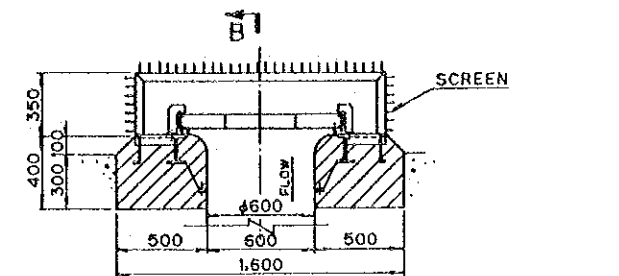
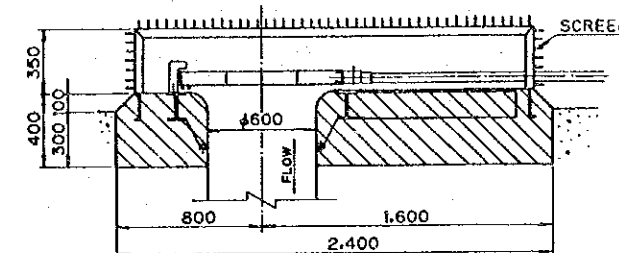


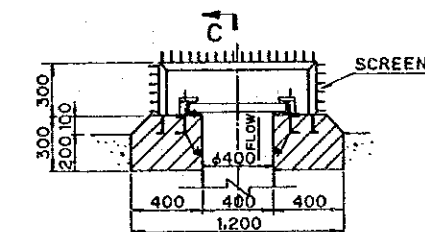
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SCALE 1:200



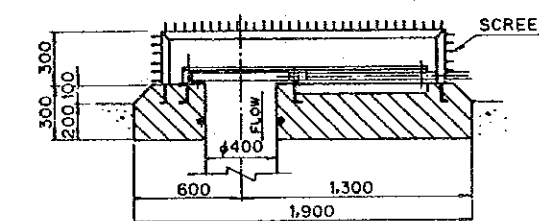
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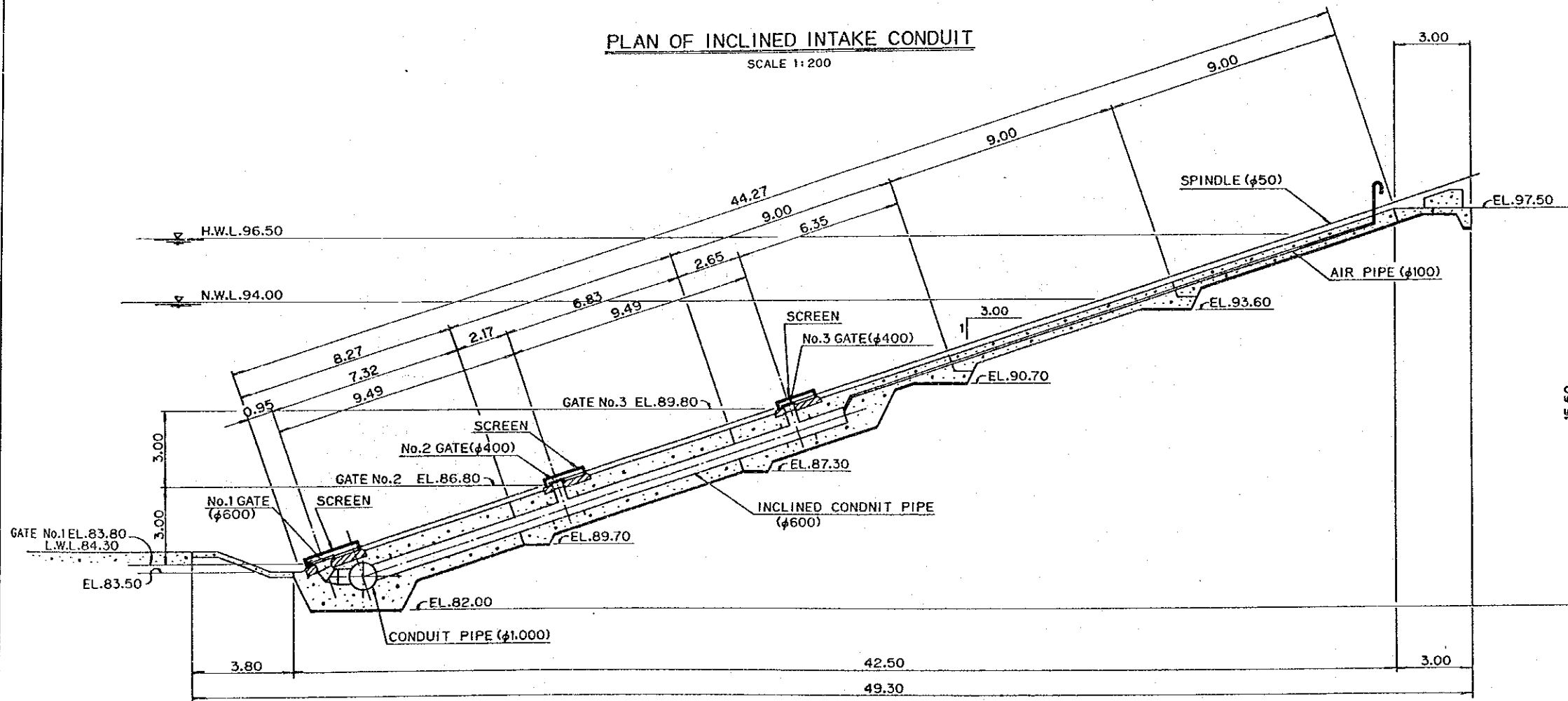
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SCALE 1:40



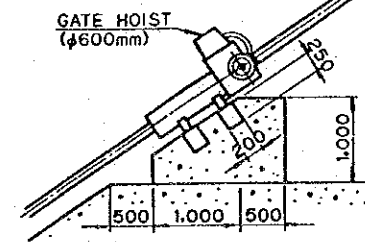
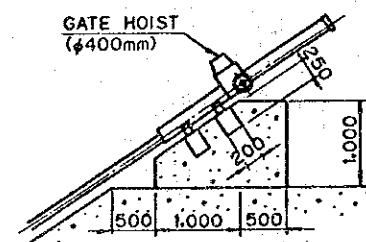
DETAIL OF INCLINED INTAKE GATE
SCALE 1:40



SECTION C-C
SCALE 1:40



SECTION A-A
SCALE 1:200

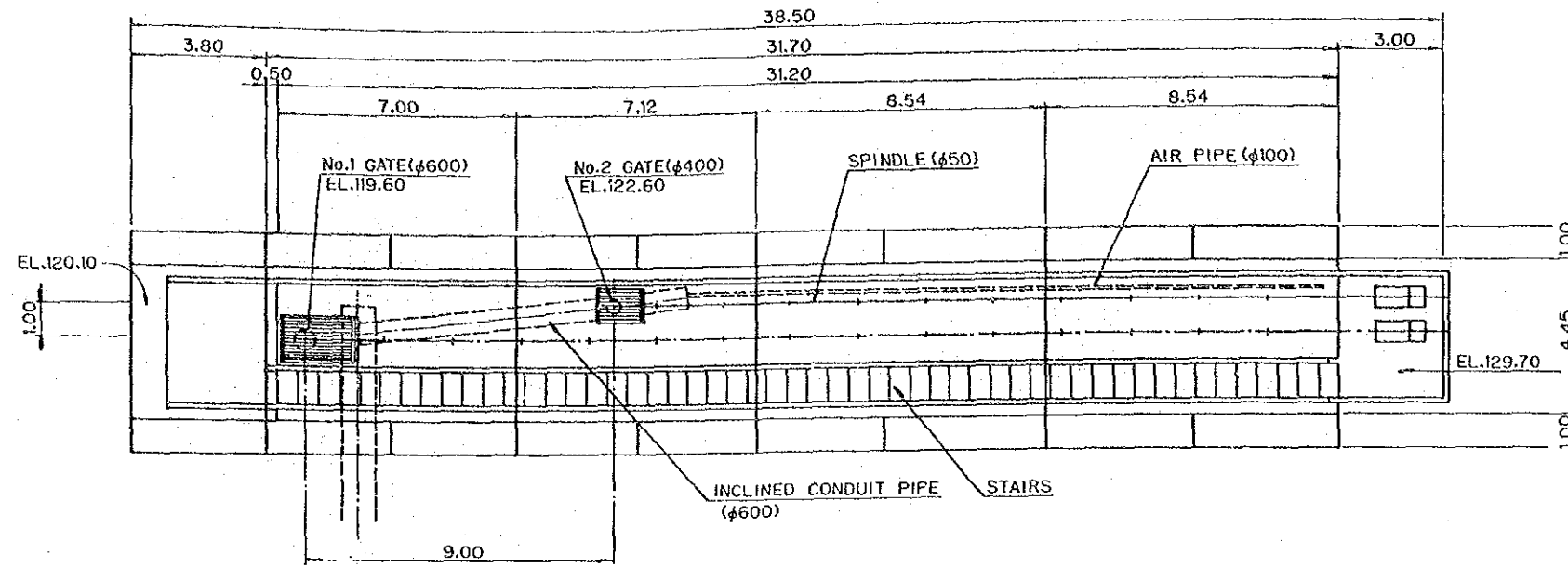


DETAILS OF GATE HOIST
SCALE 1:50

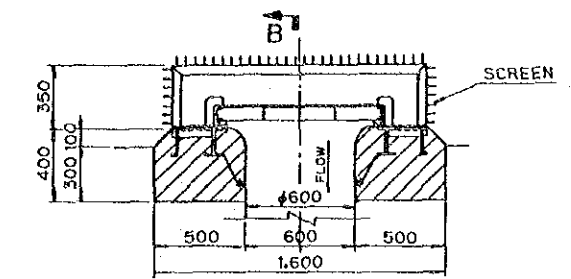
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1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. ALL ELEVATIONS (EL.) ARE IN METERS.

SCALE 1:200
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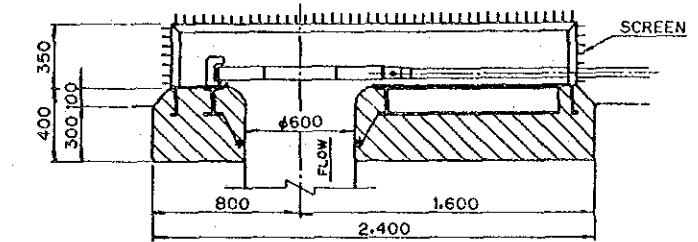
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THE PROJECT OF MINIMIZING ASH-FALL DEPOSITION IN THE WESTERN BARRIOS IMPOUNDING IRRIGATION		
DRG. TITLE PLAN OF INCLINED INTAKE CONDUIT (BALNAGES DAM)		
DATE	DRG. No.	3
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)		



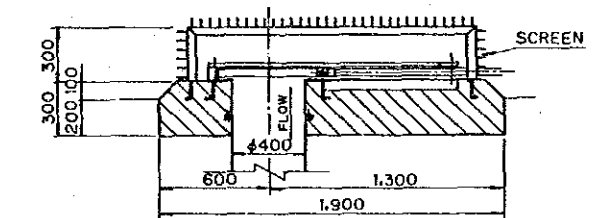
PLAN OF INCLINED INTAKE CONDUIT
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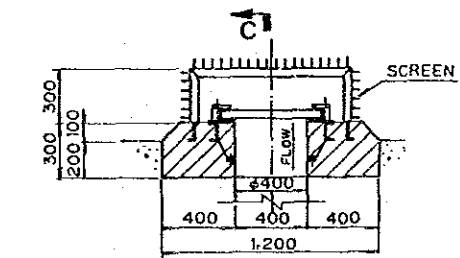
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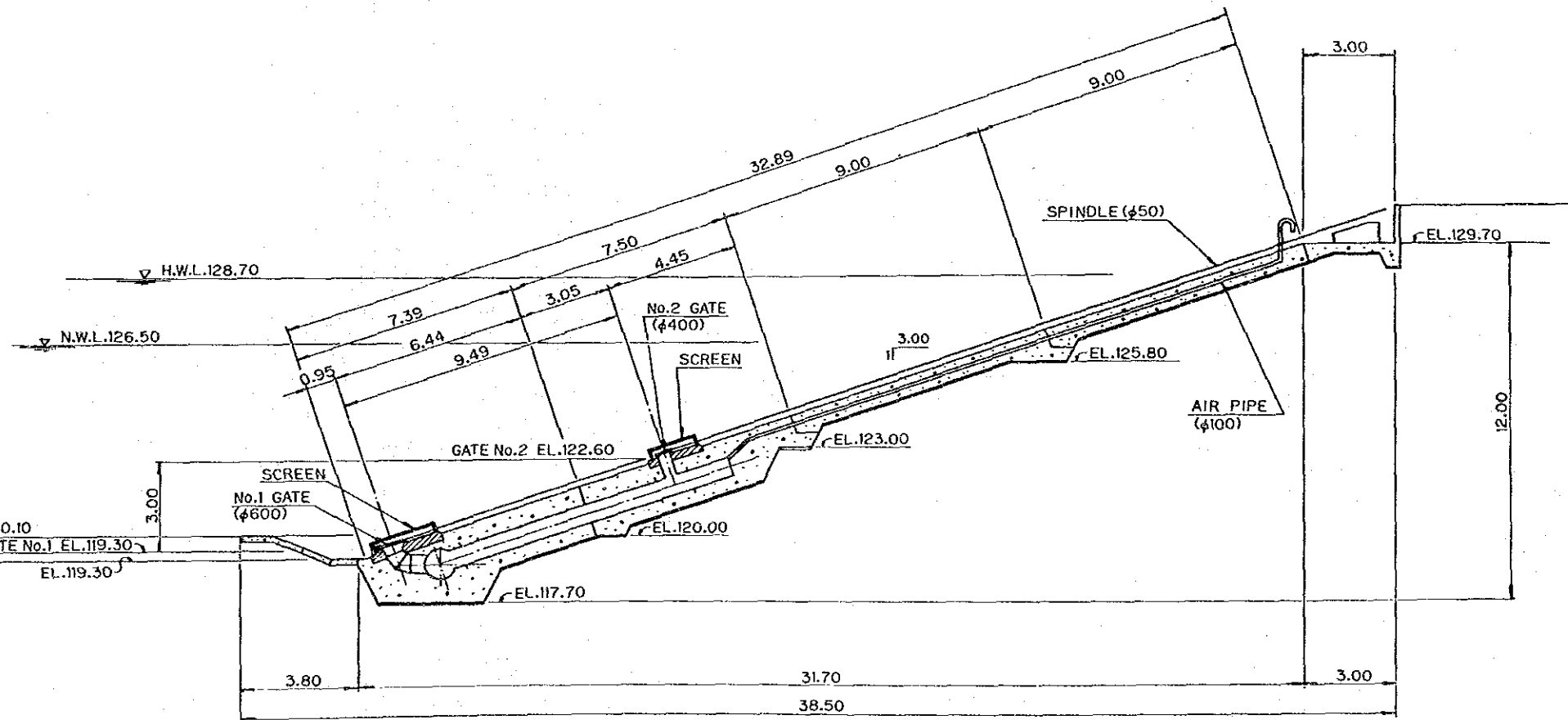
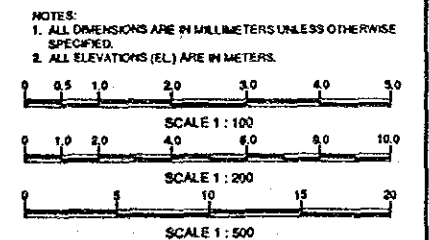
SECTION B-B
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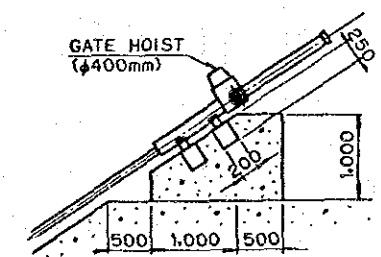
SECTION C-C
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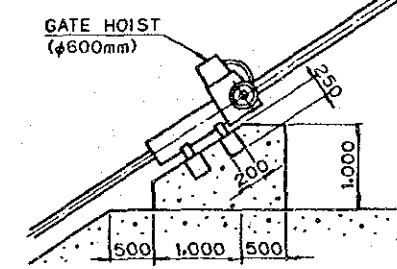
DETAIL OF INCLINED INTAKE GATE
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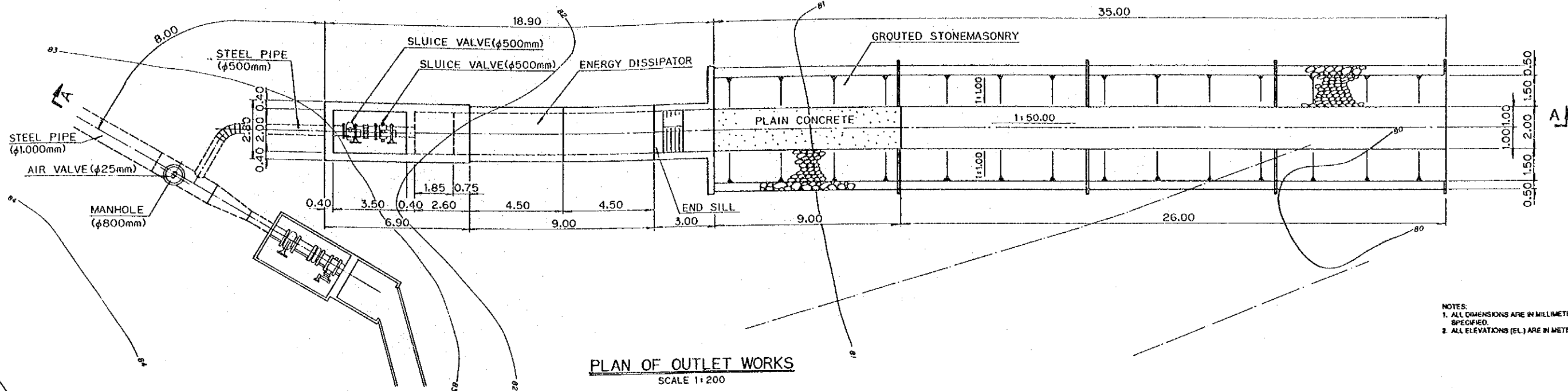
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DETAILS OF GATE HOIST
SCALE 1:50

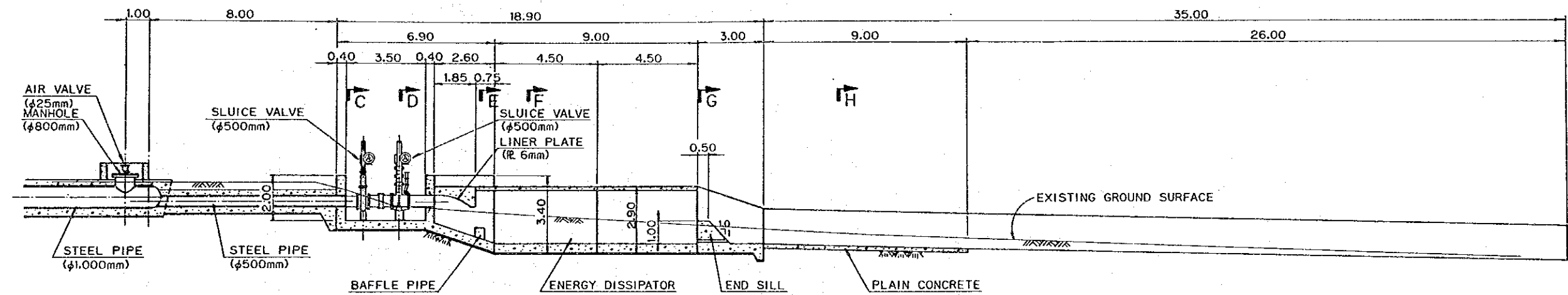


REPUBLIC OF THE PHILIPPINES		
NATIONAL IRRIGATION ADMINISTRATION		
THE PROJECT OF MINIMIZING ASH-FALL DEPOSITION		
IN THE WESTERN BARRIOS IMPOUNDING IRRIGATION		
DRG. TITLE		
PLAN OF INCLINED INTAKE CONDUIT		
(PANGASAN DAM)		
DATE	DRG. No.	4
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)		

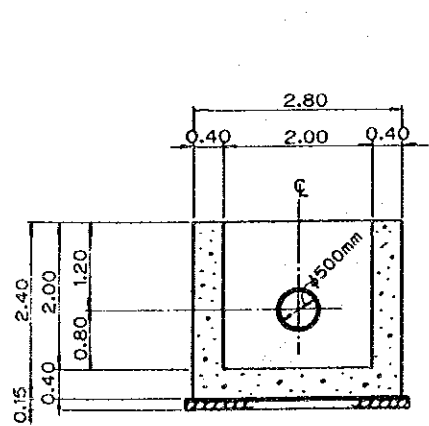


PLAN OF OUTLET WORKS
SCALE 1:200

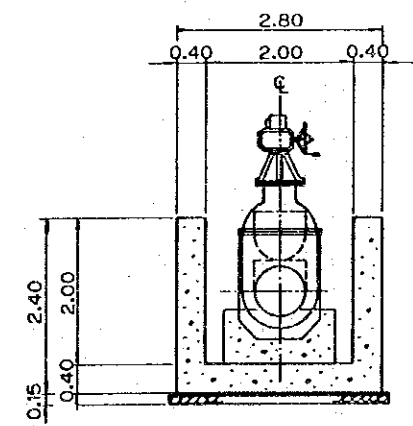
NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. ALL ELEVATIONS (EL.) ARE IN METERS.



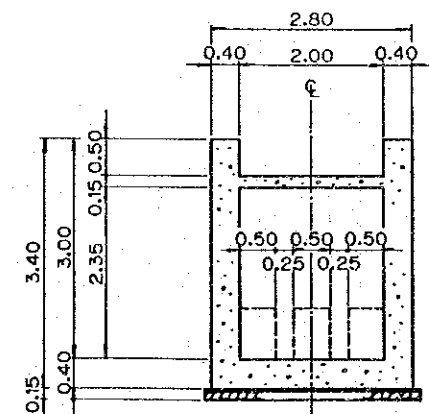
SECTION A-A
SCALE 1:200



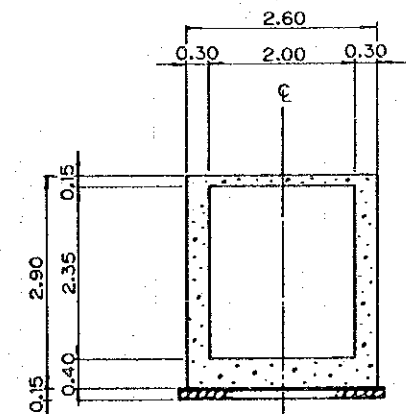
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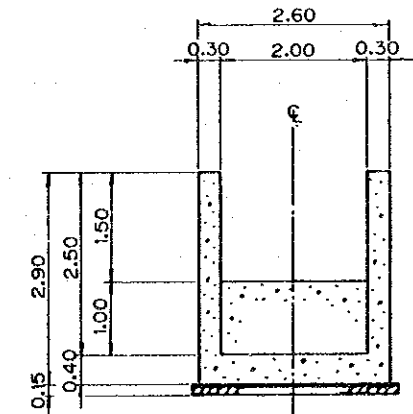
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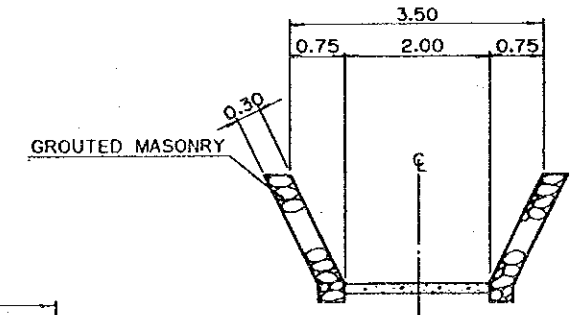
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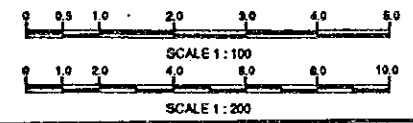
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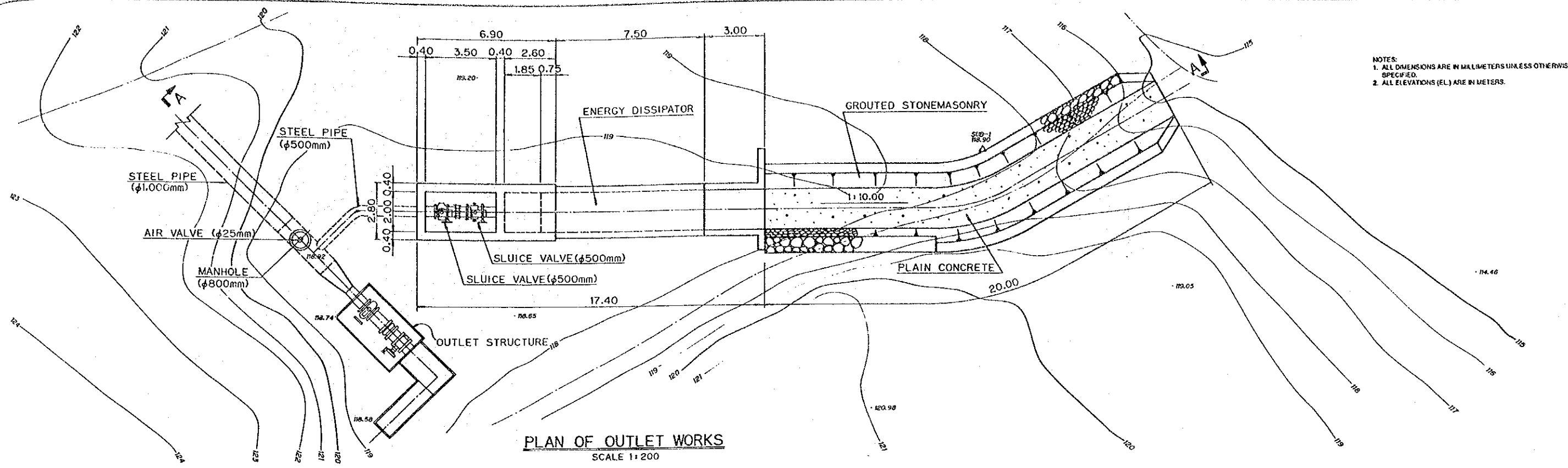
SECTION G-G
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SECTION H-H
SCALE 1:100

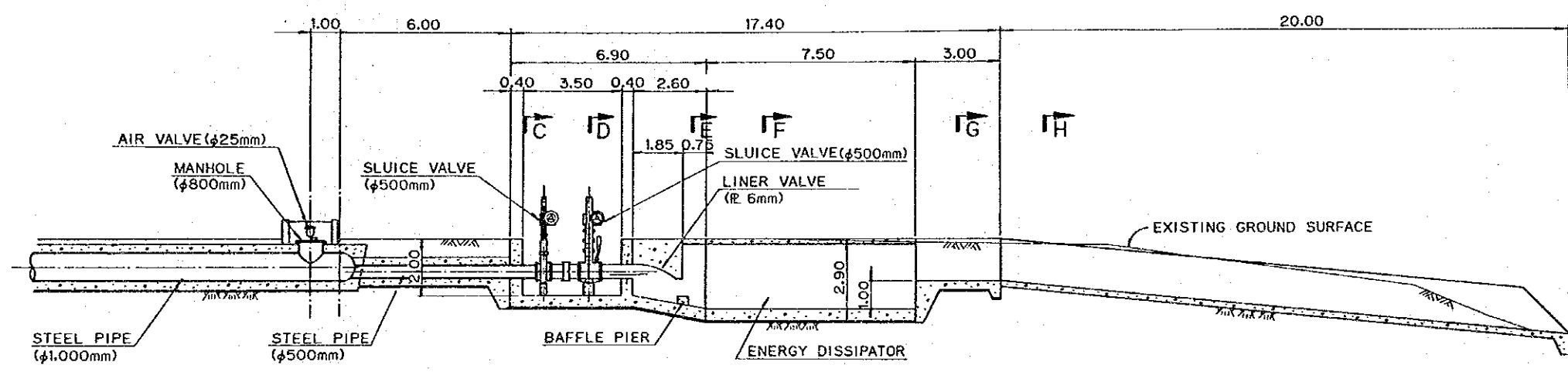


REPUBLIC OF THE PHILIPPINES			
NATIONAL IRRIGATION ADMINISTRATION			
THE PROJECT OF MINIMIZING ASH-FALL DEPOSITION IN THE WESTERN BARRIOS IMPOUNDING IRRIGATION			
DRG. TITLE			
PLAN OF OUTLET WORKS (BALNGES DAM)			
DATE	DRG. No.	5	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)			

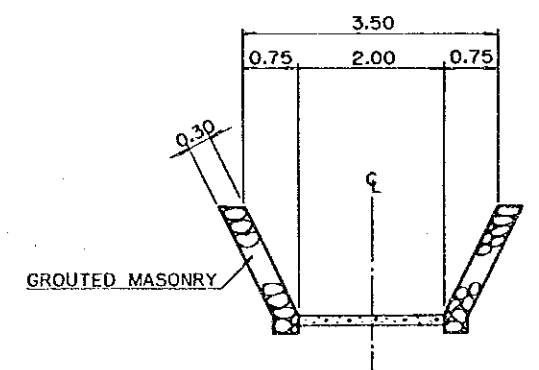


NOTES:
 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
 2. ALL ELEVATIONS (EL.) ARE IN METERS.

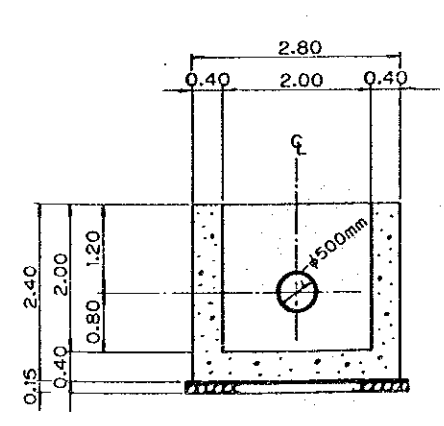
PLAN OF OUTLET WORKS
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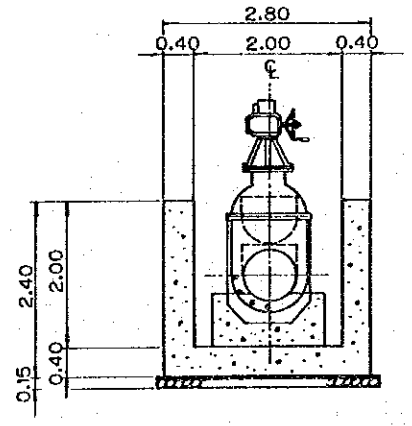
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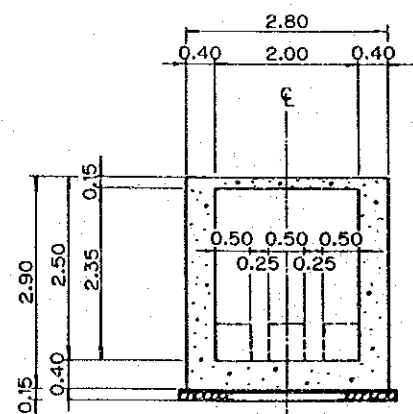
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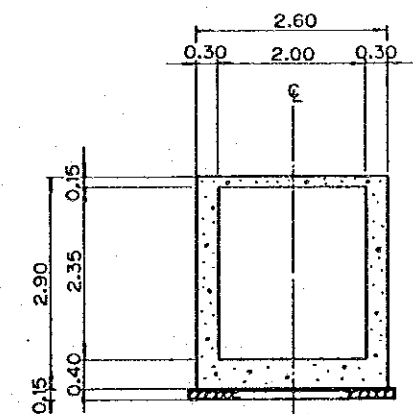
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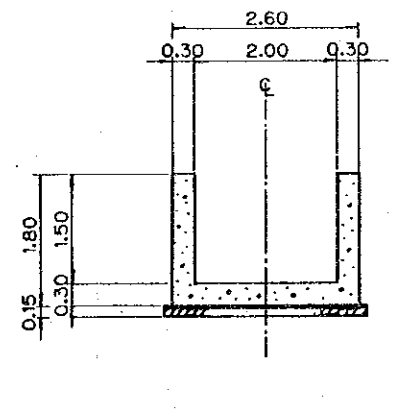
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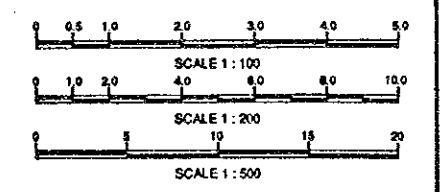
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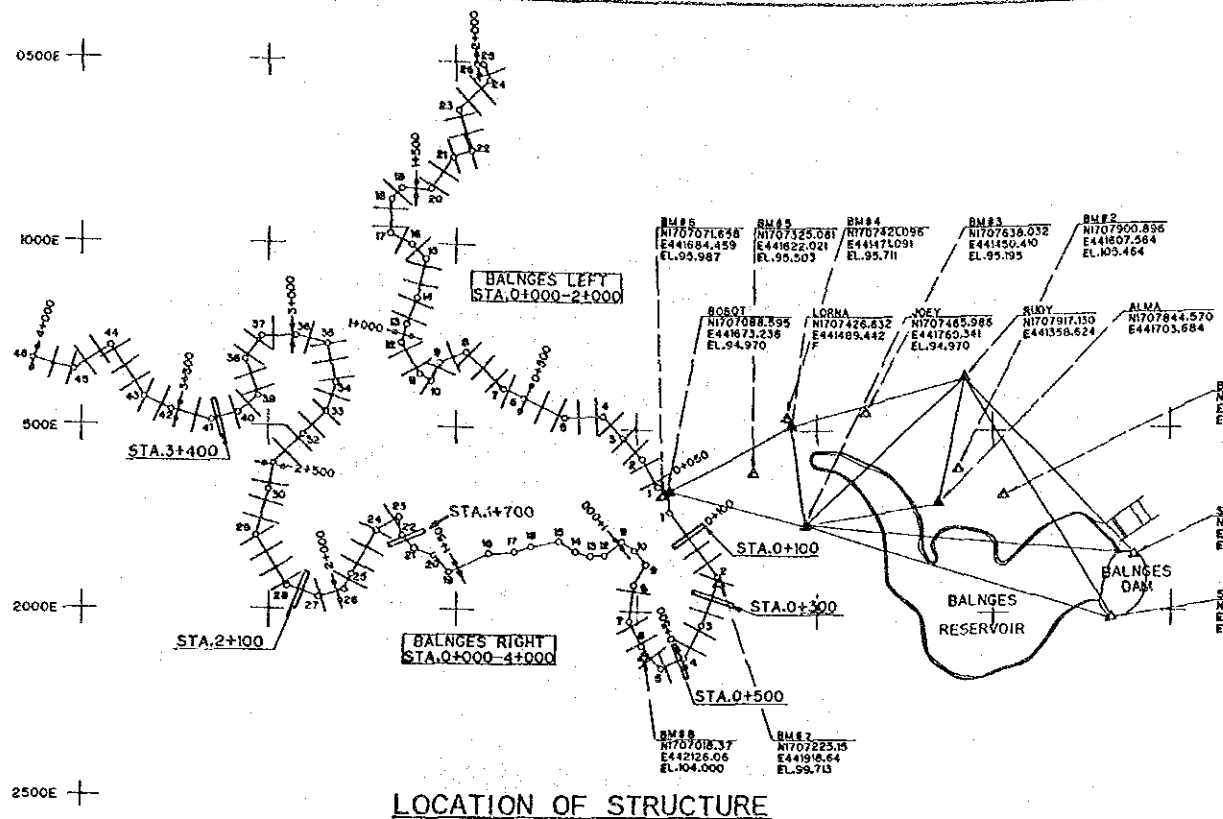
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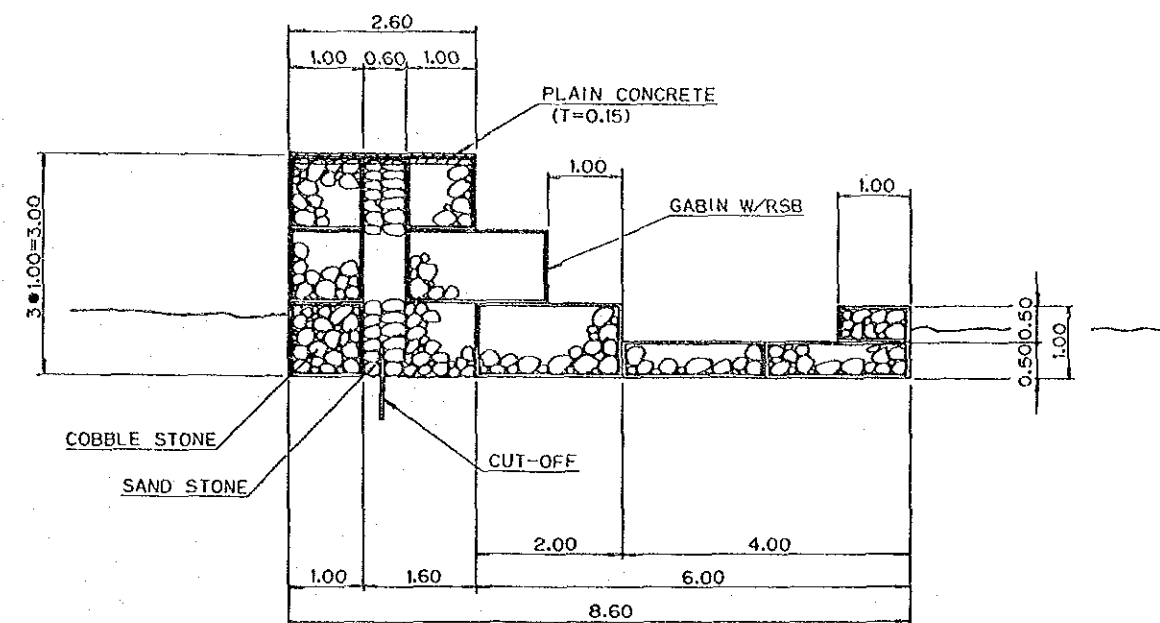
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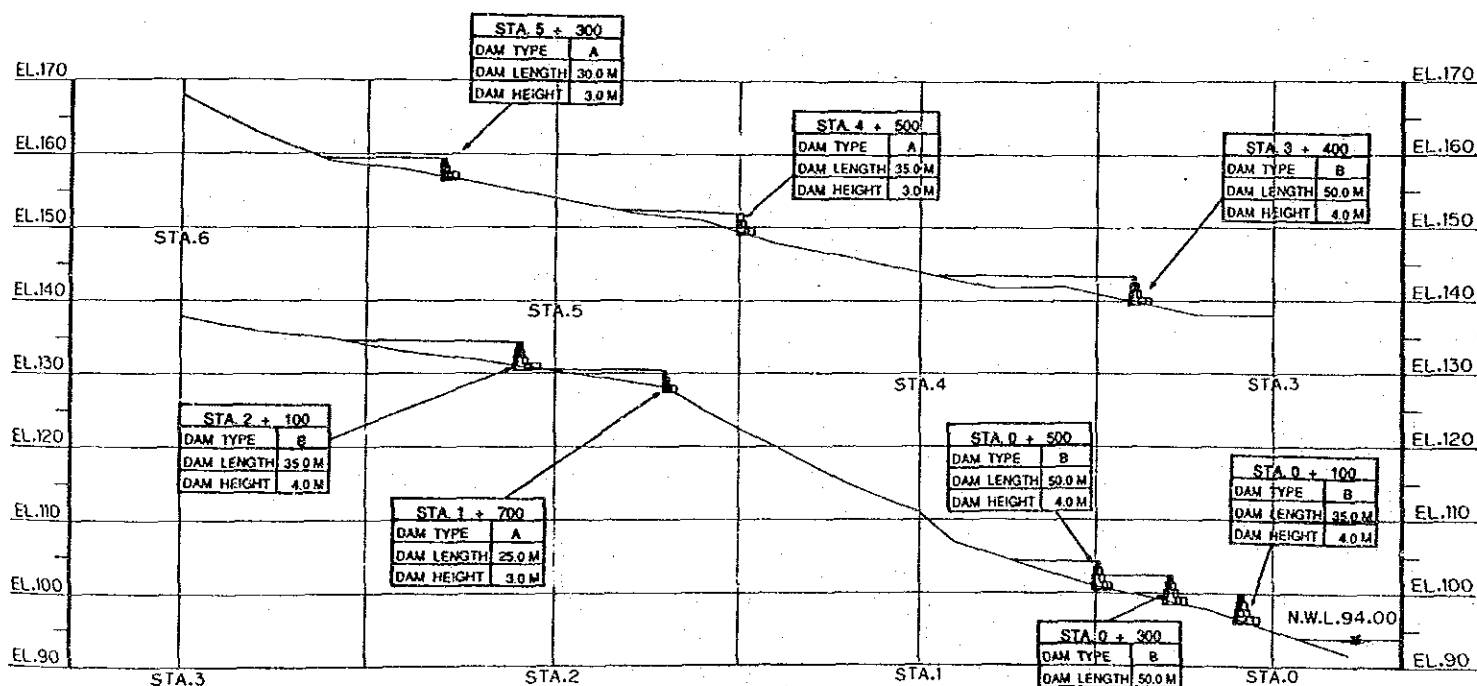
REPUBLIC OF THE PHILIPPINES			
NATIONAL IRRIGATION ADMINISTRATION			
THE PROJECT OF MINIMIZING ASH-FALL DEPOSITION IN THE WESTERN BARRIOS IMPOUNDING IRRIGATION			
DRG. TITLE			
PLAN OF OUTLET WORKS (PANGASAN DAM)			
DATE	DRG. No.	6	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)			



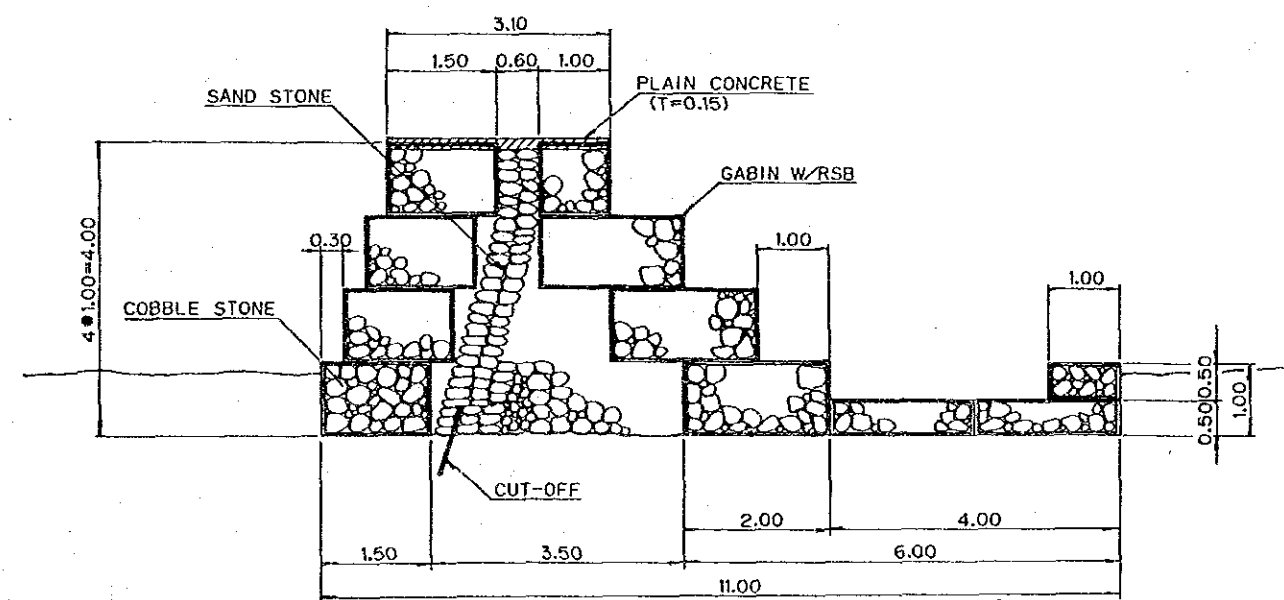
LOCATION OF STRUCTURE



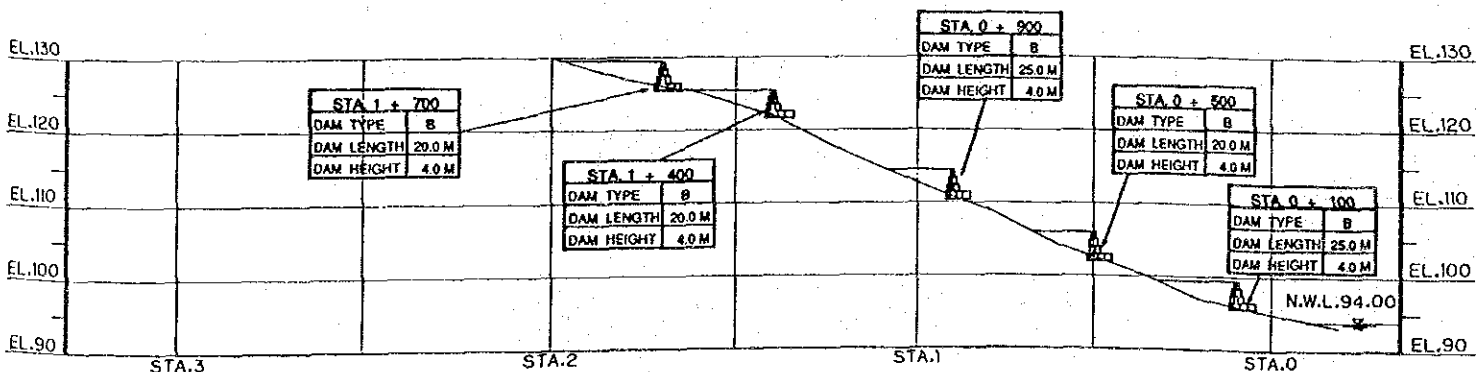
STANDARD SECTION (TYPE A)
SCALE 1:100



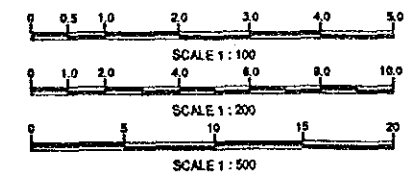
LONGITUDINAL SECTION (BALNGES DAM RIGHT)
SCALE H) 1:20,000 V) 1:1,000



STANDARD SECTION (TYPE B)
SCALE 1:100

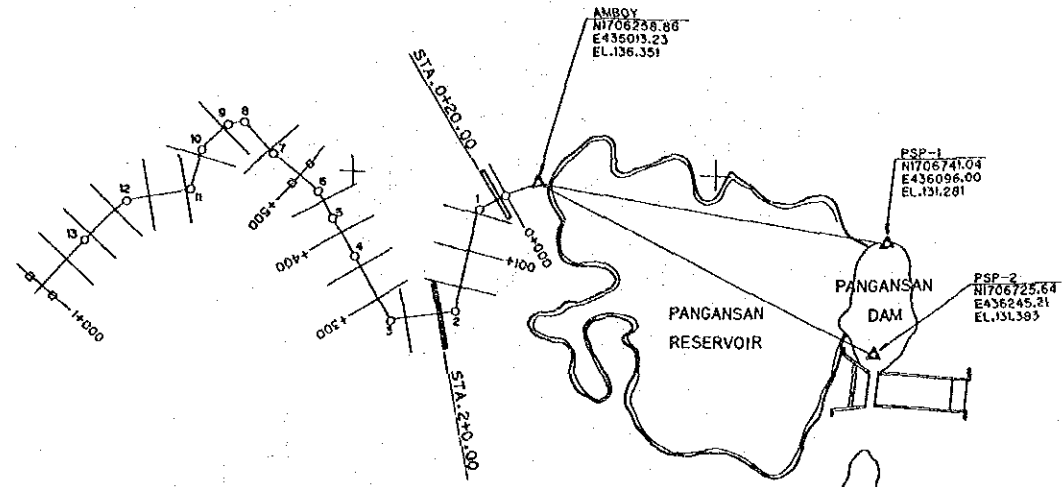


LONGITUDINAL SECTION (BALNGES DAM LEFT)
SCALE H) 1:20,000 V) 1:1,000

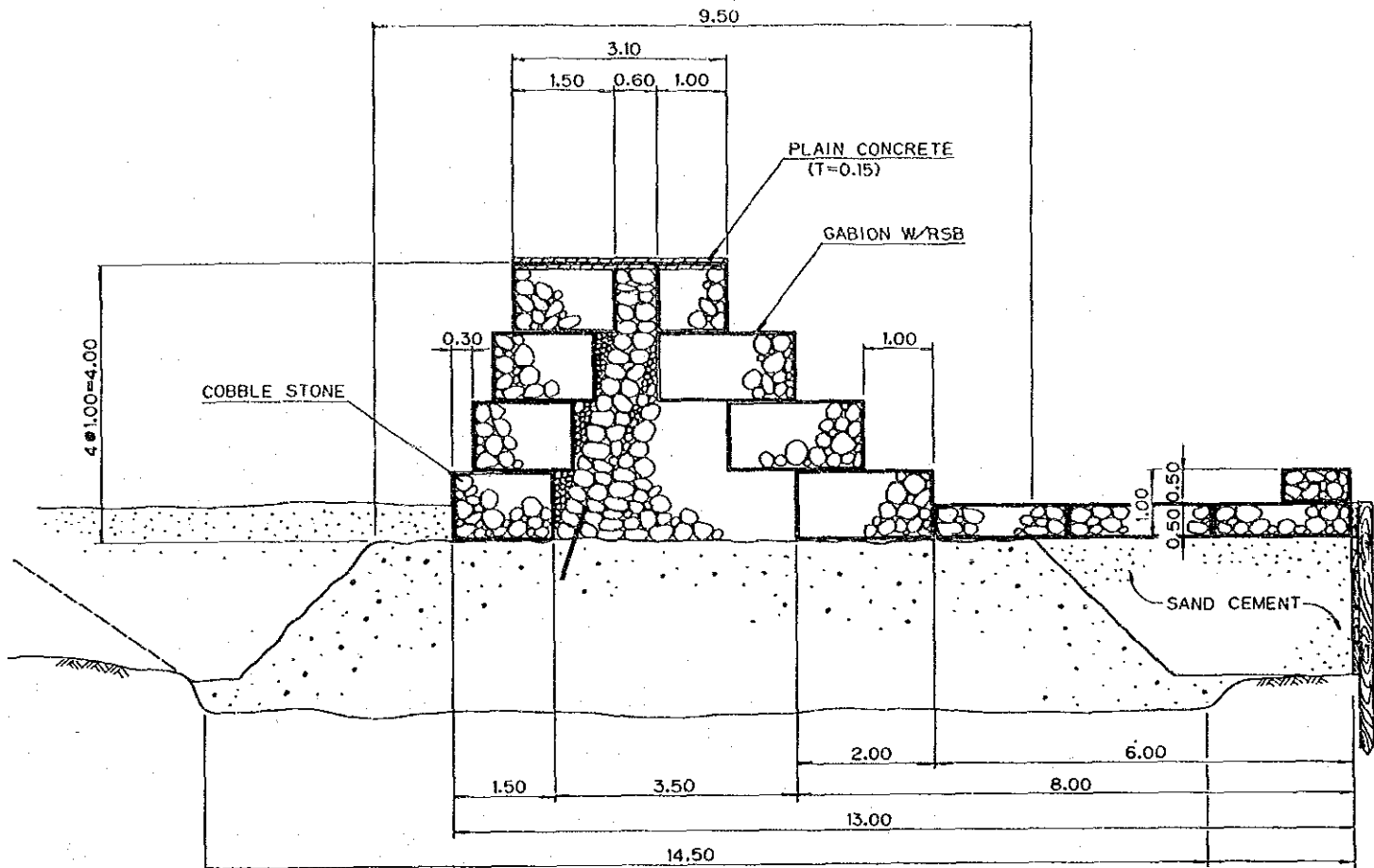


NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. ALL ELEVATIONS (EL) ARE IN METERS.

REPUBLIC OF THE PHILIPPINES NATIONAL IRRIGATION ADMINISTRATION			
THE PROJECT OF MINIMIZING ASH-FALL DEPOSITION IN THE WESTERN BARRIOS IMPOUNDING IRRIGATION			
DRG. TITLE PLAN OF GABION WORKS (BALNGES RESERVOIR WATERSHED)			
DATE	DRG. No.	7	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)			



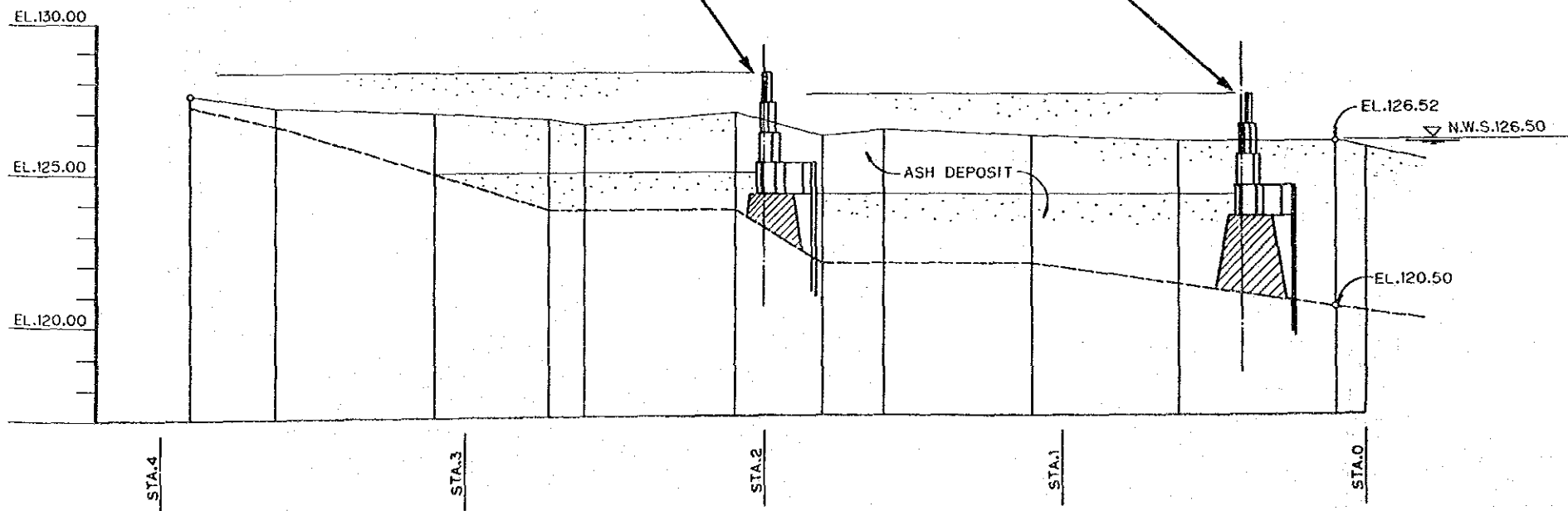
LOCATION OF STRUCTURE



STANDARD SECTION (TYPE C)
SCALE 1:100

STA 2	
DAM TYPE	C
DAM LENGTH	95.0 M
DAM HEIGHT	4.0 M

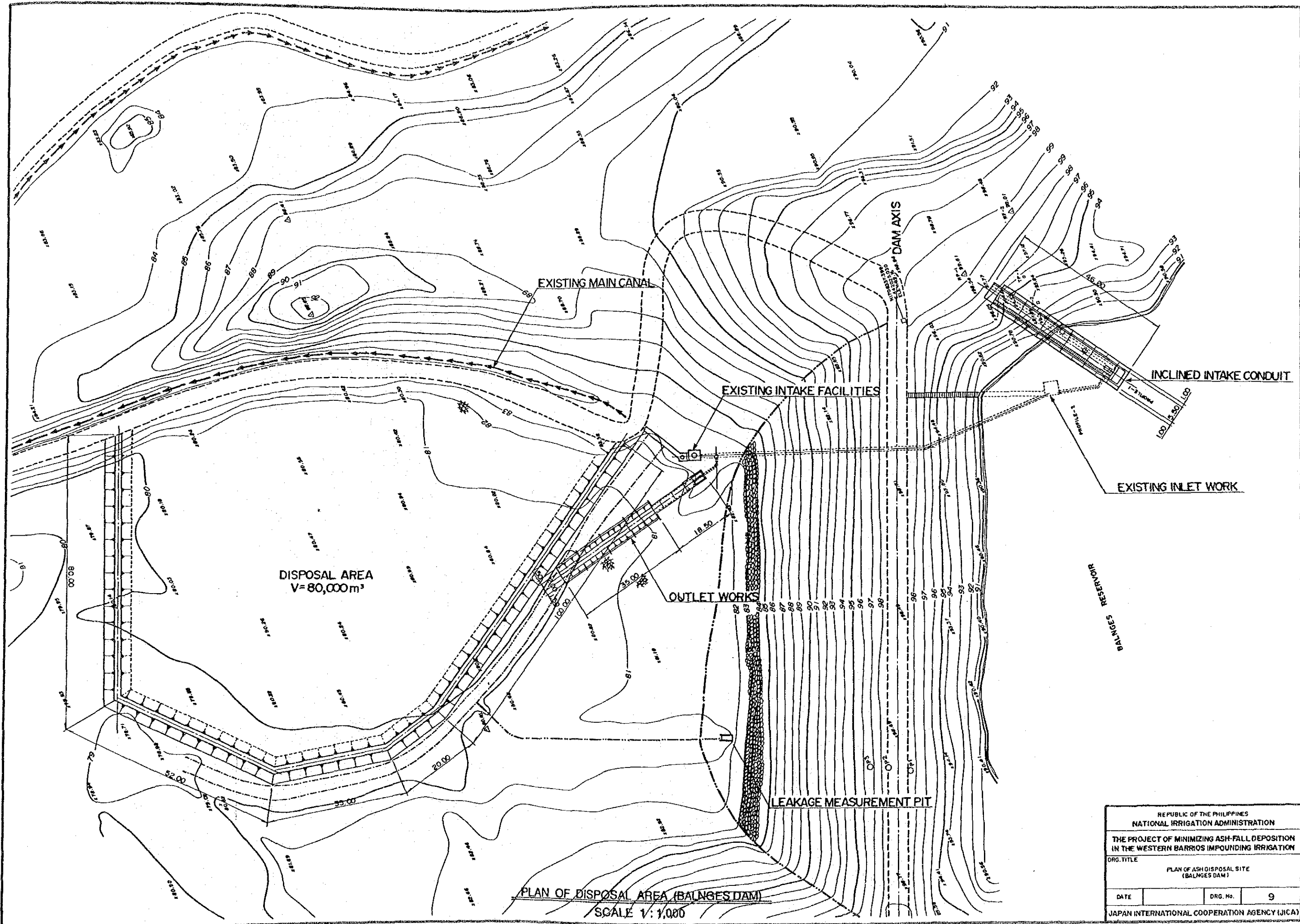
STA 0 + 400	
DAM TYPE	C
DAM LENGTH	110.0 M
DAM HEIGHT	4.0 M



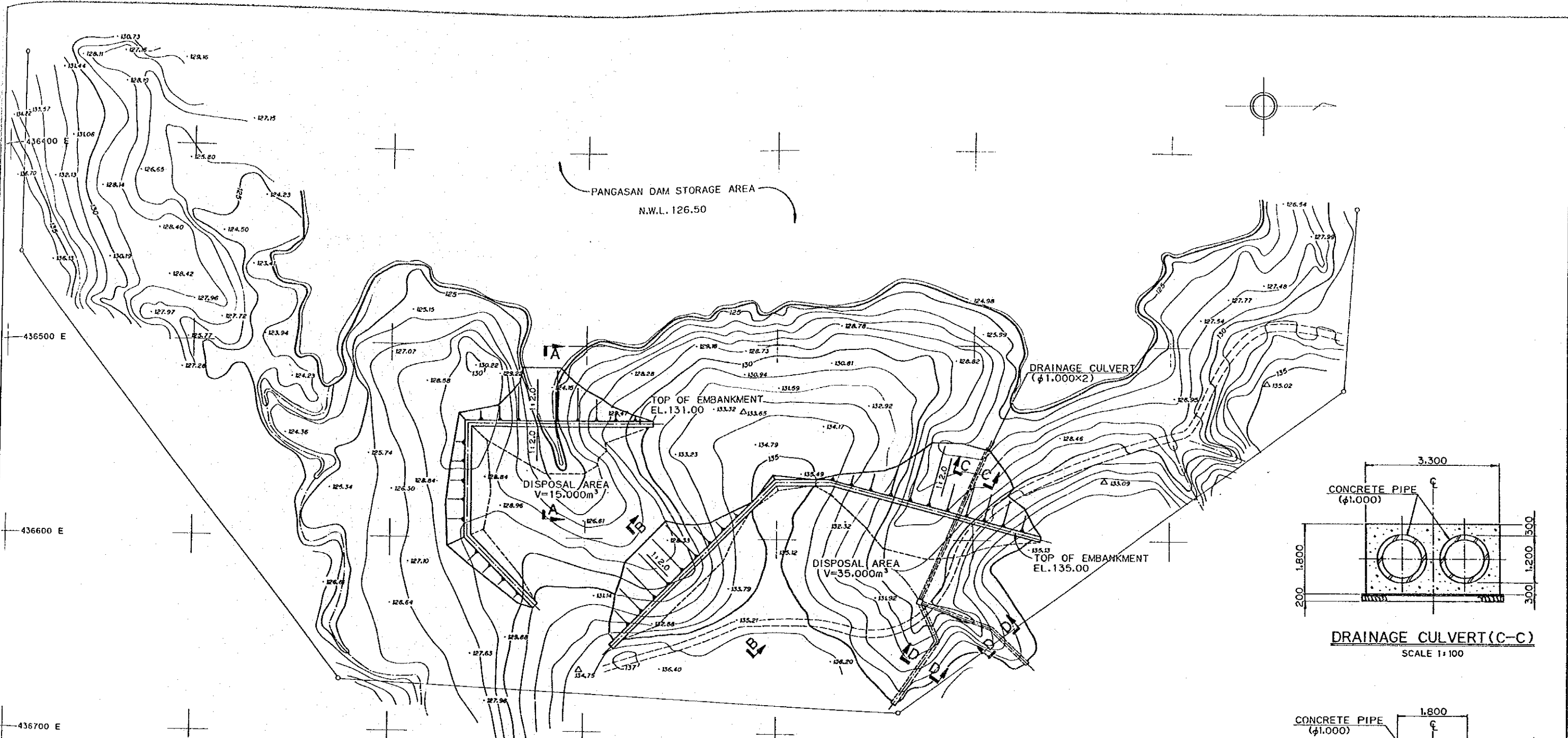
LONGITUDINAL SECTION
(PANGASAN DAM) SCALE H:1:2,000 V:1:200

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. ALL ELEVATIONS (EL.) ARE IN METERS.
- 0 0.5 1.0 2.0 3.0 4.0 5.0
SCALE 1:100
- 0 1.0 2.0 4.0 6.0 8.0 10.0
SCALE 1:200
- 0 5 10 15 20
SCALE 1:500

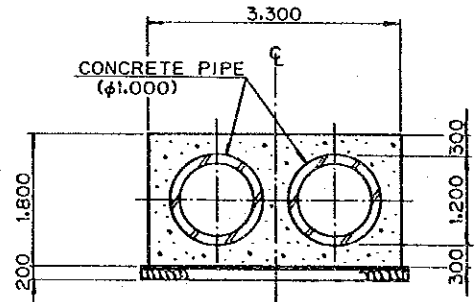
REPUBLIC OF THE PHILIPPINES NATIONAL IRRIGATION ADMINISTRATION		
THE PROJECT OF MINIMIZING ASH-FALL DEPOSITION IN THE WESTERN BARRIOS IMPOUNDING IRRIGATION		
DRG. TITLE PLAN OF GABION WORKS (PANGASAN RESERVOIR WATERSHED)		
DATE	DRG. No.	8
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)		



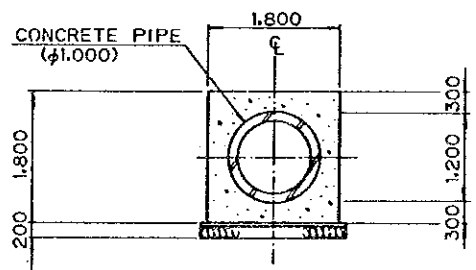
REPUBLIC OF THE PHILIPPINES			
NATIONAL IRRIGATION ADMINISTRATION			
THE PROJECT OF MINIMIZING ASH-FALL DEPOSITION IN THE WESTERN BARRIOS IMPOUNDING IRRIGATION			
ORG. TITLE			
PLAN OF ASH DISPOSAL SITE (BALNGES DAM)			
DATE	DRG. No.	9	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)			



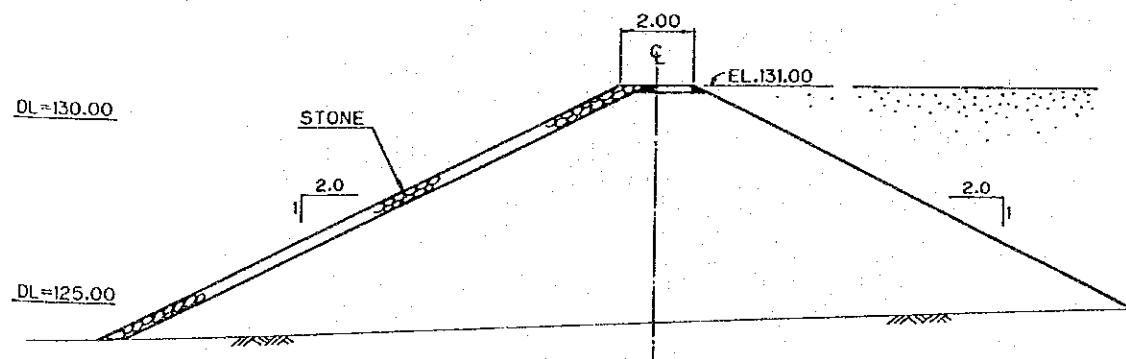
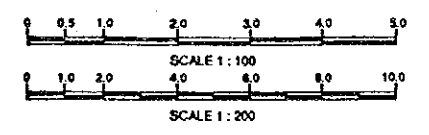
PLAN OF DISPOSAL AREA
(PANGASAN DAM) SCALE 1:1,000



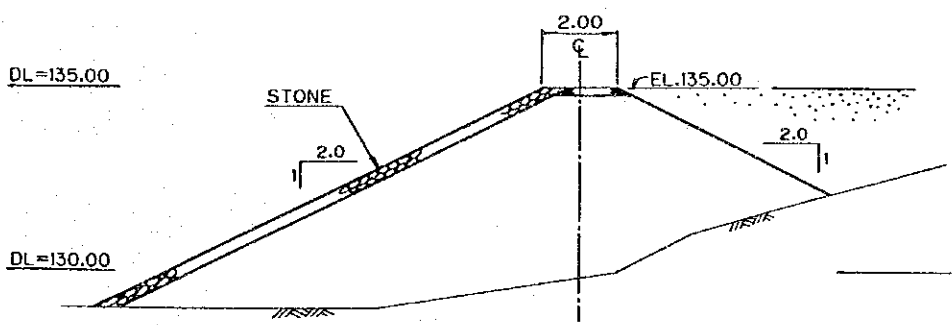
DRAINAGE CULVERT (C-C)
SCALE 1:100



DRAINAGE CULVERT (D-D)
SCALE 1:100



SECTION A-A
SCALE 1:200



SECTION B-B
SCALE 1:200

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. ALL ELEVATIONS (EL.) ARE IN METERS.

REPUBLIC OF THE PHILIPPINES NATIONAL IRRIGATION ADMINISTRATION		
THE PROJECT OF MINIMIZING ASH-FALL DEPOSITION IN THE WESTERN BARRIOS IMPOUNDING IRRIGATION		
DRG. TITLE PLAN OF ASH DISPOSAL SITE (PANGASAN DAM)		
DATE	DRG. No.	10
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)		

APPENDIX

APPENDIX

	Page
1. Members of the Team	(2)
2. Survey Schedule	(3)
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4. Minutes of Discussions	(6)
5. Country Data	
5.1 Country Profile.....	(10)
5.2 Summary of Damages and Rehabilitation Plan of Mt. Pinatubo Eruption	(16)

1. Members of the Team

Name	Speciality/Position
Masami YASUNAKA	Team Leader Director, Laboratory of Structures Analysis Department of Structural Engineering National Research Institute of Agricultural Engineering Ministry of Agriculture, Forestry and Fisheries
Katsuo SHOJI	Project Coordinator First Project Management Division Grant Aid Project Management Department, Japan International Cooperation Agency (JICA)
Yoshimitsu YUKAWA	Irrigation and Drainage Engineering Nippon Giken Inc.
Yoichi KISHI	Dam and Watershed Management Engineering Nippon Giken Inc.
Takahiro KATO	Structure Design Engineering Nippon Giken Inc.
Shigeyuki SHIOSE	Construction Planning/Cost Estimates Nippon Giken Inc.
Kiyomi MASAKI	Topographic Survey Supervision Nippon Giken Inc.

2. Survey Schedule

No.	Date	Day	Work Schedule	Study Area
1	Apr.9	Thu.	Arrival at Manila (3 member of team)	
2	10	Fri.	Courtesy call and meeting at Embassy of Japan, JICA and NIA	Manila
3	11	Sat.	Field investigation (Balnges dam site and storage area)	Tarlac
4	12	Sun.	Field investigation (Pangasan dam site and storage area)	Tarlac
5	13	Mon.	Field investigation, Preparation for topographic survey	Tarlac
6	14	Tue.	Field survey on ash deposition in watershed and dam storage area (Balnges dam) Commencement of topo-survey	Tarlac
7	15	Wed.	-ditto- (Balnges dam)	Tarlac
8	16	Thu.	-ditto- (Pangasan dam)	Tarlac
9	17	Fri.	Collection of data & information (meteorological and hydrological data)	Tarlac
10	18	Sat.	Data collection and analysis	Tarlac
11	19	Sun.	Arrival at Manila (1 member of team) Field survey and data analysis	Tarlac
12	20	Mon.	Arrival at Manila (Team leader and 1 member of team) Courtesy call and meeting at Embassy of Japan and JICA Data collection on construction material and commencement of farm economic survey	Manila Tarlac
13	21	Tue.	Courtesy call to NIA, and explanation of inception report Movement to Tarlac. Field investigation (Mangillog & Bulelatin dam and irrigation area)	Manila Tarlac
14	22	Wed.	Field investigation (Balnges dam and irrigation area)	Tarlac
15	23	Thu.	Field investigation (Pangasan dam and irrigation area and Tarlac river irrigation system)	Tarlac
16	24	Fri.	Courtesy call and meeting at Region III office of NIA, Visiting to Gumain river irrigation project	Talac
17	25	Sat.	Arrangement of collected data Discussion in team members Sounding of proposed facilities foundation	Manila Tarlac
18	26	Sun.	Discussion in team members Field survey of dam watersheds Sounding of proposed facilities foundation	Manila
19	27	Mon.	Sign of minutes of discussions, Discussion with Embassy of Japan, JICA Explanation to NEDA regarding project formulation	Manila
20	28	Tue.	Departure for Manila and arrival at Japan (Team leader and 1 team member) Field survey of dam watersheds Collection of data and preparation of field report	Tarlac
21	29	Wed.	Discussion in team members, Preparation of field report and additional data collection	Tarlac
22	30	Thu.	Meeting with NIA, Explanation of field report, Reporting to Embassy of Japan and JICA	Manila
23	May 1	Fri.	Data arrangement and analysis and additional data collection	Manila
24	2	Sat.	Preparation on departure, data arrangement	Manila
25	3	Sun.	Departure from Manila and arrival at Japan (4 team members)	

3. Members of Concerning Parties

Name	Speciality/Position
Japan International Cooperation Agency (JICA)	
Mr. Kikuo Takeuchi	Deputy Resident Representative JICA Philippine Office
Mr. Katsumi Yoshida	Assistant Resident Representative JICA Philippine Office
Mr. Fumio Kikuchi	Assistant Resident Representative JICA Philippine Office
Mr. Sumio Oishi	JICA Expert in NIA Irrigation Planning
Embassy of Japan, Manila, Philippines	
Mr. Yugo Matsuda	First Secretary
National Irrigation Administration (NIA)	
Mr. Domingo T. Bautista	Acting Administrator National Irrigation Administration (NIA)
Mr. Isidro R. Digal	Manager Project Development and Designing NIA

Name	Specialty/Position
Mr. Clemente T. Alanano	Project Manager, WBIIP and Head, Dams and reservoir Section NIA
Mr. Nicasio T. San Miguel	Regional Irrigation Manager Regional Irrigation Office III, NIA
Mr. Clemencio M. Salvador	Chief Planning and Investigation Sect. Regional Irrigation Office III, NIA
Mr. Honorio M. Encarnacion, Jr.	Project Manager Balog-Balog Multi-Purpose Project, NIA
Mr. Marcelino P. Manalo	Chief of Provincial Irrigation Office Tarlac, NIA
Mr. Alberto C. Cotaco	Chief Institutional Development Section and Coordinator of service area of WBIIP Provincial Irrigation Office, Tarlac, NIA
Mr. Danilo C. Cortez	Chief O&M Dam, Reservoir Section of WBIIP, NIA
National Economic and Development Authority (NEDA)	
Ms. Josefina U. Esguerra	Assistant Director Public Investment Staff

4. Minutes of Discussions

MINUTES OF DISCUSSIONS
BASIC DESIGN STUDY ON
THE PROJECT OF MINIMIZING ASH-FALL DEPOSITION IN
WESTERN BARRIOS IMPOUNDING IRRIGATION IN
THE REPUBLIC OF THE PHILIPPINES


In response to the request from the Government of the Republic of the Philippines, the Government of Japan decided to conduct a Basic Design Study on the Project of Minimizing Ash-Fall Deposition in the Western Barrios Impounding Irrigation (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to the Philippines the study team, headed by Mr. Masami YASUNAKA, Director of Laboratory of Structures Analysis, Department of Structural Engineering, Ministry of Agriculture, Forestry and Fisheries, and scheduled to stay in the country from April 9 to May 3, 1992.

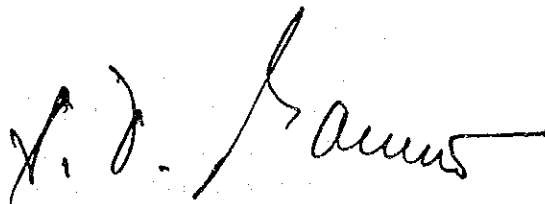
The team held a series of discussions with the officials concerned of the Government of the Philippines and conducted a field survey at the study area.

In the course of discussions and field survey, both parties have confirmed the main items described on the attached sheets. The team will proceed to further works and prepare the Basic Design Study Report.

April 27, 1992



MASAMI YASUNAKA
Leader
Basic Design Study Team
JICA



DOMINGO T. BAUTISTA
Acting Administrator
National Irrigation
Administration (NIA)

ATTACHMENT

1. OBJECTIVES

The objectives of the Project are to take proper countermeasures to prevent functional disorder of dam intake facilities and reduction of dam storage capacity caused by ash accumulation in the dam storage areas.

2. PROJECT SITES

The Project sites are located in the Municipality of San Jose, Province of Tarlac. The dams and irrigation facilities of Balnges and Pangasan dams including its drainage areas were requested as the subject of study and project implementation.

3. IMPLEMENTING AGENCY

National Irrigation Administration (NIA) is responsible for the administration and implementation of the Project.

4. ITEMS REQUESTED BY THE GOVERNMENT OF THE PHILIPPINES

After discussions with the Basic Design Team, the following items were finally requested by the Philippine side:

- 1) Construction of structures for minimizing ash-fall deposition in the reservoirs,
- 2) Dredging of ash-fall deposits in selected area of the reservoirs, and
- 3) Installation of inclined intake facilities and sand discharge valves.

5. JAPAN'S GRANT AID SYSTEM

- (1) The Government of the Philippines has understood the system of Japan's Grant Aid as explained by the Team.
- (2) The Government of the Philippines will take necessary measures, described in ANNEX I for smooth implementation of the Project, on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

6. SCHEDULE OF THE STUDY

- (1) The consultant will proceed to further studies in the Philippines until May 3, 1992.
- (2) Based on the Minutes of Discussions and technical examination of the study results, JICA will complete the final report and send it to the Government of the Philippines by the end of July, 1992.

ANNEX I: Necessary measures to be taken by the Government of the Republic of the Philippines in case Japan's Grant Aid is implemented

1. To secure the land or the right-of-way, including the disposal area, for the construction and to clear the sites as needed before the commencement of the construction,
2. To ensure the land or the right-of-way necessary for the construction of the temporary access road, stockyards, borrow areas, etc.,
3. To give necessary approval and assistance for the items of investigation that the consultant may require during the detailed design stage,
4. To secure permission in allowing transportation of vehicles, heavy equipment, machinery and construction materials on the existing national and rural roads,
5. To secure exemption on import duties and assume incidental expenses, and to take necessary procedures for customs clearance for materials, equipment and spare parts brought into the Philippines for the implementation of the Project,
6. To assume the Value Added Tax (VAT) which may be imposed on the purchase of Philippine supplies and materials for the Project,
7. To bear commission fees to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangements,
8. To assist without delay to the Japanese nationals whose services may be required in connection with the supply of products and the services under the verified contract such facilities as may be necessary for their entry into and stay in the Philippines for the performance of their works,
9. To secure exemption for the Japanese nationals engaged in the Project from customs duties, internal taxes and other fiscal levies which may be imposed in the Philippines with respect to the supply of products and services under verified contracts,
10. To bear all expenses, other than those to be borne by the Grant Aid, necessary for the construction of facilities as well as for the internal transportation of the products and services under the Grant, and
11. To fully operate and maintain the project facilities for the benefit of the farmers concerned by providing adequate funds, staff and equipment to assure the effectiveness of implementation, operation and maintenance of the Project.

5. Country Data

5.1 Country Profile of Philippines

Country Profile of Philippines

1. Land Area

Land-Use Patterns, 1976 and 1987
('000 ha)

Land Category	1976		1987	
	Area	%	Area	%
National (Total)	30,000	100.0	30,000	100.0
Forest Area (Total)	17,025	56.8	13,750	45.8
Production Forest	9,756	32.5	8,376	27.9
Protection Forest	1,727	5.8	2,070	6.9
(includes National Forests)				
Man-made Protection Forest	239	0.8	923	3.1
Open Land/Cultivated	4,297	14.3	1,138	3.8
Forest Range/Pasture Land	934	3.1	934	3.1
Marshes	82	0.3	82	0.3
Mangrove Swamps	228	0.8	228	0.8
Non-forest Area (Total)	12,975	43.2	16,250	54.2
Crop Lands	7,488	25.0	7,507	25.1
Fishponds	176	0.6	229	0.7
Inland Water	231	0.8	231	0.8
Urban	1,986	3.6	1,400	4.7
Residential	3,994	13.3	6,863	22.9

2. Population

1. Population (1,000 persons)	May 1, 1990	60,684.9
2. Sex distribution		
Both sexes (1,000 persons)	May 1, 1990	
Male (percent)		50.2
Female (percent)		49.8
3. Regional distribution		
Philippines (1,000 persons)	May 1, 1990	60,685
Metropolitan Manila Area (National Capital Region)		7,929
CAR		1,146
Region 1		3,551
Region 2		2,341
Region 3		6,199
Region 4		8,266
Region 5		3,910
Region 6		5,392
Region 7		4,593
Region 8		3,055
Region 9		3,159
Region 10		3,510
Region 11		4,457
Region 12		3,171

3. Incomes and Prices

1. Average family income (pesos)		
Philippines	1988	40,408
Urban		60,330
Metropolitan Manila Area		79,314
Rural		28,284
2. Consumer price index for all items (1978 = 100)	July 1991	
Philippines		592.5
Metropolitan Manila Area (National Capital Region)		651.7
Areas Outside Metropolitan Manila		581.1

4. Economic Accounts			
1.	Gross national product (million pesos)	1990	
	At current prices		1,132,404
	At 1972 prices		110,143
2.	Gross domestic products	1990	1,129,817
	At current prices		109,890
	At 1972 prices		
	Gross domestic product by industrial origin (million pesos at 1972 prices)	1990	109,890
	Agriculture, fishery and forestry		29,620
	Mining and quarrying		1,603
	Manufacturing		27,259
	Construction		5,153
	Electricity, gas, and water		2,206
	Transport, communication and storage		5,977
	Trade		17,352
	Finance and Housing		7,205
	Private Services		6,997
	Government Services		6,519
5. National Resources			
1.	Classified and unclassified land area (in hectares)	1990	
	Alienable and disposable		14,117,729
	Forest Land		15,882,271
2.	Area reforested annually (in hectares)	1989	131,404
3.	Forest Destruction (in hectares)	1989	12,814
4.	Production of logs, lumber, plywood and veneer (1,000 m)	1990	
	Logs		1,916
	Lumber		449
	Plywood		407
	Veneer		33
5.	Mineral ore reserves (1,000 tones)	1989	34,508,227
	Metallic		6,480,712
	Non-metallic		28,027,515
6. Agriculture			
1.	Production of agricultural crops (1,000 m.t.)	Crop year 1990	59,806
	Cereals		14,173
	Palay		9,319
	Corn		4,854
	Major crops		36,926
	Coconut		11,940
	Sugarcane		16,908
	Banana		2,913
	Pineapple		1,156
	Coffee		134
	Other major crops		3,875
	Other crops		8,707
2.	Value of production of agricultural crops (million P)	Crop year 1990	161,905
	Cereals		109,242
	Palay		64,790
	Corn		44,452
	Major crops		64,250
	Coconut		18,865
	Sugarcane		9,976
	Banana		7,224
	Pineapple		4,751
	Coffee		2,659
	Other major crops		20,775

	Other crops		32,865
3.	Fish production (1,000 m.t.)	1990	2,503.6
	Commercial fishing		700.6
	Aquaculture		671.1
	Municipal fishing		1,131.9
4.	Value of fishing production (million pesos)	1990	52,177.2
	Commercial fishing		12,410.6
	Aquaculture		20,466.5
	Municipal fishing		19,300.1
7. Foreign Trade			
1.	Direction of external trade (million US dollars)	1990	
	Exports		8,186.0
	Imports		12,206.2
	Balance of trade (all countries)		(4,020.2)
2.	Total exports (million US\$)	1990	8,186
	Ten principal exports		1,123
	Copra		20
	Sugar		111
	Banana		149
	Logs and lumber		19
	Desiccated coconut		61
	Coconut oil		361
	Pineapples, canned		89
	Gold		90
	Abaca (unmanufactured)		16
	Copper concentrates		207
3.	Imports by end use (million US\$)	1990	12,206.2
	Producer goods		11,350.7
	Machinery and equipment		1,531.2
	Unprocessed raw materials		2,357.1
	Semi-processed raw materials		6,924.2
	Supplies		538.2
	Consumer goods		855.5
	Durable		81.7
	Non-durable		773.8
8. Vital, Health and Nutrition			
1.	Crude birth and death rates (per 1,000 population)	1988	
	Birth rate		26.7
	Death rate		5.5
2.	Number of registered marriages	1989	395,933
3.	Number of registered live births	1988	1,565,372
4.	Number of registered deaths	1988	325,098
5.	Number of hospitals	1990	1,733
6.	Number of government medical practitioners	1990	30,855
7.	Number of health stations	1990	
	Barangay		10,151
	Rural		2,295
9. Education			
1.	Number of government and private schools	SY 1989-90	
	Pre-School		3,837
	Elementary		34,382
	Secondary		5,518
	Tertiary		1,755
2.	Enrollment in government and private schools (in thousand)	SY 1989-90	
	Pre-school		321.4

	Elementary		10,284.9
	Secondary		3,961.6
	Tertiary	SY 1990-91	1,347.7
10. Labor and Employment			
1.	Total labor force (1,000 persons)	1990	24,525
	Employed		22,532
	Unemployed		1,993
2.	Labor force participation rate (percent)	1990	64.5
3.	Processed overseas contract worker	1990	598,769
	Land-based		468,591
	Sea-based		130,178
4.	Deployed overseas workers	1990	446,095
	Land-based		334,883
	Sea-based		111,212
11. Transportation and Communication			
1.	Rail transport	1990	
	Passengers (1,000 persons)		928.0
	Freight tones loaded (1,000 mt)		32.2
	Express tones loaded (1,000 mt)		16.8
2.	Flights and passengers carried by international carriers	1990	
	Passengers carried, total		4,367,357
	Arrivals		2,103,820
	Departures		2,263,537
	Flights, total		25,243
3.	Number of registered airports	1990	173
	National		86
	Private		87
4.	Total Kilometers of road	1990	160,560.12
	National		26,272.03
	Local		134,288.09
5.	Number of bridges	1990	11,562
	National government		7,201
	Local government		4,361
6.	Length of bridges (linear meters)	1990	314,184.23
	National government		235,519.67
	Local government		78,664.56
7.	Coastwise shipping movement at 26 major ports	1990	
	Number of vessels entered		81,475
	Number of vessels cleared		81,391
8.	International shipping movements at Port of Manila	1990	
	Number of vessels entered		2,896
	Number of vessels cleared		2,882
9.	Number of operational ports	1990	399
10.	Number of licensed radio stations	1990	53,725
11.	Total telephone connections	1990	987,890
12. Energy and Water Resources			
1.	Electric consumption by source (MBFOE)	1990	120.6
	Indigenous energy		42.1
	Imported energy		78.5
2.	Electric Energy Consumption (gigawatt hours)	1990	26,327
3.	Petroleum products consumption (thousand barrels)	1990	84,980
4.	Power generation	1990	26,326

13. Public Finance

1.	National Government Revenue (million pesos)	1990	180,644.0
	Tax Revenues		150,316
	Taxes on income and profits		48,549
	Taxes on property		279
	Taxes on goods and services		50,745
	Taxes on international trade and transactions		46,005
	Other taxes		4,738
	Non tax revenue		30,328
2.	National government expenditures (million pesos)	1991	254,385
	Economic services		64,344
	Social services		62,509
	National defense		26,010
	General public service		25,982
	Net lending		777
	Debt service fund		74,763
3.	Internal debt outstanding by level of government (million P)	1990	254,447.5
	National government		243,793.4
	Local government		-
	Government corporations		6,625.8
	Monetary institutions		4,028.3
4.	Internal debt outstanding by period of maturity (million P)	1990	254,447.5
	Long term		20,634.2
	Medium term		23,129.2
	Short term		210,684.1

14. Money and Banking

1.	Money supply (million pesos)	1990	89,012
2.	Loans and investments outstanding (million pesos)	1990	275,887.8
	Commercial banks		243,992.0
	Rural banks		9,735.7
	Development banks		6,139.9
	Savings banks		16,020.2
3.	Total assets and liabilities of Central Bank (million pesos)	1990	
	Total assets		444,893.2
	Total liabilities		442,977.4
4.	Total assets and liabilities of commercial banks (million pesos)	1990	
	Total assets		539,708.0
	Total liabilities		477,874.0
5.	Total assets and liabilities of development banks (million pesos)	1990	
	Total assets		11,251.3
	Total liabilities		9,323.5

5. Country Data

5.2 Summary of Damages and Rehabilitation Plan of Mt. Pinatubo Eruption

(1)	Mt. Pinatubo Damaged Report	(17)
(2)	Summary of Cost Estimates of Infrastructure Programs..... /Projects for the Reconstruction and Rehabilitation of Areas Affected by the Mt. Pinatubo Eruption and Its Effects	(19)
(3)	Government's Program for Rehabilitation and Recovery by Foreign Funds (ODA)	(20)
(4)	List of Communal Irrigation System Affected by Mt. Pinatubo Eruption, Province of Tarlac	(21)
(5)	Mt. Pinatubo Rehabilitation Program.....	(25)
(6)	Agricultural Rehabilitation and Development Program..... (Battan, Pampanga, Tarlac, Zambales, Nueva Ecija Provinces)	(27)
(7)	Agricultural Rehabilitation and Development Program (Province of Tarlac)	(28)

(1) Mr. Pinatubo Damaged Report

(1/2)

Particular	Bataan	Pampanga	Tarlac	Zambales	Total
Affected					
No. of Farmers	8,503	18,878	13,890	15,709	56,980
Total Area (ha.)	11,774	29,485	26,758	17,821	81,259
1. Rice					
- Area (ha.)	11,605	28,484	25,854	17,520	78,884
a. Planted	6,890	9,819	4,355	521	21,585
b. Not planted	4,715	18,665	21,499	16,999	57,299
- Value loss (P)	16,516,064.00	255,544,355.00	67,883,655.00	9,150,250.00	349,094,324.00
a) Actual	2,330,372	56,748,980	32,309,007	684,250	92,072,609
b) Opportunity	14,185,692	198,795,375	35,574,648	8,466,000	257,021,715
2. Vegetables					
- Area (ha.)	169	1,001	904	301	2,375
- Value loss (P)	6,629,296	107,830,760	42,660,700	4,770,200	161,890,956
a) Actual	-	10,529,160	-	60,200	10,589,360
b) Opportunity	6,629,296	97,301,600	42,660,700	4,710,000	151,301,596
3. Fruit Trees (area in ha.)					
a. Mango	255.00	190.75	15.96	726.00	1,187.71
- Value loss (P)	7,944,000	58,773,750	5,746,320	84,584,000	157,048,070
a) Actual	644,000	-	-	-	644,000
b) Opportunity	7,300,000	58,773,750	5,746,320	84,584,000	156,404,070
b. Other Fruit Trees (assorted)	164.50	709.56	70.00	1,702.00	2,646.06
- Value loss (P)	90,935,000	167,490,400	4,500,000	27,135,675	290,061,075
a) Actual	-	-	-	-	-
b) Opportunity	90,935,000	167,490,400	4,500,000	27,135,675	290,061,075
4. Livestock & Poultry (hds.)					
No. of heads loss	32,066	716,677	15,136	13,861	777,740
- Value loss (P)	5,511,080	176,822,180	4,985,640	15,523,050	202,841,950
a) Production	4,740,180	86,677,340	4,705,640	13,712,050	109,835,210
b) Facilities	770,900	90,144,840	280,000	1,811,000	93,006,740
5. Fisheries					
- Area damaged (ha.)	2,649.97	3,817.00	82.40	580.52	7,129.89
a. Brackishwater	2,648.53	3,767.00	-	526.40	6,941.93
b. Freshwater	1.44	50.00	82.40	54.12	187.96
- Value loss (P)	5,393,318	266,648,333	7,284,187	4,772,390	284,098,228
a. Brackishwater	5,297,060	263,690,000	-	4,215,455	273,202,515
b. Freshwater	96,258	2,958,333	7,284,187	556,935	10,895,713

Source: Republic of the Philippines, Department of Agriculture, Region III San Fernando, Pampanga

Mr. Pinatubo Damaged Report

(2/2)

Particular	Bataan	Pampanga	Tarlac	Zambales	Total
6. Small Scale IGP					
- Number	194	641	21	-	856
- Value loss (P)	251,000	996,250	32,638	-	1,279,888
7. L.E.A.D					
I.D.P. (No.)	5	1	3	1	10
- Value loss (P)	482,000	37,000	102,000	126,000	747,000
I.G.P. (No.)	-	-	-	9	9
- Value loss (P)	-	-	-	602,920	602,920
8. SWIP					
- Number	3	6	1	4	14
- Value loss (P)	120,000	890,000	75,000	300,000	1,385,000
Total Value Loss (P)	133,781,758.00	1,035,033,028.00	133,270,140.00	146,964,485.00	1,449,049,411.00
A) Actual	14,731,770.00	512,671,903.00	44,788,472.00	22,068,810.00	594,260,955.00
B) Opportunity	199,049,988.00	522,361,125.00	88,481,668.00	124,895,675.00	854,788,456.00

9. D.A. Facilities**a. Sacobia Seed Farm at Bamban, Tarlac (as corrected)**

- Assorted fruit trees (no.)	-----	7,855.00
- Value of loss (P)	-----	745,650.00
- Assorted seedlings	-----	60,500.00
- Value loss	-----	477,000.00
- Infrastructures/Building	-----	7 units
- Value loss	-----	655,000.00
- Total value loss	-----	1,877,650.00

b. Zambales

- Soils laboratory, Iba	-----	30,000.00
- Provincial nursery, Iba	-----	387,000.00
- Farmer's pavillon, Iba	-----	150,000.00
- Provincial office, Iba	-----	150,000.00
- Nat'l Bangus Breeding Project, (Masinloc)	-----	75,200.00
- Zamb. Breeding station, (San Marcelino)	-----	850,000.00
- Magsaysay Memorial Fish Nursery, (Castillejos)	-----	250,000.00
- Total value loss	-----	1,892,200.00

Ground Total Value Loss (P) 1,452,819,261.00

A) Actual ----- 598,030,805.00

B) Opportunity ----- 854,788,456.00

Source: Republic of the Philippines, Department of Agriculture, Region III San Fernando, Pampanga

(2) Summary Cost Estimates of Infrastructure Programs/Projects for the Reconstruction and Rehabilitation of Areas Affected by the Mt. Pinatubo Eruptions and Its Effects
Region III, As of 31 December 1991 (in thousand pesos)

Agency and Major Programs/Projects	Western Areas			Eastern Areas			Other Areas			Grand				
	Zambales	Bataan	Olongapo	Total	Pampanga	Tarlac	Angales	Total	Bolacan	N. Ecija	Regionwide	Total	Percent Dist.	
Dept. of Public Works & Highways	2,383,900	105,645	294,275	2,783,820	1,387,681	653,992	499,320	2,540,993	44,614	41,854	2,894,000	2,890,448	8,215,260	87.32
A. Road and Bridges	477,121	70,360	67,545	615,026	248,867	103,727	482,380	834,974	39,464	35,679	2,194,000	2,269,143	3,719,143	39.55
1. National	403,622	63,864	9,300	476,786	119,616	87,900	480,380	687,896	13,460	16,809	2,194,000	2,224,269	3,388,951	36.02
- Roads	328,472	63,500	9,300	401,272	31,666	34,250	16,270	82,186	9,160	13,120	-	22,280	505,738	5.38
- Bridges	75,150	364	-	75,514	87,950	53,650	464,110	605,710	4,300	3,689	-	7,989	689,213	7.33
- Alternate Routes	-	-	-	-	-	-	-	-	-	-	2,194,000	2,194,000	2,194,000	-
2. Local Roads and Bridges	73,499	6,486	58,245	138,240	129,251	15,827	2,000	147,078	26,004	18,870	-	44,874	330,192	3.51
- Provincial/City	8,653	1,769	-	10,422	56,551	1,895	-	58,446	3,701	-	-	3,701	72,569	0.77
- Municipal	28,072	270	58,245	86,587	16,100	255	2,000	18,355	6,155	-	-	6,155	111,097	1.18
- Barangay	36,774	4,457	-	41,231	56,600	13,677	-	70,277	16,148	18,870	-	35,018	146,526	1.56
B. Flood Control/Drainage	1,421,123	-	-	1,421,123	973,788	503,325	-	1,477,113	-	-	610,000	610,000	3,508,236	37.29
C. Water Supply (Level I)	1,665	-	-	1,665	4,365	-	-	4,365	-	-	-	-	6,030	0.06
D. School Buildings	409,690	33,475	141,930	585,096	129,811	13,050	11,940	154,801	5,050	3,155	-	8,205	748,101	7.95
E. Other Public Buildings/Structures	74,300	1,810	84,800	160,910	30,850	33,890	5,000	69,740	100	3,000	-	3,100	233,750	2.48
Dept. of Trans. & Communication	19,178	700	4,212	24,090	26,803	11,436	34,282	72,521	-	-	97,375	97,375	193,985	2.06
A. Telecom Facilities (TELOF)	6,702	-	2,712	9,413	1,707	344	160	2,211	-	-	-	3,375	15,000	0.16
B. Postal Facilities (PSO)	290	-	1,300	1,590	-	-	-	-	-	-	-	-	1,590	0.02
C. LTO Buildings (LTO)	186	700	200	1,086	96	92	122	310	-	-	-	-	1,396	0.01
D. Airport Facilities (ATO)	12,000	-	-	12,000	-	-	-	-	-	-	-	-	12,000	0.13
E. Railway Facilities (FNR)	-	-	-	-	25,000	11,000	34,000	70,000	-	-	-	-	70,000	0.74
F. Emergency Communication System	-	-	-	-	-	-	-	-	-	-	94,000	94,000	94,000	-
National Irrigation Administration	57,895	12,982	-	70,877	79,990	31,547	1,897	113,434	-	-	247,289	247,289	431,600	4.59
A. National Irrigation Systems	25,017	2,275	-	27,292	17,828	21,089	-	38,917	-	-	27,091	27,091	93,300	0.99
B. Communal Irrigation Systems	32,878	10,707	-	43,585	62,162	10,458	1,897	74,517	-	-	17,198	17,198	135,300	1.44
C. Other Projects	-	-	-	-	-	-	-	-	-	-	203,000	203,000	203,000	-
National Electrification Administration	21,711	1,739	-	23,450	14,771	9,070	-	23,841	-	-	-	-	47,291	0.50
National Power Corporation	860	1,199	3,244	5,304	-	2,025	298	2,323	-	-	-	-	7,627	0.08
Local Waterworks & Utilities Admin.	15,641	2,000	65,000	82,641	20,840	3,447	10,000	34,287	-	-	10,072	10,072	127,000	1.35
Department of Health	16,200	3,120	14,650	33,970	7,730	4,810	24,150	36,690	-	-	100,340	100,340	171,000	1.82
Armed Forces of the Philippines/AFDP	-	-	-	-	-	-	-	-	-	-	214,000	214,000	214,000	2.27
National Economic and Dev't Authority	-	-	-	-	-	-	-	-	-	-	15	15	15	0.00
Grand Total	2,515,385	127,396	391,381	3,024,151	1,537,815	716,326	589,947	2,824,088	44,614	41,834	3,473,091	3,559,539	9,407,778	100.00
Percent Distribution	26.74	1.35	4.05	32.15	16.35	7.61	6.06	30.02	0.47	0.44	36.92	37.84	100.00	-

Source: DPWH III

(3) Government's Program for Rehabilitation and Recovery by Foreign Funds (ODA)

Relief	Estimated Cost (P million)	Estimated Cost (\$ million)	Mitigation (B)	Estimated Cost (P million)	Estimated Cost (\$ million)	Rehabilitation (C)	Estimated Cost (P million)	Estimated Cost (\$ million)	Reconstruction and Development (D)	Estimated Cost (P million)	Estimated Cost (\$ million)
Bamboo Development (Phase I)	66.600	2.494	Bamboo Development (Phase II)	13.400	0.502	Agricultural Rehabilitation Program	197.000	7.378	Productivity Centers	1,120.000	41.948
Food for Work	156.100	5.846	Health and Nutrition Services	367.000	13.745	Agricultural Development Program	645.000	24.157	Lowland New Resettlement Sites	7,799.300	291.884
Continuing Relief Assistance	360.000	13.483	Production of IEC	10.000	0.375	Deep Sea Fishing Program	58.000	2.172	Acta Resettlement Sites	344.700	12.910
Emergency Shelter Assistance	13.300	0.498	Community Organizing and Mobilizing	0.300	0.011	Integrated Cattle Fattening Program	120.000	4.494	Core Shelter Assistance	40.000	1.498
Supplemental Feeding	5.600	0.210	Critical Incidence Stress Debriefing	0.150	0.006	Integrated Poultry Livelihood Program	40.000	1.498	Utilization of NFE Literacy Teachers in Asia Centers	5.000	0.187
Administrative Services	4.140	0.155	Intervention for Children in Crisis/Difficult Situation	0.100	0.004	Microtending for Affected Workers	500.000	18.727	School Furnitures, Facilities, and Equipment Procurement	35.000	1.311
Roads and Bridges	140.000	5.243	Seminars on Disaster Preparedness	0.080	0.003	Lending to Small and Medium Businesses	2,000.000	74.906	Cape-Betolan Road	537.000	20.112
Mobile Health Facilities	40.000	1.498	Day Care Service	4.900	0.184	Common Service Facilities (CSFs)	50.000	1.873	San Fernando-Dinalupihan Road	1,428.000	53.483
			Roads and Bridges	35.000	1.311	Lending to Projects in CFSS	1,000.000	37.453	Angela-Porac-Floridablanca-Dinalupihan Road	169.000	6.330
			River Systems Improvement Project	1,082.000	40.524	Balik-Probinsiya	3.050	0.114	River Systems Improvement Project	627.000	23.483
						Organization of Teachers to conduct classes in health, nutrition, sanitation	10.000	0.375	Others	846.807	31.716
						Self-Employment Assistance	12.320	0.461			
						Rehabilitation of Schools/ Public Buildings	982.000	36.779			
						Rehabilitation of National/ Communal Irrigation System	229.000	8.577			
						Rehabilitation of PNR Structures	70.000	2.622			
						River Systems Improvement Project	1,189.000	44.532			
						Roads and Bridges	1,250.000	50.562			
Total	785.740	29.428		1,512.930	56.664		8,455.970	316.681		12,945.807	484.962
			and Total (A + B + C + D)	23,699,847	887,625						

\$ = P26.70

En: infra-02-92/infagen/piautubo.wk1

(4) List of Communal Irrigation System Affected by Mt. Pinatubo Eruption
Province of Tarlac

(1/4)

Location/Name of CIS	Service Area (ha.)	Amount (Peso)	Remarks (Nature of works to be done)
Conception			
1. Luong CIS	2,250	980,000.00	
Level I		800,000.00	Desilting of canals, raising of canal embankment to serve as cofferdam to mudflow and channelization.
Level II		180,000.00	Repair of gates, desilting of canals and repair/replacement of collapsed falling shutter.
2. Sto. Rosario CIS	150	148,000.00	
Level I		80,000.00	Desilting of canals and raising of protection dike.
Level II		68,000.00	Replacement of flash board and collapsed falling shutter.
3. Sta. Monica CIS	740	280,000.00	
Level I		150,000.00	Desilting of canals, unclogging and raising of protection dike.
Level II		130,000.00	Repair of gates and collapsed falling shutter and repair of diversion dam.
4. Sta. Rita CIS	165	800,000.00	
Level I		-	Area was totally silted. Rehabilitation is not advisable in this season.
Level II		800,000.00	Reconstruction of irrigation facilities if area found to be feasible for cultivation.
5. Maria CIS	100	800,000.00	
Level I		-	Immediate rehabilitation of CIS totally silted by mudflow is impractical due to area is not advisable to cultivate in this season.
Level II		800,000.00	Reconstruction of intake structures, canal structures, canals and terminal facilities in area found to be feasible for cultivation.

Location/Name of CIS	Service Area (ha.)	Amount (Peso)	Remarks (Nature of works to be done)
6. San Martin CIS	230	900,000.00	(2/4)
Level I		-	Immediate rehabilitation of CIS totally silted by mudflow is impractical due to area is not advisable to cultivate in this season.
Level II		900,000.00	Reconstruction of instructures, canal structures, canals and ternal facilities if to be feasible for cultivation.
7. Lilibangan CIS	240	900,000.00	
Level I		-	Immediate rehabilitation of CIS totally silted mudflow is impractical due to area is not advisable to cultivate in this season.
Level II		900,000.00	Reconstruction of instructures, canal structures, canals and terminal facilities if found to be feasible for cultivation.
8. Magao CIS	960	2,800,000.00	
Level I		-	Immediate rehabilitation of CIS totally silted by mudflow is impractical due to area is not advisable to cultivate in this season.
Level II		2,800,000.00	Reconstruction of instructures, canal structures, canals and terminal facilities and diversion dams if area found to be feasible for cultivation.
9. Telabanca CIS	328	160,000.00	
Level I		40,000.00	Desilting of canals unclogging, channelization.
Level II		120,000.00	Desilting of canals and repair of intake structures.
10. San Bartolome CIS	350	240,000.00	
Level I		80,000.00	Raising of protection dike and desilting of canals.
Level II		160,000.00	Repair of diversion works, intake structures, desilting of canals and repair of gates.
11. Baluto CIS	740	360,000.00	
Level I		160,000.00	Desilting of canals, raising of protection dike, unclogging.
Level II		200,000.00	Repair of intake structures, repair of checkgate and desilting of canals.
12. Sta. Cruz-Guge	200	40,000.00	
Level I		40,000.00	Raising of protection dike and desilting of canals.
Level II		-	Program for CY-1992 (CIDIP).
13. Bahucak CIS	100	30,000.00	
Level I		30,000.00	Desilting of canals and raising of protection dike.
Level II		-	Program for CY-1992 (CIDIP).

Location/Name of CIS	Service Area (ha.)	Amount (Peso)	Remarks (Nature of works to be done)
<u>Bamban</u>			
1. Bamban CIS Level I	623	120,000.00	Immediate restoration is impractical, water source was silted and water supply is not suitable for irrigation in this season.
Level II		120,000.00	Channelization repair of intake structures and desilting of canal.
2. Panaisan CIS Level I	112	100,000.00	Desilting of canals, raising of protection dike, unclogging.
Level II		-	Program for CY-1992 regular project.
3. Malonzo CIS Level I	250	80,000.00	Immediate reconstruction is impractical, water source was silted and water supply is not suitable for irrigation in this season.
Level II		80,000.00	Channelization, desilting of canals and repair of intake structures.
4. Bancu CIS Level I	119	60,000.00	Immediate restoration is impractical, water source was silted and water supply is not suitable for irrigation in this season.
Level II		60,000.00	Repair of intake structures and desilting of canals.
5. San Pedro CIS Level I	140	140,000.00	Immediate restoration is impractical, water source was silted and available water supply is not suitable for irrigation in this season.
Level II		140,000.00	Repair of intake structures, channelization and desilting of canals.
<u>Capas</u>			
1. Susuba-Cutcut CIS Level I	30	260,000.00	Unclogging removal of debris and desilting of canals.
Level II		180,000.00	Repair of checkgate, raising of embankment and desilting of canals.

Location/Name of Service Area (ha.) Amount (Peso) Remarks (Nature of works to be done) (4/4)

2. Lab CIS	340	120,000.00	
Level I		120,000.00	Desilting of canals, unclogging and raising or protection dike.
Level II		-	Program for CY-1992
3. O'Donnel #1	130	300,000.00	
Level I		80,000.00	Unclogging and desilting of canals.
Level II		220,000.00	Desilting of canals, and repair of intake structures.
4. O'Donnel #2	25	140,000.00	
Level I		-	Area was totally silted by mudflow, immediate rehabilitation of the system is impractical due to the area is not advisable to cultivate in this season.
Level II		140,000.00	Reconstruction of canals and intake structures.

Tadlac

(24) 1. Sinait-Dolores CIS	150	140,000.00	
Level I		-	River source was silted by mudflow, water supply is not suitable for irrigation in this season.
Level II		140,000.00	Channelization and desilting of canals.
2. Sta. Maria CIS	416	260,000.00	
Level I		-	River source was silted by mudflow, water supply is not suitable for irrigation in this season. Immediate rehabilitation is impractical.
Level II		260,000.00	Desilting of canals and channelization.
3. Lubigan CIS	155	180,000.00	
Level I		180,000.00	Desilting of cut and cover, canals and construction of spurdiikes.
4. Iba-Sula CIS	250	120,000.00	
Level I		120,000.00	Desilting of canal lining, canals and channelization.

Total		10,458,000.00	
Level I		2,060,000.00	
Level II		8,398,000.00	

(5) Mr. Pinatubo Rehabilitation Program as of March 27, 1992 (1/2)

Particular	Bataan	Pampanga	Tarlac	Zambales	Total
1. Municipality (No.)	7	12	10	12	41
2. Barangay (No.)	85	187	144	112	528
3. Plowing Activities					
3.1 Farmers Served (no.)	6,169	14,605	11,188	13,945	45,907
3.2 Area Targetted (ha.)	9,082	22,049	22,949.5	17,289	71,370
(3 inches above with financial assistance on plowing)					
3.3 Total Area Plowed (ha.)	8,859	20,811	22,449.5	16,376	68,496
- Percent Accomplished	98	94	98	95	96
3.3.1 Area Plowed by Mode					
a. Rice	8,420	20,667	22,369.5	12,802	64,259
- Carabao	5,557	7,466	4,189.5	4,320	21,533
- Hand tractor	2,383	2,199	8,499.5	933	14,015
- 4-wheel tractor	480	11,002	9,680.5	7,549	28,712
b. Vegetables	319	13	30	2,344	2,706
- Carabao	251	13	30	644	938
- Hand tractor	22	-	-	13	35
- 4-wheel tractor	46	-	-	1,687	1,733
c. Root Crops	120	131	50	1,230	1,531
- Carabao	72	116	5	310	503
- Hand tractor	-	-	-	1	1
- 4-wheel tractor	48	15	45	919	1,027
3.3.2. Mode Used (no.)					
- Carabao	1,729	7,648	2,550	4,789	16,716
- Hand tractor	335	438	700	262	1,735
- 4-wheel tractor	14	137	200	27	378
3.3.3 Amount to be paid (P)	8,618,410	20,746,000	22,449,500	17,637,340	69,451,250
- Carabao	5,853,010	7,595,000	4,224,500	8,922,560	26,595,070
- Hand tractor	2,397,950	2,199,000	8,499,500	950,050	14,046,500
- 4-wheel tractor	367,450	10,952,000	9,725,500	7,764,730	28,809,680

Source: Republic of the Philippines, Department of Agriculture, Region III San Fernando, Pampanga

Mr. Pinatubo Rehabilitation Program as of March 27, 1992

(2/2)

Particular	Bataan	Pampanga	Tarlac	Zambales	Total
4. Area Planted (ha.) (3 inches and above with financial assistance on plowing)	8,661	20,570	22,450	8,818	60,499
4.1 Rice	8,225	20,426	22,369.5	5,729	56,750
4.2 Vegetables	316	13	30	2,033	2,392
4.3 Root Crops	120	131	50	1,056	1,357
5. Input Assistance (distributed)					
5.1 Palay (cav.)	982	6,277	-	350	7,609
5.2 Recipient (cav.)	883	5,968	-	15	6,866
5.3 Vegetable (pkt.)	182,623	307,758	408,312	236,284	1,134,977
5.4 Recipient (no.)	14,170	30,147	31,686	14,668	90,671
5.5 Fruit Tree Seedlings (pcs.)	7,414	358,111	256,000	88,916	710,441
5.6 Recipient (no.)	1,112	23,874	17,066	5,927	47,979
5.7 Fertilizer (bags)	31,703	50,180	73,541	29,052	184,476
5.8 Recipient (no.)	8,105	15,299	14,456	13,028	50,888
6. Area Targetted below 3 inches ashfall with inputs/fertilizer assistance only (ha.)	2,692	7,436	5,652.5	2,535	18,316
6.1 Area planted (ha.)	2,639	7,436	5,652.5	2,535	18,263
6.1.1 Rice	2,607	7,436	5,652.5	2,535	18,231
6.1.2 Vegetables	10	-	-	-	10
6.1.3 Root Crops	22	-	-	-	22
6.2 Farmers served (no.)	1,979	3,502	3,059	2,138	10,678
6.2.1 Rice	1,949	3,502	3,059	2,138	10,648
6.2.2 Vegetables	10	-	-	-	10
6.2.3 Root Crops	20	-	-	-	20
7. Total Area Targetted (ha.)	11,774	29,485	28,602	19,824	89,685
8. Total Area Planted (ha.)	11,300	28,006	28,102	11,353	78,761
9. Percent Accomplished	96	95	98	57	88
10. Harvesting Operation (rice)					
10.1 Area harvested (ha.)	9,747	24,300	26,582	7,163	67,792
10.2 Production (cav.)	761,512	2,158,659	2,343,709	528,906	5,792,786
10.3 Ave. yield/ha. (cav.)	78	89	88	74	85

Source: Republic of the Philippines, Department of Agriculture, Region III San Fernando, Pampanga

(6) Agricultural Rehabilitation and Development Program
Phase II - CY -1992
(P 000)

f name: DEVTPROG

Project	Bataan	Pampanga	Tarlac	Zambales	N. Ecija	Region	Total
I. Agricultural Rehabilitation and Development							
1. Provision of inputs	-	-	-	10,940	-	-	10,940
2. Livestock Dev't. and Forage Production	1,750	11,900	10,300	10,990	-	-	35,000
3. Water Resource Dev't.	1,050	13,930	11,340	23,680	-	-	50,000
4. Fishery Dev't.	47	2,519	2,000	1,434	-	-	6,000
II. Livelihood for Settlement Areas							
1. Farming Provision and Livestock	-	14,400	12,800	22,800	-	-	50,000
III. Livelihood for Lahar Affected Area							
1. Organic Farmine	-	2,770	1,700	400	200	-	5,070
2. Basket Technology	-	3,670	4,450	1,360	660	-	10,140
3. Forage Production	-	250	2,900	700	-	-	3,850
IV. Administrative Support							
	283	4,500	3,500	5,132	95	3,500	17,000
Total	3,130	53,939	48,990	77,436	955	3,500	187,950

(7) Agricultural Rehabilitation and Development Program
Department of Agriculture, Region III

	Bamban	Capas	Concepcion	Camiling	La Paz	Mayantoc	Moncada	San Jose	Tarlac	Victoria	San Clemente	Paniqui	Provincial Office	Total
I. Agricultural Rehabilitation & Development														
Livestock Development and Forage Production @P70,000/module														
Area (has.)	16	16	16	14	14	14	14	14	16	14				148
Cost (000) (Loan)	1,120	1,120	1,120	980	980	980	980	980	1,120	980				360
Water Resource Dev't @P70,000/unit														
STW (units)	20	20	31	12	12	12	12	12	19	12				162
Cost (000) (Loan)	1,400	1,400	2,170	840	840	840	840	840	1,330	840				11,340
Fishery Development @P0.35/pc.														
Fingerlings (pcs.)	672,600	672,600	960,450	567,150	567,150	567,150	299,250	299,250	795,150	299,250				5,700,000
Cost (000) (grant)	236	236	337	199	199	199	105	105	279	105				2,000
II. Livelihood for Lahar Affected Areas														
Basket Technology @P10,000/ha.														
Target (has.)	67	67	267	44										445
Cost (000) (grant)	670	670	2,670	440										4,450
Organic Farming @P10,000/ha.														
Target (has.)	15	31	70	17	1	13			11			12		170
Cost (000) (grant)	150	310	700	170	10	130			110			120		1,700
Forage Production @P20,000														
Target (has.)	29	29	43	22					22					145
Cost (000) (grant)	580	580	860	440					440					2,900
III. Livelihood for Settlement Areas														
Farming (Provision of farm inputs @P1,500/family)														
Cost (000) (grant)	6,500											500		7,050
No. of Families	2,500											200		2,700
Livestock (Anisal Dispersal)														
Cost (000) (grant)	5,000											750		5,750
No. of Families	2,000											300		2,300
IV. Administrative Support														
													3,500	3,500
Total	4,156	15,816	7,857	3,069	2,029	2,019	2,055	1,925	3,279	1,925	1,250	120	3,500	49,000
Loan	2,520	2,520	3,290	1,820	1,820	1,820	1,820	1,820	2,450	1,820	1,250	-	-	22,950
Grant	1,636	13,296	4,567	1,249	209	199	235	105	829	105	-	120	3,500	26,050

