

MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY ON THE PROJECT FOR
HUMAN RESOURCES DEVELOPMENT FOR FISHING TECHNOLOGY AND
FISHERIES RESOURCES MANAGEMENT IN SEMARANG
IN
THE REPUBLIC OF INDONESIA
(EXPLANATION ON DRAFT REPORT)

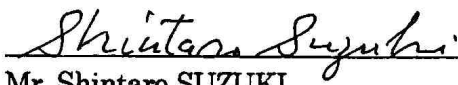
In January 2000, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on the Project for Human Resources Development for Fishing Technology and Fisheries Resources Management in Semarang (hereinafter referred to as "the Project") to the Republic 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.

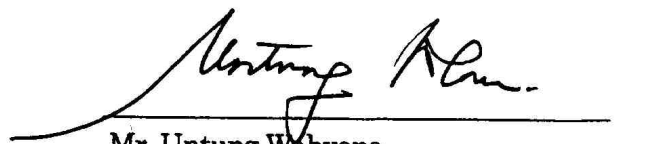
In order to deliberate with the Government of Indonesia on the components of the draft report, JICA sent to Indonesia the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Mr. Shintaro SUZUKI, Director for Fishery Resources Research, Fisheries Agency, Ministry of Agriculture, Forestry and Fisheries and is scheduled to stay in the country from May 21st, 2000 to May 29th, 2000.

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

In the course of discussions and field survey, both parties confirmed the main items described on the attached sheets.

Jakarta, May 26th, 2000


Mr. Shintaro SUZUKI
Leader
Draft Report Explanation Team
JICA


Mr. Untung Wahyono
Director General of Fisheries,
Ministry of Sea Exploration and Fisheries,
The Republic of Indonesia

ATTACHMENT

1. Components of the Draft Report

The Government of Indonesia agreed and accepted in principle the components of the draft report explained by the Team.

2. Japan's Grant Aid System

The Indonesian side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Indonesia as explained by the Team and described in ANNEX-1 (attached) and ANNEX-3 of the Minutes of Discussions signed by both parties on January 27th, 2000.

3. Further Schedule of the Study

- (1) The consultants will proceed to further studies in Indonesia until May 29th, 2000.
- (2) JICA will complete the final report in accordance with the confirmed items and send it to the Government of Indonesia by August, 2000.

4. Other Relevant Issues

(1) The Team handed one copy of the draft detailed specifications of the equipment to Semarang Fisheries Technology Development Center. Both sides agreed that this draft specification is confidential and should not be duplicated or released to any outside parties.

(2) In accordance with the Minutes of Discussions signed by both parties on January 27th, 2000, the Indonesian side will continue reporting the following matters to JICA Indonesia office.

- a. Continuous survey of the land level at the proposed project site (before the building construction starts, to be reported once in three month, at least)
- b. Necessary maintenance work to keep the land level at the proposed project site (Original designated level should be maintained basically.)
- c. Continuous management of the annual training plan which is to be complied with Indonesian mid-term development plan, in the field of Fisheries.

(3) In addition to the undertakings described in ANNEX-2, the following measures shall be taken by the Government of Indonesia on condition the Project is implemented:

- a. To complete the work of installing the required electricity lines during the construction works period.
- b. To complete the renovation work on the well and the repair of the water supply pipe during the construction works period.
- c. To complete the work of planting shrubbery within the compound during the construction works period.
- d. To obtain all permits and applicants pertaining to the construction works prior to the commencement of the construction work.
- e. To complete the dredging work in front of the jetty during the construction works period.
- f. To complete the registration of the boat and mooring rights during the construction works period.
- g. To obtain the wireless radio communications license during the construction works period.

JAPAN'S GRANT AID PROGRAM

(1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non-reimbursable funds needed to procure facilities, equipment and services for economic and social development of the country under the following principles in accordance with the relevant laws and regulations of Japan. The Grant Aid is not in a form of donation or such.

(2) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Exchange of Notes by both Governments, in which the objectives of the project, period of execution, conditions and amount of the Grant Aid etc. are confirmed.

(3) The Period of the Grant Aid

"The period of the Grant Aid" means one Japanese fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedure such as Exchange of Notes, concluding a contract with (a) consulting firm(s) and (a) contractor(s) and a final payment to them must be completed.

(4) Purchase of Products and Services

Under the Grant, in principle, products and services of origins of Japan or the recipient country are to be purchased.

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

However, the prime contractors, namely, consulting, contractor and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means Japanese physical persons or Japanese juridical persons controlled by Japanese physical persons.)

(5) Necessity of Verification

The Government of the recipient country or its designated authority will conclude into contract 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.

(6) Undertakings required to the Government of the recipient country

In the implementation of the Grant Aid, the recipient country is required to undertake necessary measures as described in ANNEX-2.

(7) Proper Use

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

(8) Re-export

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

(9) Banking Arrangement (B/A)

- (a) the Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in a bank of 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 issued by the Government of the recipient country or its designated authority.

ANNEX-2 UNDERTAKINGS REQUIRED OF THE GOVERNMENT OF INDONESIA

Following necessary measures shall be taken by the Government of Indonesia on condition that the Grant Aid by the Government of Japan is extended to the Project.

1. To secure land necessary for the site of the project and to clear and level the land prior to commencement of the construction work.
2. To complete the relocation of the existing equipment, facilities and civil works required prior to the construction of the facilities and installation of the equipment.
3. To provide facilities for distribution of electricity, water supply, telephone, drainage, sewage and other incidental items required for the Project.
4. To allocate appropriate budget and staff members for the proper and effective operation and maintenance of facilities and equipment provided under the Grant Aid.
5. To secure a temporary construction yard during the construction of the Project.
6. To ensure tax exemption and to facilitate prompt execution for unloading, customs clearance at the ports of disembarkation and internal transportation of the products purchased under the Grant Aid.
7. To exempt Japanese nationals from customs duties, internal taxes and fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts.
8. To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such as facilities as may be necessary for their entry into Indonesia and stay therein for the performance of their work in accordance with the relevant laws and regulations of the Republic of Indonesia.
9. To bear commissions to a bank of Japan for its banking services based upon the Banking Arrangement, namely the advising commission of the "Authorization to Pay" and other payment commissions.
10. To provide necessary permissions, licenses and other authorizations for implementing the Project, if necessary.
11. To maintain and use properly and effectively the facilities constructed and the equipment procured under the Project in responsibility of the Ministry of Sea Exploration and Fisheries.
12. To bear all the expenses, other than those to be borne by the Grant Aid within the scope of the Project.

Appendix 5. Cost Estimation Borne by the Recipient Country

Item	Total	Sub total		Braek down	
	Thousand Rp			Unit	Q'ty
1) Land reclamation	5,000	1 set	5,000,000 Rp		
2) Installation of electricity lines	36,000	1 set	36,000,000 Rp		
3) Renovation of the well, water pipe repair	36,750	1 set	17,500,000 Rp	45,000 Rp/m	350 m
Renovation of well			15,750,000 Rp		
Water pipe repair		1 set	3,500,000 Rp		
Others					
4) Installation of telephone line	544		544,440 Rp	272,220 Rp/Line	2 L
5) Installation of LPG	10,000	1 set	10,000,000 Rp		
6) Planting shrubbery in the compound	10,000		10,000,000 Rp	40,000 Rp/m ²	250 m ²
7) Dredging work	12,600		12,600,000 Rp	25,000 Rp/m ³	504 m ³
8) Construction license, permit & registration fees	127,500	1 set	127,500,000 Rp		
9) Registration fees for	7,000	1 set	7,000,000 Rp		
10) Renovation of existing facilities	50,000	1 set	50,000,000 Rp		
11) Others	43,529	1 set	43,529,000 Rp		
Total	338,923				

Appendix 6. Related Data and Information

6.1.1 Operation Record of Existing Vessels

6.1.2 Operation Plan of the Training Vessel

6.1.3 Revenue and Expenditure for the Training Vessel

6.2.1 FTDC Training Record (1978 - 1999)

6.2.2 Training Schedule (2000 - 2004), Training Curriculum

6.2.3 Studying Hour of Training Schedule (2002 - 2004)

6.2.4 Cost Estimation of Training

6.3.1 Facilities Layout and Level surround the Site

6.3.2 Calculation of the Consolidation Settlement

6.3.3 Option for Building Structure and Foundation

6.4.1 Review of the Request for a Trainee Bus

Appendix 6.1.1 Operation Record of Existing Vessels

Name of ship	Year	1	2	3	4	5	6	7	8	9	10	11	12	Annual Operation day	
KM. Tengiri	1999													0	
	1998	DOCK	DOCK	45	HALMAHFA SEA									45	
	1997	BANDA SEA 30	BANDA SEA 40		SOUTH	SOUTH OF GEBE	HALMAERA SEA		HALMAERA SEA		HALMAERA SEA		HALMAERA SEA 35	270	
	1996	DOCK	EAST SULAWESI 45		EAST SULAWESI 45		EAST SULAWESI 40		EAST SULAWESI 45		EAST SULAWESI 30		EAST SULAWESI 50	255	
	1995			HALMAHFA SEA 40		HALMAHFA SEA 40		NORTH GEBE 40		NORTH GEBE 45			EAST KALMAHERA 40	205	
KM. Bawal Putih II	1999	DOCK	DOCK		TANIMBER IS 35	KAIMANA BAY 37	KAIMANA BAY 44		SOUTH IRIAN 48		SOUTH IRIAN 38		KAIMANA BAY	202	
	1998	BIAK SEA 35	IRIAN 45		KAIMANA BAY 45		ARAFURA SEA 35	TANIMBAR IS 47		TANIMBAR IS 43		DOCK	DOCK	250	
	1997	DIGUL SEA 45	DIGUL SEA 40		ARAFURA SEA 43		KAIMANA BAY 40		KAIMANA BAY 30		DOCK		KAIMANA BAY 47	245	
	1996	ARAFURA SEA 42		ARAFURA SEA 55		DOCK	DOCK	ARAFURA SEA 56	SOUTH IRIAN 35		SOUTH IRIAN 47		IRIAN 25	260	
	1995	ARAFURA SEA 38							ARAFURA SEA 53	SOUTH IRIAN 20		SOUTH IRIAN 39	IRIAN 29	179	
KM. Lobster	1999		JAVA 30										JAVA	30	
	1998												JAVA 10	10	
	1997													0	
KM. Albakora	1999	DOCK	INDIAN OCEAN 30	INDIAN OCEAN 15	INDIAN OCEAN 20	INDIAN OCEAN 20	INDIAN OCEAN 20	INDIAN OCEAN 20		INDIAN OCEAN 20		INDIAN OCEAN 30		160	
	1998	DOCK	INDIAN OCEAN 30	INDIAN OCEAN 15	INDIAN OCEAN 20	INDIAN OCEAN 20	INDIAN OCEAN 15	INDIAN OCEAN 30	INDIAN OCEAN 20	INDIAN OCEAN 15	INDIAN OCEAN 15	INDIAN OCEAN 30	INDIAN OCEAN 25	65	
	1997	DOCK	INDIAN OCEAN 20	INDIAN OCEAN 30	INDIAN OCEAN 20	INDIAN OCEAN 20	INDIAN OCEAN 15	INDIAN OCEAN 30	INDIAN OCEAN 20	INDIAN OCEAN 15	INDIAN OCEAN 15	INDIAN OCEAN 30	INDIAN OCEAN 25	195	
	1996	DOCK	INDIAN OCEAN 20	INDIAN OCEAN 20	INDIAN OCEAN 20	INDIAN OCEAN 20	INDIAN OCEAN 15	INDIAN OCEAN 15	INDIAN OCEAN 20	INDIAN OCEAN 20	INDIAN OCEAN 20	INDIAN OCEAN 20	INDIAN OCEAN 25	215	
	1995	DOCK		INDIAN OCEAN 30				INDIAN OCEAN 30						60	
KM. Matiara	1999							JAVA SEA 40					JAVA SEA 40	80	
	1998													0	
	1997													0	
	1996													0	
	1995	JAVA SEA 30		JAVA SEA 30										60	
KM. Bawal Putih I	1999			JAVA SEA 25										25	
	1998			JAVA 10				JAVA 10	JAVA SEA 20	JAVA SEA 20	JAVA SEA 15			10	
	1997								JAVA SEA 30	JAVA SEA 6	JAVA SEA 15		JAVA SEA 10	65	
	1996	JAVA SEA 13	JAVA SEA 16	JAVA SEA 17	JAVA SEA 29	JAVA 9	JAVA 15	JAVA 15	JAVA 15	JAVA 15	JAVA 15	JAVA 15	JAVA 15	JAVA SEA 10	61
	1995	JAVA SEA 13	JAVA SEA 16	JAVA SEA 17	JAVA SEA 29	JAVA 9	JAVA 15	JAVA 15	JAVA 15	JAVA 15	JAVA 15	JAVA 15	JAVA SEA 17	JAVA SEA 16	137
KI. SOPEK	1999	JAVA 15	JAVA 10	JAVA 15	JAVA SEA 20	JAVA SEA 25	JAVA SEA 15	JAVA SEA 15	JAVA 15	JAVA 15	JAVA 15	JAVA 15	JAVA 15	190	
	1998		JAVA SEA 20	JAVA 15	JAVA SEA 20	JAVA SEA 20	JAVA SEA 15	JAVA 10	JAVA SEA 15	JAVA SEA 15	JAVA SEA 15	JAVA SEA 20		150	
	1997	JAVA SEA 20	JAVA 15	JAVA SEA 20	JAVA SEA 20	JAVA 20	JAVA 15	JAVA SEA 15	JAVA SEA 15	JAVA SEA 15	JAVA SEA 15	JAVA SEA 15	JAVA SEA 15	155	
	1996	JAVA 15	JAVA 15	JAVA 15	JAVA 15	JAVA 15	JAVA 15	JAVA SEA 20	JAVA SEA 20	JAVA 15	JAVA 15	JAVA 15	JAVA 15	175	
	1995		NO RECORD											0	

Appendix 6.1.2 Operation Plan of the Training Vessel

Year	1	2	3	4	5	6	7	8	9	10	11	12	Annual Operation Day
2002													
Training				Pekalogan		Cilacap		Indian ocean		Cilacap			
	DOCK & MAINTANACE		15	15	20		20	20	10	30			
Fish Catching Survey													
Extention Activity													
2003													
Training					PATI		Cilacap	Indian ocean		Cilacap			
	DOCK & MAINTANACE		15	15	10	15	10	30					
Fish Catching Survey													
Extention Activity													
2004													
Training			Pekalogan			FLORES SEA				Pati		JAVA SEA	
	DOCK & MAINTANACE		15	15	15	15	15	20		20		10	
Fish Catching Survey													
Extention Activity													

Appendix 6.1.3 Revenue and Expenditure for the Training Vessel

<Revenue>

Fish catch per day	2.5 ton
Annual operating day (Fish Catching Survey : 75days, On board training:15days)	90 day
Annual fish catch	225 ton
Average fish price (Sardine, mackerel)	1,200 Rp/kg
Sub total	270,000 Thousand Rp
KUD market handring charge (3%)	-8,100
Total Revenue	261,900 Thousand Rp

<Expenditure>

1 Fuel oil

Engine house power	280 ps
Fuel consumption	160 g/h/ps
Operating hour per day	12 h
Annual operating day	210 day
Annual consumption	141.12 kl
Unit price @	600 Thousand Rp
Sub total (/ One year)	84,672 Thousand Rp

2 Lubricating oil

Annual consumption (Fuel oil x 1%)	1.4112 kl
Unit price @	10,000 Thousand Rp
Sub total (/ One year)	14,112 Thousand Rp

3 Spare parts

Record of Albakora 1,275 Thousand Rp

4 Maintenance

Record of Albakora 11,050 Thousand Rp

5 Fishing gear

Annual cost for Small scale fishing vessel 21,000 Thousand Rp

6 Fresh water

Consumption per man-day	40 litter
Annual operating day	210 day
Average number of crew (One day operating)	20 persons
	168 ton
Unit price @	10 Thousand Rp
Sub total (/ One year)	1,680 Thousand Rp

7 Ice

Annual fishing catch (Fish : Ice=1:1)	225 ton
Unit price @	20 Thousand Rp
Sub total (/ One year)	4,500 Thousand Rp

8 Medicine

Cost for one person per year (Record of Albakora)	80 Thousand Rp
Average number of crew (One day operating)	20 persons
Sub total (/ One year)	1,600 Thousand Rp

9 Food

Cost for one person per year (Record of Albakora)	2,869 Thousand Rp
Average number of crew (One day operating)	20 persons
Sub total (/ One year)	57,380 Thousand Rp

Total Expenditure 197,269 Thousand Rp




Appendix 6.2.1 FTDC Training Record (1978-1999)

YEAR	ACTIVITIES	TRAINING DURATION *1	PARTICIPANT	QUANTITY OF TRAINEE *2
1. 1978-1983	The FTDC were constructing the building facilities in the old office building	No data	No data	30
2. 1984	National Course on Fish Stock Assessment in the Tropics	15-30	Government officer (DGF and National Fishery Research Institute)	20
3. 1985-1986	Special Training for Technical staff : Provincial Fishing Technology Unit (UPPI) and Provincial Marine Engine Development Unit (UPMB)	15-30	Government officer from all Indonesian Provinces	50
4. 1986-1987	Field Training on Demonstration of some alternative shrimp fishing technologies other than trawl for small scale fishermen	15-30	Government officer from all Indonesian Provinces and local fishermen	15
5. 1988	ASEAN Training Course on Coastal Fisheries Extension	15-30	Government officer from Malaysia, Thailand, Philippine, Brunei, Singapore and	30
6. 1988	Field work training on Fresh Tuna Fishing by long line	15-30	Fishing companies, fishermen, extension officers	30
7. 1988	Service training on Fisheries Publication Production	15-30	Government officer DGF	50
8. 1989	Field Work Training on Fishing Gear and technique	15-30	Students from Riau University	30
9. 1989	Seminar on Maximizing to fishermen income of combine fishing operation with long rope Danish seine in Northern Central Java	15-30	Fishermen, researchers, local technical officers, provincial officers, Universities	2
10. 1989	Special training for staff of Development Support Information Group from Fisheries Development Centres and DGF	15-30	Staff from Development Support Information	10
11. 1990	Workshop on Fishery Cooperative Management in ASEAN countries	15-30	From Government officer Thailand, Malaysia, Philippine, Indonesia and Japan	10
12. 1990	Seminar on Fishery Resources Exploitation and Management in East Nusa Tenggara	15-30	Government officer and fishermen from East Nusa Tenggara	50
13. 1991	Training Course on Marine Engine and Fishing Technique for technical staff of UPPI and UPMB	15-30	all Indonesian Provinces	50
14. 1991	Field work training on Fishing Gear and Technique	15-30	Students from BUNG HATTA University, Padang West Sumatera	70
15. 1992	Field work training on Fishing Gear Practice		Students from Fishery Faculty of Bogor Agriculture University	40
16. 1992	Training course on Mini Purse Seine and Long Line Fishing for Fishery Extension Officers	15-30	Extension officer from whole Indonesian Provinces	20
17. 1993	Training course on Promotion to Fishermen skill on Fishing Techniques	15-30	Fishermen from selected provinces	20
18. 1993 and 94	Field course on Fisheries Resource Exploitation and Management	15-30	local fishermen	50
19. 1994	Course on Fishing Agribusiness for the special priority commodities of fish, step I and step II	15-30	Fishery officers and some fishermen from all Indonesian Provinces	100
20. 1995	Course on Fishing Agribusiness for the special priority commodities of fish ; step III	15-30	Fishery officers and some fishermen from all Indonesian Provinces	50
21. 1995	Field work training on fishing gear and operation	15-30	Students from Diponegoro Universities	10

*1 : The training duration were conducted about 15 -30 days. while the workshop and seminar which were conducted 2 - 4 times each year (in 1984 -1995). took 2 days and one week.

*2 : Quantity of trainee : No Data Recorded

Training Record of the FTDC

		R	Resources and environment section	O	Officials, Local institution(KUD)					
		F	Fishing gear section	LF	Local Fishermen					
		S	Survey and exploration section	P	Private sector, and student					
No.	Month		Section in charge	Activities	Course duration	O	LF	P	total	Remarks
		Year		1996						
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12				Training on small scale agribusiness on fisheries	2weeks		90		90	Local fishermen from Tegal, Central Java
Total						0	90	0	90	person
		Year		1997						
1										
2		△		Training on small fishing vessel design and construction	1 month	45			45	Field technicians for fishery from 26 provinces and SFD
3		△		Seminar on fishing village development model at along coastal area of Jambi		40	35		75	Local fishermen and fisherie's officals from Jambi
4										
5										
6										
7				Training on skill promotion of trawl net equiped with TED	2 weeks	40			40	Field technicians for fishery from 26 provinces and DGF
8										
9										
10										
11										
12				Expose and fishing demonstration on bottom set net fishing at Kuala Tungkal	1 week		60		60	Local fishermen from Kuala Tungkal (Sumatera)
Total						125	95	0	220	person

additional budget
Rp98,730,000

additional budget
Rp62,891,400














Training Record of the FTDC

		R	Resources and environment section	O	Officials, Local institution(KUD)					
		F	Fishing gear section	LF	Local Fishermen					
		S	Survey and exploration section	P	Private sector, and student					
No.	Month		Section in charge	Activities	Course duration	O	LF	P	total	Remarks
		Year		1998						
	1									
	2									
	3	△		Seminar on the performance of fishing gear technologies produced by the project of fishing technology development. 1997/1998	March	75			75	Local institutions related from Central Java
	4									
	5									
	6									
	7									
	8									
	9									
	10									
	11									
	12									
Total						75	0	0	75 person	
		Year		1999						
	1									
	2			Training on fishing vessels licensing with respect to the technical knowledge of fishing vessels	2 weeks	25			25	Fishery officials from fishery provinces of all Indonesian area
	3									
	4									
	5	△		Seminar on responsible fishing development strategy to support the fisheries product export promotion program in 2003	1day	75			75	Local institutions rerated from Central Java
	6									
	7									
	8									
	9									
	10	△		Seminar on fishing village development model at along coastal area of Eastern Kalimantan	1day	40	35		75	Local fishermen and fishery's officials from East Kalimantan
	11	△		Seminar on coastal fishing interaction and environmental management	1day	100			100	Local institutions related from central Java, DGF.
	12	△		Seminar on the performance of fishing gear technologies produced by the project of fishing developmnet 1998/1999	1day	100			100	Local institutions related from central Java, DGF.
		△		Seminar on the marine fisheries HRD facing millenium III	1day	40			40	
Total						380	35	0	415 person	

Appendix 6.2.2 Trainig Schedule and Trainig Cariculumun

No.	Month		R Resources and environment section		O Officials, Local institution(KUD)		LF Local Fishermen			total	Remarks
			Section in charge	Activities	Course duration	O	LF	P			
Year 2000											
	1										
	2										
	3										
	4										
	5										
101	6		F	Responsible fishing operation	30	5	20	5	30	Coastal fishing ground	
501	7	△	F	Fishing technology development strategy in Indonesia	1	30		10	40		
101	8		R	Responsible fishing operation	30	10	10	10	30	Coral water fishing ground	
403	9	△	R	Coastal fishing monitoring and controlling	1	30		10	40		
402	10	△	S	Resources exploitation and marine environment	1	50		10	60	Tuna resouces status in indian ocean	
503	11	△	F	Fishing zone in JAVA sea	1	50		10	60		
203	12		F	Workshop on fish handling and fish hold	7	5	20	5	30	Insularion on small boat	
7 times				2210	Total		180	50	60	290 person	
Year 2001											
	1										
302	2		F	Special training for high sea fishing vessel crew recruitment	60		30		30	Tuna long line crew	
	3										
101	4		F	Responsible fishing operation	30	10	10	10	30	High sea fishing ground	
203	5		R	Workshop on fish handling and fish hold	7	10	40	10	60	For fresh tuna	
101	6		R	Responsible fishing operation	30	10	10	10	30	Coastal fishing ground	
402	7	△	S	Resources exploitation and marine environment	1	40		10	50		
405	8	△	F	Strategy for the future of fishing business by small scale in Indonesia	1	30	10	10	50	Tuna purse seine in south of Java	
406	9	△	F	Fishing industry development strategy	1	40		10	50		
406	10	△	S	Fishing industry development strategy	1	40		10	50	High sea fishing	
405	11	△	R	Strategy for the future of fishing business by small scale in Indonesia	1	40		10	50		
	12			<Preperation new curriculums for next year>							
9 times				4270	Total		220	100	80	400 person	

		R	Resources and environment section		O	Officials, Local institution(KUD)				
		F	Fishing gear section		LF	Local Fishermen				
		S	Survey and exploration section		P	Private sector, and student				
No.	Month		Section in charge	Activities	Course duration	O	LF	P	total	Remarks
Year 2002										
503		△	F	Fishing zone in JAVA sea	1	40		10	50	
203	1	▣	F	Workshop on fish handling and fish hold	7	10	5	5	20	
303	2	▣	F	Diesel engine operation and maintenance	30		40	5	45	
201	3	▣	F	Small scale fishing gear and deck machineries	21		40	5	45	
201	4	▣	F	Small scale fishing gear and deck machineries	21	5	40		45	In PEKALOGAN
301			F	Fishing electronic, radio and navigation equipment	30	10	25	10	45	
101	5	▣	R	Responsible fishing operation	30	20	20	15	55	High sea fishing ground
402	6	△	R	Resources exploitation and marine environment	1	25	10	20	55	
302	7	▣	F	Special training for high sea fishing vessel crew recruitment	60	5	50		55	For tuna long line crew
	8									
202	9	▣	F	Artificial reef and FAD rumpon technology	21		25	20	45	
102	10	▣	F	Fisheries control and fishing boat inspection	30	25		15	40	
	11									
	12			<Preperation new curriculums for next year>						
11 times				11930	Total		140	255	105	500 person
Year 2003										
505	1	▣	S	Fish catch production trend in the world	1	30		20	50	
104			R	Workshop on ghost fishing technology	7	25		15	40	
301	2	▣	F	Fishing electronic, radio and navigation equipment	30	5	35	10	50	
101	3	▣	R	Responsible fishing operation	30	10	30	10	50	In coastal fishing ground
102	4	▣	F	Fisheries control and fishing boat inspection	30	20	20	10	50	
105	5	▣	F	Workshop on Bycatch reducing device (BRD) in trawling	14	15	15	10	40	In PATI
204			F	Small scale fishing vessel design and construction	30	5	45		50	
404	6	▣	S	Tuna resources status in Indonesia	1	30		20	50	
202			R	Artificial reef and FAD rumpon technology	21	10	35	5	50	
201	7	▣	F	Small scale fishing gear and deck machineries	21	10	40	10	60	
302	8	▣		Special training for high sea fishing vessel crew recruitment	60	5	45		50	For tuna long line crew
	9									
	10									
	11			<Preperation new curriculums for next year>						
	12									
11 times				12250	Total		165	265	110	540 person

		R	Resources and environment section	O	Officials, Local institution(KUD)							
		F	Fishing gear section	LF	Local Fishermen							
		S	Survey and exploration section	P	Private sector, and student							
No.	Month		Section in charge	Activities	Course duration	O	LF	P	total	Remarks		
		Year		2004								
506	1		F	Small scale fishing technology	1	35		15	50			
201			F	Small scale fishing gear and deck machineries	21	5	35	10	50			
103			F	Workshop on fishing strategy	7	15	10	5	30			
303	2		F	Diesel engine operation and maintenance	30	5	35	10	50			
203			F	Workshop on fish handling and fish hold	7	15	10	5	30			
101	3		R	Responsible fishing operation	30	10	35	5	50	In coral fishing ground		
204	4		F	Small scale fishing vessel design and construction	30	5	40	5	50			
301	5		F	Fishing electronic, radio and navigation equipment	30		40	10	50			
501	6		F	Fishing technology development strategy in Indonesia	1	30		20	50			
201			F	Small scale fishing gear and deck machineries	21	5	45		50			
302	7		F	Special training for high sea fishing vessel crew recruitment	60		45	5	50	For tuna purse seine crew		
	8											
202	9		R	Artificial reef and FAD rumpon technology	21	10	30	10	50			
	10											
	11			<Preperation new curriculums for next year>								
	12											
12 times				12670	Total	135	325	100	560 person			

Training Curriculums (1/12)

No. 101

1. Title of Class Responsible fishing operation
 2. Duration: 30

N: Navigation room
 F: Fishing machinery room
 E: Engine training room
 W: Work shop
 B: Boat training
 C: Class / Seminar room
 S: Seminer room

		09:00-10:15	10:30-11:45	Room	Lunch	12:45-14:00	14:15-16:00	Room
1st week	Mon	Introduction	Fishing policy / plan	S		Fishing policy and planning		S
	Tue	Law of the sea		S		Law of the fishing and fishing regulation		S
	Wed	Code of conduct for responsible fishing		S		Code of conduct for responsible fishing		S
	Thu	Code of conduct for responsible fishing		S		Code of conduct for responsible fishing		S
	Fri	Fishig zone regulation		S		Fishig zone regulation		S
	Sat	Discussions		S				S
2nd week	Mon	Fishig ground		N		Fish behavious		C
	Tue	Fish behavious concerning to the fishing gear		C		Fishing gear efficiency		F
	Wed	Fishing gear efficiency		F		Fisheries management		N
	Thu	Introduction of fishing boat		C		Survey and exoloratory equipment		N
	Fri	Hydrolic machinery and navitaional equipment		N		Hydrolic machinery and navitaional equipment		F
	Sat	Discussions		S				
3rd week	Mon	Dengerous fishing method		S		Dengerous fishing method		S/B
	Tue	De-ghost fishing technology		C		De-ghost fishing technology		F/B
	Wed	Environmental frendly fishing gear		C		Environmental frendly fishing gear		W/B
	Thu	BRD in trawling		C		BRD in trawling		W/B
	Fri	FAD and fishing aid		C		FAD and fishing aid		F/B
	Sat	Discussions		S				
4th week	Mon	Sea trarining(Navigation)				Practice on navigation		
	Tue	Sea trarining(Sea regulation)				Practice on sea regulation		
	Wed	Sea training(Fishing)		B		Practice on sea accorstic		B
	Thu	Sea training(Fishing ground)		B		Practice on fish handling		B
	Fri	Sea training(Fishing handling)		B		Practice on fish handling		B
	Sat	Examination / study report		S				

Training Curriculums (2/12)

No. 102
 1. Title of Class Fisheries control and fishing boat inspection
 2. Duration: 30

N: Navigation room
 F: Fishing machinery room
 E: Engine training room
 W: Work shop
 B: Boat training
 C: Class / Seminar room
 S: Seminer room

		09:00-10:15	10:30-11:45	Room	Lunch	12:45-14:00	14:15-16:00	Room
1st week	Mon	Introduction		S		Introduction		S
	Tue	Fishing technics and method		S		Panel discussion		S
	Wed	Dangerous fishing method and ghost fishing		C		Fisheries monitoring, controlling and surveillance		F
	Thu	Law and regulation for fishing		C		Fishing gear selectivity		F
	Fri	Fishing boat construction		C		Fishing machinery (Deck machinery)		F
	Sat	Examination		C				
2nd week	Mon	Fishing boat law and regulation		S		Fishing boat document and certificate		S
	Tue	Object of test on fishing boat		S		Means for measurement of test and inspection		S
	Wed	Pre requirement or test and inspection		S		Extent and sequence of test and inspection		S
	Thu	Coding, call sign and marking of fishing boat		E		Video and slide show	Discussion	E
	Fri	Fishing boat maintenance and inspection		W		Video and slide show	Discussion	E
	Sat	Examination		S				
3rd week	Mon	Law and regulation for marine environment		C		Bilge and oily separator (MARPOL)		E
	Tue	Law and regulation for tele communication		C		Telecommunication aid for fishing boat		N
	Wed	Law and regulation for navigation		C		Navigation aid for fishing		N
	Thu	Law and regulation for artificial fishing ground		C		Fishing aggregating device(FAD) and coral reef/		N
	Fri	Law and regulation for fisheries labor		C		Video and slide show	Discussion	N
	Sat	Examination		S				
4th week	Mon	Code of conduct	Technical	C		Field work		B
	Tue	Code of conduct	Technical	C		Field work		B
	Wed	Fishing boat test and inspection				Field work		B
	Thu	Fishing gear test and inspection				Field work		B
	Fri	Marine pollution test and inspection				Field work		B
	Sat			S				

Training Curriculums (3/12)

No. 103

1. Title of Class Workshop on fishing strategy
 2. Duration: 7

N: Navigation room
 F: Fishing machinery room
 E: Engine training room
 W: Work shop
 B: Boat training
 C: Class / Seminar room
 S: Seminar room

		09:00-10:15	10:30-11:45	Room	Lunch	12:45-14:00	14:15-16:00	Room
1st week	Mon	Information	Fishing ground	S		Fishing ground	Fishing season	S
	Tue	Artificial fishing ground		S		Fisheries and resources management	Discussion	S
	Wed	Fish target and fishing gear		F		Fishing method	Discussion	S
	Thu	Fishing boat operation		N		Fishing gear selectivity	Discussion	F
	Fri	Law and regulation for fishing		S		Paper presentation		S
	Sat	Summary and conclusions		S				
2nd week	Mon							
	Tue							
	Wed							
	Thu							
	Fri							
	Sat							
3rd week	Mon							
	Tue							
	Wed							
	Thu							
	Fri							
	Sat							
4th week	Mon							
	Tue							
	Wed							
	Thu							
	Fri							
	Sat							

Training Curriculums (4/12)

No. 104

1. Title of Class Workshop on ghost fishing technology
 2. Duration: 7

N: Navigation room
 F: Fishing machinery room
 E: Engine training room
 W: Work shop
 B: Boat training
 C: Class / Seminar room
 S: Seminer room

		09:00-10:15	10:30-11:45	Room	Lunch	12:45-14:00	14:15-16:00	Room
1st week	Mon	Information	Code of conduct for responsible fisheries	S		Technical guide line for responsible fishing operation and Discussion		S
	Tue	Fisheries management efficiency of small scale fishing equipment for fishing operation /	Fishing	S		Ghost fishing problem, prevention and ghost fishing technologies / Discussion		S
	Wed	Fishing gear selectivity	Video and slide Discussion	S		Law and regulation for fishing	Discussion	S
	Thu	Paper presentation	Field trip	F		Field trip	Discussion	W
	Fri	Small scale fishing gear and auxallery fishing gear / Discussion		F		By catch reducing device on various gear types / Discussion		W
	Sat	Summary of the session by reporter and moderator of each session / Conclusion and recommendations		S				
2nd week	Mon							
	Tue							
	Wed							
	Thu							
	Fri							
	Sat							
3rd week	Mon							
	Tue							
	Wed							
	Thu							
	Fri							
	Sat							
4th week	Mon							
	Tue							
	Wed							
	Thu							
	Fri							
	Sat							

Training Curriculums (5/12)

No. 105

1. Title of Class Workshop on Bycatch reducing device (BRD) in trawling
 2. Duration: 14

N: Navigation room
 F: Fishing machinery room
 E: Engine training room
 W: Work shop
 B: Boat training
 C: Class / Seminar room
 S: Seminer room

		09:00-10:15	10:30-11:45	Room	Lunch	12:45-14:00	14:15-16:00	Room
1st week	Mon	Introduction		S		Out line of trawl gear construction		S
	Tue	Out line of trawl gear construction		W		Construction of trawling vessel		
	Wed	Out line of TED construction		C		Out line of TED construction		W
	Thu	Out line of TED construction		C		Discussion		W
	Fri	Field work to make TED construction		C		Field work to make TED construction		W
	Sat	Examination		W				
2nd week	Mon	Field work to make TED construction		C		Fitting the TED construction on trawl gear		W
	Tue	Fitting the TED construction on trawl gear		W		Discussion		W
	Wed	Practical study on training boat		B		Practical study on training boat		B
	Thu	Practical study on training boat		B		Practical study on training boat		B
	Fri	Paper presentation		S		Paper presentation		S
	Sat	Summary and conclusions		S				
3rd week	Mon							
	Tue							
	Wed							
	Thu							
	Fri							
	Sat							
4th week	Mon							
	Tue							
	Wed							
	Thu							
	Fri							
	Sat							

Training Curriculums (6/12)

No. 201

1. Title of Class Small scale fishing gear and deck machineries
 2. Duration: 21

N: Navigation room
 F: Fishing machinery room
 E: Engine training room
 W: Work shop
 B: Boat training
 C: Class / Seminar room
 S: Seminer room

		09:00-10:15	10:30-11:45	Room	Lunch	12:45-14:00	14:15-16:00	Room	
1st week	Mon	Introduction		S		Introduction		S	
	Tue	Basic specification and classification of fishing gear			F		Panel discussion		C
	Wed	Fish behavior	Fishery oceanography and meteorology	C		Fisheries law and regulation	Discussion	N	
	Thu	Fishing gear for small scale fishing			F		Responsible fishing	Code of conduct	C
	Fri	Fishing gear material			F		Video and slide show	Discussion	C
	Sat	Examination			S				
2nd week	Mon	Fishing boat construction			E		Tele communication aid for fishing boat		N/B
	Tue	Navigation aid for fishing boat			N		Artificial reef and artificial fishing ground		F/B
	Wed	Marine diesel engine and power take off			E		Deck machinery for small scale fishery		F/B
	Thu	Hydraulic machinery	Basic of electricity		F		Video and slide show	Discussion	N/B
	Fri	Basic calculation for fishing gear and machinery			F		Video and slide show	Discussion	C
	Sat	Examination			S				
3rd week	Mon	Construction of fishing gear					Field work		
	Tue	Construction of fishing gear					Field work		
	Wed	Construction of deck machinery			W		Fishing operation training		F/B
	Thu	Construction of deck machinery			W		Field work		F/B
	Fri	Exploring fishing operation			S		Exploring fishing operation		S
	Sat	Examination			S				
4th week	Mon								
	Tue								
	Wed								
	Thu								
	Fri								
	Sat								

Training Curriculums (7/12)

No. 202

1. Title of Class Artificial reef and FAD rumpon technology
 2. Duration: 21

N: Navigation room
 F: Fishing machinery room
 E: Engine training room
 W: Work shop
 B: Boat training
 C: Class / Seminar room
 S: Seminer room

		09:00-10:15	10:30-11:45	Room	Lunch	12:45-14:00	14:15-16:00	Room
1st week	Mon	Opening ceremony		S		Introduction		S
	Tue	Fish behavior around FAD and AR (Artificial reef)	Construction and development method of FAD	F		Video and slide show	Discussion	W
	Wed	Construction and development of FAD	Calculation for FAD design	F		Conservation and regulation of Indian water	Discussion	W
	Thu	Fishing method in pelagic FAD	Fishing method in demersal FAD and AR	F		Video and slide show	Discussion	C
	Fri	Field work of rigging, sinker and attractor of FAD and AR		S		Field work of rigging, sinker and attractor of FAD and AR		S
	Sat	Field trip						
2nd week	Mon	Field work of raft and buoy of pelagic FAD and AR		W		Field work of raft and buoy of pelagic FAD and AR		W
	Tue	Field work of raft and buoy of FAD and AR		W		Field work of raft and buoy of FAD and AR		W
	Wed	Diving method and theory		C		Field work of demersal FAD and AR		B
	Thu	Field work of demersal FAD and AR		C		Diving practice in the swimming pool		B
	Fri	Diving practice in the sea		C		Diving practice in the sea		B
	Sat	Field trip		B				
3rd week	Mon	Preparation of deployment of FAD and AR		F		Preparation of deployment of FAD and AR		B
	Tue	Deployment of the pelagic FAD		F		Deployment of the pelagic FAD		B
	Wed	Deployment of the demersal FAD and AR		B		Deployment of the demersal FAD and AR		B
	Thu	Fishing practice		B		Fishing practice		B
	Fri	Fishing practice		B		Fishing practice		B
	Sat	Closing ceremony		S				
4th week	Mon							
	Tue							
	Wed							
	Thu							
	Fri							
	Sat							

Training Curriculums (8/12)

No. 203

1. Title of Class Workshop on fish handling and fish hold

2. Duration: 7

- N: Navigation room
- F: Fishing machinery room
- E: Engine training room
- W: Work shop
- B: Boat training
- C: Class / Seminar room
- S: Seminer room

		09:00-10:15	10:30-11:45	Room	Lunch	12:45-14:00	14:15-16:00	Room	
1st week	Mon	Introduction		S		Out line of fish handling		S	
	Tue	Storage of fish catch in fish hold		C		Construction of fish hold		E	
	Wed	Mayor component of fish hold		E		Field work to make fish hold in work shop		W	
	Thu	Study trip to Pekalongan for observation of fish handling in fishing vessel					Study trip to Pekalongan for observation of fish handling in fishing vessel		
	Fri	Field work for storage of fish catch		B		Paper presentation		C	
	Sat	Summary and conclusions		S					
2nd week	Mon								
	Tue								
	Wed								
	Thu								
	Fri								
	Sat								
3rd week	Mon								
	Tue								
	Wed								
	Thu								
	Fri								
	Sat								
4th week	Mon								
	Tue								
	Wed								
	Thu								
	Fri								
	Sat								

Training Curriculums (9/12)

No. 204

1. Title of Class Small scale fishing vessel design and construction
 2. Duration: 30

N: Navigation room
 F: Fishing machinery room
 E: Engine training room
 W: Work shop
 B: Boat training
 C: Class / Seminar room
 S: Seminer room

		09:00-10:15	10:30-11:45	Room	Lunch	12:45-14:00	14:15-16:00	Room
1st week	Mon	Introduction		S		Basic design of fishing vessel		E
	Tue	Outline of fishing vessel		C		Basic design of fishing vessel		E
	Wed	Outline of fishing vessel		C		Basic design of fishing vessel		E
	Thu	Outline of fishing vessel		C		Basic design of fishing vessel		E
	Fri	Outline of fishing vessel		C		Basic design of fishing vessel		E
	Sat	Review		S				
2nd week	Mon	Lofting and drawing vessel in work shop		E		Lofting and drawing vessel in work shop		W
	Tue	Lofting and drawing vessel in work shop		E		Lofting and drawing vessel in work shop		W
	Wed	Lofting and drawing vessel in work shop		E		Lofting and drawing vessel in work shop		W
	Thu	Lofting and drawing vessel in work shop		E		Lofting and drawing vessel in work shop		W
	Fri	Review		C		Review		E
	Sat	Examination <i>Question and answer</i>		S				
3rd week	Mon	Basic of FRP material		C		Practice of FRP in work shop		W
	Tue	Basic of FRP material		C		Practice of FRP in work shop		W
	Wed	Visit to FRP ship yard				Visit to FRP ship yard		
	Thu	Visit to FRP ship yard				Visit to FRP ship yard		
	Fri	Visit to FRP ship yard				Move to BPPI		
	Sat	Examination <i>Question and answer</i>		S				
4th week	Mon	Determination of scantling's FRP boat		E		Determination of scantling's FRP boat		E
	Tue	Determination of scantling's FRP boat		E		Discussion		E
	Wed	Introduction for fishing gear		F		On bord training		B
	Thu	Introduction for deck machinery		F		On bord training		B
	Fri	Introduction for fish hold		F		On bord training		B
	Sat	Evaluation		S				

Training Curriculums (10/12)

No. 301

1. Title of Class Fishing electronic, radio and navigation equipment

2. Duration: 30

N: Navigation room

F: Fishing machinery room

E: Engine training room

W: Work shop

B: Boat training

C: Class / Seminar room

S: Seminer room

		09:00-10:15	10:30-11:45	Room	Lunch	12:45-14:00	14:15-16:00	Room
1st week	Mon	Introduction		S		Introduction		S
	Tue	Fisheries regulation		S		Terminology of fishing vessel		S
	Wed	Regulation of Radio tele communication		C		Field work (Simulation) and practice		N
	Thu	Basic and principle of GMDSS		C		Field work (Simulation) and practice		N
	Fri	Basic and principle of Radio communication		C		Field work (Simulation) and practice		N
	Sat	Examination, Question and answer		S				
2nd week	Mon	Introduction Navigation	Radar(Theory)	C		Radar simulation		N
	Tue	Introduction Navigation	Radar(Theory)	C		Radar simulation		N
	Wed	Basic and principle of Fish finder		C		Field work(Fish finder)		N
	Thu	Basic and principle of Fish finder		C		Field work(Fish finder)		N
	Fri	Basic and principle of Fish finder		C		Field work(Fish finder)		N
	Sat	Examination, Question and answer		S				
3rd week	Mon	Basic and principle of GPS		C		GPS practice	Training on board	N/B
	Tue	Basic and principle of GPS		C		GPS practice	Training on board	N/B
	Wed	Basic and principle of Weather facsimile		C		Weather facsimile	Training on board	N/B
	Thu	Field work				Field work		
	Fri	Field work				Field work		
	Sat	Examination, Question and answer		S				
4th week	Mon	Training on board		B		Training on board		B
	Tue	Training on board		B		Training on board		B
	Wed	Training on board		B		Training on board		B
	Thu	Training on board		B		Training on board		B
	Fri	Training on board		B		Training on board		B
	Sat	Evaluation		S				

Training Curriculums (11/12)

No. 302

1. Title of Class Special training for high sea fishing vessel crew recruitment

2. Duration: 60

N: Navigation room

F: Fishing machinery room

E: Engine training room

W: Work shop

B: Boat training

C: Class / Seminar room

S: Seminar room

		09:00-10:15	10:30-11:45	Room	Lunch	12:45-14:00	14:15-16:00	Room
1st week	Mon	Introduction		S		Introduction		S
	Tue	Fishing gear material		S		Fishing gear maintenance		S
	Wed	Various fishing method		S		Video and slide show	Discussion	S
	Thu	Various fishing method		C		Video and slide show	Discussion	N
	Fri	Law and regulation for fishing		C		Law and regulation for fishing		N
	Sat	Examination, Question and answer		S				
2nd week	Mon	Introduction Navigation	Radar(Theory)	C		Radar simulation		N
	Tue	Introduction Navigation	Radar(Theory)	C		Radar simulation		N
	Wed	Basic and principle of Fish finder		C		Field work(Fish finder)		N
	Thu	Basic and principle of Fish finder		C		Field work(Fish finder)		N
	Fri	Basic and principle of Fish finder		C		Field work(Fish finder)		N
	Sat	Examination, Question and answer		S				
3rd week	Mon	Basic and principle of GPS		C		GPS practice		N
	Tue	Basic and principle of GPS		C		GPS practice		N
	Wed	Basic and principle of Weather facsimile		C		Weather facsimile practice		N
	Thu	Basic and principle of Magnetic compass		C		Basic and principle of Gyro compass		N/B
	Fri	Basic and principle of Soner		C		Soner practice		N/B
	Sat	Examination, Question and answer		S				
4th week	Mon	Fishing gear material		C		Fishing operation simulation		F
	Tue	Fishing gear material		C		Fishing operation simulation		F
	Wed	Fishing gear material		C		Fishing operation simulation		F
	Thu	Seamanship		C		Field work		F
	Fri	Seamanship		C		Field work		F
	Sat	Field trip and study tour		B				

		09:00-10:15	10:30-11:45	Room	Lunch	12:45-14:00	14:15-16:00	Room
5th week	Mon	Fishing gear making and repair		C		Field work		W
	Tue	Fishing gear making and repair		C		Field work		W
	Wed	Fishing gear making and repair		C		Field work		W
	Thu	Fishing gear making and repair		C		Field work		W
	Fri	Fishing gear making and repair		C		Field work		W
	Sat	Examination Question and answer		S				
6th week	Mon	Fishing operation on board		E/C		Fishing operation on board		E/B
	Tue	Fishing operation on board		E/C		Fishing operation on board		E/B
	Wed	Fishing operation on board		E/C		Fishing operation on board		E/B
	Thu	Fishing operation on board		E/C		Fishing operation on board		E/B
	Fri	Fishing operation on board		W		Fishing operation on board		E/B
	Sat	Examination Question and answer		W				
7th week	Mon	Field work				Field work		
	Tue	Field work				Field work		
	Wed	Fishing operation on board		E/B		Fishing operation on board		E/B
	Thu	Fishing operation on board		E/B		Fishing operation on board		E/B
	Fri	Fishing operation on board		E/B		Fishing operation on board		E/B
	Sat	Examination Question and answer		S				
8th week	Mon	Fishing operation on board		E/B		Fishing operation on board		B
	Tue	Fishing operation on board		E/B		Fishing operation on board		B
	Wed	Fishing operation on board		E/B		Fishing operation on board		B
	Thu	Fishing operation on board		E/B		Fishing operation on board		B
	Fri	Fishing operation on board		E/B		Fishing operation on board		B
	Sat	Evaluation, Question and answer		S				

Training Curriculums (12/12)

No. 303

1. Title of Class Diesel engine operation and maintenance
 2. Duration: 30

N: Navigation room
 F: Fishing machinery room
 E: Engine training room
 W: Work shop
 B: Boat training
 C: Class / Seminar room
 S: Seminer room

		09:00-10:15	10:30-11:45	Room	Lunch	12:45-14:00	14:15-16:00	Room
1st week	Mon	Introduction		S		Basic and principle of diesel engine		S
	Tue	Basic and principle of diesel engine		E		Video and slide show and lecture		S
	Wed	Introduction of arrangement		E		Video and slide show and discussion		S
	Thu	Fuel oil system		E		Video and slide show and discussion		S
	Fri	Lubricating oil system and slide show		E		Video and slide show and discussion		S
	Sat	Examination Question and answer		S				
2nd week	Mon	Maintenance of diesel engine		C		Operation of diesel engine		E
	Tue	Maintenance of diesel engine		C		Operation of diesel engine		E
	Wed	Maintenance of diesel engine		C		Operation of diesel engine		E
	Thu	Trouble shooting		C		Operation of diesel engine		E
	Fri	Horse power calculation		C		Operation of diesel engine		E
	Sat	Examination Question and answer		S				
3rd week	Mon	Trouble shooting		E		Trouble shooting		W
	Tue	Assembly and disassembly		E		Assembly and disassembly		W
	Wed	Basic and principle of Cooling system		E		Basic and principle of Cooling system		W
	Thu	Lathe practice		W		Lathe practice		W
	Fri	Welding practice		W		Welding practice		W
	Sat	Examination Question and answer		S				
4th week	Mon	Field work				Field work		
	Tue	Fishing operation on board		B		Fishing operation on board		B
	Wed	Fishing operation on board		B		Fishing operation on board		B
	Thu	Fishing operation on board		B		Fishing operation on board		B
	Fri	Fishing operation on board		B		Fishing operation on board		B
	Sat	Evaluation		S				

Appendix 6.2.3 Studying Hour of Training Schedule (2002-2004)

2002		No. of Trainee	Project Facilities				Existing Facilities		Project	Others	Total
Month	Code		Navigation	Fishing	Engine	Lecture	Workshop	Seminar	Vessel	Field	Studying Hr.
1	503	50						4		4	
	203	20			4	6	2	4	2	4	
2	303	45			24	10	14	20	16	4	
					24	18	6				
3	201	45	6	14	4	10	4	14	6	8	
			6	14	4	10	4	6			
4	201	45	6	14	4	10	4	14	6	8	
				14	4	10	4	6			
5	301	45	19			22		16	23	8	
			19			22					
6	101	55	6	8		14	2	33	17	8	
			6	8		14	2	1	5		
7	402	55						4			
7	302	55	22	10		34		18	4		
			22	10		34		2			
8	302				20	14	14	6	26	8	
					20	14	14				
9	202	45		10		8	12	10	24	2	
				10		8	12	10			
10	102	40	8	6	8	22	2	26	10	6	
			8	6	8	22	2	4			
11	Survey and Exploration Activity and Preparation of Teaching Material										
12											
Total		500	128	124	124	302	98	170	167	56	1,169
2003											
1	505	50						4			
1	104	40		4			4	14			
				4			4				
2	301	50	19			22		16	23	8	
			19			22					
3	101	50	6	8		14	2	33	17	8	
			6	8		14	2	1	5		
4	102	50	8	6	8	22	2	26	10	6	
			8	6	8	22	2	4			
5	105	40				8	14	10	10	2	
						8	14				
5	204	50		6	28	14	12	10	6	12	
6	404	50						4			
6	202	50		10		8	12	10	24	2	
				10		8	12	10			
7	201	60	6	14	4	10	4	14	6	8	
				14	4	10	4	6			
8	302	50	22	10		34		18	4		
			22	10		34		2			
9	302				20	14	14	6	26	8	
					20	14	14				
10	Survey and Exploration Activity and Preparation of Teaching Material										
11											
12											
Total		540	116	110	92	278	116	166	153	54	1,085
2004											
1	506	50						4			
1	201	50	6	14	4	10	4	14	6	8	
				14	4	10	4	6			
1	103	30	2		4			16			
2	303	50			24	10	14	20	16	4	
					24	18	6				
2	203	30			4	6	2	4	2	4	
3	101	50	6	8		14	2	33	17	8	
			6	8		14	2	1	5		
4	204	50		6	28	14	12	10	6	12	
5	301	50	19			22		16	23	8	
			19			22					
6	501	50						4			
6	201	50	6	14	4	10	4	14	6	8	
				14	4	10	4	6			
7	302	50	22	10		34		18	4		
			22	10		34		2			
8	302				20	14	14	6	26	8	
					20	14	14				
9	202	50		10		8	12	10	24	2	
				10		8	12	10			
10	Survey and Exploration Activity and Preparation of Teaching Material										
11											
12											
Total		560	108	118	140	272	106	170	159	62	1,135

Appendix 6.2.4 Cost Estimatin of Training

Unit : 1000Rp

person*day unit price	Personal allowance	meals	Miscellaneous	Material for training	Preparation	Printinigs	Field activity	Transportation	Teacher's allowance	Hired bus	Total
	(person*day)			(per 1 training)			(per person)	(per days)			
	10	25	4	20	2,500	2,400	10,000	200	7	43	
	Year 2001										
1,800	18,000	45,000	6,429	20	2,500	2,400	10,000	6,000	429		90,777
900	9,000	22,500	3,214	20	2,500	2,400	10,000	6,000	214		55,849
420	4,200	10,500	1,500	20	2,500	2,400	10,000	12,000	50		43,170
900	9,000	22,500	3,214	20	2,500	2,400	10,000	6,000	214		55,849
4,020	40,200	100,500	14,357	80	10,000	9,600	40,000	30,000	907		245,644
	Year 2002										
140	1,400	3,500	500	20	2,500	2,400	10,000	4,000	50		24,370
1,350	13,500	33,750	4,821	20	2,500	2,400	10,000	9,000	214		76,206
945	9,450	23,625	3,375	20	2,500	2,400	10,000	9,000	150		60,520
945	9,450	23,625	3,375	20	2,500	2,400	10,000	9,000	150		60,520
1,350	13,500	33,750	4,821	20	2,500	2,400	10,000	9,000	214		76,206
1,650	16,500	41,250	5,893	20	2,500	2,400	10,000	11,000	214		89,777
3,300	33,000	82,500	11,786	20	2,500	2,400	10,000	11,000	429		153,634
945	9,450	23,625	3,375	20	2,500	2,400	10,000	9,000	150		60,520
1,200	12,000	30,000	4,286	20	2,500	2,400	10,000	8,000	214		69,420
11,825	118,250	295,625	42,232	180	22,500	21,600	90,000	79,000	1,786		671,173

Appendix 6.2.4 Cost Estimatin of Training

Unit : 1000Rp

person*day unit price	Personal allowance	meals	Miscellaneous	Material for training	Preparation	Printinigs	Field activity	Transportation	Teacher's allowance	Hired bus	Total
	(person*day)			(per 1 training)			(per person)	(per days)			
	10	25	4	20	2,500	2,400	10,000	200	7	43	
	Year 2003										
280	2,800	7,000	1,000	20	2,500	2,400	10,000	8,000	50		33,770
1,500	15,000	37,500	5,357	20	2,500	2,400	10,000	10,000	214		82,991
1,500	15,000	37,500	5,357	20	2,500	2,400	10,000	10,000	214		82,991
1,500	15,000	37,500	5,357	20	2,500	2,400	10,000	10,000	214		82,991
560	5,600	14,000	2,000	20	2,500	2,400	10,000	8,000	100		44,620
1,500	15,000	37,500	5,357	20	2,500	2,400	10,000	10,000	214		82,991
1,050	10,500	26,250	3,750	20	2,500	2,400	10,000	10,000	150		65,570
1,260	12,600	31,500	4,500	20	2,500	2,400	10,000	12,000	150		75,670
3,000	30,000	75,000	10,714	20	2,500	2,400	10,000	10,000	429		141,063
12,150	121,500	303,750	43,393	180	22,500	21,600	90,000	88,000	1,736		692,659
	Year 2004										
1,050	10,500	26,250	3,750	20	2,500	2,400	10,000	10,000	150		65,570
210	2,100	5,250	750	20	2,500	2,400	10,000	6,000	50		29,070
1,500	15,000	37,500	5,357	20	2,500	2,400	10,000	10,000	214		82,991
210	2,100	5,250	750	20	2,500	2,400	10,000	6,000	50		29,070
1,500	15,000	37,500	5,357	20	2,500	2,400	10,000	10,000	214		82,991
1,500	15,000	37,500	5,357	20	2,500	2,400	10,000	10,000	214		82,991
1,500	15,000	37,500	5,357	20	2,500	2,400	10,000	10,000	214		82,991
1,050	10,500	26,250	3,750	20	2,500	2,400	10,000	10,000	150		65,570
3,000	30,000	75,000	10,714	20	2,500	2,400	10,000	10,000	429		141,063
1,050	10,500	26,250	3,750	20	2,500	2,400	10,000	10,000	150		65,570
12,570	125,700	314,250	44,893	200	25,000	24,000	100,000	92,000	1,836		727,879

Appendix 6.3.1 Facilities Layout and Level Surround the Site



Fig. FACILITIES LAYOUT SURROUND THE SITE

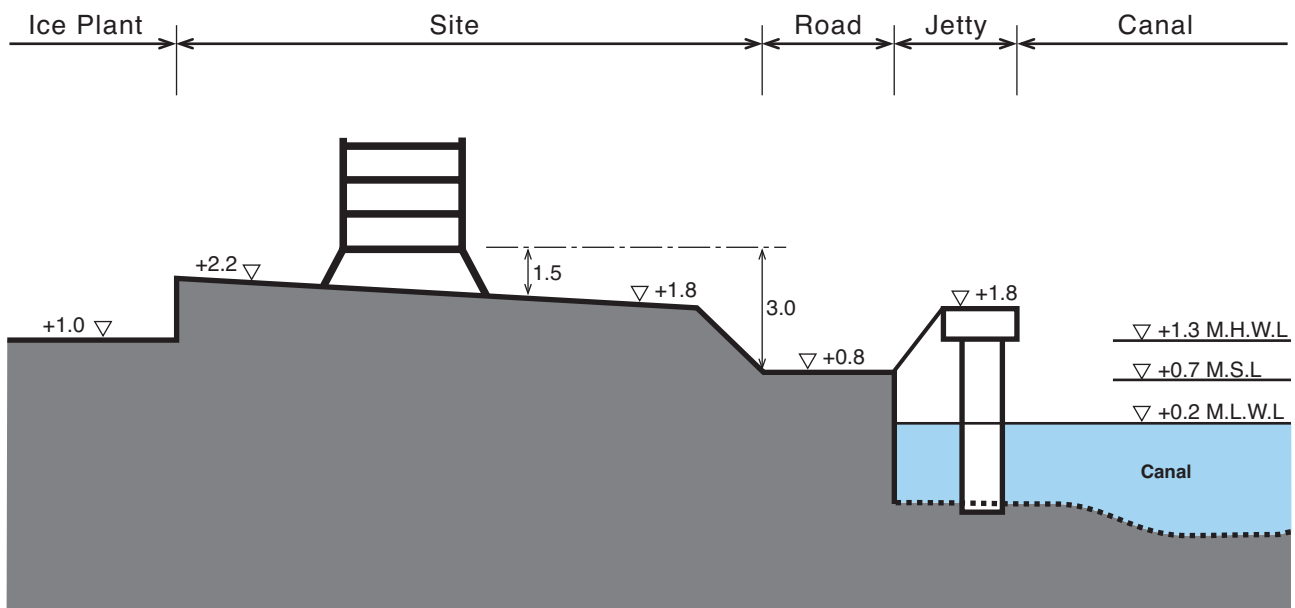


Fig. LEVEL SURROUND THE SITE

Appendix 6.3.2 Calculation of the Consolidation Settlement

In 1995 the Project ground site was raised about 3.0 m or 1.5 m higher than the front road bordering the site. Boring was conducted at four points of the Project site during the soil investigation survey. The BH-1 (GL-80 m) and BH-2 (GL-40 m) was conducted at the FTDC site and the ocean boring, BH-3 (GL-40 m) and the BH-4 (GL-40 m) were carried out at the projected jetty extension site.

According to the findings of the BH-1 test conducted in the building, it was found that incomplete consolidation was up to GL-70 m. In addition, in a review of the Port Authority soil investigation survey findings, the diluvial clay formation with complete consolidation was found at a depth of greater than GL-26 m and it has been concluded that over consolidation exists. These boring sites are located distant from the Project site, but the old landfill of Semarang Port was created at the same time as the FTDC site. Therefore, the data will be reviewed for its applicability to the Project site.

Consequently, if the ground level is raised 3.0 m, both the incomplete and complete consolidation of the clay layer at a deeper than GL-26 m proposed in the building plan will be calculated according to the two cases shown below.

(1) Case 1: Incomplete Consolidation

1) Option B (GL-40 m ~ 50 m)

- | | |
|---|---|
| a) Axial force | P=80 t (diameter of the pile = 600 ϕ) |
| b) Bottom area | A=31.9 m ² |
| c) GL-over burden pressure at 45 m location | Po=30.6 t/m ² |
| d) Increase pressure | P=2.5 t/m ² |
| e) Settlement volume | |

$$S=Cc/(1 + eo) \times H \times \log (Po + P)/Pc$$

Cc: Compressive index = 0.77

Eo: Initial void ratio = 1.1

H: Consolidated layer of thickness = 1000 cm

Po: Initial load = 30.6 t/m²

Pc: Critical pressure = 25.0 t/m²

Therefore, S = 44.7 cm

f) Settlement time

$$t = H^2 \times T_v / c_v$$

H: Drained length = 1000 cm

T_v: Time factor

C_v: Coefficient of consolidation = 43 cm²/d

Degree of consolidation (%)	Time factor	Settlement time (year)	Settlement volume (cm)
0	0	0	0
10	0.008	1	-1
20	0.031	2	-5
30	0.071	5	-9
40	0.126	8	-18
50	0.197	13	-22
60	0.287	19	-27
70	0.403	26	-31
80	0.567	37	-36
90	0.848	55	-40

Thus, in the case of incomplete consolidation for Option B, the settlement volume is 18cm/8 years.

2) Option C (GL-6.5 m ~ 50 m)

The increased load is 0 since a floating foundation will be adopted. However, due to potential liquefaction, the increased load of crushed stone has been considered.

- a) Over burden load (crushed stone) P=1710 t
- b) Bottom area A=3478.3 m²
- c) Initial load P_o=18.6 t/m²
- d) Increase pressure P=0.49 t/ m²
- e) Settlement volume
 - C_c = 0.95
 - E_o = 1.88
 - H = 4350 cm
 - P_c=17.0 t/cm²
 - Therefore, S= 72.2 cm

f) Settlement time

H=4350 m, C_v=43 cm²/d

Degree of consolidation (%)	Time factor	Settlement time (year)	Settlement volume (cm)
0	0	0	0
10	0.008	10	-8
20	0.031	37	-15
30	0.071	87	-22
40	0.126	154	-29
50	0.197	241	-36
60	0.287	350	-43

Thus, in the case of incomplete consolidation for Plan C, the settlement volume is 37 cm + 8 cm/10 years.

3) Option D (GL -6.5 m ~ 50 m)

The increased load is 0 since a floating foundation will be adopted. Due to potential liquefaction, the layer will not be replaced with crushed stone. Therefore, the settlement volume is estimated to be equivalent to the settlement volume of 3.0 m of raised ground.

4) In the case of 3.0 m of paved ground (GL-3.0 m ~ 50 m area)

a) Over burden load (added load of crushed stone) $P = 5.4 \text{ t/m}^2$

b) Initial load $P_o = 28.2 \text{ t/m}^2$

c) Settlement volume

$$C_c = 0.95$$

$$e_o = 1.88$$

$$H = 4700 \text{ cm}$$

$$P_c = 17.0 \text{ t/cm}^2$$

Therefore, $S = 458.7 \text{ cm}$

d) Settlement time $H = 4700 \text{ cm}$, $C_v = 43 \text{ cm}^2/\text{d}$

Degree of consolidation (%)	Time factor coefficient	Settlement time (year)	Settlement volume (cm)
0	0	0	0
8	0.007	10	-37
10	0.008	11	-46
20	0.031	44	-92
30	0.071	100	-138
40	0.126	177	-183

Thus, in the case of incomplete consolidation for Option D, the settlement volume is 37 cm/10 years.

(2) Case 2: Complete Consolidation

1) Option B (GL-40 m~50 m)

- a) Axial force $P=80$ t (diameter of the pile = 600 ϕ)
- b) Bottom area $A=31.9$ m²
- c) GL-over burden pressure at 45 m location: $P_o=30.6$ t/m²
- d) Increase pressure: $P=2.5$ t/ m²
- e) Settlement volume

C_c : Compressive index = 0.77

E_o : Initial void ratio = 1.1

H : Consolidated layer of thickness = 1000 cm

P_o : Initial load = 30.6 t/m²

$P_c = 30.0$ t/m²

Therefore, $S = 13.0$ cm

f) Settlement time

$H = 1000$ cm, $C_v = 43$ cm²/d

Degree of consolidation (%)	Time factor	Settlement time (year)	Settlement volume (cm)
0	0	0	0
10	0.008	1	-1
20	0.031	2	-3
30	0.071	5	-4
40	0.126	8	-5
50	0.197	13	-7
60	0.287	19	-8
70	0.403	26	-9
80	0.567	37	-10
90	0.848	55	-12

Thus, in the case of complete consolidation for Option C, the settlement volume is 5 cm/8 years

2) Option C (GL-6.5 m ~ 26 m)

The increased load is 0 since a floating foundation will be adopted. However, due to potential liquefaction, the increased load of crushed stone has been considered.

- a) Over burden load (crushed stone) $P=1710 \text{ t}$
- b) Bottom area $A=2032.0 \text{ m}^2$
- c) Initial load $P_0=11.4 \text{ t/m}^2$
- d) Increase pressure $P=0.84 \text{ t/ m}^2$

e) Settlement volume

$$C_c = 0.83$$

$$E_o = 1.3$$

$$H = 1950 \text{ cm}$$

$$P_c = 11.4 \text{ t/cm}^2$$

$$S = 22.0 \text{ cm}$$

f) Settlement time

$$H=1000 \text{ m, } C_v=43 \text{ cm}^2/\text{d}$$

Degree of consolidation (%)	Time factor	Settlement time (year)	Settlement volume (cm)
0	0	0	0
10	0.008	2	-2
20	0.031	8	-4
30	0.071	17	-9
40	0.126	48	-11
50	0.287	70	-13

Thus, in the case of complete consolidation for Plan C, the settlement volume is 24 cm + 4 cm/ 8 years.

3) Option D (GL-6.5 m ~ 50 m)

The increased load is 0 since a floating foundation will be adopted. Due to potential liquefaction, the layer will not be replaced with crushed stone. Therefore, the settlement volume is estimated to be equivalent to the settlement volume of 3.0 m of raised ground.

4) In the case of 3.0 m of raised ground (GL-3.0 m ~ 26 m area)

a) Over burden load (added load of crushed stone) $P = 5.4 \text{ t/m}^2$

b) Initial load $P_o = 11.35 \text{ t/m}^2$

c) Settlement volume

$$C_c = 0.83$$

$$e_o = 1.30$$

$$H = 1950 \text{ cm}$$

$$P_C = 11.4 \text{ t/cm}^2$$

$$\text{Therefore, } S = 117.6 \text{ cm}$$

d) Settlement time

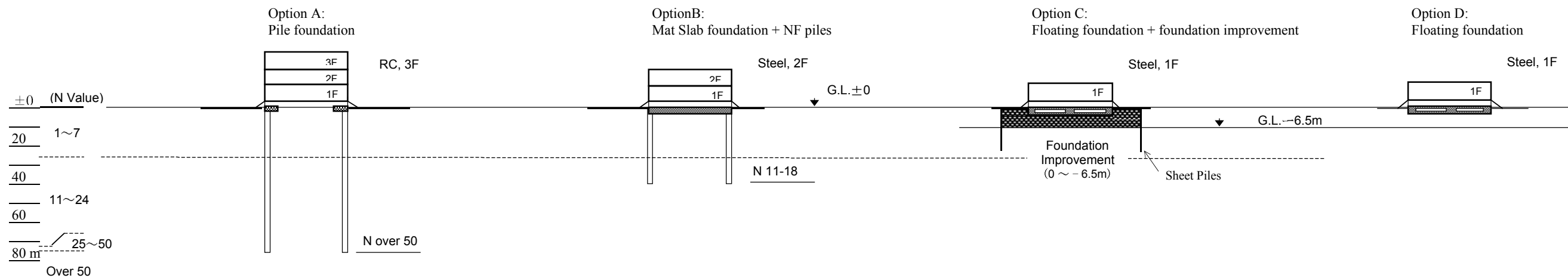
$$H = 1950 \text{ cm, } C_v = 43 \text{ cm}^2/\text{d}$$

Degree of consolidation (%)	Time factor	Settlement time (year)	Settlement volume (cm)
0	0	0	0
10	0.008	2	-12
20	0.031	8	-24
30	0.071	17	-35
40	0.126	31	-47
50	0.287	70	-59

Thus, in the case of complete consolidation for Option D, the settlement volume is 24 cm/ 8 years.

Appendix 6.3.3 Option for Building Structure and Foundation

May 12, 2000



Technical Evaluation									
	Option A		Option B		Option C		Option D		
Foundation / Earth Work	-Piling foundation		-Mat Slab foundation + piling		-Floating foundation		-Floating foundation		
	-Pile driving using cast-in-place concrete NF piles		-Pile driving using cast-in-place concrete NF piles		-Foundation improvement by replacement (sand, gravel)		-Removal of buried structure of existing building		
Measures for Liquefaction	-Selection of piles allowing horizontal stress	(○)	-Selection of piles allowing horizontal stress	(○)	-Replacement to better foundation (sand, gravel)	(○)	-None	(×)	
Amount of Consolidated Settlement (Diluvial deposit - Incomplete Consolidation)	-No building settlement		-under 18cm/8-10yrs. (bldg. settlement) Natural settlement around building also occurs		-under 45cm/8-10yrs. (building and natural settlement)		-under 37cm/8-10yrs. (natural settlement)		
(Diluvial deposit - Complete Consolidation)	-No building settlement		-under 5cm/8-10yrs. (bldg. settlement) Natural settlement around building also occurs		-under 28cm/8-10yrs. (building and natural settlement)		-under 24cm/8-10yrs. (natural settlement)		
Measures for irregular settlement	-Use of negative skin friction (NF) compliant piles	(○)	-Use of negative skin friction (NF) compliant piles	(○)	-Double slab in foundation to improve rigidity	(△)	As Option C	(△)	
			-Lightening of the upper structure		-Lightening of the upper structure				
			-Building plan that distributes weight evenly		-Building plan that distributes weight evenly				
			-Bring the building plan close to a square		-Bring the building plan close to a square				
Measures for Settlement	Building	-Not needed		-Set 1F level to GL+1.5m		As Option B		As Option B	
	Equipment	-Flexible joints used for piping connections to compensate settlement (most difference in settlement)	(×)	As Option A	(△)	As Option A	(△)	-Almost no disparity of settlement between the building and its surroundings. Therefore flexible joints can be short (least difference in settlement)	(○)
	Exterior	-Selection of materials for easy floor finish (inter-locking blocks) -Flower beds where there is no floor finish		As Option A		As Option A		As Option A	
Maintenance	-Highest frequency of repairs in building and surroundings compared to other Options	(×)	-High frequency of repairs in building and surroundings compared to other Options	(△)	-Low frequency of repairs in building and surroundings		-Almost no repairs in building and surroundings	(○)	
	-Highest frequency of repairs at flexible joints in pipings compared to other Options	(×)	-High frequency of repairs at flexible joints in pipings compared to other Options	(△)	-Low frequency of repairs at flexible joints in pipings		-Almost no repairs at flexible joints in pipings		
Effective Use of Terrain	3-story plan	(○)	2-story plan	(○)	1-story plan	(△)	1-story plan	(△)	
	-Maintenance space can be procured around the building		-Maintenance space can be procured around the building		-Hard to procure maintenance space around the building		As Option C		
	-Improved ventilation, lighting, and other factors		-Improved ventilation, lighting, and other factors		-Ventilation, lighting, and other factors are not good				
Economic Viability	-Highest economic burden	(×)	-Medium economic burden	(△)	-High economic burden	(×)	-Lowest economic burden	(○)	
Overall Evaluation		(×)		(△)		(△)		(○)	

Appendix 6.4.1 Review of the Request for a Trainee's Bus

1. Background Summary of the Request

The Fishing Technology Development Center, (hereinafter referred to as the FTDC), is responsible for fostering fishing technicians by developing and implementing the dissemination of fisheries technology. Trainees are recruited from throughout the country and undergo training courses during their extended stay in Semarang.

Unfortunately, due to regulations pertaining to port areas where the FTDC is located, boarding facilities for trainees cannot be constructed. Therefore, the FTDC utilizes boarding facilities in Semarang City located about 5km from the site. But due to the lack of public transportation facilities between the FTDC and the boarding facilities, trainees are transported to the FTDC via the facility's small motor vehicle. A private bus is chartered when there is a large number of trainees. Consequently, the chartering costs have risen to 1 million Rupiahs per day and comprise a large segment of the training cost.

The chartered bus is also utilized to transport instructors and trainees for field trips to the neighboring fishing base and fishing villages as part of the training curriculum. These field trips play an important role within the training program since it provides opportunities for provincial officers, representatives of fisheries cooperatives, and local fishermen to meet and exchange information. Thus the FTDC plans to continue implementing the field trips.

In addition, instructors and training equipment are transported to neighboring fishing bases to provide training sessions to those persons who are unable to attend the course at the FTDC; and instructors travel to their destinations using either the FTDC's motor vehicle or private bus.

A breakdown of the chartered bus costs from 1995 to 1999 is shown in the table below.

Table: Chartered Bus Costs of the FTDC

Unit: Rp

Year	Number of bus charter	Capacity	Unit price of bus charter	Annual expense
1995	4	28 passengers	300,000	1,200,000
1996	6	28 passengers	350,000	2,100,000
1997	8	28 passengers	350,000	2,800,000
1998	8	28 passengers	400,000	3,200,000
1999	8	28 passengers	600,000	4,800,000

2. Current Issues

2-1 Depreciation of the Existing Vehicles of the FTDC

The FTDC presently owns the following five vehicles.

Table: Summary of the Existing Vehicles

No.	Type	Maker	Passenger	Year	Eval.	Remarks
V1	Wagon	Kijang station	7	1997		For director
V2	Wagon	Kijang station	8	1988		Trip, Material transpiration
V3	Wagon	Kijang station	8	1986		Trip, Material transpiration
V4	Box ban	Colt L300	9	1990		For trainee
V5	Box ban	TOYOTA hi-ace	12	1985		For trainee

As mentioned earlier, the trainees are shuttled from the FTDC to the city's boarding facilities using the vehicles of the FTDC, but due to their limited seating capacity, only a small number of trainees can be accommodated at one time. Additionally, excluding the vehicle used by the Director, the remaining motor vehicles have been used for more than ten years and they are in poor condition. Of the FTDC's motor vehicles, two are mainly used for transporting trainees, of which one is currently out-of-order and undergoing repair. Spare parts are difficult to obtain and the ability to repair the vehicles is unknown.

The motor vehicles of the FTDC are all small, badly depreciated vehicles and their continued use by the facility is uncertain. Moreover, with the increased number of trainees anticipated after 2002 when the training activities will begin their full operation, the existing vehicles will no longer be able to meet the FTDC's needs.

2-2 Increased Financial Burden and the Impact on Training Activities

Although the DTF has given the training activities of the FTDC priority ranking in its allocation of the budget for the FTDC, it will be difficult to secure funds to purchase a motor vehicle in view of the economic conditions of the country.

If the existing vehicles continue to be utilized, the FTDC will be forced to increase their reliance on chartered buses to conduct their training activities and the mounting cost of chartering buses is anticipated to affect the finances of the FTDC.

Further, this increased financial burden will force the FTDC to curtail the field trips for trainees and the extension activities for fishermen in neighboring villages; and it will have a potentially major impact on training activities.

Based on the circumstances above, an additional request was submitted to the study team by the Indonesian side for a shuttle bus with a seating capacity of 30 for transporting trainees.

The need and the appropriateness of the request were reviewed as explained below.

3. Need and Appropriateness of a Shuttle Trainee's Bus

Based on an analysis of the request in terms of economic advantage, it was found that the FTDC would reduce their annual bus transportation cost by about 50 percent, if a shuttle bus is provided by the Project. Furthermore, it was estimated that a distance of about 13,000km would be covered by the shuttle bus operating approximately 230 days in one year.

Transporting trainees is essential to the training program in view of the fact that the FTDC is unable to construct boarding facilities at the site due to legal restrictions. In addition, the FTDC plans to continue its field training courses and therefore, the need and appropriateness of providing a shuttle bus is high.

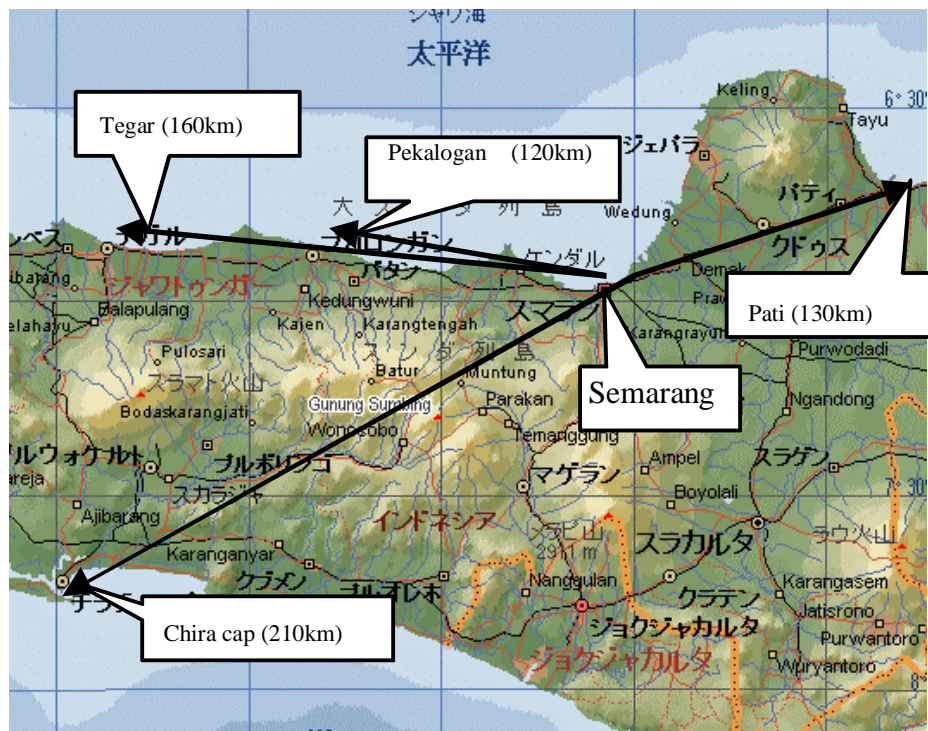
3-1 Financial Analysis of the Request (comparison of the operation plan and operating costs)

The use of the bus has been planned as shown in the table below, based on the FTDC's training activities. As can be seen in the figure, the total annual number of operating days and the distance travelled by the bus in one year is given.

1) Transportation of Trainee	1	4 days	8,612 km
2) Field training and Mobile training	37 days		5,000 km
Total	231 days		13,612 km

Table: Operation schedule of trainee's bus

Year	1	2	3	4	5	6	7	8	9	10	11	12
2002												
Trainee's Transportation (Q'w)	△											
Field training (Q'w)												
Mobile training (Q'w)												



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Based on this operating plan for the bus, a comparative analysis was made of the cost of chartering a private bus and the cost of operating a bus provided by the Project under the conditions as explained below.

< Conditions >

- A) A bus with a seating capacity of 30 people will be provided; and if the number of trainees exceed this capacity, the bus will make two trips.
- B) A private bus will be chartered for only the minimum required number of training seminars and field trips and the existing motor vehicles of the FTDC will be used in all other cases.

Cost of a private chartered bus (including driver and fuel) 1,000,000 Rp

Fuel Costs (gasoline) 1,000 Rp

Oil cost 680 Rp

The aforementioned costs incurred during the basic design study will be used.

In order to compare the costs, the number of days and the annual number of kilometers travelled by both the private shuttle bus and the existing vehicles of the FTDC were calculated. The results are shown in the table below.

Table: Calculation of the Distance and Number of Days of the Chartered Bus

Purpose	A. In case of donate Trainee's bus (30 persons)									B. by using existing vehicle			
	Training programs				From ~ to	(R trip) Distance	Qty	(R trip) Times	Total Distance	Private bus charter Charter days	Existing vehicle		
	No.	Training	Day	Person							Qty	(R trip) Times	Total Distance
Trainee's transportation	1	Seminar	1	50	Airport ~ FTDC	14 km	2	2	56 km	2 days			
	2	Long term training	7	20	Airport ~ FTDC	14 km	1	2	28 km		3	14	420 km
					Hotel ~ FTDC	10 km	1	12	120 km				
	3	Long term training	14	45	Airport ~ FTDC	14 km	2	2	56 km		6	28	1,680 km
					Hotel ~ FTDC	10 km	2	26	520 km				
	4	Long term training	21	45	Airport ~ FTDC	14 km	2	2	56 km		6	42	2,520 km
					Hotel ~ FTDC	10 km	2	40	800 km				
	5	Long term training	30	45	Airport ~ FTDC	14 km	2	2	56 km		6	60	3,600 km
					Hotel ~ FTDC	10 km	2	58	1,160 km				
	6	Long term training	30	55	Airport ~ FTDC	14 km	2	2	56 km		7	60	4,200 km
Hotel ~ FTDC					10 km	2	58	1,160 km					
7	Seminar	1	55	Airport ~ FTDC	14 km	2	2	56 km	2 days				
8	Long term training	60	55	Airport ~ FTDC	14 km	2	2	56 km		7	120	8,400 km	
				Hotel ~ FTDC	10 km	2	118	2,360 km					
9	Long term training	21	45	Airport ~ FTDC	14 km	2	2	56 km		6	42	2,520 km	
				Hotel ~ FTDC	10 km	2	40	800 km					
10	Long term training	30	40	Airport ~ FTDC	14 km	2	2	56 km		6	60	3,600 km	
				Hotel ~ FTDC	10 km	2	58	1,160 km					
Field training	1	Field activities	2	20	Semarang ~ Pekalongan	240 km	1	1	240 km	2 days			
	2		45	Semarang ~ Pati	260 km	2	1	520 km	2 days				
	3		45	Semarang ~ Chiracap	420 km	2	1	840 km	2 days				
	4		45	Semarang ~ Tegar	320 km	2	1	640 km	2 days				
	5		55	Semarang ~ Pekalongan	240 km	2	1	480 km	2 days				
	6		55	Semarang ~ Pekalongan	240 km	2	1	480 km	2 days				
	7		45	Semarang ~ Pati	260 km	2	1	520 km	2 days				
Mobile training	1	21	45	Semarang ~ Pekalongan	240 km	2	1	480 km	2 days				
				Semarang city	10 km	2	40	800 km	6	40	2,400 km		
									13,612 km	20 days		29,340 km	

Precondition :

Basically, by using requested Bus, but 2 times round trip in case of many trainee

Private bus will be chartered when FTDC have seminar and field training
Trainee's transportation take care of existing vehicle

As shown above, the annual distance travelled by the chartered bus in case A is about 13,000 Km and about 29,000 Km by the FTDC's existing motor vehicles. This signifies that the chartered bus will be utilized 20 days. Based on this data, a comparison of the annual costs was made as shown in the table below.

Table: Comparison of the Operating Costs

	A	B
Pre condition	Requested new trainee's bus (30 persons) Diesel 3500cc	Existing vehicle (9 persons 1800cc)+ private bus Charter if necessary
Fuel oil cost	Fuel oil consumption 6 km/l	Fuel oil consumption 9 km/l
	Annual running 13,612 km	Annual running 29,340 km
	Annual fuel consumption 2,269 liter	Annual fuel consumption 3,260 liter
	Unit price of Diesel 600 Rp	Unit price of Diesel 1000 Rp
	Annual fuel oil cost 1,361,200 Rp	Annual fuel oil cost 3,260,000 Rp
Charter fee		Annual number of days that private bus charter 20 days
		Bus charter fee by one day 1,000,000 Rp (include fuel fee)
		Annual charter cost 20,000,000 Rp
Maintenance cost	Spear parts 9,375,000 Rp	
	Safety check 0 Rp	
	Sub total 9,375,000 Rp	
Total	10,736,200 Rp	23,260,000 Rp

As shown above, the annual cost in the case of A is about 10,730,000 Rp and 23,230,000 Rp for case B. The provision of a shuttle bus by the Project will curtail more than 50 percent of the annual operating cost and the benefit derived is great.

3-2 Analysis of the Type and Quantity of Vehicles Required

According to the training plan, the number of trainees per class is estimated at 20 to 60 people. In terms of efficiency, the provision of a large bus with a seating capacity of 60 is ideal. Unfortunately, the FTDC's parking lot is too small to accommodate such a large bus. Additionally, the roads to the small fishing villages are unpaved and narrow and a large bus would be too cumbersome for use on such roads.

Conversely, although a bus with a seating capacity of 30 would require two trips to transport 60 trainees, the annual distance travelled by the bus is estimated at about 13,000 Km, which is appropriate in terms of frequency of use. Therefore, it has been concluded that a bus with a seating capacity of 30 would adequately fulfil the needs of the FTDC if the curriculum is planned to include two field trips.

Based on the above reasons, a bus with a seating capacity of 30 will be adequately fulfil the needs of the FTDC.

3-3 Analysis of Maintenance Costs

The estimated annual maintenance cost of a shuttle bus provided by the Project includes the cost of fuel and parts, as the driver has already been recruited. Therefore the annual maintenance cost is estimated at 9,000,000 Rp, which the FTDC is capable of paying. However, daily inspections and small repairs can be carried out at the FTDC's workshop and therefore, it is anticipated that the actual maintenance cost will be lower than this estimation.

4. Beneficial Impact

As mentioned earlier, the need, appropriateness, and urgency of the additional request by the FTDC for a shuttle bus for trainees has been judged as high.

The direct benefit derived by the provision of such a shuttle bus for the FTDC is convenience and reduced operating costs. Further, if a shuttle bus is provided by the project is used in the frequent trips between Semarang city and the FTDC, the secondary benefit would be the positive effect that would be generated in terms of public relations and on the ties of friendship between Indonesia and Japan.

Appendix 7. Natural Condition Survey

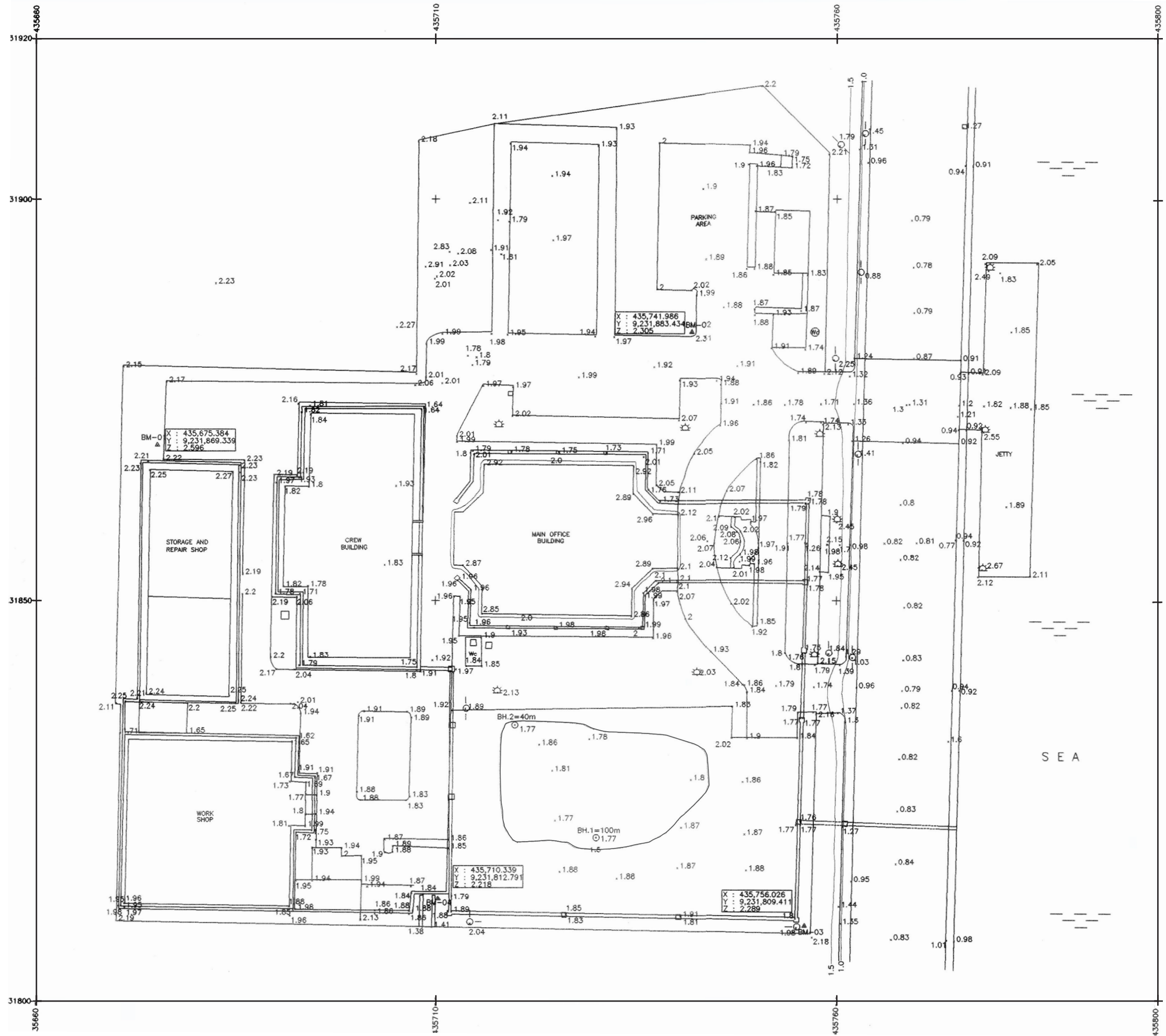
7.1 Topographic Survey Map

7.2 Bathymetric Survey Map

7.3 Soil Profile and Soil Test Results

7.4 Ground Settlement at Tanjung Emas Port (1998 - 1999)

Appendix 7.1 Topographic Survey Map



LEGEND

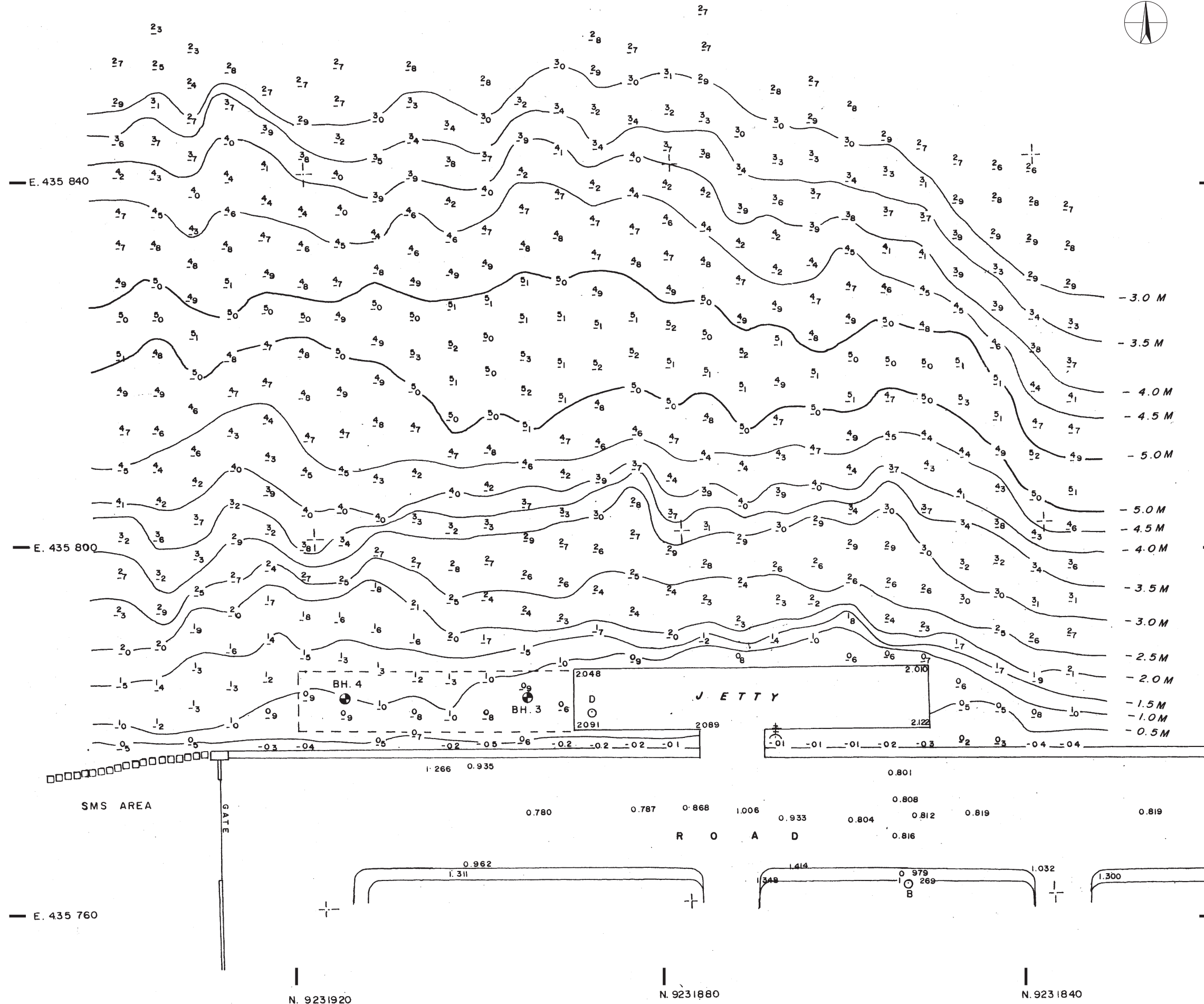
- Bench Mark
- Borehole
- House/Building
- Electrical
- Lamp
- Spot
- Kontur

Note :
 The Reference of Elevation is BM 02
 The Elevation of BM 02 is Measured
 From Tidal Observation = + 2.305 meter

JANUARY 2000



1. THIS DRAWING PRESENT THE RESULT OF CONTINUOUS DEPTH SOUNDING BY PT. ATLASBUMI SEMESTA IN JANUARY 2000.
2. POSITION FIXING REFORMED BY THEODOLITE WITH USED INTERSECTION METHOD.
3. COORDINATE ARE SHOWN IN UTM.
4. ALL WATER DEPTH ARE IN METER AND REDUCED TO CHART DATUM (CD).

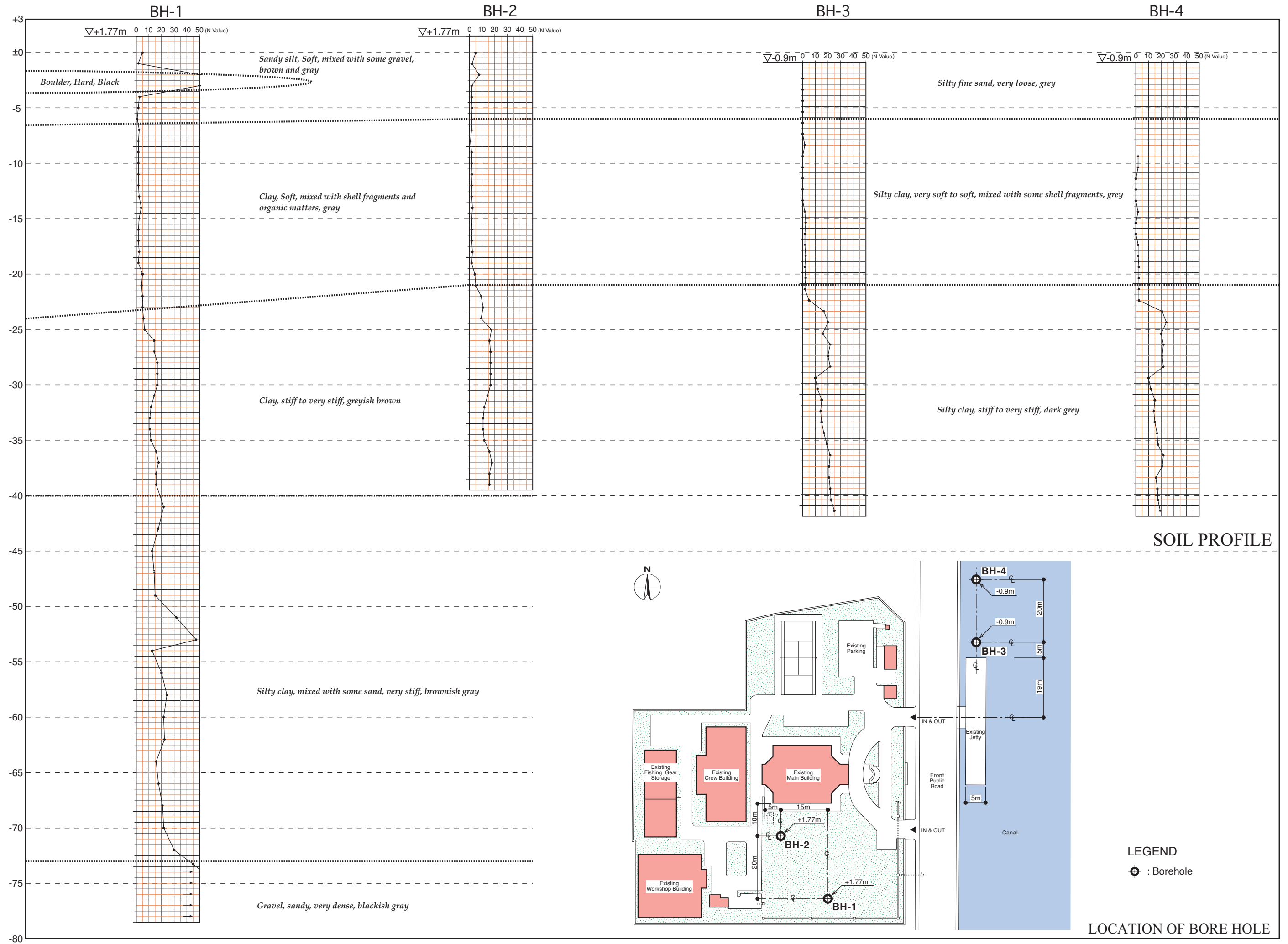


LEGEND

- HORIZONTAL POINT CONTROL
- SEA DEPTH
- LAND ELEVATION
- CONTOUR LINE
- BOREHOLE POSITION
- TIDE STAFF



Appendix 7.3 Soil Profile and Soil Test Results



SOIL PROFILE

LEGEND
⊕ : Borehole

LOCATION OF BORE HOLE

Laboratory Test Resurut (BH-1)

Depth (m)		2.50~3.00	4.50~5.00	6.50~7.00	9.50~10.00	12.50~13.00	14.50~15.00	17.50~18.00	19.50~20.00	22.50~23.00	50.00~50.50	59.50~60.00	69.50~70.00	
Grain Size Analysis	Gravel (%)	20.0	19.0	1.2	0.8	-	-	-	0.6	-	-	-	-	
	Sand (%)	63.7	67.0	14.8	10.8	7.0	4.0	3.7	24.6	10.8	20.0	18.5	-	
	Silt (%)	10.6	11.4	31.2	26.8	27.0	23.0	24.3	32.2	26.4	38.0	42.9	-	
	Clay (%)	5.7	2.6	52.8	61.6	66.0	73.0	72.0	42.6	62.8	42.0	38.6	-	
Atterberg Limit	Liquid Limit W _L (%)	-	-	81.18	81.55	74.83	76.99	67.68	63.20	86.10	77.22	83.25	71.32	
	Plastic Limit W _p (%)	-	-	35.23	36.95	33.84	35.68	25.27	27.28	32.05	26.58	30.88	24.33	
	Plasticity Limit I _p	-	-	45.95	44.60	40.99	41.31	42.41	35.92	54.05	50.64	52.37	46.99	
Specific Gravity G _s		2.662	2.656	2.630	2.603	2.616	2.616	2.622	2.635	2.629	2.644	2.644	2.649	
Natural content	Water Content W _a (%)	18.53	60.33	39.69	53.74	43.91	49.73	37.65	43.52	53.28	37.02	35.99	36.43	
	Wet Density P _t (t/m ³)	2.070	1.576	1.508	1.528	1.495	1.493	1.598	1.643	1.524	1.726	1.739	1.662	
	Void Ratio e	0.524	1.702	1.435	1.618	1.518	1.623	1.258	1.299	1.642	1.098	1.067	1.175	
	Degree of saturation S _r (%)	94.13	94.14	72.76	86.43	74.78	80.15	78.40	88.27	88.27	89.13	89.18	82.12	
Mechanical Property	Unconfined Test	q _u (kg/cm ²)	-	-	-	0.007	-	0.150	-	0.200	0.123	0.190	0.195	0.135
	Triaxial Test	Cohesion C (Kg/cm ²)	-	-	-	0.06	-	0.10	-	0.08	0.080	0.07	0.07	0.04
		Int. Fric. Angle φ (deg.)	-	-	-	1.43	-	1.60	-	2.00	2.57	3.40	7.69	2.86
	Consolidation	Crit. Pressure P _c (Kg/cm ²)	-	3.10	-	0.52	-	0.71	-	1.05	3.90	2.30	3.40	3.35
		Comp. Index C _c	-	0.95	-	0.94	-	1.48	-	0.83	0.72	0.77	0.50	0.25

Laboratory Test Result (BH-2)

Depth (m)		2.50~3.00	4.50~5.00	6.50~7.00	9.50~10.00	12.50~13.00	16.00~16.45	19.50~20.00	20.00~20.45	23.50~24.00	30.00~30.45	35.00~35.45	40.00~40.45	
Atterberg Limit Grain Size Analysis	Gravel (%)	-	11.0	-	-	-	1.0	-	3.0	-	2.0	-	4.0	
	Sand (%)	-	17.0	5.2	8.3	5.7	4.2	6.0	26.0	17.2	14.0	18.5	18.6	
	Silt (%)	-	33.5	27.8	26.1	34.3	47.1	31.0	27.4	29.8	41.2	33.7	33.0	
	Clay (%)	-	38.5	67.0	65.6	60.0	47.7	63.0	43.6	53.0	52.8	47.8	43.6	
Atterberg Limit	Liquid Limit Wl (%)	-	78.99	84.03	88.48	81.64	79.46	89.02	76.79	91.26	71.09	72.49	74.57	
	Plastic Limit Wp (%)	-	35.22	34.01	32.54	34.52	32.60	35.85	30.81	36.29	24.76	26.20	29.72	
	Plasticity Limit Ip	-	43.77	50.02	55.94	47.12	46.48	53.17	45.98	54.97	46.33	46.29	44.85	
Specific Gravity Gs		-	2.675	2.615	2.582	2.632	2.603	2.677	2.574	2.649	2.587	2.610	2.611	
Natural Content	Water Content Wa (%)	-	50.20	59.82	73.74	50.90	40.33	60.14	35.03	70.94	21.17	20.76	28.54	
	Wet Density Pt (t/m ³)	-	1.670	1.598	1.473	1.602	-	1.614	-	1.533	-	-	-	
	Void ratio e	-	1.412	1.615	2.045	1.479	-	1.646	-	1.953	-	-	-	
	Degree of saturation Sr (%)	-	98.13	96.85	93.10	90.60	-	97.43	-	96.20	-	-	-	
Mechanical Property	Unconfined Test	qu(kg/cm ²)	-	0.610	-	0.360	-	-	0.193	-	0.205	-	-	
	Triaxial Test	Cohesion C (Kg/cm ²)	-	-	-	0.15	-	-	0.16	-	0.060	-	-	-
		Int.Fric.Angle φ (deg)	-	-	-	2.86	-	-	3.95	-	5.14	-	-	-
	Consolidation	Crit.Pressure Pc (Kg/cm ²)	-	2.40	-	0.74	-	-	0.80	-	2.00	-	-	-
Comp. Index Cc		-	0.72	-	1.02	-	-	0.87	-	0.62	-	-	-	

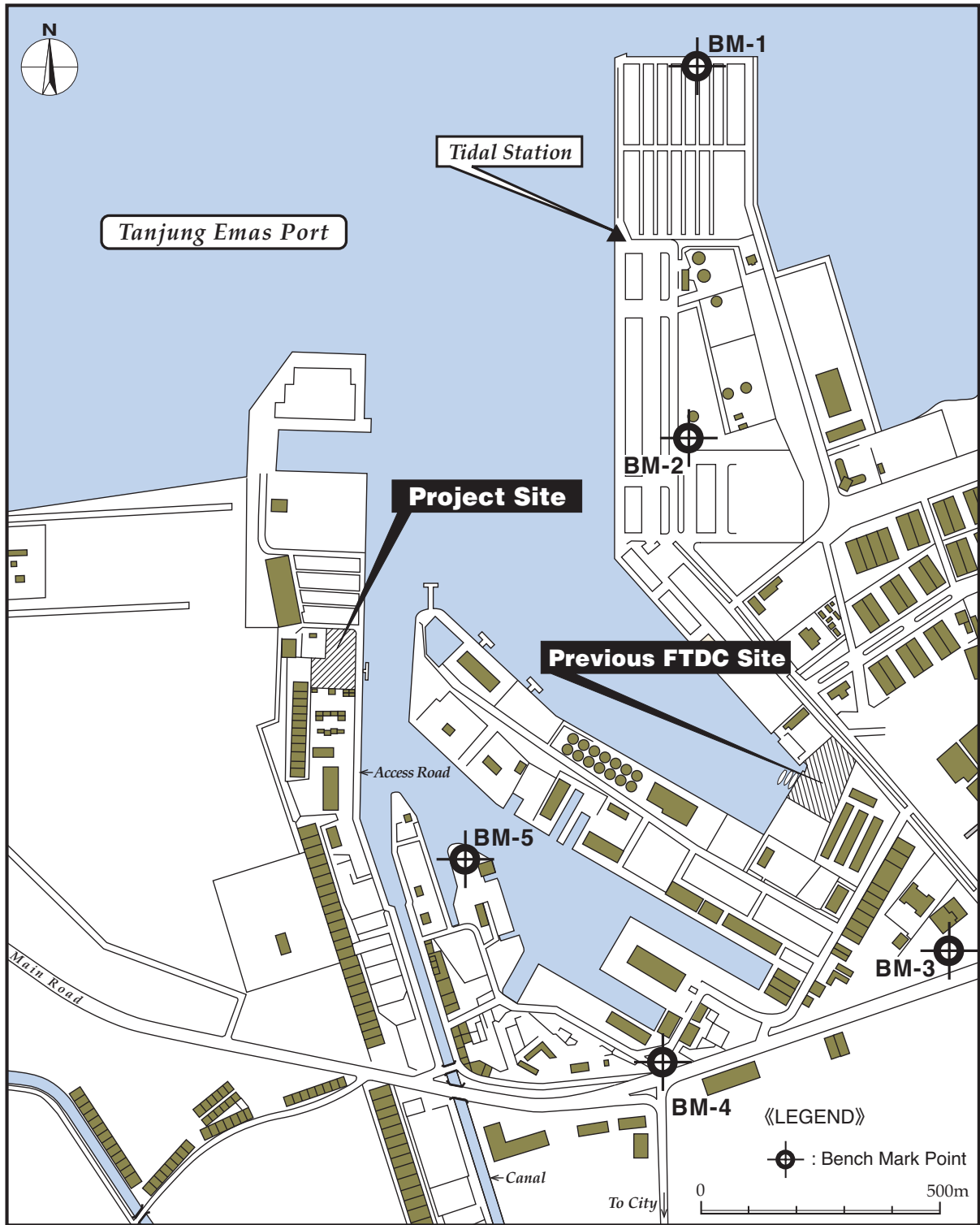
Laboratory Test Result (BH-3)

Depth (m)		2.50~3.00	4.50~5.00	6.50~7.00	9.50~10.00	10.00~10.45	14.50~15.00	15.00~15.45	20.00~20.45	25.00~25.45	30.00~35.45	35.00~35.45	40.00~40.45	
Grain Size Analysis	Gravel (%)	-	-	-	-	-	-	-	3.2	1.8	1.8	1.5	2.0	
	Sand (%)	-	48.0	-	-	14.0	-	7.6	8.2	17.2	10.2	7.7	14.0	
	Silt (%)	-	26.0	-	-	35.0	-	28.7	29.9	35.3	37.2	37.8	32.6	
	Clay (%)	-	31.0	-	-	51.0	-	63.7	58.7	45.7	50.8	53.0	51.4	
Atterberg Limit	Liquid Limit Wl (%)	-	82.37	-	-	80.76	-	78.26	-	83.59	84.13	81.71	74.32	
	Plastic Limit Wp (%)	-	32.12	-	-	31.67	-	29.59	29.32	30.22	33.19	32.40	25.69	
	Plasticity Limit Ip	-	50.25	-	-	49.09	-	48.67	48.04	53.37	50.94	49.31	48.63	
Specific Gravity Gs		-	2.631	-	-	2.632	-	2.570	2.643	2.642	2.647	2.656	2.657	
Natural Content	Water Content Wa (%)	-	26.93	-	-	44.41	-	28.80	27.94	41.93	41.93	39.41	20.69	
	Wet Density Pt (t/m ³)	-	1.934	-	-	-	-	-	-	-	-	-	-	
	Void Ratio e	-	0.723	-	-	-	-	-	-	-	-	-	-	
	Degree of saturation Sr (%)	-	97.99	-	-	-	-	-	-	-	-	-	-	
Mechanical Property	Unconfined Test	qu (kg/cm ²)	-	0.205	-	-	-	-	-	-	-	-	-	
	Triaxial Test	Cohisin c (Kg/cm ²)	-	0.05	-	-	-	-	-	-	-	-	-	-
		Int.Fric.Angle φ (deg)	-	2.57	-	-	-	-	-	-	-	-	-	-
	Consolidation	Crit. Pressure Pc (Kg/cm ²)	-	2.30	-	-	-	-	-	-	-	-	-	-
		Comp. Index Cc	-	0.83	-	-	-	-	-	-	-	-	-	-

Laboratory Test Result (BH-4)

Depth (m)		2.50~3.00	4.50~5.00	6.50~7.00	9.50~10.00	12.00~12.45	14.50~15.00	19.00~19.45	19.50~20.00	26.00~26.45	30.00~30.45	34.00~34.45	40.00~40.45	
Atterberg Limit / Grain Size Analysis	Gravel (%)	-	-	-	13.0	5.6	-	1.5	1.0	-	-	2.8	-	
	Sand (%)	-	-	-	22.4	12.4	7.4	6.5	13.8	4.3	7.8	13.2	7.7	
	Silt (%)	-	-	-	27.0	30.0	30.6	26.2	31.1	23.5	23.2	32.0	28.3	
	Clay (%)	-	-	-	37.6	52.0	62.0	65.8	54.1	72.2	69.0	52.0	64.0	
Atterberg Limit	Liquid Limit Wl (%)	-	-	-	76.29	75.42	86.39	80.58	82.83	86.37	76.48	74.85	75.87	
	Plastic Limi Wp (%)	-	-	-	31.00	30.25	36.24	31.28	30.92	34.73	29.74	28.45	27.87	
	Plastisity Limit Ip	-	-	-	45.29	45.17	50.15	49.30	51.91	51.64	46.74	46.40	48.00	
Specific Gravity Gs		-	-	-	2.618	2.563	2.592	2.551	2.626	2.661	2.647	2.660	2.634	
Natural Content	Water Content Wa (%)	-	-	-	30.66	29.26	69.99	32.24	32.37	36.84	26.39	22.33	19.33	
	Wet Density Pt (t/m ³)	-	-	-	1.902	-	1.470	-	1.880	-	-	-	-	
	Void Ratio e	-	-	-	0.790	-	1.994	-	0.849	-	-	-	-	
	Degree of saturation Sr (%)	-	-	-	99.99	-	91.00	-	99.99	-	-	-	-	
Mechanical Property	UnconfindTest	qu (kg/cm ²)	-	-	-	0.180	-	-	-	0.160	-	-	-	
	TriaxialTest	Cohjsion C (Kg/cm ²)	-	-	-	0.04	-	-	-	0.04	-	-	-	-
		Int.Fric.Angle φ (deg)	-	-	-	2.86	-	-	-	2.29	-	-	-	-
	Consolidation	Crit.Pressure Pc (Kg/cm ²)	-	-	-	3.40	-	1.30	-	1.42	-	-	-	-
		Comp. Index Cc	-	-	-	0.87	-	1.46	-	0.50	-	-	-	-

Appendix 7.4 Ground Settlement at Tanjung Emas Port (1998 – 1999)



LOCATION OF BENCH MARK

No.	Bench Mark Point	November 1998 Height Level (mm)	December 1999 Height Level (mm)	Difference (mm)
1	BM-1	+3,404	+3,307	97
2	BM-2	+1,854	+1,789	65
3	BM-3	+2,654	+2,591	63
4	BM-4	+1,956	+1,890	66
5	BM-5	+2,252	+2,193	59