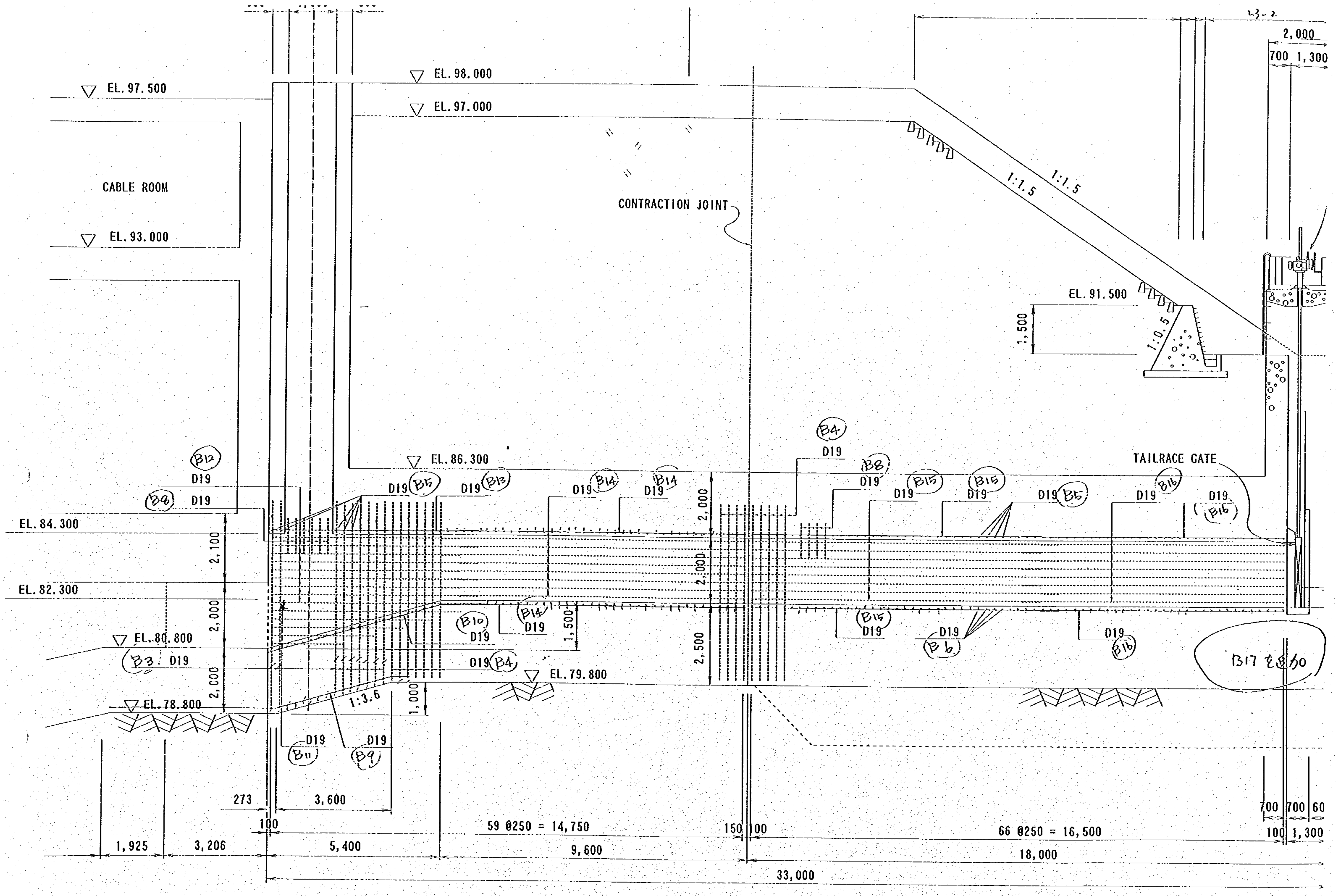
TAILRACE

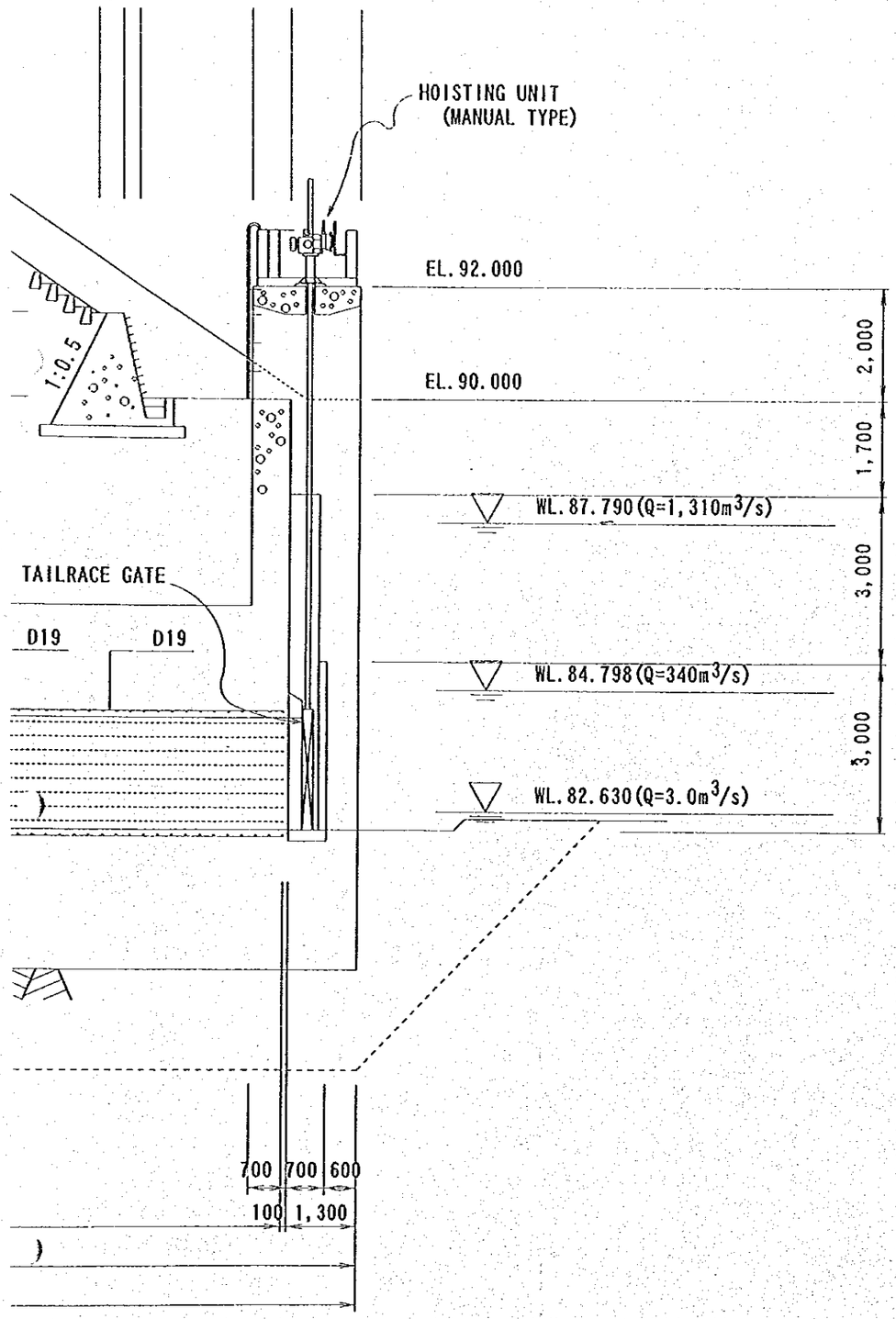
1. REINFORCEMENT SD30

合計 = 12292.5 kg (see P.23-6)



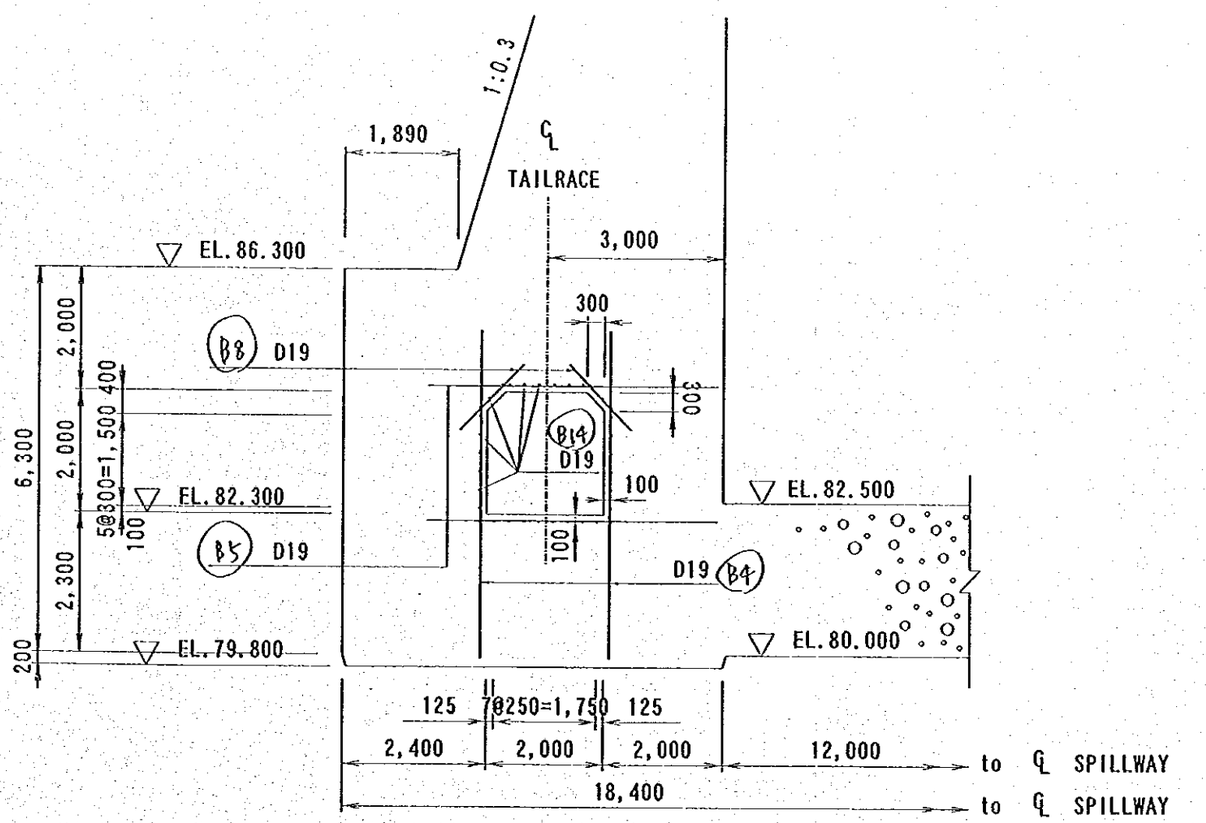
EL. 97.500
EL. 98.000
EL. 97.000
CABLE ROOM
EL. 93.000
CONTRACTION JOINT
1:1.5
1:1.5
2,000
700 1,300
EL. 91.500
1,500
1:0.5
B4
D19
B12
D19
B8
D19
EL. 86.300
D19 B5
D19 B13
D19 B14
B14 D19
B8 D19
B15 D19
B15 D19
D19 B5
D19 B16
D19 B16
TAILRACE GATE
EL. 84.300
2,100
2,000
2,000
EL. 82.300
2,000
B10 D19
B14 D19
1,500
B15 D19
D19 B6
D19 B16
EL. 80.800
B3 D19
D19 B4
EL. 79.800
2,500
2,000
B17を追加
EL. 78.800
1:3.6
1,000
D19 B11
D19 B9
273
3,600
100
59 @250 = 14,750
150 100
66 @250 = 16,500
700 700 60
100 1,300
1,925
3,206
5,400
9,600
18,000
33,000

SECTION 1-1



1

SECTION 2-2



SECTION 3-3

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

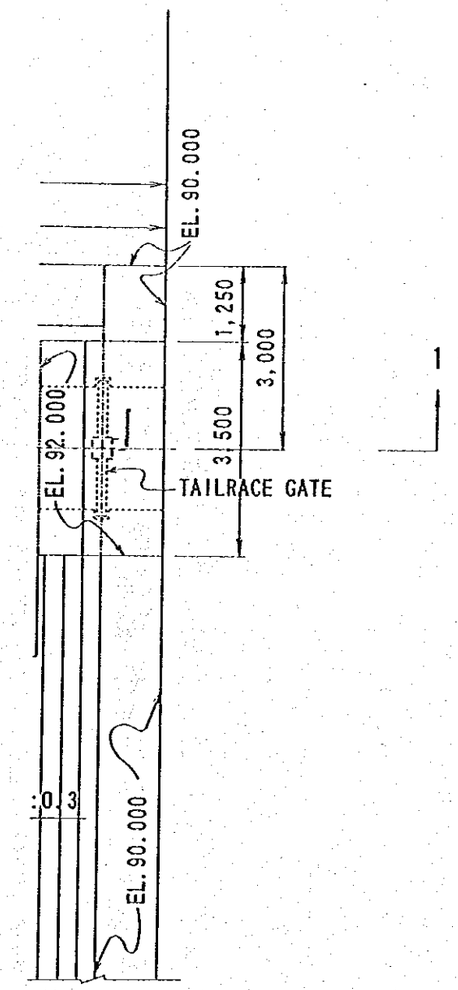
THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

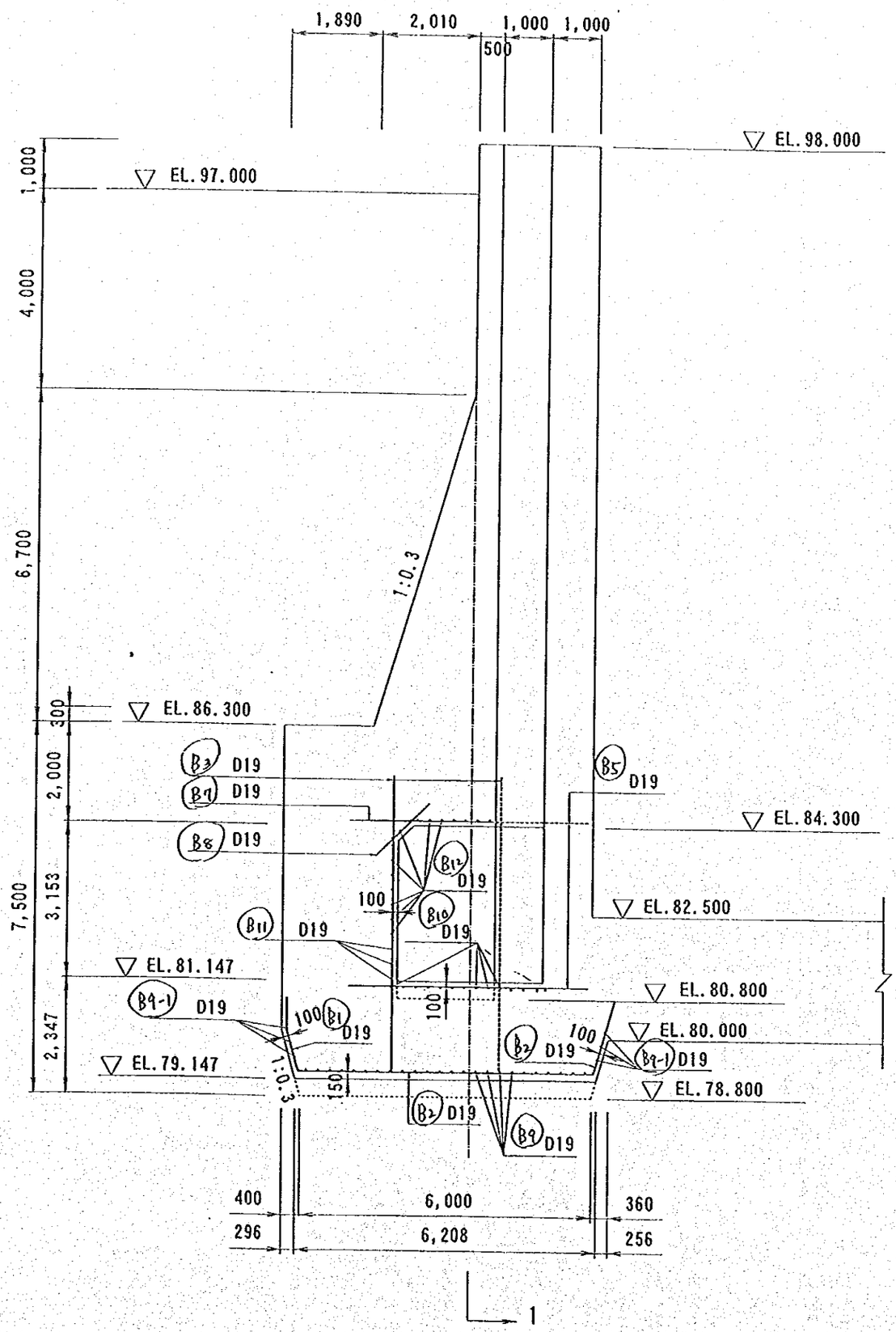
JRATUNSELUNA FLOOD CONTROL PROJECT
COMPONENT : JATIBARANG DAM CONSTRUCTION
JATIBARANG DAM MANAGEMENT COMPLEX
TAILRACE REINFORCEMENT
SECTIONS

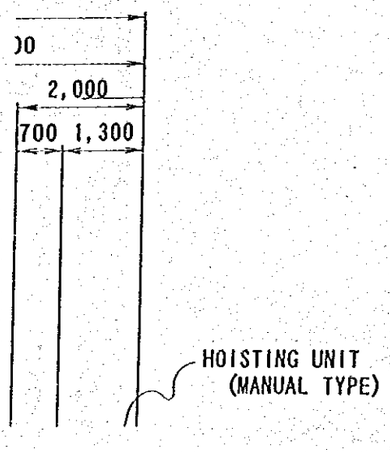
JAPAN INTERNATIONAL COOPERATION AGENCY
CTI ENGINEERING CO.,LTD IN ASSOCIATION WITH
PACIFIC CONSULTANTS INTERNATIONAL AND
PASCO INTERNATIONAL INC.

DESIGNED	
CHECKED	
APPROVED	CHIEF OF PLANNING AND DESIGN
	PROJECT MANAGER

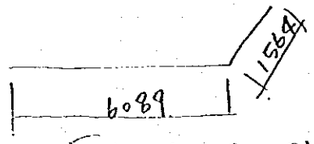
PROVINCE	CENTRAL JAVA
PROJECT NAME	FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
DISTRICT	SEMARANG CITY
DRAWING NO.	
SHEET NO.	
DATE	CONTRACT NO.
	3-71


EL. 90.000
1,250
3,000
3,500
EL. 92.000
TAILRACE GATE
1
:0.3
EL. 90.000

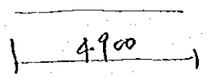

1,890
2,010
1,000
1,000
500
EL. 98.000
EL. 97.000
1,000
4,000
6,700
1:0.3
EL. 86.300
300
2,000
3,153
7,500
2,347
EL. 84.300
EL. 82.500
EL. 81.147
EL. 80.800
EL. 80.000
EL. 79.147
EL. 78.800
1:0.3
100
150
400
296
6,000
6,208
360
256
1


2,000
1,300
HOISTING UNIT
(MANUAL TYPE)

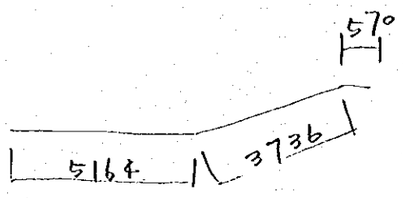
SECTION 2-2



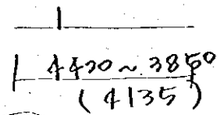
(B2) D19-18×7650



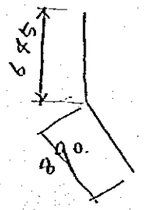
(B5) D19-248×4900



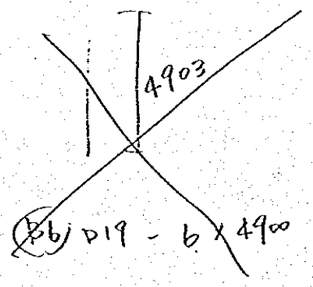
(B9) D19-26×9470



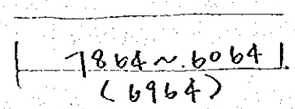
(B13) D19-5×4140



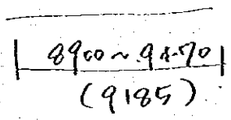
(B1) D19-18×1540



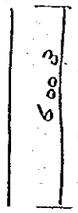
(B6) D19-6×4900



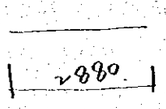
(B9-1) D19-6×6960



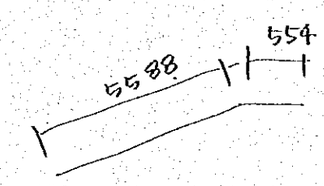
(B14) D19-34×9190



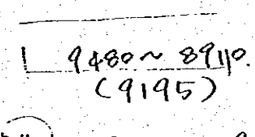
(B3) D19-24×6000



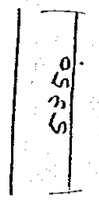
(B7) D19-6×2820



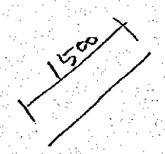
(B10) D19-14×6140



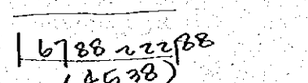
(B15) D19-34×9200



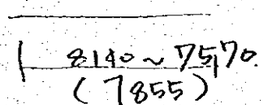
(B4) D19-24×5350



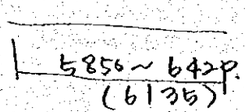
(B8) D19-248×1500



(B11) D19-10×4540



(B16) D19-34×7860



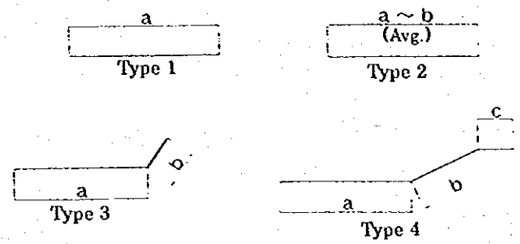
(B12) D19-17×6140

No.	Dia.	Length (mm)	Nos.	Unit Weight (kg/m)	One Weight (kg)	Weight (kg)	Remark
B1	D19	1540	18	2.23	3.434	61.8	
B2	D19	7650	18	2.23	17.060	307.1	
B3	D19	6000	24	2.23	13.380	321.1	
B4	D19	5350	282	2.23	11.931	3364.5	
B5	D19	4900	306	2.23	10.927	3343.7	
B6							
B7	D19	2880	6	2.23	6.422	38.5	
B8	D19	1500	306	2.23	3.345	1023.6	
B9	D19	9470	26	2.23	21.118	549.1	
B9-1	D19	6960	6	2.23	15.521	93.1	
B10	D19	6140	14	2.23	13.692	191.7	
B11	D19	4540	10	2.23	10.124	101.2	
B12	D19	6140	17	2.23	13.692	232.8	
B13	D19	4140	5	2.23	9.232	46.2	
B14	D19	9190	34	2.23	20.494	696.8	
B15	D19	9200	34	2.23	20.516	697.5	
B16	D19	7860	34	2.23	17.528	596.0	
B17	D19	8280	34	2.23	18.464	627.8	

D13	0.0	kg
D19	12292.5	kg
D22	0.0	kg
D25	0.0	kg
Total	12292.5	kg

No.	Dia.	Length (mm)	Nos.	Unit Weight (kg/m)	One Weight (kg)	Weight (kg)	Remark

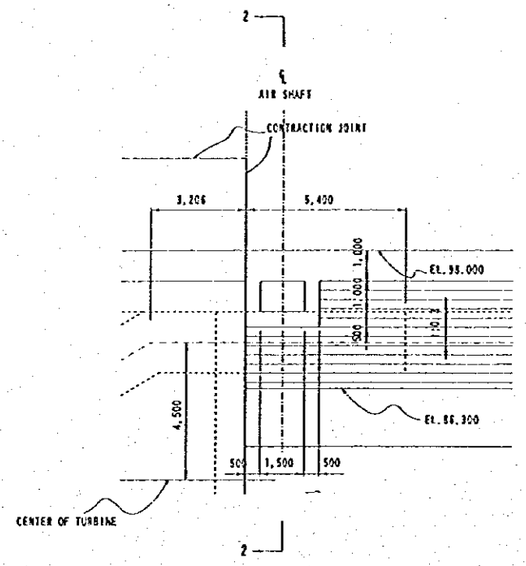
No.	Dia.	Length (mm)	Nos.	Unit Weight (kg/m)	One Weight (kg)	Weight (kg)	Remark



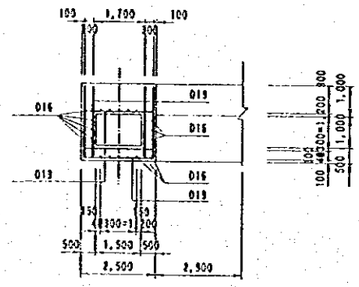
No.	Type	D	Nos.	Length(cm)	a	b	c	d	e	f	R	(Ave.)
B1	3	D19	18	1540	880	645						
B2	3	D19	18	7650	6089	1564						
B3	2	D19	24	6000	6003							
B4	2	D19	282	5350	5350							
B5	2	D19	305	4900	4900							
B6												
B7	2	D19	6	2880	2880							
B8	2	D19	305	1500	1500							
B9	4	D19	26	9470	5164	3736	570					
B9-1	1	D19	6	6960	7864	6064						6964
B10	3	D19	14	6140	5588	554						
B11	1	D19	10	4540	6788	2288						4538
B12	1	D19	17	6140	6820	5850						6135
B13	1	D19	5	4140	4420	3850						4135
B14	1	D19	34	9190	9470	8930						9185
B15	1	D19	34	9200	9480	8910						9195
B16	1	D19	34	7860	8140	7570						7855
B17	1	D19	34	8280	8280							

No.	Type	D	Nos.	Length(cm)	a	b	c	d	e	f	R	(Ave.)

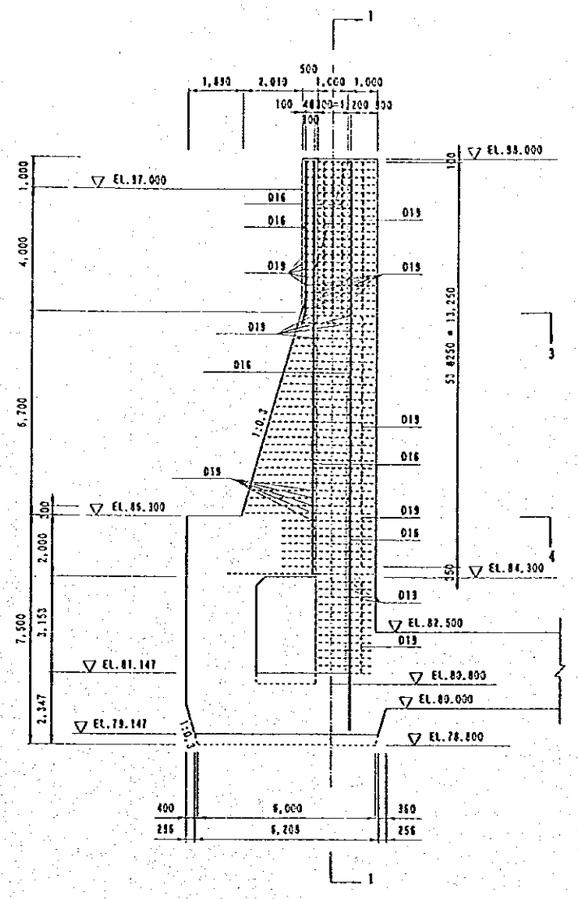
No.	Type	D	Nos.	Length(cm)	a	b	c	d	e	f	R	(Ave.)



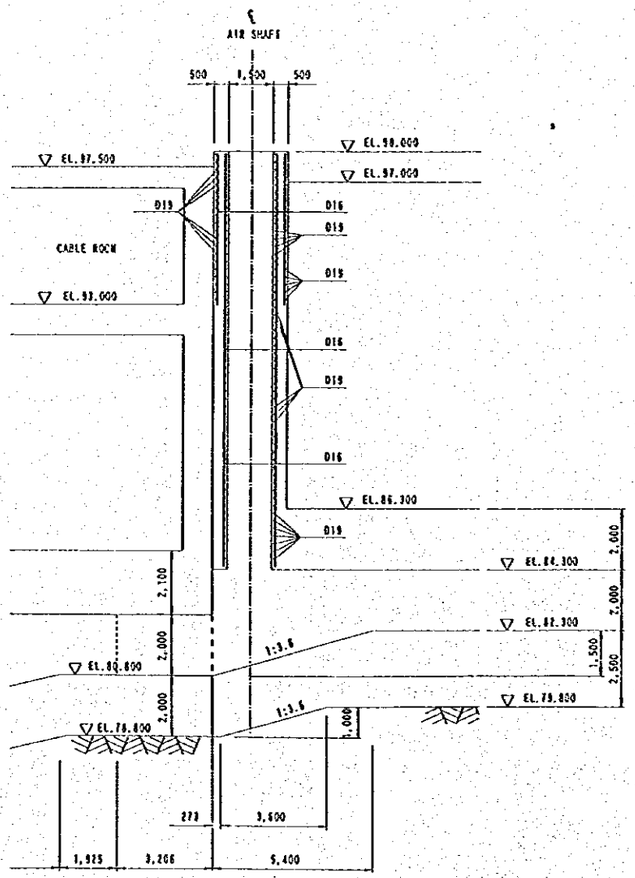
PLAN



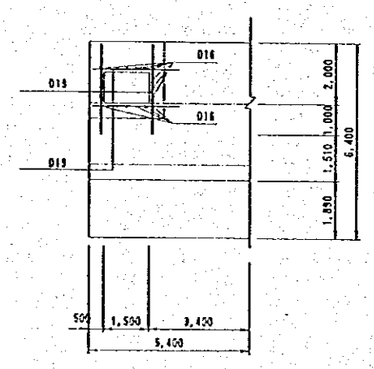
SECTION 3-3



SECTION 2-2



SECTION 1-1



SECTION 4-4

SCALE A 0 5 10 m

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

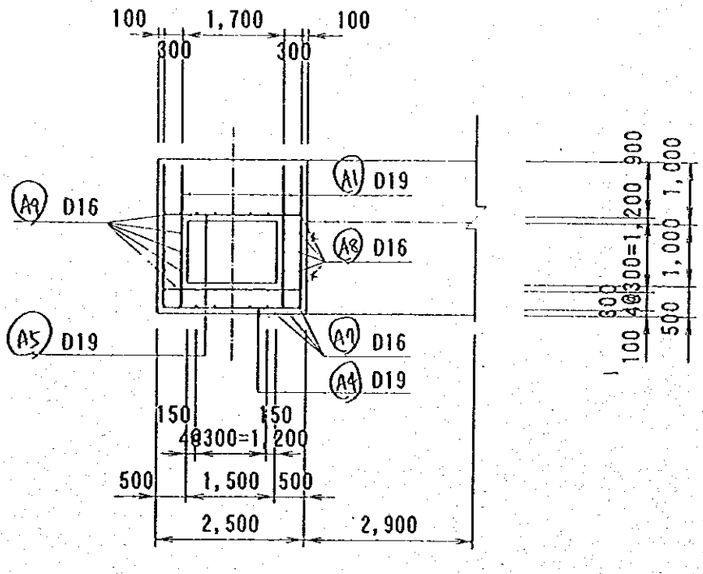
THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

JRATUNSELUNA FLOOD CONTROL PROJECT
COMPONENT : JATIBARANG DAM CONSTRUCTION
JATIBARANG DAM MANAGEMENT COMPLEX
AIR SHAFT REINFORCEMENT SECTIONS

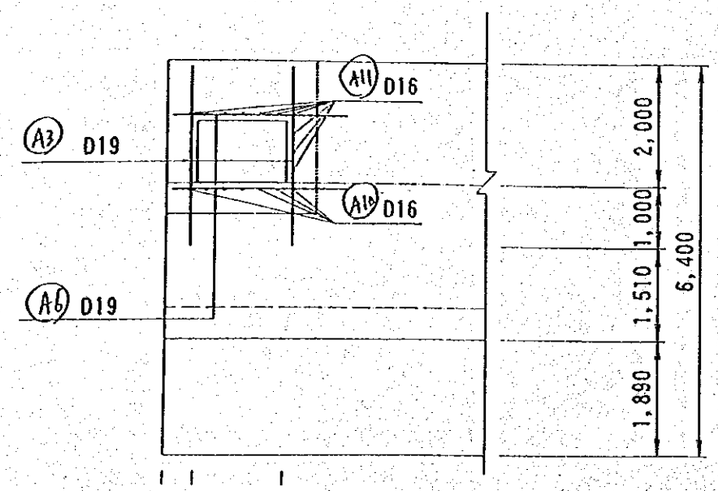
3 - 76

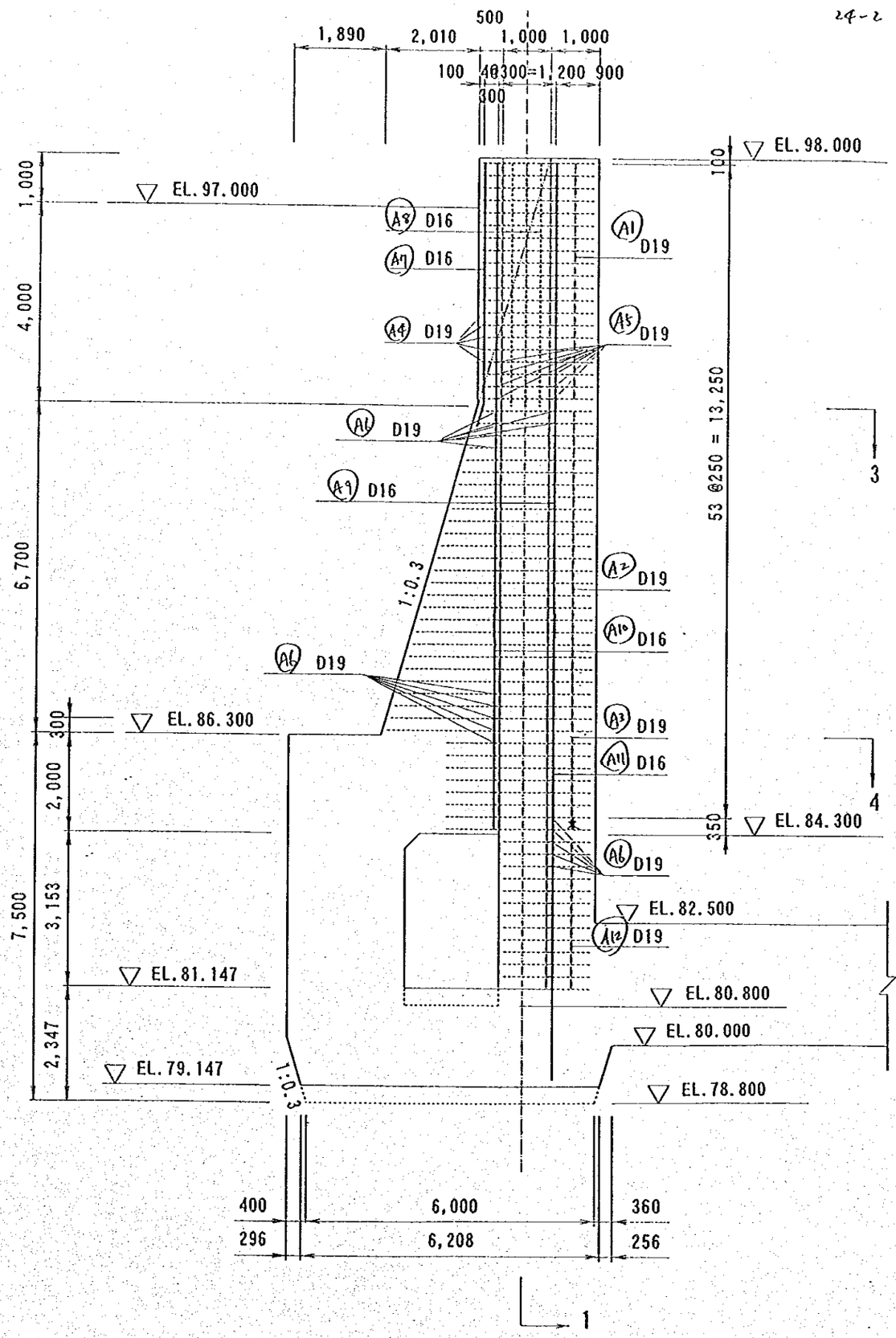
JAPAN INTERNATIONAL COOPERATION AGENCY
DESIGNED
CHECKED
APPROVED
CHIEF OF PLANNING AND DESIGN
PROJECT MANAGER

PROVINCE CENTRAL JAVA
PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
DISTRICT SEMARANG CITY
DRAWING NO. A1-
SHEET NO.
DATE CONTRACT NO.

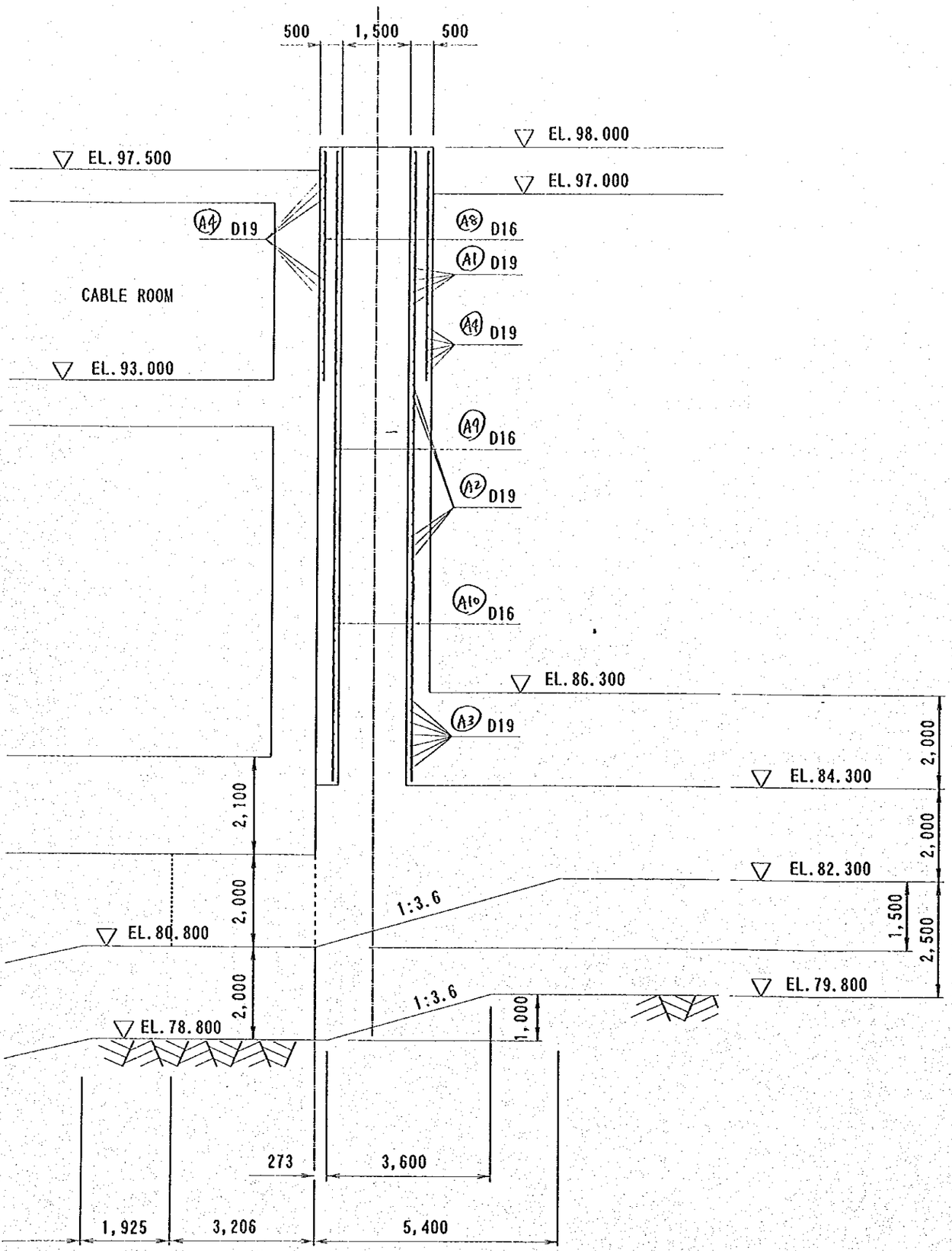


SECTION 3-3

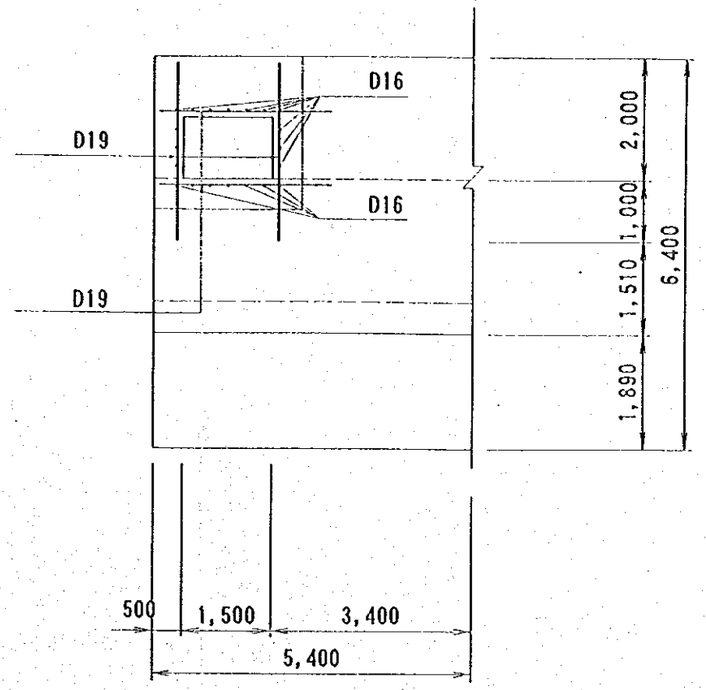




SECTION 2-2



SECTION 1-1



SECTION 4-4

SCALE A 0 5

(A1) D19 - 40 × 2300.

2300

形状 1

(A2) D19 - 54 × 3300

2326~4 | ×16
(3,301)

形状 2.

(A3) D19 - 14 × 4400.

4400

(A4) D19 - 20 × 6900

2300

2300

形状 3.

(A5) 40 - D19 × 2,300

2300

(A6) 82 - D19 × 2900

2900

4878

4880

(A7) 9 - D16 × 5330.

形状 4.

9600

(A9) 24 - D16 × 9,600

4900

(A8) 6 - D16 × 4900.

4380

(A10) 7 - D16 × 4380

9480

(A11) 13 - D16 × 9480.

3471

(A12) 7 - D16 × 3470

1800

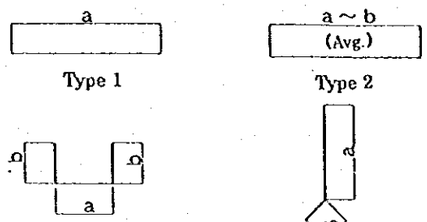
(A12) D19 - 26 × 1,800

No.	Dia.	Length (mm)	Nos.	Unit Weight (kg/m)	One Weight (kg)	Weight (kg)	Remark
A1	D19	2300	40	2.23	5.129	205.2	
A2	D19	3300	54	2.23	7.359	397.4	
A3	D19	4400	14	2.23	9.812	137.4	
A4	D19	6900	20	2.23	15.387	307.7	
A5	D19	2300	40	2.23	5.129	205.2	
A6	D19	2900	82	2.23	6.467	530.3	
A7	D16	5330	9	1.58	8.421	75.8	
A8	D16	4900	6	1.58	7.742	46.5	
A9	D16	9600	24	1.58	15.168	364.0	
A10	D16	4380	7	1.58	6.920	48.4	
A11	D16	5480	13	1.58	8.658	112.6	
A12	D19	1800	26	2.23	4.014	104.4	

D16	647.3 kg
D19	1887.6 kg
Total	2534.9 kg

No.	Dia.	Length (mm)	Nos.	Unit Weight (kg/m)	One Weight (kg)	Weight (kg)	Remark

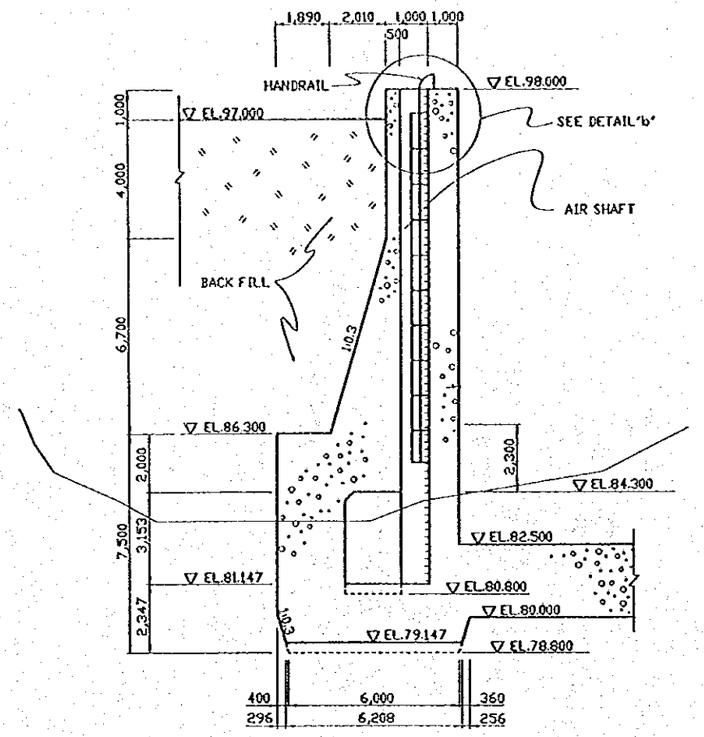
No.	Dia.	Length (mm)	Nos.	Unit Weight (kg/m)	One Weight (kg)	Weight (kg)	Remark

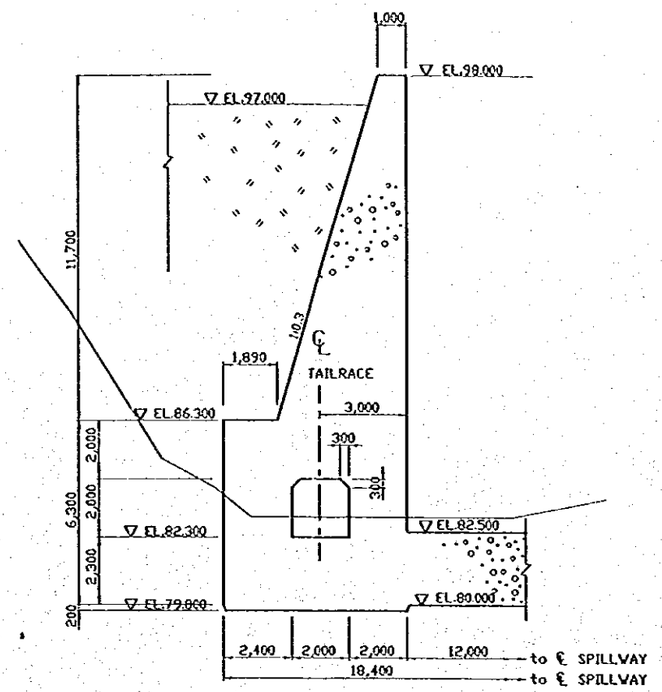


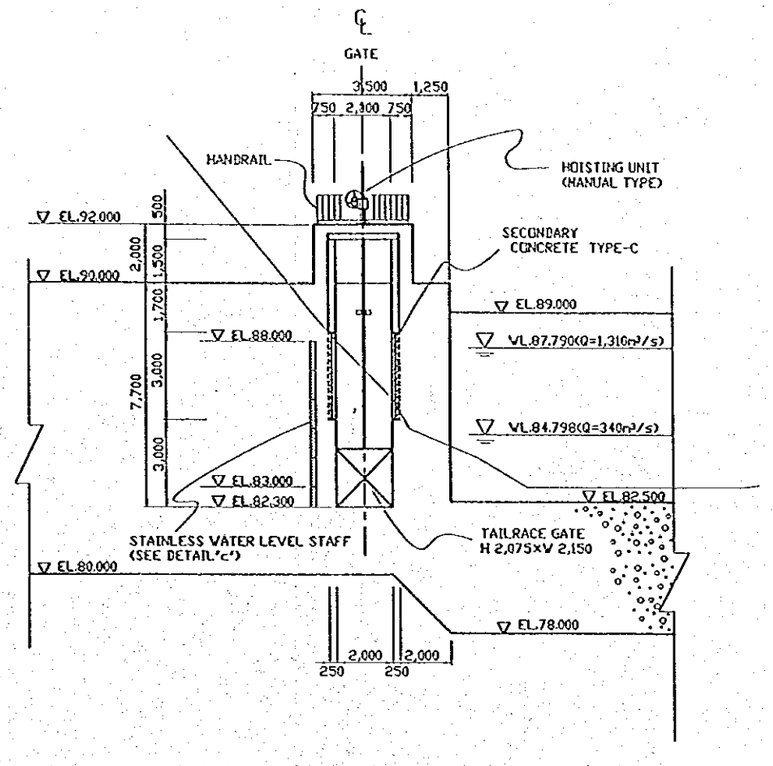
No.	Type	D	Nos.	Length(cm)	a	b	c	d	e	f	R	(Ave.)
A1	1	D19	40	2300	2300							
A2	2	D19	54	3300	4276	2326						3301
A3	1	D19	14	4400	4400							
A4	3	D19	20	6900	2300	2300						
A5	1	D19	40	2300	2300							
A6	1	D19	32	2900	2900							
A7	1	D16	9	5330	4843	450						
A8	1	D16	6	4900	4900							
A9	1	D16	24	9600	9600							
A10	1	D16	7	4380	4380							
A11	1	D16	13	5480	5480							
A12	1	D19	26	1800	1800							

No.	Type	D	Nos.	Length(cm)	a	b	c	d	e	f	R	(Ave.)

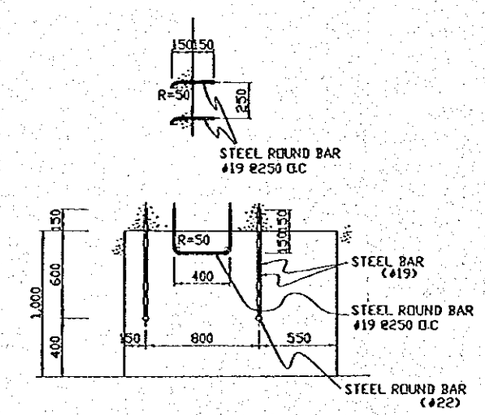
No.	Type	D	Nos.	Length(cm)	a	b	c	d	e	f	R	(Ave.)





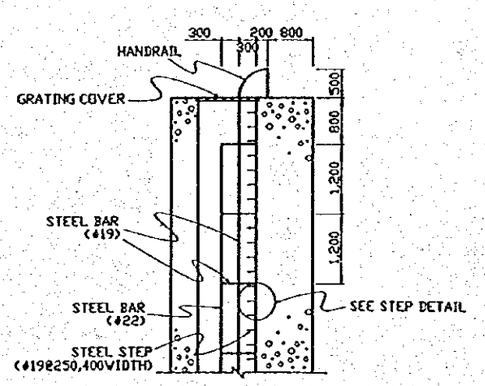


SECTION B-B
SCALE A



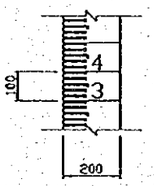
STEP DETAIL
SCALE C

SECTION C-C
SCALE A



DETAIL 'b'
SCALE B

SECTION D-D
SCALE A



DETAIL 'c'

SCALE A 0 5 10 m

SCALE B 0 1 2 3 4 5 m

SCALE C 0 0.5 1 1.5 2 m

REFERENCE DRAWINGS

JD-PI-HS-St-6 POWERHOUSE AND TAILRACE-GENERAL PLAN
JD-PI-HS-St-7 POWERHOUSE AND TAILRACE-CONCRETE OUTLINE-PROFILE
JD-PI-HS-St-9 POWERHOUSE AND TAILRACE-TAILRACE GATE

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

JRATUNSELUNA FLOOD CONTROL PROJECT
COMPONENT : JATIBARANG DAM CONSTRUCTION
JATIBARANG DAM MANAGEMENT COMPLEX
POWERHOUSE AND TAILRACE
CONCRETE OUTLINE
SECTIONS

JAPAN INTERNATIONAL COOPERATION AGENCY
CTI ENGINEERING CO.,LTD
PACIFIC CONSULTANTS INTERNATIONAL and
PASCO INTERNATIONAL INC.

DESIGNED
CHECKED
APPROVED
CHIEF OF PLANNING AND DESIGN
PROJECT MANAGER

PROVINCE: CENTRAL JAVA
PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
DISTRICT: SEMARANG CITY
DRAWING NO. JD-PI-HS-St-8
SHEET NO.
DATE
CONTRACT NO.

AIR SHAFT

1. REINFORCEMENT SD30

D16	647.3 kg
D19	1,887.6 kg
計	2,534.9 kg
	2.54 t

2. Miscellaneous

P.24-7

1) Steel round bar (STEP)

$\ell = 1.0^m$, 66個 , φ19

$1.00 \times 2.23^{kgf/m} \times 66 = 147.18^{kg}$

2) Steel bar φ19

φ19 $\ell = 11.90 + 12.70 + 0.75 \times 11 \times 2 = 41.1^m$

$41.1 \times 2.23^{kgf/m} = 91.65^{kg}$

φ22 $12.0 \times 2.98^{kgf/m} \times 2 = 71.52^{kg}$

計 163.17^{kg}

3) Handrail

$\ell = 0.50 \times 2 = 1.00$, $H = 0.50^m$

4) Grating cover

$A = 1.00 \times 1.50 = 1.50^{m^2}$

TAILRACE GATE

1. Secondary Concrete (Type C)

$V_1 = (2.5 \times 0.7 - 2.25 \times 0.24) \times (2.5 + 7.7) = 12.342$

$V_2 = (0.25 \times 0.7 - 0.125 \times 0.24) \times 2 = 0.29$

$V_3 = 2.5 \times 0.7 \times 0.25 = 0.4375$

計 13.07 m³

2. Reinforcement bar (SD30)

4362.6 kg (See P. 25-1)

3. Ladder H=3.00m, φ19

$\ell = 3.20 \times 2 + 0.50 \times 7 + 0.30 \times 3 \times 2 = 11.70$ m

11.70×2.23 kgf/m $= 26.09$ kg

4. Handrail H=1.0m

$L = (2.00 + 3.50) \times 2 = 11.00$ m

5. Water Level gauge

L = 5.70 m

6. Water Stop in Tailrace

3×4 = 12 m

7. Concrete (Type B)

A. 地上部

① 柱 $2.5 \times (0.625 \times 0.7 + 0.5 \times 0.7 + 0.75 \times 0.7) \times 2 = 6.5625\ m^3$

② 天端 $0.5 \times 2.1 + 3.5 = 3.675\ m^3$

B. 地中部

① $(1.25 \times 2.1 + 3.5 \times 2.1 - 2.5 \times 0.7) \times 7.7 = 63.333\ m^3$

② $2.1 \times 6.4 \times 6.3 - 2.5 \times 0.7 \times 4.0 - (2 \times 2 - 0.3 \times 0.3) \times 0.7 \times 2$
$= 72.198\ m^3$

Total $= 145.77\ m^3$

8. Guide Rail and Plate

Rail. $14.2m \times 0.74m \times 47.10\ kg/m^2 \times 2 = 989.8\ kg$.

Plate

[150×75×6.5 : $18.6\ kg/m \times 2.0m \times 6本 = 223.2kg$.

$2.075 \times 2.150 \times 47.10\ kg/m^2 = 210.12\ kg$.

$2.0 \times 0.150 \times 3 \times 47.1\ kg/m^2 = 42.39kg$

$475.71\ kg$

Total 1.466 ton

9. Joint Material. (It should be included in Spillway Portion)

$0.5 \times (0.5 + 4.01) \times 11.7 + 6.4 \times 3.8 + 9.4 \times 2.5 - 2 \times 2 = 70.20\ m^2$

(see Page 25b)

No.	Dia.	Length (mm)	Nos.	Unit Weight (kg/m)	One Weight (kg)	Weight (kg)	Remark
A 1	D19	1900	184	2.23	4.237	779.6	
A 2	D19	12250	32	2.23	27.318	874.2	
A 3	D19	9500	32	2.23	21.185	677.9	
A 4	D19	8050	6	2.23	17.952	107.7	
A 5	D19	4550	54	2.23	10.147	547.9	
A 6	D19	3300	54	2.23	7.359	397.4	
A 7	D19	3300	20	2.23	7.359	147.2	
A8	D19	3300	16	2.23	7.359	117.7	
A8	D16	1700	32	1.58	2.686	86.0	
B1	D16	3600	42	1.58	5.688	238.9	
B2	D16	4400	22	1.58	6.952	152.9	
B3	D16	1900	8	1.58	3.002	24.0	
B4	D16	1600	16	1.58	2.528	40.4	
B5	D16	1350	16	1.58	2.133	34.1	
C1	D13	1800	73	1.04	1.872	136.7	

D13	136.7	kg
D16	576.3	kg
D19	3649.6	kg
Total	4362.6	kg

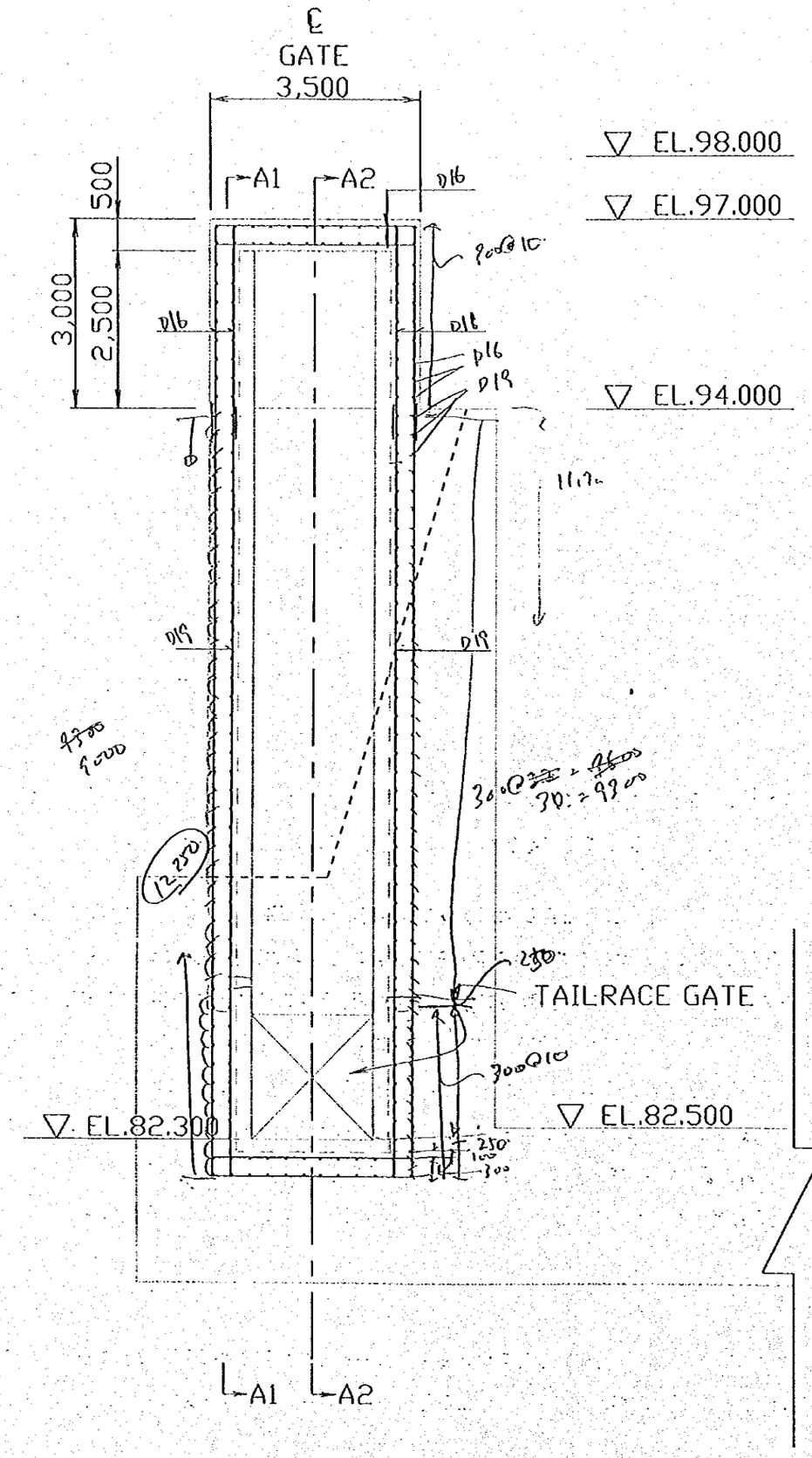
No.	Dia.	Length (mm)	Nos.	Unit Weight (kg/m)	One Weight (kg)	Weight (kg)	Remark

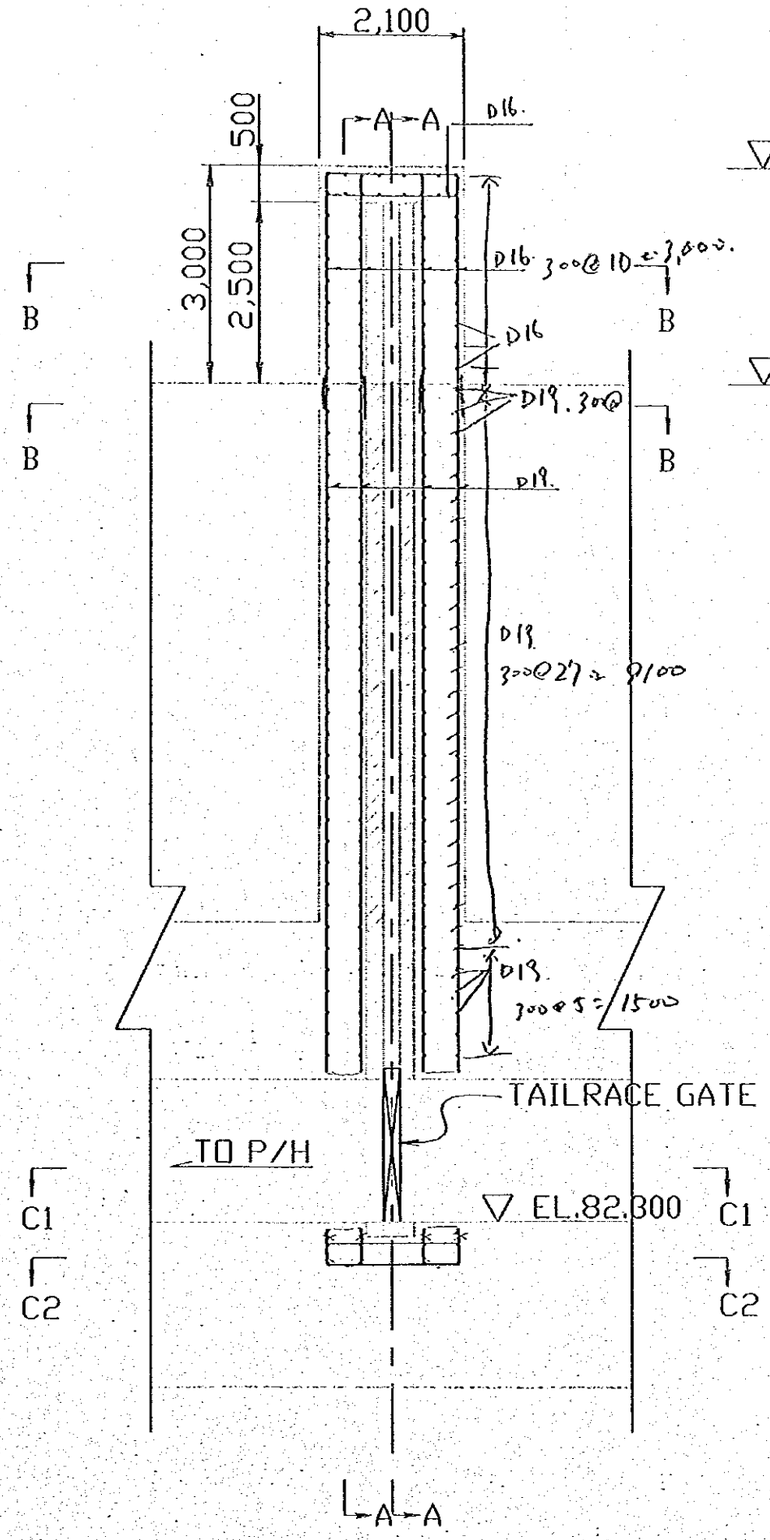
No.	Dia.	Length (mm)	Nos.	Unit Weight (kg/m)	One Weight (kg)	Weight (kg)	Remark

No.	Type	D	Nos.	Length(cm)	a	b	c	d	e	f	R	(Ave.)
A1	2	D19	184	1900	1900							
A2	2	D19	32	12250	12250							
A3	2	D19	32	9500	9500							
A4	2	D19	6	8050	8050							
A5	2	D19	54	4550	4550							
A6	2	D19	54	3300	3300							
A7	2	D19	20	3300	3300							
A8	2	D19	16	3300	3300							
A9	2	D16	32	1700	1700							
B1	2	D16	42	3600	3600							
B2	2	D16	22	6400	6400							
B3	2	D16	8	1900	1900							
B4	2	D16	16	1600	1600							
B5	2	D16	16	1350	1350							
c1	3	D13	73	1800	1790	100						

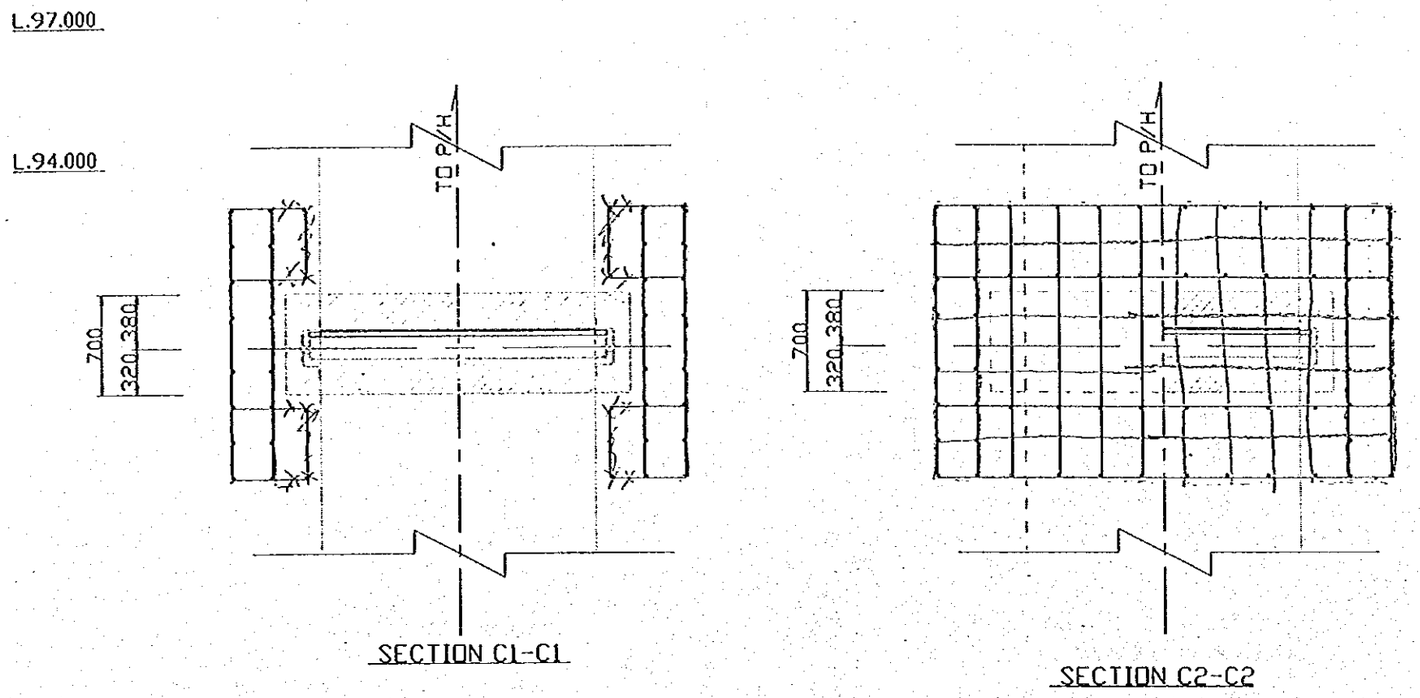
No.	Type	D	Nos.	Length(cm)	a	b	c	d	e	f	R	(Ave.)

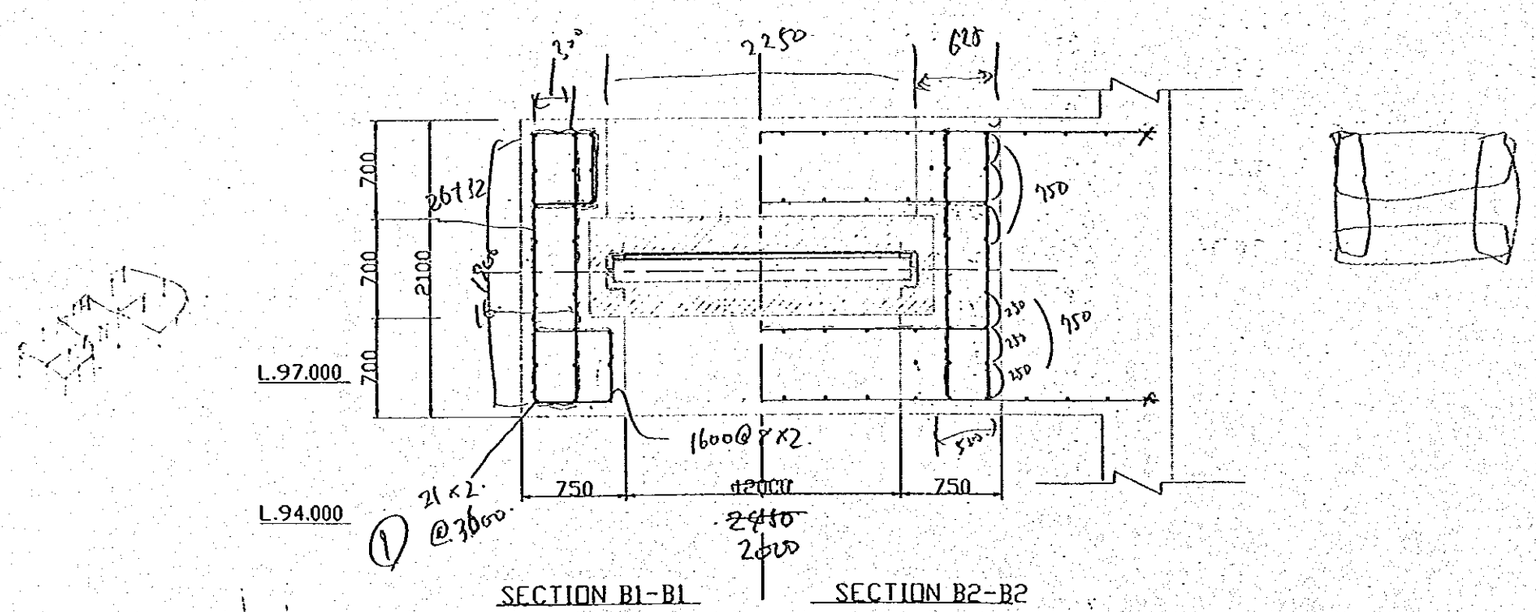
No.	Type	D	Nos.	Length(cm)	a	b	c	d	e	f	R	(Ave.)





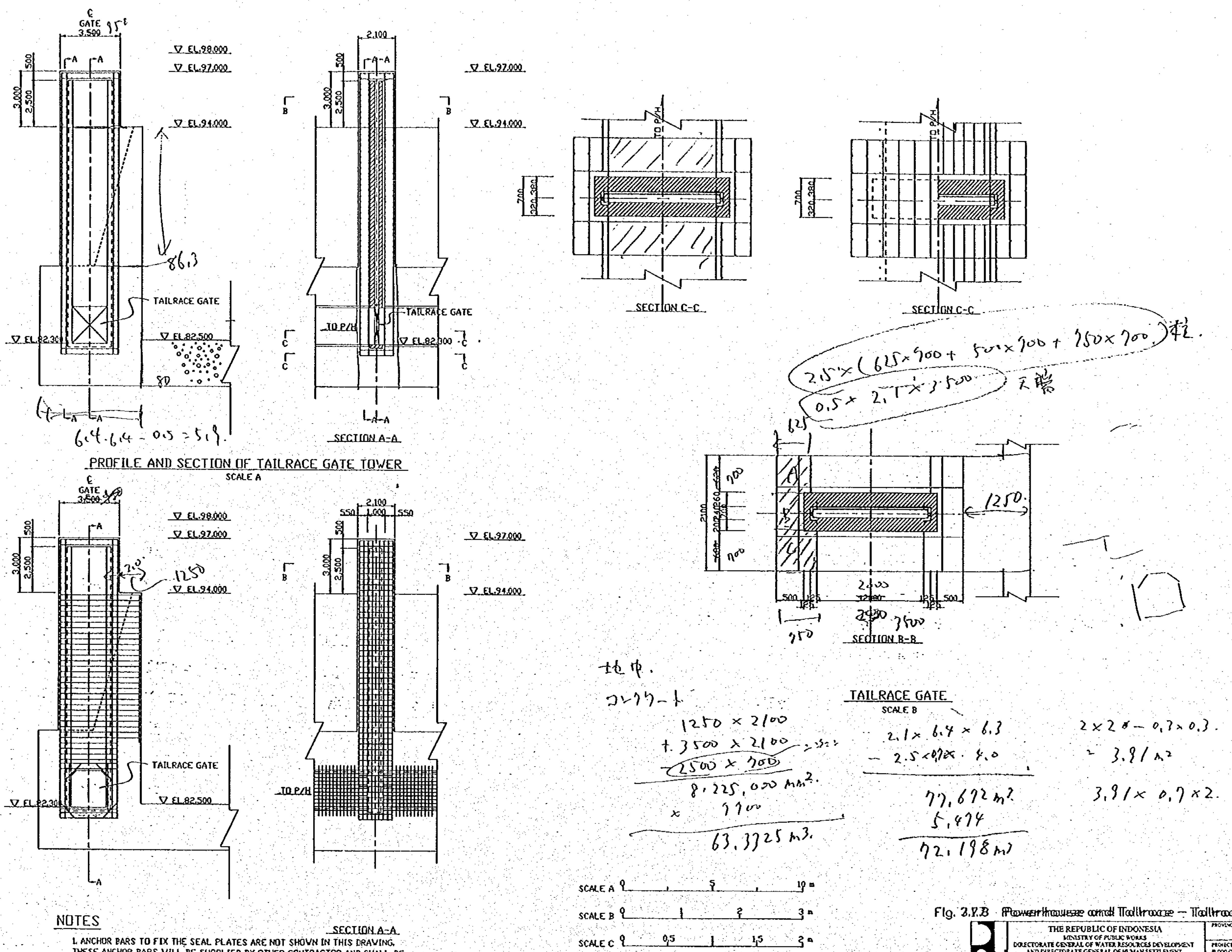
SECTION A1-A1





TAILRACE GATE

SCALE B



NOTES

1. ANCHOR BARS TO FIX THE SEAL PLATES ARE NOT SHOWN IN THIS DRAWING. THESE ANCHOR BARS WILL BE SUPPLIED BY OTHER CONTRACTOR AND SHALL BE INSTALLED BY THE CIVIL CONTRACTOR.

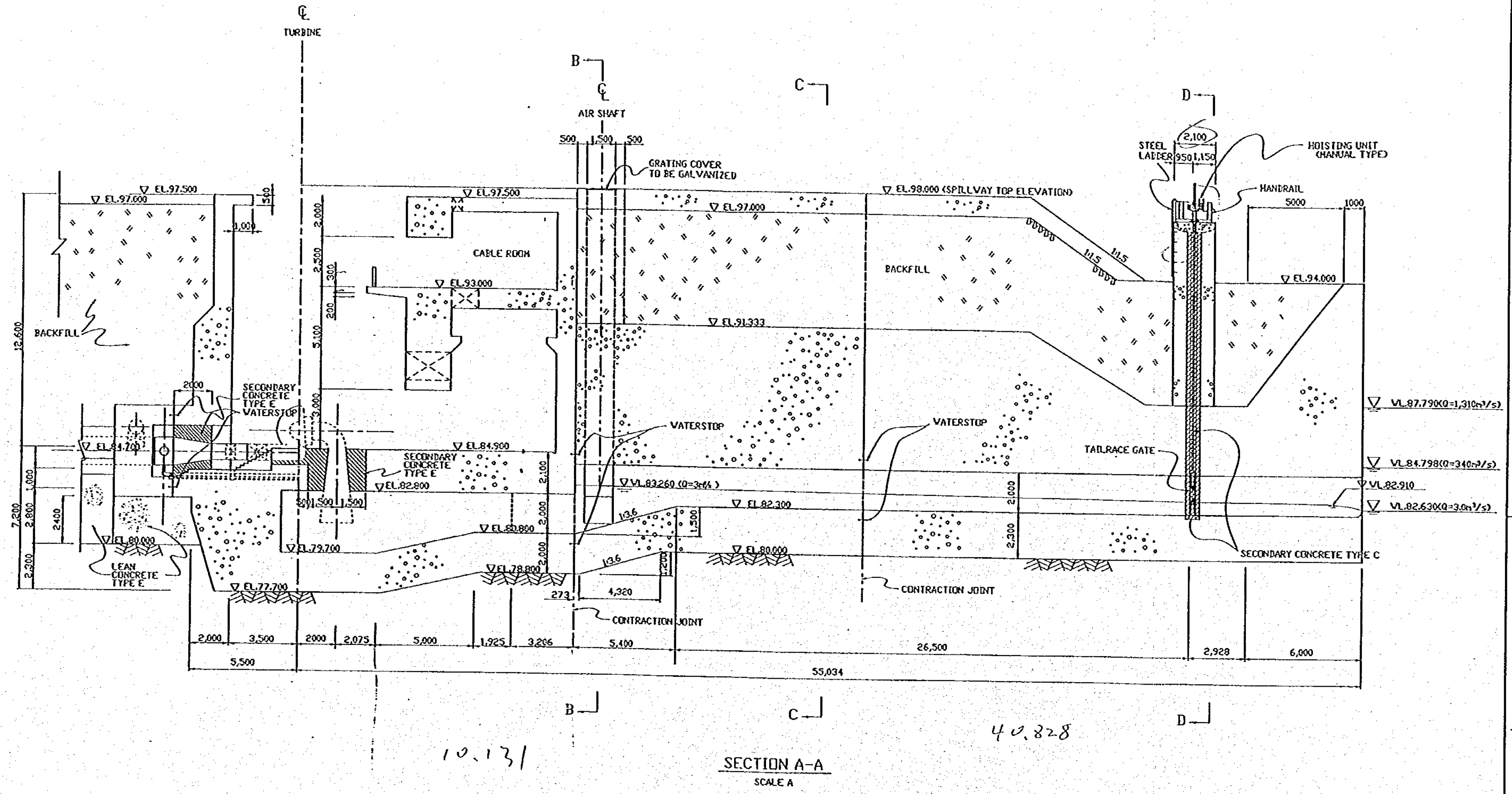
REFERENCE DRAWINGS

JD-P1-HS-St-6 POWERHOUSE AND TAILRACE-GENERAL PLAN
JD-P1-HS-St-7 POWERHOUSE AND TAILRACE-CONCRETE OUTLINE-PROFILE
JD-P1-HS-St-8 POWERHOUSE AND TAILRACE-CONCRETE OUTLINE-SECTIONS

Fig. 3.7.3 Powerhouse and Tailrace – Tailrace Gate

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT	PROVINCE: CENTRAL JAVA
JRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : JATIBARANG DAM CONSTRUCTION JATIBARANG DAM MANAGEMENT COMPLEX POWERHOUSE AND TAILRACE TAILRACE GATE	PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
	DISTRICT: SEMARANG CITY
	DRAWING NO. JD-P1-HS-St-9
JAPAN INTERNATIONAL COOPERATION AGENCY, CTI ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PASCO INTERNATIONAL INC. — DESIGNED / CHECKED	SHEET NO.
APPROVED — CHIEF OF PLANNING AND DESIGN / PROJECT MANAGER	DATE / CONTRACT NO.

NO.	DATE	REVISIONS	SUGGESTED	DESIGNED	APPROVED



10.131

40.828

50.959

SCALE A 0 5 10 m

Fig. 7.7.6 Powerhouse and Tailrace Concrete Outline - Profile

REFERENCE DRAWINGS

JD-P1-HS-St-6 POWERHOUSE AND TAILRACE-GENERAL PLAN
JD-P1-HS-St-8 POWERHOUSE AND TAILRACE-CONCRETE OUTLINE-SECTIONS
JD-P1-HS-St-9 POWERHOUSE AND TAILRACE-TAILRACE GATE

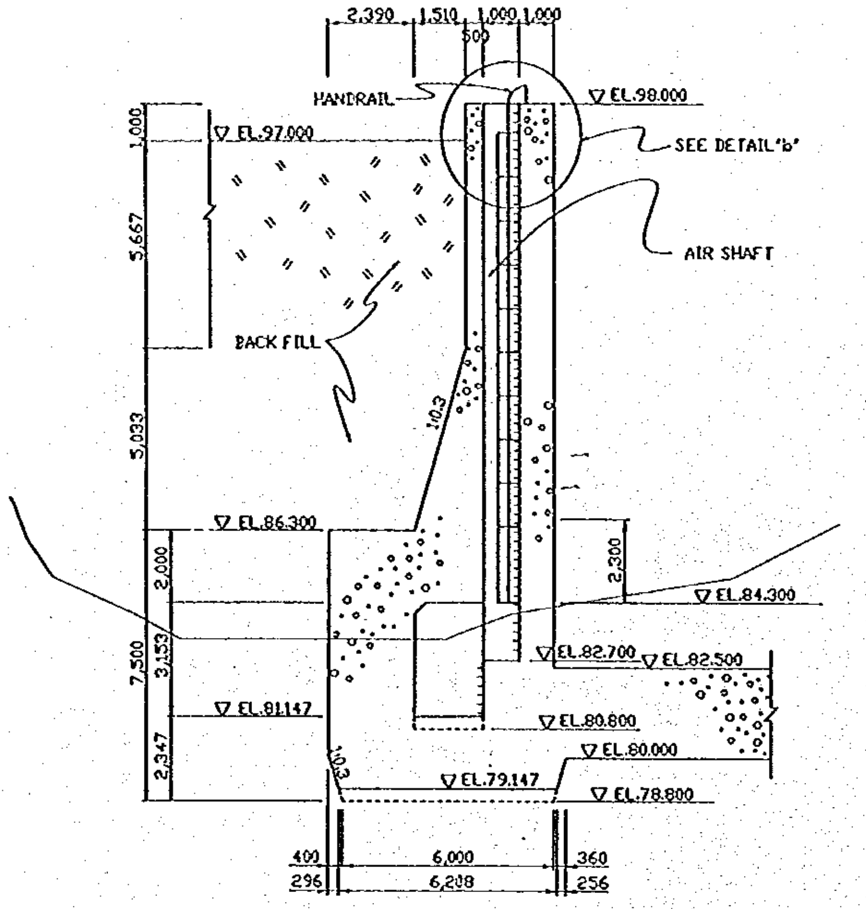
THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

JRATUNSELUNA FLOOD CONTROL PROJECT
COMPONENT : JATIBARANG DAM CONSTRUCTION
JATIBARANG DAM MANAGEMENT COMPLEX
POWERHOUSE AND TAILRACE
CONCRETE OUTLINE
PROFILE

PROVINCE: CENTRAL JAVA
DISTRICT: SEMARANG CITY

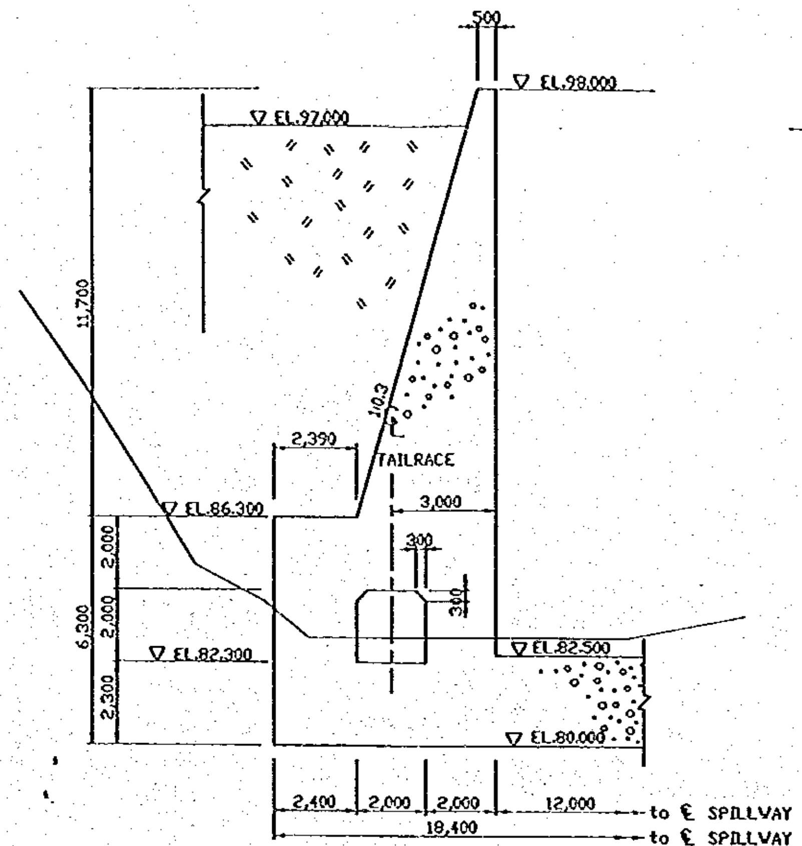
NO. | DATE | REVISIONS | ORIGINATED | DESIGNED | APPROVED

25-7



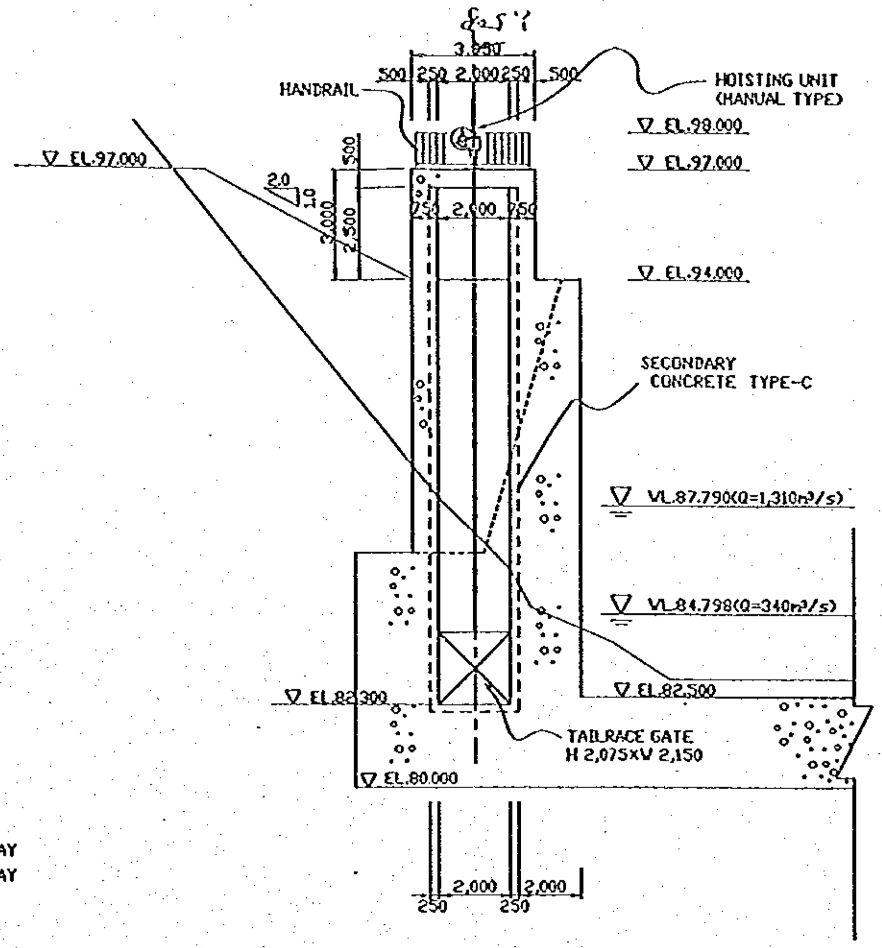
SECTION B-B

SCALE A



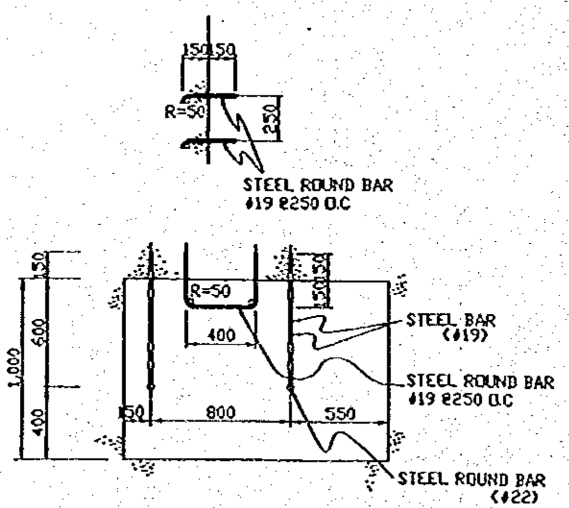
SECTION C-C

SCALE A



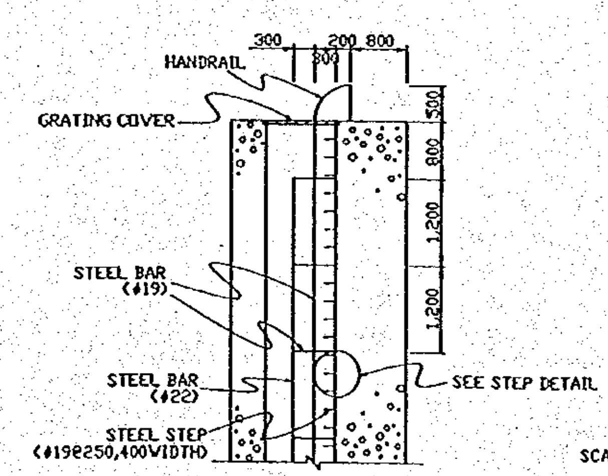
SECTION D-D

SCALE A



STEP DETAIL

SCALE C



DETAIL'b'

SCALE B

SCALE A 0 5 10 m

SCALE B 0 1 2 3 4 5 m

SCALE C 0 0.5 1 1.5 2 m

REFERENCE DRAWINGS

JD-P1-HS-St-6 POWERHOUSE AND TAILRACE-GENERAL PLAN
JD-P1-HS-St-7 POWERHOUSE AND TAILRACE-CONCRETE OUTLINE-PROFILE
JD-P1-HS-St-9 POWERHOUSE AND TAILRACE-TAILRACE GATE

Fig. 7.7.7 Powerhouse and Tailrace Concrete Outline – Sections

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

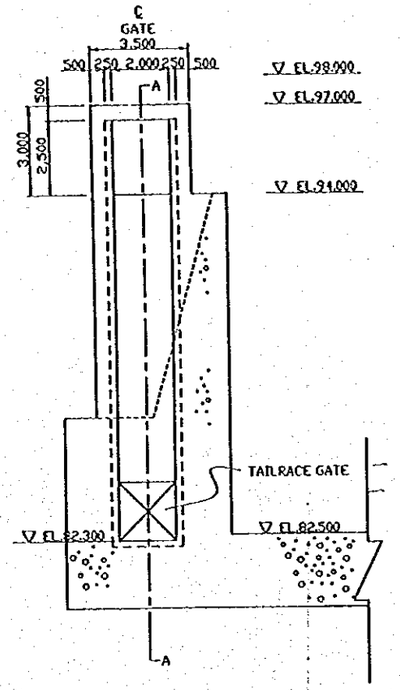
THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

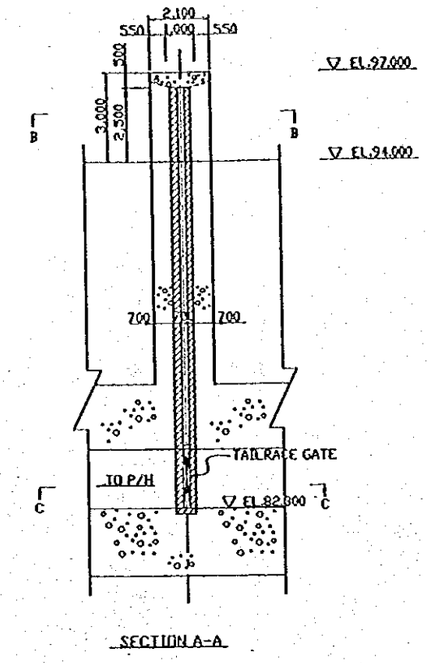
JRATUNSELUNA FLOOD CONTROL PROJECT
COMPONENT : JATIBARANG DAM CONSTRUCTION
JATIBARANG DAM MANAGEMENT COMPLEX
POWERHOUSE AND TAILRACE
CONCRETE OUTLINE
SECTIONS

JAPAN INTERNATIONAL COOPERATION AGENCY
CTI ENGINEERING CO.,LTD.
PACIFIC CONSULTANTS INTERNATIONAL
PASCO INTERNATIONAL INC.

DESIGNED | CHECKED
APPROVED | CHIEF OF PLANNING AND DESIGN | PROJECT MANAGER

PROVINCE: CENTRAL JAVA
PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
DISTRICT: SEMARANG CITY
DRAWING NO. JD-P1-HS-St-8
SHEET NO.
DATE | CONTRACT NO.

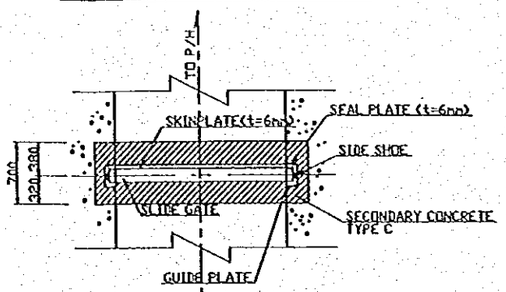




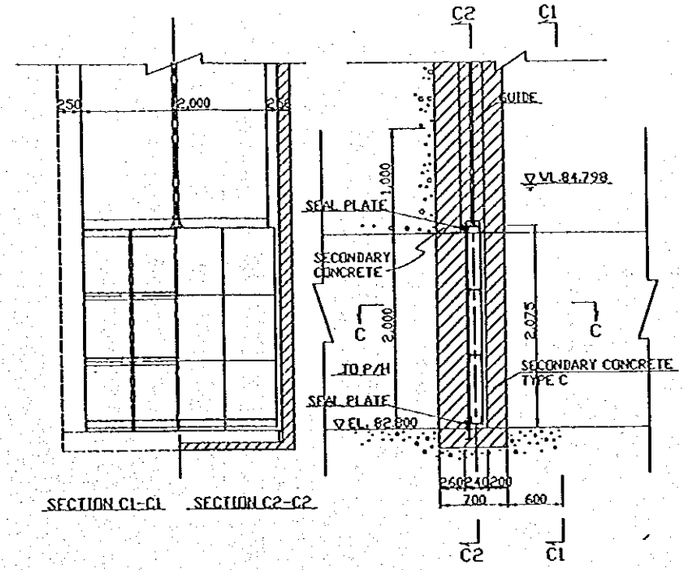
SECTION A-A

PROFILE AND SECTION OF TAILRACE GATE TOWER
SCALE A

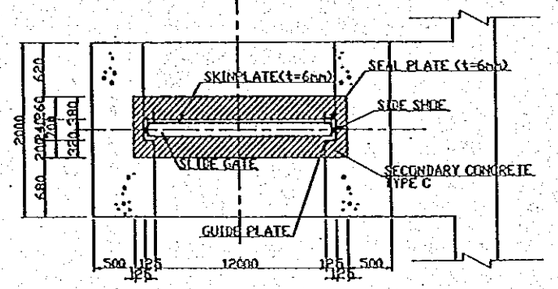
DESIGN CONDITION	
TYPE	STEEL SLIDE GATE
QUANTITY	1 GATE
CLEAR SPAN	2.000m
CLEAR HIGHT	2.000m
GATE WIDTH	2.150m
GATE HIGHT	2.075m
DESIGN HEAD	2.498m (100 YEAR RETURN PERIOD FLOOD) 5.490m (PMF)
HOISTING SYSTEM	MANUAL OPERATION



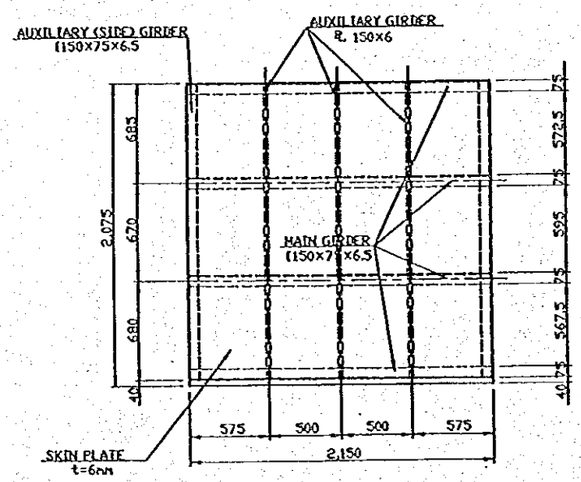
SECTION C-C



SECTION C1-C1 SECTION C2-C2



SECTION B-B



DIMENSION OF TAILRACE GATE
SCALE C

TAILRACE GATE
SCALE B

SCALE A 0 5 10 m
SCALE B 0 1 2 3 m
SCALE C 0 0.5 1 1.5 2 m

NOTES

1. ANCHOR BARS TO FIX THE SEAL PLATES ARE NOT SHOWN IN THIS DRAWING. THESE ANCHOR BARS WILL BE SUPPLIED BY OTHER CONTRACTOR AND SHALL BE INSTALLED BY THE CIVIL CONTRACTOR.

REFERENCE DRAWINGS

JD-P1-HS-St-6 POWERHOUSE AND TAILRACE-GENERAL PLAN
JD-P1-HS-St-7 POWERHOUSE AND TAILRACE-CONCRETE OUTLINE-PROFILE
JD-P1-HS-St-8 POWERHOUSE AND TAILRACE-CONCRETE OUTLINE-SECTIONS

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

Fig. 7.7.8 Powerhouse and Tailrace - Tailrace Gate

THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

PROVINCE: CENTRAL JAVA
PROJECT NAME: FLOOD CONTROL, DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
DISTRICT: SEMARANG CITY
DRAWING NO. JD-P1-HS-St-5
SHEET NO.

PRATUNJUNJUNA FLOOD CONTROL PROJECT
COMPONENT-1 JATIBARANG DAM CONSTRUCTION
JATIBARANG DAM MANAGEMENT COMPLEX
POWERHOUSE AND TAILRACE
TAILRACE GATE

DESIGNED / CHECKED / APPROVED / CHIEF OF PLANNING AND DESIGN / PROJECT MANAGER

DATE / CONTRACT NO. 3 - 94