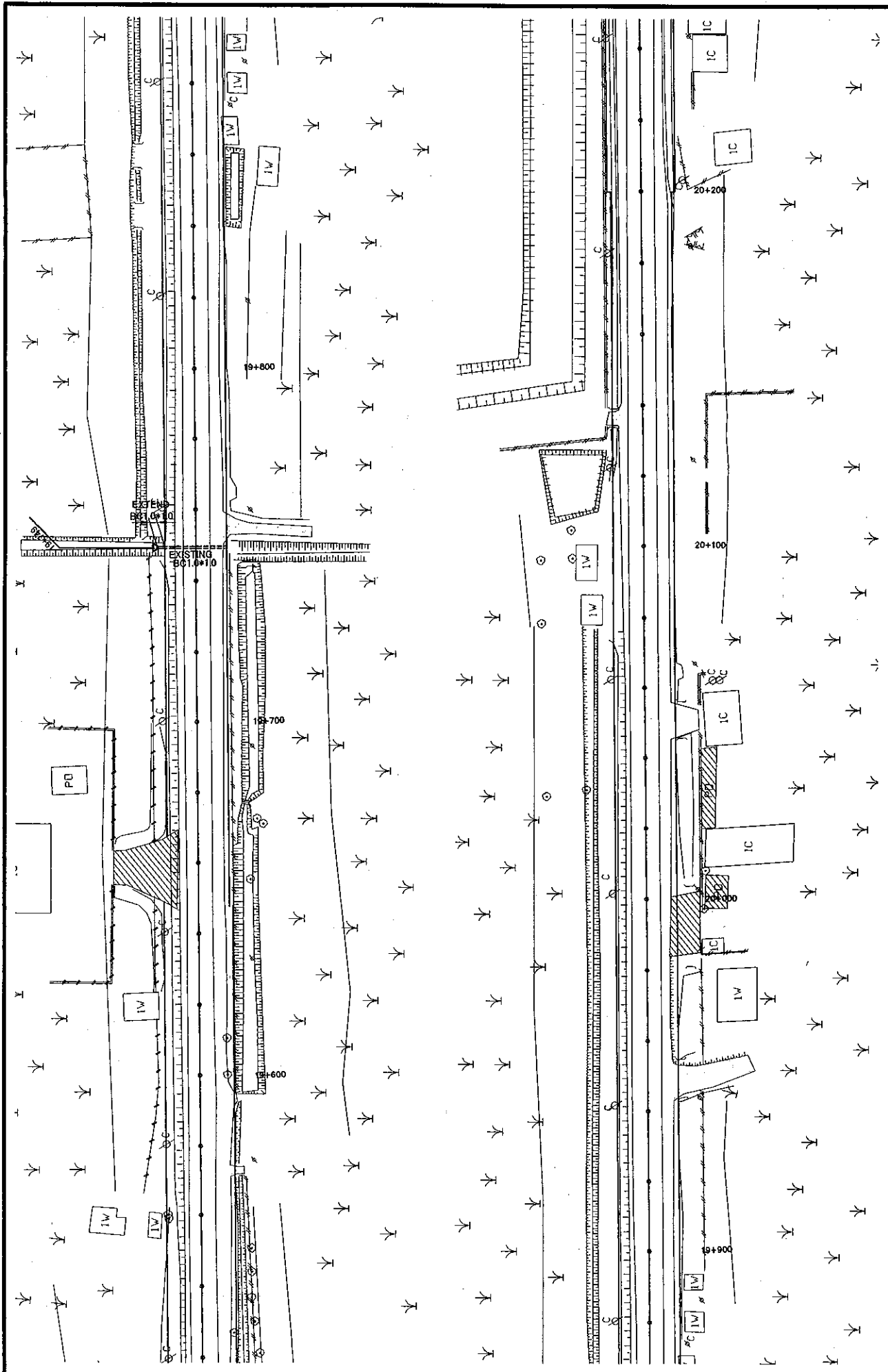


ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, PUST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CIT ENGINEERING INTERNATIONAL CO. LTD	SCALE:	DRAWING No:	Rv
			1:1000	DR-85	
PROPOSED OVERALL DRAINAGE PLAN (32/40)					

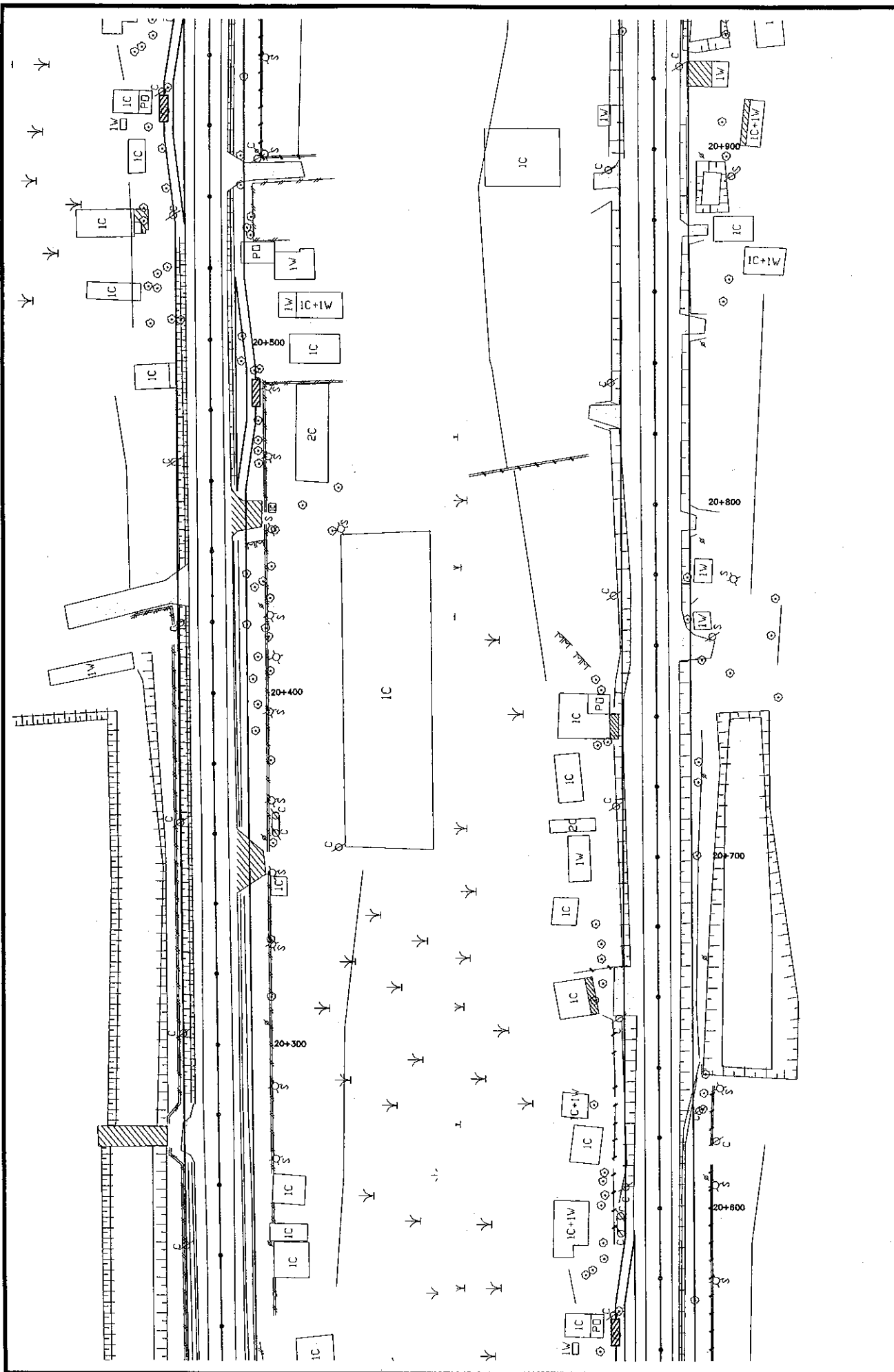


ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAD PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAD PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	SCALE:	1:1000	DRAWING NO:	DR-86	Rv
			PROPOSED OVERALL DRAINAGE PLAN (33/40)				

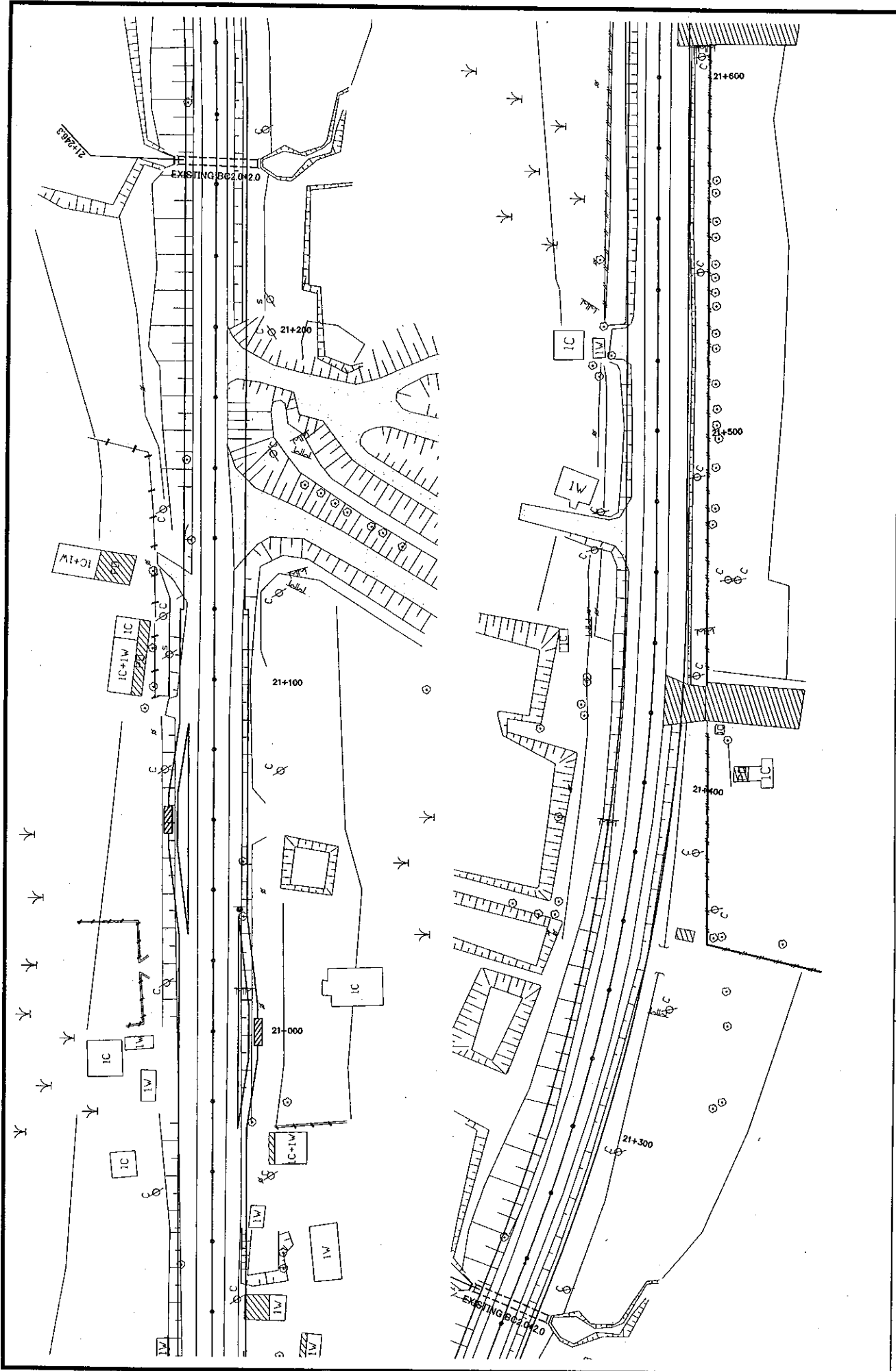




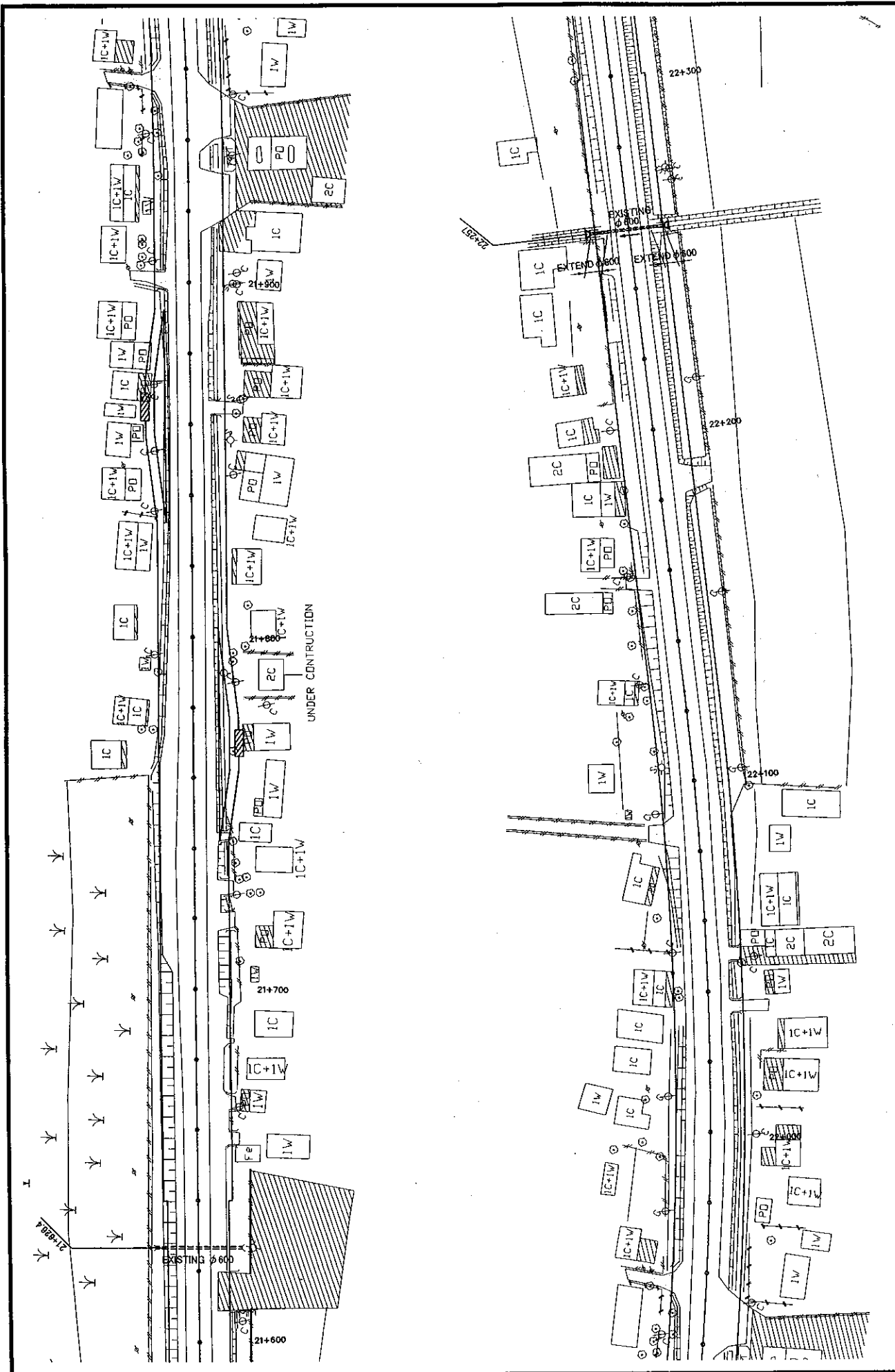
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC		JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO., LTD		SCALE: 1:1000	DRAWING No: DR-37	RV
	PROPOSED OVERALL DRAINAGE PLAN (34/40)						



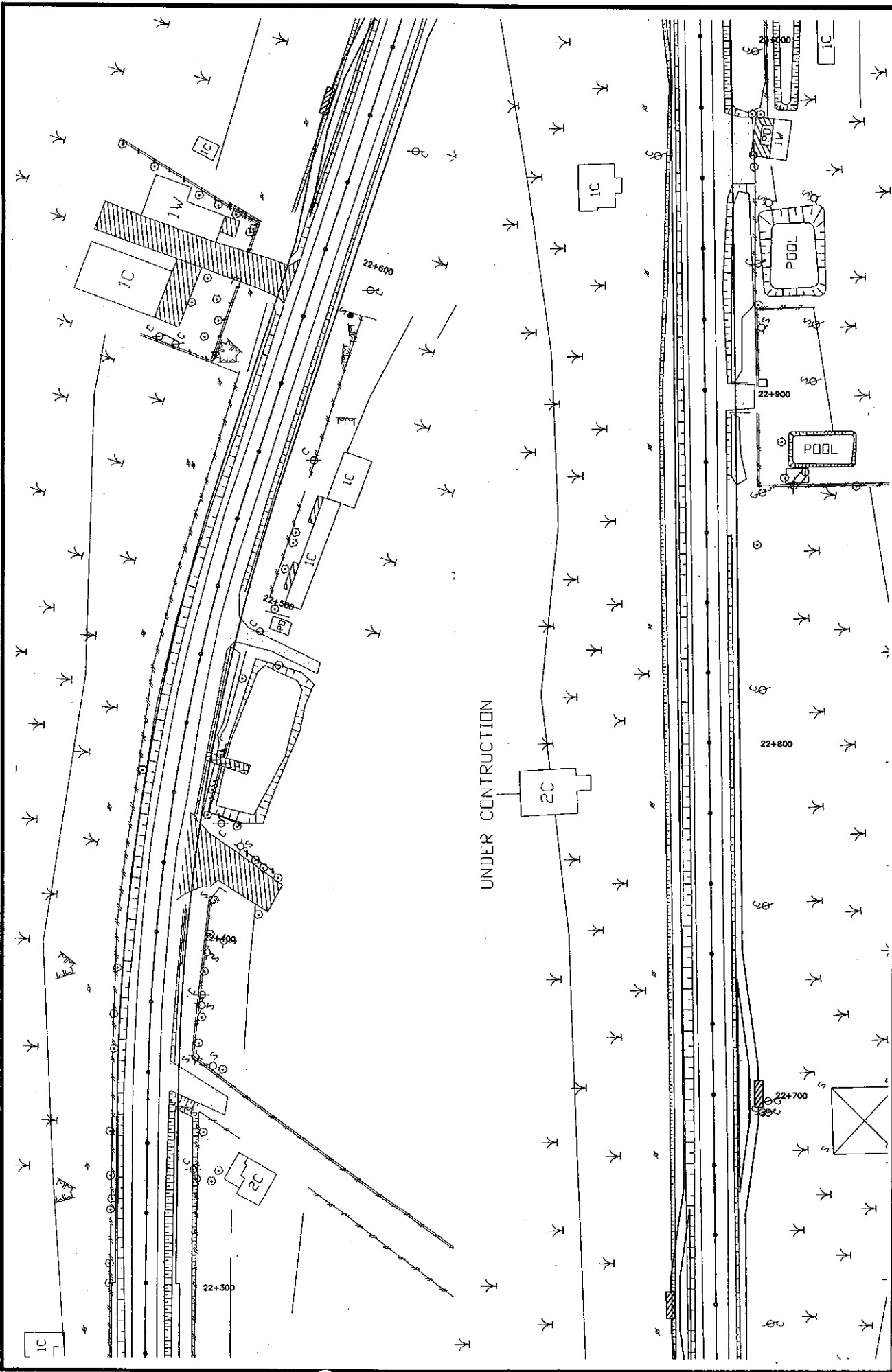
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	SCALE:	DRAWING NO:
			1:1000	DR-38
PROPOSED OVERALL DRAINAGE PLAN (35/40)			REV.	



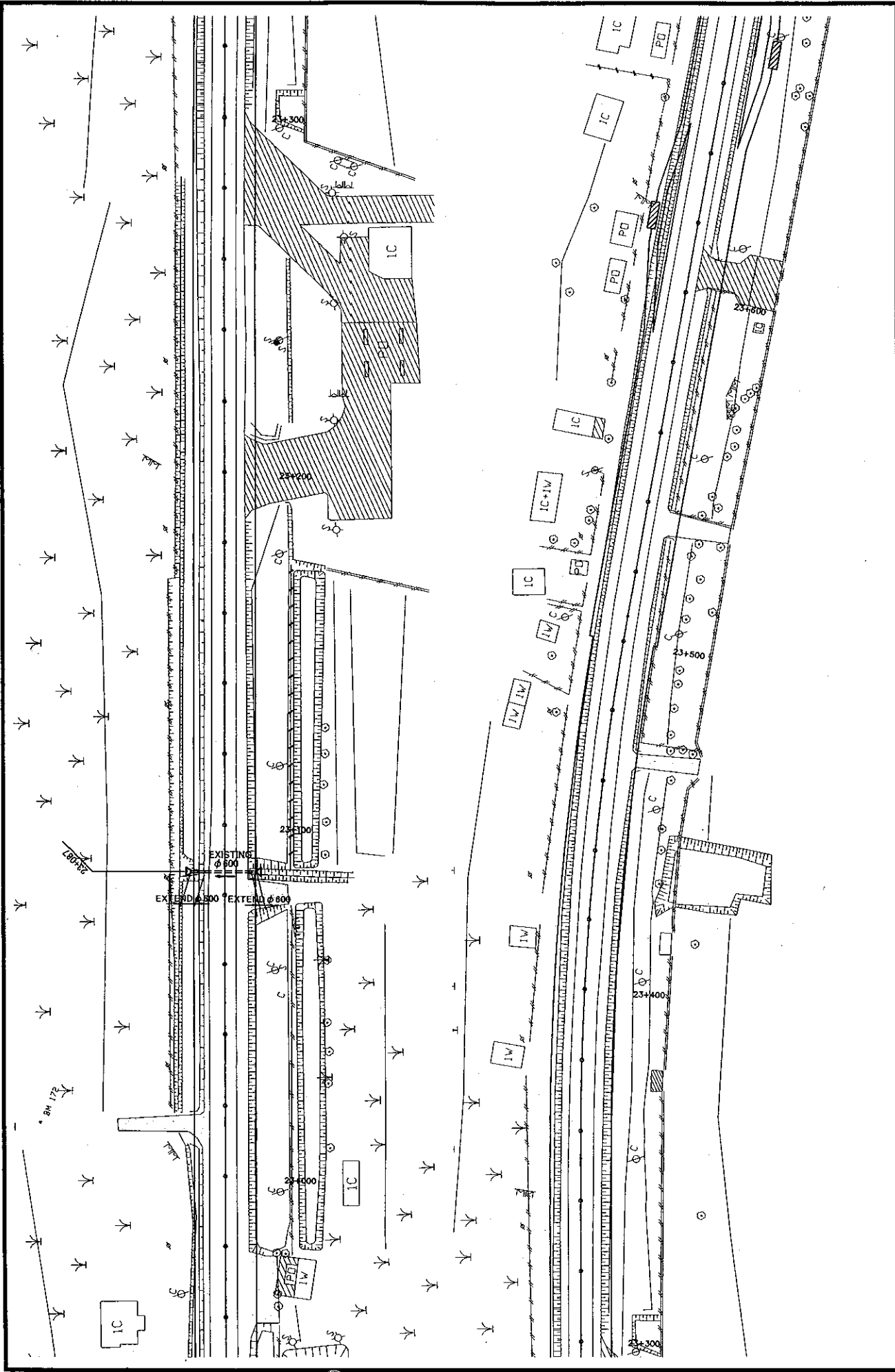
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE N011 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	SCALE:	DRAWING NO.:	Rv
			1:1000	DR-39	
PROPOSED OVERALL DRAINAGE PLAN (36/40)					



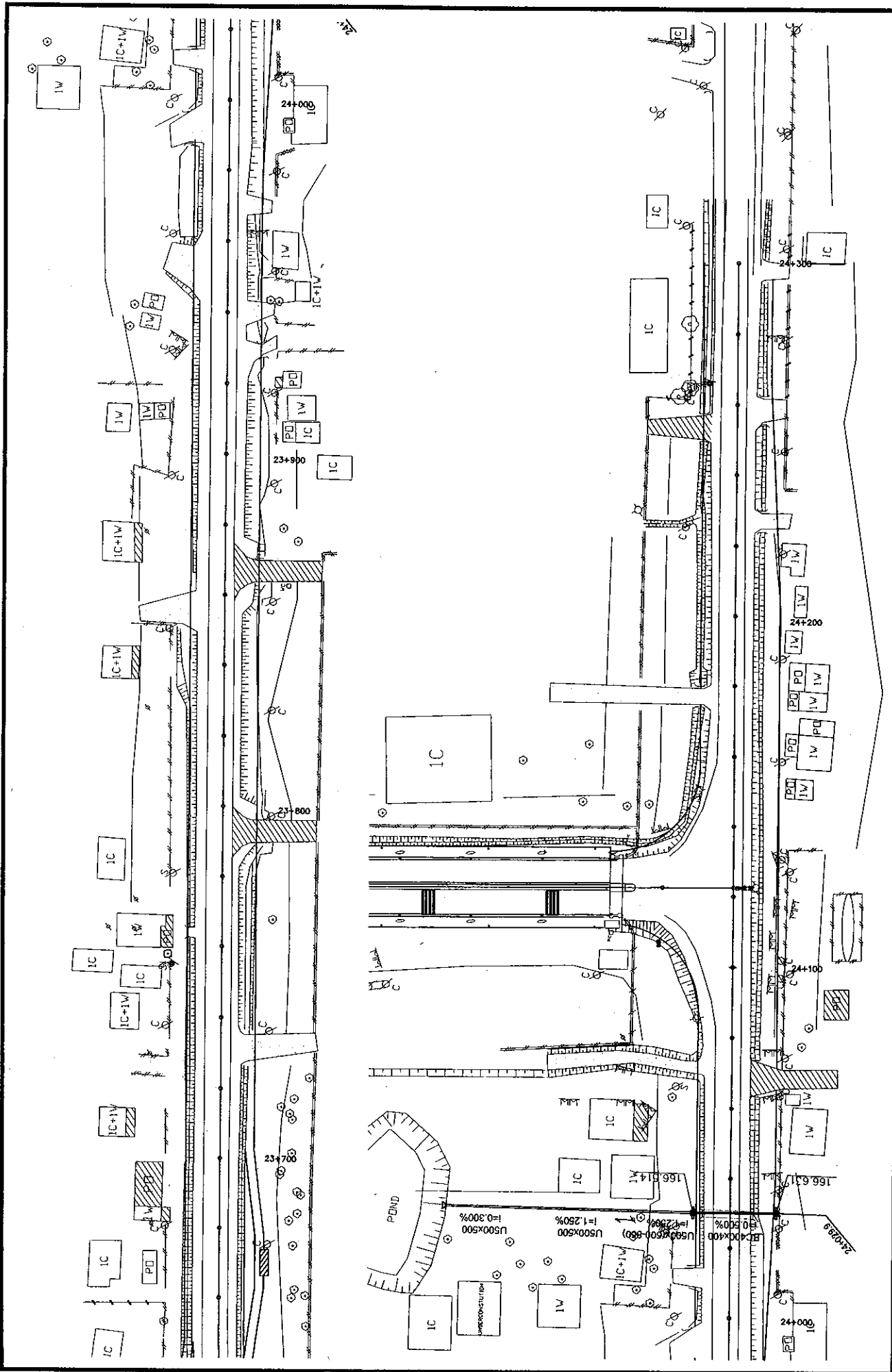
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAD PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NBI ROAD IN THE LAD PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	SCALE:	1:1000	DRAWING NO: DR-40	Rv.
			PROPOSED OVERALL DRAINAGE PLAN (377/40)			



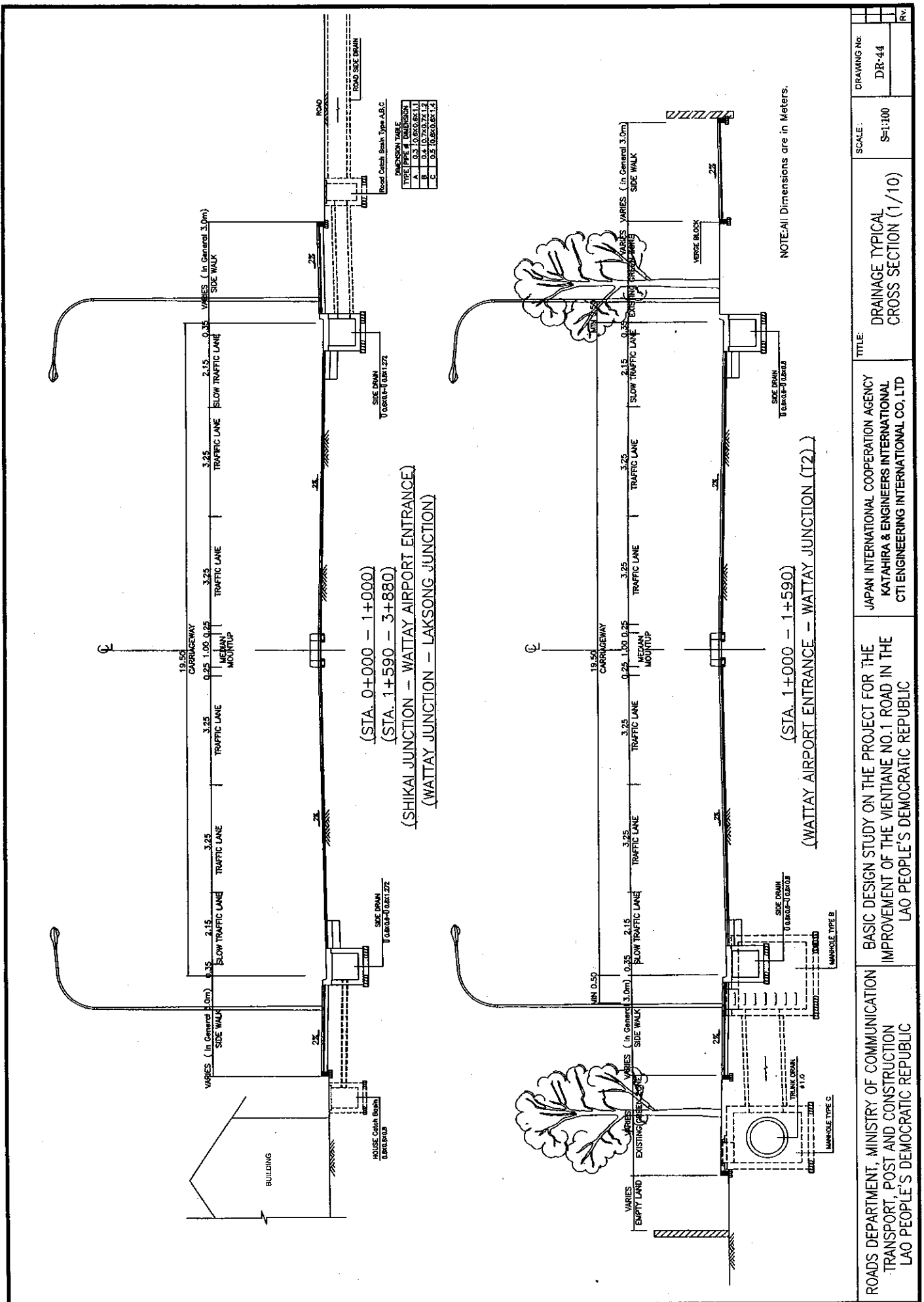
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	SCALE:	DRAWING NO:	Rv
			1:1000	DR-41	



DRAWING NO: <b>DR-42</b>	SCALE: <b>1:1000</b>	PROPOSED OVERALL DRAINAGE PLAN (39/40)	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CITI ENGINEERING INTERNATIONAL CO, LTD	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC
-----------------------------	-------------------------	---	--	--	---

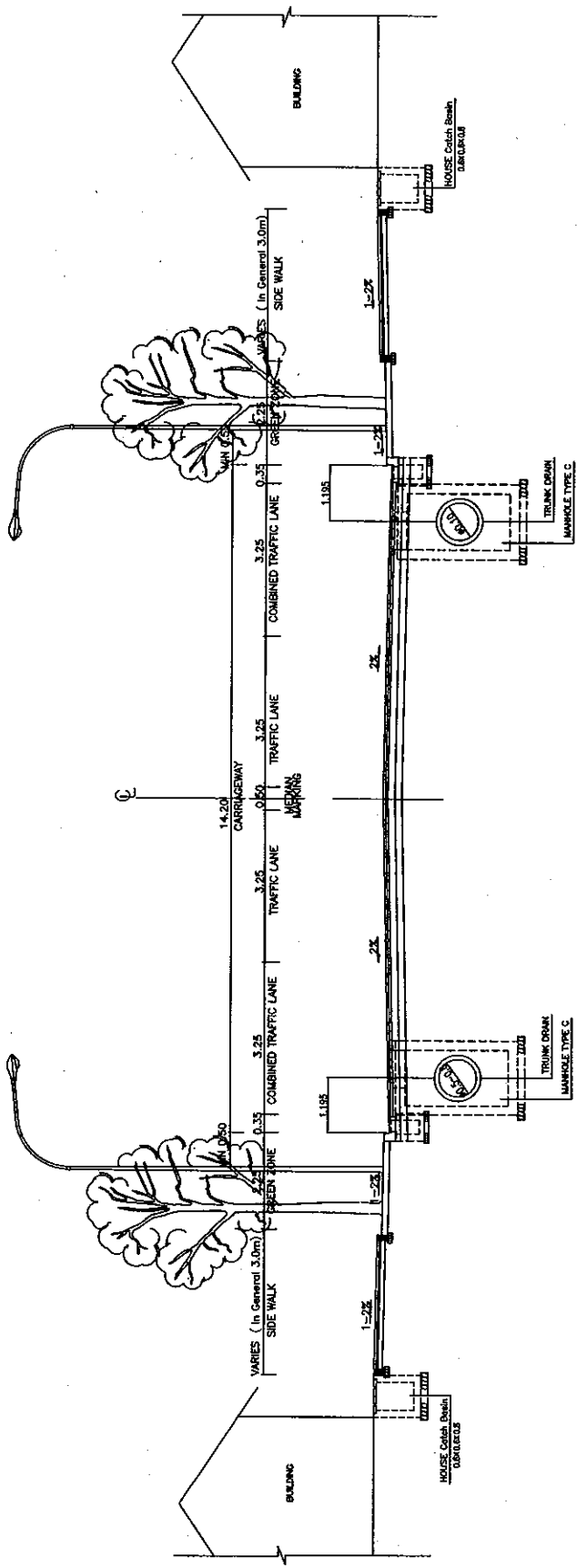


ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NDI ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO., LTD	SCALE:	DRAWING NO.:
			1:1000	DR-43
PROPOSED OVERALL DRAINAGE PLAN (40/40)				RV



ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	TITLE: DRAINAGE TYPICAL CROSS SECTION (1/10)
SCALE: S=1:100		DRAWING NO: DR-44	Rv.

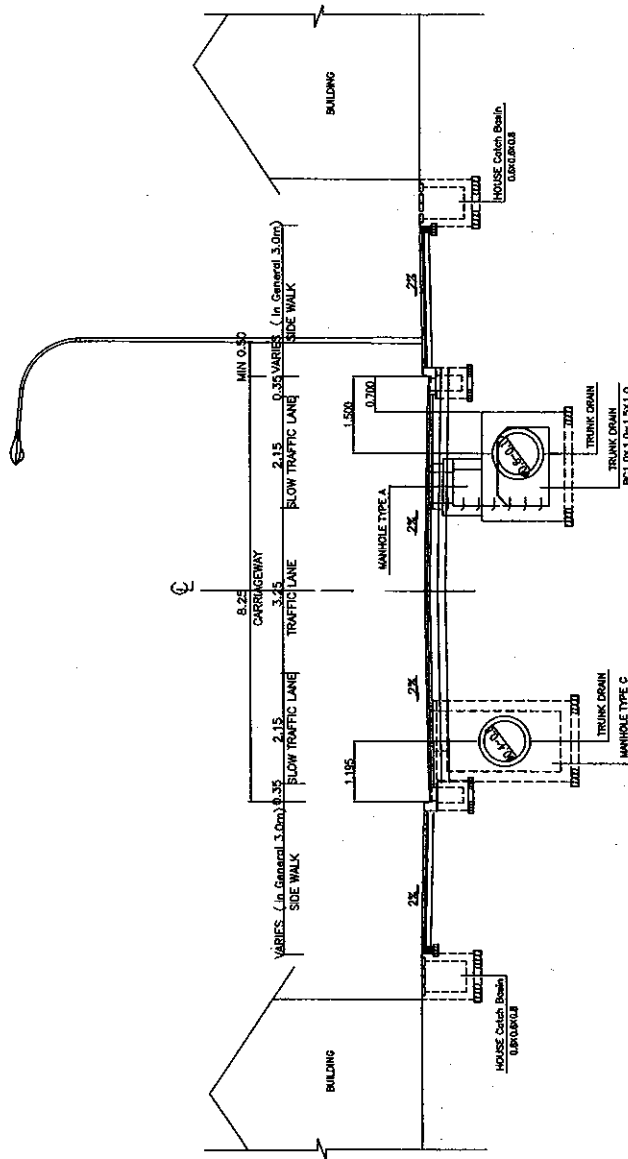




NOTE: All Dimensions are in Meters.

(STA. 3+880 - 4+800)  
 (LAKSONG JUNCTION - ROAD 4A JUNCTION)

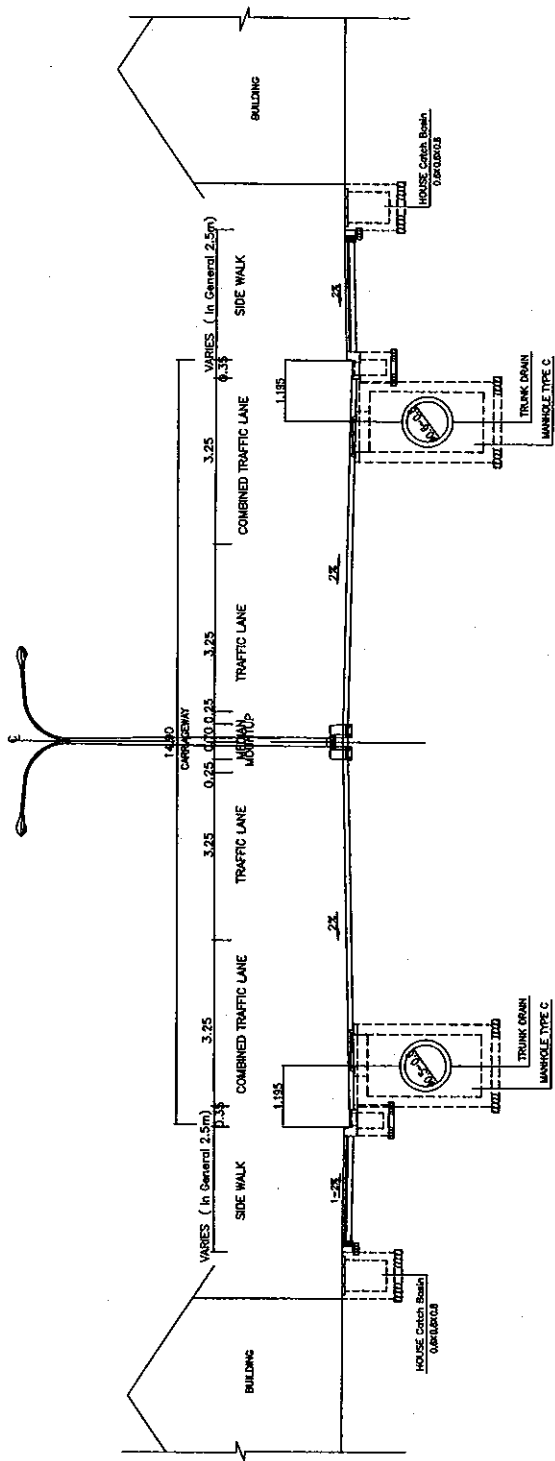
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO., LTD	TITLE:	DRAINAGE TYPICAL CROSS SECTION (2/10)	SCALE:	S=1:100	DRAWING NO:	DR-45	REV.	



NOTE: All Dimensions are in Meters.

(STA. 4+800 - 6+900)  
 (ROAD 4A JUNCTION. - SIMUANG JUNCTION)

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DRAINAGE TYPICAL CROSS SECTION (3/10)	SCALE:	DRAWING No:
				SS-1:100	DR-46
					Rv

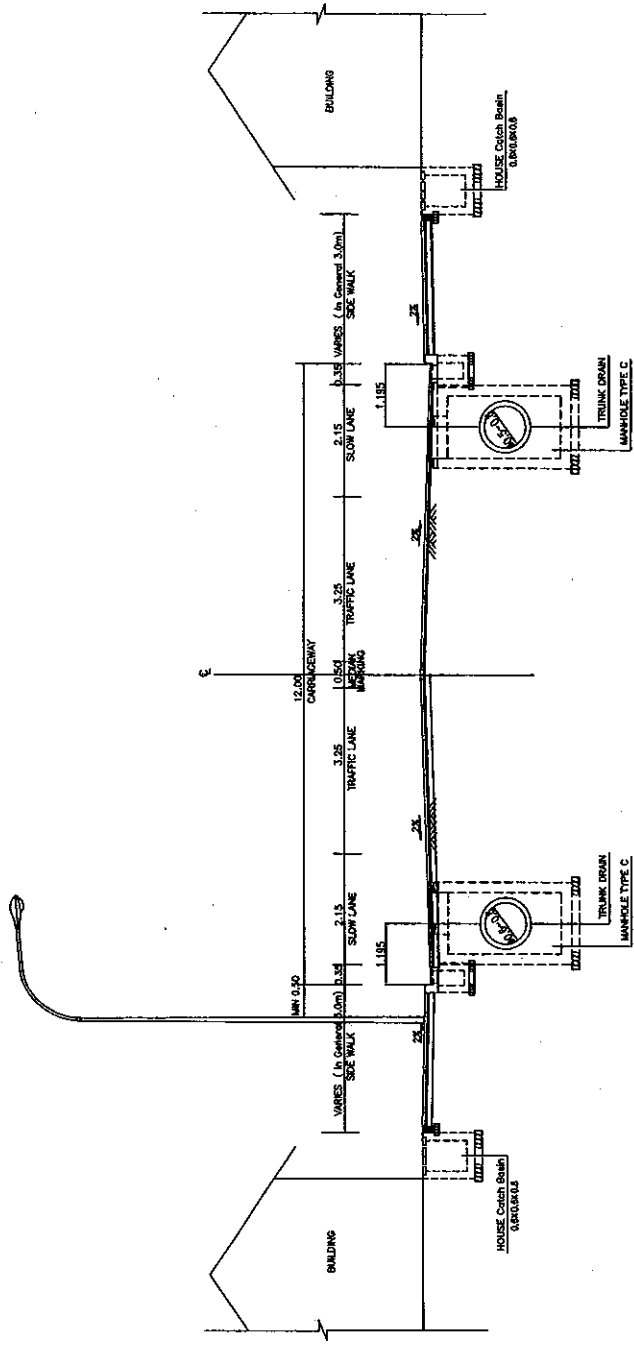


NOTE: All Dimensions are in Meters.

(STA. 6+900 - 7+185)

(SIMUANG JUNCTION - THAIKHAO JUNCTION)

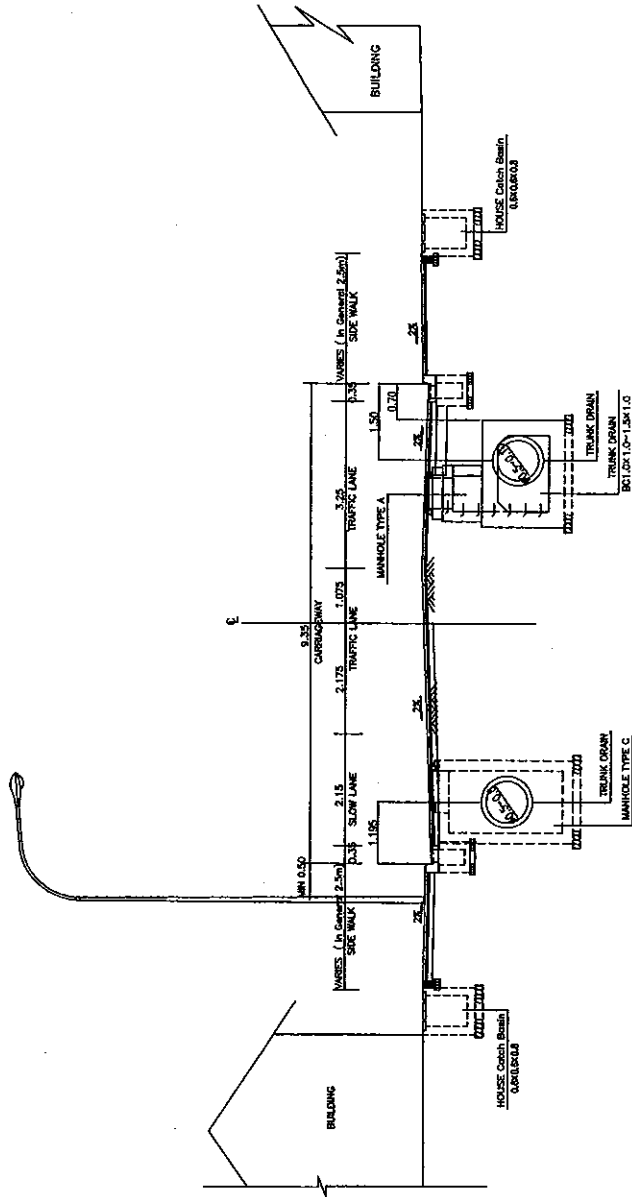
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	TITLE: DRAINAGE TYPICAL CROSS SECTION (4/10)	SCALE: S=1:100	DRAWING No: DR-47	RV
---	--	---	--	-------------------	----------------------	----



NOTE: All Dimensions are in Meters.

(A) ( STA. 0+000 - 1+050. )  
 ( LAKSONG JCT - ROAD 4A JCT )

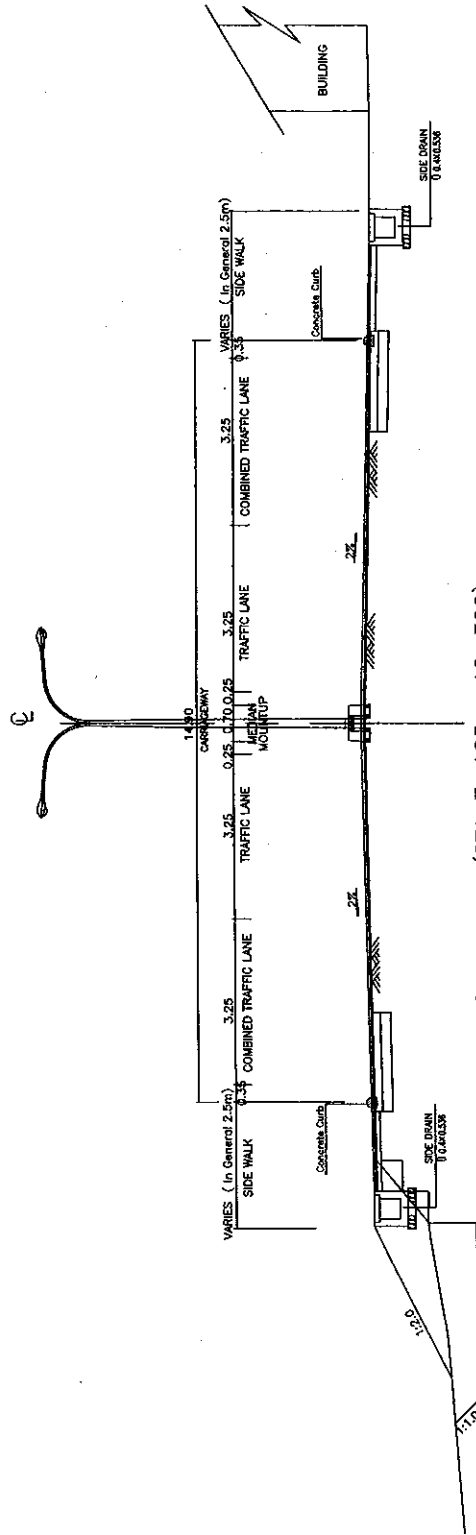
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE:	DRAINAGE TYPICAL CROSS SECTION (5/10)	SCALE:	S=1:100	DRAWING No:	DR-48	Rev:



NOTE: All Dimensions are in Meters.

(A) ( STA. 1+050 - 3+220 )  
 (ROAD 4A JCT. - THAIKHAO JUNCTION)

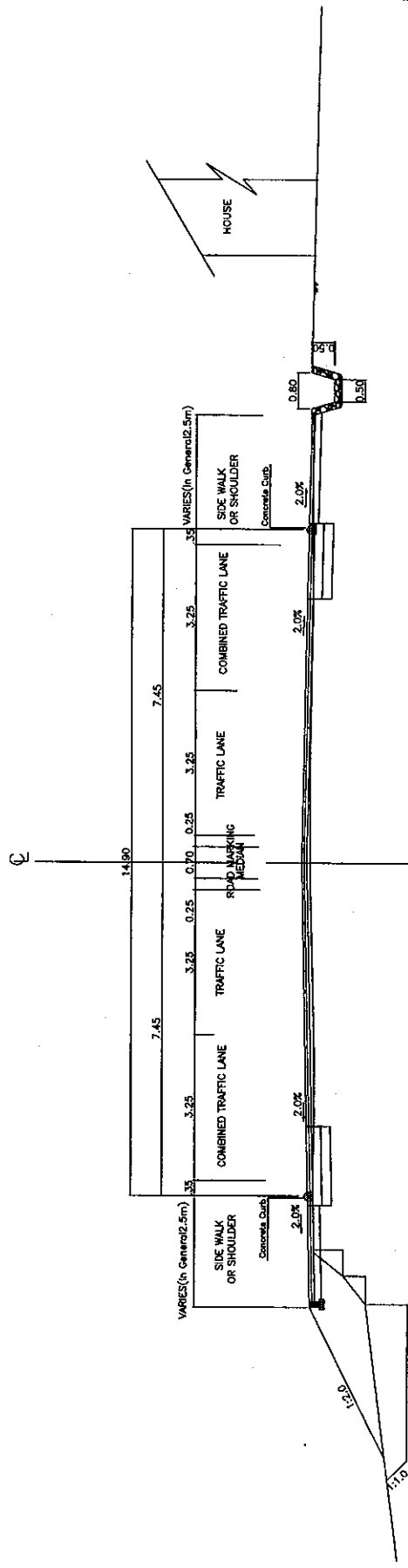
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	TITLE: DRAINAGE TYPICAL CROSS SECTION (6/10)	SCALE:	DRAWING NO:
				S=1:100	DR-49
					REV.



(STA. 7+185 - 12+300)  
 (THATKHAO JUNCTION - CHINAIMO JUNCTION)

NOTE: All Dimensions are in Meters.

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	TITLE: DRAINAGE TYPICAL CROSS SECTION (7/10)	SCALE:	DRAWING NO:	REV:
				S=1:100	DR-50	



(STA. 12+300 - 18+500)  
 (CHINAIMO JUNCTION - BEER LAO)

NOTE: All Dimensions are in Meters.

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	TITLE: DRAINAGE TYPICAL CROSS SECTION (8/10)	SCALE:	DRAWING No:
				S=1:100	DR-51
				IRV	





GA1 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA2 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA3 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA4 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA5 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA6 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA7 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA8 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA9 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA14 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA15 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA16 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA17 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA18 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA19 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA20 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

GA21 SECTION DRAINAGE LIST

LEFT SIDE	LENGTH	REMARKS	CENTRAL	STATION	LENGTH	REMARKS	RIGHT SIDE	STATION	LENGTH	REMARKS	UNIT: m
11000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	

Lateral Pipe 0 Locations

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION  
TRANSPORT, POST AND CONSTRUCTION  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

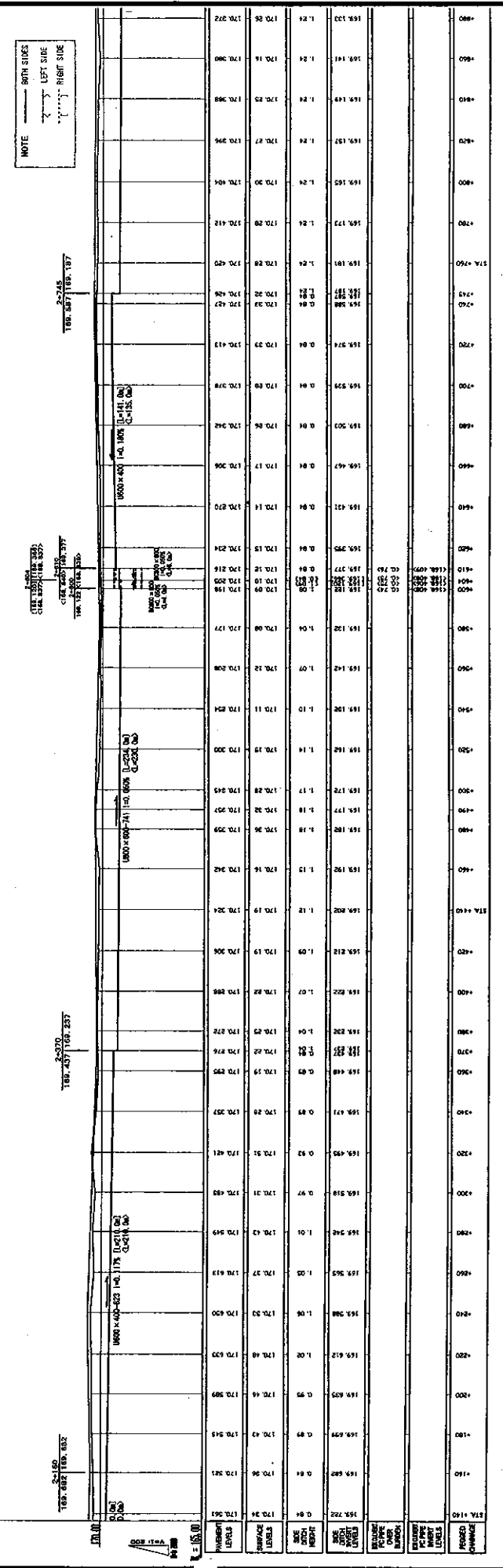
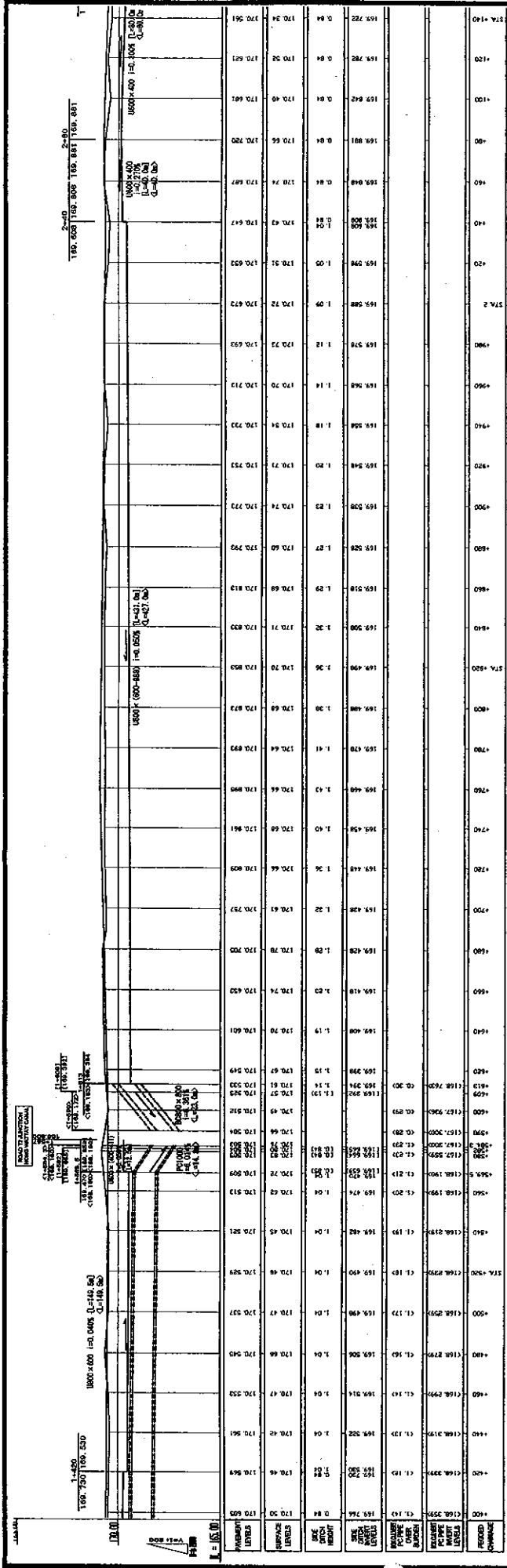
BASIC DESIGN STUDY ON THE PROJECT FOR THE  
IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL  
CTI ENGINEERING INTERNATIONAL CO. LTD

TITLE:  
DRAINAGE TYPICAL  
CROSS SECTION (10/10)

SCALE:  
DRAWING NO:  
DR-53  
Rv





STATION	ROAD WIDTH	LANE WIDTH	CENTERLINE	GRADE	VERTICAL CURVE DATA
170.00	10.00	3.00	170.00	1.00	1000' (300-800) 1+0.0526 [L=427.00] C=427.00
170.50	10.00	3.00	170.50	1.00	1000' (300-800) 1+0.0526 [L=427.00] C=427.00
171.00	10.00	3.00	171.00	1.00	1000' (300-800) 1+0.0526 [L=427.00] C=427.00
171.50	10.00	3.00	171.50	1.00	1000' (300-800) 1+0.0526 [L=427.00] C=427.00
172.00	10.00	3.00	172.00	1.00	1000' (300-800) 1+0.0526 [L=427.00] C=427.00
172.50	10.00	3.00	172.50	1.00	1000' (300-800) 1+0.0526 [L=427.00] C=427.00
173.00	10.00	3.00	173.00	1.00	1000' (300-800) 1+0.0526 [L=427.00] C=427.00
173.50	10.00	3.00	173.50	1.00	1000' (300-800) 1+0.0526 [L=427.00] C=427.00
174.00	10.00	3.00	174.00	1.00	1000' (300-800) 1+0.0526 [L=427.00] C=427.00

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION  
 TRANSPORT, POST AND CONSTRUCTION  
 LAO PEOPLE'S DEMOCRATIC REPUBLIC

BASIC DESIGN STUDY ON THE PROJECT FOR THE  
 IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE  
 LAO PEOPLE'S DEMOCRATIC REPUBLIC

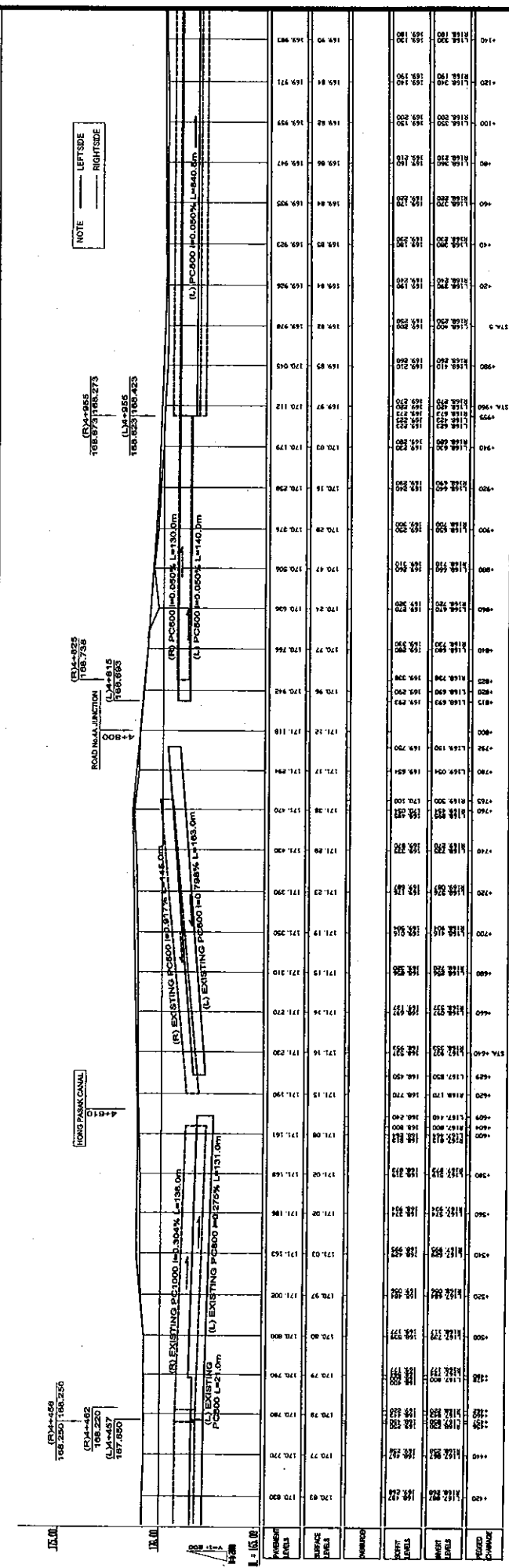
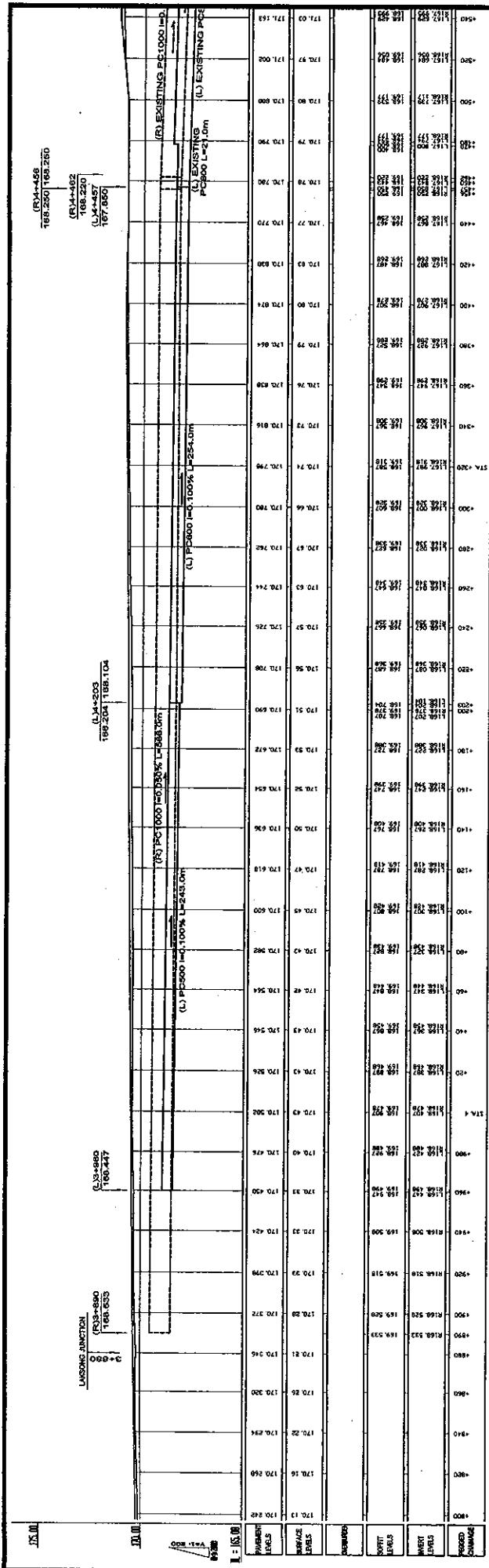
JAPAN INTERNATIONAL COOPERATION AGENCY  
 KATAHIRA & ENGINEERS INTERNATIONAL  
 C/ENGINEERING INTERNATIONAL CO., LTD

TITLE: DRAINAGE PROFILE (2/18)

SCALE: H=1:2000  
 V=1:200

DRAWING No: DR-55  
 Rev





STATION	PROPOSED ELEVATION	EXISTING ELEVATION	FINISH ELEVATION
170.00	170.00	170.00	170.00
170.10	170.10	170.10	170.10
170.20	170.20	170.20	170.20
170.30	170.30	170.30	170.30
170.40	170.40	170.40	170.40
170.50	170.50	170.50	170.50
170.60	170.60	170.60	170.60
170.70	170.70	170.70	170.70
170.80	170.80	170.80	170.80
170.90	170.90	170.90	170.90
171.00	171.00	171.00	171.00
171.10	171.10	171.10	171.10
171.20	171.20	171.20	171.20
171.30	171.30	171.30	171.30
171.40	171.40	171.40	171.40
171.50	171.50	171.50	171.50
171.60	171.60	171.60	171.60
171.70	171.70	171.70	171.70
171.80	171.80	171.80	171.80
171.90	171.90	171.90	171.90
172.00	172.00	172.00	172.00
172.10	172.10	172.10	172.10
172.20	172.20	172.20	172.20
172.30	172.30	172.30	172.30
172.40	172.40	172.40	172.40
172.50	172.50	172.50	172.50
172.60	172.60	172.60	172.60
172.70	172.70	172.70	172.70
172.80	172.80	172.80	172.80
172.90	172.90	172.90	172.90
173.00	173.00	173.00	173.00
173.10	173.10	173.10	173.10
173.20	173.20	173.20	173.20
173.30	173.30	173.30	173.30
173.40	173.40	173.40	173.40
173.50	173.50	173.50	173.50
173.60	173.60	173.60	173.60
173.70	173.70	173.70	173.70
173.80	173.80	173.80	173.80
173.90	173.90	173.90	173.90
174.00	174.00	174.00	174.00

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION  
 TRANSPORT, POST AND CONSTRUCTION  
 LAO PEOPLE'S DEMOCRATIC REPUBLIC

BASIC DESIGN STUDY ON THE PROJECT FOR THE  
 IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE  
 LAO PEOPLE'S DEMOCRATIC REPUBLIC

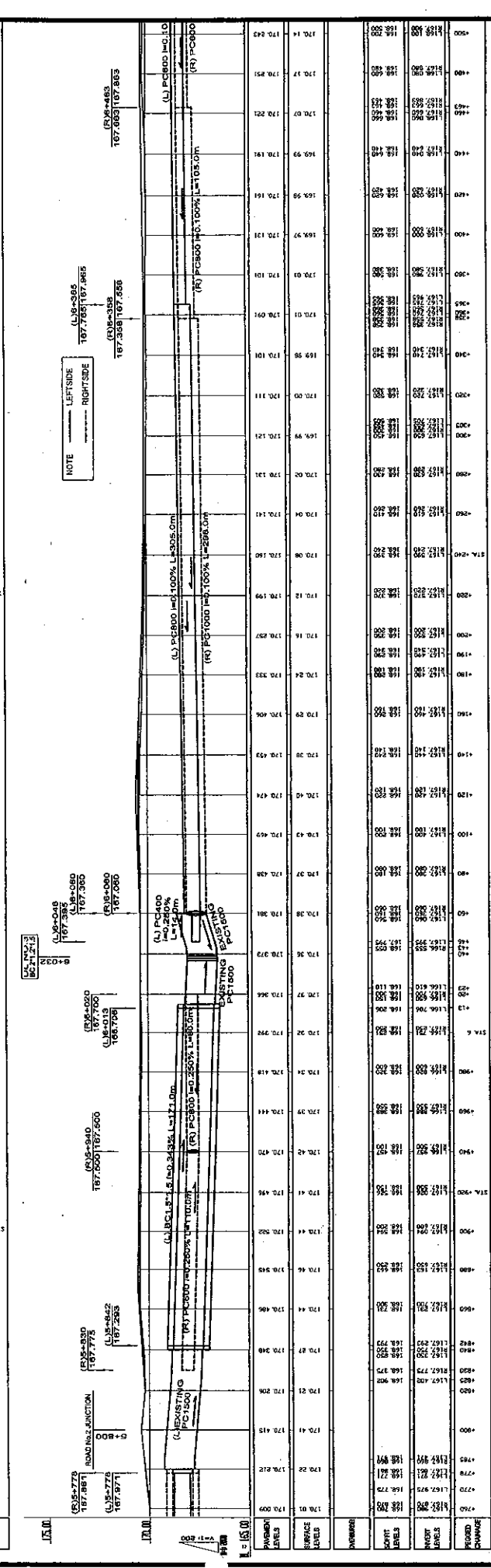
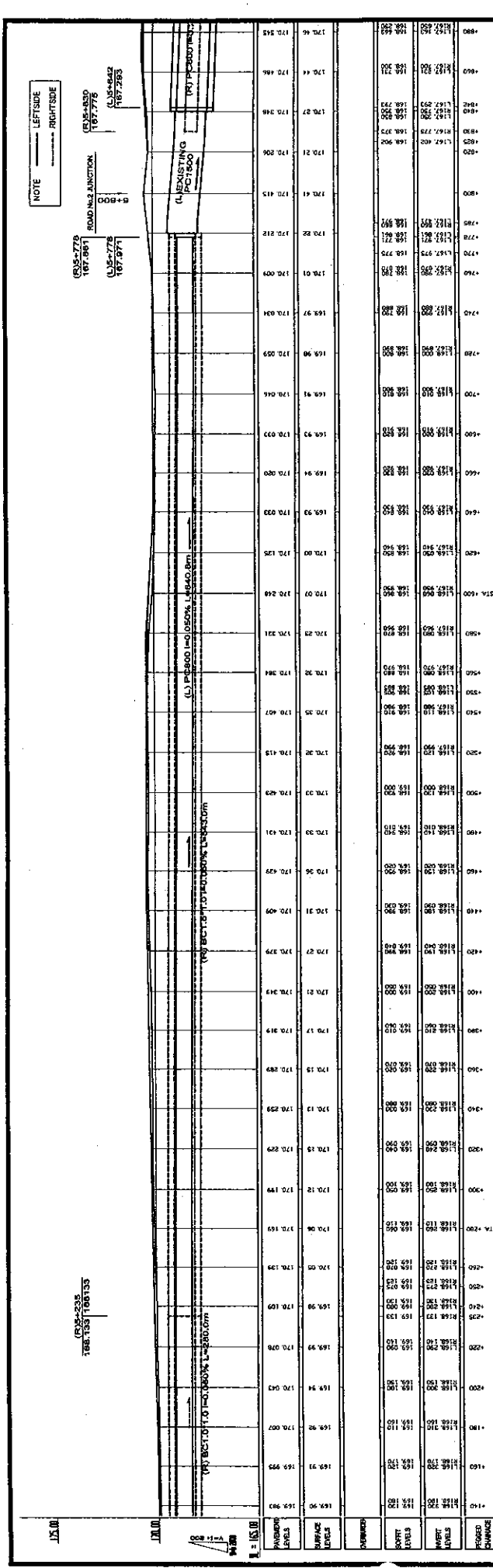
JAPAN INTERNATIONAL COOPERATION AGENCY  
 KATAHIRA & ENGINEERS INTERNATIONAL  
 CTI ENGINEERING INTERNATIONAL CO., LTD

TITLE: DRAINAGE PROFILE (4/18)

SCALE: H=1:2000 V=1:200

DRAWING No: DR-57

Rv



STATION	LEFTSIDE	RIGHTSIDE
169.90	169.90	169.90
170.00	170.00	170.00
170.10	170.10	170.10
170.20	170.20	170.20
170.30	170.30	170.30
170.40	170.40	170.40
170.45	170.45	170.45

SCALE: H=1:2000 V=1:200

TITLE: DRAINAGE PROFILE (5/18)

JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL  
CTI ENGINEERING INTERNATIONAL CO. LTD

BASIC DESIGN STUDY ON THE PROJECT FOR THE  
IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION  
TRANSPORT, POST AND CONSTRUCTION  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

DRAWING NO: DR-58  
REV: 1

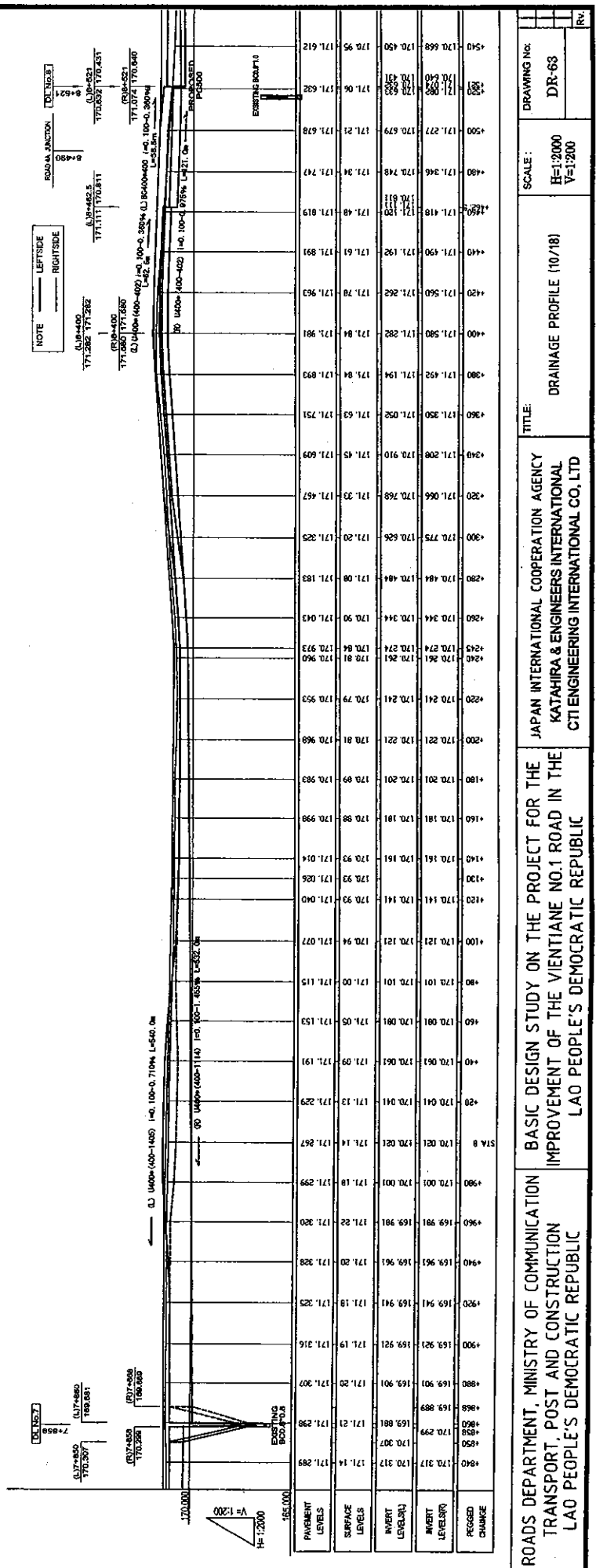
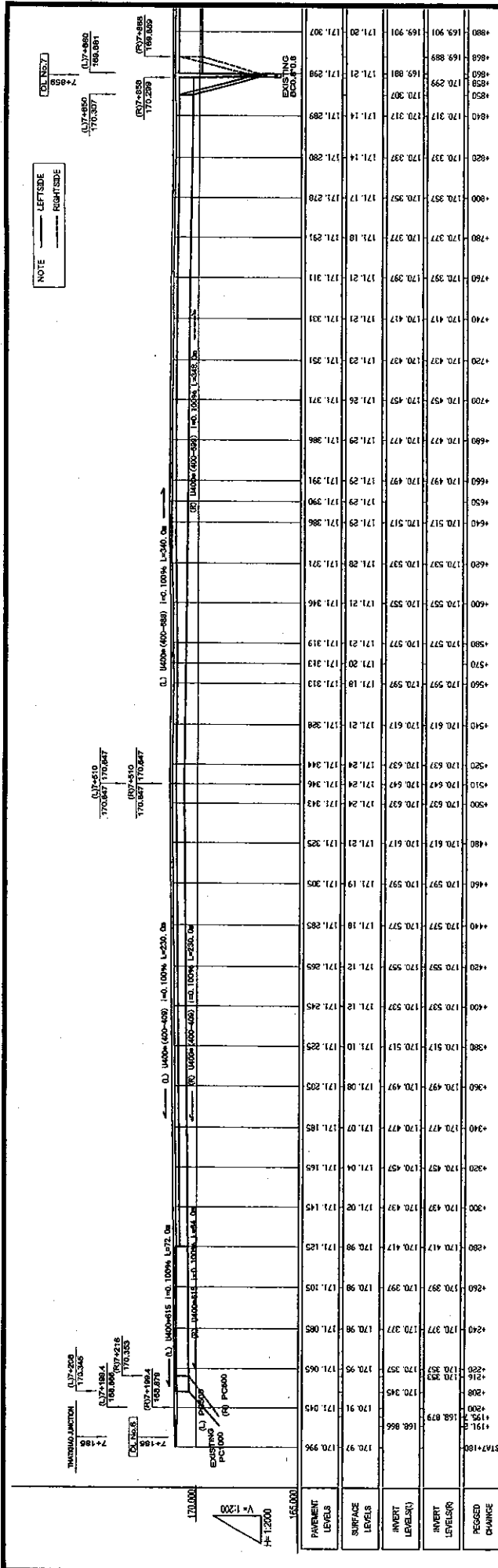












ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC

BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

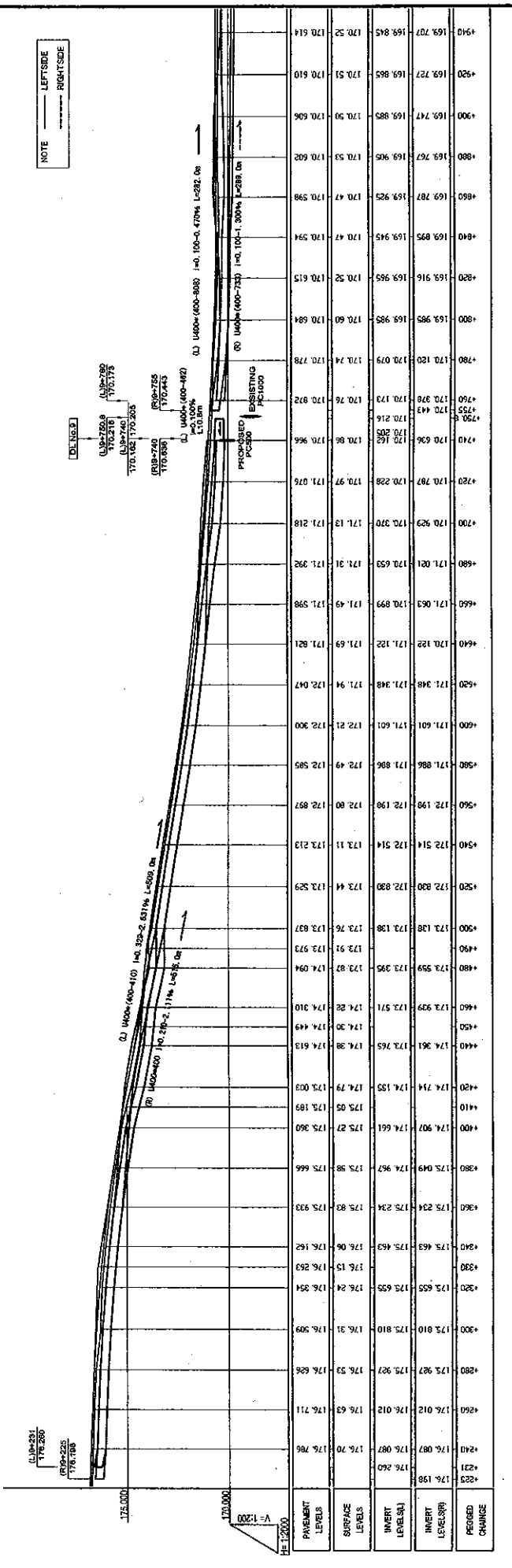
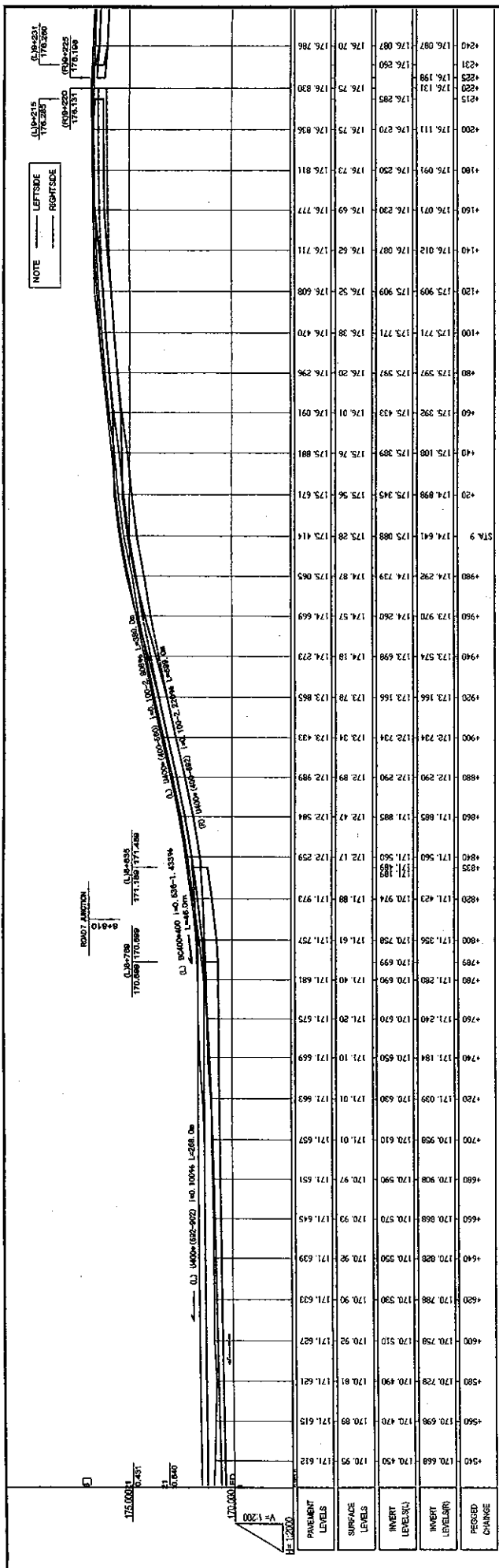
JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CJI ENGINEERING INTERNATIONAL CO, LTD

DRAINAGE PROFILE (10/18)

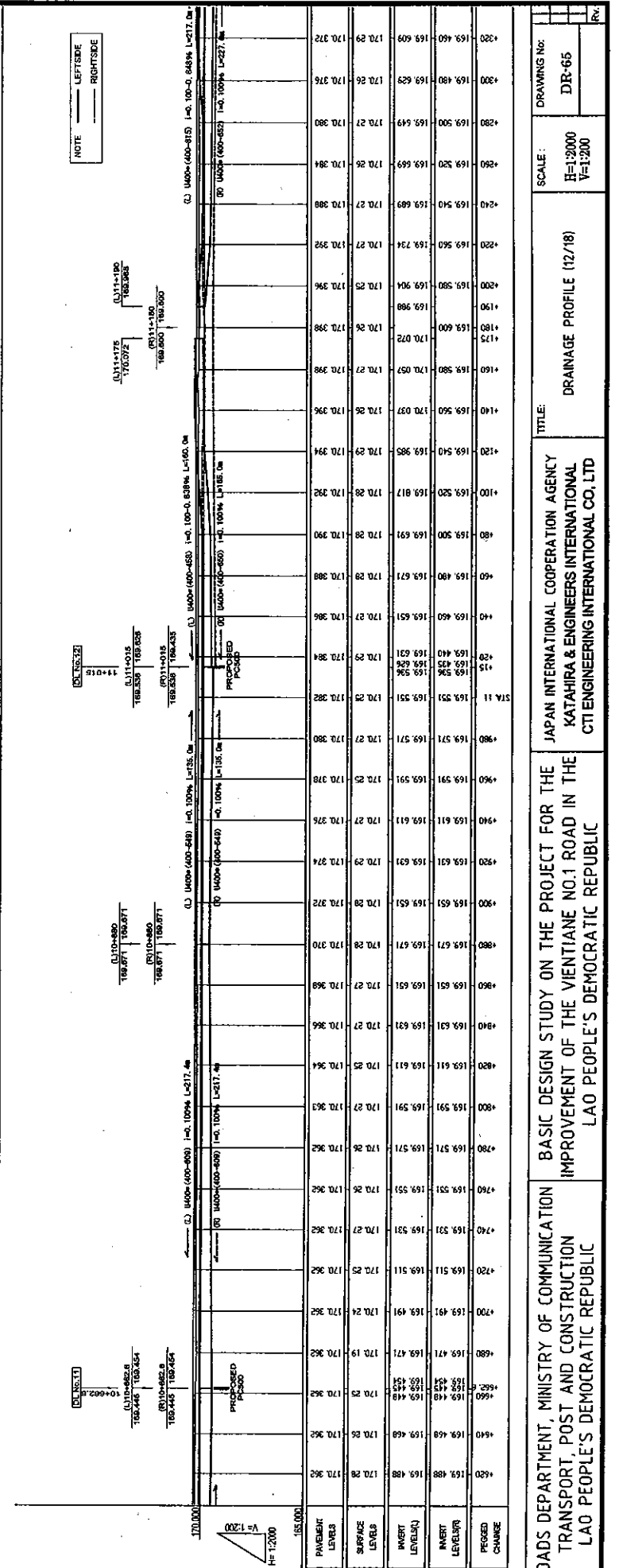
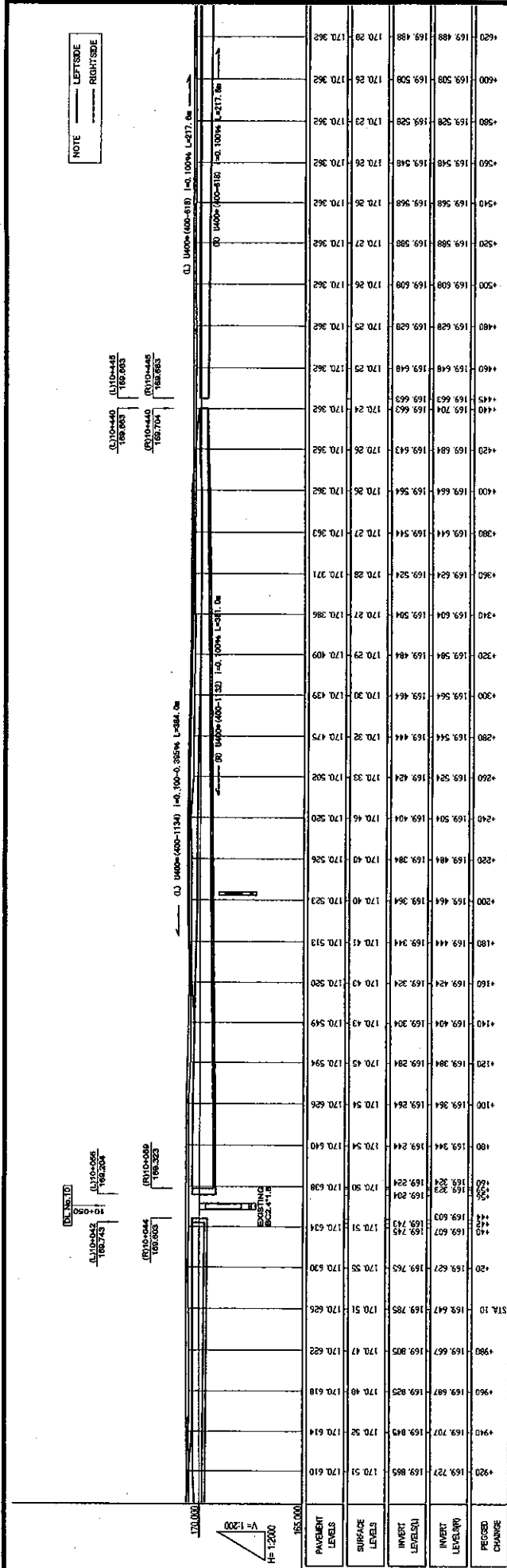
SCALE: H=1:2000 V=1:200

DRAWING No: DR-66

Rev.



DR-64	SCALE: H=1:2000 V=1:200	DRAINAGE PROFILE (11/18)	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO., LTD	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC
DRAWING NO.	SCALE:	TITLE:	AGENCY:	PROJECT:	CLIENT:
DR-64	H=1:2000 V=1:200	DRAINAGE PROFILE (11/18)	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO., LTD	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC



ROADS DEPARTMENT, MINISTRY OF COMMUNICATION  
 TRANSPORT, POST AND CONSTRUCTION  
 LAO PEOPLE'S DEMOCRATIC REPUBLIC

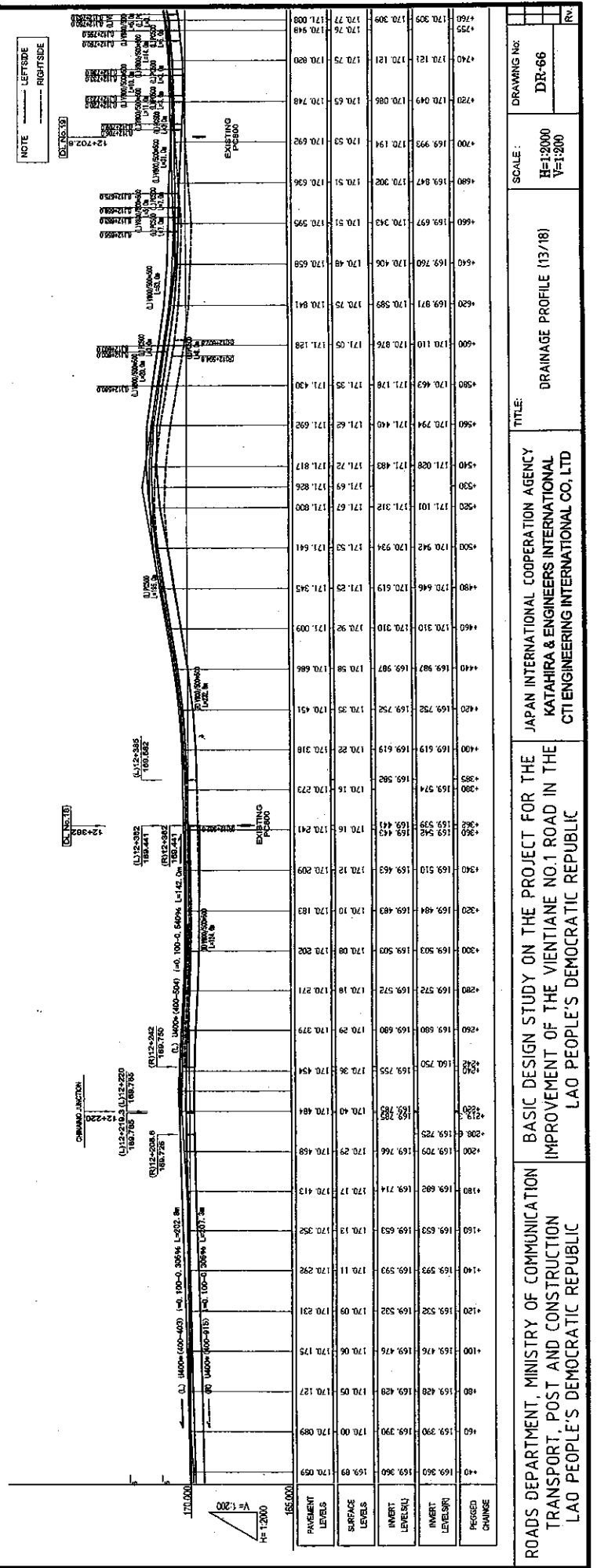
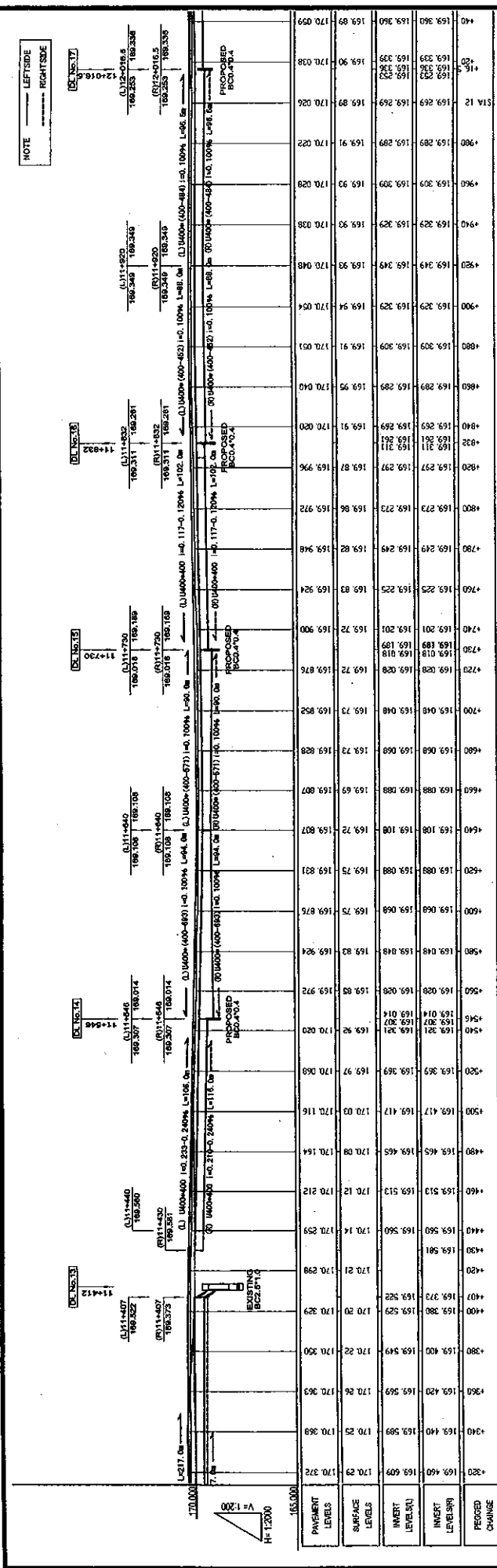
BASIC DESIGN STUDY ON THE PROJECT FOR THE  
 IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE  
 LAO PEOPLE'S DEMOCRATIC REPUBLIC

JAPAN INTERNATIONAL COOPERATION AGENCY  
 KATAHIRA & ENGINEERS INTERNATIONAL  
 CTI ENGINEERING INTERNATIONAL CO., LTD

DRAINAGE PROFILE (12/18)

SCALE: H=1:2000 V=1:200

DRAWING NO: DR-65



STATION	PROPOSED ELEVATION	EXISTING ELEVATION	CHANGED
+320	170.000	170.000	
+340	170.300	170.300	
+360	170.600	170.600	
+380	170.900	170.900	
+400	171.200	171.200	
+420	171.500	171.500	
+440	171.800	171.800	
+460	172.100	172.100	
+480	172.400	172.400	
+500	172.700	172.700	
+520	173.000	173.000	
+540	173.300	173.300	
+560	173.600	173.600	
+580	173.900	173.900	
+600	174.200	174.200	
+620	174.500	174.500	
+640	174.800	174.800	
+660	175.100	175.100	
+680	175.400	175.400	
+700	175.700	175.700	
+720	176.000	176.000	
+740	176.300	176.300	
+760	176.600	176.600	
+780	176.900	176.900	
+800	177.200	177.200	
+820	177.500	177.500	
+840	177.800	177.800	
+860	178.100	178.100	
+880	178.400	178.400	
+900	178.700	178.700	
+920	179.000	179.000	
+940	179.300	179.300	
+960	179.600	179.600	
+980	179.900	179.900	
+1000	180.200	180.200	

ROADS DEPARTMENT, MINISTRY OF COMMUNICATION  
 TRANSPORT, POST AND CONSTRUCTION  
 LAO PEOPLE'S DEMOCRATIC REPUBLIC

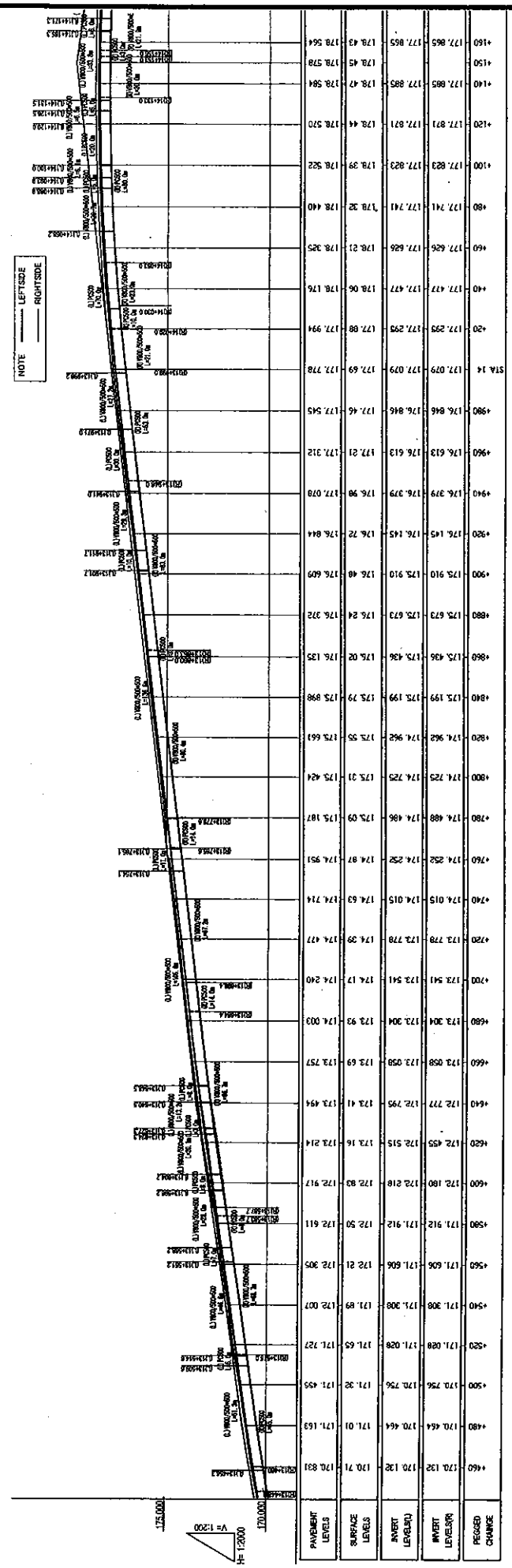
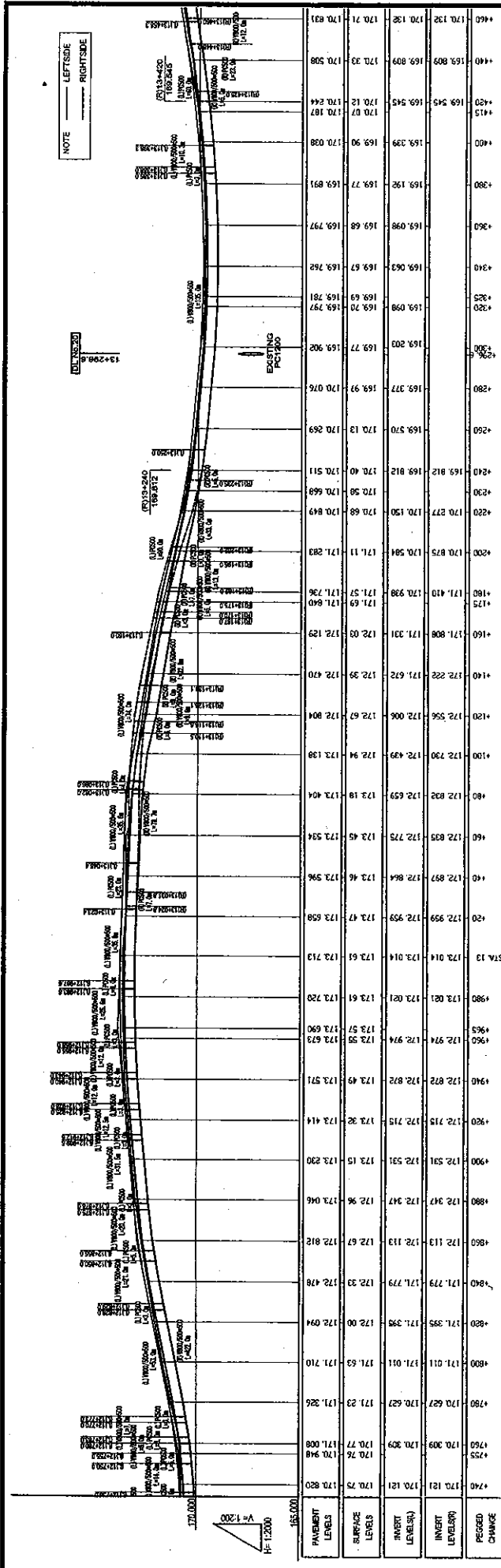
BASIC DESIGN STUDY ON THE PROJECT FOR THE  
 IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE  
 JAPAN INTERNATIONAL COOPERATION AGENCY  
 KATAHIRA & ENGINEERS INTERNATIONAL  
 CTI ENGINEERING INTERNATIONAL CO., LTD

DRAINAGE PROFILE (13/18)

SCALE: H=1:2000 V=1:200

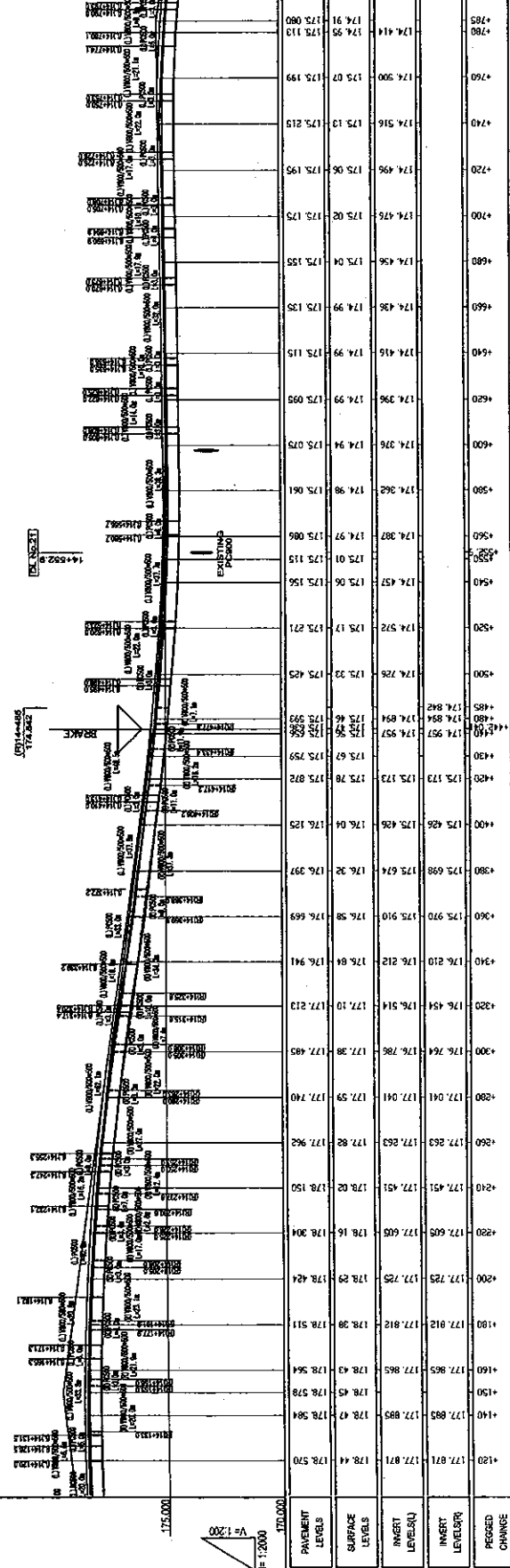
DRAWING NO: DR-66

REV.

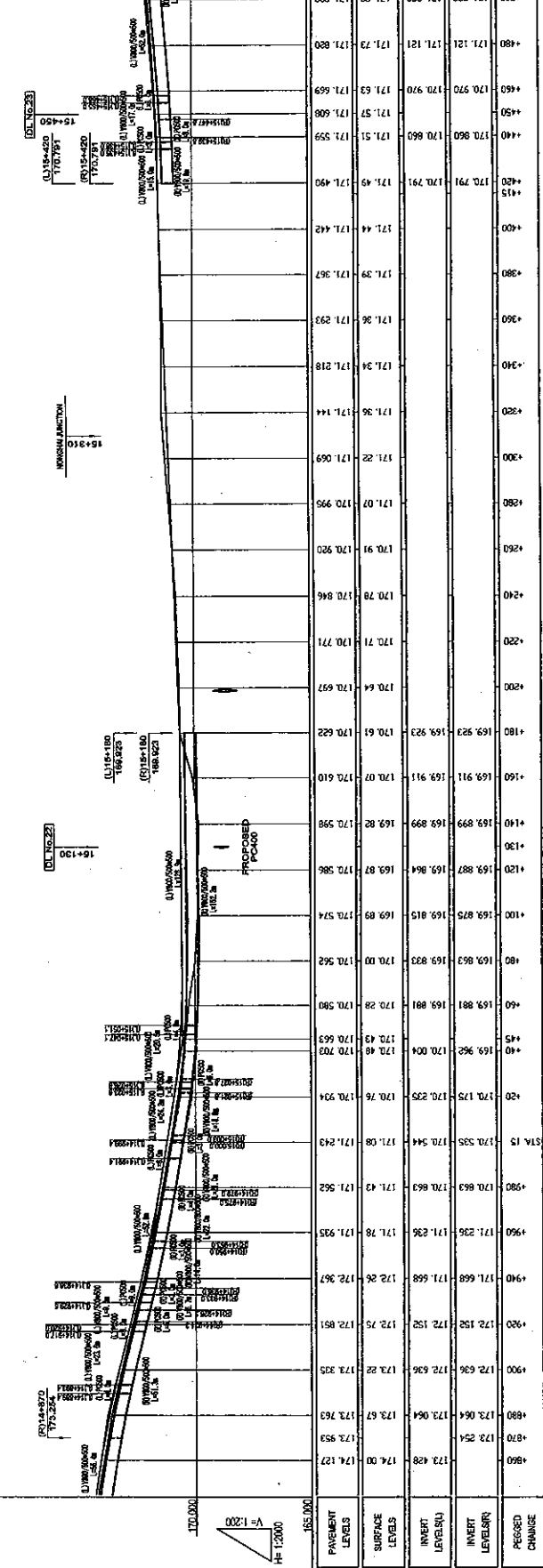


DRAWING No:		SCALE:		TITLE:	
DR-67		H=1:2000 V=1:200		DRAINAGE PROFILE (16/18)	
JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD					
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC					
BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC					

NOTE  
 LEFTSIDE  
 RIGHTSIDE

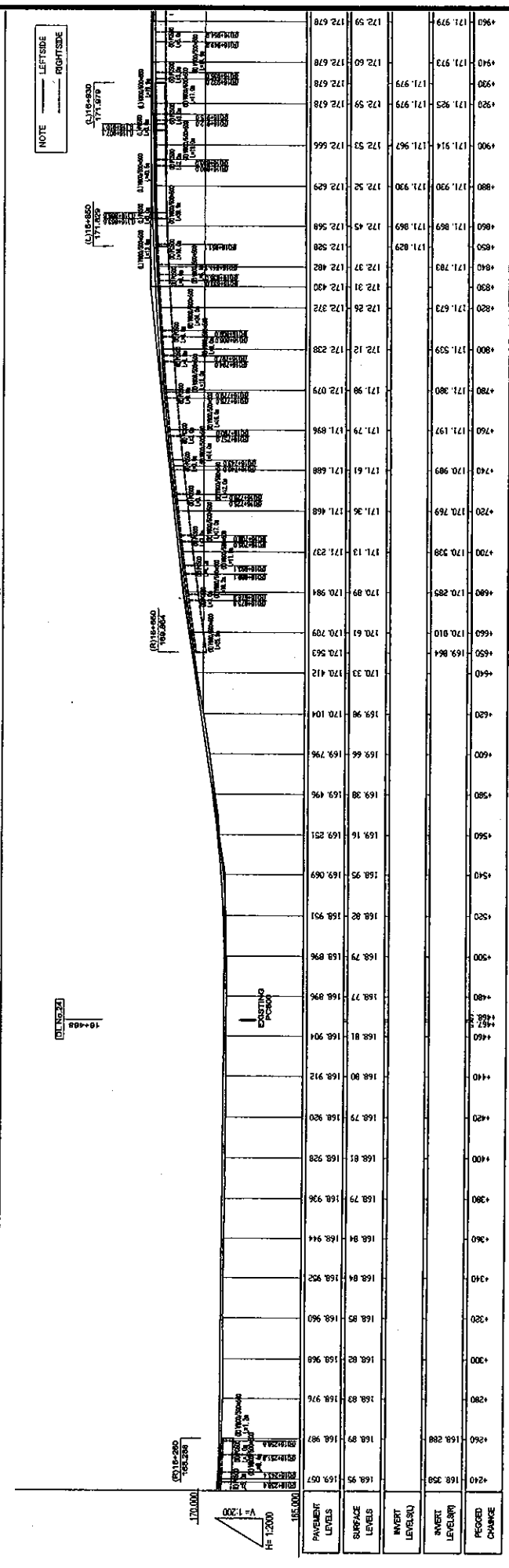
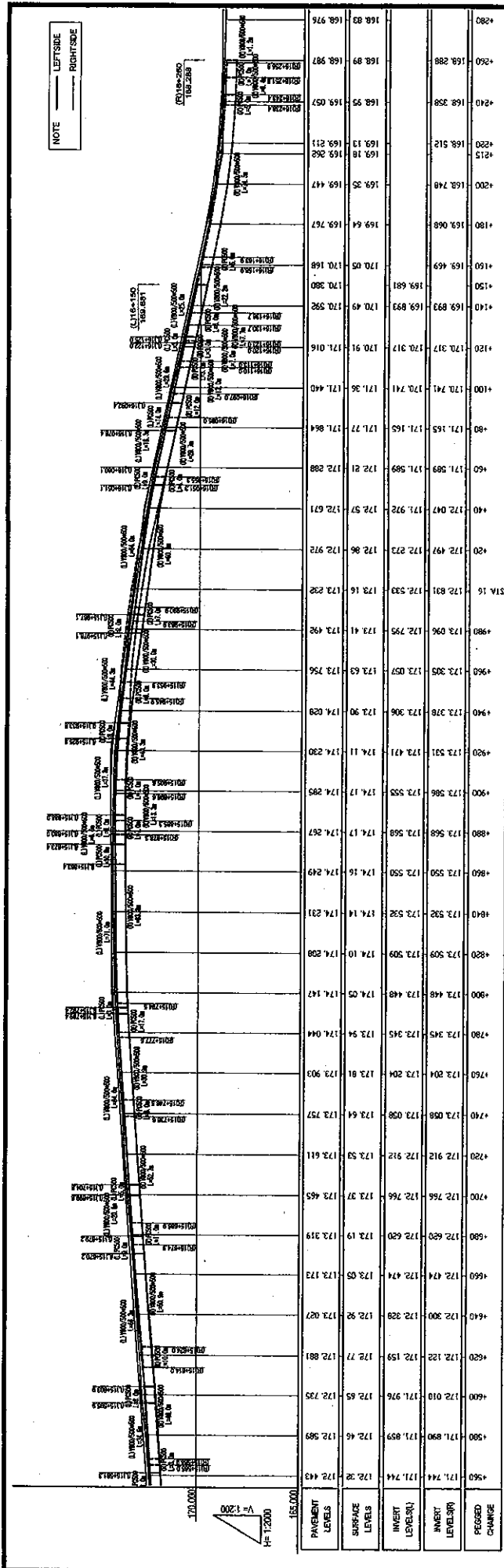


NOTE  
 LEFTSIDE  
 RIGHTSIDE



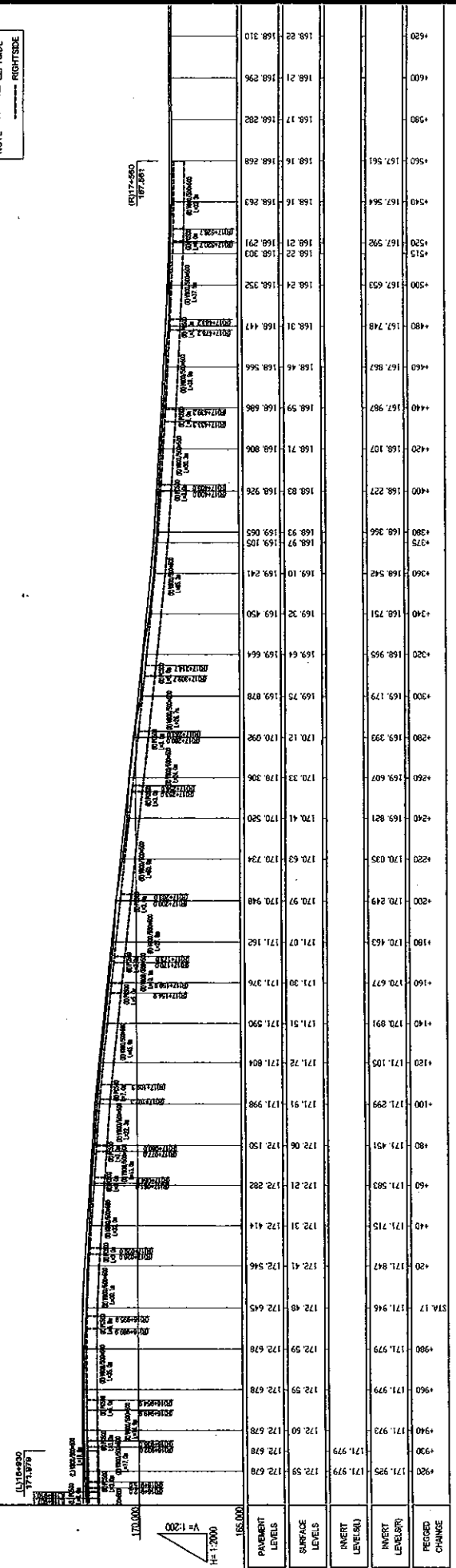
DRAWING No.	DR-68
SCALE :	H=1:2000 V=1:200
TITLE :	DRAINAGE PROFILE (15/18)
JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CITI ENGINEERING INTERNATIONAL CO, LTD	
BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	
REV.	



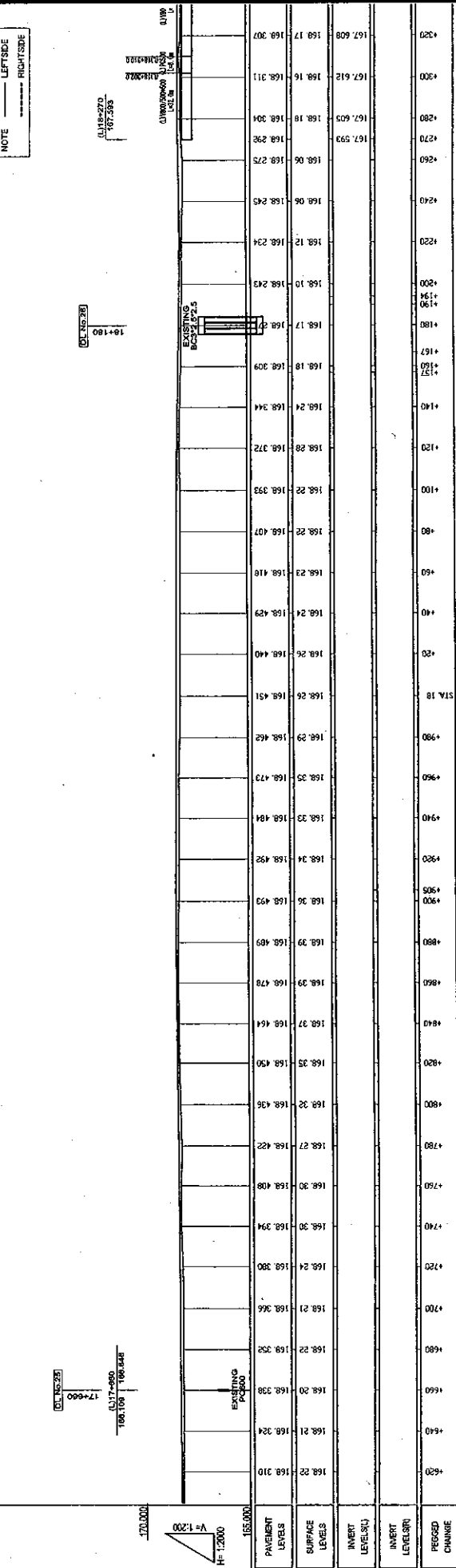


DRAWING No:		SCALE:		TITLE:	
	DR-69	H=1:2000	V=1:200	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO., LTD	
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC					
BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC					
STATIONING	172.00	171.979	171.925	171.930	171.930
PAVEMENT LEVELS	172.00	171.979	171.925	171.930	171.930
SURFACE LEVELS	172.00	171.979	171.925	171.930	171.930
INVERT LEVELS	172.00	171.979	171.925	171.930	171.930
PROPOSED CHANGE	172.00	171.979	171.925	171.930	171.930

NOTE — LEFTSIDE  
———— RIGHTSIDE

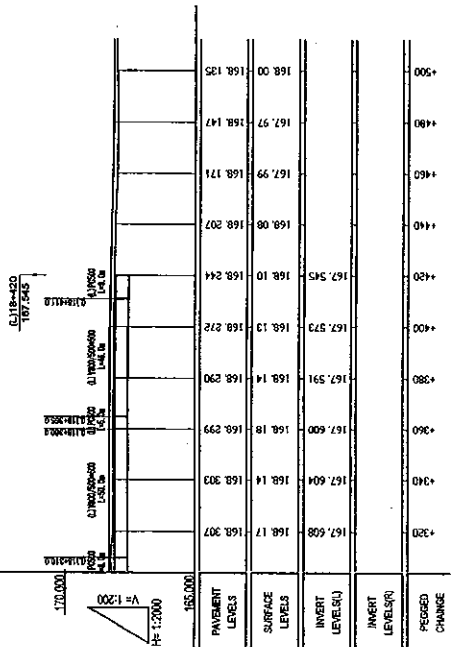


NOTE — LEFTSIDE  
———— RIGHTSIDE

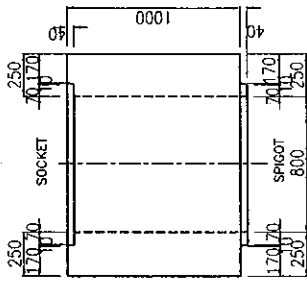


DRAWING NO:		DR-70	
SCALE:		H=1:2000 V=1:200	
TITLE:		DRAINAGE PROFILE (17/18)	
ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC		JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO. LTD	
BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC			

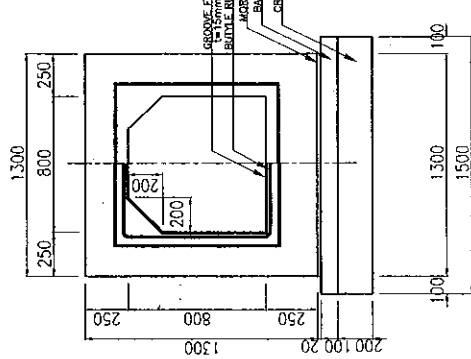
NOTE  
 — LEFTSIDE  
 — RIGHTSIDE



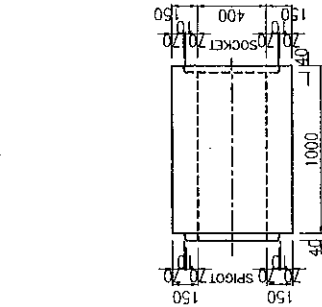
DRAWING No: DR-71	SCALE: H=1:2000 V=1:200	TITLE: DRAINAGE PROFILE (18/18)	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO, LTD	ROADS DEPARTMENT, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	Rev



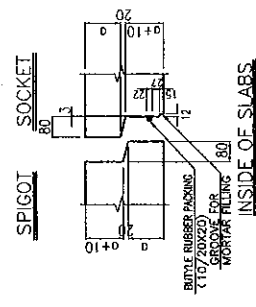
PLAN SOCKET SPIGOT



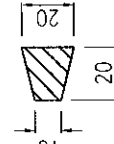
400X 400



800X 800



DETAIL OF CULVERT JOINTS  
SCALE 1:20



CROSS SECTION OF  
BUTYLE RUBBER PACKING  
SCALE 1:2

PRECAST REINFORCED BOX CULVERTS (1/2)

DEPARTMENT OF ROADS, MINISTRY OF COMMUNICATION  
TRANSPORT, POST AND CONSTRUCTION  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

BASIC DESIGN STUDY ON THE PROJECT FOR THE  
IMPROVEMENT OF THE VIETIANE NO.1 ROAD IN THE  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

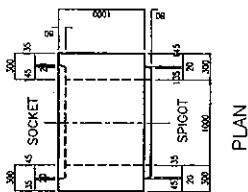
JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL  
CTI ENGINEERING INTERNATIONAL CO.LTD

TITLE: STRUCTURAL DRAWING OF  
PRECAST REINFORCED  
BOX CULVERTS (1/2)  
0.4\*0.4\*0.8\*0.8

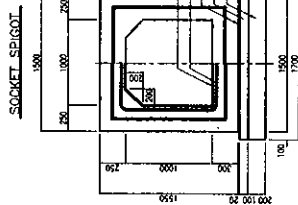
SCALE: 1:30

DRAWING No:  
DR-72

Rv



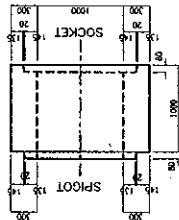
PLAN



FRONT

1000x1000

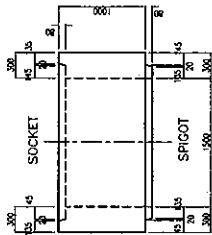
SIDE



SIDE

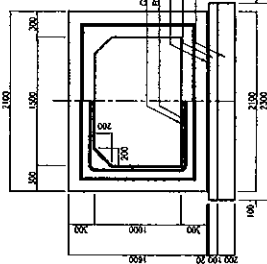
1500x1000

FRONT



PLAN

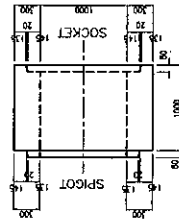
SOCKET SPIGOT



SIDE

1500x1000

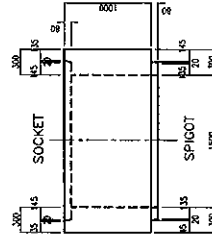
FRONT



SIDE

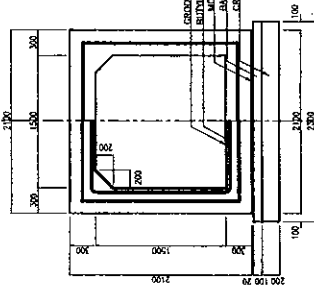
1500x1500

FRONT



PLAN

SOCKET SPIGOT



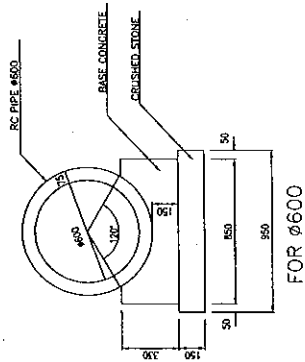
SIDE

1500x1500

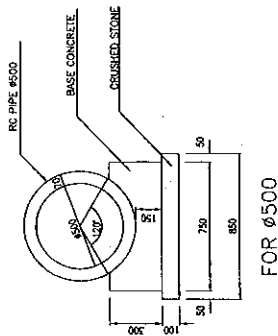
FRONT

### PRECAST REINFORCED BOX CULVERTS (2/2)

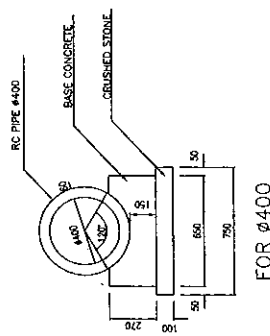
DEPARTMENT OF ROADS, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CIT ENGINEERING INTERNATIONAL CO.LTD	TITLE: STRUCTURAL DRAWING OF PRECAST REINFORCED BOX CULVERTS (2/2) 1.0*1.0,1.5*1.0,1.5*1.5	SCALE: 1:60	DRAWING No: DR-73
			RV.		



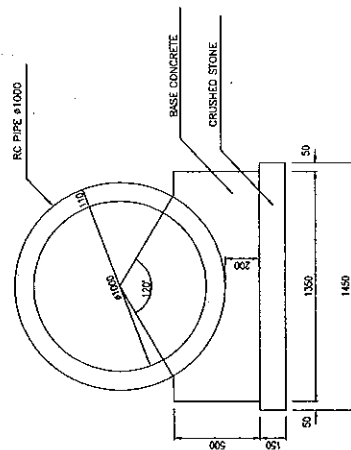
FOR  $\phi 600$



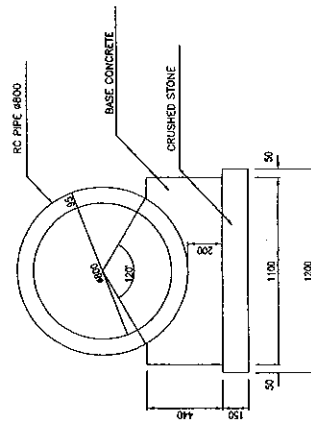
FOR  $\phi 500$



FOR  $\phi 400$



FOR  $\phi 1000$



FOR  $\phi 800$

GENERAL CROSS SECTION

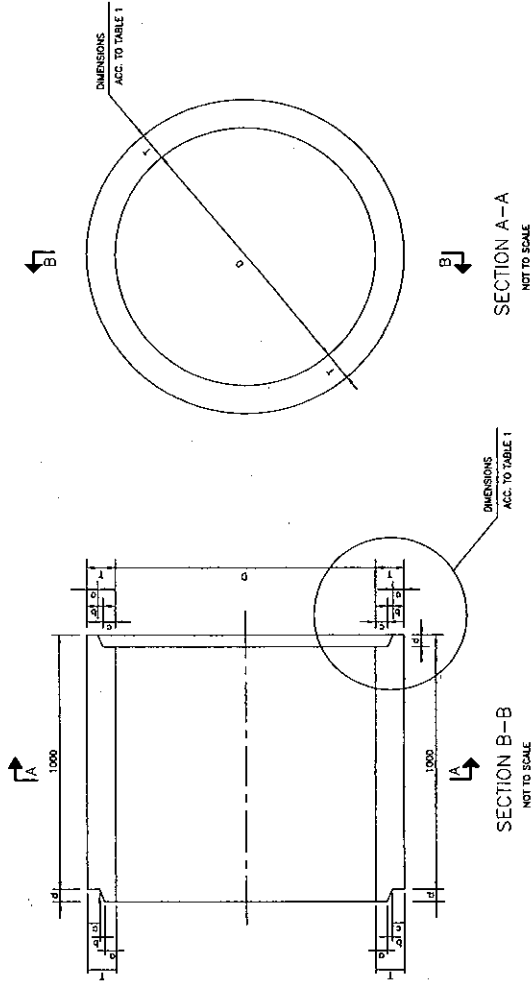
DEPARTMENT OF ROADS, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO.,LTD	TITLE:	RC PIPE IN 120' FOUNDATION	SCALE:	1:30	DRAWING NO:	DR-74	REV.

TABLE 1

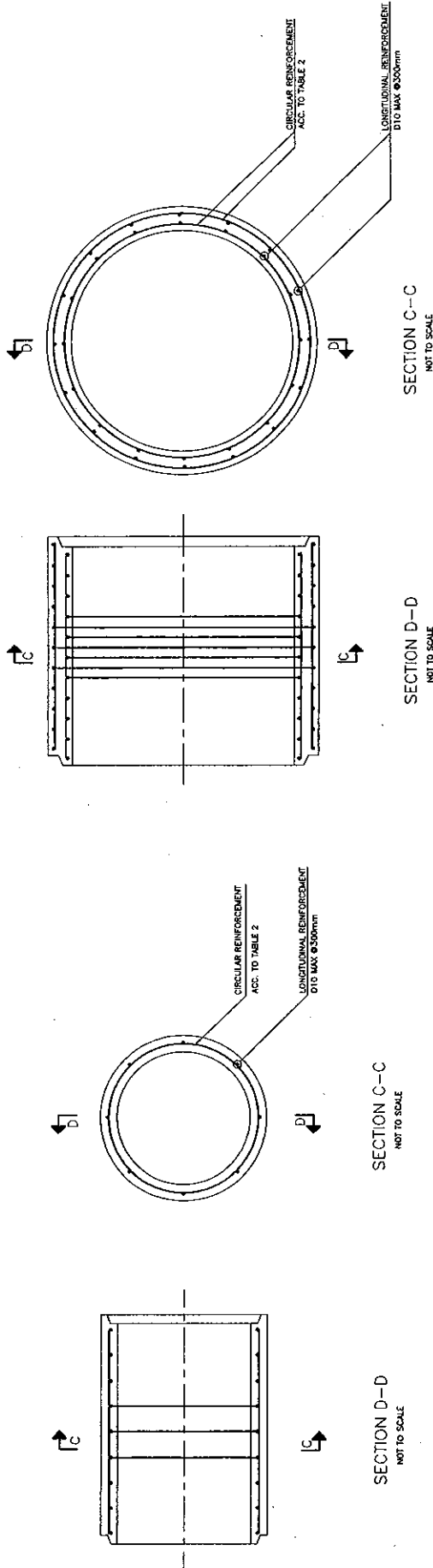
INSIDE DIAMETER D mm	WALL THICKNESS T mm	DIMENSIONS OF PIPE END DETAILS IN mm SOCKET AND SPIGOT			
		a	b	c	d
300	50	19	8	23	30
400	60	23	10	27	30
500	70	28	10	32	40
600	75	28	15	32	40
800	95	38	15	42	45
1000	110	43	20	47	45

TABLE 2

INSIDE DIAMETER D mm	MIN. CIRCULAR REINFORCEMENT (mm <sup>2</sup> /m)	CRUSHING LOAD TO PROVIDE 0.30mm CRACK SPACING AT CIRCUMFERENCE kg/m	ULTIMATE CRUSHING LOAD kg/m	ULTIMATE STRENGTH FOR 152 X 304mm CONCRETE COMPACT X 28 DAY AGE MPa (N/mm <sup>2</sup> )
300	150	-	3,050	4,590
400	230	-	4,090	6,120
500	380	-	5,100	7,650
600	570	-	6,120	9,180
800	580	410	8,160	12,240
1000	700	520	10,200	15,300



SOCKET AND SPIGOT TYPE DIMENSIONS



FOR Ø300, 400, 500 and 600mm

FOR Ø800 and 1000mm

REINFORCEMENT

DEPARTMENT OF ROADS, MINISTRY OF COMMUNICATION  
TRANSPORT, POST AND CONSTRUCTION  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

BASIC DESIGN STUDY ON THE PROJECT FOR THE  
IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

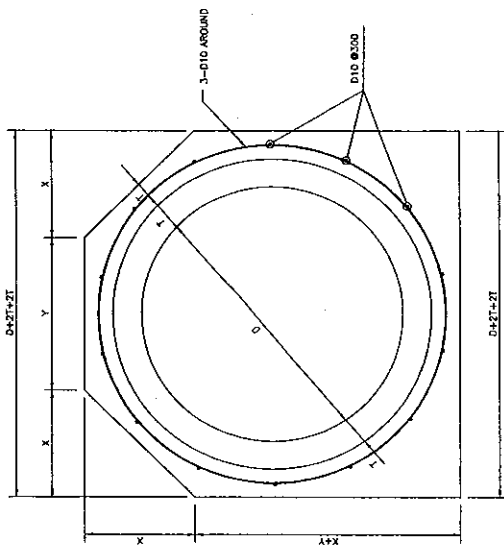
JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL  
CTI ENGINEERING INTERNATIONAL CO.,LTD

TITLE:  
DETAIL OF PRECAST  
REINFORCED CONCRETE PIPE

SCALE:  
Non scale

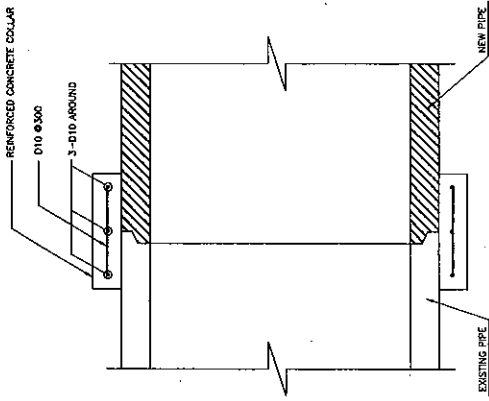
DRAWING No:  
DR-75

Rev:



TRANSVERSE SECTION

NOT TO SCALE

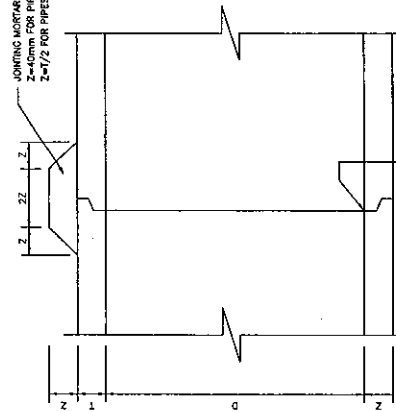


LONGITUDINAL SECTION

NOT TO SCALE

DETAIL OF PIPE EXTENSION

JOINING LAGERS  
FOR PIPES OF DIA. 300, 400, 500, 600mm  
2-1/2 FOR PIPES OF DIA. 800, 1000, 1200, 1500mm



DETAIL OF PIPE CONNECTION JOINT

TABLE 3

INSIDE DIAMETER D mm	X mm	Y mm
300	150	200
400	195	250
500	240	300
600	290	400
800	340	500
1000	420	600

DEPARTMENT OF ROADS, MINISTRY OF COMMUNICATION  
TRANSPORT, POST AND CONSTRUCTION  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

BASIC DESIGN STUDY ON THE PROJECT FOR THE  
IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL  
CTI ENGINEERING INTERNATIONAL CO.,LTD

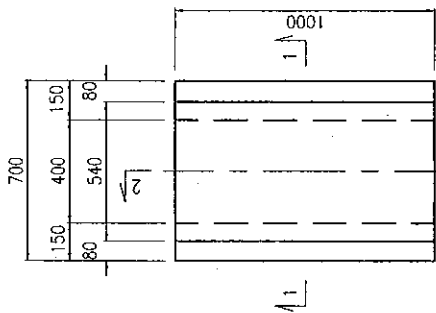
TITLE:  
REINFORCED CONCRETE PIPE  
JOINT

SCALE:  
Non scale

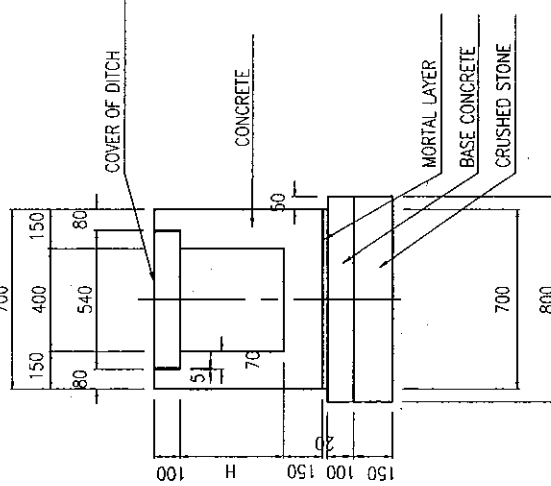
DRAWING No:  
DR-76

REV.

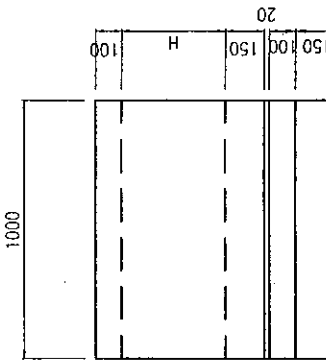




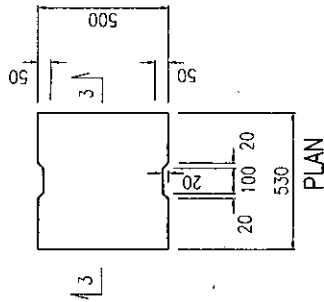
PLAN



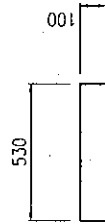
SECTION 1-1



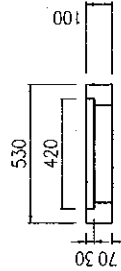
SECTION 2-2



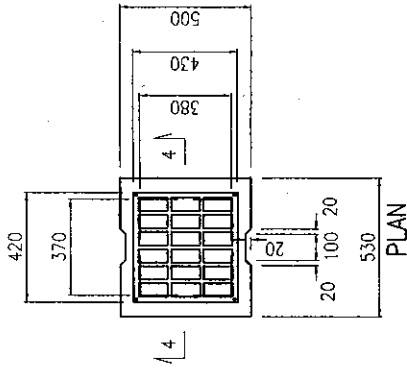
PLAN



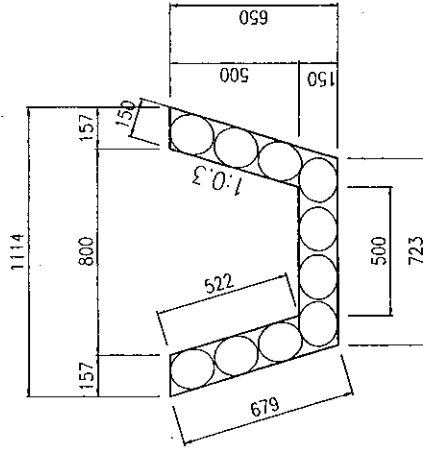
SECTION 3-3



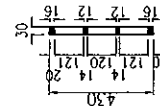
SECTION 4-4



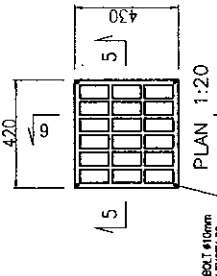
PLAN



SECTION 5-5



SECTION 6-6



PLAN 1:20

SECTION 5-5

SIDE DITCH COVER (STANDARD)

SIDE DITCH GRATING COVER (10mPITCH)

GRATING COVER DETAIL

SIDE DITCH 400

MASONRY DITCH

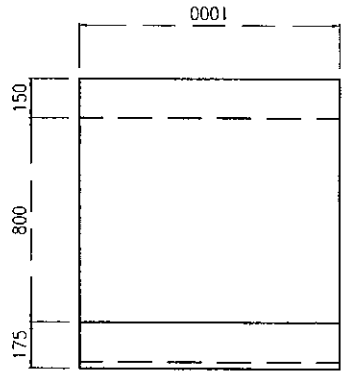
DEPARTMENT OF ROADS, MINISTRY OF COMMUNICATION  
TRANSPORT, POST AND CONSTRUCTION  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

BASIC DESIGN STUDY ON THE PROJECT FOR THE  
IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

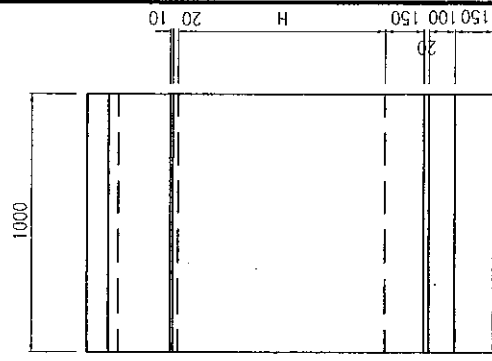
JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL  
CTI ENGINEERING INTERNATIONAL CO.,LTD

TITLE: STRUCTURAL DRAWING OF  
PRECAST-REINFORCED  
DITCH(1/4)

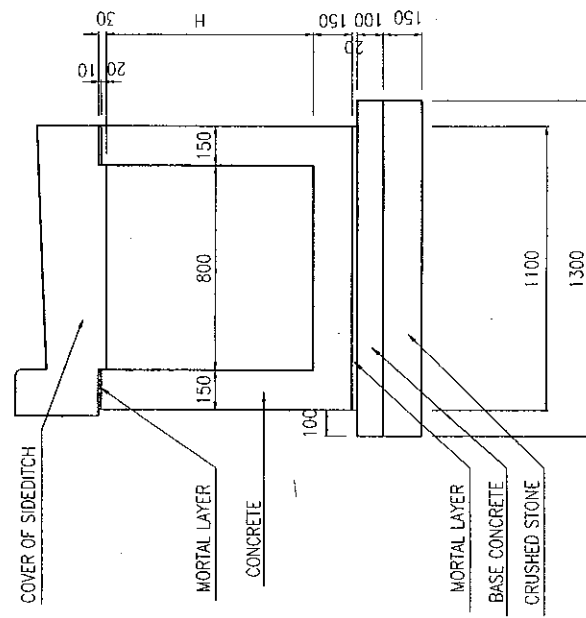
SCALE: 1:20  
DRAWING No: DR-77



PLAN

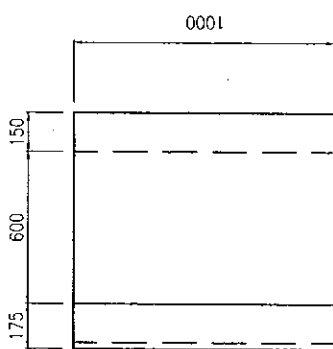


SIDE

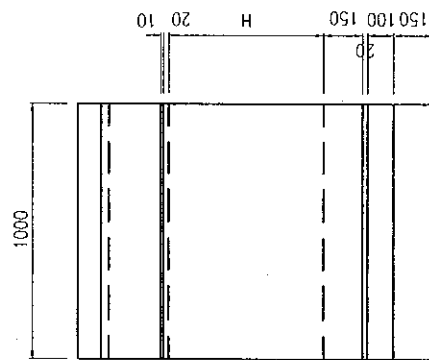


SECTION

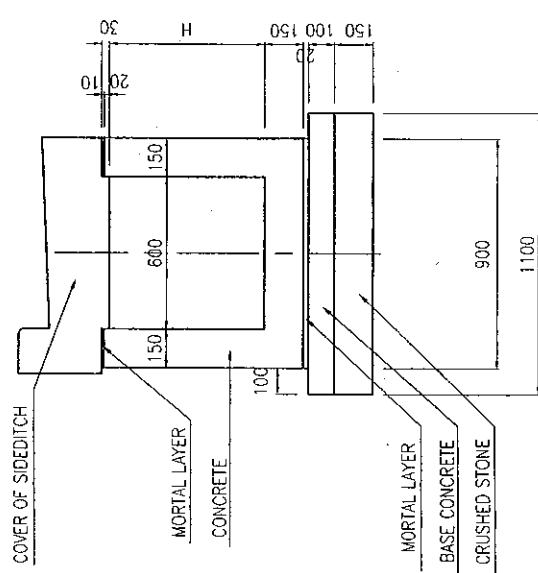
SIDE DITCH 800



PLAN



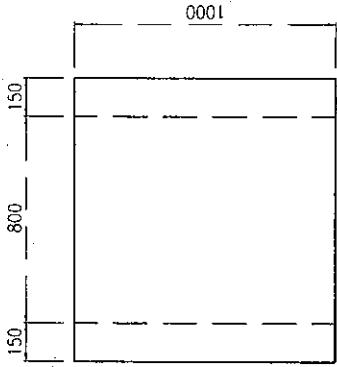
SIDE



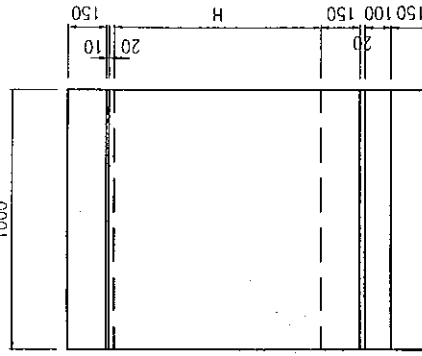
SECTION

SIDE DITCH 600

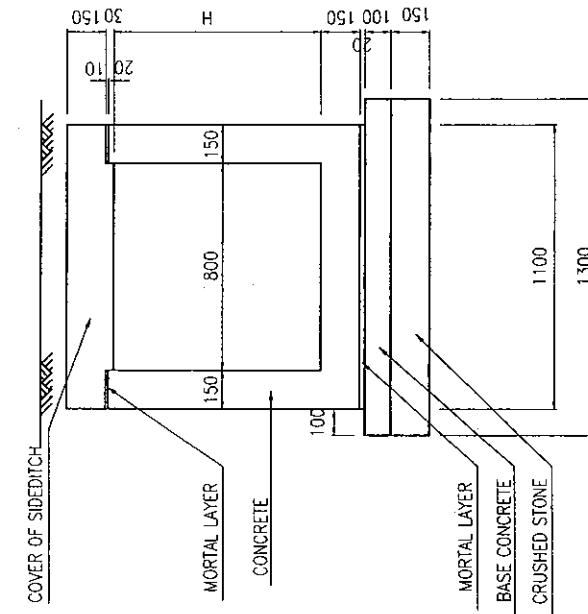
DRAWING No: DR-78	SCALE: 1:20	TITLE: STRUCTURAL DRAWING OF PRECAST REINFORCED DITCH(2/4)	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO.,LTD	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	DEPARTMENT OF ROADS, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC
					NO.



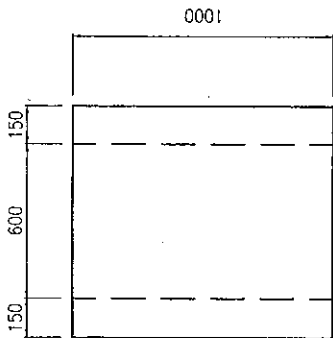
PLAN



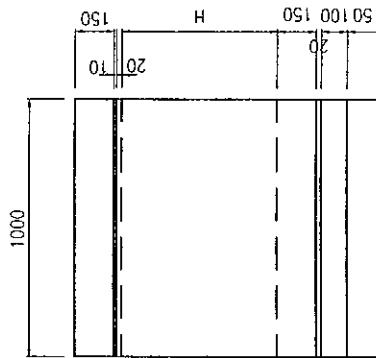
SIDE



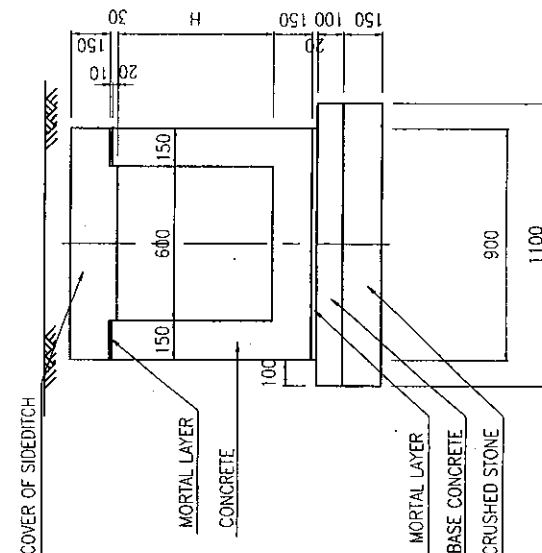
SECTION



PLAN



SIDE

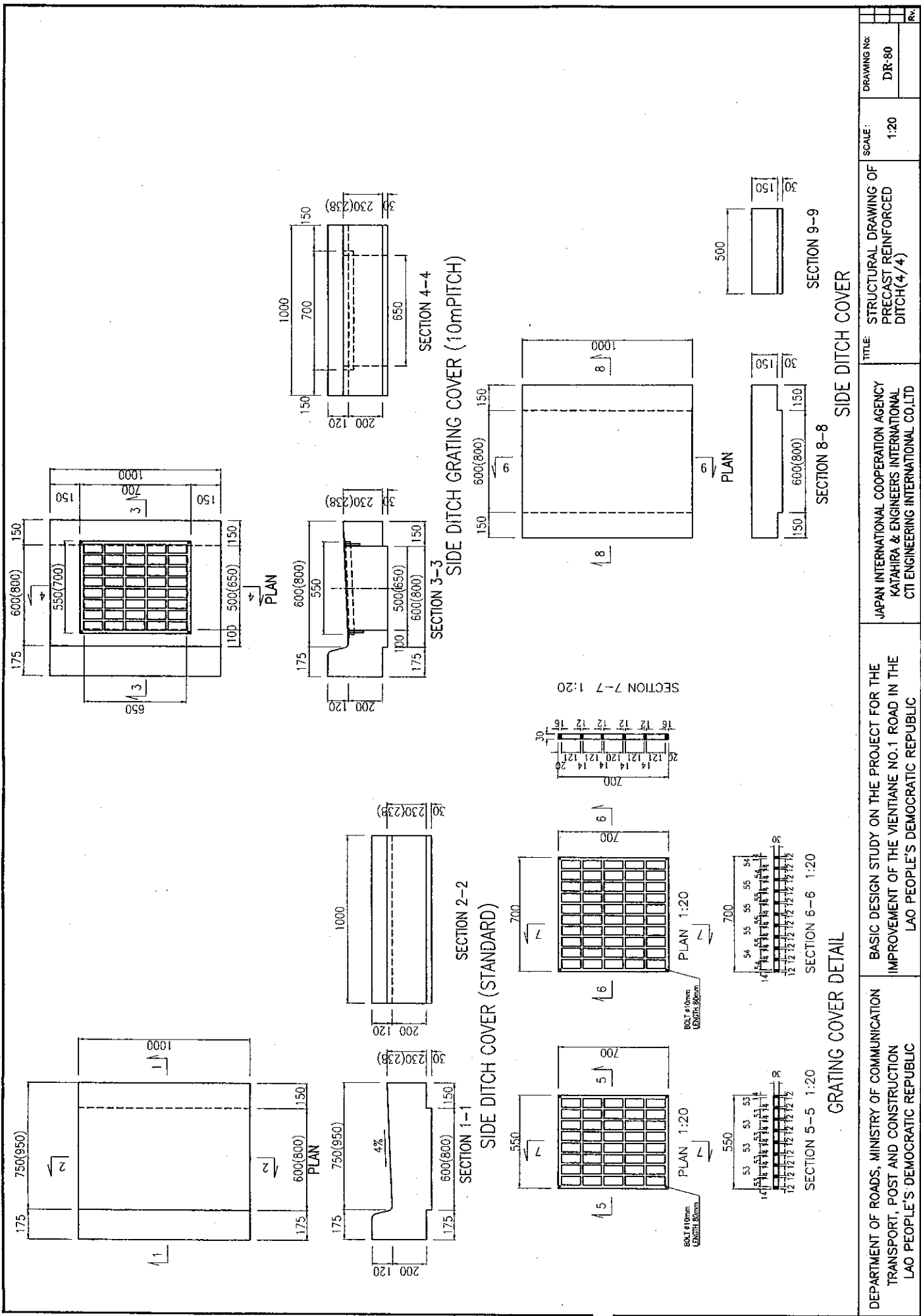


SECTION

SIDE DITCH 800

SIDE DITCH 600

DEPARTMENT OF ROADS, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO.,LTD	TITLE: STRUCTURAL DRAWING OF PRECAST REINFORCED DITCH(3/4)	SCALE:	DRAWING No:
				1:20	DR-79
					RV



DEPARTMENT OF ROADS, MINISTRY OF COMMUNICATION TRANSPORT, POST AND CONSTRUCTION LAO PEOPLE'S DEMOCRATIC REPUBLIC	BASIC DESIGN STUDY ON THE PROJECT FOR THE IMPROVEMENT OF THE VIENTIANE NO.1 ROAD IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL CTI ENGINEERING INTERNATIONAL CO.LTD	TITLE: STRUCTURAL DRAWING OF PRECAST REINFORCED DITCH(4/4)	SCALE: 1:20	DRAWING No: DR-80	Rv
--	--	--	--	----------------	----------------------	----