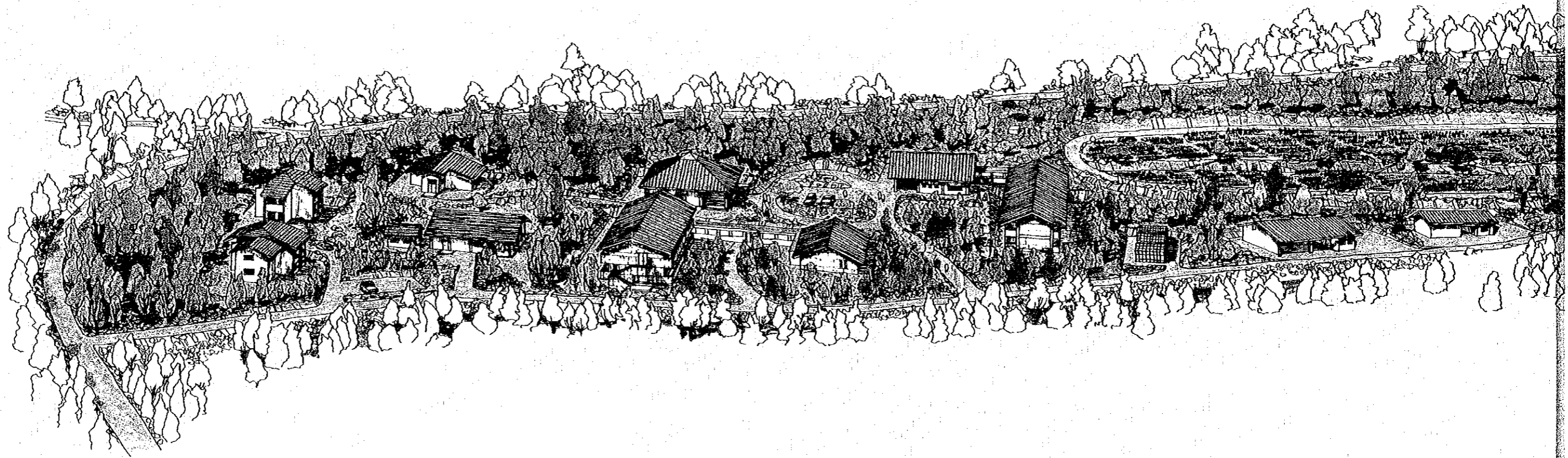
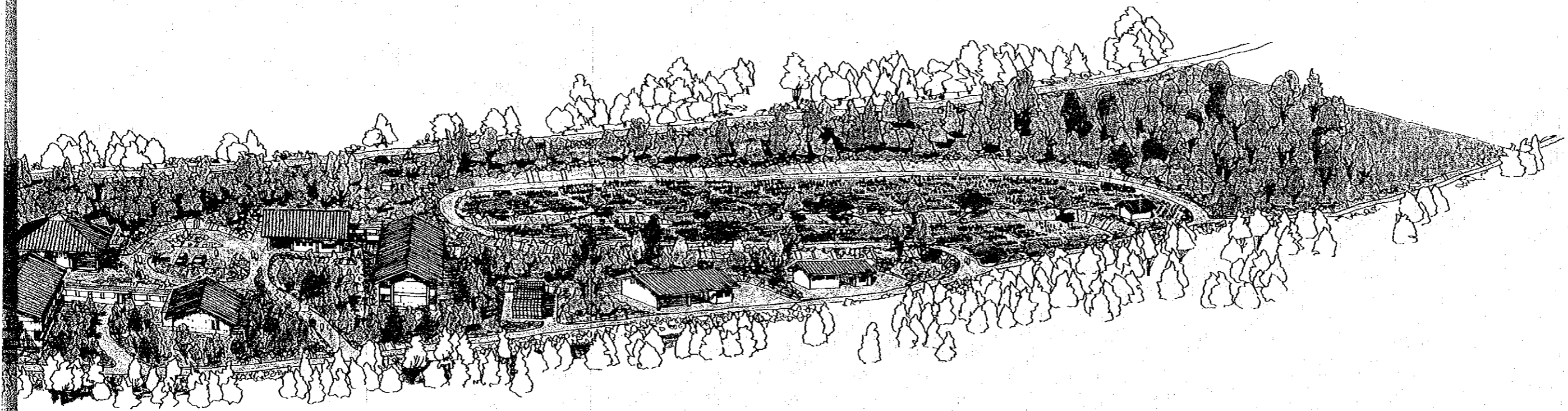
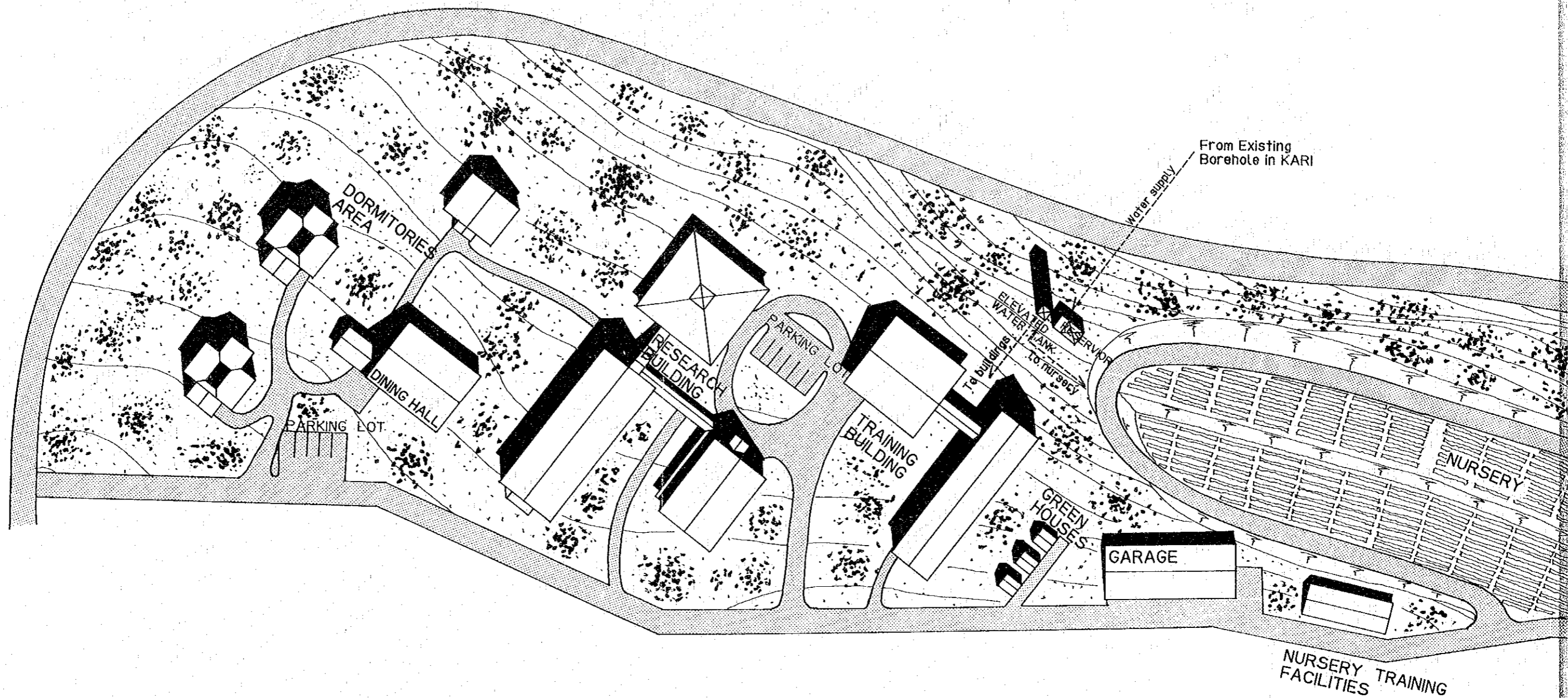


5-5 Drawings

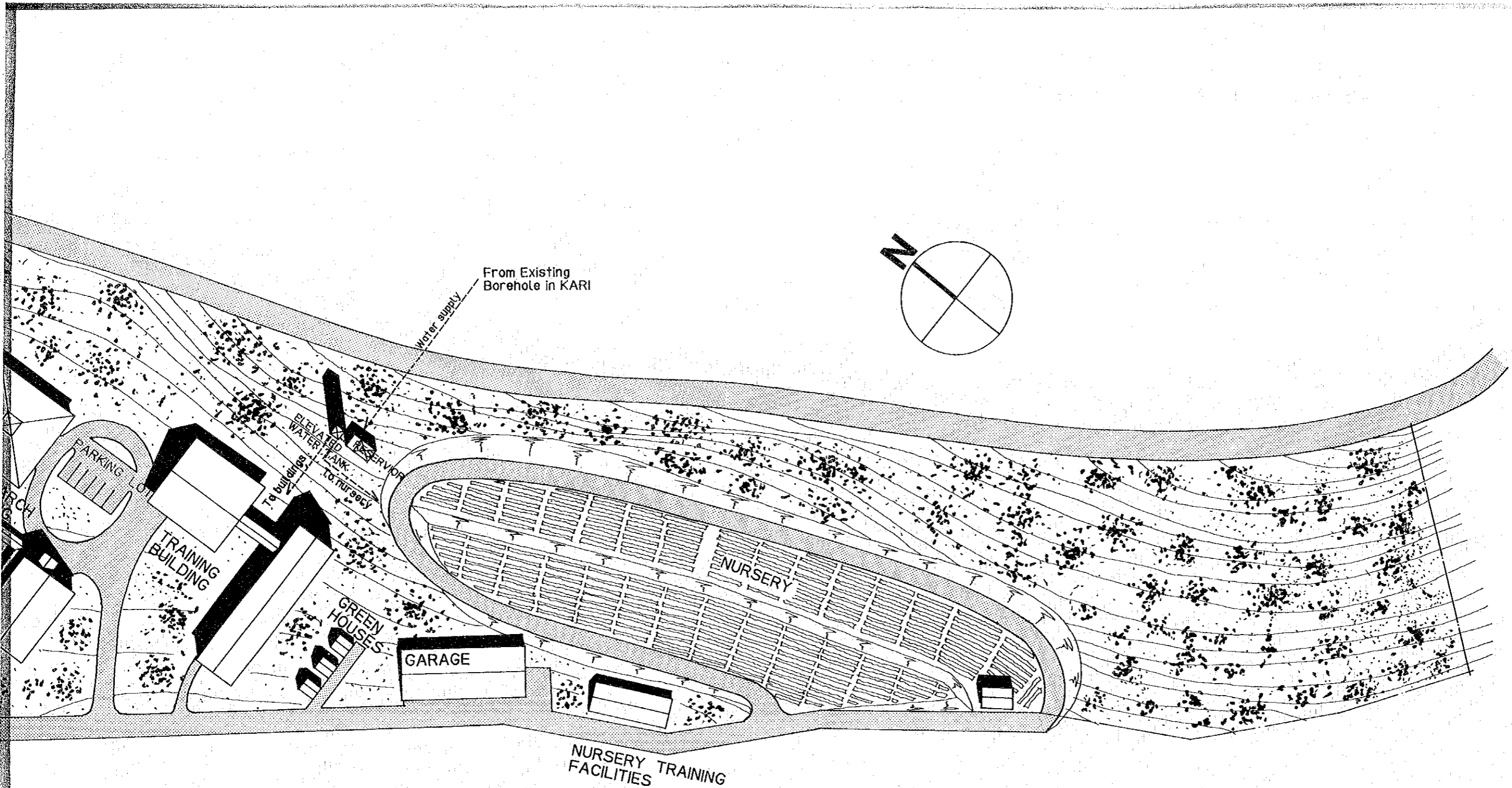




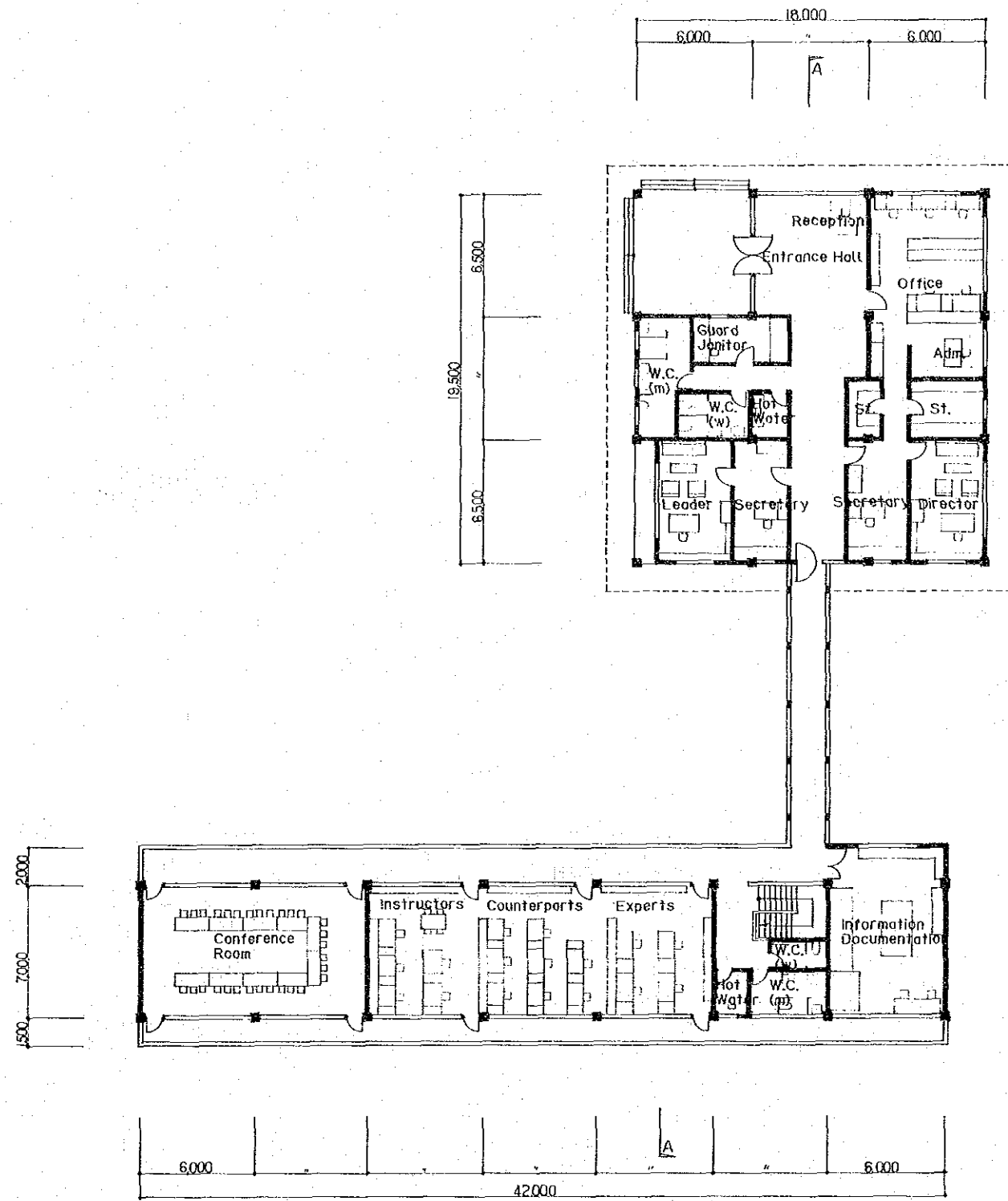
MAIN CENTRE, MUGUGA



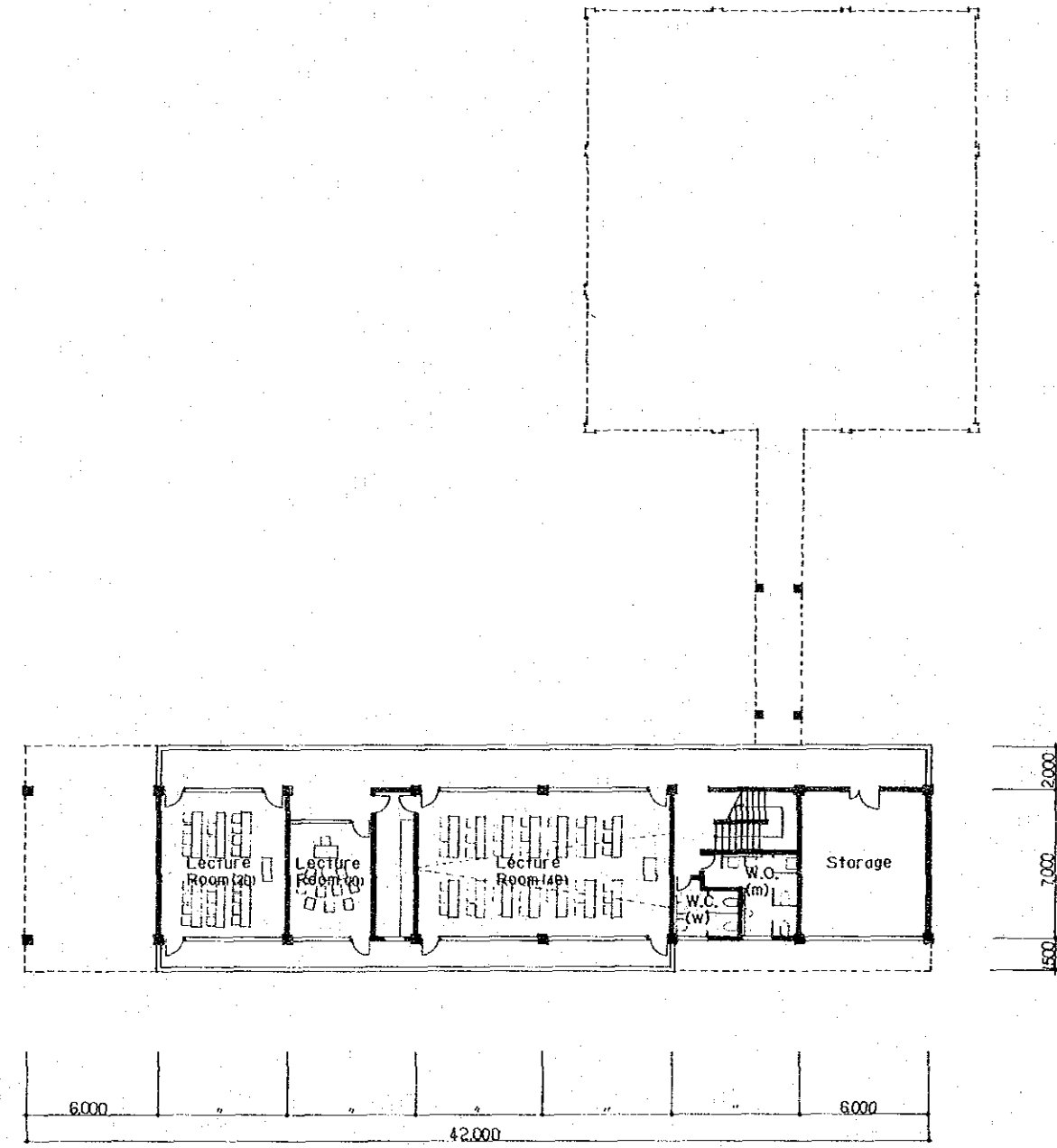
MUGUGA SITE PLAN S = 1:



MUGUGA SITE PLAN S = 1 : 1000

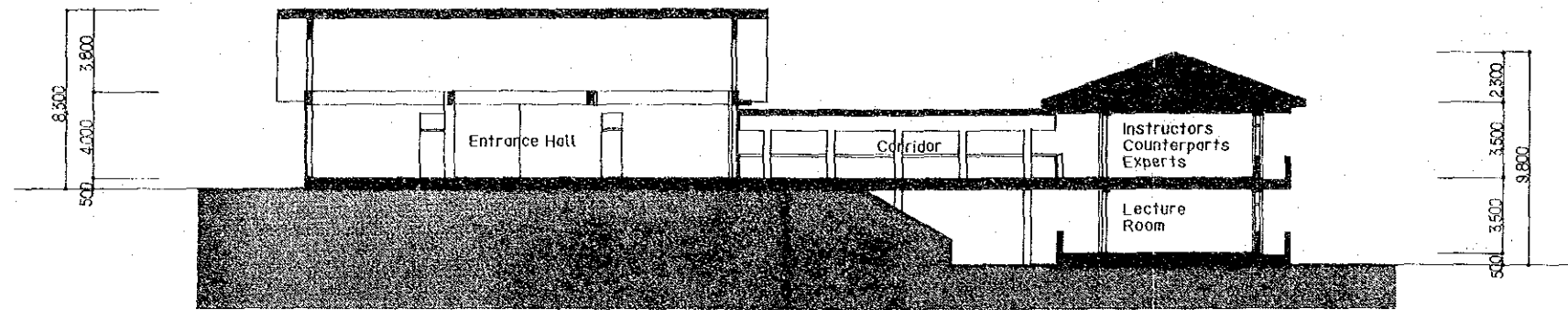


FIRST FLOOR PLAN

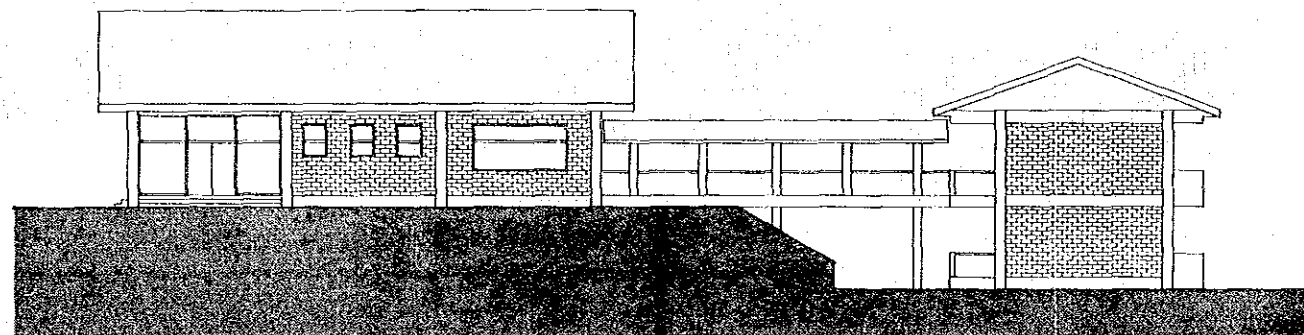


GROUND FLOOR PLAN

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				TRAINING BUILDING PLAN		SCALE	DRAWING NO. SHEET NO.

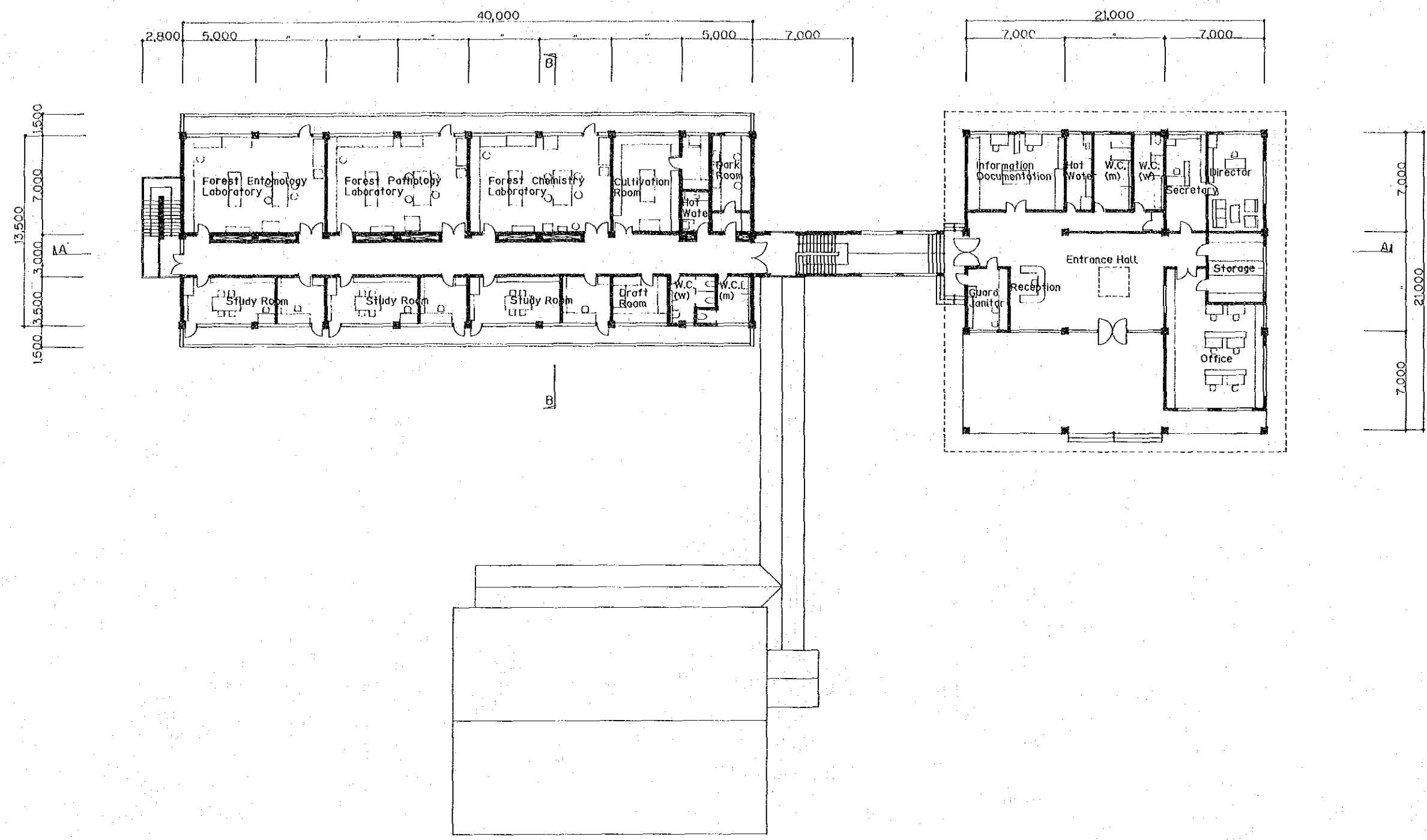


A~A SECTION



ELEVATION

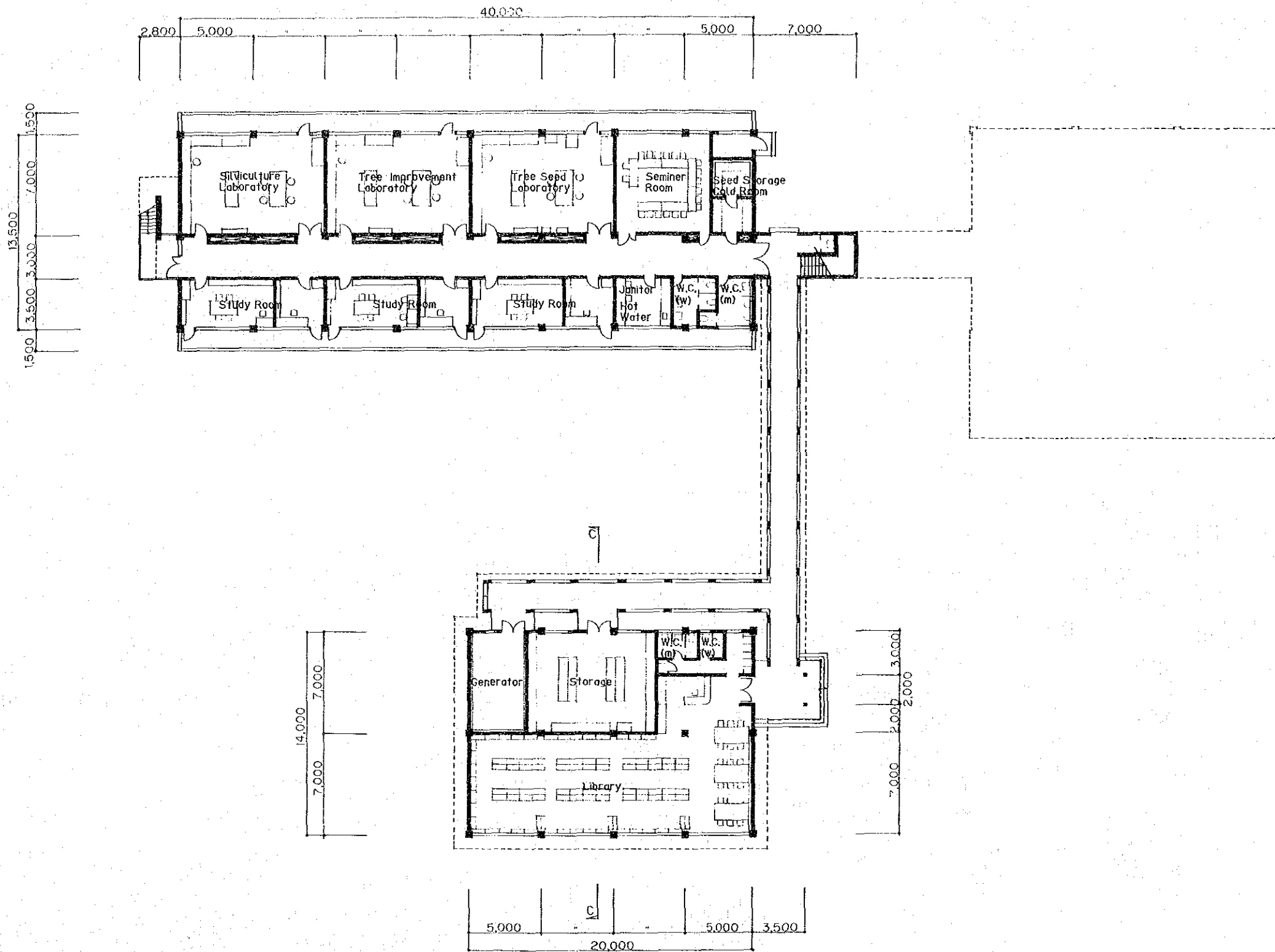
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					OF		
					THE NURSERY TRAINING AND TECHNICAL DEVELOPMENT CENTER		
					FOR		
					SOCIAL FORESTRY IN THE REPUBLIC OF KENYA		
					MUGUGA		
					DRAWING TITLE	TRAINING BUILDING	SCALE
						SECTION ELEVATION	DRAWING NO.
							SHEET NO.



FIRST FLOOR PLAN

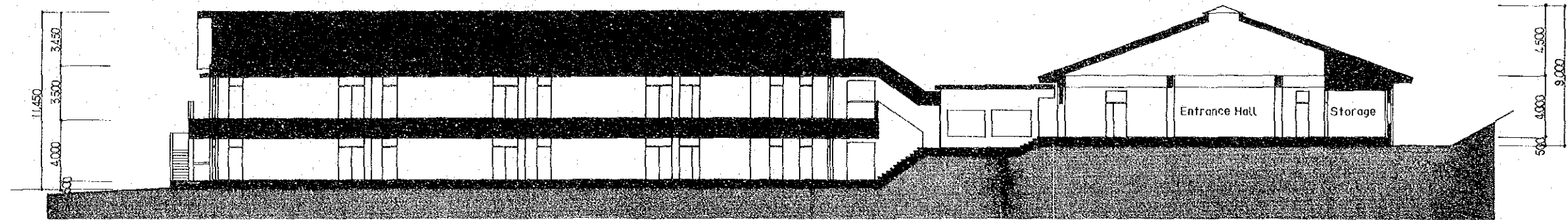
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					MUGUGA		
					RESEARCH BUILDING PLAN		



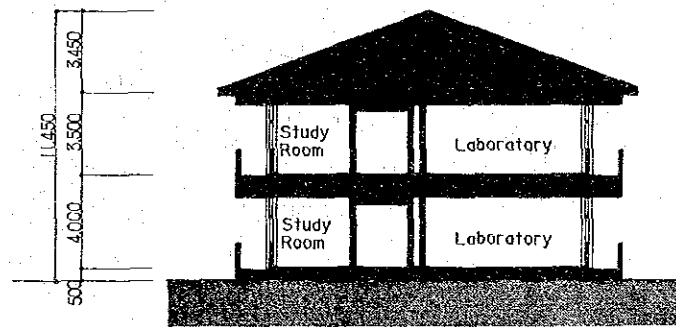


GROUND FLOOR PLAN

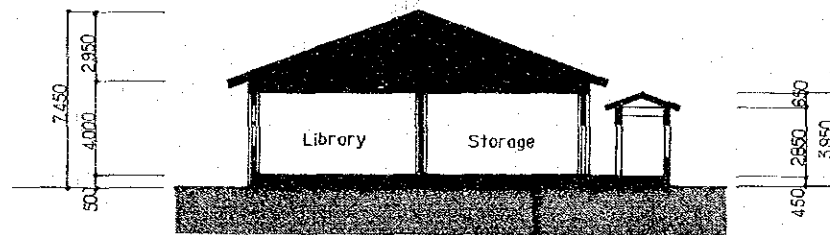
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					MUGUGA			
					DRAWING TITLE	RESEARCH BUILDING PLAN	SCALE	DRAWING NO. SHEET NO.



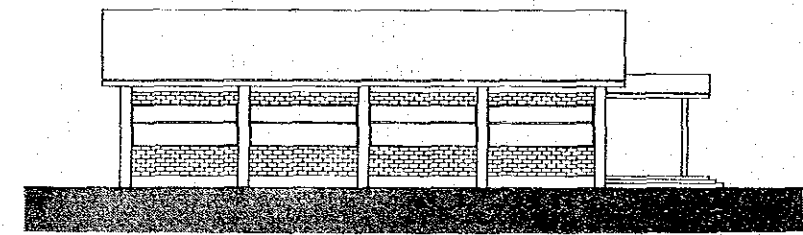
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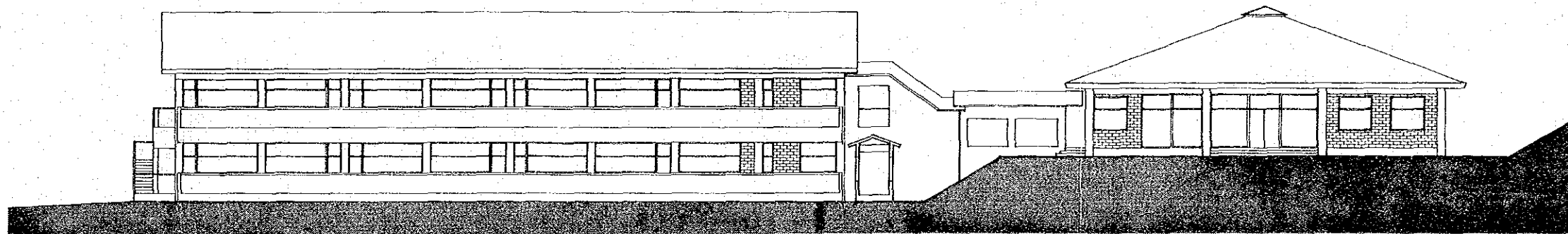
B~B SECTION



C~C SECTION



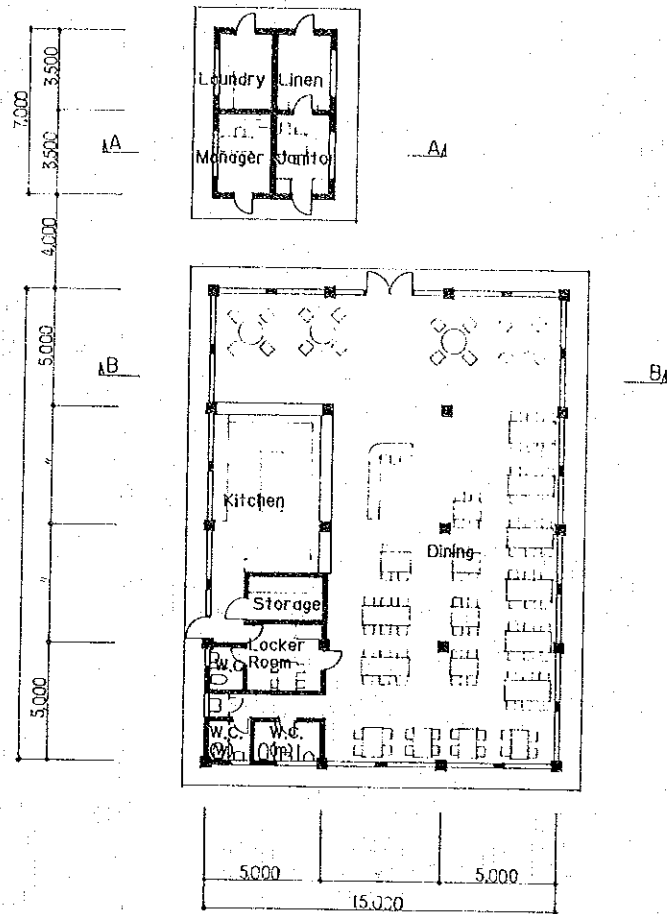
ELEVATION



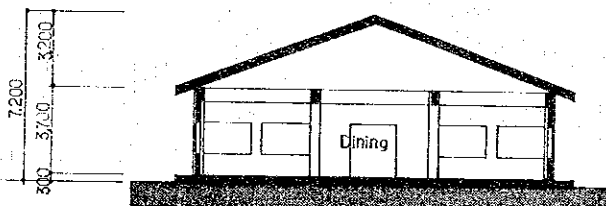
ELEVATION

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					RESEARCH BUILDING SECTION ELEVATION			

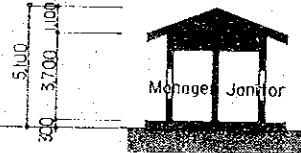
DINING HALL



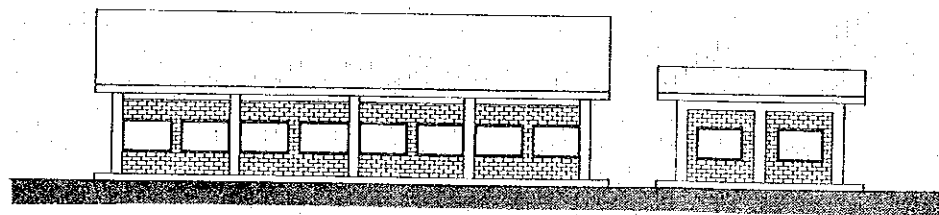
GROUND FLOOR PLAN



B~B SECTION

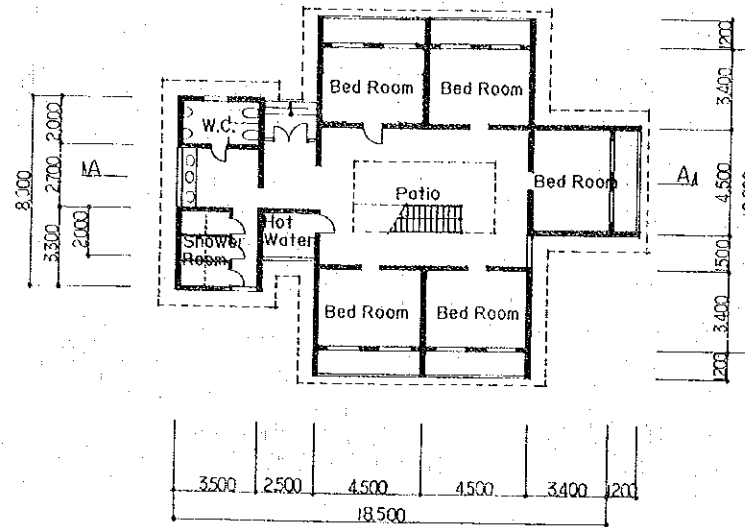


A~A SECTION

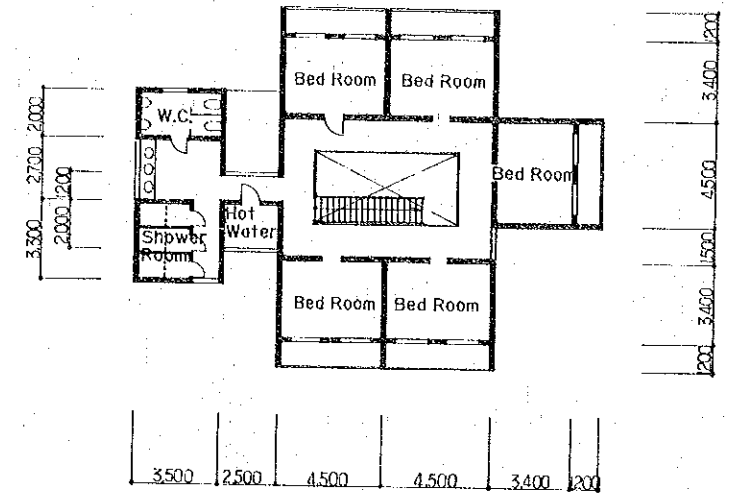


ELEVATION

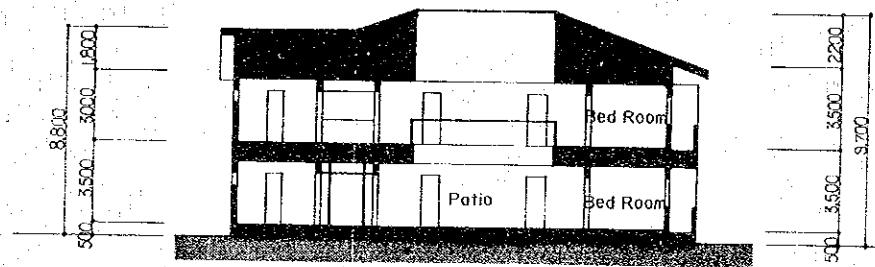
DORMITORY FOR TRAINEES



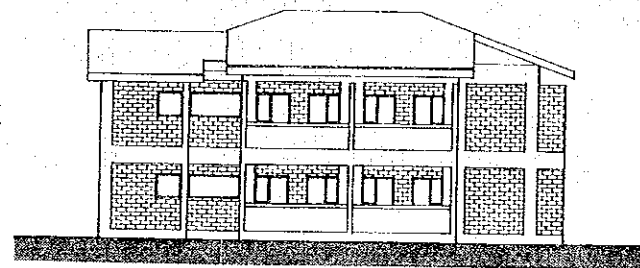
GROUND FLOOR PLAN



FIRST FLOOR PLAN



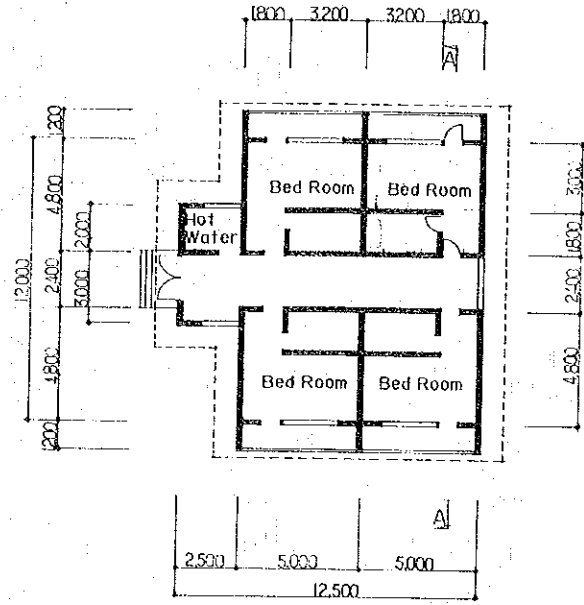
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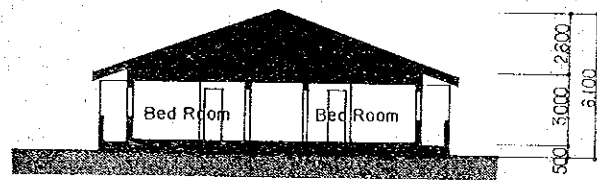
ELEVATION

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					PLAN SECTION ELEVATION		CHEET NO.

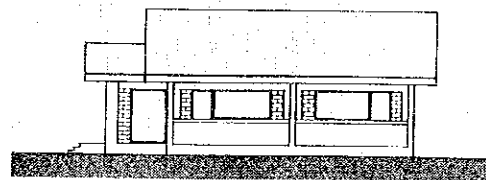
DORMITORY FOR INSTRUCTORS



GROUND FLOOR PLAN

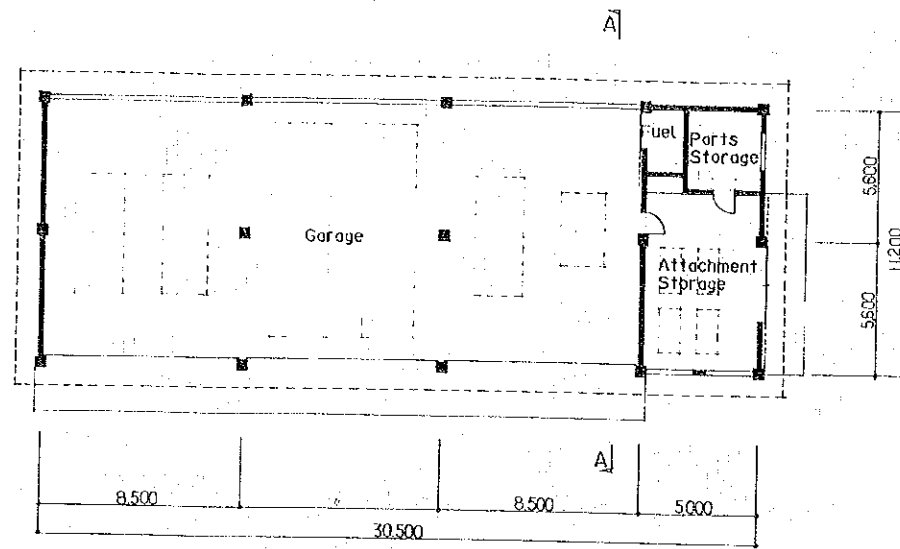


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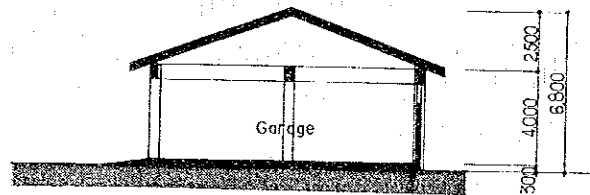


ELEVATION

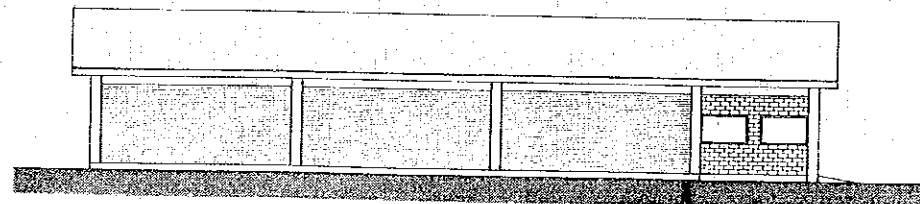
GARAGE (MUGUGA, KITUI)



GROUND FLOOR PLAN

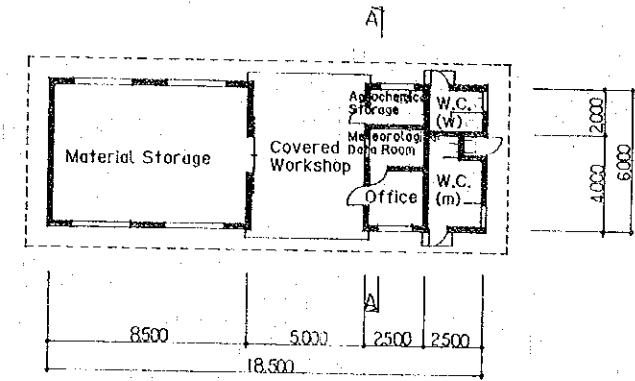


A~A SECTION

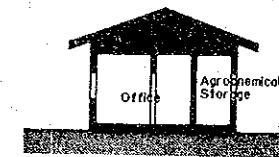


ELEVATION

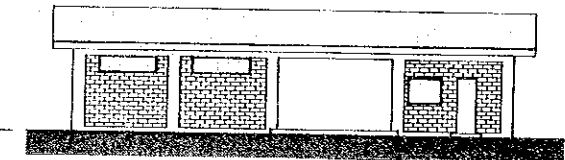
NURSERY TRAINING FACILITIES



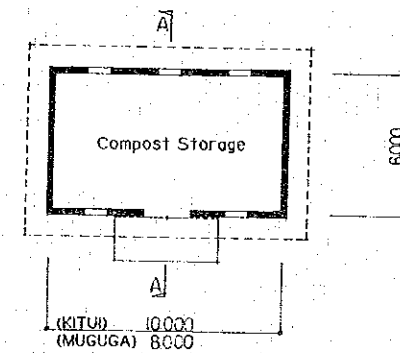
GROUND FLOOR PLAN



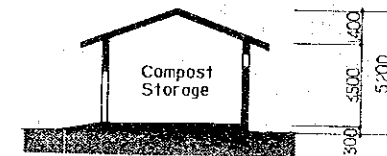
A~A SECTION



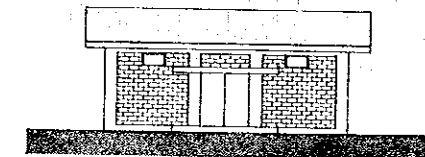
ELEVATION



GROUND FLOOR PLAN

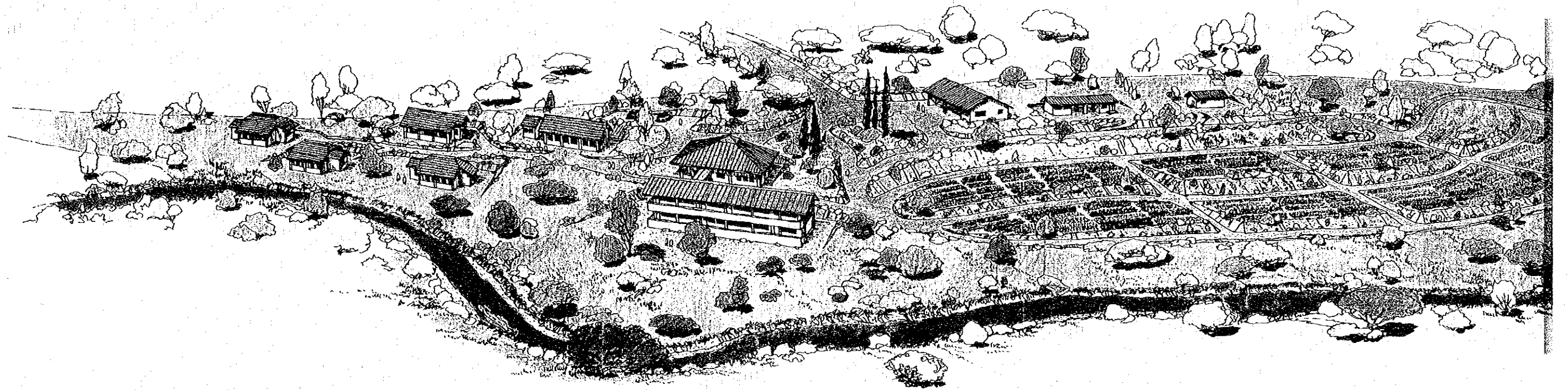


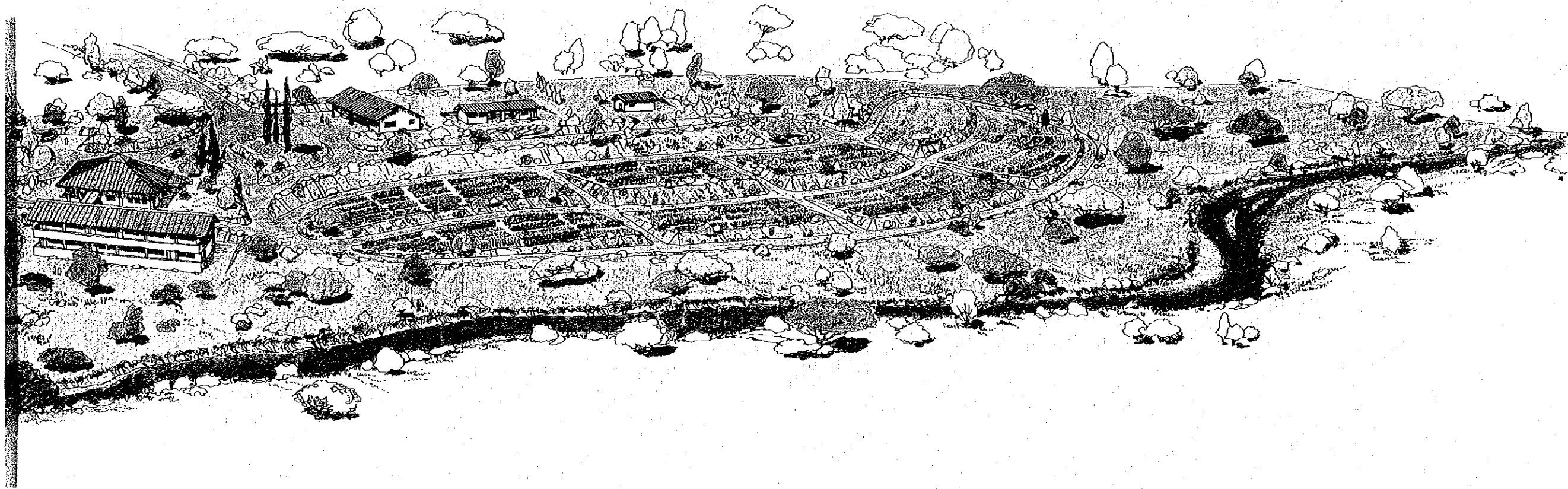
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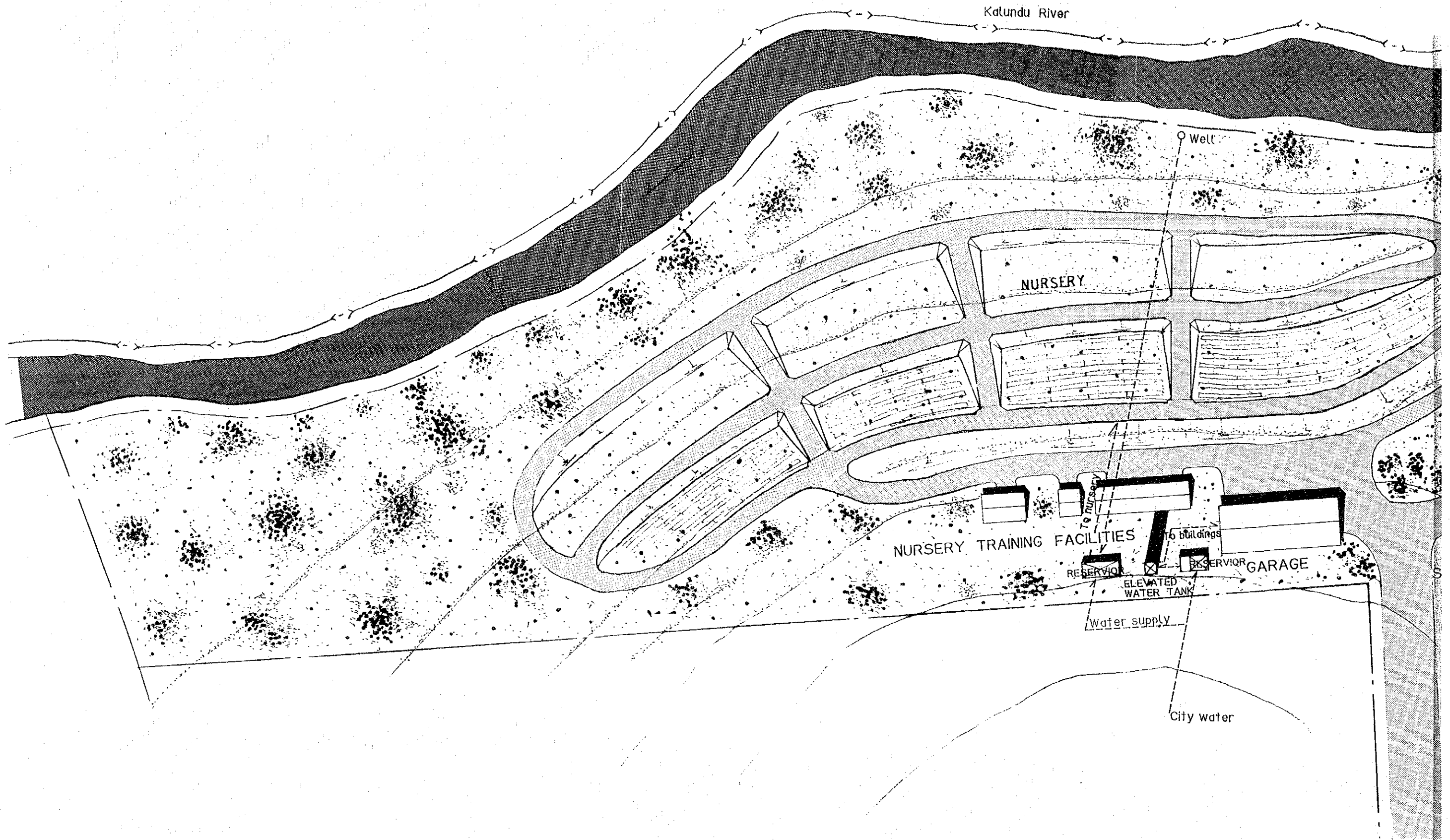
ELEVATION

NO.	BY	DATE	APP.	DESCRIPTION	THE ESTABLISHMENT PROJECT OF THE NURSERY TRAINING AND TECHNICAL DEVELOPMENT CENTER FOR SOCIAL FORESTRY IN THE REPUBLIC OF KENYA		MUGUGA KITUI	DATE	PROJECT NO.
							DRAWING TITLE DORMITORY FOR INSTRUCTORS, GARAGE, NURSERY TRAINING FACILITIES	SCALE	DRAWING NO.
							PLAN SECTION ELEVATION		SHEET NO.





SUB CENTRE, KITUI



Kalundu River

Well

NURSERY

NURSERY TRAINING FACILITIES

RESERVOIR

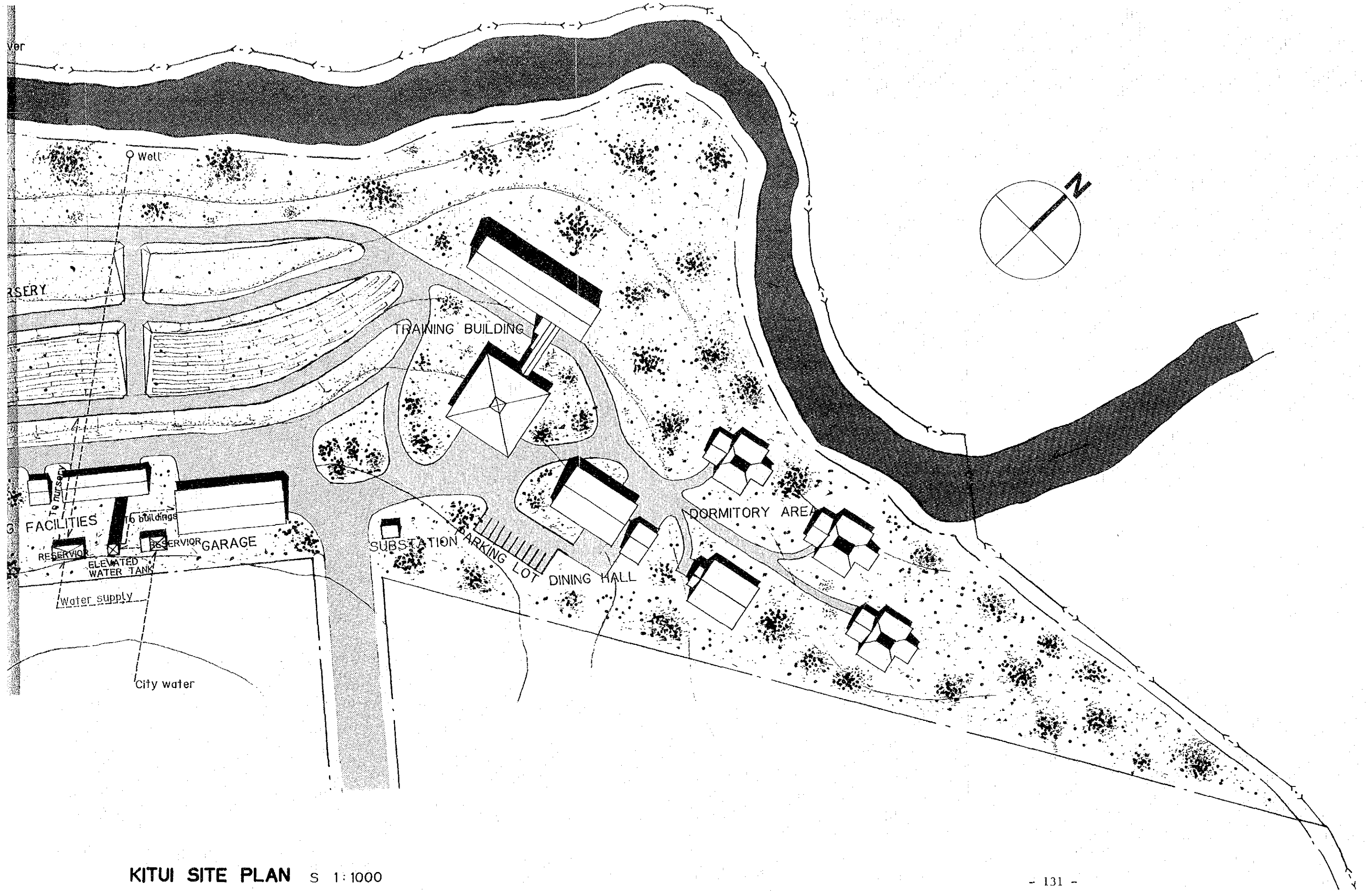
ELEVATED WATER TANK

RESERVOIR

GARAGE

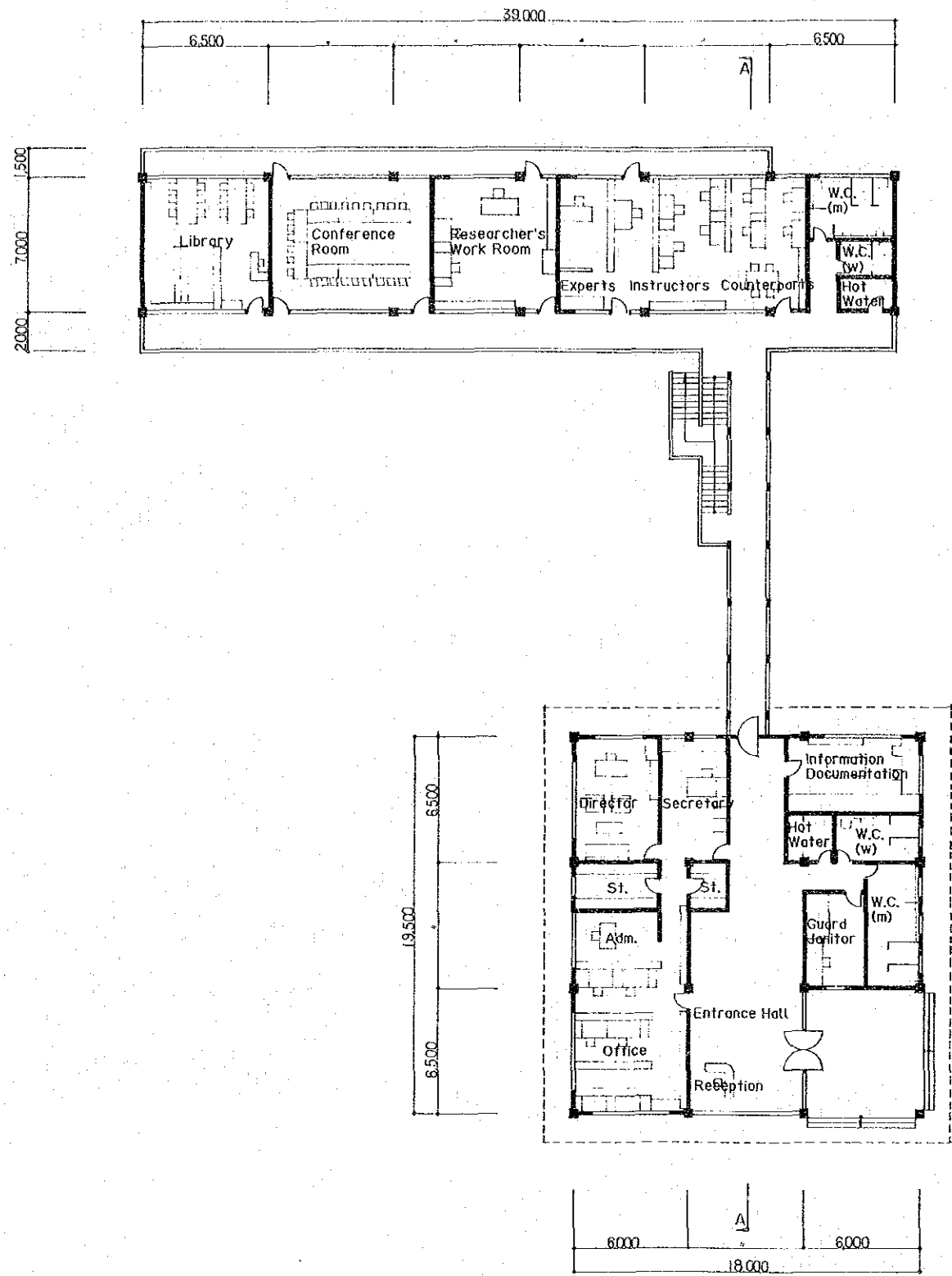
Water supply

City water

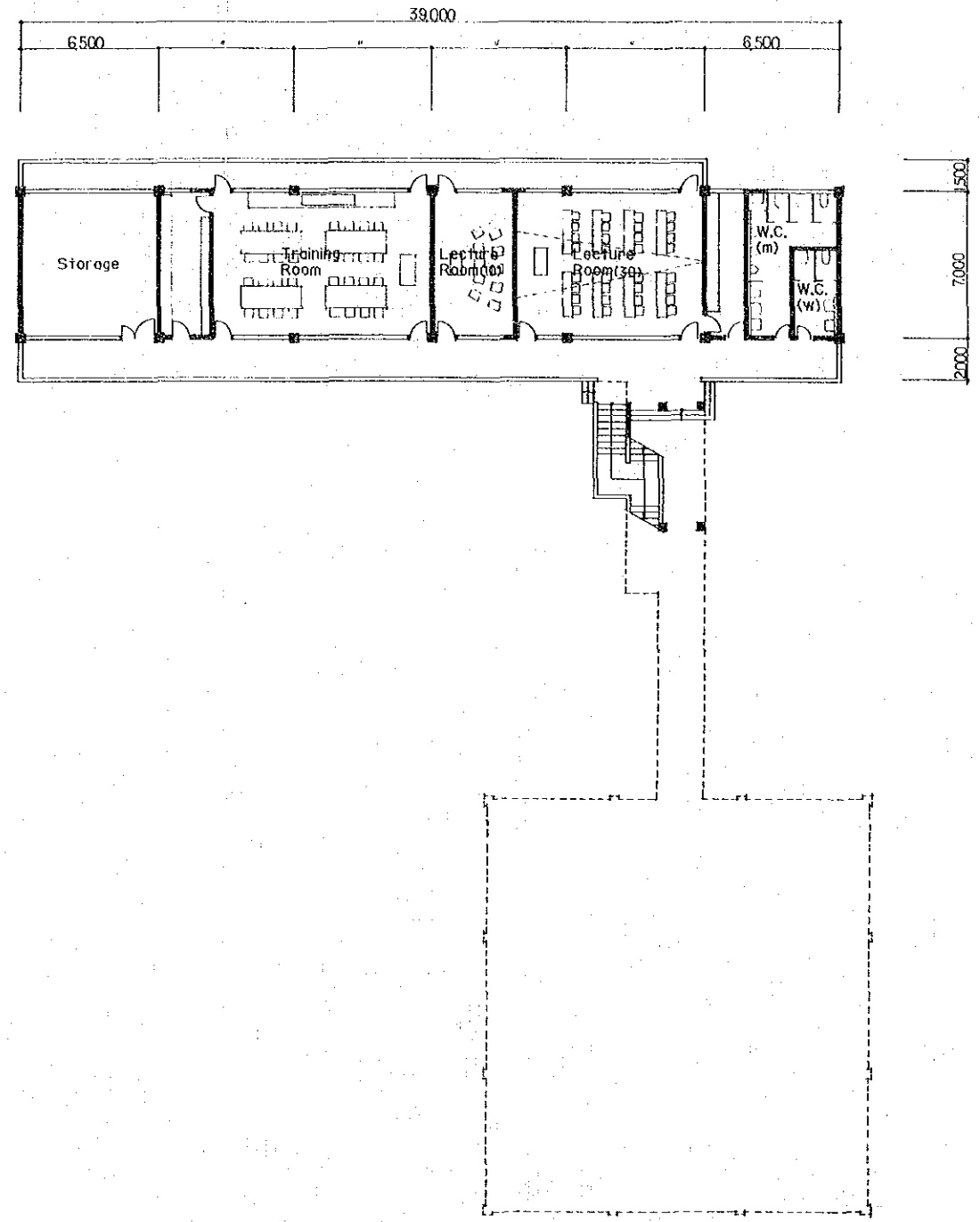


KITUI SITE PLAN S 1:1000



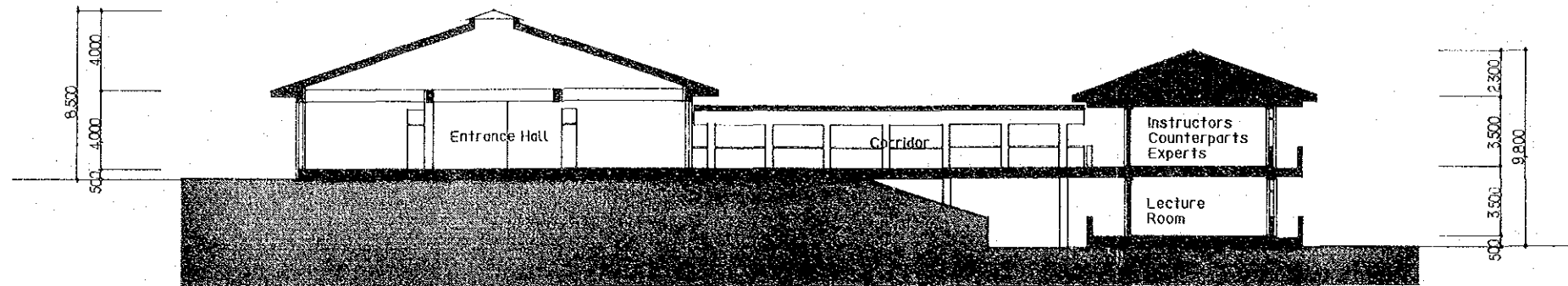


FIRST FLOOR PLAN

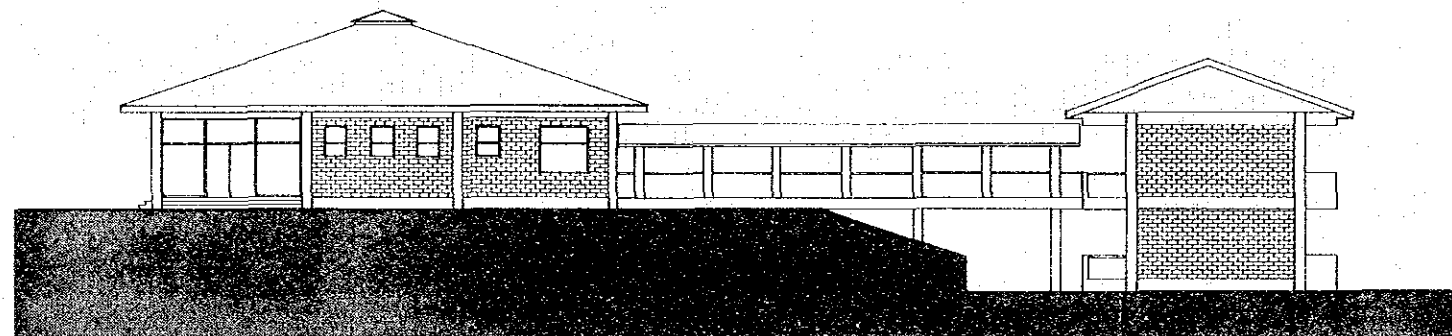


GROUND FLOOR PLAN

NO.	BY	DATE	APP.	DESCRIPTION	PROJECT TITLE	DATE	PROJECT NO.
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						DRAWING TITLE: <b>TRAINING BUILDING PLAN</b> SCALE: _____ DRAWING NO. _____ SHEET NO. _____	

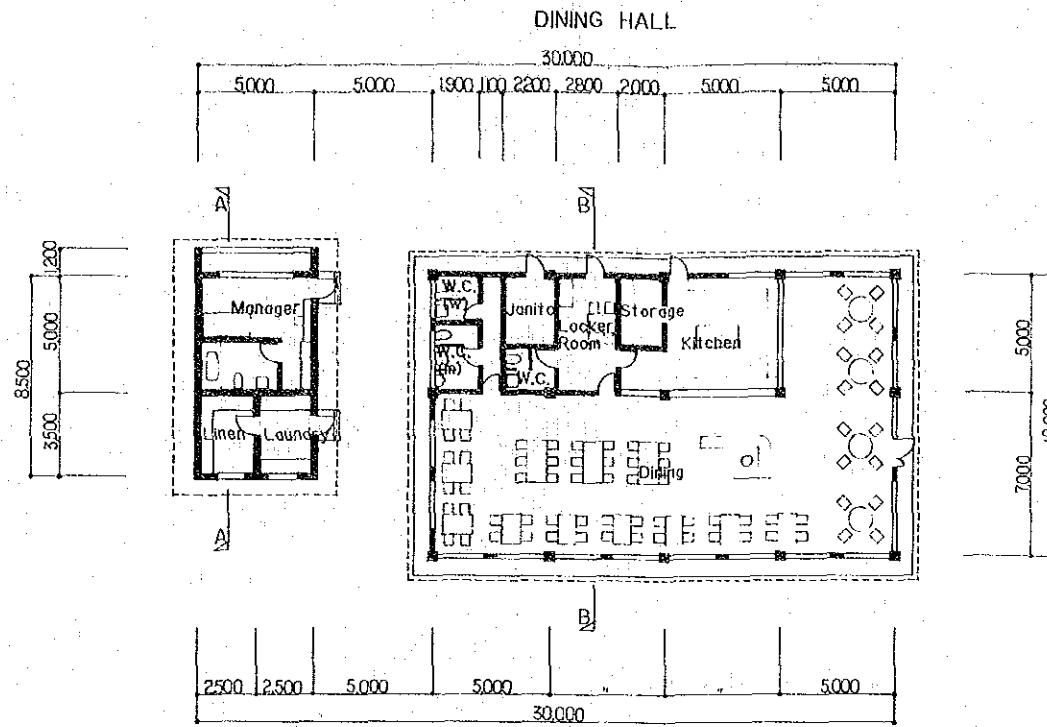


A~A SECTION

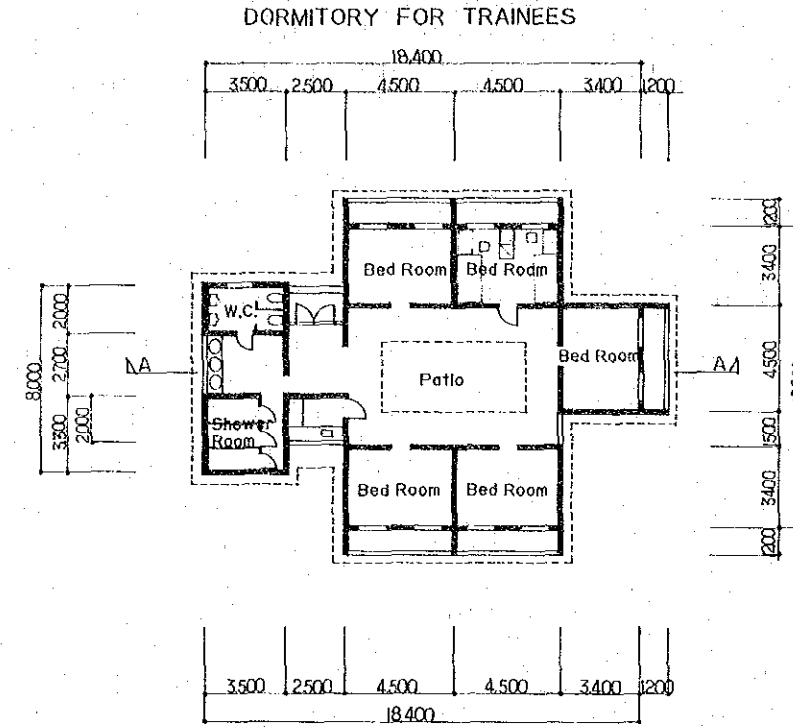


ELEVATION

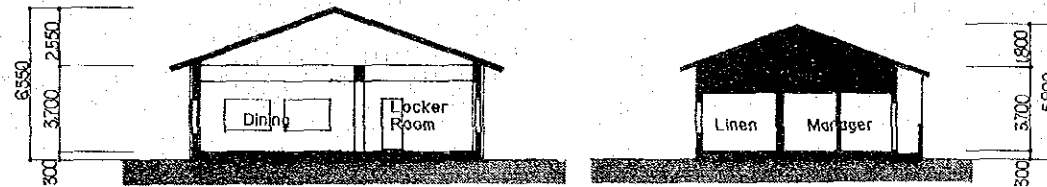
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						DRAWING TITLE: <b>TRAINING BUILDING SECTION ELEVATION</b> DRAWING NO.: SHEET NO.:	



GROUND FLOOR PLAN

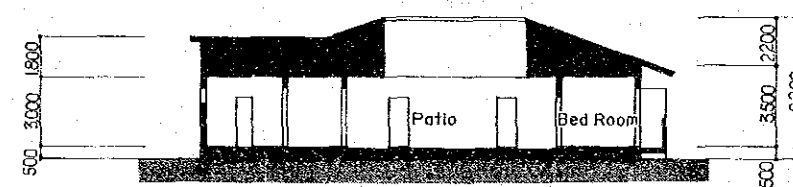


GROUND FLOOR PLAN

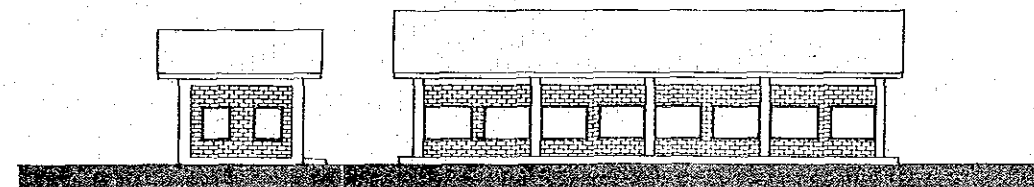


B~B SECTION

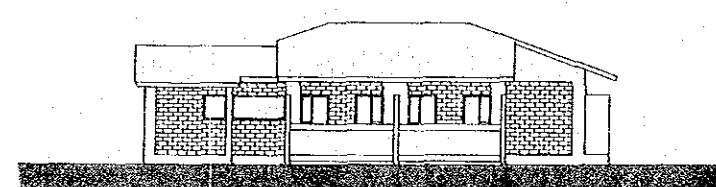
A~A SECTION



A~A SECTION



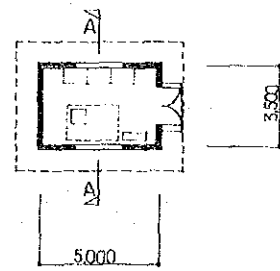
ELEVATION



ELEVATION

NO.	BY	DATE	APP'D.	DESCRIPTION	PROJECT TITLE	DATE	PROJECT NO.
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					KITUI		
					DINING HALL DORMITORY FOR TRAINEES PLAN SECTION ELEVATION	SCALE	DRAWING NO. SHEET NO.

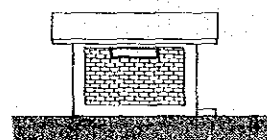
SUBSTATION



GROUND FLOOR PLAN

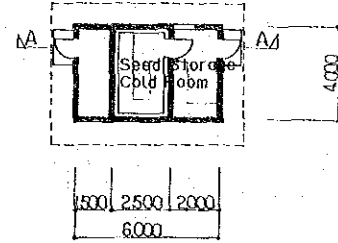


A~A SECTION

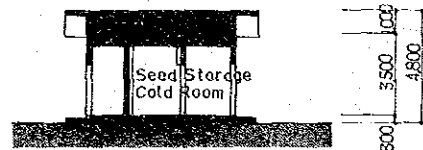


ELEVATION

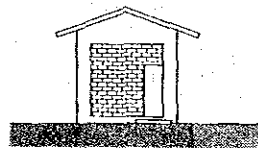
NURSERY TRAINING FACILITIES



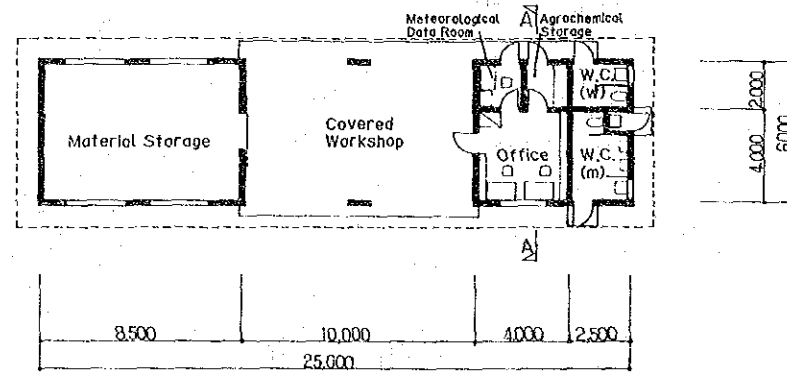
GROUND FLOOR PLAN



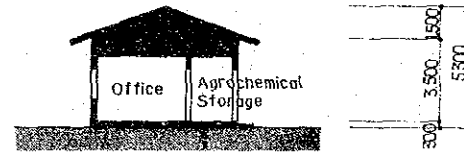
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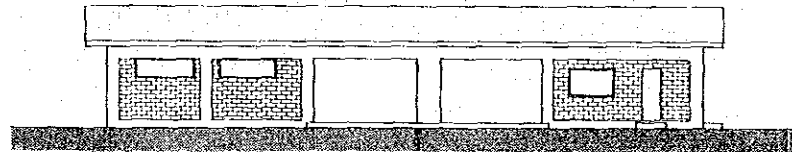
ELEVATION



GROUND FLOOR PLAN

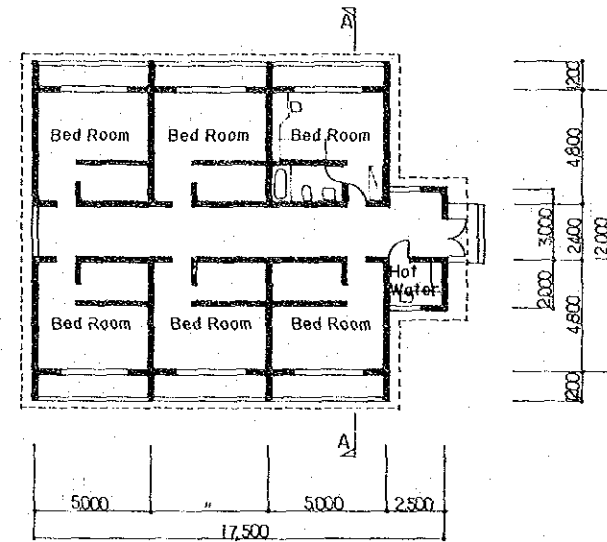


A~A SECTION

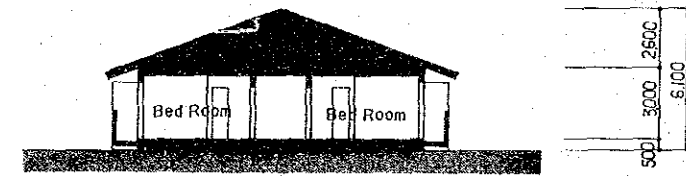


ELEVATION

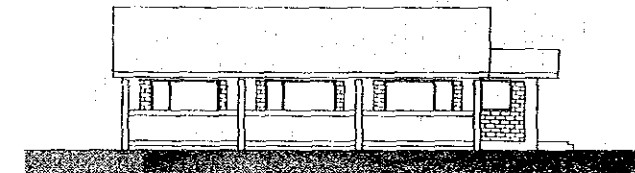
DORMITORY FOR INSTRUCTORS



GROUND FLOOR PLAN



A~A SECTION



ELEVATION

NO.	BY	DATE	APP.	DESCRIPTION	PROJECT TITLE	DATE	PROJECT NO.
					THE ESTABLISHMENT PROJECT OF THE NURSERY TRAINING AND TECHNICAL DEVELOPMENT CENTER FOR SOCIAL FORESTRY IN THE REPUBLIC OF KENYA		
					KITUI		
					SUBSTATION, NURSERY TRAINING FACILITIES, DORMITORY FOR INSTRUCTORS		
					PLAN SECTION ELEVATION		



5-6 Project Cost Borne by Kenyan Side

Approximate cost of the Works under the responsibility of the Government of Kenya

1) Site clearance	Ksh	264,000
2) Gates and fences	Ksh	566,000
3) Road	Ksh	560,000
4) Electricity, telephone and city water	Ksh	477,000
5) Street lamp	Ksh	256,000
6) Landscaping	Ksh	1,096,000
<hr/>		
Total	Ksh	3,219,000



## **CHAPTER 6 EXECUTION PLAN OF PROJECT**





## CHAPTER 6

### EXECUTION PLAN OF PROJECT

#### 6-1 Execution System of Project

The Project is undertaken by the Ministry of Environment & Natural Resources (MENR) of Kenya. After conclusion of exchange of notes (E/N), the Japanese consultant shall enter into contract with the Ministry of Works, Housing and Physical Planning (MOW) for the detailed design and supervision. With the assistance of the consultant, MENR shall call for tender for the construction of the Center. After the tender, MENR shall make a contract with the successful contractor for the execution of the project. Thereafter, the contractor shall make procurement, supervise the construction work and shall deliver to MENR the facilities and equipment after the completion of the work.

#### 6-2 Scope of Work

##### (1) Scope of Work for Japanese Government Side

- 1) Construction of the projected buildings and facilities after preparation of the site by the Kenyan government.

##### Muguga

- Training facilities
- Dormitory for trainees (max. 40) and Instructors
- Research facilities
- Nuresry facilities

##### Kitui

- Training facilities
- Dormitory for trainees (max. 30) and Instructors
- Nursery facilities

- 2) Supply of equipment required for training and researches listed in "5-4".
- 3) Maritime (from Japan to Kenya) and inland transport (from Monbasa to project sites) of the materials and equipment.
- 4) Consulting service for detailed Design and supervision of the Project.

(2) Scope of Work for Kenyan Government Side

- 1) To ensure unloading and customs clearance at port of disembarkation in Kenya, tax exemption of the products for the Project.
- 2) To accord Japanese nationals whose service 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 Kenya and stay therein for the performance of their work.
- 3) To bear the following commissions to the Japanese foreign exchange bank for the banking services based upon the B/A.
  - a) Advising commission of A/P
  - b) Payment commission
- 4) To maintain and use properly and effectively that the facilities constructed and equipment purchased under the Grant.
- 5) To construct the road outside the site.
- 6) To clear, level the site.

- 7) To provide facilities for distribution of electricity, water supply, drainage and other incidental facilities,
    - a) the distributing electricity line to the site.
    - b) the city water distribution main to the site.
    - c) the telephone trunk line to the main distribution frame/panel (MDF) of the building.
    - d) general furnitures (carpet, curtain, chair and locker)
  - 8) To construct the gate and fence in and around the site, street lump, guard box.
  - 9) Construction of nursery
  - 10) Landscaping of the site
  - 11) To bear all the expenses other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and the installation of the equipment.
- (3) Approximate cost of the Works under the responsibility of the Government of Kenya amount to 3,219,000 Ksh.

### 6-3 Execution Plan

The project will start after the E/N is signed. After the signing of the E/N a Consulting Service Agreement is signed between the Consultant and MOW. Then the detailed design will be started. The consultant will exchange necessary opinions with both MENR and MOW about detailed design, tender, and contract. Before construction begins, it is necessary for the Kenyan government to prepare the site and the necessary roads so that the project may go ahead smoothly. A detailed schedule will be set before construction begins. In this regard it is important that construction work, particularly earthwork, not be scheduled during the two rainy season periods (March - May and November - December). It should also be noted that the time period required for transporting materials and equipment from Japan to the site is 50 to 55 days.

The consultant will dispatch the resident architect to supervise the work; this architect will remain in Kenya for the duration of the Project. The resident supervisor will be responsible for dealing with any difficulties that arise on the site and for co-ordination between the client and the contractor.

In addition, technical cooperation is considered to be part of the project, and a Japanese forestry expert will set up a curriculum for the training center and the forestry technology development program. Therefore, in the course of the project particularly at the stage of installing equipment, the persons involved in the grant aid aspects of the project must work closely with those involved in technical cooperation.

### 6-4 Procurement Plan

The procurement plan is prepared taking the following points into account: prices (including transport cost), quality, standard, facility in maintenance (including procurement of spare parts), delivery period, facility in procurement in a great amount of order.

According to the above points, the procurement plan is given in Table 6-1.

Table 6-1 Procurement Plan

	Supplier			Remarks
	Kenya	Japan	3rd Country	
Cement	o			
Reinforcing steel	o			
Wood (for construction)	o			
(for finishing)	o			
(for form)	o			
Roofing materials, roof tile	o			
Sash, window, door		o		No local products
Stone	o			
Paint	o			
Pipe for piping Water	o			
"    Gas	o			
"    Electricity (conduit tube)	o			
Electric wire	o			
Lighting fixture	o			
Switch, receptacle	o			
Incoming panel, switchboard		o		Problems in quality
Sanitary equipment (Toilet stool, washstand, etc.)	o			
Floor materials (terrazzo)	o			
Wooden door	o			
Lock, hardware	o			
Glass	o			
Ceramic tyle	o			

## 6-5 Detailed Design and Supervision

After the completion of the basic design study and the subsequent Government procedure, such as E/N between Japan and Kenya, a consulting service contract will be concluded between the Kenyan government and a Japanese consulting company. After this process, the following design and execution control service will be started.

### 6-5-1 Detailed Design and Bidding Services

#### (1) Site survey

Based on the general design specifications fixed in the general design checkup, a detailed site survey will be conducted at the planned construction points of the respective facilities.

#### (2) Detailed design and preparation of bidding documentation

According to data gained in the detailed site survey made in (1), the detailed design and bidding (draft) documentation will be prepared. Then, meetings with the Kenyan governmental organs related will be initiated.

#### (3) Bidding and conclusion of a contract

The consultant will give a public notice of the bid and shall issue bid documentation. After a certain bid period, the consultant will judge speedily proposed bid documents and will conduct services related to the conclusion of the contract on behalf of the Kenyan government.

## 6-5-2 Supervision

### (1) Supervision in Japan

After the conclusion of the contract between the MENR and Japanese contractor, this project shall enter into the stage of execution control. The consultant shall start to check, on behalf of MENR, the shop drawing etc. presented by the contractor, without any delay after the conclusion of the contract.

### (2) Supervision on the site

The consultant shall conduct the following without any failure so that the work shall be completed within the fixed period of construction:

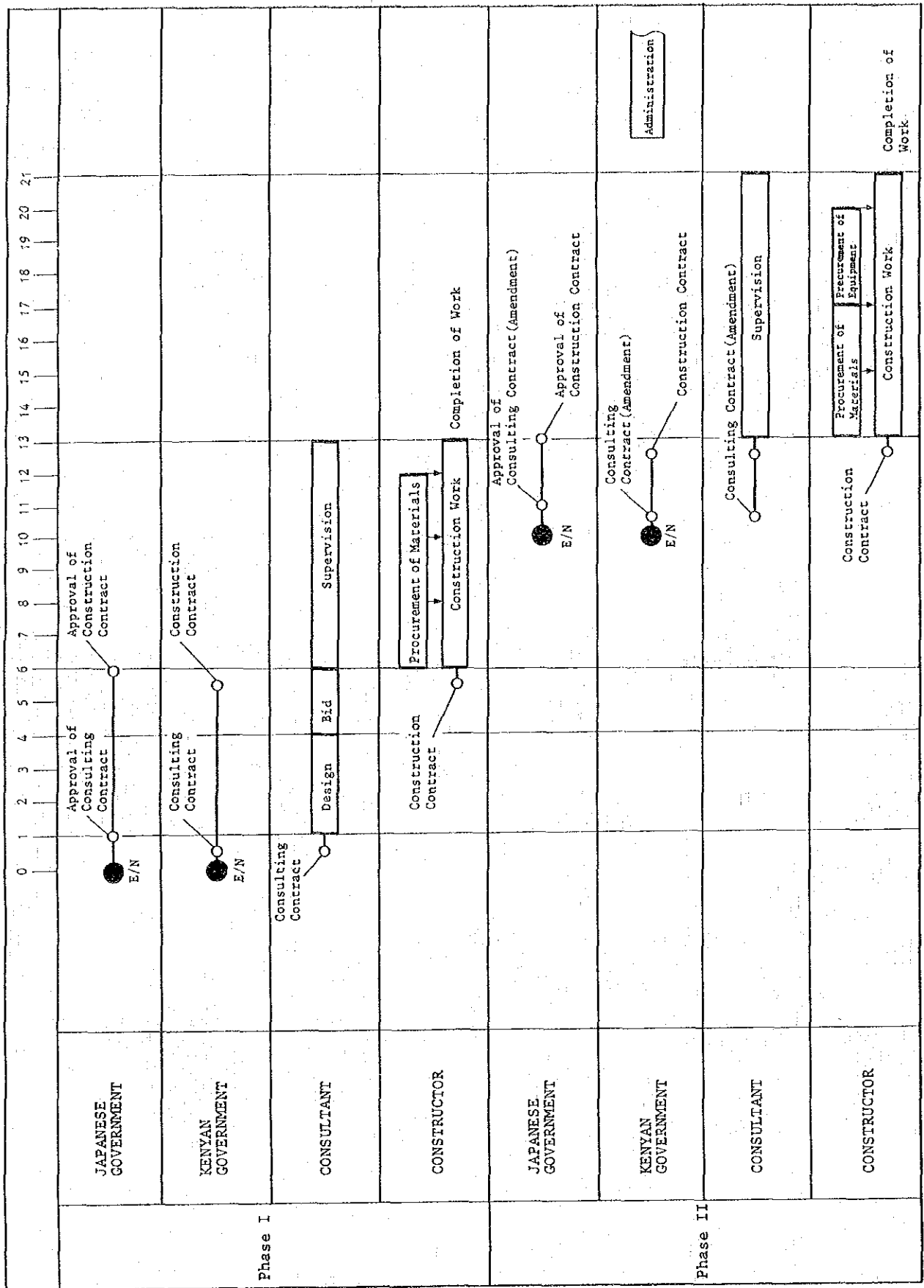
- Previous discussions with the contractor prior to the commencement of works
- Checkup in transport of materials and equipment, construction of facilities, installation of equipment and in completion of the work
- Instruction and supervision of the contractor

## 6-6 Execution Schedule

After the exchange of notes (E/N), it will take 3 months for execution design, 2 months for bid and 15 months for construction work, totalling 21 months.



Table 6-2 Execution Schedule



6-7 Control/Administration Plan

6-7-1 Organization and Personnel Plan

The Center will conduct the research and training activities as an organization of KEFRI, MENR according to the decisions of the joint committee during the Japanese technical cooperation. (Refer to Figs. 6-1 and 6-2.)

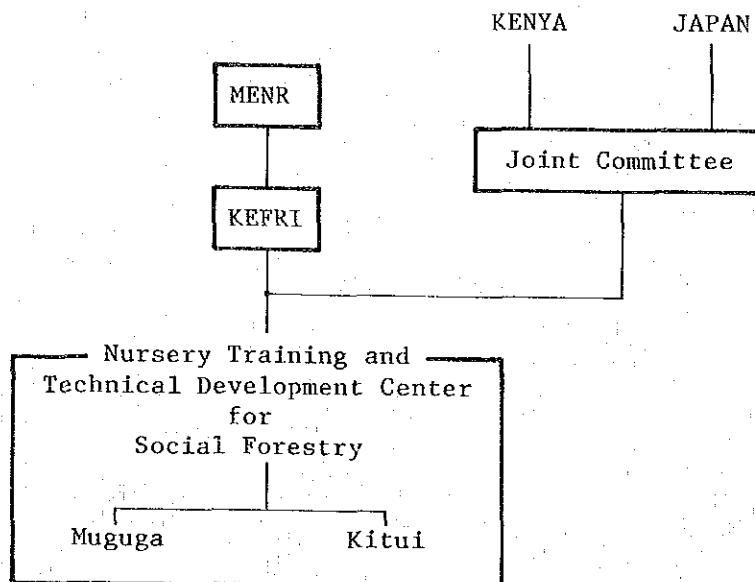
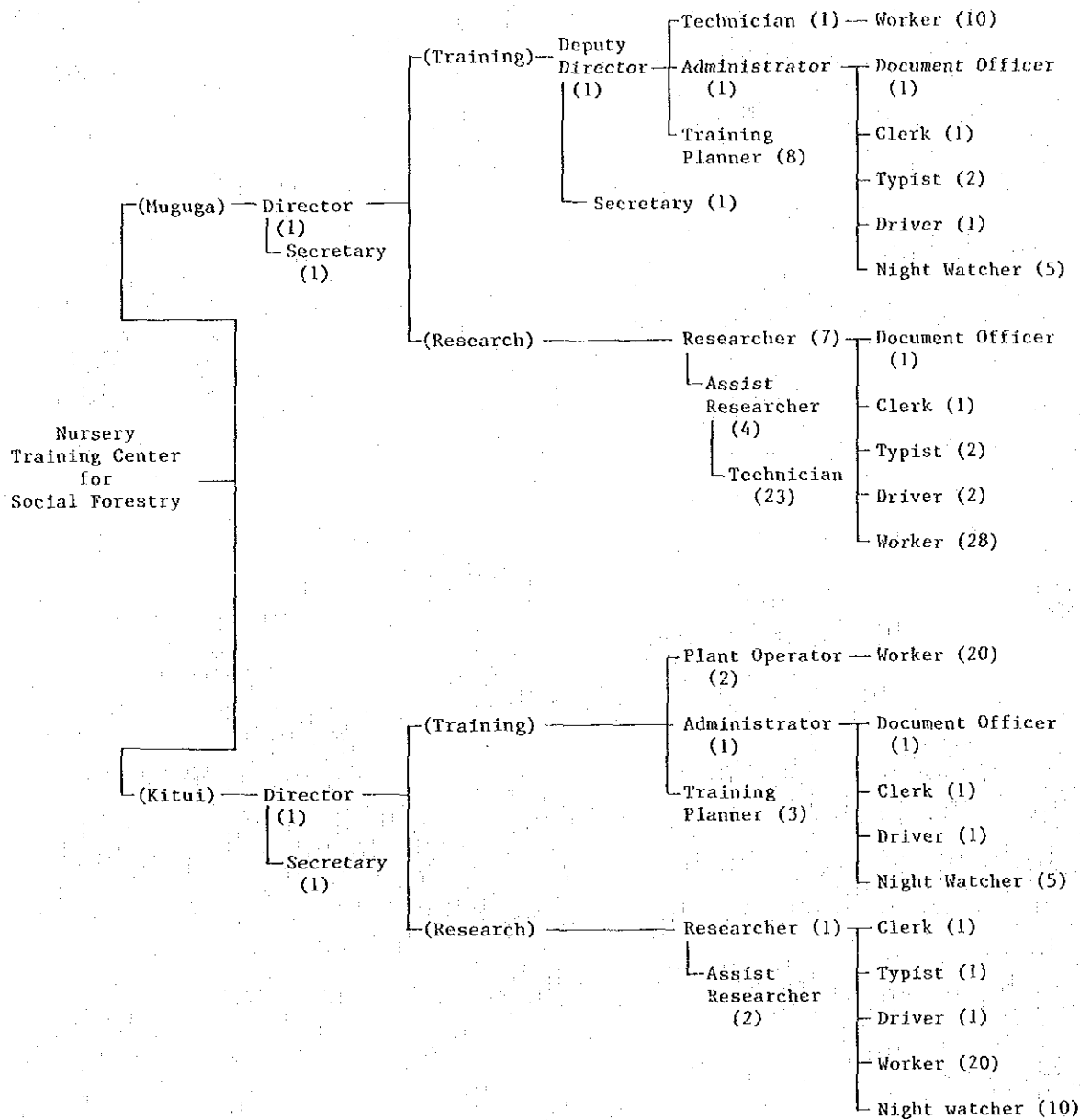


Fig. 6-1 Control Organization



Note: ( ) indicates number of person

Fig. 6-2 Organization of Nursery Training Center

6-7-2 Control/Administration Costs

The Center will be promoted by the budget of KEFRI of the MENR. The annual control/administration costs composed of personnel cost, fuel and light expenses, sundries, etc. are estimated at approx. 3,747,500 Ksh. The breakdown of the costs is given in Table 6-3.

Table 6-3-(1) Maintenance and Operation Cost (per year)

1. Personnel	2,512,020 Ksh
2. Electric	815,035
3. Water	6,926
4. Light oil (for generator)	4,365
5. Gas	68,473
6. Miscellaneous (1 to 5 x 10%)	340,681
<b>Total</b>	<b>3,747,500 Ksh</b>

Table 6-3-(2) Breakdown of Cost

1. Personnel

(Unit: Ksh)

	Quantity	Unit Price	Sub-total
Director	2	91,680	183,360
Deputy Director	1	76,080	76,080
Secretary	3	13,800	41,400
Researcher	8	68,160	545,280
Assist. Researcher	7	43,080	301,560
Technician	24	13,800	331,200
Administrator	2	43,080	86,160
Document Officer	3	43,080	129,240
Clerk	4	13,800	55,200
Typist	5	10,620	53,100
Driver	5	10,620	53,100
Worker	78	8,700	417,600
Night Watcher	25	8,700	217,500
Plant Operator	2	10,620	21,240
<b>Total</b>			<b>2,512,020</b>

2. Electric

① Muguga (quantity)

Light and outlets

94 kVA x 10 h/day x 5/7 x 365 days x 0.7 171,550 kWh

Labo. equipment

75 kVA x 5 h/day x 5/7 x 365 days x 0.3 x 1.1 32,263

Building equipment

110 kVA x 10 h/day x 365 days x 0.6 x 1.2 289,080

Sub-total 492,893 kWh

② Kitui (quantity)

Light and outlets

51 kVA x 10 h/day x 5/7 x 365 days x 0.7 93,075

Labo. equipment

10 kVA x 3 h/day x 5/7 x 365 days x 0.3 x 1.1 2,581

Building equipment

99 kVA x 10 h/day x 365 days x 0.6 x 1.2 260,172

Sub-total 355,828 kWh

③ Muguga (cost)

492,893 kWh x 0.66 Ksh = 325,309 Ksh

Fixed charge 720 ksh x 12 months = 8,640

Demand charge 280 kVA x 45 Ksh x 12 months = 151,200

Sub-total 485,149 Ksh

④ Kitui (cost)

355,828 kWh x 0.66 Ksh = 234,846 Ksh

Fixed charge 720 Ksh x 12 months = 8,640

Demand charge 160 kVA x 40 Ksh x 12 months = 86,400

Sub-total 329,886

Muguga and Kitui Total 815,035 Ksh

### 3. Water

#### ① Muguga (quantity)

$$\text{Drinking water } 22 \text{ m}^3/\text{day} \times 365 \text{ days} \times 5/7 \times 0.7 = 4,015 \text{ m}^3$$

$$\text{Nursery } 12 \text{ m}^3/\text{day} \times 365 \text{ days} \times 7/7 \times 0.9 = 3,942 \text{ m}^3$$

$$\text{Sub-total } 7,957 \text{ m}^3/\text{year}$$

#### ② Kitui (quantity)

$$\text{Drinking water } 17 \text{ m}^3/\text{day} \times 365 \text{ days} \times 5/7 \times 0.7 = 3,103 \text{ m}^3$$

$$\text{Nursery } 12 \text{ m}^3/\text{day} \times 365 \text{ days} \times 7/7 \times 0.9 = 3,942 \text{ m}^3$$

$$\text{Nursery } 12 \text{ m}^3/\text{day} \times 30 \text{ days} = 360 \text{ m}^3$$

(Assuming Kitui sub-center use city water  
30 days/year for nursery)

#### ③ Muguga (cost)

$$\text{Free (the center get water from KARI)} = 0 \text{ Ksh}$$

#### ④ Kitui (cost)

$$(3,103 + 360) \text{ m}^3 \times 2 \text{ Ksh} = 6,926 \text{ Ksh}$$

$$\text{Total } 6,926 \text{ Ksh}$$

### 4. Light oil for generator (Muguga only)

$$5 \text{ h/month} \times 12 \text{ months} \times 50 \text{ kVA} \times 0.7 \times 0.35 \text{ \$/kW} \times 5.94 \text{ Ksh} = 4,365 \text{ Ksh/year}$$

5. Gas

①	Muguga	Oven, etc.	47,200 Kcal/h
		Labo. equipment	12,000 Kcal/h
Sub-total			59,200 Kcal/h

$$\frac{59,200 \text{ Kcal/h} \times 4 \text{ h} \div 12,000 \text{ Kcal/kg} \times 365 \text{ days} \times 0.7 \times 8 \text{ Ksh/kg}}{= 40,334 \text{ Ksh/year}}$$

Note: 1 kg = 12,000 Kcal (Gas)

②	Kitui	Oven, etc.	47,200 Kcal/h
---	-------	------------	---------------

$$\frac{47,200 \text{ Kcal/h} \times 3.5 \text{ h} \div 12,000 \text{ Kcal/kg} \times 365 \text{ days} \times 0.7 \times 8 \text{ Ksh/kg}}{= 28,139 \text{ Ksh/year}}$$

Total 68,473 Ksh/year

## CHAPTER 7 EVALUATION





## CHAPTER 7

### EVALUATION

The Center is to be established for training development of nursery techniques. Therefore the Center itself will not directly contribute to economical benefit of the country, but it will have the following effects:

(1) It will provide training for the staff of the Forest Department who are presently engaged in the management or supervision of various types of nurseries, but have not heretofore had opportunities for systematic training. This training will allow the staff members to make an immediate contribution to the Kenyan government's afforestation programs, and to the extension and the development of social forestry as a whole.

(2) The research activities of the Center will help to upgrade the training program and will contribute to the development of forestry technology, particularly that for arid and semi-arid regions.

The two above-mentioned items are expected to be primary and direct effects of the Center's establishment, while the items mentioned below are expected to be secondary and somewhat indirect effects.

(3) As the afforestation plan goes forward as expected, the ever-increasing demand for wood and charcoal can be met.

(4) The two target goals of the project can be pursued, namely, to supply enough wood and charcoal to satisfy the population's fuel requirements and to protect the ecology of the region, stopping land erosion and the encroachment of the desert. Further, agriculture and livestock raising will be enhanced, as well as water conservation and regulation and preservation of natural scenery and recreational facilities.

(5) The success of the project will have the effect of decreasing the importation of oil supplies which deplete the government's hard currency reserves and will keep down the government's long-term trade deficit.

## **CHAPTER 8 CONCLUSION AND RECOMMENDATION**



## CHAPTER 8

### CONCLUSION AND RECOMMENDATION

#### 8-1 Conclusion

The Center is planned to increase the supply of wood-based energy (mostly fuel woods and charcoal) which makes up 70% of the total domestic energy consumption of the Republic of Kenya, as well as to preserve and protect the land, in accordance with the Kenya government's development plan theme of "mobilization of domestic resources for equitable development." Unlike fossil fuels, wood-based energy is renewable; it uses sunlight, water, air, and earth to replenish itself. Therefore, investment in such a renewable energy source is a reasonable choice for a non-oil-producing developing country like Kenya. So this project, which aims at forestry development and land preservation, is appropriate to the situation, and the implementation of the project is very significant. Furthermore, since the Kenyan government estimates that the demand for wood fuels will increase in the near future (exceeding the supply in a few years time), it is to be considered that the project should be implemented as quickly as possible because of its high priority.

#### 8-2 Recommendation

The following items are recommended for effective control of this Center:

(1) The research and training program requires much time and manpower due to the nature of the field, and it is difficult to produce a significant effect in a short time. We recommend that the government of Kenya, in order to make good use of the Center, continue to support its efforts by providing sufficient money and manpower.

(2) This center is not only for the development of nursery techniques for a semi-arid region, the study of social forestry, or increasing wood production on a local level, but the ultimate goal is to involve local people in social forestry through the training of the Gov. staffs who will play a leading role in this effect. Therefore the government of Kenya should strive to diffuse this new way of thinking as well as the new techniques developed at the Center among the population in general.

(3) Although the two centers in Muguga and Kitui are set up for the time being, for the more distant future, we recommend that the Kenyan government make its best effort to set up additional six regional centers as already planned so that mass-training can be thoroughly implemented on the local level.

(4) For the effective utilization of the equipment an administrative system should be established for sharing research equipment used by each research laboratory.

(5) A comprehensive plan for the arrangement of research data (a filing system, database, etc.) should be prepared.

(6) Enough permanent lecturers and temporary lecturers for training and teaching should be secured under a pre-determined plan or schedule.

(7) MENR should find some valid means of measuring the impact that graduates of the Center have on the overall increase of afforestation efforts throughout the country.

(8) The Government of Kenya should provide sufficient funds for the operation of the center.

(9) Co-operation between Japanese technical advisers and their Kenyan counterparts should be established for smooth operation of the Center.

## CHAPTER 9 REFERENCE DATA





## CHAPTER 9

### REFERENCE DATA

#### 1. Members of Japanese Basic Design Study Team (Aug. 12 to Sep. 1, '85)

Mr. Bun-emon Kosugiyama      Team Leader  
Head of Afforestation Div.,  
Project Management Dept.,  
Forest Development Corporation

Mr. Junji Yokokura            Coordinator  
First Basic Design Study Div.,  
Grantaid Planning & Survey Dept.,  
JICA

Mr. Kenji Fukunaga            Architect, Planner  
Fukunaga Architects-Engineers

Mr. Masayuki Asabuki         Architect, Designer  
Fukunaga Architects-Engineers

Mr. Sigeru Kanaya            Building Services Planner  
Fukunaga Architects-Engineers

Mr. Yukitoshi Hino            Forest Development  
Fukunaga Architects-Engineers

#### 2. Members of Japanese Basic Design Study Team (Draft Report, Nov. 24 to Dec. 3, '85)

Mr. Seiichi Kanai            Team Leader  
Deputy Head, First Basic Design  
Study Div., Grantaid Planning &  
Survey Dept., JICA

Mr. Kenji Fukunaga            Architect, Planner  
Fukunaga Architects-Engineers

Mr. Yukitoshi Hino            Forest Development  
Fukunaga Architects-Engineers

3. List of Interviewed Persons (Aug. 12 to Sep. 1, '85)

Ministry of Environment & Natural Resources

Planning Division

W. Maluki	Head
O. Okoiti	Senior Planning Officer
N. Ndugire	Planning Officer
D. Oichoe	Planning Officer

Forest Department

O. Mburu	Chief Conservator
J. Onyango	Deputy Chief Conservator
C. Serrem	Forest Soil Research Officer
D. Maingi	Asst. Conservator
D. Mbugua	Forest Officer
S. Kaumi	Research Officer Silviculture

National Horticultural Research Station

M. Tsuyuki	Resident Engineer, Chuo Kaihatsu Corp.
T. Iwasaki	Ministry of Agriculture and Livestock Development, Macadamia Nut Project

Kitui District Officer

J. Maghasi	District Commissioner
G. Mallombe	Town Council Officer
J. Kaburo	District Surveyor
M. Muoyoka	Agriculture Clerk
D. Mwaura	Information Dept.
E. Mugeru	District Water Engineer
M. Kingori	District Water Engineer
M. Kamau	Ministry of Agriculture & Livestock Development
K. Waluka	District Officer
P. Macharia	Forest Dept.

Ministry of Works, Housing & Physical Planning

Dunn	Senior Superintendent Architect
M. Ayugi	Acting Chief Architect
I. Mwiroti	Acting Chief Quantity Surveyor
M. Kinanja	Architect, Group V
M. Iida	Co-ordinator of Volunteers

Chartered Quantity Surveyor, Barker & Barton

A. Levitan	Quantity Surveyor
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Kenya Drilling Ltd.

F. Mureithi	General Manager
N. Joroge	Engineer

Ministry of Water Development

K. Nakanosono	Planning & Design Div., JICA Expert
S. Sasaki	Water Supply Engineer

ILRAD (International Laboratory for Research on Animal Disease)

H. Hirumi	
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Kenya Agriculture Research Institute (KARI)

Forest Research Department

J. Odera	Director
C. Kirunya	Silviculturist
J. Karanja	Senior Maintenance Superintendent
P. Kokonya	Senior Engineer

JKCAT (Jomo Kenyatta College of Agriculture and Technology)

T. Nakano	Asst. Team Leader/Coordinator, JICA
-----------	-------------------------------------

4. List of Interviewed Persons (Draft Report, Nov. 24 to Dec. 3, '85)

Ministry of Environment & Natural Resources

E.C. arap Lang'at	Permanent Secretary
J.M.G. Mahoro	Deputy Permanent Secretary

Planning Division

W. Maluki	Head
O. Okoiti	Senior Planning Officer
N. Ndugire	Planning Officer
D. Oichoe	Planning Officer

Forest Department

S. Mbisa	Acting Chief Conservator of Forest
Z. Amahwa	Assistant Chief Conservator of Forest

Kenya Agricultural Research Institute

Forest Research Department

J. Odera	Director
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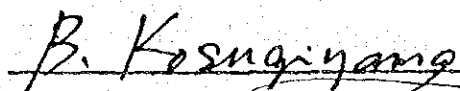
Minutes of Discussion  
on  
Basic Design Study on the Establishment Project  
of  
Nursery Training Centre for Social Forestry  
in  
The Republic of Kenya

In response to the request made by the Government of Republic of Kenya for Basic Design Study on the Establishment Project of Nursery Training Centre for Social Forestry (hereinafter referred to as "the Project"), the Government of Japan has sent, through the Japan International Cooperation Agency (hereinafter referred to as "JICA") which is an official agency implementing the technical cooperation of the Government of Japan, a team headed by Mr. Bun-emon Kosugiyama, head of Afforestation Div., Project Management Dept., Forest Corporation, to conduct the survey for 17 days from 14th to 30th August, 1985.

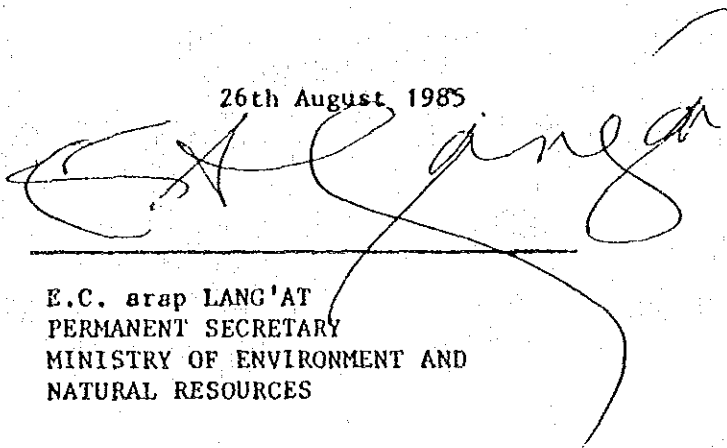
The team carried out a field survey, held a series of discussions and exchanged views with the authorities concerned of the Government of Kenya.

Both parties have agreed to recommend to their respective Governments and the authorities concerned to examine the result of the survey attached herewith toward the realisation of the Project.

26th August, 1985



Bun-emon KOSUGIYAMA  
Leader, Japanese Basic  
Design Study Team

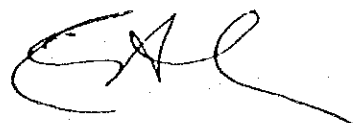


E.C. arap LANG'AT  
PERMANENT SECRETARY  
MINISTRY OF ENVIRONMENT AND  
NATURAL RESOURCES

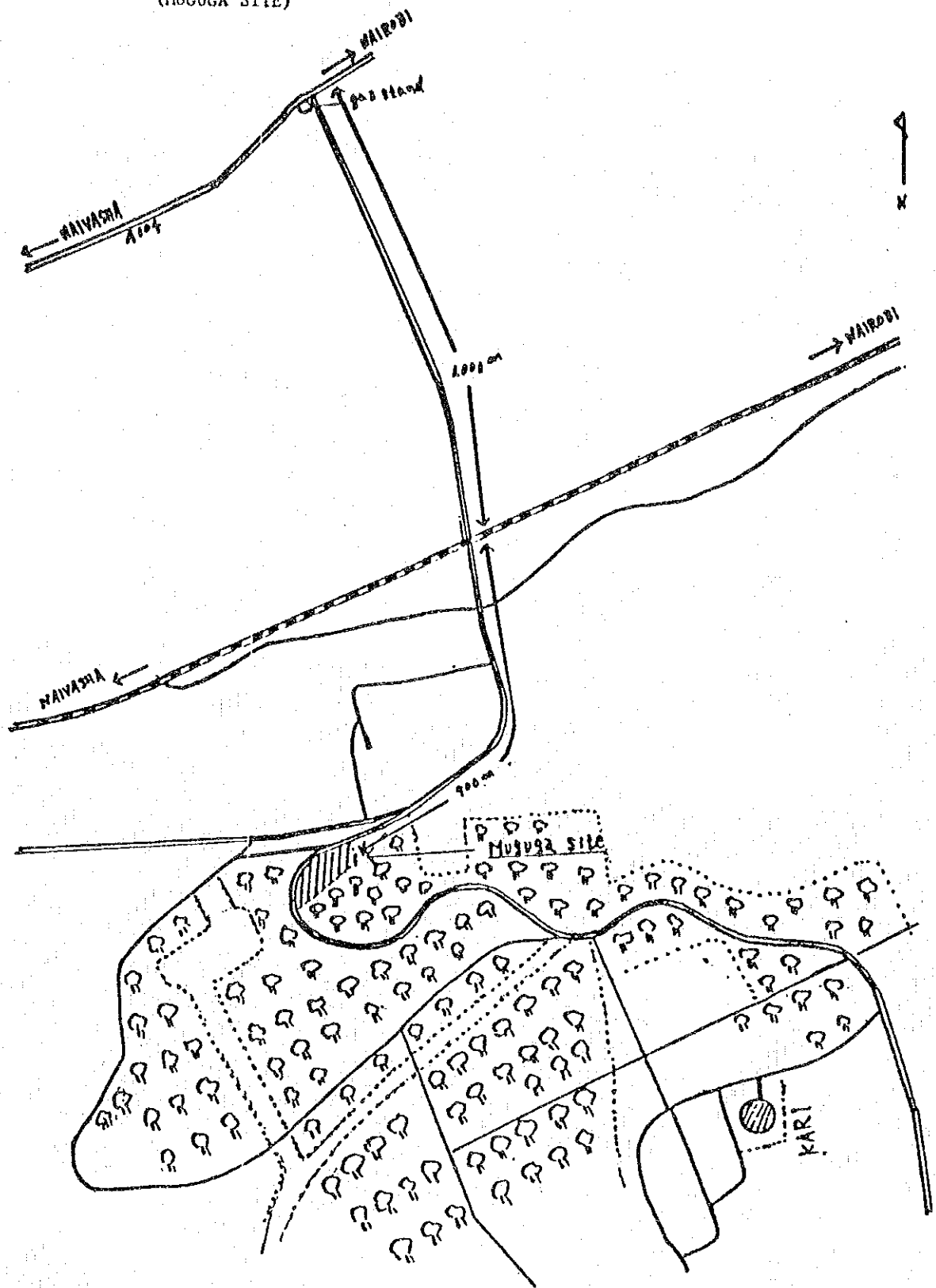
Attachments

1. The objective of the Project is to provide necessary facilities and equipment for the establishment of the Nursery Training Centre at Muguga and Kitui (hereinafter referred to as "the Centre").
2. The proposed sites for the Project are located in Muguga and Kitui shown in Annex I.
3. The basic concept for the Centre is as follows:
  - 1) The objectives of the Centre are to provide facilities and equipment for training the government staff of the Forestry Department who are expected to play a leading role in the development of "Social Forestry", and for conducting research in the development of nursery technology which is required in the course of the training activities carried out on the Centre.
  - 2) The outline of the possible training courses required for the Centre is shown in Annex II.
4. The Japanese Study Team will convey the desire of the Government of Kenya to the Government of Japan that the latter will extend Grant Aid for provision of facilities and other items as listed in Annex III within the scope of Japanese economic cooperation in grant form.
5. The Government of Kenya will take the necessary measures listed in Annex IV on condition that the Grant Aid by the Government of Japan is extended to the Project.
6. Both sides confirmed that the Japanese Study Team explained Japan's Grant Aid Programme and that the Kenyan side understood it.

BK



(MUGUGA SITE)



B. k



ANNEX II

Outline of the possible training courses

Course	The 1st quarter of year	The 2nd quarter of year	The 3rd quarter of year	The 4th quarter of year
1. Course I (Manager Level)				
2. Course II (Senior Technician)				
3. Course III (Technician)				
4. Probable Other activities				

Ref. 1.



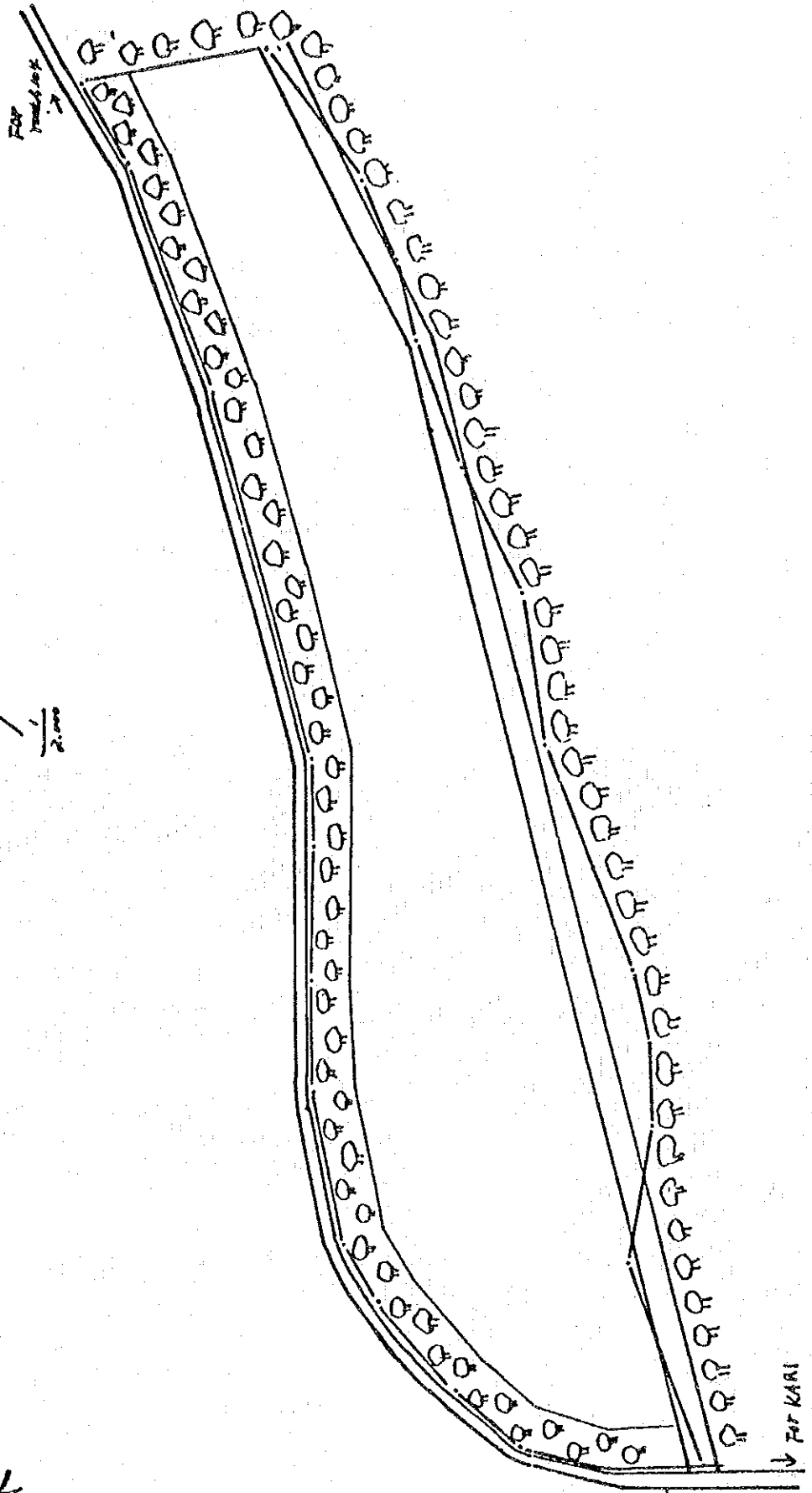
Ref. 2.. >40-----mx. 40 trainees

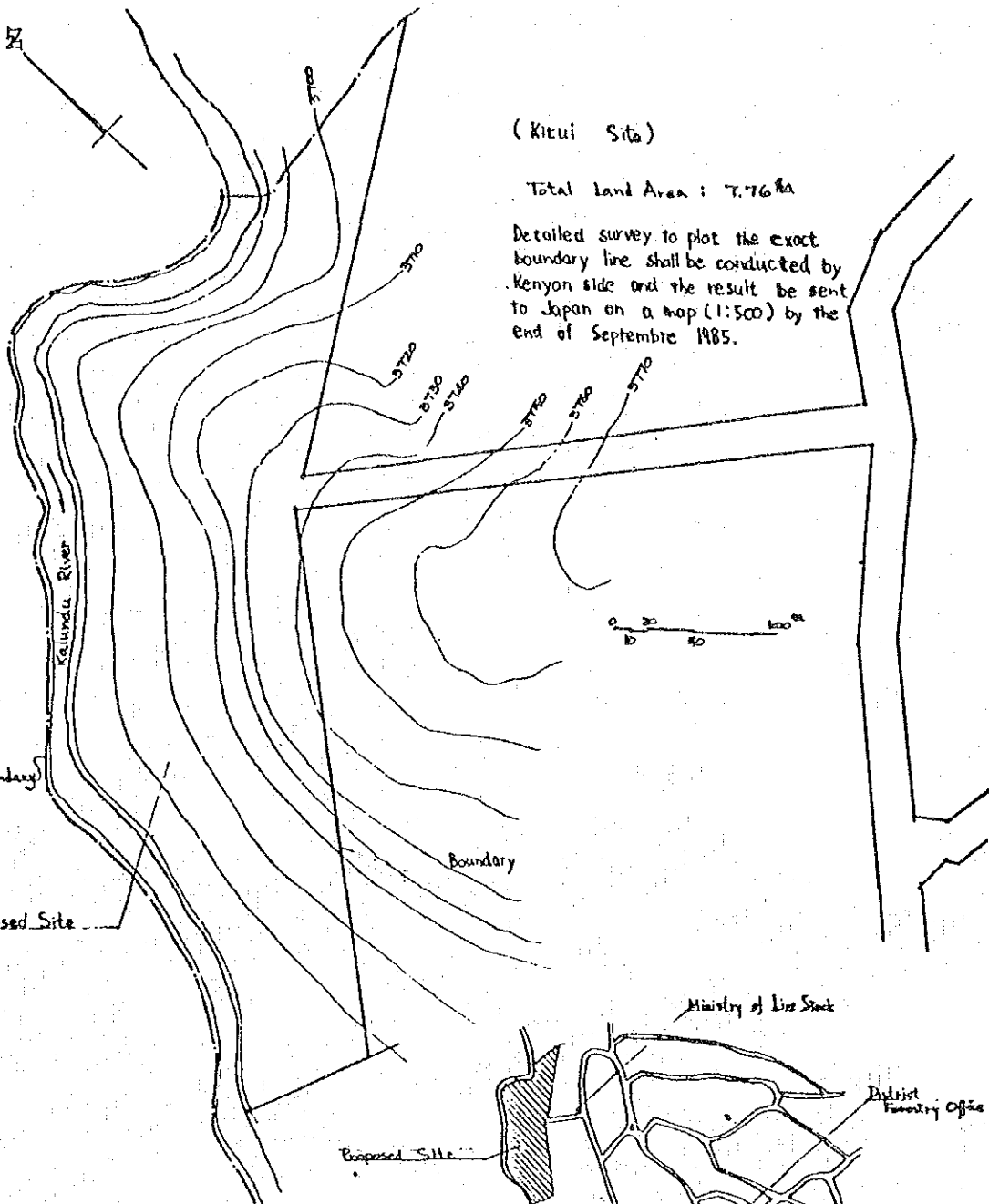
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(MIGUGA SITE)

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(Kitui Sita)

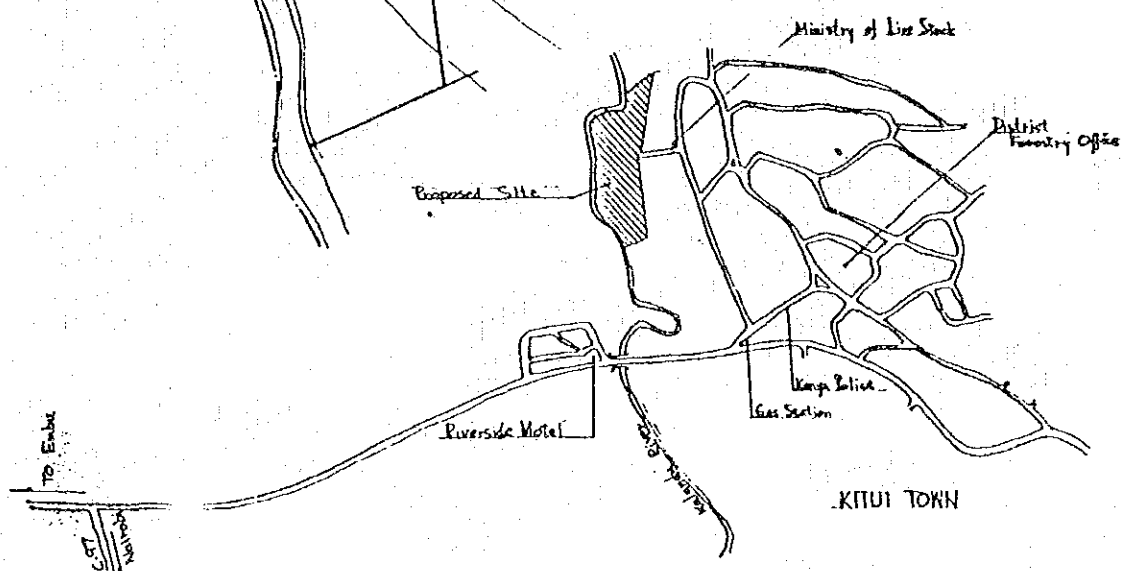
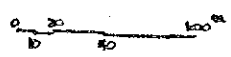
Total Land Area : 7.76 Ha

Detailed survey to plot the exact boundary line shall be conducted by Kenyan side and the result be sent to Japan on a map (1:500) by the end of September 1985.

District Boundary

Proposed Site

Boundary



Ministry of Live Stock

District Forestry Office

Proposed Site

Riverside Motel

Gas Station

KITUI TOWN

TO Embu

TO MUMBAI

Bik

Annex III

Main items required by the Government of Kenya whose costs will be borne by the Government of Japan

1. Facilities

(1) Muguga

- Training facilities
- Dormitory for trainees (max. 40) and lecturers
- Laboratory
- Nursery Facilities

(2) Kitui

- Training facilities
- Dormitory for trainees (max. 30) and lecturers
- Nursery Facilities (including field garage)

2. Equipment

- Training equipment
- Laboratory equipment
- Others

B.K

SAK

NO.	Items	Kenya	(Grant)
1	To secure the lots of land for the two sites	0	
2	To clear, level and reclaim the sites for buildings and nursery beds	0	
3	To construct the gate and fence around the site	0	
4	To construct the parking lot		(0)
5	To construct the road		
	1) Within the site		(0)
	2) Outside of the site	0	
6	To construct the building for the centre		(0)
7	To provide facilities for distribution of of electricity, water supply, drainage and other incidental facilities		
	1) Electricity		
	a. Distributing line to the site	0	
	b. Internal wiring within the site		(0)
	c. The main circuit breaker and transformer		(0)
	2) Water Supply		
	a. City water distribution main on the site	0	
	b. Supply system within the site		(0)
	3) Drainage		
	a. Drainage City main to the site	0	
	b. Drainage system within the site		(0)

B. K.

E. K.

No.	Items	Kenya	(Grant)
	4) Telephone Systems		
	a. Telephone trunk line to the main distribution frame/panel (MDF) of the building	0	
	b. MDF and the extension after the frame/panel		(0)
	5) Furnitures and Equipment		
	a. General furniture	0	
	b. Training equipment for the project		(0)
	c. To install major training equipment		(0)
8	To ensure temporary electric power, water power supply and telephone available for the construction and incidental activities related to the project	0	
9	To bear the following commissions to the Japanese foreign exchange bank for the banking services based upn the Banking Arrangement (B/A)		
	1) Advising commission of Authorization to pay (A/P)	0	
	2) Payment commision	0	
10	To ensure tax exemption prompt unloading and customs clearance at port of disembarkation in Kenya		
	1) Marine (A/c) transportation of the products from Japan to Kenya		(0)
	2) Tax exemption and custom clearance of the products at the port of disembarkation	0	
	3) Internal transportation from the port of disembarkation to the project site		(0)

Bk

*[Handwritten signature]*

No.	Items	Kenya	(Grant)
11	To accord Japanese nationals whose service 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 Kenya and stay therein for the performance of their work.	0	
12	To maintain and use properly and effectively the facilities constructed and equipment purchased under the Grant	0	
13	To bear all the expenses other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and the installation of the equipment	0	

B.K

EAL

MINUTES OF DISCUSSIONS

ON

THE DRAFT FINAL REPORT OF THE BASIC DESIGN STUDY

ON

THE ESTABLISHMENT PROJECT OF THE NURSERY TRAINING AND  
TECHNICAL DEVELOPMENT CENTRE

FOR

SOCIAL FORESTRY IN THE REPUBLIC OF KENYA

The Government of Japan has sent, through Japan International Cooperation Agency (JICA), a Basic Design Study Team to the Government of the Republic of Kenya from 26th of November to 30th of December, 1985 for the purpose of presenting and explaining the Draft Final Report of the Basic Design Study (The Report) on the Establishment Project of the Nursery Training and Technical Development Centre for Social Forestry in the Republic of Kenya (The Project).

The Team held meetings with the Kenyan Counterpart's party headed by Mr. William K. Maluki to explain and to discuss the Report.

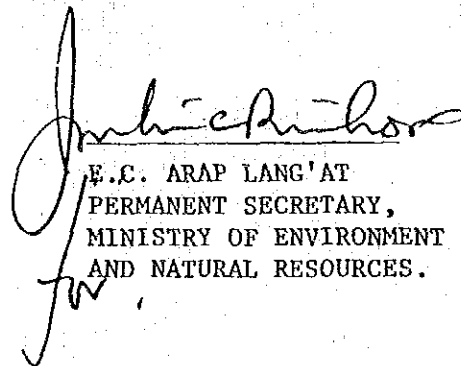
The main items which were discussed and understood by both parties at the meetings are as follows:

1. The Kenyan side principally approved the Report and alterations requested in the design (as shown in the appendix) during discussions will be considered in the Final Report.
2. The Final Report (10 copies in English) on the Project will be submitted to the Government of the Republic of Kenya by the end of January, 1986.
3. Both sides confirmed that the Kenyan side understood the System of Grant Aid Programme to be extended by the Government of Japan, especially the arrangements to be taken by the Government of the Republic of Kenya (as agreed in the Minutes of discussions on the Project dated August 26th, 1985).



SEIICHI KANAI  
LEADER  
JAPANESE STUDY TEAM

29TH NOVEMBER, 1985  
NAIROBI, KENYA.



E.C. ARAP LANG'AT  
PERMANENT SECRETARY,  
MINISTRY OF ENVIRONMENT  
AND NATURAL RESOURCES.

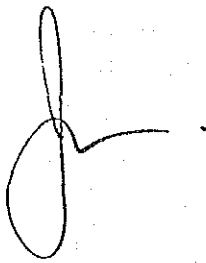


APPENDIX I

ADDITIONAL REQUEST FROM THE KENYAN SIDE

- (a) Conversion of the terraces (Muguga and Kitui) into recreation rooms.
- (b) General items of furniture for the laboratories, dormitories, offices, stores and the training facilities.
- (c) Additional laboratory equipments:
- (i) Ultra-violet spectrophotometer
  - (ii) Flame photometer
  - (iii) Deioniser
  - (iv) Shakers (2 ) glass and plastic bottle shakers.
  - (v) Makham still for Nitrogen (semi-automatic nitrogen analyser)
  - (vi) Magnetic hot stirrer
  - (vii) Heating units for nitrogen digestion.
  - (viii) Gas chromatographs
  - (ix) Pesticide analyser for analysing pesticide residues.
  - (x) Electronic stencil cutter
  - (xi) Thin layer chromatography.

*Sk and*









JICA