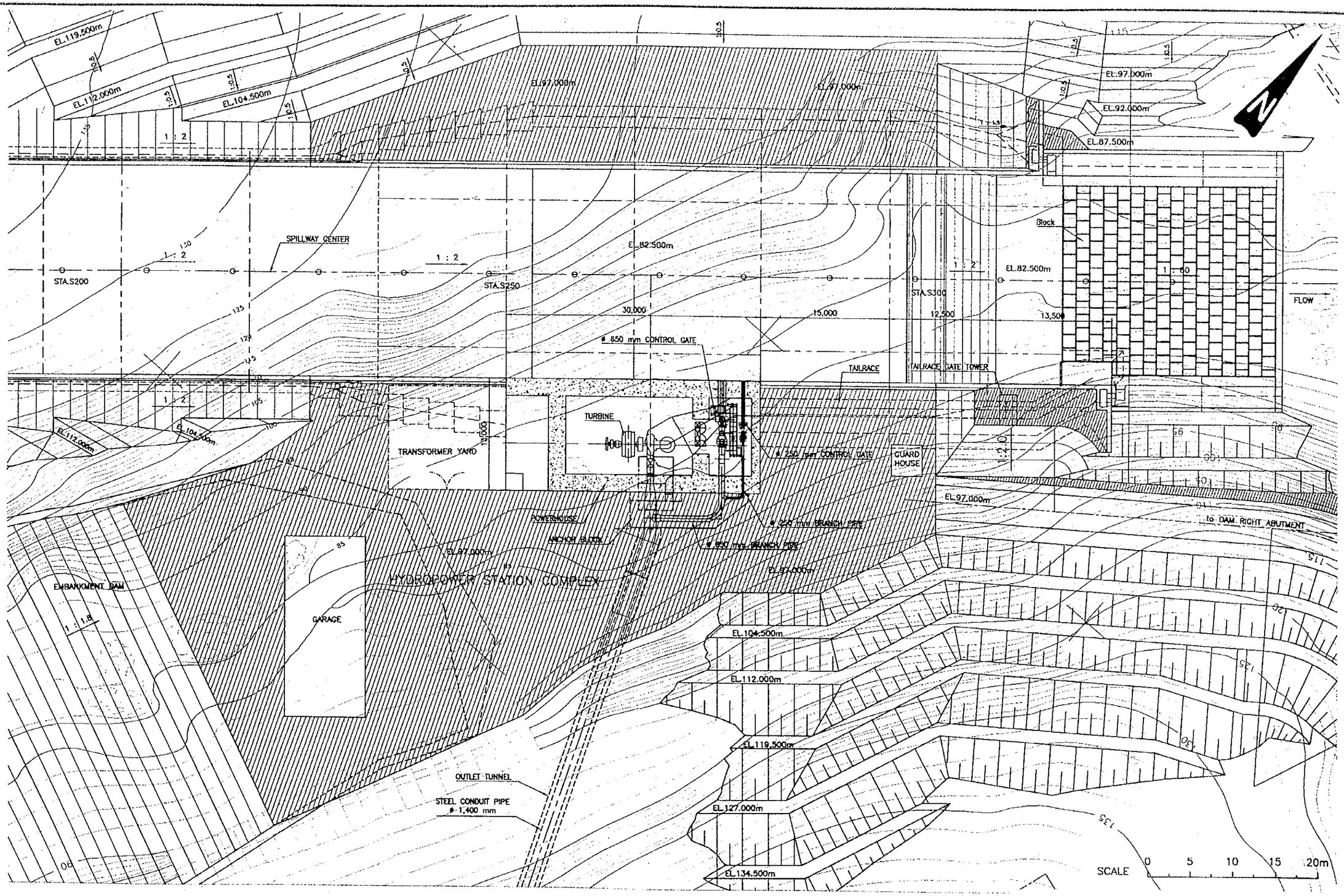
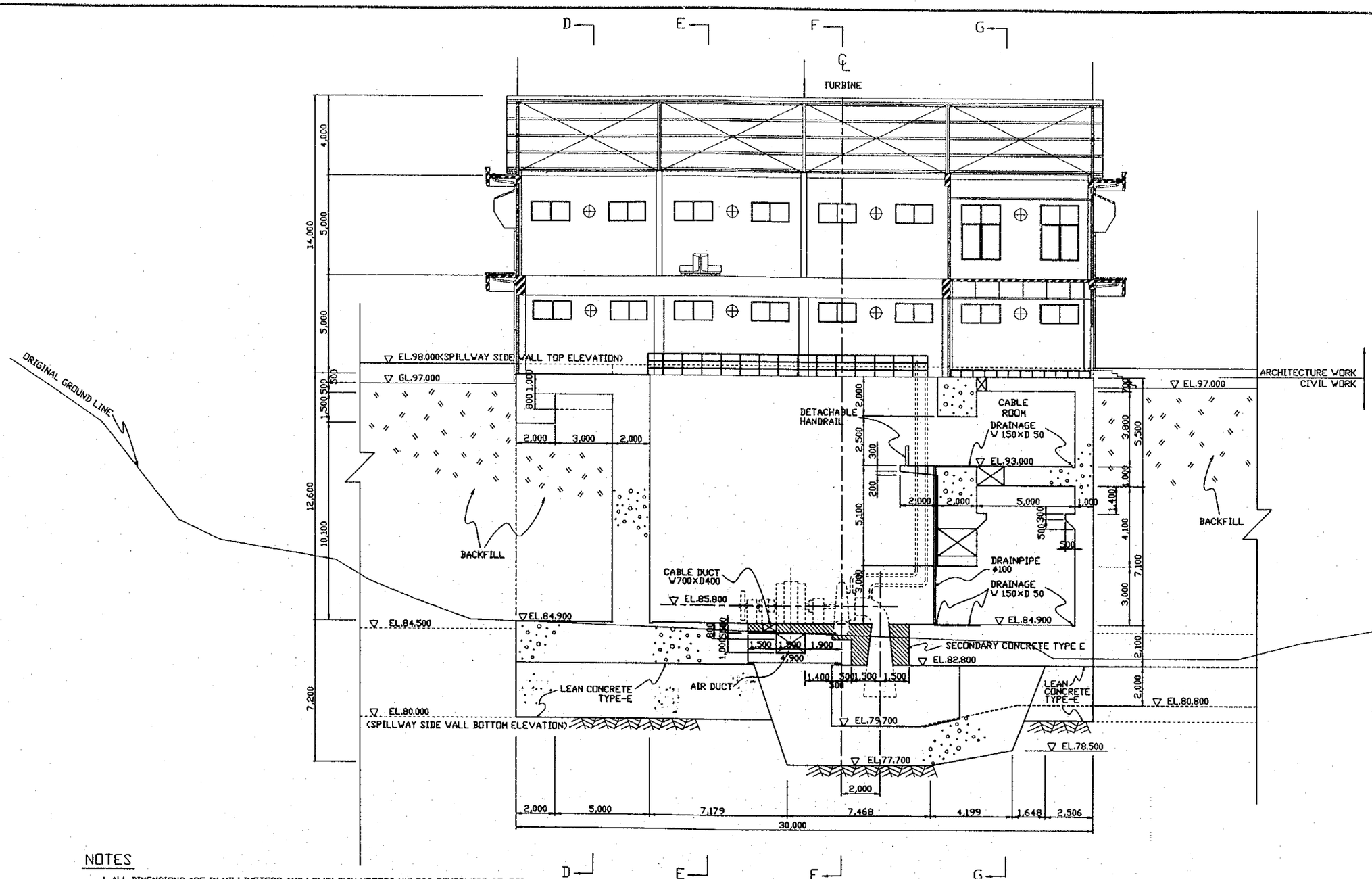


NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.
2. CONCRETE OF POWERHOUSE SHALL BE OF TYPE B AS PER SPECIFICATION.

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.1 GENERAL PLAN OF POWER HOUSE AREA
JAPAN INTERNATIONAL COOPERATION AGENCY	



NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS IN METERS UNLESS OTHERVISE STATED.
2. CONCRETE SHALL BE OF TYPE-B AS PER SPECIFICATIONS UNLESS OTHERWISE DESIGNATED IN THE DRAWING.
3. THE TURBINE,GENERATOR AND ACCESSORIES SHOW IN THIS DRAWING ARE SUPPLIED BY OTHER CONTRACTOR AND INSTALLED BY THE CIVIL CONTRACTOR.
4. FLOOR ELEVATIONS INCLUDE THICKNESS OF FLOOR FINISHES. FOR DRAINAGE PURPOSES, FLOOR SHALL BE SLOPED AS REQUIRED AND DIRECTED BY THE ENGINEER.
5. ALL EXPOSED EDGES AND CORNERS SHALL BE CHAMFERED BY 2 CENTIMETERS UNLESS OTHERWISE NOTED.
6. SURFACES OF THE OUTRE WALLS BELOW EL.96.70 SHALL RECEIVE CLASS1 SURFACE FINISH AND OF THE INNER WALLS CLASS2 SURFACE FINISH.
7. THE FLOORS OF CIVIL WORK SHALL BE COLORED WITH IVORY BY DUST-TIGHT PAINT AND THE BATTERY ROOM'S FLOOR AND INNER WALLS SHALL BE COATED WITH ANTI-ACID PAINT FROM EL.93.00 TO EL.94.800

REFERENCE DRAWINGS

JD-PI-HS-PI-1	GENERAL PLAN OF POWERHOUSE AREA
JD-PI-HS-St-3	POWERHOUSE-CONCRETE OUTLINE-SECTIONS(1/2)
JD-PI-HS-St-4	POWERHOUSE-CONCRETE OUTLINE-SECTIONS(2/2)
JD-PI-HS-St-5	POWERHOUSE-CONCRETE OUTLINE-PLAN

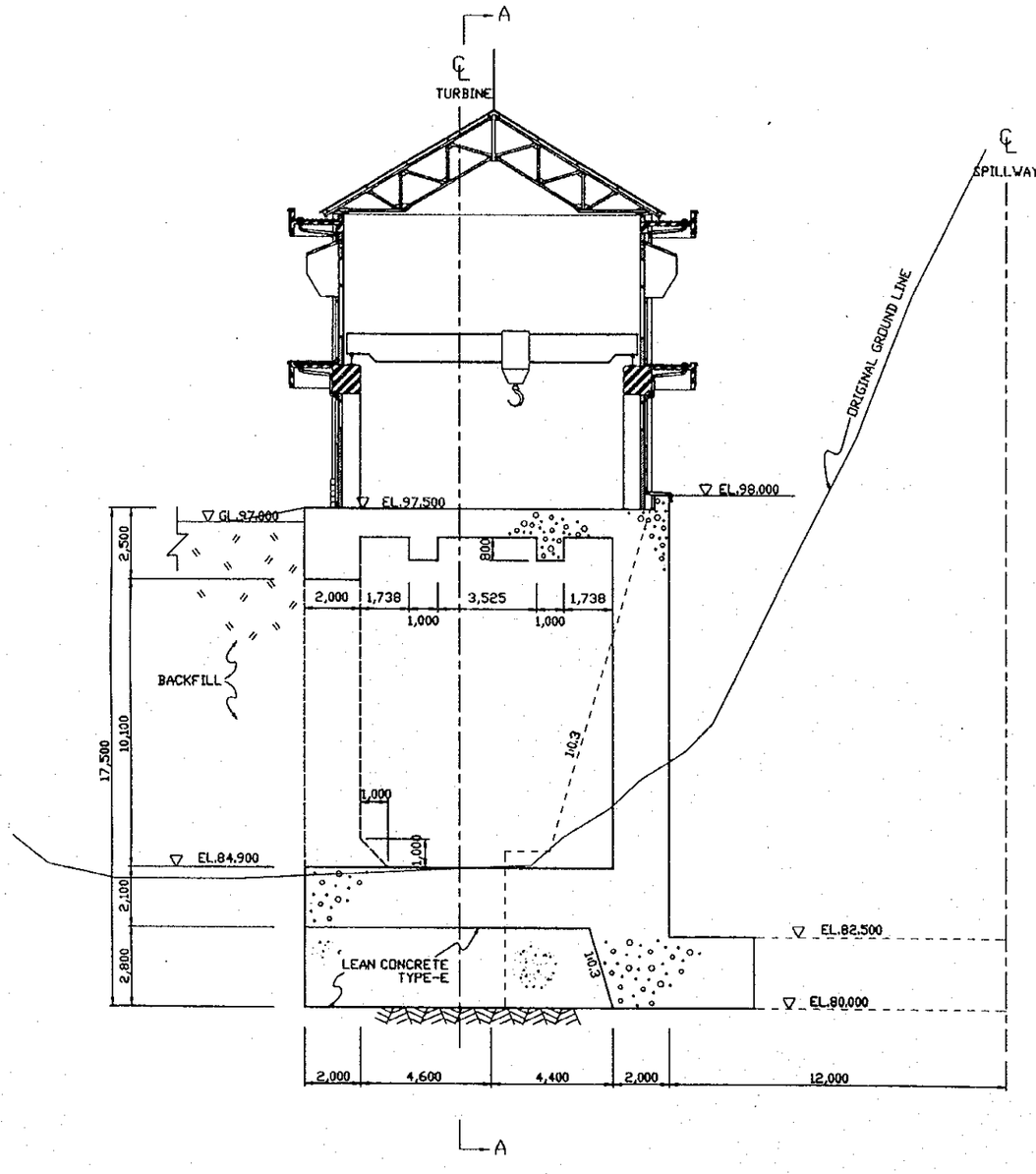
SECTION A-A

SCALE 0 5 10 m

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

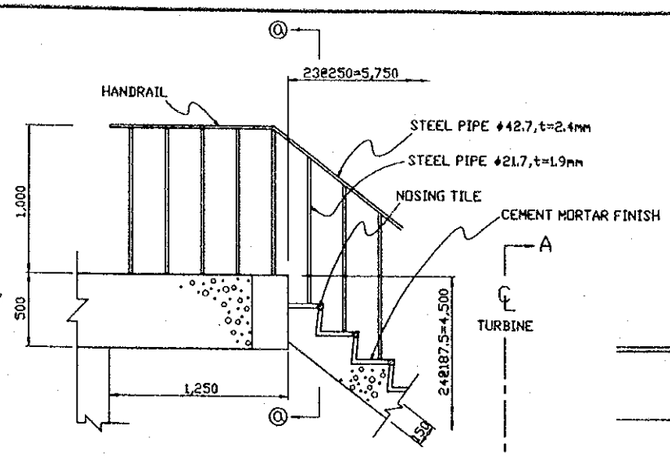
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 7.7.2
POWERHOUSE CONCRETE OUTLINE - PROFILE



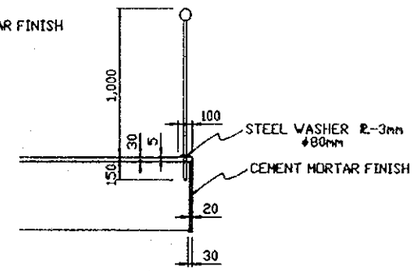
SECTION D-D

SCALE A



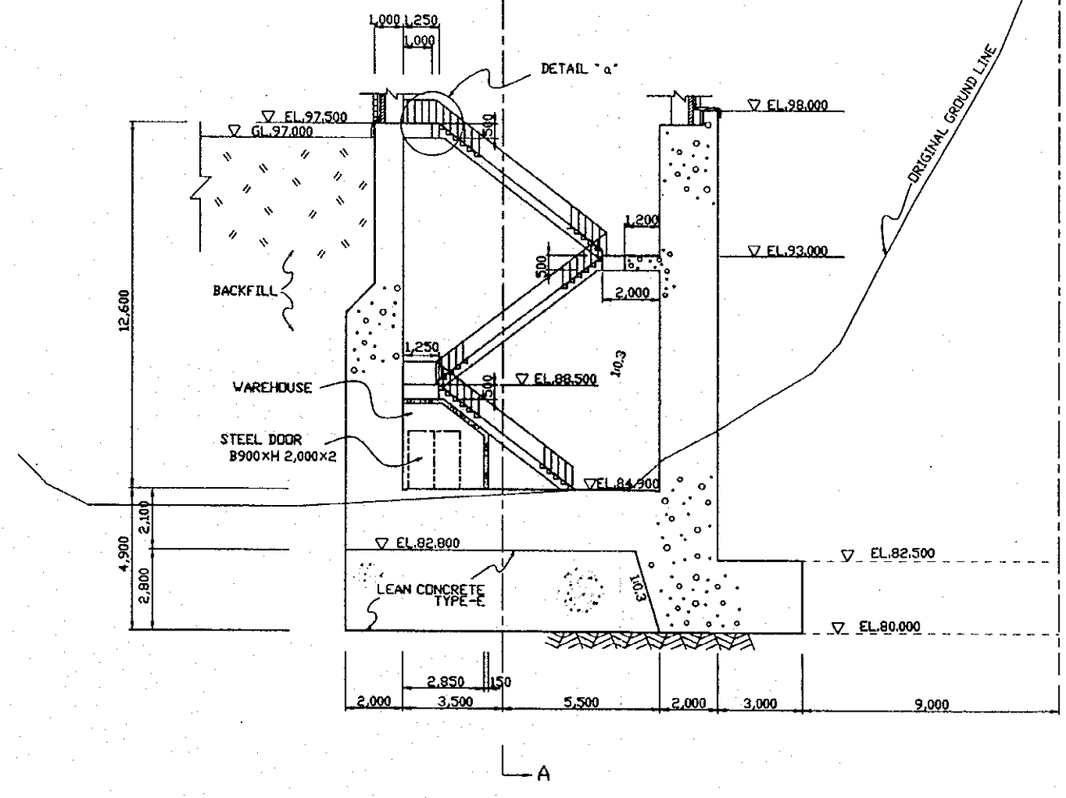
DETAIL "a"

SCALE B



SECTION @-@

SCALE B



SECTION E-E

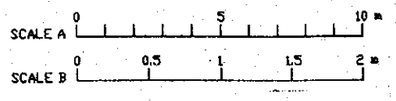
SCALE A

NOTES

1. HANDRAILS,STEEL DOORS FOR WAREHOUSE AND OTHER STEEL MEMBERS SHALL BE PAINTED BY THE PAINT MATERIAL SPECIFIED IN THE TECHNICAL SPECIFICATION.

REFERENCE DRAWINGS

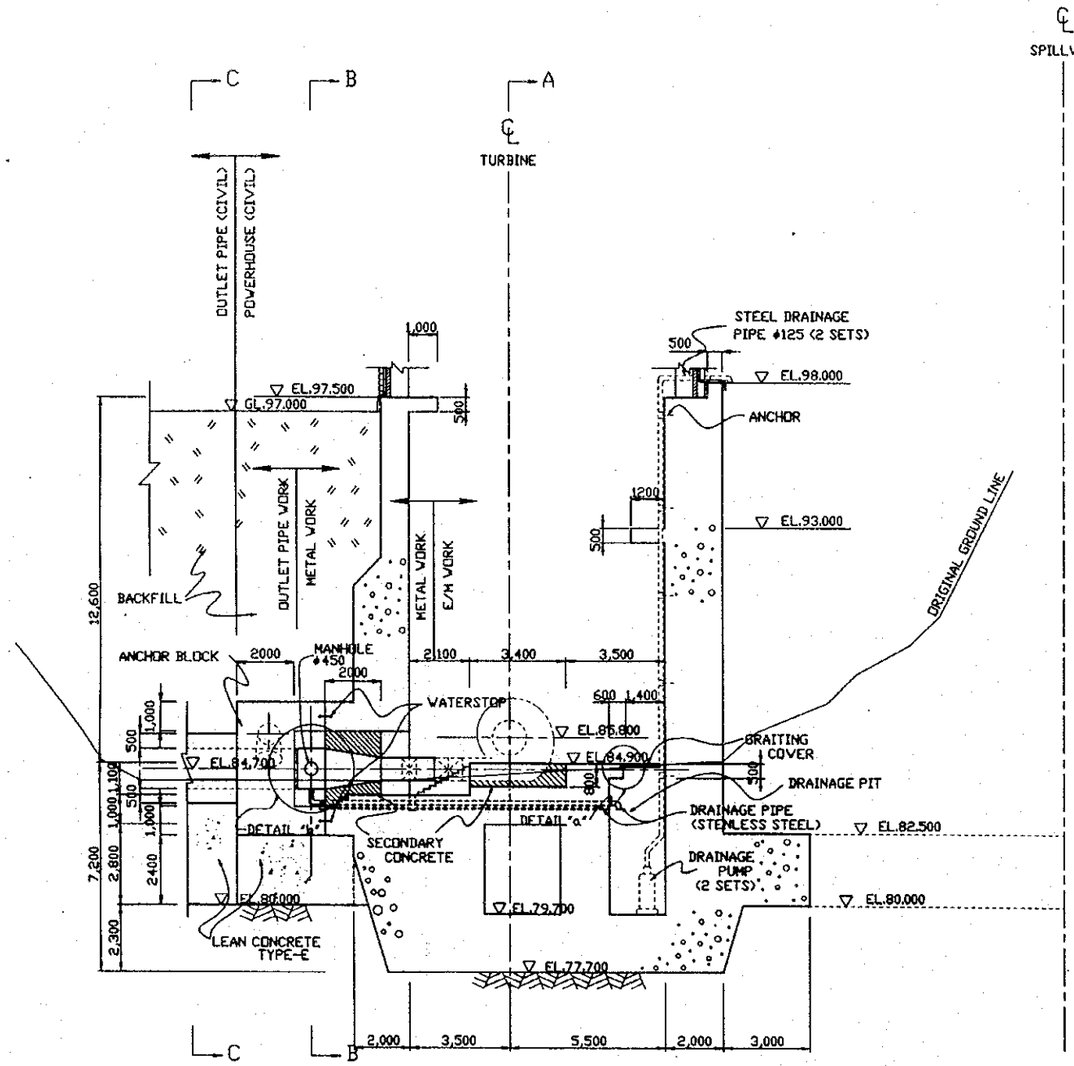
JD-P1-HS-P1-1	GENERAL PLAN OF POWERHOUSE AREA
JD-P1-HS-St-2	POWERHOUSE-CONCRETE OUTLINE-PROFILE
JD-P1-HS-St-4	POWERHOUSE-CONCRETE OUTLINE-SECTIONS(2/2)
JD-P1-HS-St-5	POWERHOUSE-CONCRETE OUTLINE-PLAN
JD-P1-HS-St-6	POWERHOUSE AND TAILRACE-GENERAL PLAN

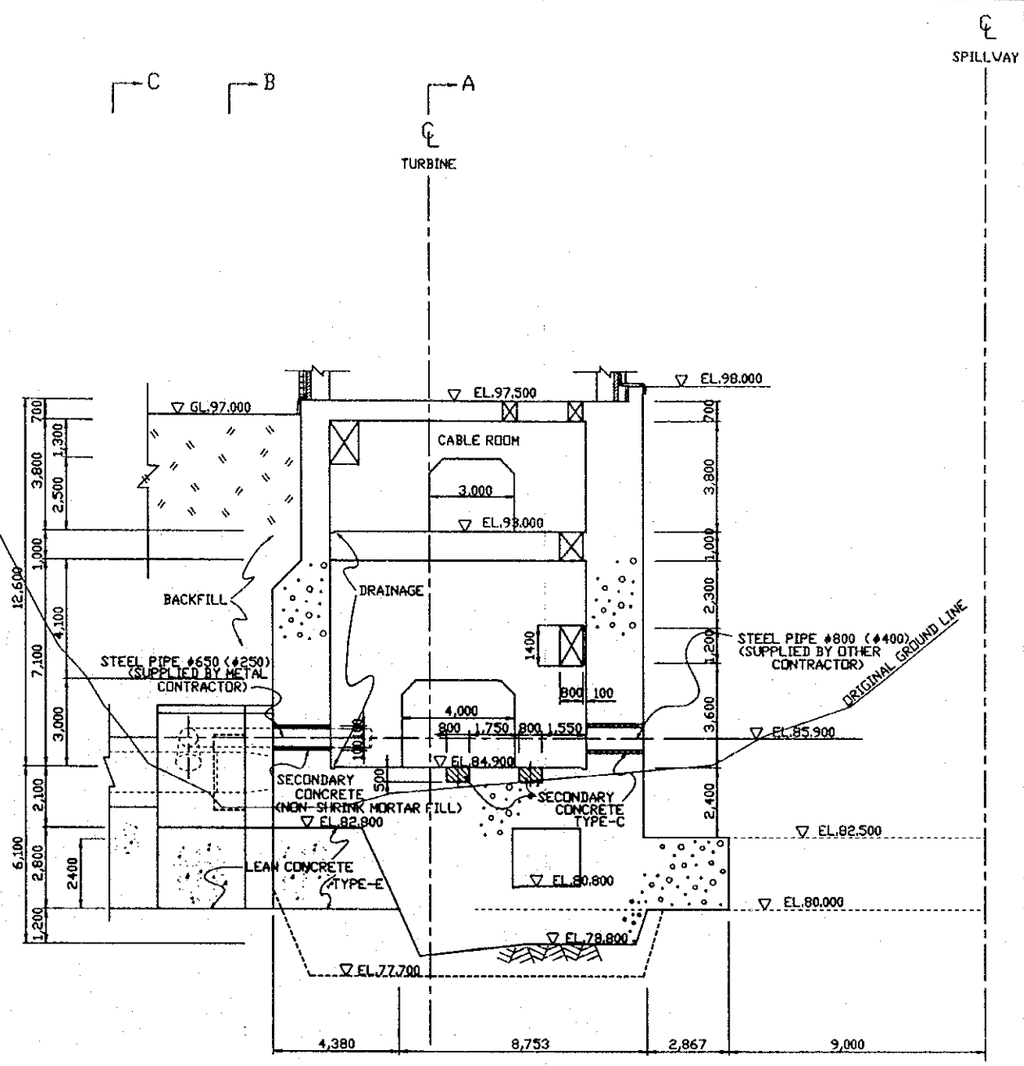


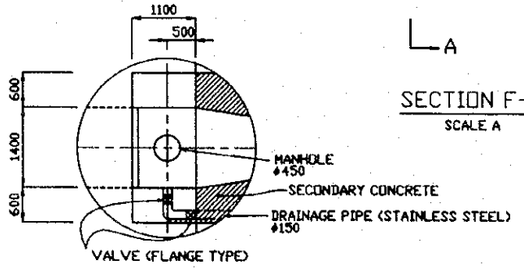
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

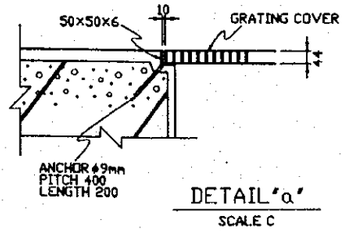
Fig. 7.7.3 (1/2)
POWERHOUSE CONCRETE OUTLINE - SECTIONS







DETAIL 'b'
SCALE B



DETAIL 'a'
SCALE C

SECTION F-F
SCALE A

SECTION G-G
SCALE A

SCALE A 0 5 10 m
SCALE B 0 2.5 5 m
SCALE C 0 0.5 1 m

NOTES

1. THE PENSTOCK,INLET VALVE,TURBINE,DRAINAGE PUMPS AND STAINLESS STEEL DRAINAGE PIPES SHOWN IN THIS DRAWING ARE SUPPLIED BY E/M AND METAL CONTRACTOR AND INSTALLED BY THE CIVIL CONTRACTOR.
2. GRATING COVER SHALL BE GALVANIZED.

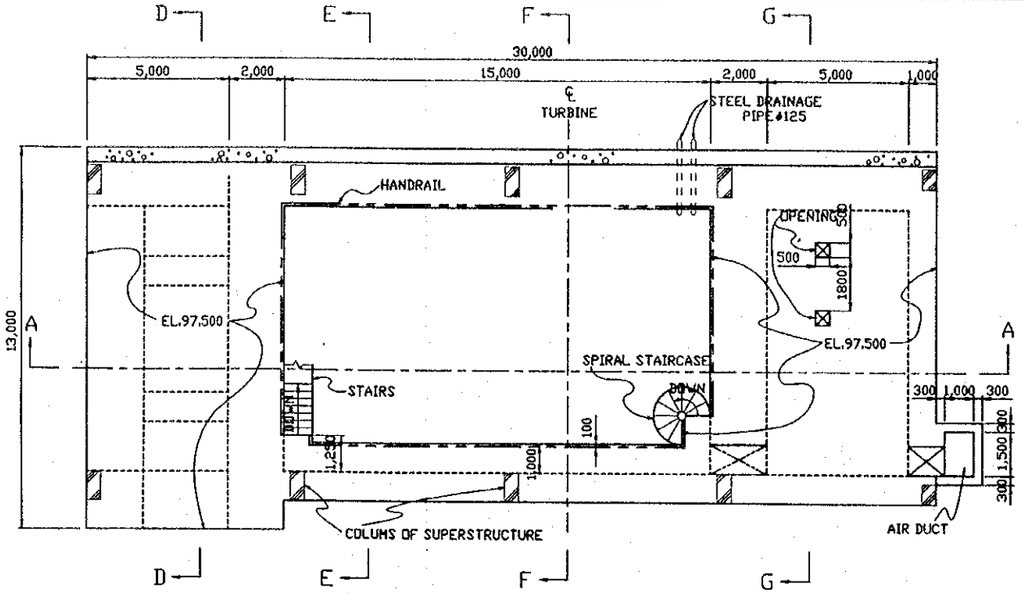
REFERENCE DRAWINGS

JD-P1-HS-St-2	POWERHOUSE-CONCRETE OUTLINE-PROFILE
JD-P1-HS-St-3	POWERHOUSE-CONCRETE OUTLINE-SECTIONS(1/2)
JD-P1-HS-St-5	POWERHOUSE-CONCRETE OUTLINE-PLAN
JD-P1-HS-St-6	POWERHOUSE AND TAILRACE-GENERAL PLAN

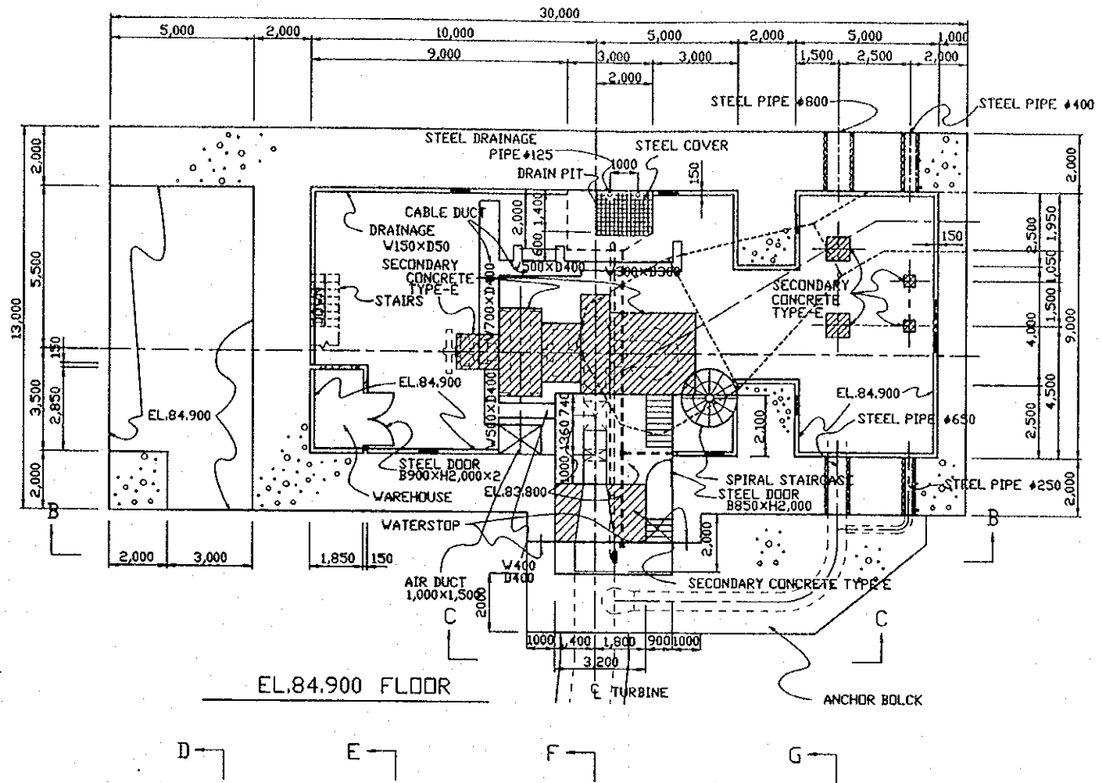
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

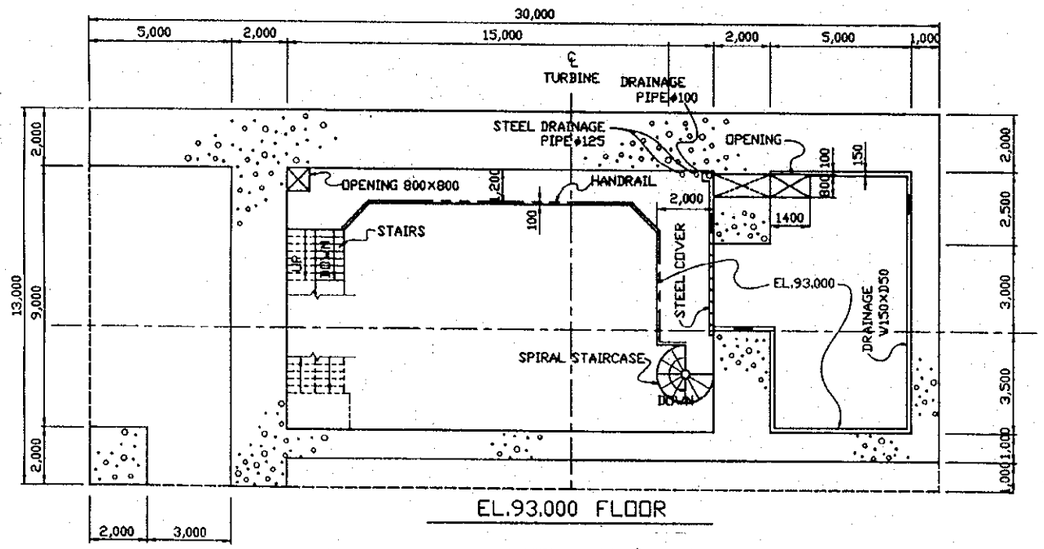
Fig. 7.7.3 (2/2)
POWERHOUSE CONCRETE OUTLINE - SECTIONS



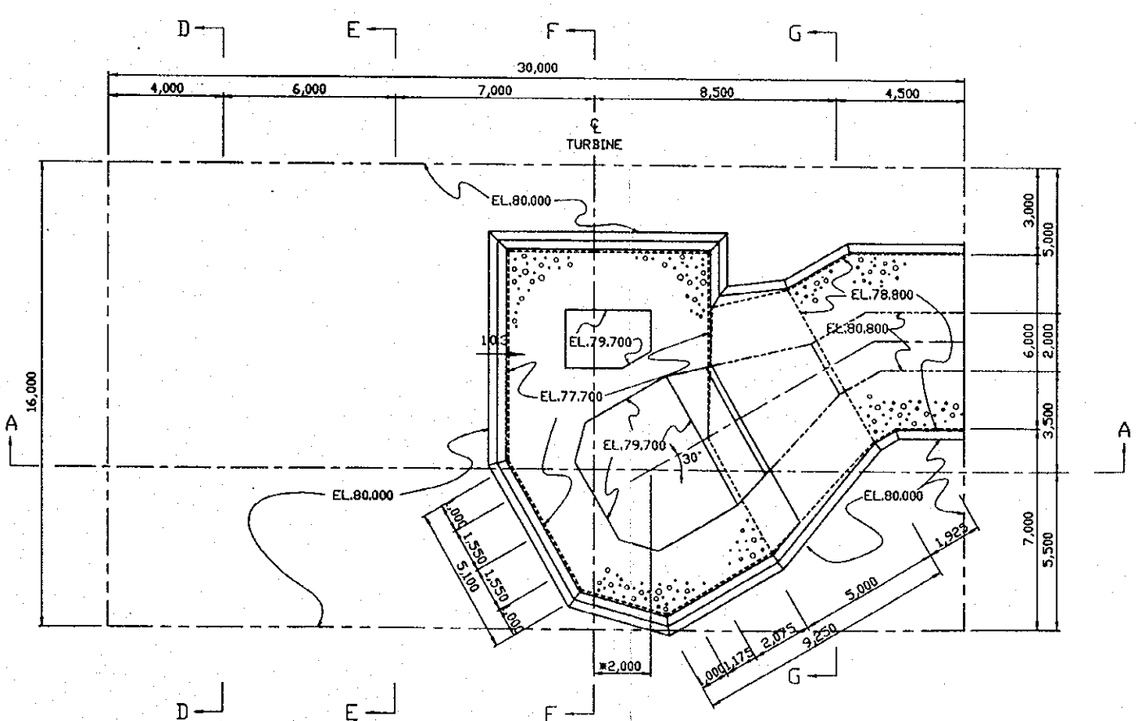
EL.97,500 FLOOR



EL.84,900 FLOOR



EL.93,000 FLOOR



NOTES

1. THE DIMENSION MARKED WITH * AND RELATED DIMENSIONS MAY BE CHANGED DEPENDING ON THE SIZE OF A TURBINE.
2. THE STEEL PIPES SHOWN IN EL.84.900 FLOOR SHALL BE EMBEDED AT THE EL.85.900 WHICH ARE SUPPLIED BY OTHER CONTRACTOR.

REFERENCE DRAWINGS

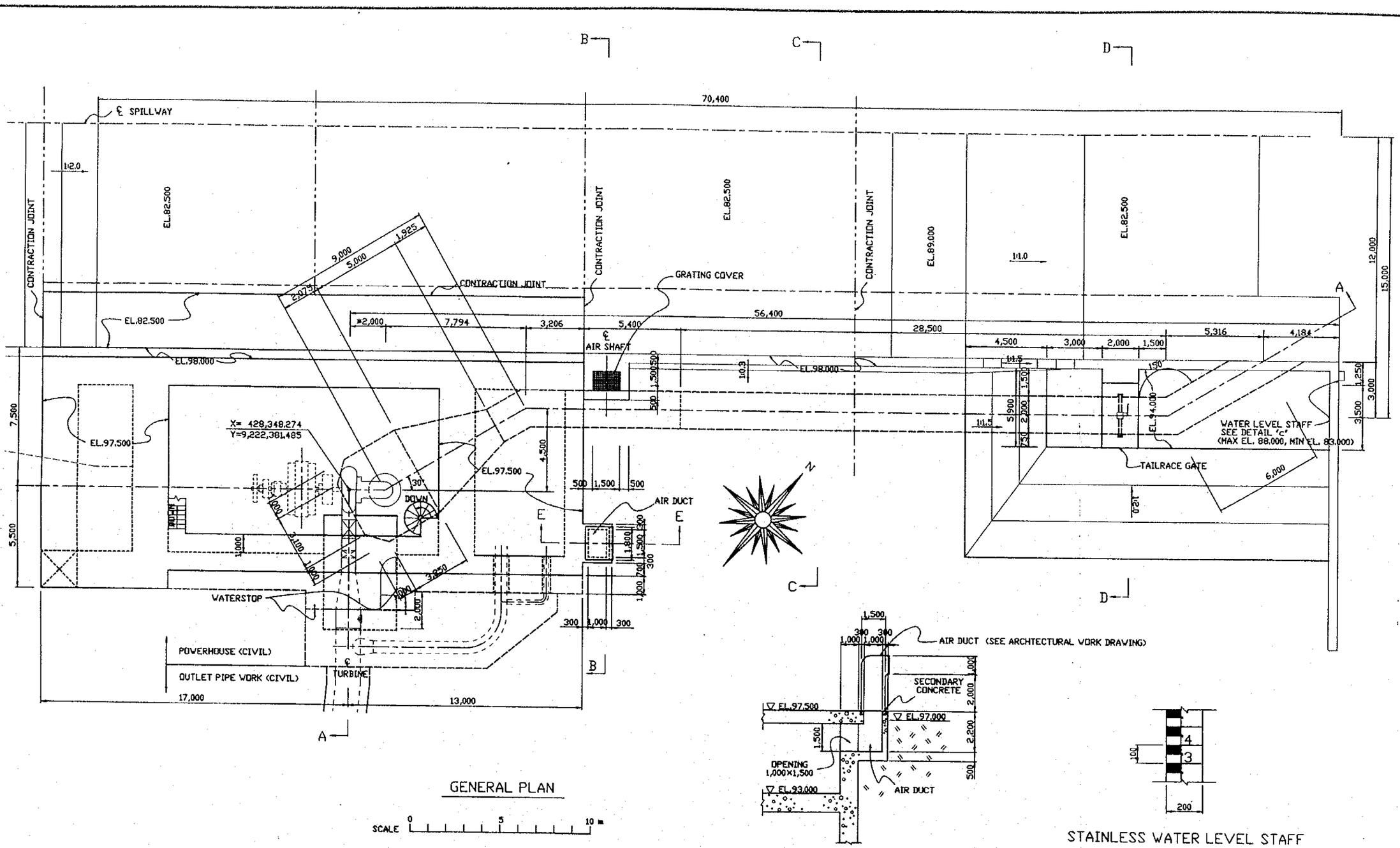
JD-P1-HS-P1-1	GENERAL PLAN OF POWERHOUSE AREA
JD-P1-HS-St-2	POWERHOUSE-CONCRETE OUTLINE-PROFILE
JD-P1-HS-St-3	POWERHOUSE-CONCRETE OUTLINE-SECTIONS(1/2)
JD-P1-HS-St-4	POWERHOUSE-CONCRETE OUTLINE-SECTIONS(2/2)
JD-P1-HS-St-6	POWERHOUSE AND TAILRACE-GENERAL PLAN

SCALE 0 5 10 m

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 7.7.4
POWER HOUSE CONCRETE OUTLINE - PLAN



GENERAL PLAN

SCALE 0 5 10 m

SECTION E-E

STAINLESS WATER LEVEL STAFF
(MAX WL. 88.000, MIN WL. 83.000)

DETAIL 'C'

NOTES

1. THE ARCHITECTURAL WORK OF THE POWERHOUSE IS NOT SHOWN IN THIS DRAWING.
2. BACKFILL TO BE FILLED UP TO EL.97.000 IS NOT SHOWN IN THIS DRAWING.
3. THE DIMENSION MARKED WITH * AND RELATED DIMENSIONS MAY BE CHANGED DEPENDING ON THE SIZE OF A TURBINE.

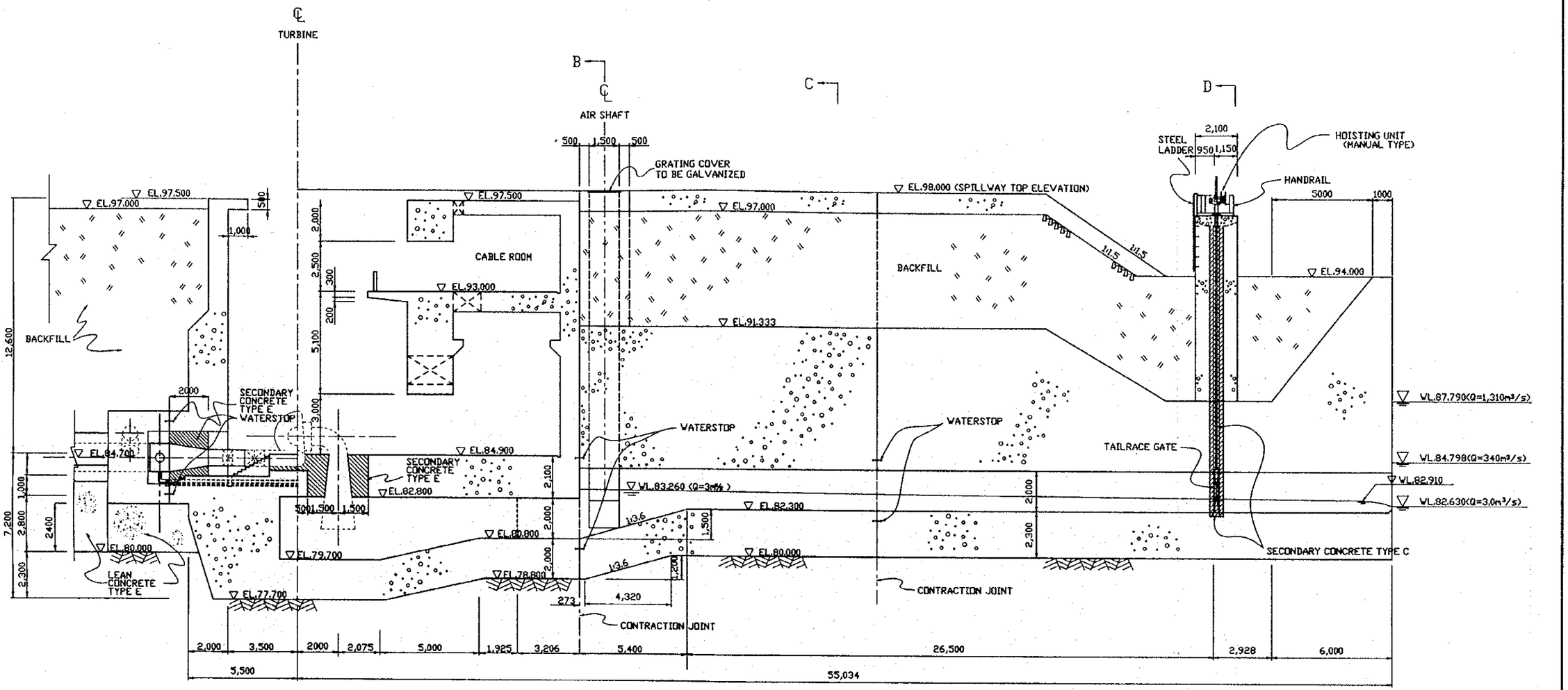
REFERENCE DRAWINGS

JD-P1-HS-P1-1	GENERAL PLAN OF POWERHOUSE AREA
JD-P1-HS-St-7	POWERHOUSE AND TAILRACE-CONCRETE OUTLINE-PROFILE
JD-P1-HS-St-8	POWERHOUSE AND TAILRACE-CONCRETE OUTLINE-SECTIONS
JD-P1-HS-St-9	POWERHOUSE AND TAILRACE-TAILRACE GATE

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 7.7.5
POWERHOUSE AND TAILRACE - GENERAL PLAN



SECTION A-A

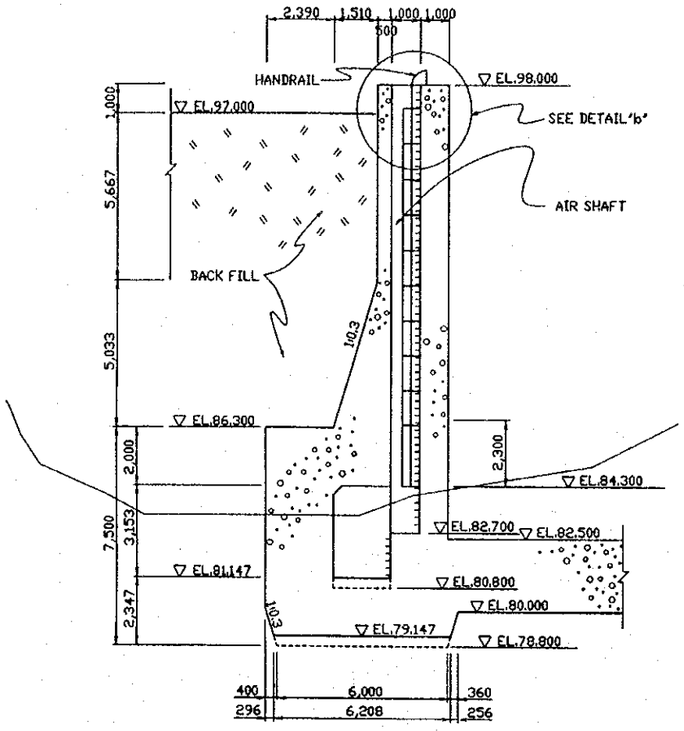
SCALE A

SCALE A 0 5 10 m

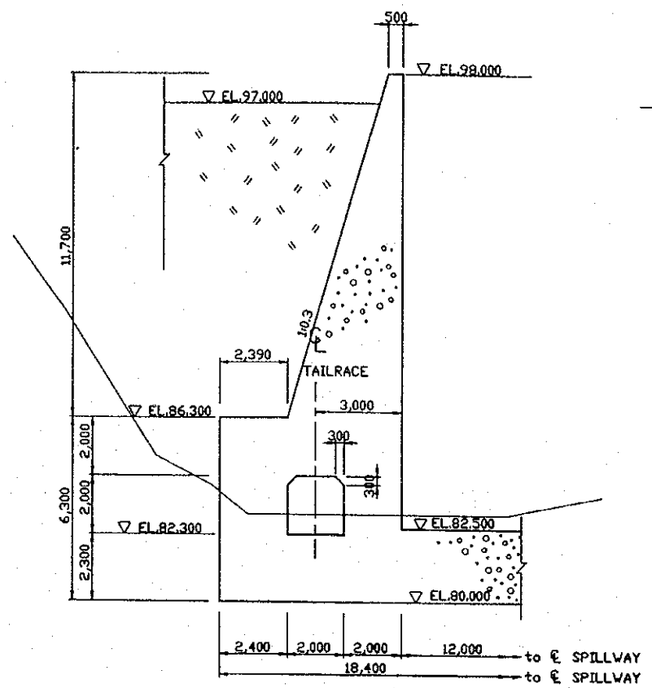
REFERENCE DRAWINGS

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

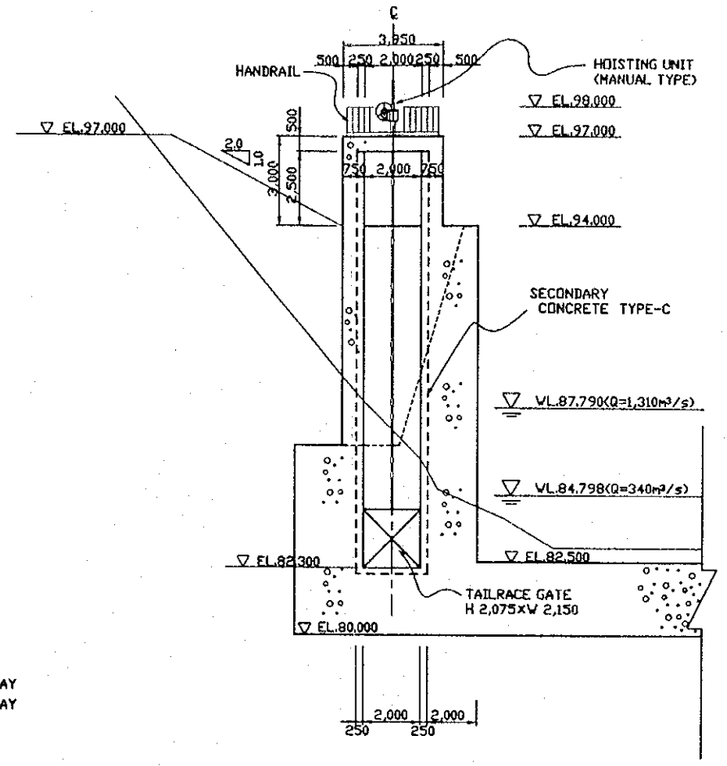
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.6 POWERHOUSE AND TAILRACE CONCRETE OUTLINE - PROFILE
JAPAN INTERNATIONAL COOPERATION AGENCY	



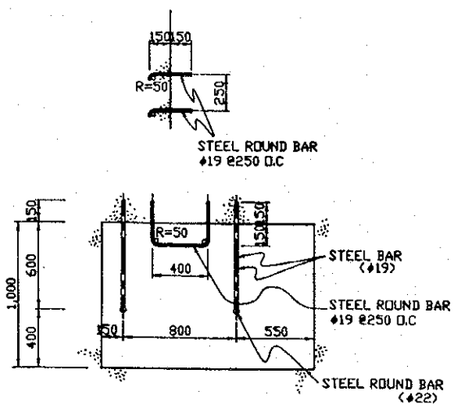
SECTION B-B
SCALE A



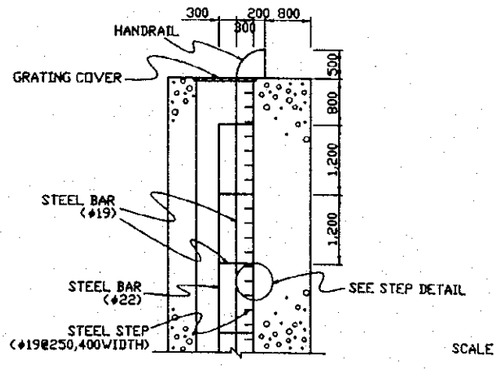
SECTION C-C
SCALE A



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

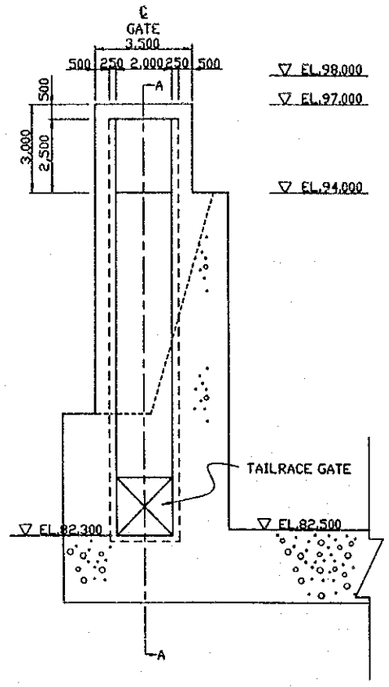
REFERENCE DRAWINGS

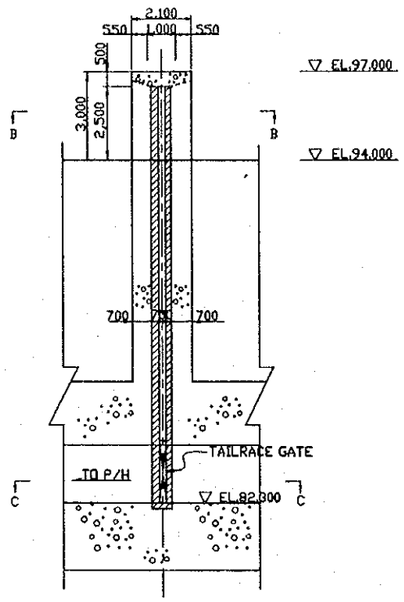
JD-P1-HS-St-6	POWERHOUSE AND TAILRACE-GENERAL PLAN
JD-P1-HS-St-7	POWERHOUSE AND TAILRACE-CONCRETE OUTLINE-PROFILE
JD-P1-HS-St-9	POWERHOUSE AND TAILRACE-TAILRACE GATE

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 7.7.7
POWERHOUSE AND TAILRACE CONCRETE OUTLINE - SECTIONS



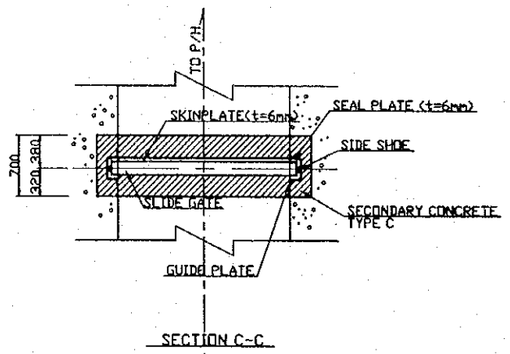


SECTION A-A

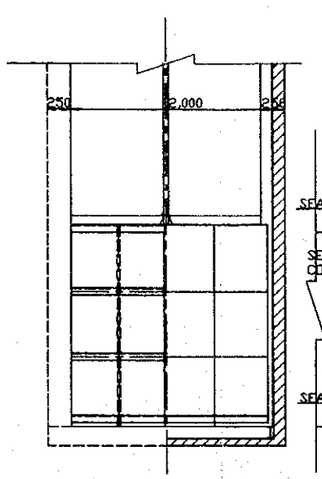
PROFILE AND SECTION OF TAILRACE GATE TOWER

SCALE A

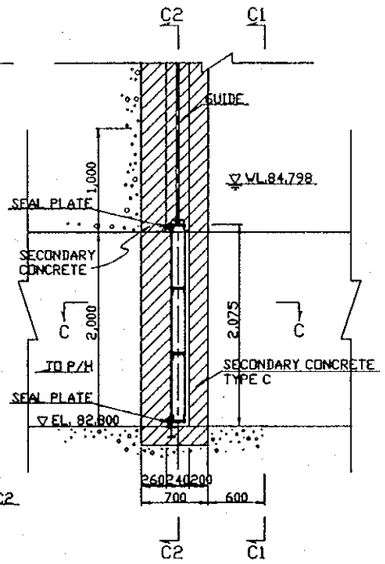
DESIGN CONDITION	
TYPE	STEEL SLIDE GATE
QUANTITY	1 GATE
CLEAR SPAN	2,000m
CLEAR HIGHT	2,000m
GATE WIDTH	2,150m
GATE HIGHT	2,075m
DESIGN HEAD	2,498m (100 YEAR RETURN PERIOD FLOOD)
	5,490m (PMF)
HOYSTING SYSTEM	MANUAL OPERATION



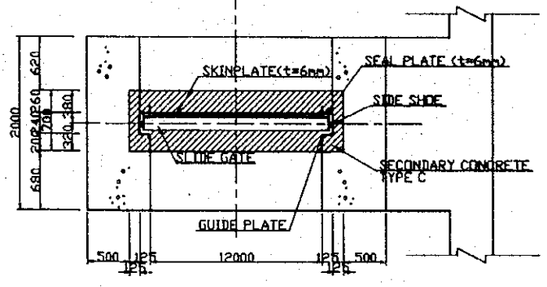
SECTION C-C



SECTION C1-C1



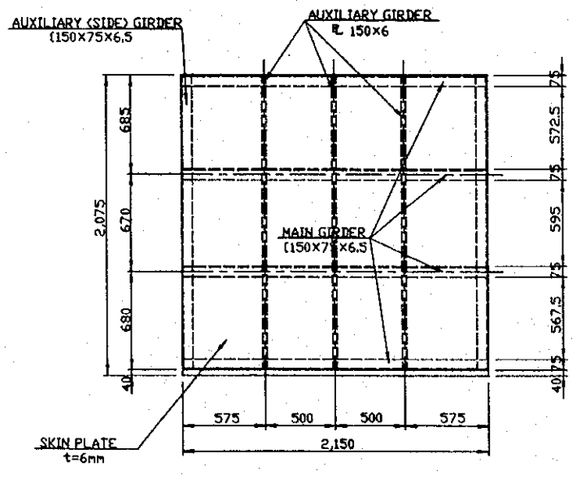
SECTION C2-C2



SECTION B-B

TAILRACE GATE

SCALE B



DIMENSION OF TAILRACE GATE

SCALE C

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.

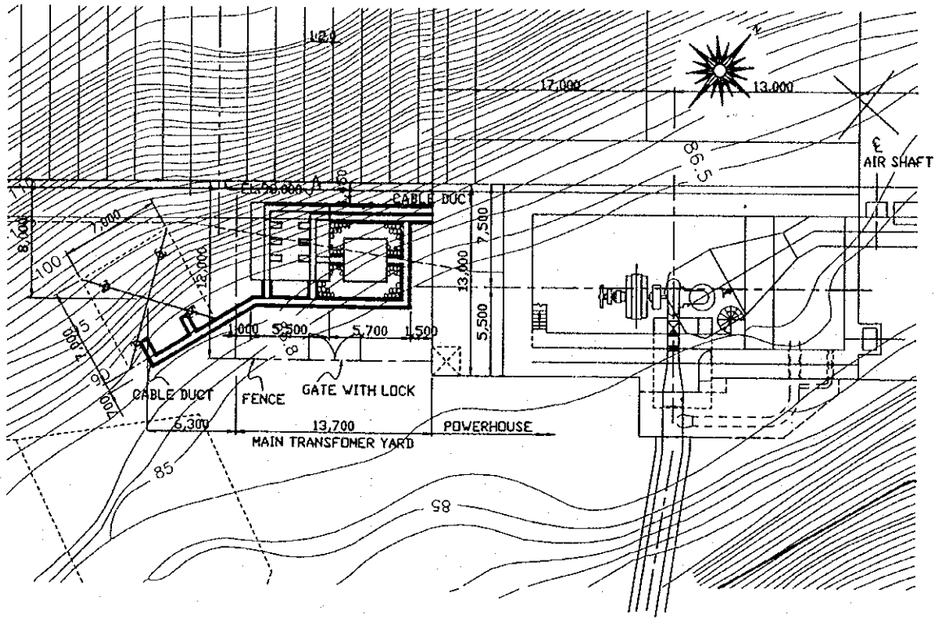
REFERENCE DRAWINGS

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

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

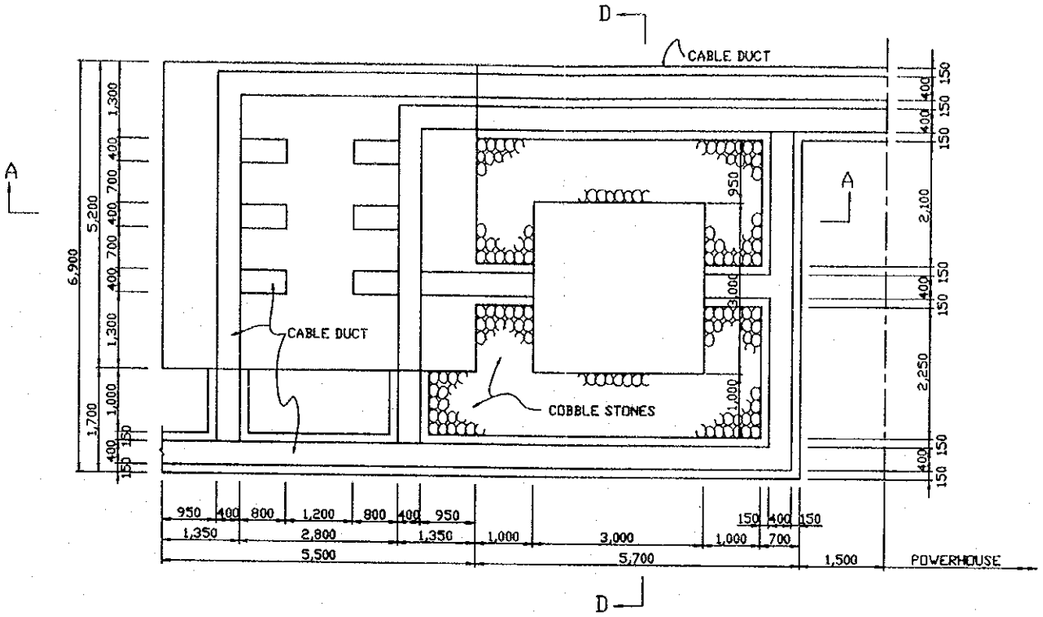
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 7.7.8
POWERHOUSE AND TAILRACE - TAILRACE GATE



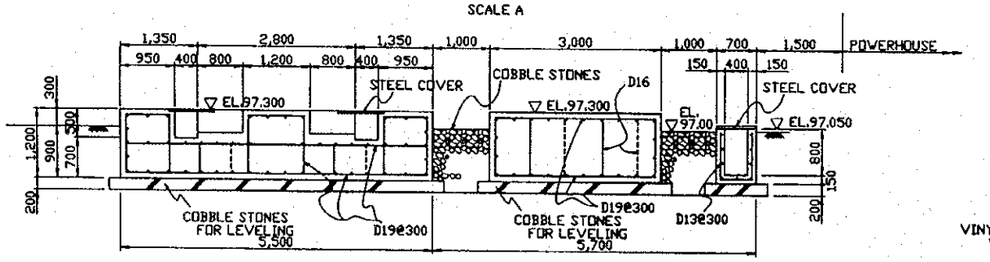
GENERAL PLAN

SCALE A



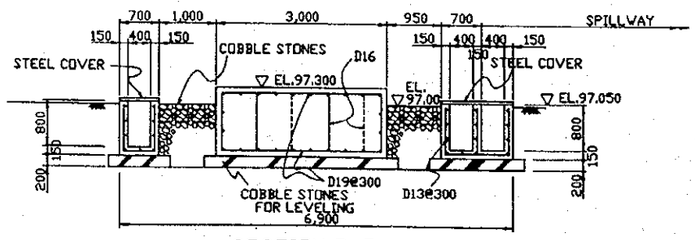
PLAN

SCALE B



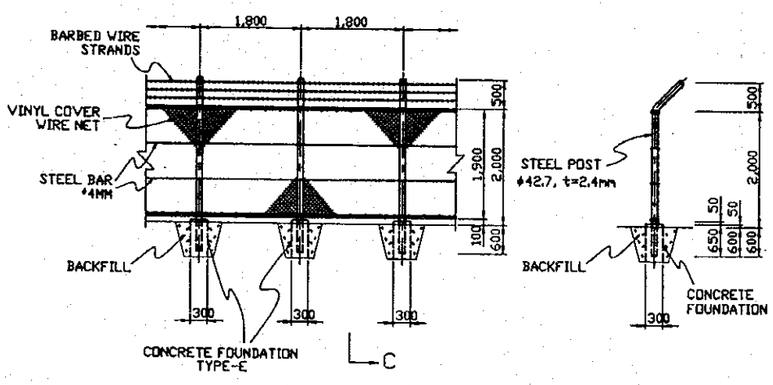
SECTION A-A

SCALE B



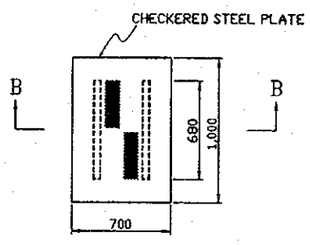
SECTION D-D

SCALE B

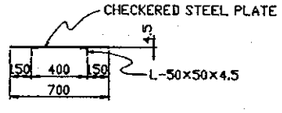


ELEVATION

SECTION C-C



PLAN



SECTION B-B

STEEL COVER

CABLE DUCT

SCALE C

WIRE NET FENCE

SCALE B

SCALE A 0 10 20 m

SCALE B 0 1 2 3 4 5 m

SCALE C 0 0.5 1 1.5 2 m

NOTES

1. ALL CABLE DUCTS SHALL BE COVERED WITH STEEL COVERS EXCEPT THE PART UNDER THE CUBICLES.
2. THE CABLE DUCT SHALL HAVE SLOPES FOR DRAINAGE TOWARD THE DRAINAGE SYSTEM IN THE POWERHOUSE AREA.
3. STEEL FOUNDATIONS AND OTHER MATERIALS FOR INSTALLATION OF THE TRANSFOMER AND THE CUBICLES ARE NOT SHOWN IN THIS DRAWING. THE STEEL FOUNDATIONS AND OTHER MATERIALS ARE SUPPLIED BY OTHER CONTRACTOR AND SHALL BE INSTALLED BY THE CIVIL CONTRACTOR.
4. THE AREA IN THE FENCE SHALL BE PAVED WITH GRAVEL OR CRUSHED AGGREGATES. (THICKNESS : 0.10 m)

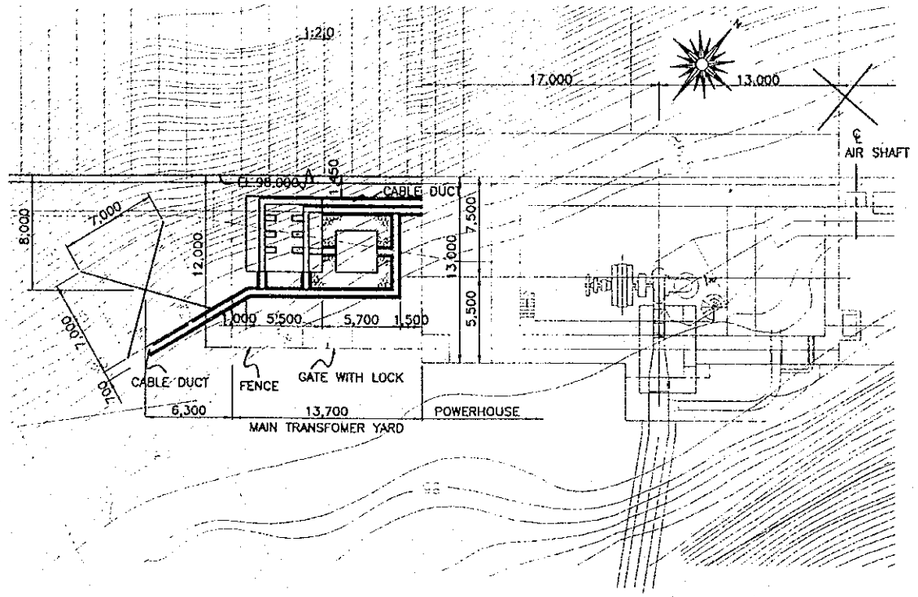
REFERENCE DRAWINGS

JD-P1-HS-Pl-1	GENERAL PLAN OF POWERHOUSE AREA
JD-P1-HS-St-11	TRANSMISSION LINE TOWER FOUNDATION

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

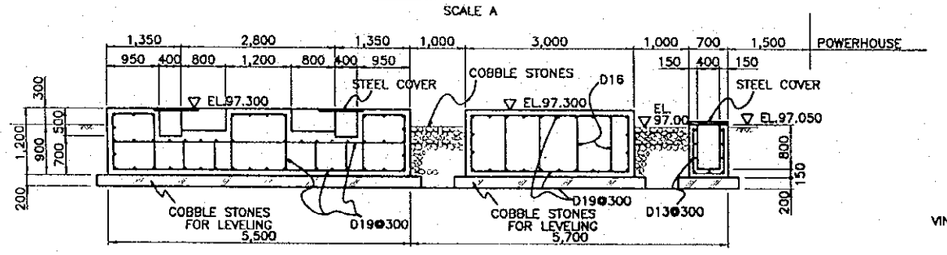
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 7.7.9
MAIN TRANSFORMER YARD - FOUNDATION PLAN AND DETAILS



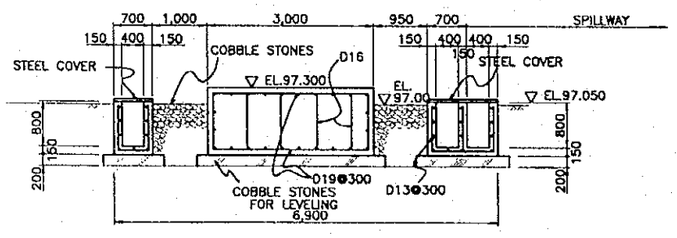
GENERAL PLAN

SCALE A



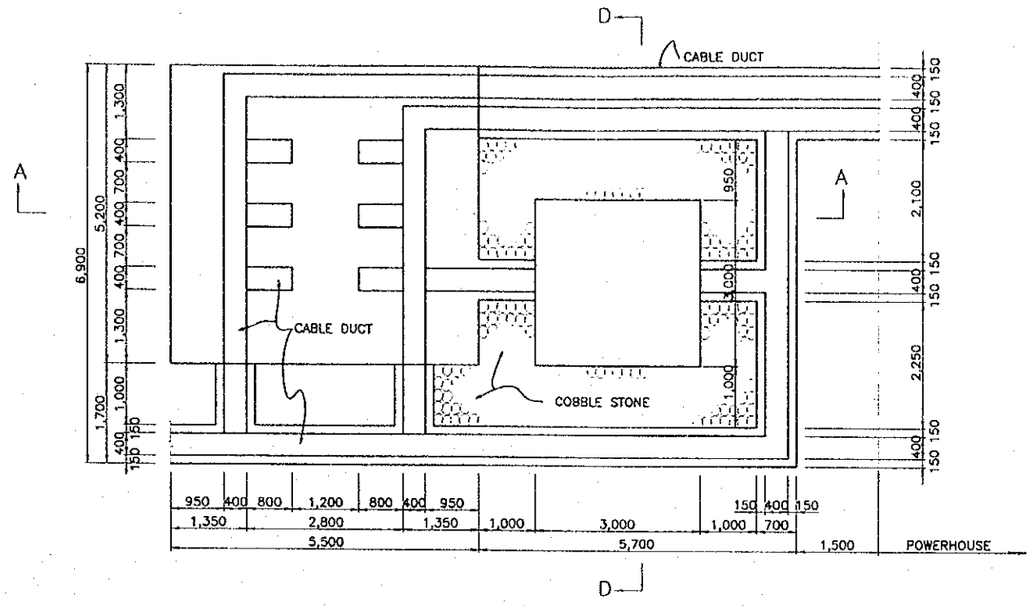
SECTION A–A

SCALE B



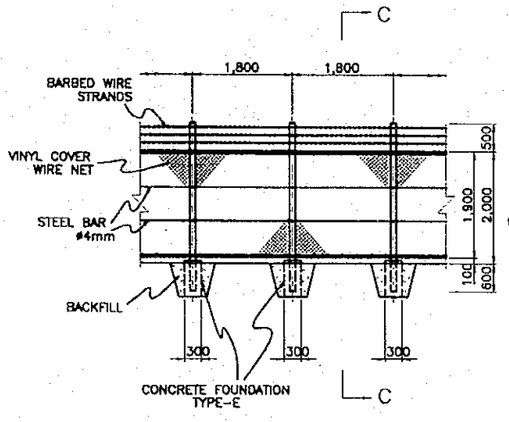
SECTION D–D

SCALE B

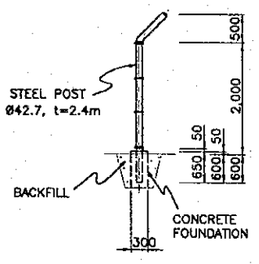


PLAN

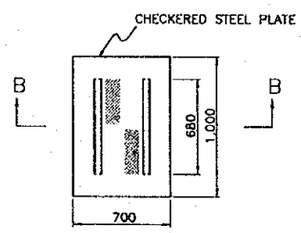
SCALE B



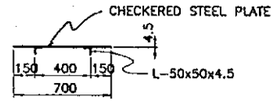
ELEVATION



SECTION C–C



PLAN



SECTION B–B

STEEL COVER

CABLE DUCT

SCALE C

WIRE NET FENCE

SCALE B

SCALE A 0 10 20 m

SCALE B 0 1 2 3 4 5 m

SCALE C 0 0.5 1 1.5 2 m

NOTES

1. ALL CABLE DUCTS SHALL BE COVERED WITH STEEL COVERS EXCEPT THE PART UNDER THE CUBICLES.
2. THE CABLE DUCT SHALL HAVE SLOPES FOR DRAINAGE TOWARD THE DRAINAGE SYSTEM IN THE POWERHOUSE AREA.
3. STEEL FOUNDATIONS AND OTHER MATERIALS FOR INSTALLATION OF THE TRANSFOMER AND THE CUBICLES ARE NOT SHOWN IN THIS DRAWING.
4. THE AREA WITHIN THE FENCE SHALL BE PAVED WITH GRAVEL OR CRUSHED AGGREGATES. (THICKNESS : 0.10 m)

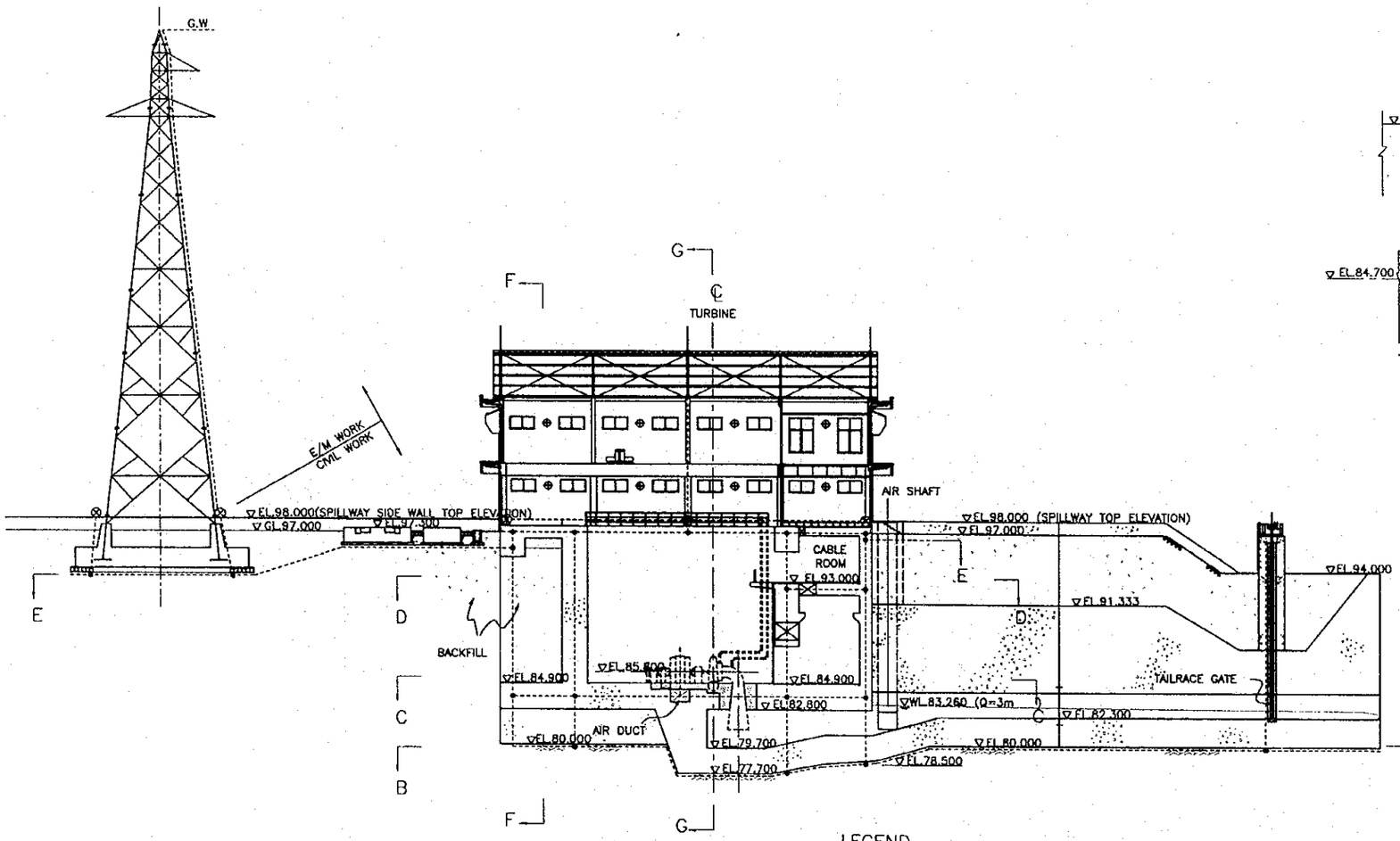
REFERENCE DRAWINGS

JD-P1-HS-Ge-1	GENERAL PLAN OF POWERHOUSE AREA
JD-P1-HS-St-11	TRANSMISSION LINE TOWER FOUNDATION

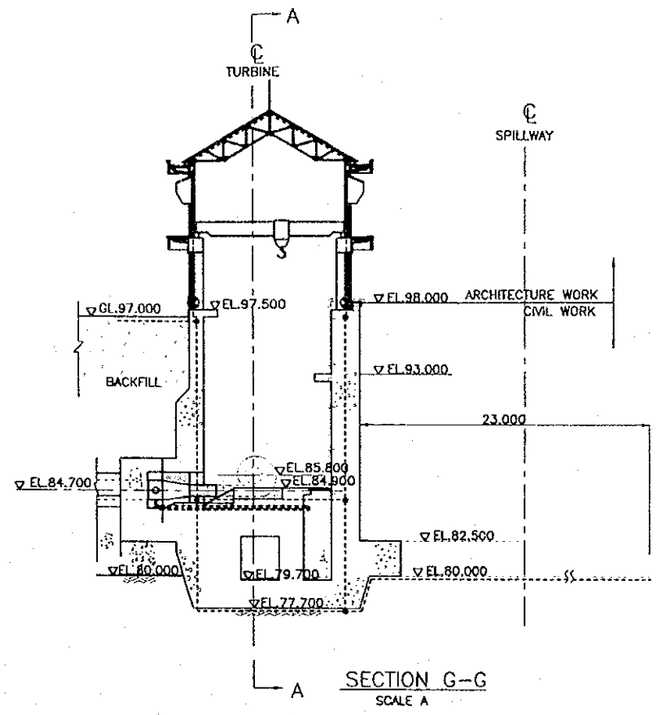
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

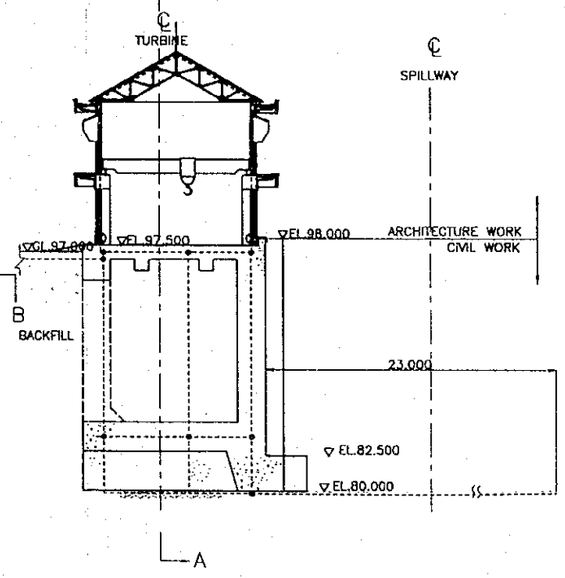
Fig. 7.7.10
TRANSMISSION LINE TOWER FOUNDATION



SECTION A–A
SCALE A



SECTION G–G
SCALE A



SECTION F–F
SCALE A

LEGEND

- GROUND CABLE EMBEDDED (HDCC 60 mm2)
- GROUND CABLE RISER (UP)
- GROUND CABLE RISER (DOWN)
- CRAMP-STYLE CONNECTION
- GROUND CABLE TO BE CONNECTED TO GROUNDSYSTEM IN ARCHITECTURAL WORK OR/AND E/M WORK

REFERENCE DRAWINGS

JD-P1-HS-St-13 POWERHOUSE AREA GROUNDING WORK (SHEET 2 OF 3)
JD-P1-HS-St-14 POWERHOUSE AREA GROUNDING WORK (SHEET 3 OF 3)
E1-500 JATIBARANG DAM HYDROPOWER STSTION COMPLEX LIGHTING CONDUCTOR PLAN AND DETAIL HYDROPOWER STATION

SCALE A 0 5 10 m

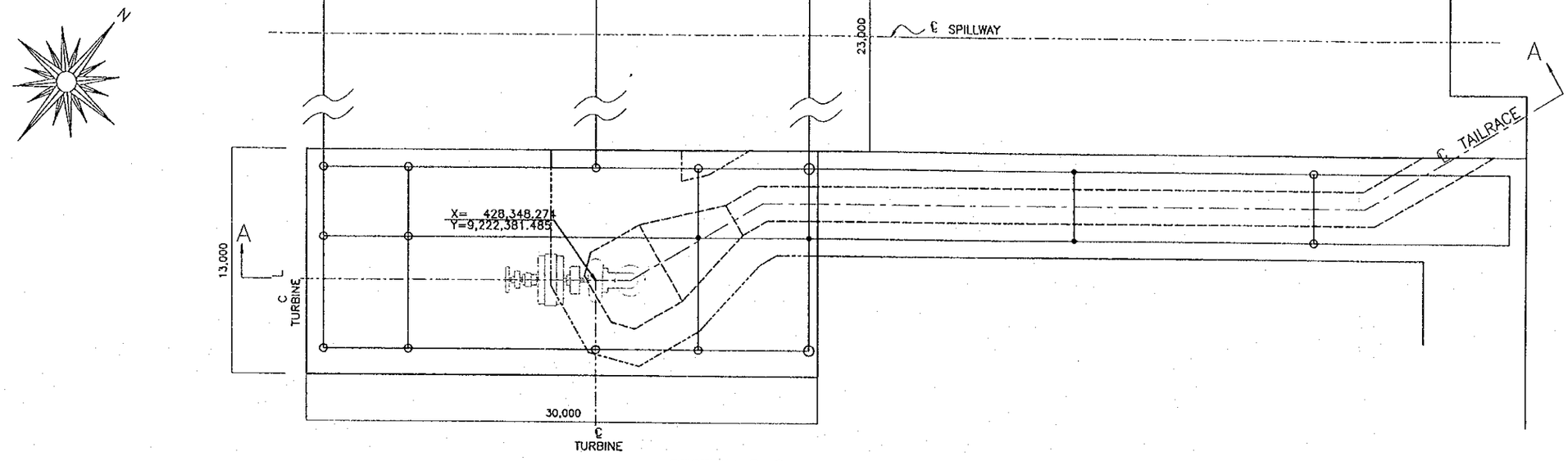
NOTES

1. ALL GROUNDING CONDUCTORS AND CONNECTIONS SHALL BE EMBEDDED IN OR COVERED BY CONCRETE.
2. JOINTS SHALL BE BRAZED USING ALLOY CPI TO BS 1845–1966 (15 % Ag : 5 % P : CU)
3. CURRENT AND VOLTAGE TRANSFORMERS, CAPACITORS, MOTOR STARTER CUBICLES AND CONTROL PANELS TO BE CONNECTED TO THE NEAREST EARTHING BUSBAR WITH NOT LESS THAN 70 mm2 COPPER CONDUCTOR. OTHER SEPARATERLY MOUNTED EQUIPMENT SHALL BE EARTHED BY COPPER CONDUCTOR AS REQUIRED BY TABLE 27 OF AS 3000 PART 1–1976 EXCEPT THAT WHERE A WIRE IS USED IT SHALL CONSIST OF AT LEAST 7 STRANDS.
4. ALL METAL SUCH AS PIPES, DOOR FRAMES AND HANDRAILS, WHICH ARE READILY ACCESSIBLE TO HAND CONTACT SHALL BE CONNECTED TO THE EARTH GRID.
   ITEMS EMBEDDED SUCH AS DOOR FRAMES, SHALL BE CONNECTED DIRECTLY TO THE EMBEDDED EATHING GRID.
   TO ENSURE ADEQUATE MECHANICAL STRENGTH, THE CONNECTIONS BETWEEN METALWORK AND THE COPPER EARTHING BUSBARS SHALL BE LOCATED IN POSITIONS WHERE THEY ARE PROTECTED FROM DAMAGE AND SHALL BE MADE USING COPPER WIRE OF NOT LESS THAN 4 mm2 AND NOT LESS THAN 7 STRANDS OR COPPER STRIP NOT LESS THAN 25 mm X 3 mm.
5. ITEMS NOT MARKED * ARE SUPPLED AND INSTLLED BY THE CIVIL CONTRACTOR.

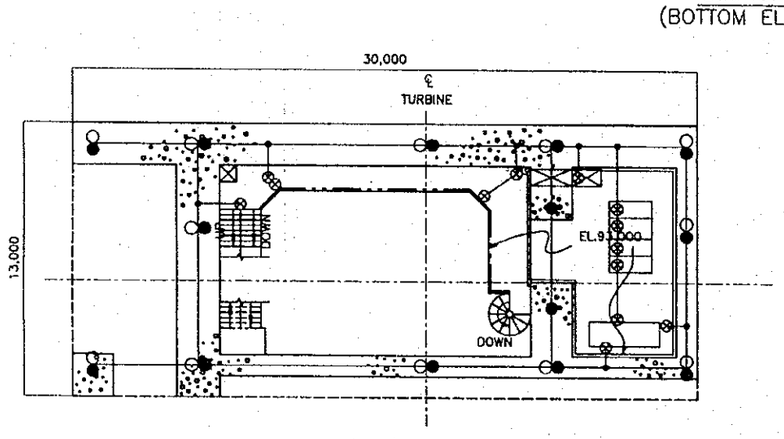
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

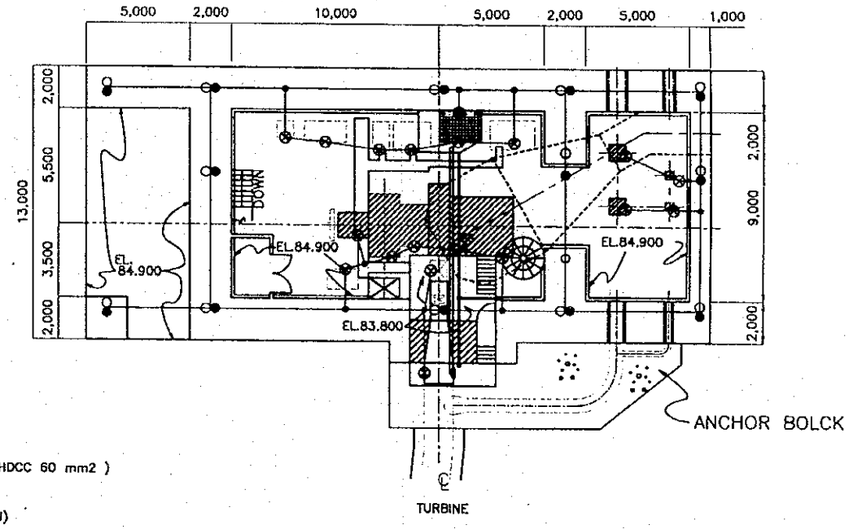
Fig. 7.7.11 (1/3)
POWERHOUSE AREA GRANDING WORK



SECTION B–B
(BOTTOM ELEVATION)



SECTION D–D
(EL.93.000 FLOOR)



SECTION C–C
(EL.84.900 FLOOR)

SCALE A 0 5 10 m

NOTES

1. ALL GROUNDING CONDUCTORS AND CONNECTIONS SHALL BE EMBEDDED IN OR COVERED BY CONCRETE.
2. JOINTS SHALL BE BRAZED USING ALLOY CPI TO BS 1845–1966 (15 % Ag : 5 % P : CU)
3. CURRENT AND VOLTAGE TRANSFORMERS, CAPACITORS, MOTOR STATER CUBICLES AND CONTROL PANELS TO BE CONNECTED TO THE NEAREST EARTHING BUSBAR WITH NOT LESS THAN 70 mm2 COPPER CONDUCTOR. OTHER SEPARATERLY MOUNTED EQUIPMENT SHALL BE EARTHED BY COPPER CONDUCTOR AS REQUIRED BY TABLE 27 OF AS 3000 PART 1–1976 EXCEPT THAT WHERE A WIRE IS USED IT SHALL CONSIST OF AT LEAST 7 STRANDS.
4. ALL METAL SUCH AS PIPES, DOOR FRAMES AND HANDRAILS, WHICH ARE READILY ACCESSIBLE TO HAND CONTACT SHALL BE CONNECTED TO THE EARTH GRID.
   ITEMS EMBEDDED SUCH AS DOOR FRAMES, SHALL BE CONNECTED DIRECTLY TO THE EMBEDDED EARTHING GRID.
   TO ENSURE ADEQUATE MECHANICAL STRENGTH, THE CONNECTIONS BETWEEN METALWORK AND THE COPPER EARTHING BUSBARS SHALL BE LOCATED IN POSITIONS WHERE THEY ARE PROTECTED FROM DAMAGE AND SHALL BE MADE USING COPPER WIRE OF NOT LESS THAN 4 mm2 AND NOT LESS THAN 7 STRANDS OR COPPER STRIP NOT LESS THAN 25 mm X 3 mm.

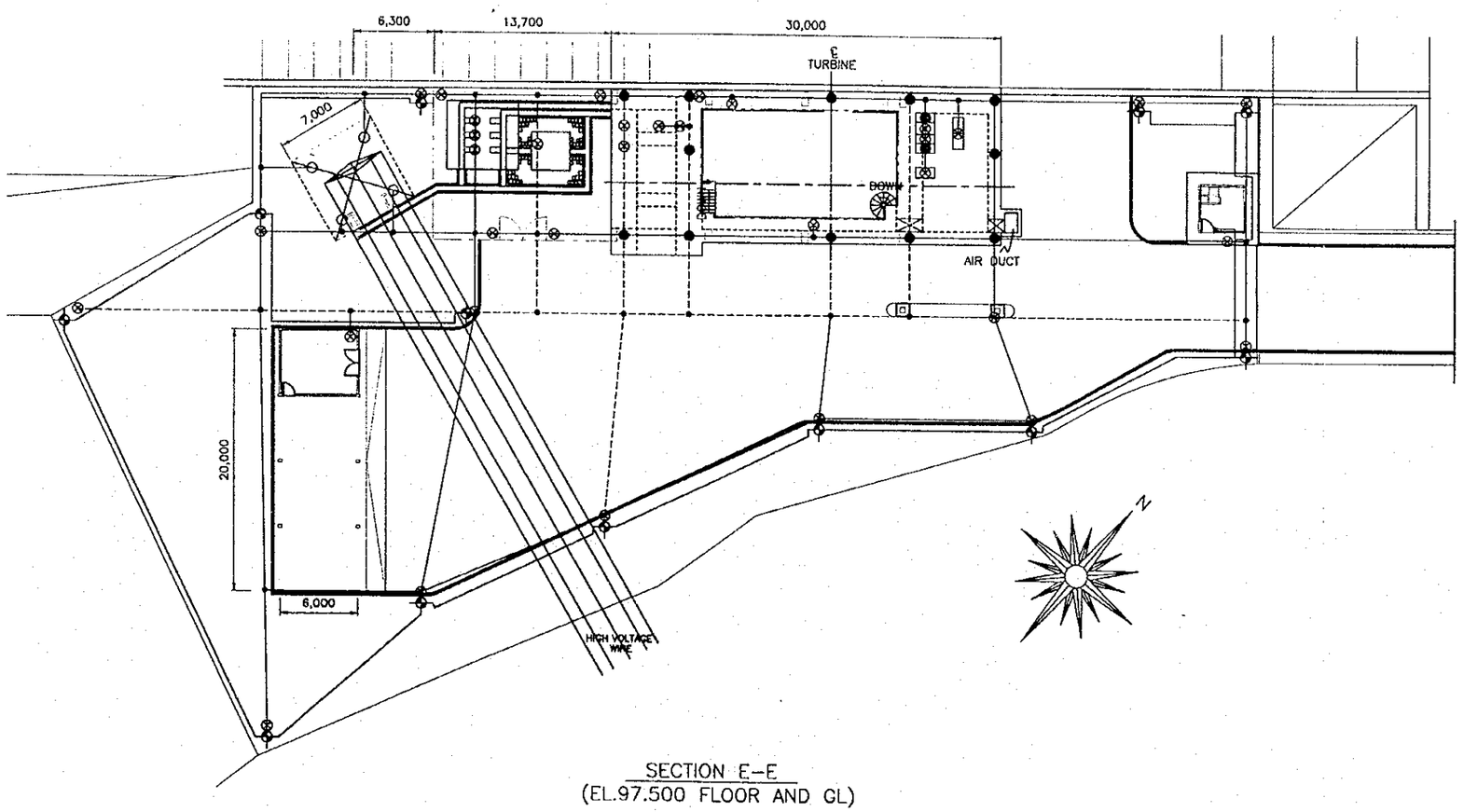
LEGEND

- GROUND CABLE EMBEDDED (HDCC 60 mm2)
- ○ GROUND CABLE RISER (UP)
- ● GROUND CABLE RISER (DOWN)
- CRAMP–STYLE CONNECTION
- ⊗ GROUND CABLE TO BE CONNECTED TO GROUND SYSTEM IN ARCHITECTURAL WORK AND/OR E/M WORK

REFERENCE DRAWINGS

JD–P1–HS–Gr–1 POWERHOUSE AREA GROUNDING WORK (SHEET 1/3)

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.11 (2/3) POWERHOUSE AREA GRANDING WORK
JAPAN INTERNATIONAL COOPERATION AGENCY	



SECTION E–E
(EL.97.500 FLOOR AND GL)

NOTES

1. ALL GROUNDING CONDUCTORS AND CONNECTIONS SHALL BE EMBEDDED IN OR COVERED BY CONCRETE.
2. JOINTS SHALL BE BRAZED USING ALLOY CP1 TO BS 1845–1966 (15 % Ag : 5 % P : CU)
3. CURRENT AND VOLTAGE TRANSFORMERS, CAPACITORS, MOTOR STATER CUBICLES AND CONTROL PANELS TO BE CONNECTED TO THE NEAREST EARTHING BUSBAR WITH NOT LESS THAN 70 mm2 COPPER CONDUCTOR. OTHER SEPARATERLY MOUNTED EQUIPMENT SHALL BE EARTHED BY COPPER CONDUCTOR AS REQUIRED BY TABLE 27 OF AS 3000 PART 1–1978 EXCEPT THAT WHERE A WIRE IS USED IT SHALL CONSIST OF AT LEAST 7 STRANDS.
4. ALL METAL SUCH AS PIPES, DOOR FRAMES AND HANDRAILS, WHICH ARE READILY ACCESSIBLE TO HAND CONTACT SHALL BE CONNECTED TO THE EARTH GRID.
   ITEMS EMBEDDED SUCH AS DOOR FRAMES, SHALL BE CONNECTED DIRECTLY TO THE EMBEDDED EARTHING GRID.
   TO ENSURE ADEQUATE MECHANICAL STRENGTH, THE CONNECTIONS BETWEEN METALWORK AND THE COPPER EARTHING BUSBARS SHALL BE LOCATED IN POSITIONS WHERE THEY ARE PROTECTED FROM DAMAGE AND SHALL BE MADE USING COPPER WIRE OF NOT LESS THAN 4 mm2 AND NOT LESS THAN 7 STRANDS OR COPPER STRIP NOT LESS THAN 25 mm X 3 mm.

LEGEND

- GROUND CABLE EMBEDDED (HDCC 60 mm2)
- GROUND CABLE RISER (UP)
- GROUND CABLE RISER (DOWN)
- CRAMP–STYLE CONNECTION
- GROUND CABLE TO BE CONNECTED TO GROUND SYSTEM IN ARCHITECTURAL WORK AND/OR E/M WORK

REFERENCE DRAWINGS

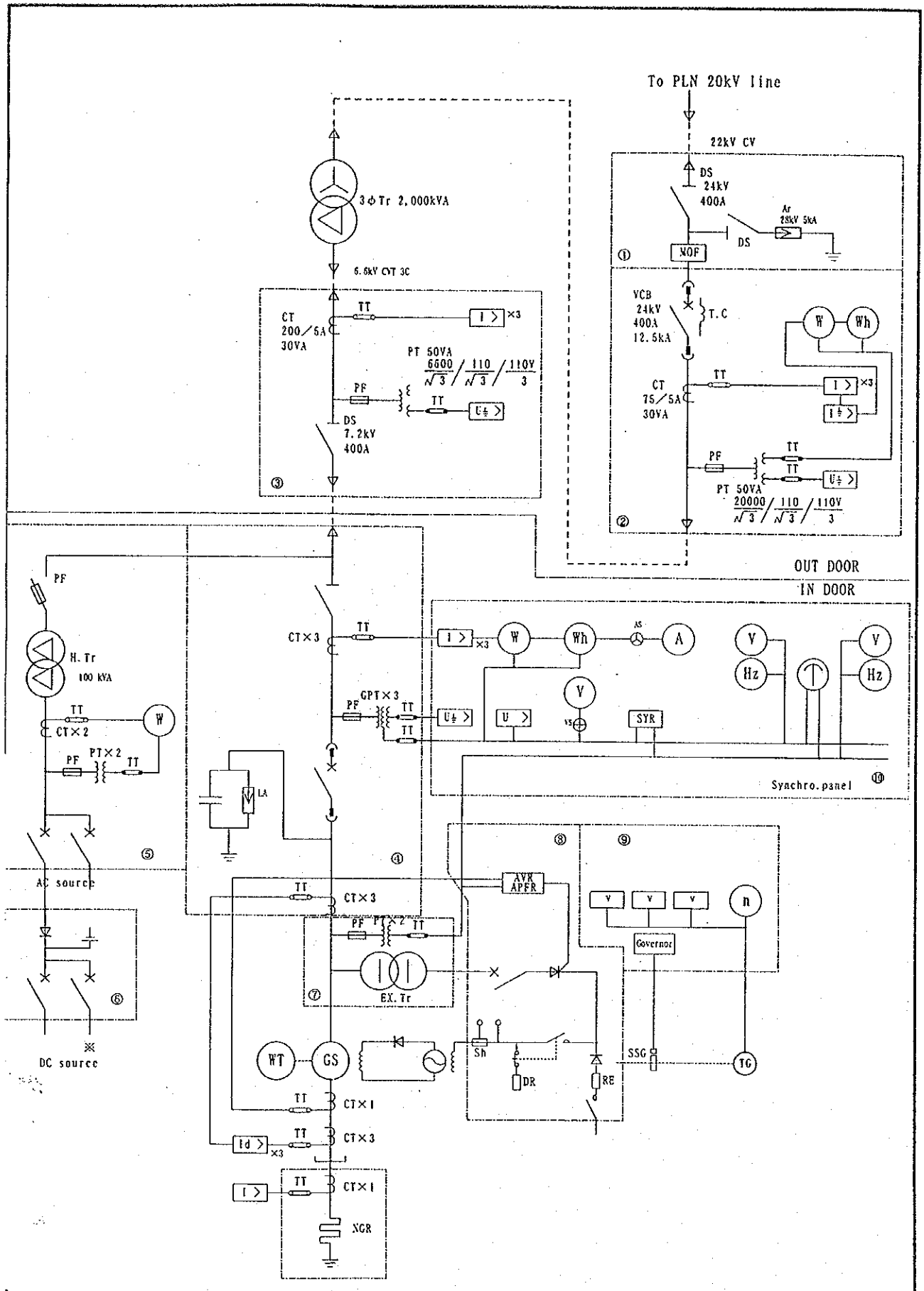
JD–P1–HS–Tr–1 POWERHOUSE AREA GROUNDING WORK (SHEET 1/3)

SCALE A 0 5 10 m

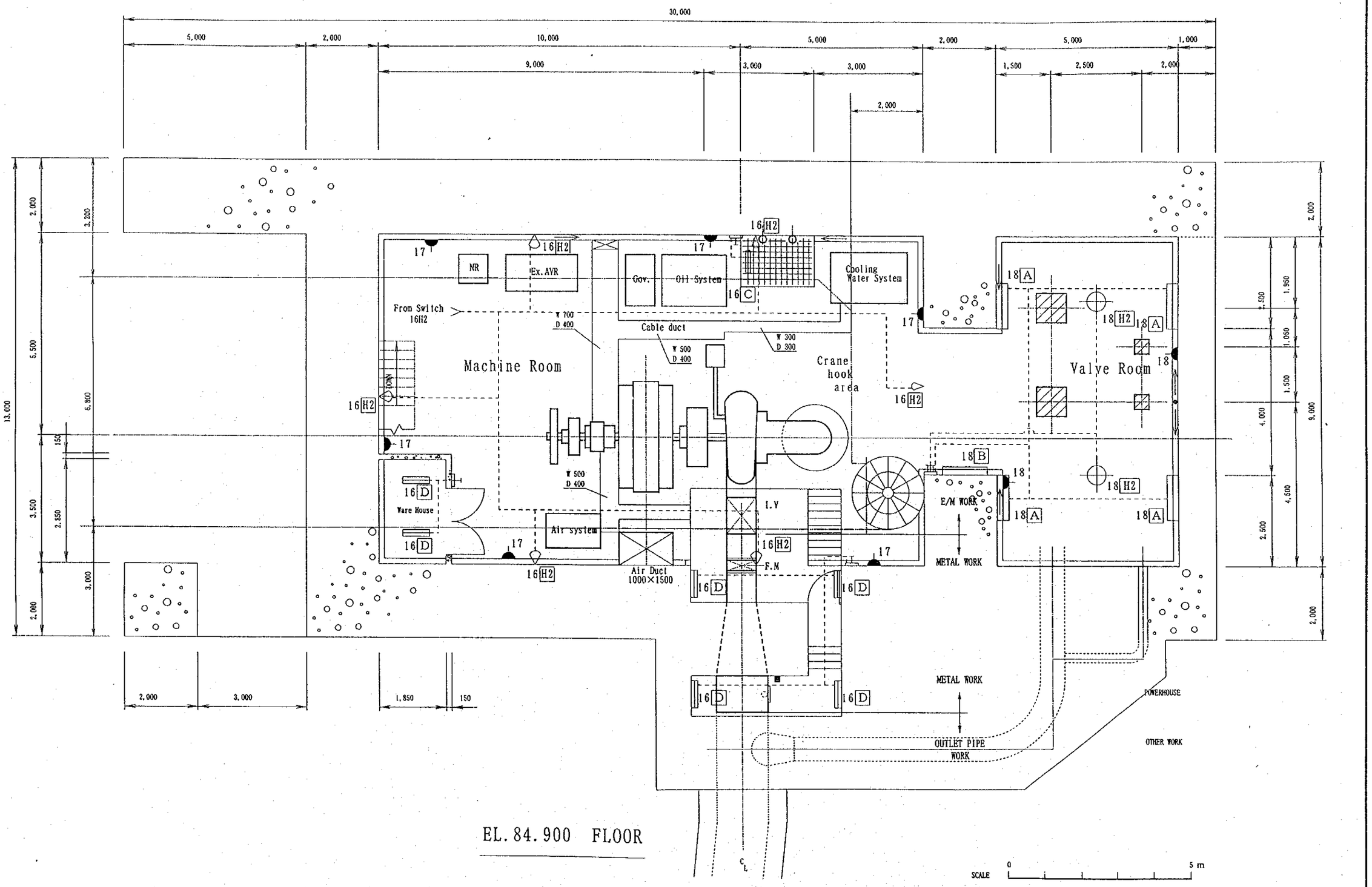
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

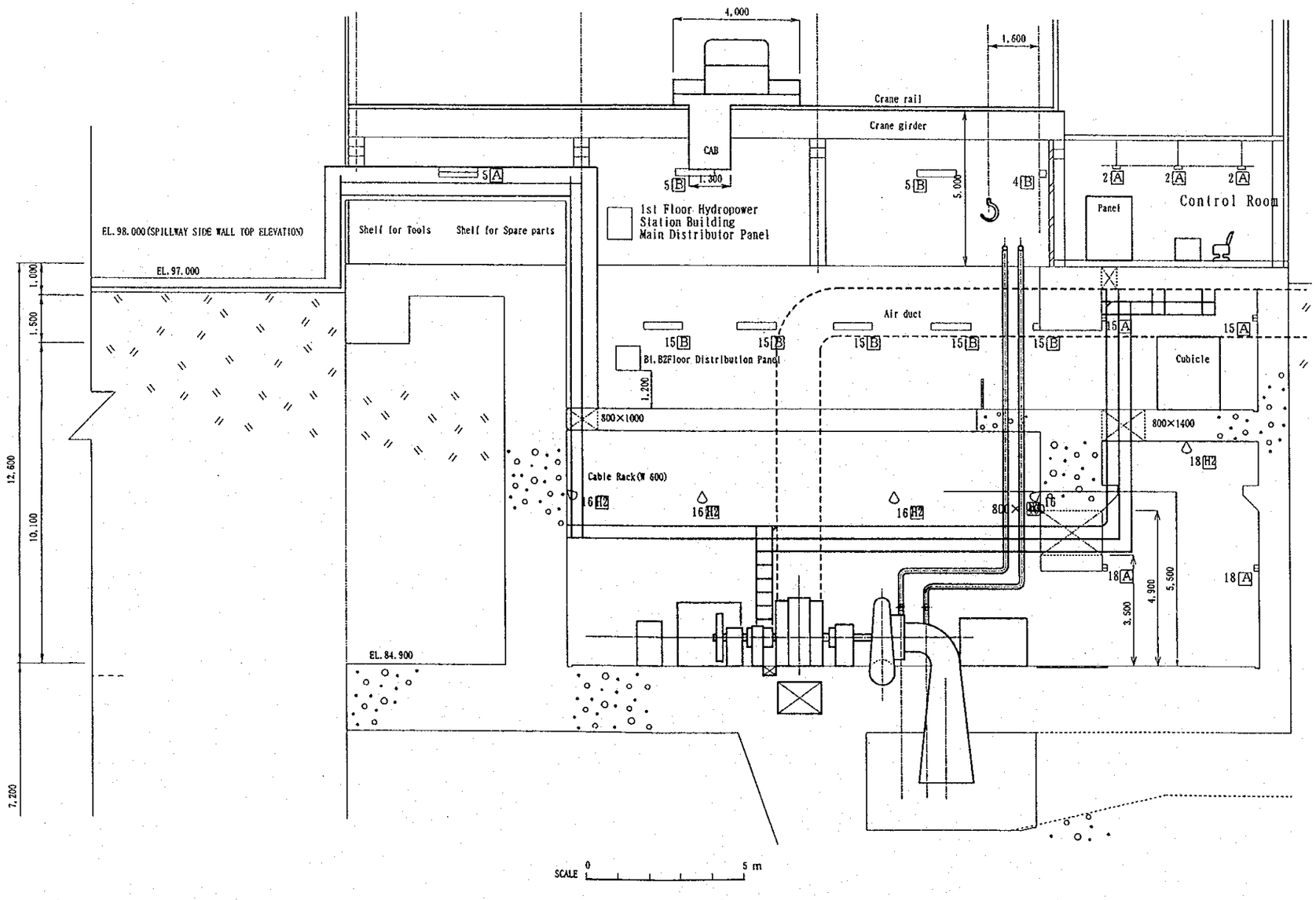
Fig. 7.7.11 (3/3)
POWERHOUSE AREA GRANDING WORK



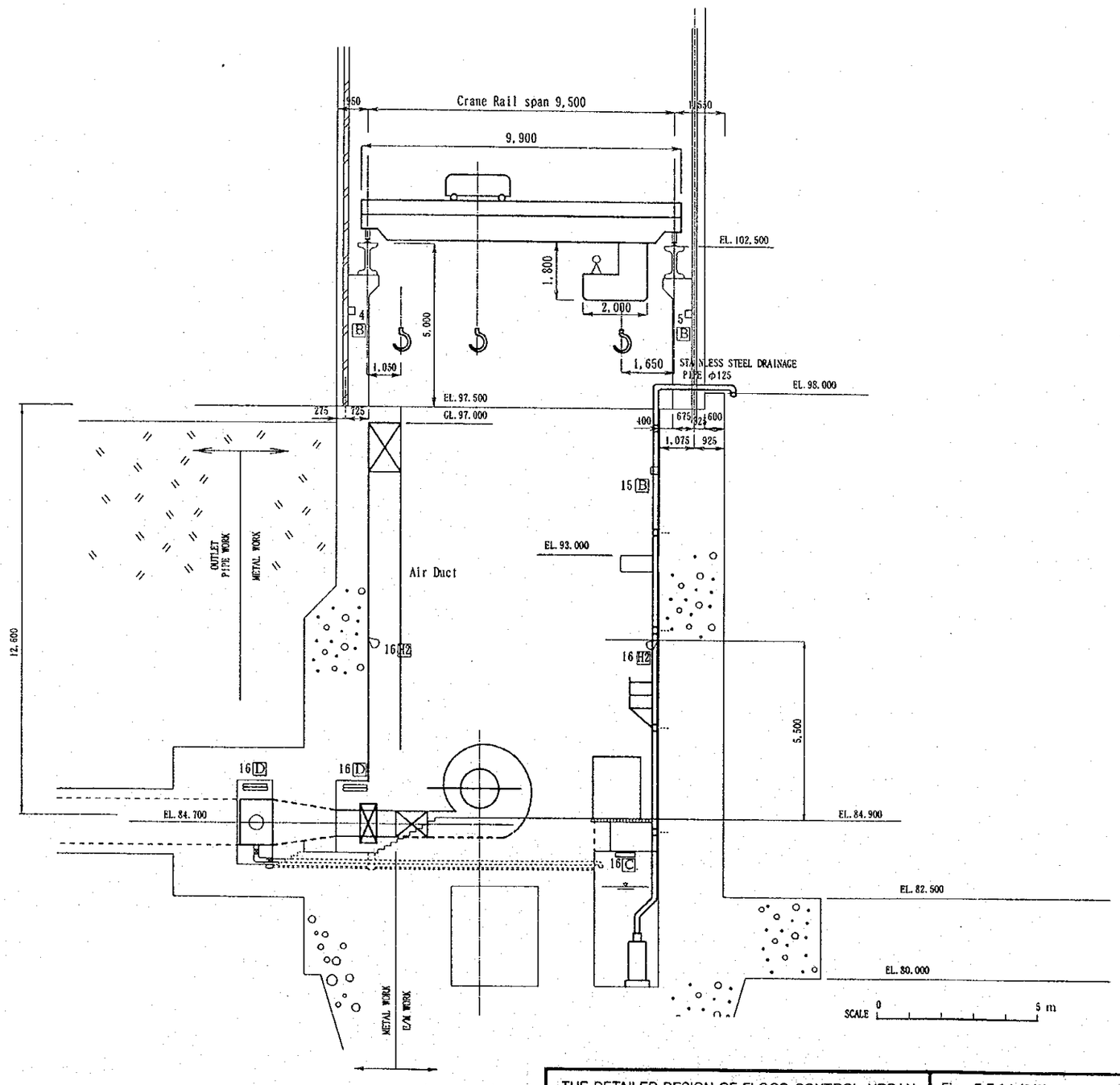
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.12 SINGLE LINE DIAGRAM OF JATIBARANG HYDROPOWER STATION
JAPAN INTERNATIONAL COOPERATION AGENCY	



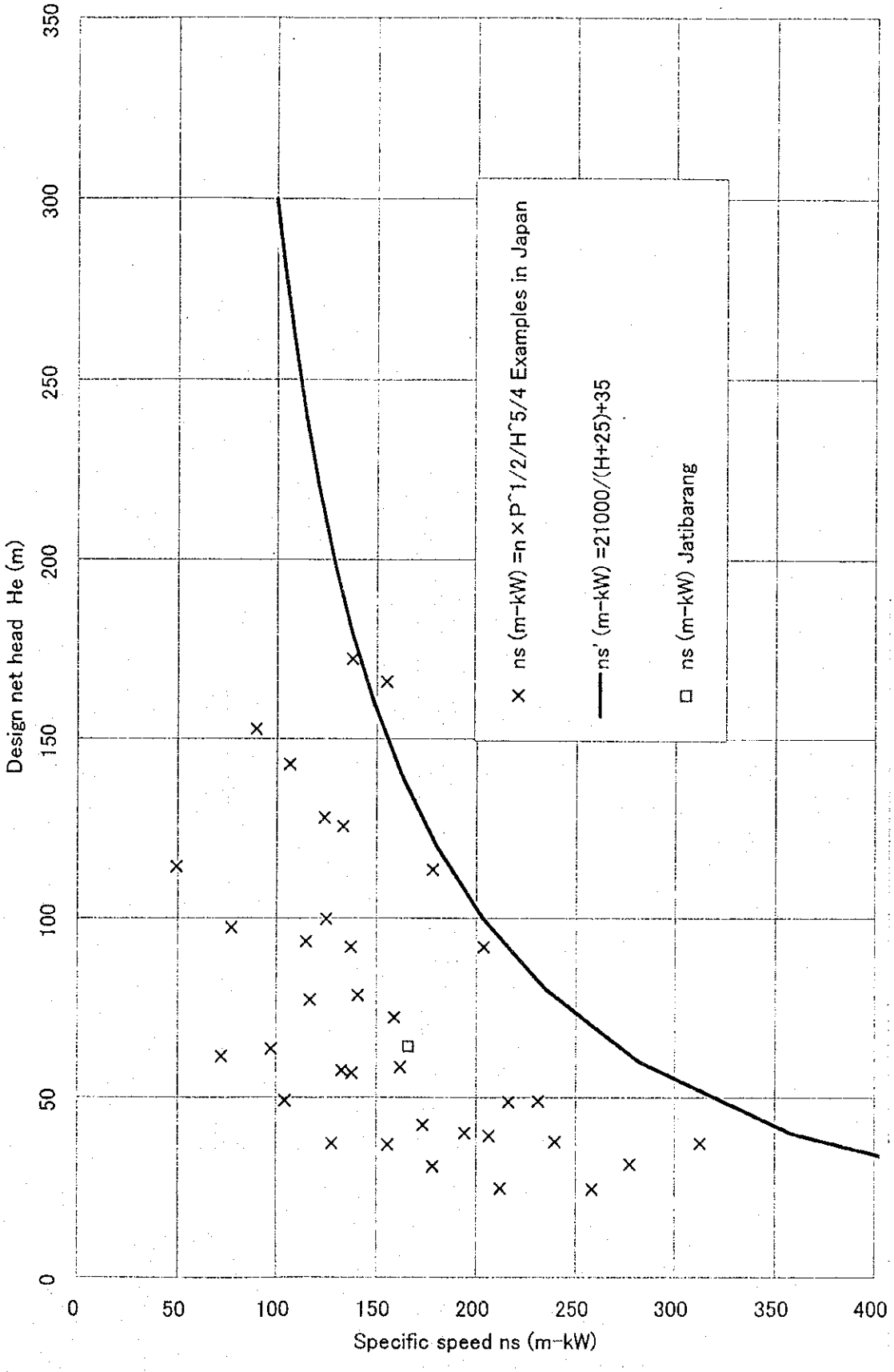
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.13 PLAN OF MACHINE ROOM
JAPAN INTERNATIONAL COOPERATION AGENCY	



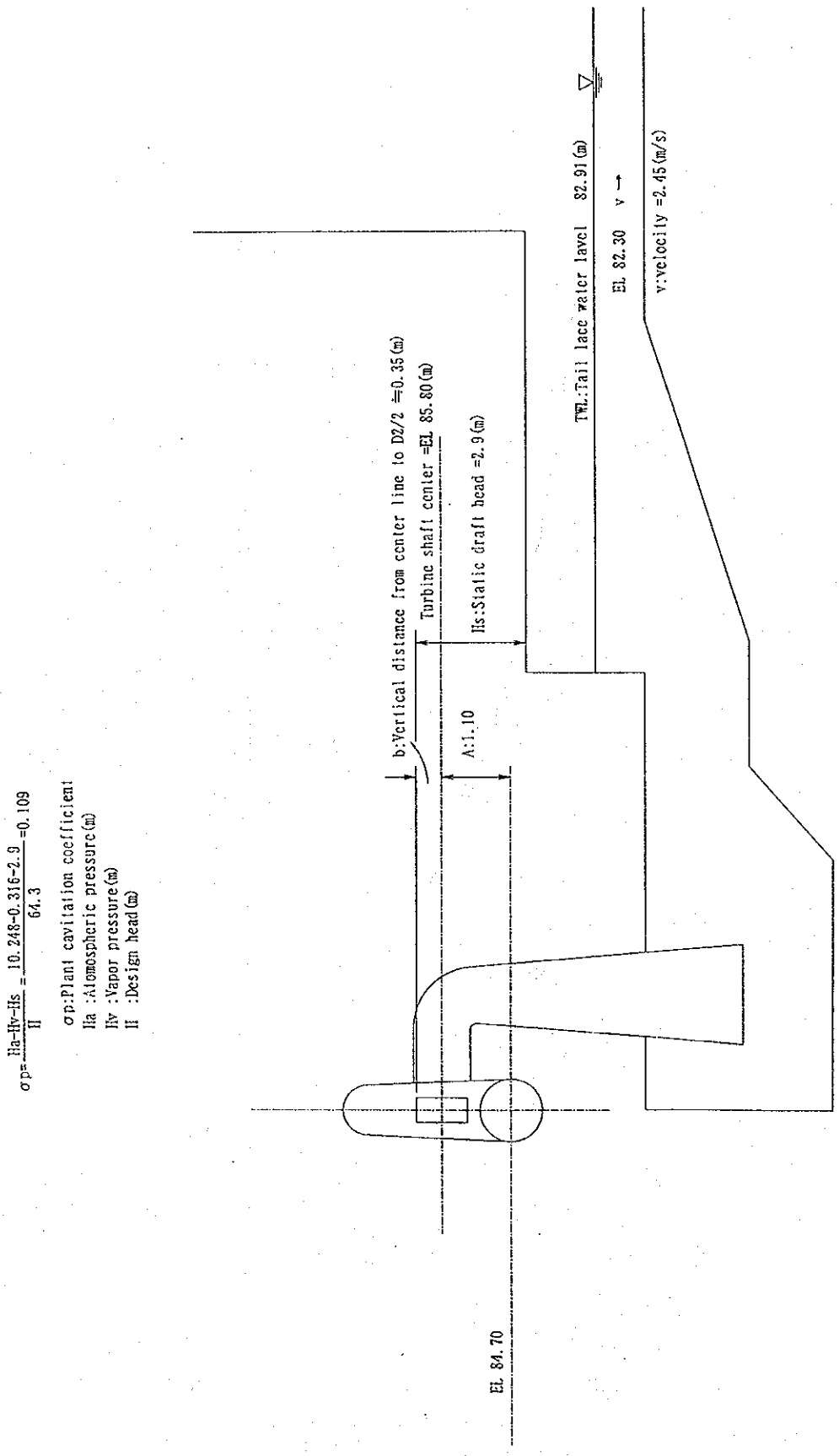
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.14 (1/2) LONGITUDINAL PROFILE OF POWERHOUSE
JAPAN INTERNATIONAL COOPERATION AGENCY	



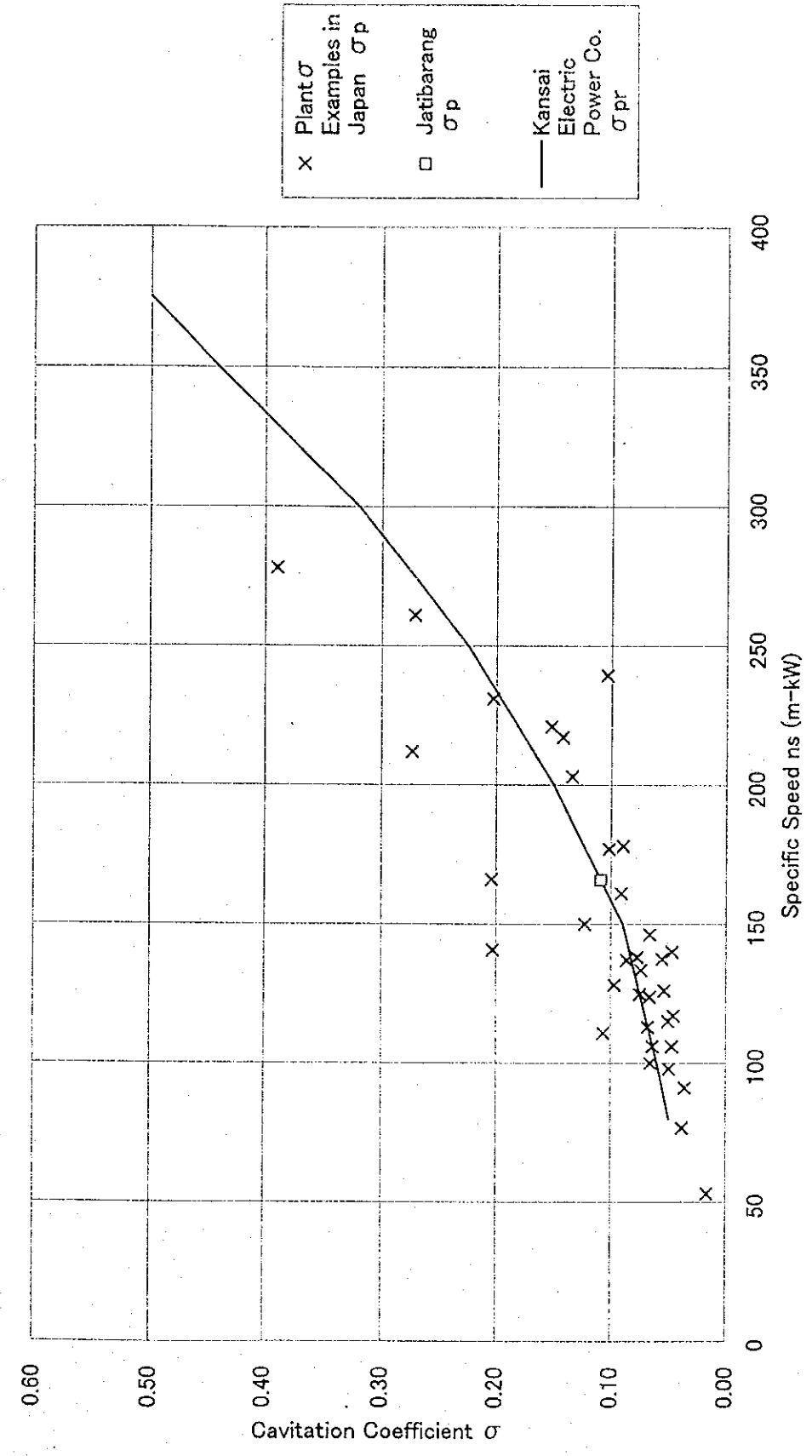
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.14 (2/2) CROSS PROFILE OF POWERHOUSE
JAPAN INTERNATIONAL COOPERATION AGENCY	



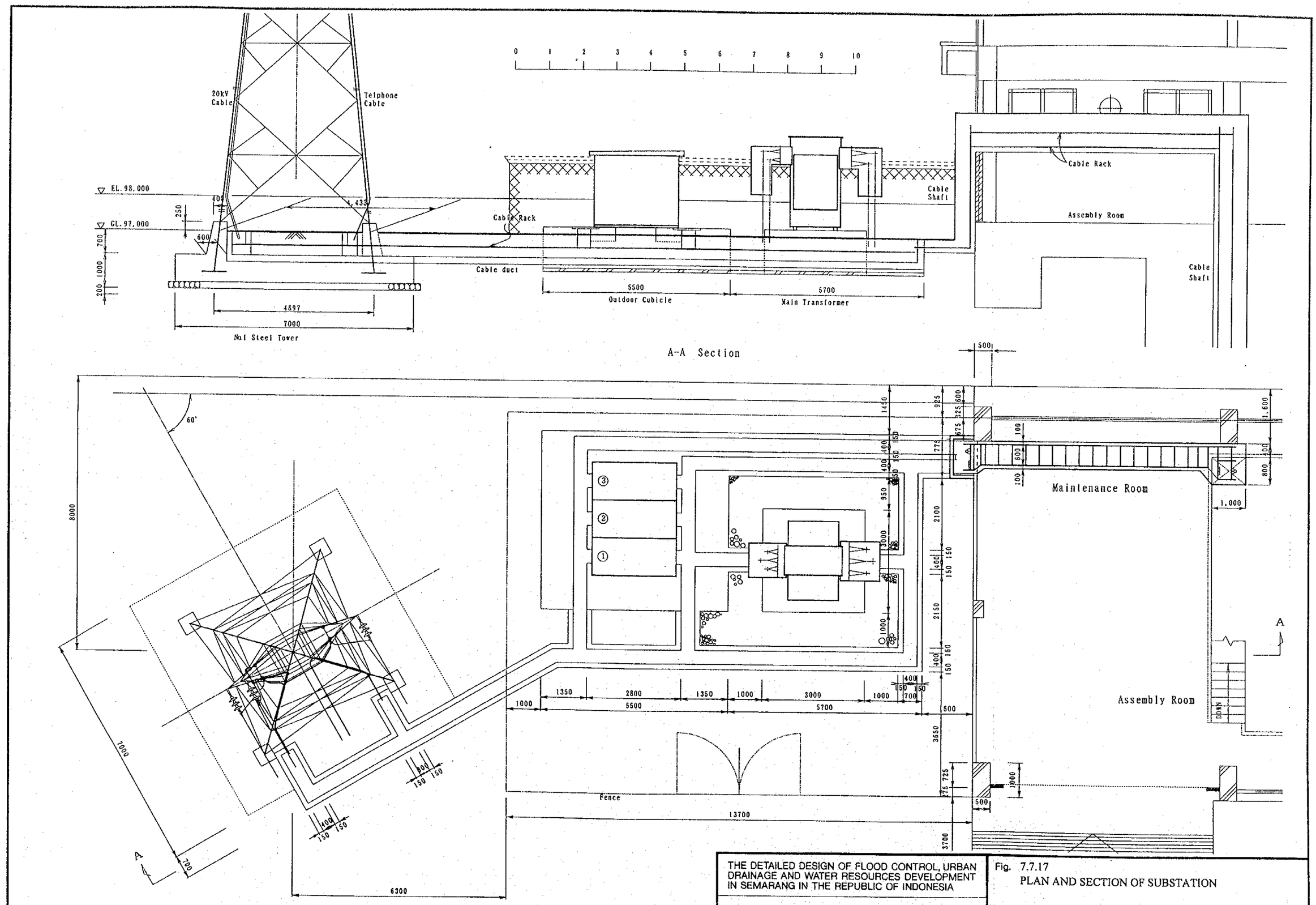
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.15 SELECTION OF SPECIFIC SPEED (HORIZONTAL FRANCIS)
JAPAN INTERNATIONAL COOPERATION AGENCY	



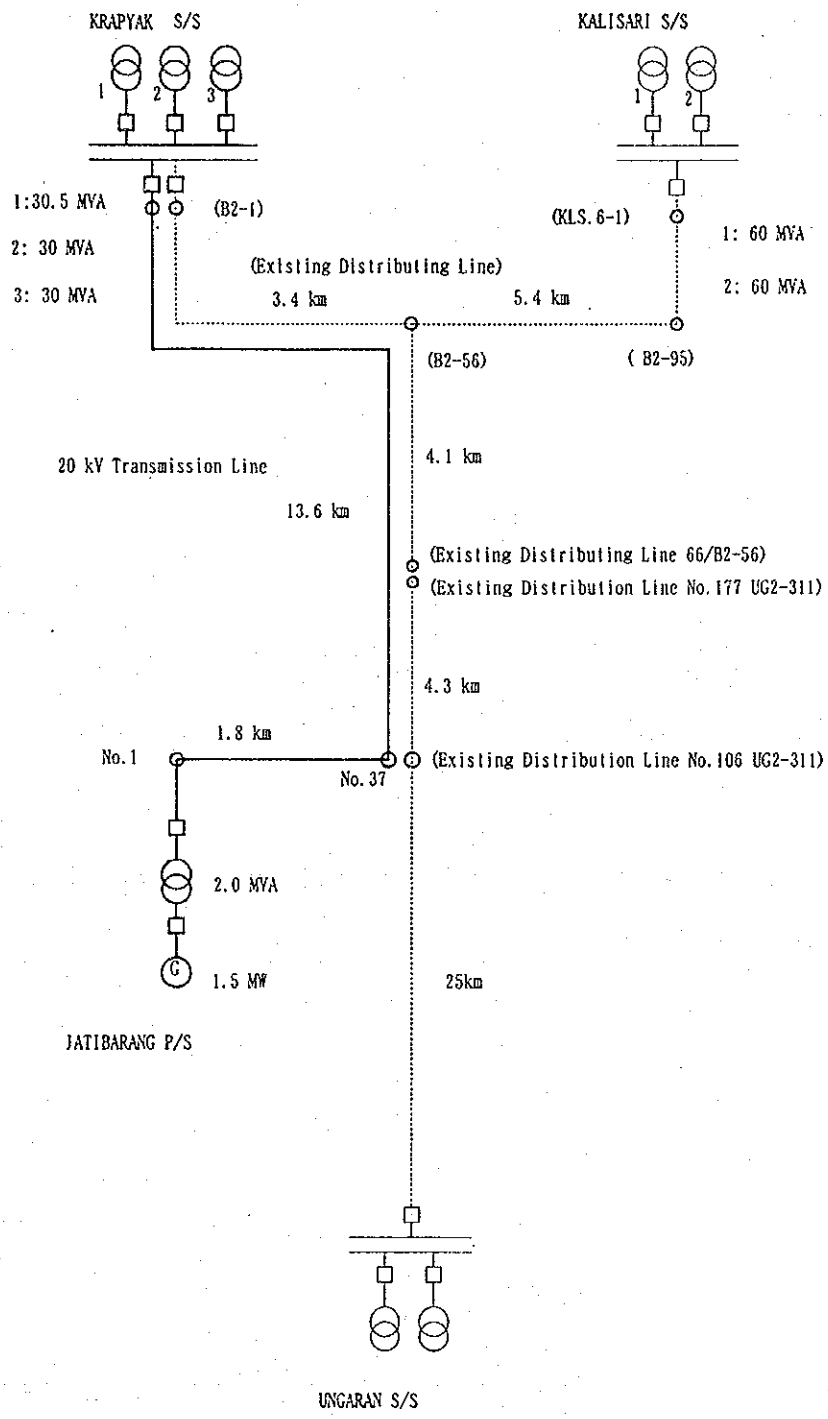
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.16 (1/2) CAVITATION COEFFICIENT OF HORIZONTAL FRANCIS TURBINE
JAPAN INTERNATIONAL COOPERATION AGENCY	



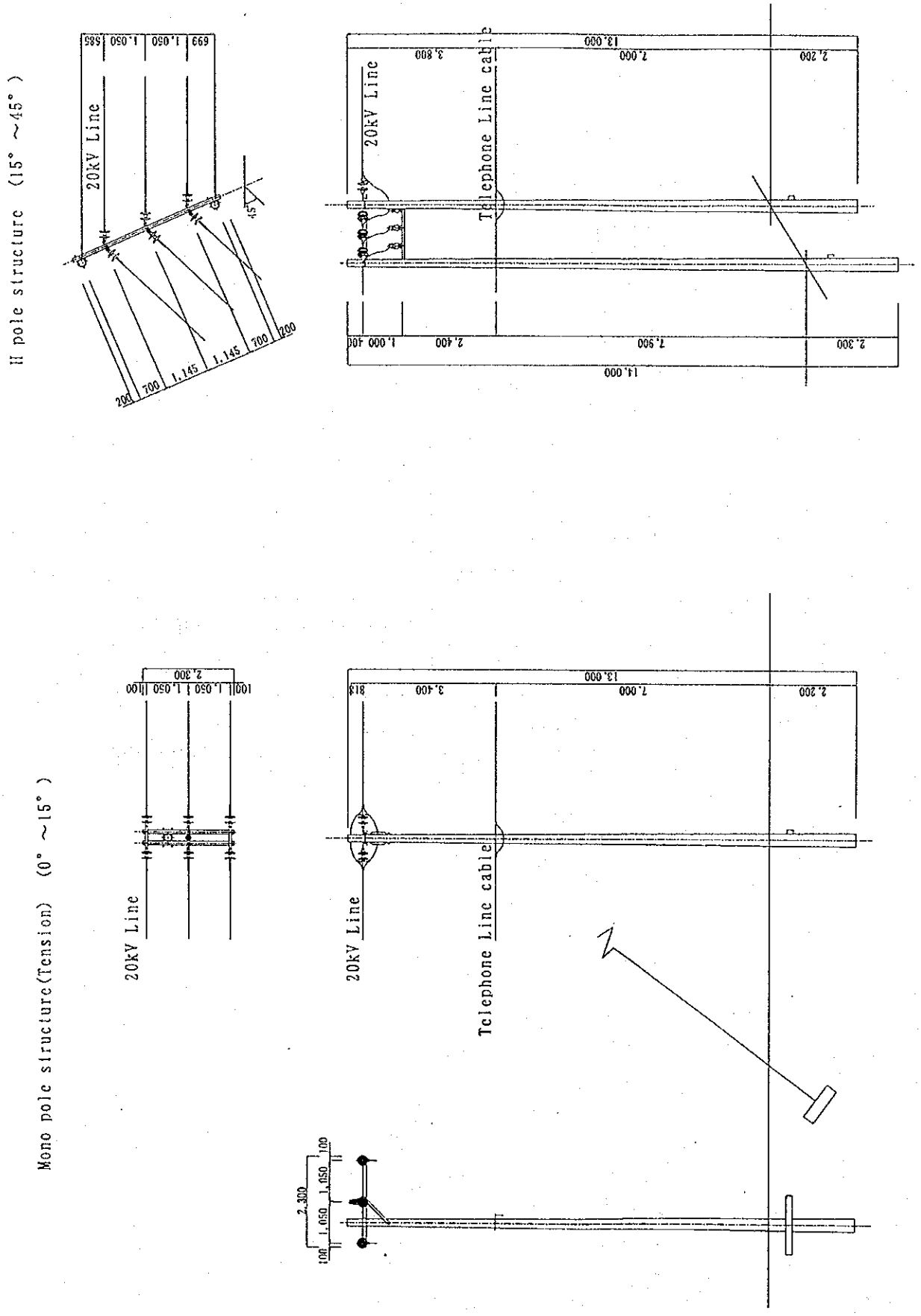
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.16 (2/2) CAVITATION COEFFICIENT OF HORIZONTAL FRANCIS TURBINE
JAPAN INTERNATIONAL COOPERATION AGENCY	



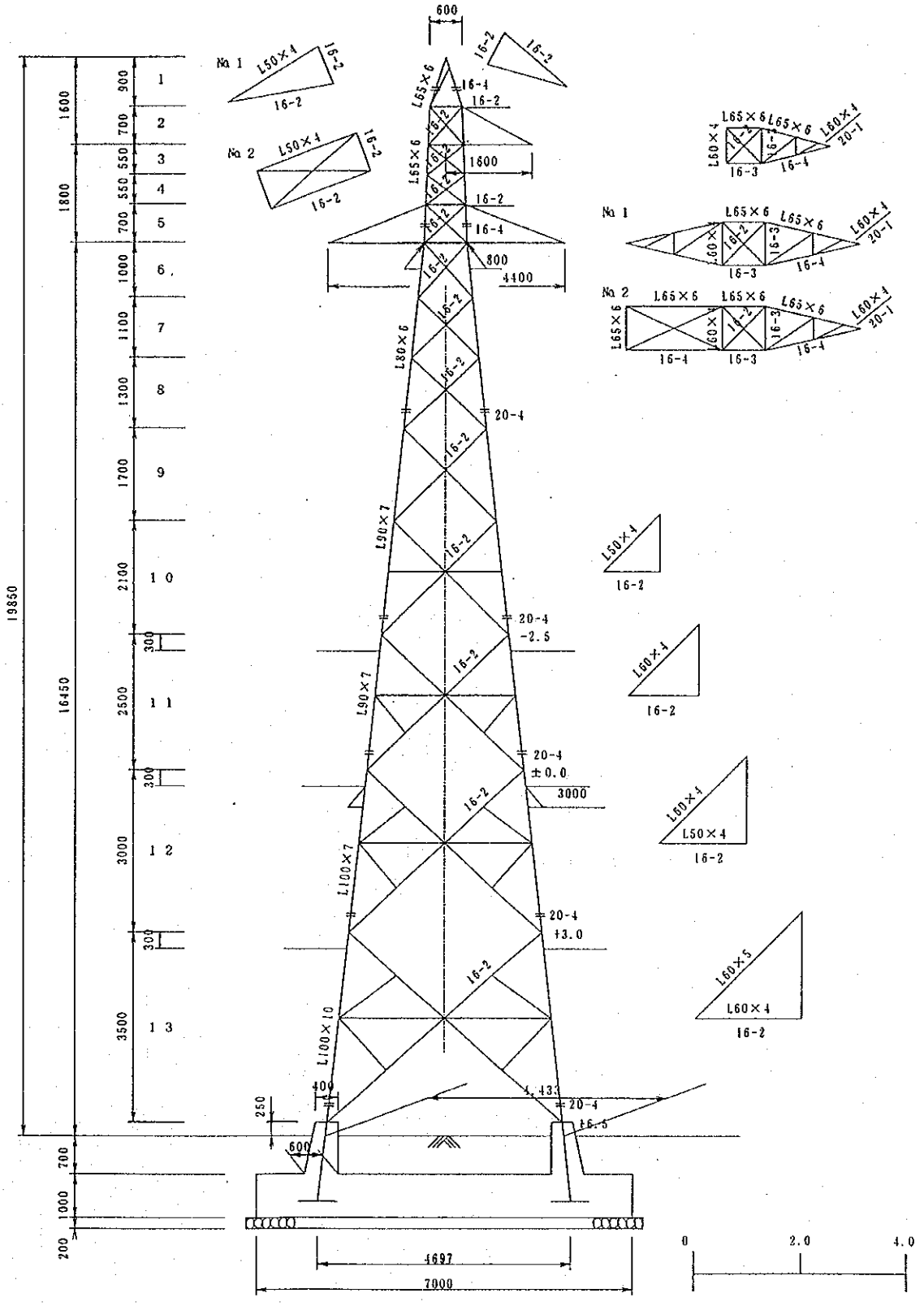
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.17 PLAN AND SECTION OF SUBSTATION
JAPAN INTERNATIONAL COOPERATION AGENCY	



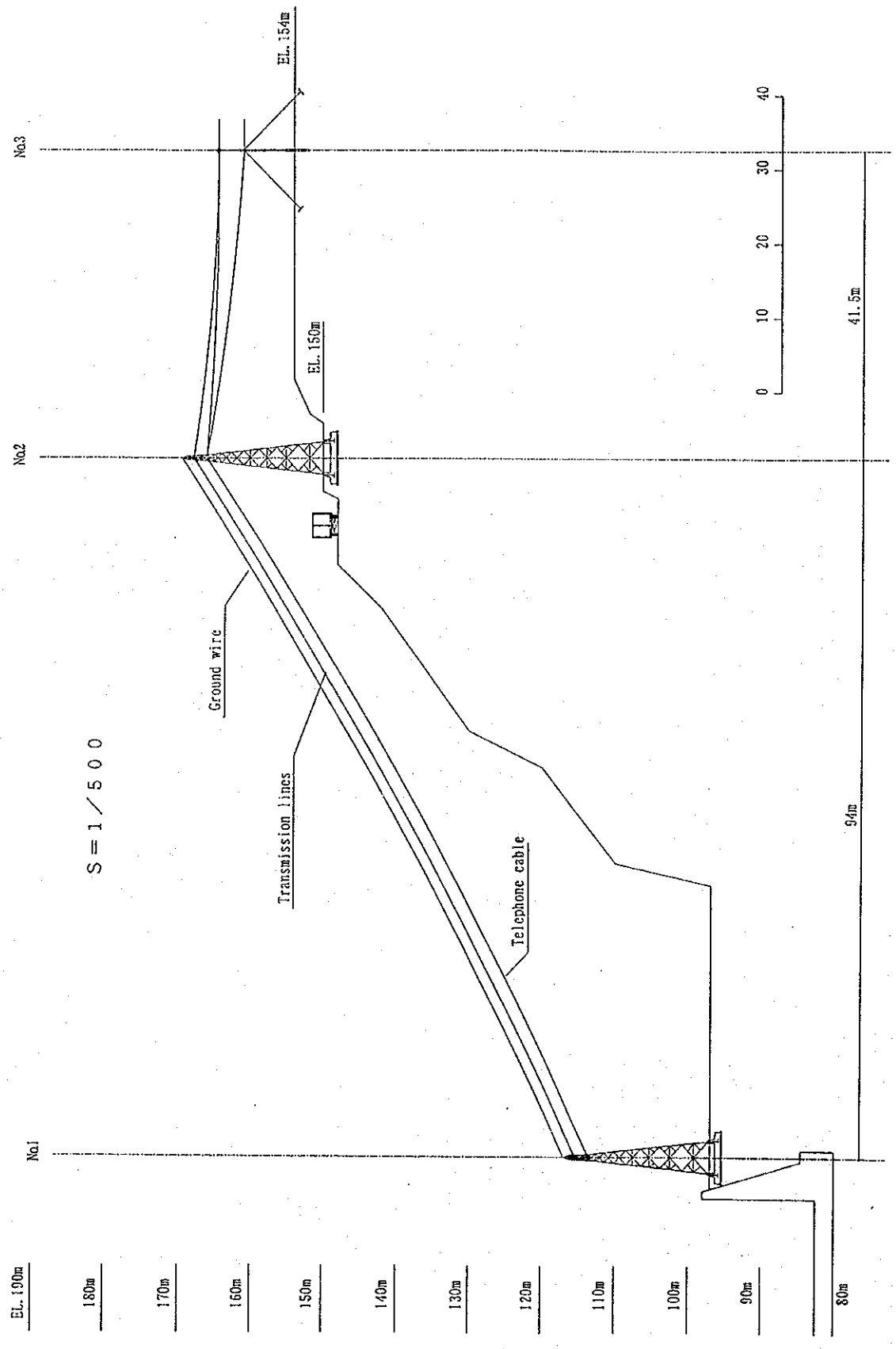
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.18 CONNECTION DIAGRAM OF TRANSMISSION LINE
JAPAN INTERNATIONAL COOPERATION AGENCY	



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.19 STANDARD ASSEMBLY OF SUPPORTING STRUCTURES
JAPAN INTERNATIONAL COOPERATION AGENCY	



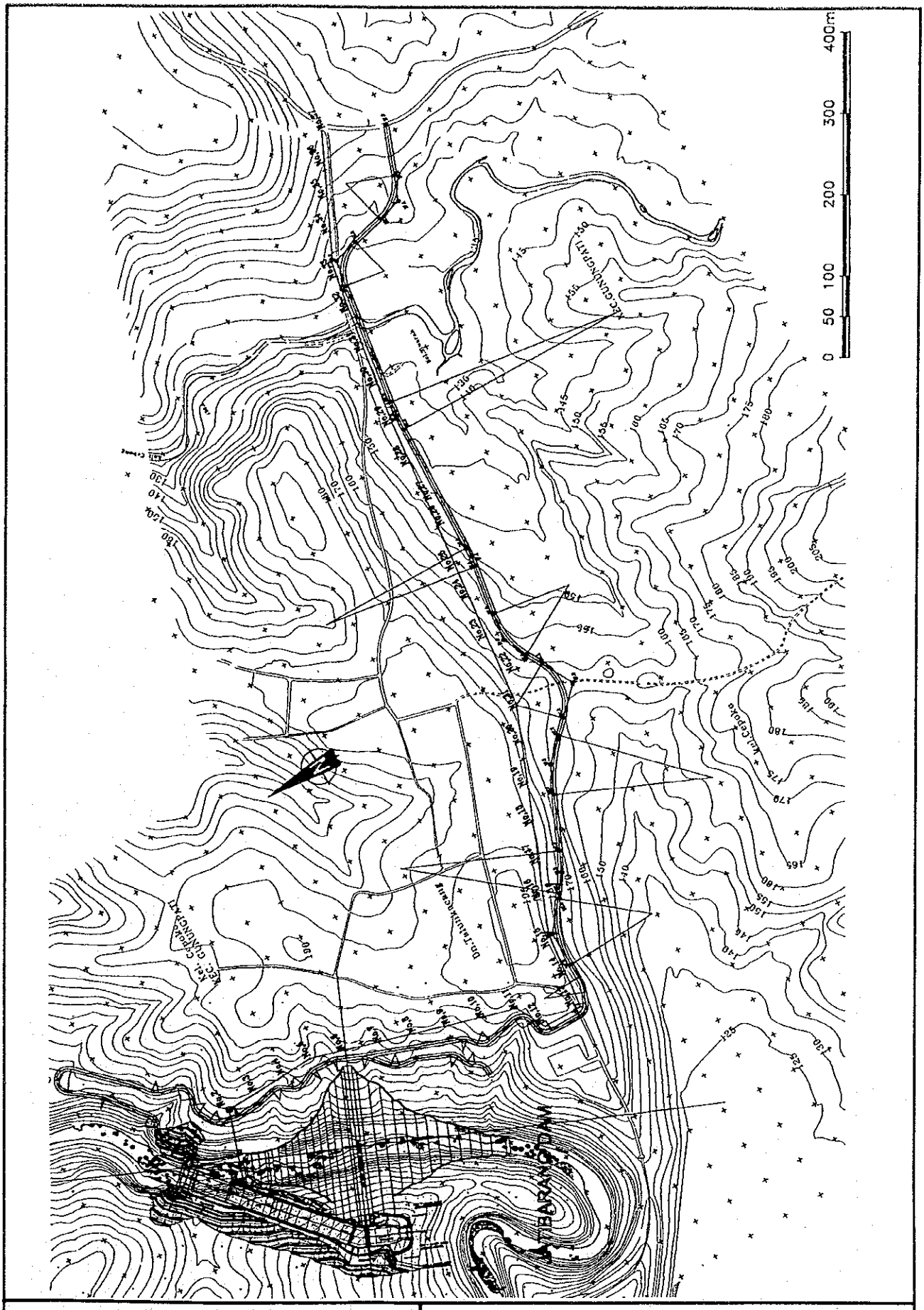
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.20 STANDARD ASSEMBLY OF STEEL TOWERS
JAPAN INTERNATIONAL COOPERATION AGENCY	



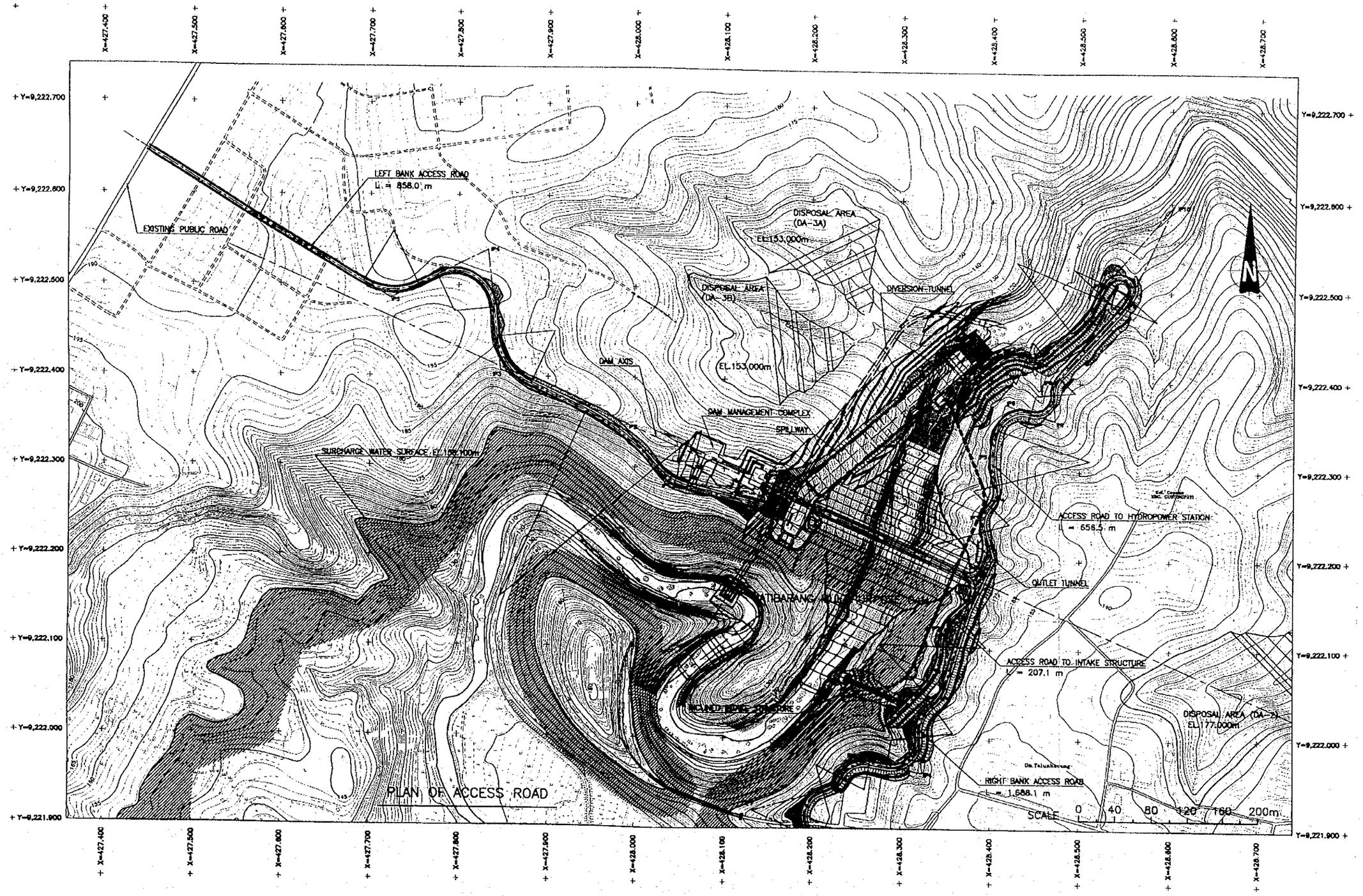
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

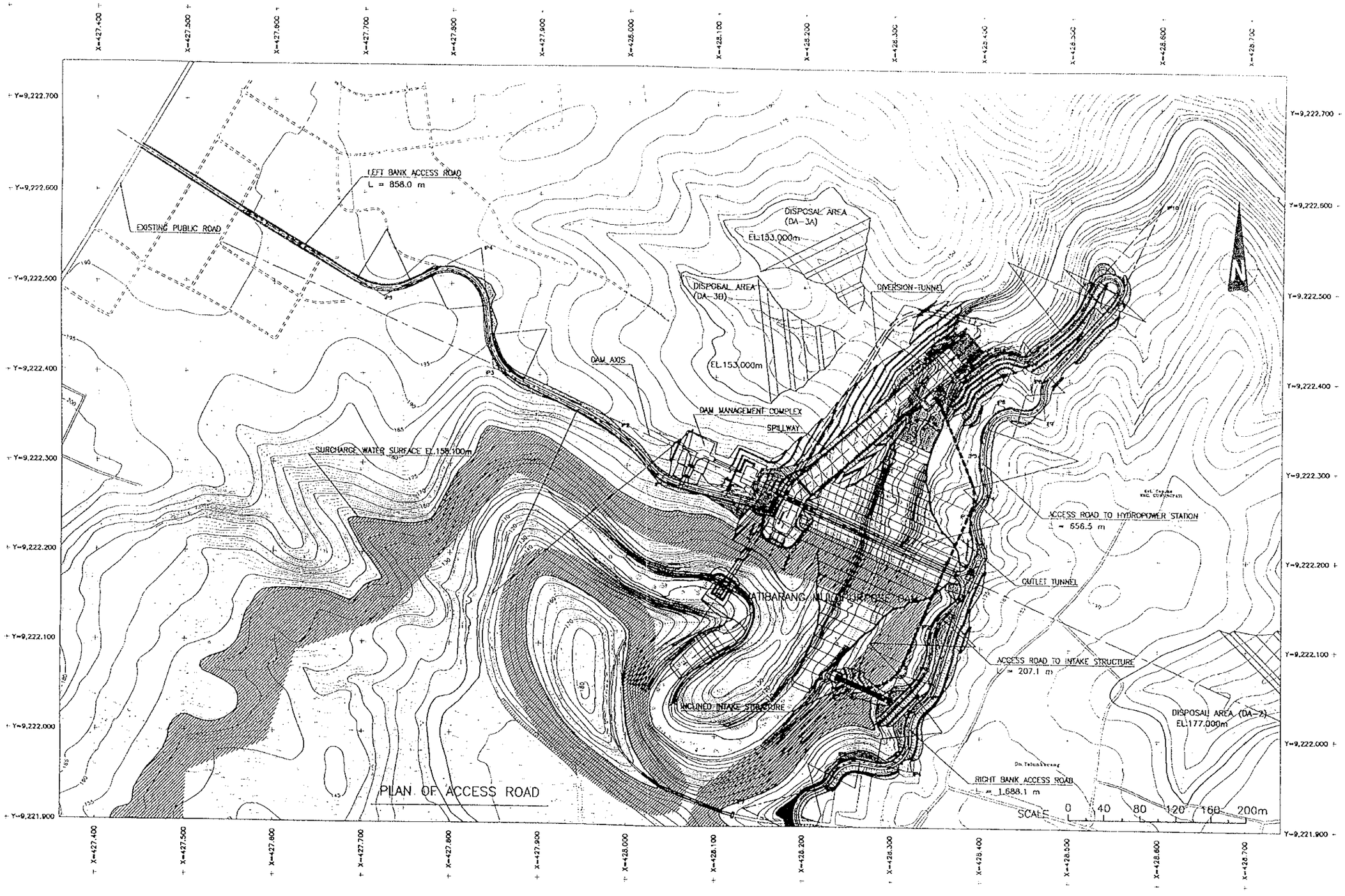
Fig. 7.7.21
PROFILE OF TRANSMISSION LINE (No.1 ~ No.3)



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.7.22 GENERAL PLAN OF TRANSMISSION LINE
JAPAN INTERNATIONAL COOPERATION AGENCY	

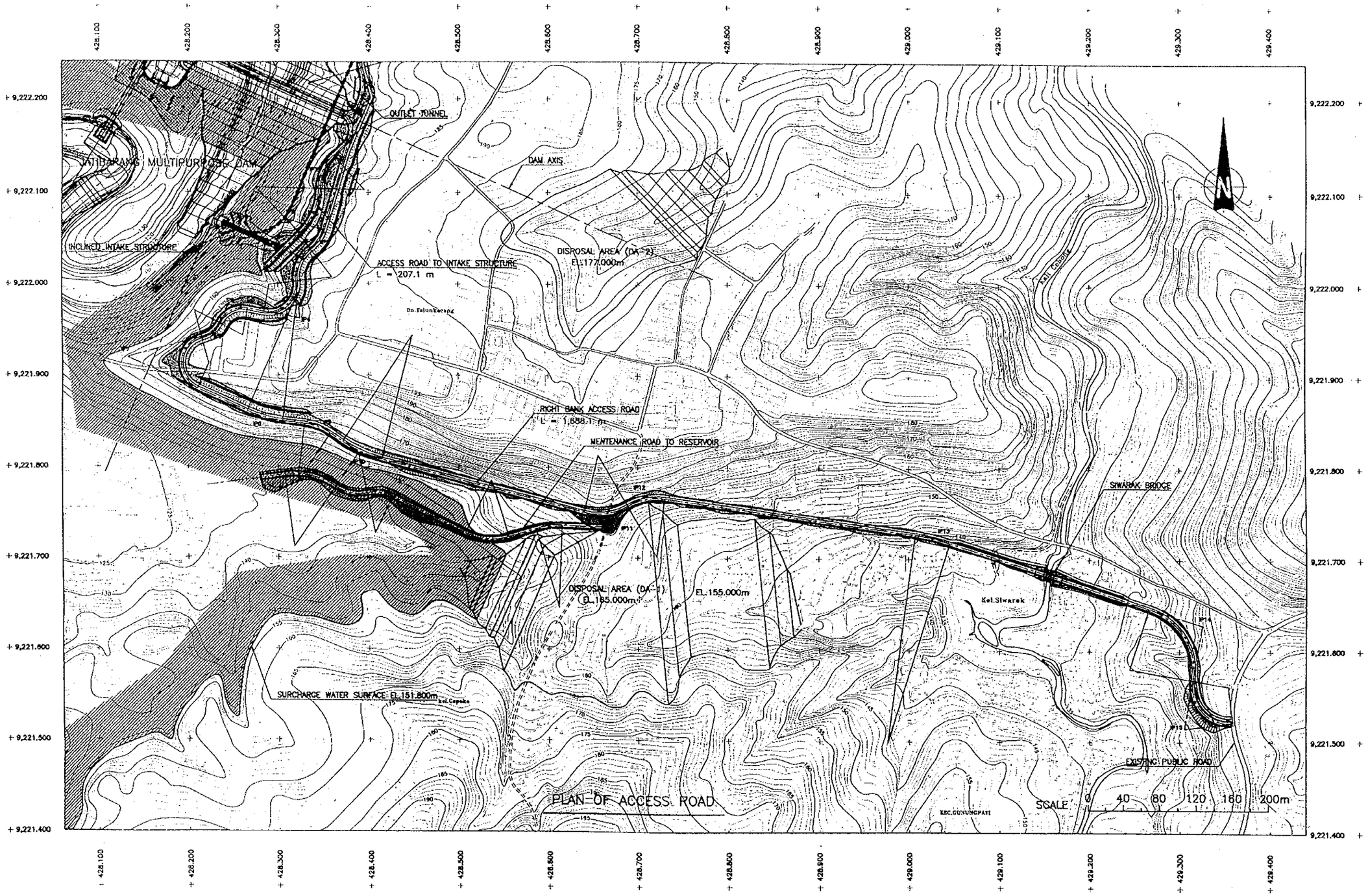


THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.8.1 (1/2) GENERAL PLAN OF ACCES ROAD
JAPAN INTERNATIONAL COOPERATION AGENCY	



PLAN OF ACCESS ROAD

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA JAPAN INTERNATIONAL COOPERATION AGENCY	Fig. 7.8.1 (1/2) GENERAL PLAN OF ACCES ROAD



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	Fig. 7.8.1 (2/2) GENERAL PLAN OF ACCES ROAD
JAPAN INTERNATIONAL COOPERATION AGENCY	