

APPENDICES

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APPENDIX 1

MEMBER LIST OF THE STUDY TEAM

1. Member List of the Study Team

(1) Member List of the Field Study Team

Name	Job Tide	Occupation
Yuki ARATSU	Team Leader	Japan International Cooperation Agency
Shingo GOSE	Chief Consultant / Bridge Planner	Katahira & Engineers International
Shinya KAWADA	Specialist on the Environmental & Social Consideration	Katahira & Engineers International
Kiminori MATSUMOTO	Bridge Designer I (Superstructure)	Katahira & Engineers International
Isao IGARASHI	Bridge Designer II (Substructure))	Katahira & Engineers International
Masao AIZAWA	Topographic Surveyor	Katahira & Engineers International
Yoshiki KOEDA	Topographic Surveyor	Katahira & Engineers International
Shigeru TAKARA	Hydrological Surveyor	Katahira & Engineers International
Keiichi MURAKAMI	Construction & Procurement Planner / Cost Estimator	Katahira & Engineers International
Kunihiko SAWANO	Coordinator	Katahira & Engineers International

(2) Member List of the Accounting Schedule for Draft Final Report

Name	Work	Affiliation
Yuki ARATSU	Team Leader	Japan International Cooperation Agency
Shingo GOSE	Chief Consultant / Bridge Planner	Katahira & Engineers International
Shinya KAWADA	Specialist on the Environmental & Social Consideration	Katahira & Engineers International
Isao IGARASHI	Bridge Designer II (Substructure))	Katahira & Engineers International
Shigeru TAKARA	Hydrological Surveyor	Katahira & Engineers International

APPENDIX 2

STUDY SCHEDULE

2. Study Schedule

(1) Field Study Schedule (July05,2004~August18,2004)

No.	DATE				Team Leader	Chief Consultant / Bridge Planner	Bridge Designer I Superstructure	Coordinator	Environmental & Social Consideration	Hydrological Surveyor	Topographic Surveyor	Topographic Surveyor	Bridge Designer II Substructure	Construction & Procurement Planner / Cost Estimator
					Yuki Aratsu	Shingo Gose	Kiminori Matsumoto	Kumihiko Sawano	Shinya Kawada	Shigeru Takara	Masao Aizawa	Yoshiki Koeda	Isao Igarashi	Keiichi Murakami
1	7	5	Mon	-----	NRT→JKT(JAL725)			-----	-----	NRT→JKT	NRT→DPS(JAL729)		-----	-----
2		6	Tue	-----	Meeting with JICA & Kimpraswil			-----	-----	Data Collection	DPS→Mataram Meeting	DPS → Kupang Meeting		
3		7	Wed	-----	Meeting with Kimpraswil			-----	-----	↓	Mataram→Tongo Meeting	Kupang → Soe Meeting		
4		8	Thu	-----	Data Collection			-----	-----	↓	Site Survey in NTB	Site Survey in NTT		
5		9	Fri	-----	Data Collection			-----	NRT→DPS	↓	↓	↓		
6		10	Sat	-----	Data Collection			-----		JKT→DPS	↓	↓		
										DPS→Kupang→Soe				
7		11	Sun	-----	Data Collection			-----	Site Survey in NTT		↓	↓		
8		12	Mon	NRT → JKT	Data Collection			-----	↓		↓	Soe → Kupang → DPS		
9		13	Tue		Meeting with JICA Office, Courtesy call To EOJ, MOF & Kimpraswil			-----	↓		↓	DPS→Mataram →Maluk		
10		14	Wed		JKT→Mataram , Meeting with Gov.of NTB			-----	↓		Site Survey in NTB			
11		15	Thu		Mataram→Tongo , Site Survey in NTB			-----	↓		↓		NRT→DPS(JAL729)	
12		16	Fri		Maluk→Mataram			-----			↓		DPS→Mataram→Tongo	
13		17	Sat		Mataram→DPS			NRT→DPS	↓		Site Survey in NTB			
14		18	Sun		DPS→Kupang , Meeting with Gov.of NTT				↓			↓		
					Kupang→Soe									
15		19	Mon		Site Survey in NTT				↓			↓		
					Soe→Kupang	Analysis	Soe → Kupang							
16		20	Tue		Kupang→DPS→JKT	Site Survey in NTT	Kupang → DPS →JKT		Soe→Kupang→DPS			↓		
17		21	Wed		Discussion with Kimpraswil	↓	Discussion		DPS→Mataram, Data Collection			↓		
18		22	Thu		Discussion & Signing on M/D	↓	↓		Data Collection Mataram→Maluk			↓		
19		23	Fri		Report to JICA, EOJ & MOF	↓	Report		Site Survey in NTB			Maluk→Mataram→DPS		
					JKT→	Report	JKT→							
20		24	Sat		→NRT	JKT→Mataram → Maluk		→NRT	↓		DPS→Kupang→Soe			
21		25	Sun	-----	Site Survey in NTB	↓		-----	↓		Site Survey in NTT			
22		26	Mon	-----	↓	↓		-----	↓			↓		
23		27	Tue	-----	↓	↓		-----	↓			↓		
24		28	Wed	-----	↓	Soe→Kupang →DPS→JKT		-----	↓			↓		
25		29	Thu	-----	↓	Analysis		-----	↓			↓		
26		30	Fri	-----	Maluk→Mataram	↓		-----	↓			↓		
27		31	Sat	-----	Mataram → JKT	↓		-----	↓			↓		
28	8	1	Sun	-----	Data Collection & Analysis			-----	↓		Soe→Kupang→DPS→JKT			
29		2	Mon	-----	↓			-----	Maluk→Mataram		Analysis	Analysis JKT→	Data Collection & Analysis	
30		3	Tue	-----		↓		NRT→JKT	Mataram→DPS→JKT		↓	→NRT		↓
31		4	Wed	-----				Data Collection & Analysis						↓
32		5	Thu	-----				↓						↓
33		6	Fri	-----				↓						↓
34		7	Sat	-----				↓						↓

35		8	Sun	-----		↓	-----	↓
36		9	Mon	-----		↓	-----	↓
37		10	Tue	-----		↓	-----	↓
38		11	Wed	-----	Data Collection & Analysis	Analysis JKT→	Data Collection & Analysis	----- ↓
39		12	Thu	-----	↓	→NRT	Analysis , JKT→	----- ↓
40		13	Fri	-----	↓	-----	→NRT	----- ↓
41		14	Sat	-----	↓	-----	-----	----- ↓
42		15	Sun	-----	↓	-----	-----	----- ↓
43		16	Mon	-----	↓	-----	-----	----- ↓
44		17	Tue	-----	Analysis , JKT→	-----	-----	----- Analysis , JKT→
45		18	Wed	-----	→NRT	-----	-----	----- →NRT

NRT : Narita, JKT : Jakarta, DPS : Denpasar, JICA : Japan International Cooperation Agency

EOJ : Embassy of Japan, MOF : Ministry of Finance, NTT : Nusa Tenggara Timor, NTB : Nusa Tenggara Barat

MOS&RI : Ministry of Settlement & Regional Infrastructure

(2) Accounting Schedule of Draft Final Report (October28, 2004～November10, 2004)

No.	DATE			Team Leader	Chief Consultant /Bridge Planner	Environmental & Social Consideration	Hydrological Surveyor	Bridge Designer II Substructure
				Yuki Aratsu	Shingo Gose	Shinya Kawada	Shigeru Takara	Isao Igarashi
1	10	28	Thu	-----	NRT→JKT			
2		29	Fri	-----	Delineation (JICA), Familiarization Visit (MOS&RI)			
3		30	Sat	-----	Meeting		JKT→Mataram→Maluk	
4		31	Sun	-----	↓		Field Survey of Tabisu II Bridge (Site of NTB)	
5	11	1	Mon	-----	Meeting (MOS&RI)		Maluk→Mataram	
6		2	Tue	NRT→JKT	↓		Delineation (Province of NTB)	
7		3	Wed	Familiarization Visit and Meeting (JICA, MOS&RI, BAPPENAS), Greeting(MOJ)				Mataram→Kupang
8		4	Thu	Minutes of Discussions and Sign				Delineation (Province of NTT), Kupang→JKT
9		5	Fri	Meeting (MOS&RI), Account(JICA, MOJ), Mr.Aratsu : night JKT→				
10		6	Sat	→NRT	Meeting			
11		7	Sun	-----	↓			
12		8	Mon	-----	Meeting (MOS&RI) and Data Analysis			
13		9	Tue	-----	Meeting (MOS&RI), night JKT→			
14		10	Wed	-----	→NRT			

APPENDIX 3

LIST OF PARTIES CONCERNED IN THE RECIPIENT COUNTRY

3. List of Parties Concerned in the Republic of Indonesia

Name	Position
1. Ministry of Settlement & Regional Infrastructure (Jakarta)	
Mr. Hendrianto	- Director General of Regional Infrastructures
Mr. Frankie Tayu	- Director of Eastern Regional Infrastructures
Mr. Yayan Suryana	- Subdirector of Design and Supervision
Mr. Djoko Sulistyono	- Subdirector of Design and Supervision
Mrs. Yani Agustin	- Subdirector of Environmental Affairs
Mrs. Sri Indrarni	- Subdirector of Region I, Eastern
Mr. Judiono	- Subdirector of budgeting and Foreign Aid Programme
Mr. Mahfudz Madjid	- Director of Technical Affairs
Mr. Haryanto	- Subdirector of NTB
Mr. Bamang Prihartontano	- Head for Subdirector of Road Transport
2. JICA (Jakarta)	
Mr. Kaminaga	- JICA expert
3. Province of NTB (MATARAM)	
Mr. Nanang Samudera	- NTB Provincial Secretary
Mr. Djalal	- Chief of Dinas Kimpraswil NTB
Mr. Supardi	- Chief of Subdinas Prasarana Jalan NTB
Mr. Yayan Suryana	- Subdirector of Design and Supervision
Mr. Tino Suryadi	- Chief of P3JJ NTB
Mr. Darmandani	- Dinas Kimpraswil NTB
Mr. Mahlil	- Dinas Kimpraswil NTB
4. Province of NTT (KUPANG)	
Mr. Piet Alexander Tallo	- Governor of NTT
Mr. Pieter D. Rebo	- Chief of Dinas Kimpraswil NTT
Mr. Yohanes de Rozari	- Chief of Sub Dinas Province NTT
Mr. Herman Banoet	- Chief of Economic Beureau
Mr. Umbu Saga Anakaka	- Chief of Public Relation Section
Mr. Piet Nua Wea	- Chief of Bappeda NTT (Planning)
Mr. Gulam Husein	- Chief of Program Beureau (Budgeting)
Mrs. Regina Maanary	- Coordinator of Foreign Aid Section Province NTT
Mr. Djoko Sulistyono	- Subdirector of Design and Supervision
Mr. Ridolf Adam	- Chief of P3JJ NTT

APPENDIX 4

MINUTES OF DISCUSSIONS

4. Minutes of Discussions (M/D)

**Minutes of Discussions
on the Basic Design Study on the Project for Bridge Construction
in the East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB)
in the Republic of Indonesia**

In response to the request from the Government of the Republic of Indonesia (hereinafter referred to as "Indonesia"), the Government of Japan decided to conduct a Basic Design Study on the Project for Bridge Construction in the East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB) (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Indonesia the Basic Design Study Team (hereinafter referred to as "the Team"), headed by Ir. Yuki Aratsu, Team Director, Traffic Infrastructure Team of the Project Management Group II, Grant Aid Management Department, JICA, and is scheduled to stay in the country from July 5 to August 17, 2004.

The Team held discussions with the concerned officials of the Government of Indonesia.

In the course of the discussions, both sides have confirmed the main items described in the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Jakarta, July 22, 2004



Ir. Yuki Aratsu
Leader
Basic Design Study Team
Japan International Cooperation Agency



Ir. Machfudz Madjid
Director of Technical Affairs
on behalf of Director General of
Regional Infrastructure
Ministry of Settlement and Regional
Infrastructure
Republic of Indonesia

ATTACHMENT

1. Objective

The objective of the Project is to construct bridges in the East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB).

2. Project Site

The sites of the Project are shown in Annex-1.

3. Responsible and Implementing Organizations

- (1) The Responsible Ministry is the Ministry of Settlement and Regional Infrastructure (KIMPRASWIL).
- (2) The Implementing Agency is the Directorate General of Regional Infrastructure, KIMPRASWIL.
- (3) The organization chart of Implementing Agency is shown in Annex-2.

4. Components Requested by the Government of Indonesia

After discussions with the Team, the following items were finally requested by the Indonesian side, details are shown in Annex-3.

- The East Nusa Tenggara (NTT): total two (2) bridges
Menu Bridge, Fatuat Bridge
- The West Nusa Tenggara (NTB): total nine (9) bridges
Tanaman I Bridge, Puna I Bridge, Puna III Bridge, Tabisu I Bridge, Tabisu II Bridge,
Tabisu III Bridge, Tabisu IV, Tabisu V Bridge, Tongoloka Bridge

The Team will put the priority and assess the appropriateness of each component and the final components of the Project will be decided by the Japanese side after further studies in Japan.

5. Japan's Grant Aid Scheme

- (1) The Indonesian side understands the Japan's Grant Aid scheme and the necessary measures to be taken by the Government of Indonesia explained by the Team as described in Annex-4.
- (2) The Indonesian side promised to take necessary measures, as described in Annex-5, for smooth implementation of the Project as a condition for the Japan's Grant Aid to be implemented.

6. Schedule of the study

- (1) The Team will proceed to further studies in Indonesia until August 17, 2004.
- (2) JICA will prepare the draft report in English and dispatch a team to Indonesia in order to explain its contents around the end of October 2004.
- (3) When the contents of the draft report are accepted in principle by the Government of Indonesia, JICA will complete the final report and send it to the Government of Indonesia around the end of January 2005.

7. JICA Guidelines for Environmental and Social Considerations

The Team explained outline of the JICA Guidelines for Environmental and Social Considerations (hereinafter referred to as "the new JICA Guidelines"). The Indonesian side took the new JICA Guidelines into consideration.

8. Information Disclosure

Both sides agreed that information disclosure shall be implemented regarding all the studies and surveys.

9. Explanation of the Policy of the Government of Japan

The Team explained the present policy of the Government of Japan as follows:

- (1) The Ministry of Foreign Affairs of Japan (hereinafter referred to as "MOFA") will make its own Environmental and Social Considerations Guideline for Grant Aid Project, referring to the new JICA Guidelines, too. MOFA will set down critical path(s) for each stage of projects from the viewpoints of the Environmental and Social Considerations (hereinafter referred to as "the ESC") especially for the resettlement issues.
- (2) MOFA may suspend the implementation of projects unless otherwise the appropriate process of the ESC is followed.
- (3) Specifically the benchmark for the start of the Detailed Design Study and the implementation stage of projects should be determined for each project. The both sides agreed that the benchmarks for the start of the Detailed Design Study and implementation stage of the Project should be as below;
 - To conduct public information campaigns to local residents/stakeholders and obtain their in-principle agreement. The public meeting in NTT was completed on July 17 and is scheduled to be held in NTT on July 26.
 - To obtain the general approval from the Local Environment Controlling Agency(BAPEDALDA) of the Provincial Government by submitting the Initial Environmental Examination (IEE) report including screening format of the JICA Guidelines and confirm that the Project has no significant adverse impacts on the environment and society and submit the report by October 15, 2004.
 - To submit the Environmental Management Effort (UKL) report and Environmental Monitoring Effort (UPL) report by the end of January, 2005.
 - To obtain agreements from all of the Project Affected Persons (PAPs) about the conditions and contents of the resettlement and land acquisition, and submit its report(s) to the Japanese side through JICA Indonesia Office by the end of March, 2005.

10. Other Relevant Issues

- (1) Both sides confirmed that the Tanaman II Bridge and Puna II Bridge in the NTB are excluded from the Project.
- (2) The Indonesian side explained the team that the both Provincial Governments have started to improve the provincial roads and bridges relevant and connecting to the requested bridges, which schedules are shown in Annex-6. The Team pointed out the roads improvement is the must of the Project and strongly requested the Indonesian side to proceed with the necessary implementation on schedule.
- (3) Both sides confirmed that the table of the Authority and Responsibility Sharing on the Project among the Indonesian side as shown in Annex-7 and List of Undertakings of Each Agencies as shown in Annex-8. The Indonesian side agreed to arrange the budget allocation and take necessary procedures by Central and Provincial Governments on each stage of the Project and the scheduled roads/ bridges projects in Annex-6, such as survey, implementation (construction), and maintenance in accordance with the Memorandum of Understanding (hereinafter referred to as "MOU").

The MOU should be signed up in accordance with the above List between DGRI and the Provincial

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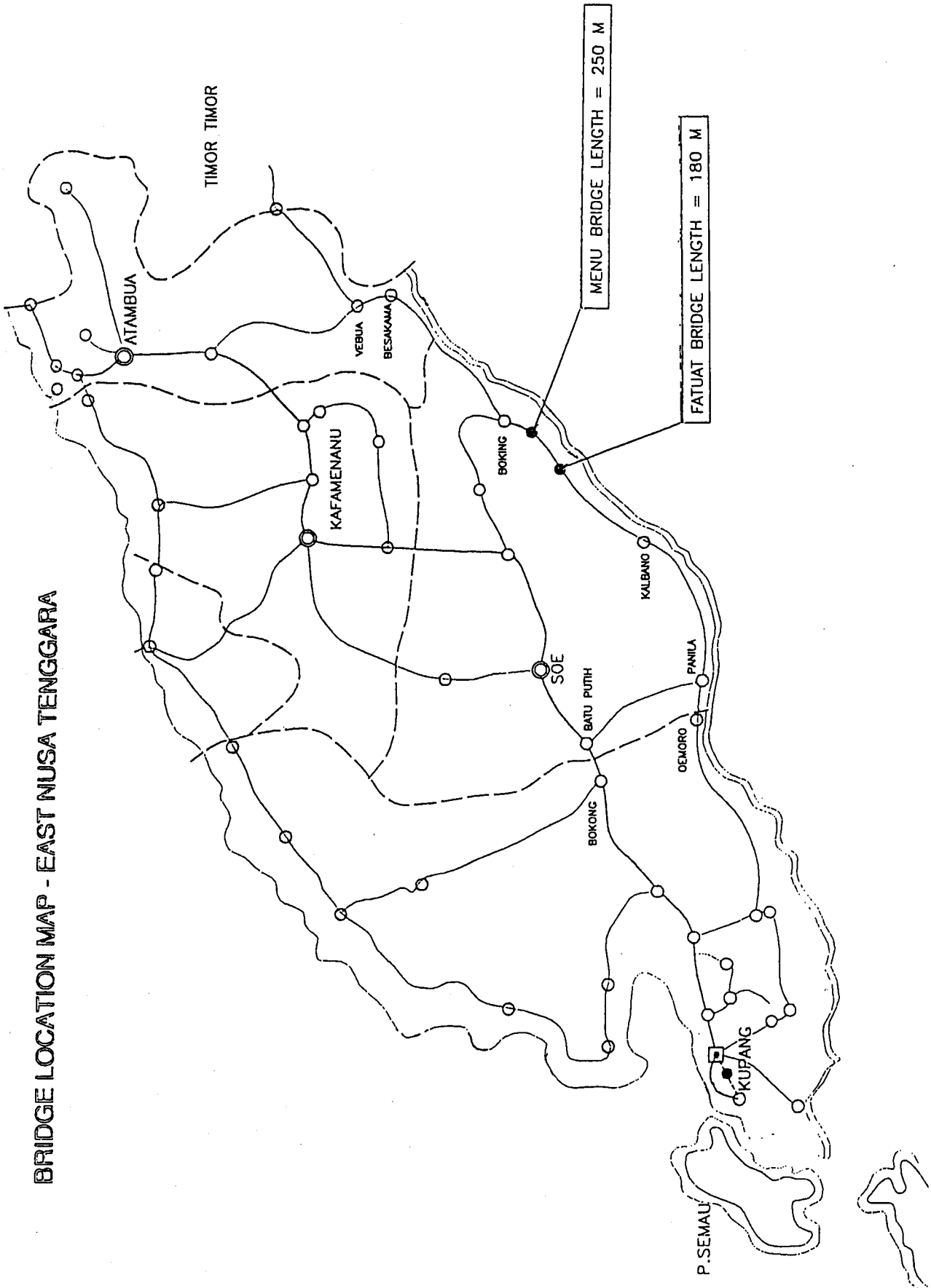
Governments in order to make sure the budget and work sharing for the Project by the end of September, 2004.

(4) The Indonesian side strongly requested the further cooperation by Japan's Grant Aid on the construction of remaining bridges between Tongoloka and Lunyuk in West Nusa Tenggara (NTB) . The Team took notes and promised to convey the request to the Government of Japan.

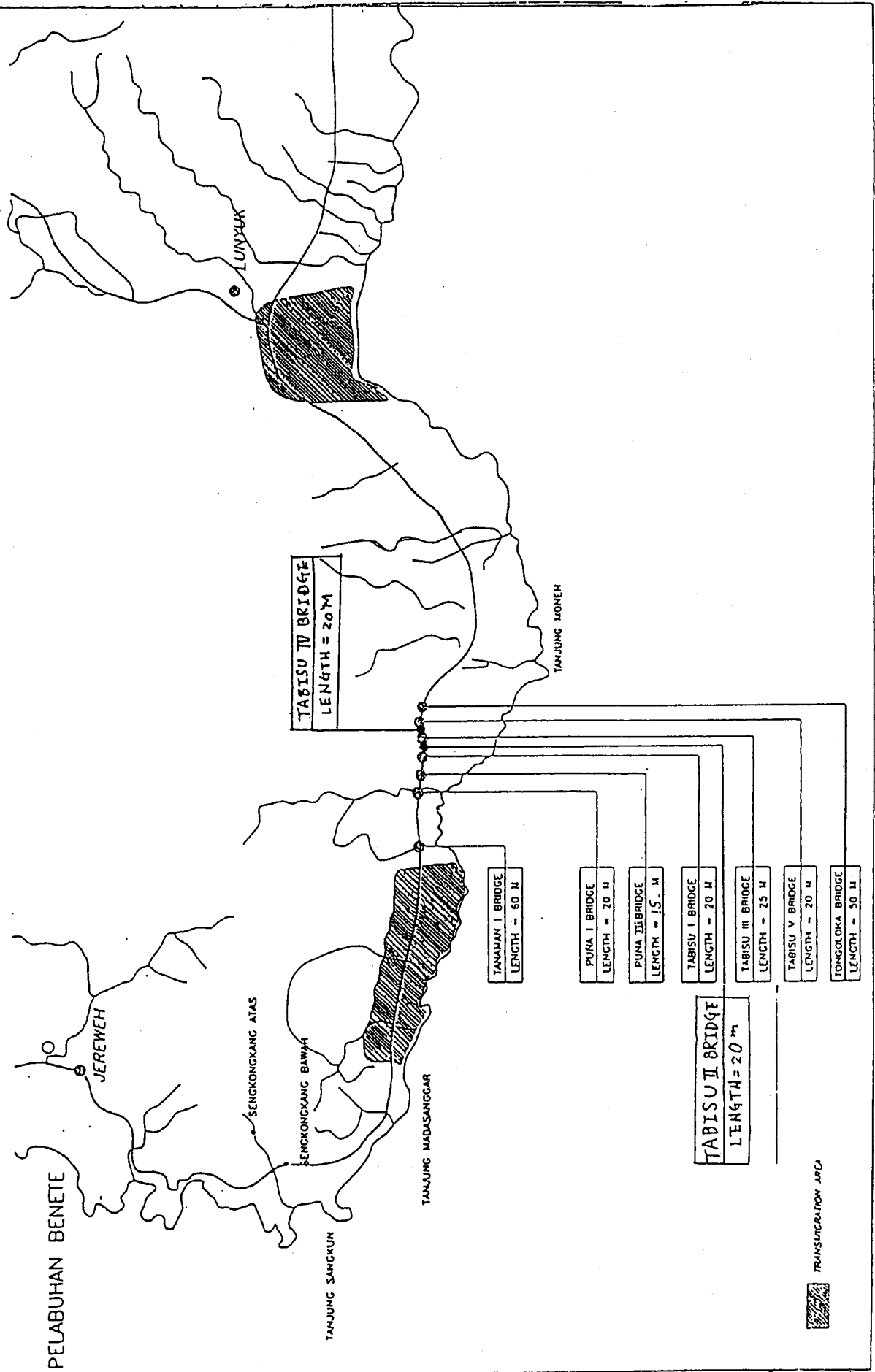
(5) The Indonesian side will submit answers in English to the Questionnaire, which the Team handed to the Indonesian side, by August 3, 2004.

(6) The Indonesian side shall provide necessary number(s) of counterpart personnel to the Team during the period of the studies in Indonesia.

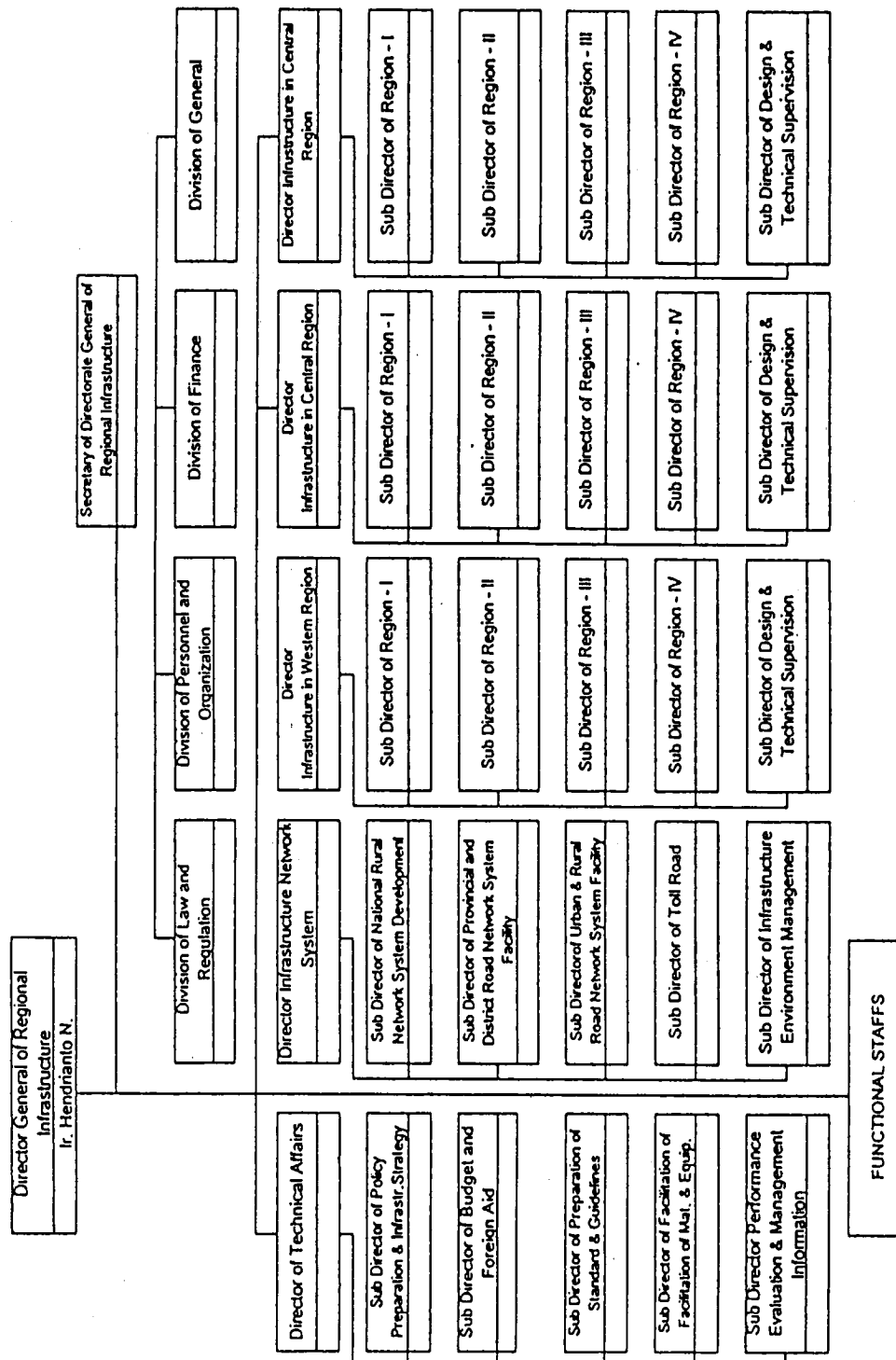
BRIDGE LOCATION MAP - EAST NUSA TENGGARA



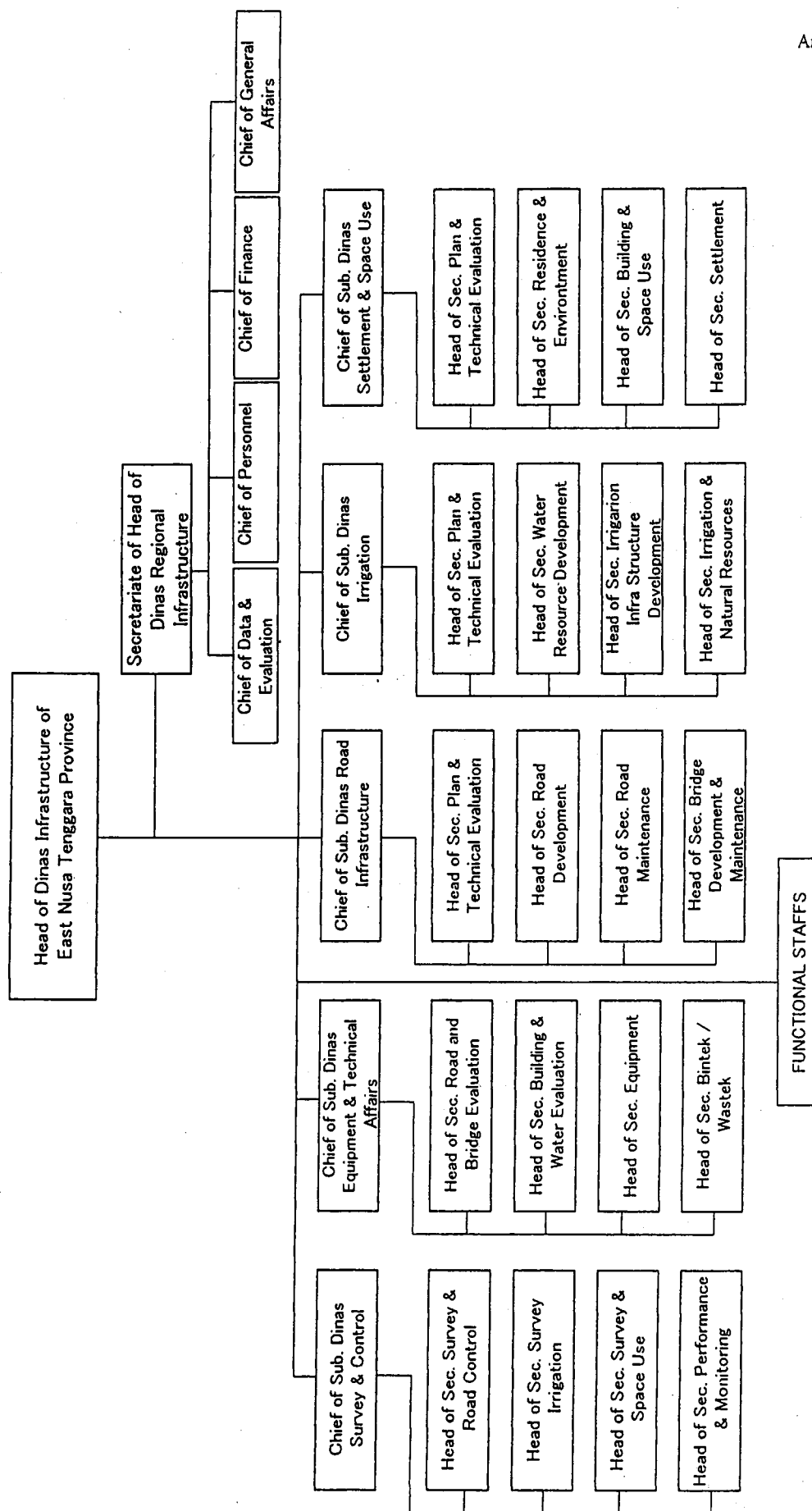
BRIDGE LOCATION MAP - WEST NUSA TENGGARA (NTB)



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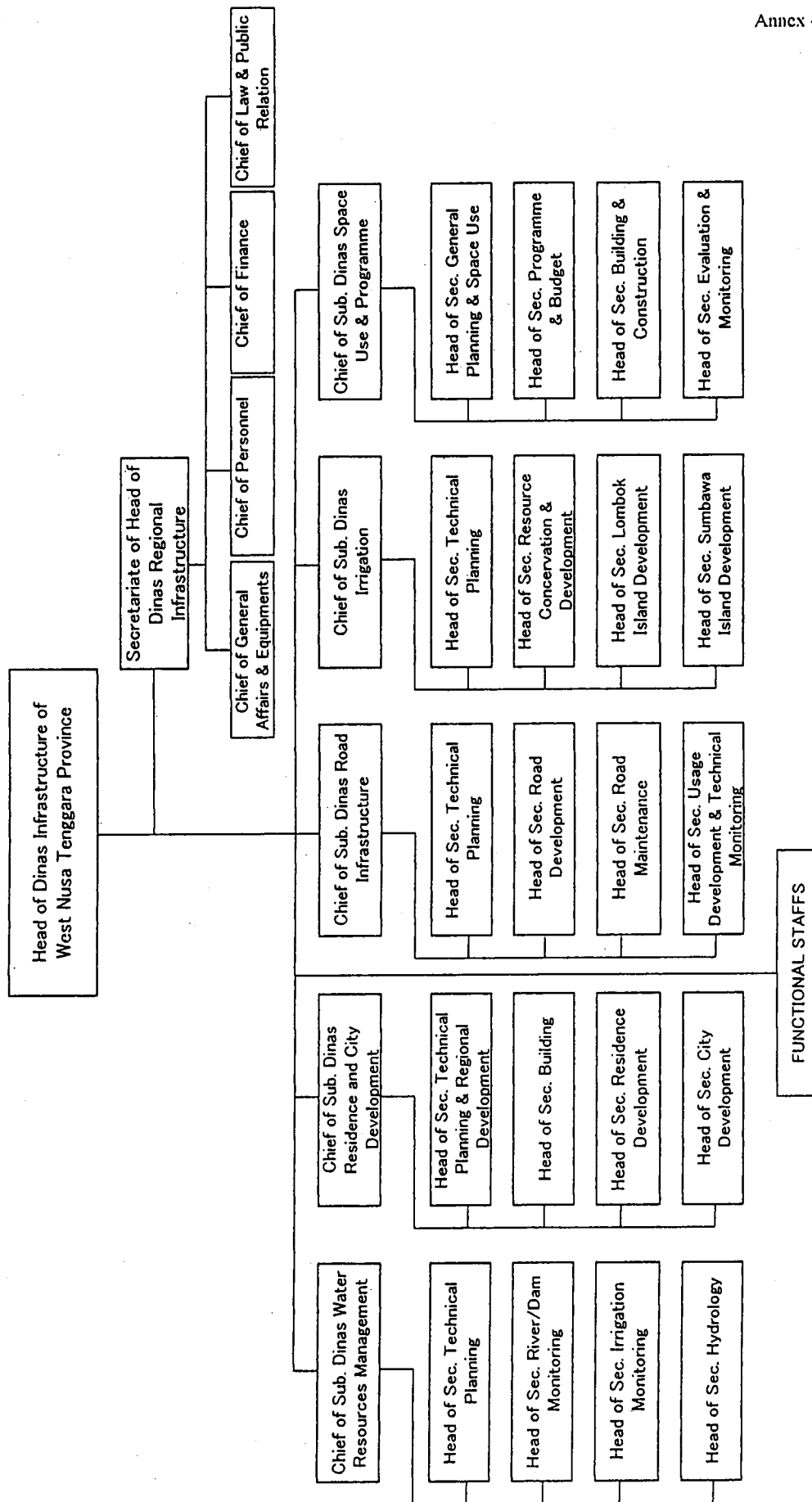
ORGANIZATION CHART OF PROVINCIAL KIMPRASWIL (NTT)



Annex - 2(b)

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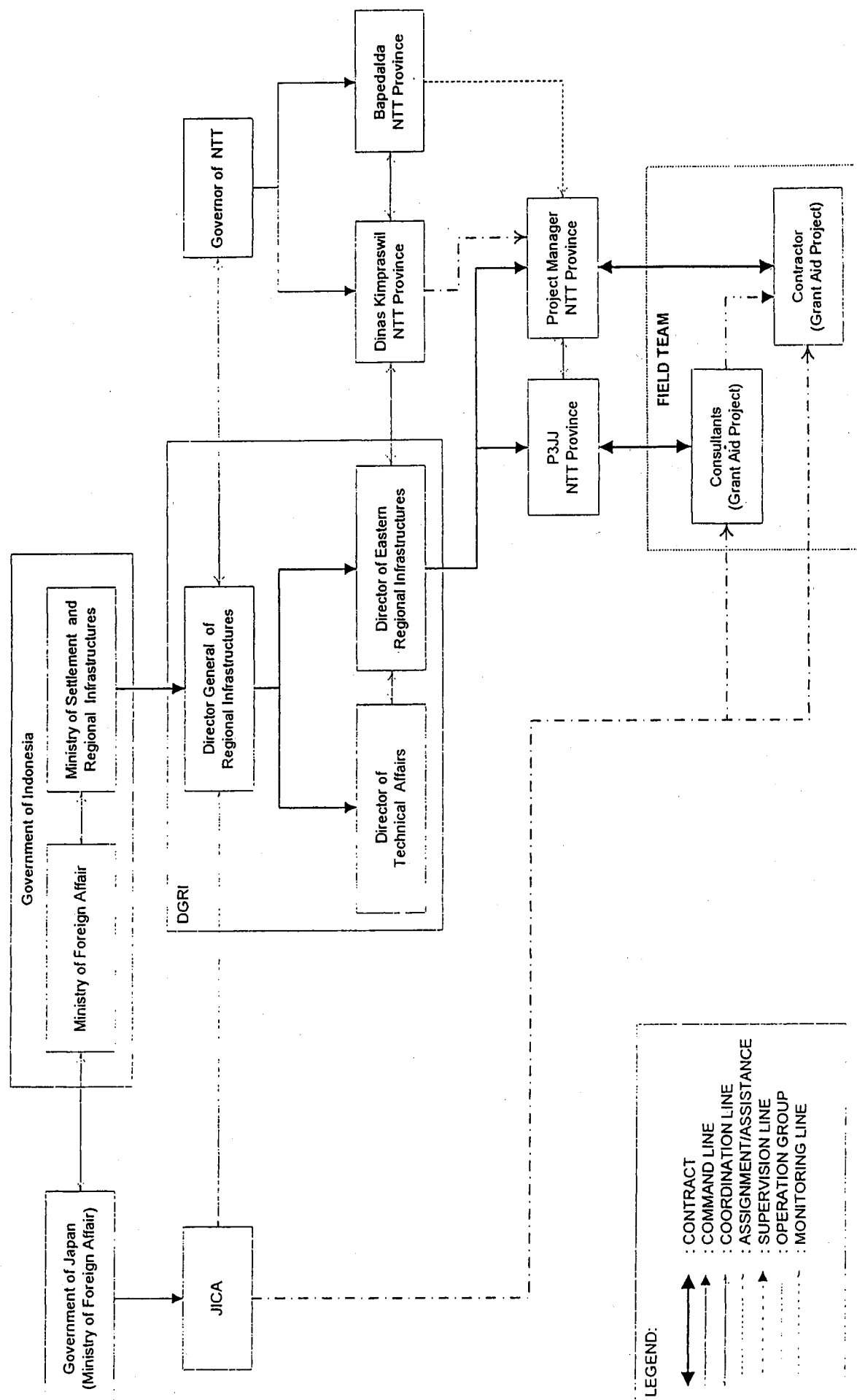
ORGANIZATION CHART OF PROVINCIAL KIMPRASWIL (NTB)



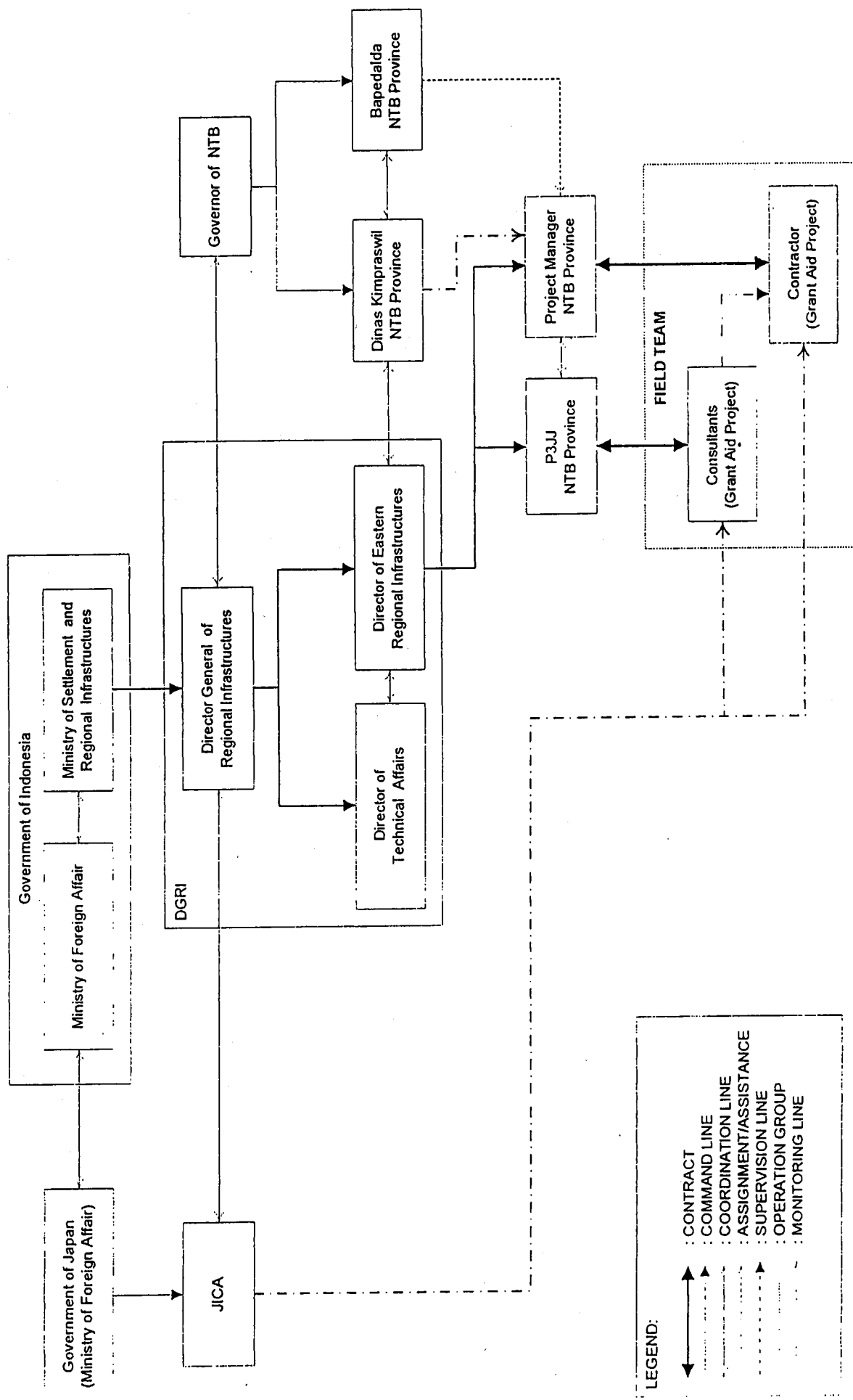
Annex - 2(c)

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GRANT AID PROJECT - BRIDGE CONSTRUCTION FOR REGIONAL DEVELOPMENT IN NTT PROJECT ORGANIZATION



GRANT AID PROJECT - BRIDGE CONSTRUCTION FOR REGIONAL DEVELOPMENT IN NTB PROJECT ORGANIZATION



LEGEND:

- : CONTRACT
- : COMMAND LINE
- : COORDINATION LINE
- ... : ASSIGNMENT/ASSISTANCE
- ... : SUPERVISION LINE
- ... : OPERATION GROUP
- ... : MONITORING LINE

List of the Project Bridges

East Nusa Tenggara (NTT)

Name	Proposed Length (m)	Bridge Type *	Remarks
Menu Bridge	250	Type - B	New Construction
Fatuat Bridge	180	Type - B	New Construction

West Nusa Tenggara (NTB)

Name	Proposed Length (m)	Bridge Type *	Remarks
Tanaman I Bridge	60	Type - B	New Construction
Puna I Bridge	20	Type - B	New Construction
Puna III Bridge	15	Type - B	New Construction
Tabisu I Bridge	20	Type - B	New Construction
Tabisu II Bridge	20	Type - B	Depending on the bridge condition to be inspected during the field survey
Tabisu III Bridge	25	Type - B	New Construction
Tabisu IV Bridge	20	Type - B	New Construction
Tabisu V Bridge	20	Type - B	New Construction
Tongoloka Bridge	50	Type - B	New Construction

Type - B: Standard type applied to Provincial Roads, with a carriageway width of 6.0 m.

Japan's Grant Aid Scheme

The Grant Aid scheme provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

1. Grant Aid Procedures

Japan's Grant Aid scheme is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid scheme, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes (E/N) signed by the Governments of Japan and the recipient country.

Finally, for the smooth implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

- Confirmation of the background, objectives, and benefits of the requested project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid scheme from a technical, social and economic point of view.

- Confirmation of items agreed upon by both parties concerning the basic concept of the Project.
- Preparation of a basic design of the Project
- Estimation of costs of the Project

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For smooth implementation of the Study, JICA uses (a) registered consultant firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the Study is(are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency.

3. Japan's Grant Aid Scheme

1) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

- 2) "The period of the Grant Aid" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consulting firm(s) and (a) contractor(s) and final payment to them must be completed.

However in case of delays in delivery, installation or construction due to unforeseen factors such as natural disaster, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

- 3) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely, consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

4) Necessity of "Verification"

The Government of recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

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5) Undertakings required of the Government of the Recipient Country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

- a) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction.
- b) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.
- c) To secure buildings prior to the procurement in case the installation of the equipment.
- d) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid.
- e) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts.
- f) To accord Japanese nationals, whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

6) "Proper Use"

The recipient country is required to operate and maintain the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

7) "Re-export"

The products purchased under the Grant Aid should not be re-exported from the recipient country.

8) Banking Arrangements (B/A)

- a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an authorization to pay (A/P) issued by the Government of the recipient country or its designated authority.

9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and Payment commissions to the Bank.

Major Undertakings to be taken by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient side
1	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		•
	2) Payment commission		•
2	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	•	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		•
3	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		•
4	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		•
5	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		•
6	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for the transportation and installation of the equipment		•

(B/A: Banking Arrangement, A/P: Authorization to Pay)

my Q, A16

Schedule of Relevant Road Improvement to be undertaken by the Government of Indonesia

East Nusa Tenggara (NTT)

Activity	Schedule
Improvement of Wanibesak – Boking Section	from 2005 to 2008
Improvement of Boking – Kolbano Section including 3 small bridges/culverts	from 2005 to 2008
Improvement of Kolbano – Panite Section	from 2005 to 2008
Improvement of Panite – Batuputih Section	from 2005 to 2008
Construction of Boking Bridge	from 2003 to 2005 (under construction)
Construction of Menu Bridge & Fatuat Bridge	(to be constructed under this project)
Construction of Kotolin Bridge	(completed)

West Nusa Tenggara (NTB)

Activity	Schedule
Improvement of Sejong – Lunyuk Section (geometric improvement and gravel surfacing)	from 2005 to 2006
Improvement of Sejong – Lunyuk Section (paving with asphalt)	from 2007 to 2012
Construction of Tanaman I Br, Puna I Br, Puna III Br, Tabisu I Br, Tabisu II Br, Tabisu III Br, Tabisu IV Br, Tabisu V Br, & Tongoloka Br,	(to be constructed under this project)
Construction of Tanaman II Bridge	(completed)
Construction of Puna II Bridge	from 2003 to 2005 (under construction)
Remaining, about 20 bridges	(Expecting Japan's Grant Aid)

AUTHORITY AND RESPONSIBILITY SHARING
IN ROAD ADMINISTRATION

ROAD ADMINISTRATION STATUS	LONG TERM PLANNING	MEDIUM TERM PLANNING	PROGRAMMING	DESIGNING	CONSTRUCTION	MAINTENANCE
Nasional Roads	Central Government	Central Government	Central Government	Central Government	Central Government	Central Government
Provincial Roads	Central Government	Provincial Government	Provincial Government	Provincial Government	Provincial Government	Provincial Government
District (Kabupaten) Roads	Central Government	District (Kabupaten) Government	District (Kabupaten) Government	District (Kabupaten) Government	District (Kabupaten) Government	District (Kabupaten) Government
Municipal (Kota) Roads	Central Government	Municipal (Kota) Government	Municipal (Kota) Government	Municipal (Kota) Government	Municipal (Kota) Government	Municipal (Kota) Government
Village Roads	Central Government	District (Kabupaten) Government	District (Kabupaten) Government	District (Kabupaten) Government	District (Kabupaten) Government	District (Kabupaten) Government
Toll Roads	Central Government	Central Government	Central Government	Central Government	Central Government	Central Government

Sources: Road Law 13/1980

List of undertakings of Each Agencies

Item		Japan	JKT Kimpraswil/ Bappenas	NTB	NTT	Remarks
				Province	Province	
1. General						
1.1	B/A: Bank Arrangement		DGRJ			M/D Annex 4, 3.8)
1.2	A/P: Authorization to Pay		DGRJ			M/D Annex 4, 3.9)
	a. Advising Commission of A/P		DGRJ			M/D Annex 5, 1.1)
	b. Payment Commission		DGRJ			
2. Preparation						
2.1	Budget preparation for Land acquisition & compensation, Consultants services, Civil works, Utility relocation and others.		Bapenas *1	DKP*2	DKP*2	*1 Budget allocation *2 Budget request
2.2	Implementation for Land acquisition & compensation.			DKP	DKP	
2.3	Contracts with Japanese Consultant and Contractor(s)		DERJ			
2.4	Execution of environmental studies and obtaining their clearances			DKP	DKP	
3. Implementation						
3.1	To secure land necessary for the sites of the Project and to clear. Level and reclaim the land prior to commencement of the construction.			DKP	DKP	M/D Annex 4, 3.5)a)
3.2	To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.			DKP	DKP	M/D Annex 4, 3.5)b)
3.3	To ensure all the expenses and prompt excursion for unloading, customs clearance at the port of disembarkation and internal transportation of the product purchased under the Grant Aid.					
	1) Marine (air) transportation of the products from Japan to the recipient country.	O				M/D Annex 5, 2.1)
	2) Tax exemption and customs clearance of the products at the port of disembarkation.		DTA			M/D Annex 4, 3.5)d) M/D Annex 5, 2.2)
3.4	To exempt Japanese nationals from Customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts.		DTA			M/D Annex 4, 3.5)e) M/D Annex 5,4
3.5	To accord Japanese nationals, whose services may be required in connection with the supply of the products and services under Verified contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.		DTA	DKP	DKP	M/D Annex 4, 3.5)f) M/D Annex 5,3
3.6	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid.			DKP	DKP	M/D Annex 4, 3.6) M/D Annex 5,5
3.7	To bear all the expense, other than those to be borne by Grant Aid, necessary for construction of facilities.		DGRJ	DKP	DKP	M/D Annex 5.6
3.8	Accessibility to the construction site: The Indonesian side shall maintain sound accessibility to the construction site during the construction stage.			DKP	DKP	

LEGEND :

DGRJ	= Director General of Regional Infrastructure
DTA	= Director of Technical Affairs
DERJ	= Director of Eastern Regional Infrastructure
DKP	= Dinas Kimpraswil Propinsi

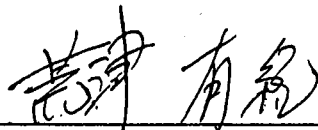
Minutes of Discussions
on the Basic Design Study on the Project for Bridge Construction
in the East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB)
in the Republic of Indonesia
(Explanation on the Draft Report)

In July, 2004, the Japan International Cooperation Agency(hereinafter referred to as "JICA") dispatched a Basic Design Study Team on the Project for Bridge Construction in the East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB) (hereinafter referred to as "the Project") to the Republic of Indonesia(hereinafter referred to as "Indonesia") and through discussion, field survey, and technical examination of the results in Japan, JICA prepared a draft report of the study.

In order to explain and consult the Government of Indonesia on the components of the draft report, JICA sent to Indonesia the Draft Report Explanation Team(hereinafter referred to as "the Team"), which is headed by Mr. Yuki ARATSU, Team Director, Traffic Infrastructure Team of the Project Management Group II, Grant Aid Management Department, JICA, and is scheduled to stay in the country from October 28 to November 9, 2004.

As a result of discussions, both sides have confirmed the main items described in the attached sheets.

Jakarta, November 4, 2004



Ir. Yuki Aratsu
Leader
Draft Report Explanation Team
Japan International Cooperation Agency



Ir. Machfudz Madjid
Director of Technical Affairs
on behalf of Director General of
Regional Infrastructure
Ministry of Public Works

ATTACHMENT

1. Components of the Draft Report

The Indonesian side agreed and accepted in principle the components of the Draft Report explained by the Team.

2. Schedule of the Study

JICA will complete the Final Report in accordance with the confirmed items and send it to the Indonesian side around the end of January 2005.

3. Responsible and Implementing Organization

(1) The Responsible Ministry is the Ministry of Public Works(MPW)

(2) The Implementing Agency is the Directorate General of Regional Infrastructure, MPW

4. Other Relevant Issues

- (1) The Team received the letter of approval attached with IEE (Initial Environmental Examination) report from the NTB Government. The Indonesian side shall obtain the general approval from the NTT Government with IEE report and submit the report to the Team by and not later than November 12, 2004.
- (2) The Indonesian side shall submit to the Team the Memorandum of Understanding (MOU) signed between the Directorate General of Regional Infrastructure, the Ministry of Public Works and each of Provincial Government by November 12, 2004. Both sides confirmed the contents of the draft MOU conforms to the previous Minutes of Discussions signed on July 22, 2004.
- (3) The Indonesian side should allocate the budget for improvement of the roads and bridges relevant and connecting to the requested bridges especially for section between Sejong and Lunyuk in the West Nusa Tenggara(NTB), securing land(s), understandings to be done by the Indonesian side, which were shown in Annex-5 of the previous Minutes of Discussions signed by both sides on July 22, 2004, in the fiscal year 2005 by January 2005.
- (4) The Indonesian side has already submitted the annual maintenance plan for the Bridge including staff assignment and budget allocation for the maintenance section/department of each province as shown in Annex-1.
- (5) The Indonesian side explained the schedule of topographic survey for the road section between Tongoloka and Lunyuk in the West Nusa Tenggara (NTB) to the Team as follows.

Location	Surveying	Drawing
Road Section from Tongoloka to Lunyuk(90km)	by the end of Oct	by Mid. of Nov.
Land Slide Area(500m Corridor)	from Nov. 6-end of Nov	by Mid. of Dec. .

- (6) Both sides agreed that location of sites for office/stock yards will be decided and secured by taking into consideration the request on future use of those by the people and the Government of the provinces.
- (7) Both sides confirmed the further schedule before the commencement of the project as in Annex-2 attached hereto.

A handwritten signature in black ink, appearing to be 'my' or similar, located to the right of the list items.

Number of Staff and Budget for Road Maintenance Division

Province	Number of Staff		Budget (billion IDR)	
			2004 FY	2005 FY*
NTT	Engineer	7	29.013	40.400
	Administration	3		
	Others	4		
NTB	Engineer	5	27.343	25.742
	Administration	18		
	Others	11		

*: Proposed budget allocation




**ACTION PLAN
JAPAN'S GRANT AID ON BRIDGE CONSTRUCTION IN NTB AND NTT**

No	Action	Target Date		JICA	Directorate				Local Gov.		Memo
		Plan	Actual		Tech Aff.	Reg. Infrastructure	Road Network	Public Works	Environment Agency		
01	Grant preparation Scope: 9 bridges in NTB, 2 bridges in NTT										Completed
01.1	Discussion and Signing of Minutes of Discussion	21/07/04	21/07/04	O	O	O	O	Δ			
01.2	Basic Design Study (11 bridges)	17/08/04	17/08/04	O		Δ		Δ			Completed
01.3	Basic Design Study Draft Report (11 bridges)	Oct 2004	O4/11/04	O		Δ					Completed
01.4	Basic design Study Final Report (11 bridges)	Jan 2005		O							Completed
01.5	Public Consultation in NTB	26/07/04	26/07/04	Δ				O	Δ		
	Public Consultation in NTT	17/07/04	17/07/04	Δ				O			Completed
01.6	Agreement on IEE	15/10/04				Δ	Δ	O	Δ		Completed
01.7	UKL/UPL Preparation	28/01/05				Δ	Δ	O	Δ		
01.8	Land Acquisition & Resettlement Action Plan agreement (if any)	31/03/05				Δ	Δ	O			Completed
01.9	Central Gov and Local Gov MOU	30/09/04			Δ	O		O			
	• Geometric and Gravel Road development Sejong - Lunyuk	2005-2006									Completed
	• Sejong - Lunyuk asphalt development	2007 - 2012									

APPENDIX 5

COST ESTIMATION BORNE BY THE RECIPIENT COUNTRY

Appendix 5

Schedule of cost estimation borne by the Recipient Country

As agreed with the Recipient Country, Works area required the construction should be provided by the Recipient Country.

Detail of the works area is listed below.

	Base Camp and Plant Yard		Casting Yard for PC Girder	
	Location	Area(m2)	Location	Area(m2)
East Nusa Tenggara	Menu	11,765	Menu	3,150
	Fatuat	11,765	Fatuat	3,060
West Nusa Tenggara	Puna I	11,765	Tanaman I	1,438
			Puna III	1,036
			Tabis I	1,069
			Tongoloka	1,394
Sub Total		35,295		11,147

Total area will be $35,295\text{m}^2 + 11,147\text{m}^2 = 46,442\text{m}^2$

Assuming the land price is 1,1200Rp/m², the total amount of land price will be

$$1,1200\text{Rp/m}^2 \times 46,442\text{m}^2 = 520\text{MilRp} = 520\text{Mil} \times 0.01155 = 6.0\text{Mil Yen}$$

The amount of the 6 Million Yen should be borne by the Recipient Country.

APPENDIX 6

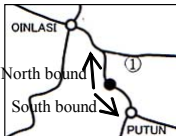
OTHER RELEVANT DATA

6. Other Relevant Data

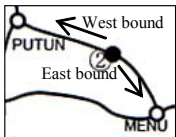
(1) Traffic Data

1) NTT

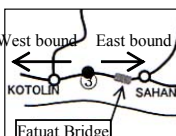
Date : July 13, 2004

Location ①	Time	Number of vehicles by vehicle type															
		Pedestrian		Bicycle		Livestock		Motorcycle		Passenger Car		Bus		Pick-up		Truck	
		N.B.	S.B.	N.B.	S.B.	N.B.	S.B.	N.B.	S.B.	N.B.	S.B.	N.B.	S.B.	N.B.	S.B.	N.B.	S.B.
 Oinlasi - Putun North bound (N.B.) ← South bound (S.B.) →	6:00 - 7:00	5	2	0	0	0	0	21	12	2	1	1	0	0	0	0	0
	7:00 - 8:00	9	6	0	0	0	0	25	15	3	1	2	1	0	0	0	0
	8:00 - 9:00	22	8	0	0	0	0	20	13	3	2	3	4	2	0	0	0
	9:00 - 10:00	26	13	0	0	0	0	15	11	6	3	4	2	2	2	0	0
	10:00 - 11:00	27	18	0	0	0	0	30	21	2	0	5	2	1	3	0	0
	11:00 - 12:00	22	10	0	0	0	0	10	5	0	0	3	2	2	3	0	0
	12:00 - 13:00	36	19	2	1	0	0	13	7	0	0	4	2	3	2	1	1
	13:00 - 14:00	35	25	0	0	0	0	30	28	0	0	0	3	1	1	0	0
	14:00 - 15:00	19	28	0	0	0	0	9	11	0	0	0	1	1	1	0	0
	15:00 - 16:00	11	30	0	0	0	0	27	35	0	0	2	3	1	1	1	0
	16:00 - 17:00	8	34	1	1	0	0	18	25	0	0	1	3	1	2	0	1
	17:00 - 18:00	9	27	0	1	0	0	21	34	0	0	0	1	1	0	0	0
	Sub total	229	220	3	3	0	0	239	217	16	7	25	24	15	15	2	2
	Total	449		6		0		456		23		49		30		4	

Date : July 14, 2004

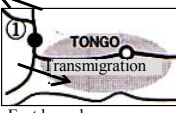
Location ②	Time	Number of vehicles by vehicle type															
		Pedestrian		Bicycle		Livestock		Motorcycle		Passenger Car		Bus		Pick-up		Truck	
		W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.
 Putun - Menu West bound (W.B.) ← East bound (E.B.) →	6:00 - 7:00	3	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	7:00 - 8:00	9	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 - 9:00	15	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 - 10:00	21	13	0	0	0	0	2	1	0	0	0	0	0	0	0	0
	10:00 - 11:00	24	11	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	11:00 - 12:00	30	18	0	0	0	0	2	1	1	0	0	0	0	0	0	0
	12:00 - 13:00	11	15	0	0	0	0	3	1	0	0	0	0	0	0	0	0
	13:00 - 14:00	4	17	0	0	0	0	3	3	0	0	0	0	1	0	0	0
	14:00 - 15:00	5	20	0	0	0	0	2	3	0	1	0	0	1	0	0	0
	15:00 - 16:00	7	11	0	0	0	0	2	4	0	0	0	0	0	1	0	0
	16:00 - 17:00	2	12	0	0	0	0	0	2	0	0	0	0	0	1	0	0
	17:00 - 18:00	0	4	0	0	0	0	0	2	0	0	0	0	0	0	0	0
	Sub total	131	130	0	0	0	0	17	17	1	1	0	0	2	2	0	0
	Total	261		0		0		34		2		0		4		0	

Date : July 15, 2004

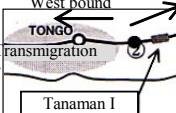
Location ②	Time	Number of vehicles by vehicle type															
		Pedestrian		Bicycle		Livestock		Motorcycle		Passenger Car		Bus		Pick-up		Truck	
		W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.
 Kotolin - Sahan West bound (W.B.) ← East bound (E.B.) →	6:00 - 7:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 - 8:00	8	4	0	0	0	0	3	1	0	0	0	0	1	0	0	0
	8:00 - 9:00	11	8	0	0	0	0	3	2	0	0	0	0	0	0	0	0
	9:00 - 10:00	18	9	0	0	0	0	4	3	0	0	0	0	1	0	0	0
	10:00 - 11:00	12	9	0	0	0	0	2	2	1	0	0	0	0	0	0	0
	11:00 - 12:00	8	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:00 - 13:00	6	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	13:00 - 14:00	4	8	0	0	0	0	3	5	0	0	0	0	0	0	0	0
	14:00 - 15:00	4	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15:00 - 16:00	3	10	0	0	0	0	0	1	0	0	0	0	0	1	0	0
	16:00 - 17:00	5	12	0	0	0	0	0	2	0	0	0	0	0	2	0	0
	17:00 - 18:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	Sub total	81	72	0	0	0	0	15	16	1	1	0	0	3	3	0	0
	Total	153		0		0		31		2		0		6		0	

2) NTB

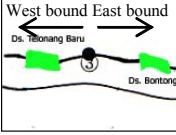
Date : July 29, 2004

Location ①	Time	Number of vehicles by vehicle type															
		Pedestrian		Bicycle		Livestock		Motorcycle		Passenger Car		Bus		Pick-up		Truck	
		W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.
 West bound East bound Entrance of Tongo Villa Maluk - Tongo West bound (W.B.) ← East bound (E.B.) →	6:00 - 7:00	7	5	0	1	2	1	4	0	2	3	1	0	0	1	0	0
	7:00 - 8:00	10	11	1	3	1	2	8	1	2	1	0	0	0	0	1	2
	8:00 - 9:00	25	5	2	0	2	0	5	1	4	3	0	0	1	1	1	1
	9:00 - 10:00	17	3	0	0	1	2	4	1	3	2	0	0	1	1	1	2
	10:00 - 11:00	10	6	1	0	0	0	2	2	2	0	0	0	0	1	2	0
	11:00 - 12:00	14	10	1	0	1	0	1	1	2	1	0	0	2	0	1	1
	12:00 - 13:00	8	5	0	1	1	0	0	0	0	1	0	0	0	1	1	0
	13:00 - 14:00	12	8	0	0	0	0	0	1	1	0	0	0	1	1	0	2
	14:00 - 15:00	7	11	0	0	1	1	1	4	0	0	0	0	2	2	2	1
	15:00 - 16:00	5	18	0	0	1	2	0	6	0	3	0	0	1	1	1	1
	16:00 - 17:00	10	25	1	0	0	1	2	8	2	0	0	0	1	0	1	1
	17:00 - 18:00	2	18	0	1	0	2	0	3	3	2	0	1	0	0	0	1
	Sub total	127	125	6	6	10	11	27	28	21	16	1	1	9	9	11	12
	Total	252		12		21		55		37		2		18		23	

Date : July 29, 2004

Location ②	Time	Number of vehicles by vehicle type															
		Pedestrian		Bicycle		Livestock		Motorcycle		Passenger Car		Bus		Pick-up		Truck	
		W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.
 West bound East bound TONGO Transmigration Tanaman I Before Tanaman I Bridge Tongo - Tongoloka West bound (W.B.) ← East bound (E.B.) →	6:00 - 7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 - 8:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 - 9:00	0	6	0	0	0	1	0	2	0	0	0	0	0	0	0	0
	9:00 - 10:00	0	4	0	0	0	0	0	3	0	0	0	0	0	0	0	0
	10:00 - 11:00	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
	11:00 - 12:00	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	12:00 - 13:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
	13:00 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	14:00 - 15:00	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0
	15:00 - 16:00	3	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	16:00 - 17:00	3	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	17:00 - 18:00	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sub total	12	12	0	0	2	2	6	6	0	0	0	0	1	1	0	0
	Total	24		0		4		12		0		0		2		0	

Date : July 29, 2004

Location ③	Time	Number of vehicles by vehicle type															
		Pedestrian		Bicycle		Livestock		Motorcycle		Passenger Car		Bus		Pick-up		Truck	
		W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.	W.B.	E.B.
 West bound East bound Ds. Telonang Baru Ds. Bontong Telonang Baru Village - Bontong Village West bound (W.B.) ← East bound (E.B.) →	6:00 - 7:00	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
	7:00 - 8:00	2	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0
	8:00 - 9:00	5	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0
	9:00 - 10:00	4	0	1	2	0	0	0	0	1	0	0	0	0	0	1	0
	10:00 - 11:00	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
	11:00 - 12:00	0	2	2	0	0	0	1	0	0	0	0	0	0	0	0	0
	12:00 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	13:00 - 14:00	0	0	1	0	0	0	0	2	0	1	0	0	0	0	0	0
	14:00 - 15:00	0	2	0	0	2	0	1	0	0	0	0	0	0	1	0	1
	15:00 - 16:00	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	16:00 - 17:00	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0
	17:00 - 18:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sub total	11	9	6	6	2	2	4	6	1	1	0	0	1	1	1	1
	Total	20		12		4		10		2		0		2		2	

(2) Results of Screening

Table (1) Screening of Environmental Impact due to Bridge Construction in NTT

Evaluation Items	Possible Cause and Effect		Menu Bridge		Fatuat Bridge	
	During Construction	After Construction	Rank	Reasons	Rank	Reason
Impact on Human Health and Safety, and Natural Environment						
Air quality	Deterioration of air quality due to emission from construction machines.	Deterioration of air quality due to the increased traffic	B	• The level of pollution is not significant because the number of construction machines working at the same time is limited. • The traffic volume may not be expected to be so significant as in the city centre after construction because the bridge is constructed as a part of lifeline.	B	• The level of pollution is not significant because the number of construction machines working at the same time is limited. • The traffic volume may not be expected to be significant as in the city centre after construction because the bridge is constructed as a part of lifeline.
	Deterioration of water quality due to muddy water		D	Muddy water will be discharged almost during 3 months from November to January in rainy season and the concentration can be diluted in large volume of river water.	D	Muddy water will be discharged almost during 3 months from November to January in rainy season and the concentration can be diluted in large volume of river water.
Soil	Increase in soil erosion due to land preparation and/or deforestation.		D	The change of land use is minimum and preventive measures of soil erosion will be considered.	D	The change of land use is minimum and preventive measures of soil erosion will be considered.
Waste (from the project)	Generation of construction wastes and debris		D	There is minimal construction waste generated.	D	There is minimal construction waste generated.
Noise and vibration	Noise and vibration due to construction machines	Noise and vibration due to increased traffic	D	There are little houses near the project site.	D	There are little houses near the project site.
Accidents	Casualty of employees and local people	Increase in traffic accident	D	• Japanese contractor usually conducts safety education for workers every day during construction and open the information of work schedule to local people on notice board to call attention. • The classroom of traffic safety should be carried out at school.	D	• Japanese contractor usually conducts safety education for workers every day during construction and open the information of work schedule to local people on notice board to call attention. • The classroom of traffic safety should be carried out at school.
			B		B	

Evaluation Items	Possible Cause and Effect		Menu Bridge		Fatuat Bridge	
	During Construction	After Construction	Rank	Reasons	Rank	Reason
Water usage	Change in quality, quantity and resources of water		D	There is no impact on water usage because the project site is located at estuary and no usage of the river water downstream of the site.	D	There is no impact on water usage because the project site is located at estuary and no usage of the river water downstream of the site.
Climate change	Changes in temperature, wind direction and/or intensity, etc.	Changes in temperature, wind direction and/or intensity, etc.	D	The scale of the project is not large enough to cause any change in meteorology.	D	The scale of the project is not large enough to cause any change in meteorology.
Ecosystem and biodiversity	Obstruction of breeding of natural species and /or extinction of them due to interruption or loss of their habitats.		C	Although the project site is a small area, it should be examined whether there are any important species of fauna and/or flora to be protected, what the level of their importance is and what the distance is between the site and their habitat.	C	Although the project site is a small area, it should be examined whether there are any important species of fauna and/or flora to be protected, what the level of their importance is and what the distance is between the site and their habitat.
Social Impact						
Migration of populations (involuntary resettlement)	Resettlement of people living in the proposed site or along the access road.		B	There is no need to resettle any residents in the proposed site. Some residents may lose a part of their land due to widening and/or replacement of access road.	B	There is no need to resettle any residents in the proposed site. The land owner already agreed to offering his land for the project.
Local economy (employment and livelihood)	• Disturbance of economic activities • Creation of employment	Distribution of goods to the villages.	E	• No disturbance of local economy • Local people can have an opportunity for working as construction workers. • Even in the rainy season local products and living necessities can be transported through the new bridge.	E	• No disturbance of local economy • Local people can have an opportunity for working as construction workers. • Even in the rainy season local products and living necessities can be transported through the new bridge.
Utilization of land and local resources	Change in utilization of land and local resources	Access to local resources	D	• Small cultivated land is lost. • No change of local resources.	D	• No cultivated land is lost. • No change of local resources.

Evaluation Items	Possible Cause and Effect		Menu Bridge		Fatuat Bridge	
	During Construction	After Construction	Rank	Reasons	Rank	Reason
Social infrastructure		Main line uniting one village to another is secured through whole year.	E	Taking advantage of this bridge construction project, local government may commence the project of existing road improvement earlier.	E	Taking advantage of this bridge construction project, local government may commence the project of existing road improvement earlier.
Social organization like local decision-making institutions		Adverse impact on social organization	D	There is no impact on social organization.	D	There is no impact on social organization.
Existing local services	Local peoples cannot use access road during bridge construction.	Impact on existing local service	E	- During construction works substitute road will be secured. - Nunkolo villagers can reach the public facilities like markets, schools and hospitals in Boking even in the rainy season.	E	- During construction works substitute road will be secured. - People in a village can reach the public facilities like markets, schools and hospitals in another village on the other side of the river even in the rainy season.
Vulnerable social groups (poverty level and indigenous peoples)	Adverse impact on vulnerable social groups	Adverse impact on vulnerable social groups	D	Benefits due to bridge construction will be distributed equally to every social group.	D	Benefits due to bridge construction will be distributed equally to every social group.
Equality of benefits and losses	Unfair distribution of benefits and losses	Unfair distribution of benefits and losses	D	The Governor of the District secured at the stakeholder meeting that there could be no unfair distribution of benefits and losses.	D	The Governor of the district secured at the stakeholder meeting that there could be no unfair distribution of benefits and losses.
Equality in development process	Unfair treatment in development process		D	The Governor of the District secured at the stakeholder meeting that there could be no unfair treatment in development process.	D	The Governor of the District secured at the stakeholder meeting that there could be no unfair treatment in development process.
Gender		Increase/decrease of opportunity for gender discrimination	D	Although one of women' s burdens is to carry water every day, it may not be lightened directly by construction of the new bridge.	D	Although one of women' s burdens is to carry water every day, it may not be lightened directly by construction of the new bridge.
Children' s rights		Increase/decrease of opportunity for children' s right disturbance	D	Although some of children cannot go to school because they have to support their family, it may not be changed directly by construction of the new bridge.	D	Although some of children cannot go to school because they have to support their family, it may not be changed directly by construction of the new bridge.

Evaluation Items	Possible Cause and Effect		Menu Bridge		Fatuat Bridge	
	During Construction	After Construction	Rank	Reasons	Rank	Reason
Cultural heritage	Loss and/or devaluation of historical heritage or cultural properties such as archaeological remains and historical assets.		C	• It should be understood whether there are historical heritage and/or cultural properties near the site. • ‘Sacred Stone’ in the mountain on the right side of the river needs to be reserved.	C	It should be understood whether there are historical heritage and/or cultural properties near the site.
Local conflict of interests	Conflict of interests	Conflict of interests	D	The Governor of the District secured at the stakeholder meeting that there could be no conflict of interest.	D	The Governor of the District secured at the stakeholder meeting that there could be no conflict of interest.
Infectious diseases (HIV/AIDS)	Increase of opportunity of infectious diseases	Increase/decrease of opportunity of infectious diseases	D	• The temporary workers from outside should be guaranteed to be free from AIDS and not to spread AIDS to the local area. • Opportunity suffering from infectious diseases will not always increase due to a new bridge.	D	• The temporary workers from outside should be guaranteed to be free from AIDS and not to spread AIDS to the local area. • Opportunity suffering from infectious diseases will not always increase due to a new bridge.

Rank A: Serious adverse impacts might be caused. Rank B: Some adverse impacts might be caused.

Rank C: Extent of impact is unknown because sufficient information is lacking, and/or it depends on the project location.

Rank D: There will be no impact. Rank E: Positive impact might be expected.

Table (2) Screening of Environmental Impact due to Bridge Construction in NTB

Evaluation Items	Possible Cause and Effect		Bridge Construction Project	
	During Construction	After Construction	Rank	Reasons
Impact on Human Health and Safety, and Natural Environment				
Air quality	Deterioration of air quality due to emission from construction machines.	Deterioration of air quality due to the increased traffic	B	• The level of pollution is not significant because the number of construction machines working at the same time is limited. • The traffic volume may not be expected to be so significant as in the city centre after construction because the bridge is constructed as a part of lifeline.
Water quality	Deterioration of water quality due to muddy water		D	Muddy water will be discharged almost during 3 months from November to January in rainy season and the concentration can be diluted in large volume of river water.
Soil	Increase in soil erosion due to land preparation and/or deforestation.		D	The change of land use is minimum and preventive measures of soil erosion will be considered while designing.
Waste (from the project)	Generation of construction wastes and debris		D	There is minimal construction waste generated.
Noise and vibration	Noise and vibration due to construction machines	Noise and vibration due to the increased traffic	D	There is no house near the project site.
Accidents	Casualty of employees and local people	Increase in traffic accident	D	• Japanese contractor usually conducts safety education for workers every day during construction and open the information of work schedule to local people on notice board to call attention. • The classroom of traffic safety should be carried out at school.
Water usage	Change in quality, quantity and resources of water		D	There is no impact on water usage because the project site is located at estuary and no usage of the river water downstream of the site.
Climate change	Changes in temperature, wind direction and/or intensity, etc.	Changes in temperature, wind direction and/or intensity, etc.	D	The scale of the project is not large enough to cause any change in meteorology.

Evaluation Items	Possible Cause and Effect		Bridge Construction Project	
	During Construction	After Construction	Rank	Reasons
Ecosystem and biodiversity	Obstruction of breeding of natural species and /or extinction of them due to interruption or loss of their habitats.		C	Although the project site is a small area, it should be examined whether there are any important species of fauna and/or flora to be protected, what the level of their importance is and what the distance is between the site and their habitat.
Social Impact				
Migration of populations (involuntary resettlement)	Resettlement of people living in the proposed site or along the access road.		B	There is no need to resettle any residents in the proposed site.
Local economy (employment and livelihood)	- Disturbance of economic activities - Creation of employment	Distribution of goods to the villages.	E	- No disturbance of local economy - Local people can have an opportunity for working as construction workers. - Even in the rainy season local products can be transported through the new bridges if the access road is improved and connected to Lunyuk.
Utilization of land and local resources	Change in utilization of land and local resources	Access to local resources	D	- No cultivated land is located near the project site. - No change of local resources.
Social infrastructure		Line uniting villages to Lunyuk is secured through whole year in the future.	E	Taking advantage of this bridge construction project, local government may resume bridge construction of Puna II and commence the project of existing road improvement earlier.
Social organization like local decision-making institutions		Adverse impact on social organization	D	There is no impact on social organization.
Existing local services	Local peoples cannot use access road during bridge construction.	Impact on existing local service	E	- During construction works substitute road will be secured. - People in the villages can reach the public facilities like markets, schools and hospitals in Lunyuk even in the rainy season if the access road is improved and connected to the town.
Vulnerable social groups (poverty level and indigenous peoples)	Adverse impact on vulnerable social groups	Adverse impact on vulnerable social groups	D	Benefits due to bridge construction will be distributed equally to every social group.

Evaluation Items	Possible Cause and Effect		Bridge Construction Project	
	During Construction	After Construction	Rank	Reasons
Equality of benefits and losses	Unfair distribution of benefits and losses	Unfair distribution of benefits and losses	D	There is no unfair distribution of benefits and losses.
Equality in development process	Unfair treatment in development process		D	There is no unfair treatment in development process.
Gender		Increase/decrease of opportunity for gender discrimination	D	Opportunity for gender discrimination may not be increased by construction of the new bridges.
Children' s rights		Increase/decrease of opportunity for children' s right disturbance	D	Opportunity for children' s right disturbance may not be increased by construction of the new bridges.
Cultural heritage	Loss and/or devaluation of historical heritage or cultural properties such as archaeological remains and historical assets.		C	• It should be understood whether there are historical heritage and/or cultural properties near the site.
Local conflict of interests	Conflict of interests	Conflict of interests	D	There is no conflict of interests.
Infectious diseases (HIV/AIDS)	Increase of opportunity of infectious diseases	Increase/decrease of opportunity of infectious diseases	D	• The temporary workers from outside should be guaranteed to be free from AIDS and not to spread AIDS to the local area. • Opportunity suffering from infectious diseases will not always increase due to a new bridge.

Rank A: Serious adverse impacts might be caused.、Rank B: Some adverse impacts might be caused.

Rank C: Extent of impact is unknown because sufficient information is lacking, and/or it depends on the project location.

Rank D: There will be no impact. Rank E: Positive impact might be expected.

(3) Calculation of Design High Water Discharge

For there is no gauging station along the river the bridges are planned to be installed, the rainfall data of the nearest meteorological station from the selected project sites were adopted for the calculation of probable rain fall by 50 years, design high water level and discharge, as mentioned below:

A) Calculation of Design Daily Rainfall

① Collection and Arrangement of rainfall data

Among the data collected, pick up the highest rainfall data and arrange the data for stochastic hydrological calculation

② Stochastic hydrological calculation

Calculate probable rainfalls by using stochastic/logarithmic form

③ Calculate daily rainfall

Determine the probable daily rainfall by 50 years

B) Calculation of Design Flood Discharge

① Illustrate the locations of planned bridges on map

In West Nusa Tenggara province, the project road is shown only up to Tongo, the rest that the planned bridges are located had no alignment on map, so that those locations are determined on map by using a GPS and a map of 25, 000 scale.

② Measurement of Catchments Area at bridge sites

③ Determination of Run-off Factors at Each River

④ Calculation of Reaching Time to Bridge Site

Determine the suitable velocity and reaching time among the figures calculated by using Kraven, Rziha and Manning equations.

⑤ Determination of Average Rainfall within Reaching Time

Determine the average rainfall within reaching time, in selection after the computation by using Itoh-A-Curve and Mononobe equation.

⑥ Calculation of Flood Discharge

Calculate Flood Discharge and check the adequacy of the Run-Off Factor.

⑦ Calculation of Flood Water Level

Calculate the Flood Water Level by using Manning and other Equations, and determine the level and discharge in comparison with the level attained from hearing on site.

The discharges of 50 years return period computed as mentioned above, are shown in the table below. The project sites are divided mainly into two, East Nusa Tenggara and West Nusa Tenggara provinces. The rainfall data available are very limited, so that the trend and pattern of rainfall in the same province are assumed to be same for the calculation of probable rainfall and river discharge. In addition, for the data available is also only for 24 hours rainfall, the rainfall intensity during flood is reckoned by using a Itoh-A Curve together with the 24 hours rainfall.

In conformity with the local regulation and the importance of the structure, the return period of 50 years has been adopted. 24 hours rainfalls in both provinces are as follows:

(NTT)

Probable Raifall

(Unit:mm)

Return Period (Years)	100	50	30	10	5	3	2
24 hours rainfall	374.2	319.00	280.5	203.00	157.00	123.40	95.90

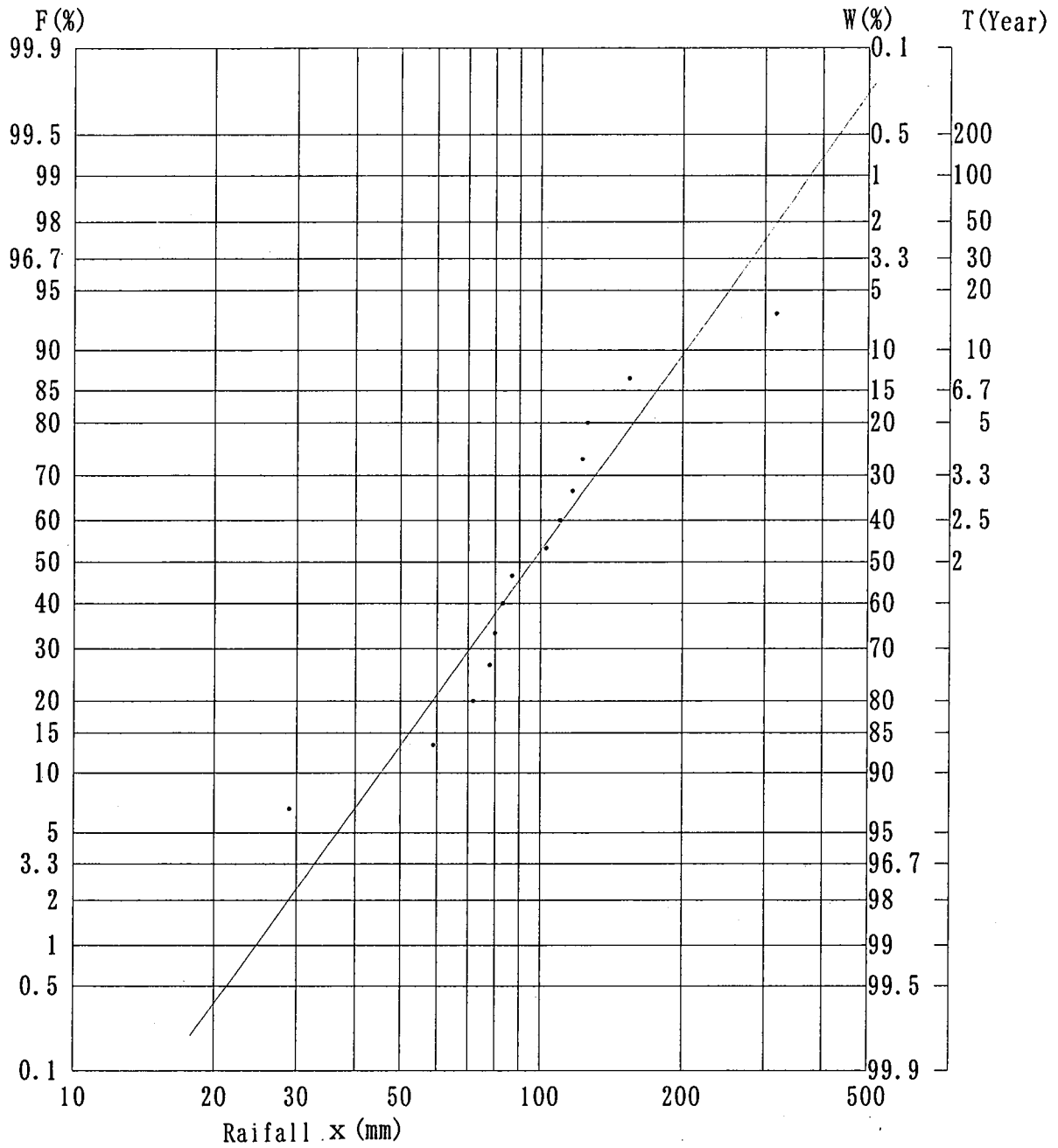
(NTB)

Probable Raifall

(Unit:mm)

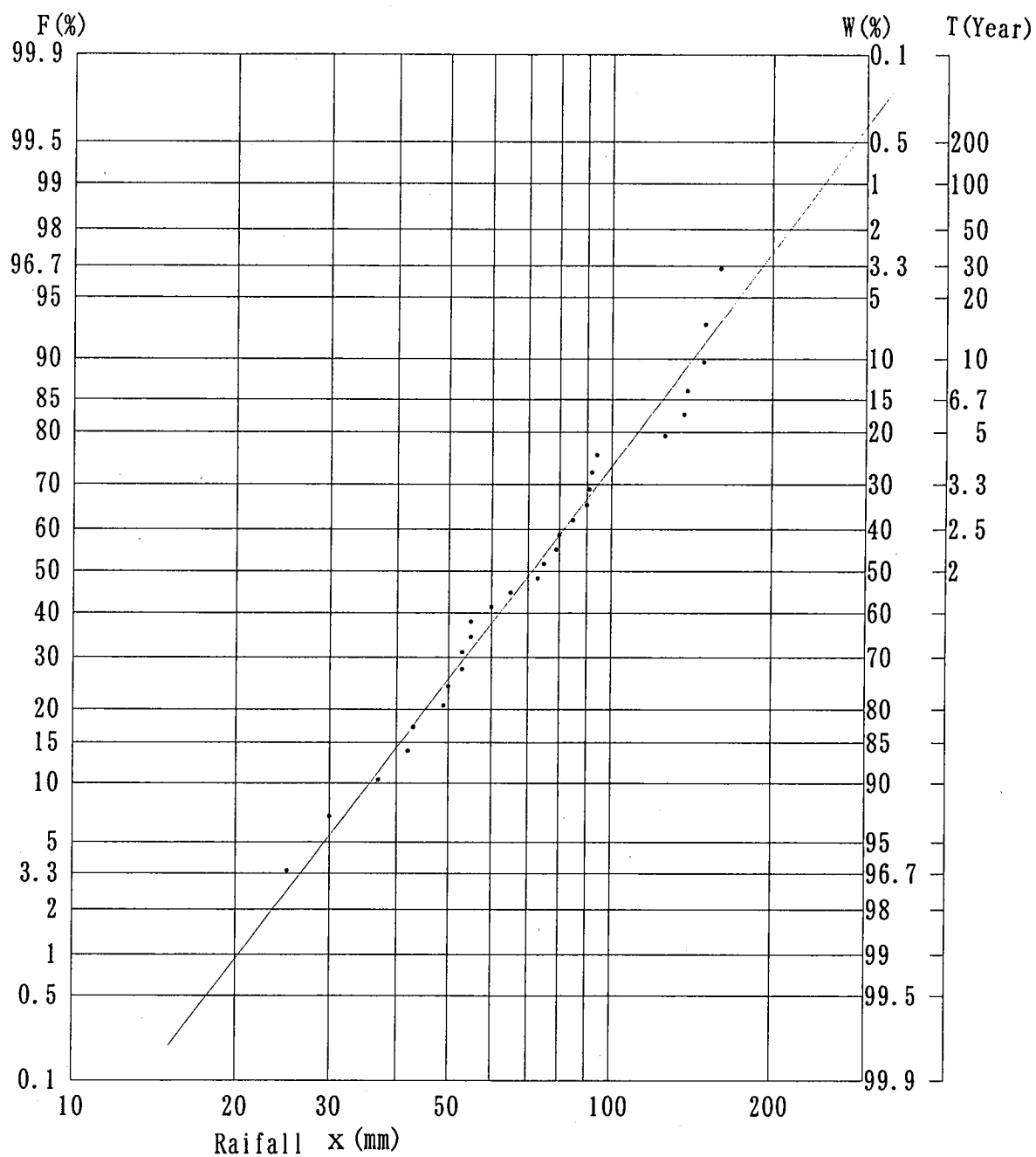
Return Period (Years)	100	50	30	10	5	3	2
24 hours rainfall	249.6	215.50	191.4	142.1	112.0	89.8	71.2

Calculation of Probable Raifall in Nunkolo (24 hours rainfall)



Calculate probable rainfalls by using stochastic/logarithmic form

Calculation of Probable Raifall in Lunyuk (24 hours rainfall)



Calculate probable rainfalls by using stochastic/logarithmic form

Calculation of Probable Rainfall (by Thomas Method)

Applied Area : NTT

Name of the Meteorological Station : Nunkolo

Maximum Rainfall of Each Year

Date of Occurrence	maximum Rainfall (mm)
87/06	103.0
88/03	117.0
89/07	318.0
90/05	154.0
91/12	87.0
92/02	72.0
93/12	59.0
94/03	80.0
95/04	83.0
96/04	96.0
97/02/8	78.0
98/02/6	110.0
02/04/29	29.0
03/03/30	123.0

Rainfall Intensity

	24 Hours
100 Years	374.2
50 Years	319.0
30 Years	280.5
10 Years	203.0
5 Years	157.0
3 Years	123.4
2 Years	95.9

Applied Area : NTB

Name of the Meteorological Station : Lunyuk

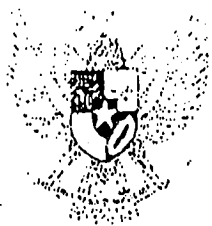
Maximum Rainfall of Each Year

Date of Occurrence	maximum Rainfall (mm)
67/03/21	60.0
68/10/10	150.0
69/11/03	160.0
70/01/30	53.0
71/10/17	80.0
72/03/13	25.0
73/02/09	50.0
74/01/11	53.0
75/01/10	92.0
76/11/13	94.0
82/12/05	55.0
83/11/27	79.0
84/12/12	73.0
85/03/10	91.0
86/06/22	126.0
87/05/09	137.0
88/11/08	149.0
89/01/27	139.0
90/03/06	90.0
91/07/24	30.0
92/09/27	43.0
93/01/28	55.0
94/03/16	49.0
95/10/12	65.0
96/02/16	85.0
97/02/20	42.0
98/03/24	37.0
99/01/16	75.0

Rainfall Intensity

	24 Hours
100 Years	219.6
50 Years	215.5
30 Years	191.4
10 Years	142.1
5 Years	112.0
3 Years	89.8
2 Years	71.2

(4) IEE Reports



DARI P3JJ-NTT

BUPATI TIMOR TENGAH SELATAN

Nomor : BPDLD.660.2/78/1/2004
Perihal : Rekomendasi Kelayakan
Lingkungan

SoE, 4 Nopember 2004

Kepada

Yth. Japan International Corporation Agency
Indonesia Office
Plaza BII Tower II 27th Floor
Jl.M.H. Thamrin 51
Jakarta Pusat

Berdasarkan hasil evaluasi Lingkungan pembangunan jembatan Kecamatan Kot'olin (Jembatan Fatuat) dan di Kecamatan Boking (Jembatan Menu) oleh Japan Aid Phased, dapat kami rekomendasikan bahwa kegiatan pembangunan jembatan dimaksud tidak mempunyai dampak negatif terhadap lingkungan dan kehidupan sosial masyarakat sekitar lokasi kegiatan.

Demikian untuk maklum dan atas kerja sama yang baik disampaikan terima kasih



BUPATI TIMOR TENGAH SELATAN,

Drs. DANIEL A. BANUNAEK

Tembusan :

- 1 Director General of Regional Infrastructure, Jakarta
2. Director of Eastern Regional Infrastructure, Jakarta
- 3 Gubernur Nusa Tenggara Timur di Kupang
- 4 Files

IEE is a process aiming to determine (i) whether detailed EIA (Environmental Impact Assessment) is required and (ii) if so, what types of impacts should be further studied. The former is often called “screening” and the latter “scoping”. Generally, screening was done by the authority of Indonesian side according to relevant laws and regulations.

Notes:

- Activities “During Construction” include land acquisition, land occupation, use of construction equipment and traffic of construction tracks.
- Activities “After Construction” include traffic of vehicles
- Evaluation of possible environmental impact is expressed by ranks from A to E.

Rank A: Serious adverse impacts might be caused.

Rank B: Some adverse impacts might be caused.

Rank C: Extent of impact is unknown because sufficient information is lacking, and/or it depends on the project location.

Rank D: There will be no impact.

Rank E: Positive impact might be expected.

Screening of Environmental Impact by Bridge Construction in NTT

Evaluation Items	Possible Cause and Effect		Menu Bridge		Fatutai Bridge	
	During Construction	After Construction	Rank	Reasons	Rank	Reason
Impact on Human Health and Safety, and Natural Environment						
Air quality	Deterioration of air quality due to emission from construction machines.	Deterioration of air quality due to the increased traffic	B	- The level of pollution is not significant because the number of construction machines working at the same time is limited. - The traffic volume may not be expected to be so significant as in the city centre after construction because the bridge is constructed as a part of lifeline.	B	- The level of pollution is not significant because the number of construction machines working at the same time is limited. - The traffic volume may not be expected to be so significant as in the city centre after construction because the bridge is constructed as a part of lifeline.
Water quality	Deterioration of water quality due to muddy water		D	Muddy water will be discharged almost during 3 months from November to January in rainy season and the concentration can be diluted in large volume of river water.	D	Muddy water will be discharged almost during 3 months from November to January in rainy season and the concentration can be diluted in large volume of river water.
Soil	Increase in soil erosion due to land preparation and/or deforestation.		D	The change of land use is minimum and preventive measures of soil erosion will be considered.	D	The change of land use is minimum and preventive measures of soil erosion will be considered.
Waste (from the project)	Generation of construction wastes and debris		D	There is minimal construction waste generated.	D	There is minimal construction waste generated.
Noise and vibration	Noise and vibration due to construction machines	Noise and vibration due to increased traffic	D	There are little houses near the project site.	D	There are little houses near the project site.
Accidents	Casualty of employees and local people	Increase in traffic accident	D	Japanese contractor usually conducts safety education for workers every day during construction and open the information of work schedule to local people on notice board to call attention.	D	Japanese contractor usually conducts safety education for workers every day during construction and open the information of work schedule to local people on notice board to call attention.
			B	The classroom of traffic safety should be carried out at school.	B	The classroom of traffic safety should be carried out at school.
Water usage	Change in quality, quantity and resources of water		D	There is no impact on water usage because the project site is located at estuary and no usage of the river water downstream of the site.	D	There is no impact on water usage because the project site is located at estuary and no usage of the river water downstream of the site.
Climate change	Changes in temperature, wind direction and/or intensity, etc.	Changes in temperature, wind direction and/or intensity, etc.	D	The scale of the project is not large enough to cause any change in meteorology.	D	The scale of the project is not large enough to cause any change in meteorology.

Evaluation Items	Possible Cause and Effect		Menu Bridge		Fatuat Bridge	
	During Construction	After Construction	Rank	Reasons	Rank	Reason
Ecosystem and biodiversity	Obstruction of breeding of natural species and /or extinction of them due to interruption or loss of their habitats.		C	Although the project site is a small area, it should be examined whether there are any important species of fauna and/or flora to be protected, what the level of their importance is and what the distance is between the site and their habitat.	C	Although the project site is a small area, it should be examined whether there are any important species of fauna and/or flora to be protected, what the level of their importance is and what the distance is between the site and their habitat.
Social Impact						
Migration of populations (involuntary resettlement)	Resettlement of people living in the proposed site or along the access road.		B	There is no need to resettle any residents in the proposed site. Some residents may lose a part of their land due to widening and/or replacement of access road.	B	There is no need to resettle any residents in the proposed site. The land owner already agreed to offering his land for the project.
Local economy (employment and livelihood)	• Disturbance of economic activities • Creation of employment	Distribution of goods to the villages.	E	• No disturbance of local economy • Local people can have an opportunity for working as construction workers. • Even in the rainy season local products and living necessities can be transported through the new bridge.	E	• No disturbance of local economy • Local people can have an opportunity for working as construction workers. • Even in the rainy season local products and living necessities can be transported through the new bridge.
Utilization of land and local resources	Change in utilization of land and local resources	Access to local resources	D	• Small cultivated land is lost. • No change of local resources.	D	• No cultivated land is lost. • No change of local resources.
Social infrastructure		Main line uniting one village to another is secured through whole year.	E	Taking advantage of this bridge construction project, local government may commence the project of existing road improvement earlier.	E	Taking advantage of this bridge construction project, local government may commence the project of existing road improvement earlier.
Social organization like local decision-making institutions		Adverse impact on social organization	D	There is no impact on social organization.	D	There is no impact on social organization.
Existing local services	Local peoples cannot use access road during bridge construction.	Impact on existing local service	E	• During construction works substitute road will be secured. • Nunkolo villagers can reach the public facilities like markets, schools and hospitals in Bokong even in the rainy season.	E	• During construction works substitute road will be secured. • People in a village can reach the public facilities like markets, schools and hospitals in another village on the other side of the river even in the rainy season.

Evaluation Items	Possible Cause and Effect		Menu Bridge		Fatuat Bridge	
	During Construction	After Construction	Rank	Reasons	Rank	Reason
Vulnerable social groups (poverty level and indigenous peoples)	Adverse impact on vulnerable social groups	Adverse impact on vulnerable social groups	D	Benefits due to bridge construction will be distributed equally to every social group.	D	Benefits due to bridge construction will be distributed equally to every social group.
Equality of benefits and losses	Unfair distribution of benefits and losses	Unfair distribution of benefits and losses	D	The Governor of the District secured at the stakeholder meeting that there could be no unfair distribution of benefits and losses.	D	The Governor of the district secured at the stakeholder meeting that there could be no unfair distribution of benefits and losses.
Equality in development process	Unfair treatment in development process		D	The Governor of the District secured at the stakeholder meeting that there could be no unfair treatment in development process.	D	The Governor of the District secured at the stakeholder meeting that there could be no unfair treatment in development process.
Gender		Increase/decrease of opportunity for gender discrimination	D	Although one of women's burdens is to carry water every day, it may not be lightened directly by construction of the new bridge.	D	Although one of women's burdens is to carry water every day, it may not be lightened directly by construction of the new bridge.
Children's rights		Increase/decrease of opportunity for children's right disturbance	D	Although some of children cannot go to school because they have to support their family, it may not be changed directly by construction of the new bridge.	D	Although some of children cannot go to school because they have to support their family, it may not be changed directly by construction of the new bridge.
Cultural heritage	Loss and/or devaluation of historical heritage or cultural properties such as archaeological remains and historical assets.		C	• It should be understood whether there are historical heritage and/or cultural properties near the site. • 'Sacred Stone' in the mountain on the right side of the river needs to be reserved.	C	It should be understood whether there are historical heritage and/or cultural properties near the site.
Local conflict of interests	Conflict of interests	Conflict of interests	D	The Governor of the District secured at the stakeholder meeting that there could be no conflict of interests.	D	The Governor of the District secured at the stakeholder meeting that there could be no conflict of interests.
Infectious diseases (HIV/AIDS)	Increase of opportunity of infectious diseases	Increase/decrease of opportunity of infectious diseases	D	• The temporary workers from outside should be guaranteed to be free from AIDS and not to spread AIDS to the local area. • Opportunity suffering from infectious diseases will not always increase due to a new bridge.	D	• The temporary workers from outside should be guaranteed to be free from AIDS and not to spread AIDS to the local area. • Opportunity suffering from infectious diseases will not always increase due to a new bridge.



(NTB-H IEE 374.19-)

PEMERINTAH PROPINSI NUSA TENGGARA BARAT

DINAS PERMUKIMAN DAN PRASARANA WILAYAH

Jalan Majapahit Nomor : 08 Telepon (0370) 636227-643229 Mataram

No : 680 / Pj . 83 / KPW / 04

Dated : 4th October 2004.

Re : Recommendation of Initial Environment Examination (IEE).

To:
Japan International Corporation Agency
Indonesia Office
Plaza BII Tower II 27th Floor
Jalan MH. Thamrin 51
Jakarta Pusat

We have evaluated the environment aspect of the bridges construction program in Sejong - Lunyuk by Japan Grant Aid Phase-I as described in Annex-1 - 3 and recommended the program has no significant adverse impacts on the environment and society.

Thank you for your attention and good cooperation.

Seen and approved by:

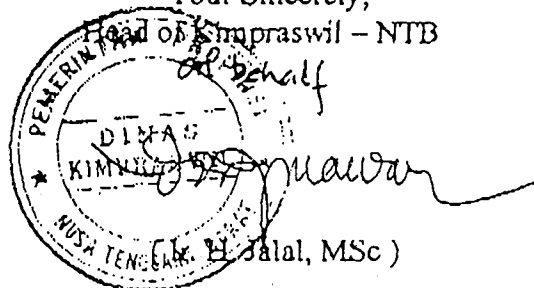
Head of Bapedalda - NTB



H. Mudi Said, MBA)

Your Sincerely,

Head of Supraswil - NTB



H. Jalal, MSc)

CC :

1. Director General of Regional Infrastructure , Jakarta.
2. Director of Eastern Regional Infrastructure , Jakarta
3. Files.

MAKAN DISAMPARKAN
KEPADA : Ir. DKKO, MSc
SEKSI KEBUDAHAN
SUBDIT PPT.

Initial Environmental Examination (IEE) for Bridge Construction Project in NTB

IEE is a process aiming to determine (i) whether detailed EIA (Environmental Impact Assessment) is required and (ii) if so, what types of impacts should be further studied. The former is often called "screening" and the latter "scoping". Generally, Screening was done by the authority of Indonesian side according to relevant laws and regulations.

Notes:

- Activities "During Construction" include land acquisition, land occupation, use of construction equipment and traffic of construction tracks.
- Activities "After Construction" include traffic of vehicles
- Evaluation of possible environmental impact is expressed by ranks from A to E.

Rank A: Serious adverse impacts might be caused.

Rank B: Some adverse impacts might be caused.

Rank C: Extent of impact is unknown because sufficient information is lacking, and/or it depends on the project location.

Rank D: There will be no impact.

Rank E: Positive impact might be expected.

Screening of Environmental Impact for Bridge construction in NTB

Evaluation Items	Possible Cause and Effect		Bridge Construction Project	
	During Construction	After Construction	Rank	Reasons
Impact on Human Health and Safety, and Natural Environment				
Air quality	Deterioration of air quality due to emission from construction machines.	Deterioration of air quality due to the increased traffic	B	• The level of pollution is not significant because the number of construction machines working at the same time is limited. • The traffic volume may not be expected to be so significant as in the city centre after construction because the bridge is constructed as a part of lifeline.
Water quality	Deterioration of water quality due to muddy water		D	Muddy water will be discharged almost during 3 months from November to January in rainy season and the concentration can be diluted in large volume of river water.
Soil	Increase in soil erosion due to land preparation and/or deforestation.		D	The change of land use is minimum and preventive measures of soil erosion will be considered while designing.
Waste (from the project)	Generation of construction wastes and debris		D	There is minimal construction waste generated.
Noise and vibration	Noise and vibration due to construction machines	Noise and vibration due to increased traffic	D	There are little houses near the project site.
Accidents	Casualty of employees and local people	Increase in traffic accident	D	• Japanese contractor usually conducts safety education for workers every day during construction and open the information of work schedule to local people on notice board to call attention. • The classroom of traffic safety should be carried out at school.
Water usage	Change in quality, quantity and resources of water		D	There is no impact on water usage because the project site is located at estuary and no usage of the river water downstream of the site.
Climate change	Changes in temperature, wind direction and/or intensity, etc.	Changes in temperature, wind direction and/or intensity, etc.	D	The scale of the project is not large enough to cause any change in meteorology.
Ecosystem and biodiversity	Obstruction of breeding of natural species and /or extinction of them due to interruption or loss of their habitats.		C	Although the project site is a small area, it should be examined whether there are any important species of fauna and/or flora to be protected, what the level of their importance is and what the distance is between the site and their habitat.
Social Impact				
Migration of populations (involuntary resettlement)	Resettlement of people living in the proposed site or along the access road.		B	There is no need to resettle any residents in the proposed site. Some residents may lose a part of their land due to widening and/or replacement of access road.
Local economy (employment and livelihood)	• Disturbance of economic activities • Creation of employment	Distribution of goods to the villages.	E	• No disturbance of local economy • Local people can have an opportunity for working as construction workers. • Even in the rainy season local products can be transported through the new bridge if the access road is improved and connected to Lunyul.

Evaluation Items	Possible Cause and Effect			Bridge Construction Project	
	During Construction	After Construction	Rank	Reasons	
Utilization of land and local resources	Change in utilization of land and local resources	Access to local resources	D	- No cultivated land is located near the project site. - No change of local resources.	
Social infrastructure		Link uniting villages to Lunyuk is secured through whole year in the future.	E	Taking advantage of this bridge construction project, local government may resume bridge construction of Puna II and commence the project of existing road improvement earlier.	
Social organization like local decision-making institutions		Adverse impact on social organization	D	There is no impact on social organization.	
Existing local services	Local peoples cannot use access road during bridge construction.	Impact on existing local service	E	- During construction works substitute road will be secured. - People in the villagers can reach the public facilities like markets, schools and hospitals in Lunyuk even in the rainy season if the access road is improved and connected to the town.	
Vulnerable social groups (poverty level and indigenous peoples)	Adverse impact on vulnerable social groups	Adverse impact on vulnerable social groups	D	Benefits due to bridge construction will be distributed equally to every social group.	
Equality of benefits and losses	Unfair distribution of benefits and losses	Unfair distribution of benefits and losses	D	There is no unfair distribution of benefits and losses.	
Equality in development process	Unfair treatment in development process		D	There is no unfair treatment in development process.	
Gender		Increase/decrease of opportunity for gender discrimination	D	Opportunity for gender discrimination may not be increased by construction of the new bridges.	
Children's rights		Increase/decrease of opportunity for children's right disturbance	D	Opportunity for children's right disturbance may not be increased by construction of the new bridges.	
Cultural heritage	Loss and/or devaluation of historical heritage or cultural properties such as archaeological remains and historical assets.		C	It should be understood whether there are historical heritage and/or cultural properties near the site.	
Local conflict of interests	Conflict of interests	Conflict of interests	D	There is no conflict of interests.	
Infectious diseases (HIV/AIDS)	Increase of opportunity of infectious diseases	Increase/decrease of opportunity of infectious diseases	D	- The temporary workers from outside should be guaranteed to be free from AIDS and not to spread AIDS to the local area. - Opportunity suffering from infectious diseases will not always increase due to a new bridge.	



DEPARTEMEN PEKERJAAN UMUM
DIREKTORAT JENDERAL PRASARANA WILAYAH
Jalan Pattimura Nomor 20, Kebayoran Baru, Jakarta 12110 Telp. (021) 7221950

Nomor : UM.0103-DP/678
Lampiran :

Jakarta, 2 Oktober 2004

Kepada Yth

1. Bapak Gubernur Nusa Tenggara Barat
 2. Bapak Gubernur Nusa Tenggara Timur
- di

Tempat

Perihal : Penyerahan Minutes of Discussions Project for Bridge
Construction in The East Nusa Tenggara (NTT) and West
Nusa Tenggara (NTB).

Sebagai tindak lanjut kunjungan Misi JICA ke Jakarta, NTB dan NTT, telah ditandatangani Minutes of Discussions Project for Bridges Construction in The East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB), sebagai hasil sementara Misi tersebut.

Selanjutnya kami sampaikan copy Minutes of Discussions dimaksud sebagai dasar persiapan pelaksanaan Grant Aid JICA, sebagaimana tersebut dalam para 6.2. dari Minutes of Discussions tersebut.

Hal-hal yang perlu mendapat perhatian kita bersama adalah, Penyusunan dan Penandatanganan Nota Kesepahaman (Minutes of Understanding), para 10(3), yang harus ditandatangani antara Departemen Pekerjaan Umum dan Pemerintah Daerah Propinsi yang bersangkutan yang konsepnya terlampir/versi bahasa Indonesia dan Inggris untuk dipelajari dan kami harap dapat ditandatangani paling lambat pada tanggal 12 November 2004.

Demikian dan atas kerjasamanya diucapkan terima kasih

Direktur Jenderal Prasarana Wilayah

HENDRIANTO N
NIP : 110016212

Tembusan Kepada Yth:

1. Bapak Menteri Pekerjaan Umum (sebagai laporan)
2. Kepala Biro Perencanaan dan KLN Departemen PU.
3. Direktur Prasarana Wilayah Timur, Ditjen Praswil
4. Direktur Bintek, Ditjen Praswil
5. Direktur Kerjasama Luar Negeri Bilateral Bappenas
6. Direktur Transportasi, Pos, Telekomunikasi dan Informatika, Bappenas
7. Direktur Dana Luar Negeri Departemen Keuangan
8. JICA, Resident Representative Jakarta
9. Mr Kaminaga JICA Expert Ditjen Praswil

MEMORANDUM OF UNDERSTANDING

Between

NTB

THE DIRECTORATE GENERAL OF REGIONAL INFRASTRUCTURE
THE MINISTRY OF PUBLIC WORKS

And

THE PROVINCIAL GOVERNMENT OF WEST NUSA TENGGARA

ON

Project for Bridges Constructions
in The West Nusa Tenggara (NTB) Province
under Japan's Grant Aid

1. GENERAL

- 1.1. This memorandum of understanding is made between the Central Government through the Ministry of Public Works, Directorate General of Regional Infrastructure with the Provincial Government of **West Nusa Tenggara (NTB)** in conjunction with Grant Aid from Government of Japan to Government of Indonesia that described in Project for Bridge Construction in East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB).
- 1.2. The Grant Aid program from Government of Japan covers bridge construction on provincial road links in East Nusa Tenggara (NTT) Province.

2. OBJECTIVE

- 2.1. This memorandum of understanding is made to reach mutual understanding between Central Government and Provincial Government of **West Nusa Tenggara (NTB)** in accordance with the sharing of role and authority based on relevant regulations.
- 2.2. To make sufficient preparation on agreed matters respectively in order to accomplish this Grant Aid program.

3. REFERENCE

This memorandum of understanding is made referring to related provisions and regulations in Republic of Indonesia, such as :

- a. Road Law no. 13 / 1980.

- b. Government Regulation No. 26 / 1985 concerning Roads.
- c. Law no. 22 / 1999 concerning Provincial Government.
- d. Government Regulation No. 25 / 2000 concerning Financial Balancing between Central and Province.
- e. Government Regulation No. 39 / 2000 concerning De concentration.
- f. Government Regulation No. 52 / 2001 concerning Assistance Principle.
- g. KEPPRES (Presidential Decree) No. 165 /2000 Concerning Development Implementation.

4. SHARING OF ROLES AND RESPONSIBILITIES

In order to ensure the smooth implementation of the Project for Bridge Construction in the **West Nusa Tenggara (NTB)** under the Japan's Grant Aid, and considering The Minutes of Discussion on the Basic Design Study on the Project for Bridge Construction in the East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB) signed in Jakarta on July 22nd, 2004 between the Japan International Cooperation Agency (JICA) and the Directorate General of Regional Infrastructure, it is necessary to reach agreement on providing supporting activities which are not covered under the Japan's Grant Aid. The Central Government and/or Provincial Government shall be responsible in preparing and conducting supporting activities as follows:

- 4.1. Provincial Government shall secure or provide land for the bridge construction, land for access road to the bridge location and the location of quarry, and to demolish the existing bridge(s) if necessary.
- 4.2. Provincial Government shall be able to clear and prepare the area before the commencement of bridge construction.
- 4.3. Provincial Government, if necessary, shall build gate and fence around the area.
- 4.4. Provincial Government shall complete the Initial Environment Examination (IEE) and Environment Management Plan (UKL/UPL)
- 4.5. Central Government and Provincial Government shall provide support in the process of construction including supporting documents for payment,
- 4.6. Central government and provincial government shall establish a Project Team lead by a Project Manager,
- 4.7. Central government and provincial government bear all expenses for advising commission to a bank authorized for payment by the Government of Japan.
- 4.8. Central Government and Provincial Government shall ensure the compliance with relevant taxation.
- 4.9. Central Government and Provincial Government shall assist in obtaining working permits for expatriates (Contractors or Consultants) working for the bridge construction in the said province.

- 4.10. Central Government and Provincial Government shall utilize and maintain carefully the construction and supporting facilities.
- 4.11. Central Government and Provincial Government shall maintain and improve the access road as follows :
 - 4.11.1. Road Rehabilitation of Sijorong – Tetar – Lunyuk (2005-2006), covers road geometric improvement, gravel road, drainage, culverts or bridges with span less than 15 meter.
 - 4.11.2. Road Rehabilitation Sijorong – Tetar – Lunyuk (2007-2012) with asphalt pavement.
 - 4.11.3. 5 Bridges construction (Nagene II, Mone III, Telonang III, Bon Jati dan Momil I) from year 2005 until 2006.
 - 4.11.4. Puna II Bridge Construction from year 2002 until 2005.

Hereby, the Memorandum of understanding is made as a guide in supporting construction activities under the Japan's Grant Aid to the Government of Indonesia on the Project for Bridge Construction in the East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB).

Signed in : Jakarta
Date : November 8th, 2004

Director General of Regional Infrastructure
Ministry of Public Works

Provincial Government of
West Nusa Tenggara
The Governor



Ir. Hendrianto. N



Drs. H. Lalu Serinata

MEMORANDUM OF UNDERSTANDING

NTT

Between

THE DIRECTORATE GENERAL OF REGIONAL INFRASTRUCTURE
THE MINISTRY OF PUBLIC WORKS

And

THE PROVINCIAL GOVERNMENT OF EAST NUSA TENGGARA

ON

Project for Bridges Constructions
in The East Nusa Tenggara (NTT) Province
under Japan's Grant Aid

1. GENERAL

- 1.1. This memorandum of understanding is made between the Central Government through the Ministry of Public Works, Directorate General of Regional Infrastructure with the Provincial Government of East Nusa Tenggara (NTT) in conjunction with Grant Aid from Government of Japan to Government of Indonesia that described in Project for Bridge Construction in East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB).
- 1.2. The Grant Aid program from Government of Japan covers bridge construction on provincial road links in East Nusa Tenggara (NTT) Province.

2. OBJECTIVE

- 2.1. This memorandum of understanding is made to reach mutual understanding between Central Government and Provincial Government of East Nusa Tenggara in accordance with the sharing of role and authority based on relevant regulations.
- 2.2. To make sufficient preparation on agreed matters respectively in order to accomplish this Grant Aid program.

3. REFERENCE

This memorandum of understanding is made referring to related provisions and regulations in Republic of Indonesia, such as :

- a. Road Law no. 13 / 1980.

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In order to ensure the smooth implementation of the Project for Bridge Construction in the East Nusa Tenggara (NTT) under the Japan's Grant Aid, and considering The Minutes of Discussion on the Basic Design Study on the Project for Bridge Construction in the East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB) signed in Jakarta on July 22nd, 2004 between the Japan International Cooperation Agency (JICA) and the Directorate General of Regional Infrastructure, it is necessary to reach agreement on providing supporting activities which are not covered under the Japan's Grant Aid. The Central Government and/or Provincial Government shall be responsible in preparing and conducting supporting activities as follows:

- 4.1. Provincial Government shall secure or provide land for the bridge construction, land for access road to the bridge location and the location of quarry, and to demolish the existing bridge(s) if necessary.
- 4.2. Provincial Government shall be able to clear and prepare the area before the commencement of bridge construction.
- 4.3. Provincial Government, if necessary, shall build gate and fence around the area.
- 4.4. Provincial Government shall complete the Initial Environment Examination (IEE) and Environment Management Plan (UKL/UPL)
- 4.5. Central Government and Provincial Government shall provide support in the process of construction including supporting documents for payment,
- 4.6. Central government and provincial government shall establish a Project Team lead by a Project Manager,
- 4.7. Central government and provincial government bear all expenses for advising commission to a bank authorized for payment by the Government of Japan.
- 4.8. Central Government and Provincial Government shall ensure the compliance with relevant taxation.
- 4.9. Central Government and Provincial Government shall assist in obtaining working permits for expatriates (Contractors or Consultants) working for the bridge construction in the said province.

- 4.10. Central Government and Provincial Government shall utilize and maintain carefully the construction and supporting facilities.
- 4.11. Central Government and Provincial Government shall maintain and improve the access road as follows :
- 4.11.1. Road Maintenance of Wanibesak-Boking (2005 – 2008)
 - 4.11.2. Road Rehabilitation Boking-Kolbano (2005 – 2008)
 - 4.11.3. Road Rehabilitation Kolbano-Panite (2005 – 2008)
 - 4.11.4. Road Maintenance Panite-Batu Putih (2005 – 2008)
 - 4.11.5. Boking Bridge Construction (2001 - 2004)

Hereby, the Memorandum of understanding is made as a guide in supporting construction activities under the Japan's Grant Aid to the Government of Indonesia on the Project for Bridge Construction in the East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB).

Signed in : Jakarta

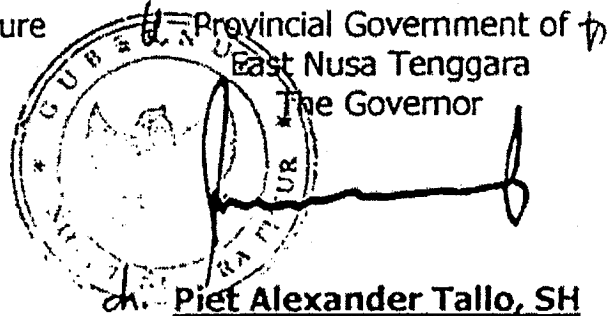
Date :

Director General of Regional Infrastructure
Ministry of Public Works



Ir. Hendrianto. N

Provincial Government of
East Nusa Tenggara
The Governor



ch. Piet Alexander Tallo, SH



DEPARTEMEN PEKERJAAN UMUM
DIREKTORAT JENDERAL PRASARANA WILAYAH
DIREKTORAT PRASARANA WILAYAH TIMUR

Jl. Pattimura 20 Kebayoran Baru – Telp./Fax 021-7394433 – Jakarta 12110

MEMO DINAS

No.: 334/MD/Pe/2004

To : Director of Technical Affair
Directorate General of Regional Infrastructure

From : Director of Eastern Region Infrastructure
Directorate General of Regional Infrastructure

Cc. : 1. Director General of Regional Infrastructure (as report)
2. Chief of Provincial Kimpraswil in West Nusa Tenggara Province
3. file

Subject : Proposal for Revision I DIP/PO for Project of Road and Bridge
Construction in West Nusa Tenggara for Fiscal Year 2004.

Date : 14 September 2004.

Enclosure : 1 (one) sheet

Referring to the letter of Project Manager for Roads and Bridges Construction in West Nusa Tenggara province ref.: KU.06.08/Rev.I/PPJJ-NTB/558 dated September 10, 2004 concerning proposal for revision I DIP/PO for Project of Road and Bridge Construction in West Nusa Tenggara province, and to follow up the letter of Director General of Regional Infrastructure ref.: KU.06.08-Dp/481 dated September 6, 2004 concerning : Reallocation budget among provinces/project in order for national saving to implement emergency program in Ministry of Public Works, herewith submitted the information as follows :

1. Remaining budget from tender allocation for the project amount Rp. 2.721.808.000,- will be funded for :
 - A. Needed to conduct the emergency project caused of natural disaster in link: Sejong-Tetar-Lunyuk for about 2,75 km cost amount Rp. 2.049.552.000,- and also contributed by JICA.
 - B. For emergency implementation to expand the bridges in National road link and damaged bridges caused by natural disaster in link Sejong-Tetar-Lunyuk, as follows :
 - a) Jompong bridge target 7,00 M cost amount Rp. 100.000.000,-
 - b) Mantang bridge target 7,00 M cost amount Rp. 100.000.000,-
 - c) Bertong bridge target 7,00 M cost amount Rp. 230.256.000,-
2. Remaining budget of DIP amount Rp. 242.000.000,- will funded to conduct emergency program in Directorate General of Regional Infrastructure according to the letter of Secretary General of Ministry of Public Works ref. KU.06.08-Sj/408 dated September 3, 2004.

The proposal for revision I DIP/PO effect the DIP summary and target, from original Rp. 27.585.203.000,- with target 308,16 km, effective 18,00 km and 97,00 m revised to Rp. 27.343.203.000,- with target 60,65 km, effective 20.75 km and 118.00 m.

Such was the case, thank you for the attention.

Director of Eastern Region Infrastructure

Ir. Frankie Tayu
NIP. 110016522

NUMBER
DATE

Page-1

Project Code	Project	Source of Budget	Original						Mutation			Revise 1						Memo
			TARGET			Budget Rp.	Increase Rp.	Decrease Rp.	TARGET			Budget Rp.						
			FUNG KM	EFF KM	Bridge EFF M'				Road EFF KM	Bridge EFF M'								
1	2	3	4	5	6	7	8	9	10	11	12	13	14					
01	Road and Bridge Development PROVINCEI NTB																	
	Project Administration	National Budget				272,838,000						272,838,000	Constant					
	Building budget	National Budget				8,000,000						8,000,000	Constant					
	Communication & studio equipments	National Budget				31,500,000						31,500,000	Constant					
	DASAN CERMEN-RUMAK road development	National Budget	3.70	2.00		1,700,000,000		107,348,000	3.70	2.00		1,592,652,000	Changed					
	Office building maintenance Monitoring and Evaluation	National Budget				7,941,000						7,941,000	Constant					
	SUB TOTAL	National Budget IBRD 4643 IND Total	3.70	2.00		2,146,000,000 0		107,348,000 0	3.70	2.00		2,038,652,000 0	Changed					
						2,146,000,000		107,348,000				2,038,652,000	Changed					
02	Ring Road development of Sumbawa Island																	
	Project Administration	National Budget				163,194,000						163,194,000	Constant					
	Communication & studio equipments	National Budget				1,500,000						1,500,000	Constant					
	SIMPANG ROPANG - SEKOKAT road development	National Budget	35.00	3.50		2,072,000,000		973,738,000	3.50	3.50		1,098,262,000	Changed					
	SEJORONG-TETAR-LUNYUK road development	National Budget					2,049,552,000			11.90	2.75	2,049,552,000	Increased					
	SUB TOTAL	National Budget IBRD 4643 IND Total	35.00	3.50		2,236,694,000 0		973,738,000 0	15.40	6.25		3,312,508,000 0	Changed					
						2,236,694,000		973,738,000				3,312,508,000	Changed					
03	REMPUNG-LABUHAN LOMBOK road development																	
	Project Administration	National Budget				152,788,000						152,788,000	Constant					
	Communication & studio equipments	National Budget				5,000,000						5,000,000	Constant					
	LABUHAN LOMBOK - KAYANGAN road development	National Budget	3.00	2.00		1,600,000,000		34,502,000	2.00	2.00		1,565,498,000	Changed					
	MANTANG - KOPANG road development	National Budget	4.11	2.00		1,700,000,000		68,452,000	2.00	2.00		1,631,548,000	Changed					
	SUB TOTAL	National Budget IBRD 4643 IND Total	7.11	4.00		3,457,788,000 0		102,954,000 0	4.00	4.00		3,354,834,000 0	Changed					
						3,457,788,000		102,954,000				3,354,834,000	Changed					
04	PALIV - KM.70 road development																	
	Project Administration	National Budget				158,000,000						158,000,000	Constant					
	Communication & studio equipments	National Budget				5,000,000						5,000,000	Constant					
	PALIV - KM.70 road development	National Budget	65.29	2.00		1,600,000,000		40,723,000	2.00	2.00		1,559,277,000	Changed					
	SUB TOTAL	National Budget IBRD 4643 IND Total	65.29	2.00		1,763,000,000 0		40,723,000 0	2.00	2.00		1,722,277,000 0	Changed					
						1,763,000,000		40,723,000				1,722,277,000	Changed					

Project Code	Project	Source of Budget	Original						Mutation			REVISI 1						Memo
			TARGET						Increase Rp.	Decrease Rp.	TARGET							
			Road			Bridge					Road			Bridge				
			FUNG KM	EFF KM	M'	FUNG KM	EFF KM	M'			FUNG KM	EFF KM	M'	FUNG KM	EFF KM	M'		
1	2	3	4	5	6	7	8	9	10	11	12	13	14					
05	SUMBAWA BESAR-SIMPANG NEGARA road development	National Budget National Budget National Budget National Budget IBRD 4643 IND																
	Project Administration																	
	Communication & studio equipments																	
	SUMBAWA BESAR-SIMPANG NEGARA - LABUHAN TANO road development		92.38	2.50		157,971,000 5,000,000 2,000,000,000		200,574,000	2.50		2.50		157,971,000 5,000,000 1,799,426,000	Constant Constant Changed				
	SUMBAWA BESAR-SIMPANG NEGARA (EIB-29), ESKALAS road development		82.11	0.00		450,000,000 2,030,000,000		312,327,000	18.50	0.00			137,673,000 2,030,000,000	Changed Constant				
	SUB TOTAL	National Budget IBRD 4643 IND Total	174.49	2.50		2,612,971,000 2,030,000,000 4,642,971,000		512,901,000 0	21.00	2.50		2,100,070,000 2,030,000,000 4,130,070,000	Changed Constant Changed					
06	Sub Project PROV. NTB bridge development	National Budget National Budget National Budget National Budget National Budget																
	Project Administration																	
	Communication & studio equipments																	
	KETUJUR bridge development					156,262,000 6,500,000 400,000,000	7.00	95,111,000			7.00		156,262,000 6,500,000 304,889,000	Constant Constant Changed				
	PUNA II bridge development					1,800,000,000	90.00	177,978,000			90.00		1,622,022,000	Changed				
	JOMPONG bridge development						100,000,000					100,000,000	Increased					
	BERTONG bridge development						230,256,000					230,256,000	Increased					
	SUB TOTAL	National Budget IBRD 4643 IND Total			97.00	2,362,762,000 0 2,362,762,000		273,089,000 0			111.00		2,419,929,000 0 2,419,929,000	Changed Constant Changed				
07	Sub Project CAKRA NEGARA - MANTANG road development	National Budget National Budget National Budget IBRD 4643 IND National Budget																
	Project Administration																	
	Communication & studio equipments																	
	CAKRA NEGARA - MANTANG road development (EIB-28)		22.57	4.00		164,988,000 5,000,000 1,962,000,000 8,844,000,000		711,055,000	14.55	4.00			164,988,000 5,000,000 1,250,945,000 8,844,000,000	Constant Constant Changed Constant				
	MANTANG bridge development							100,000,000				7.00		100,000,000	Increased			
	SUB TOTAL	National Budget IBRD 4643 IND Total	22.57	4.00		2,131,988,000 8,844,000,000 10,975,988,000		711,055,000 0	14.55	4.00			1,520,933,000 8,844,000,000 10,364,933,000	Changed Constant Changed				
	TOTAL PROYEK	National Budget IBRD 4643 IND Total	308.16	18.00	97.00	16,711,203,000 10,874,000,000 27,585,203,000		2,721,808,000 0	60.65	20.75	118.00		16,469,203,000 10,874,000,000 27,343,203,000	Changed Changed Changed				

c:\mut.bang104mb

APPENDIX 7

REFERENCES

7. References

	Title	Publisher
1	RENCANA STRATEGIS PROGRAM PENANGANAN JALAN NASIONAL DAN JALAN PROPINSI DI NUSA TENGGARA BARAT TAHUN 2003–2007	Dinas Permukiman Dan Prasarana Wilayah, Propinsi Nusa Tenggara Barat
2	PROPOSAL OF BRIDGES CONSTRUCTION AT SOUTH RINGROAD OF SUMBAWA ISLAND, SUPPORT TO ECONOMIC DEVELOPMENT AND TRANSMIGRATION PROGRAMMED	Dinas Permukiman Dan Prasarana Wilayah, Propinsi Nusa Tenggara Barat
3	MATERI RAKORBANGPUS	Departemen TenagaKerja dan Transmigrasi
4	USULAN PEMBANGUNAN JEMBATAN AKSES EKONOMI DI NUSA TENGGARA TIMUR	Pemerintah Propinsi Nusa Tenggara Timur
5	FEASIBILITY STUDY ON SINTANG–PUTUSSIBAU ROAD BETTERMENT IN WEST KALIMANTAN PROVINCE, FINAL REPORT	PT. Mitrabuana Rekanindo
6	STUDI PENGEMBANGAN SISTEM JARINGAN JALAN NASIONAL DAN PROPINSI DI PROPINSI NUSA TENGGARA TIMUR FINAL REPORT	Lembaga Pengabdian Kepada Masyarakat Institut Teknologi Bandung
7	STATISTICAL YEAR BOOK OF INDONESIA	BPS Statistics Indonesia
8	USULAN PRIORITAS PENANGANAN JALAN DAN JEMBATAN TAHUN ANGGARAN 2005	Propinsi Nusa Tenggara Barat
9	RENCANA STRATEGIS DAERAH (RENNTRADA) PROPINSI NUSA TENGGARA TIMUR TAHUN 2004 – 2008	Pemerintah Propinsi Nusa Tenggara Timur
10	GOVERNMENT REGULATION OF THE REPUBLIC INDONESIA WATER RESOURCES LAW NO. 7 / 2004	The President of the Republic of Indonesia
11	GOVERNMENT REGULATION OF REPUBLIC INDONESIA RIVER LAW NO. 35 / 1991	The President of the Republic of Indonesia
12	GUIDANCE FOR ERECTION AND INSTALLATION PERMANENT STEEL STRUCTURE BRIDGE CLASS A 40M UP TO 60M SPAN	Direktorat Jenderal Bina Marga, Departement Pekerjaan Umum
13	GUIDANCE FOR ERECTION AND INSTALLATION PERMANENT STEEL STRUCTURE BRIDGE CLASS B 40M UP TO 60M SPAN	Direktorat Jenderal Bina Marga, Departement Pekerjaan Umum
14	GUIDANCE FOR ERECTION AND INSTALLATION PERMANENT STEEL STRUCTURE BRIDGE COMPOSITE 20M UP TO 30M SPAN	Direktorat Jenderal Bina Marga, Departement Pekerjaan Umum

APPENDIX 8

DRAWINGS

BASIC DESIGN STUDY REPORT
ON
THE PROJECT FOR BRIDGE CONSTRUCTION IN
THE EAST NUSA TENGGARA (NTT)
AND WEST NUSATENGGARA (NTB)
IN
THE REPUBLIC OF INDONESIA
FINAL REPORT

BASIC DESIGN DRAWINGS

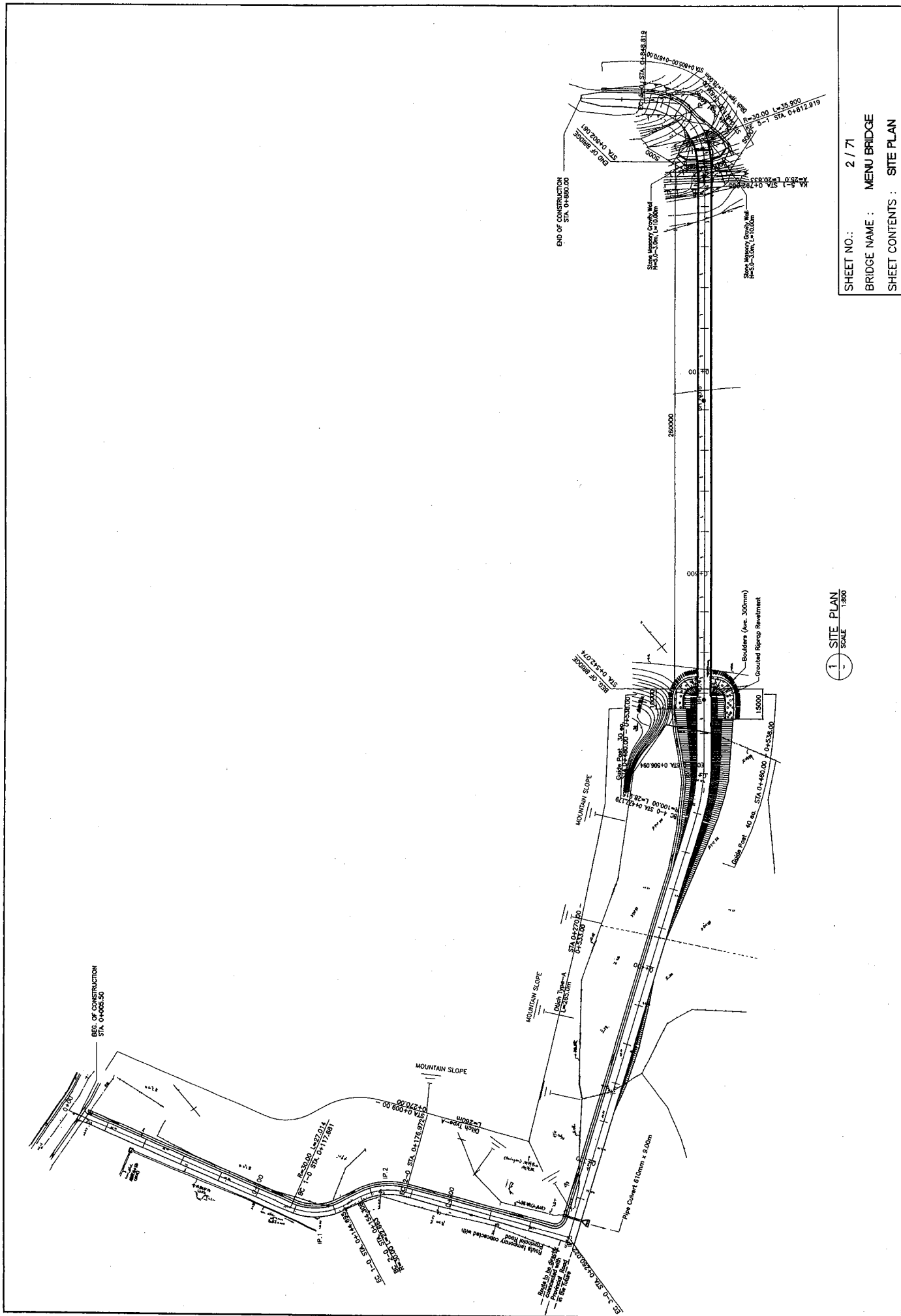
JANUARY 2005

JAPAN INTERNATIONAL COOPERATION AGENCY
GRANT AID MANAGEMENT DEPARTMENT

DRAWING INDEX

MENU	TITLE	SHEET NO.	TITLE	SHEET NO.
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	GENERAL VIEW	4	SUPERSTRUCTURE	40
	SUPERSTRUCTURE	5	ABUTMENT A&B	41
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FATUAT	CROSS-SECTIONS 2	11	ABUTMENT A&B	47
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	SUPERSTRUCTURE			
	ABUTMENT A&B			
PUNA III	BRIDGE			
	SITE PLAN			
	GENERAL VIEW			
	PLAN, ELEVATION, SECTION			
	CROSS-SECTIONS			
	PROFILE			
	SITE PLAN			
	GENERAL VIEW			
	SUPERSTRUCTURE			
	ABUTMENT A&B			
	CROSS-SECTIONS			

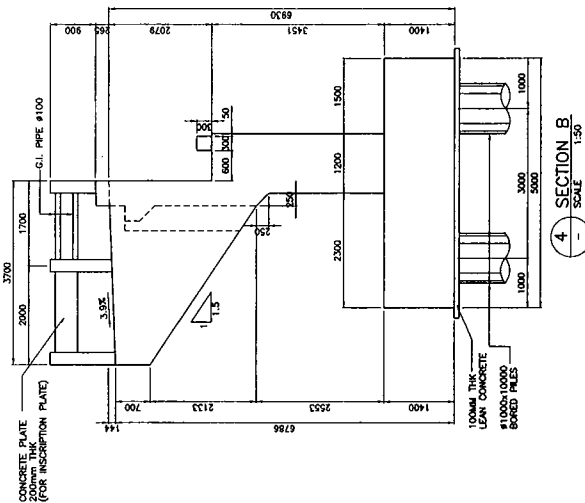
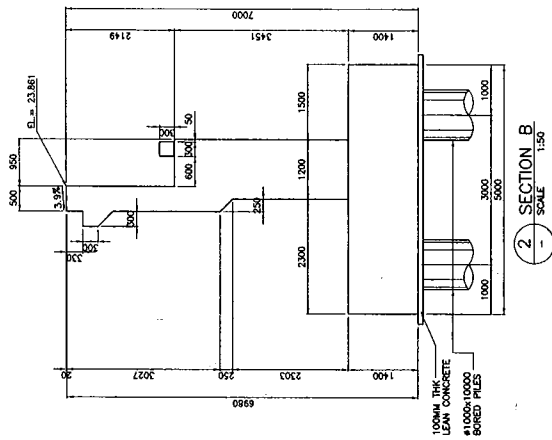
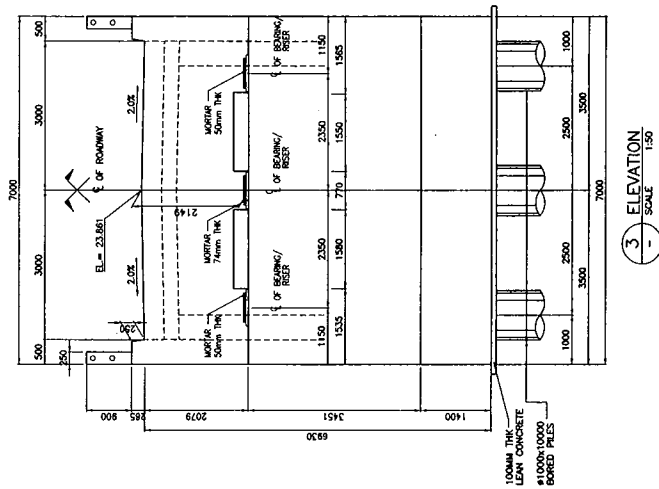
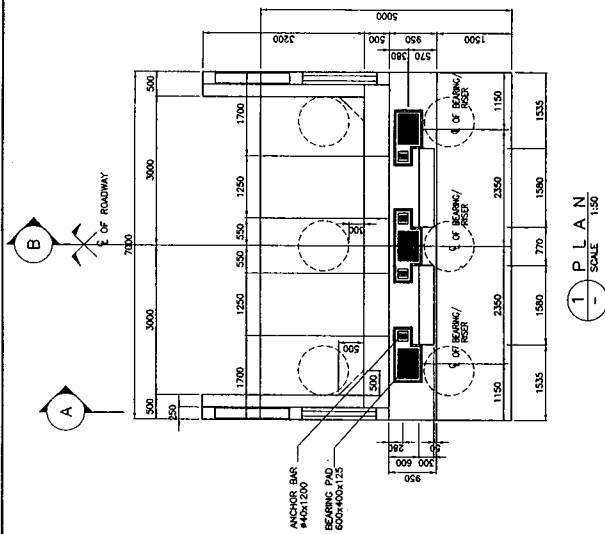




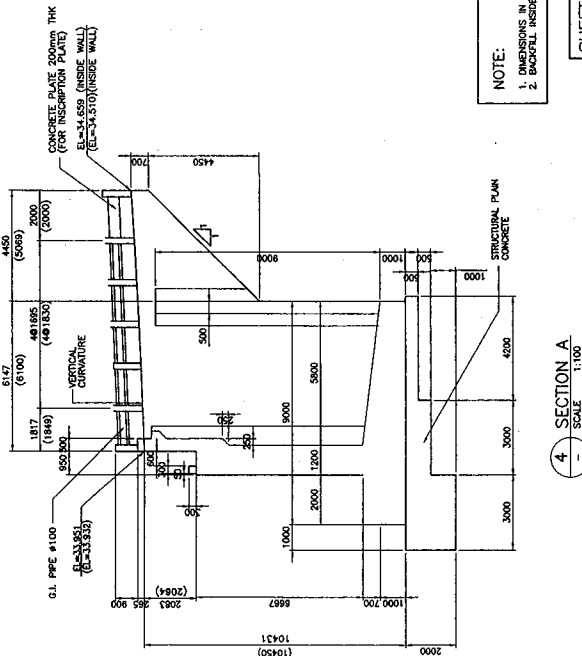
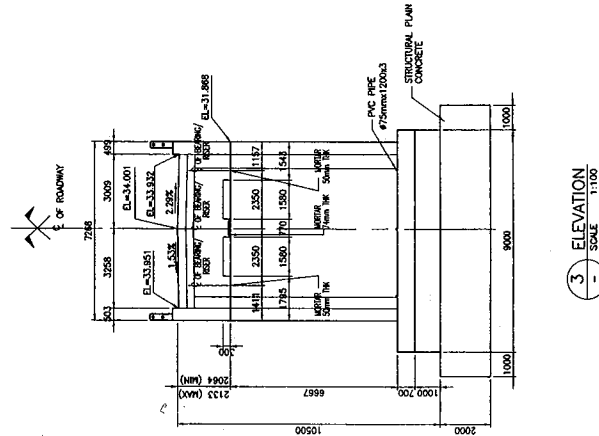
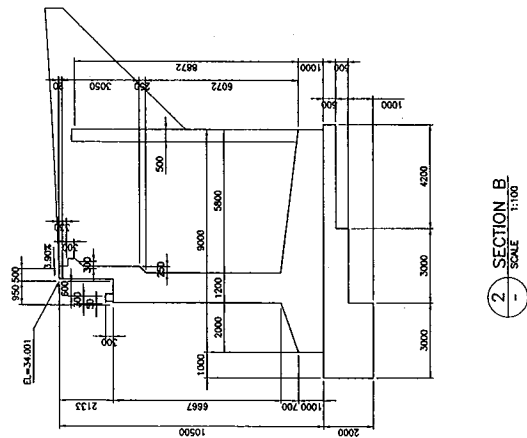
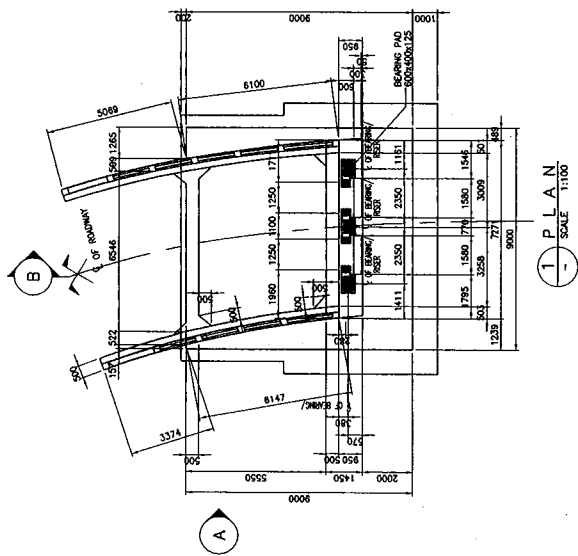
1 SITE PLAN
SCALE 1:800

SHEET NO.: 2 / 71
BRIDGE NAME: MENU BRIDGE
SHEET CONTENTS: SITE PLAN

A8-6

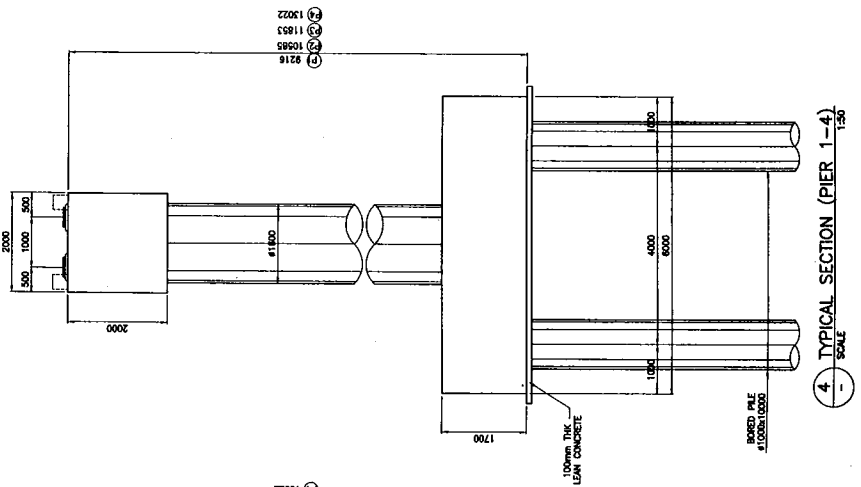
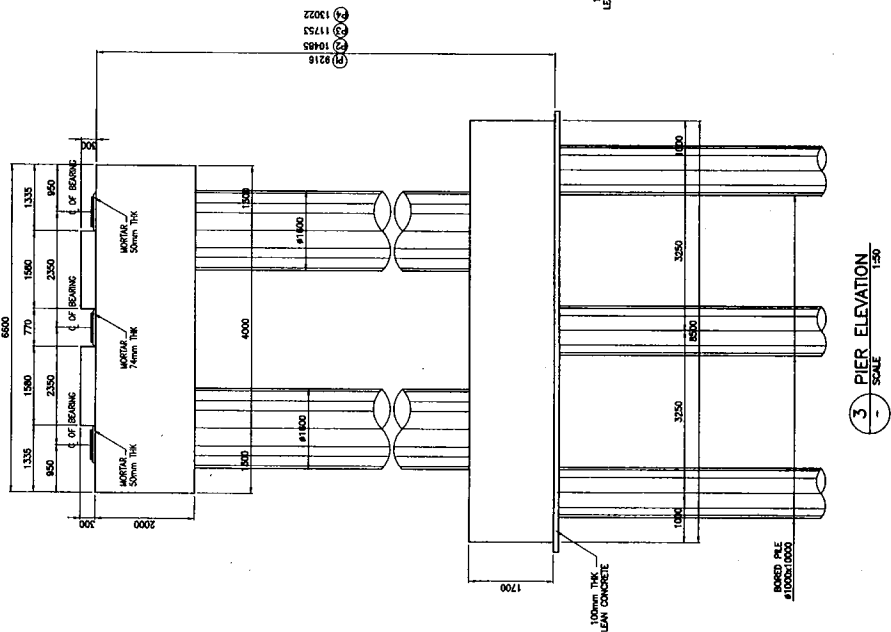
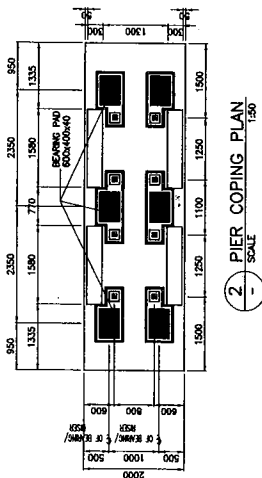
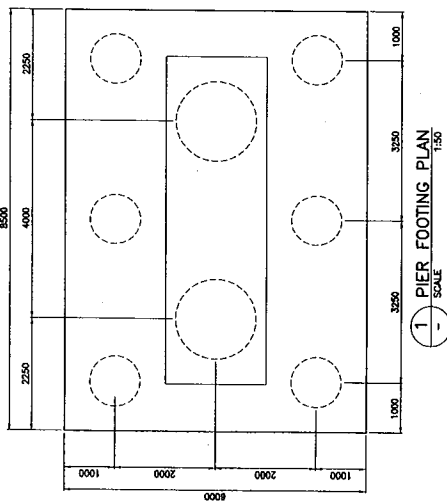


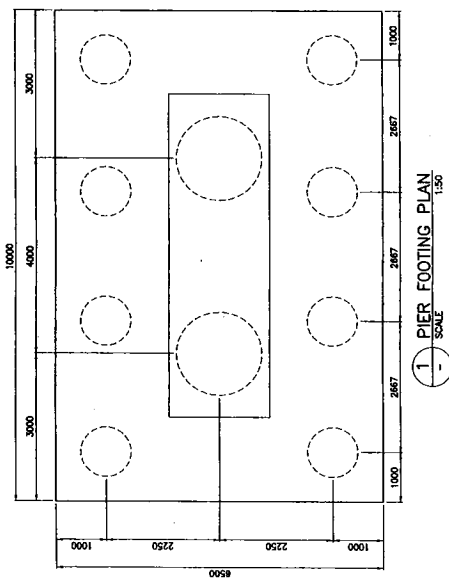
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 BRIDGE NAME : MENU BRIDGE
 SHEET CONTENTS : ABUTMENT A



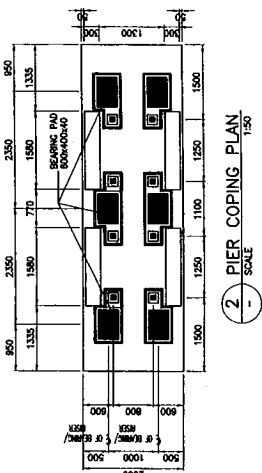
NOTE:
1. DIMENSIONS IN () SHOWING CONCRETE SIZE MINIMUM.
2. BACKFILL INSIDE THE BACKWALL SHALL BE GRAVELLY SOIL.

SHEET NO.: 6 / 71
BRIDGE NAME : MENU BRIDGE
SHEET CONTENTS : ABUTMENT B

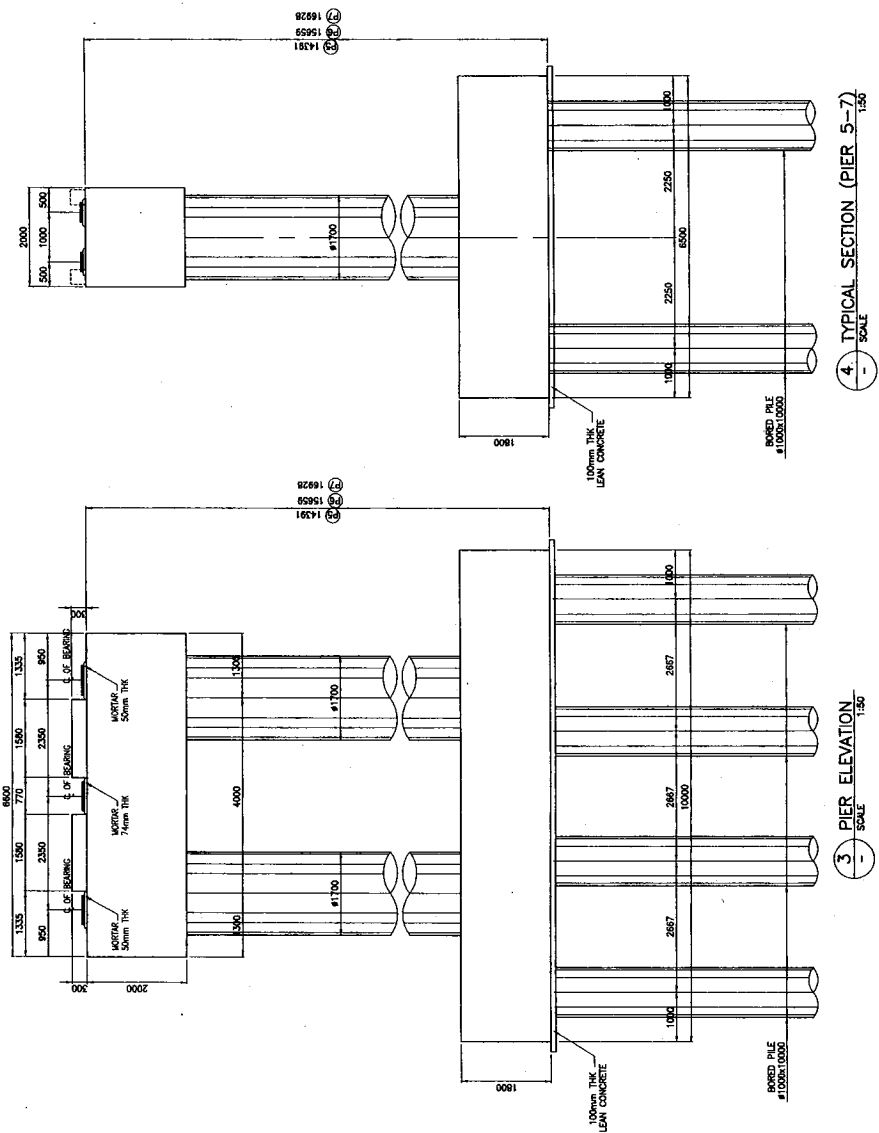




1 PIER FOOTING PLAN
SCALE 1:50



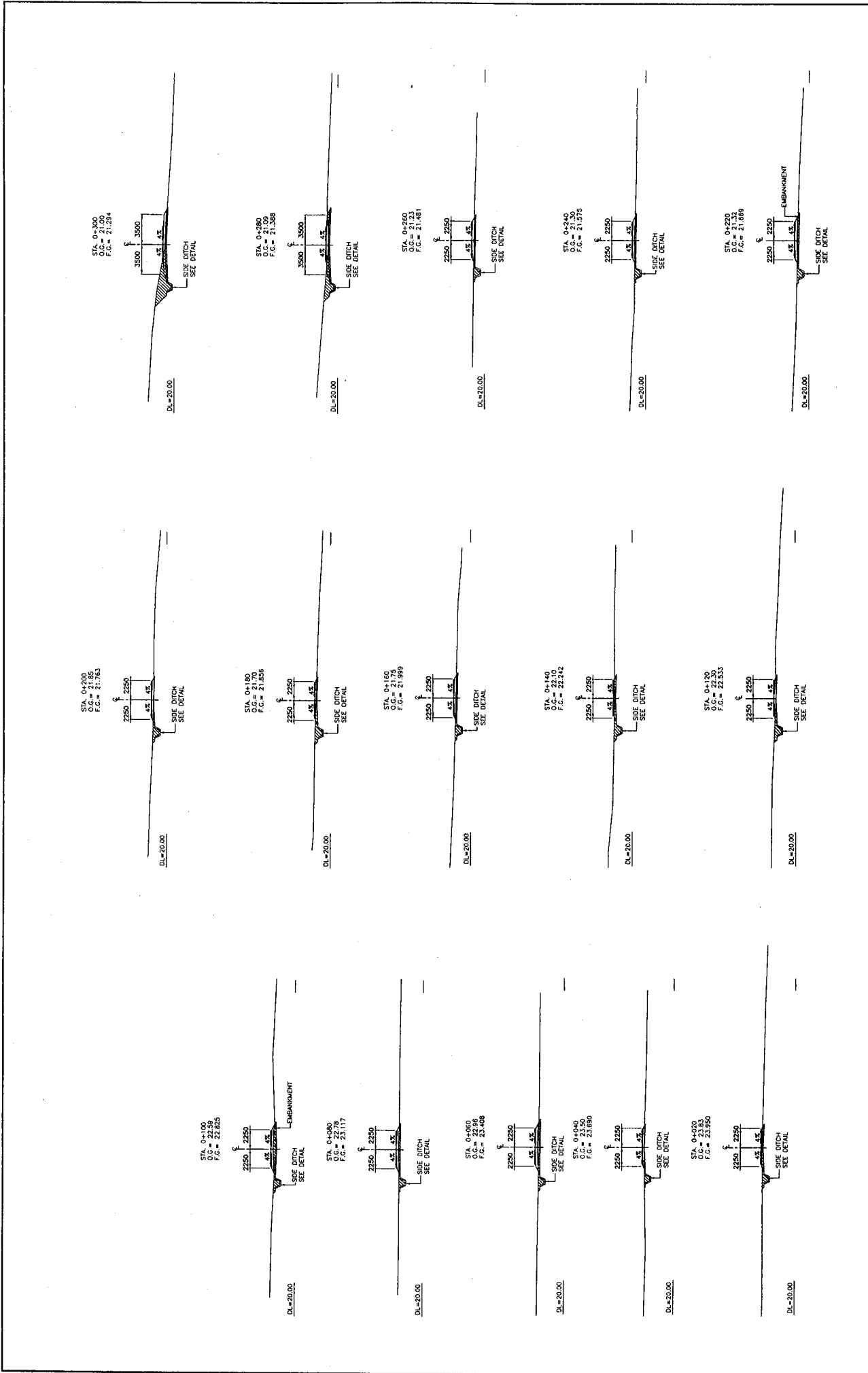
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SCALE 1:50



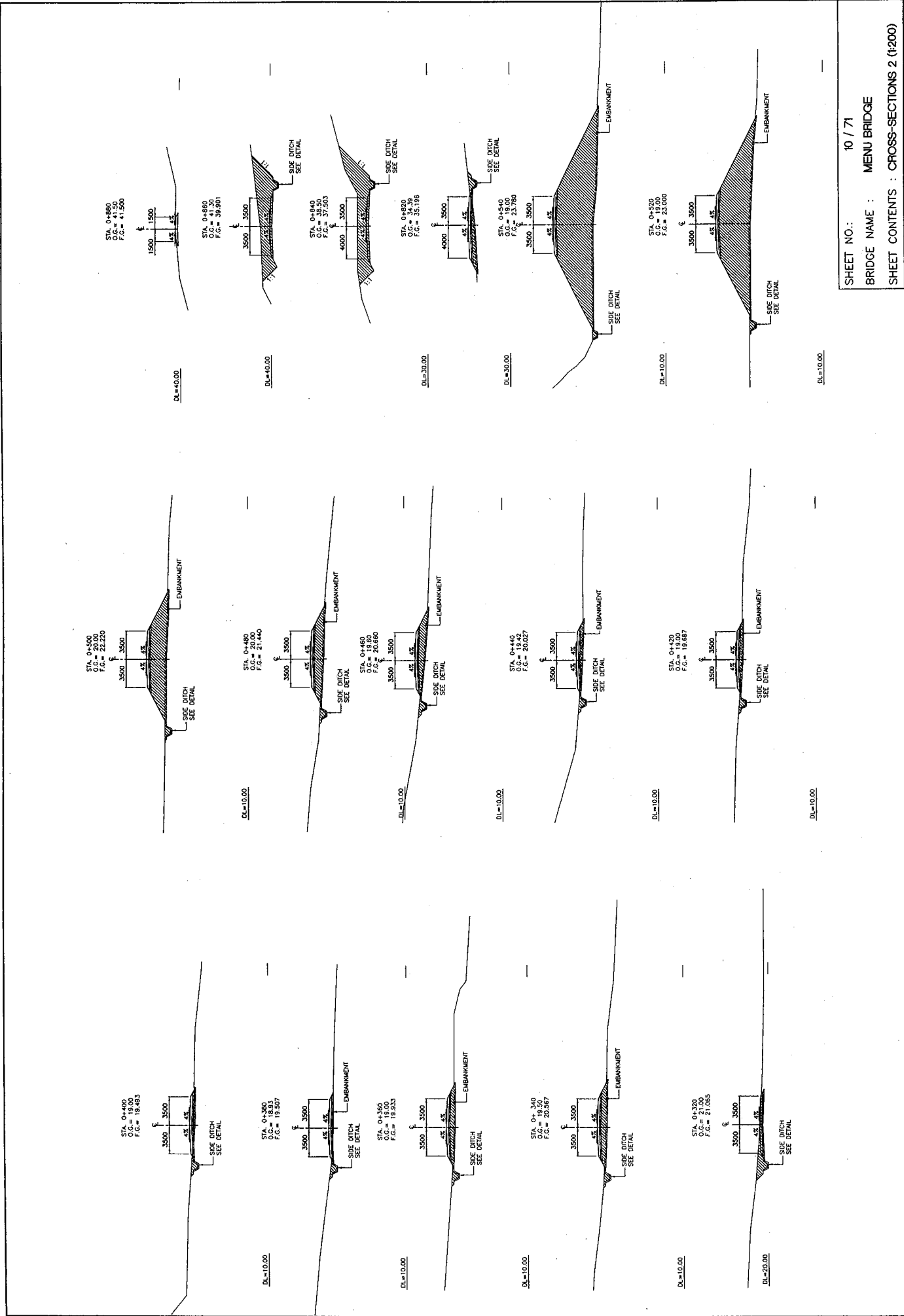
3 PIER ELEVATION
- SCALE 1:50

4. TYPICAL SECTION (PIER 5-7)

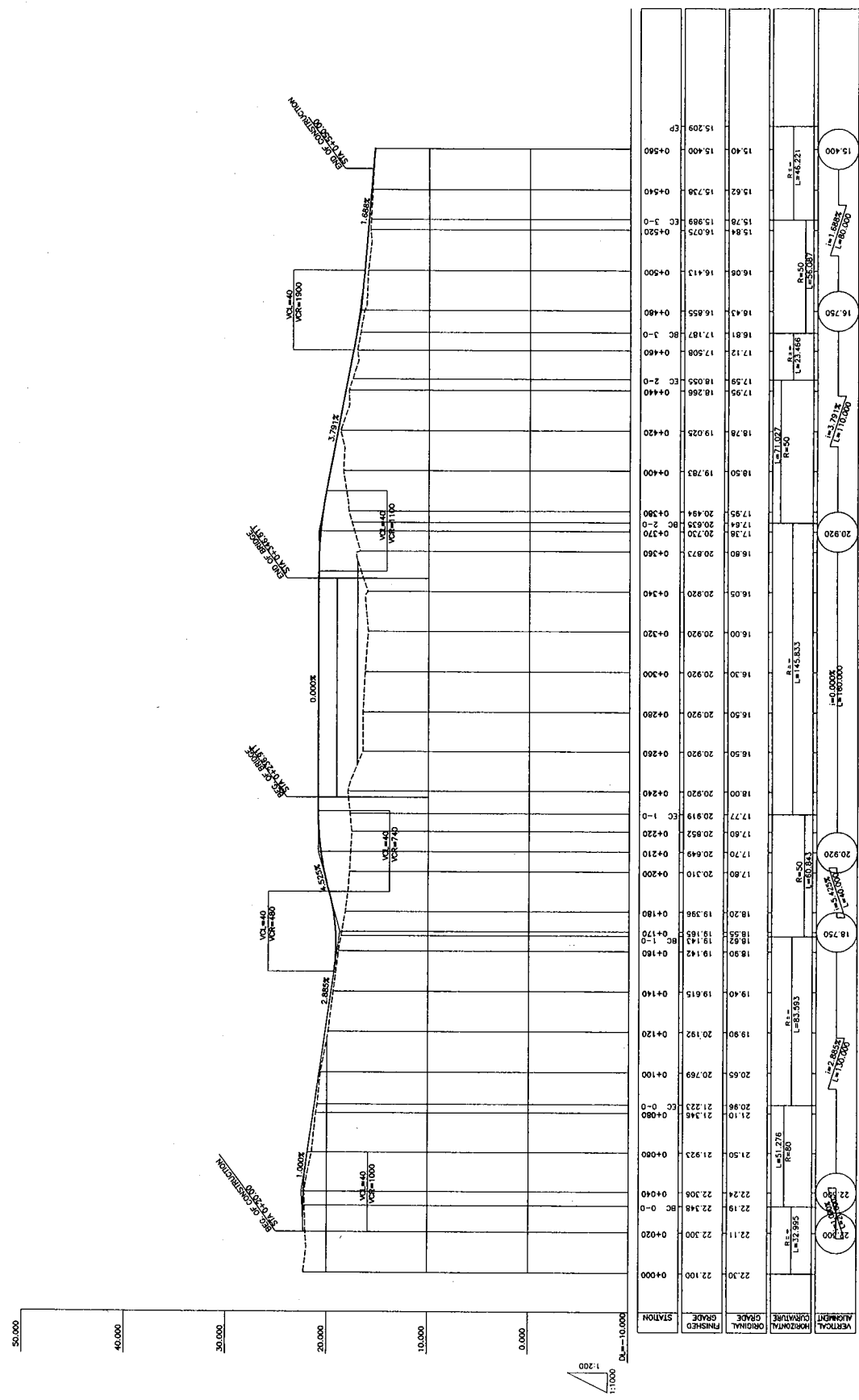
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SHEET CONTENTS : PIER (5-7)

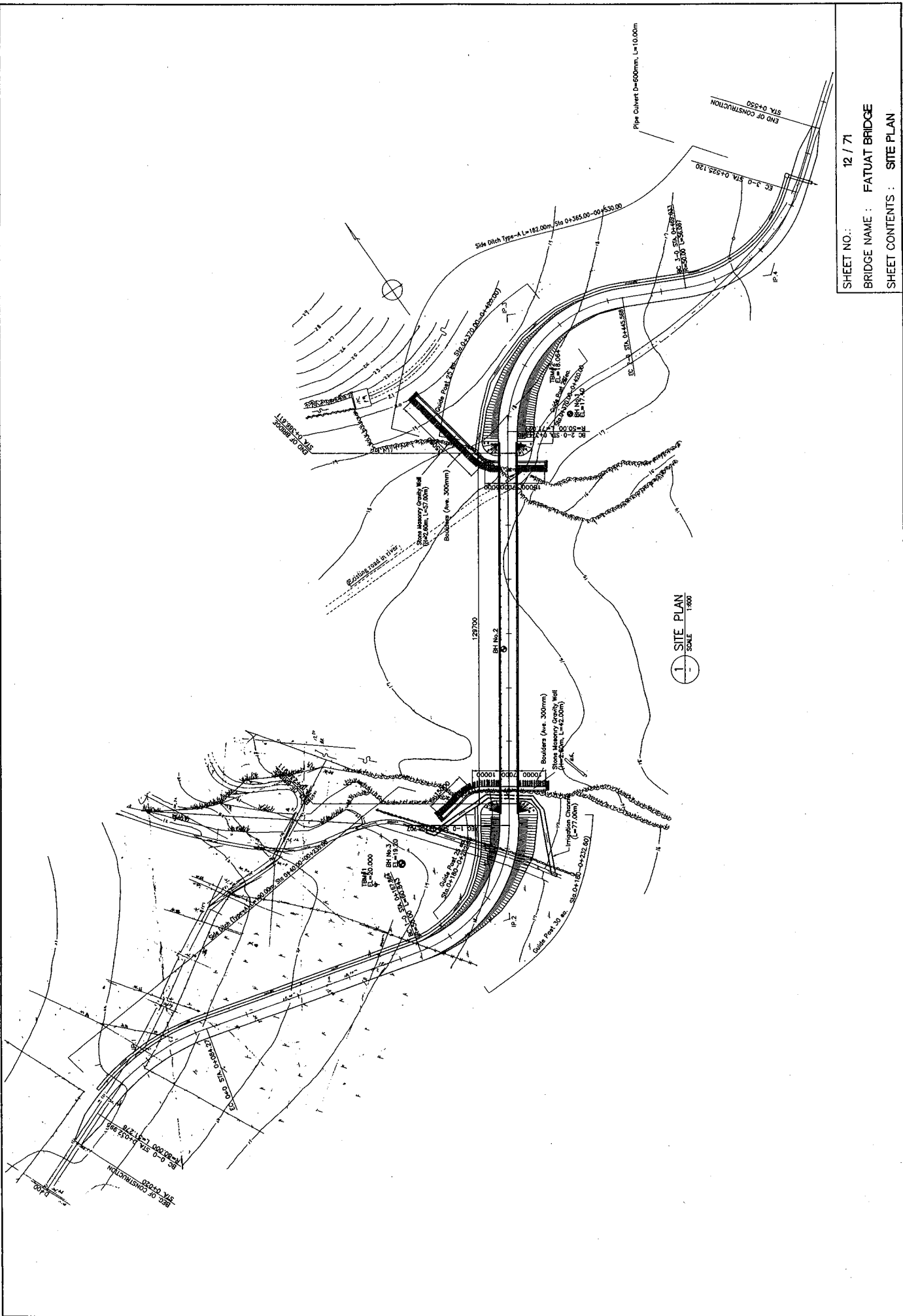


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 SHEET CONTENTS : CROSS-SECTIONS 1 (H200)



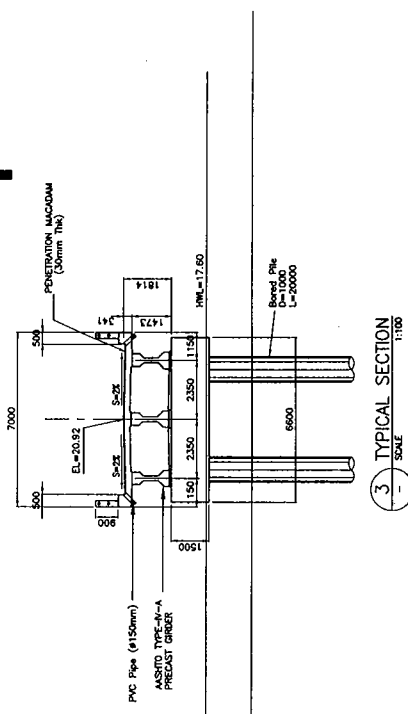
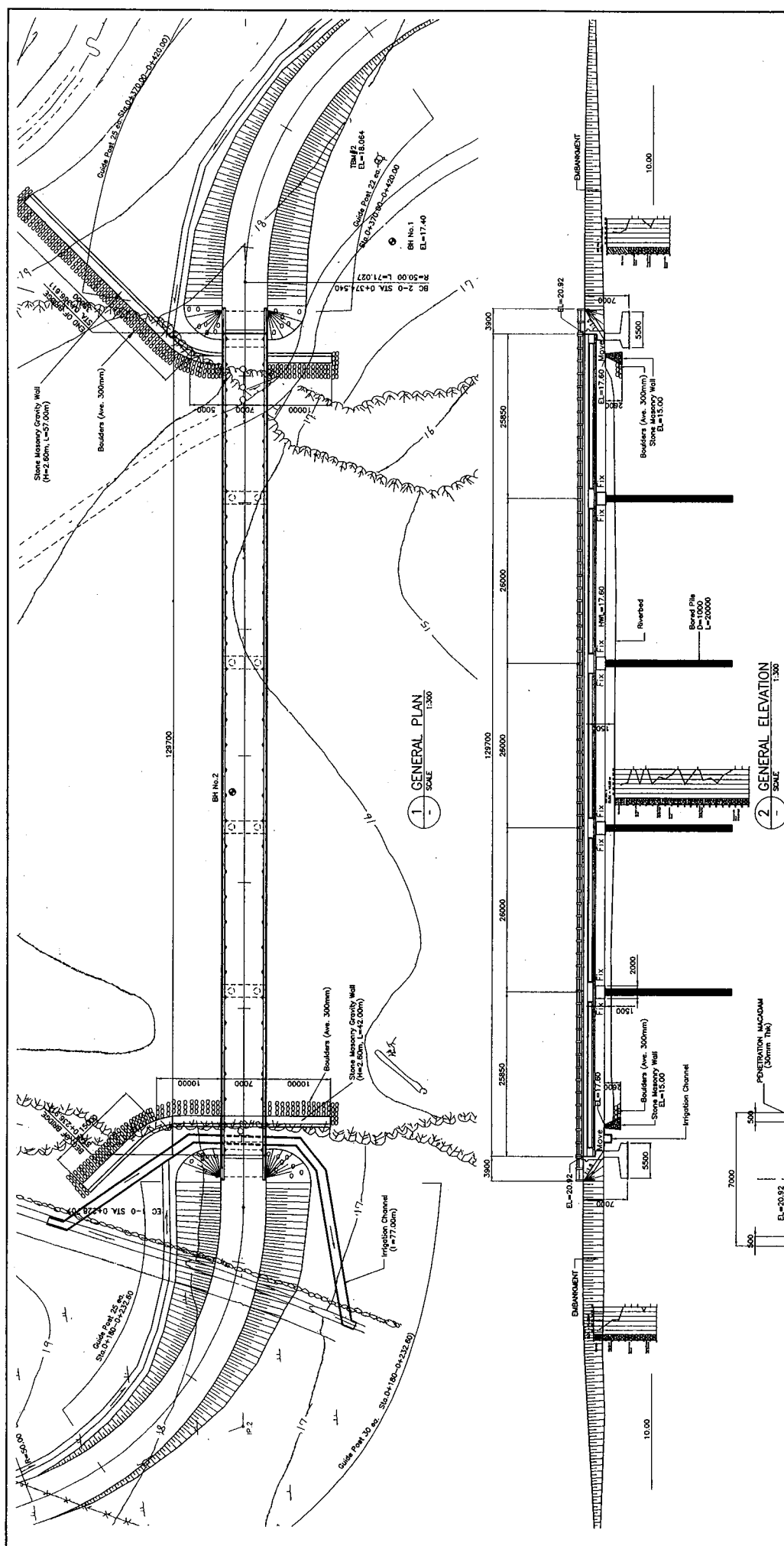
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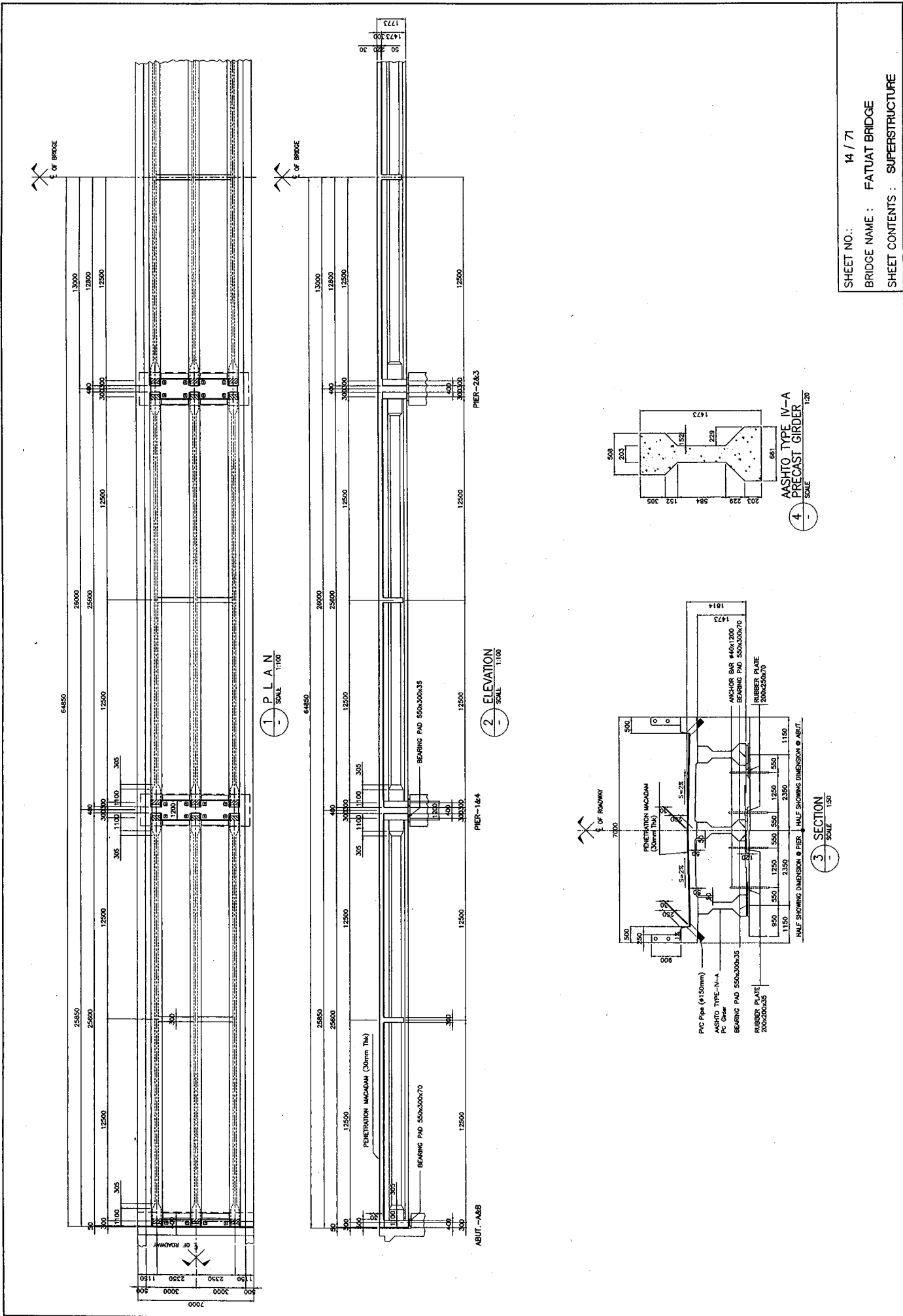


1 SITE PLAN
SCALE 1:500

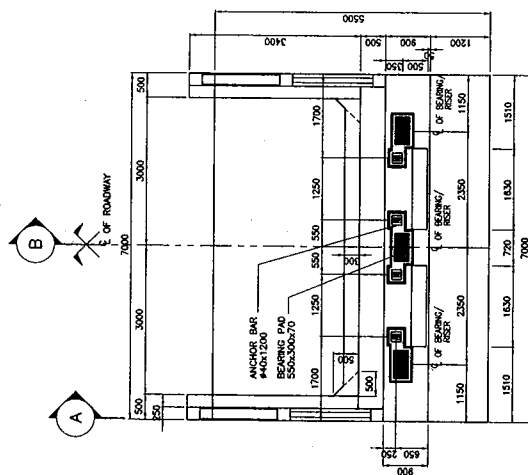
SHEET NO.: 12 / 71
BRIDGE NAME : FATUAT BRIDGE
SHEET CONTENTS : SITE PLAN



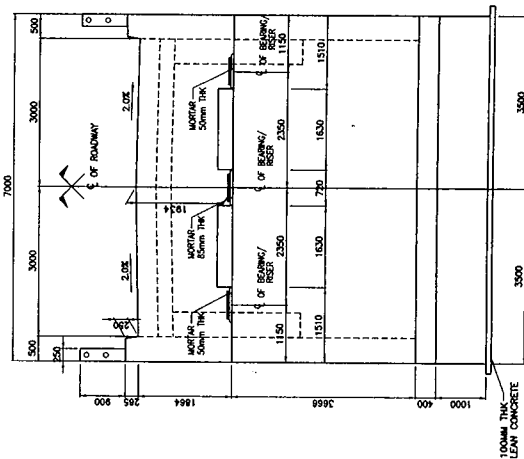
SHEET NO.: 13 / 71
BRIDGE NAME : FATUAT BRIDGE
SHEET CONTENTS : BRIDGE GENERAL VIEW



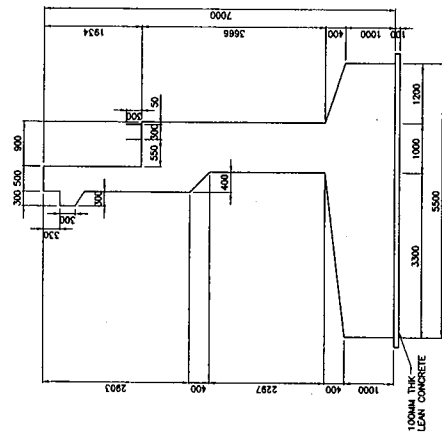
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 BRIDGE NAME : FATUAT BRIDGE
 SHEET CONTENTS : SUPERSTRUCTURE



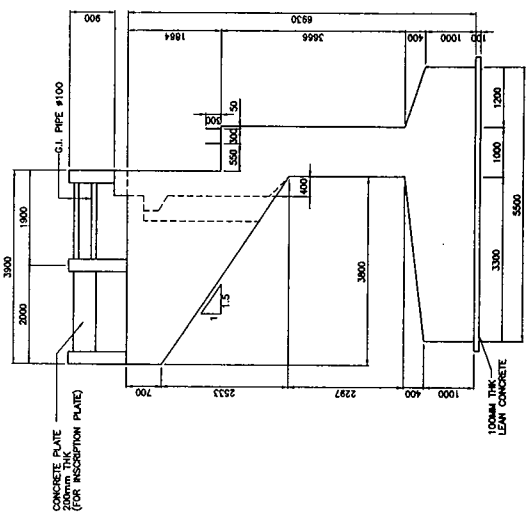
1 PLAN
SCALE 1:50



3 ELEVATION
SCALE 1:50

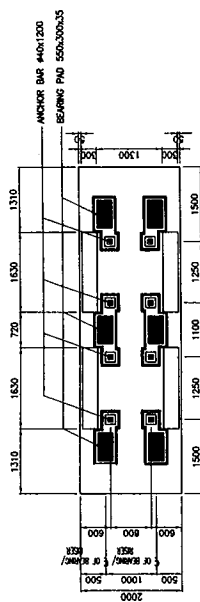


2 SECTION B
SCALE 1:50

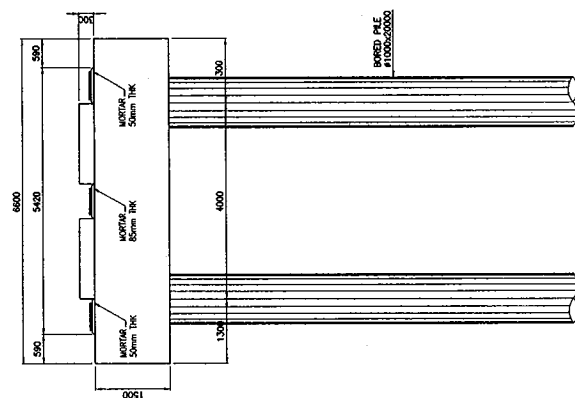


4 SECTION A
SCALE 1:50

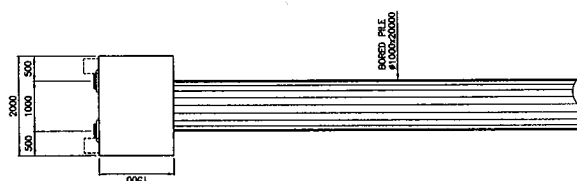
SHEET NO.: 15 / 71
BRIDGE NAME : FATUAT BRIDGE
SHEET CONTENTS : ABUTMENT 'A', 'B'



1 PIER COPING PLAN
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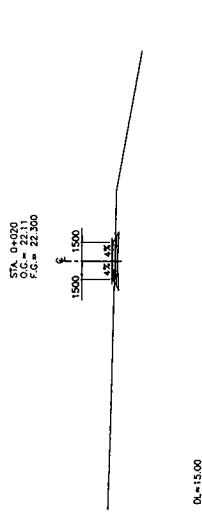
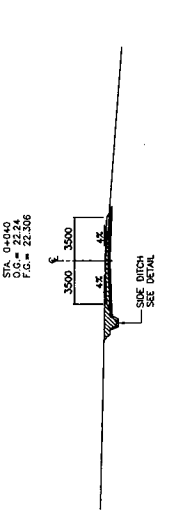
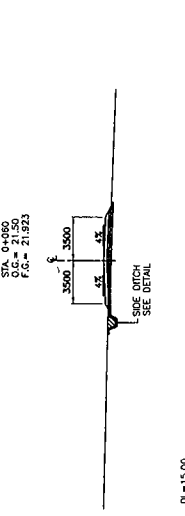
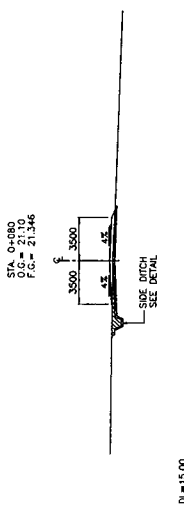
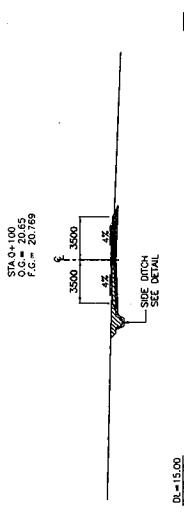
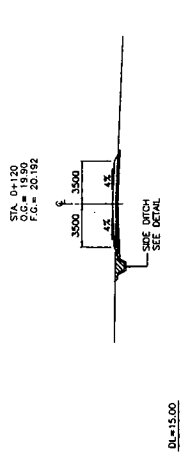
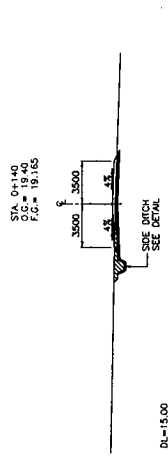
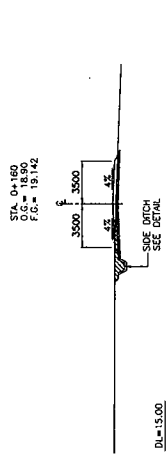
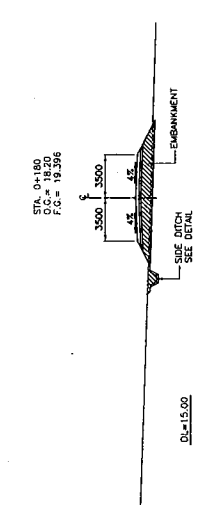
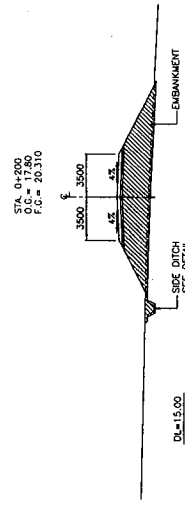
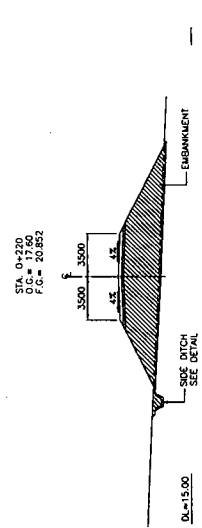
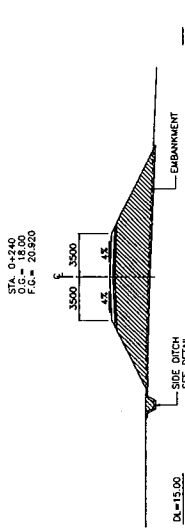
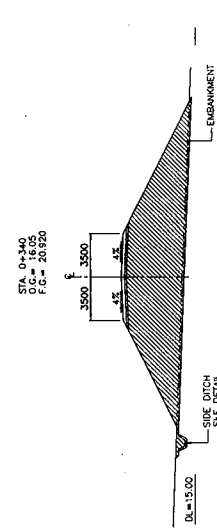
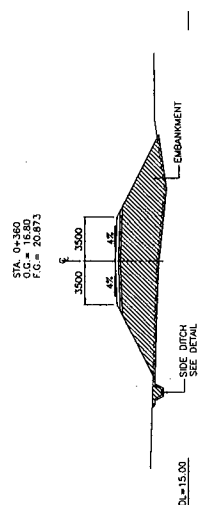
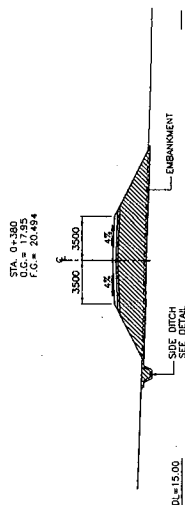


2 PIER ELEVATION
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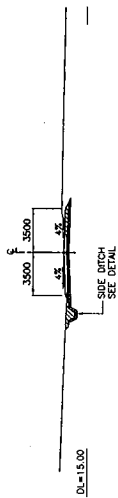
3 TYPICAL SECTION
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BRIDGE NAME : FATUAT BRIDGE
SHEET CONTENTS : PIER 1-4

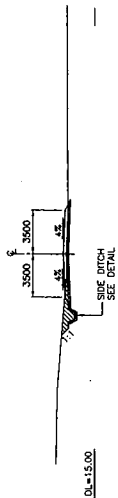


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SHEET CONTENTS : CROSS-SECTIONS 1 (1:200)

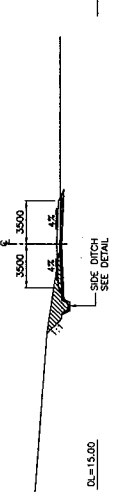
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F.C. = 16.855



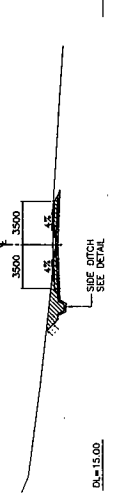
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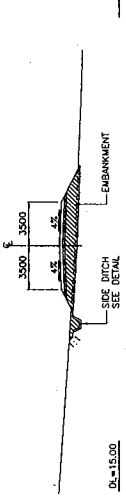
STA. 0+440
O.C. = 18.78
F.C. = 18.286



STA. 0+420
O.C. = 18.78
F.C. = 19.025



STA. 0+400
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F.C. = 19.783



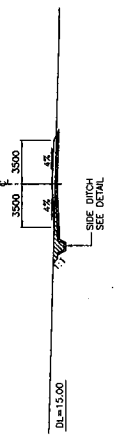
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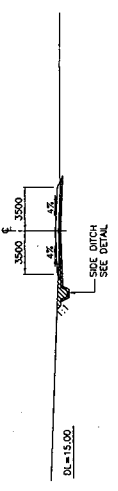
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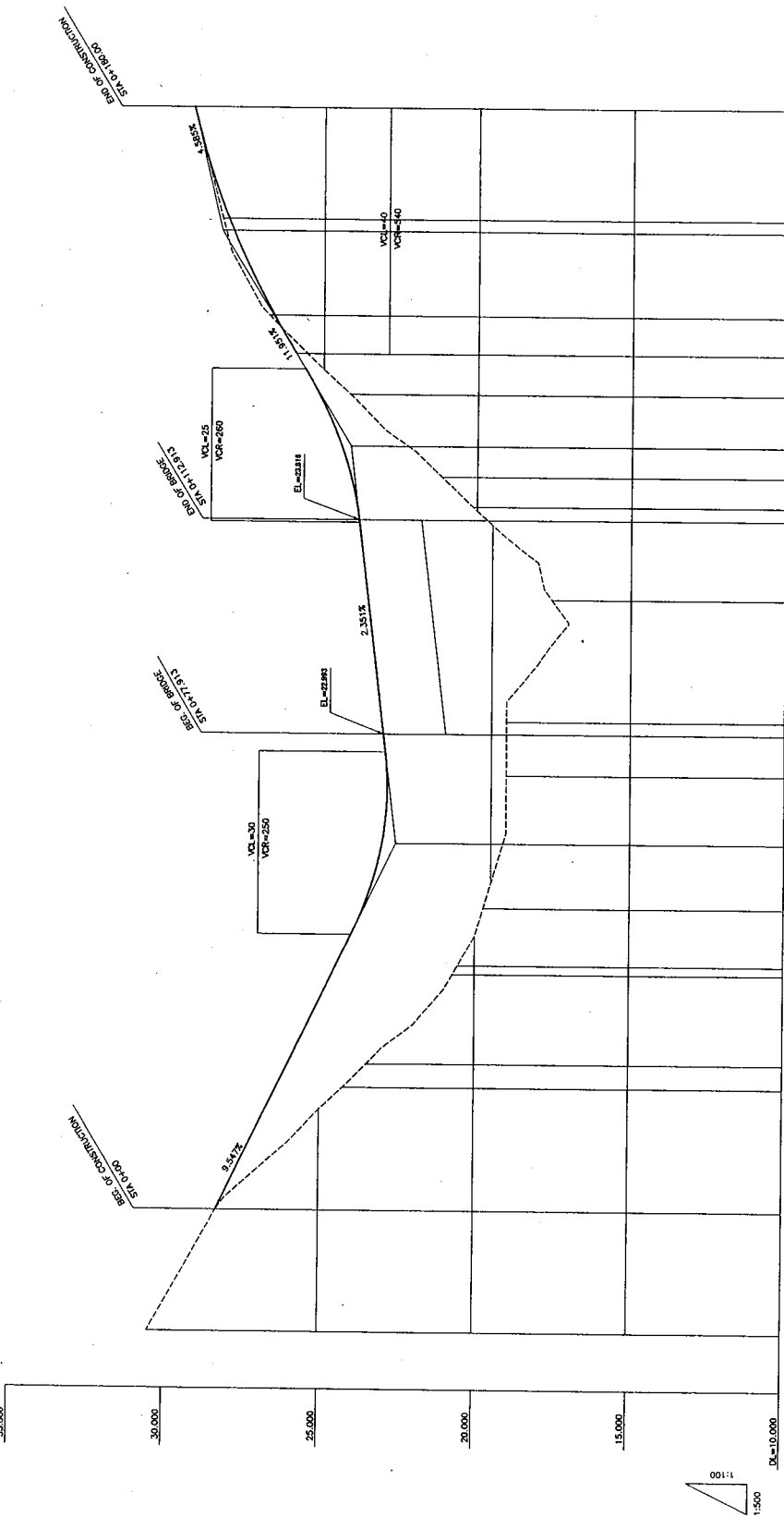
18 / 71

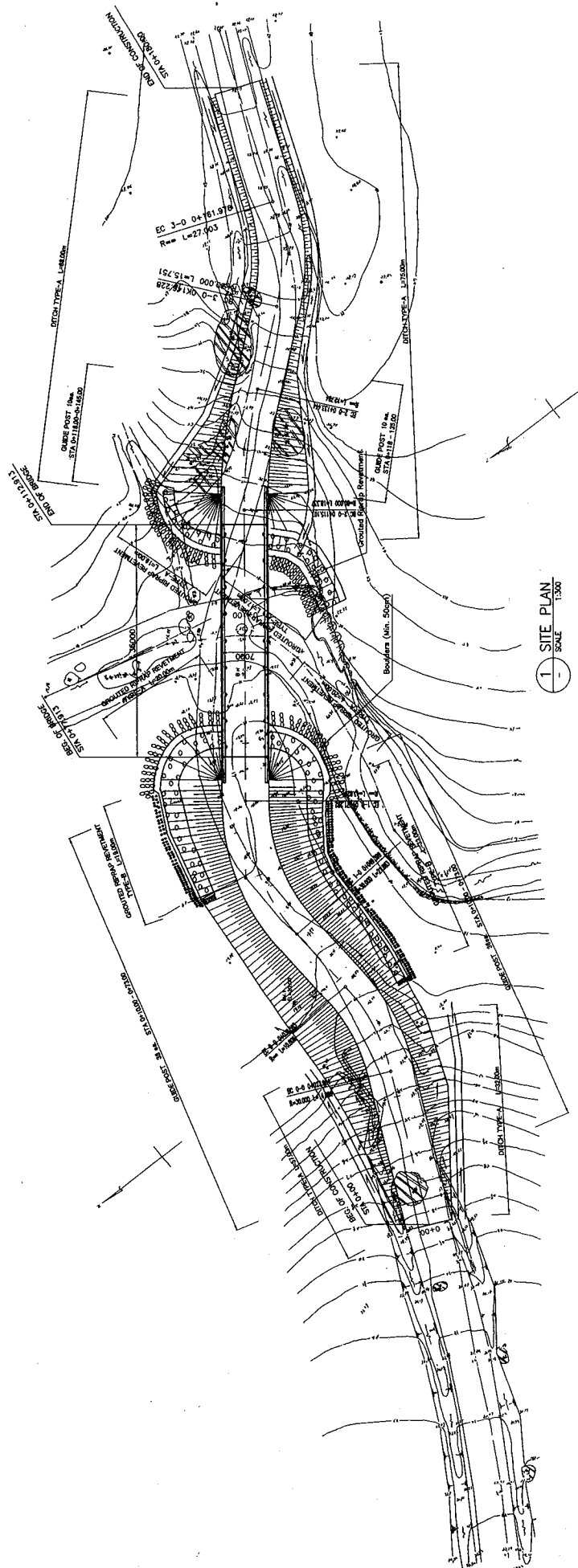
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BRIDGE NAME : FATUAT BRIDGE

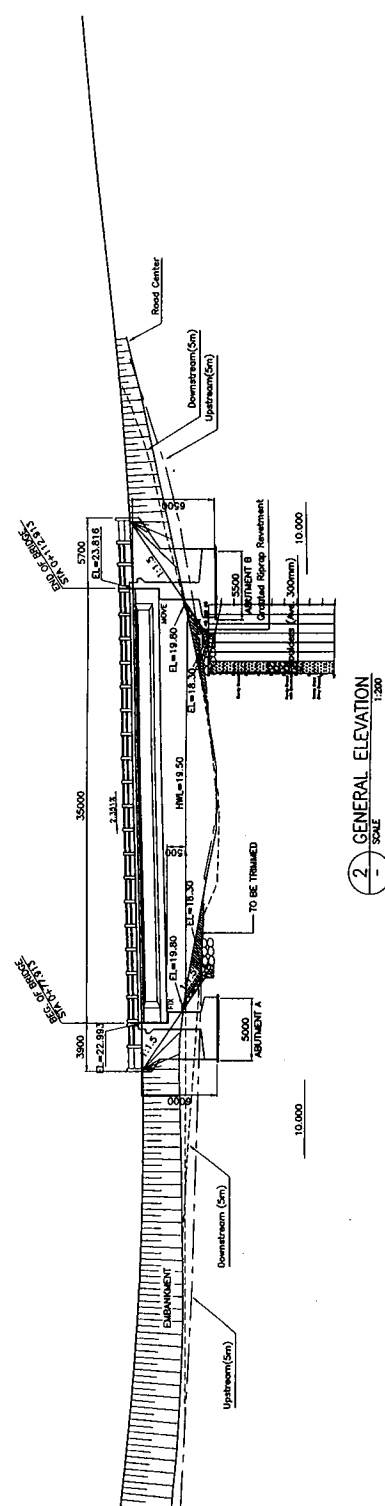
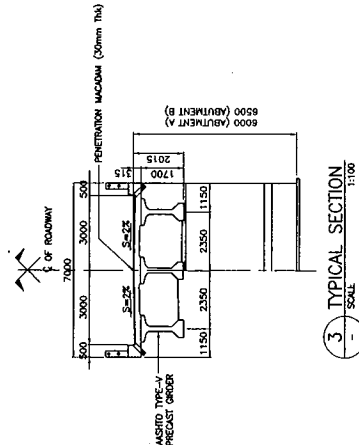
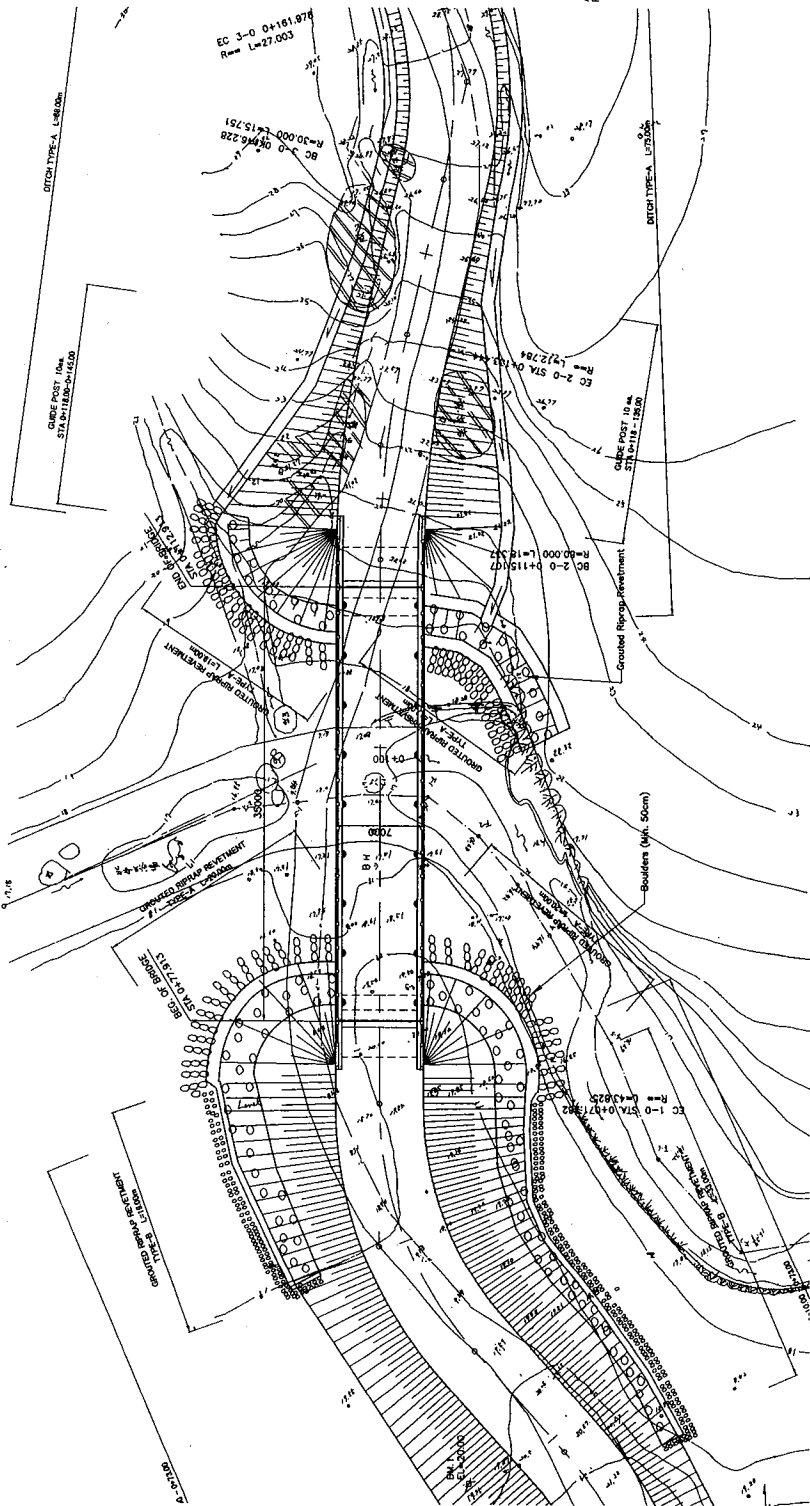
SHEET CONTENTS : CROSS-SECTIONS 2 (1:200)

VERTICAL ALIGNMENT	STATION	FINISHED GRADE	ORIGINAL GRADE
28.300	0+000	28.300	28.30
28.300	0+020	26.391	24.24
	0+040	24.481	20.55
22.972	0+060	23.018	19.10
	0+080	22.885	19.00
24.100	0+100	23.512	17.58
	0+120	24.090	21.15
26.283	0+140	25.893	25.54
	0+160	27.915	28.17
29.200	0+180	29.412	29.412

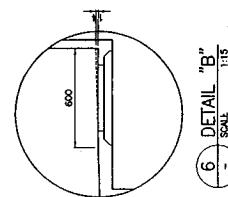
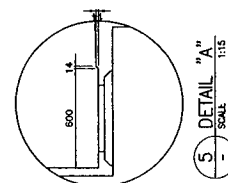
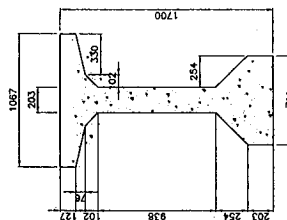
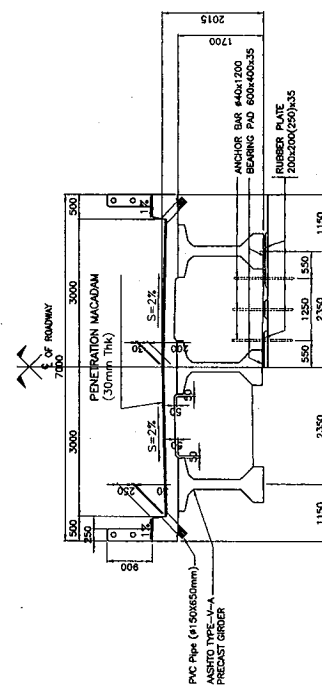
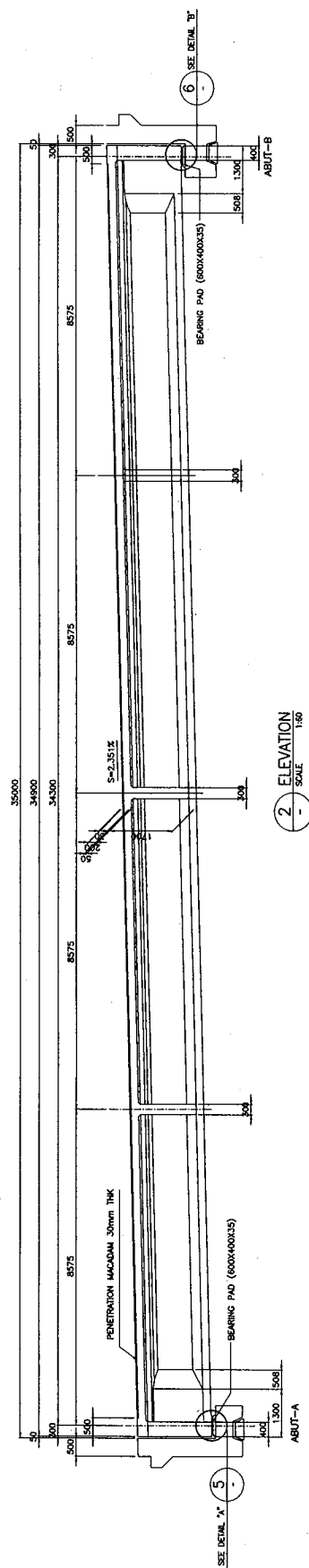
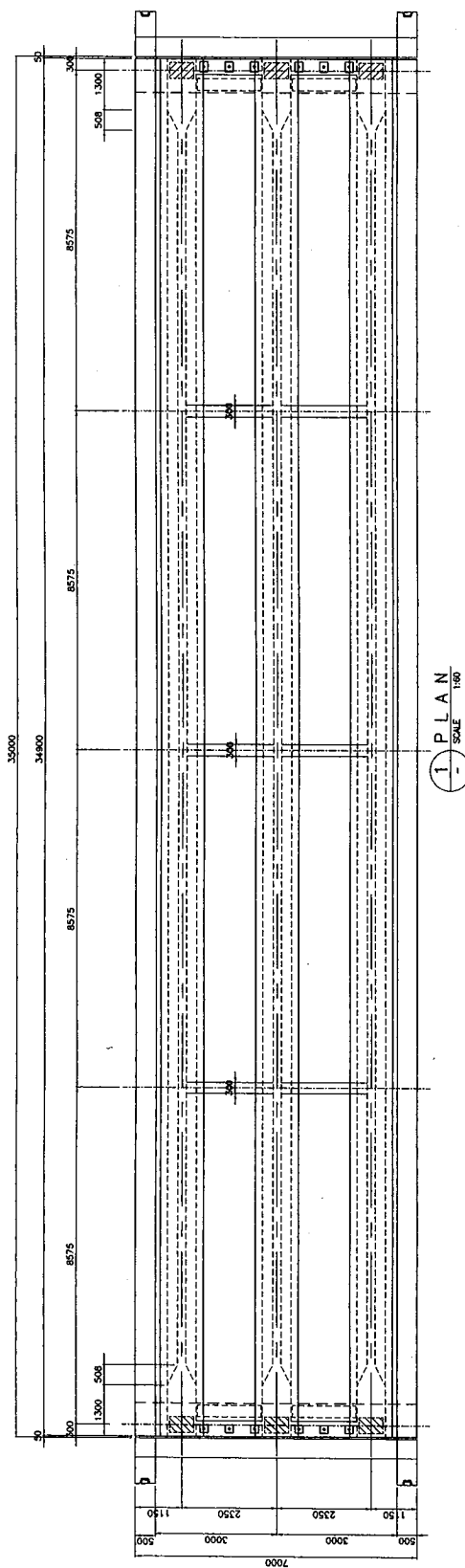




SHEET NO.: 20 / 71
 BRIDGE NAME : TANAMAN I BRIDGE
 SHEET CONTENTS : SITE PLAN



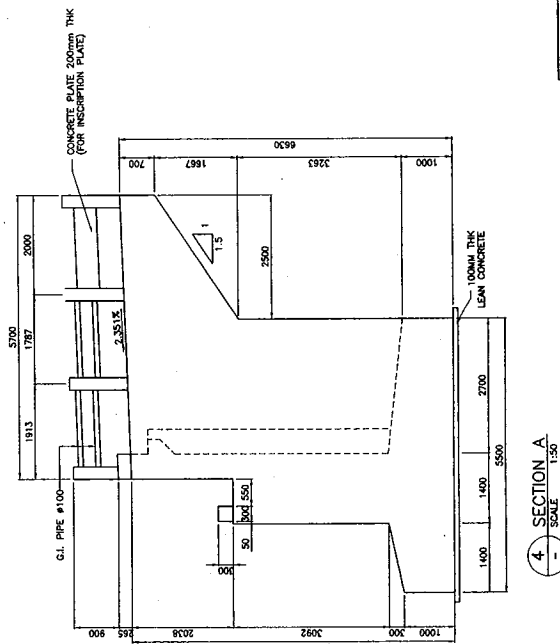
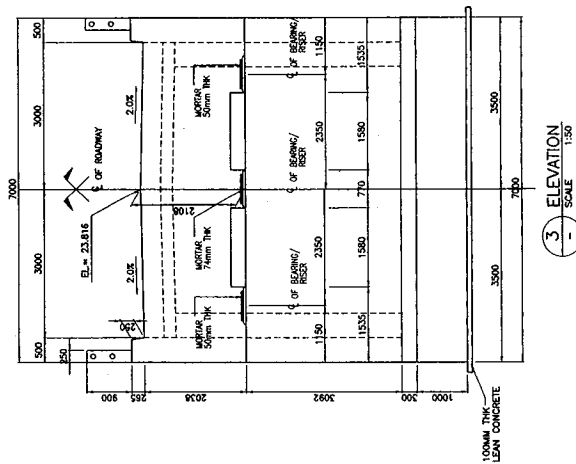
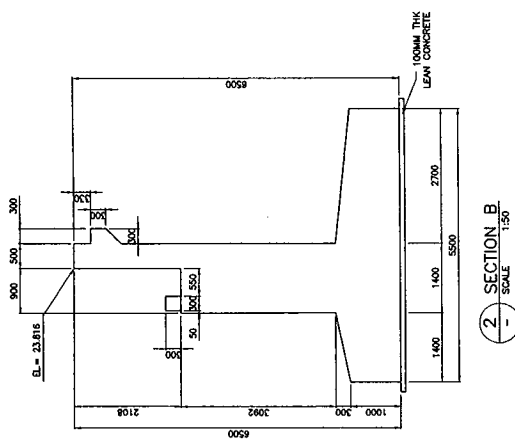
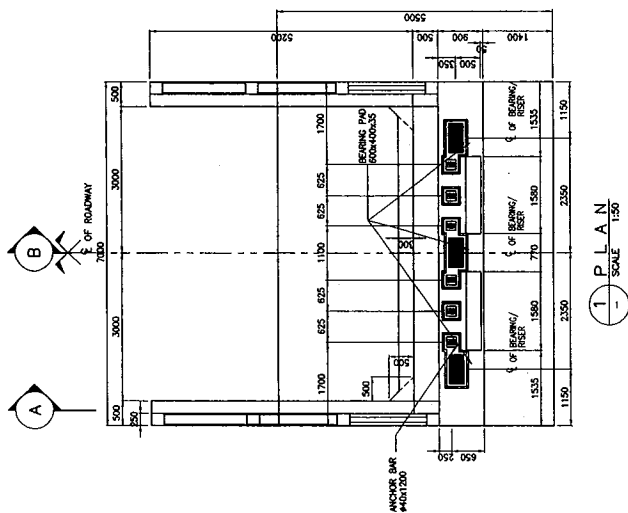
SHEET NO.: 21 / 71
 BRIDGE NAME : TANAMAN I BRIDGE
 SHEET CONTENTS : BRIDGE GENERAL VIEW



SHEET NO.: 22 / 71

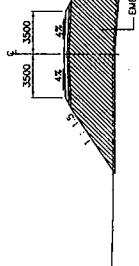
BRIDGE NAME : TANAMAN I BRIDGE

SHEET CONTENTS : SUPERSTRUCTURE



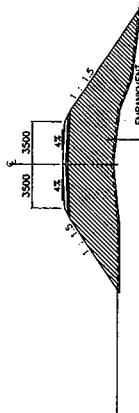
SHEET NO.: 24 / 71
 BRIDGE NAME : TANAMAN I BRIDGE
 SHEET CONTENTS : ABUTMENT B

STA. 0+060
O.C. = 23.018
F.C. = 23.018



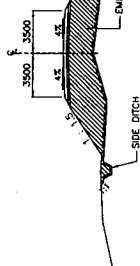
DL=10.00

STA. 0+040
O.C. = 24.451
F.C. = 24.451



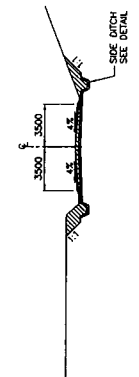
DL=10.00

STA. 0+020
O.C. = 24.24
F.C. = 24.241



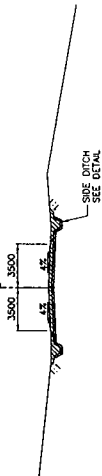
DL=20.00

STA. 0+000
O.C. = 28.30
F.C. = 28.300



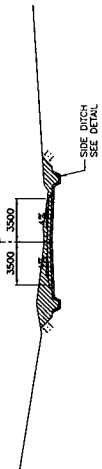
DL=20.00

STA. 0+180
O.C. = 28.200
F.C. = 28.200



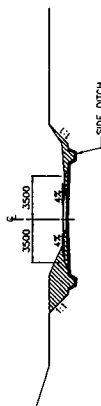
DL=20.00

STA. 0+160
O.C. = 27.515
F.C. = 27.515



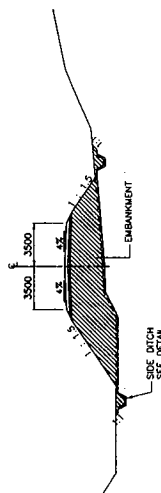
DL=20.00

STA. 0+140
O.C. = 25.54
F.C. = 25.593



DL=20.00

STA. 0+120
O.C. = 21.15
F.C. = 24.090

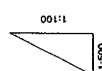


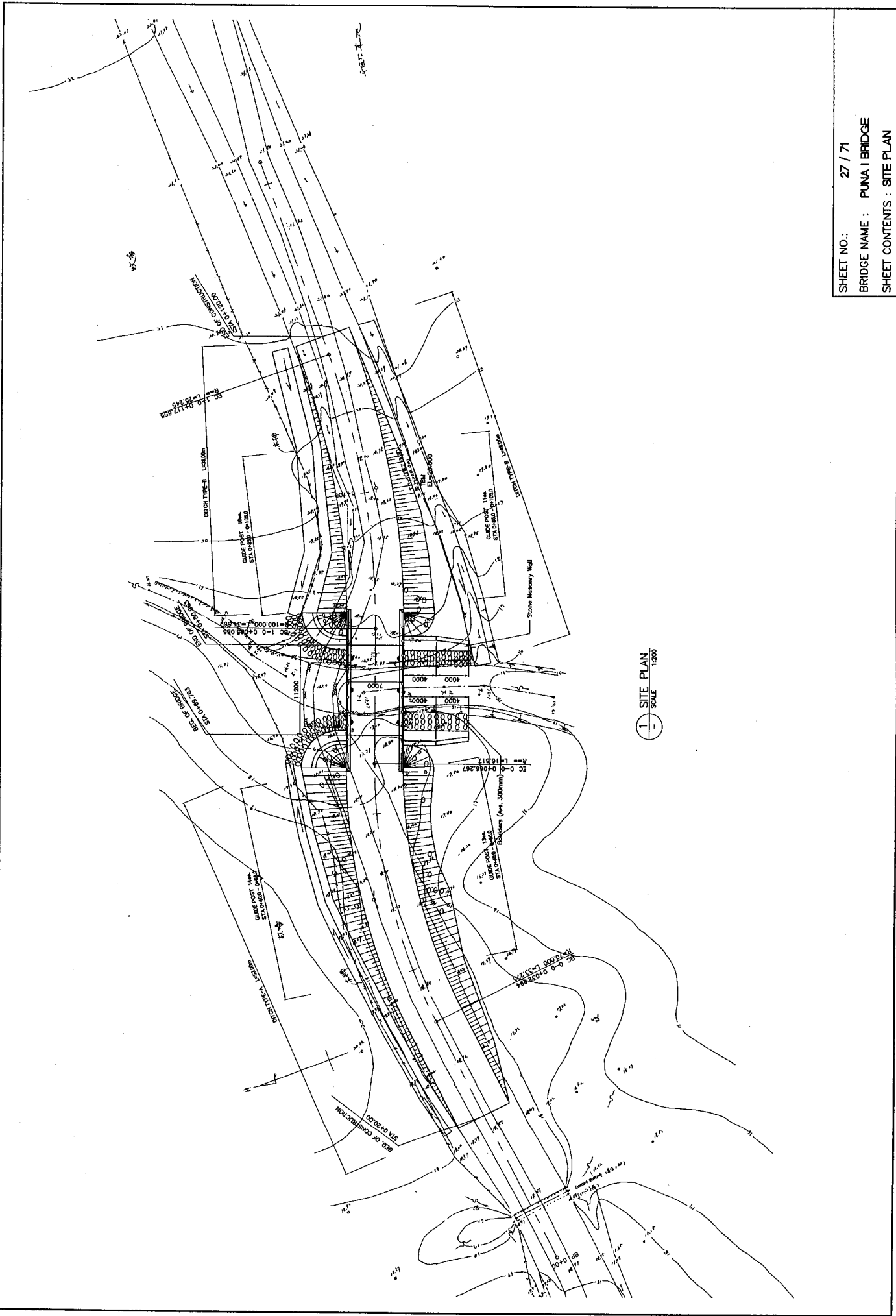
DL=10.00

SHEET NO. : 25 / 71

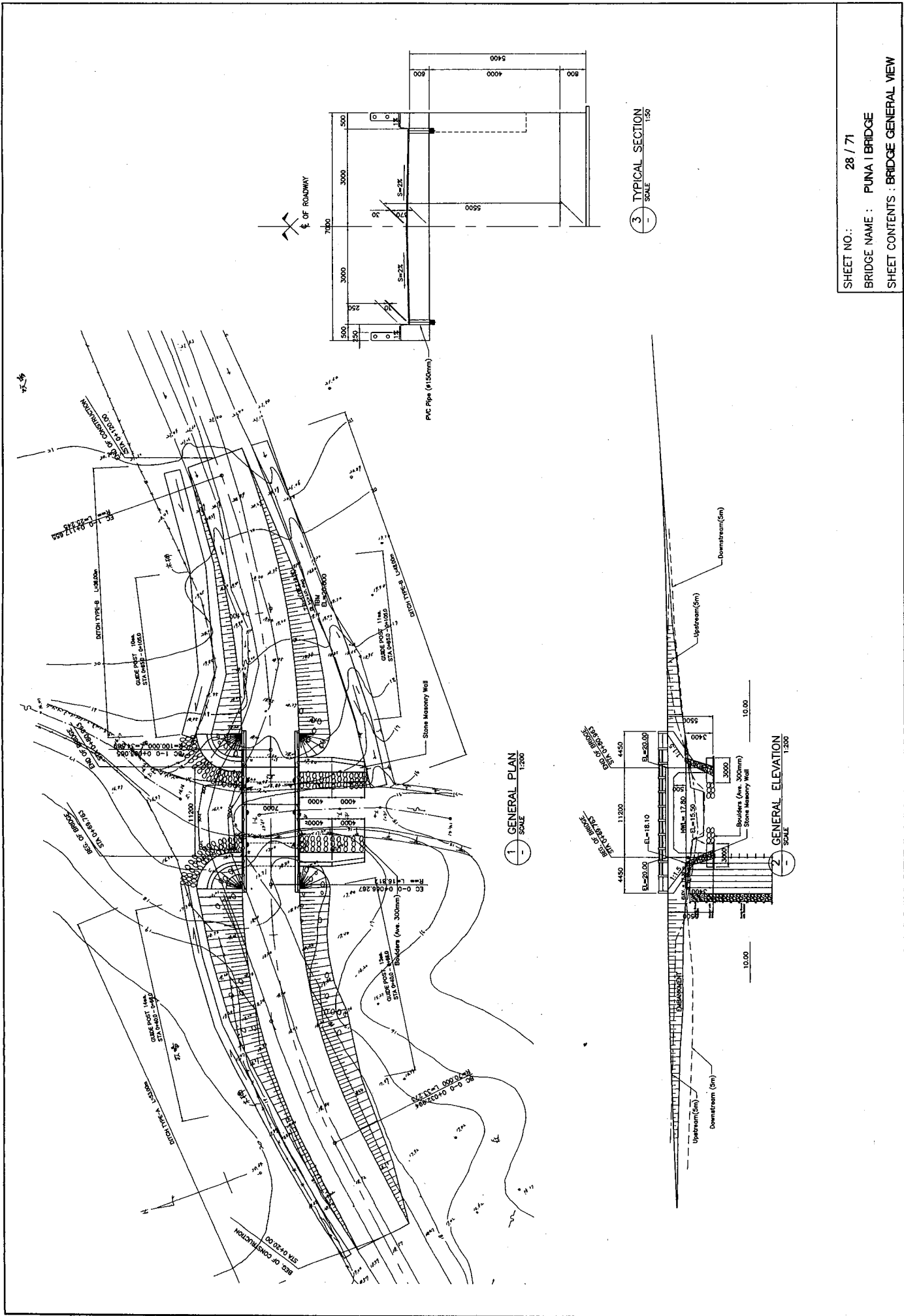
BRIDGE NAME : TANAMAN I BRIDGE

SHEET CONTENTS : CROSS-SECTIONS (1200)

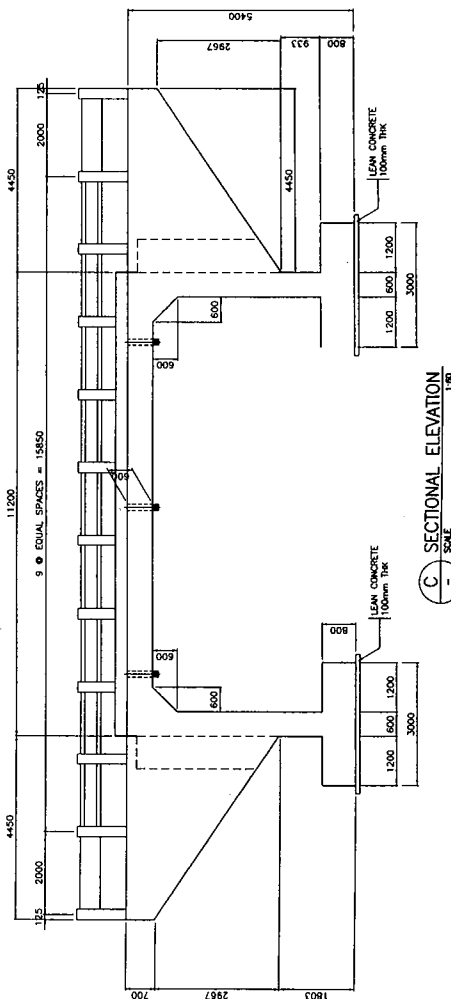
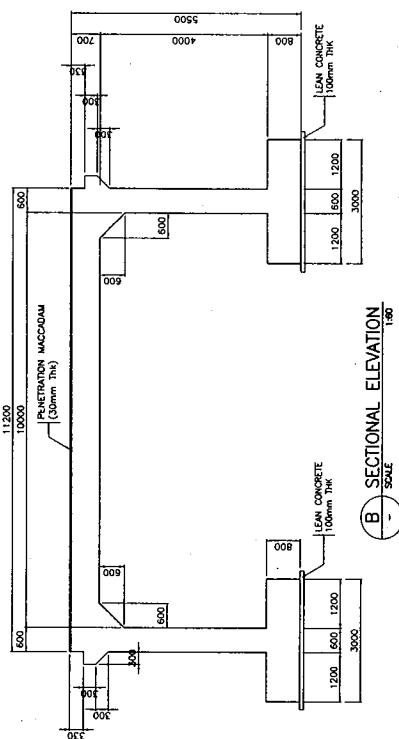
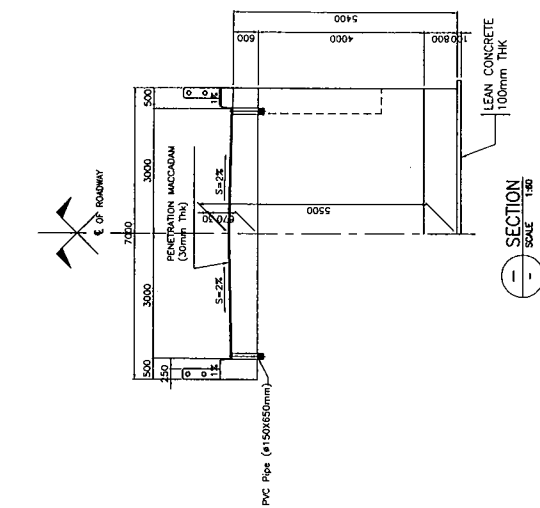
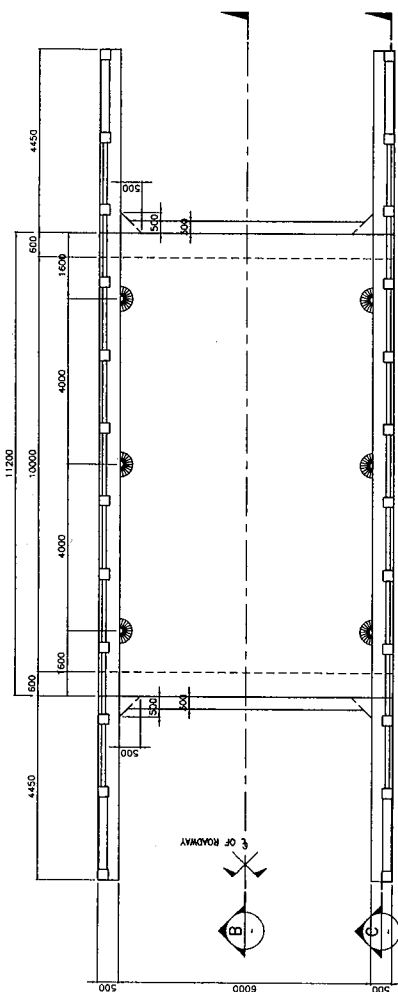




SHEET NO.: 27 / 71
 BRIDGE NAME : PUNA I BRIDGE
 SHEET CONTENTS : SITE PLAN



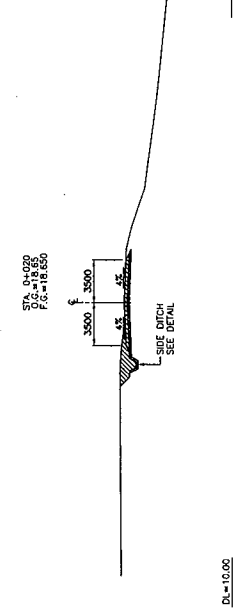
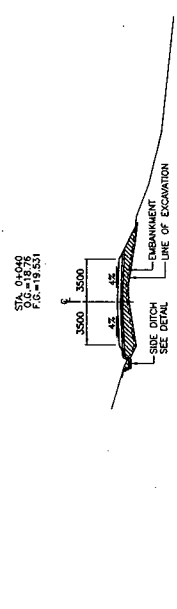
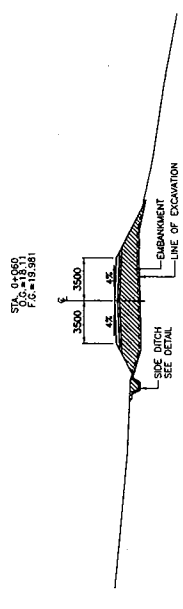
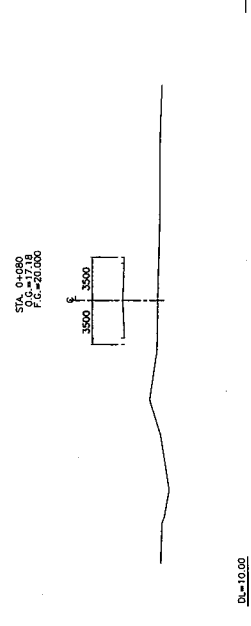
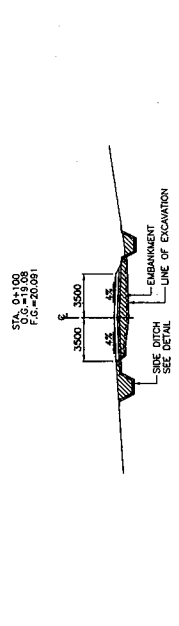
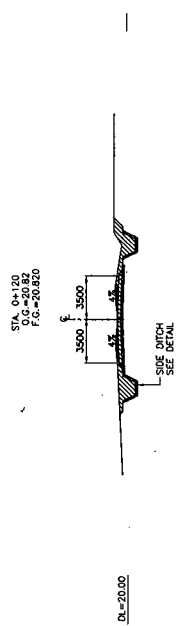
SHEET NO.: 28 / 71
 BRIDGE NAME : PUNA I BRIDGE
 SHEET CONTENTS : BRIDGE GENERAL VIEW



SHEET NO.: 29 / 71

BRIDGE NAME : PUNA I BRIDGE

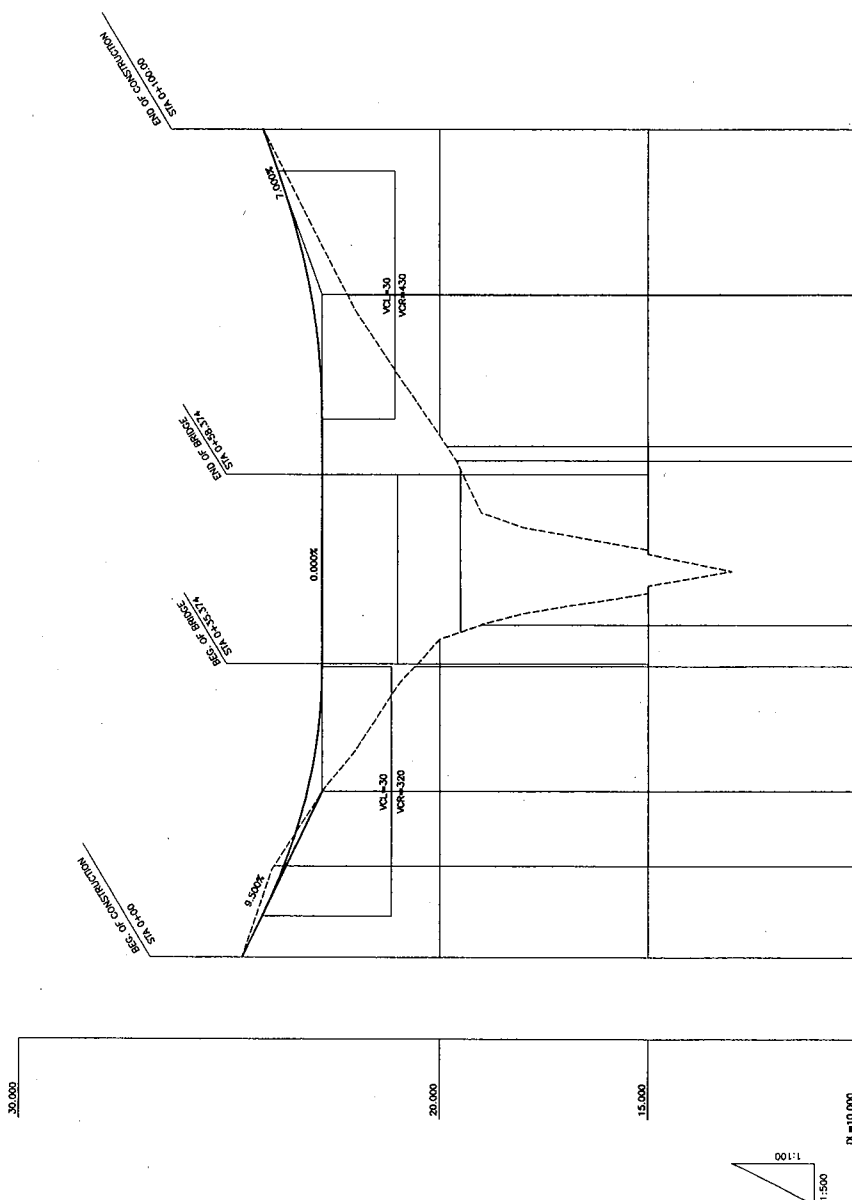
SHEET CONTENTS : PLAN, ELEVATION, SECTION

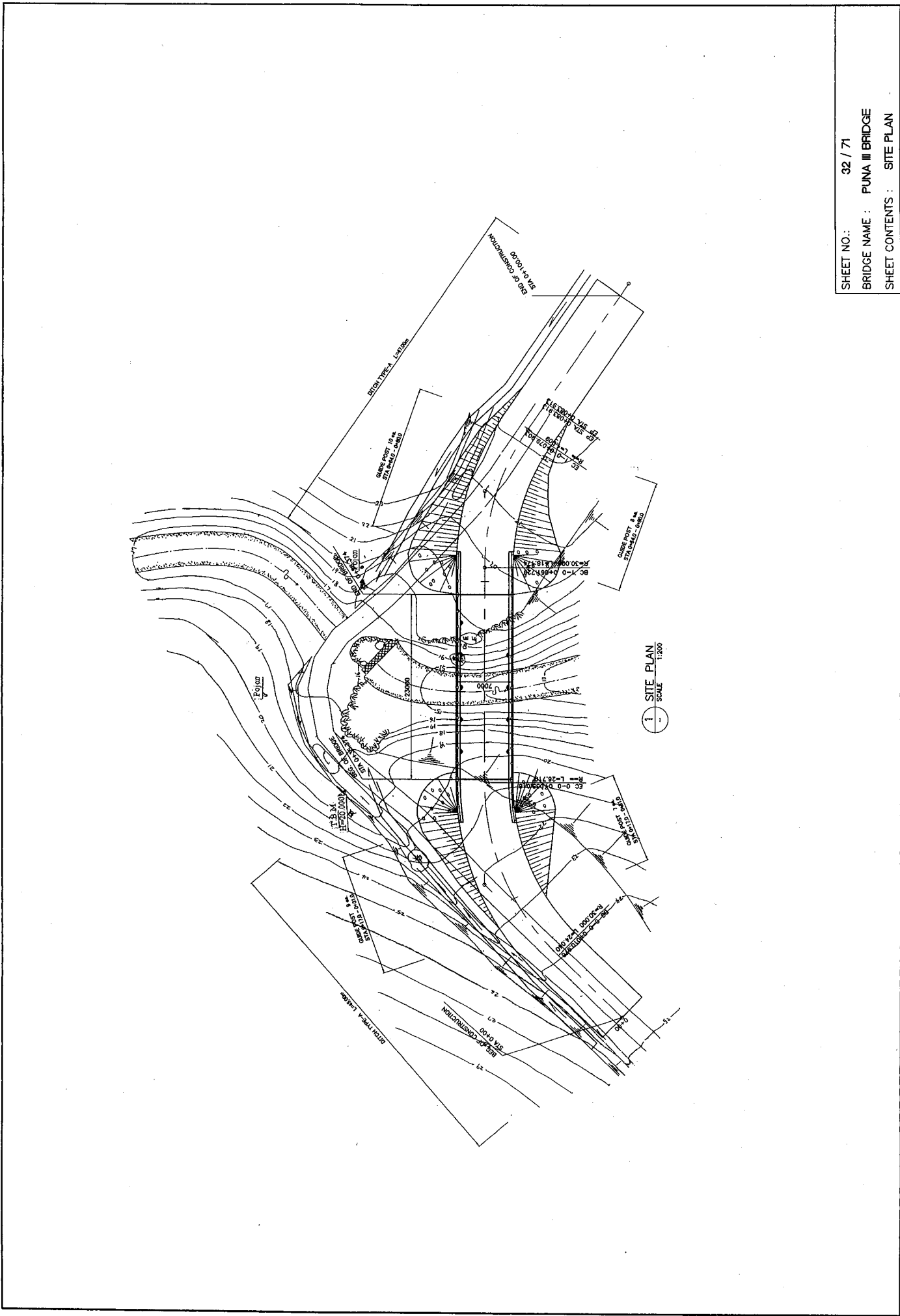


SHEET NO.: 30 / 71
 BRIDGE NAME : PUNA I BRIDGE
 SHEET CONTENTS : CROSS-SECTIONS (1:200)

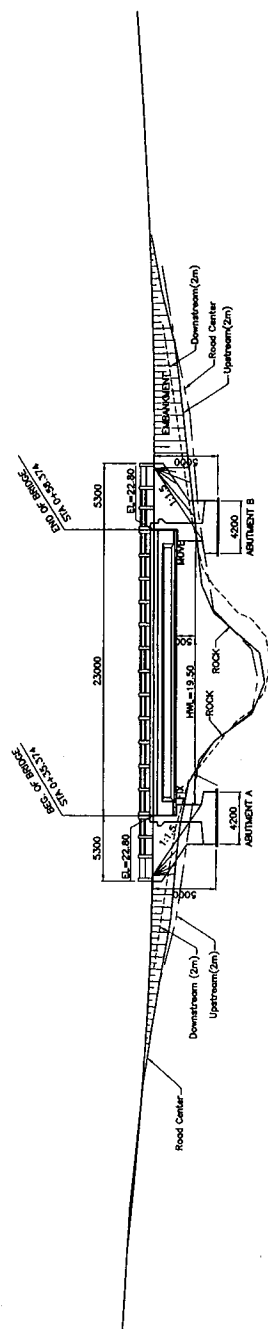
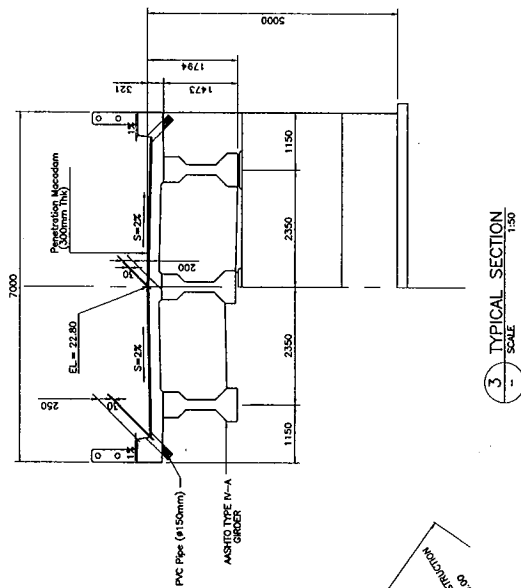
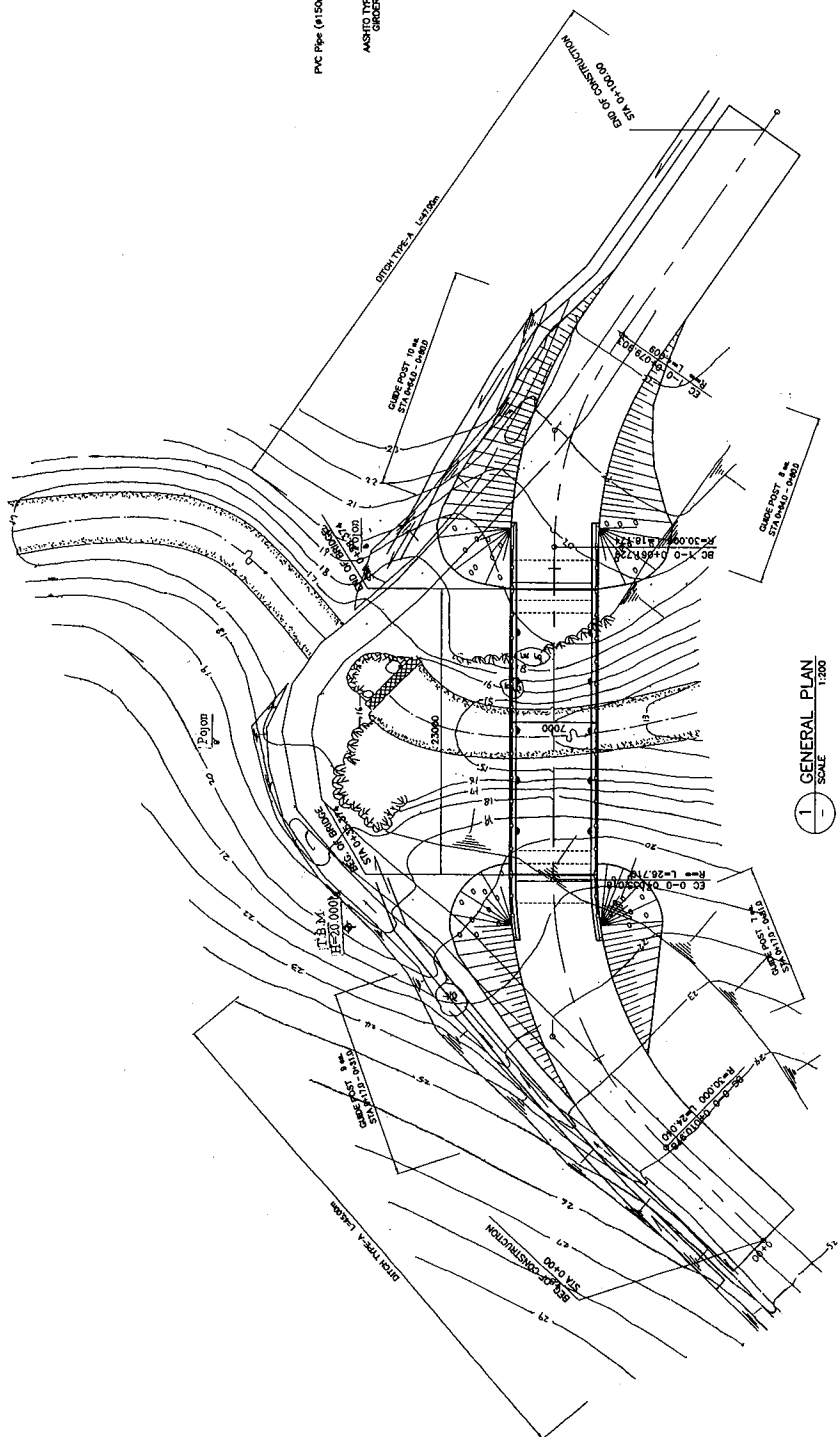
SHEET NO.: 31 / 71
 BRIDGE NAME : PUNA III BRIDGE
 SHEET CONTENTS : PROFILE

VERTICAL ALIGNMENT	24.200	22.600	22.800	24.700
	0+000	0+050	0+100	0+150
	0+000	0+050	0+100	0+150
HORIZONTAL CURVATURE	R=21.388 L=21.388	R=30 L=12.171	R=4 L=11.927	R=8 L=8.601
ORIGINAL GRADE	24.20	22.19	19.63	20.59
FINISHED GRADE	24.200	23.063	22.800	23.156
STATION	0+100	0+050	0+000	0+000





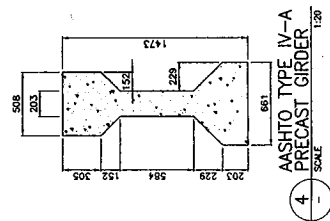
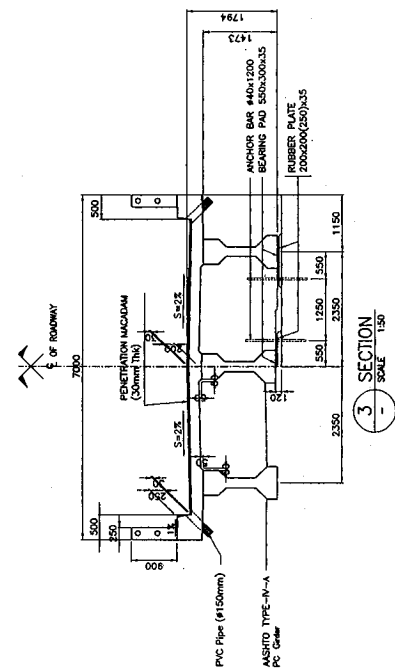
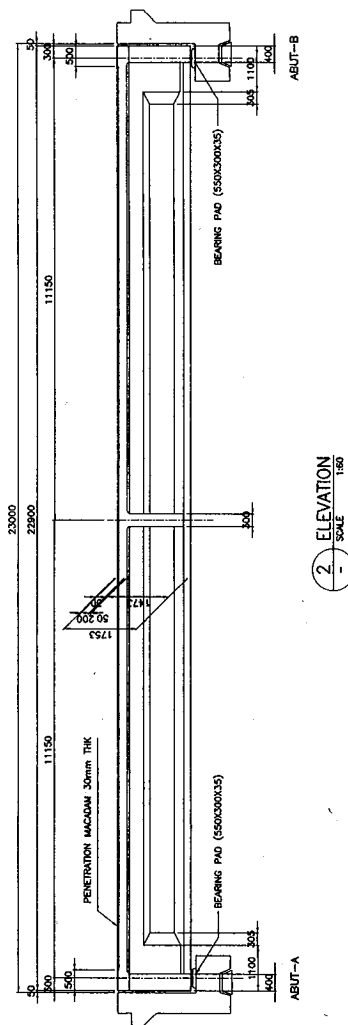
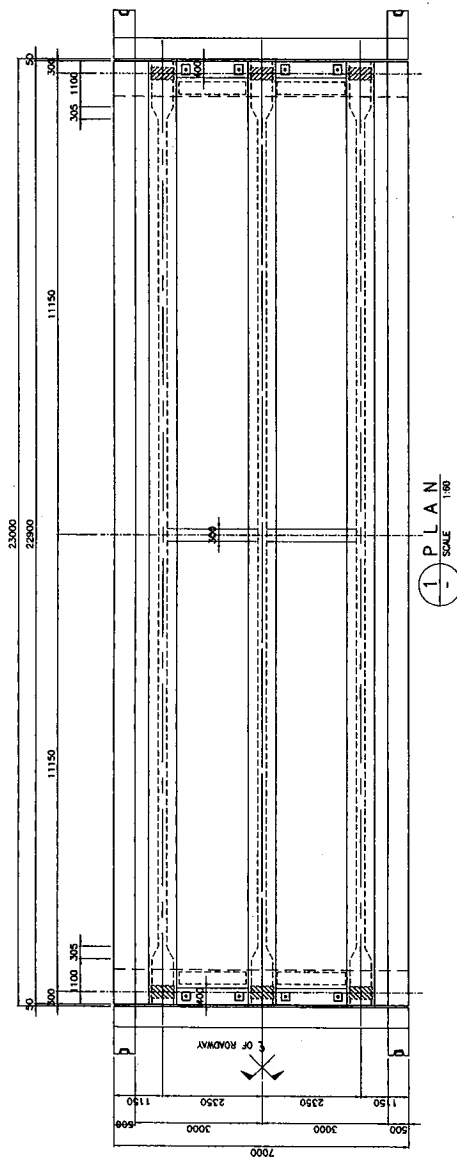
SHEET NO.: 32 / 71
BRIDGE NAME : PUNA III BRIDGE
SHEET CONTENTS : SITE PLAN



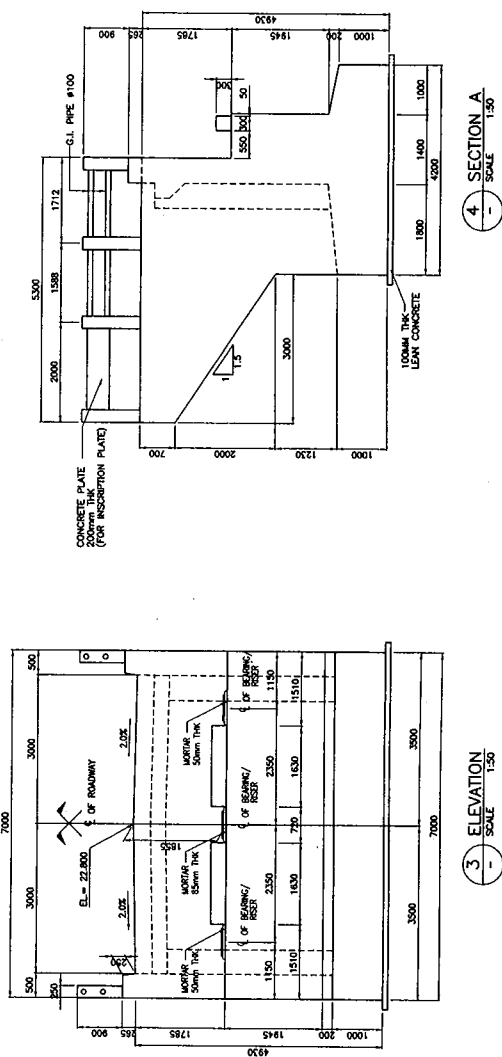
SHEET NO.: 33 / 71

BRIDGE NAME : PUNA III BRIDGE

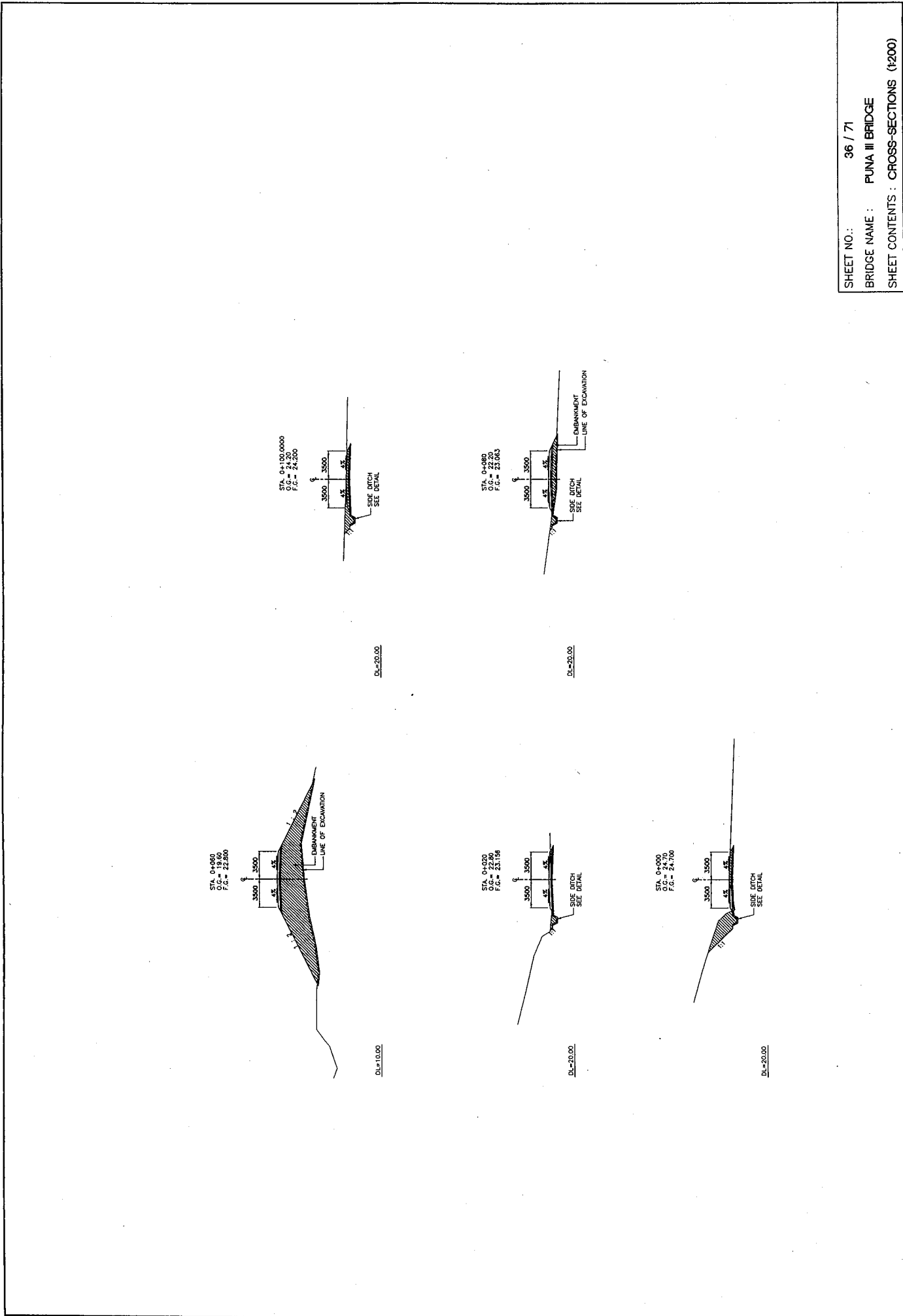
SHEET CONTENTS : BRIDGE GENERAL VIEW



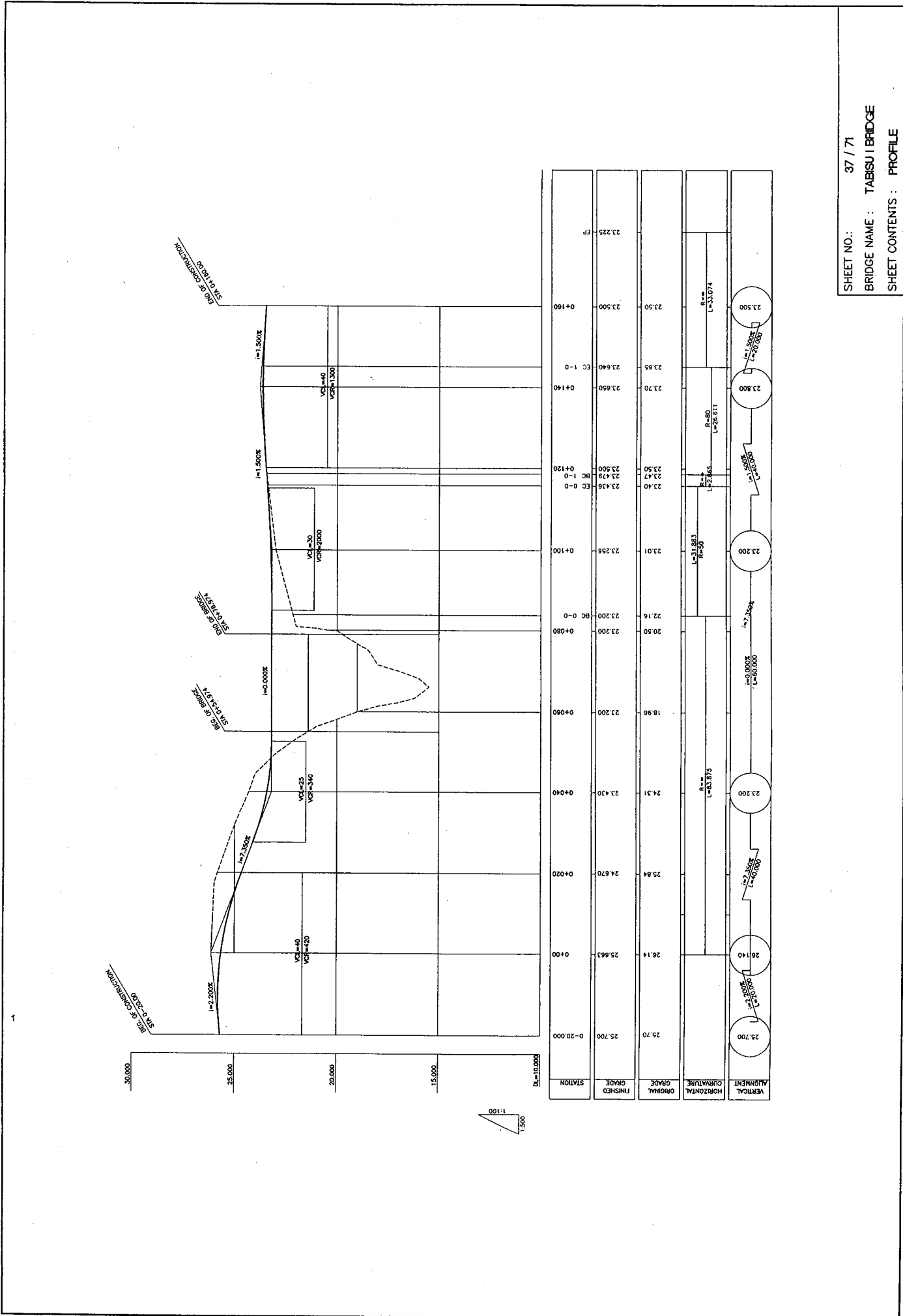
SHEET NO.: 34 / 71
BRIDGE NAME : PUNA III BRIDGE
SHEET CONTENTS : SUPERSTRUCTURE



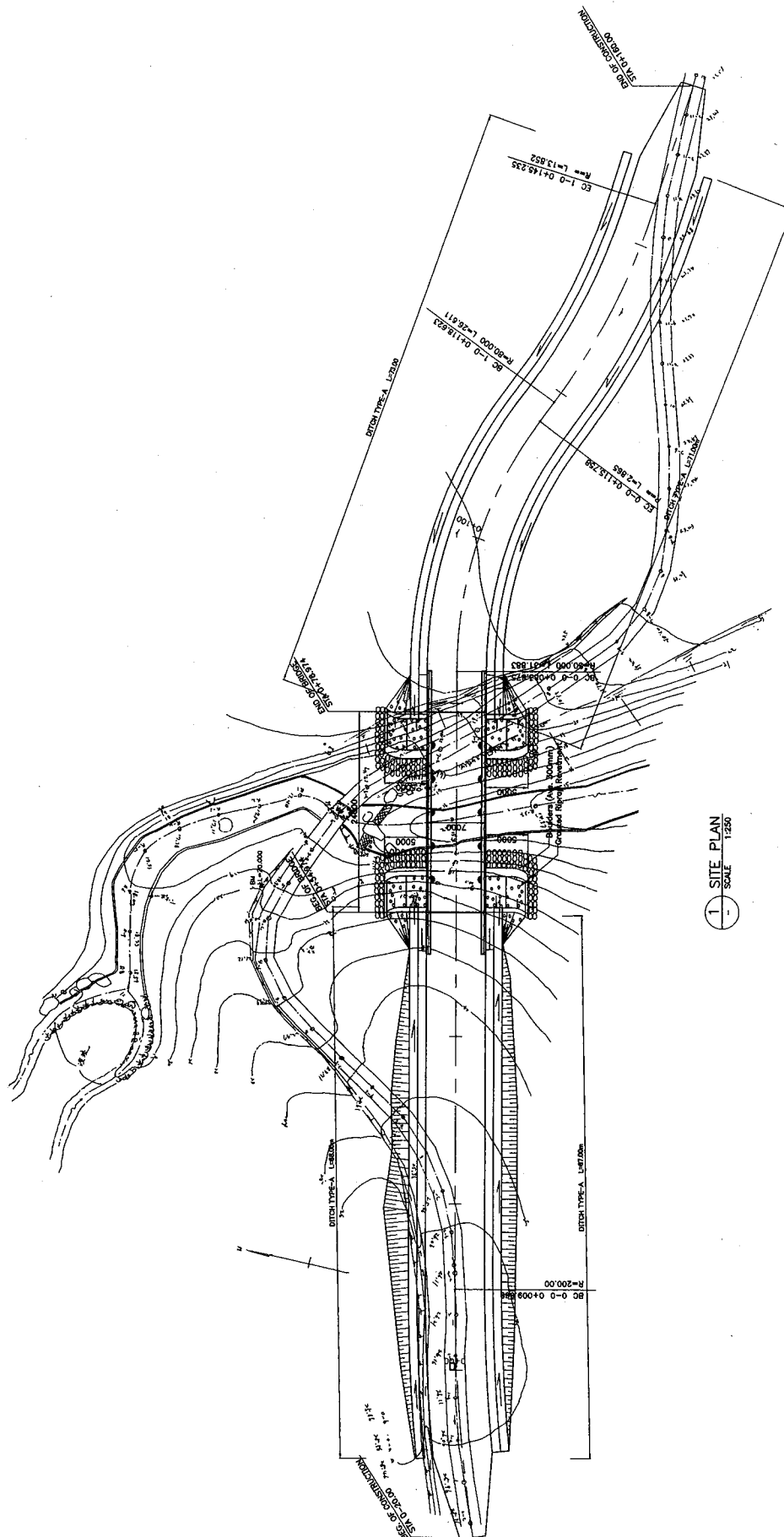
SHEET NO.: 35 / 71
BRIDGE NAME : PUNA III BRIDGE
SHEET CONTENTS : ABUTMENT 'A', 'B'

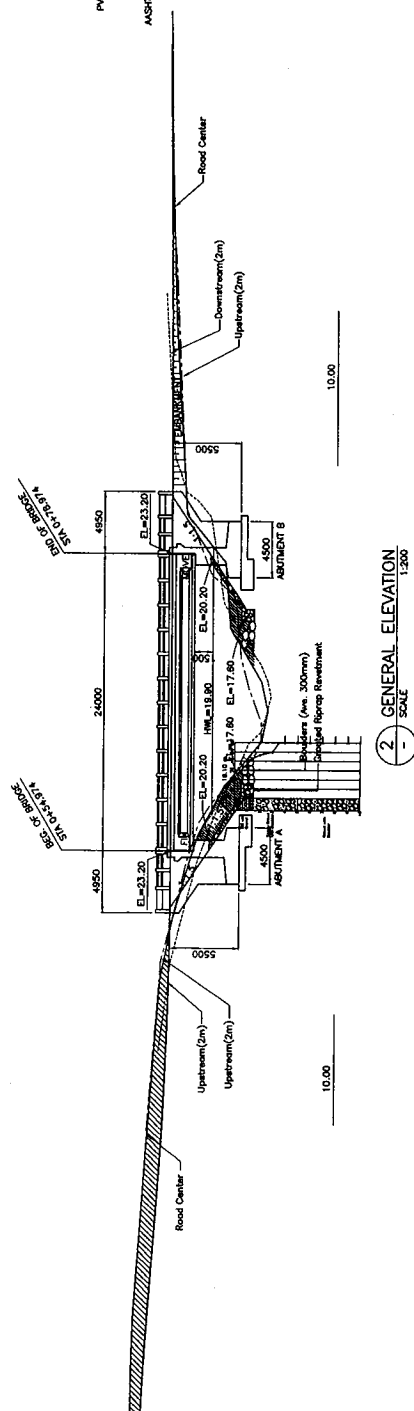
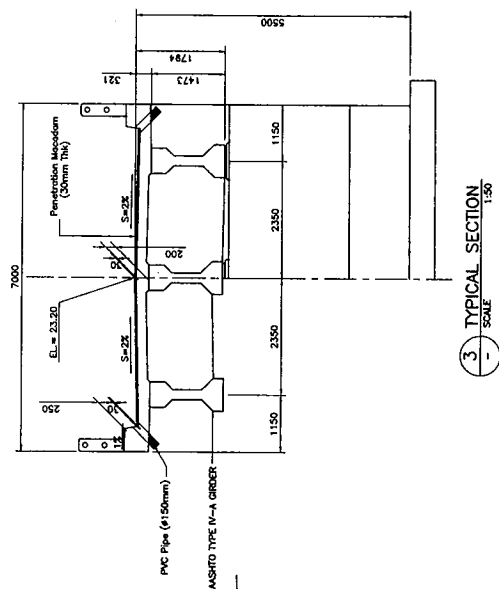
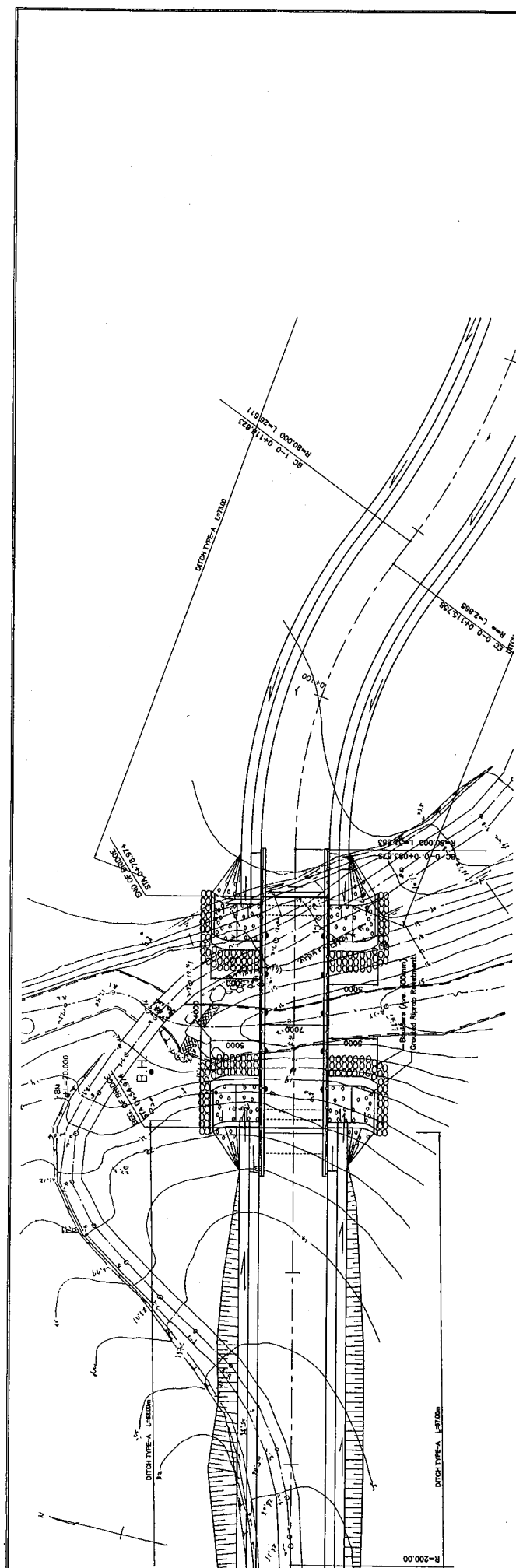


SHEET NO.: 36 / 71
 BRIDGE NAME : PUNA III BRIDGE
 SHEET CONTENTS : CROSS-SECTIONS (1/200)

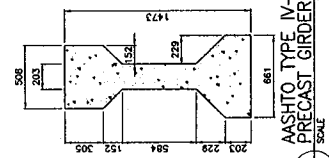
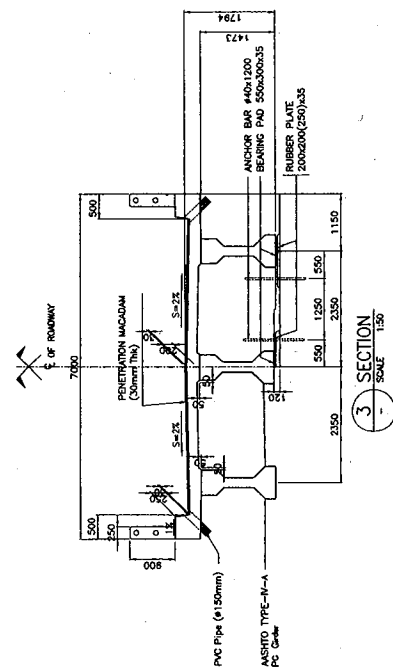
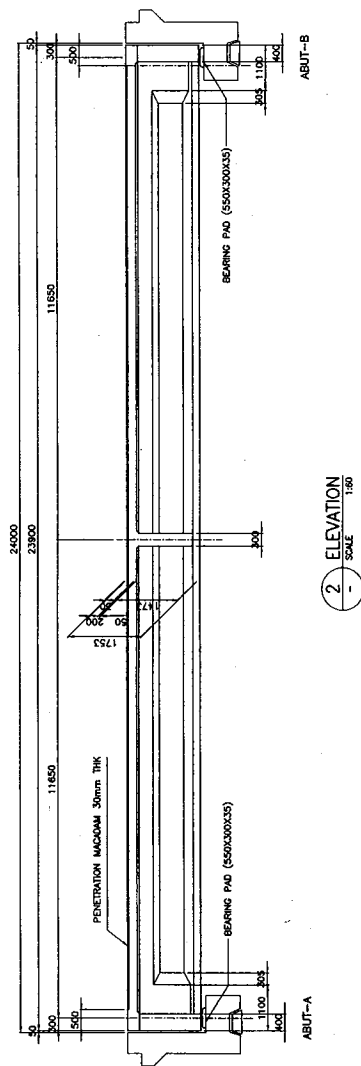
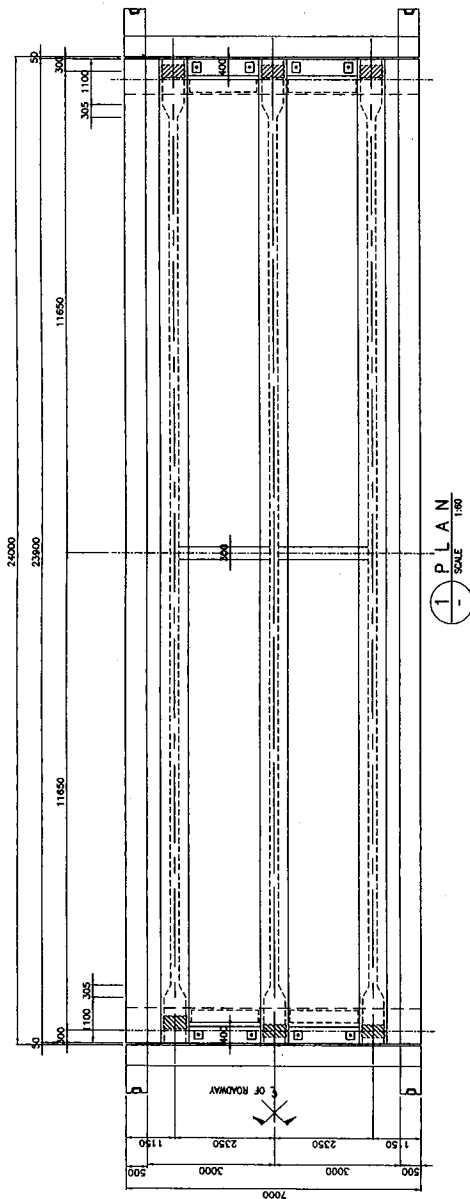


SHEET NO.: 37 / 71
 BRIDGE NAME : TABISU BRIDGE
 SHEET CONTENTS : PROFILE

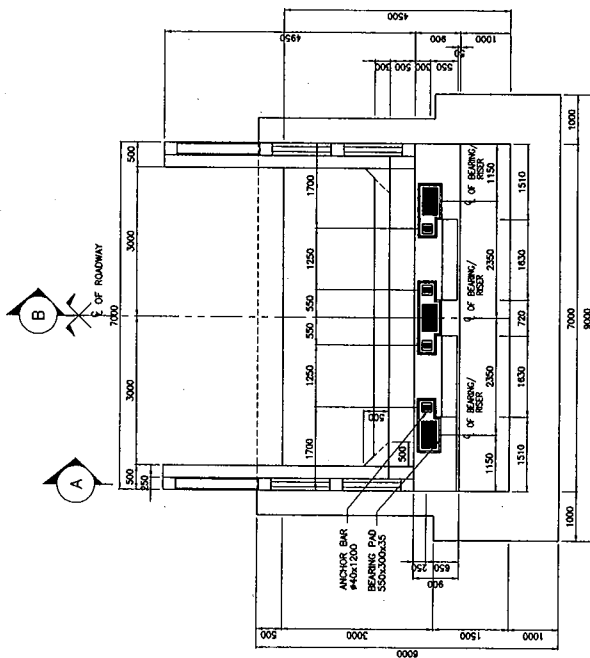




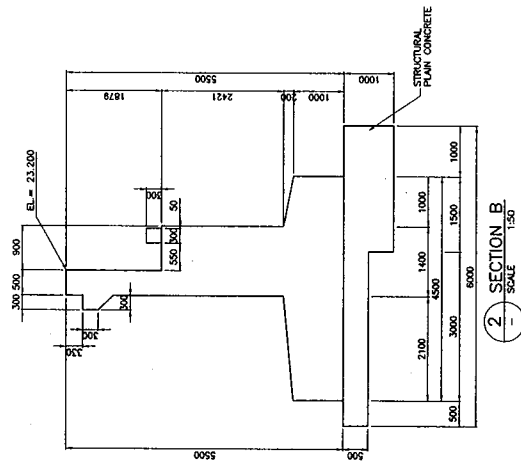
SHEET NUMBER : 39 / 71
BRIDGE NAME : TABSU I BRIDGE
SHEET CONTENTS : BRIDGE GENERAL VIEW



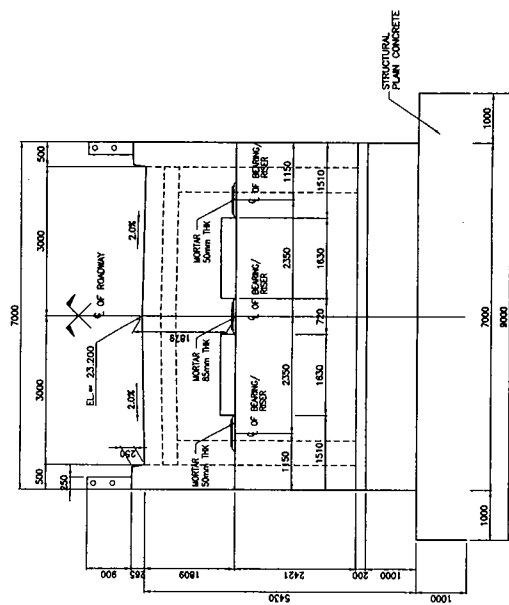
SHEET NO.: 40 / 71
BRIDGE NAME : TABISU I BRIDGE
SHEET CONTENTS : SUPERSTRUCTURE



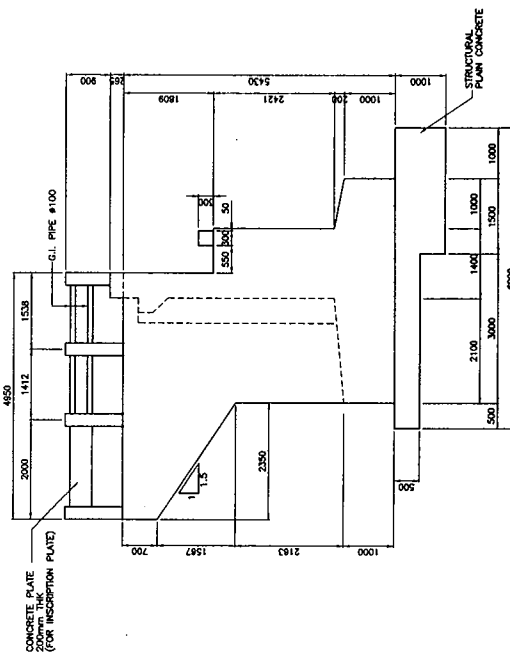
1 PLAN
SCALE 1:50



2 SECTION B
SCALE 1:50

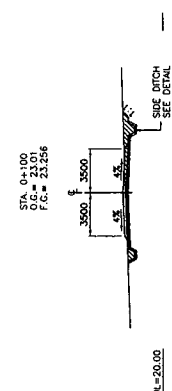
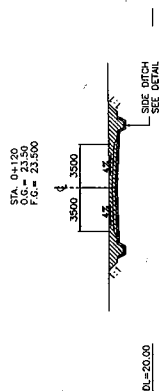
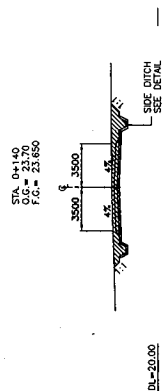
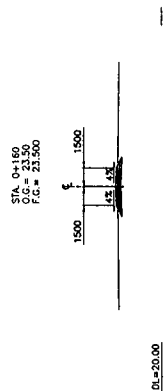
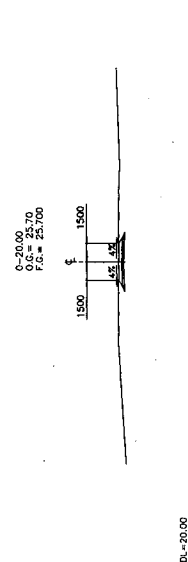
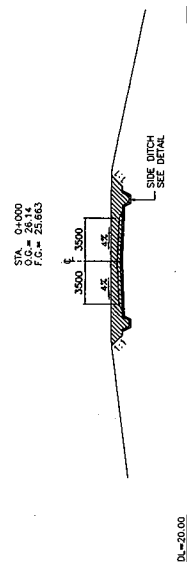
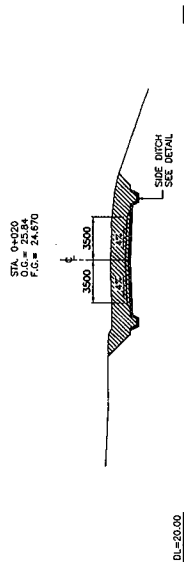
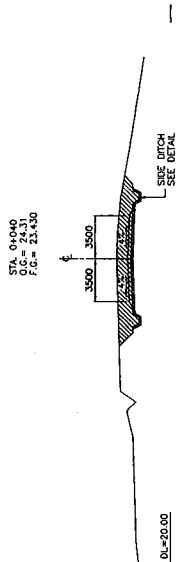
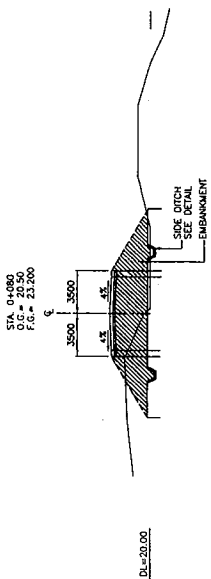


3 ELEVATION
SCALE 1:50

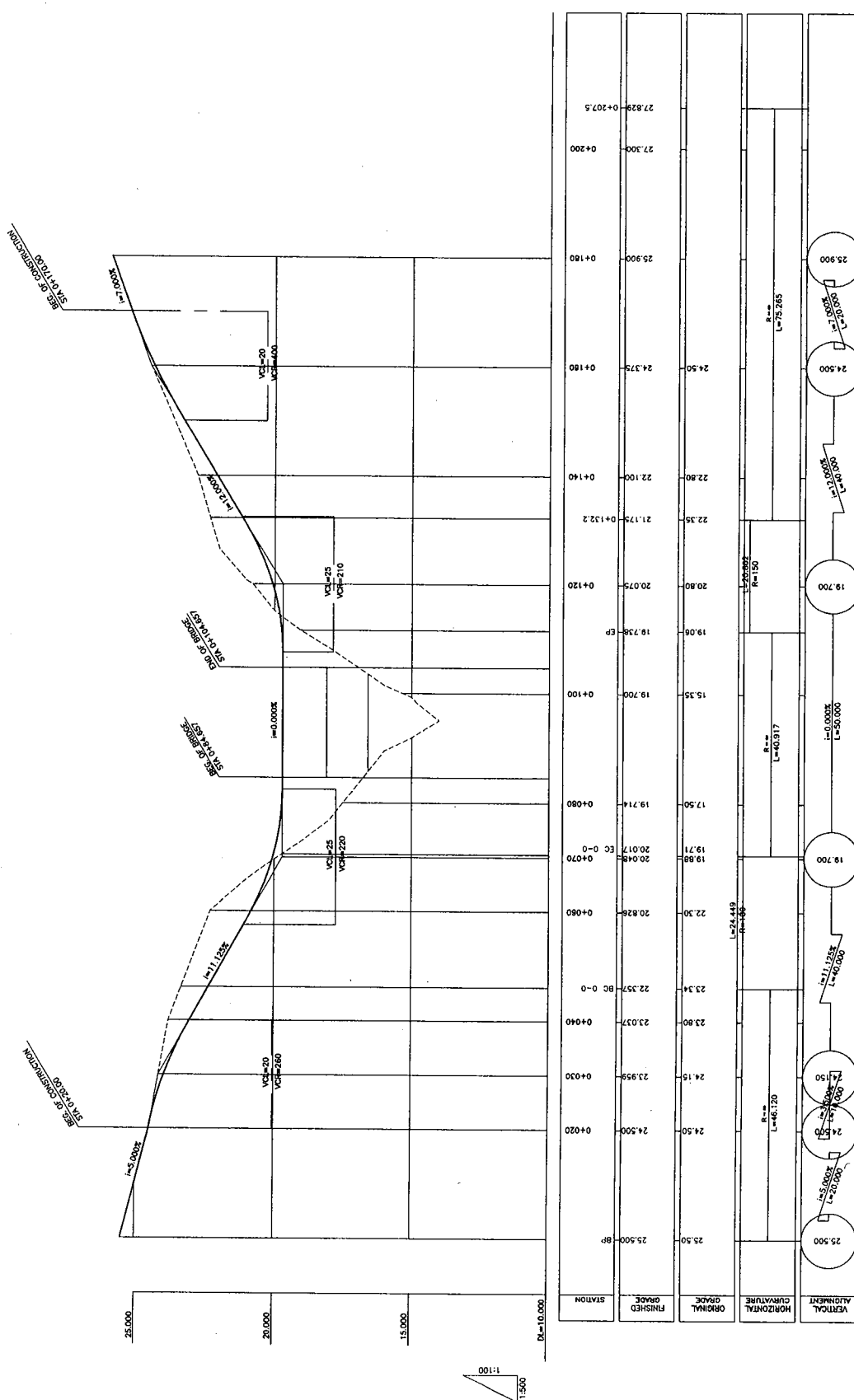


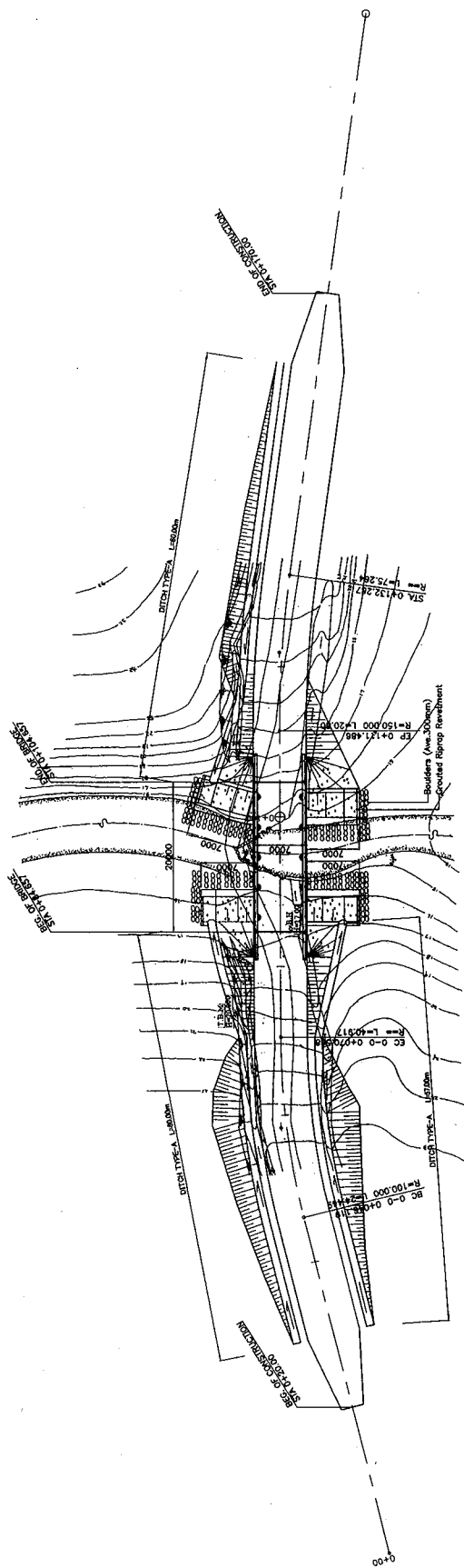
4 SECTION A
SCALE 1:30

SHEET NO.: 41 / 71
BRIDGE NAME : TABISU I BRIDGE
SHEET CONTENTS : ABUTMENT 'A', 'B'



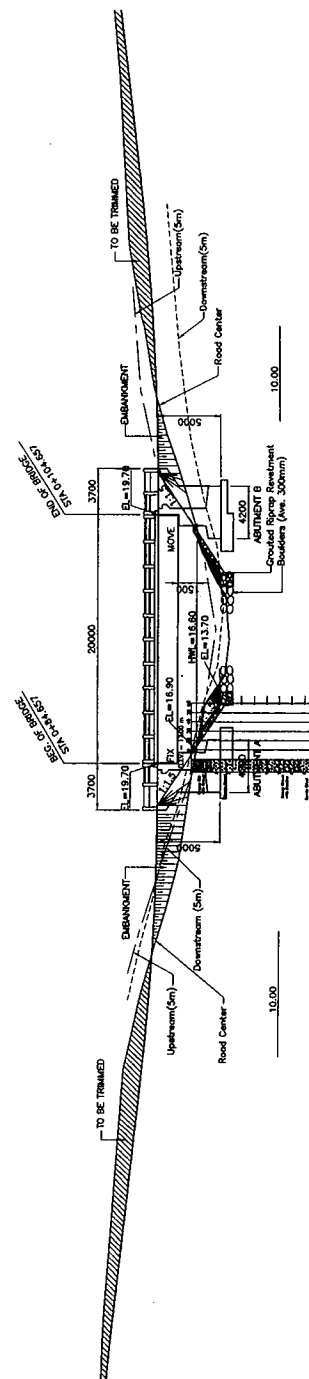
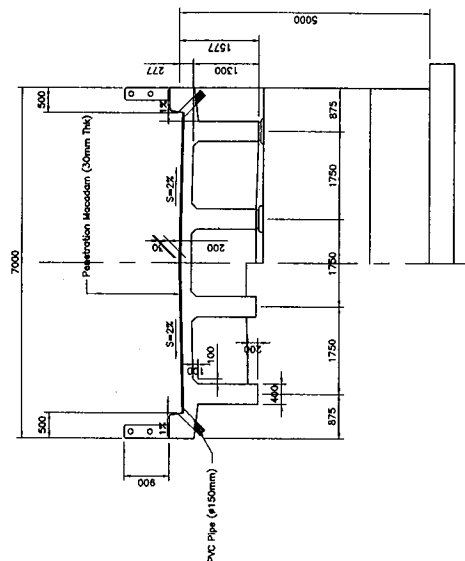
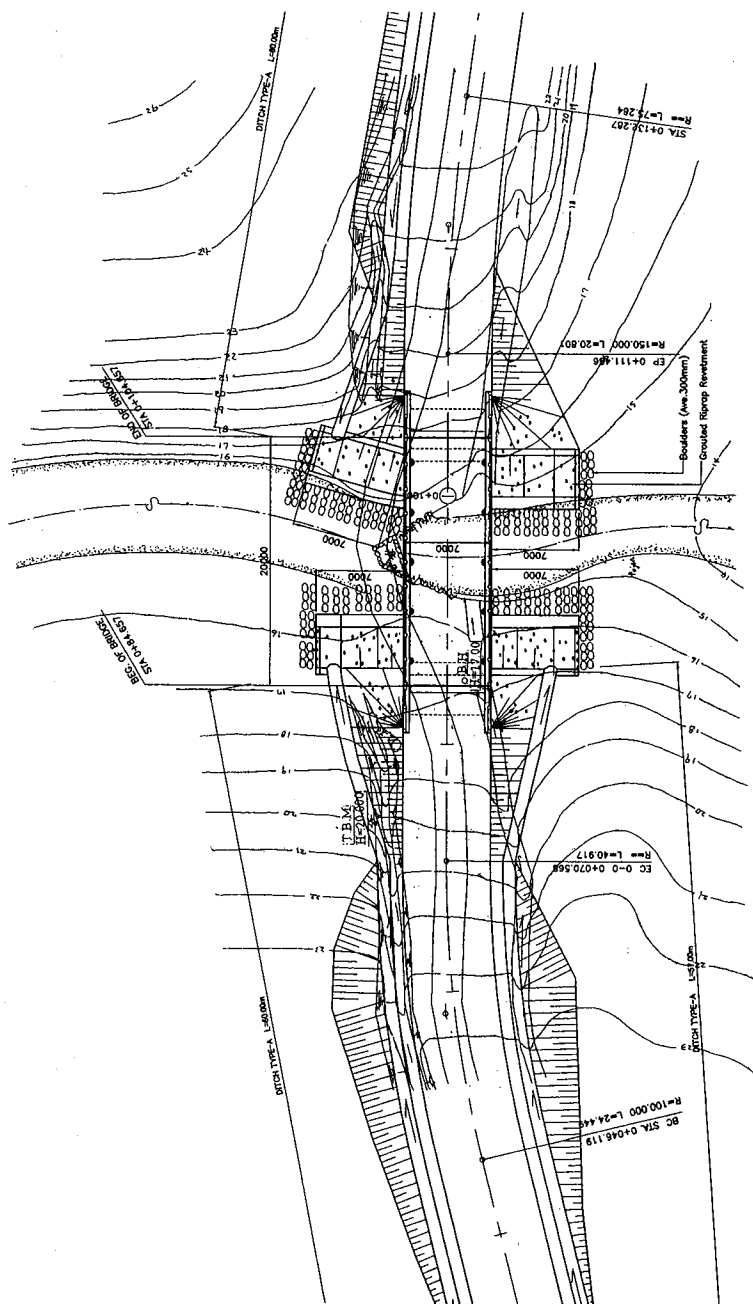
SHEET NO.: 42 / 71
BRIDGE NAME : TABISU I BRIDGE
SHEET CONTENTS : CROSS-SECTIONS (1:200)



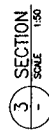
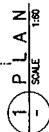


1 SITE PLAN
SCALE 1:500

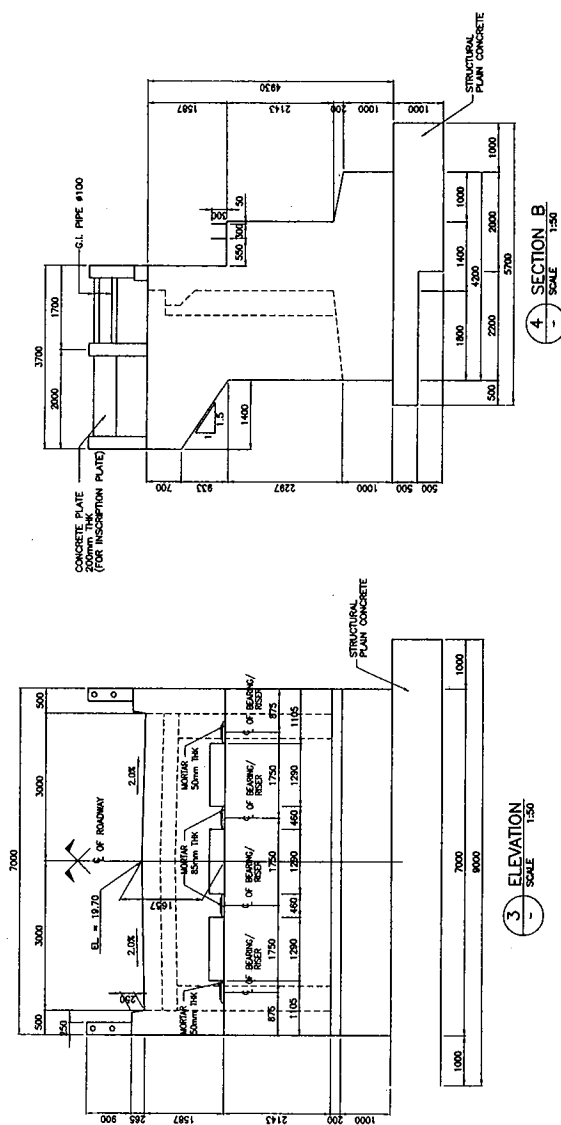
SHEET NO.: 44 / 71
 BRIDGE NAME : TABISU III BRIDGE
 SHEET CONTENTS : SITE PLAN



SHEET NO.: 45 / 71
 BRIDGE NAME : TABISU III BRIDGE
 SHEET CONTENTS : BRIDGE GENERAL VIEW

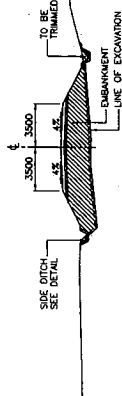


SHEET CONTENTS : SUPERSTRUCTURE



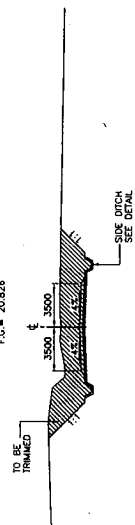
SHEET NO.: 47 / 71
BRIDGE NAME : TABISU III BRIDGE
SHEET CONTENTS : ABUTMENT 'A', 'B'

STA. 0+080
O.C. = 17.50
F.C. = 19.714



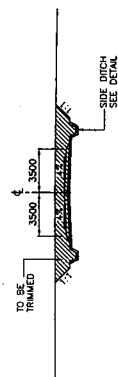
DL=10.00

STA. 0+080
O.C. = 20.55
F.C. = 20.828



DL=10.00

STA. 0+140
O.C. = 23.55
F.C. = 23.037



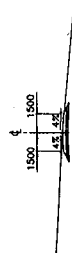
DL=10.00

STA. 0+020
O.C. = 24.50
F.C. = 24.500



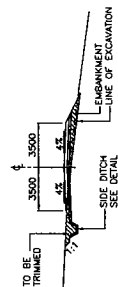
DL=10.00

STA. 0+180
O.C. = 25.900
F.C. = 25.900



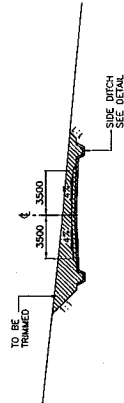
DL=20.00

STA. 0+160
O.C. = 24.50
F.C. = 24.375



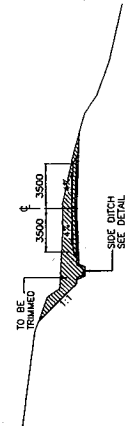
DL=10.00

STA. 0+140
O.C. = 23.55
F.C. = 21.00



DL=10.00

STA. 0+120
O.C. = 23.50
F.C. = 20.075

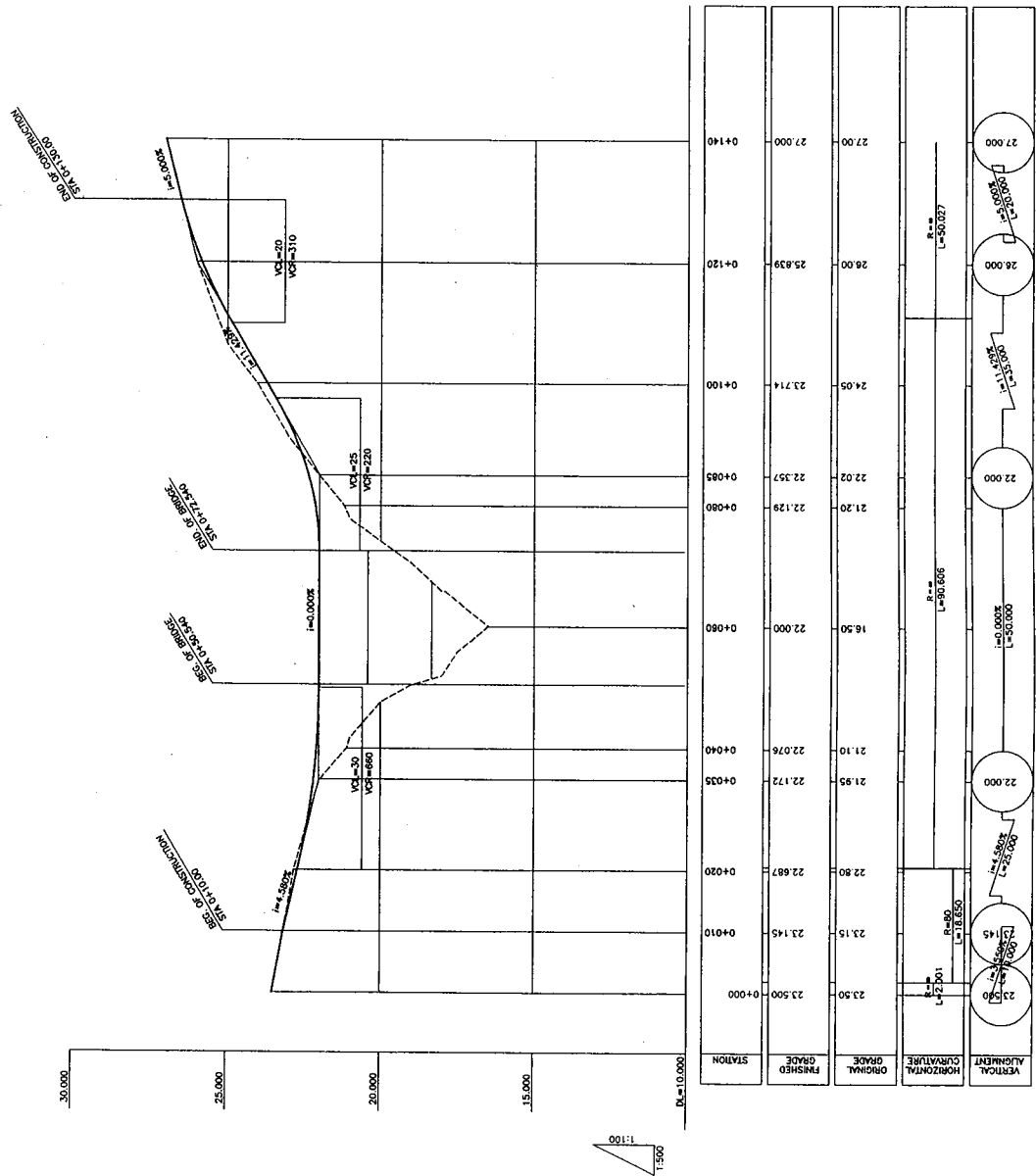


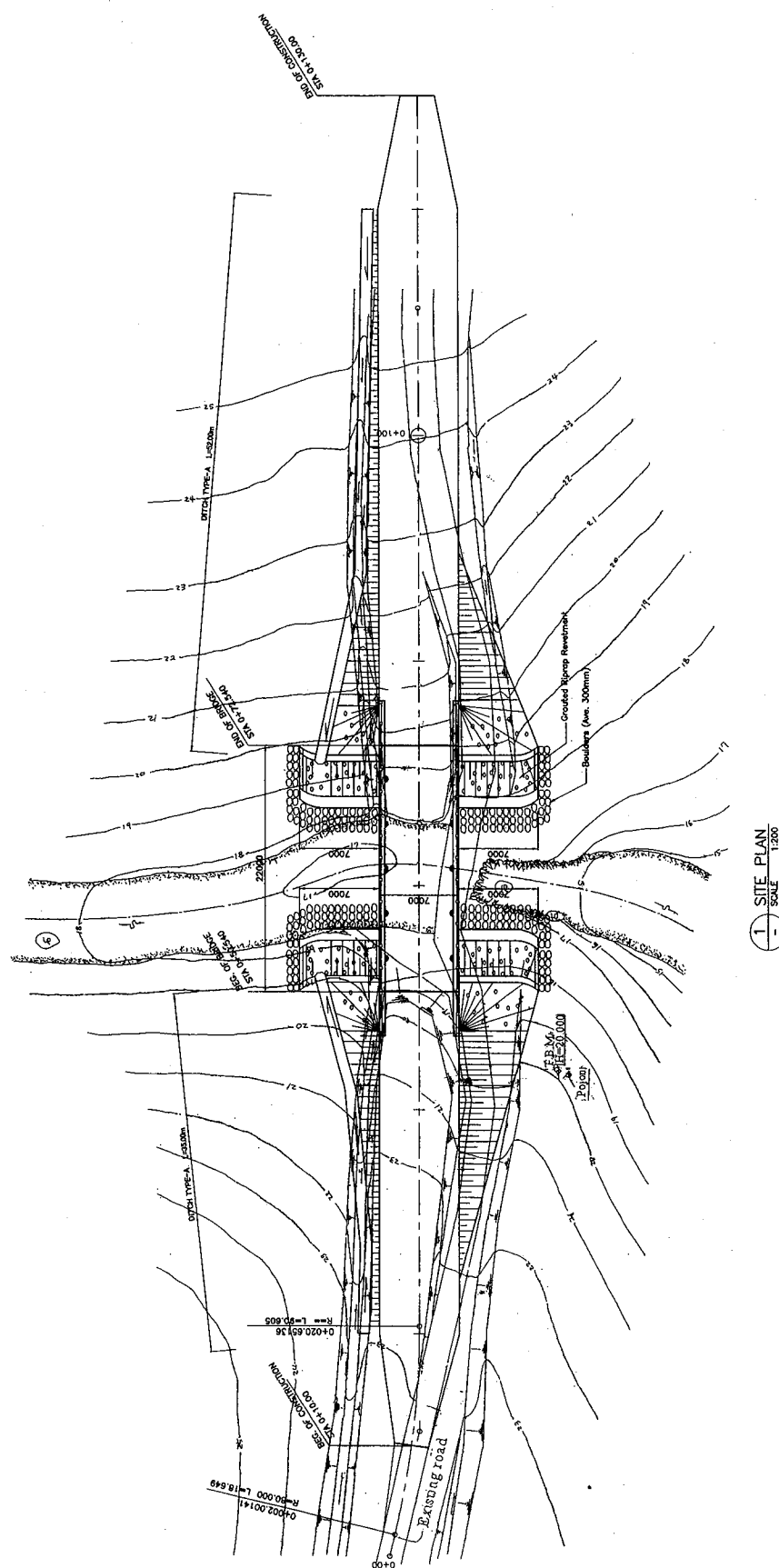
DL=10.00

SHEET NO.: 48 / 71

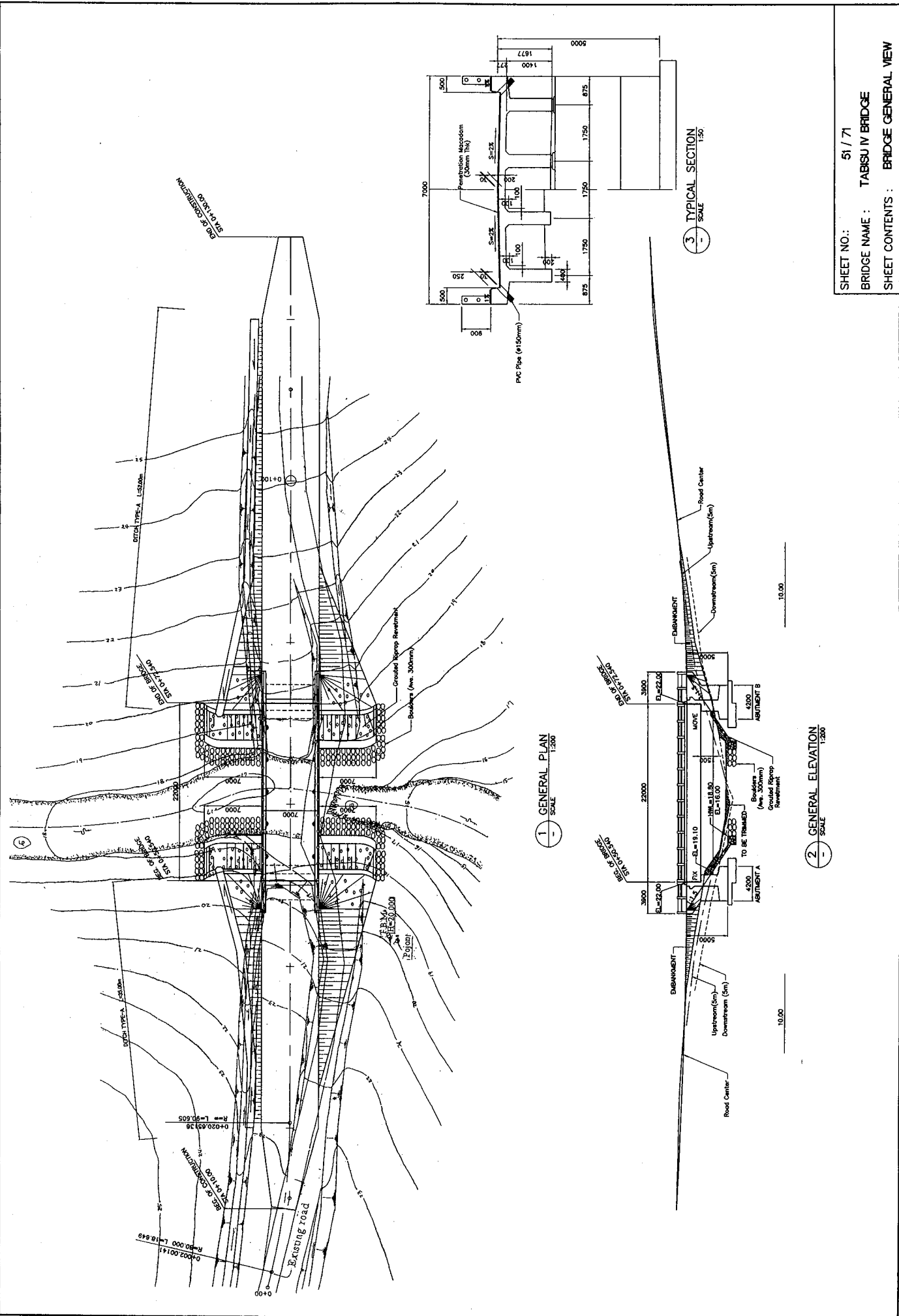
BRIDGE NAME : TABISU III BRIDGE

SHEET CONTENTS : CROSS-SECTIONS (1:200)

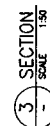
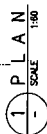




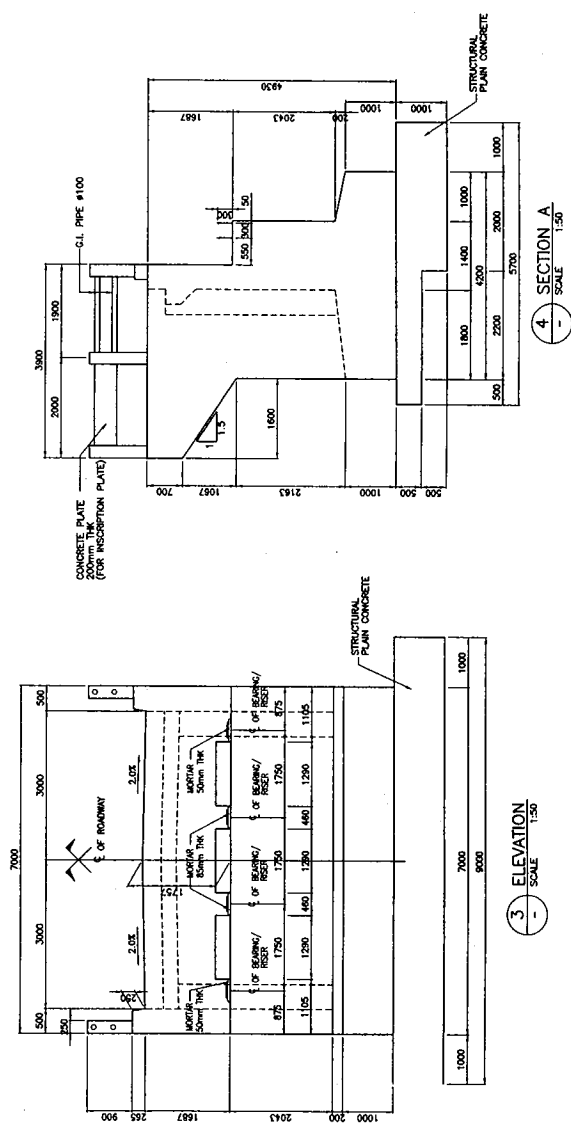
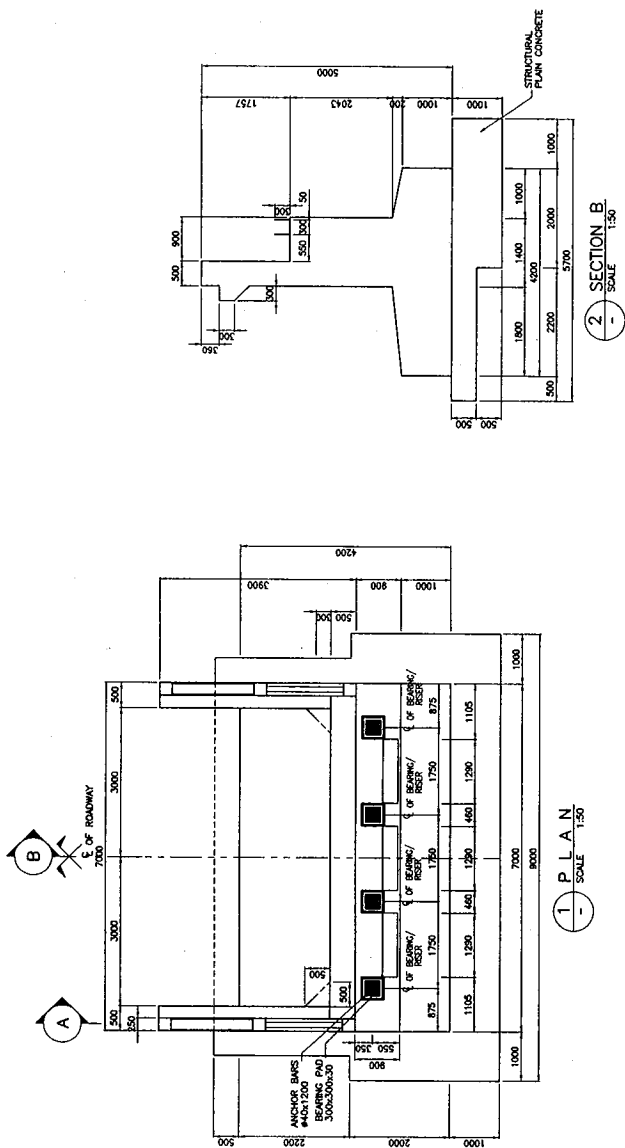
SHEET NO.: 50 /71
 BRIDGE NAME : TABISU IV BRIDGE
 SHEET CONTENTS : SITE PLAN

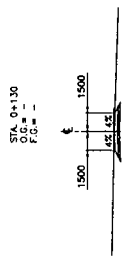


SHEET NO.: 51 / 71
 BRIDGE NAME : TABSU IV BRIDGE
 SHEET CONTENTS : BRIDGE GENERAL VIEW

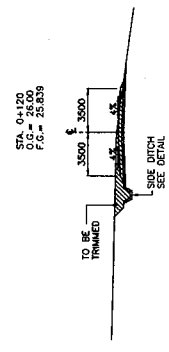


SHEET NO.: 52 / 71
BRIDGE NAME : TABISU IV BRIDGE
SHEET CONTENTS : SUPERSTRUCTURE

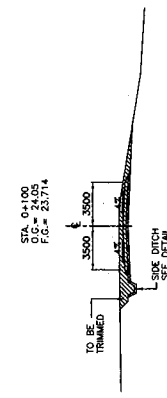




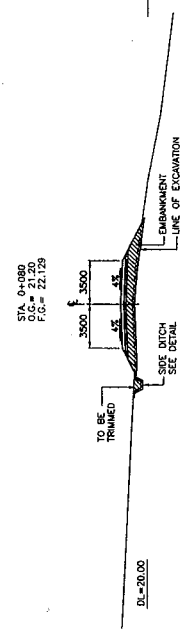
DL=20.00



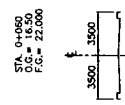
DL=20.00



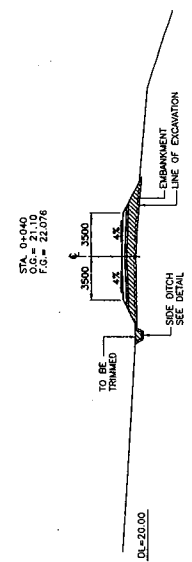
DL=20.00



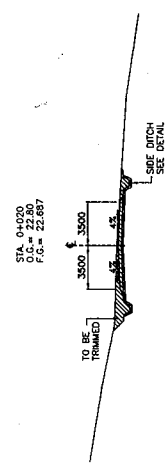
DL=20.00



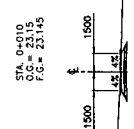
DL=20.00



DL=20.00

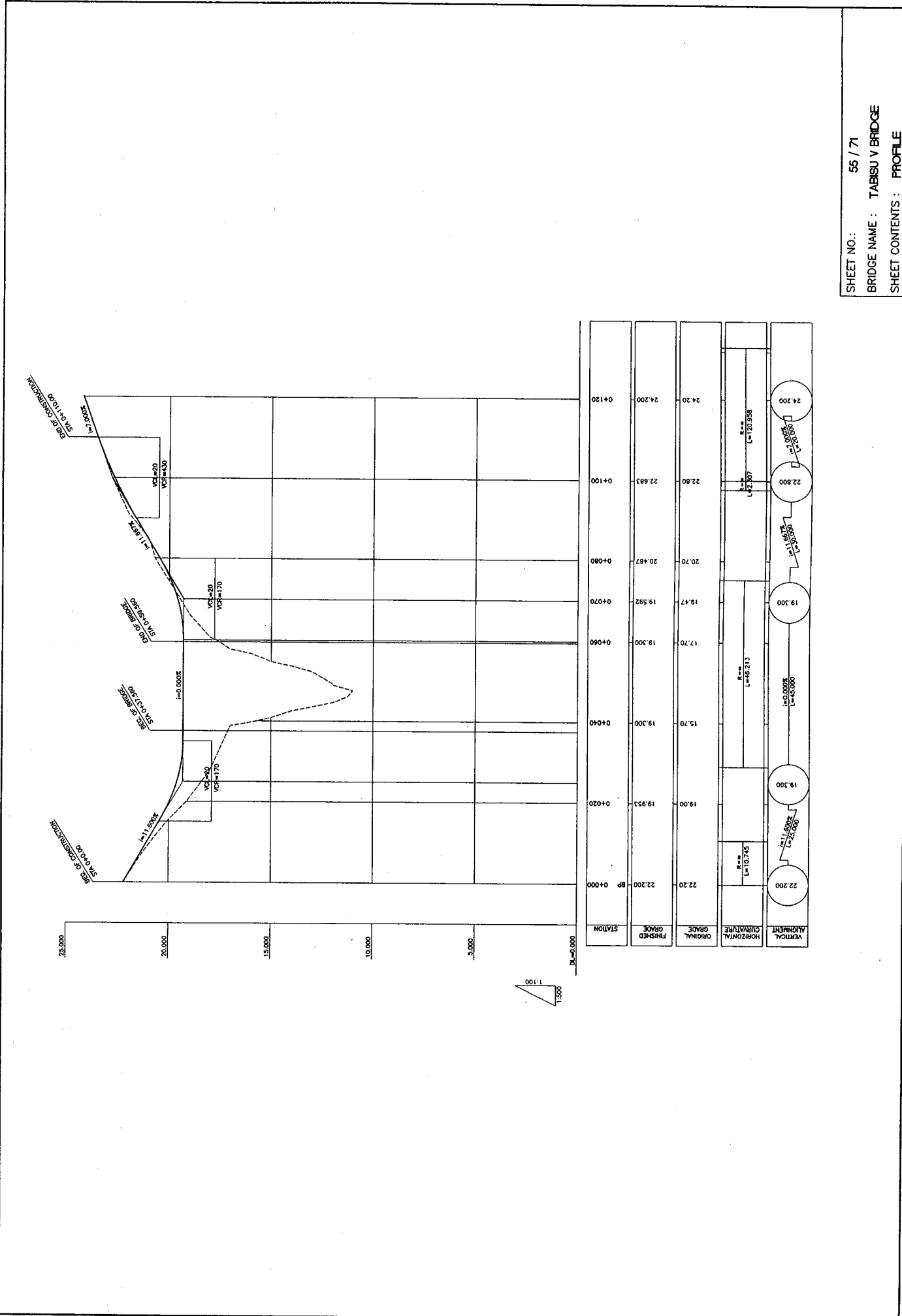


DL=20.00

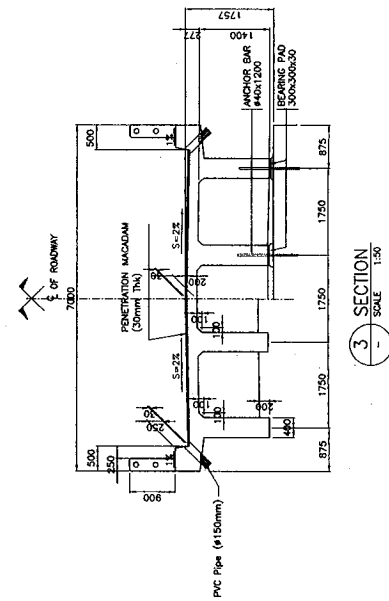
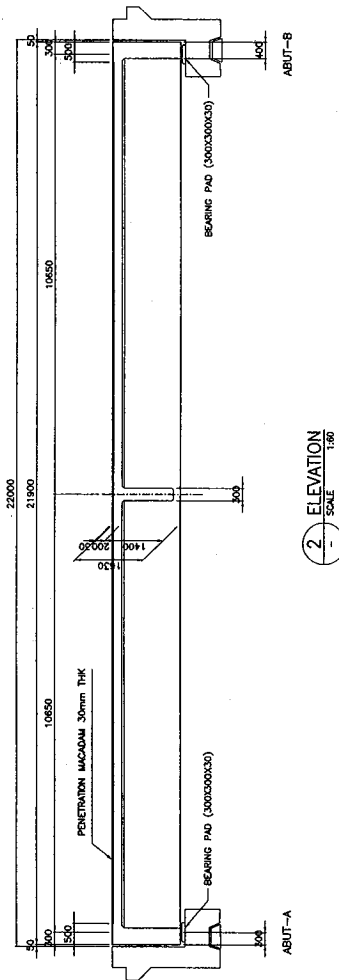
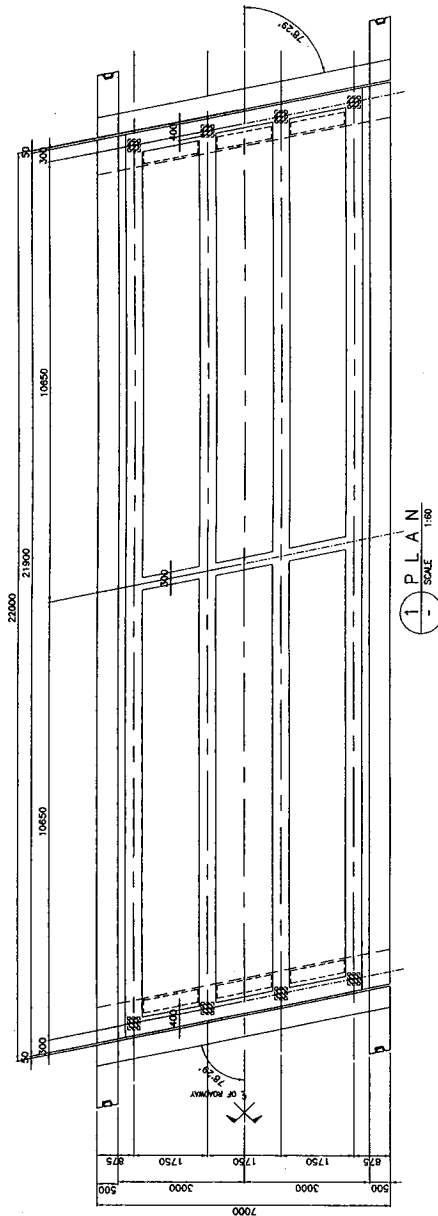


DL=20.00

SHEET NO.: 54 / 71
BRIDGE NAME : TABISU IV BRIDGE
SHEET CONTENTS : CROSS-SECTIONS (1:200)

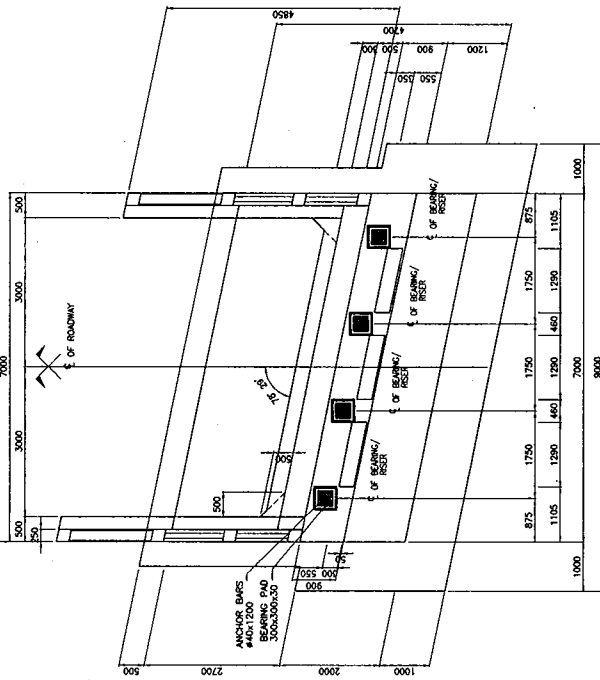


SHEET NO.: 55 / 71
 BRIDGE NAME : TABSU V BRIDGE
 SHEET CONTENTS : PROFILE

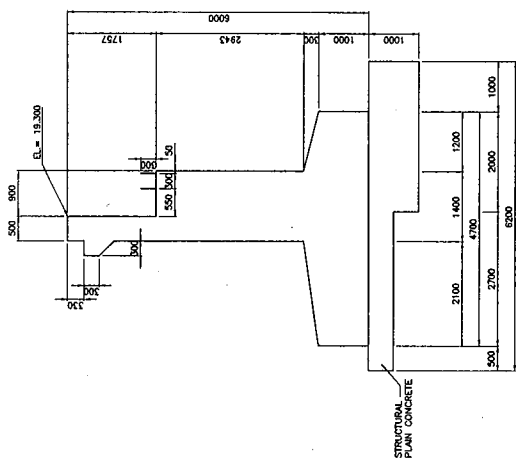


SHEET NO.: 58 / 71
BRIDGE NAME : TABISU V BRIDGE
SHEET CONTENTS : SUPERSTRUCTURE

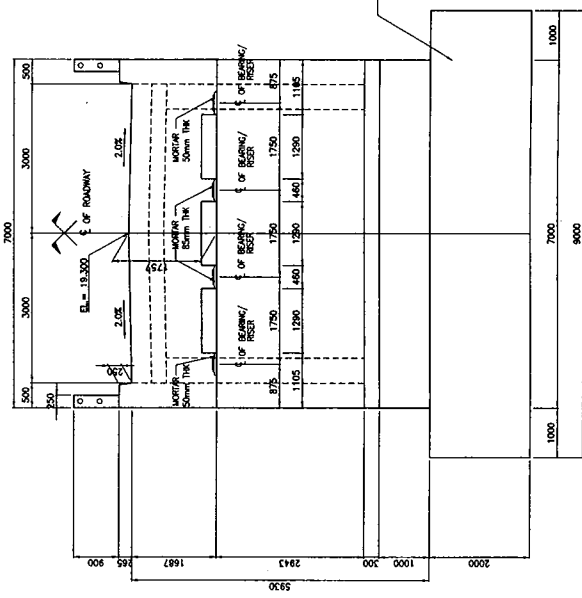
A B



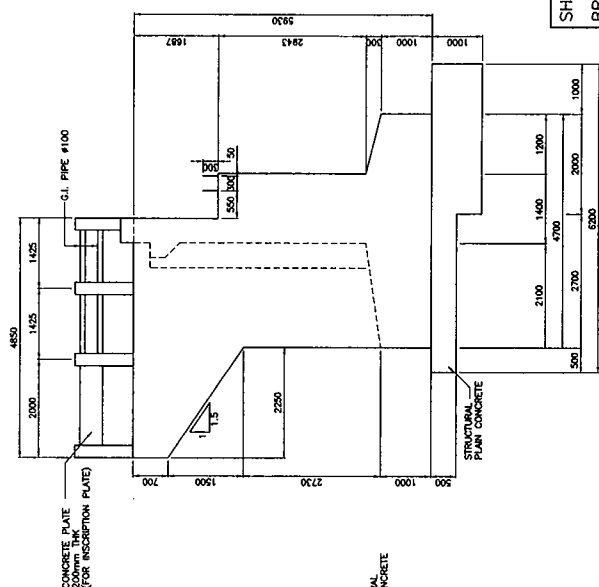
1 PLAN
SCALE 1:50



2 SECTION B
SCALE 1:50

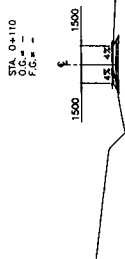


3 ELEVATION
SCALE 1:50

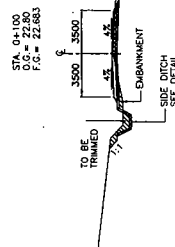


4 SECTION A
SCALE 1:50

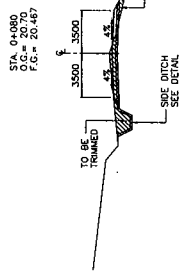
SHEET NO.: 59 / 71
BRIDGE NAME : TABISU V BRIDGE
SHEET CONTENTS : ABUTMENT 'A', 'B'



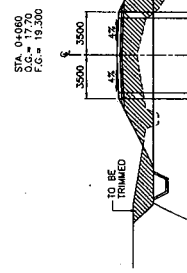
DL=20.00



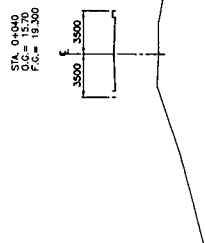
DL=20.00



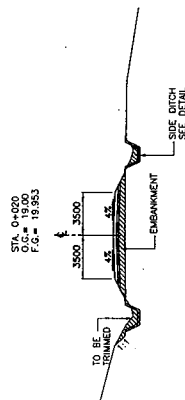
DL=10.00



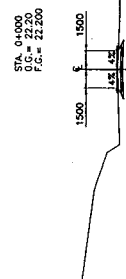
DL=10.00



DL=10.00

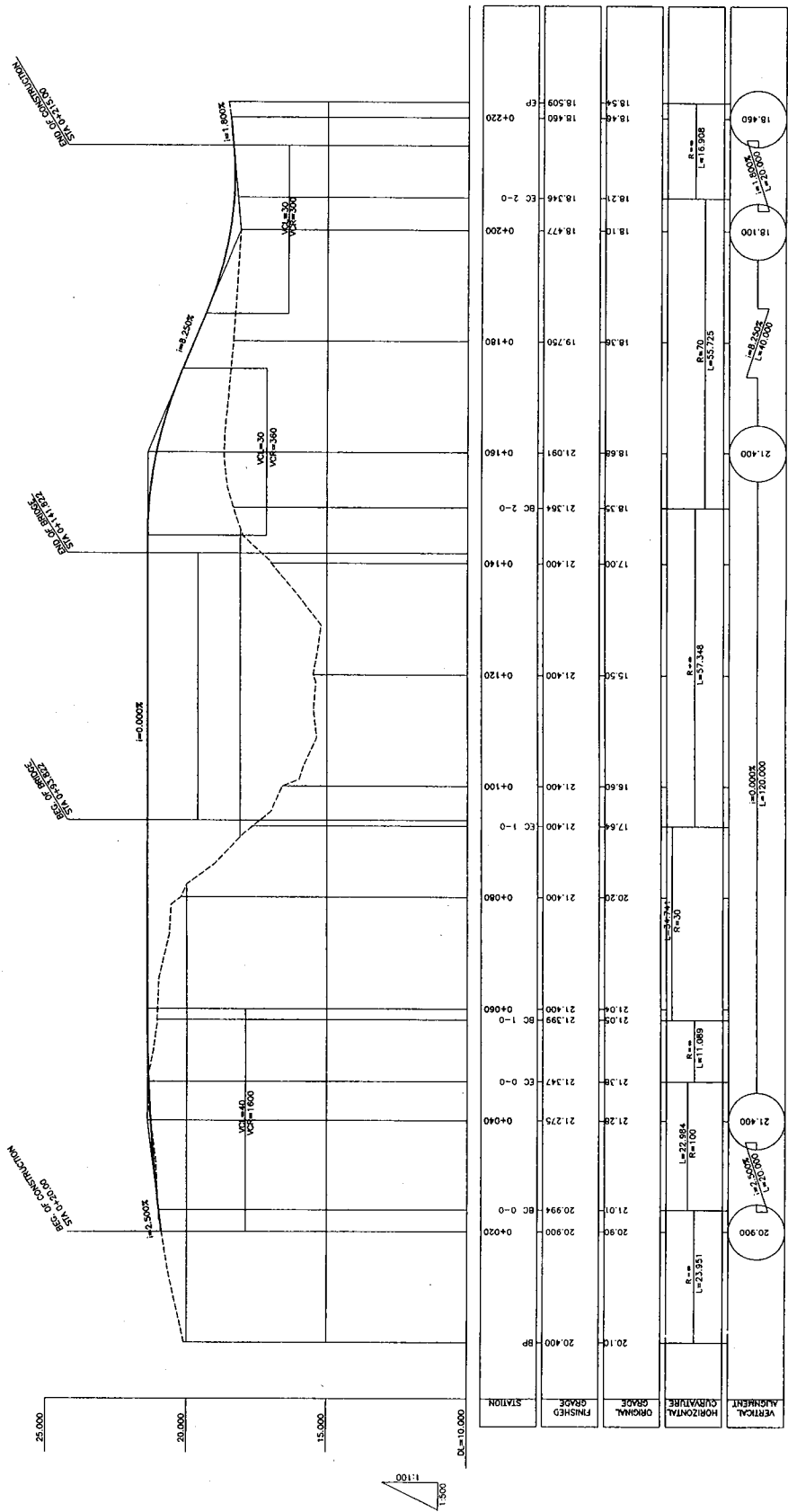


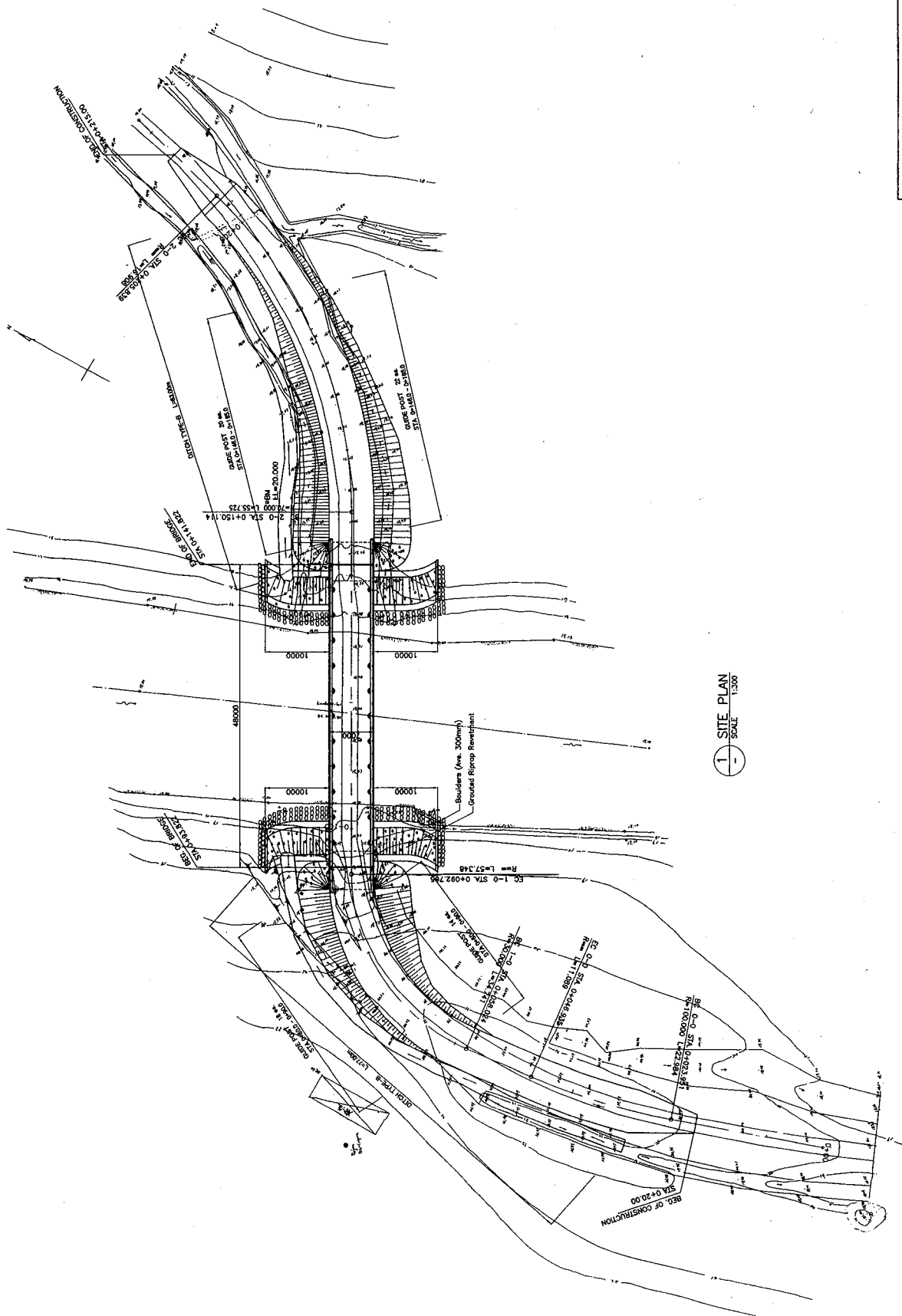
DL=10.00



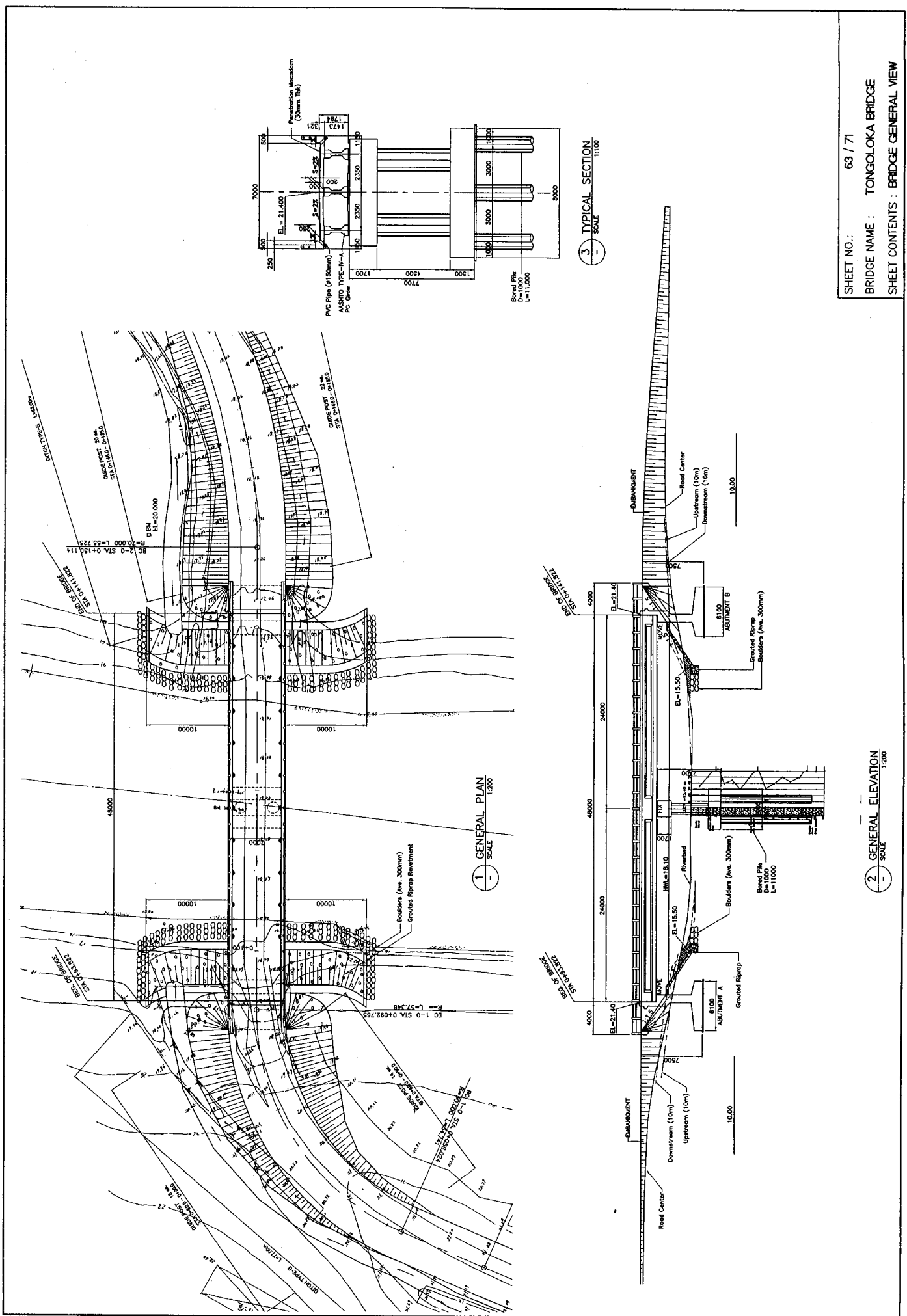
DL=20.00

SHEET NO.: 60 / 71
BRIDGE NAME : TABISU V BRIDGE
SHEET CONTENTS : CROSS-SECTIONS (1:200)





SHEET NO.: 62 / 71
 BRIDGE NAME : TONGOLOKA BRIDGE
 SHEET CONTENTS : SITE PLAN

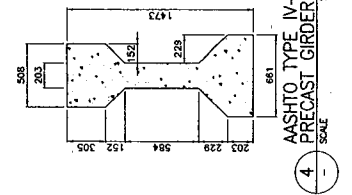
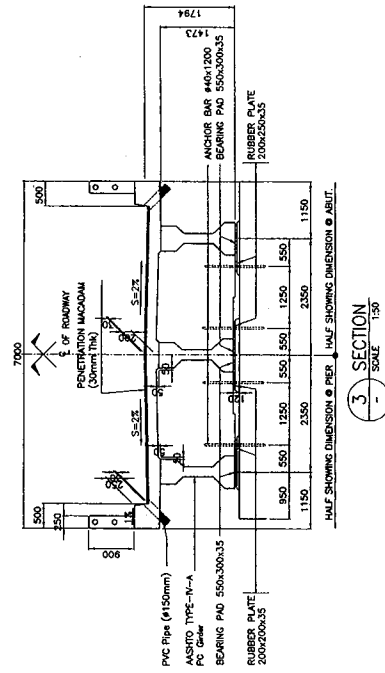
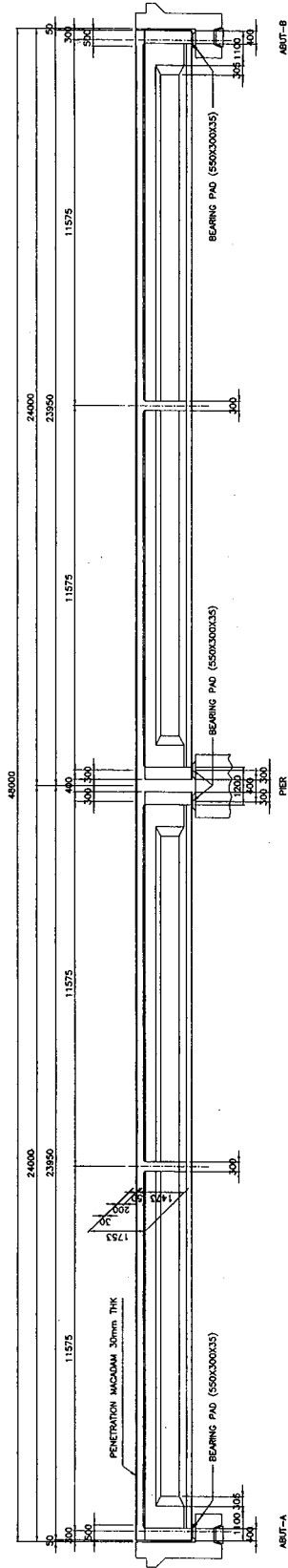
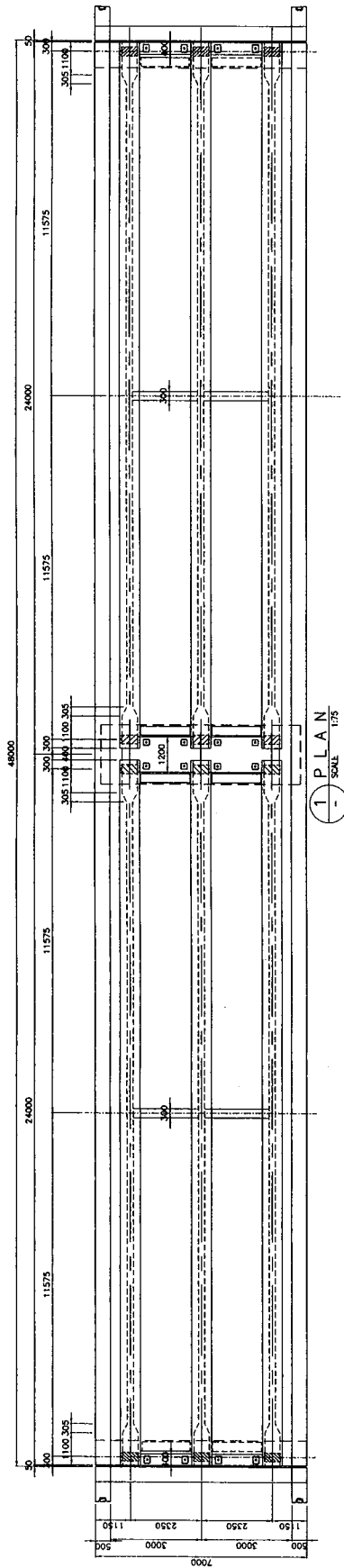


SHEET NO.: 63 / 71
 BRIDGE NAME : TONGOLOKA BRIDGE
 SHEET CONTENTS : BRIDGE GENERAL VIEW

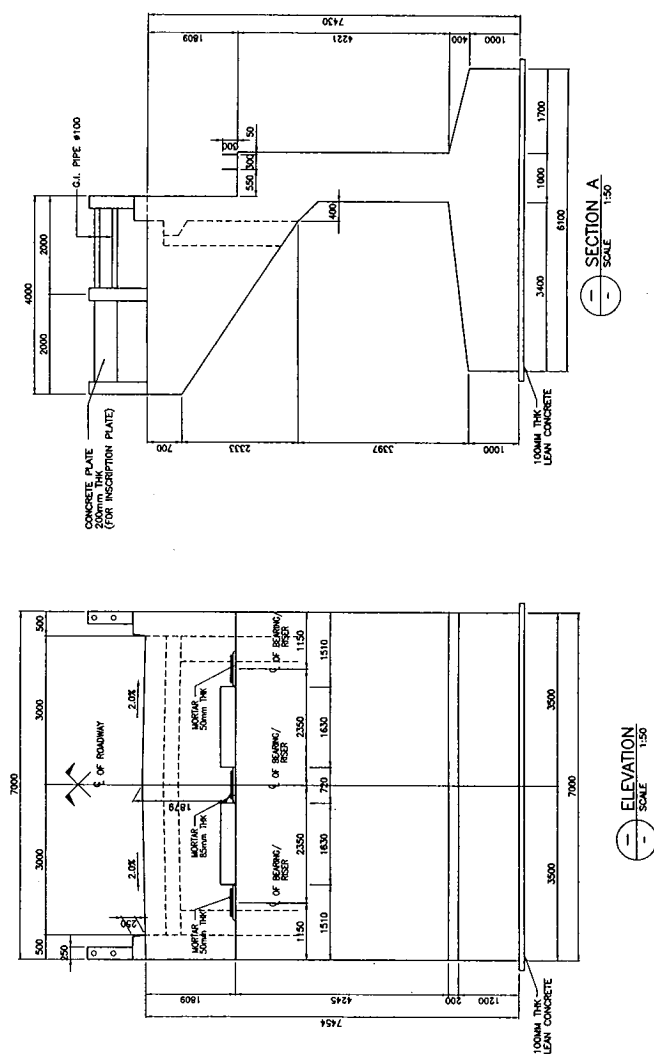
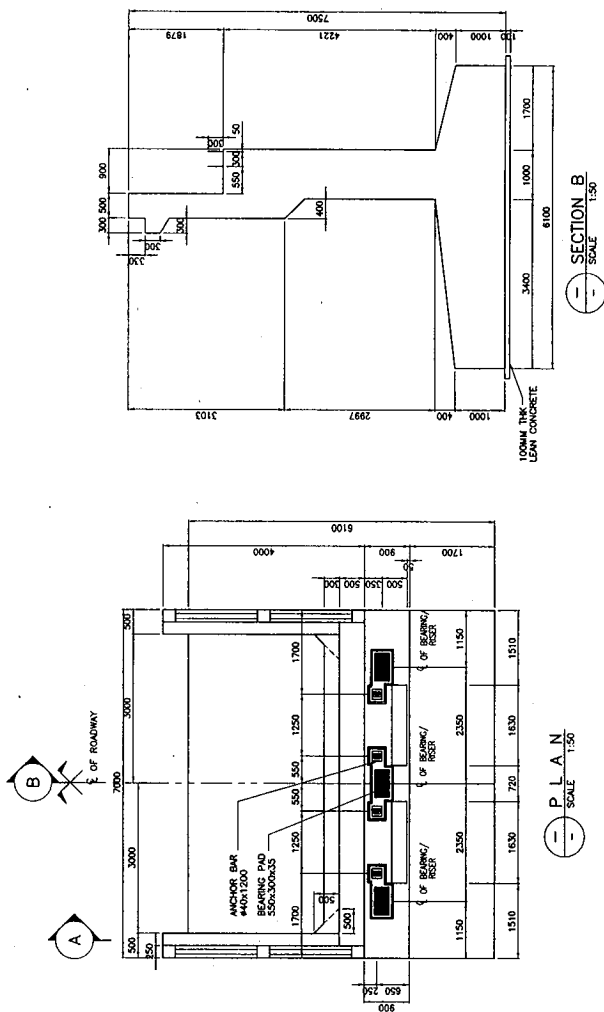
1. GENERAL PLAN
 SCALE 1:200

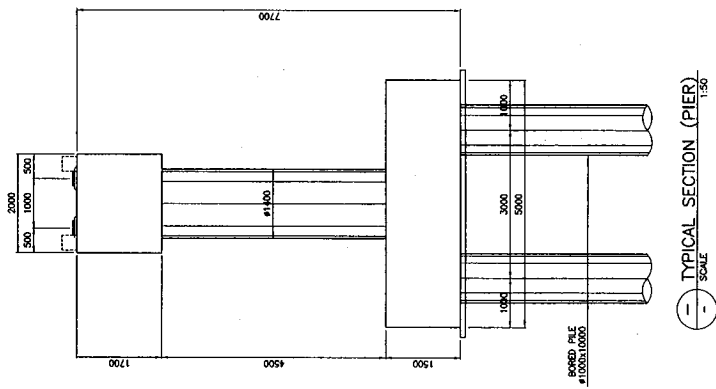
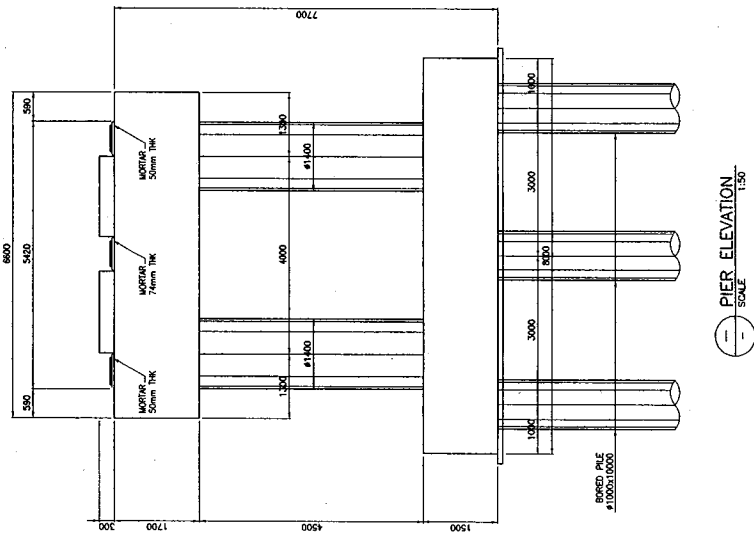
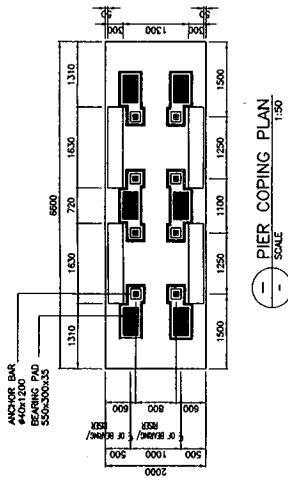
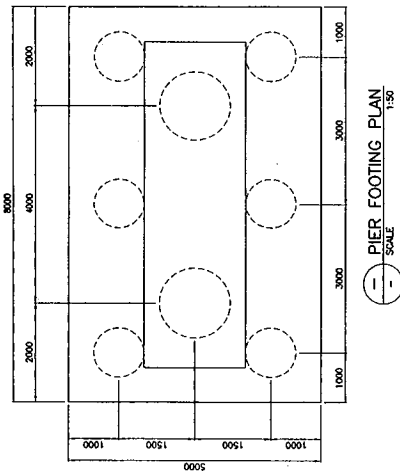
2. GENERAL ELEVATION
 SCALE 1:200

3. TYPICAL SECTION
 SCALE 1:100

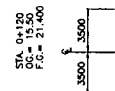
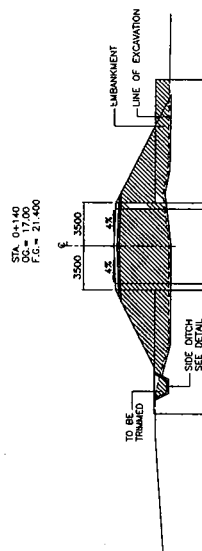
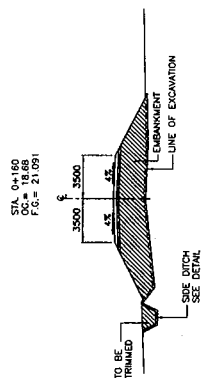
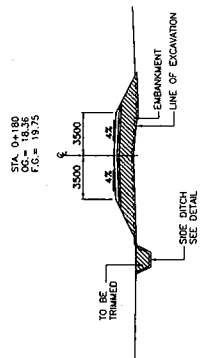
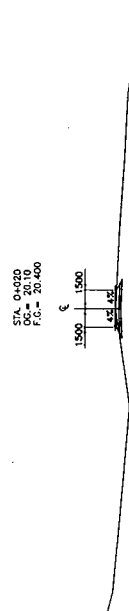
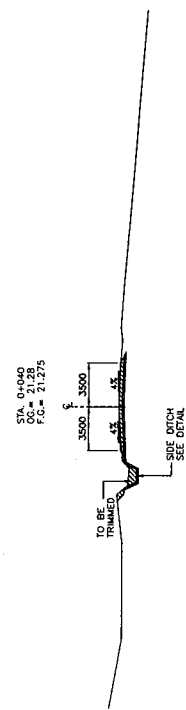
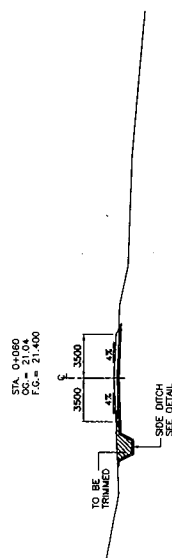
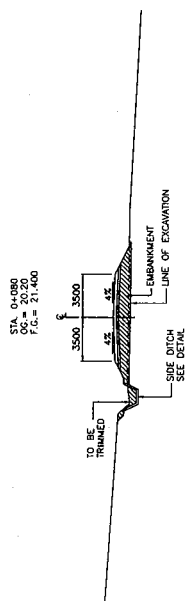


SHEET NO.: 64 / 71
 BRIDGE NAME : TONGOLOKA BRIDGE
 SHEET CONTENTS : SUPERSTRUCTURE





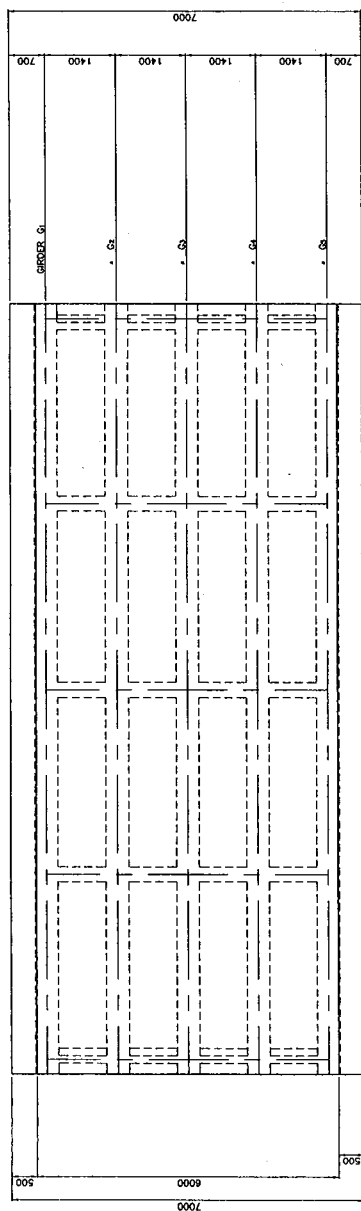
SHEET NO.: 66 / 71
BRIDGE NAME : TONGOLOKA BRIDGE
SHEET CONTENTS : PIER



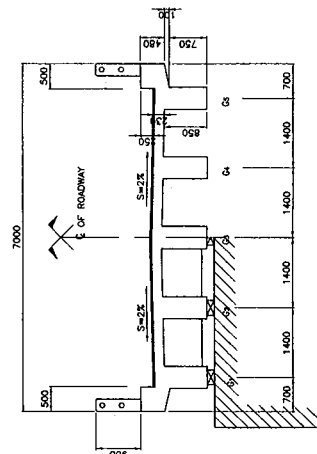
SHEET NO.: 67 / 71

BRIDGE NAME : TONGOLOKA BRIDGE

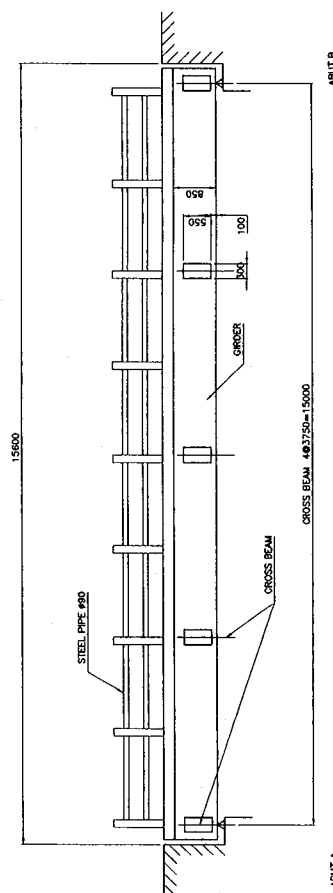
SHEET CONTENTS : CROSS-SECTIONS (1:200)



1 PLAN
SCALE 1:50

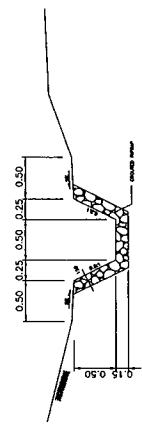
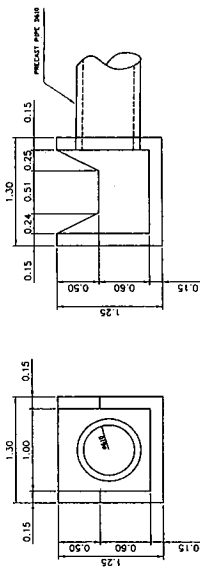


3 TYPICAL CROSS-SECTION
SCALE 1:50

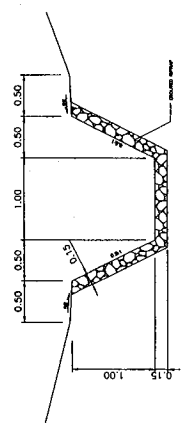


2 ELEVATION
SCALE 1:50

SHEET NO.: 68 / 71
BRIDGE NAME : TABSU II BRIDGE
SHEET CONTENTS : BRIDGE GENERAL VIEW

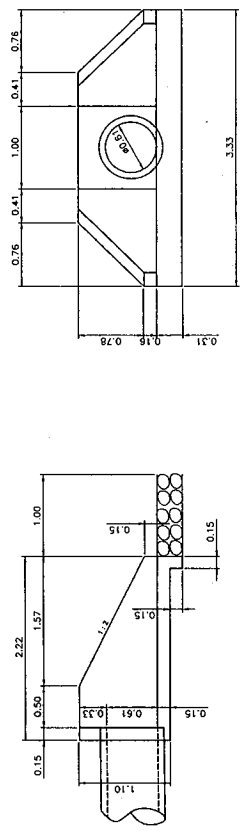


DITCH TYPE -A

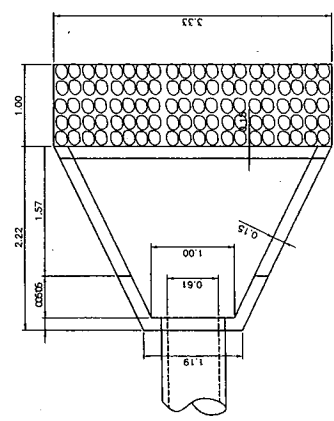


DITCH TYPE -B

3A PIPE CULVERT INLET
SCALE 1:30



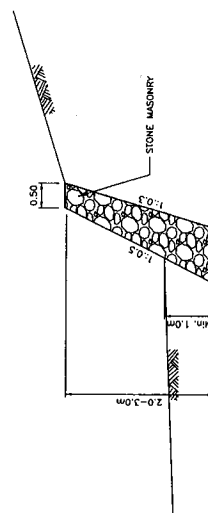
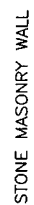
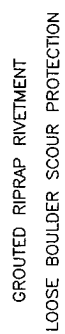
1 DITCH TYPE
SCALE 1:30



2 IRRIGATION CHANNEL
SCALE 1:30

Note: 1. Concrete strength shall not be less than 25Mpa.
2. Concrete walls of Inlet & Outlet shall be reinforce with D13@300mm.

3B PIPE CULVERT OUTLET
SCALE 1:30



1 STANDARD SLOPE PROTECTIONS