

CHAPTER 7 CONCLUSION AND PROPOSITION

Conclusion

After confirming in detail the request of the Indonesian Government and conducting necessary investigation on the background of the Project and other related matters to be clarified, the study team prepared a basic plan for the Project as one of the best solutions to meet the actual problems as mentioned in chapter 2.

The proposed facilities is indispensable for promoting the health of the people as verified in the former chapter, and the effect to be brought by execution of the Project is considerably large. However, some points are apprehended on the operation and maintenance of the facilities because it is the first laboraotry to be introduced in Indonesia.

It can be said consequently that the Project has sufficient appropriateness as a project of the Japanese grant aid on condition that the Indonesian Government will conduct management, operation and maintenance respecting the following recommendations.

Both Governments are, therefore, intensely expected to take necessary measures urgently for the project implementation.

Proposition

The study team proposes the following matters to be executed by the Governments of Indonesia and/or Japan to implement the Project smoothly and to achieve the expected purposes.

(1) Proposition on the construction of the facilities

- 1) Both the Governments are expected to promote the administrative affairs as soon as possible for smooth proceeding of the Project in accordance with grant aid schedule.
- 2) The Government of Indonesia is to establish a responsible organization for the project implementation and to prepare necessary budget.
- 3) The Government of Indonesia is to be responsible to execute the following works at its expenses and is required to consult with the Japanese consultant about the execution in advance for smooth promotion of the Project.
 - a) Demolition and removal of obstacles and finish grading work of the project site
 - b) Outer wiring, piping and connecting works for power supply, water supply, drainage, city gas and telephone services
 - c) Landscaping work

d) Furnitures

- 4) The Government of Indonesia is to prepare for the necessary procedure of the duty free custom clearance for the materials and equipment to be imported for the Project.
- 5) The Government of Indonesia is to afford possible convenience to the consultant and/or the contractor on the legal formalities for the building construction. Prior to begin the necessary formalities, the Government of Indonesia is to discuss with the consultant on the matter concerned with sufficient time.

(2) Proposition on management, operation and maintenance of the facilities

- 1) In order that the facilities fulfill their expected function, the staff concerned of the NQCL DF are required to have knowledge of biological test, animal care and handling of related laboratory equipment in accordance with their specialities respectively. For this purpose it is necessary to promote intensively and effectively the original project of the Project that is the NQCL DF Intensification Technical Cooperation Program.

Both the Governments are to promote the administrative formalities and the other related affairs in order to conduct the technical cooperation timely considering the construction progress.

- 2) The Directorate General of Drug and Food Control is to take necessary measures of acquirement of the budget for operation and maintenance of the facilities.
- 3) The NQCL DF will not fulfill its expected function until the proposed laboratory operates organically together with the existing laboratory and comprehensive quality tests are also conducted.

For the purpose it is effective to re-organize both the laboratories so as to answer the expected function or to introduce a section responsible for relating the activities of both laboratories smoothly.

- 4) The Directorate General is to secure necessary engineers and assistants for operation and maintenance of the facilities.
- 5) The Directorate General is to request necessary technical guidance for handling installation and equipment to the concerned contractors.
- 6) The researcher, the caretaker of laboratory animals and the maintenance engineer are to train their assistants on the job for the purpose of reproduction of technology.

APPENDICES

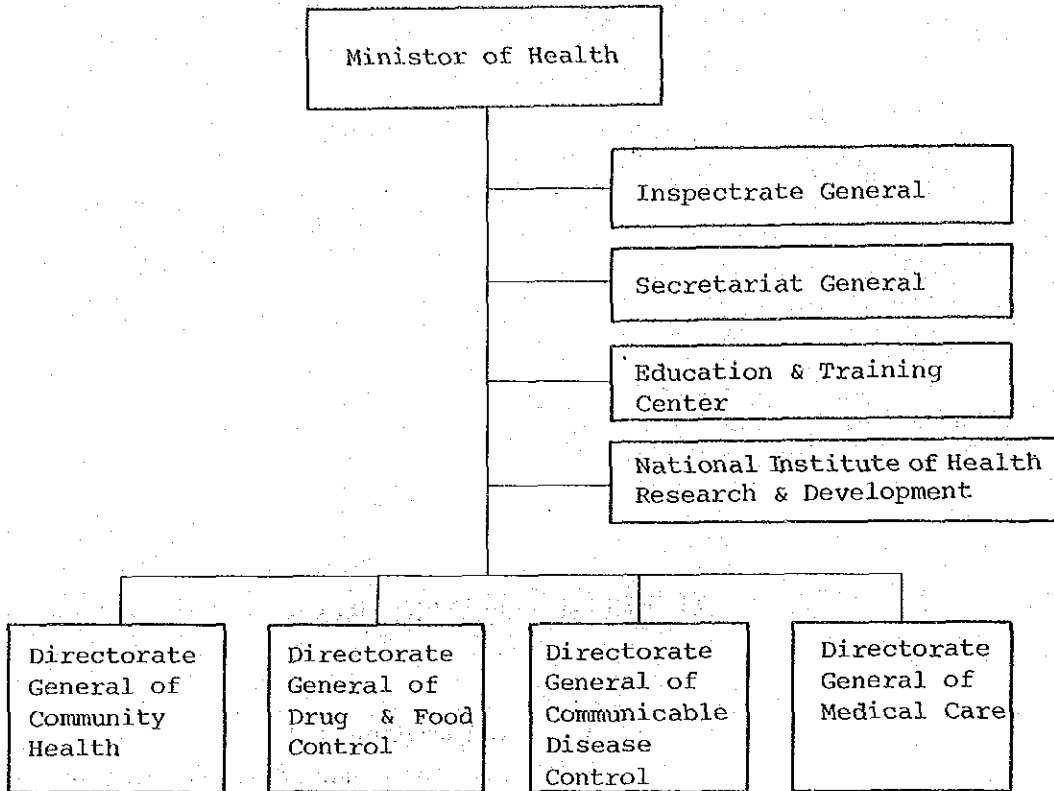
APPENDIX-I COUNTERPARTS

A-I-1 Organization Charts

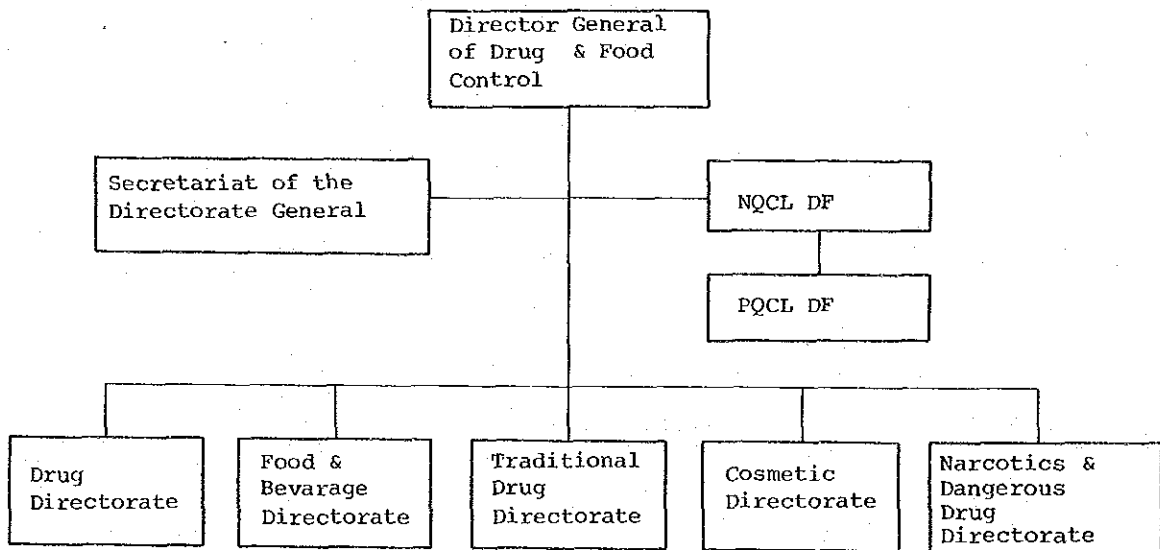
A-I-2 List of the Indonesian Officials Concerned

A-I-1 Organization Chart

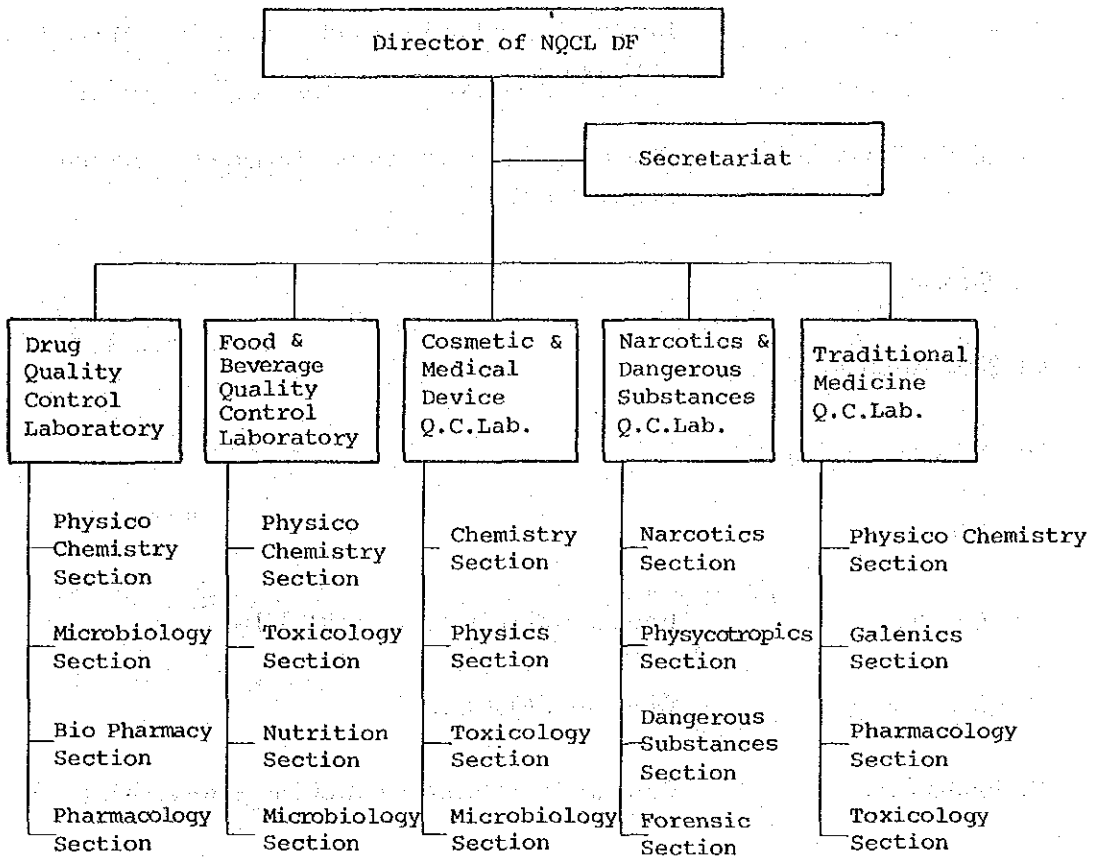
(1) Ministry of Health



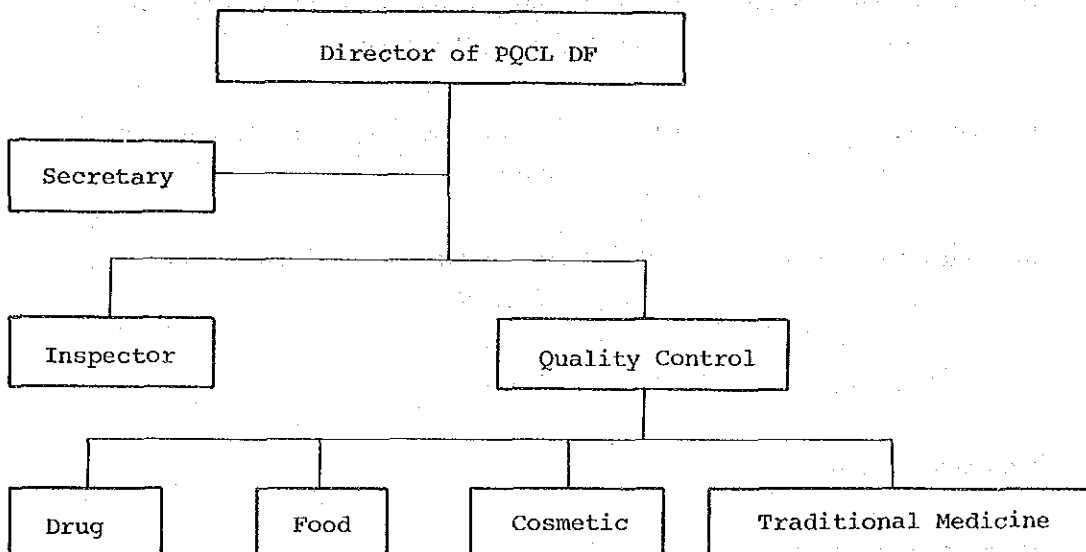
(2) Director General of Drug and Food Control



(3) NQCL DF



(4) PQCL DF



A-I-2 List of The Indonesian Officials Concerned

Dr. Midian Sirait	Director General of Drug and Food Control, Ministry of Health
Drs. Marisi Sihombing	Director of Drugs, Directorate General of Drug and Food Control
Drs. Siahaan	
Mr. Sirad Atmoujo	
Mr. H. Essam Sehabudin	
Dra. S. Linda	
Drs. Smitro	Former Acting Director of NQCL DF
Dr. Charles Siregar	Director of NQCL DF
Dr. Emilia Devi	Chief of Drug Quality Control Laboratory, NQCL DF
Dra. Sjamsimar	Chief of Food and Beverage Quality Control Laboratory, NQCL DF
Dra. Aminah Abdulsalam	Chief of Cosmetic and Medical Device Quality Control Laboratory, NQCL DF
Drs. Tjastim	Chief of Narcotic and Dangerous Substance Quality Control Laboratory, NQCL DF
Drs. Sudjaswadi	Chief of Traditional Medicine Quality Control Laboratory, NQCL DF
Drs. David Sumantri	Staff of NQCL DF
Dra. Emilia Logawa	”
Drs. Rasman Abdurachman	”
Drs. Masna Supriatna	”

Drs. Rivai Muhibat	”
Ir. Tien Gartini	”
Ir. Soeripto Soetodi	Technical Department, Ministry of Health
Ir. S. Tjahja Bantala	”
Ir. H. Sukanto	”
Ir. Hamid Hilman	”
Ir. Sudiman	”
Ir. K. Suropto	”
Ir. Pudjo Prajitno	Animal Care Division, C.B.R.
Ir. Edhie Sulaksono	”

APPENDIX-II ACTIVITY RECORDS OF FIELD SURVEY

A-II-1 Basic Design Study Mission

- (1) Team members
- (2) Diary
- (3) Copy of the Minutes of Discussions

A-II-2 Basic Design Confirmation Mission

- (1) Team members
- (2) Diary
- (3) Copy of the Minutes of Discussions
- (4) Copy of the Note of Understanding

A-II-1 Basic Design Study Mission (from February 28 to March 29)

(1) Team Members

Team Leader Research Planner	Satoru TANAKA	Chief of Teratology Laboratory, Division of Pharmacology, National Institute of Hygienic Science
Project Coordinator	Katsuji ONODA	Grant Aid Dept. Basic Design Section, Japan International Cooperation Agency (JICA)
Architect Acting Leader	Toyoo KAWARURA	K. ITO Architects & Engineers Inc.
Archi. Designer	Kenji MIYAZAKI	-- ditto --
Elec. & Mech. Engineer	Masao SATO	System Creator Inc.
Laboratory Equip- ment & Cost Esti- mation Engineer	Kenji UCHIDA	K. ITO Architects & Engineers Inc.

(2) Diary

Date	Description
Feb. 28 Mon.	Arrival at Jakarta (Dr. Tanaka, Team Leader and Mr. Onoda, JICA)
Mar. 1 Tue.	Brief meeting at JICA office, Courtesy call to the Ministry of Health, Meeting with the experts for the related technical cooperation project
Mar. 2 Tue.	Meeting with NQCL DF staff
3 Thu.	Visit to the existing laboratories of C.B.R. and NQCL DF Visit to P.T. Eisai (Puncak), Stay in Bandung
4 Fri.	Visit to PQCL DF Bandung, P.N. Bio Farma and the Institute of Technology Bandung
5 Sat.	Discussion with PQCL DF staff , return to Jakarta
6 Sun.	Innerteam meeting and miscellaneous works
7 Mon.	Discussion with NQCL DF staff
8 Tue.	Discussion with NQCL DF staff
9 Wed.	Discussion with NQCL DF staff Arrival at Jakarta (Mr. Kawamura, Mr. Miyazaki, Mr. Sato and Mr. Uchida) Innerteam meeting
10 Thu.	Meeting at JICA office Introduction of new members to NQCL DF staffs and discussion on survey schedule Site inspection
Mar.11 Fri.	Discussion on Minutes of Discussions Site inspection and proposition of the new project site
12 Sat.	Signing the Minutes of Discussions Visit to the animal care facilities of C.B.R.

Date	Description
13 Sun.	Innerteam meeting and data analysis Return to Tokyo (Dr. Tanaka the team leader and Mr. Onoda)
14 Mon.	Visit to the existing laboratories of NQCL DF and C.B.R.
15 Tue.	National Holiday Visit and stay in Bandung
16 Wed.	Visit to PQCL DF, P.N. Bio Farm and P.T. tanabe-Abadi
17 Thu.	Visit to the Institute of Technology Bandung and P.T. Eisai (Puncak), Return to Jakarta
18 Fri.	Discussion with NQCL DF staff Preliminary surveying of the site
Mar. 19 Sat.	Visit to the building of Japanese grant aid project, the Center for Education & Training and discussion with the dispatched experts.
20 Sun.	Innerteam meeting and data analysis
21 Mon.	Discussion with the staff of the technical department of the Ministry of Health Discussion with NQCL DF staffs
22 Tue.	Data collection and discussion in P.L.N., P.A.M. and P.M.G.
23 Wed.	Discussion with the staff of the technical department of the ministry of Health, data collection in P.G.N.
24 Thu.	Investigation on the existing drainage of the site, Topographic surveying, Dutch cone penetration test
25 Fri.	Joint discussion in NQCL DF
26 Sat.	Proposition of the final conceptual design for the Project Explanation of the above to Dr. Siraito

Date	Description
27 Sun.	Innerteam meeting and miscellaneous works
Mar. 28 Mon.	Progress reporting to JICA office and the Embassy of Japan
29 Tue.	Return to Tokyo (Mr. Kawamura, Mr. Miyazaki, Mr. Sato and Mr. Uchida)

(3) Copy of the Minutes of Discussions

Minutes of Discussions
on
The Construction of laboratory for the National Drug and Food Quality
Control in the Republic of Indonesia

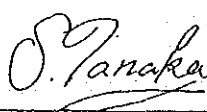
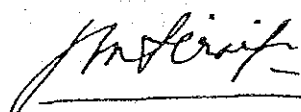
In response to the request made by the Government of Republic of Indonesia for the construction of laboratory for the National Drug and Food Quality Control in Jakarta (hereinafter referred to as "the Project")

The Government of Japan has dispatched, through Japan International Cooperation Agency (JICA), a survey team headed by Dr. Satoru TANAKA, Chief of Teratology and Reproduction Laboratory, Department of Pharmacology, National Institute of Hygienic Sciences (hereinafter referred to as "the Team") to conduct the basic design study on the above-mentioned construction from February 28th, 1983.

The Team has carried out a field survey, had a series of discussions and exchanged views with the Indonesian authorities concerned of the Project.

As a result of the survey and discussions, the Team and the Indonesia authorities concerned agreed to recommend to their respective governments to examine the results of the discussions attached herewith toward the realization of the Project.

Jakarta, March 12, 1983

 _____ Dr. Satoru Tanaka Head of Japanese Survey Team	 _____ Dr. Midian Sirait Director General of Drug and Food Control Ministry of Health Indonesia
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ATTACHMENT

1. The objective of the Project is to provide necessary building, facilities and equipment for the National Drug and Food Quality Control laboratory in Jakarta (hereinafter referred to as " the Project ") including animal care unit. The purpose of the Project is to develop and improve its activities in conducting examination and study on pharmacology, toxicology, microbiology and biopharmacy (mainly pharmacokinetics) as well as to establish reference standards for drugs and color materials.
2. The proposed site of the Project is the land acquired by the Government of the Republic of Indonesia in the Directorate General of Drug and Food Control of Ministry of Health, Jalan Percetakan Negara 23, Jakarta (hereinafter referred to as "the Project site") as attached in Annex I. Tentative floor arrangement is attached in Annex I.
3. Tentative priority of tests in the Laboratory are listed as Annex II.
4. The Indonesia/Japan National Drug and Food Quality Control Laboratory Project under the technical cooperation starting from April 1st, 1983 will be expected to contribute to the smooth and effective operation of the Laboratory.
5. The Team will convey the desire of the Indonesian authorities concerned to the Government of Japan that the Japanese Government will take necessary measures to cooperate implementing the Project and provide the Government of the Republic of Indonesia with building and other items as listed in Annex III with a priority within the scope of Japan's Economic Cooperation Programme in Grant form.
6. The Indonesian authorities concerned understood and confirmed Japan's Grant Aid system explained by the Team which includes a principle of use of a Japanese consultant firm and a Japanese general contractor for implementation of the Project.
7. The Indonesian authorities concerned confirmed that the Government of the Republic of Indonesia will take necessary measures as listed in Annex IV on condition that the grant aid by the Government of Japan is extended to the Project.

Annex I

Tentative floor arrangement in the Laboratory is as follow :

1st floor - Animal care and examination rooms and its necessary facilities

2nd floor - Main entrance

- Common use facilities and rooms
- Laboratories which make use of examination animals many times
- Training laboratory

3rd floor - Sterilized rooms

- Laboratories which make use of examination animals frequently

Annex II

Tentative priority of tests in the Laboratory are as follows :

Priority order

1. Pyrogen test
2. Acute toxicity test for Antibiotics
3. Potency test for Antibiotics
4. Microbiological contamination test
5. Potency and safety tests for biologicals
(mainly serum and vaccines)
6. Reference standards
7. Bio-availability (invivo) test
8. Bio-availability (invitro) test
9. Acute and sub-chronic toxicity tests
10. Specific toxicity test (mainly teratology test)
11. Pharmacological tests for drugs
(mainly antipyrogenic and antiinflammatory tests)

Annex III

1. Building (including certain facilities) for :
 - a. Laboratories - Pharmacology, toxicology, microbiology and biopharmacy (mainly pharmacokinetics)
 - b. Animal care and examination rooms
 - c. Reference standard rooms
 - d. Sterilized rooms
 - e. Others

2. Equipment for::
 - a. Animal care system
 - b. Others

ANNEX IV

Following arrangements are required to be taken by the Government of the Republic of Indonesia:

1. To carry out site preparation such as clearing and leveling before commencement of construction works.
2. To provide facilities for distribution of electricity, water supply, drainage, telephone lines and other incidental facilities to the building.
3. To ensure prompt unloading and customs clearance at ports of disembarkation in Indonesia and prompt internal transportation of the products purchased under the grant.
4. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in Indonesia with respect to the supply of the products and services under the verified contractor.
5. To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into Indonesia and stay therein for the performance of their work.
6. To maintain and use properly and effectively the facilities constructed and equipment provided under the grant.
7. To bear all the expenses, other than those to be born by the grant, necessary for construction of the facilities as well as for the internal transportation and services under the grant.
8. To undertake incidental civil works such as planting, fencing, gates, gates offices, parking lots and exterior lighting if needed.
9. To furnish general furnitures (carpets, tables, chairs and others) except those which are laboratory use, such as experimental tables and chairs.

A-II-2 Basic Design Confirmation Mission

(1) Team Members

Team Leader Research Planner	Satoru TANAKA	Chief of Teratology Laboratory, Division of Pharmacology, National Institute of Hygienic Science
Project Coordinator	Katsuji ONODA	Grant Aid Dept. Basic Design Section, Japan International Cooperation Agency (JICA)
Acting Leader Architect	Toyoo KAWAMURA	K. Ito Architects & Engineers Inc.
Archi. Designer	Kenji MIYAZAKI	— ditto —

(2) Diary

Date	Description
Jun. 30 Thu.	Arrival at Jakarta
Jul. 1 Fri.	Explanation and Discussion on the Draft Final Report
2 Sat.	Progress reporting to JICA office Signing the Minutes of Discussions on the Draft Final Report
3 Sun.	Innerteam meeting
Jul. 4 Mon.	Detail Discussion on the basic design
5 Tue.	- ditto -
6 Wed.	- ditto -
7 Thu.	Final Discussion on the Draft Final Report Signing the Note of Understanding
8 Fri.	Innerteam meeting and miscellaneous works
9 Sat.	Return to Tokyo

MINUTES OF DISCUSSIONS
ON
THE EXPANSION PROJECT OF THE NATIONAL DRUG AND FOOD
QUALITY CONTROL LABORATORY IN THE REPUBLIC OF INDONESIA

At the request of the Government of the Republic of Indonesia for a grant aid on the expansion of the National Drug and Food Quality Control Laboratory in Jakarta, the Government of Japan sent a Mission to carry out the Basic Design Study (the Study) on the Expansion Project of the National Drug and Food Quality Control Laboratory (the Project) through the Japan International Cooperation Agency (JICA) from 28th February to 29th March, 1983.

The Mission carried out a field survey and held a series of discussions with concerned authorities of the Government of the Republic of Indonesia.

As a result of these survey and discussions, JICA prepared and submitted a Draft Final Report on the Study and dispatched a Mission to explain and discuss on this Report starting from 30th June, 1983.

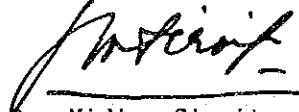
Both parties had a series of discussions on the Report and have agreed to recommend to their respective Governments and Authorities concerned to examine the major points of understanding reached between them, attached herewith, toward the realization of the Project.

2nd July 1983

Jakarta



Dr. Satoru Tanaka
Head of Japanese Mission



Dr. Midian Sirait
Director General of
Drug and Food Control
Ministry of Health
Indonesia

MAJOR POINTS OF UNDERSTANDING

BASIC DESIGN

1. The Indonesian side has agreed with the basic design proposed in the Draft Final Report.
2. The Final Report (30 copies in English) on the Project will be submitted to the Government of the Republic of Indonesia by the end of August, 1983.
3. Both sides confirmed that the Indonesian side understood the Grant Aid programme to be extended by the Government of Japan and specially arrangement to be taken up by the Indonesian side.

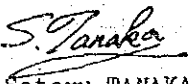
(4) Copy of the Note of Understanding

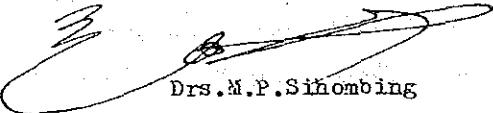
NOTE OF UNDERSTANDING

As for the Expansion Project of the National Quality Control Laboratory of Drug and Food in Jakarta in the scheme of grant aid (the Project) concerned, the Government of Japan sent a Mission to explain and discuss a Draft Final Report of the Project starting from 30th June, 1983 after carrying out the Basic Design Study on the Project from 28th February to 29th March, 1983.

During this Japanese Mission stay in Jakarta, the Indonesian Authorities concerned and the Mission had a series of discussion on the Draft Final Report of the Project and confirmed the conception and amended some parts of the body of the letter in the Report, attached herewith, for mutual understanding of it.

7th July, 1983
Jakarta.


Dr. Satoru TANAKA
Head of Japanese Mission


Drs. M.P. Sihombing
for Director General
of Drug and Food Control
Ministry of Health
Indonesia.

A. Confirmation and Amendment

1. The biological tests include biological products tests mainly vaccine and serum.
2. The biopharmaceutical test include in vitro and in vivo.
3. The instruments storage in the second floor is able to be utilized for workshop as well as the storage. In this sense workshop is for electrical equipment.
4. The installation of fire extinguishers should be also in accordance with the code of the Republic of Indonesia.
5. To install lightning arrest facility.
6. To install insect-screen at the windoms of each machine room.
7. To make the passway between main building and diet preparation house.
8. To divide animal dissection and treatment room into biological products examination room and animal dissection and treatment room.
9. To make the oil tank close to the main building.
10. To install telephone operator facility in the office room on the second floor, for 25 to 30 extensions.
11. Steampipe will be installed outside the building for easiness of maintenance.
12. It is necessary to consider the prevention of pollution from the incinerator.

B. CORRECTIONS

1. The title of the Project is "The Expansion Project of the National Quality Control Laboratory of Drug and Food".
2. The abbreviation of the National Quality Control Laboratory of Drug and Food is "NQCL DF".
3. The abbreviation of the Provincial Quality Control Laboratory of Drug and Food is "PQCL DF".
4. Biopharmacy and Reference Standards Division divided into Biopharmacy Division and Reference Standards Division.
5. The latest data shows that there are 286 pharmaceutical manufactures, 40 of them are established in the context of foreign instrument law.

APPENDIX-III DATA

A-III-1 List of the Places Visited

A-III-2 Geological Survey Result

A-III-1 List of the Places Visited

The study team visited the following laboratories, factories and institutes to be referred to for the basic design study during the field survey.

(1) Provincial Quality Control Laboratory West Java Province

Address : JL Pasteur 25 Bandung
Conducted by : Dra. ANDAYANINGISIH
Interview with : Drs. Rohman MARUZUKI
Drs. HERNOWO
Dra. Dedih DYUASIAH

(2) Center for Biomedical Research (CBR)

Address : JL Percetakan Negara 1 Jakarta
Conducted by : Mr. Edhie SULAKSONO
Interview with : Drs. Pudjo PRAJITNO

(3) PN Bio-Farma

Address : JL Pasteur 28 Bandung
Conducted by : Mr. S. RAHADI
Interview with : Mr. Tomo USMADI
Mr. Thamrin POELOENGAN

(4) Institute of Technology, Bandung

Address : JL Ganesa 10 Bandung
Conducted by : Dr. Joke WATTIMENA

(5) PT Tanabe-Abadi

Address : JL Dr. Setayabudhi 287 Bandung West Jawa
Conducted by : Drs. Taswin MARDIAN
Mr. K. HATANAKA
Interview with : Mr. Bunyamin SETIAPRAWIRA
Mr. M. HAMAGUCHI

(6) PT Eisai

Address : JL Rayapuncak-Bogor Togu Utara Kecamatan
Cisarua Kabupaten Bogor
Conducted by : Mr. Karya SUMPENA
Interview with : Mr. UDJU
Mr. KUBOTA

(7) Development Center for Nursing Education, Jakarta

Address : JL Wijaya Kusuma Cilandak Jakarta Selatan
Conducted by : Mrs. M. FUJIKADO Team Leader, I-J N.E.P.
Ms. H. YOSHIDA Expert
Ms. A. SAWADA Expert

A-III-2 Geological Survey Result

JOB NO. : 1073

K. ITOW ARCHITECTS AND ENGINEERS INC.

SOILS INVESTIGATION

FOR

THREE STOREY BUILDING PROJECT

AT JL. PERCETAKAN NEGARA, JAKARTA

P.T. S O I L E N S

Jalan Tasikmalaya No. 1 Bandung, Phone 71367, 73211, 73831 Telex 28343



P. T. S O I L E N S

Head office : Jalan Tasikmalaya No. 1 Bandung, Phone 71367, 73211, 73831, Telex 28343

Liaison office : Jalan Wahid Hasyim No. 42 Jakarta, Phone 332049, 323927, Telex 44646

Messrs.

K. ITOW ARCHITECTS AND ENGINEERS INC.

Attn.: Mr. T. KAWAMURA
Managing Director.

Gentlemen :

We respectfully submit five (5) copies of our report, entitled "Report of Soils Investigation for Three Storey Building Project At Jl. Percetakan Negara, Jakarta".

This report contains data based on Dutch Cone Penetration tests results.

It has been a pleasure to work with K. ITOW ARCHITECTS AND ENGINEERS INC. After reviewing this report, should there be further questions concerning any portions contained herein, we will be pleased to consult further with your staff.

Yours very truly,

P. T. SOILENS
P. T. SOILENS

Ir. Rismantojo

SOILS INVESTIGATION
FOR THREE STOREY BUILDING PROJECT
AT JL. PERCETAKAN NEGARA, JAKARTA

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2. Dutch Cone Graphs	A.1.1 to A.1.3
3. Equipment & Procedures.	

SOILS INVESTIGATION
FOR THREE STOREY BUILDING PROJECT
AT JL. PERCETAKAN NEGARA, JAKARTA

I. INTRODUCTION

We present in this report the results of Dutch Cone penetration tests at the proposed three storey building for New Laboratory at Jl. Percetakan Negara, Jakarta.

The area investigated is shown on the attached map.

II. SCOPE AND PURPOSE

In general this soils investigation was undertaken with the following objectives in mind :

- a. To know the general subsurface soil conditions by Dutch Cone Test only.
- b. To recommend the type of foundation of building appropriate at the site based on the subsurface conditions encountered.

III. FIELD WORK

The subsurface conditions at the site were investigated by performing three (3) Quasi Static Dutch Cone Penetration Tests utilizing two ton capacity Dutch Cone apparatus equipped with friction jacket placed above the cone allowing to measure both cone and friction resistances.

The Dutch Cone apparatus could only penetrate to 7.00 meters depth, because in this layer the cone resistance is more than 200 kg/cm².

The locations of Dutch cone penetration tests could be seen in the map and the results are presented as graphs enclosed in this report.

The Dutch Cone graphs show cone penetration resistance in kg/cm², total friction resistance in kg/cm' perimeter and ratio between cone penetration resistance and local friction resistance. This last graph can be used to predict the soil type of every layer.

IV. RECOMMENDATION

A three storey building will be constructed at this site. From the results of Dutch Cone penetration tests we recommend for column load of the building can be supported on shallow foundation at -2.00 meters depth from the existing ground surface with allowable net soil pressure of 1.0 kg/cm². Before laying the foundation, the bottom of excavation should be covered by good compacted granular material (sand and gravel mixture) layer:

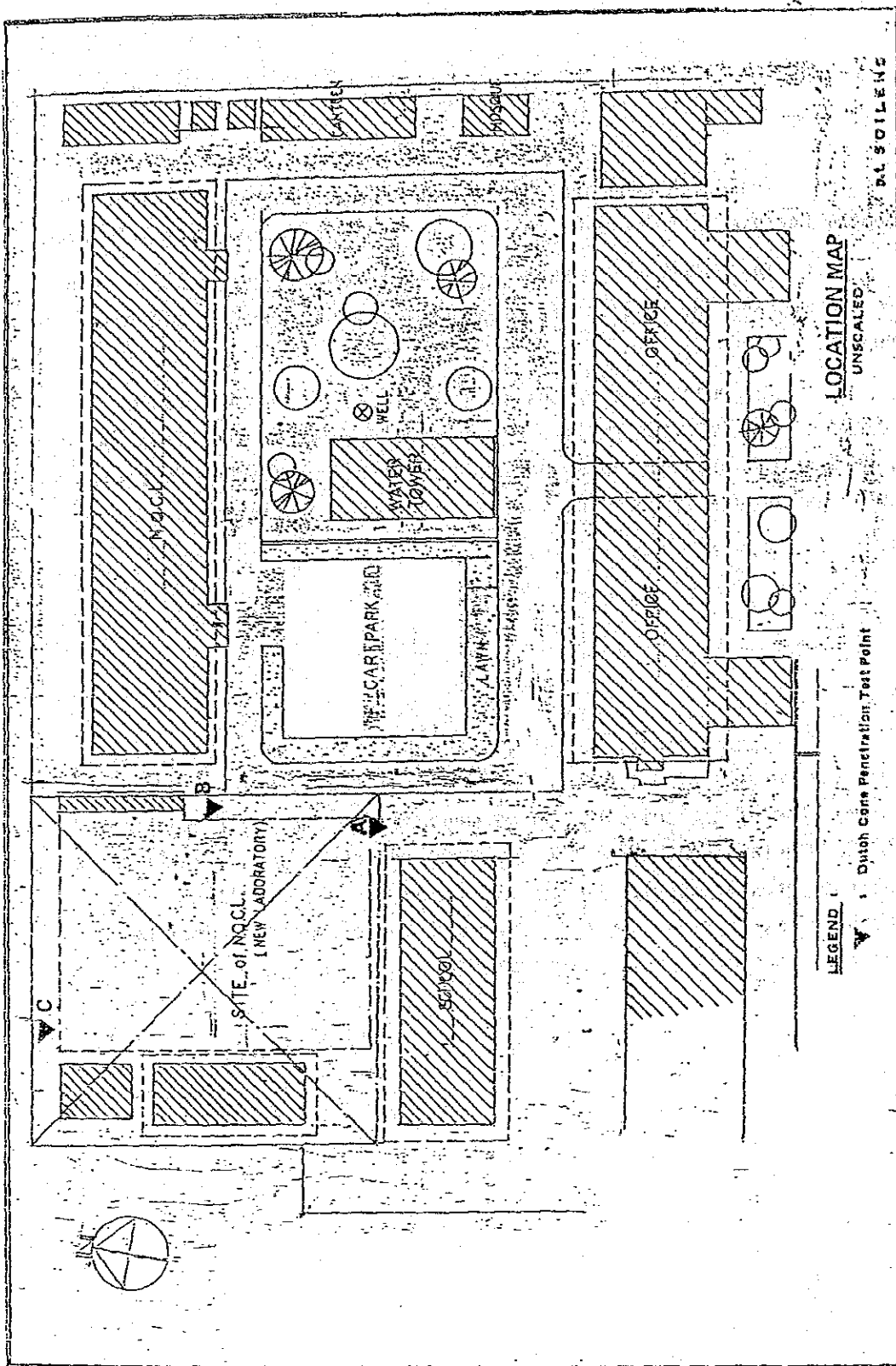
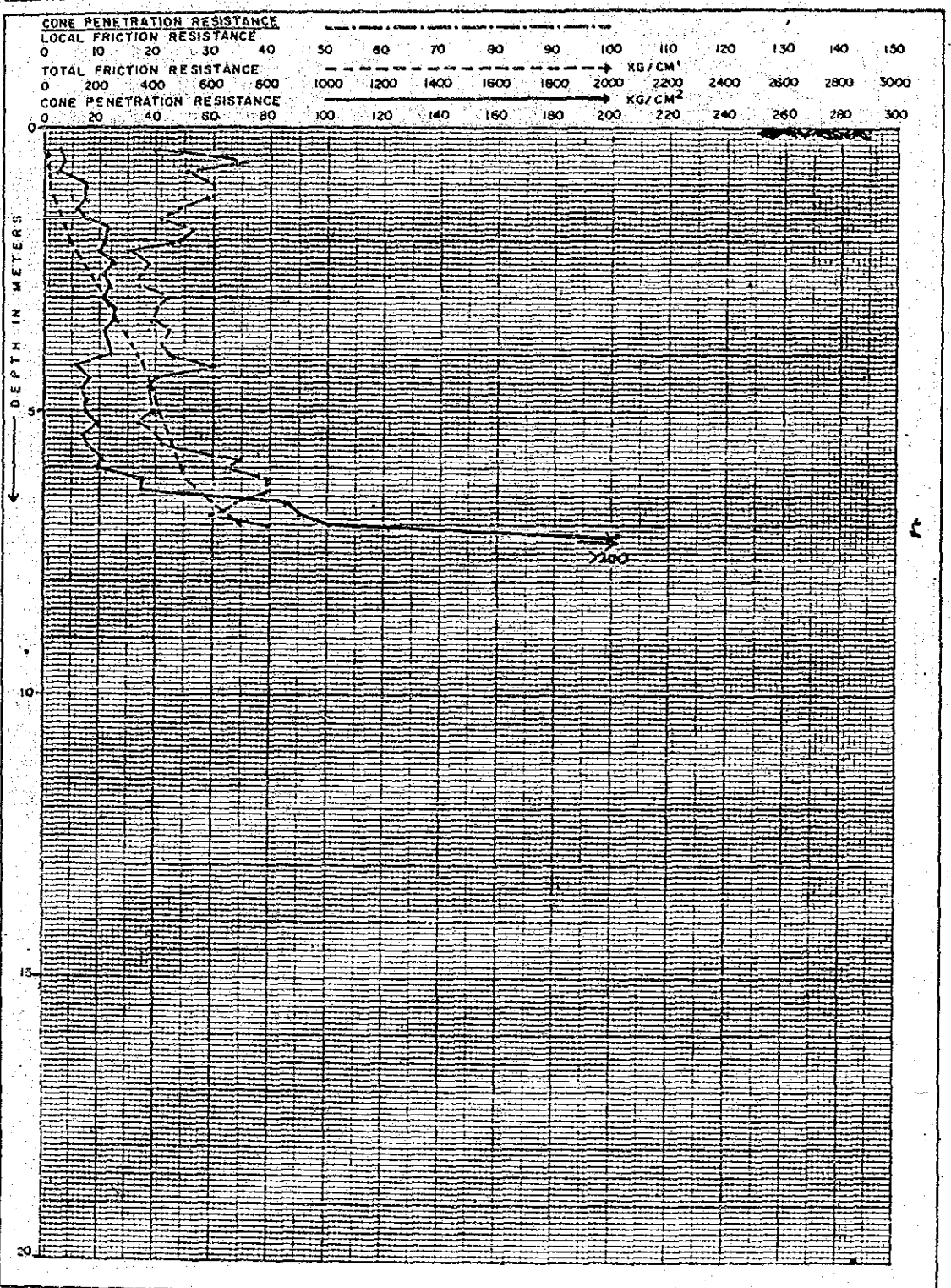


Plate 1.

PROJECT : THREE STOREY BUILDING	DUTCH CONE GRAPH	p.t. SOILENS
LOCATION : JL PERCETAKAN NEGARA, DKI	DUTCH CONE CAPACITY : 2 TON	
DUTCH CONE NO: A	TYPE OF B-CONE : FRICTION JACKET AREA 100 cm ²	
ELEVATION : 0.459 m	NOTE : Cone Penetration Resistance > 200 kg/cm ²	
DEPTH IN M : 7.20 m	at -7.20 meters depth.	
DATE OF TEST : March 24, 1983		

FOREMAN : Johnny E.Z.	CALCULATED BY : Deddy S.	CHECKED BY : Wirastuti
DUTCH CONE MASTER : Usman Wagiman	DRAWN BY : Deddy S.	APPROVED BY : Rihantojo

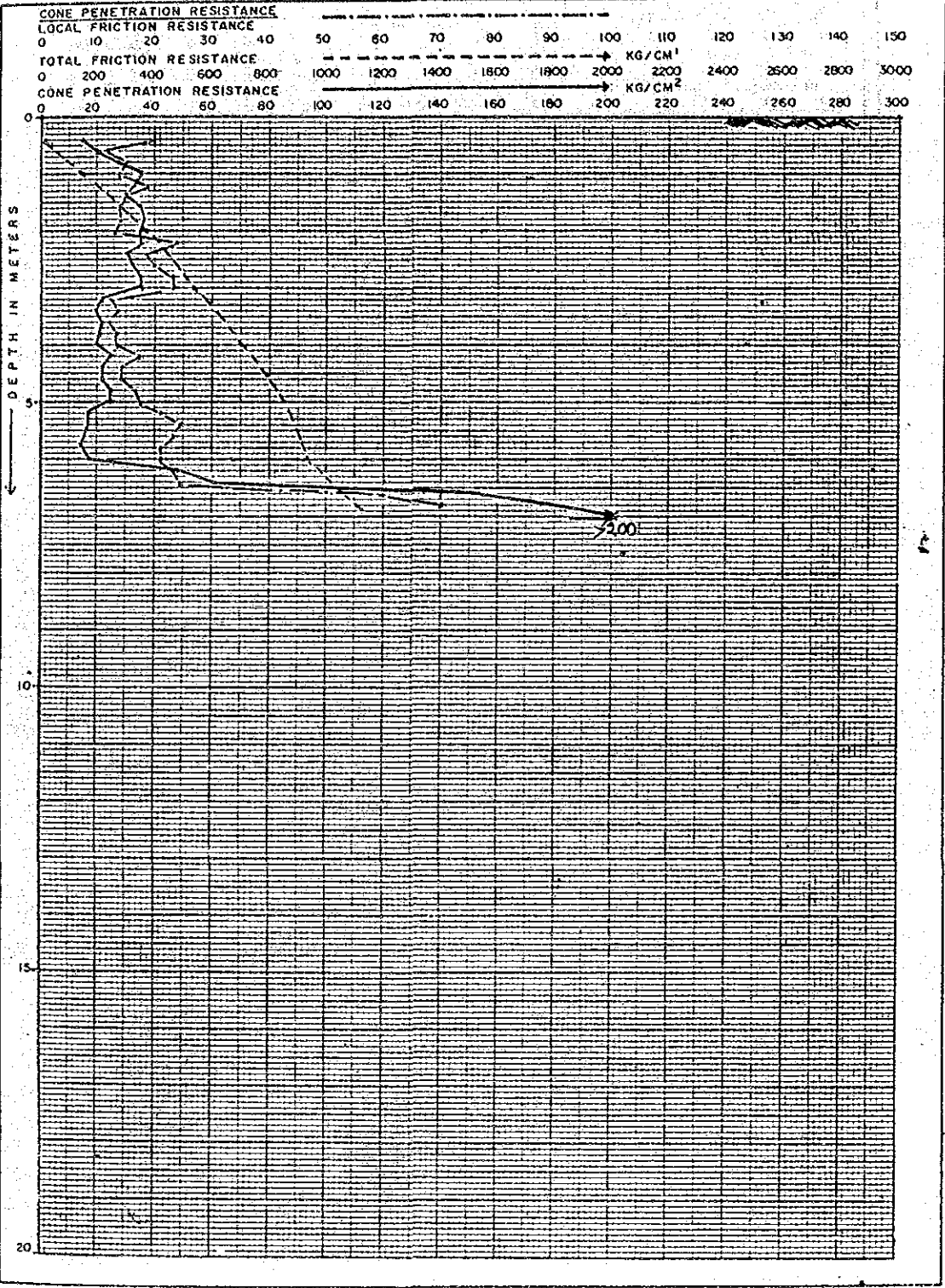


PROJECT : THREE STOREY BUILDING
 LOCATION : Jl. PERCETAKAN NEGARA, DKI
 DUTCH CONE NO: B
 ELEVATION : -0.317 m
 DEPTH IN M : 7.00 m.
 DATE OF TEST : March 24, 1963

DUTCH CONE GRAPH p.t. SOILENS

DUTCH CONE CAPACITY : 2 Ton
 TYPE OF B-CONE : FRICTION JACKET AREA 100 cm²
 NOTE : Cone Penetration Resistance >200 kg/cm²
at -7.00 meters depth.

FOREMAN : Johany E.Z. CALCULATED BY : Deddy S. CHECKED BY : Wirasturini
 DUTCH CONE MASTER : Uman Wagiman DRAWN BY : Deddy S. APPROVED BY : Rismantojo



PROJECT : THREE STOREY BUILDING

DUTCH CONE GRAPH p.t. SOILENS

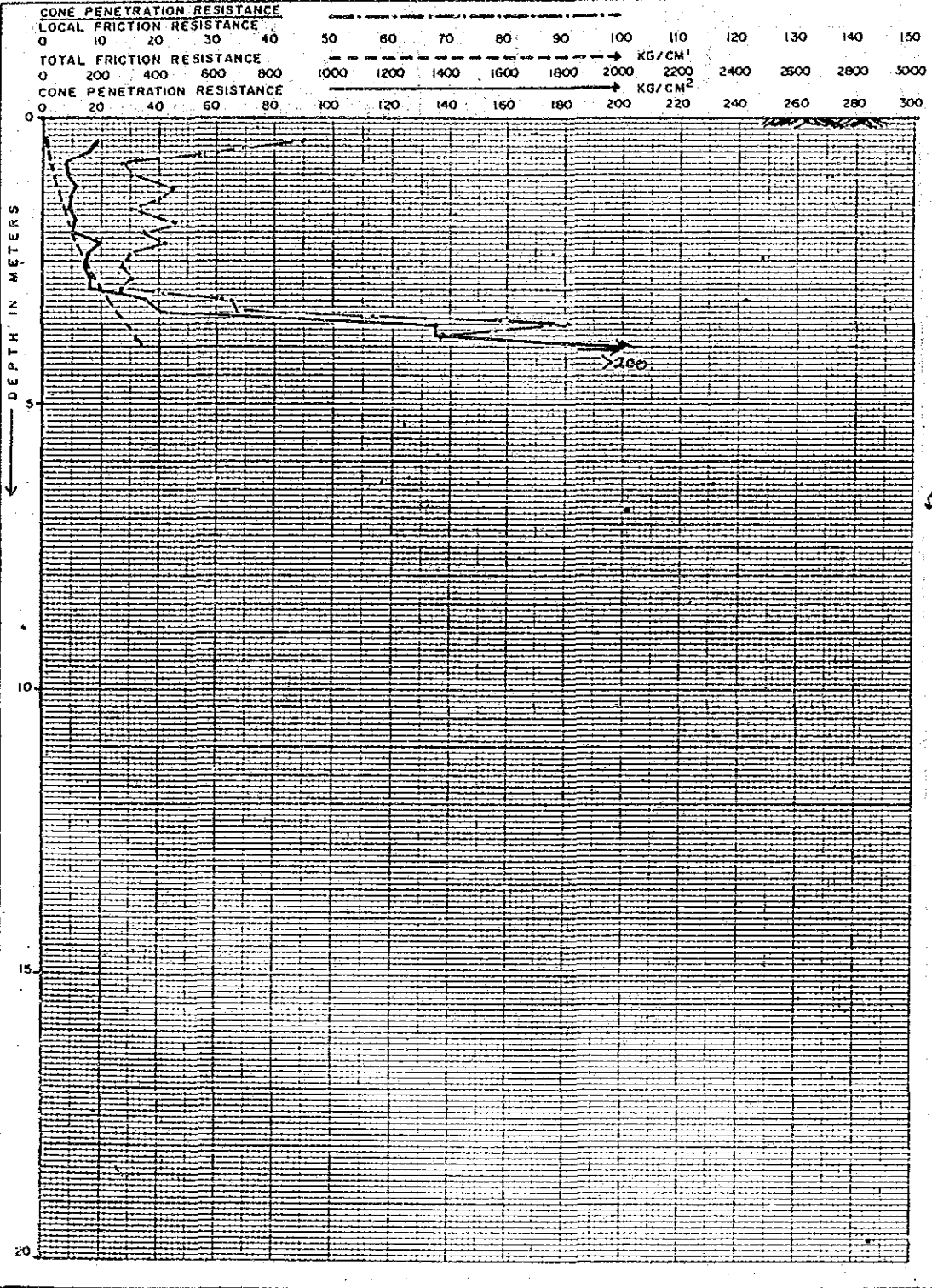
LOCATION : Jl. PERCETAKAN NEGARA, OKI
 DUTCH CONE NO: C
 ELEVATION : 0.398 m.
 DEPTH IN M : 4.00 m.
 DATE OF TEST : March 24, 1983

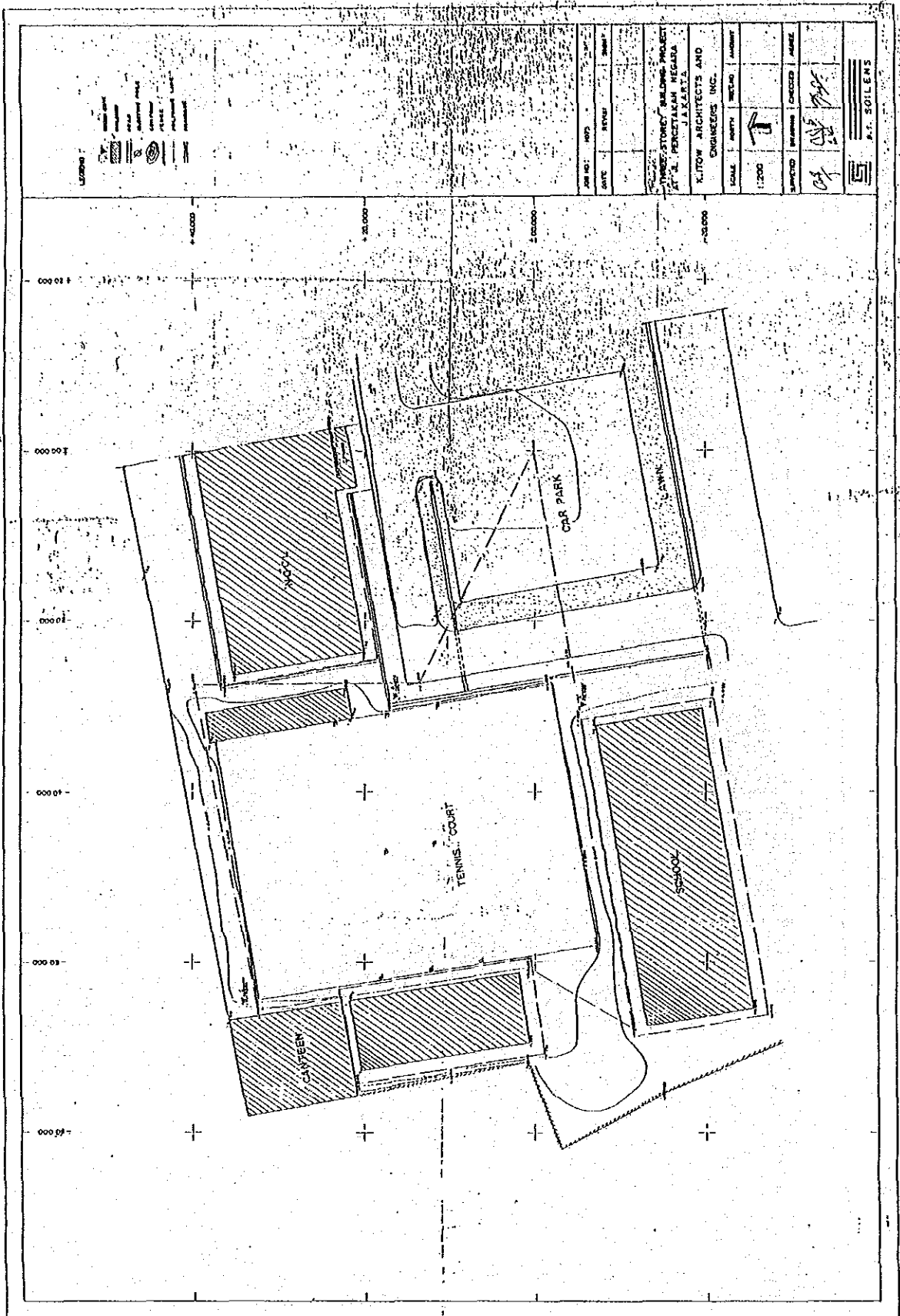
DUTCH CONE CAPACITY : 2 Ton
 TYPE OF B-CONE : FRICTION JACKET AREA 100 cm²
 NOTE : Cone Penetration Resistance > 200 kg/cm²
 at 4.00 meters depth.

FOREMAN : Johnny E.Z.
 DUTCH CONE MASTER : Usman Wajiman

CALCULATED BY : Deddy S.
 DRAWN BY : Deddy S.

CHECKED BY : Wirastuerini
 APPROVED BY : Rismantolo





JICA

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