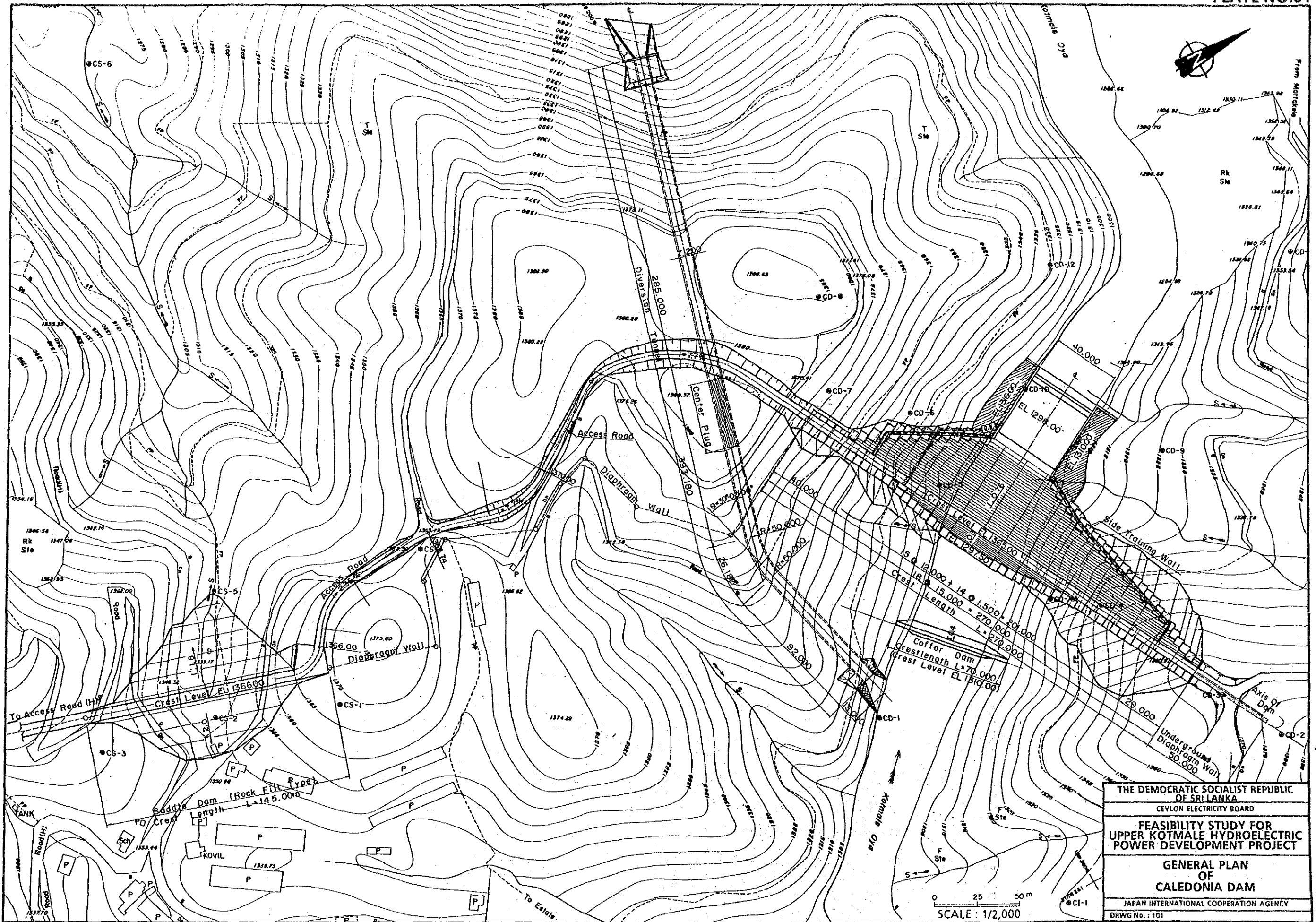


DESIGN DRAWINGS

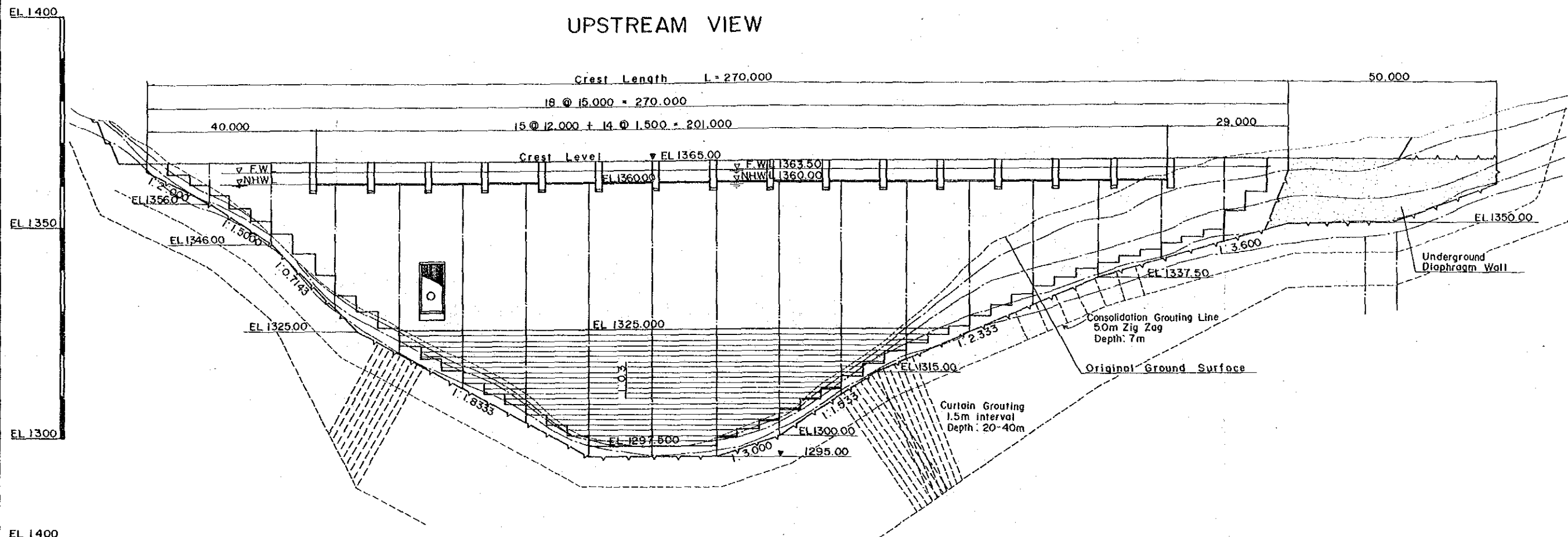
DESIGN DRAWINGS

PLATE NO.	DRWG. NO.	TITLE
01	101	General Plan of Caledonia Dam
02	102	Upstream View and Downstream View of Caledonia Dam
03	103	Details of Caledonia Dam and Saddle Dam
04	201	General Plan of Talawakelle Intake Dam
05	202	Plan, Front View and Section of Talawakelle Intake Dam
06	301	Plan and Profile of Caledonia P/S Intake
07	302	Plan and Profile of Caledonia Power Station
08	303	Profile and Section of Caledonia Powerhouse, Tailrace and Outlet
09	401	Plan and Profile of Talawakelle P/S Intake
10	402	Plan and Profile of Talawakelle Power Station
11	403	Plan, Profile and Section of Talawakelle Powerhouse
12	404	Plan and Profile of Talawakelle P/S Outlet
13	501	Structures for Nanu Oya No.1 Intake
14	502	Structures for Nanu Oya No.2 Intake
15	503	Structures for Puna Oya No.2 Intake
16	504	Structures for Pundal Oya Intake
17	601	Single Line Diagram for Overall Project
18	602	Single Line Diagram for Caledonia Power Station
19	603	Single Line Diagram for Talawakelle Power Station
20	604	Facilities Layout for Caledonia Switchyard
21	605	Facilities Layout for Talawakelle Switchyard
22	606	Proposed Transmission and Distribution Lines for Overall Project
23	607	Typical Structures for 220kV and 132kV Suspension Towers
24	608	Layout of Bays and Suspension Towers for Existing Kotmale Switchyard

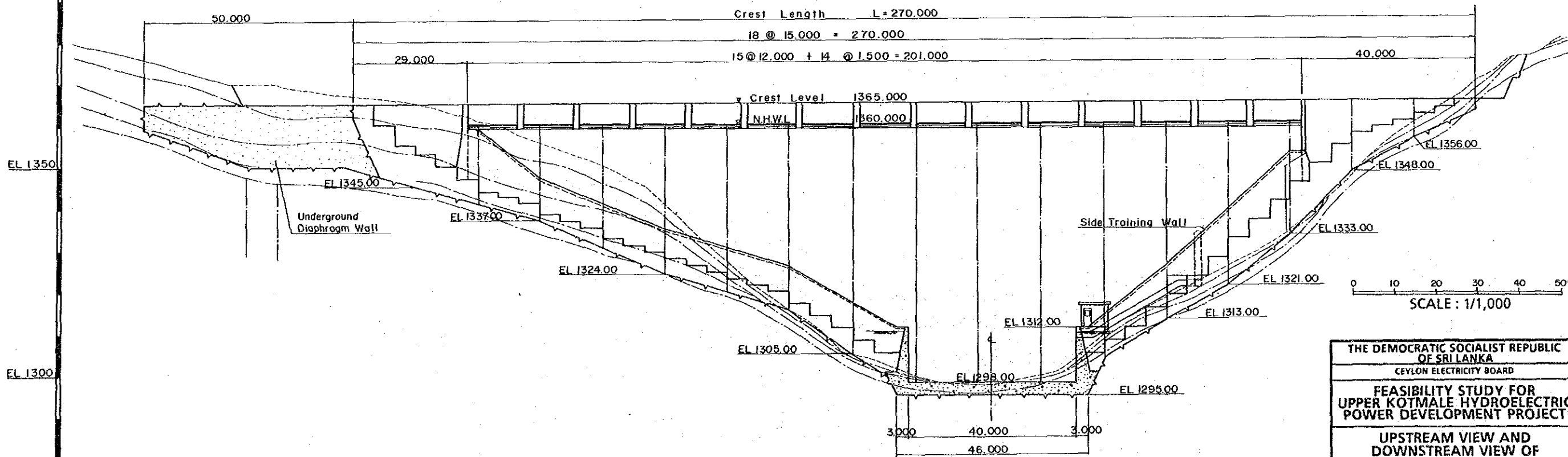


THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
 CEYLON ELECTRICITY BOARD
 FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
 GENERAL PLAN OF CALEDONIA DAM
 JAPAN INTERNATIONAL COOPERATION AGENCY
 DRWG No. : 101

UPSTREAM VIEW



DOWNSTREAM VIEW



THE DEMOCRATIC SOCIALIST REPUBLIC
OF SRI LANKA
CEYLON ELECTRICITY BOARD

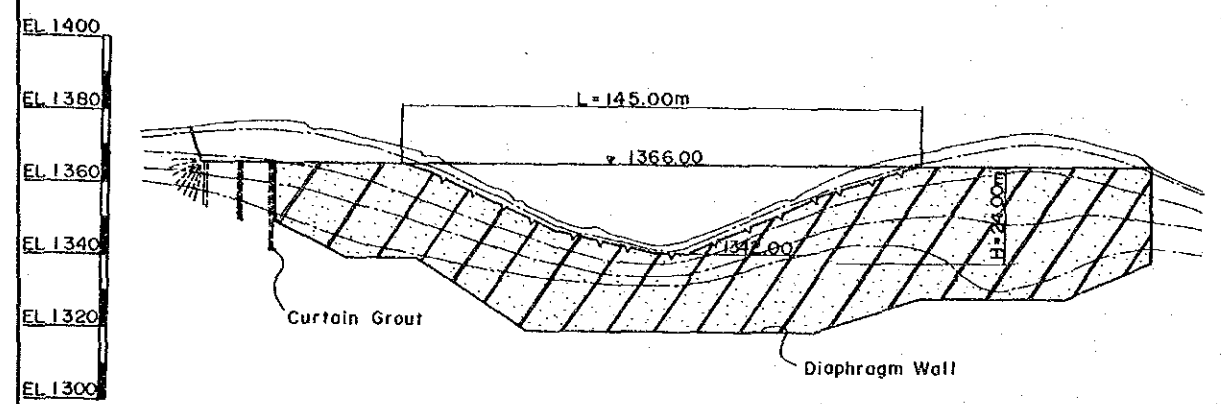
FEASIBILITY STUDY FOR
UPPER KOTMALE HYDROELECTRIC
POWER DEVELOPMENT PROJECT

UPSTREAM VIEW AND
DOWNSTREAM VIEW OF
CALEDONIA DAM

JAPAN INTERNATIONAL COOPERATION AGENCY
DRWG No. : 102

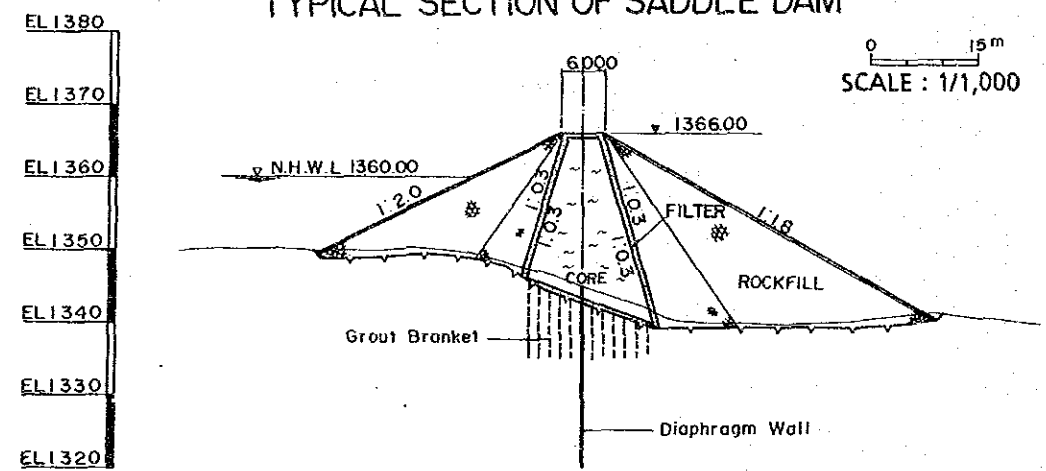
SADDLE DAM UPSTREAM VIEW

0 10 20m
SCALE: 1/1,000



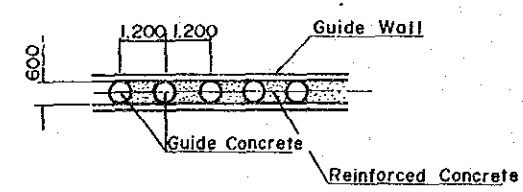
TYPICAL SECTION OF SADDLE DAM

0 15m
SCALE: 1/1,000



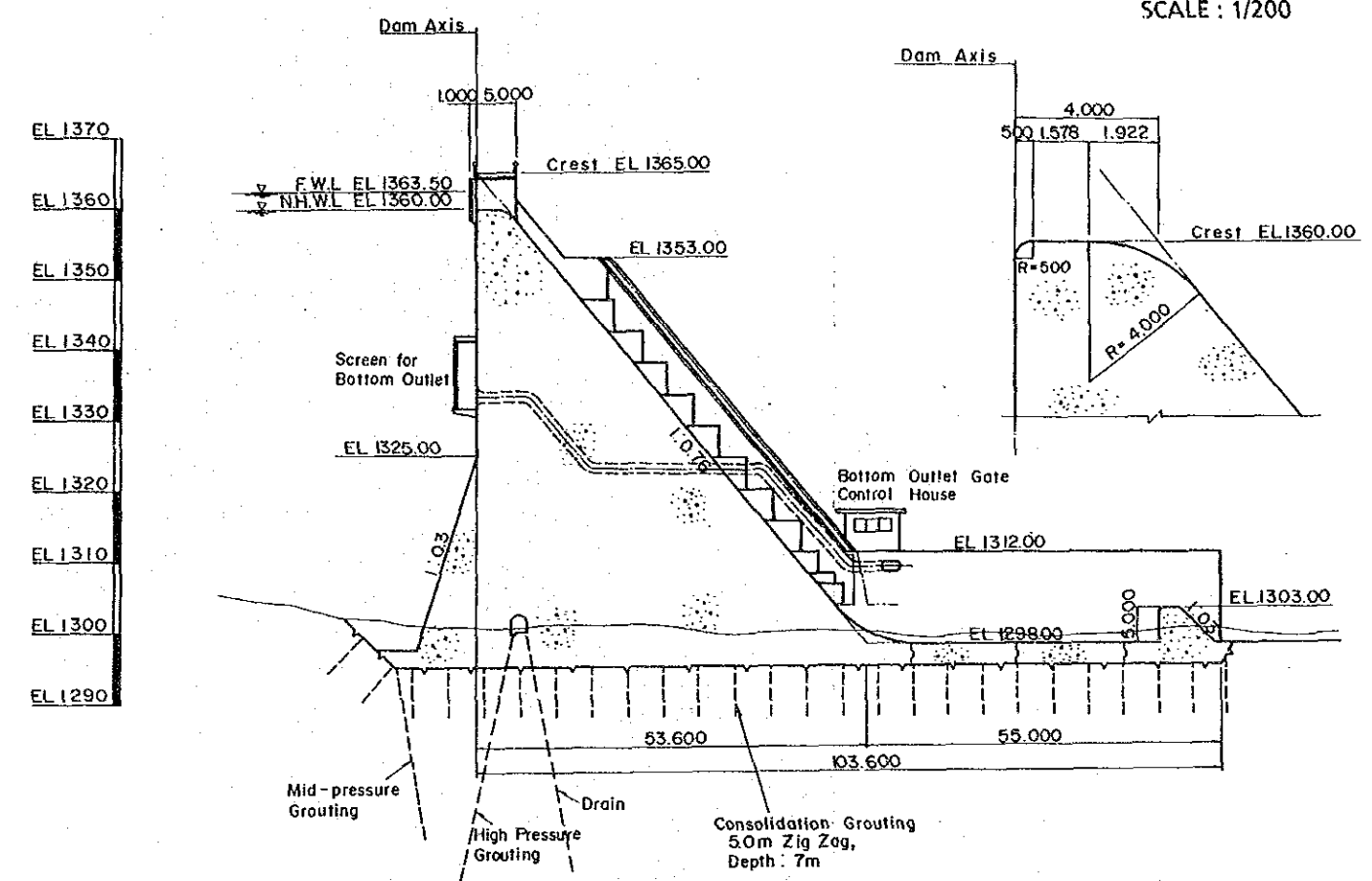
PLAN OF DIAPHRAGM WALL

0 2 4m
SCALE: 1/200



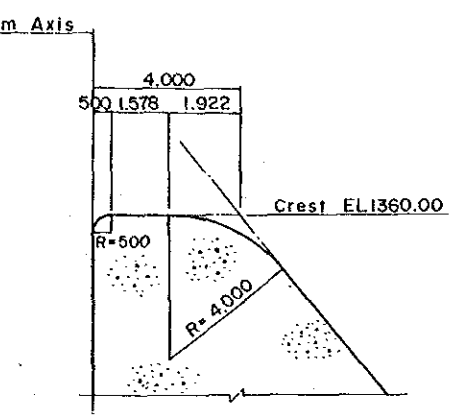
TYPICAL CROSS SECTION

0 10 20m
SCALE: 1/1,000



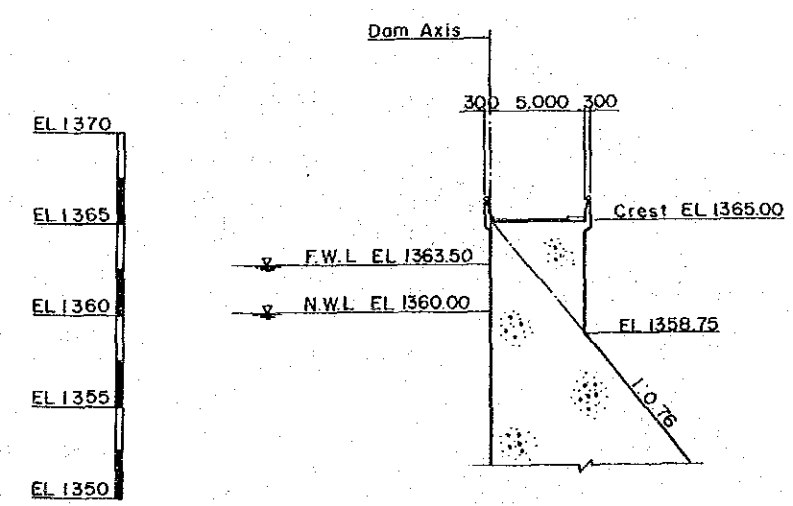
OVERFLOW SECTION

0 2 3m
SCALE: 1/200



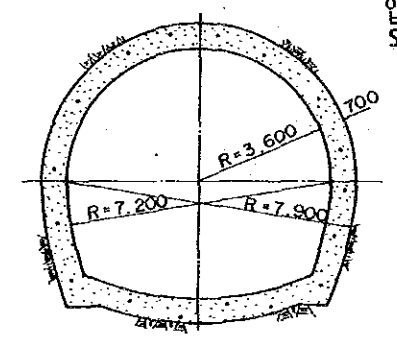
TYPICAL NON OVERFLOW SECTION

0 5 10m
SCALE: 1/400

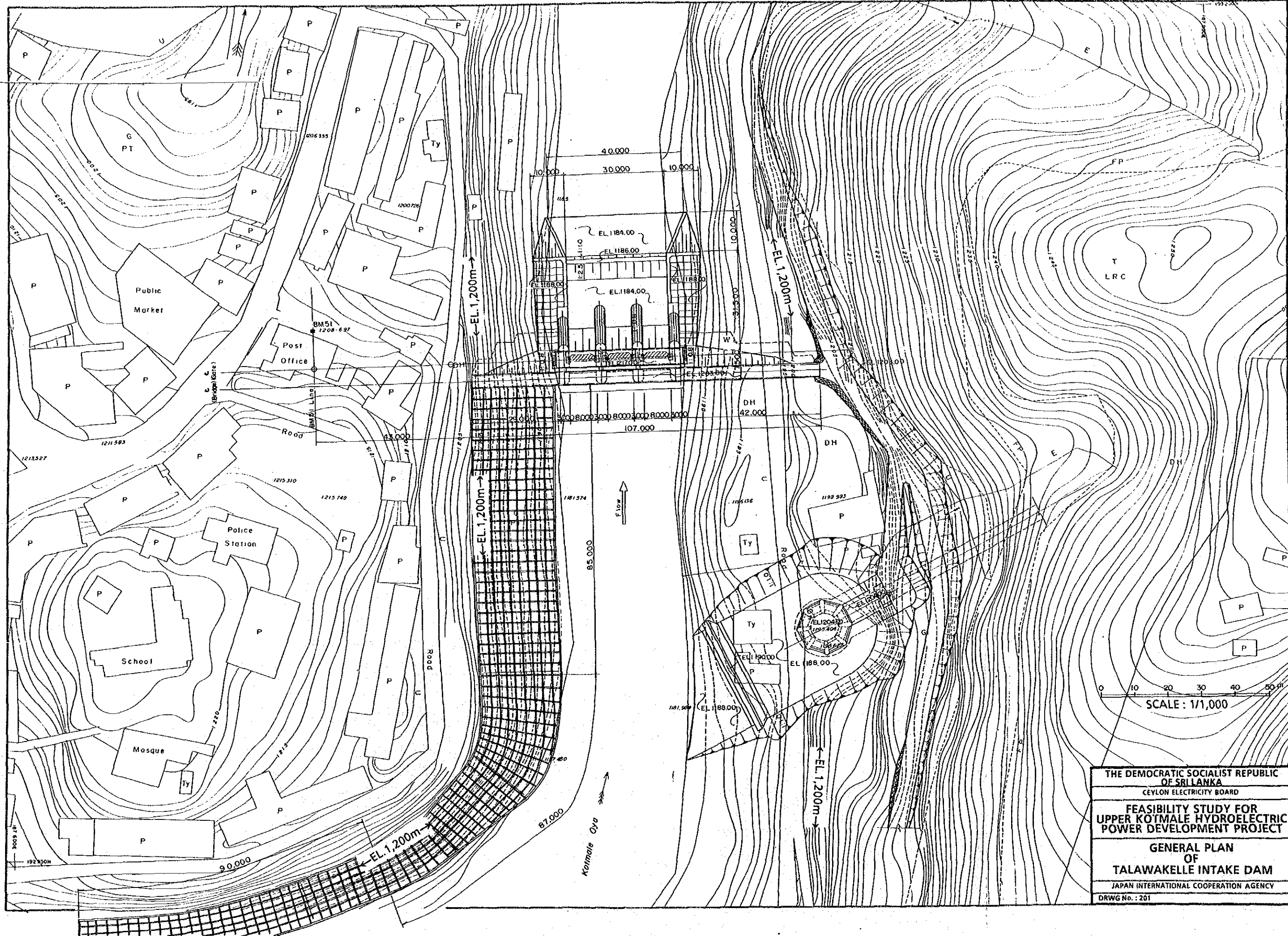


TYPICAL SECTION OF DIVERSION TUNNEL

0 2 4m
SCALE: 1/200



THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
CEYLON ELECTRICITY BOARD
FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
DETAILS OF CALEDONIA DAM AND SADDLE DAM
JAPAN INTERNATIONAL COOPERATION AGENCY
DRWG No. : 103

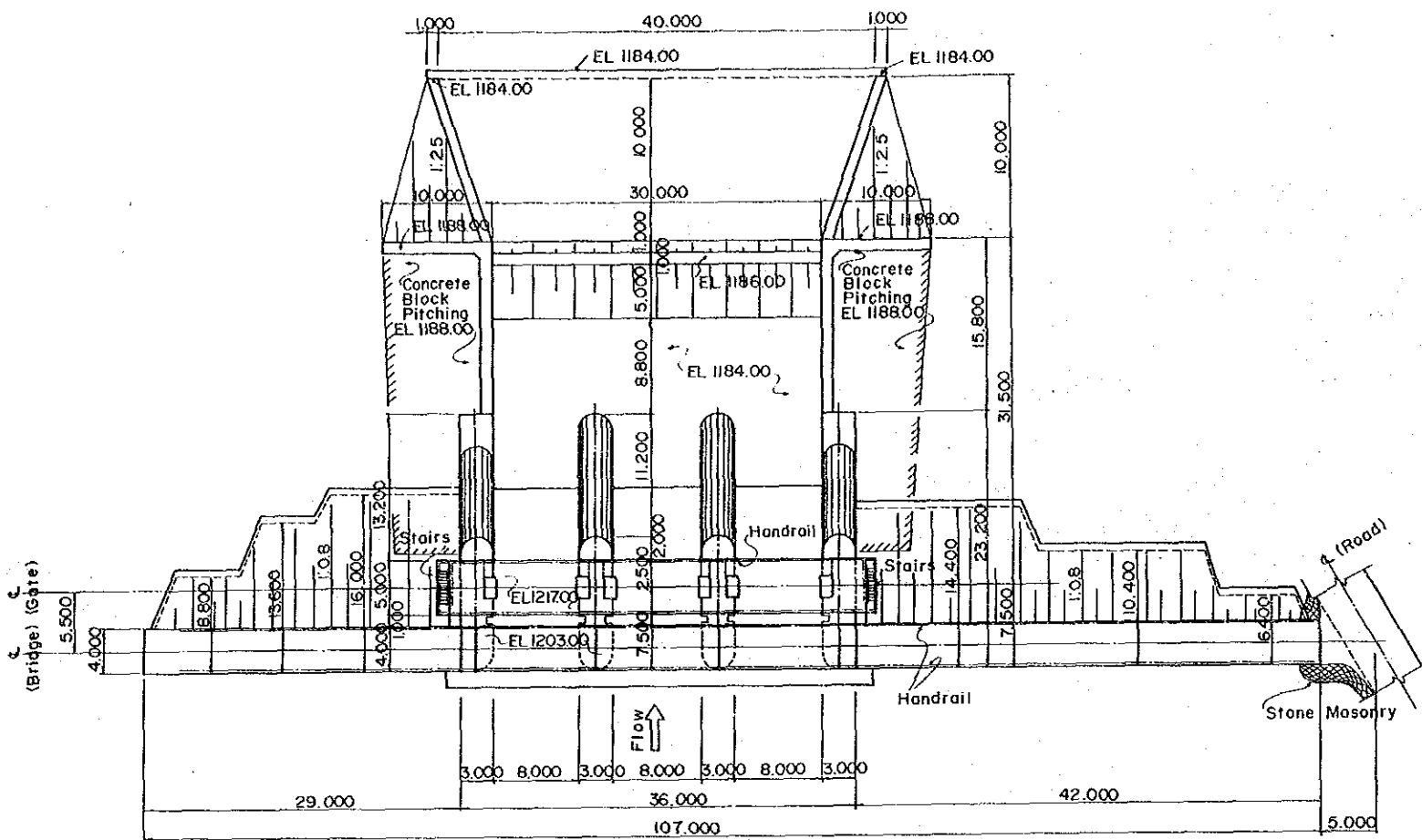


THE DEMOCRATIC SOCIALIST REPUBLIC
OF SRI LANKA
CEYLON ELECTRICITY BOARD

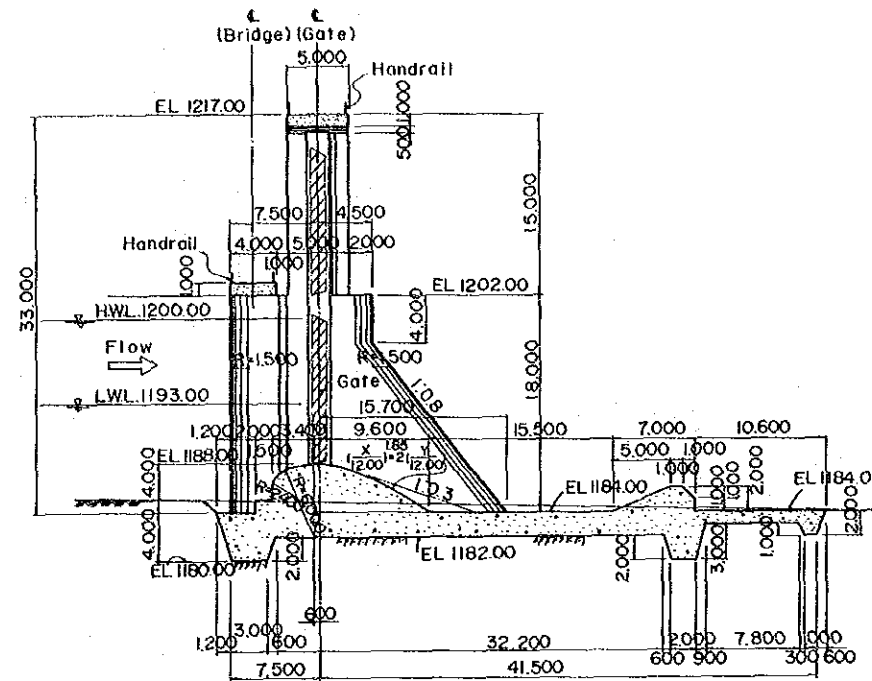
FEASIBILITY STUDY FOR
UPPER KOTMALE HYDROELECTRIC
POWER DEVELOPMENT PROJECT

GENERAL PLAN
OF
TALAWAKELLE INTAKE DAM

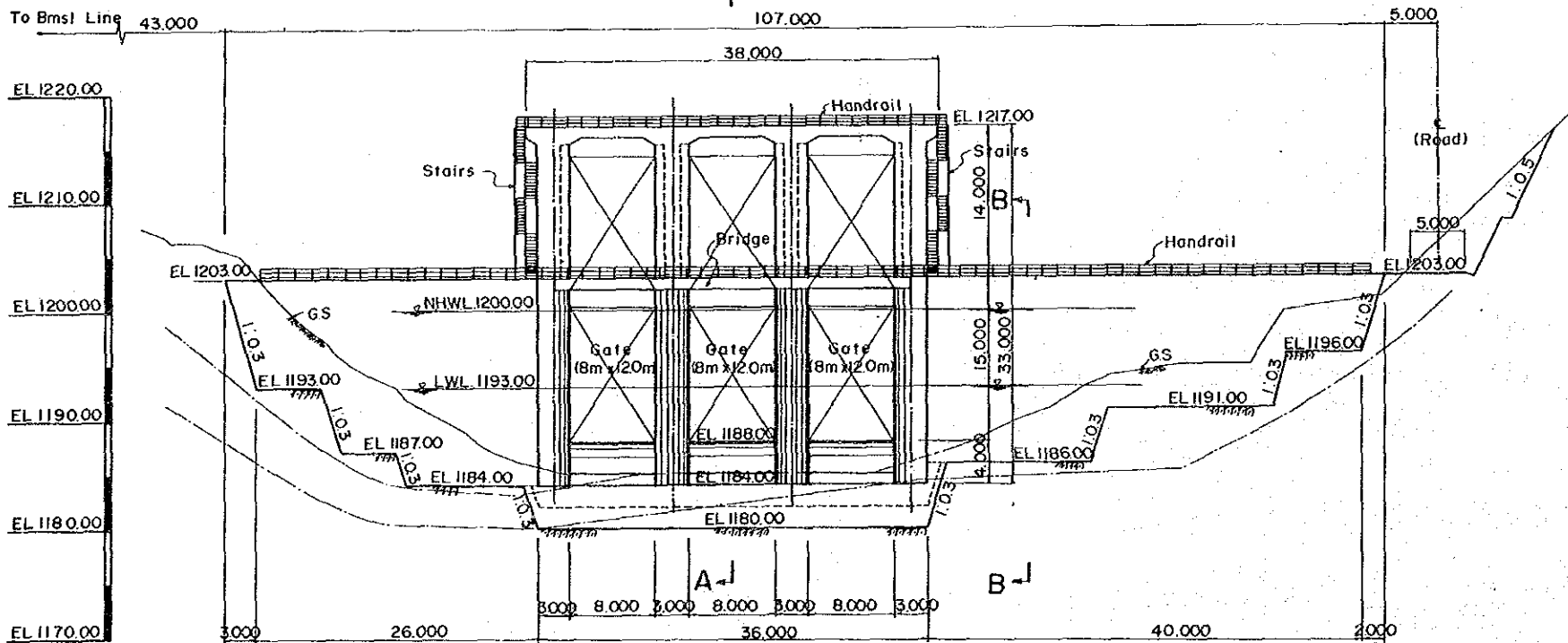
JAPAN INTERNATIONAL COOPERATION AGENCY
DRWG No. : 201



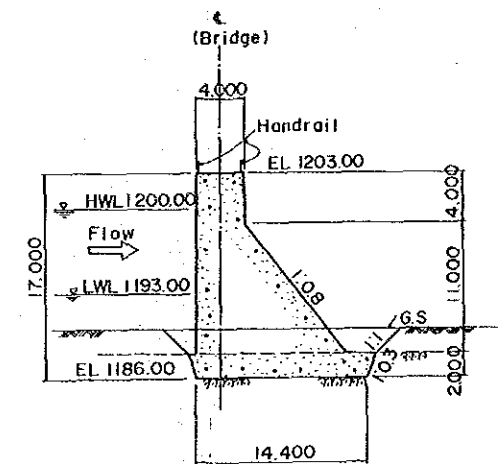
PLAN



SECTION A-A



FRONT VIEW

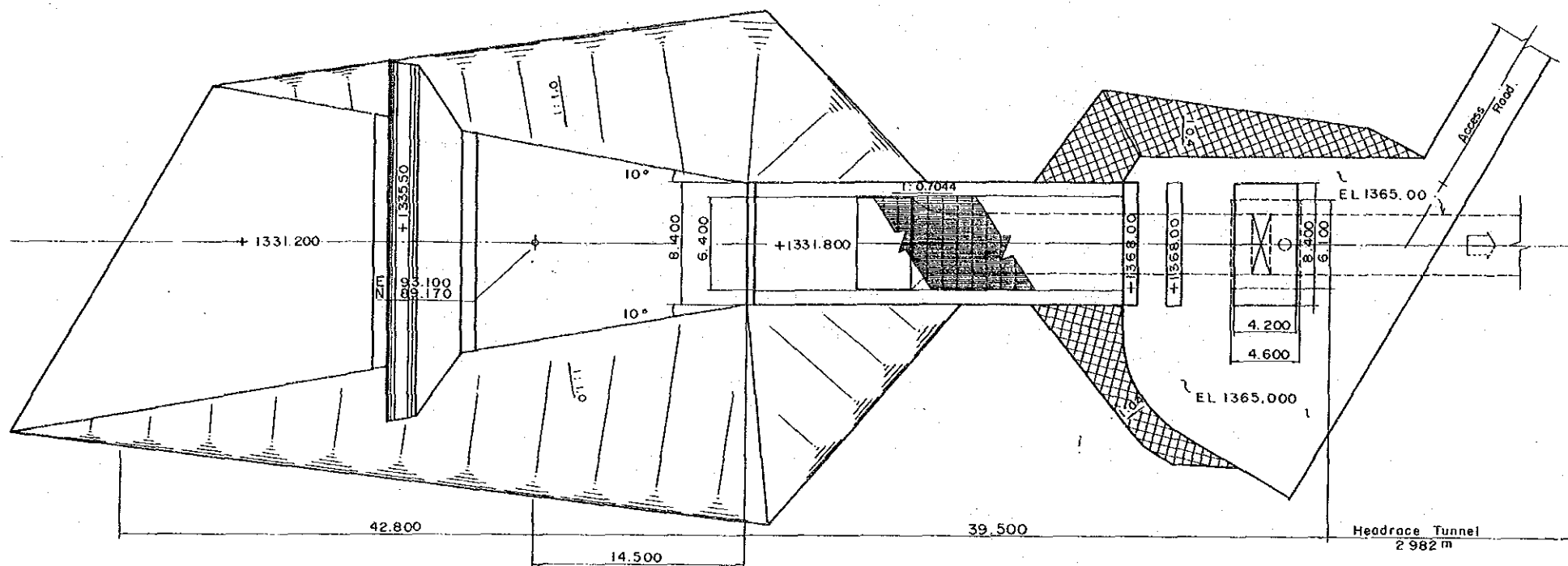


SECTION B-B

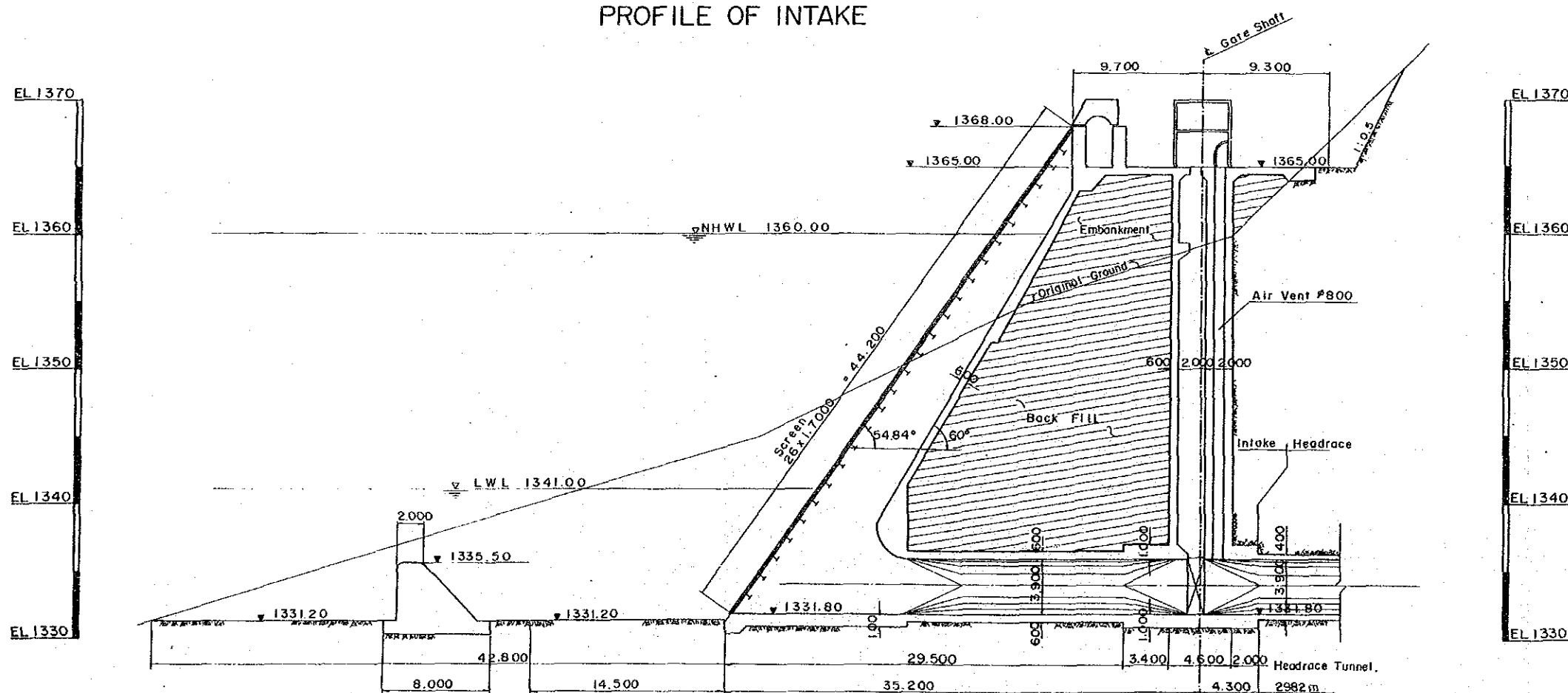
0 10 20 m
SCALE: 1/600

THE DEMOCRATIC SOCIALIST REPUBLIC
OF SRI LANKA
CEYLON ELECTRICITY BOARD
FEASIBILITY STUDY FOR
UPPER KOTMALE HYDROELECTRIC
POWER DEVELOPMENT PROJECT
PLAN, FRONT VIEW
AND SECTION OF
TALAWAKELLE INTAKE DAM
JAPAN INTERNATIONAL COOPERATION AGENCY
DRWG No. : 202

PLAN OF CALEDONIA INTAKE

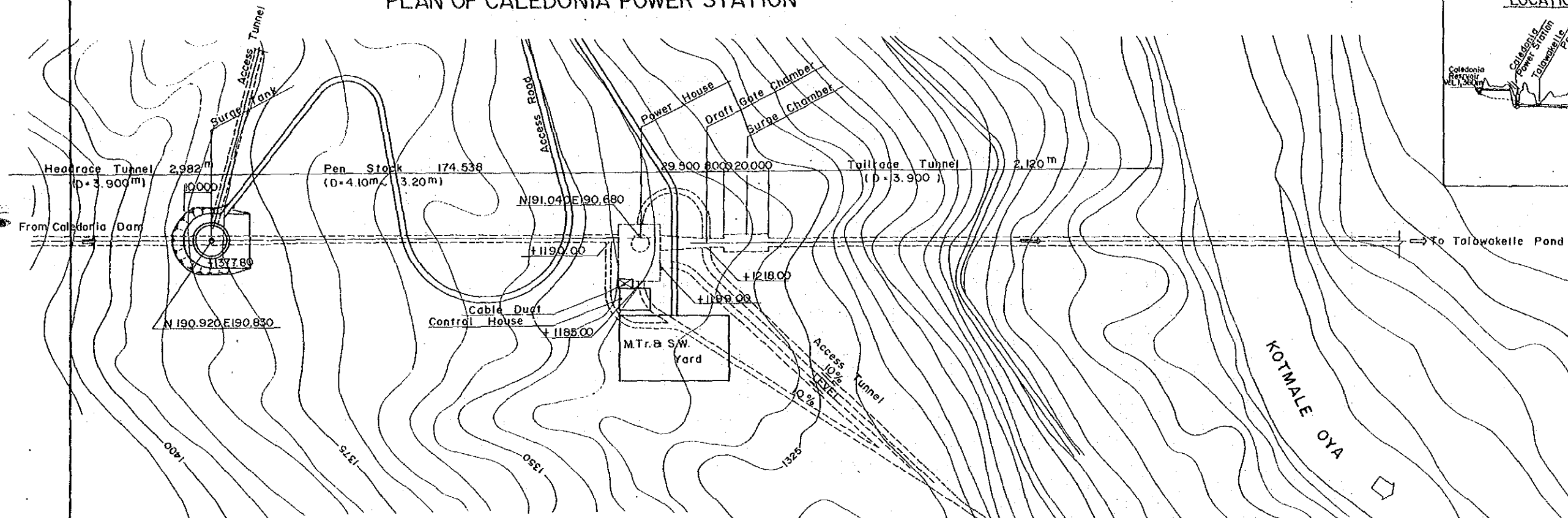
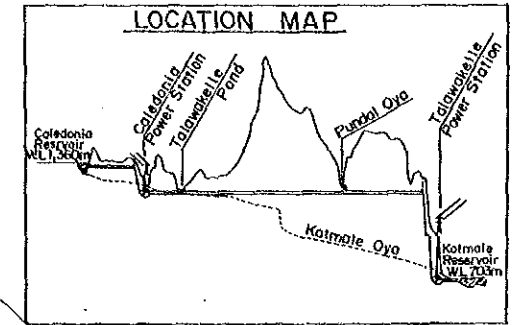


PROFILE OF INTAKE

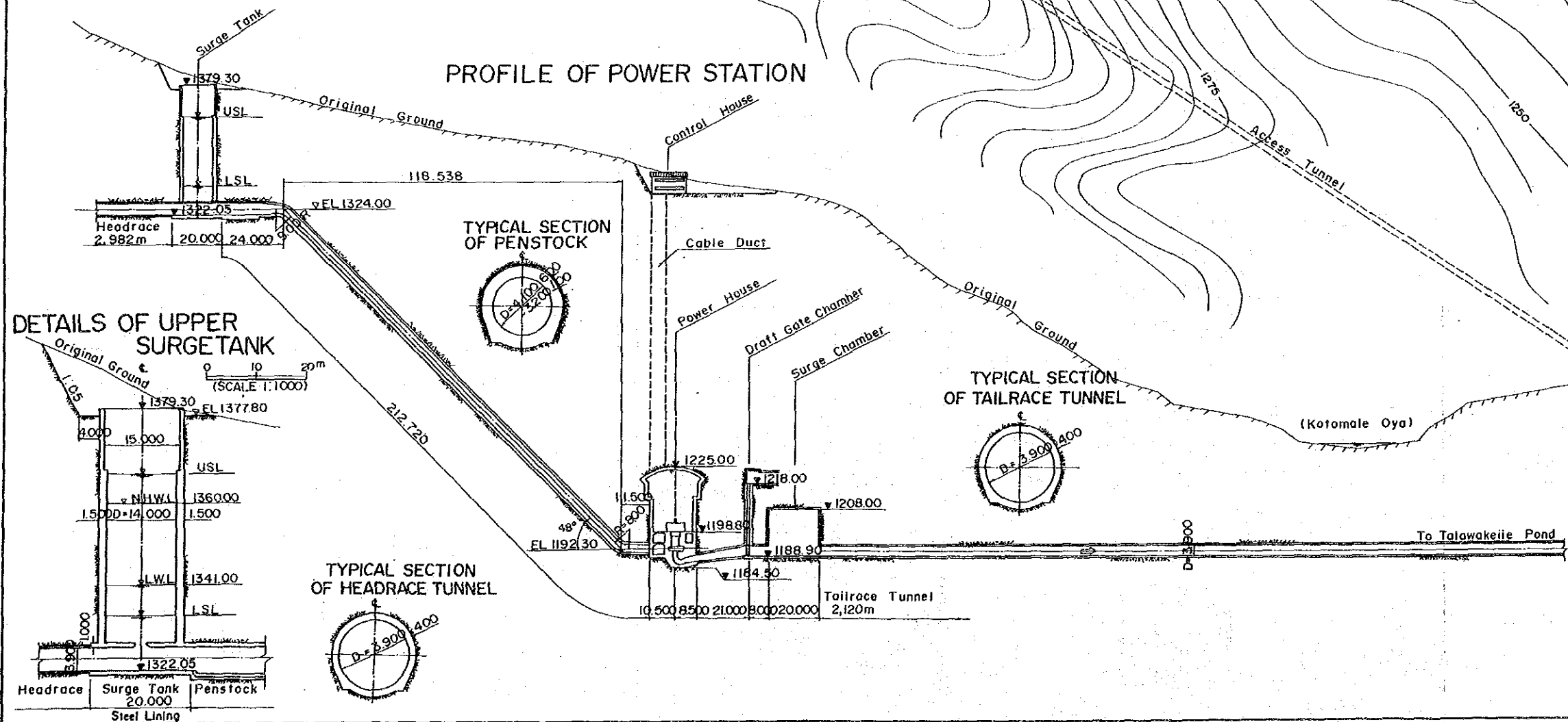


THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
 CEYLON ELECTRICITY BOARD
 FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
 PLAN AND PROFILE OF CALEDONIA P/S INTAKE
 JAPAN INTERNATIONAL COOPERATION AGENCY
 DRWG No. : 301

PLAN OF CALEDONIA POWER STATION



PROFILE OF POWER STATION



TYPICAL SECTION OF PENSTOCK

TYPICAL SECTION OF TAILRACE TUNNEL

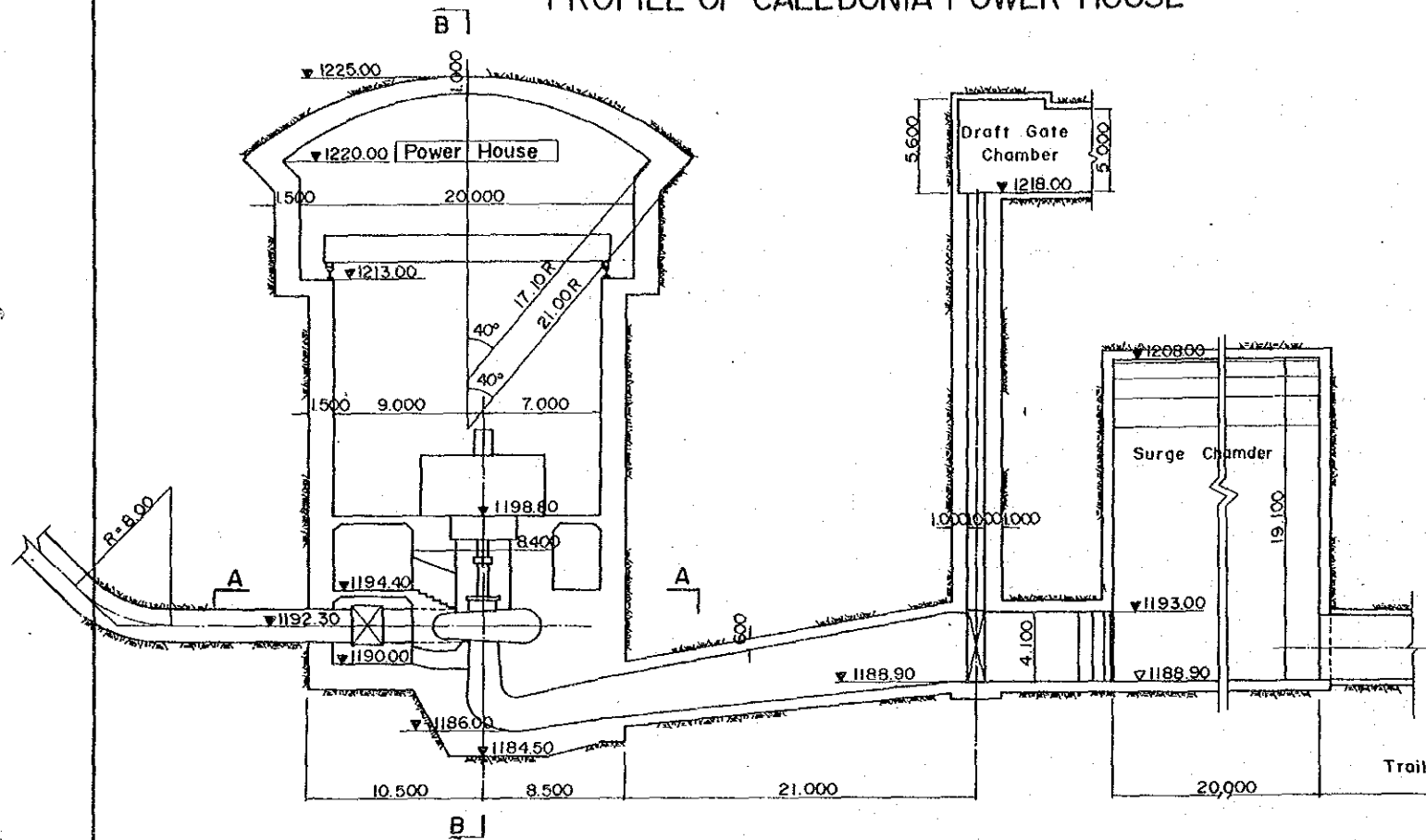
DETAILS OF UPPER SURGETANK

TYPICAL SECTION OF HEADRACE TUNNEL

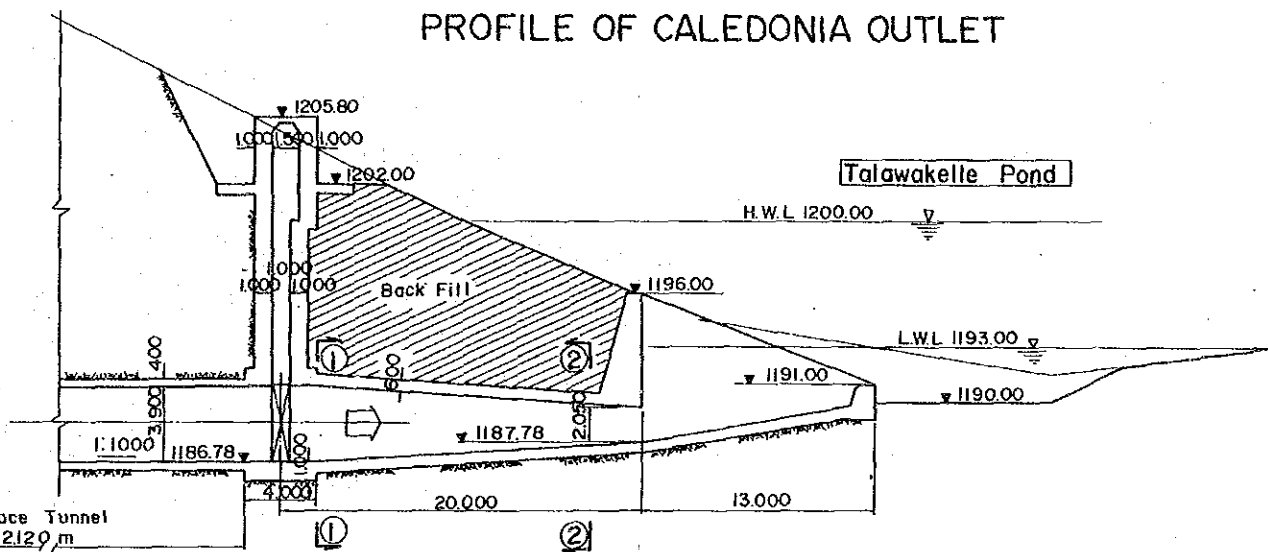
SCALE: 1/2,000

THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
 CEYLON ELECTRICITY BOARD
 FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
 PLAN AND PROFILE OF CALEDONIA POWER STATION
 JAPAN INTERNATIONAL COOPERATION AGENCY
 DRWG No. : 302

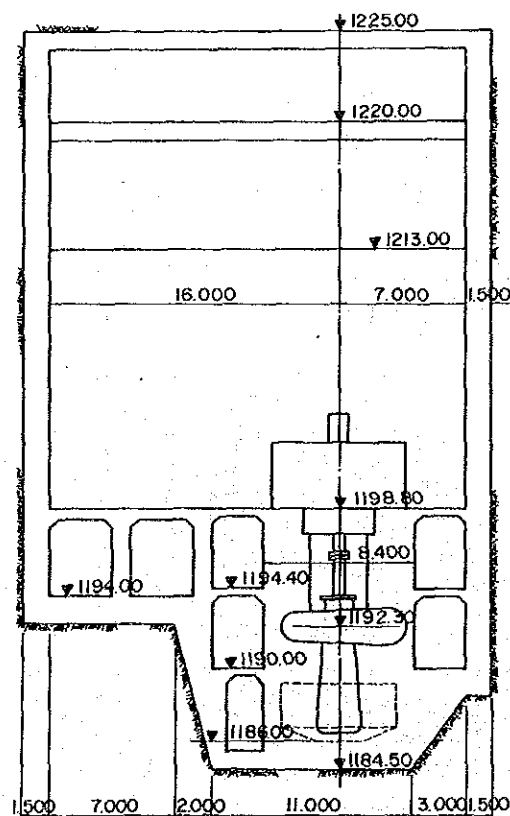
PROFILE OF CALEDONIA POWER HOUSE



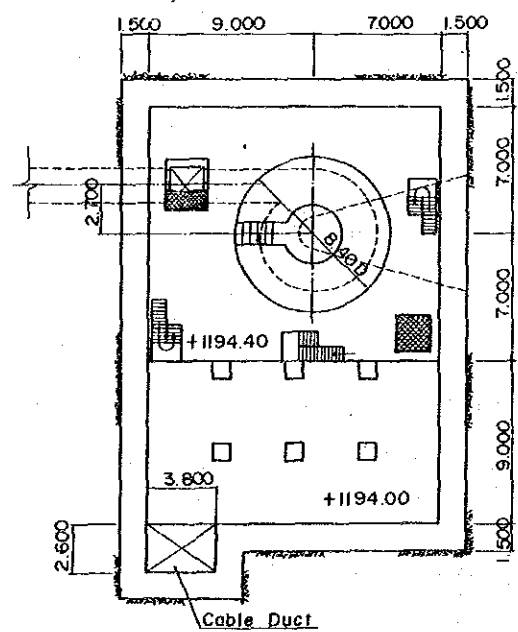
PROFILE OF CALEDONIA OUTLET



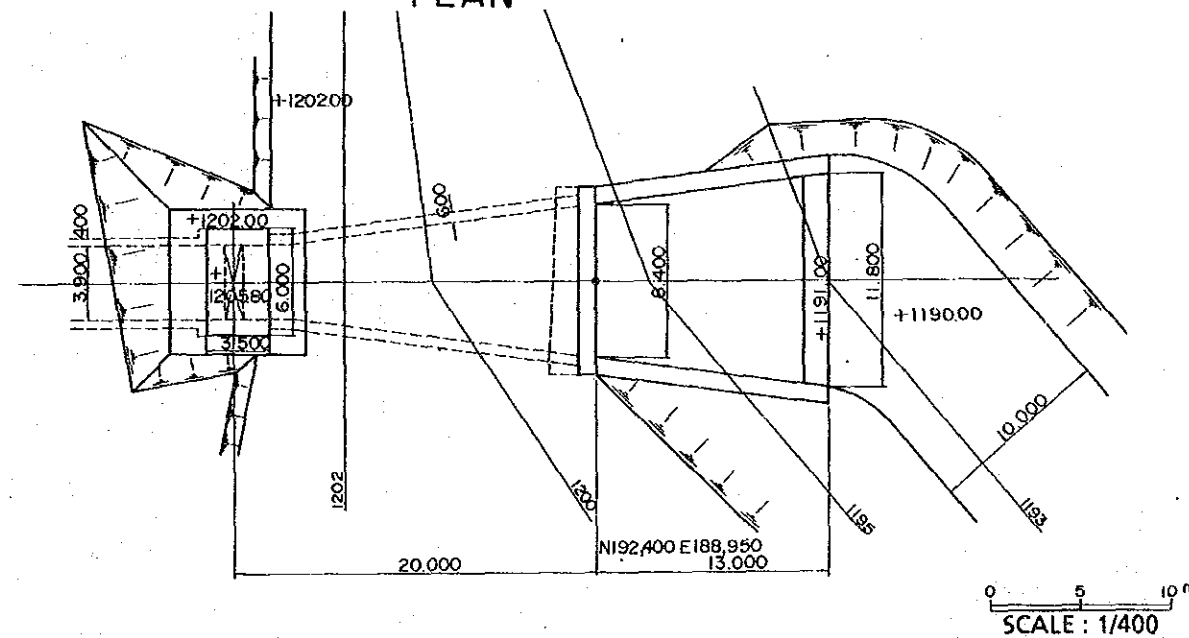
B-B SECTION



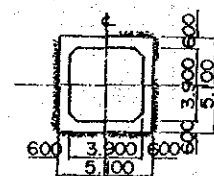
PLAN OF A-A FLOOR



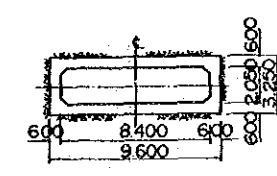
PLAN



①-① SEC

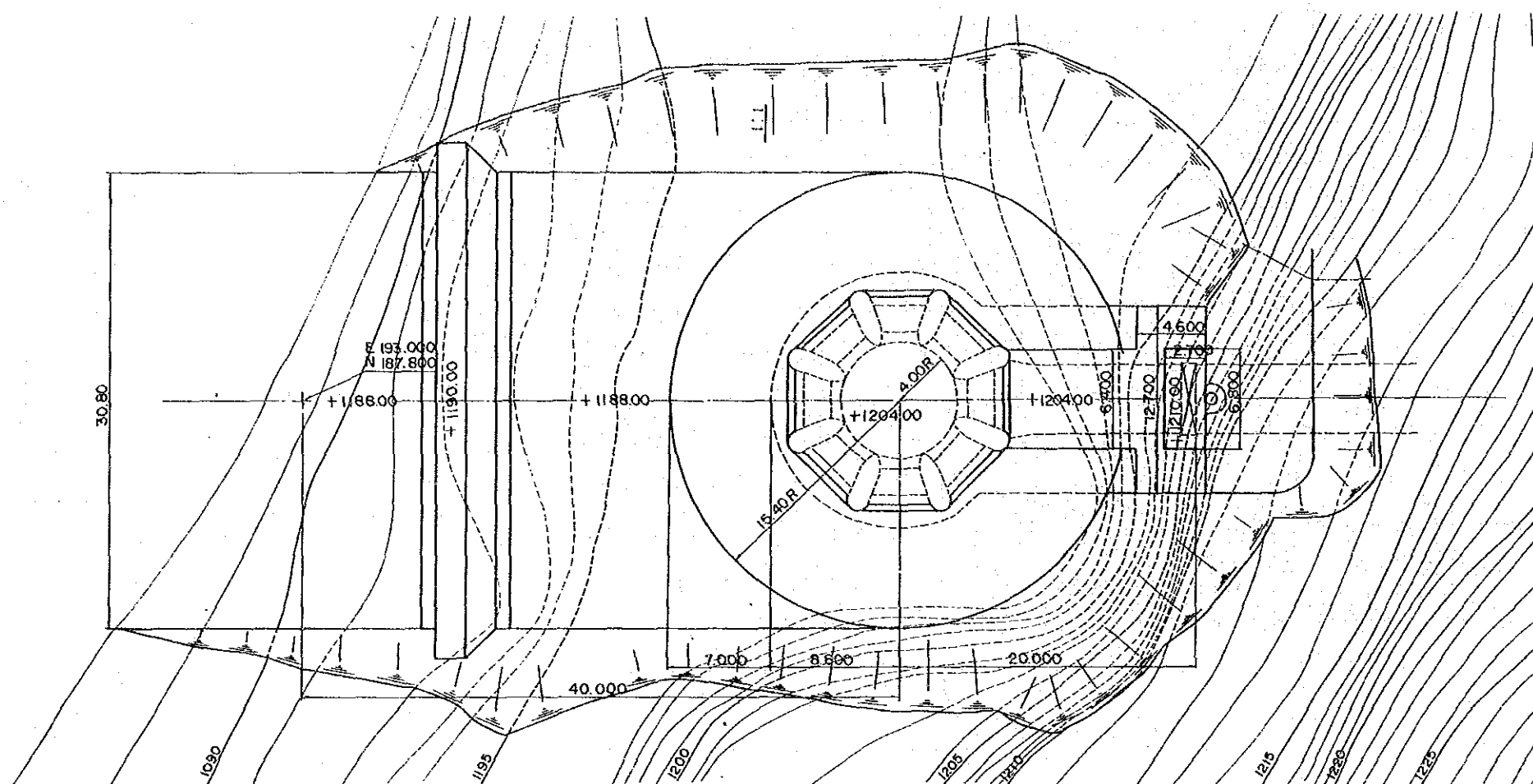


②-② SEC

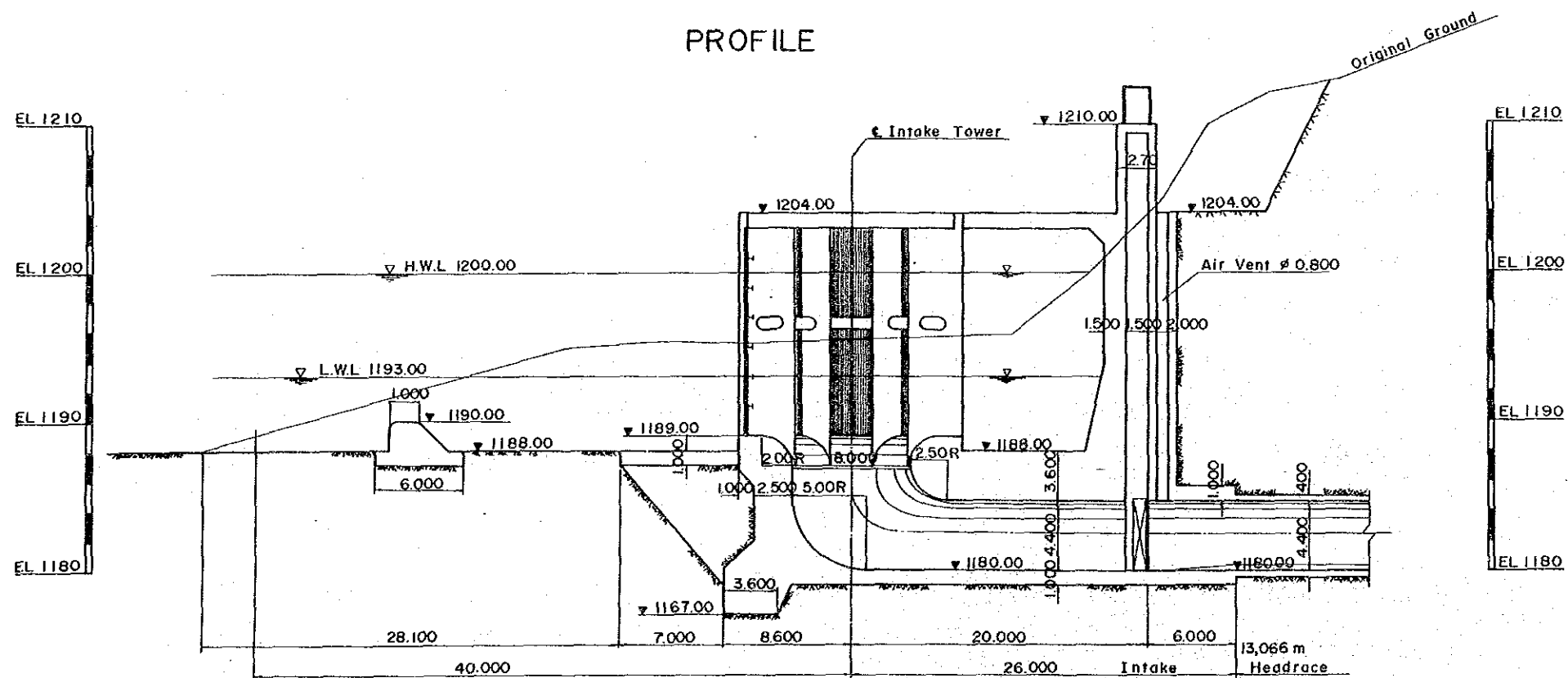


THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
 CEYLON ELECTRICITY BOARD
 FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
 PROFILE AND SECTION OF CALEDONIA POWERHOUSE, TAILRACE AND OUTLET
 JAPAN INTERNATIONAL COOPERATION AGENCY
 DRWG No. : 303

PLAN OF TALAWAKELLE INTAKE



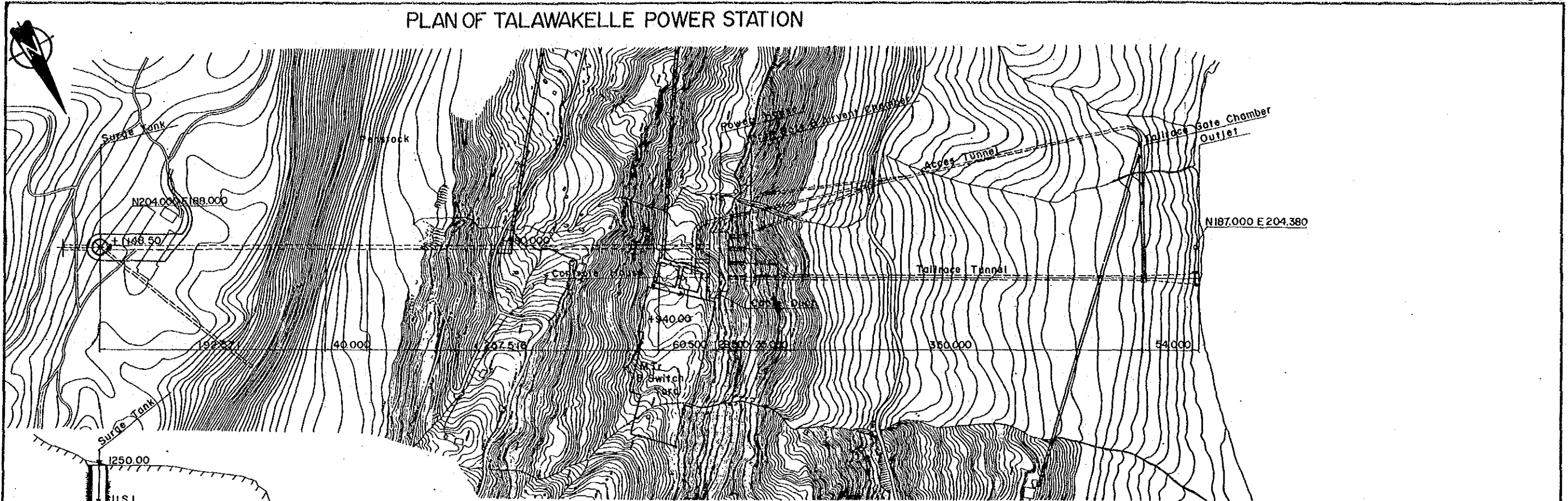
PROFILE



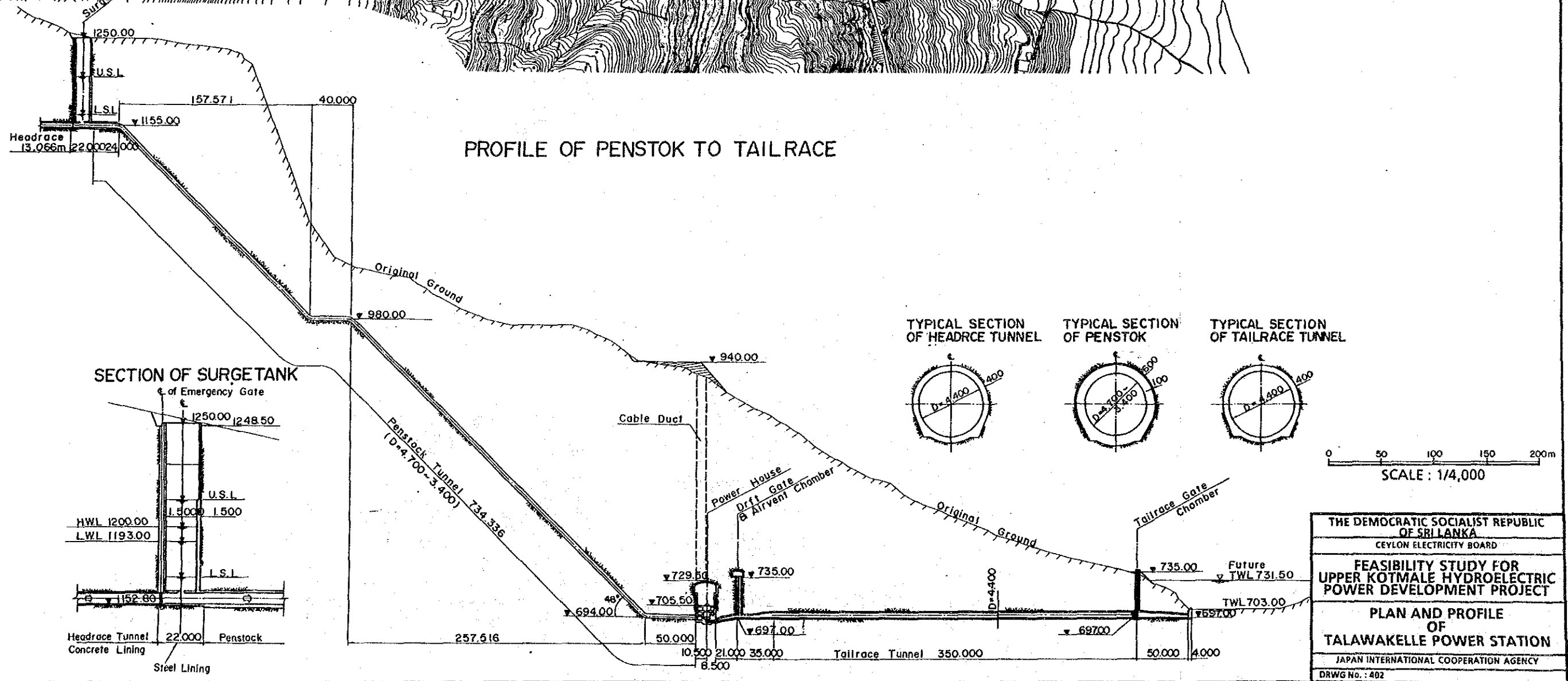
0 5 10m
SCALE : 1/400

THE DEMOCRATIC SOCIALIST REPUBLIC
OF SRI LANKA
CEYLON ELECTRICITY BOARD
FEASIBILITY STUDY FOR
UPPER KOTMALE HYDROELECTRIC
POWER DEVELOPMENT PROJECT
PLAN AND PROFILE
OF
TALAWAKELLE P/S INTAKE
JAPAN INTERNATIONAL COOPERATION AGENCY
DRWG No. : 401

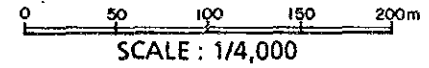
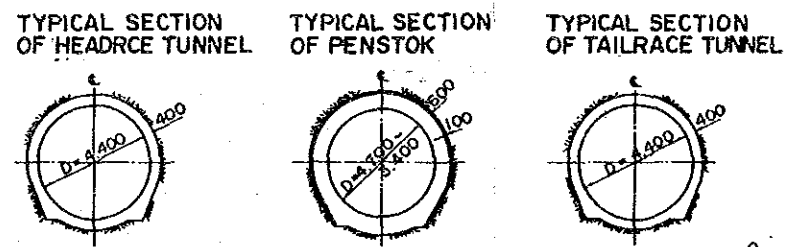
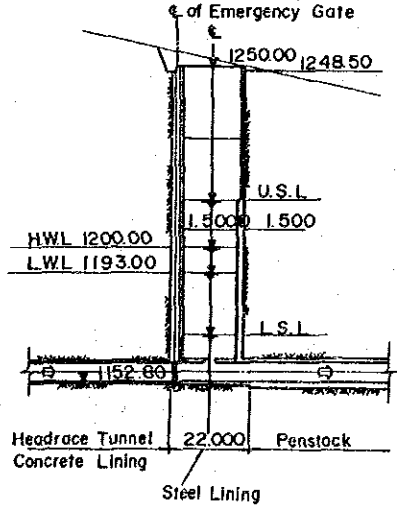
PLAN OF TALAWAKELLE POWER STATION



PROFILE OF PENSTOK TO TAILRACE

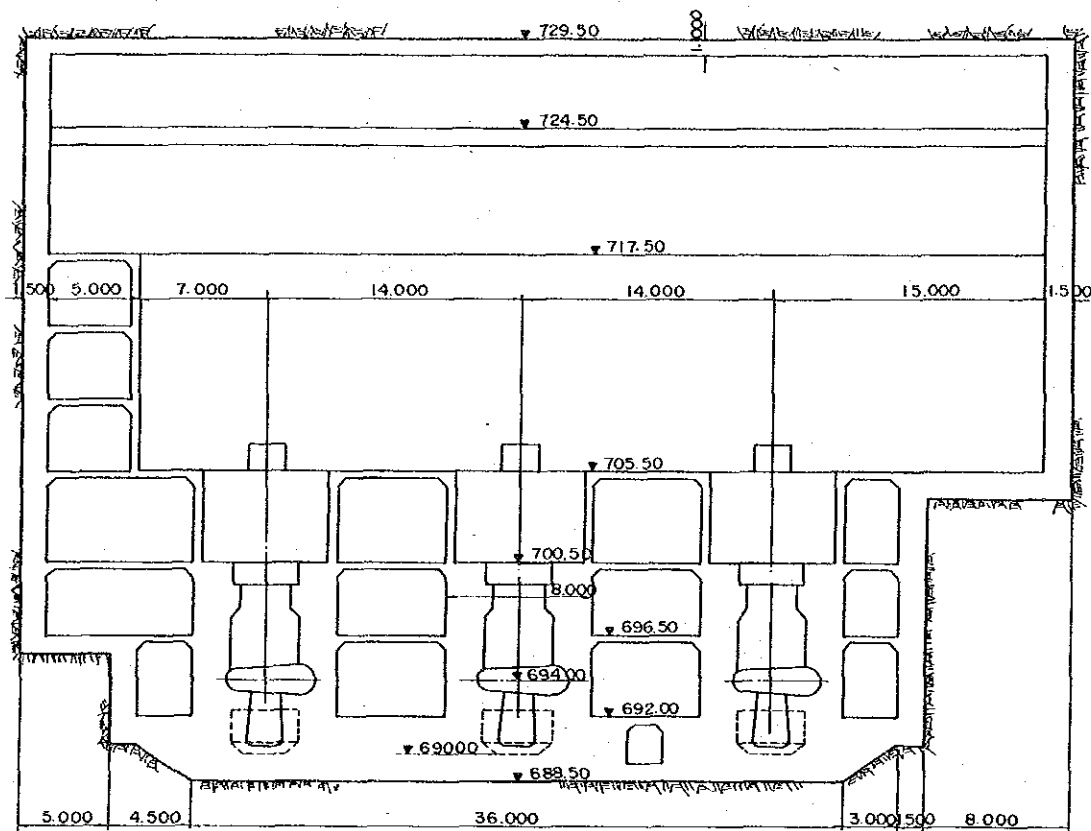


SECTION OF SURGETANK

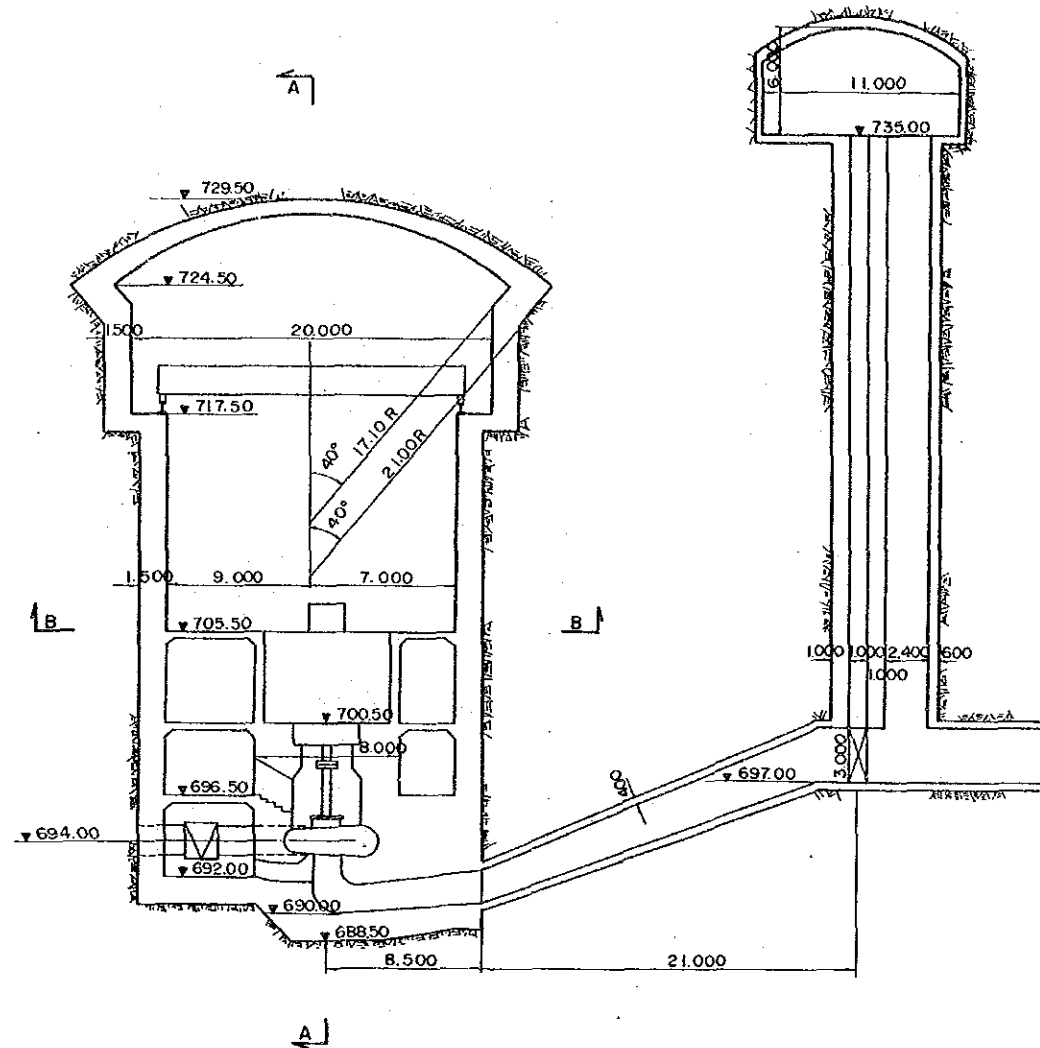


THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
 CEYLON ELECTRICITY BOARD
 FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
 PLAN AND PROFILE OF TALAWAKELLE POWER STATION
 JAPAN INTERNATIONAL COOPERATION AGENCY
 DRWG No. : 402

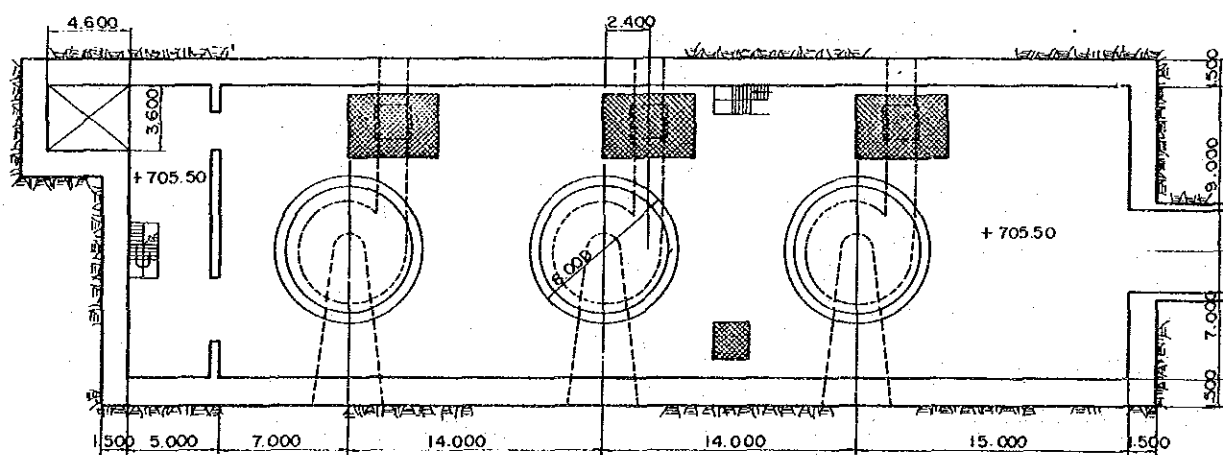
A - A SECTION



PROFILE OF TALAWAKELLE POWER HOUSE

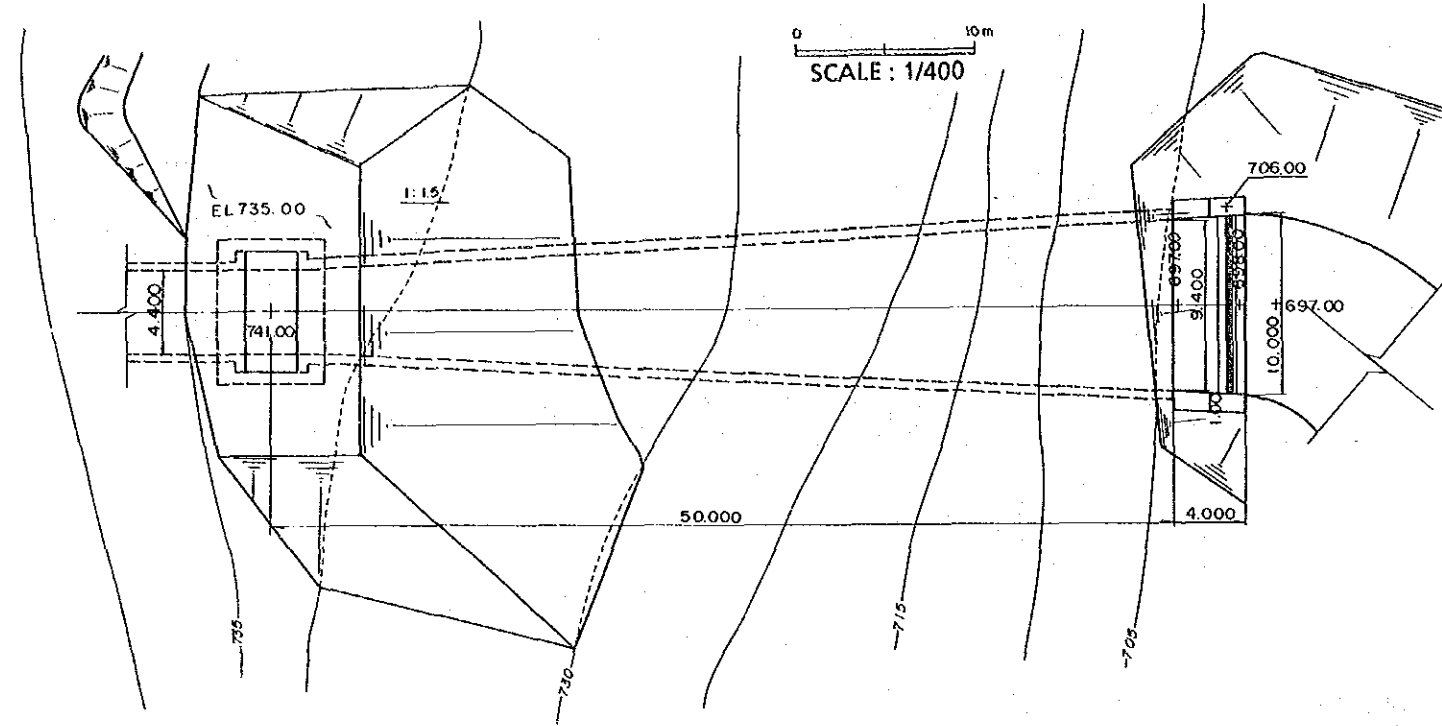


PLAN OF B - B FLOOR

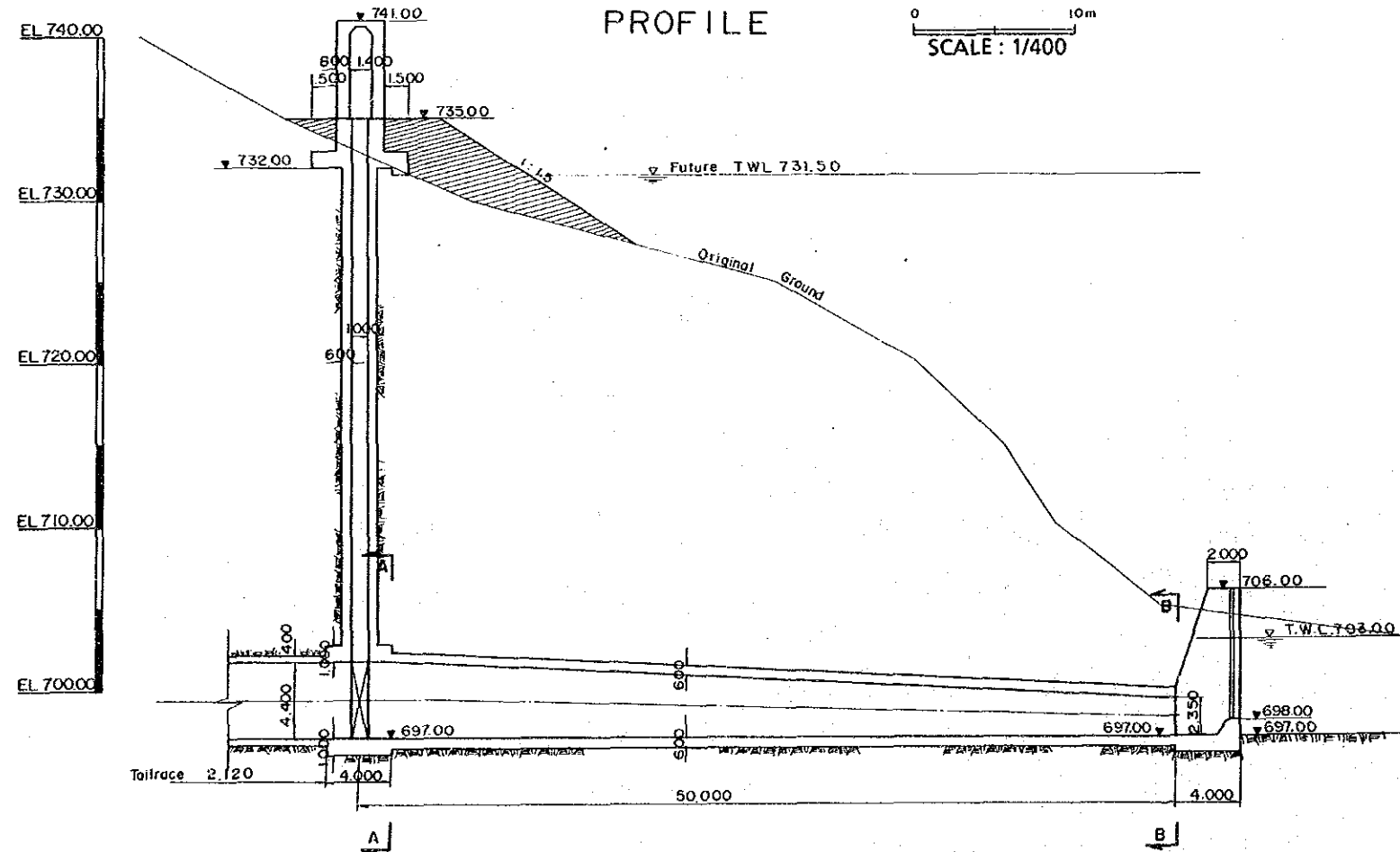


THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
CEYLON ELECTRICITY BOARD
FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
PLAN, PROFILE AND SECTION OF TALAWAKELLE POWERHOUSE
JAPAN INTERNATIONAL COOPERATION AGENCY
DRWG No. : 403

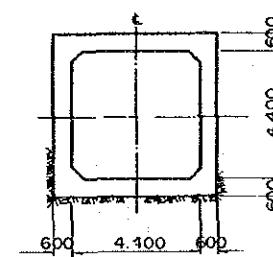
PLAN OF TALAWAKELLE OUTLET



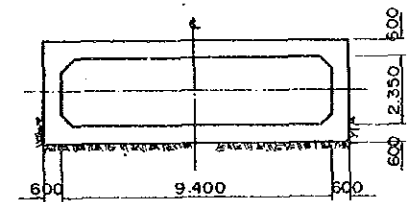
PROFILE



A-A SECTION



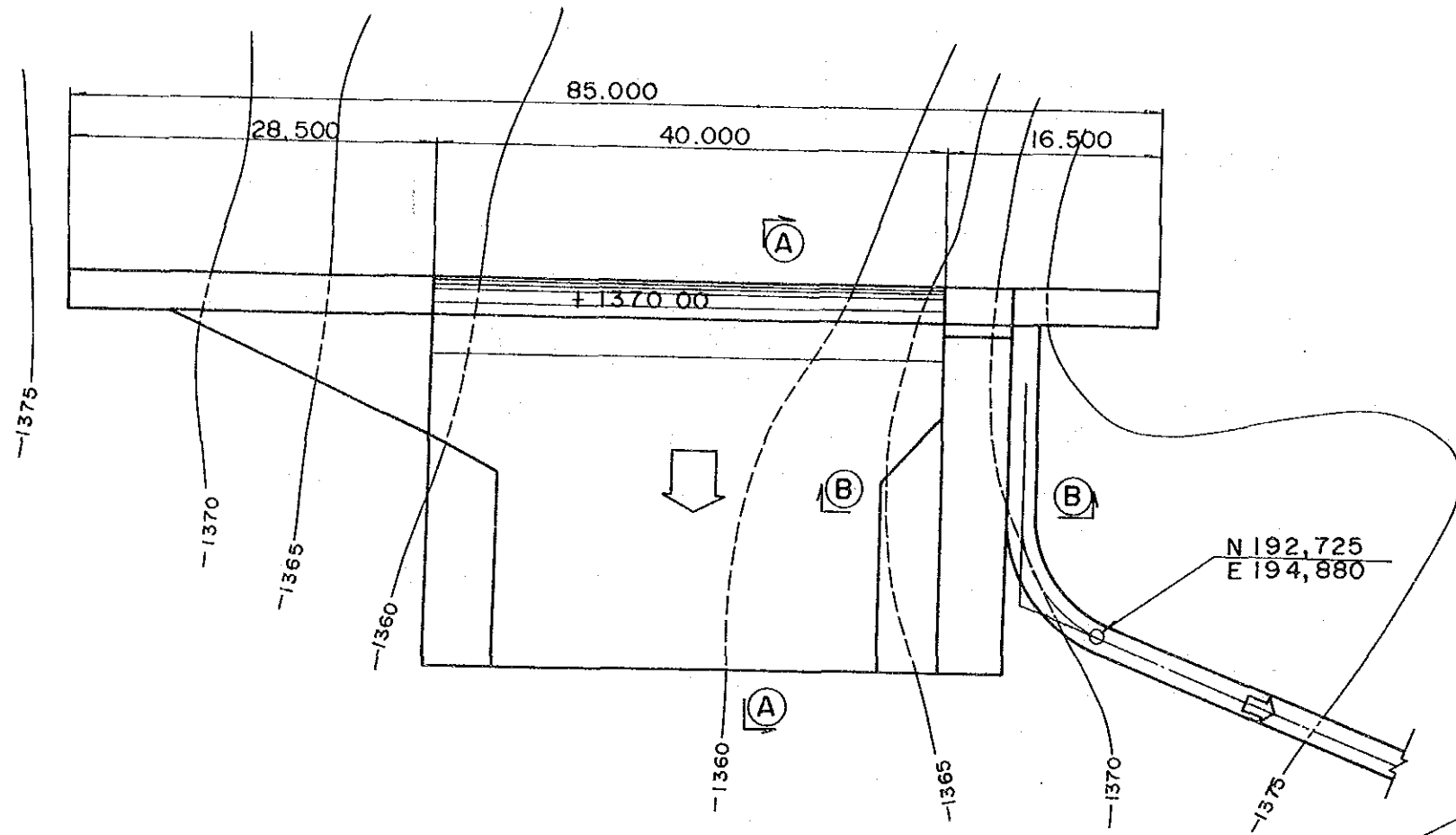
B-B SECTION



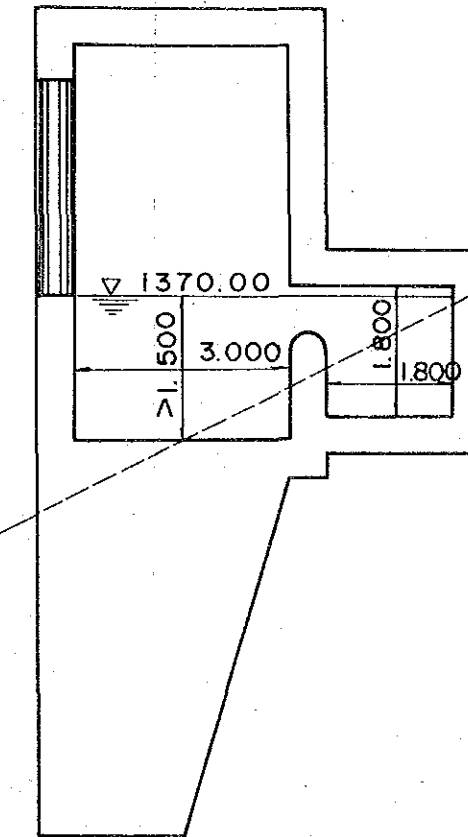
0 25 50 70m
SCALE : 1/250

THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
CEYLON ELECTRICITY BOARD
FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
PLAN AND PROFILE OF TALAWAKELLE P/S OUTLET
JAPAN INTERNATIONAL COOPERATION AGENCY
DRWG No. : 404

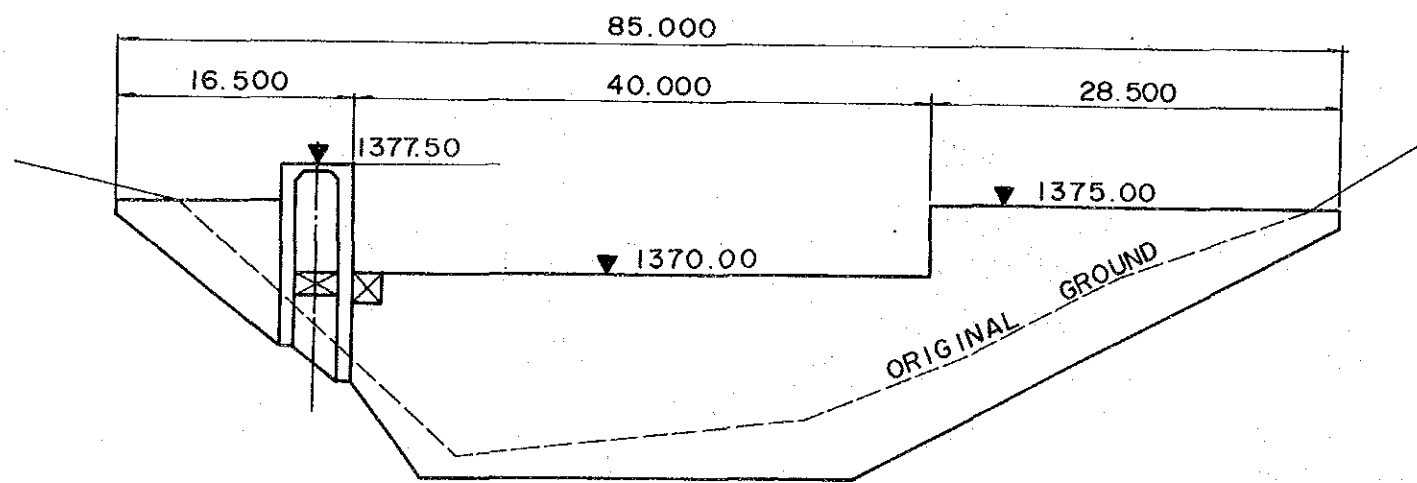
PLAN



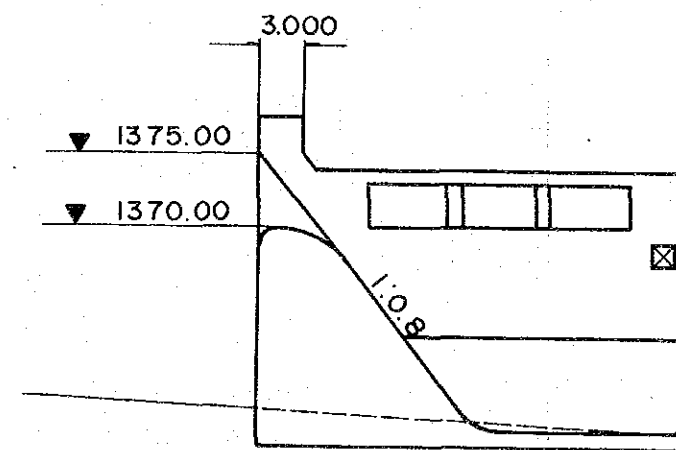
(B)-(B) SEC SCALE: 1/100



UPSTREAM VIEW

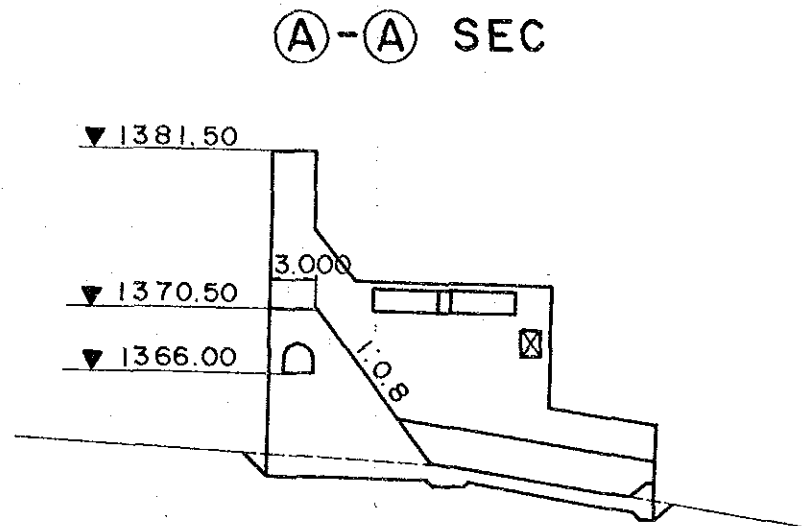
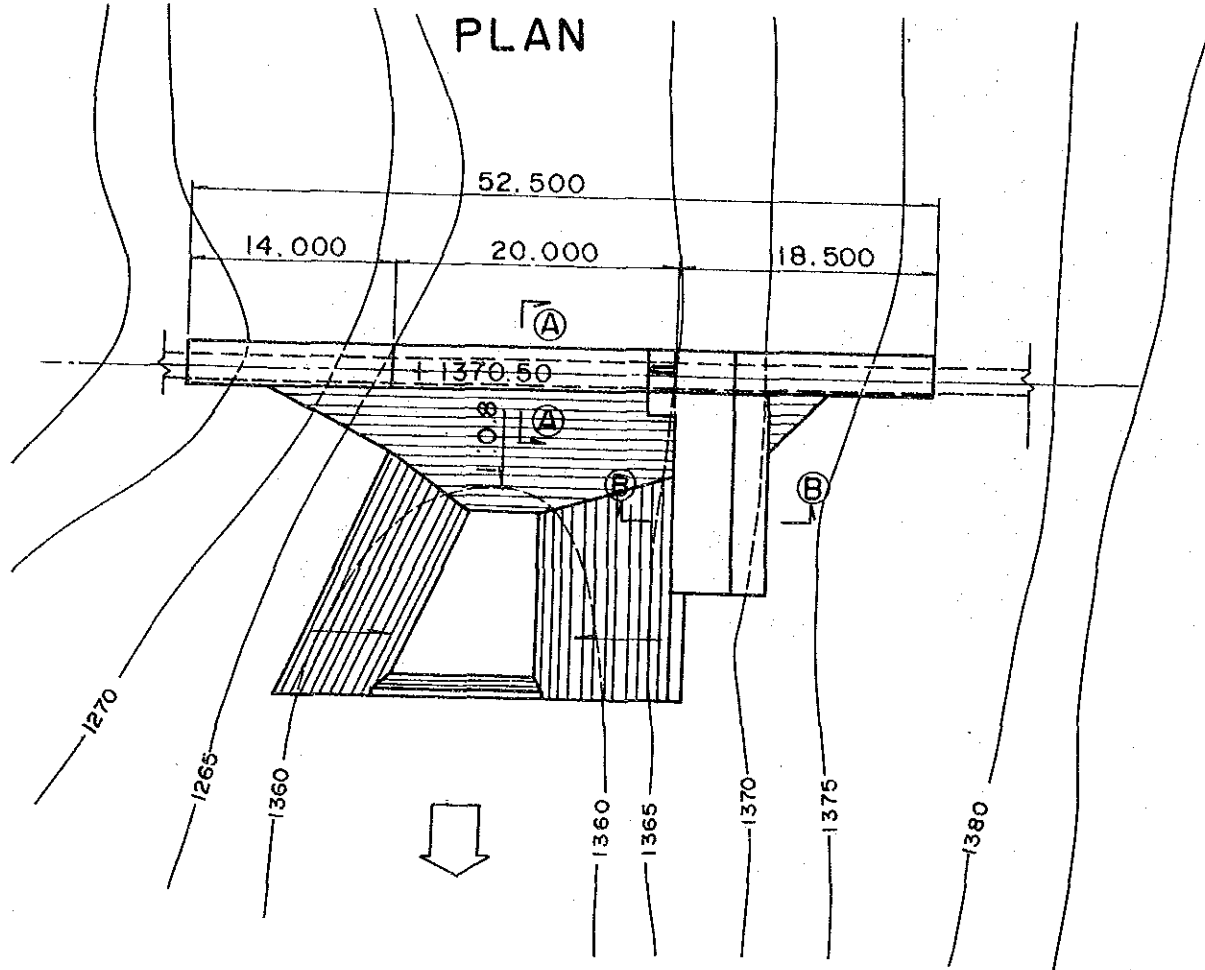


(A)-(A) SEC

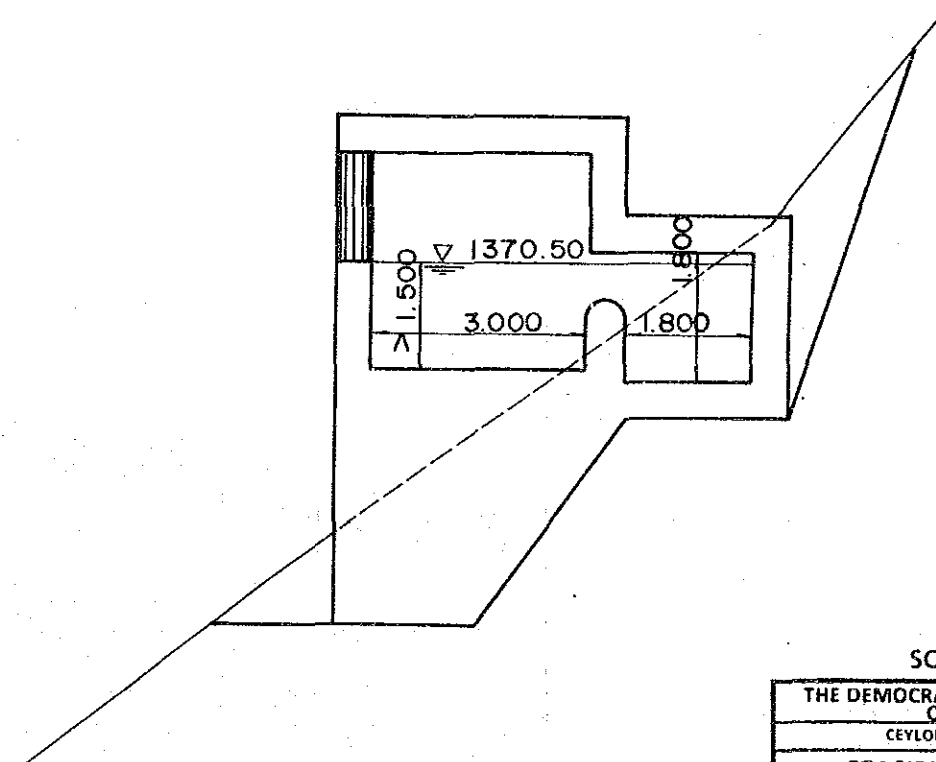
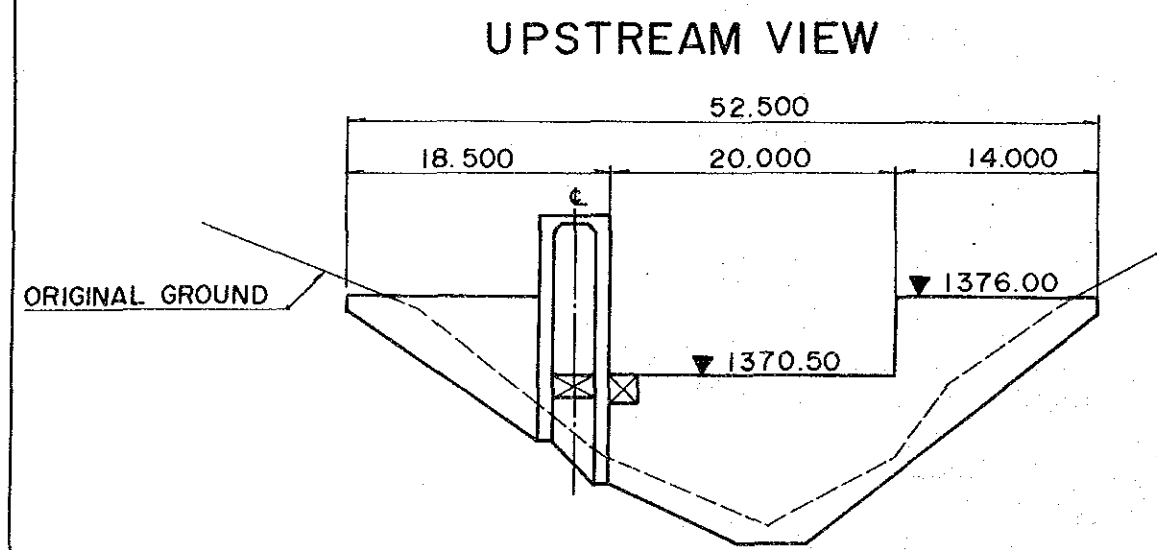


SCALE: 1/500

THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
CEYLON ELECTRICITY BOARD
FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
STRUCTURES FOR NANU OYA NO.1 INTAKE
JAPAN INTERNATIONAL COOPERATION AGENCY
DRWG No. : 501



B-B SEC SCALE: 1/100



SCALE: 1/500

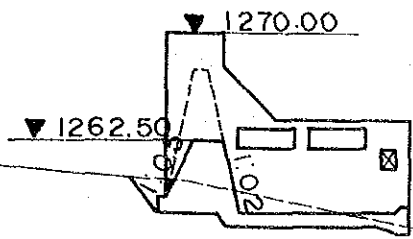
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
 CEYLON ELECTRICITY BOARD

FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT

STRUCTURES FOR NANU OYA NO.2 INTAKE

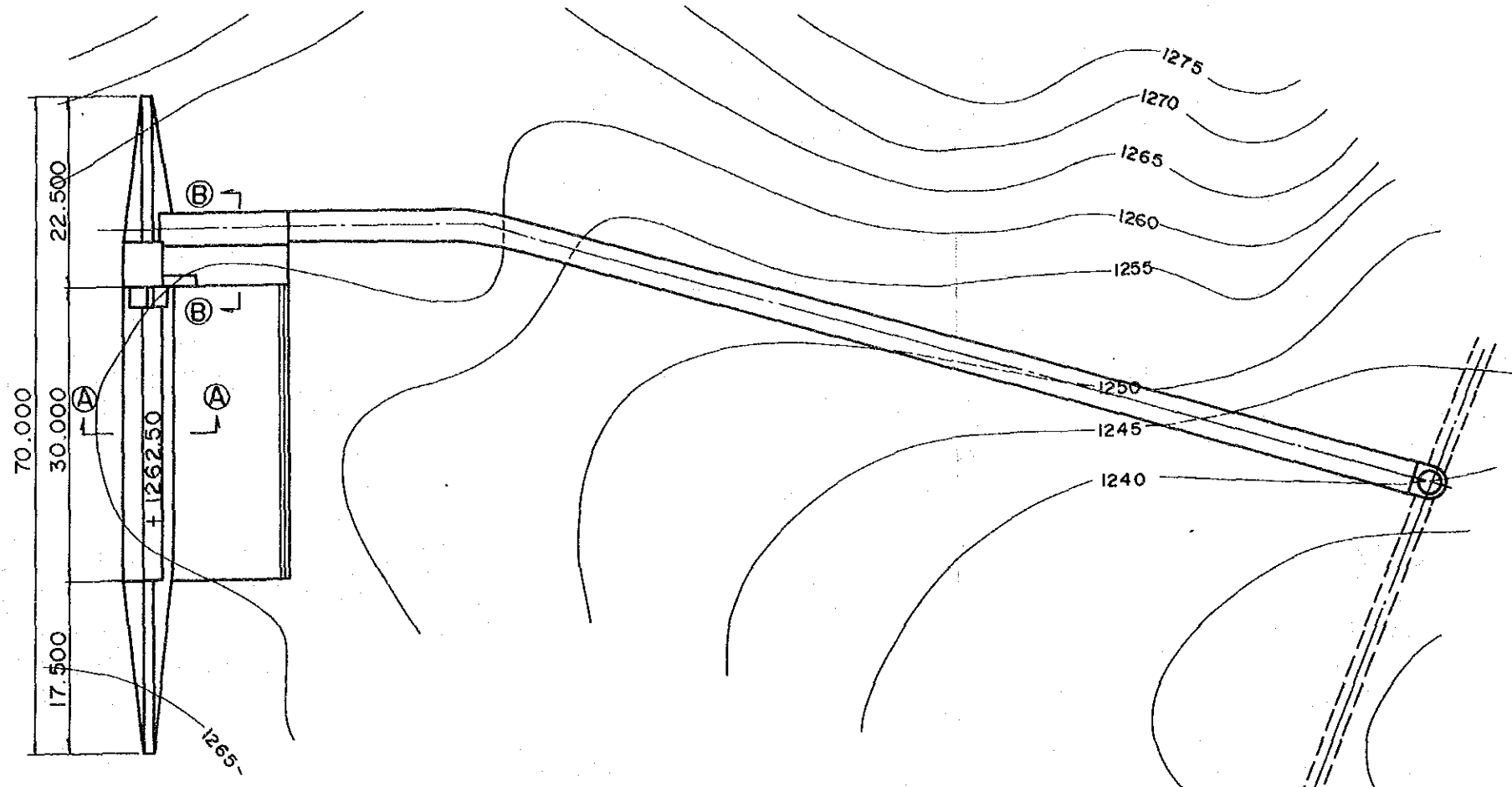
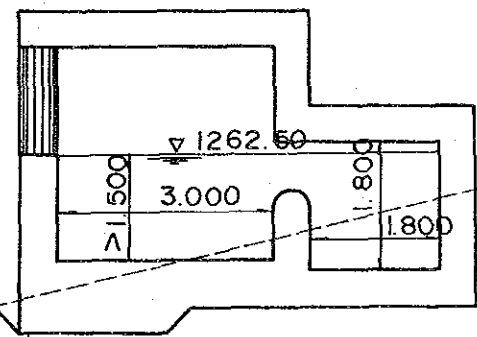
JAPAN INTERNATIONAL COOPERATION AGENCY
 DRWG No. : 502

(A) - (A) SEC

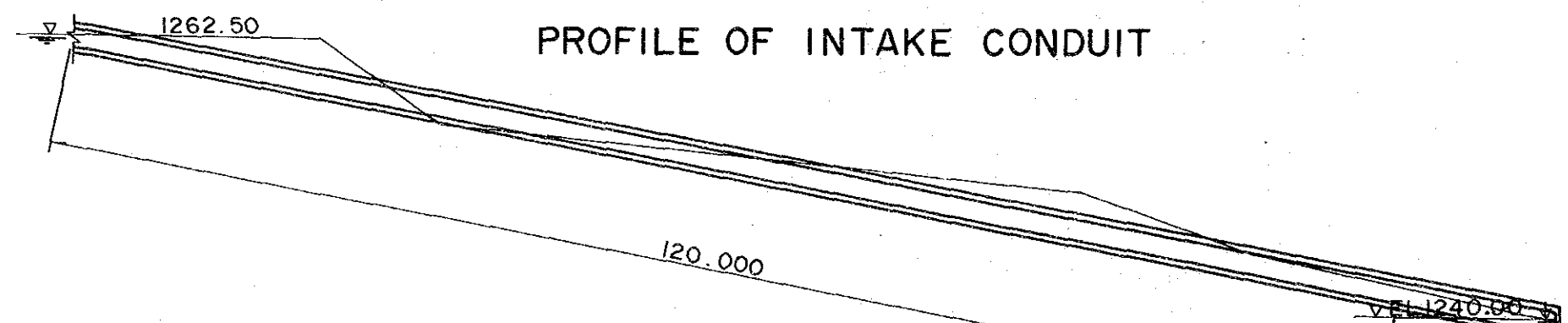


(B) - (B) SEC

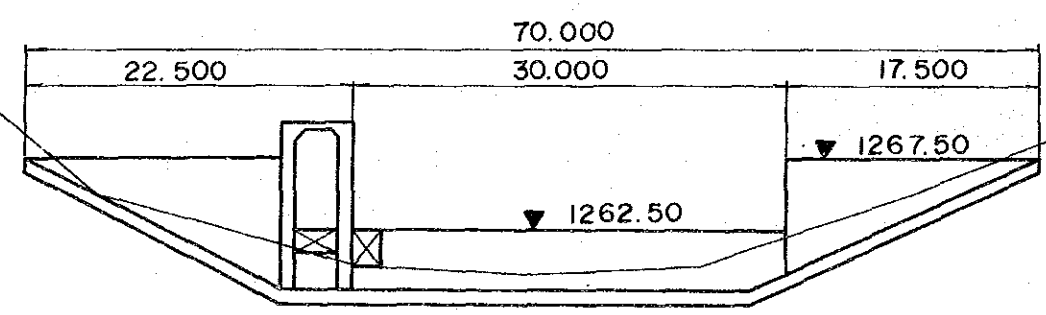
SCALE: 1/100



PROFILE OF INTAKE CONDUIT



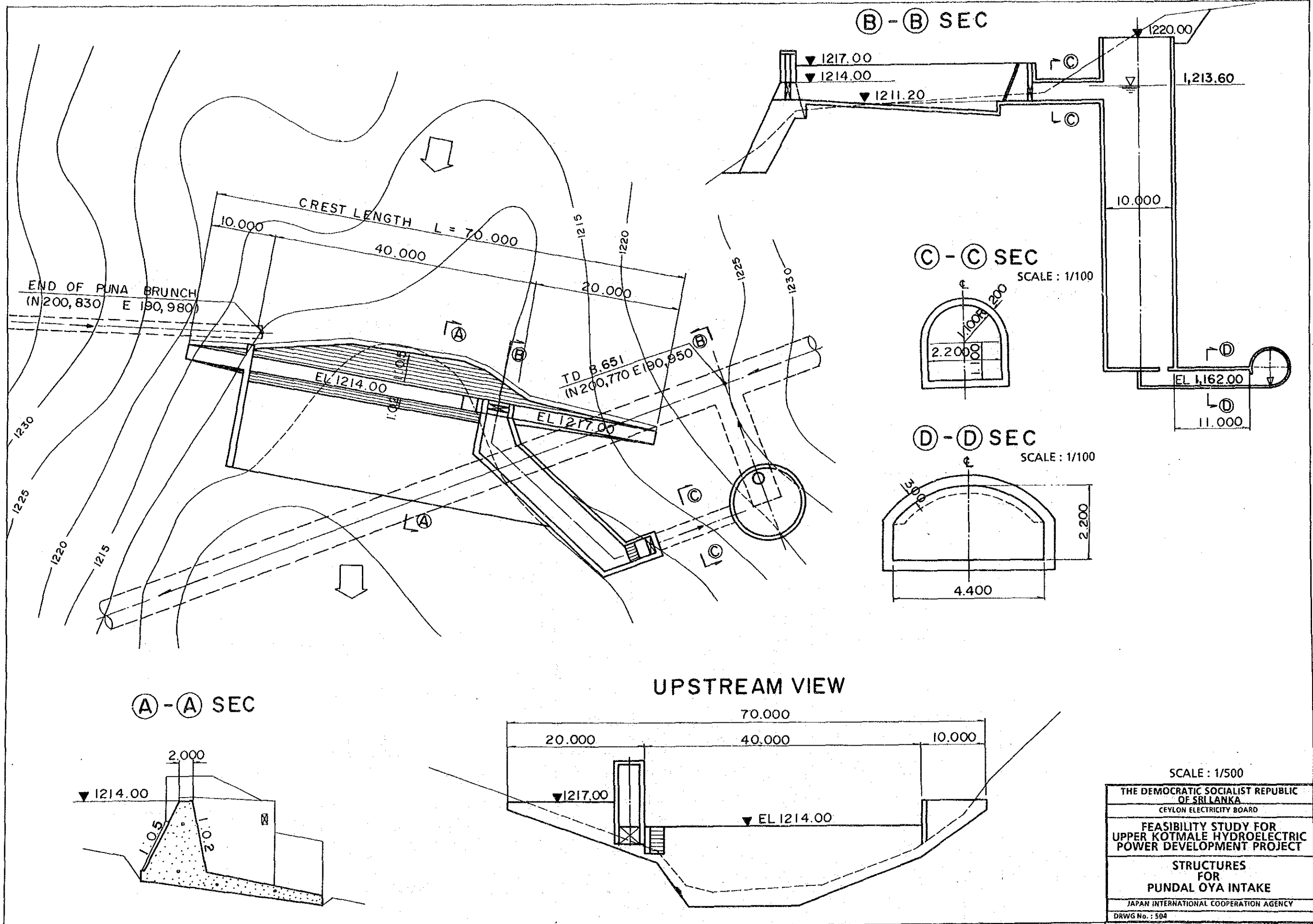
UPSTREAM VIEW



N203.850 E192.250

SCALE: 1/500

THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
CEYLON ELECTRICITY BOARD
FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
STRUCTURES FOR PUNA OYA NO.2 INTAKE
JAPAN INTERNATIONAL COOPERATION AGENCY
DRWG No. : 503

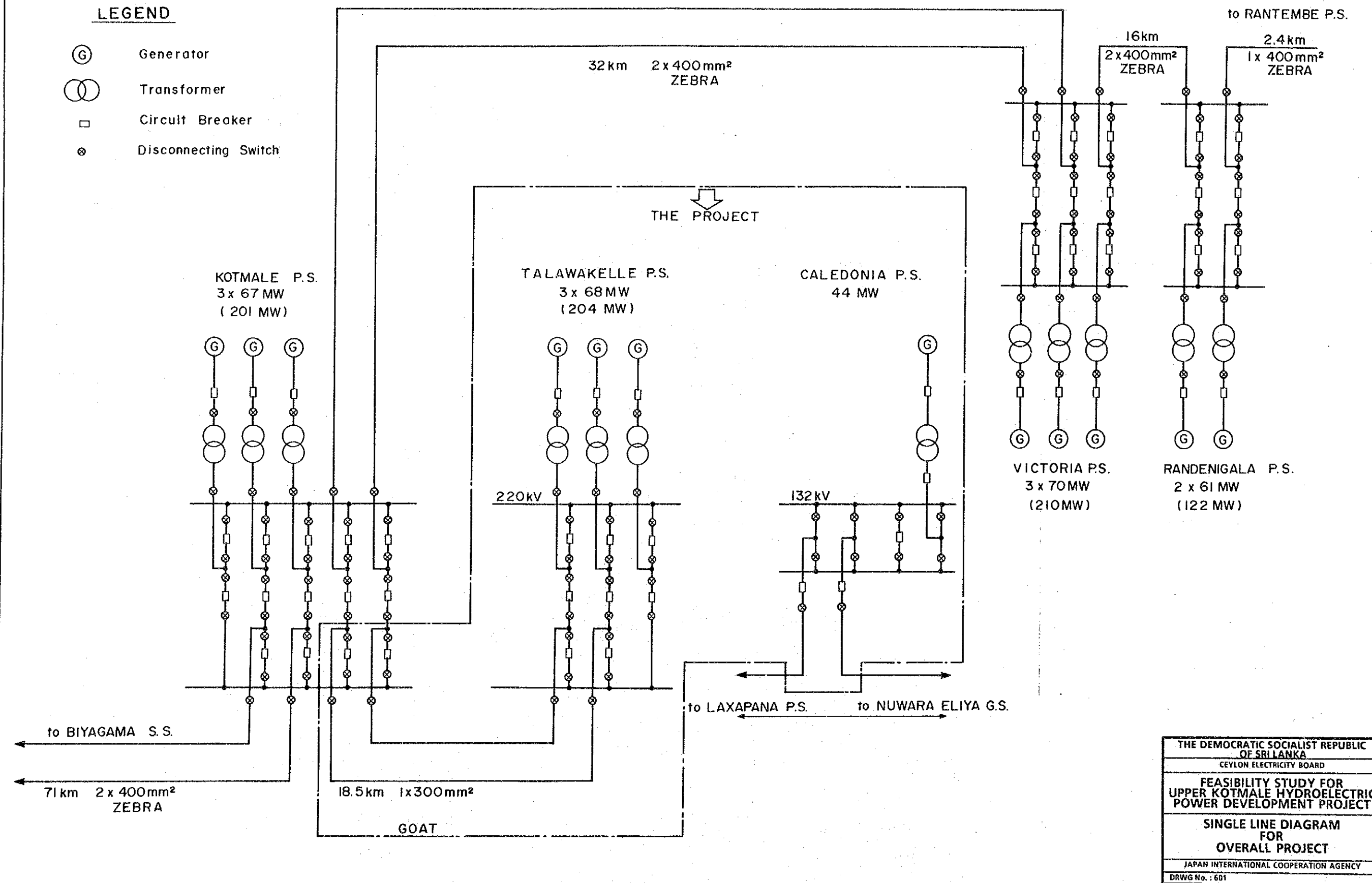


SCALE : 1/500

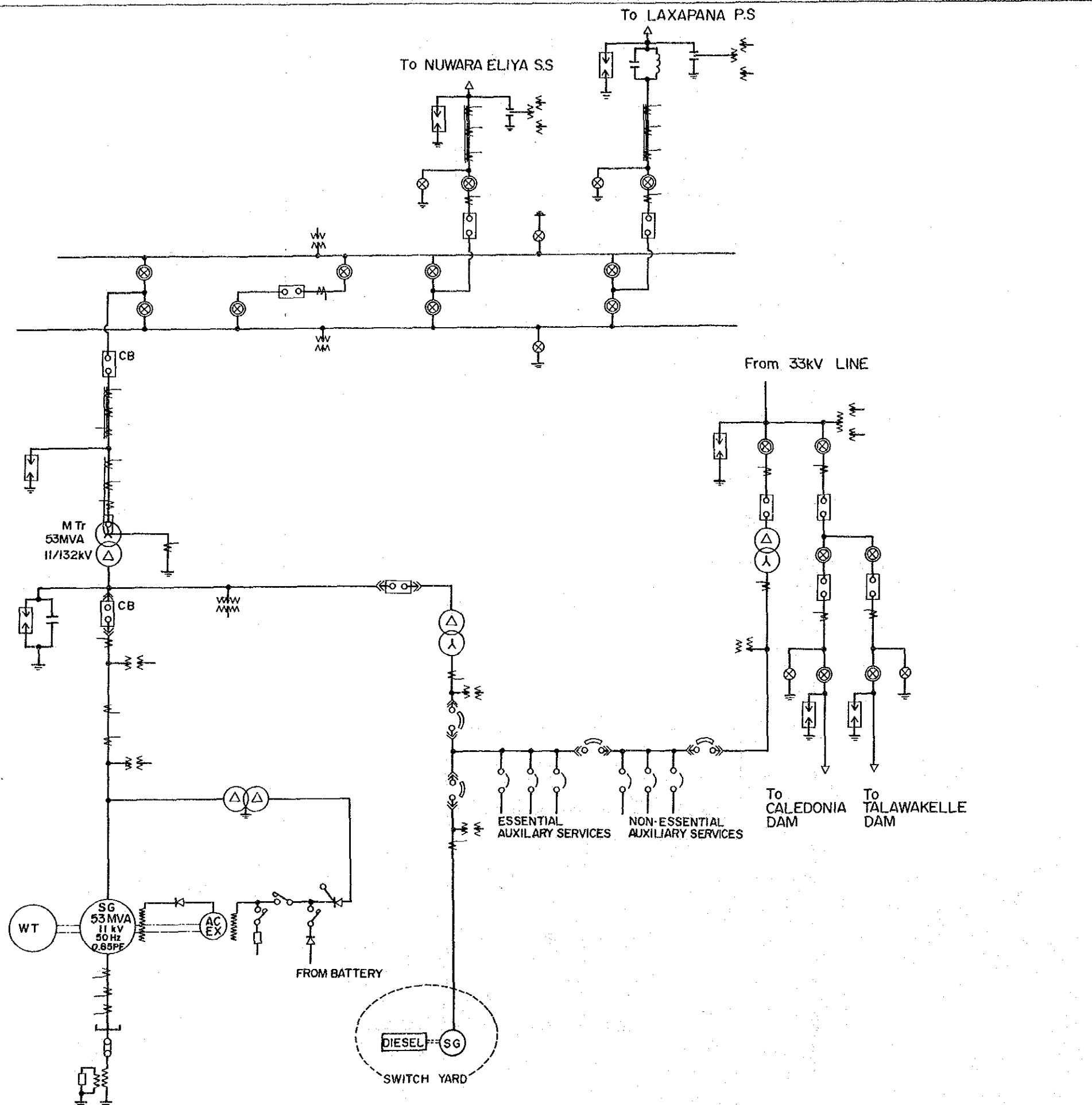
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
CEYLON ELECTRICITY BOARD
FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
STRUCTURES FOR PUNDAL OYA INTAKE
JAPAN INTERNATIONAL COOPERATION AGENCY
DRWG No. : 504

LEGEND

- ⊙ Generator
- ⊕ Transformer
- Circuit Breaker
- ⊗ Disconnecting Switch



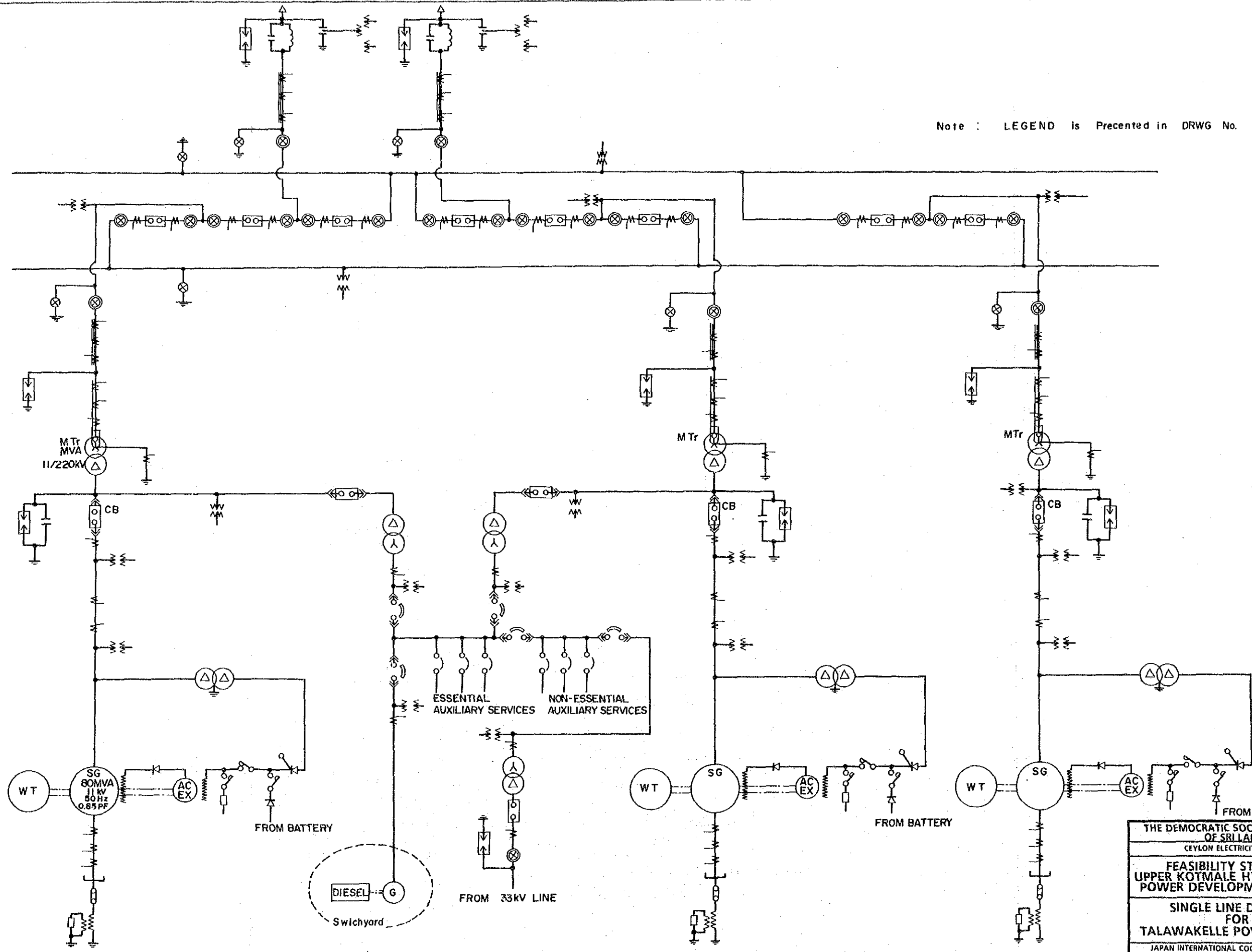
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
CEYLON ELECTRICITY BOARD
FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
SINGLE LINE DIAGRAM FOR OVERALL PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY
DRWG No. : 601



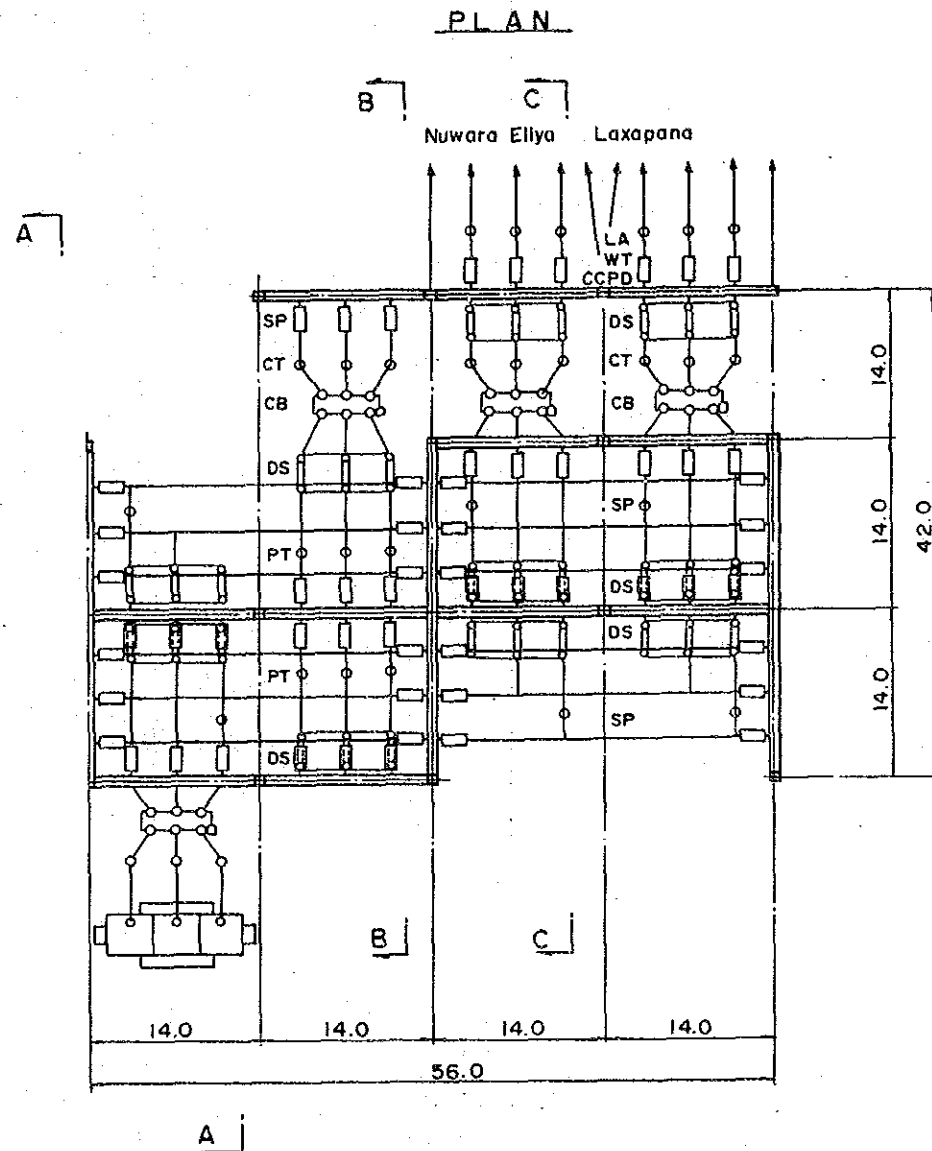
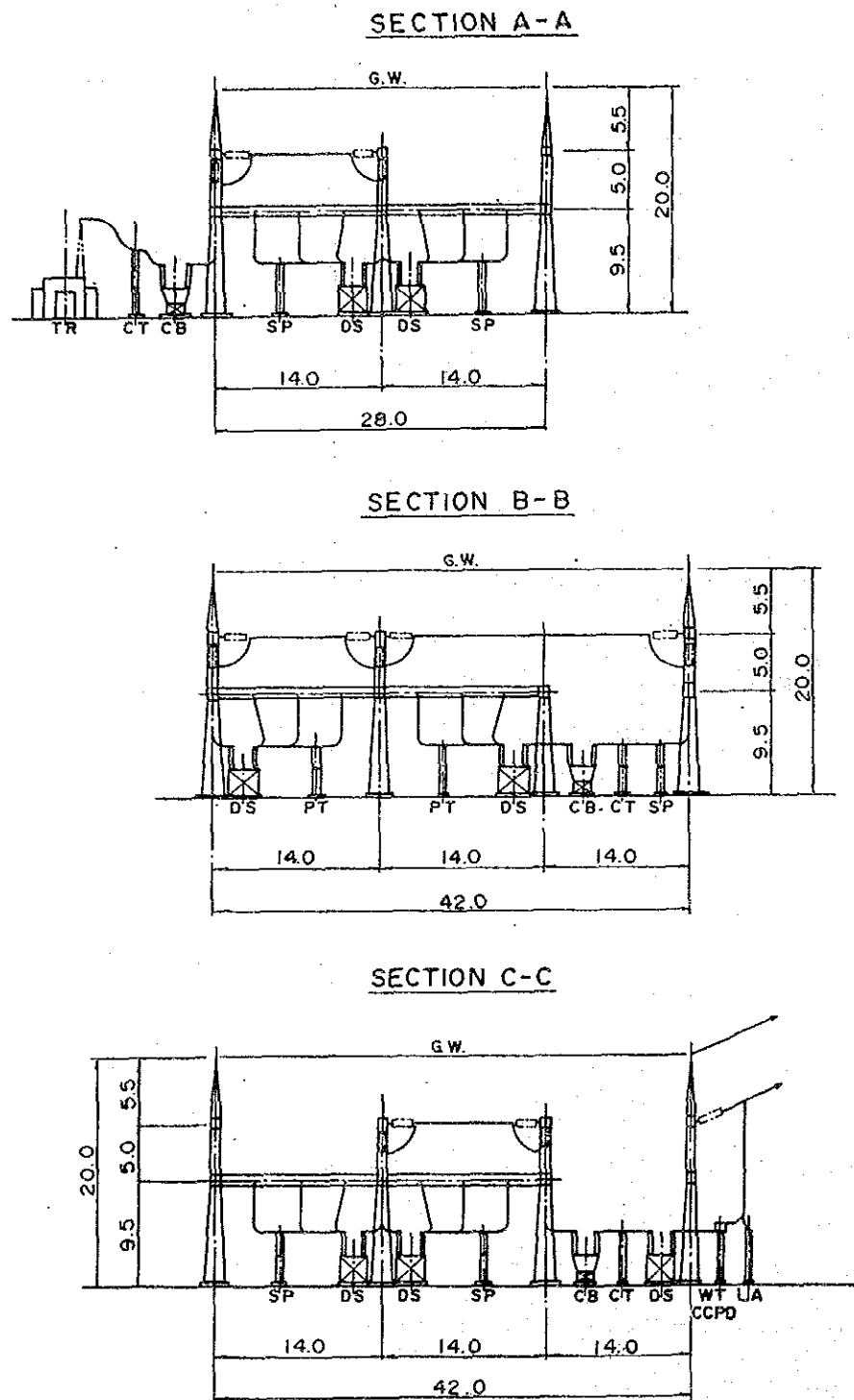
LEGEND	
	Synchronous Generator
	Water Turbine
	Transformer
	Circuit Breaker (C.B)
	Drawout Type C.B
	Drawout Type Air Circuit Breaker
	Mold Case Circuit Breaker
	Switch
	Disconnecting Switch (Remote operated)
	Disconnecting Switch (Manual operated)
	Resistor
	Link
	Arrester
	Grounding
	Surge Absorber
	Potential Transformer (P.T)
	Grounded P.T.
	Current Transformer (C.T)
	Bushing Type C.T
	Coupling Capacitor Potential Device

THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
 CEYLON ELECTRICITY BOARD
 FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
 SINGLE LINE DIAGRAM FOR CALEDONIA POWER STATION
 JAPAN INTERNATIONAL COOPERATION AGENCY
 DRWG No. : 602

Note : LEGEND is Presented in DRWG No.



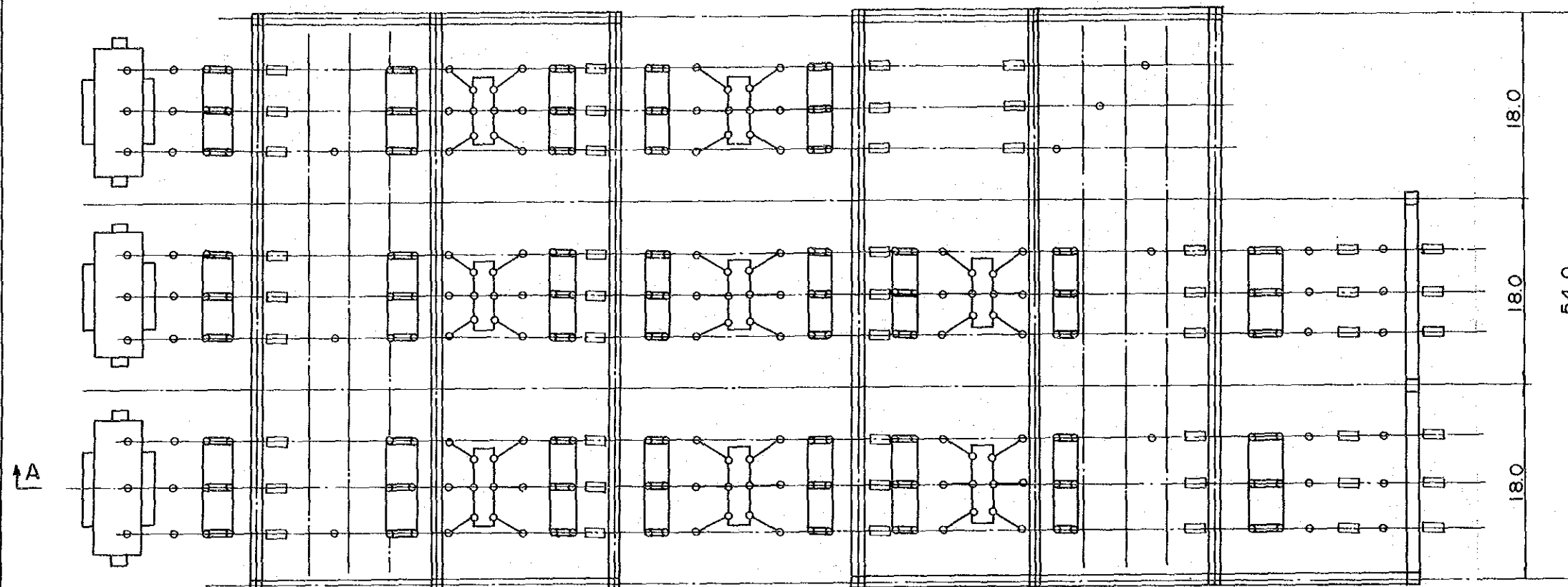
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
CEYLON ELECTRICITY BOARD
FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
SINGLE LINE DIAGRAM FOR TALAWAKELLE POWER STATION
JAPAN INTERNATIONAL COOPERATION AGENCY
DRWG No. : 603



- LEGEND**
- TR : Transformer
 - CT : Current Transformer
 - CB : Circuit Breaker
 - SP : Station Post Insulator
 - DS : Disconnecting Switch
 - PT : Potential Transformer
 - WT : Wave Trap
 - LA : Lightning Arrester
 - CCPD : Coupling Capacitor Potential Device
 - GW : Grounding Wire

THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
CEYLON ELECTRICITY BOARD
FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
FACILITIES LAYOUT FOR CALEDONIA SWITCHYARD
JAPAN INTERNATIONAL COOPERATION AGENCY
DRWG No. : 604

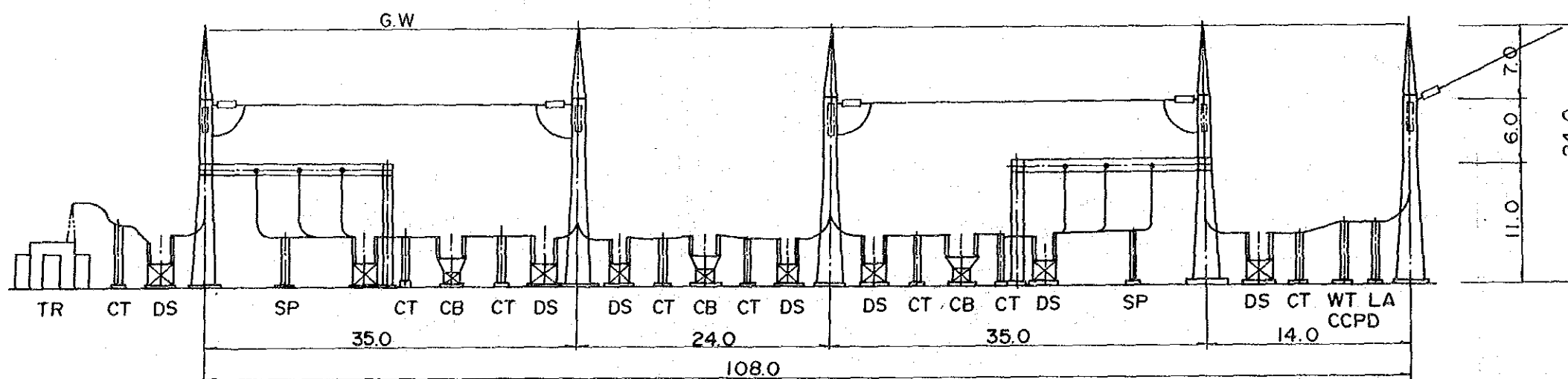
PLAN



LEGEND

- TR : Transformer
- CT : Current Transformer
- CB : Circuit Breaker
- SP : Station Post Insulator
- DS : Disconnecting Switch
- PT : Potential Transformer
- WT : Wave Trap
- LA : Lightning Arrester
- CCPD : Coupling Capacitor Potential Device
- GW : Grounding Wire

SECTION A-A

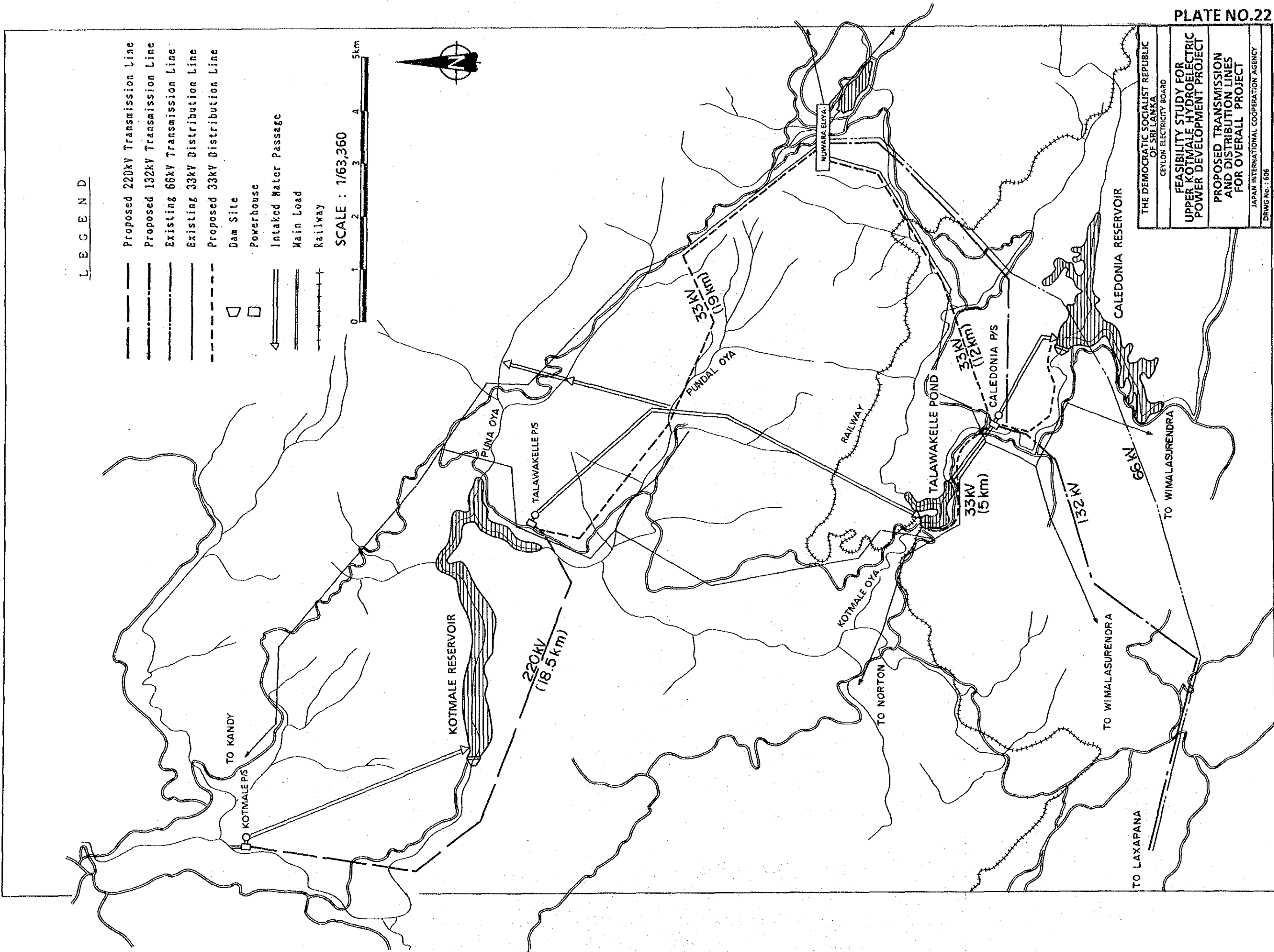


THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
CEYLON ELECTRICITY BOARD
FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
FACILITIES LAYOUT FOR TALAWAKELLE SWITCHYARD
JAPAN INTERNATIONAL COOPERATION AGENCY
DRWG No. : 605

LEGEND

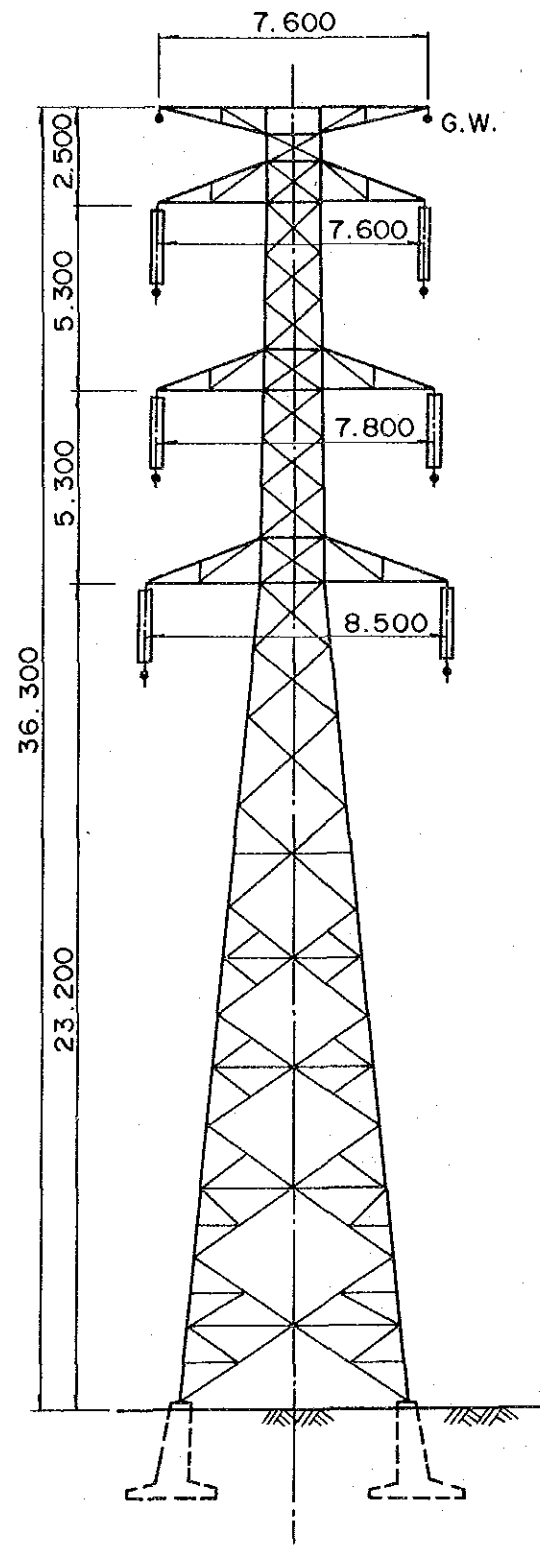
- Proposed 220kV Transmission Line
- Proposed 132kV Transmission Line
- Existing 66kV Transmission Line
- Existing 33kV Distribution Line
- Proposed 33kV Distribution Line
- Dam Site
- Powerhouse
- Intaked Water Passage
- Main Load
- Railway

SCALE : 1/63,360



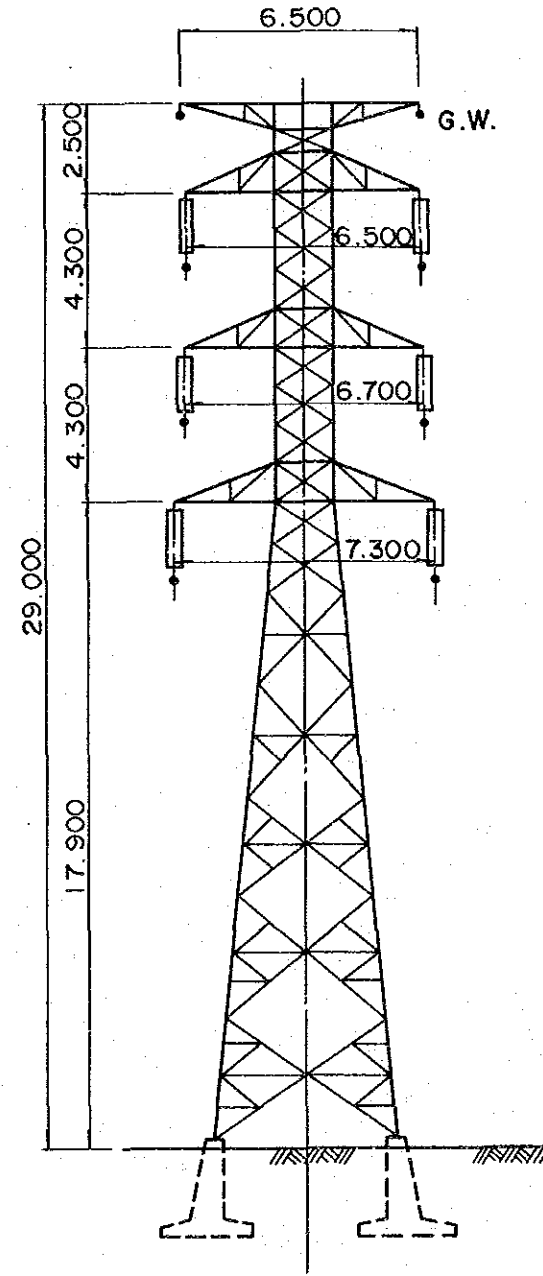
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
 CEYLON ELECTRICITY BOARD
 FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
 PROPOSED TRANSMISSION AND DISTRIBUTION LINES FOR OVERALL PROJECT
 JAPAN INTERNATIONAL COOPERATION AGENCY
 DRWG No. : 606

220KV 2cct



Normal Span 400 (m)

132KV 2cct

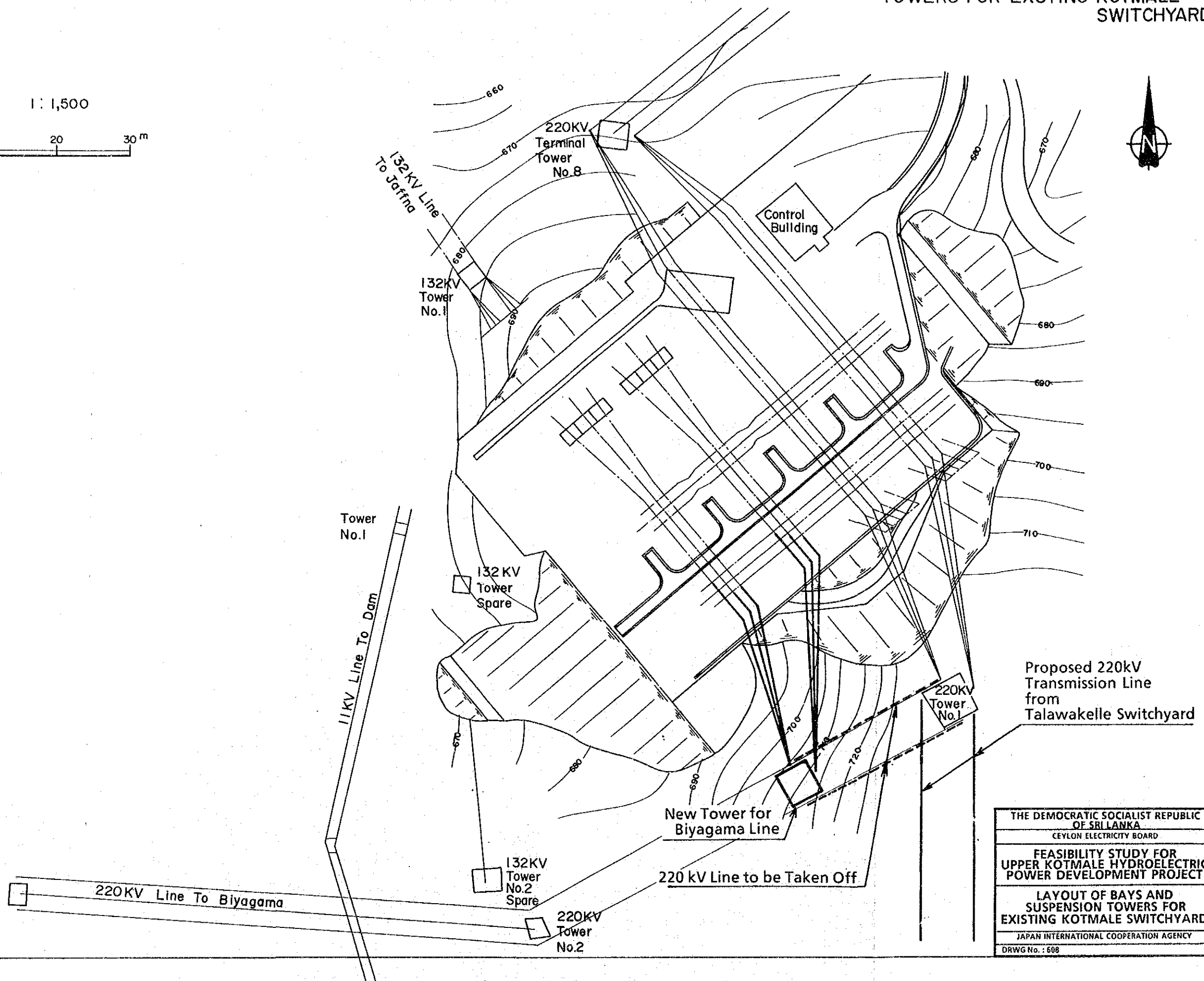
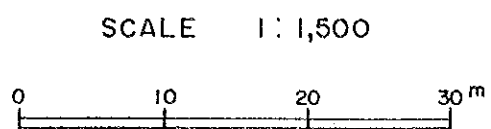


Normal Span 400 (m)

SCALE : 1/200

THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
CEYLON ELECTRICITY BOARD
FEASIBILITY STUDY FOR UPPER KOTMALE HYDROELECTRIC POWER DEVELOPMENT PROJECT
TYPICAL STRUCTURES FOR 220kV AND 132kV SUSPENSION TOWERS
JAPAN INTERNATIONAL COOPERATION AGENCY
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LAYOUT OF BAYS AND SUSPENSION
TOWERS FOR EXISTING KOTMALE
SWITCHYARD



THE DEMOCRATIC SOCIALIST REPUBLIC
OF SRI LANKA
CEYLON ELECTRICITY BOARD

FEASIBILITY STUDY FOR
UPPER KOTMALE HYDROELECTRIC
POWER DEVELOPMENT PROJECT

LAYOUT OF BAYS AND
SUSPENSION TOWERS FOR
EXISTING KOTMALE SWITCHYARD

JAPAN INTERNATIONAL COOPERATION AGENCY

DRWG No. : 608

ANNEXES

Personnel Contacted during the Study

Ceylon Electricity Board

Prof. K K Y W Perera, Chairman
 D R C de Alwis, Vice Chairman
 D W L Liversz, Director
 L W de Silva, General Manager
 P B N Fernando, Additional General Manager
 R J N Thilakaratne, Secretary
 G O S Gunasekera, Deputy General Manager
 E N W Wijemanne, Commercial Manager
 M B de Silva, Finance Manager
 T M Herat, Chief Engineer (Generation Planning)
 R M N Wirasinghe, Chief Engineer (Transmission Planning)
 A P P Seneviratne, Chief Engineer (System Control)
 G G Gamage, Senior Planning Engineer
 P C C Perera, Electrical Engineer (Planning)

Central Engineering Consultancy Bureau

Dr. A N S Kulasinghe, Chairman
 G G Jayawardhane, General Manager
 H B Jayasekera, Additional General Manager
 H A L S Yapa, Deputy General Manager
 U E Koswatta, Chief Project Engineer
 P Sooriyakumar, Senior Civil Engineer
 H M Asoka Kumara, Senior Geologist
 I M Ranjith, Civil Engineer
 P M H G Rambanda, Civil Engineer
 B M A P Mapa, Geologist
 Dr. M A Wijerathne, Geophysist, Kotmale Project Office

Ministry of Finance and Planning

Mrs. S L Kuruppu, Addl. Director, Dept. of External Resources
 Mrs. C Kulatunga, Asst. Director
 S Weerapana, Asst. Director of External Resources

Ministry of Lands and Land Development

S M F Marikar, Director of Planning

Irrigation Department

K D P Perera, Director

S H C de Silva, Addl. Director

J A J Jayasooriya, Senior Deputy Director (Design)

G T Dharmasena, Deputy Director (Hydrology)

T Sivapathan, Deputy Director (Engineering Materials Laboratory)

G V Ratnasena, Chief Irrigation Engineer (Hydrology)

R L de S Munasinghe, Deputy Director (Engineering Geology)

P S Gamalath, Drilling Superintendent

Survey Department

G D F C Nanayakkara, Surveyor General

S T Herat, Deputy Surveyor General (Research & Training)

N G R Fernando, Deputy Surveyor General

G Wijepura, Deputy Surveyor General

W R J Perera, Chief Photogrametrist

A M Gunaratna, Assistant Superintendent Surveys

Geological Survey Department

D Jayawardena, Director

H D N C Pathirana, Deputy Director

Meteorological Department

D P W Karunatilleke, Deputy Director

M B D de Silva, Deputy Director

Mahaweli Authority of Sri Lanka

K H S Gunatilaka, Director General

L Godamune, Secretary General

L U Weerakoon, Director of Water Management Secretariat

Ministry of Mahaweli Development

Colonel I Samarawickrama, Secretary
R K Somasundaram, Senior Assistant Secretary
D J Bandaragoda, Additional Secretary
J K Weerawardena, Addl. Secretary
R S Cooke, Advisor

Central Bank of Ceylon

N Sanderatne, Director of Economic Research

Ceylon Petroleum Corporation

Edwin Ranasinghe, Manager of Economic & Planning

Embassy of Japan

T Urabe, Counsellor
M Kojima, the then Counsellor
K Maruyama, First Secretary
M Itami, the then First Secretary
M Sakuramata, Second Secretary
M Kobayashi, the then Second Secretary

Japan International Corporation Agency

J Hashiguchi, Director/Resident Representative
T Amagai, Assistant Resident Representative
M Kimura, Representative, JOCV

JETRO

K Tsuchiya, Resident Representative

CLASSIFICATION OF ROCK QUALITY IN DAM FOUNDATIONS

Classification	Characteristics
A	Rock-forming minerals are fresh and not weathered or altered. Joints and cracks are very closely adhered with no weathering along their planes. A clear sound is emitted when hammered.
B	Rock-forming minerals are weathered slightly or partially altered, the rock being hard. Joints and cracks are closely adhered. A clear sound is emitted when hammered.
CH	Rock-forming minerals are weathered but the rock is fairly hard. The bond between rock blocks is slightly reduced and each block is apt to be exfoliated along joints and cracks by strong hammering. Joints and cracks sometimes contain clay and other material which may be colored by limonite. A slightly dull sound is emitted when hammered.
CM	Rock-forming minerals are weathered and the rock is slightly soft. Exfoliation of the rock occurs along joints and cracks by normal hammering. Joints and cracks sometimes contain clay and other material. A somewhat dull sound is emitted when hammered.
CL	Rock-forming minerals are weathered and the rock is soft. Exfoliation of the rock occurs along joints and cracks by light hammering. Joints and cracks contain clay. A dull sound is emitted when hammered.
D	Rock-forming minerals are weathered, and rock is very soft. There is virtually no bond between rock blocks, and collapse occurs at the slightest hammering. Joints and cracks contain clay. A very dull sound is emitted when hammered.

JICA