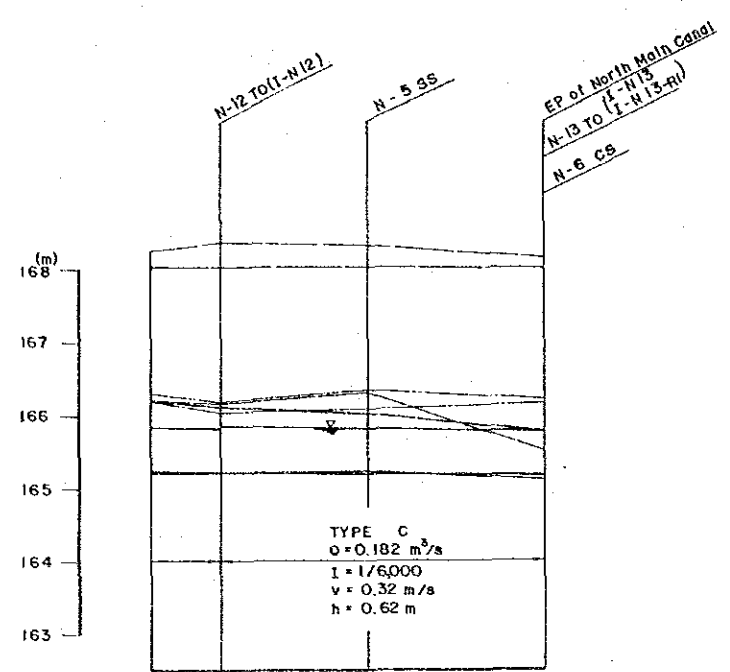
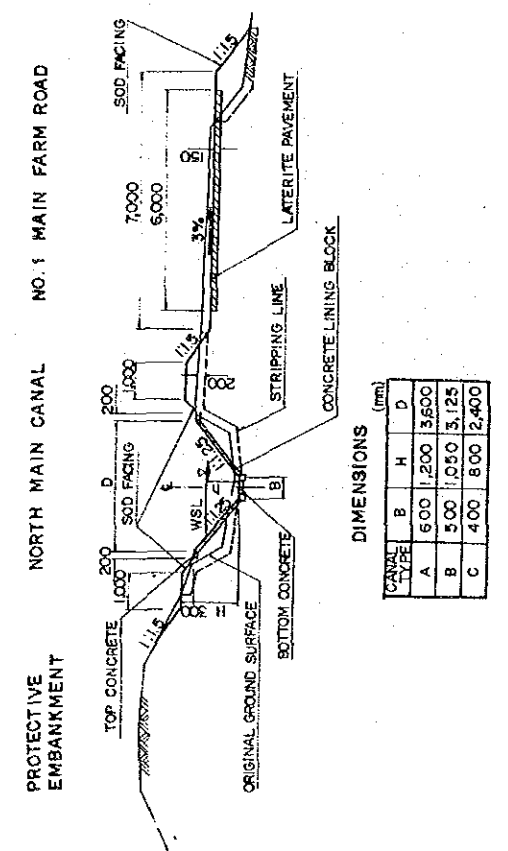


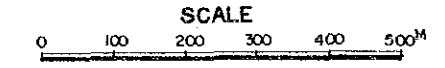
- NOTE : 1) 10 NOS. OF FOOT PATH BRIDGE SHALL BE PROVIDED ON NORTH MAIN CANAL.
- 2) EXISTING PROTECTIVE EMBANKMENT AND ROAD WILL NOT BE CUT IF THEIR ELEVATIONS ARE HIGHER THAN THE PROPOSED ONES.



PROPOSED ELEVATION	CANAL					
	PROTECTIVE EMBANKMENT	ROAD	WATER SURFACE	BASE		
	168.03	168.20	165.85	165.26		
	168.02	166.10	165.84	165.25		
	168.01	166.00	165.81	165.19		
	168.00	165.75	165.77	165.15		
GROUND SURFACE ELEVATION	PROTECTIVE EMBANKMENT	168.24	168.35	168.31	168.14	
	ROAD	166.20	166.15	166.30	165.49	
	CANAL	BASE	165.20	165.20	165.21	165.10
		LEFT BANK	166.19	166.04	166.07	166.15
		RIGHT BANK	166.29	166.18	166.32	166.20
	ACCUMULATED DISTANCE	5,600.00	5,694.00	5,900.20	6,139.40	
DISTANCE	108.80	94.00	206.20	239.20		
STATION NO.	+08.80	28	29	EP		
CURVE						



- LEGEND**
- PROPOSED PROTECTIVE EMBANKMENT
  - - - ROAD SURFACE
  - - - WATER SURFACE
  - - - CANAL BASE
  - EXISTING PROTECTIVE EMBANKMENT
  - - - LEFT BANK OF CANAL
  - - - RIGHT
  - - - ROAD SURFACE
  - - - CANAL BASE
- N-1 TO (I-N1) NAME OF TURNOUT (BRANCH CANAL)  
 N-3 CS CHECK STRUCTURE  
 N-2 SS SIDE SPILLWAY  
 N-3 WS(L) WASHING STEP



LAO PEOPLE'S DEMOCRATIC REPUBLIC

THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT

TITLE OF DRAWING

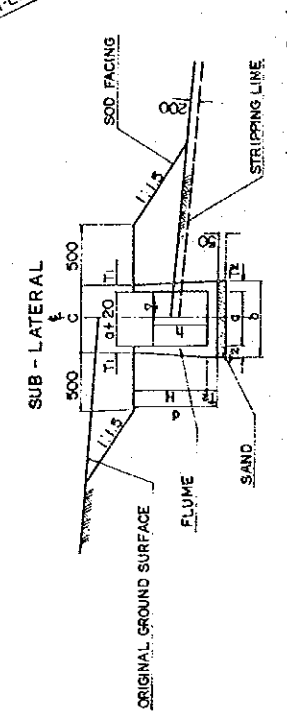
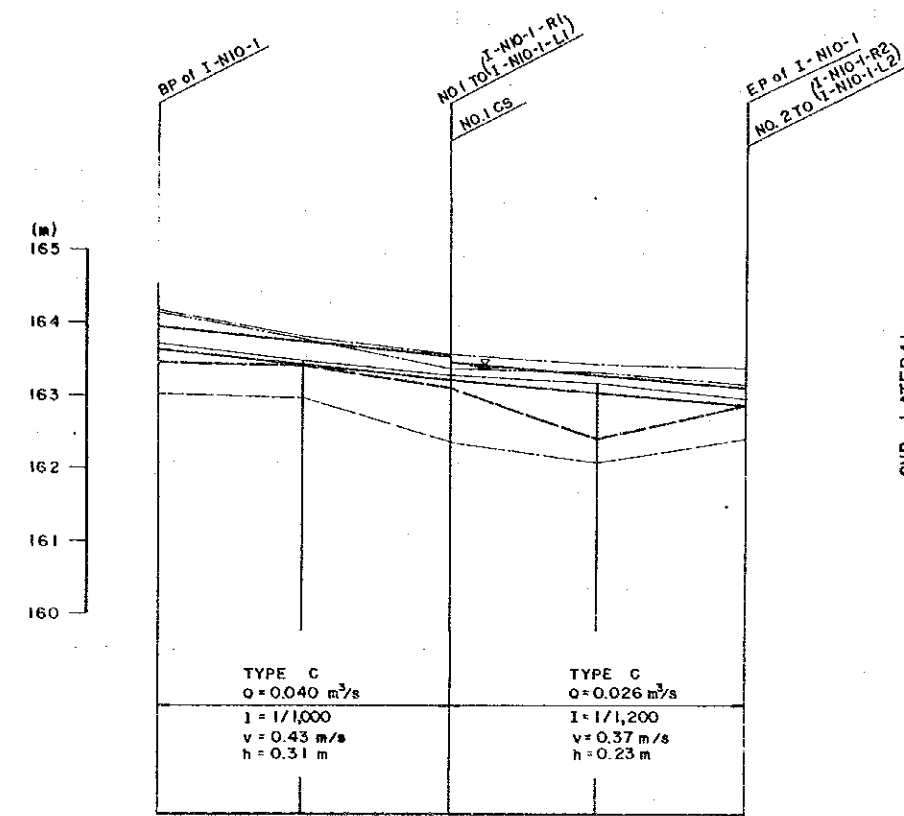
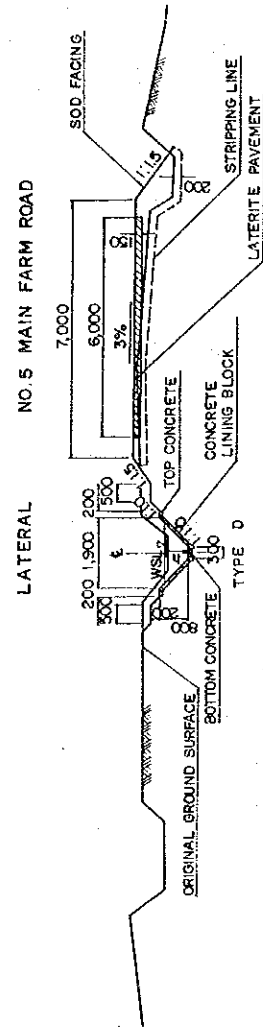
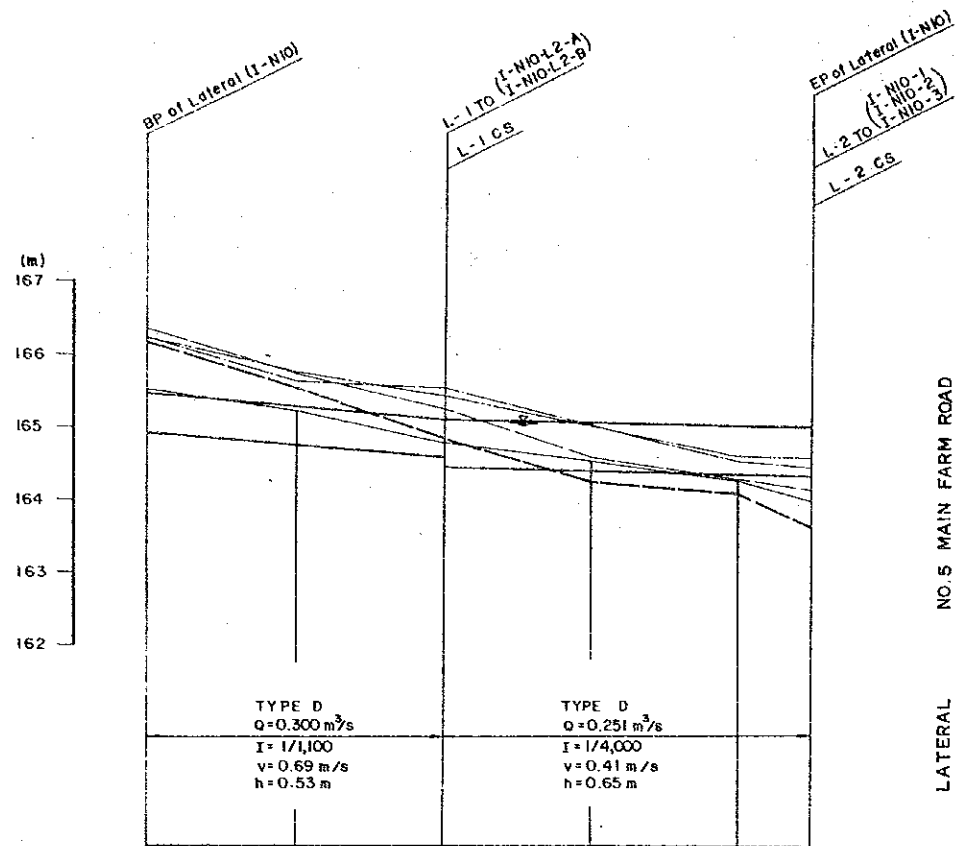
**NORTH MAIN CANAL**

**PROFILE (3/3)**

Date: \_\_\_\_\_ Drawing No. \_\_\_\_\_ 2003

JAPAN INTERNATIONAL COOPERATION AGENCY

NOTE: EXISTING ROAD WILL NOT BE CUT IF ITS ELEVATION IS HIGHER THAN THE PROPOSED ONE.



NOTE: MORTAR SHALL BE USED FOR JOINT (THICKNESS=6mm).

TYPE	DIMENSION (mm)			L	T <sub>1</sub>	T <sub>2</sub>	LENGTH
	H	a	b				
A	900	500	680	660	990	70	500
B	750	400	540	540	820	60	700
C	500	300	420	420	560	50	1,000

	PROPOSED ELEVATION					GROUND SURFACE ELEVATION					ACCUMULATED DISTANCE	DISTANCE	STATION NO.	CURVE
	ROAD	WATER SURFACE	BASE	LEFT BANK	RIGHT BANK	ROAD	BASE	LEFT BANK	RIGHT BANK					
	166.15	165.45	164.92	166.20	166.20	166.32	165.50	166.20	166.20	0.00	0.00	BP		
	165.50	165.26	164.73	165.61	165.72	165.70	165.18	165.61	165.72	206.70	206.70	1		
	164.80	165.08	164.41	165.80	165.40	165.22	164.80	165.80	165.40	406.80	202.10	2		
	164.21	163.01	164.36	164.85	164.95	164.55	164.51	164.85	164.95	611.70	202.90	3		
	164.05	164.96	164.31	164.50	164.58	164.25	164.22	164.50	164.58	815.00	203.30	4		
	163.60	164.93	164.28	164.40	164.54	164.10	163.95	164.40	164.54	916.10	101.10	EP		

	PROPOSED ELEVATION					GROUND SURFACE ELEVATION					ACCUMULATED DISTANCE	DISTANCE	STATION NO.	CURVE
	ROAD	WATER SURFACE	BASE	LEFT BANK	RIGHT BANK	ROAD	BASE	LEFT BANK	RIGHT BANK					
	163.45	163.93	163.62	164.15	164.10	163.00	163.70	164.15	164.10	0.00	0.00	BP		
	163.40	163.75	163.42	163.79	163.75	162.95	163.45	163.79	163.75	201.70	201.70	1		
	163.10	163.52	163.21	163.55	163.35	162.35	163.25	163.55	163.35	407.00	205.30	2		
	162.40	163.27	163.04	163.40	163.30	162.05	163.16	163.40	163.30	611.40	204.40	3		
	162.85	163.10	162.87	163.35	163.13	162.40	162.95	163.35	163.13	815.10	203.70	EP		

**LEGEND**

- PROPOSED ROAD SURFACE
- WATER SURFACE
- CANAL BASE
- EXISTING LEFT BANK OF CANAL
- RIGHT
- ROAD SURFACE
- CANAL BASE

(LATERAL CANAL)  
 L-1 TO (I-NIO-1) NAME OF TURNOUT (BRANCH CANAL)  
 L-2 CS CHECK STRUCTURE

(SUB-LATERAL CANAL)  
 NO.1 TO (I-NIO-1-RI) NAME OF TURNOUT (BRANCH CANAL)  
 NO.1 CS CHECK STRUCTURE

**SCALE**  
 0 100 200 300 400 500M

LAO PEOPLE'S DEMOCRATIC REPUBLIC

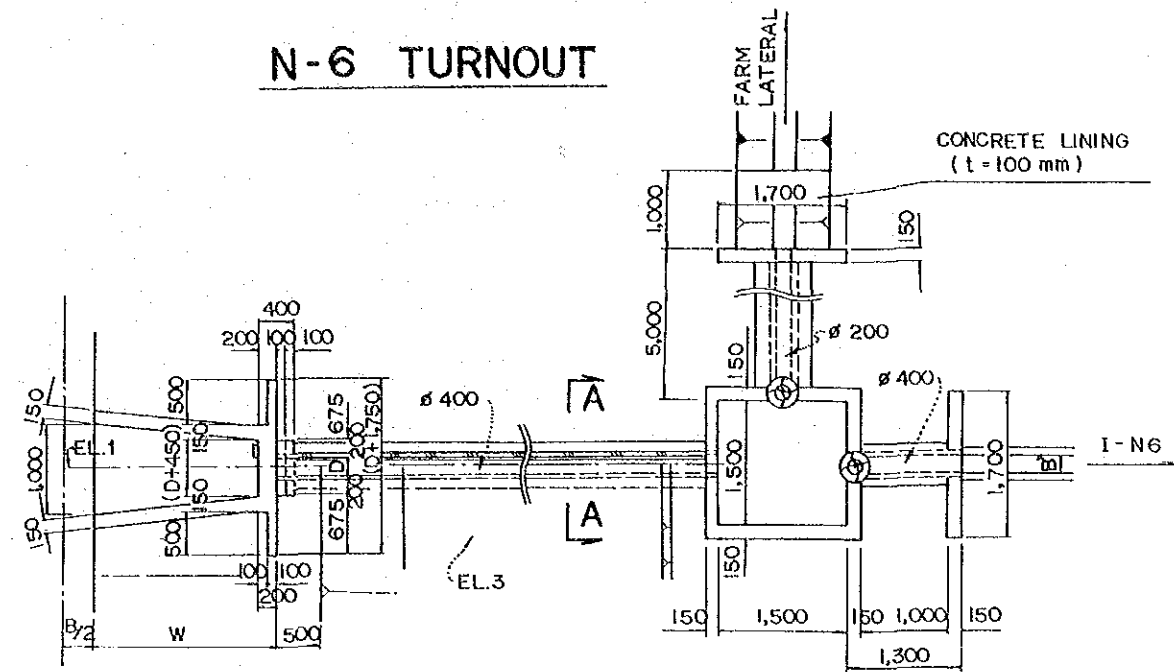
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT

TITLE OF DRAWING  
**LATERAL AND SUB-LATERAL PROFILE**

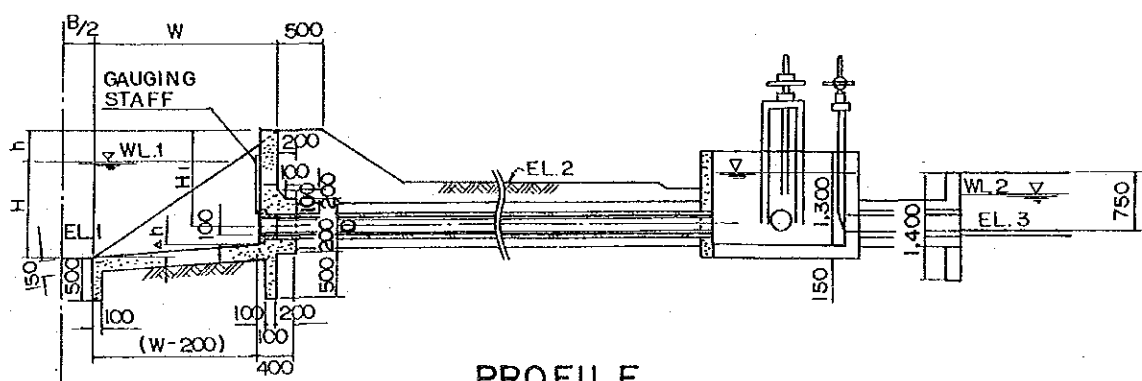
Date \_\_\_\_\_ Drawing No. 2004

JAPAN INTERNATIONAL COOPERATION AGENCY

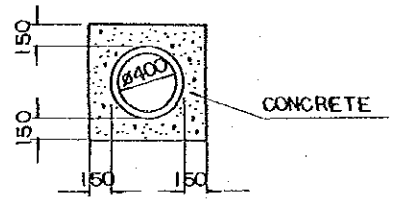
# N-6 TURNOUT



PLAN  
SCALE : A



PROFILE  
SCALE : A

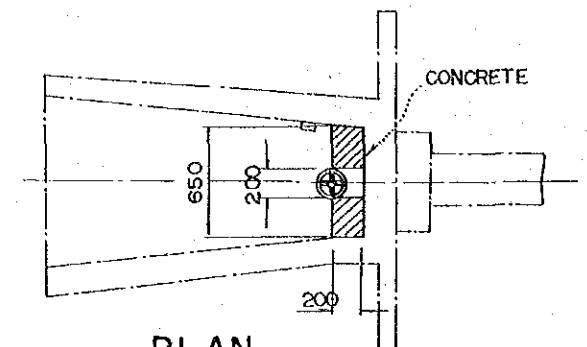


SECTION A-A  
SCALE : B

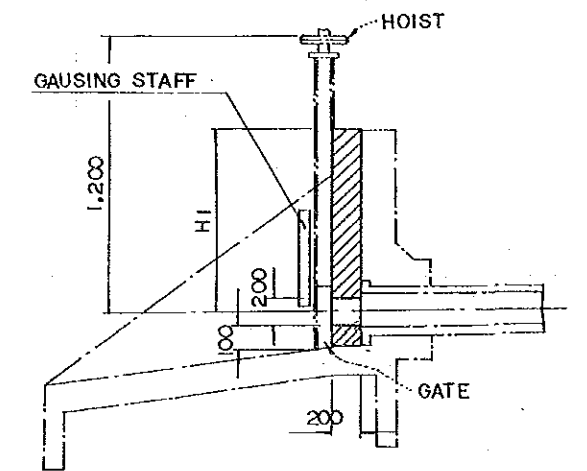
## DIMENSION OF TURNOUT (mm)

NO.	D	EL1	EL2	EL3	EL4	WL1	WL2	H	h	W	H1	H2	ΔH	Δh	B'	W'	l1	l2	a	d	t	PIPE L
N - 6	400	165.68	166.80	166.14	-	166.67	166.47	990	260	2,000	490	-	-	460	400	-	-	-	-	-	-	9,000
L - 2 (R)	300	164.28	166.15	163.62	163.28	164.93	163.73	650	150	1,130	550	850	1,000	0	300	500	1,000	1,000	1,000	340	100	9,000

# INLET OF TO.N-1, N-2, N-3



PLAN  
SCALE : B

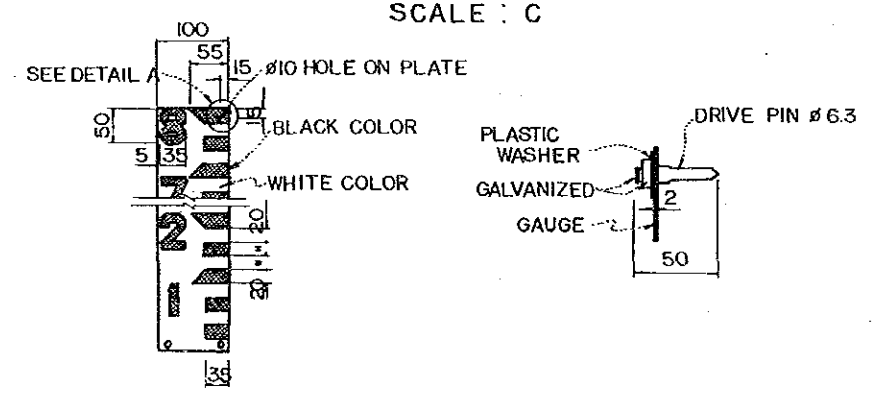


PROFILE  
SCALE : B

TO NAME	HI
N - 1	720
N - 2	740
N - 3	680

# GAUGING STAFF

SCALE : C



SCALE : A 0 1,000 2,000 3,000mm

SCALE : B 0 500 1,000 1,500mm

SCALE : C 0 100 200 300mm

LAO PEOPLE'S DEMOCRATIC REPUBLIC

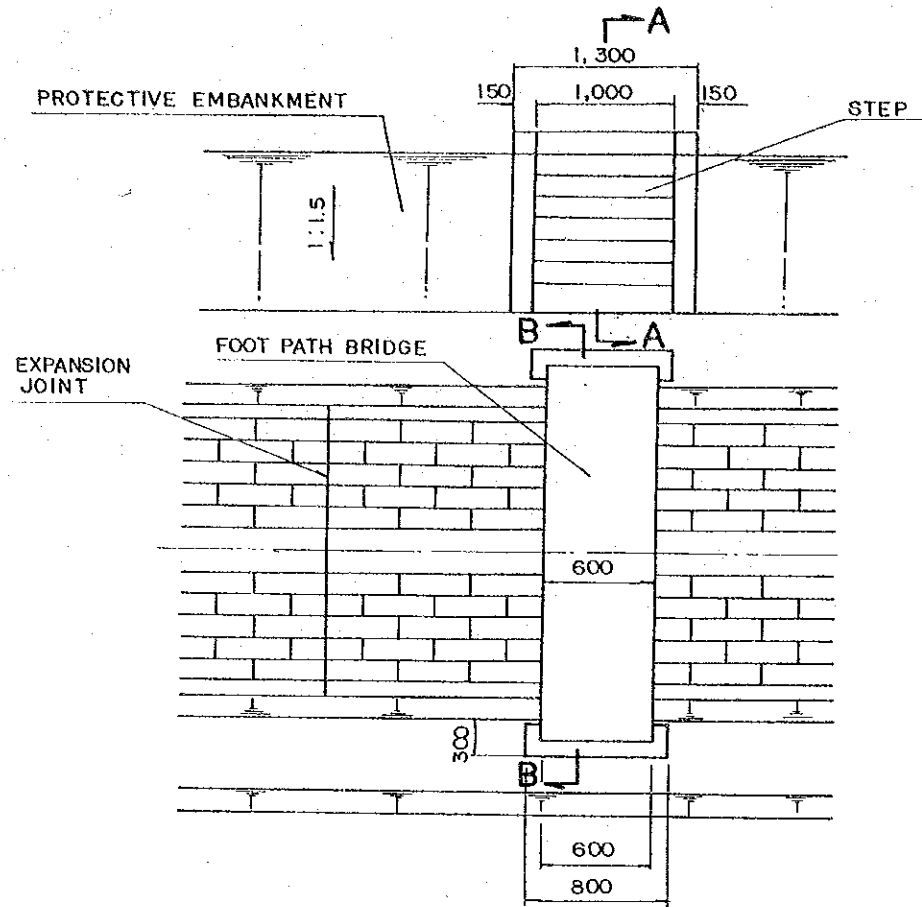
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT

TITLE OF DRAWING  
**NORTH MAIN CANAL**  
**TURNOUT/GAUGING STAFF**

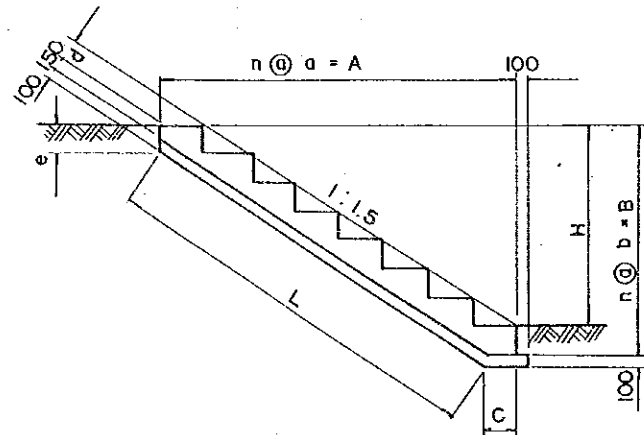
Date: \_\_\_\_\_ Drawing No. 3001

JAPAN INTERNATIONAL COOPERATION AGENCY

# FOOT PATH BRIDGE & STEP



PLAN

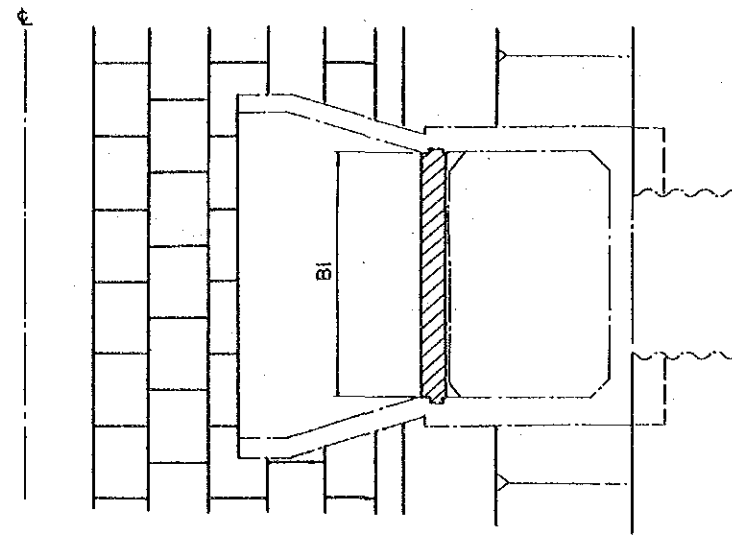


SECTION A-A

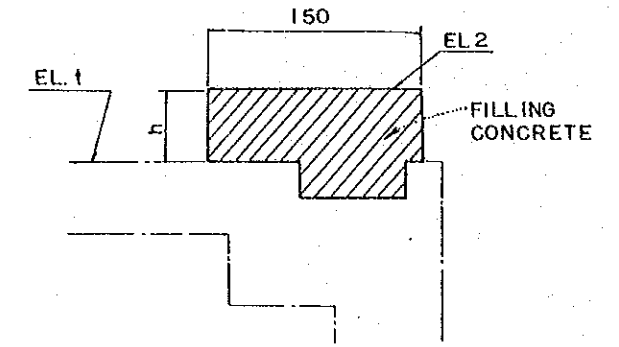
DIMENSION OF STEP FOR FOOTPATH (mm)

TYPE	H	n	A	B	a	b	c	d	e	L
I	1,200	5	2,100	1,500	420	300	162	244	208	2,329
II	1,500	6	2,550	1,800	425	300	162	245	208	2,870

# SIDE SPILLWAY



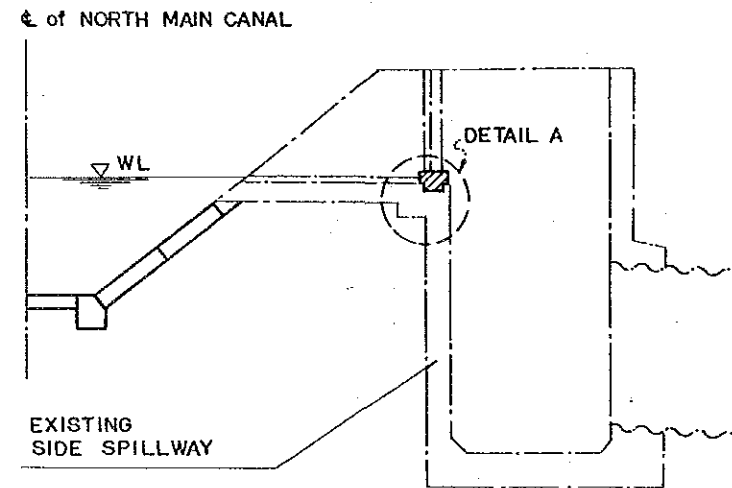
PLAN



DETAIL A

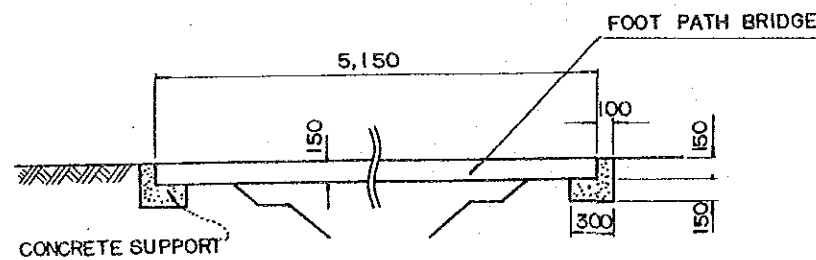
DIMENSION OF SIDE SPILLWAY (mm)

NO.	WL	BI	EL.1	EL.2	h
N-1	166.89	1,500	166.60	166.94	340
N-2	166.55	1,500	166.32	166.60	280
N-3	166.35	1,500	166.18	166.40	220
N-4	166.00	1,000	165.89	166.05	160
N-5	165.81	1,000	165.68	166.86	180



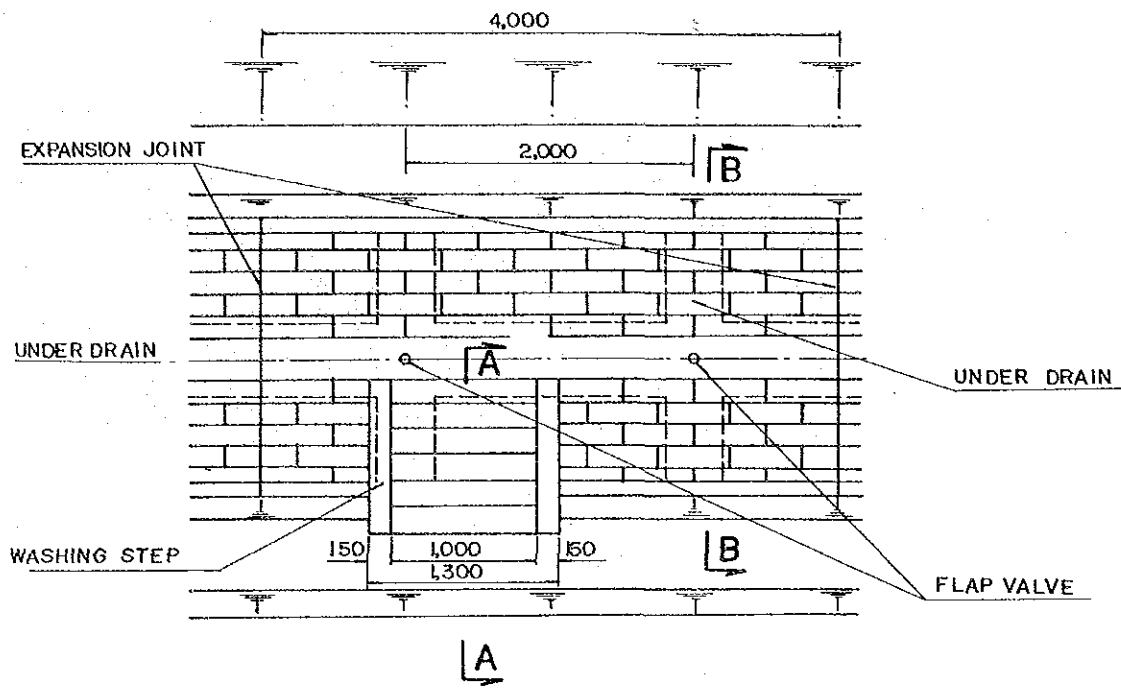
PROFILE

SCALE 0 500 1,000 1,500 mm

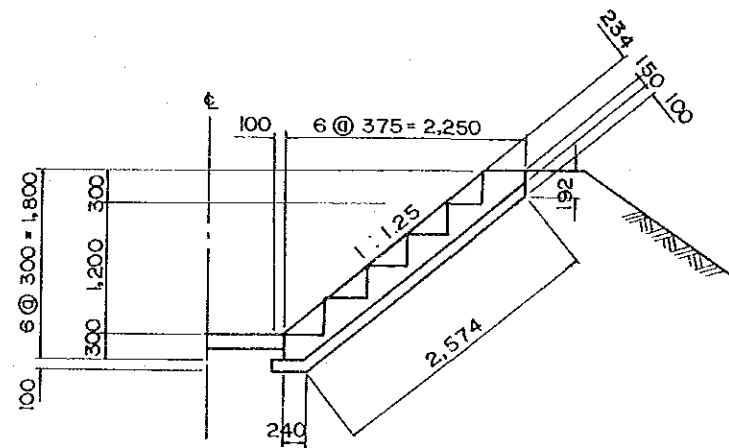


SECTION B-B

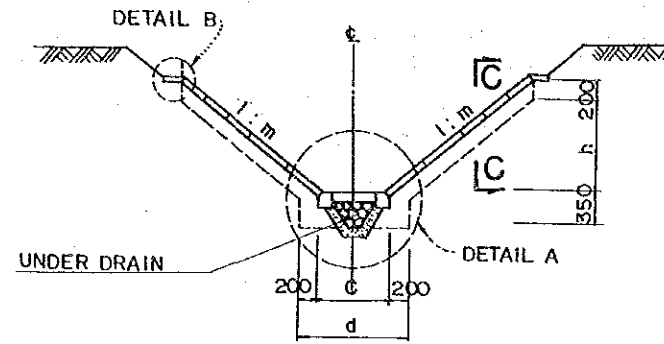
LAO PEOPLE'S DEMOCRATIC REPUBLIC  
 THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT  
 TITLE OF DRAWING  
**NORTH MAIN CANAL  
 FOOT PATH BRIDGE AND SIDE  
 SPILLWAY**  
 Date \_\_\_\_\_ Drawing No. 3002  
 JAPAN INTERNATIONAL COOPERATION AGENCY



**PLAN**  
SCALE : A



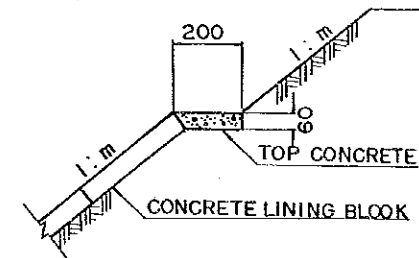
**SECTION A-A**  
SCALE : A



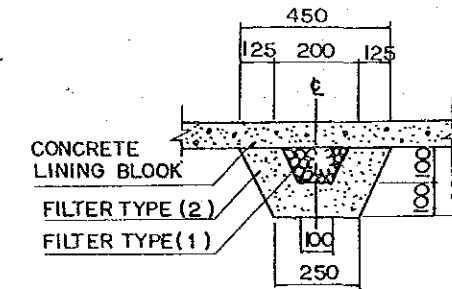
**SECTION B-B**  
SCALE : B

**DIMENSION OF UNDERDRAIN**

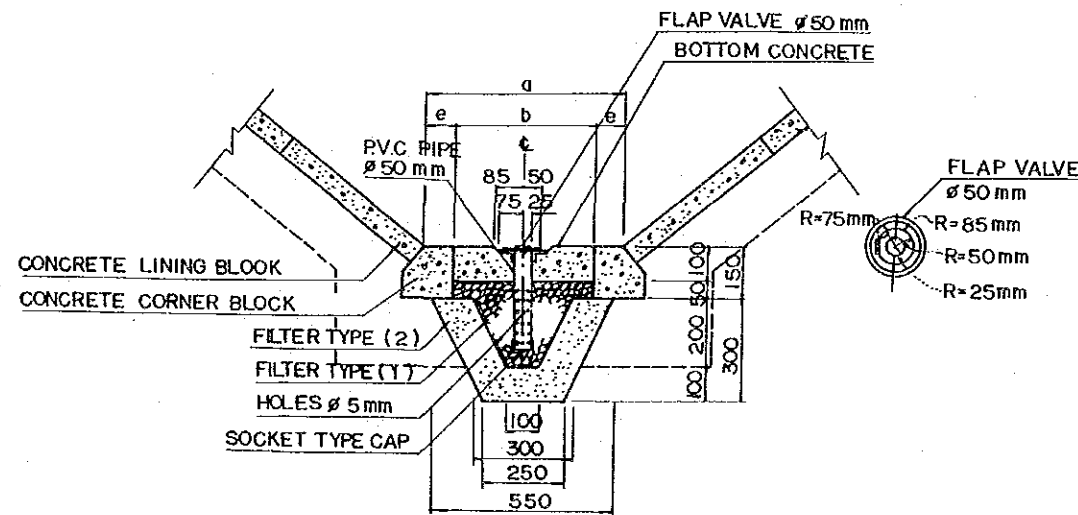
CANAL TYPE	m	a	b	c	d	e	h
A	1.25	600	420	720	1,120	90	1,000
B	1.25	500	320	620	1,020	90	800
C	1.25	400	220	520	920	90	650
D	1.00	300	150	450	850	75	550



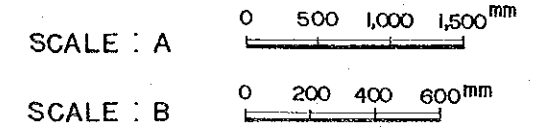
**DETAIL B**  
SCALE : B



**SECTION C-C**  
SCALE : B



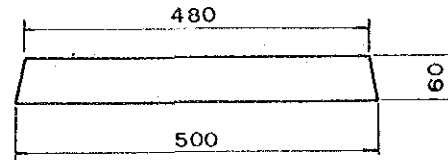
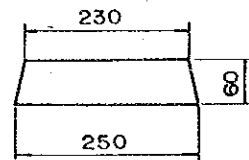
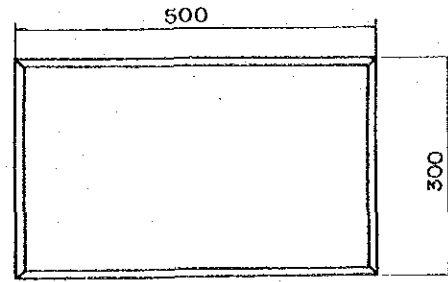
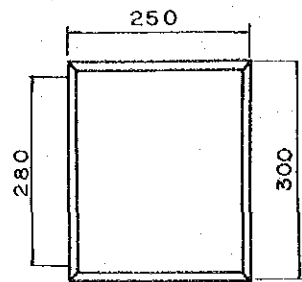
**DETAIL A**  
SCALE : B



LAO PEOPLE'S DEMOCRATIC REPUBLIC  
 THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT  
 TITLE OF DRAWING  
**CANAL LINING AND WASHING STEP**  
 Date \_\_\_\_\_ Drawing No. 3003  
 JAPAN INTERNATIONAL COOPERATION AGENCY

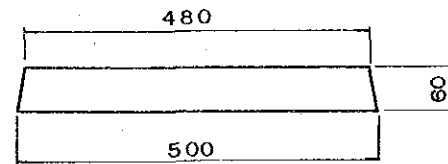
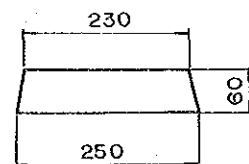
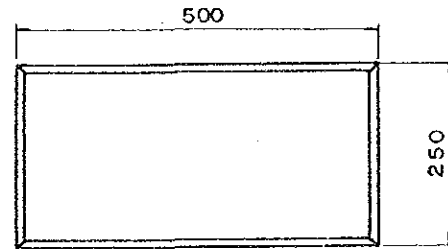
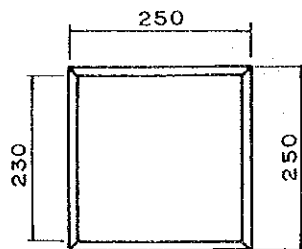
### CONCRETE LINING BLOCK

SCALE : A



TYPE A-1

TYPE A-2

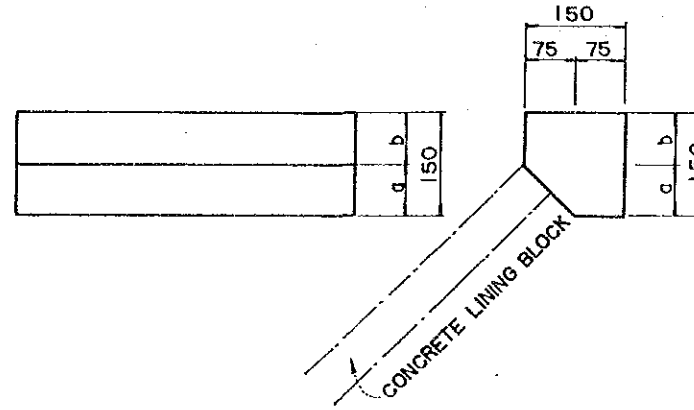
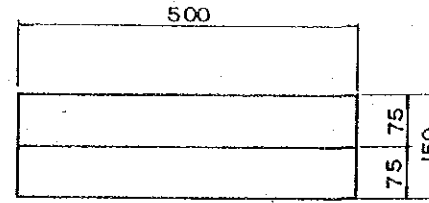


TYPE B-1

TYPE B-2

### CONCRETE CORNER BLOCK

SCALE : A

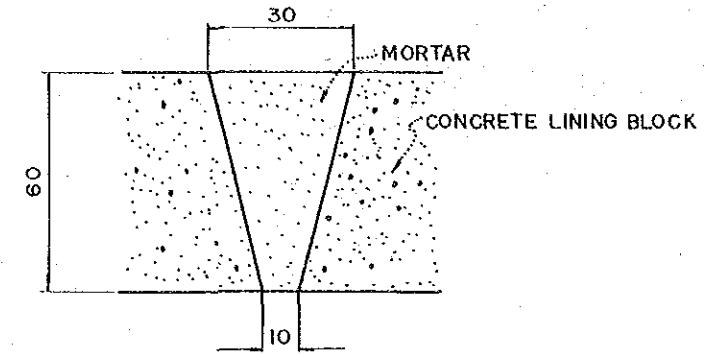


#### DIMENSION

TYPE	a	b
C-1	60	90
C-2	75	75

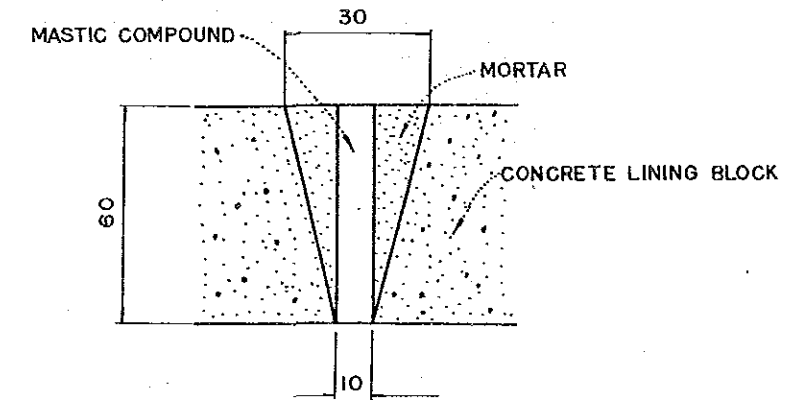
### JOINT

SCALE : B



### EXPANSION JOINT

SCALE : B



SCALE : A 0 100 200 300mm

SCALE : B 0 20 40 60mm

### REQUIRED NOS OF BLOCKS

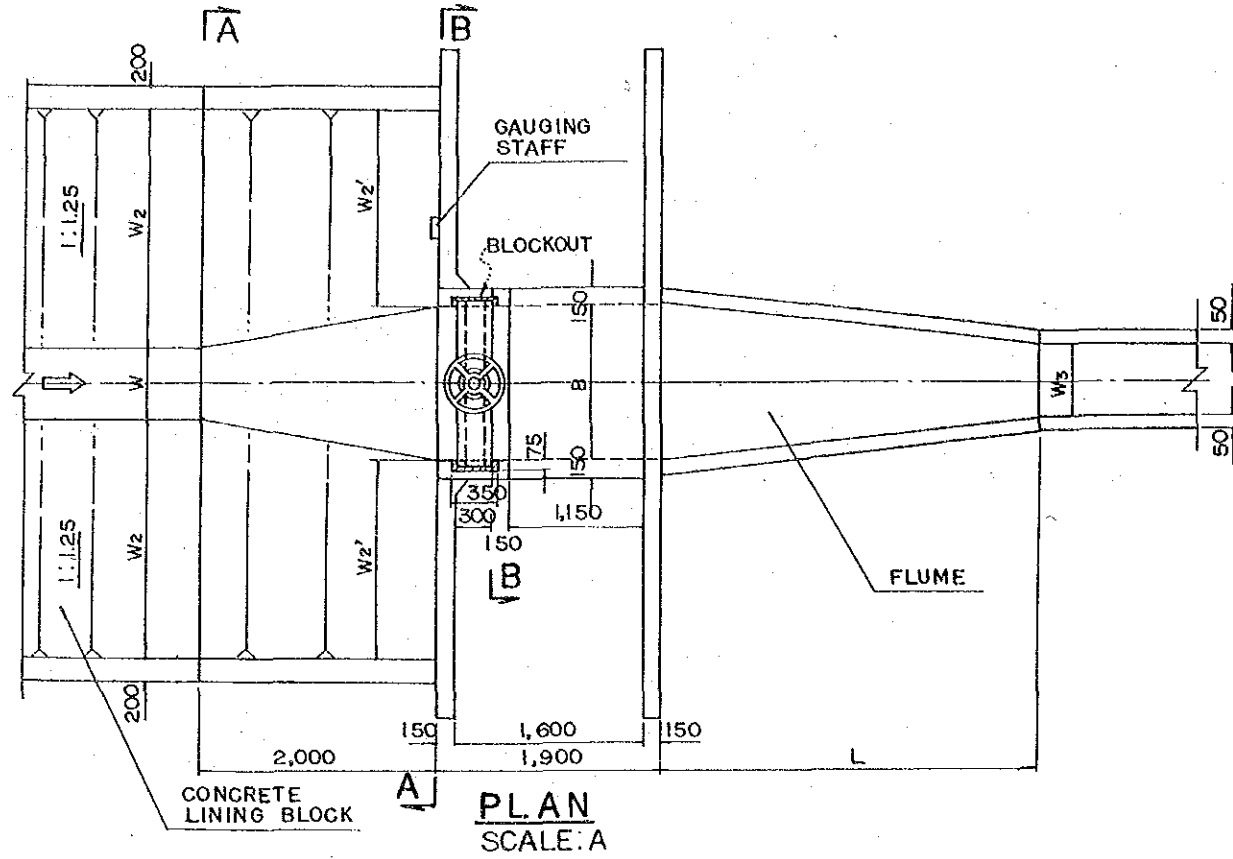
PER 4 METERS

CANAL TYPE	CANAL HEIGHT	SLOPE LENGTH	PC LINING BLOCK				PC CORNAR BLOCK	
			A-1	A-2	B-1	B-2	C-1	C-2
A	1,200	1,920	8	76	4	14	16	
B	1,050	1,680	8	76			16	
C	800	1,280	4	46	4	14	16	
D	800	1,131	4	14	4	46		16

LAO PEOPLE'S DEMOCRATIC REPUBLIC		
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT		
TITLE OF DRAWING NORTH MAIN CANAL AND LATELAL CONCRETE BLOCK AND JOINT FOR CANAL LINING		
Date	Drawing No.	3004
JAPAN INTERNATIONAL COOPERATION AGENCY		

# N-6 CHECK STRUCTURE

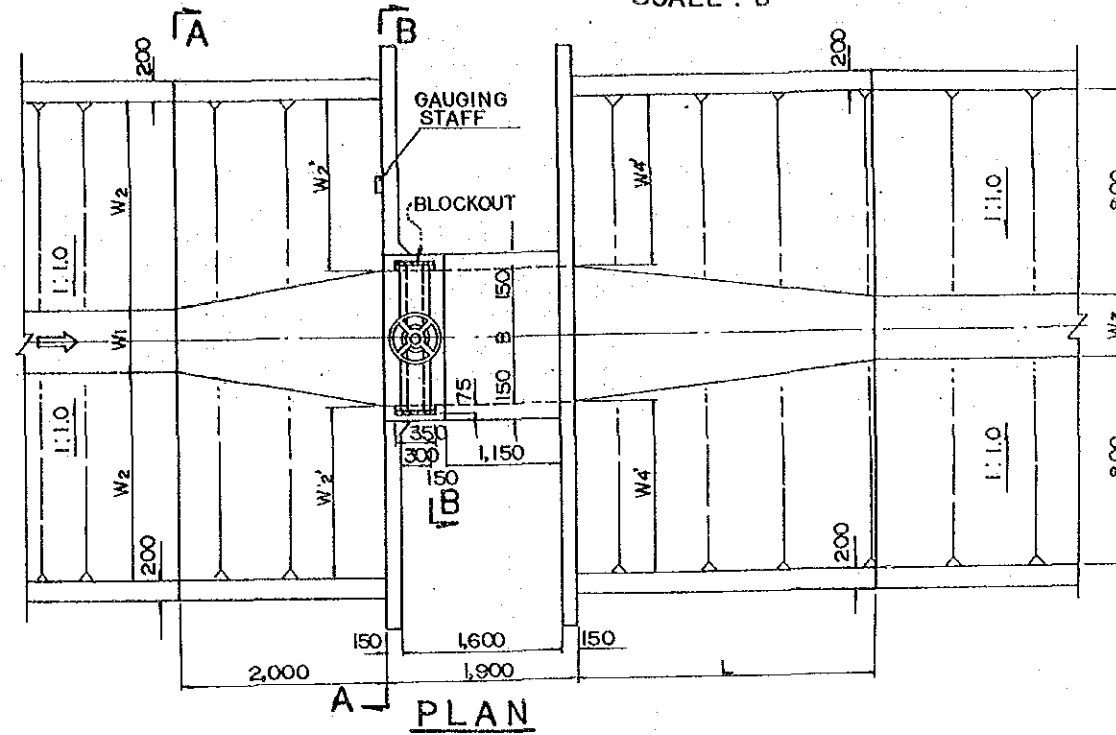
SCALE : A



PLAN  
SCALE : A

# L-1 CHECK STRUCTURE

SCALE : B

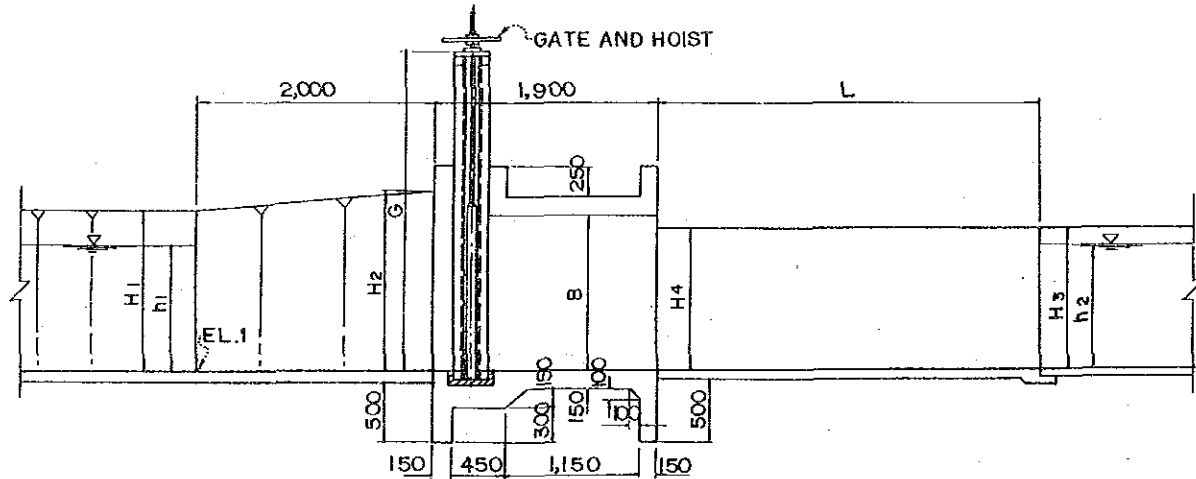


PLAN

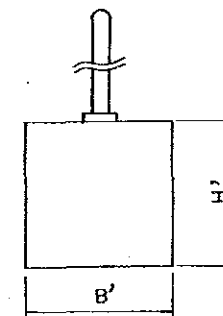
TABLE OF DIMENSION

(mm)

NO.	W <sub>1</sub>	W <sub>2</sub>	B	W <sub>3</sub>	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>	L	W <sub>2</sub> '	W <sub>4</sub> '	L <sub>1</sub>	G	EL <sub>1</sub>	EL <sub>2</sub>	h <sub>1</sub>	h <sub>2</sub>
N-6	400	1,000	700	500	800	1,000	900	900	2,000	1,250	-	1,280	2,000	165.15	165.22	620	520
L-1	300	800	700	300	800	1,000	800	900	2,000	1,000	900	1,130	2,000	164.55	164.41	530	650



PROFILE  
SCALE : A

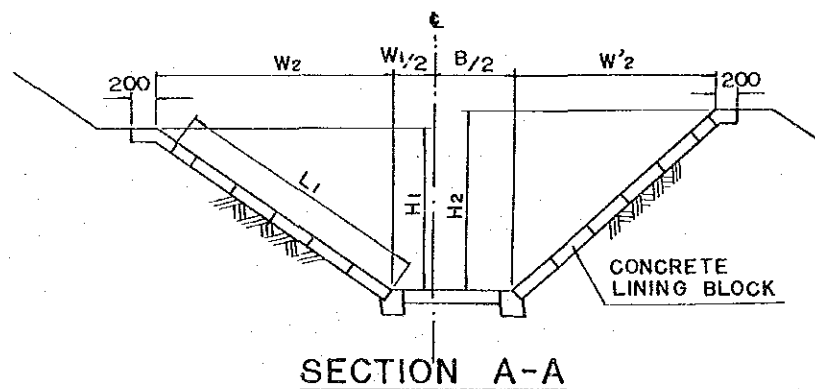


NO.	B'	H'
N-4	800	1,000
N-5	700	700
N-6	700	700
L-1	700	700

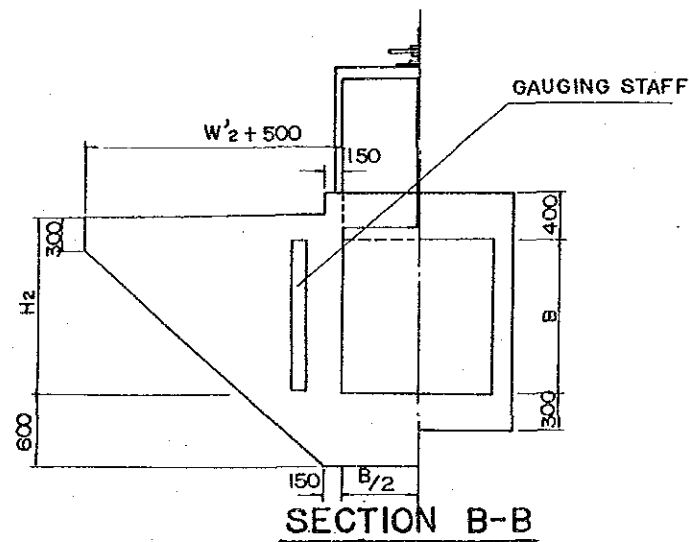
DIMENSION OF CHECK GATE

SCALE : A 0 1,000 2,000<sup>mm</sup>

SCALE : B 0 1,000 2,000 3,000<sup>mm</sup>



SECTION A-A



SECTION B-B

LAO PEOPLE'S DEMOCRATIC REPUBLIC

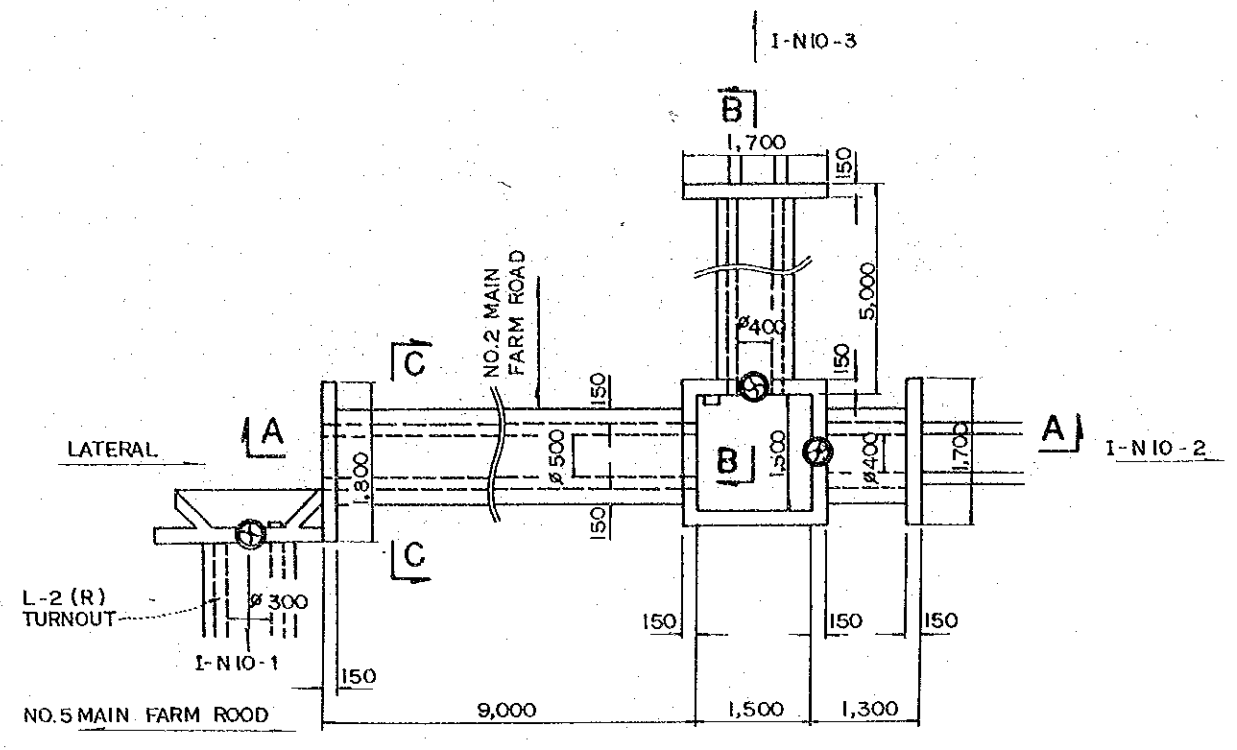
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT

TITLE OF DRAWING  
NORTH MAIN CANAL AND LATERAL  
CHECK STRUCTURE

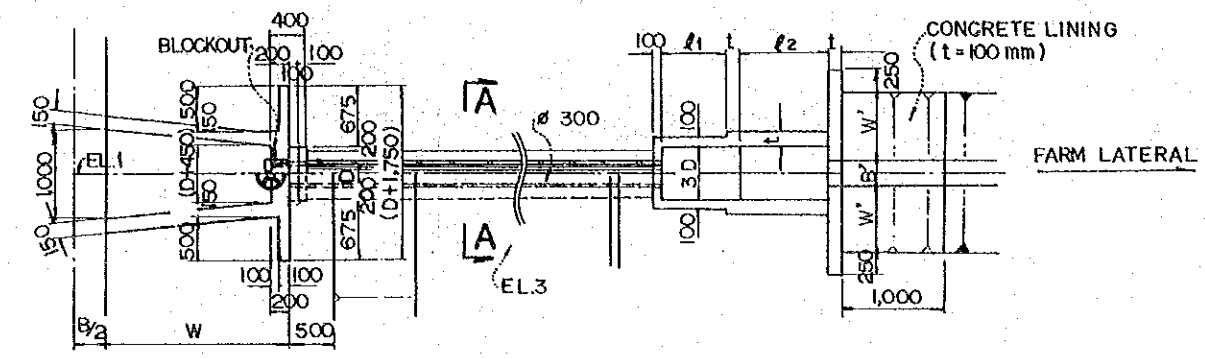
Date \_\_\_\_\_ Drawing No. 3005

JAPAN INTERNATIONAL COOPERATION AGENCY

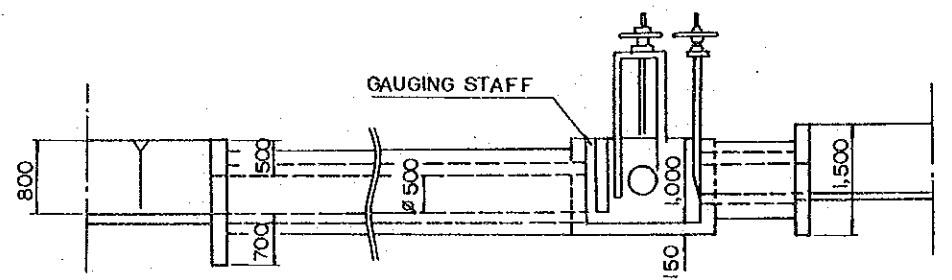
# L-2 (R) TURN OUT



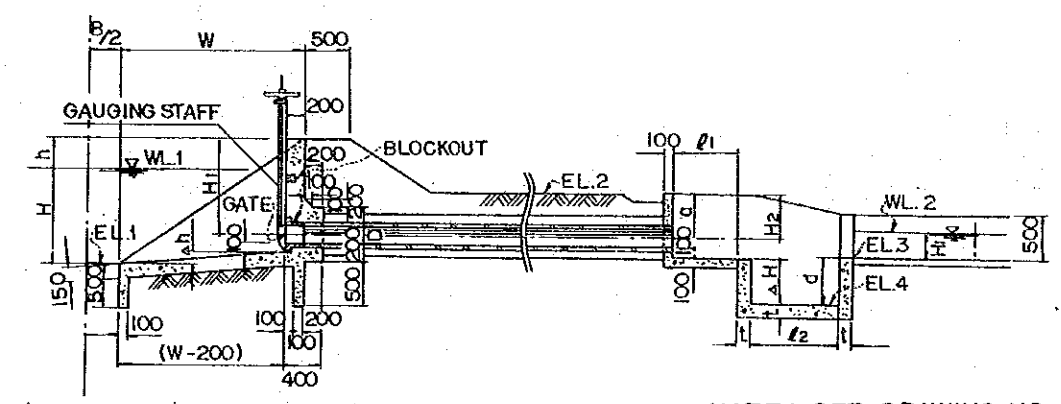
PLAN  
SCALE : A



PLAN  
SCALE : A

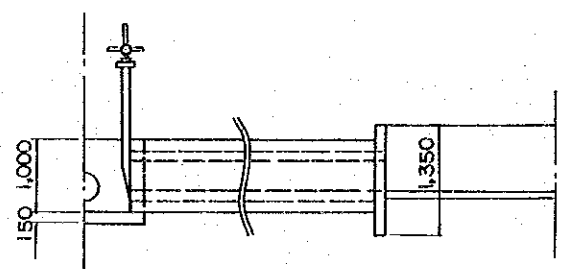


PROFILE  
SCALE : A

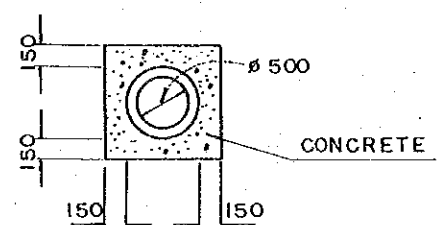


PROFILE  
SCALE : A

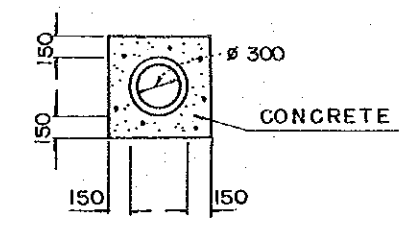
NOTE : SEE DRAWING NO. FOR DIMENSIONS.



SECTION B-B  
SCALE : A



SECTION C-C  
SCALE : B



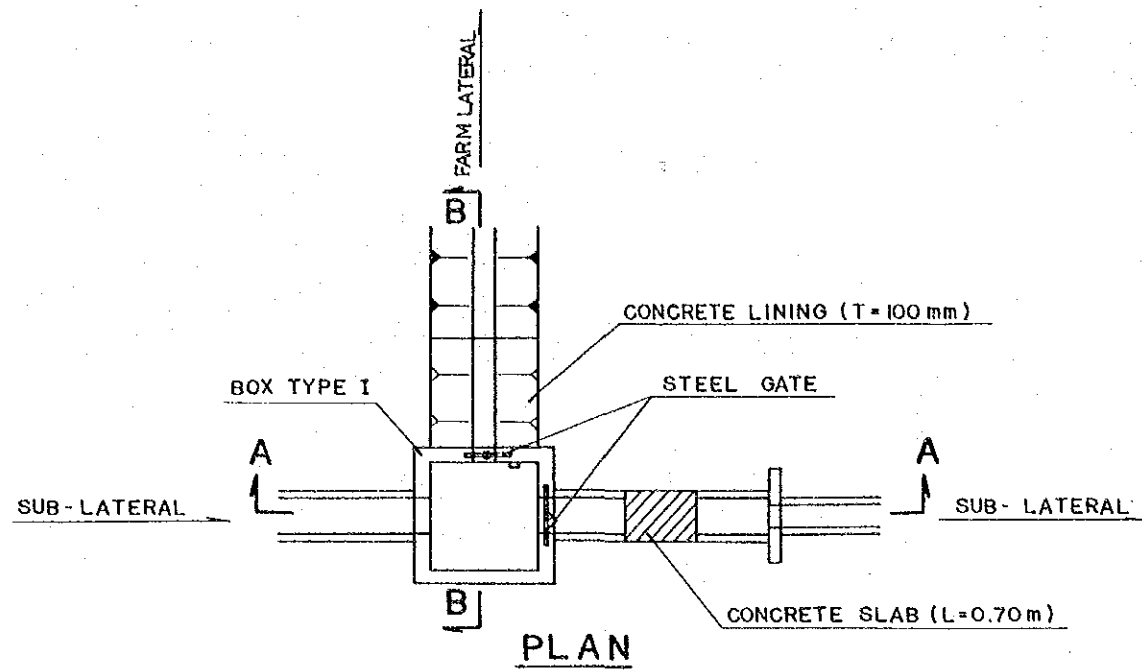
SECTION A-A  
SCALE : B

SCALE : A 0 1,000 2,000 3,000<sup>mm</sup>

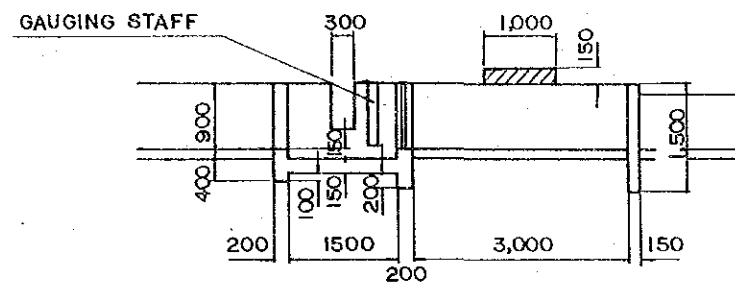
SCALE : B 0 500 1,000 1,500<sup>mm</sup>

LAO PEOPLE'S DEMOCRATIC REPUBLIC		
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT		
TITLE OF DRAWING		
LATERAL		
L-2 TURNOUT		
Date	Drawing No.	3006
JAPAN INTERNATIONAL COOPERATION AGENCY		

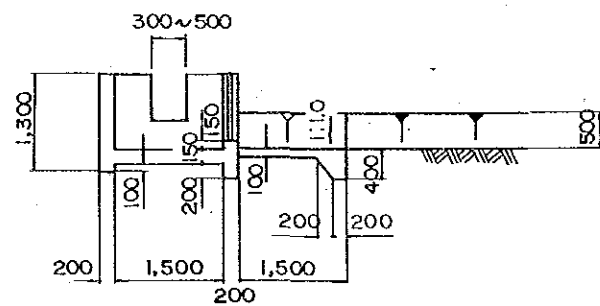




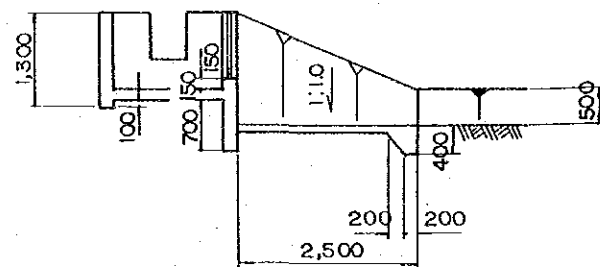
PLAN



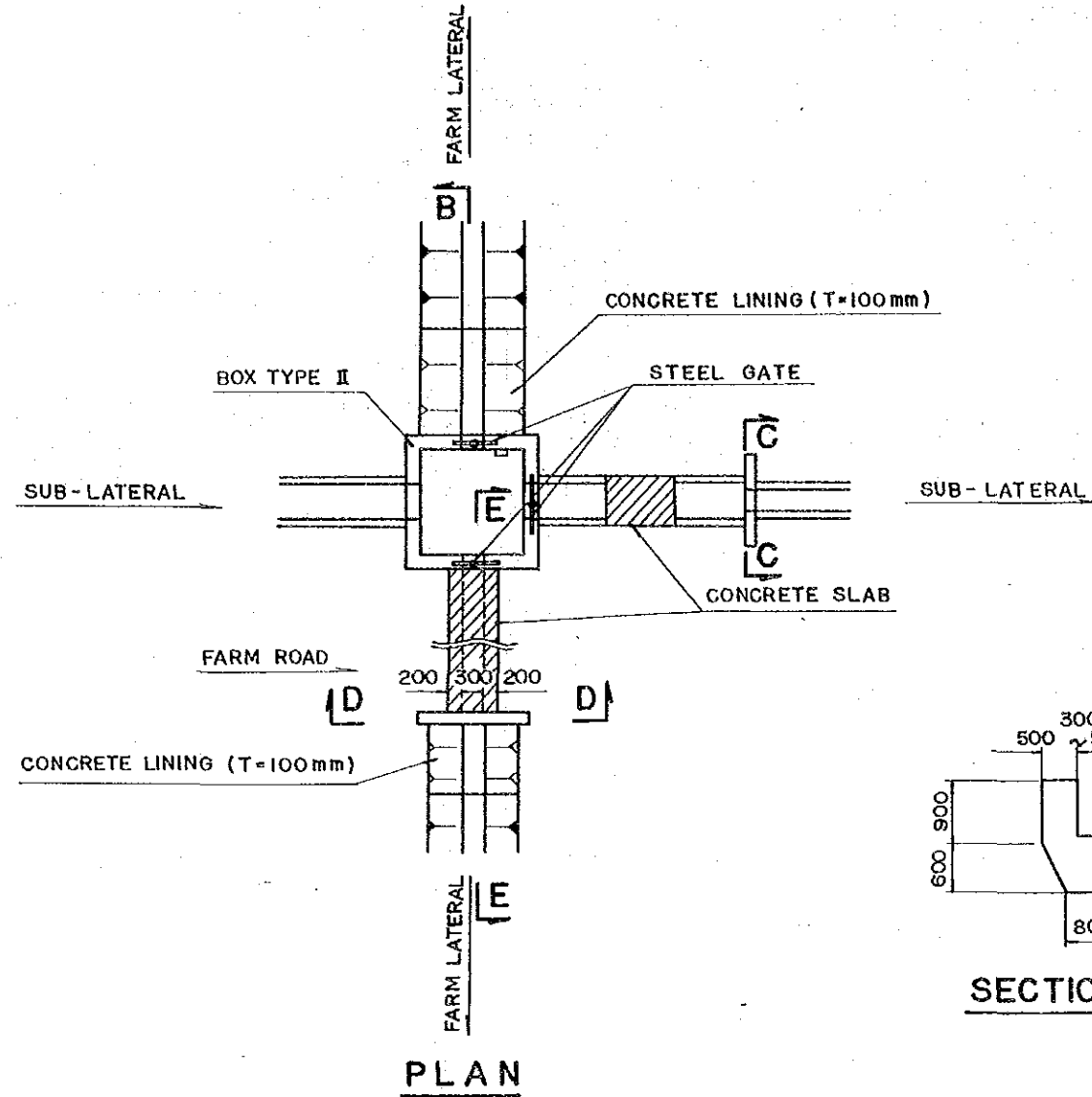
SECTION A-A



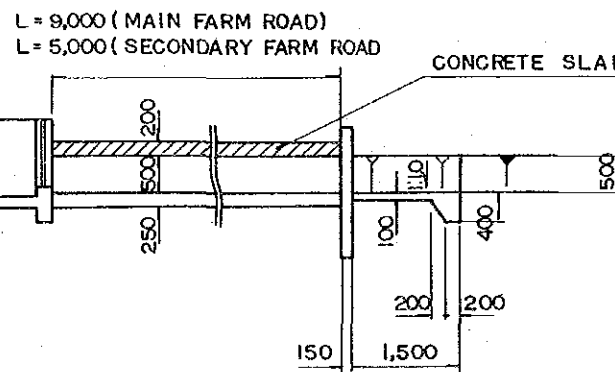
SECTION B-B  
TYPE a



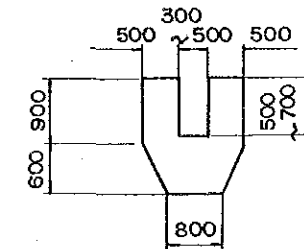
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TYPE b



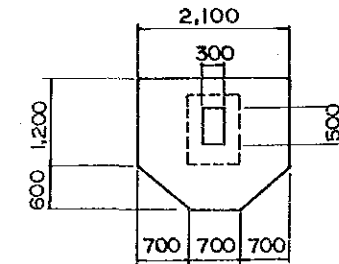
PLAN



SECTION E-E



SECTION C-C



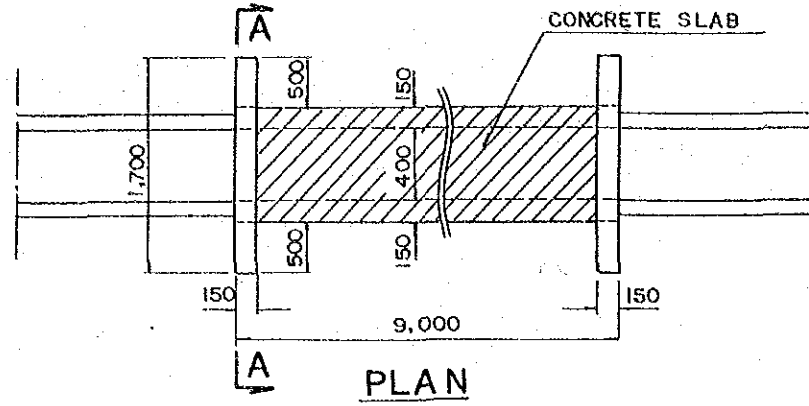
SECTION D-D

SCALE 0 1,000 2,000 3,000<sup>mm</sup>

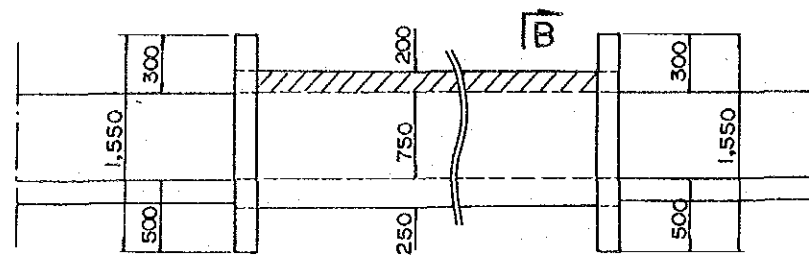
LAO PEOPLE'S DEMOCRATIC REPUBLIC			
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT			
TITLE OF DRAWING SUB-LATERAL			
TURNOUT AND CHECK STRUCTURE			
Date		Drawing No.	3007
JAPAN INTERNATIONAL COOPERATION AGENCY			

# CULVERT ON SUB-LATERAL

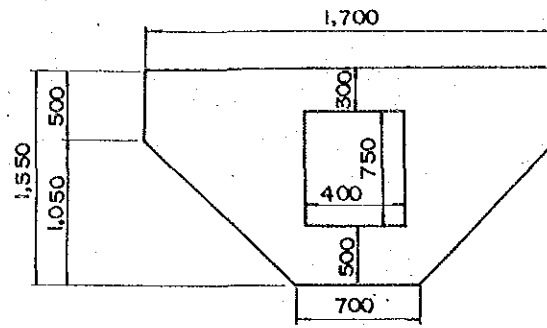
SCALE : A



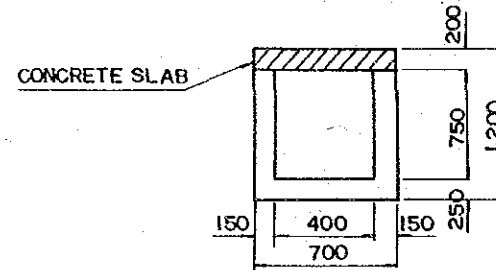
PLAN



PROFILE



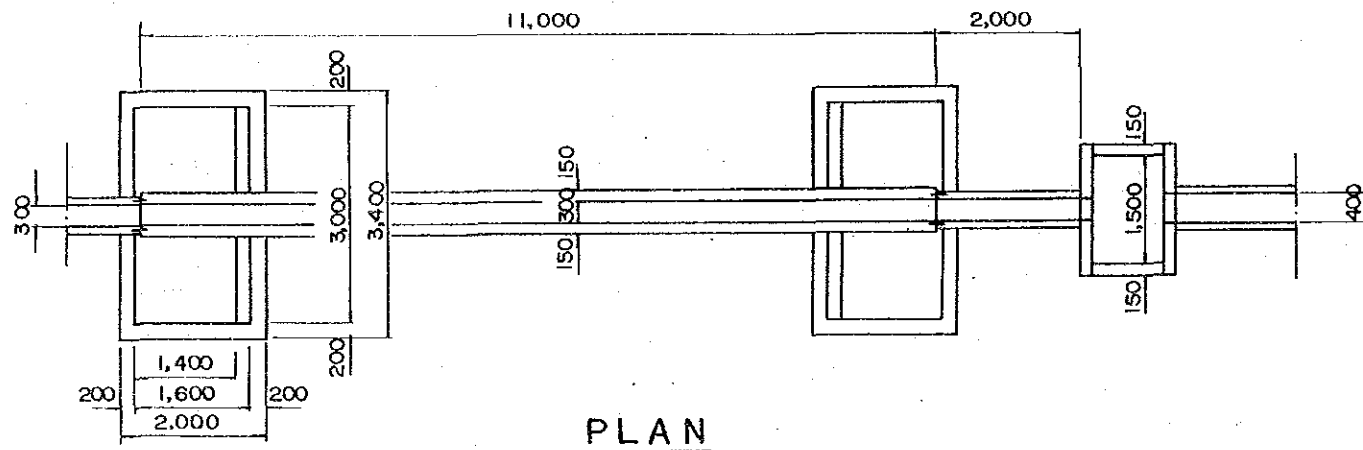
SECTION A-A



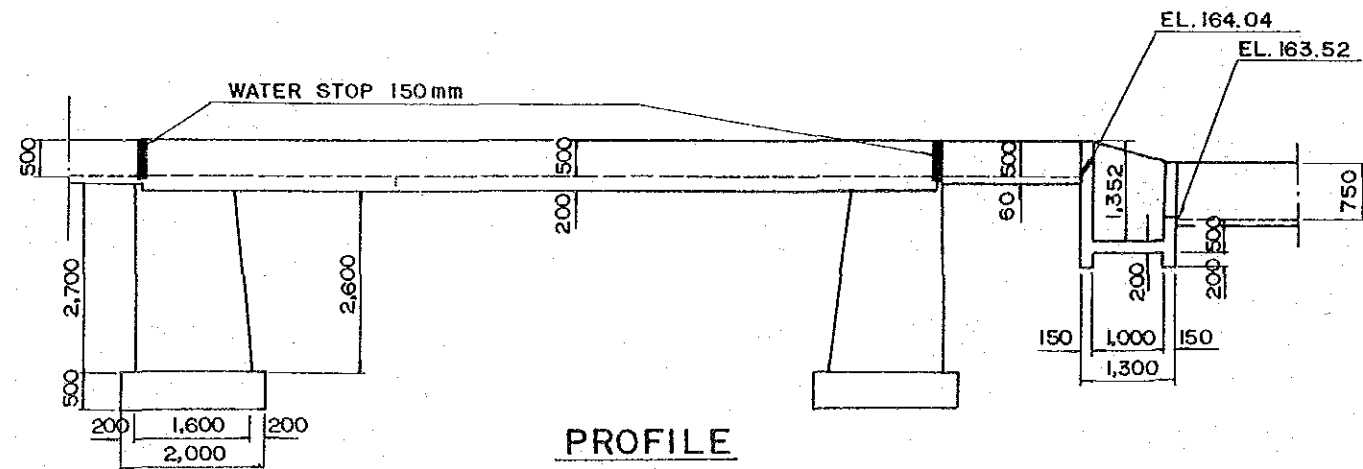
SECTION B-B

# AQUEDUCT ON IN-6

SCALE : B

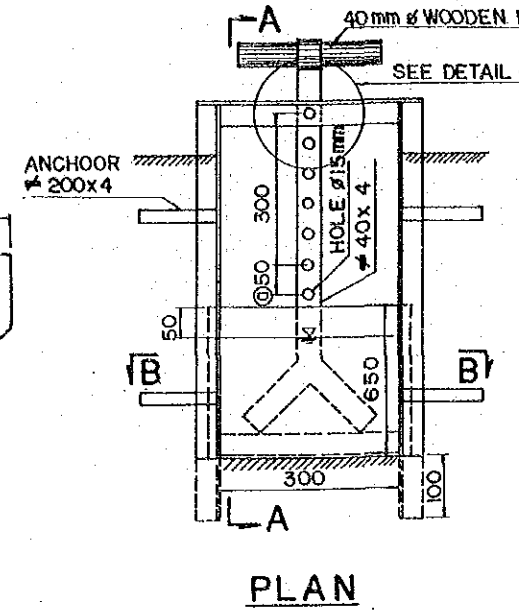


PLAN

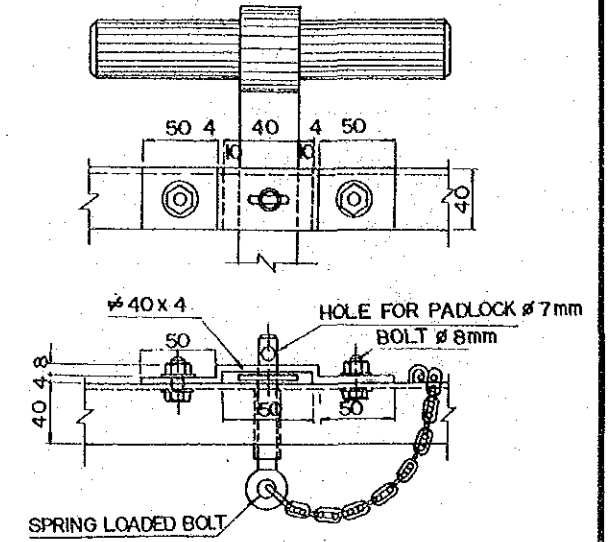


PROFILE

# STEEL GATE

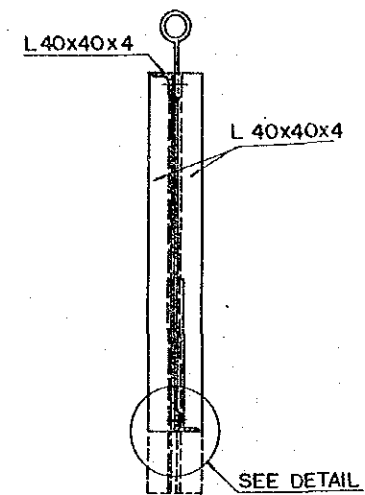


PLAN



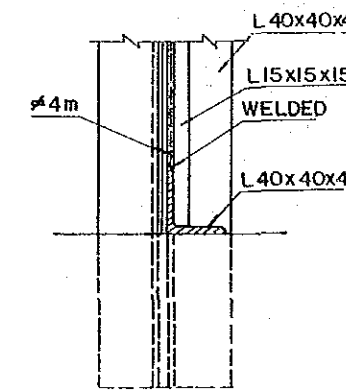
DETAIL C

SCALE : C



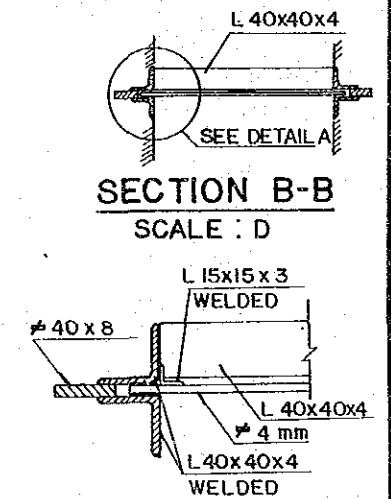
SECTION A-A

SCALE : D



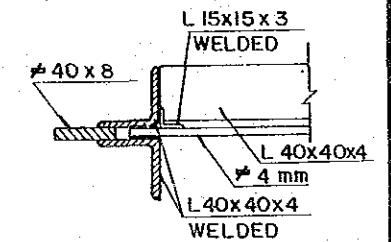
DETAIL B

SCALE : C



SECTION B-B

SCALE : D



DETAIL A

SCALE : C

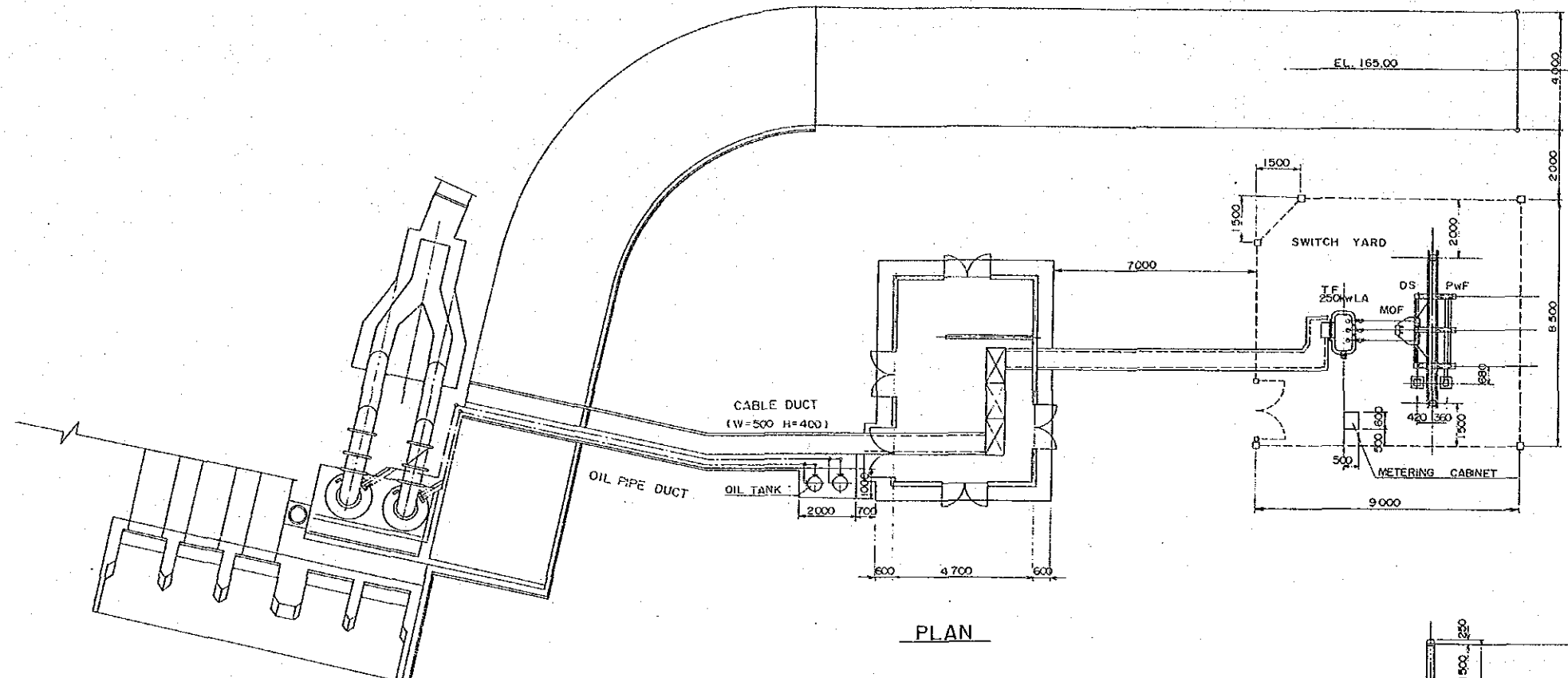
SCALE : A 0 500 1,000 1,500 mm

SCALE : B 0 1,000 2,000 3,000 mm

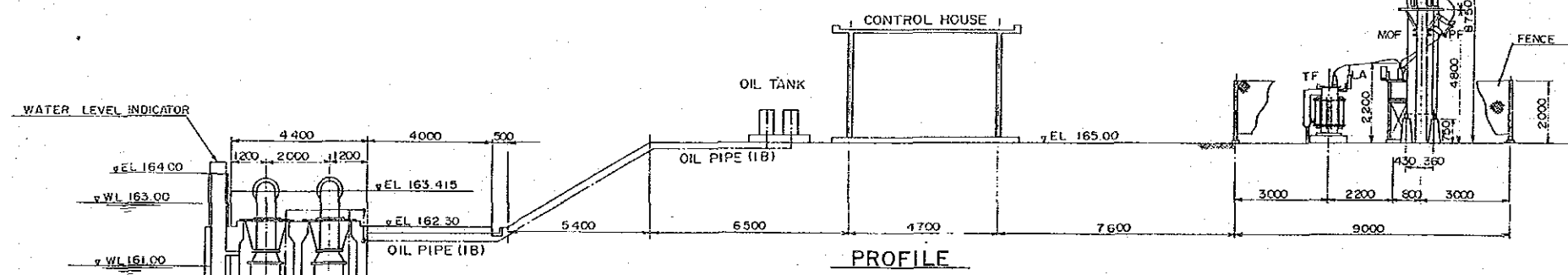
SCALE : C 0 50 100 150 mm

SCALE : D 0 100 200 300 400 mm

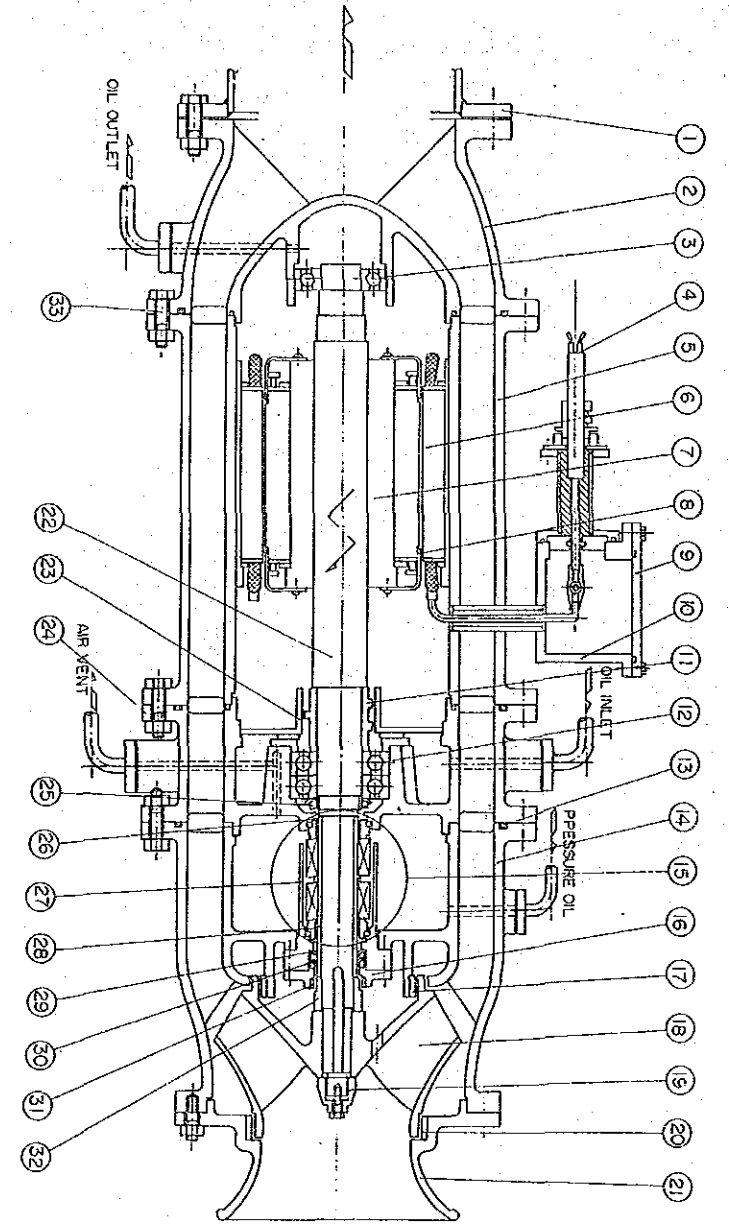
LAO PEOPLE'S DEMOCRATIC REPUBLIC		
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT		
TITLE OF DRAWING SUB - LATERAL CULVERT, AQUEDUCT / STEEL GATE FOR TURNOUT AND CHECK STRUCTURE		
Date	Drawing No.	3008
JAPAN INTERNATIONAL COOPERATION AGENCY		



PLAN



PROFILE



DETAIL OF PUMP

PARTS LIST

PART NAME	MATERIALS	PART NAME	MATERIALS	PART NAME	MATERIALS
1 DELIVERY PIPE	SS 41	13 PACKING	Hycor OR15	25 BALL NUT	S25C
2 MOTOR TOP COVER	FC 20	14 PUMP CASING	FC 20	26 PACKING	Hycor OR15
3 BALL BEARING	NO. 6314	15 MECHANICAL SEAL	SPECIAL	27 SEAL CASE	SUS 52
4 CABLE	CL 055000 CABLE	16 SEAL COVER	SUS 52	28 SEAL LINER	SUS 27 H2 PLATING
5 MOTOR CASE	SS 41	17 BALANCE RING	SCS 2	29 OIL SEAL	SYNTHETIC RUBBER
6 STATOR		18 IMPELLER	SC 46	30 DUST SEAL	SYNTHETIC RUBBER
7 ROTOR		19 IMPELLER NUT	SUS 52	31 SEAL RING	SUS 27 STELLITE WELDING
8 END RING COVER	SUS 27	20 SUCTION RING	SCS 2	32 SLINGER	SUS 27 STELLITE WELDING
9 TERMINAL COVER	SS 41	21 BELL MOUTH	FC 20	33 BOLT AND NUT	S25 C
10 TERMINAL CASE	SS 41	22 SHAFT	S35C		
11 SCREW	SS 41	23 BEARING COVER	SUS 27		
12 BALL BEARING	NO. 7320 DF	24 MOTOR BOTTOM COVER	FC 20		

DESIGN DATA	
DIAMETER	600 MM
TOTAL HEAD	6 M
CAPACITY	52 M <sup>3</sup> /MIN
SPEED	485 RPM
MOTOR	70 KW

LAO PEOPLE'S DEMOCRATIC REPUBLIC

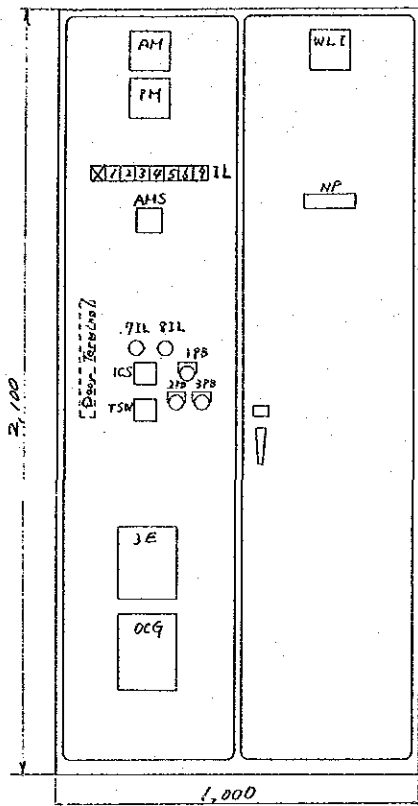
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT

TITLE OF DRAWING  
DRAINAGE PUMP STATION  
GENERAL ARRANGEMENT

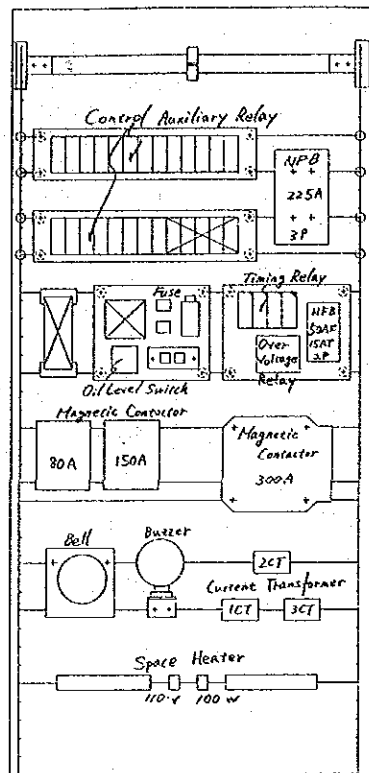
Date \_\_\_\_\_ Drawing No. 4001

JAPAN INTERNATIONAL COOPERATION AGENCY

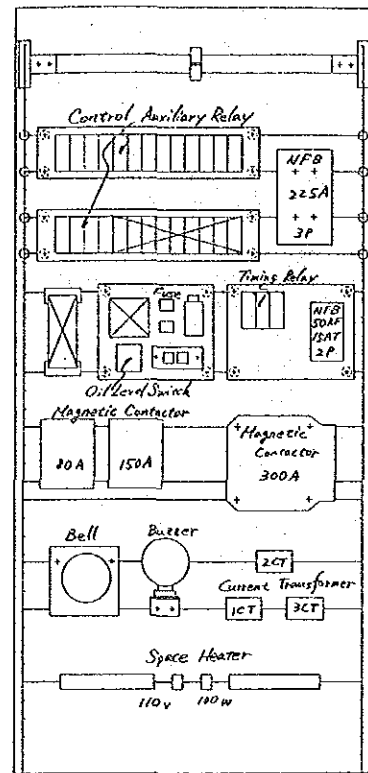
W 1,000 H 2,100 D 600



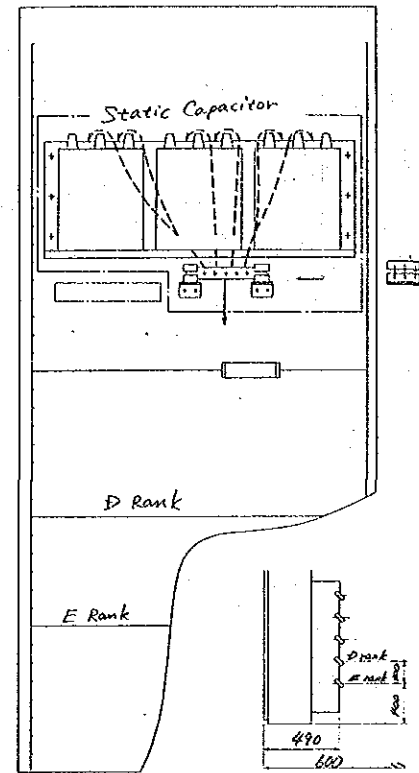
FRONT VIEW (DOOR)  
Control Panel Nos. 1 & 2



FRONT VIEW (IN DOOR)  
Control Panel No. 1



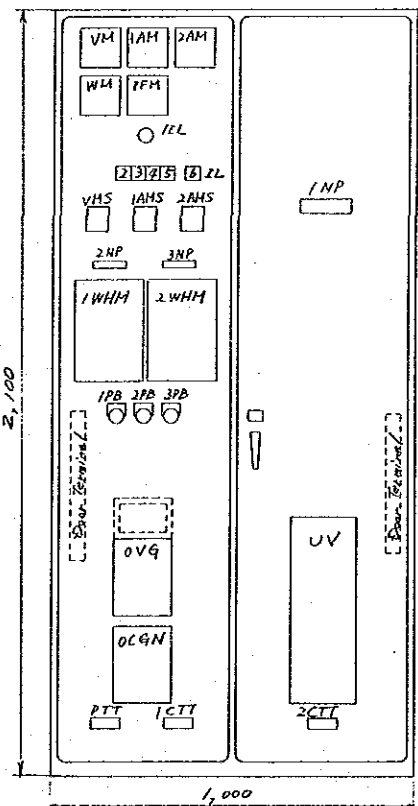
FRONT VIEW (IN DOOR)  
Control Panel No. 2



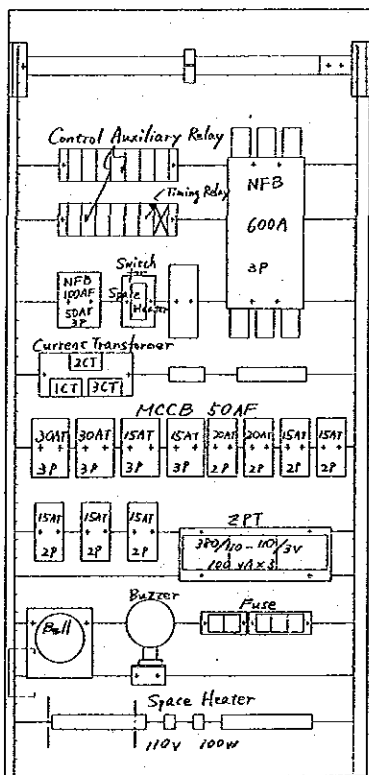
REAR VIEW (IN DOOR)  
Control Panel Nos. 1 & 2

Code	Description	Rating
NP	Name plate	
1 IL	Lamp for 3E tripping	110V 2W Red
2 IL	" NFB tripping	" "
3 IL	" low water level	" "
4 IL	" grounding	" "
5 IL	" low level oil	" Orange
6 IL	" Spare	" "
7 IL	" Stop	" Green
8 IL	" Run	" Red
9 IL	" spare	" orange
AM	AC Ammeter	200/5A 1.5 class
AMS	Switch for ammeter	3P transfer
WLI	Water level indicator	WLI 15B.5-WL 163.5
ICS	Control switch	Stop-00-Start
TSW	Change over switch	Manual - Auto
1 PB	Push button for trouble reset	
2 PB	" bell stop	
3 PB	" buzzer stop	
3E	3E relay	5A 50/60Hz
OCG	Over current ground relay	0.5A 50Hz

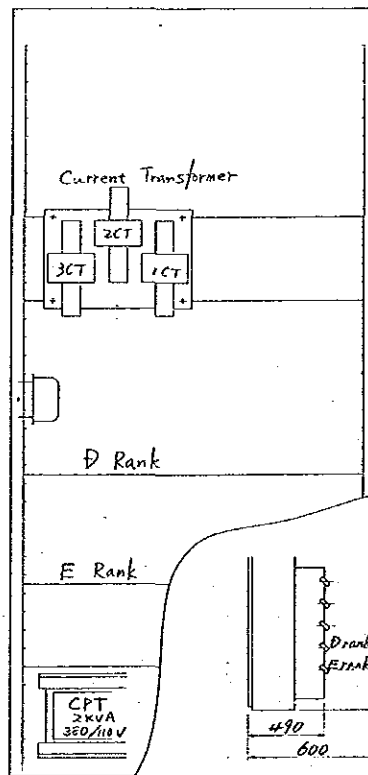
W 1,000 H 2,100 D 600



FRONT VIEW (DOOR)  
Distribution Panel

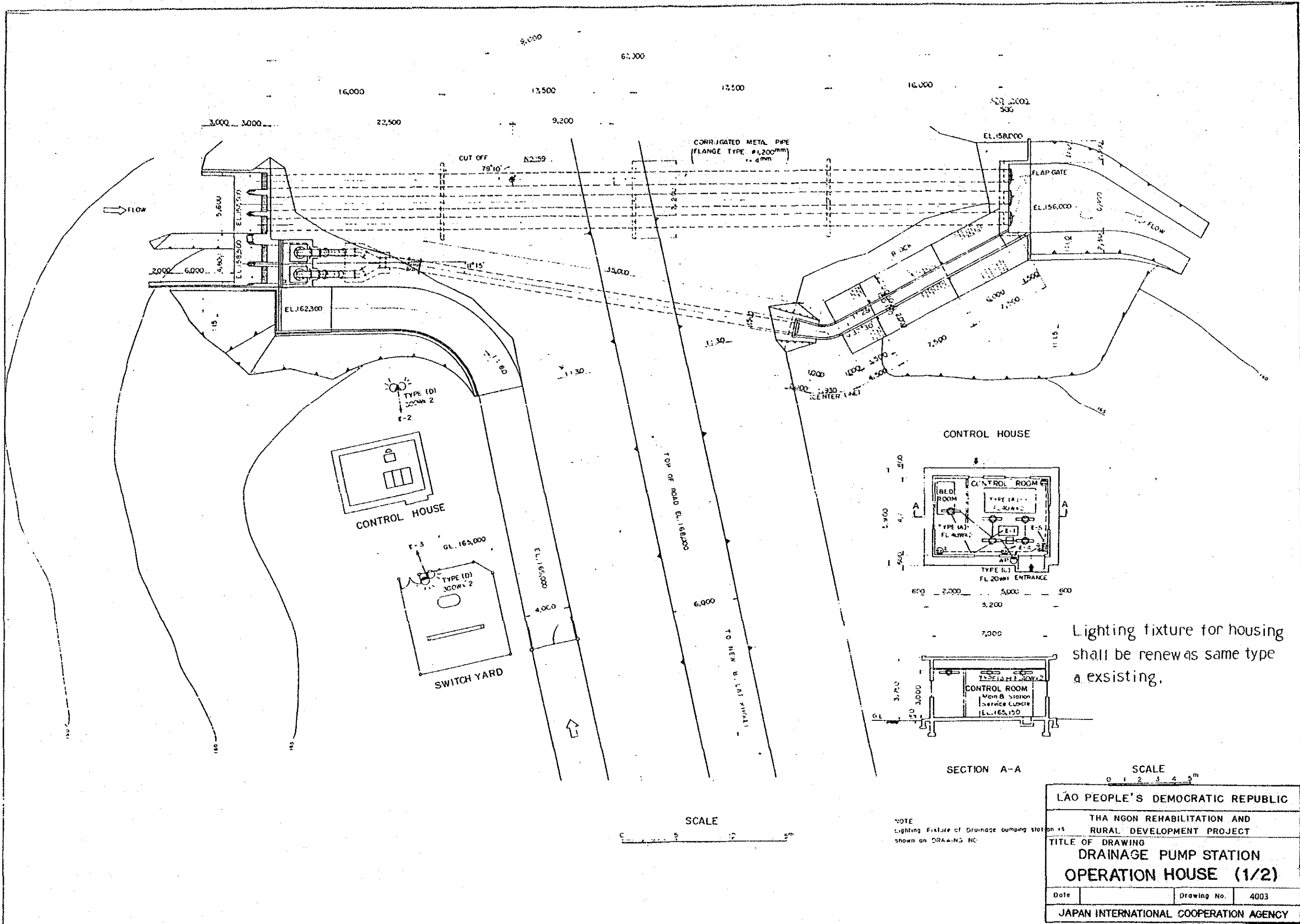


FRONT VIEW (IN DOOR)  
Distribution Panel



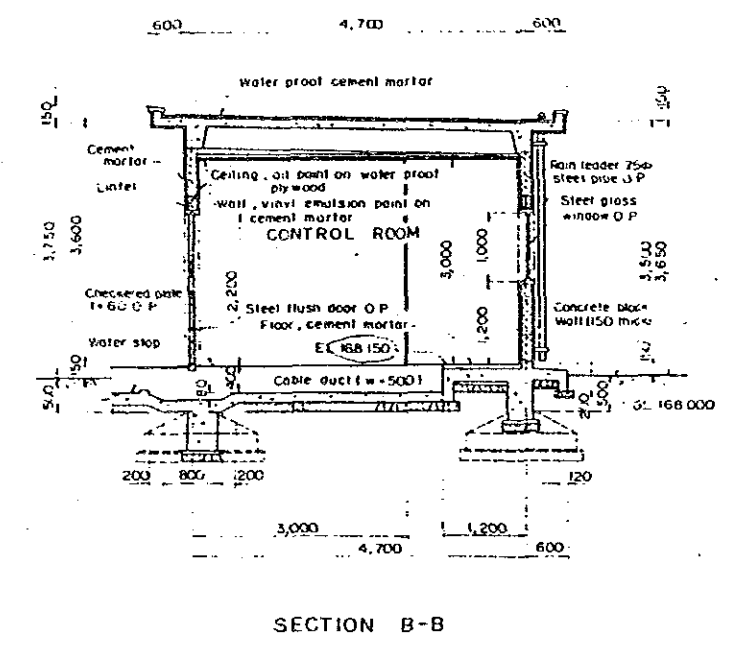
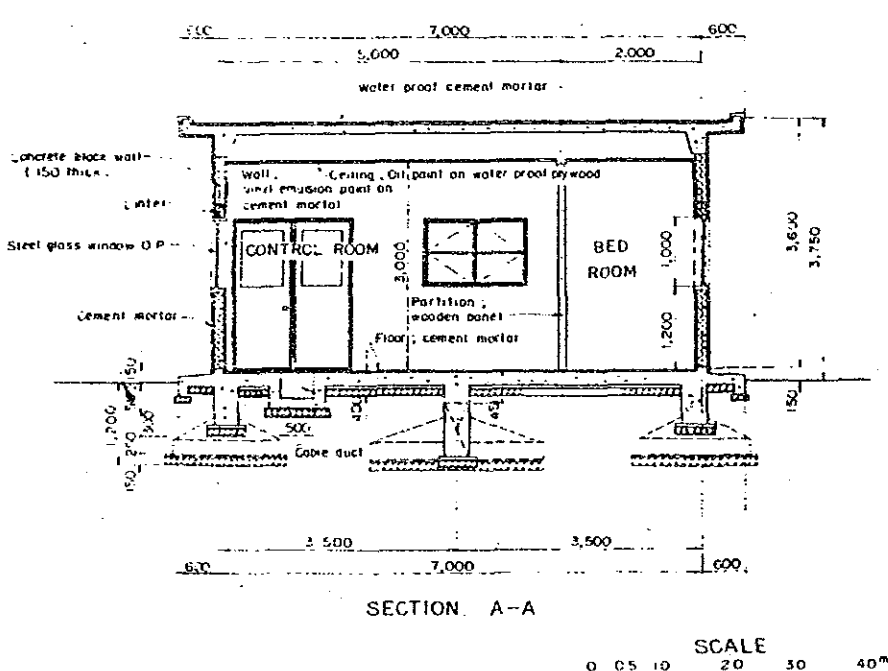
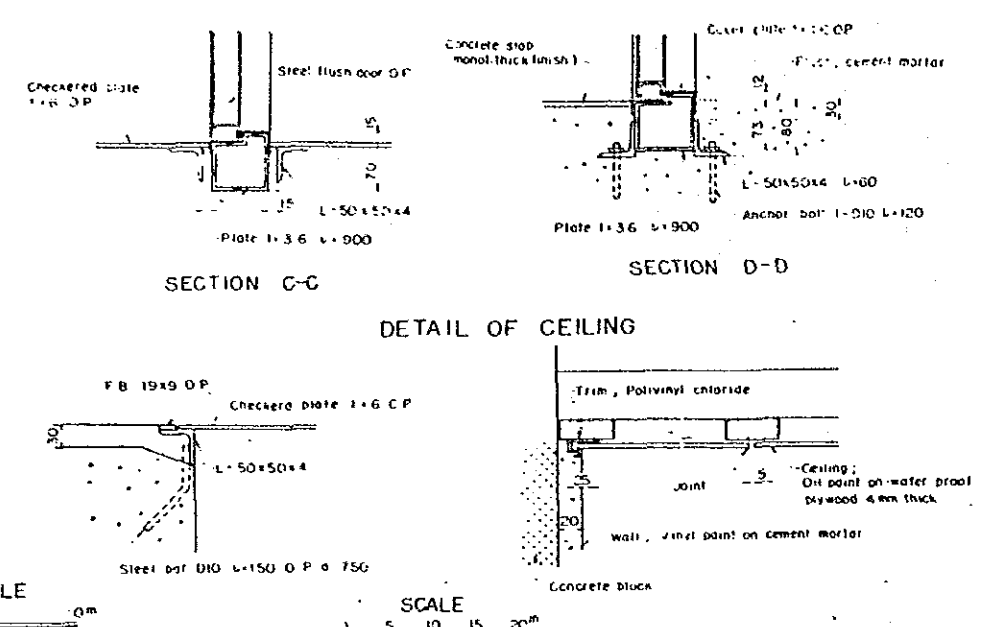
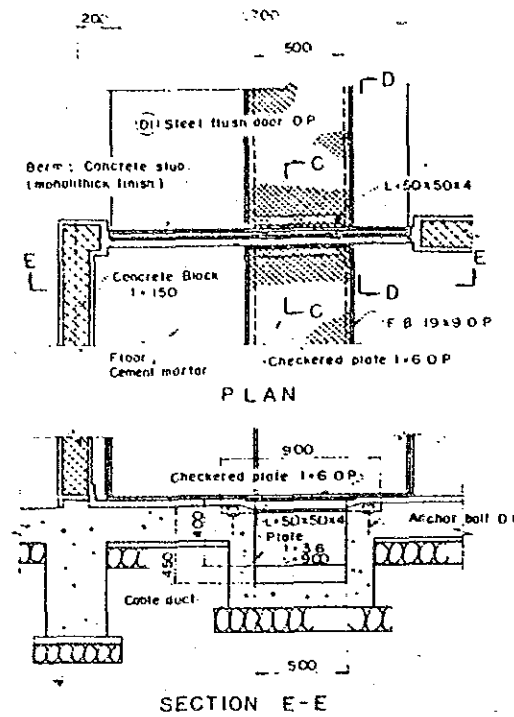
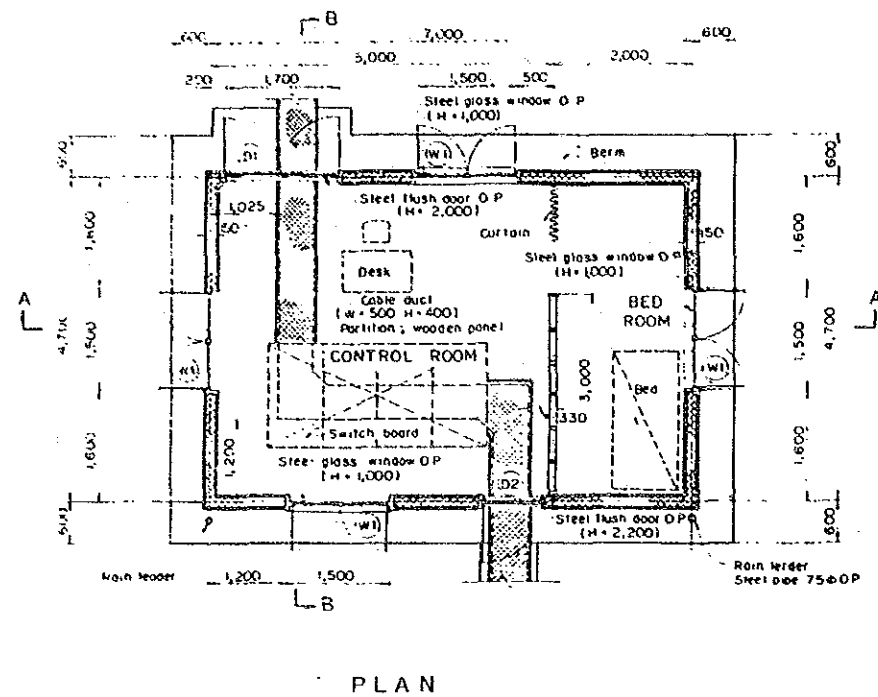
REAR VIEW (IN DOOR)  
Distribution Panel

Code	Description	Rating
1 NP	Name plate	
2 NP	"	HAN
3 NP	"	STATION
1 IL	Lamp for power source	110V 2W white
2 IL	" under voltage	" Red
3 IL	" NFB tripping	" "
4 IL	" high temp. of trans.	" "
5 IL	" grounding	" "
6 IL	" open permit of O.S	" White
VM	AC Voltmeter	510/150V 1.5 class
IAM	AC Ammeter	500/5A "
2AM	"	95/5A "
VMS	Switch for voltmeter	3P transfer
IAMS	" ammeter	"
2AMS	"	"
PPT	3P	110/5 SA 50Hz 1.5 class
VM	3P	PT 300/110V CT 50/5A
1VHM	3P	
2VHM	3P	
1 PB	Push button for bell stop	
2 PB	" buzzer stop	
3 PB	" trouble reset	
UV	Under voltage relay	
OVG	Over voltage ground relay	
OCGN	Over current ground relay	
PTT	Test terminal for voltage	
CTT	" ampere	



Lighting fixture for housing shall be renewed as same type as existing.

LAO PEOPLE'S DEMOCRATIC REPUBLIC		
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT		
TITLE OF DRAWING DRAINAGE PUMP STATION OPERATION HOUSE (1/2)		
Date	Drawing No.	4003
JAPAN INTERNATIONAL COOPERATION AGENCY		



Renew and painting

Repainting

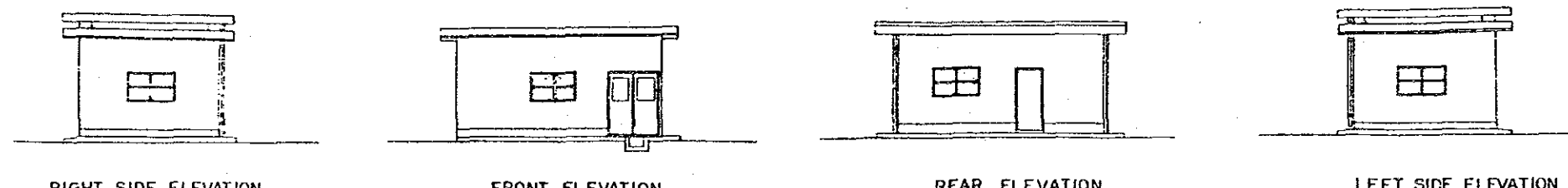
SCHEDULE OF FINISH

EXTERIOR FINISH	
ROOF	Water proof cement mortar
WALL	Cement mortar
WAINSCOT	Cement mortar
BERM	Concrete slab (monolithic finish)

	INTERIOR FINISH			
	FLOOR	SKIRTING	WALL	CEILING
CONTROL ROOM	Cement mortar	Cement mortar	Vinyl emulsion paint on cement mortar	Oil paint on water proof plywood (4mm thick)
BED ROOM	Cement mortar	Cement mortar	Vinyl emulsion paint on cement mortar	Oil paint on water proof plywood (4mm thick)

Item of repairing were same as CONTROL HOUSE (1)



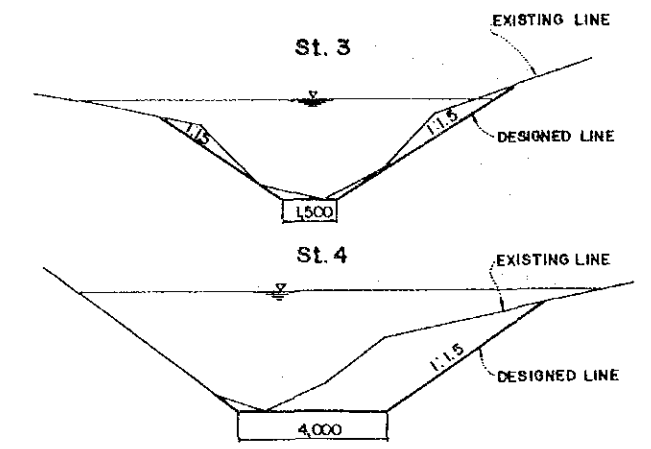
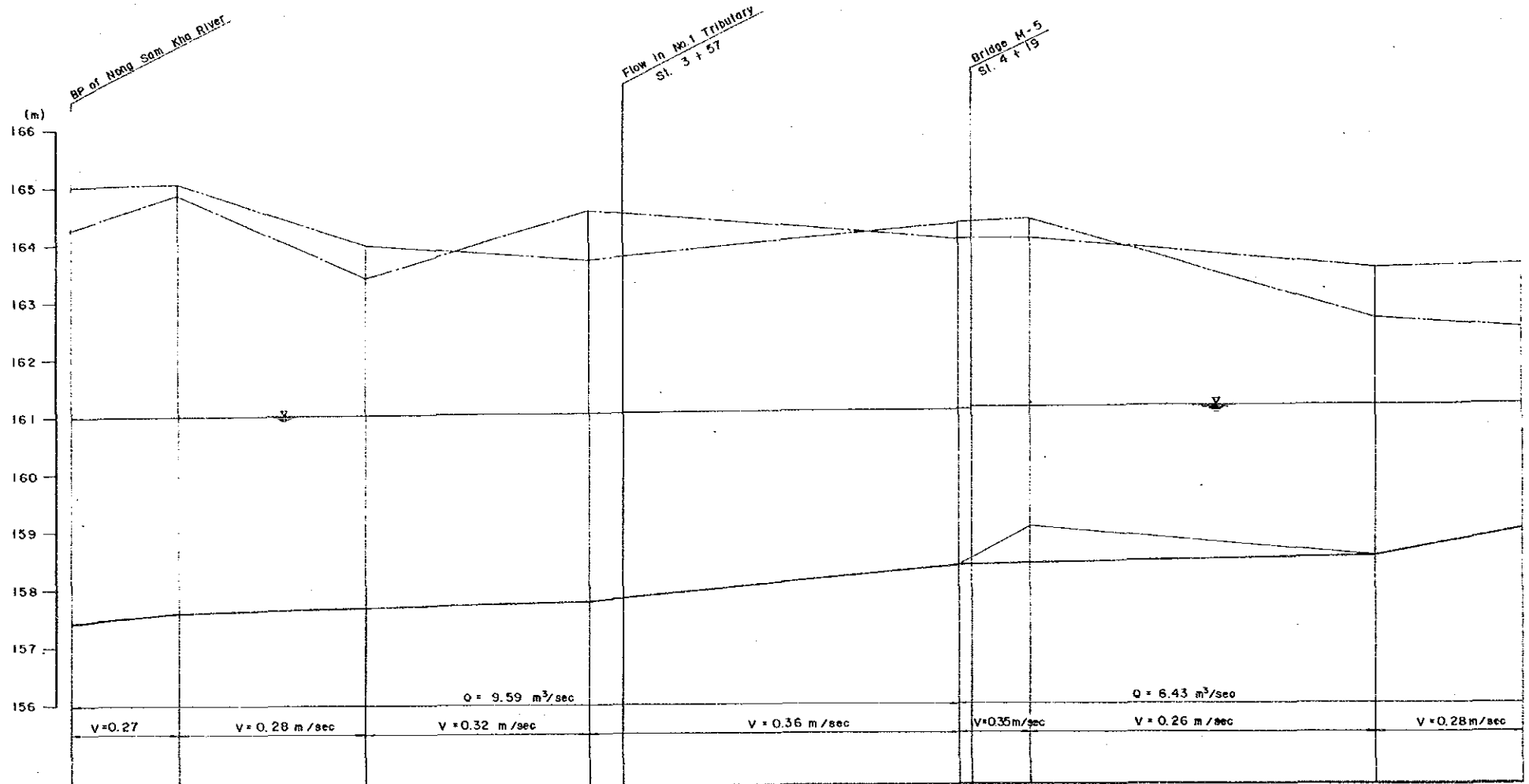
LAO PEOPLE'S DEMOCRATIC REPUBLIC

THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT

TITLE OF DRAWING  
DRAINAGE PUMP STATION  
OPERATION HOUSE (2/2)

Date: \_\_\_\_\_ Drawing No. 4004

JAPAN INTERNATIONAL COOPERATION AGENCY

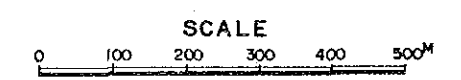


TYPICAL CROSS SECTION  
(St. 3 AND St.4)



- LEGEND**
- PROPOSED WATER SURFACE
  - CANAL BASE
  - EXISTING LEFT BANK OF CANAL
  - EXISTING RIGHT BANK OF CANAL
  - CANAL BASE

NOTE : 1) Q IS DESIGNED DISCHARGE ( m<sup>3</sup>/SEC )  
2) V IS AVERAGE VELOCITY OF DURING EACH STATION.



STATION NO.	PROPOSED ELEVATION		GROUND SURFACE ELEVATION		ACCUMULATED DISTANCE	DISTANCE
	WATER SURFACE	BASE	BASE	LEFT BANK		
BP	161.00	157.40	157.40	164.25	000	000
1	161.01	157.50	157.57	164.85	188.10	188.10
2	161.02	157.66	157.66	163.42	514.80	326.70
3	161.04	157.75	157.75	164.56	908.60	519.50
4	161.04	158.37	158.37	164.07	968.60	57.00
5	161.11	158.45	158.37	164.35	1,598.30	629.70
6	161.14	158.45	159.04	164.40	1,617.30	19.00
7	161.15	158.52	159.04	163.34	1,698.40	81.10
	161.16	158.97	158.52	163.60	2,273.70	575.30
	161.18	158.97	158.97	163.60	2,542.10	268.40

LAO PEOPLE'S DEMOCRATIC REPUBLIC

THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT

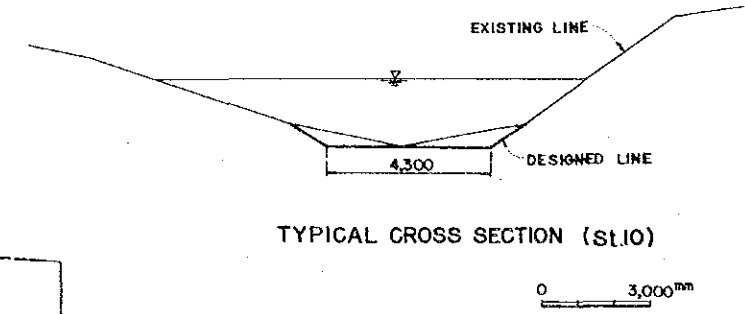
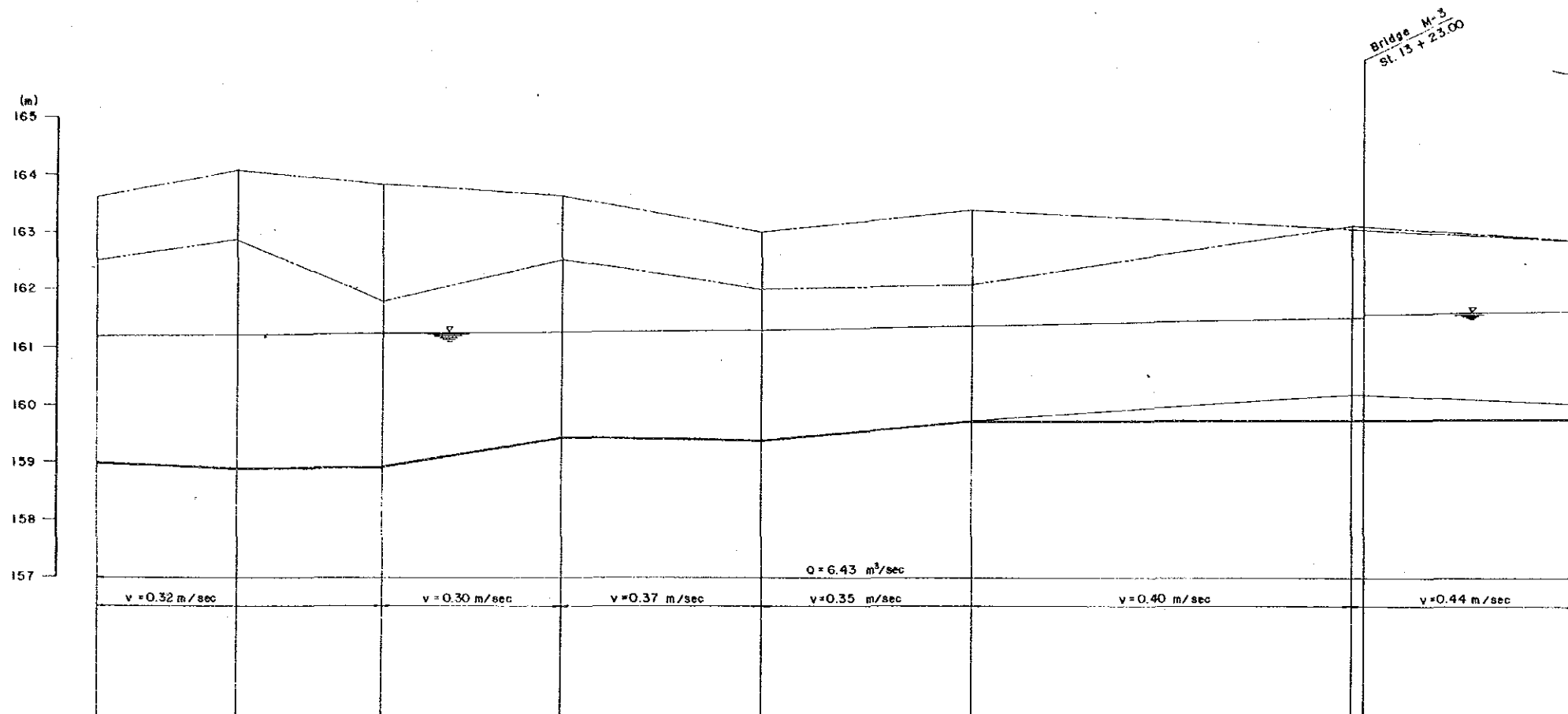
TITLE OF DRAWING

**NONG SAM KHA RIVER**

**PROFILE (1/4)**

Date \_\_\_\_\_ Drawing No. 5001

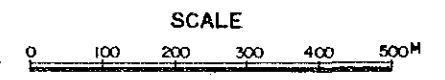
JAPAN INTERNATIONAL COOPERATION AGENCY



**LEGEND**

- PROPOSED WATER SURFACE
- CANAL BASE
- EXISTING LEFT BANK OF CANAL
- RIGHT BANK
- CANAL BASE

NOTE : 1) Q IS DESIGNED DISCHARGE (m<sup>3</sup>/SEC)  
 2) V IS AVERAGE VELOCITY OF DURING EACH STATION



PROPOSED ELEVATION	WATER SURFACE	161.18	161.21	161.23	161.25	161.30	161.36	161.52	161.57	161.65
	BASE	158.97	158.80	158.87	159.41	159.41	159.70	159.71	159.75	159.75
GROUND SURFACE ELEVATION	BASE	158.97	158.80	158.87	159.41	159.41	159.70	160.17	159.99	159.99
	LEFT BANK	163.60	164.05	163.63	163.63	163.00	163.39	163.85	162.85	162.85
	RIGHT BANK	162.50	162.86	161.76	162.25	162.00	162.08	163.10	162.85	162.85
ACCUMULATED DISTANCE	2,542.10	2,789.60	3,042.60	3,359.60	3,710.30	4,079.90	4,454.40	4,768.40	5,140.30	5,431.90
DISTANCE	268.40	247.50	253.00	316.80	350.90	369.60	665.50	23.00	371.90	
STATION	7	8	9	10	11	12	13		14	

LAO PEOPLE'S DEMOCRATIC REPUBLIC

THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT

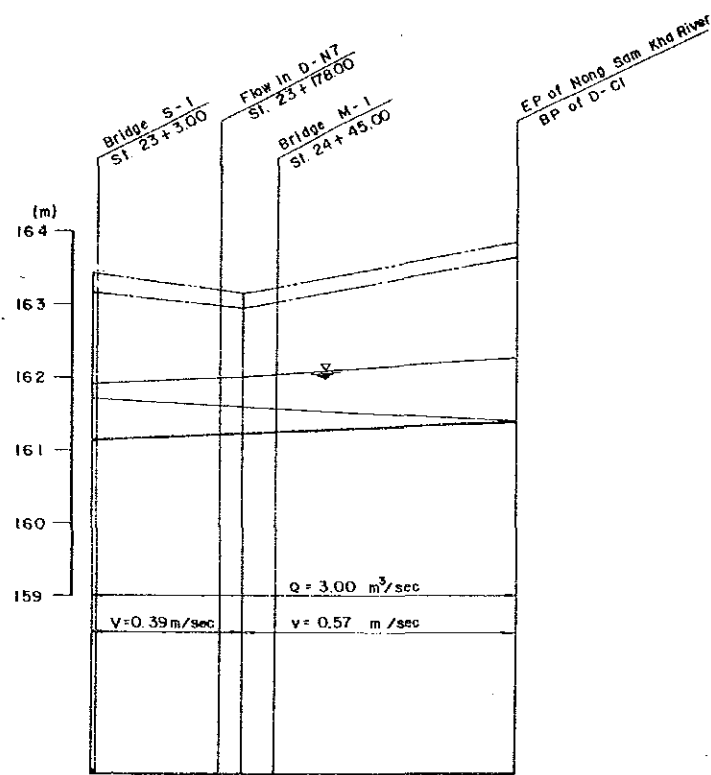
TITLE OF DRAWING  
**NONG SAM KHA RIVER  
 PROFILE (2/4)**

Date: \_\_\_\_\_ Drawing No. 5002

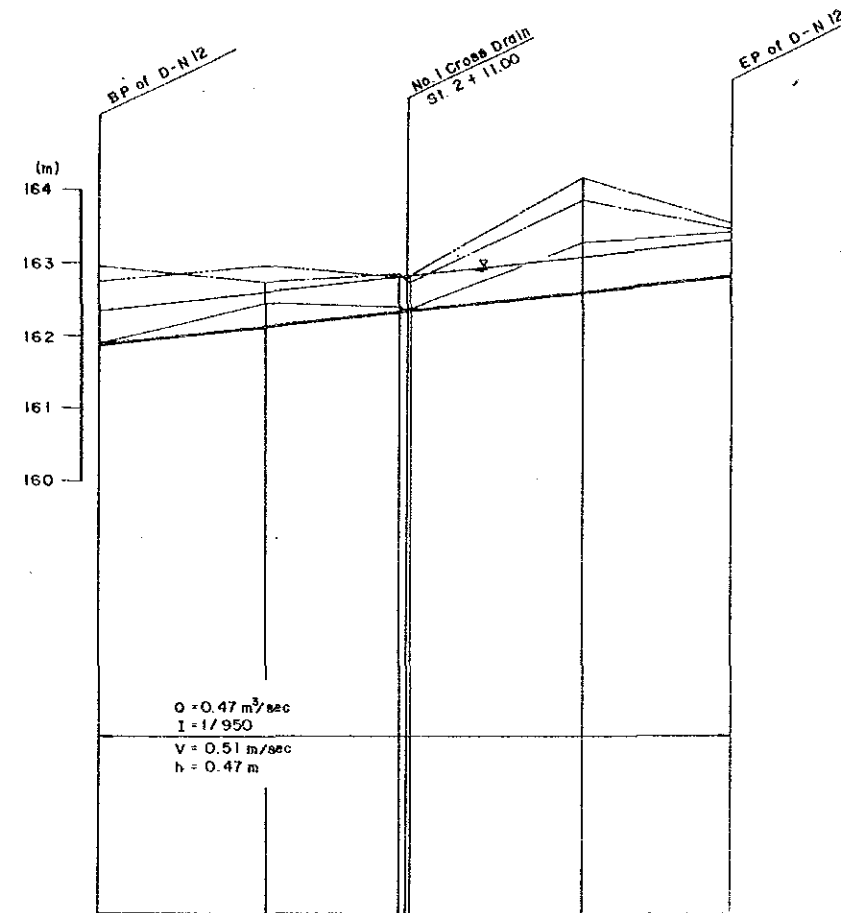
JAPAN INTERNATIONAL COOPERATION AGENCY



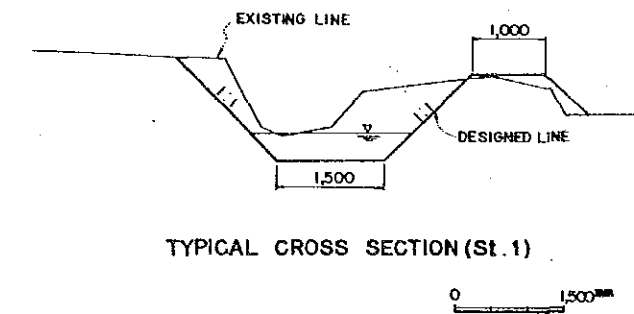




PROPOSED ELEVATION	WATER SURFACE	161.88 161.88 161.99	161.98 161.99	162.05 162.05	162.25
	BASE	161.15 161.15	161.22 161.23	161.25 161.25	161.40
GROUND SURFACE ELEVATION	BASE	161.70	161.60	161.40	161.40
	LEFT BANK	163.16	162.95	163.67	163.67
	RIGHT BANK	163.43	163.15	163.84	163.84
ACCUMULATED DISTANCE	279.60 279.60 279.60	768.10 768.10	775.90 775.90	809.50 809.50	
DISTANCE	3.00 3.00	175.00 175.00	25.80 25.80	45.00 45.00	
STATION NO.	23	24		EP	



PROPOSED ELEVATION	WATER SURFACE	162.35 162.35	162.56 162.56	162.78 162.78 162.78 162.82	163.07	163.29
	BASE	161.88 161.88	162.09 162.09	162.31 162.31 162.35 162.35	162.96	162.80
GROUND SURFACE ELEVATION	BASE	161.88	162.45	162.38 162.38	163.28	163.42
	LEFT BANK	162.93	162.73	162.95 162.95	163.85	163.55
	RIGHT BANK	162.75	162.95	162.90 162.81	163.65	162.95
ACCUMULATED DISTANCE	0.00	202.70	412.90 412.90	666.10 666.10		
DISTANCE	0.00	202.70	210.20 210.20 14.60	238.60 238.60		
STATION NO.	BP	1	2/3	4		EP



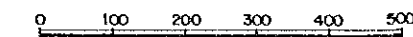
TYPICAL CROSS SECTION (St. 1)

LEGEND

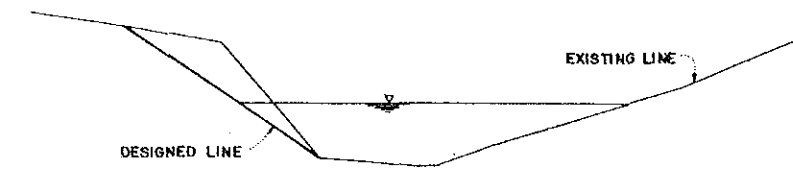
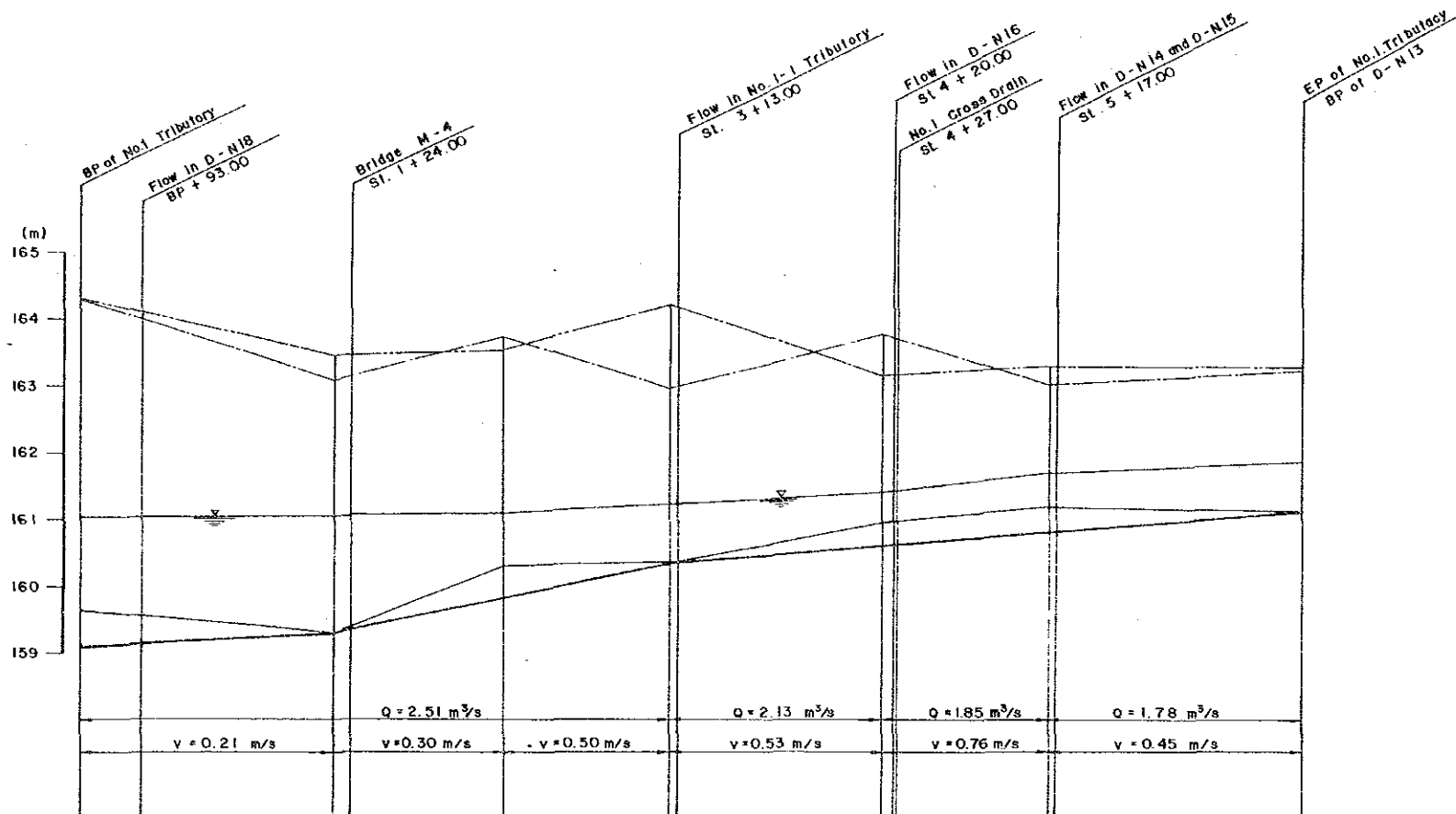
- Proposed Water Surface
- Canal Base
- Existing Left Bank of Canal
- Right
- Canal Base

NOTE : 1) Q IS DESIGNED DISCHARGE (m<sup>3</sup>/SEC)  
2) V IS AVERAGE VELOCITY OF DURING EACH STATION.

SCALE



LAO PEOPLE'S DEMOCRATIC REPUBLIC		
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT		
TITLE OF DRAWING		
NON SAM KHA RIVER		
PROFILE (4/4) AND D-N12 PROFILE		
Date	Drawing No.	5004
JAPAN INTERNATIONAL COOPERATION AGENCY		



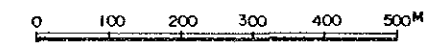
TYPICAL CROSS SECTION (SL. 1)

LEGEND

- PROPOSED WATER SURFACE
- CANAL BASE
- EXISTING LEFT BANK OF CANAL
- RIGHT
- CANAL BASE

NOTE : 1) Q IS DESIGNED DISCHARGE (m<sup>3</sup>/SEC)  
 2) V IS AVERAGE VELOCITY OF DURING EACH STATION

SCALE



STATION NO.	DISTANCE		ACCUMULATED DISTANCE	GROUND SURFACE ELEVATION			PROPOSED ELEVATION	
	0.00	93.00		BASE	LEFT BANK	RIGHT BANK	BASE	WATER SURFACE
BP	0.00		0.00	164.28	164.30	159.66	159.10	161.04
1	286.50	93.00	379.50	163.08	163.45	159.31	159.31	161.05
								161.08
2	24.00	24.00	403.50	163.72	163.54	160.32	159.87	161.10
3	230.80	13.00	883.30	162.97	164.20	160.36	160.36	161.22
								161.23
4	306.00	20.00	1,202.30	163.76	163.15	160.95	160.60	161.40
								161.42
5	279.70	17.00	1,482.00	163.02	163.28	161.17	160.80	161.68
								161.69
EP	363.60		1,832.60	163.23	163.25	161.10	161.10	161.96

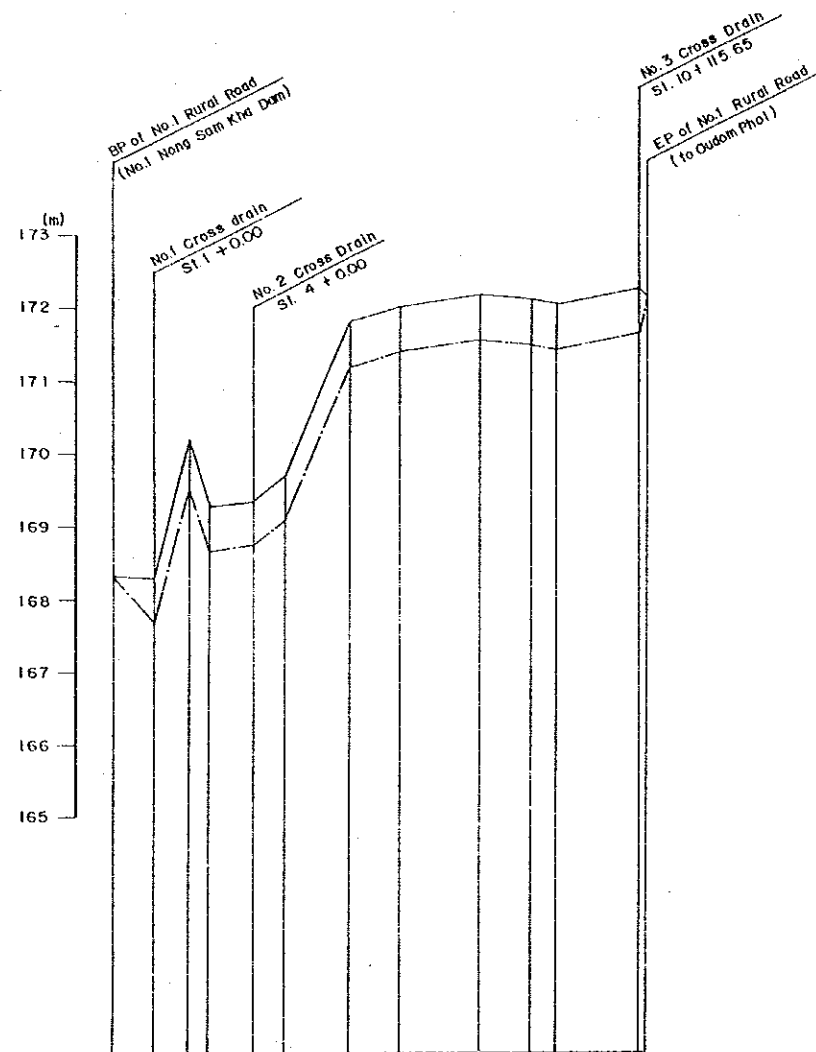
LAO PEOPLE'S DEMOCRATIC REPUBLIC

THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT

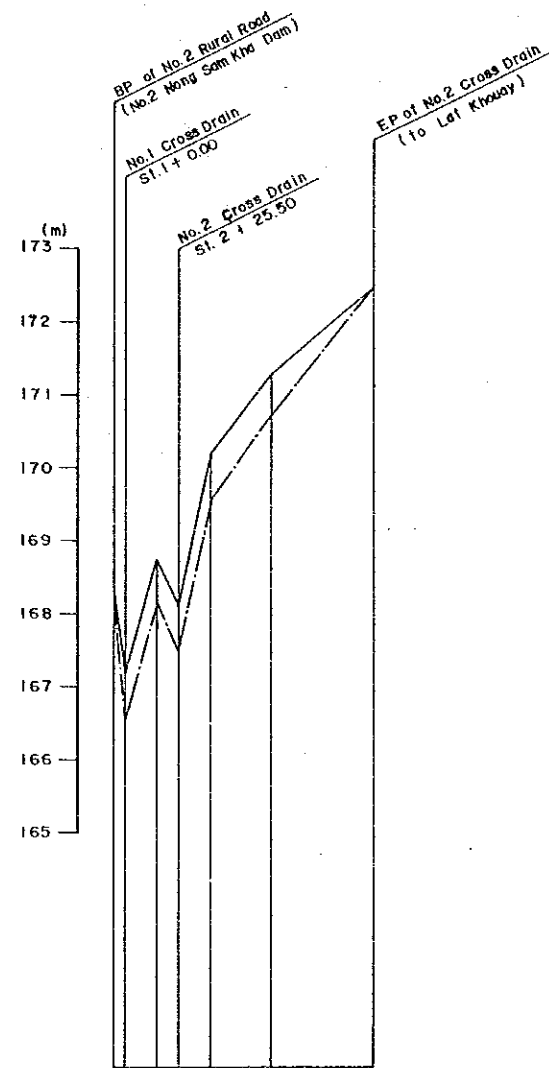
TITLE OF DRAWING  
**NO.1 TRIBUTARY PROFILE**

Date: \_\_\_\_\_ Drawing No. 5005

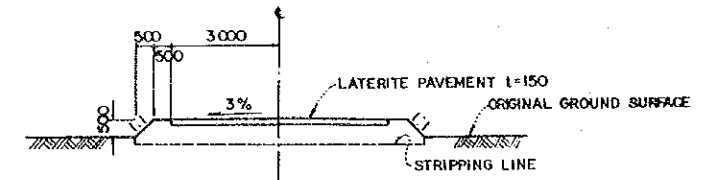
JAPAN INTERNATIONAL COOPERATION AGENCY



PROPOSED ELEVATION	168.33	168.28	170.18	169.27	169.35	169.69	171.77	171.98	172.16	172.10	172.03	172.25	172.14
GROUND SURFACE ELEVATION	168.33	167.67	169.57	169.66	168.74	169.08	171.16	171.37	171.55	171.49	171.42	171.64	172.14
ACCUMULATED DISTANCE	0.00	54.05	102.45	131.05	191.70	232.95	324.50	394.05	505.15	575.30	610.25	725.90	755.90
DISTANCE	0.00	54.05	48.40	28.60	60.65	41.25	91.55	69.55	111.10	70.15	34.95	115.65	100.00
STATION	SP	1	2	3	4	5	6	7	8	9	10	EP	
CURVE													



PROPOSED ELEVATION	166.29	167.12	168.75	168.08	170.18	171.26	172.45
GROUND SURFACE ELEVATION	166.29	166.51	168.14	167.47	169.57	170.65	172.45
ACCUMULATED DISTANCE	0.00	14.20	63.10	88.60	130.40	219.20	356.70
DISTANCE	0.00	14.20	48.19	25.50	41.80	88.80	137.50
STATION	BP	2	3	4	EP		
CURVE							



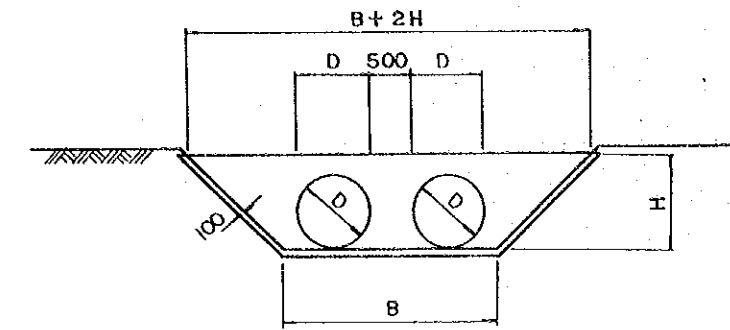
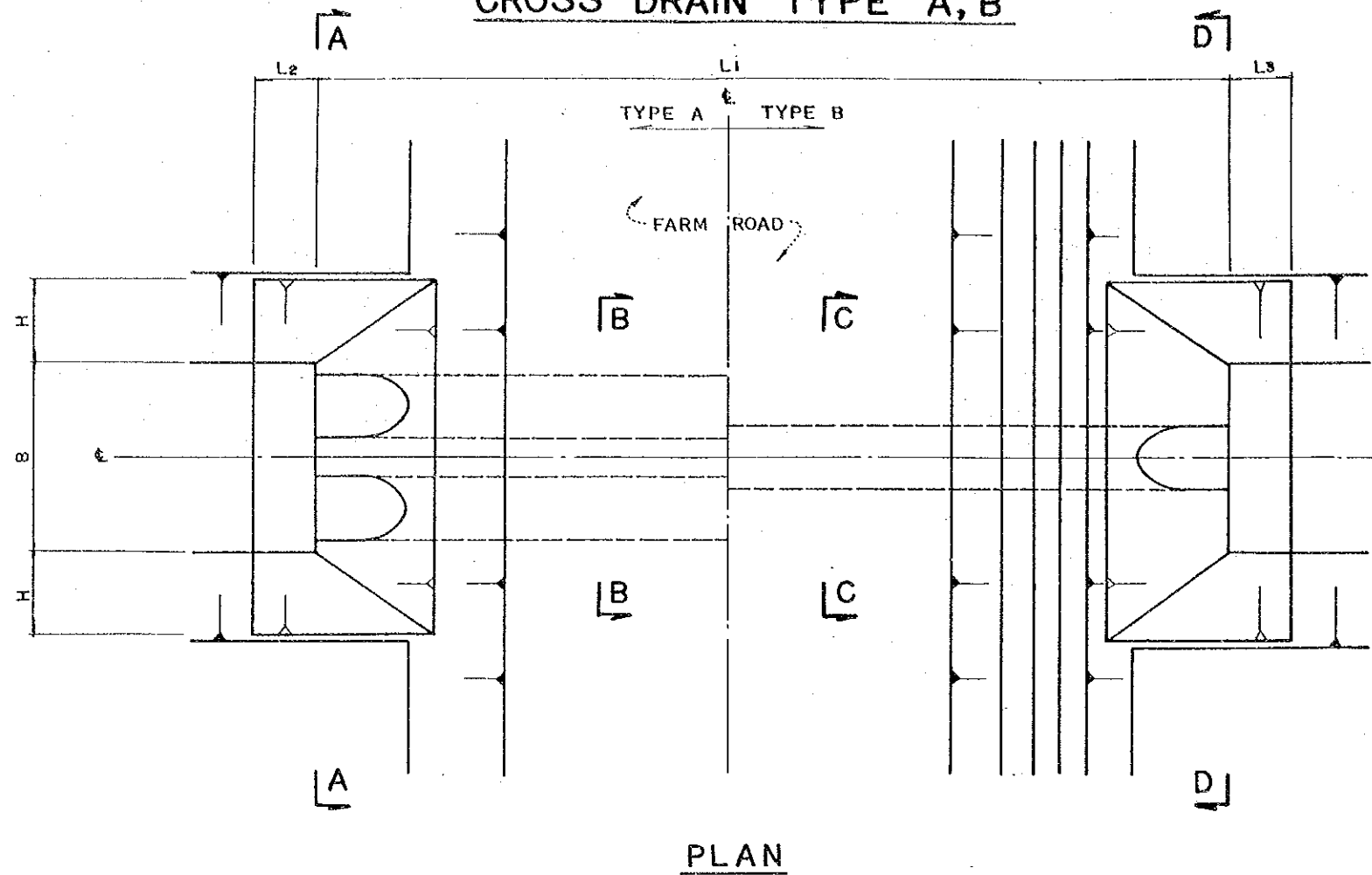
TYPICAL CROSS SECTION OF RURAL ROAD

0 3000mm

SCALE  
0 100 200 300 400 500M

LAO PEOPLE'S DEMOCRATIC REPUBLIC		
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT		
TITLE OF DRAWING NO.1 AND NO.2 RURAL ROAD PROFILE		
Date	Drawing No.	6001
JAPAN INTERNATIONAL COOPERATION AGENCY		

# CROSS DRAIN TYPE A, B



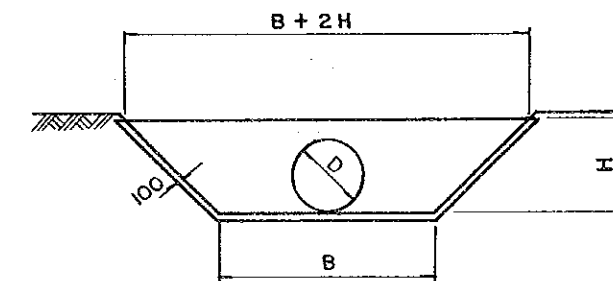
SECTION A-A



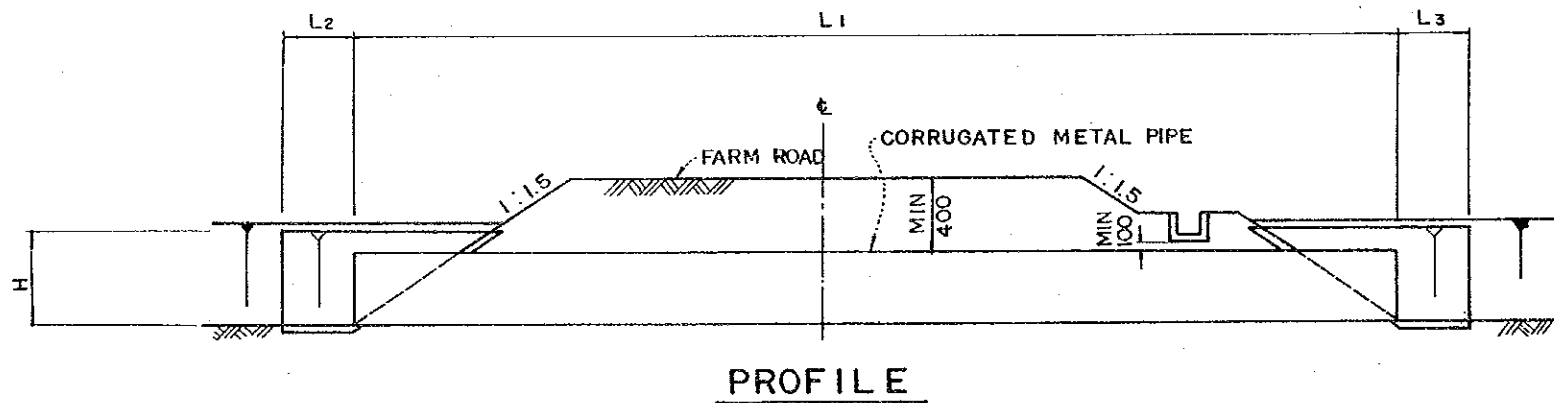
SECTION B-B



SECTION C-C



SECTION D-D



PROFILE

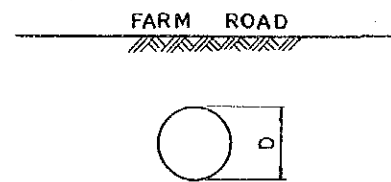
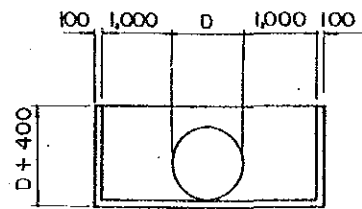
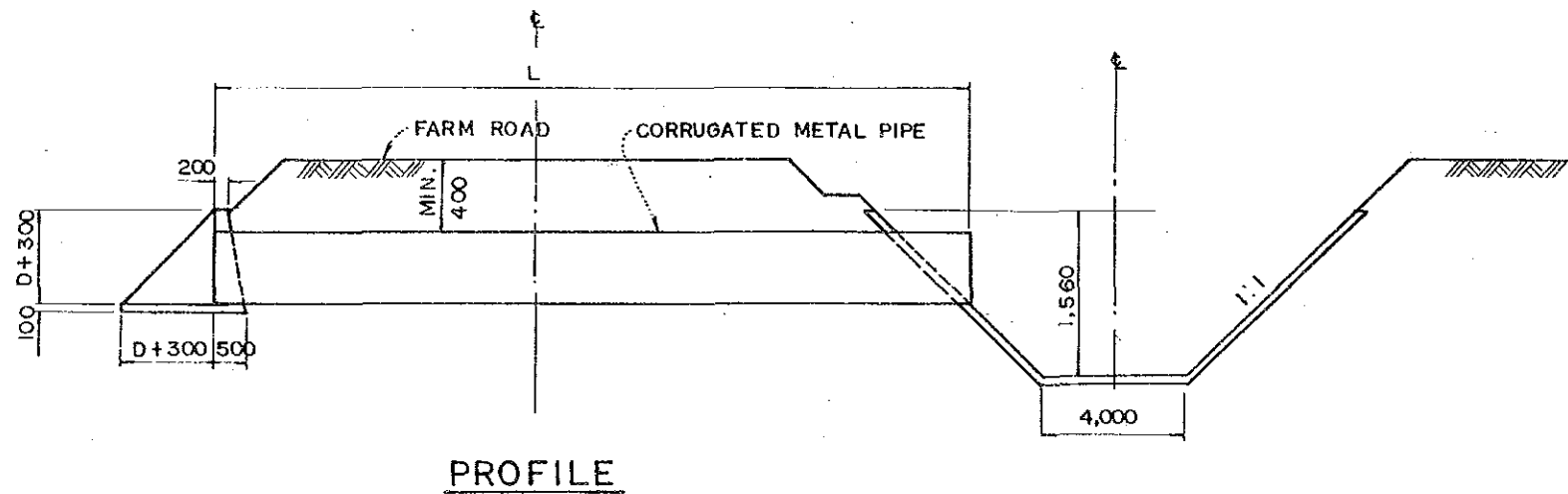
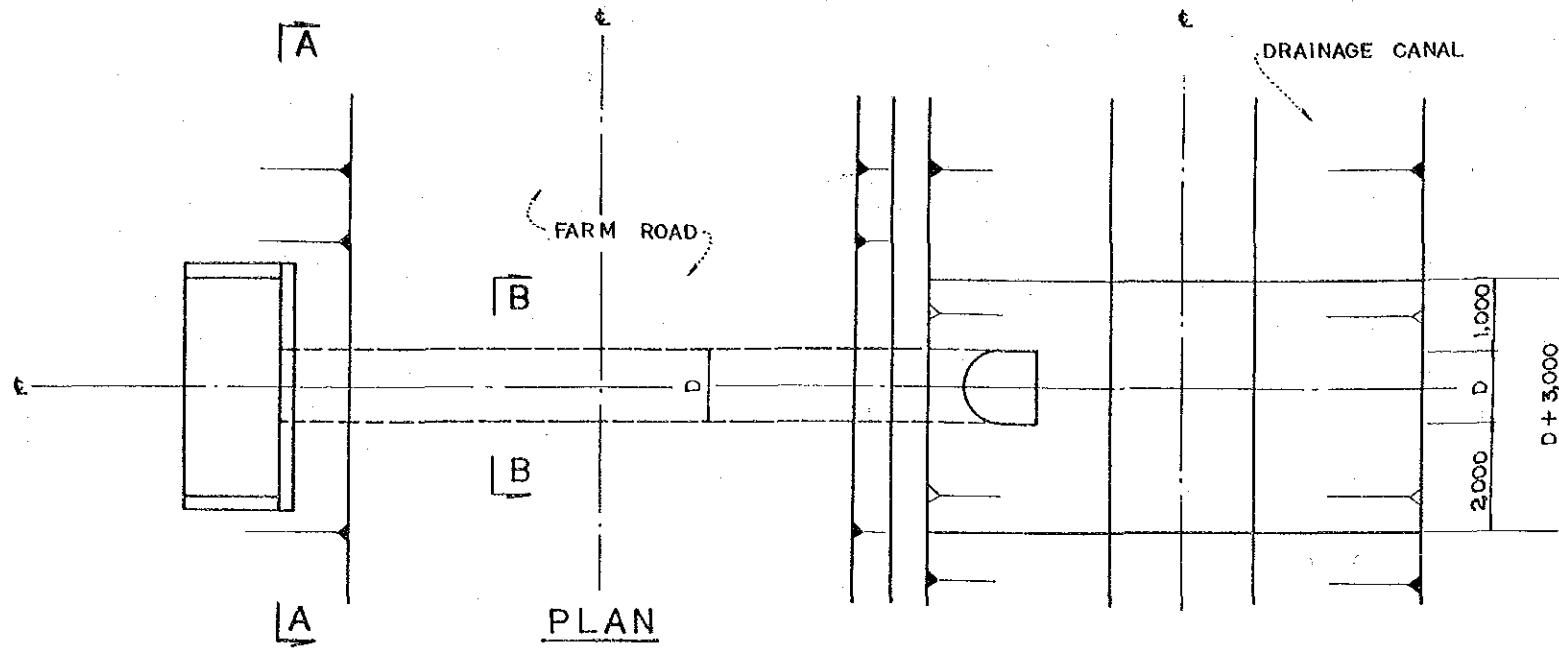
DIMENSION TABLE

LOCATION	TYPE	D	L1	L2	L3	B	H	LOCATION	TYPE	D	L1	L2	L3	B	H
NO.1 TRIBUTARY	A	1,000x2	13,000	3,000	3,000	4,000	1,100	D - N8 NO.2	A	600x2	13,000	3,000	3,000	4,000	700
NO.1-1 TRIBUTARY	A	1,000	13,000	3,000	3,000	3,000	1,100	D - C1 NO.1	A	1,000x2	13,000	3,000	5,000	4,000	1,200
NO.2 TRIBUTARY	A	1,000	13,000	3,000	3,000	5,000	1,640	D - C1 NO.2	A	1,000x2	13,000	3,000	5,000	4,000	1,200
D - N13 NO.1	A	1,000x2	13,000	3,000	3,000	4,000	1,100	I - N5 NO.1	B	600	7,000	3,000	3,000	1,000	700
D - N13 NO.2	A	800	13,000	3,000	2,000	4,000	900	I - N5 NO.2	B	600	7,000	3,000	3,000	1,000	700
D - N12 NO.1	B	800	15,000	3,000	3,000	1,500	900	I - N6 NO.1	B	600	7,000	3,000	3,000	1,500	700
D - N12 NO.2	A	800	13,000	3,000	3,000	1,500	900	I - N10-3 NO.1	B	800	15,000	3,000	3,000	1,500	900
D - N9 NO.1	A	800	13,000	3,000	3,000	1,500	900	I - N10-3 NO.2	B	800	15,000	3,000	3,000	1,500	900
D - N8 NO.1	A	1,000	13,000	3,000	3,000	4,000	1,300								

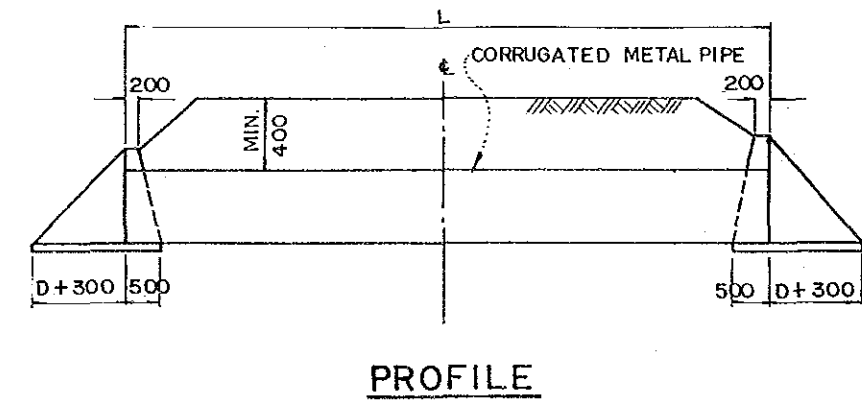
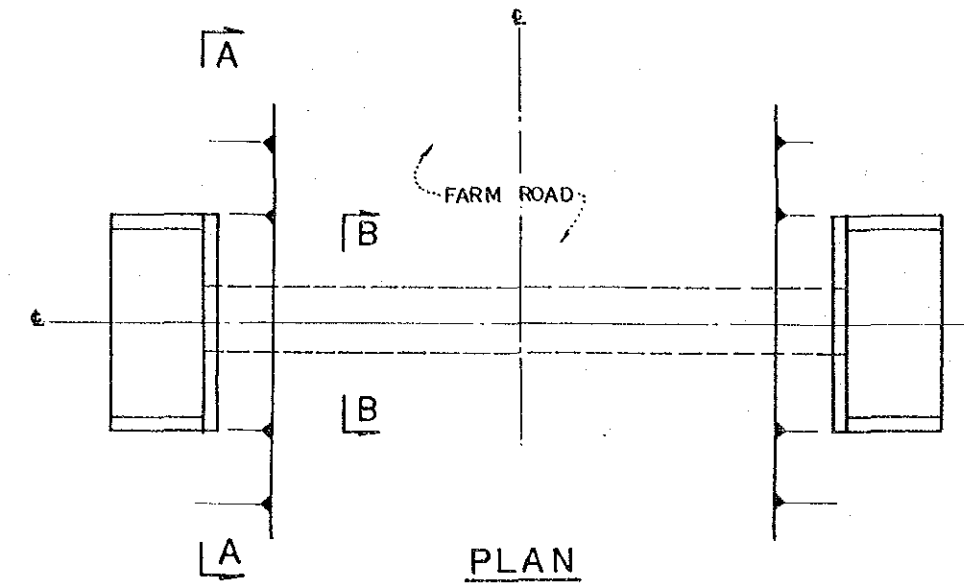
0 1,000 2,000 3,000mm

LAC PEOPLE'S DEMOCRATIC REPUBLIC			
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT			
TITLE OF DRAWING			
<b>CROSS DRAIN (1/2)</b>			
Date		Drawing No.	7001
JAPAN INTERNATIONAL COOPERATION AGENCY			

### CROSS DRAIN TYPE C



### CROSS DRAIN TYPE D

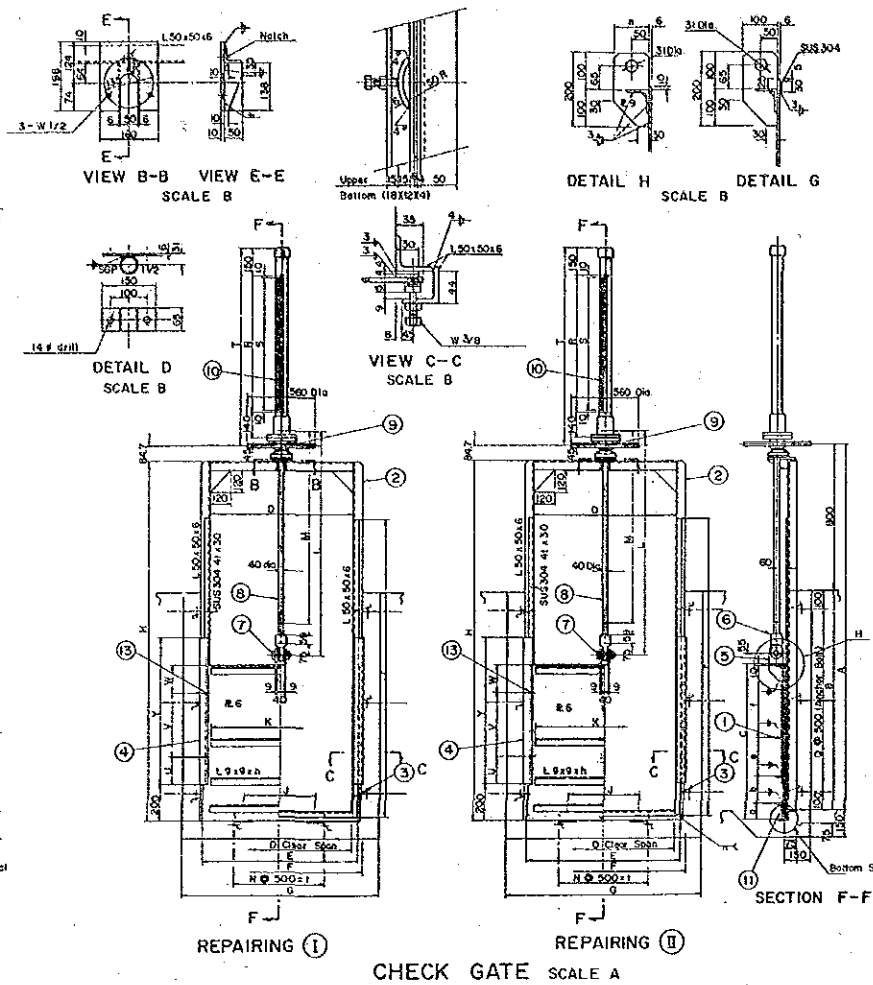
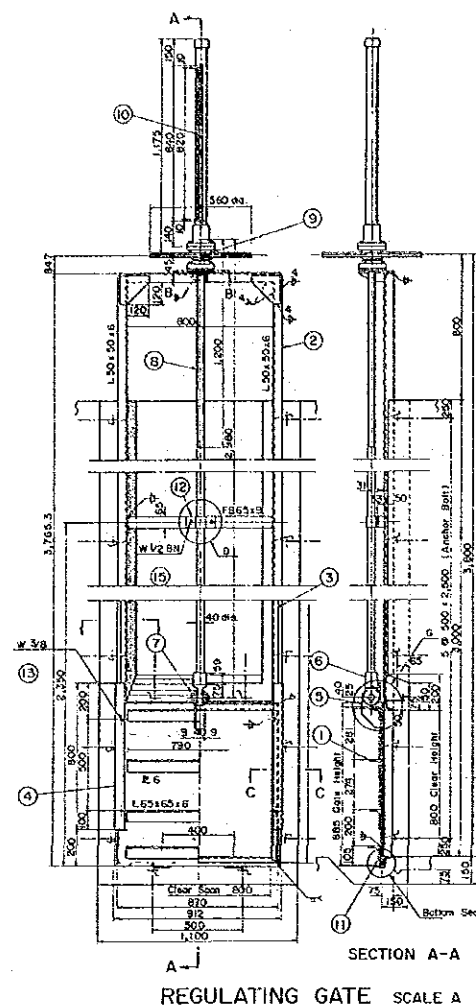


### DIMENSION TABLE

LOCATION	TYPE	D	L
NO.2 MAIN FARM ROAD NO.1	C	800	11,000
" NO.2	C	800	11,000
NO.3 MAIN FARM ROAD NO.1	D	600	9,000
" NO.2	D	600	9,000
" NO.3	D	600	9,000
" NO.4	D	600	9,000
" NO.5	D	600	9,000
NO.1 RURAL ROAD NO.1	D	600	9,000
" NO.2	D	600	9,000
" NO.3	D	600	9,000
NO.2 RURA ROAD NO.1	D	600	9,000
" NO.2	D	600	9,000

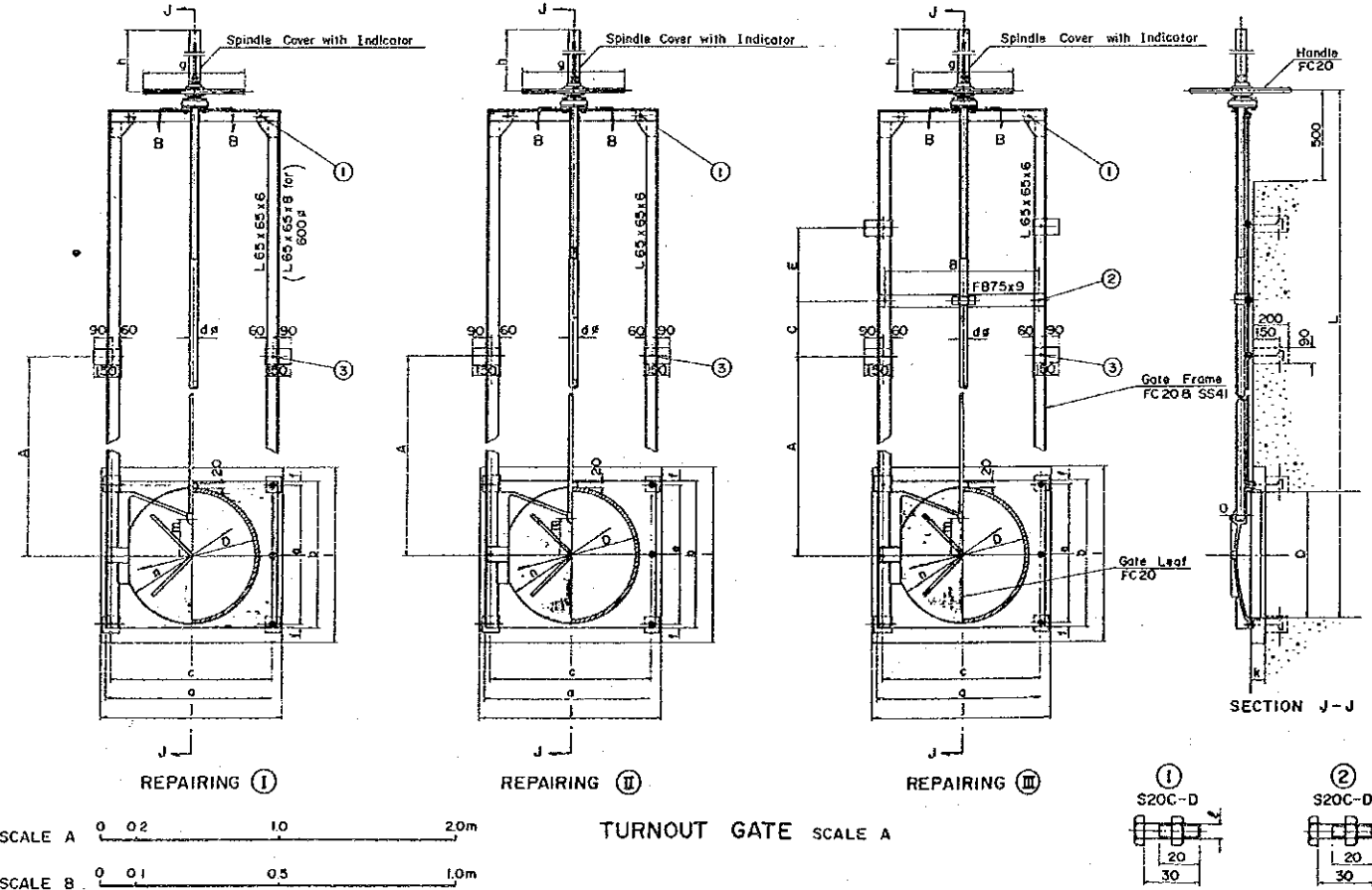
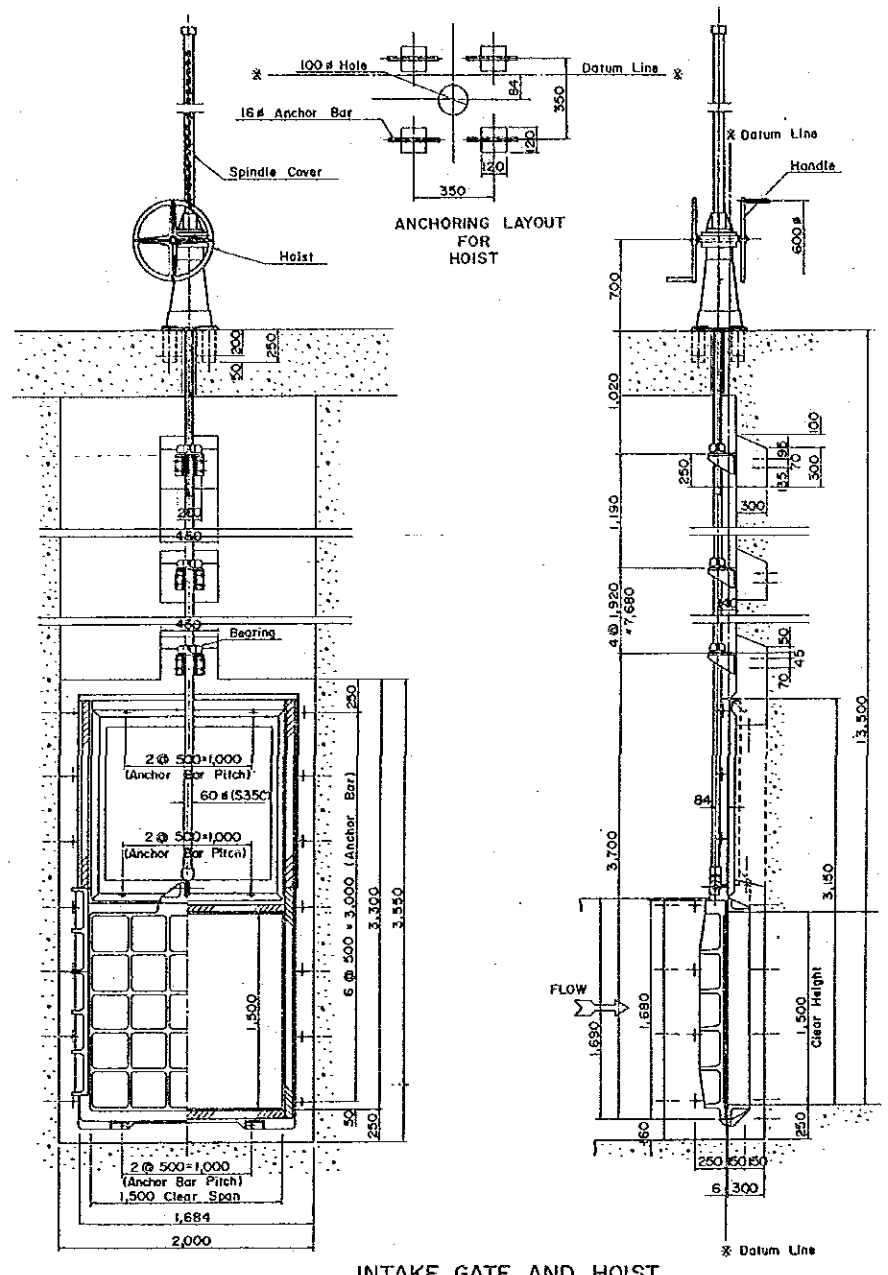
SCALE 0 1,000 2,000 3,000 mm

LAO PEOPLE'S DEMOCRATIC REPUBLIC  
 THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT  
 TITLE OF DRAWING  
**CROSS DRAIN (2/2)**  
 Date \_\_\_\_\_ Drawing No. 7002  
 JAPAN INTERNATIONAL COOPERATION AGENCY



CHECK GATE						
	N-1	N-2	N-3	N-4	N-5	N-6, L-1
A	2500	2500	2500	2000	2000	2000
B	1700	1700	1700	1200	1200	1200
C	1350	1245	1145	1000	700	700
D	1300	1200	1100	800	700	700
E	1370	1260	1180	860	760	760
F	1412	1312	1212	912	812	812
G	1600	1500	1400	1100	1000	1000
H	2465.3	2465.3	2465.3	2165.3	1965.3	1965.3
J	650	600	500	400	350	350
K	1290	1190	1090	790	690	690
L	1200	1300	1400	1200	1400	1400
M	1040	1140	1240	1040	1140	1140
N	2	2	1	1	1	1
O	3	3	3	2	2	2
P	1500	1500	1500	1000	1000	1000
R	920	1020	1120	920	1020	1020
S	900	1000	1100	900	1000	1000
T	1252	1352	1452	1252	1352	1352
V	900	800	700	500	400	400
W	300	200	200	200	200	200
Y	1300	1200	1100	800	700	700
a	105	105	90	80	80	80
b	173	156	154	146	104	104
e	253	239	228	210	156	156
f	809	735	663	399	395	395
g	65	65	50	40	40	40
h	6	6	6	5	5	5
n	100	100	100	100	100	100
r	2300	2300	2280	2080	1490	1480
r	1000	1000	500	500	500	500
u	100	100	100	100	100	100
Design Head	1.06 m	1.00 m	0.95 m	1.00 m	0.65 m	0.65 m
Repair	(I)	(I)	(I)	(II)	(II)	(II)

PART NO	MATERIAL	DESCRIPTION
1	SUS304	Gate leaf
2	SS41	Gate frame
3	SUS304	Seal seat
4	SS41	Guides
5	SS41	Bracket
6	FC20	Spindle socket
7	S20C-D	Spindle pin
8	SS41	Spindle
9	Assembly	Hoist
10	Assembly	Spindle cover
11	SS41	Stem
12	38P	Stem guide
13	S20C-D	Hexagon bolt B nut
14	S20C-D	Hexagon bolt B nut
15	S20C-D	Hexagon bolt B nut



TURNOUT GATE AND NO.1 NONG SAM KHA DAM INTAKE GATE				
TURNOUT	D	L	A	REPAIRING
N-1	200#	1300	550	I
N-2	200#	1300	550	I
N-3	200#	1300	550	I
N-4	200#	1300	550	II
N-5	200#	1300	550	III
N-6 (C)	400#	1150	300	I
N-6 (L)	200#	1300	550	I
N-7 (I)	300#	1250	450	III
N-7 (2)	300#	1250	450	I
N-8	300#	1250	450	III
N-9	300#	1250	450	III
N-10 (C)	600#	1600	650	III
N-10 (L)	300#	1350	550	III
N-10 (R)	300#	1350	550	III
N-11	300#	1250	450	III
N-12	300#	900	-	III
N-13	400#	1150	300	Spindle cover
LATERAL	300#	1250	450	I
L-2 (C)	400#	1150	300	I
L-2 (L)	400#	1150	300	I
L-2 (R)	300#	1250	450	I
NONG SAM KHA INTAKE GATE	400#	4000	1650	III
NONG SAM KHA INTAKE GATE NEW	400#	4000	1650	I

D	200#	300#	400#	600#
a	345	445	545	730
b	275	370	480	700
c	270	370	460	680
d	30#	30#	30#	40#
e	235	320	450	630
f	20	25	25	25
g	380#	380#	380#	500#
h	400	500	600	800
i	445	540	650	870
j	415	510	615	800
k	60	60	67	70
l	W 1/2	W 1/2	W 1/2	W 5/8
m	60	85	108	170
n	220#	320#	420#	630#
o	30#	30#	30#	35#
B	-	-	#430	-
C	-	-	#750	-
E	-	-	#750	-
Design Head	0.59m	0.64m	3.00m	2.15m

LEGEND  
 : Parts to be replaced.

NOTE: # shows the value for Nong San Kha Dam Intake gate.

LAO PEOPLE'S DEMOCRATIC REPUBLIC

THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT

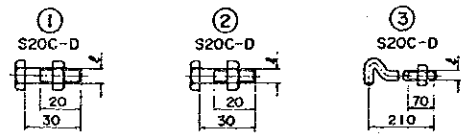
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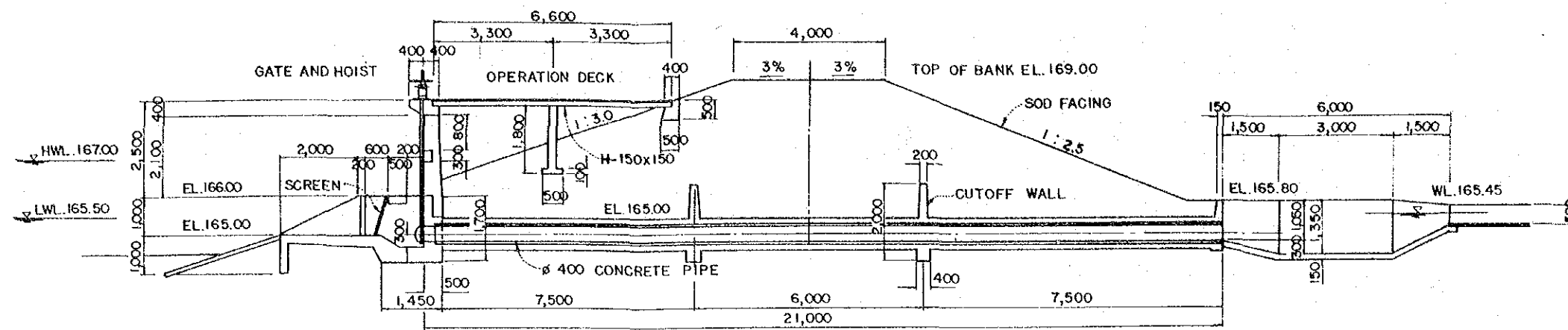
GATES AND HOISTS

Date	Drawing No.	7003
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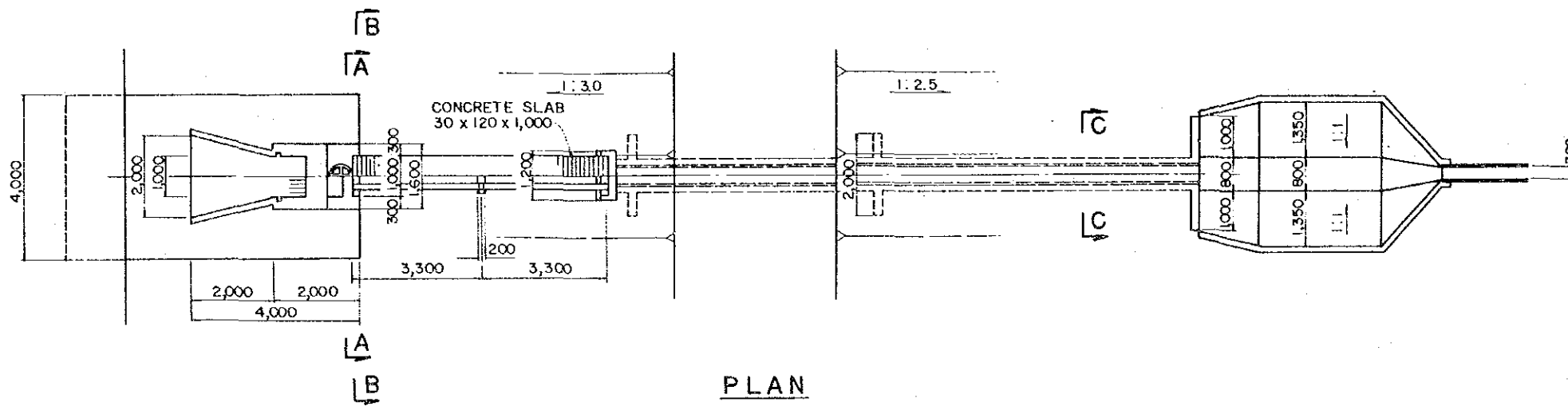
JAPAN INTERNATIONAL COOPERATION AGENCY

SCALE A 0 0.2 1.0 2.0m  
 SCALE B 0 0.1 0.5 1.0m

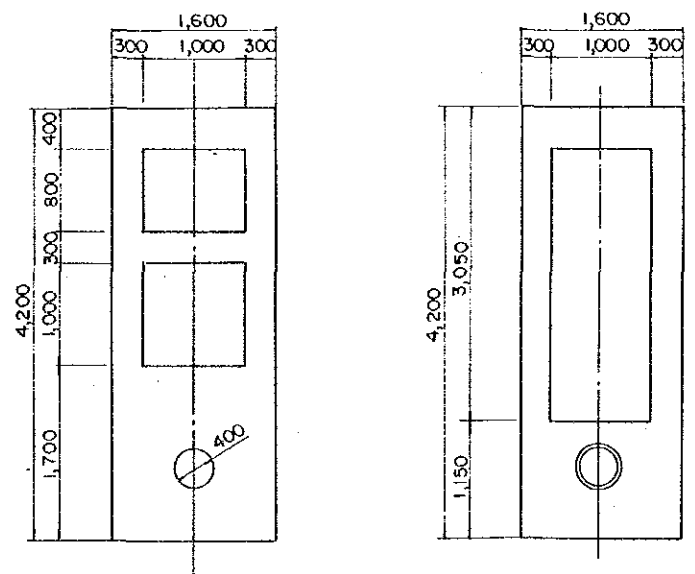




PROFILE

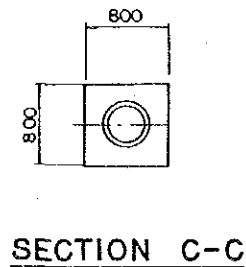


PLAN



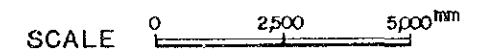
SECTION A-A

SECTION B-B



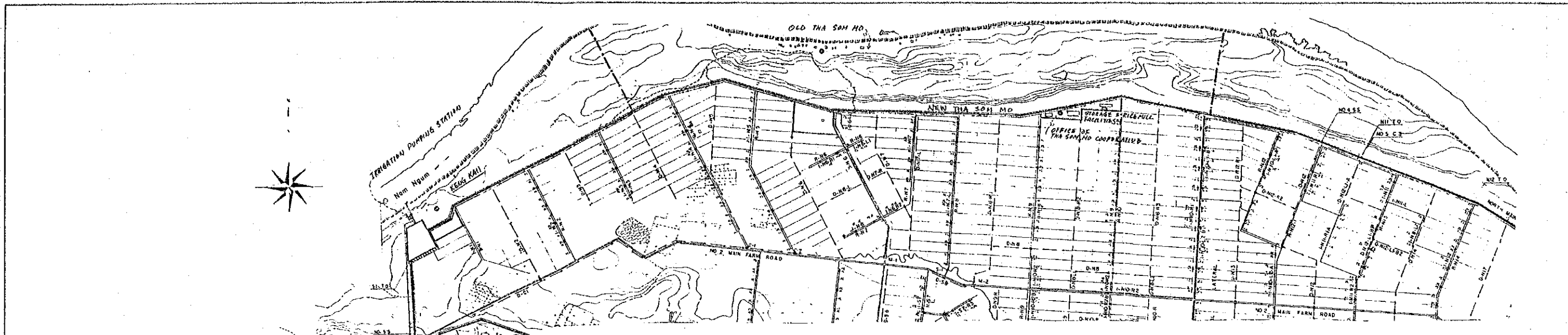
SECTION C-C

NOTE: THE APPROACH FROM THE MAINTENANCE ROAD LOCATED ALONG THE I-NS SUB-LATERAL TO THE TOP OF BANK SHOULD BE PROVIDED WITH THE LONGITUDINAL SLOPE OF 1:10.

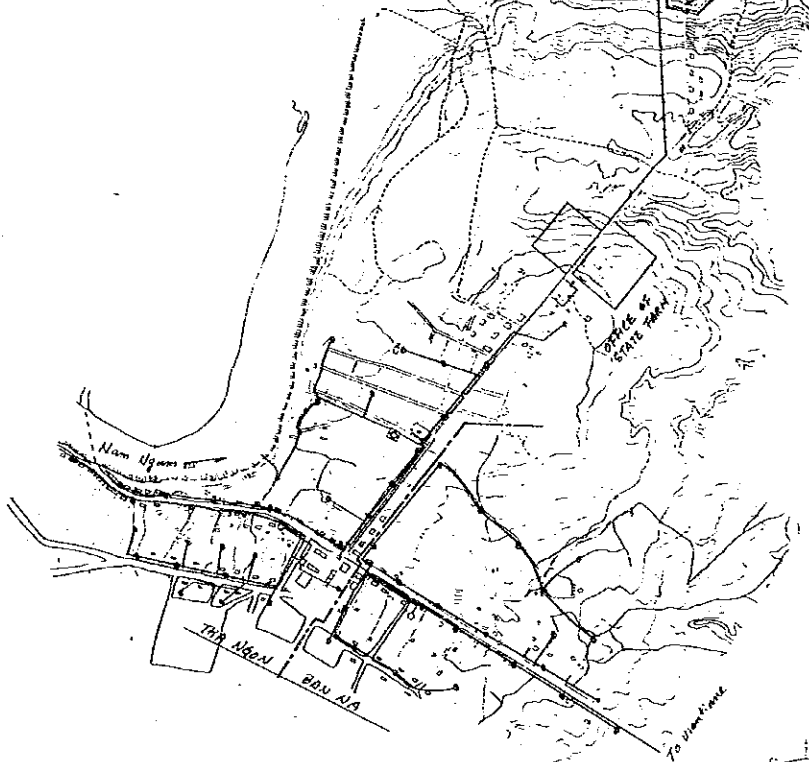


LAO PEOPLE'S DEMOCRATIC REPUBLIC		
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT		
TITLE OF DRAWING		
INTAKE FOR I-NS SUB-LATERAL ON NO.1 NONG SAM KHA DAM		
Date	Drawing No.	8001
JAPAN INTERNATIONAL COOPERATION AGENCY		

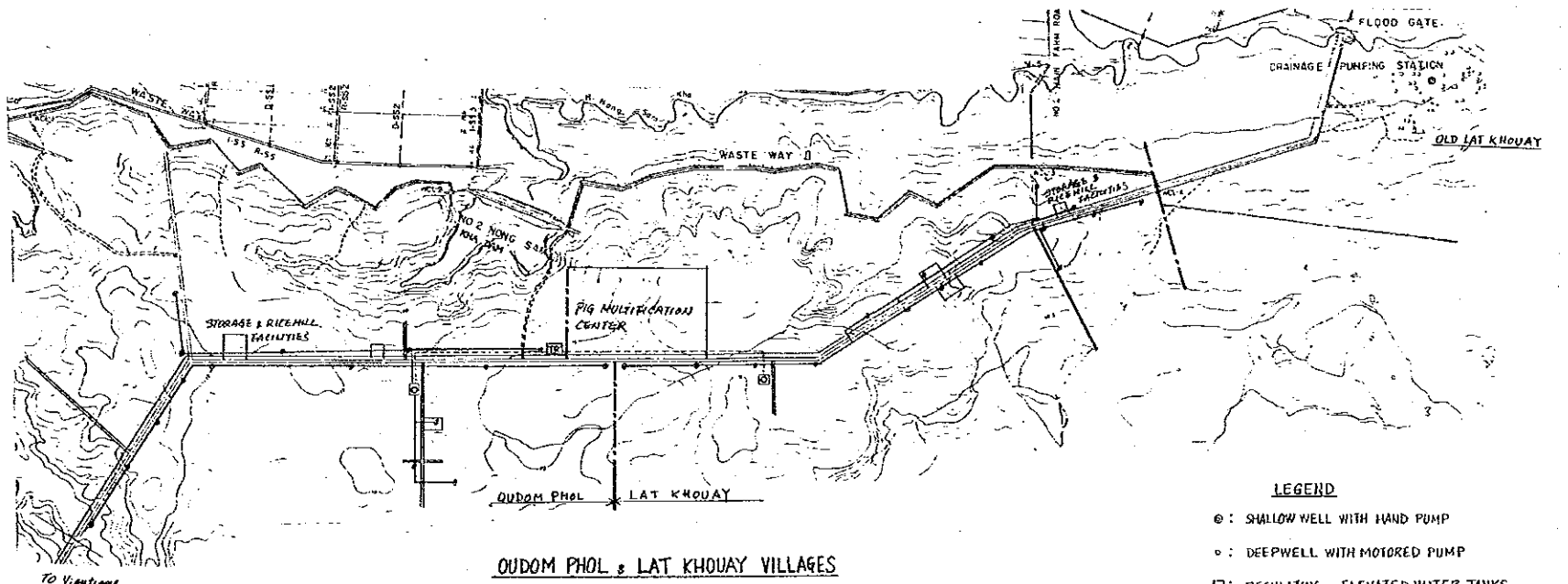




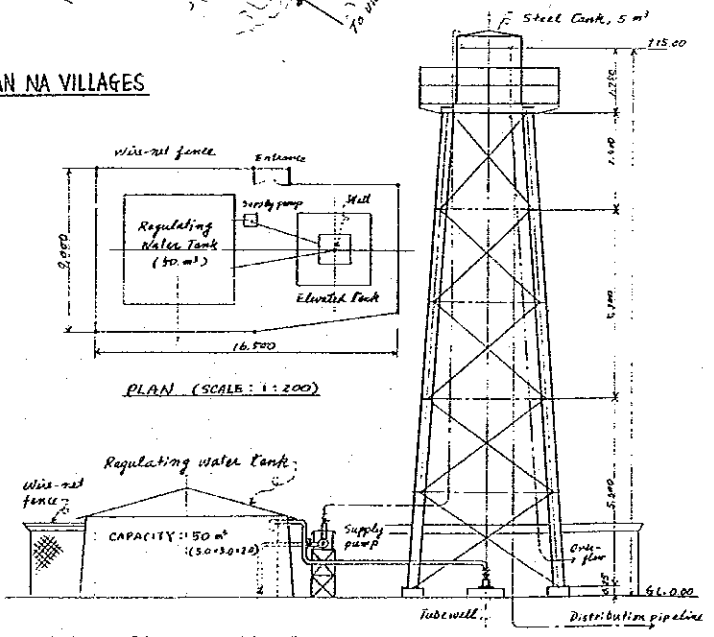
KENG KHAI & THA SOM MO VILLAGES



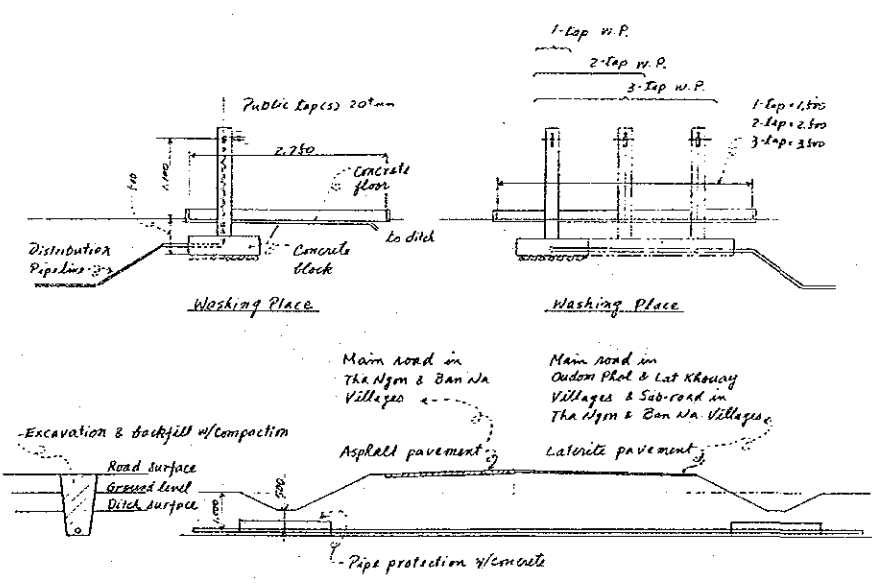
THA NGAN & BAN NA VILLAGES



OUDOM PHOL & LAT KHOUAY VILLAGES

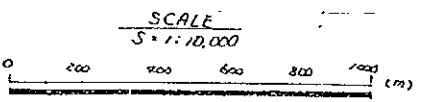


TUBEWELL AND REGULATING & ELEVATED WATER TANKS

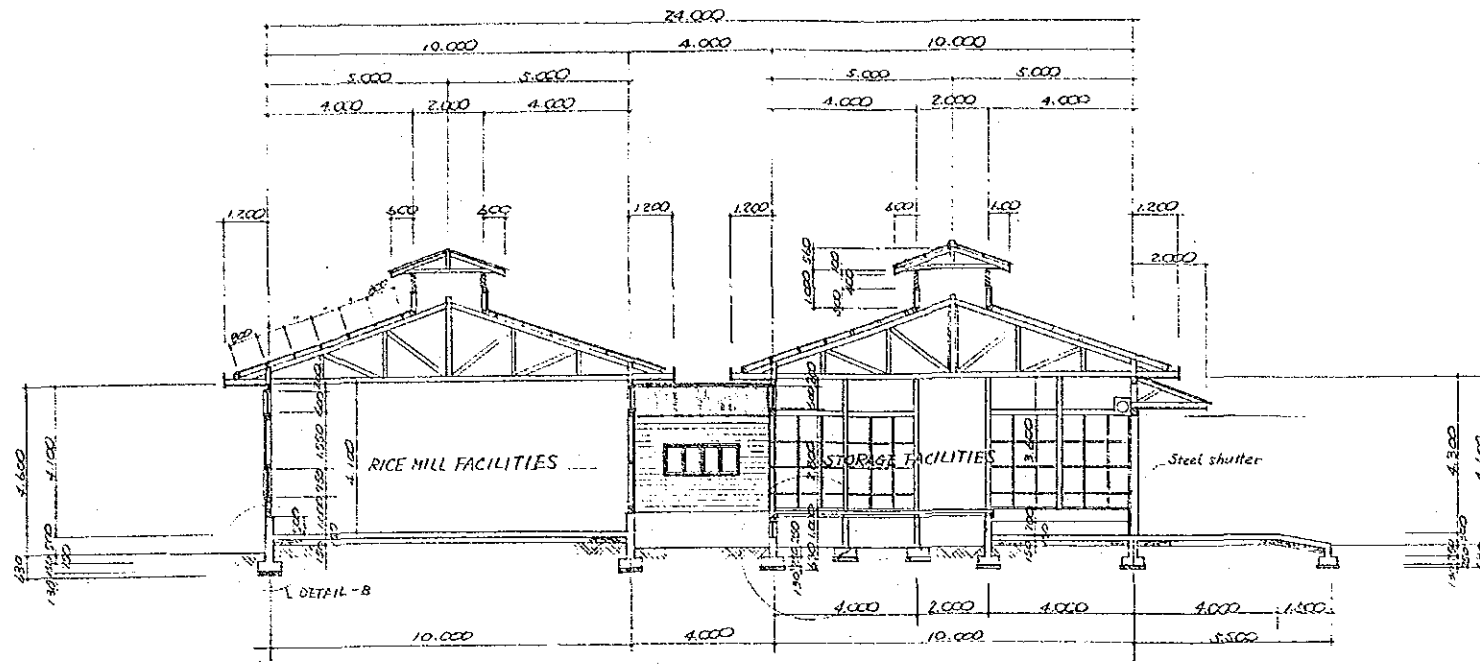


SECTION OF PIPELINE INSTALLATION UNDER THE ROADS

- LEGEND**
- : SHALLOW WELL WITH HAND PUMP
  - : DEEPWELL WITH MOTORED PUMP
  - : REGULATING & ELEVATED WATER TANKS
  - ▣ : DEEPWELL & WATER TANKS
  - : WATER PIPELINE
  - : WASHING PLACE WITH WATER TAP(S)
  - ⊞ : ELECTRIC TRANSFORMER, 22 KV/380/220V



LAO PEOPLE'S DEMOCRATIC REPUBLIC		
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT		
TITLE OF DRAWING		
RURAL WATER SUPPLY SYSTEM		
GENERAL LAYOUT		
Date	Drawing No.	9001
JAPAN INTERNATIONAL COOPERATION AGENCY		

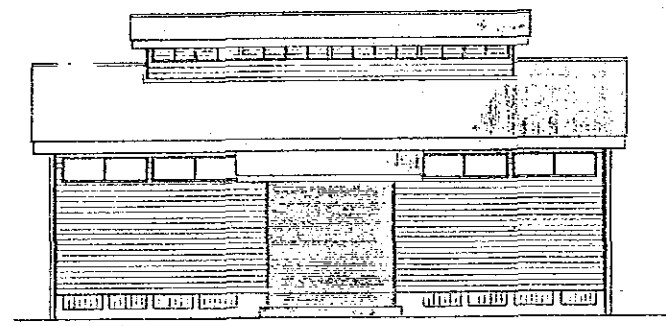


SECTION A-A 5-1/100

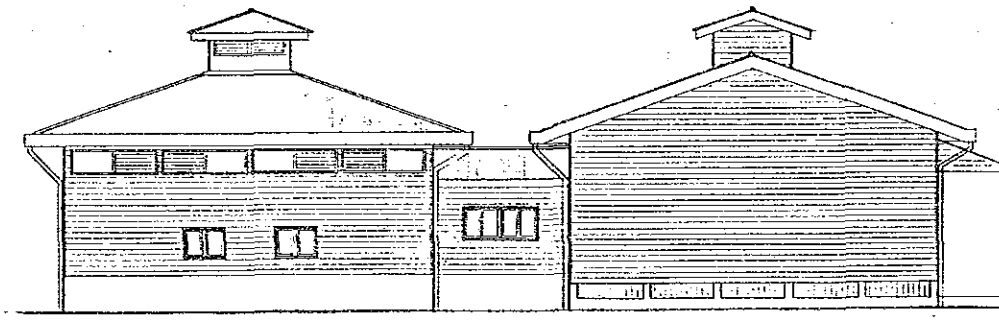
FINISH SCHEDULE.

PLACE	RICE MILL FACILITIES	STORAGE FACILITIES
ROOF	Corrugate asbestos cement sheet	Do
ROOF DRAIN	Galvanized steel sheet O.P finish	Do
DOWNSPOUT	Do	Do
EAVES	Wood O.P finish	Do
FASCIA BOARD	Asbestos cement sheet	Do
EXTERIOR WALL	Wood O.P finish	Do
SKIRTING	Exposed concrete	Do
INTERIOR WALL	None	Plywood 9.0mm thick
FLOOR	Concrete trowel finish	Wooden floor 30mm thick
DOOR	Steel expansion and contract door O.P finish	
WINDOW	Wooden window and louver	Do.
GLASS	Wired glass 6.8 mm thick	Do.
SHUTTER	Steel shutter O.P finish	Do.

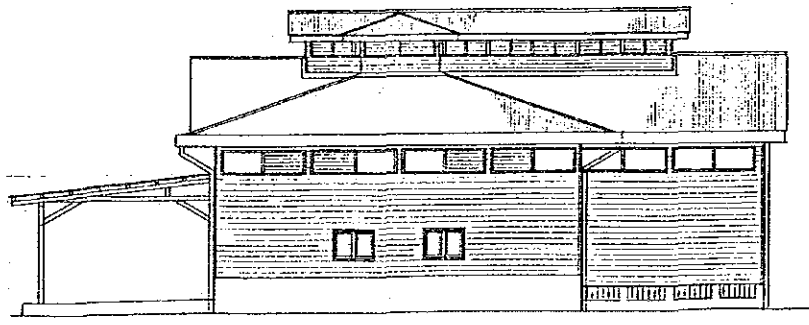
\* Apply antiseptic treatment to ground sill, ledger strip, sleeper, floor joist and foot of column and stud.  
 \* Steel surface shall be oil painted.



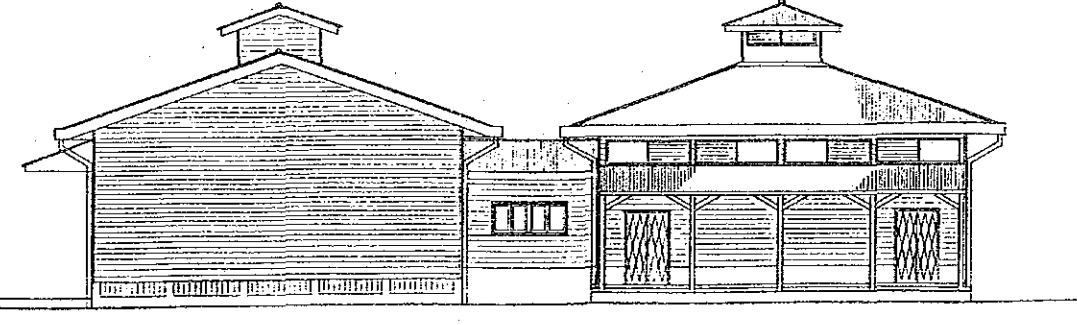
ELEVATION - A



ELEVATION - B

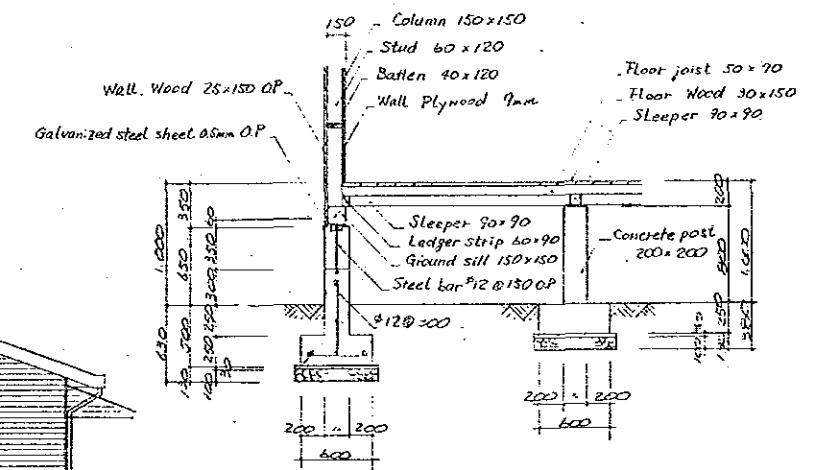


ELEVATION - C

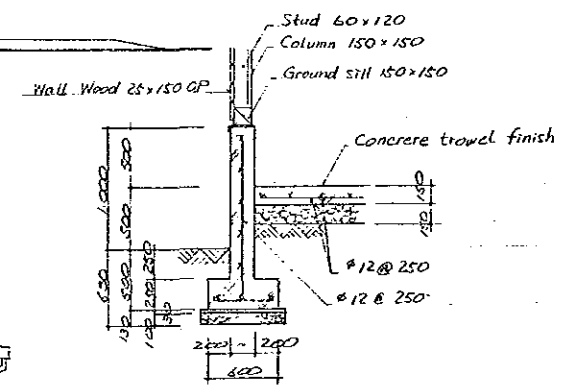


ELEVATION - D

ELEVATION 5-1/100

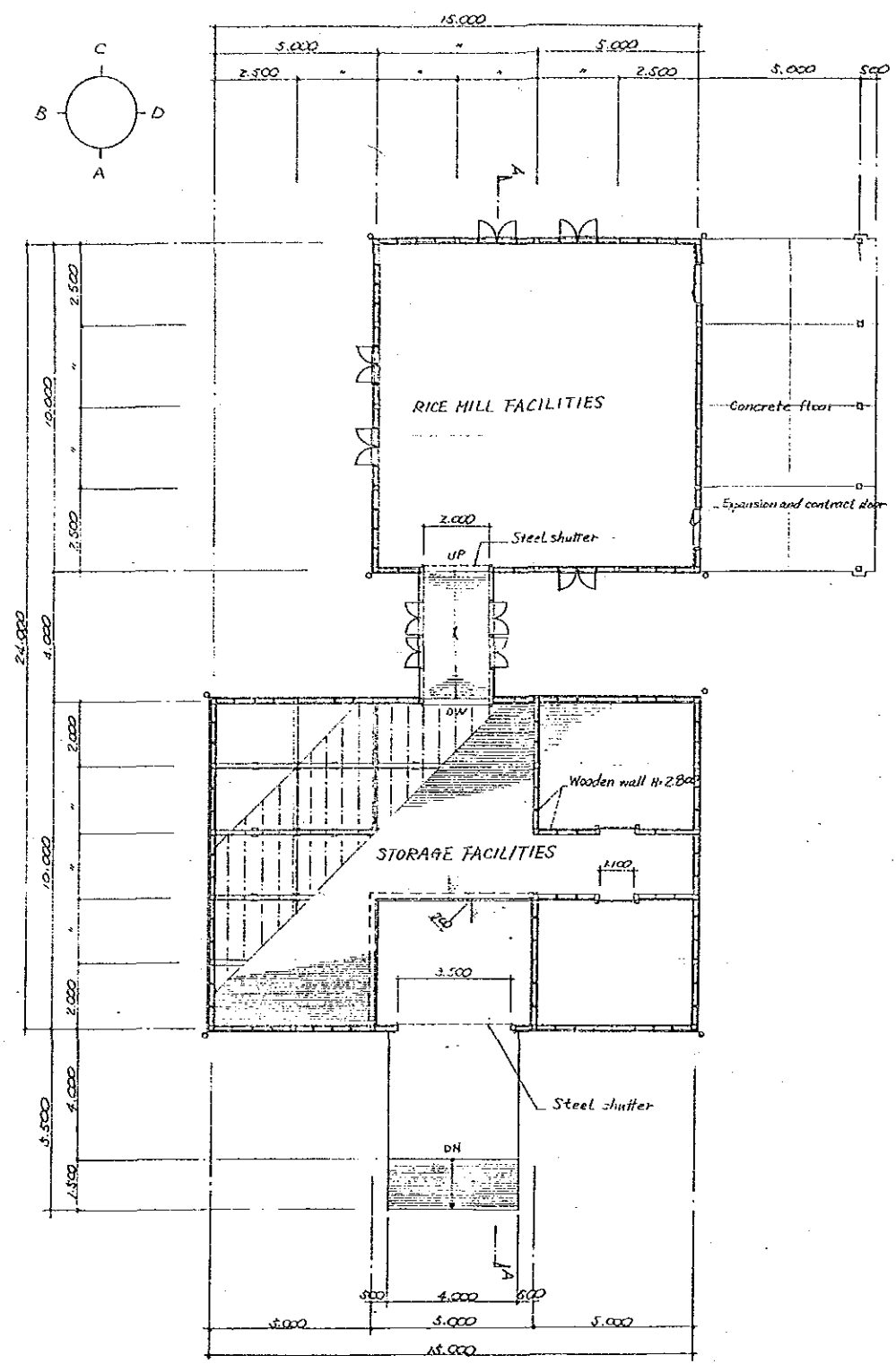
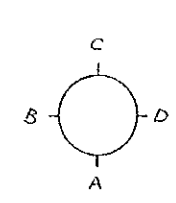


DETAIL A 5-1/30

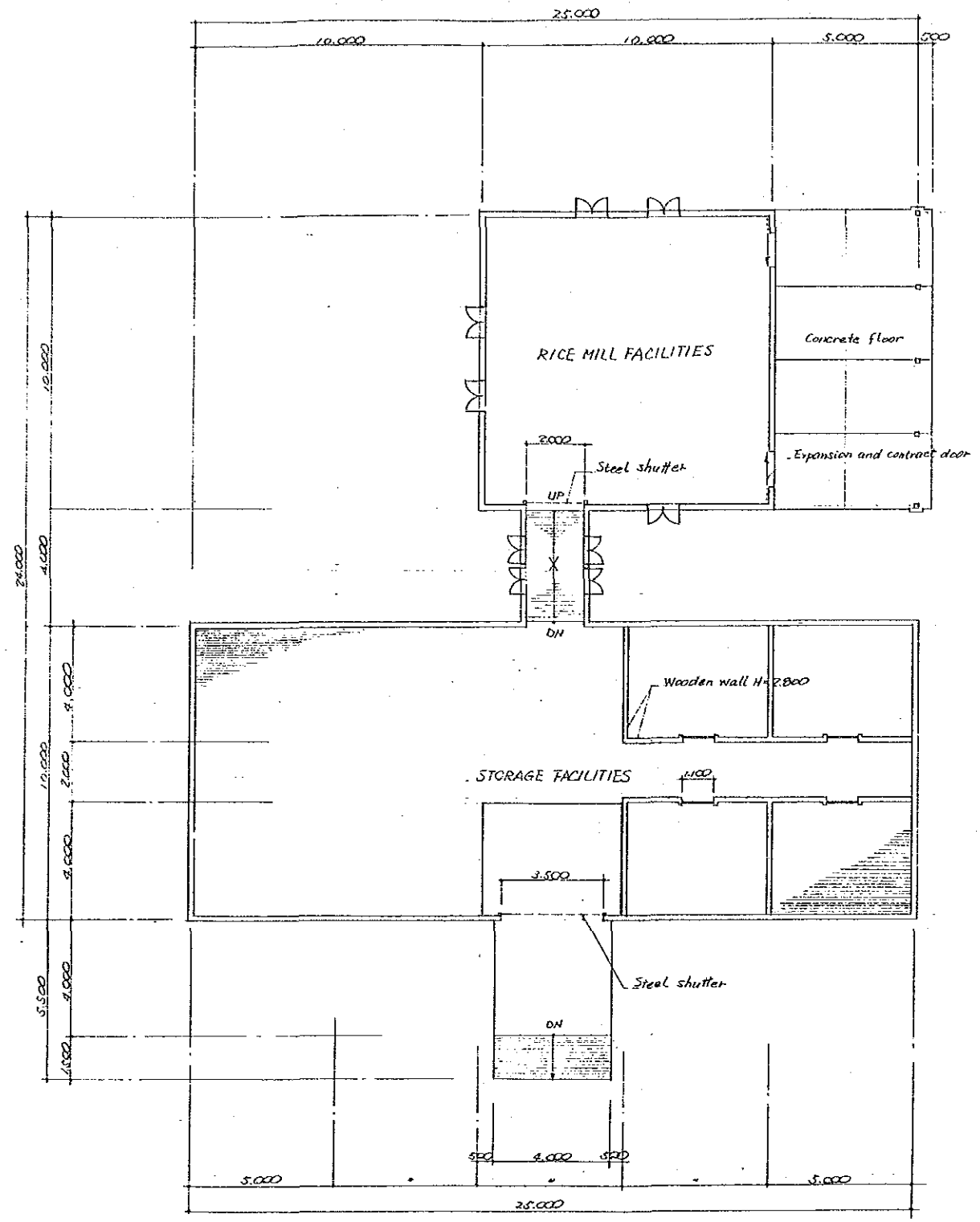


DETAIL - B 5-1/30

LAO PEOPLE'S DEMOCRATIC REPUBLIC		
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT		
TITLE OF DRAWING		
RICE MILL AND STORAGE FACILITIES (1/3)		
Date	Drawing No.	10001
JAPAN INTERNATIONAL COOPERATION AGENCY		

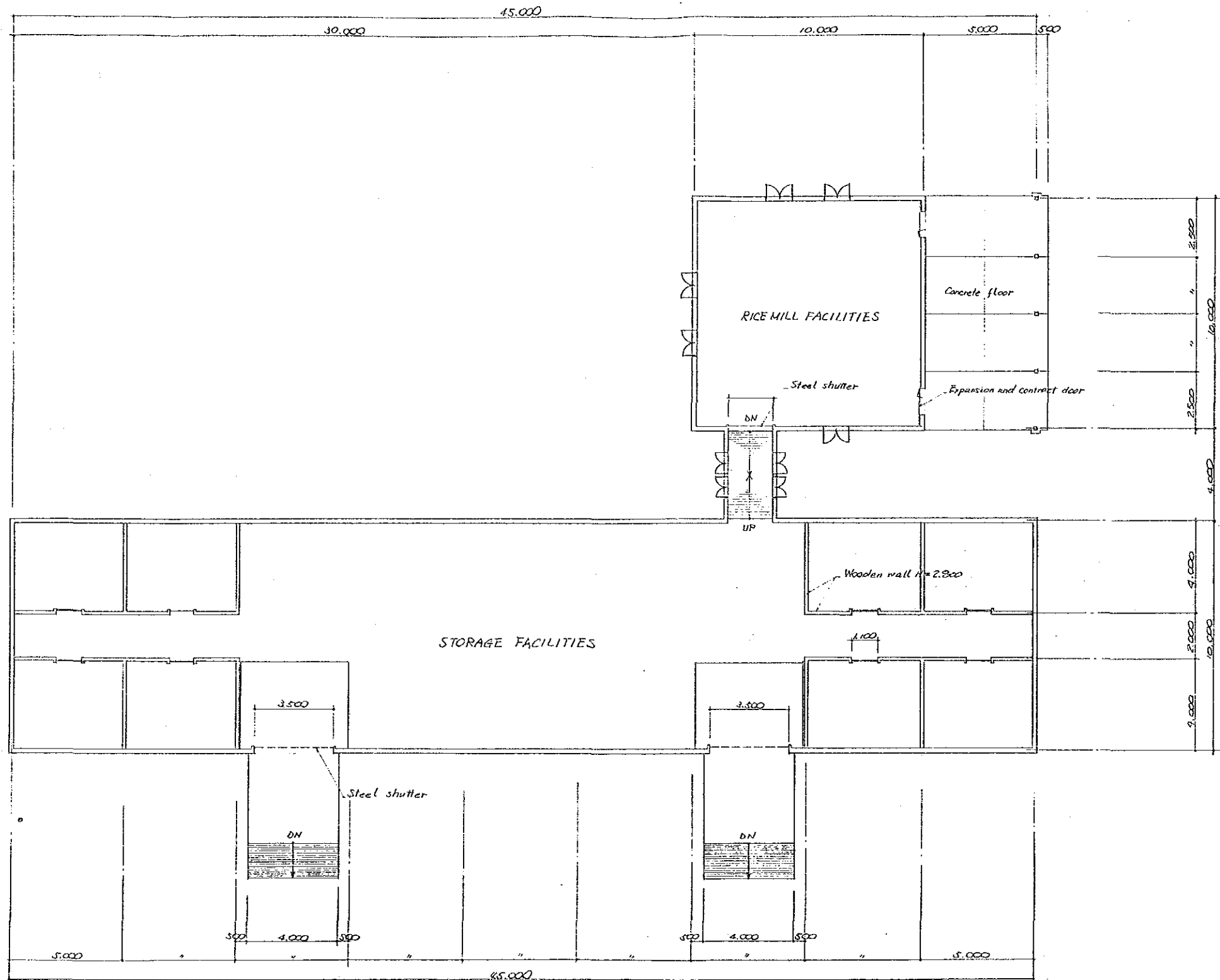


STORAGE FACILITIES AND RICE MILL FACILITIES S=1/100  
 TYPE - I  
 Storage facilities 150m<sup>2</sup>  
 Rice mill facilities 100 m<sup>2</sup>



STORAGE FACILITIES AND RICE MILL FACILITIES S=1/100  
 TYPE - II  
 Storage facilities 250m<sup>2</sup>  
 Rice mill facilities 100 m<sup>2</sup>

LAO PEOPLE'S DEMOCRATIC REPUBLIC		
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT		
TITLE OF DRAWING		
RICE MILL AND STORAGE FACILITIES (2/3)		
Date	Drawing No.	10002
JAPAN INTERNATIONAL COOPERATION AGENCY		



STORAGE FACILITIES AND RICE MILL FACILITIES  $s=1/100$   
 TYPE - III

Storage facilities 150 m<sup>2</sup>  
 Rice mill facilities 100 m<sup>2</sup>

LAO PEOPLE'S DEMOCRATIC REPUBLIC		
THA NGON REHABILITATION AND RURAL DEVELOPMENT PROJECT		
TITLE OF DRAWING		
RICE MILL AND STORAGE FACILITIES (3/3)		
Date	Drawing No.	10003
JAPAN INTERNATIONAL COOPERATION AGENCY		





JICA