

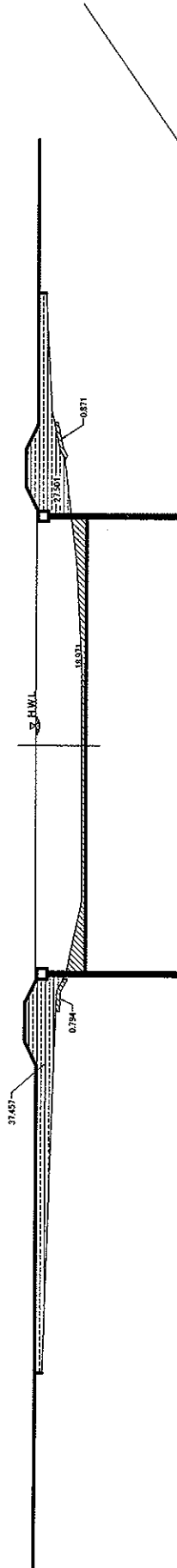
Annex-F:

Cross Sections of Proposed Lower Bolango River

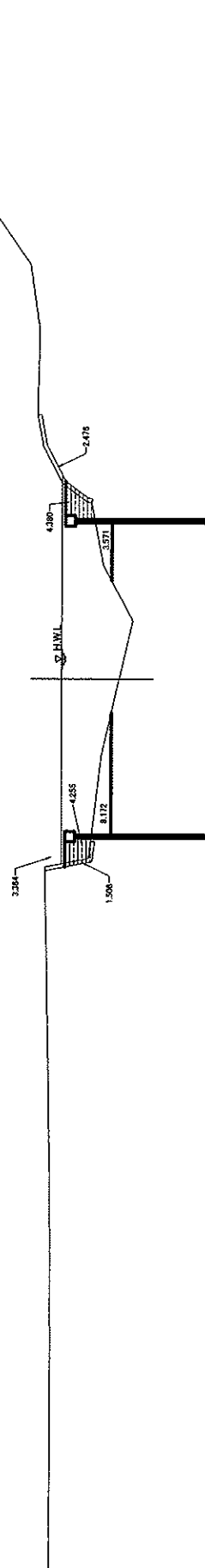
Improvement Plan in F/U

(with practical use of Concrete, Gabion and Sodding)

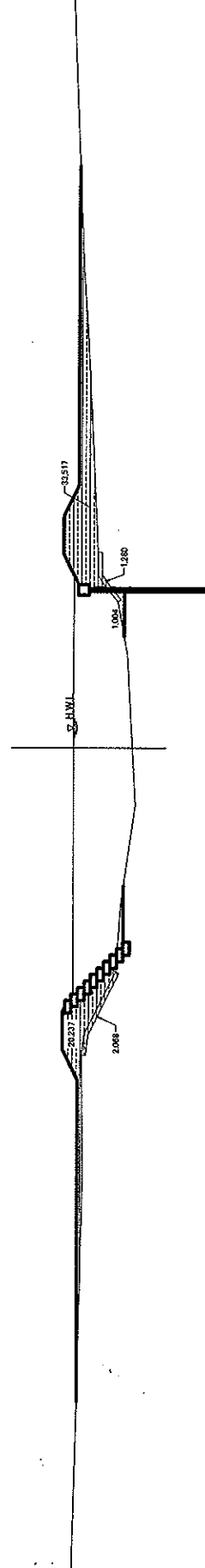
BOLI-52



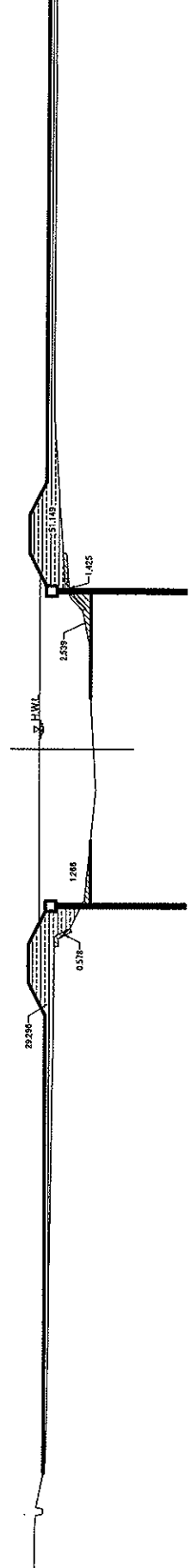
BOLI-51



BOLI-50

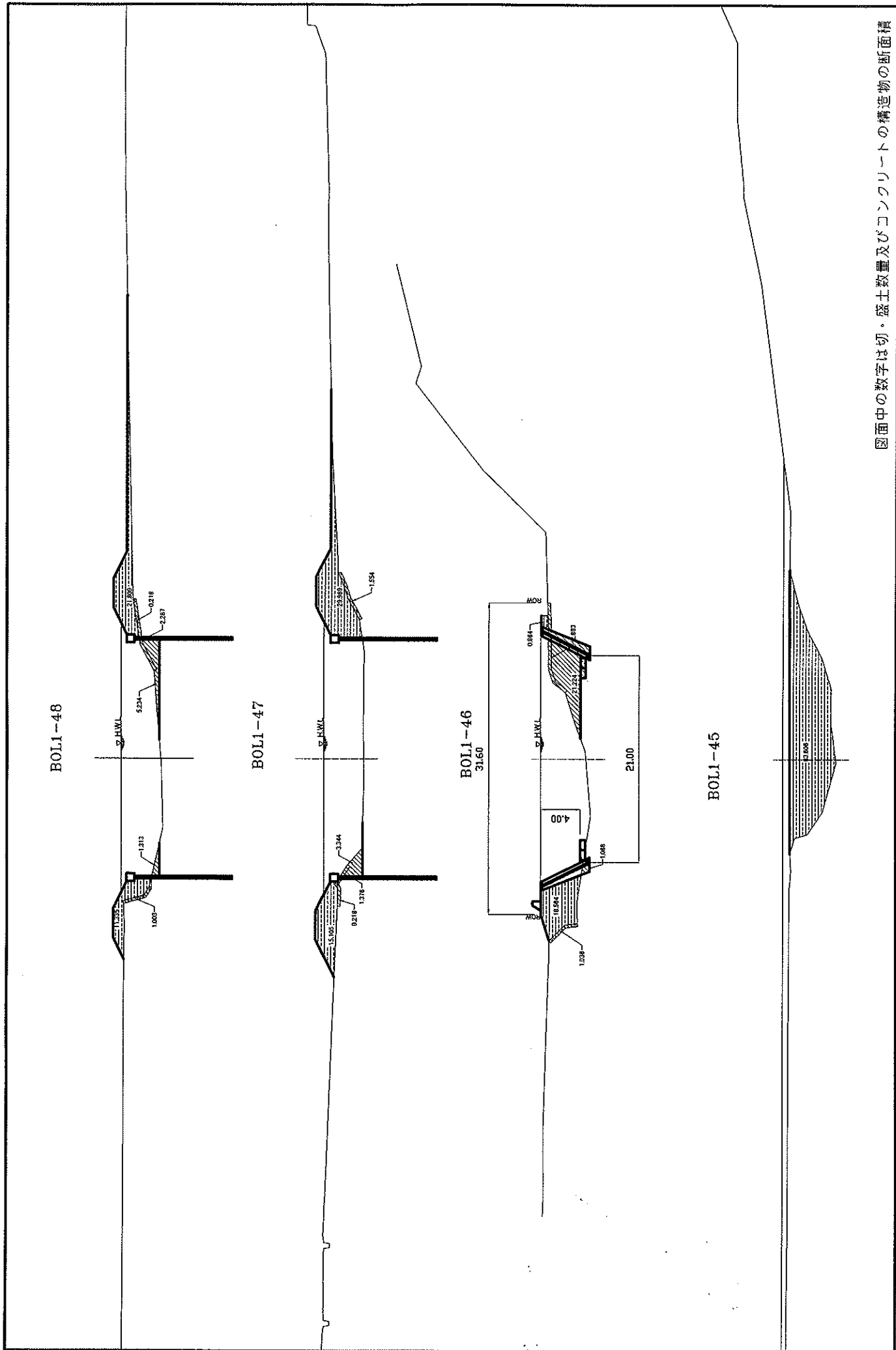


BOLI-49



図面中の数字は切・盛土数量及びコンクリートの構造物の断面積

Cross Section of Borango River Improvement Work (1/16) (with practical use of Concrete, Gabion and Sodding)



図面中の数字は切・盛土数量及びコンクリートの構造物の断面積

Cross Section of Borango River Improvement Work (2/16) (with practical use of Concrete, Gabion and Sodding)

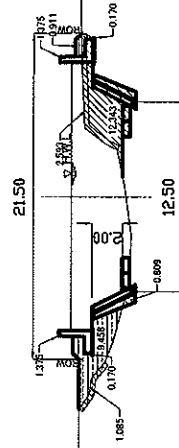
BOL1-44



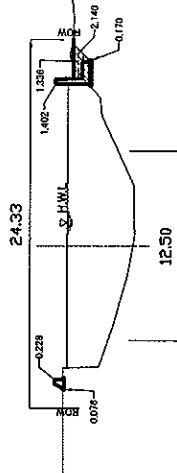
BOL1-43



BOL1-42



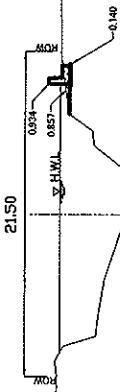
BOL1-41



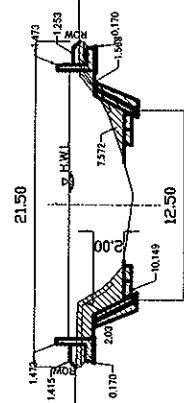
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Cross Section of Borango River Improvement Work (3/16) (with practical use of Concrete, Gabion and Sodding)

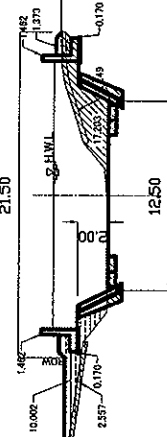
BOL1-40



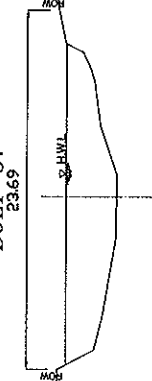
BOL1-39



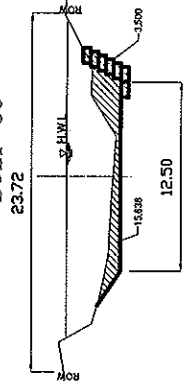
BOL1-38



BOL1-37



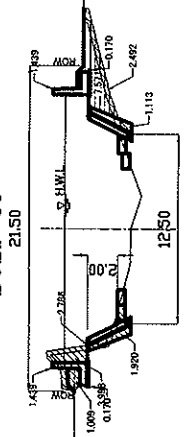
BOL1-36



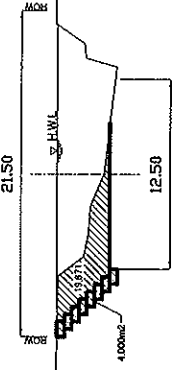
図面中の数字は切・盛土数量及びコンクリートの構造物の断面積

Cross Section of Borango River Improvement Work (4/16) (with practical use of Concrete, Gabion and Sodding)

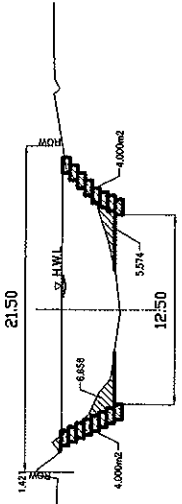
BOLI-35



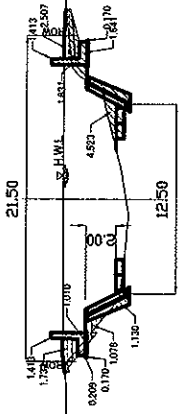
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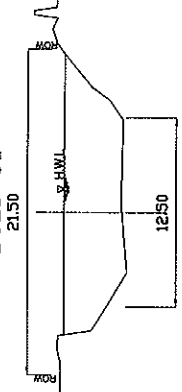
BOLI-33



BOLI-32

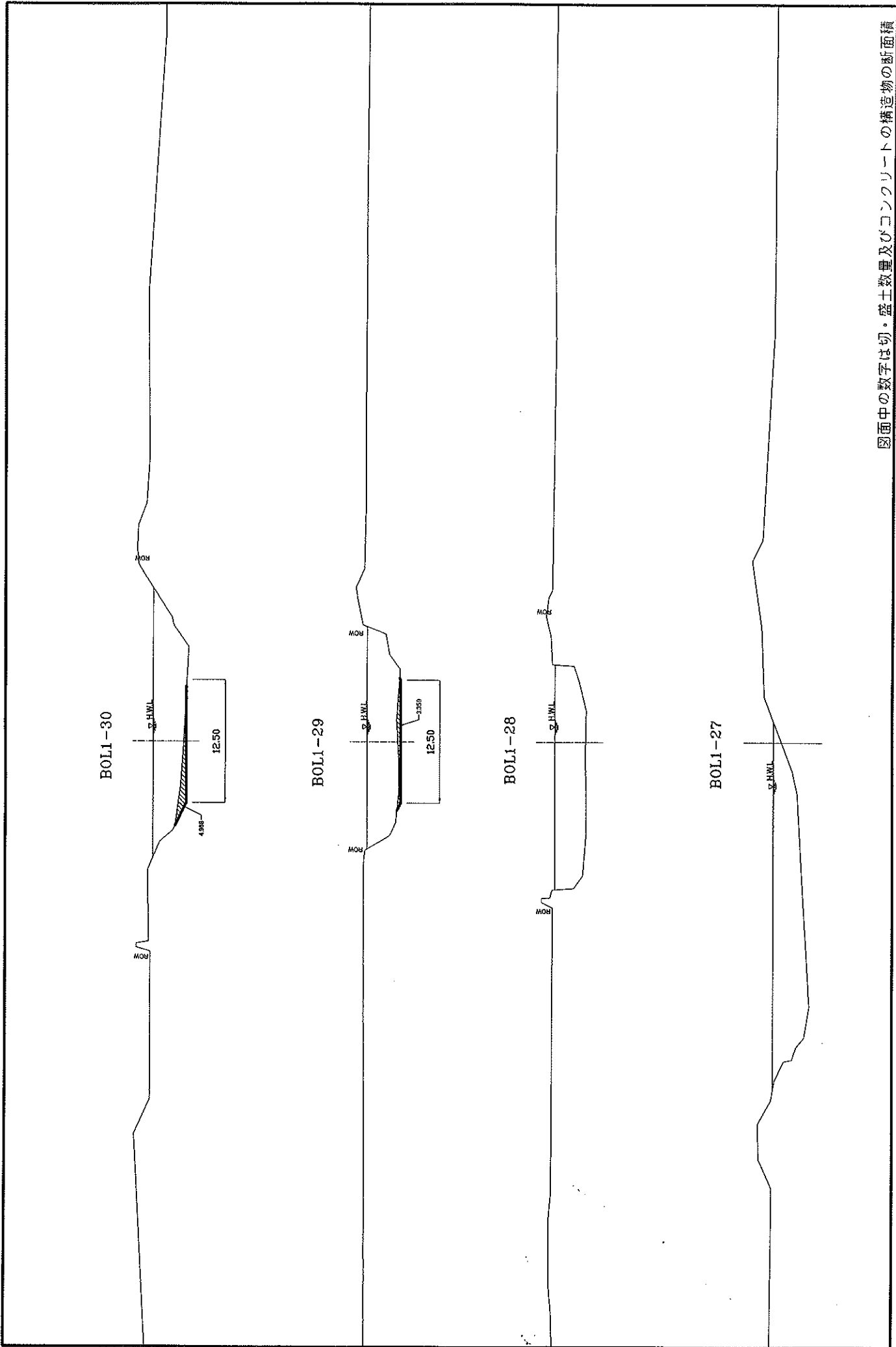


BOLI-31



図面中の数字は切・盛土数量及びコンクリートの構造物の断面積

Cross Section of Borango River Improvement Work (5/16) (with practical use of Concrete, Gabion and Sodding)

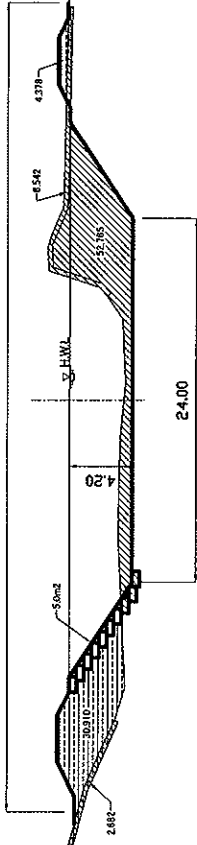


図面中の数字は切・盛土数量及びコンクリートの構造物の断面積

Cross Section of Borango River Improvement Work (6/16) (with practical use of Concrete, Gabion and Sodding)

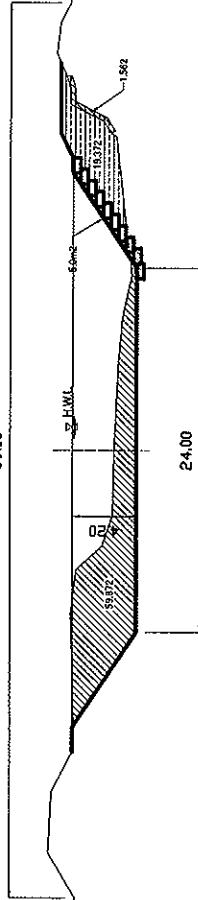
BOL1-26

59.50



BOL1-25

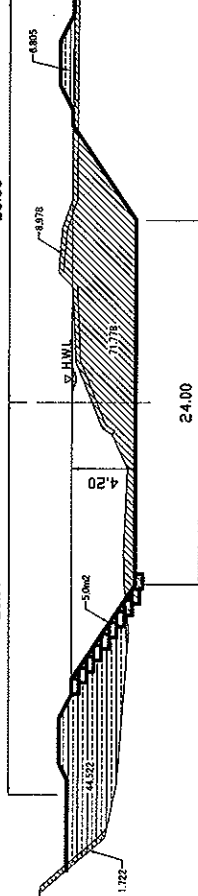
59.18



BOL1-24

26.66

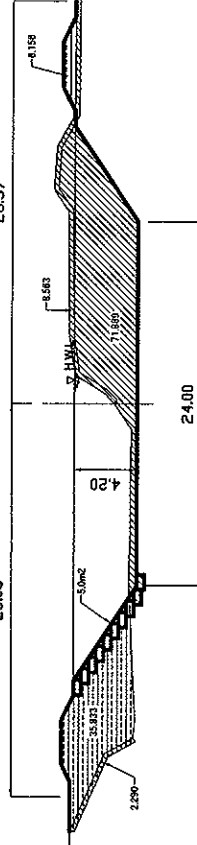
25.97



BOL1-23

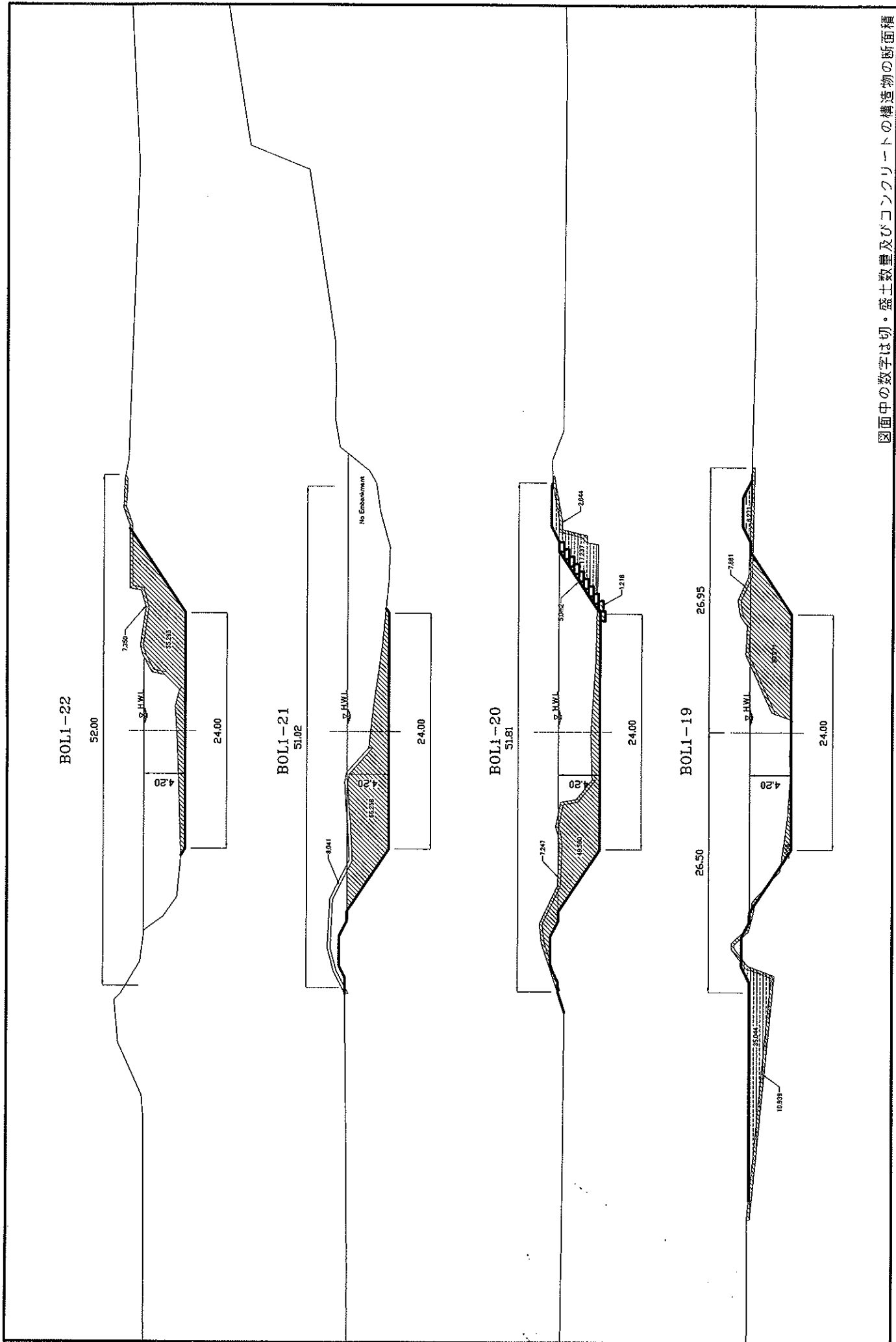
26.57

26.05



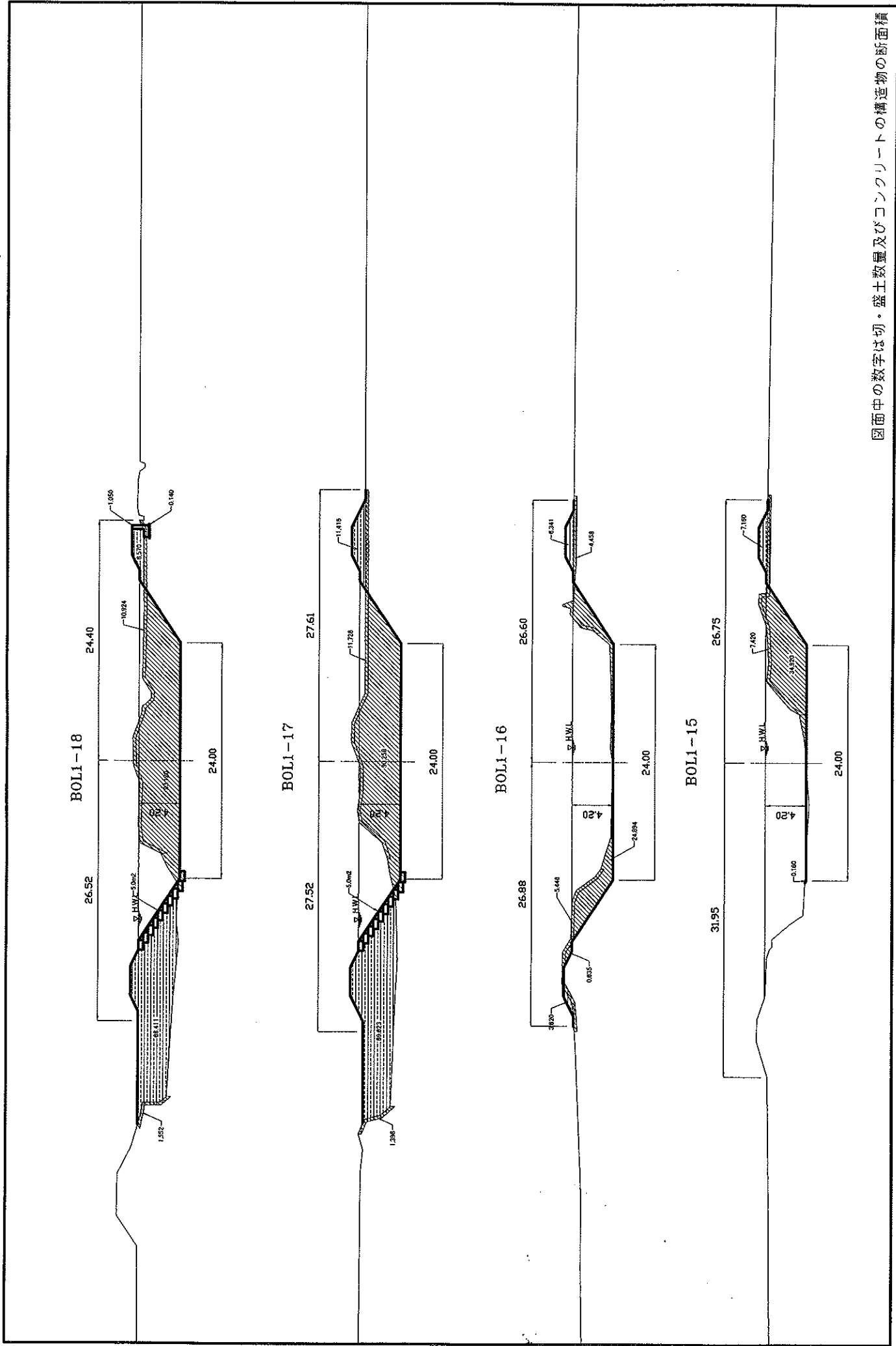
図面中の数字は切・盛土数量及びコンクリートの構造物の断面積

Cross Section of Borango River Improvement Work (7/16) (with practical use of Concrete, Gabion and Sodding)



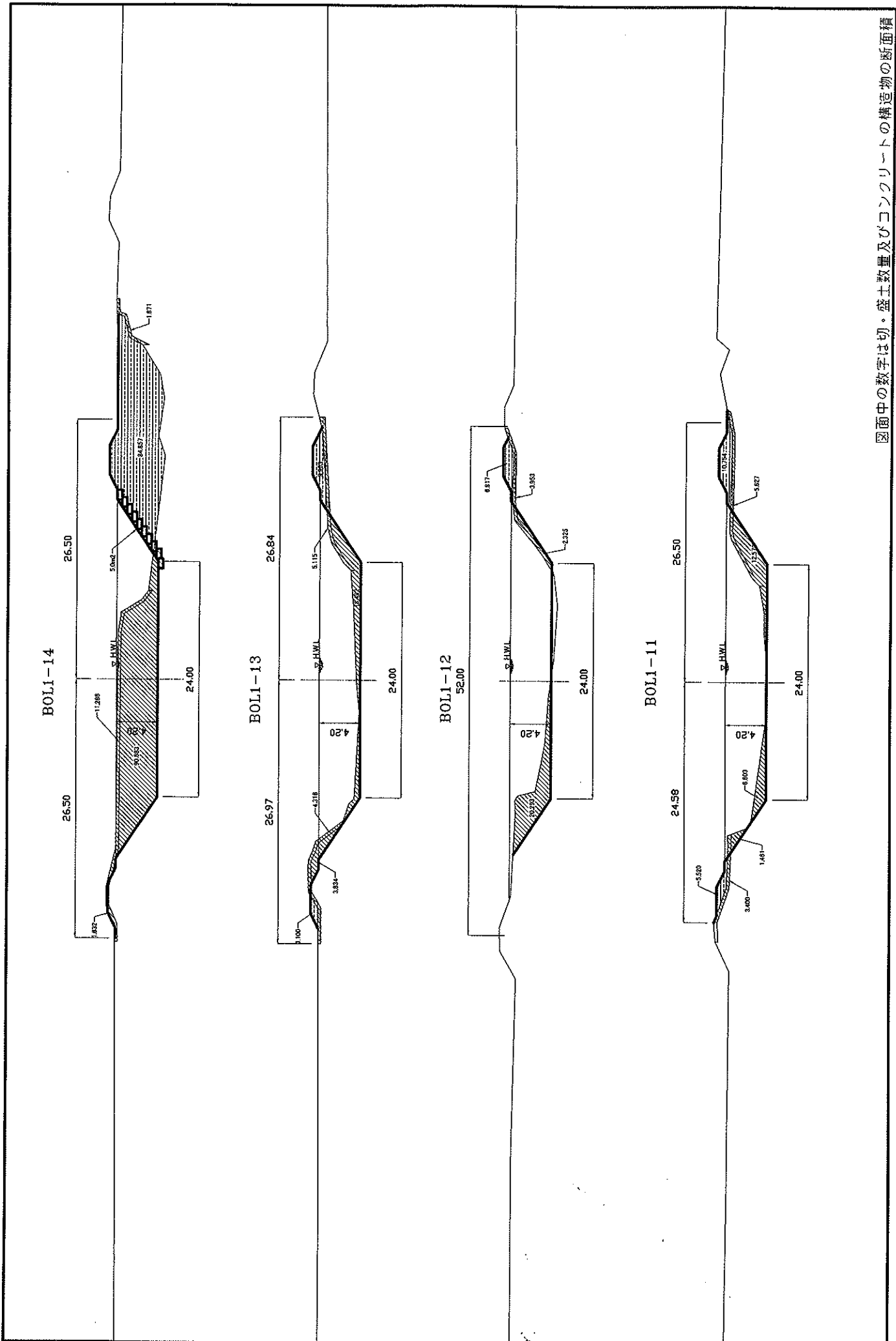
図面中の数字は切・盛土数量及びコンクリートの構造物の断面積

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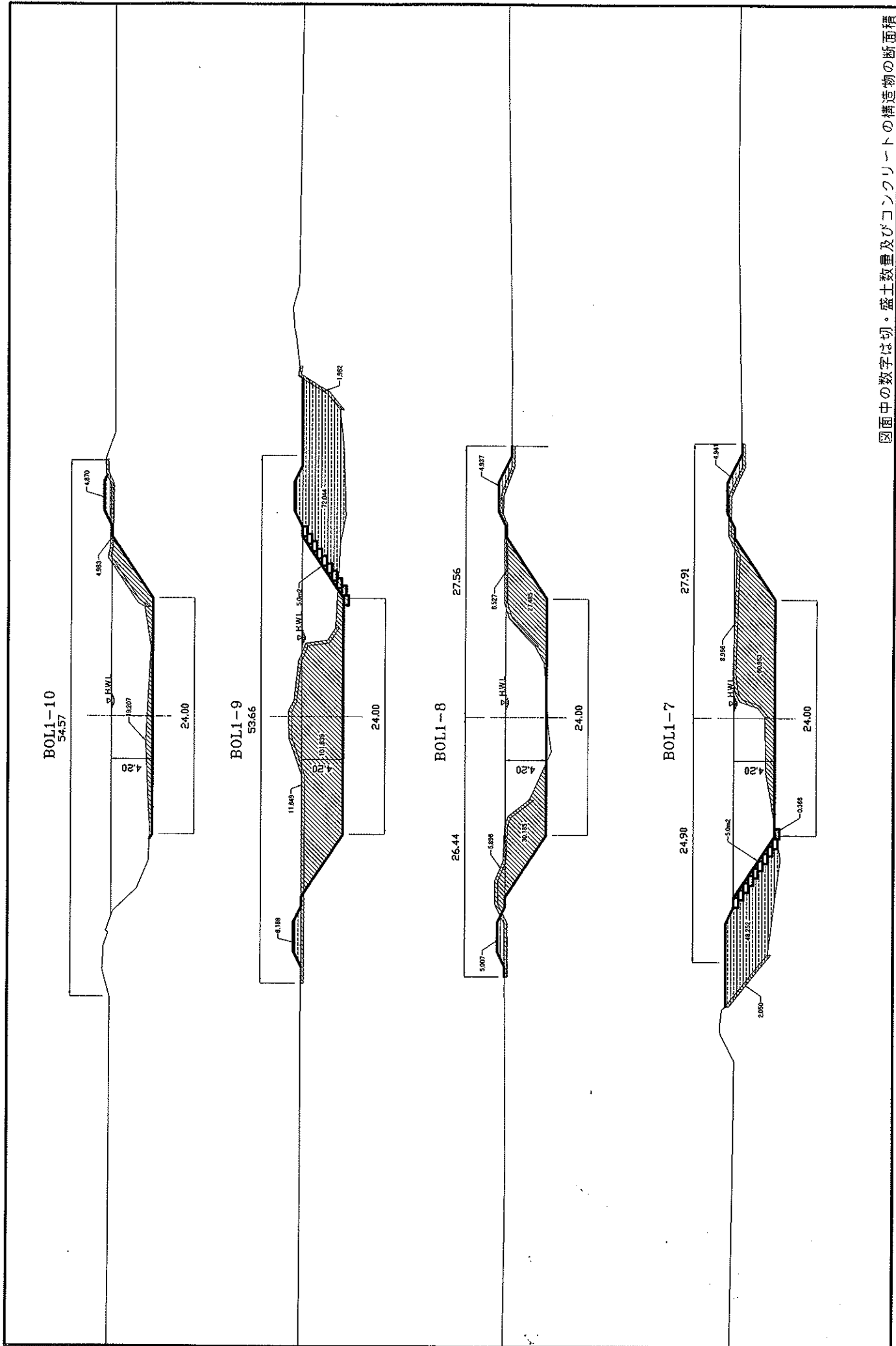
図面中の数字は切・盛土数量及びコンクリートの構造物の断面積

Cross Section of Borango River Improvement Work (9/16) (with practical use of Concrete, Gabion and Sodding)



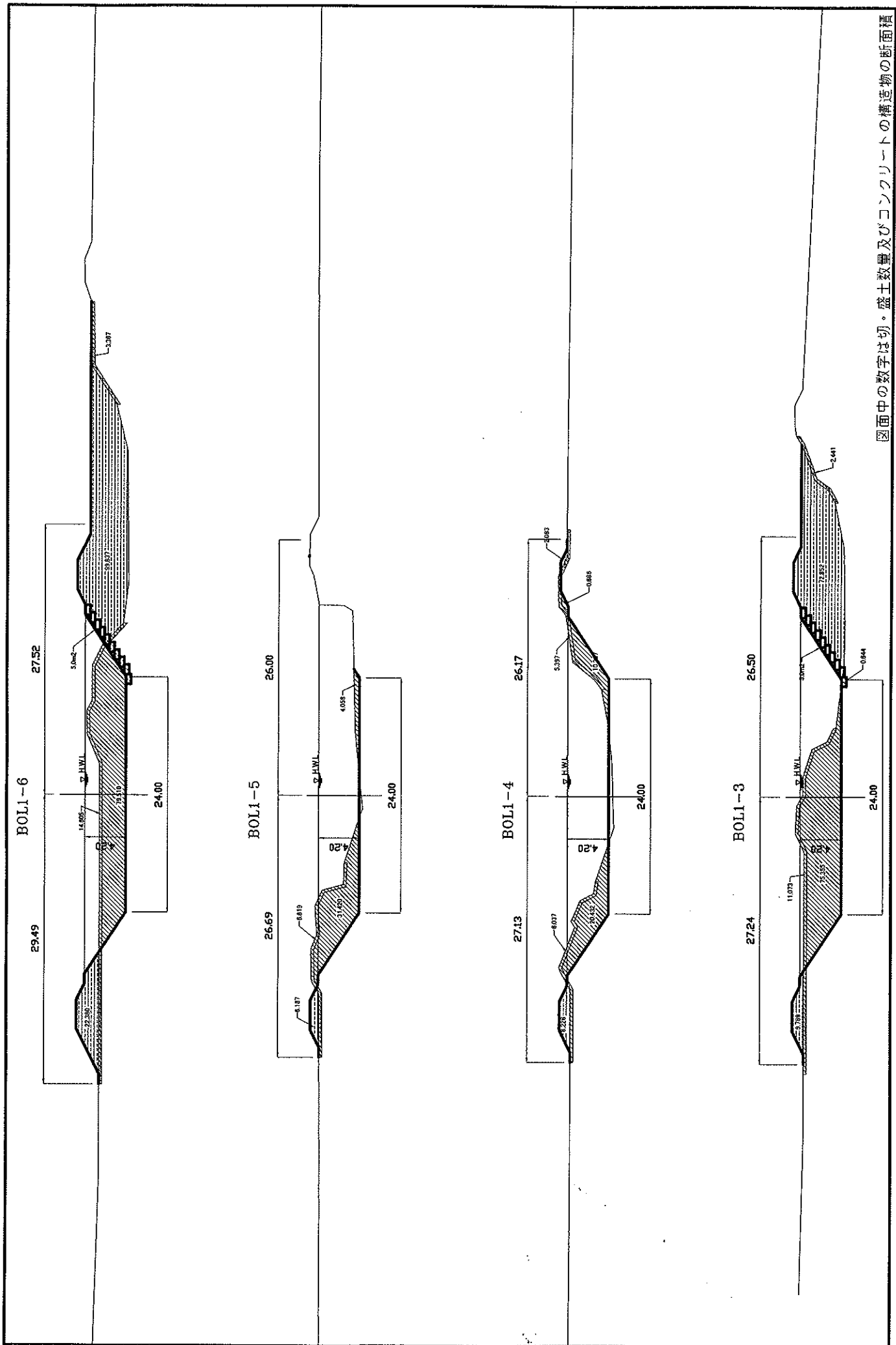
図面中の数字は切・盛土数量及びコンクリートの構造物の断面積

Cross Section of Borango River Improvement Work (10/16) (with practical use of Concrete, Gabion and Sodding)



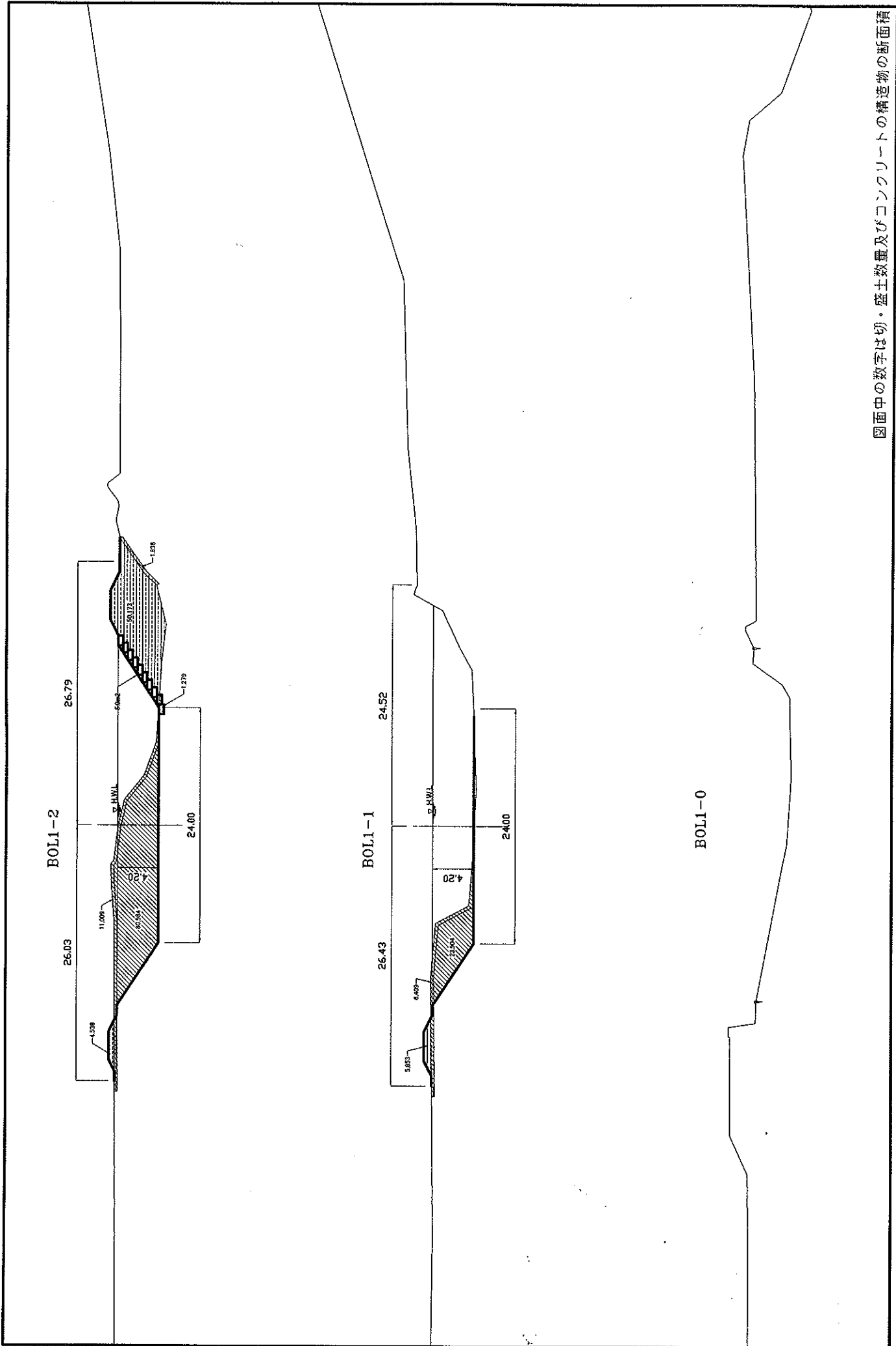
図面中の数字は切・盛土数量及びコンクリートの構造物の断面積

Cross Section of Borango River Improvement Work (11/16) (with practical use of Concrete, Gabion and Sodding)



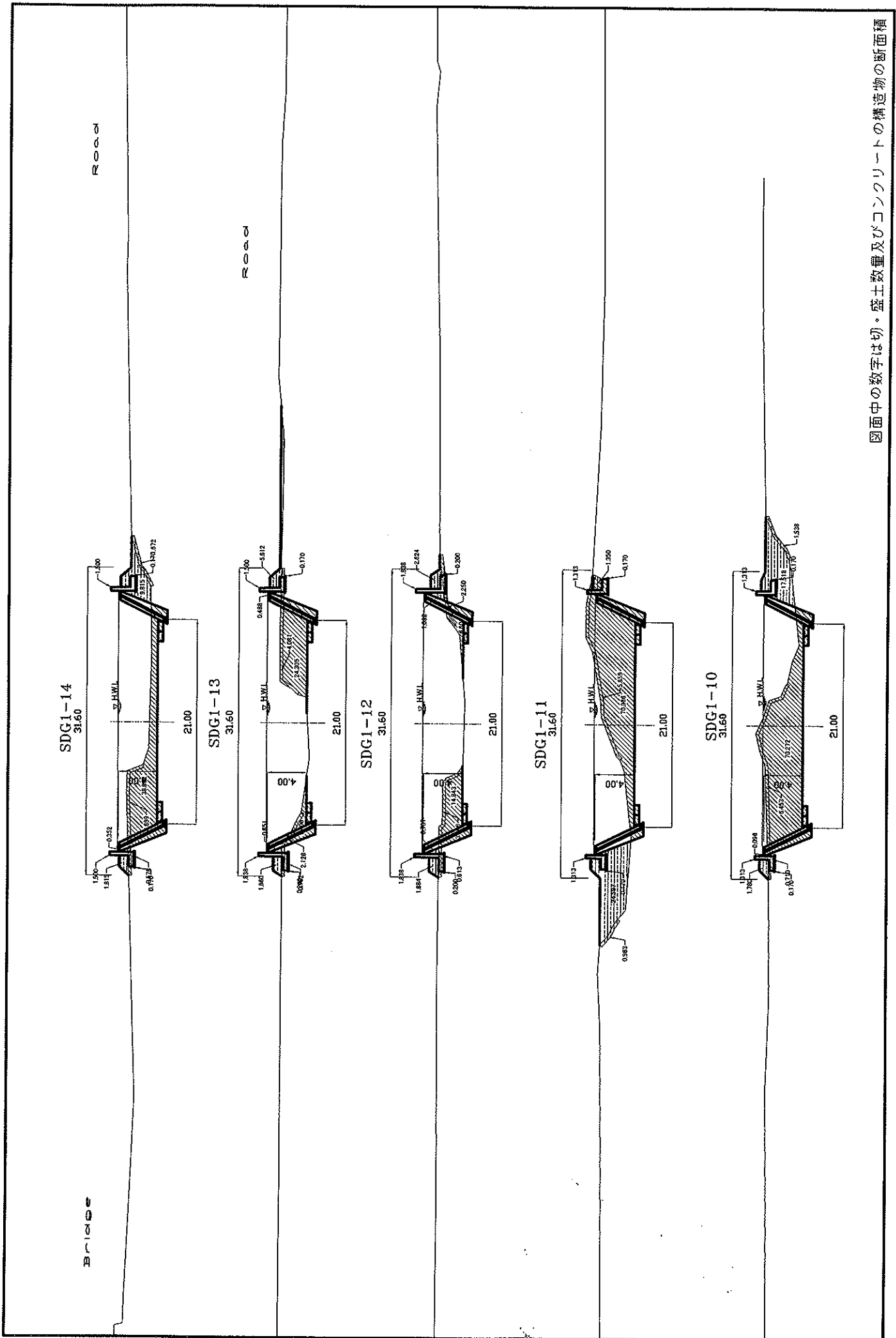
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Cross Section of Borango River Improvement Work (12/16) (with practical use of Concrete, Gabion and Sodding)



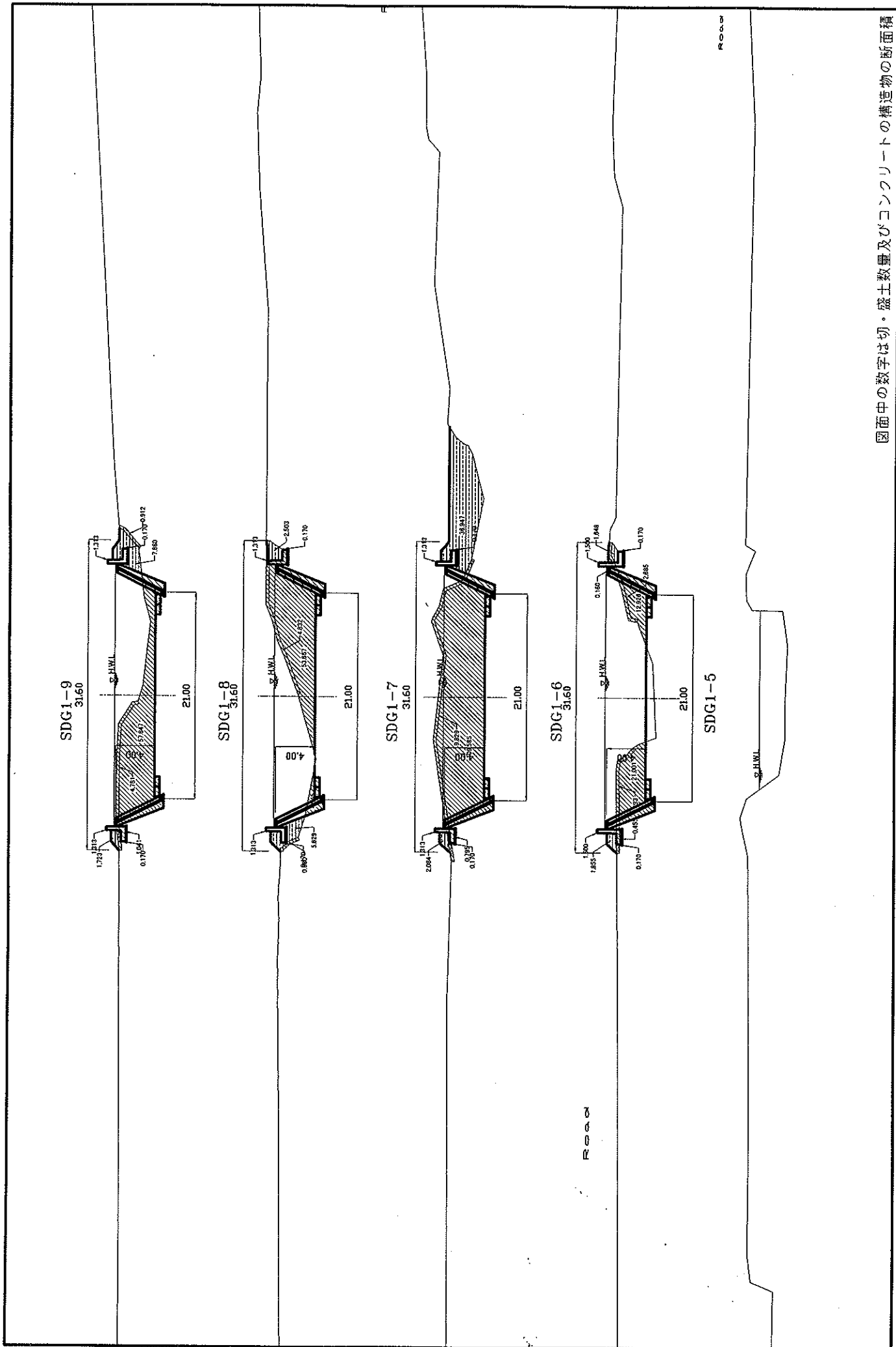
図面中の数字は切・盛土数量及びコンクリートの構造物の断面積

Cross Section of Borango River Improvement Work (13/16) (with practical use of Concrete, Gabion and Sodding)



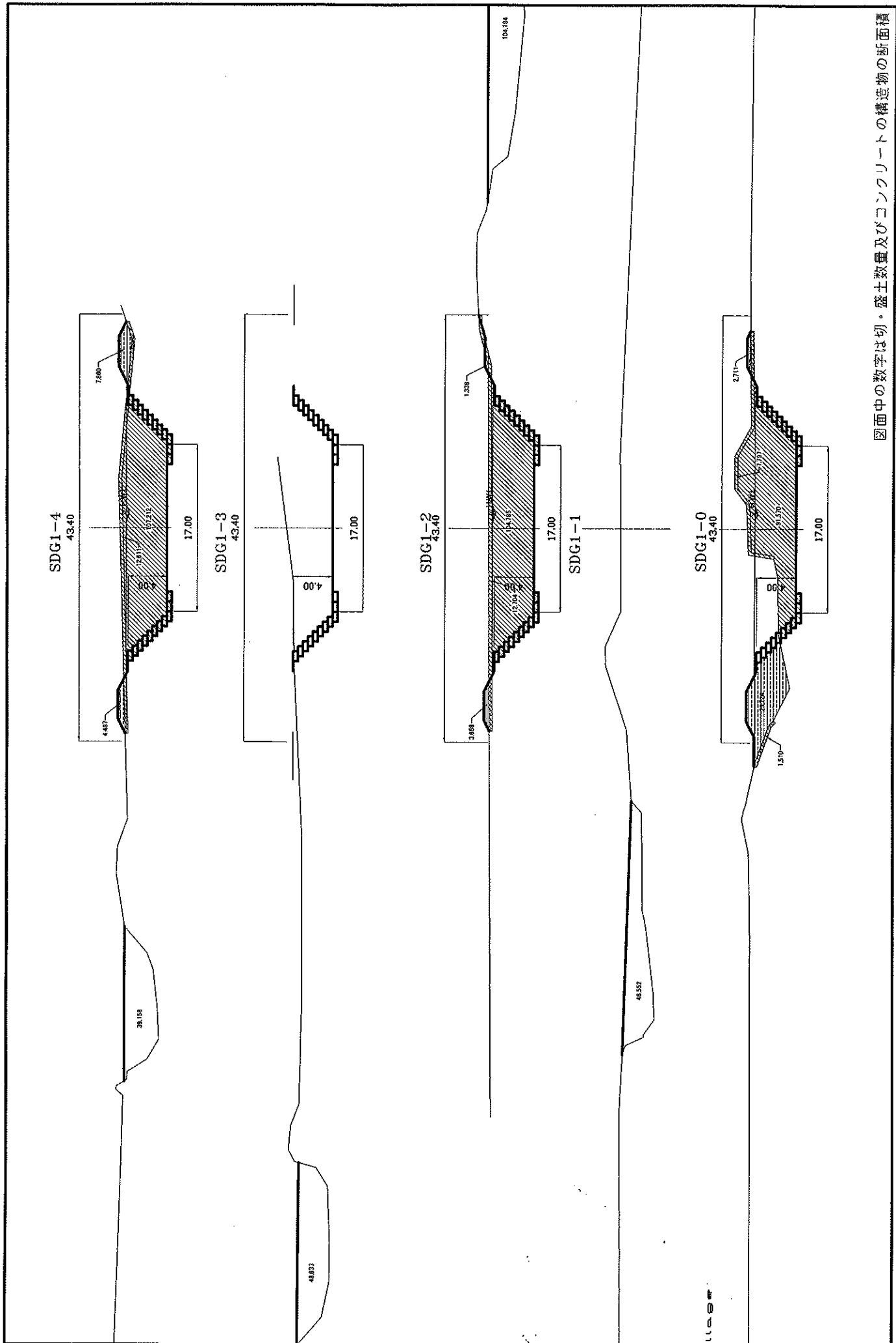
図面中の数字は切・盛土数量及びコンクリートの構造物の断面積

Cross Section of Borango River Improvement Work (14/16) (with practical use of Concrete, Gabion and Sodding)



図面中の数字は切・盛土数量及びコンクリートの構造物の断面積

Cross Section of Borango River Improvement Work (15/16) (with practical use of Concrete, Gabion and Sodding)



図面中の数字は切・盛土数量及びコンクリートの構造物の断面積

Cross Section of Borango River Improvement Work (16/16) (with practical use of Concrete, Gabion and Sodding)

Annex-G:

Proposed Tamalate Floodway Alignment in F/S and F/U



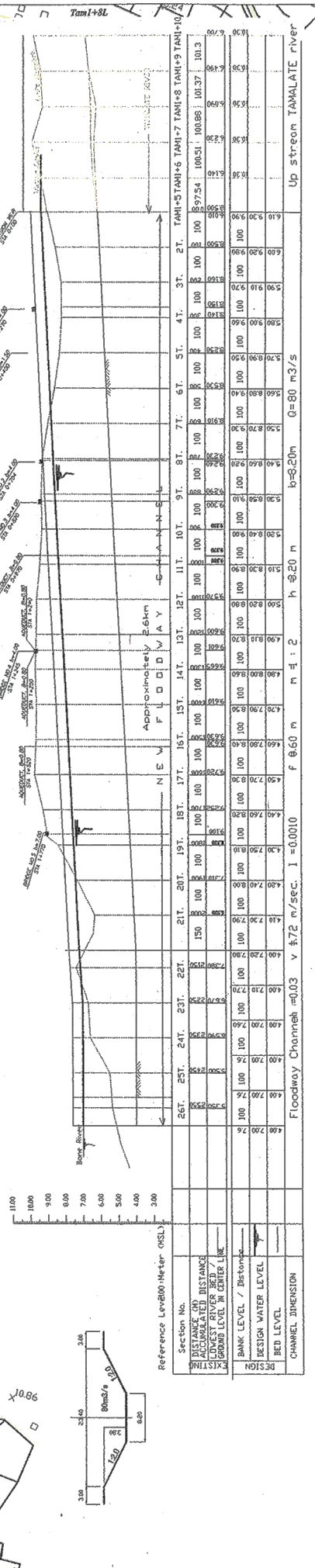
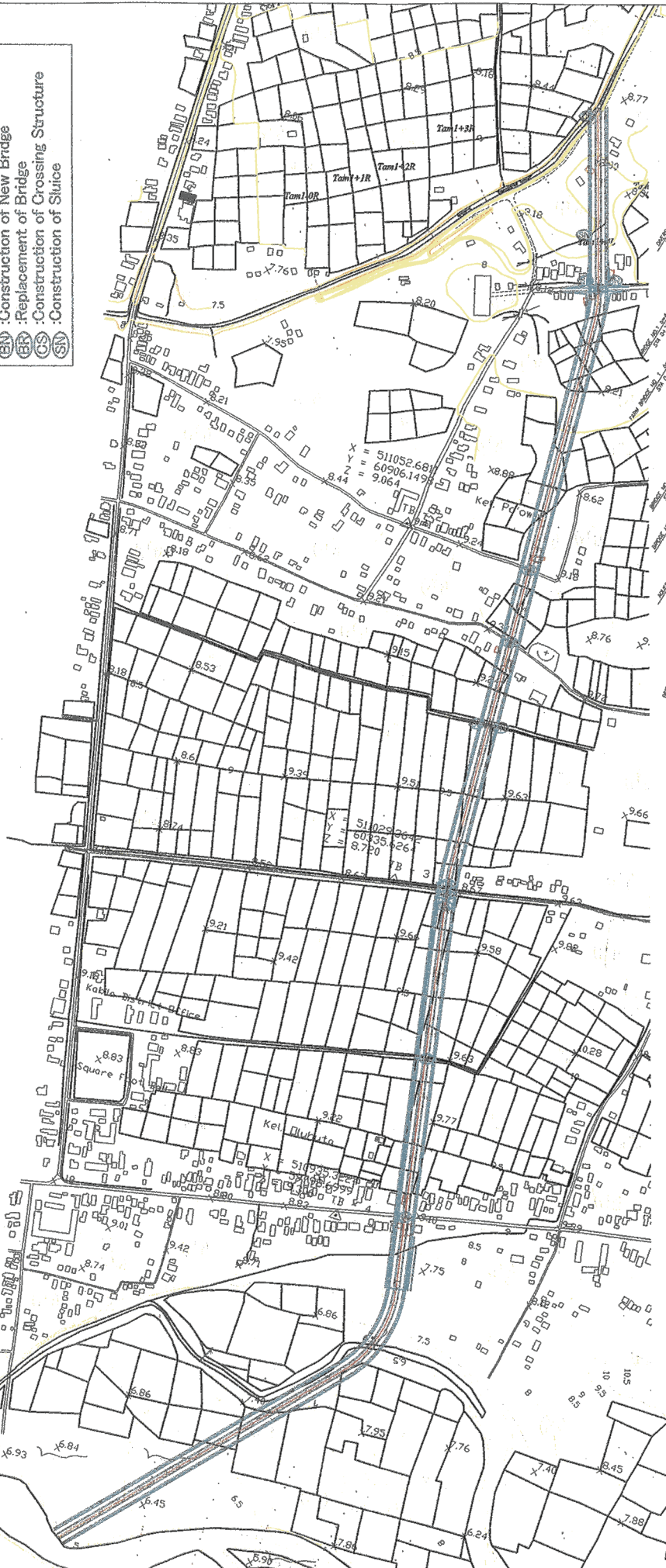
Approximately 2 Burn
FLOODWAY

Section No.	281	271	267	251	241	231	227	211	207	197	187	177	167	157	147	137	127	117	107	97	87	77	67	57	47	37	27	JAM1+5TAM1+6	JAM1+7	JAM1+8	JAM1+9	JAM1+10	JAM1+11									
Distance (m)	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700	3800	3900	4000	
Accumulated Distance	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700	3800	3900	4000	
Lowest River Bed	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00	2.00	1.00	0.00	-1.00	-2.00	-3.00	-4.00	-5.00	-6.00	-7.00	-8.00	-9.00	-10.00	-11.00	-12.00	-13.00	-14.00	-15.00	-16.00	-17.00	-18.00	-19.00	-20.00	-21.00	-22.00	-23.00	-24.00	-25.00	-26.00	-27.00	-28.00	-29.00	-30.00
Design Water Level	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00	2.00	1.00	0.00	-1.00	-2.00	-3.00	-4.00	-5.00	-6.00	-7.00	-8.00	-9.00	-10.00	-11.00	-12.00	-13.00	-14.00	-15.00	-16.00	-17.00	-18.00	-19.00	-20.00	-21.00	-22.00	-23.00	-24.00	-25.00	-26.00	-27.00	-28.00	-29.00	-30.00
Channel Dimension	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Flowway Channel n	= 0.05																																									
Channel n	= 0.0010																																									
Velocity v	= 4.75 m/sec																																									
Length l	= 0.0010																																									
Flow rate Q	= 120 m ³ /s																																									
Channel width b	= 14.0m																																									
Channel height h	= 2.0 m																																									
Channel slope s	= 0.0010																																									

Original Alignment of Tamalate Floodway

Legend

- BR Construction of New Bridge
- BR Replacement of Bridge
- CS Construction of Crossing Structure
- SN Construction of Sluice

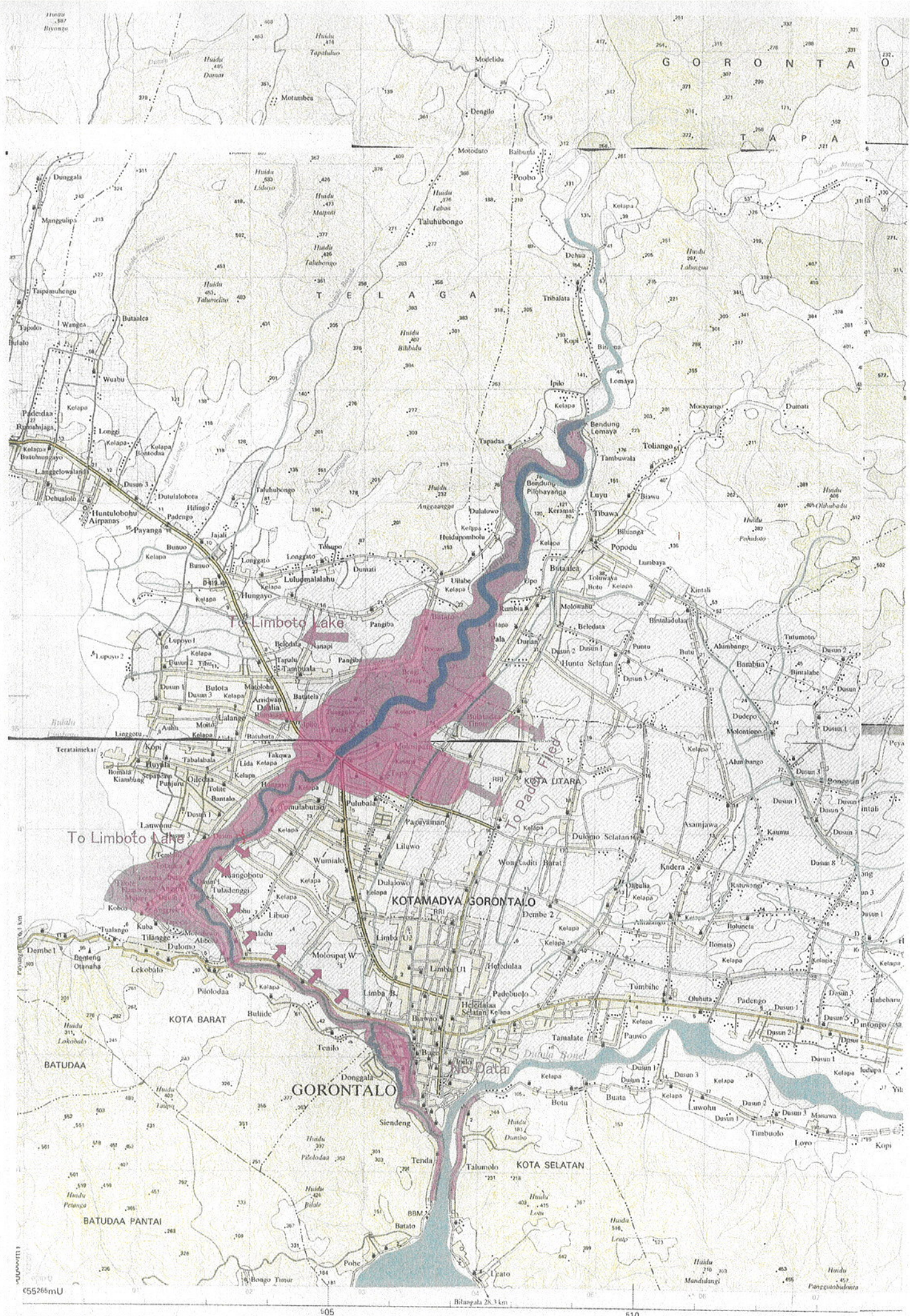


Proposed Alignment of Tamalate Floodway (Follow-up)

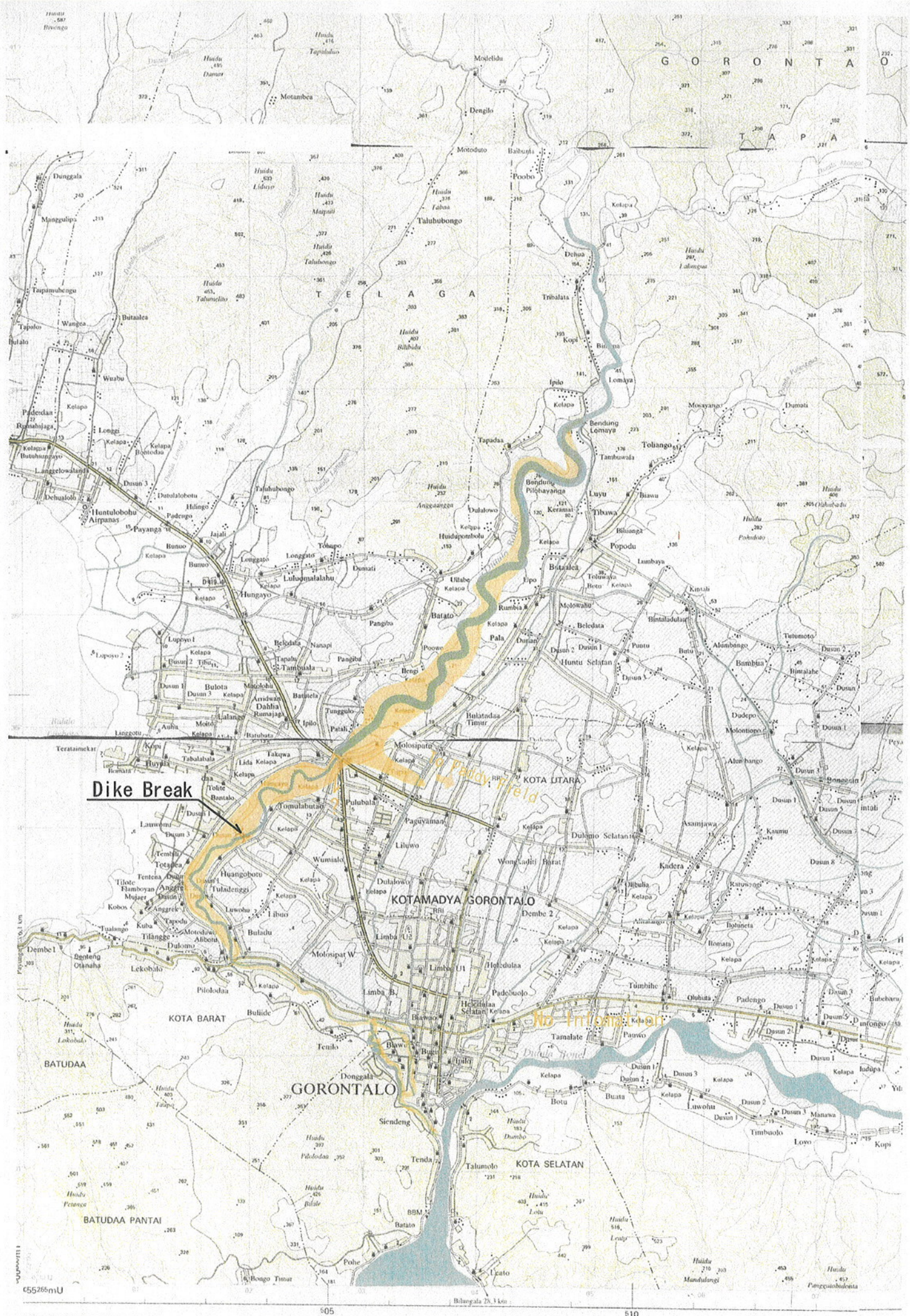
Annex-H:

Results of Flood Inundation Survey

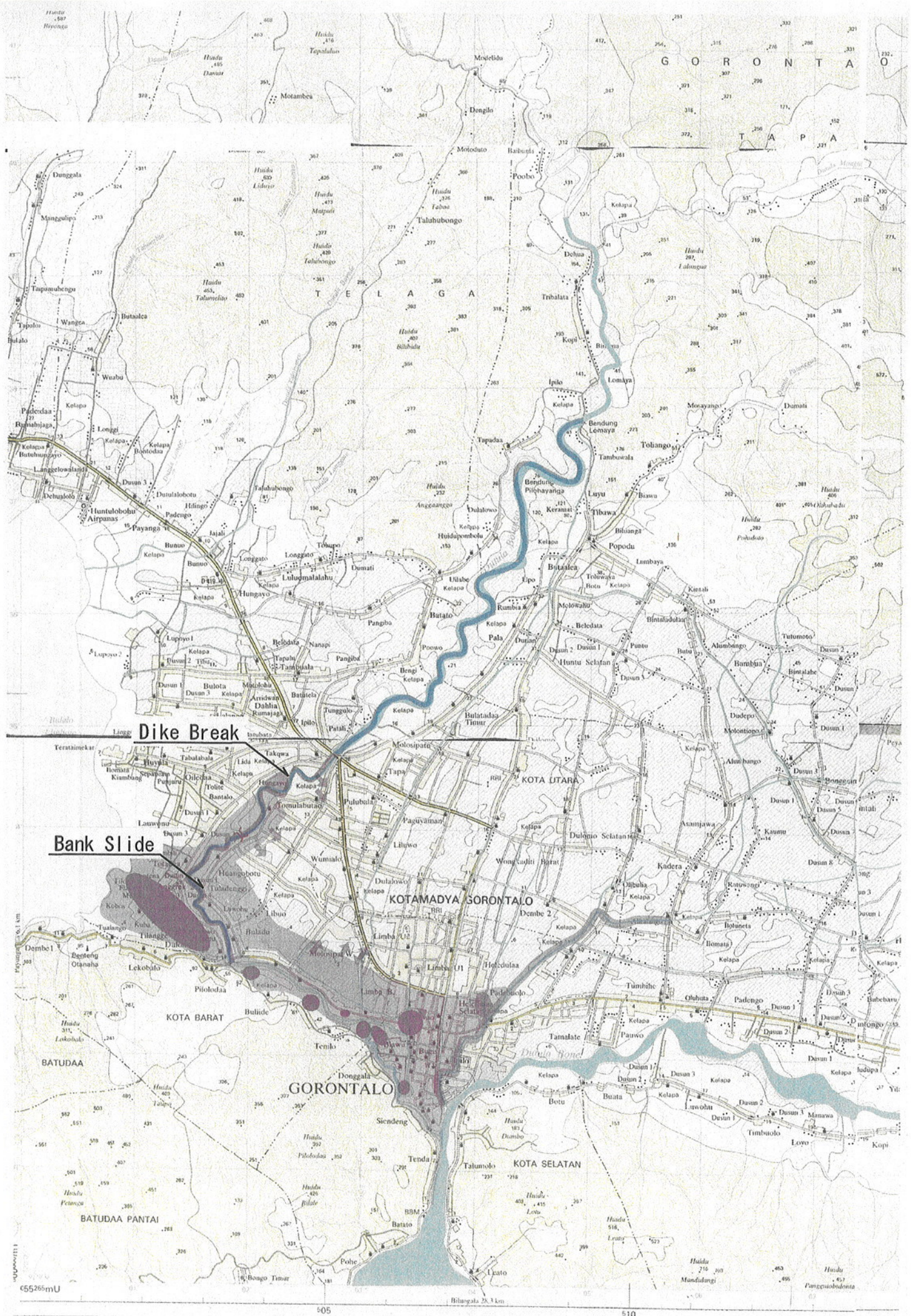
(1971, 1997, 2001 and 2002)



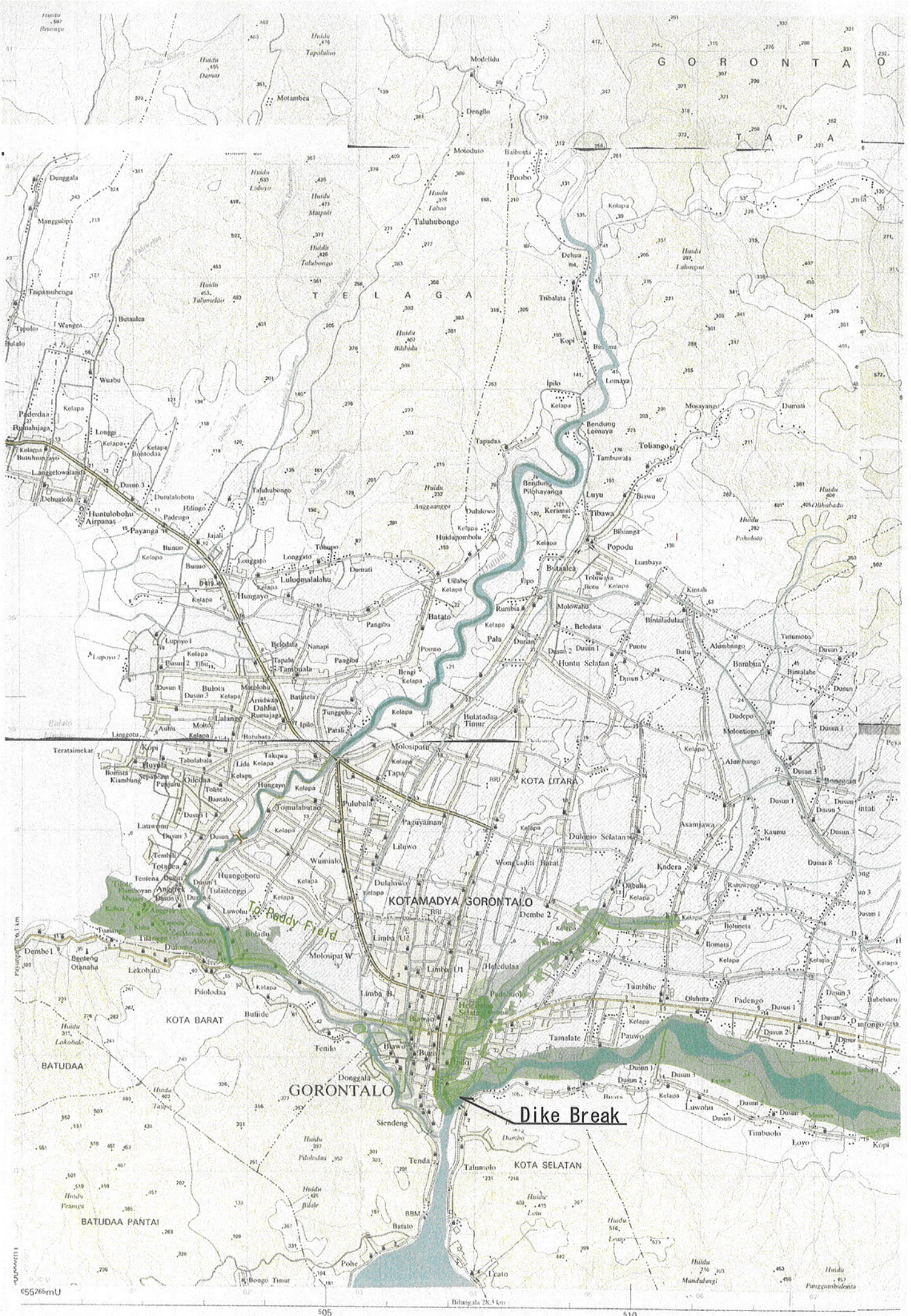
Assumed Flood Inundation Area in 1971



Assumed Flood Inundation Area in 1997



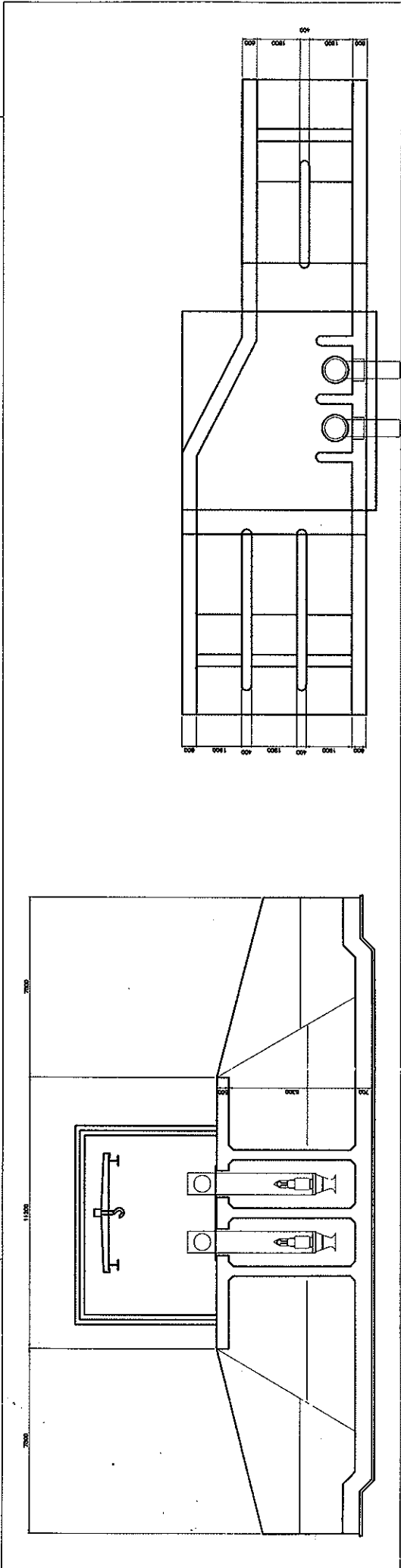
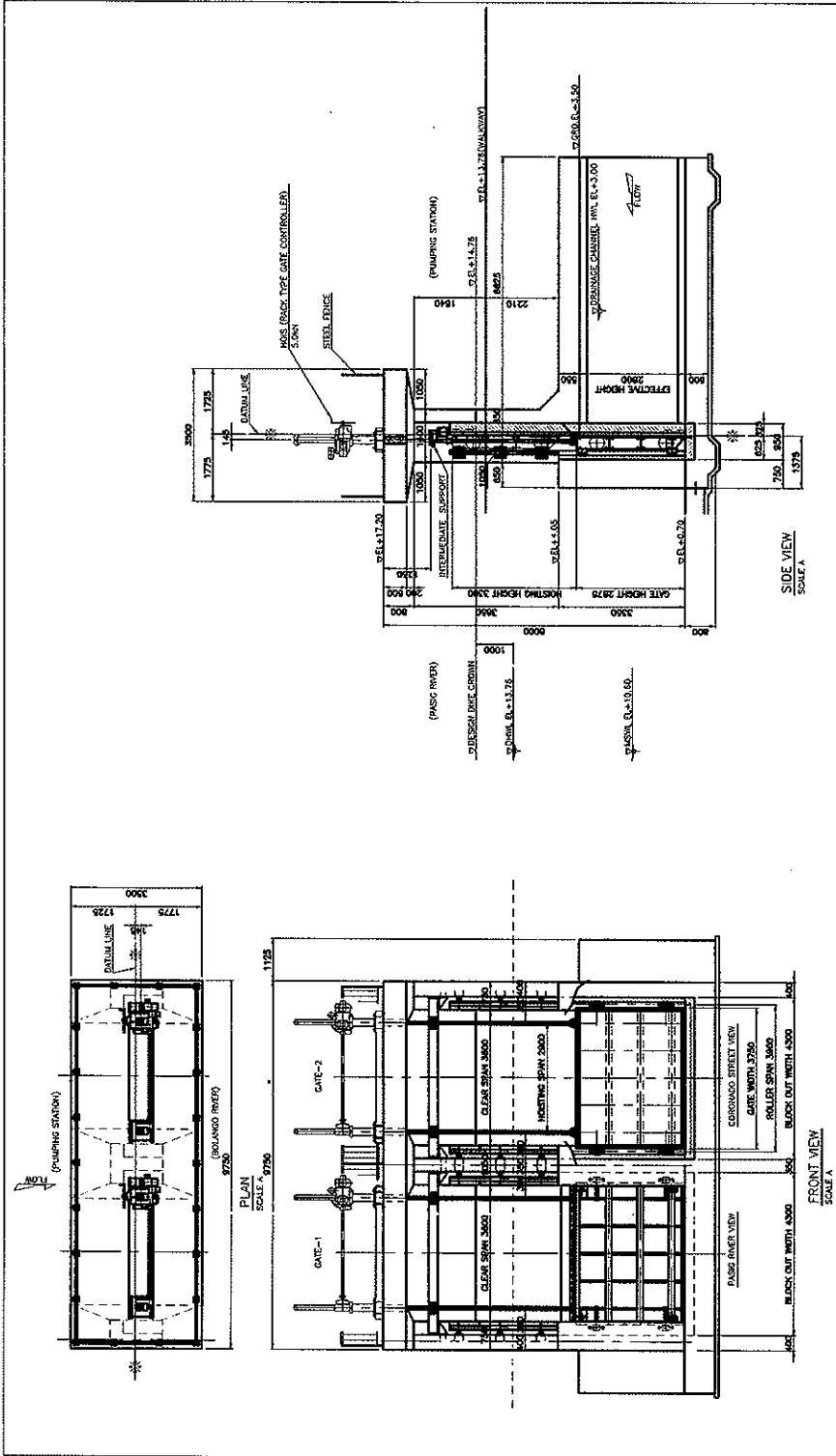
Assumed Flood Inundation Area in 2001



Assumed Flood Inundation Area in 2002
 App - 61

Annex-I:

Preliminary Design of Drainage Pumping Station



Annex-J:

Methodology of the Attitude Surveys on the People Potentially Affected by the Land Expropriation

Methodology of the Attitude Surveys on the People Potentially Affected by the Land Expropriation

The RRA (Rapid Rural Appraisal) method was applied in the attitude surveys, which is one of the growing families of methods and approaches to understand social situations based on the comprehensive verification using flexibly verbal dan visual tools as participatory drawing diagrams and sketches (diagramming and visualization), observation, group discussions and interviews. The applied methods and the scope of targets of the RRA survey are as follows.

Target Communities in the Attitude Surveys

Target	Selection of the sites	Target population	Surveyed samples
Potential affected lands	Target sites at “public consultation meetings and soliciting basic agreements in 2003” by the provincial authorities and their neighboring Kelurahan/Desa	19Kelurahan/Desa (5Kec.)	15Kelurahan/Desa (5Kec.)
Proposed relocation sites	Communities where the local authorities as Bappeda of the province or Kotamadya/Kab., regarded as potential sites at the beginning of Jul. 2004	3 Kelurahan, 4 Desa	2Kelurahan, 2Desa
Estuary of the Bone River	As one of the representative sites		1Kelurahan
Total		26Kelurahan/Desa	20Kelurahan/Desa

Summary of Methods Applied in the Attitude Surveys

Subjects	Examples of the details¹⁾	Informants	Research tools
General conditions of communities	Land ownership distribution, mechanism of consensus building and conflict resolution	Key informants in Kelurahan/Desa (Leaders as heads of Kelurahan/Desa)	Semi-structured interview ²⁾
Actual conditions of living	Livelihood, right on houses and lands	Owners of houses and farmlands and their families from the people potentially affected by land expropriation	Semi-structured interview, focus group discussion ³⁾ , informal interview ⁴⁾
Consciousness of flood damage	Mental damage		
Opinions and needs to consent to land expropriation and resettlement	Dissatisfaction on the process in public consultation meetings and soliciting basic agreements conducted in 2003, needs and reasons for compensation to the persons who have agreeing attitude for the agreeing attitude, and reasons to the persons who have of disagreeing attitude		

- Notes:**
- 1) In the communities where do not have the sites potentially affected by land expropriation and resettlement, “ actual conditions of living” and “opinions and needs to consent to land expropriation and resettlement” were partly omitted.
 - 2) Semi-structured interview: the interviewing method with topics and discourse of questions prepared to some extent beforehand but not to those to questionnaire
 - 3) Focus group discussion: the small group meeting for discussing a specific topic to listen to several persons collectively when more reasonable information and productive discussions are anticipated than by interviewing individual persons
 - 4) Informal interview: the interviewing method to hear like chatting not necessary preparation, which is the most effective way to collect general information, candid opinions and valuable information