Electric system

1. Main line system

The installation of the conduit for the main line and the wiring from the spare circuit of the existing switchboard in the electric room to the power control panel and the switchboard for the lighting system in the (new) experimental animal laboratory building shall be made.

2. Lighting system and power outlets

The lighting fixtures and the power outlets for the ordinary use and for the experimental equipments shall be installed, and the related piping and the wiring shall be made. The intensity of illumination for the animal rooms and working rooms shall be 300 lux on the average. Other ordinary rooms shall be about 200 lux. Two sterilizing lamps shall be provided in each front room of the segregated animal room.

3. Telephone system

A telephone for the communications between the record keeping room and the existing research building will be installed in the record keeping room, and the telephone line will be connected to the terminal box of the existing research building.

4. Loudspeaker system

A loudspeaker will be installed in the washing room by extending a circuit from the loudspeaker system of the existing building.

4-2-6 Machinery and materials plan

The machines and the materials to be transferred from the existing experimental animal laboratory and the those to be purchased newly shall be listed separately by the individual rooms to which they belong.

Machines and materials related with the production of the feed

As for the feed producing machine, the type of the machine which is capable of producing the quantity of the feed for one month's consumption in four days, or the quantity of the feed for a week's consumption in a day, where the machine is operated once a week. The necessary monthly productions of the feed determined by the estimated numbers of various animals are as follows:

| Estimated number of animal | | Necessary production of feed |
|---|---|---|
| Mouse | 1000 | 400kg/month |
| Rat | 200 | |
| Guinea pig | 240 | 250kg/month |
| Rabbit | 24 | |

Thus, the monthly production of at least 650kg will be required. For this reason, the machine having the weekly production capacity of 200kg should be recommended. In this connection, the mixer should have the capacity of 124kg/batch, and the pelleter the capacity of 50 to 80kg/hour.

Under the proposed new project, the mixer will not be purchased, since the ground materials will be purchased. As for the dryer, one installed in the washing room will be used. A balance will be purchased for the new project. Also, the purchase of the sealer should be scheduled so that the produced feed can be packed in the vinyl bags for storage.

Machines and materials related with washing

The cages shall be washed with the chemical liquid using the chemical liquid tank. The sterilizing of the cages shall be made using (1) drying sterilizer, (2) small-size autoclave to be transferred from the existing research building and (3) boiling water sterilizer. The drying sterilizer shall also be used for the sterilization of the rugs and the drying of the feed. The existing machines and materials and those to be purchased newly for each room are as shown in Annex 8.

ANNEX 8

List of machines and materials

Legend: To be purchased - o To be purchased
x Use of existing one
* Local purchase is not permitted

Priority - High priority A ——
——— Lower priority D

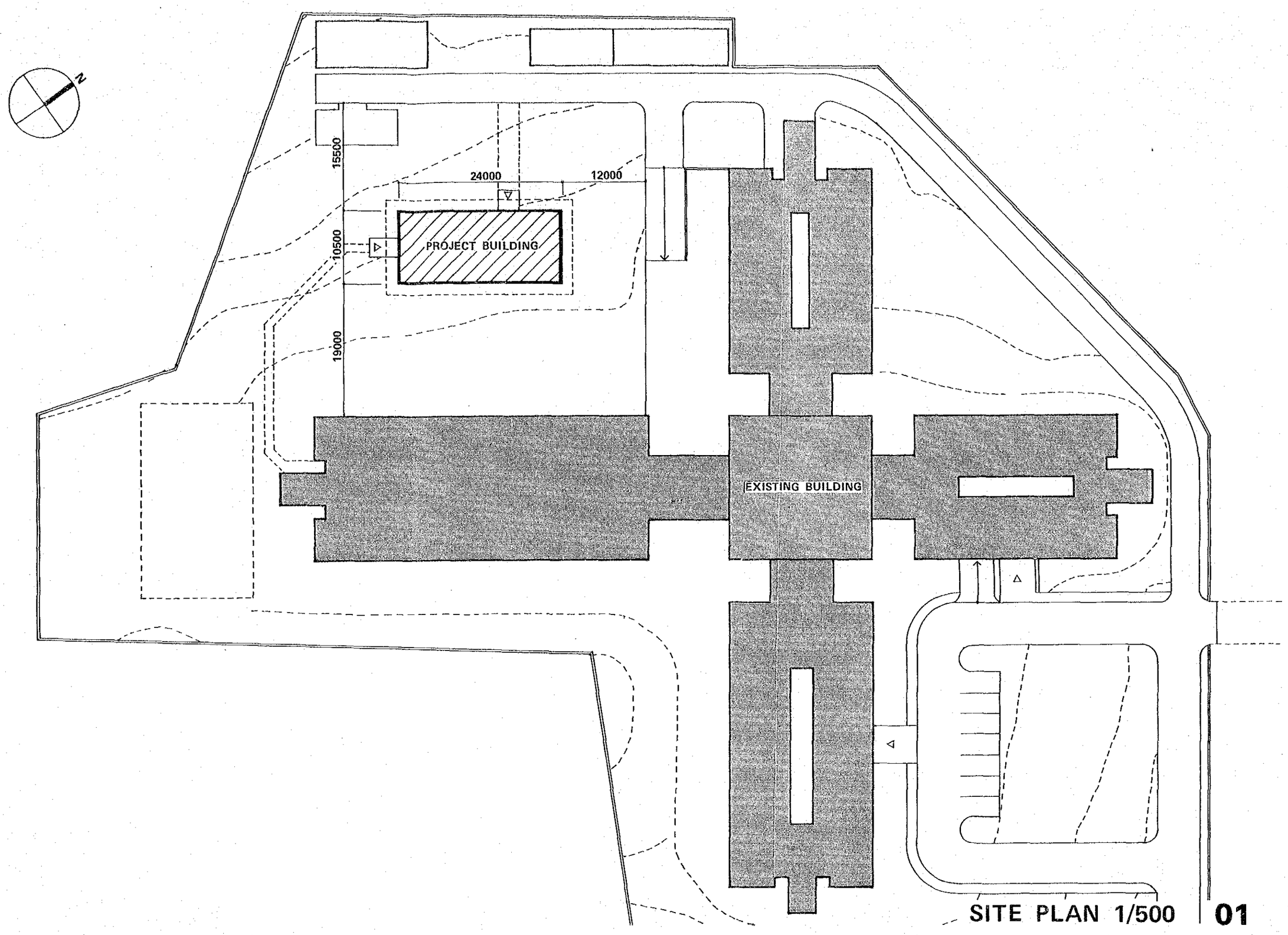
| Room | Machine | Q'ty | Necessity of purchase | Priority order | Remarks |
|---|---|---|---|---|---|
| Record Keeping Room | Refrigerator | 1 | x | C | |
| | Work table | 1 | x | A | |
| | Chair | 5 | x | A | |
| | File Cabinet | 1 | x | C | |
| | Locker | 1 | o | — | |
| | Operating Instrument | 3 | o | — | |
| Feed Production Room | Mixer | 1 | * | B | |
| | Pelleter | 1 | * | B | |
| | Shelf | 1 | x | C | |
| | Balance | 2 | x | B | |
| | Work Bench | 1 | x | C | |
| | Sealer | 1 | * | D | |
| Storage | Balance (Mouse) | 2 | o | — | |
| | " (Rabbit) | 2 | o | — | |
| | Push Cart | 3 | o | — | |
| | Surgical table | 2 | o | — | |
| | Portable Washer Sterilizing | 1 | o | — | |
| | Cage (Rabbit) | 40 | o | — | |

| | | | | | |
|---|---|---|---|---|---|
| Washing and Sterilizing Room | Washing Basin | 3 | o | — | |
| | Cage Dry Shelves | 3 | o | — | |
| | Equipment Shelf | 1 | o | — | |
| | Boiling Water Sterilizer | 1 | o | — | |
| | Sterilizing Driver | 1 | * | A | |
| | Steam Sterilizer | 1 | o | — | |
| | Deep Freezer | 1 | * | A | |
| | Movable table | 1 | o | — | |
| | Sterilizing Box | 2 | o | — | |
| | Movable Transport table | 3 | o | — | |
| | Spatuble (Rubber) | 5 | o | — | |
| | (Stainless) | 2 | o | — | |
| | Bucket | 2 | o | — | |
| Conventional Animal Room | | | | | |
| No. 1 | Shelf (Guinea Pig) | 1 | o | — | |
| | Cages (Mouse) | 15 | o | — | |
| No. 2 | Shelves (Rabbit) | 2 | o | — | |
| | Cages " | 30 | o | — | |
| No. 3 | Shelves (Mouse) | 3 | o | — | |
| | Cages " | 100 | o | — | |
| Isolated Animal Room | | | | | |
| No. 1 | Positive Clean Rack | 1 | * | C | |
| | Shelves (Mouse) | 3 | o | — | |
| | Cages (Mouse) | 100 | o | — | |
| No. 2 | Shelves (Rat) | 2 | o | — | |
| | Cages (") 20 | 40 | o | — | |
| No. 3 | Negative Clean Rack | 1 | * | C | |
| | Shelves (Rabbit) | 1 | o | — | |
| | Cages ( " ) | 15 | o | — | |

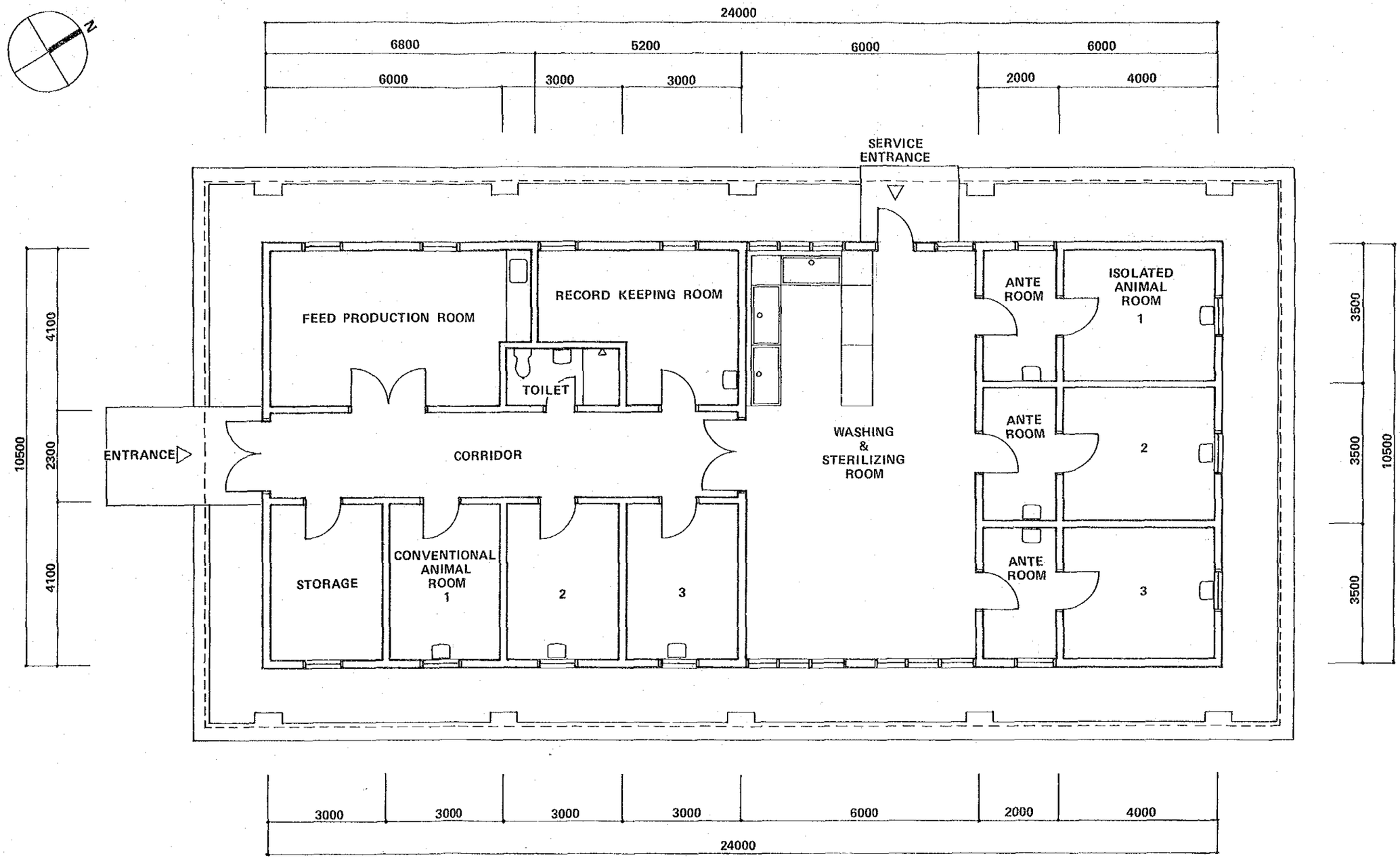
4-2-7 Drawings

LIST OF DRAWINGS

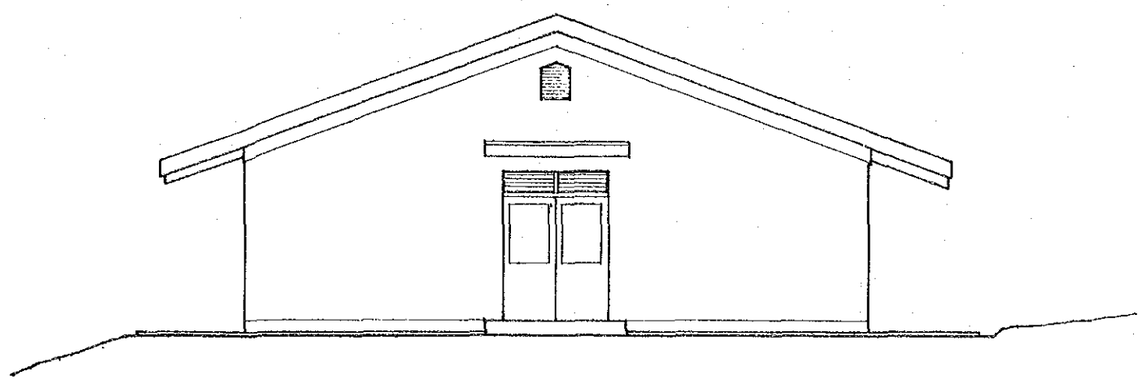
1. SITE PLAN: 1/500
2. PLAN: 1/100
3. ELEVATION: 1/100
4. ELEVATION: 1/100
5. SECTION: 1/100
6. EQUIPMENT LAYOUT: 1/100



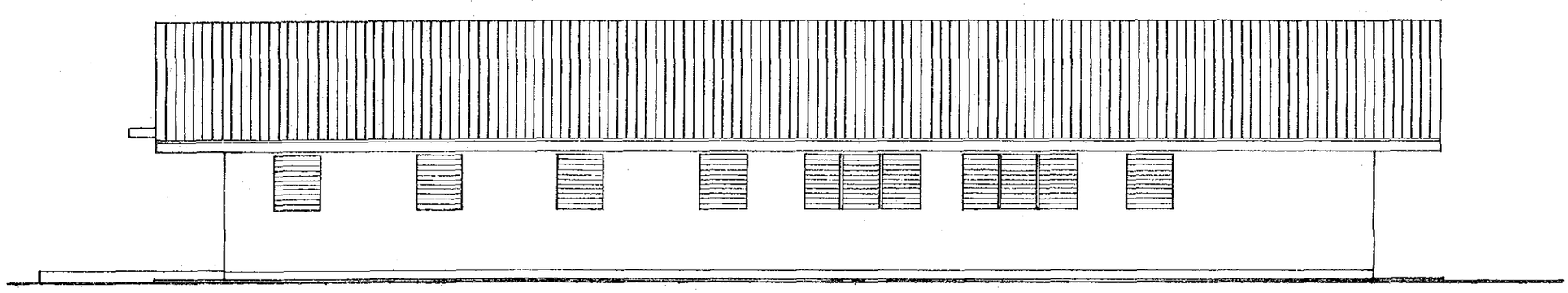

SITE PLAN 1/500 **01**


N
24000
6800
5200
6000
6000
6000
3000
3000
2000
4000
SERVICE ENTRANCE
FEED PRODUCTION ROOM
RECORD KEEPING ROOM
TOILET
ENTRANCE
CORRIDOR
WASHING & STERILIZING ROOM
ANTE ROOM
ISOLATED ANIMAL ROOM 1
ANTE ROOM
2
ANTE ROOM
3
STORAGE
CONVENTIONAL ANIMAL ROOM 1
2
3
10500
4100
2300
4100
3500
3500
3500
10500
3000
3000
3000
3000
6000
2000
4000
24000

PLAN 1/100 **02**

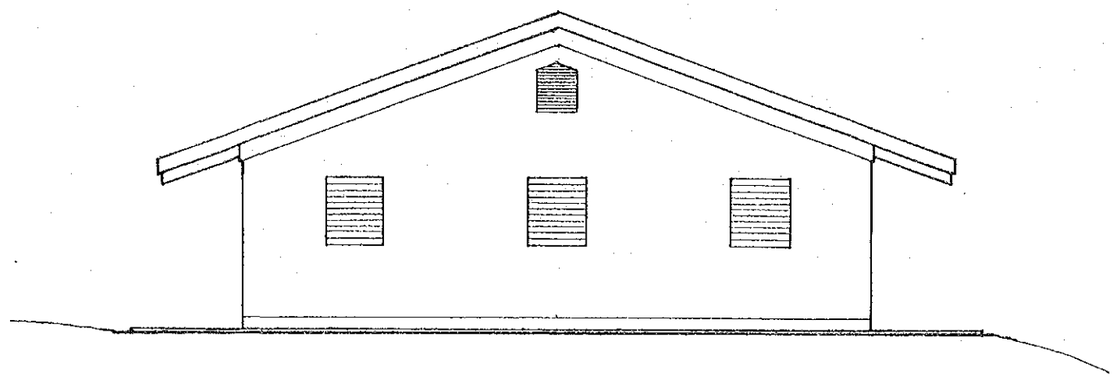


WEST ELEVATION

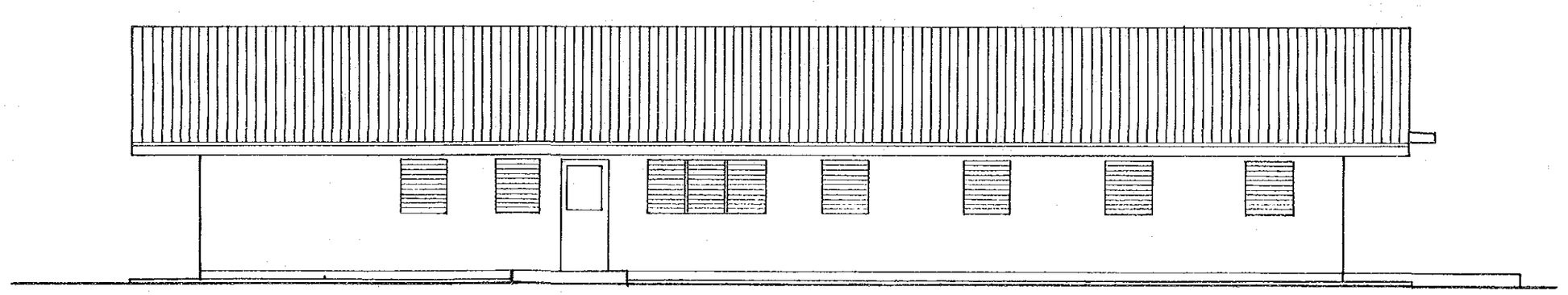


SOUTH ELEVATION

# ELEVATION 1/100 03

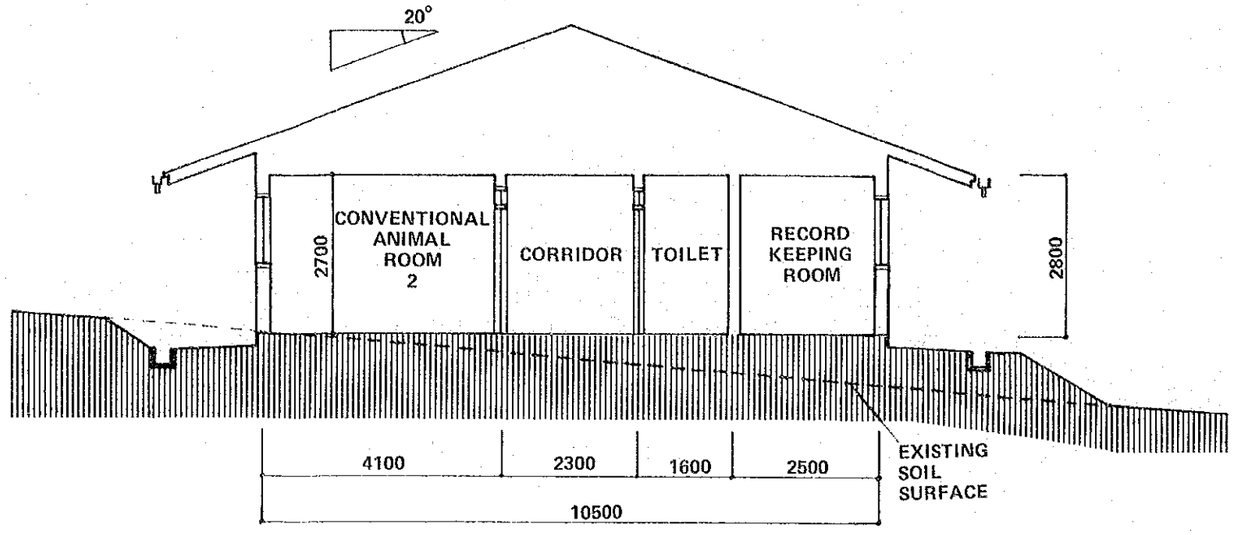


EAST ELEVATION

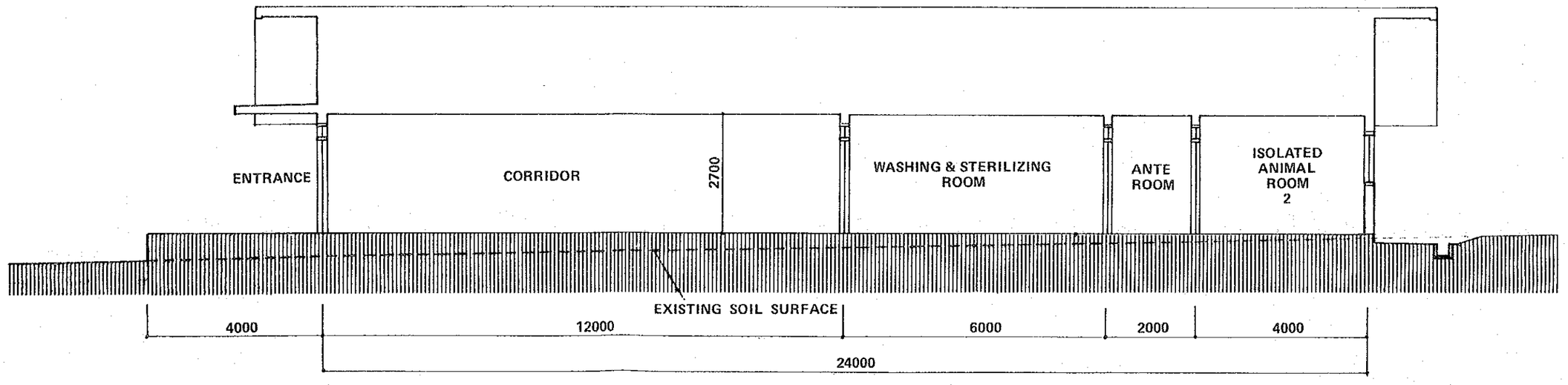


NORTH ELEVATION

## ELEVATION 1/100 04

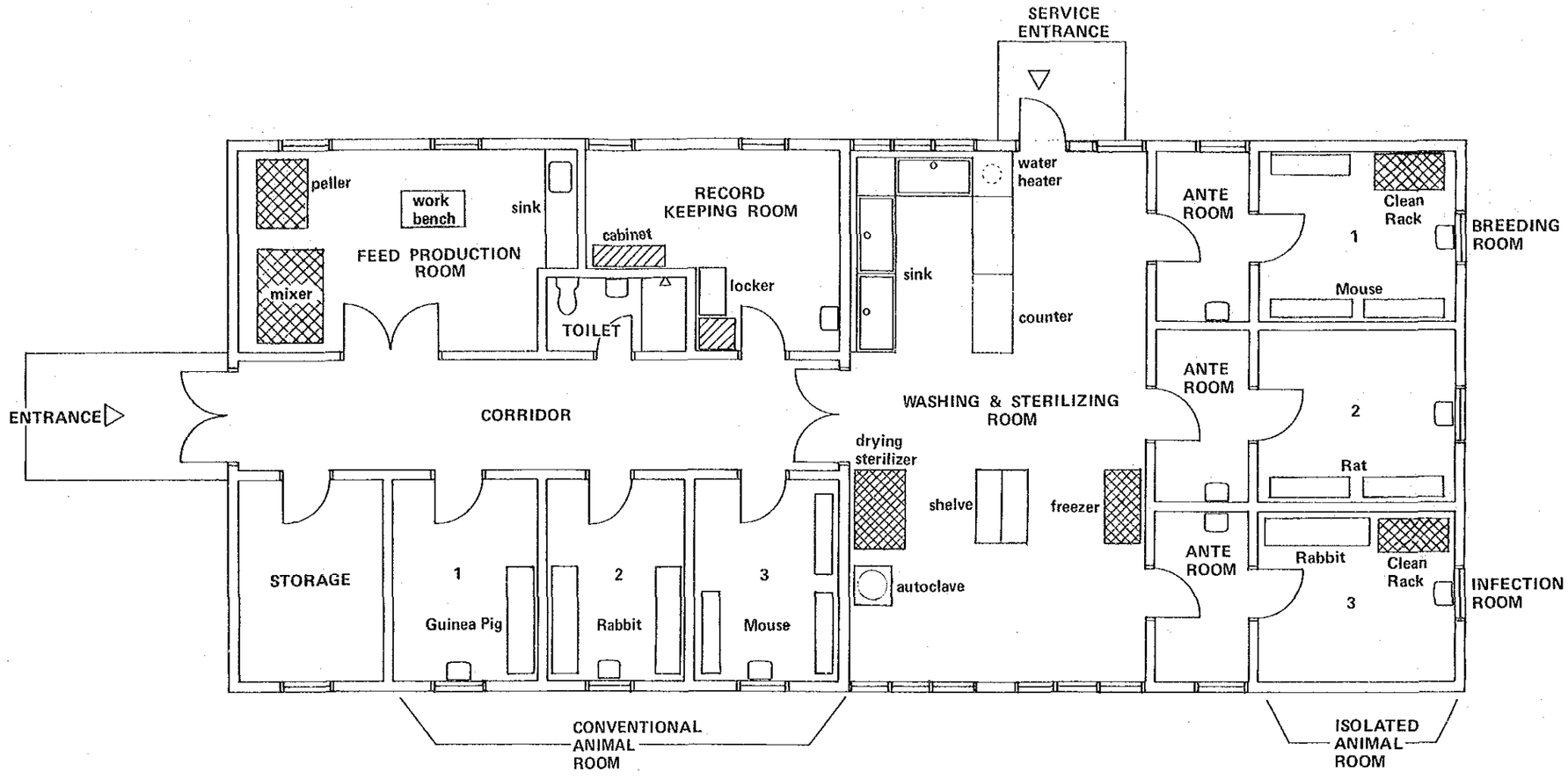



CROSS SECTION




LONGITUDINAL SECTION

## SECTION 1/100 05




LEGEND

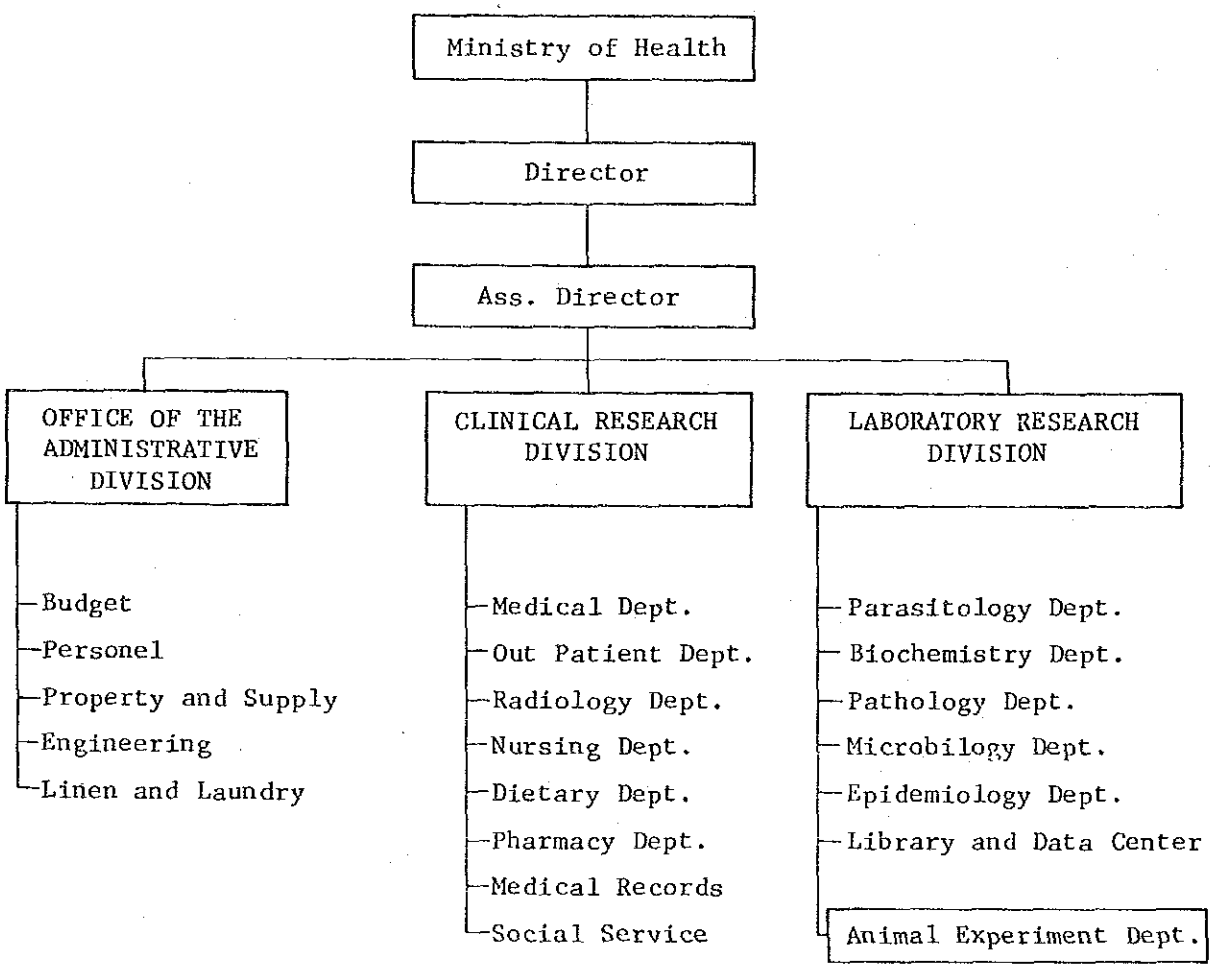
- NEW (imported)
- NEW (local)
- EXISTING

## EQUIPMENT LAYOUT 1/100 **06**

# CHAPTER 5 PROJECT EXECUTION SYSTEM

## 5-1 Operation of the Project after Completion

As for the operation of the new experimental animal laboratory, the new laboratory is intended to be operated independently as one of the research departments of Research Institute for Tropical Medicine. The new organization chart (including the new experimental animal laboratory) will be as follows:



## 5-2 Work Execution and Control Program

The building to be constructed under this project will have the total floor area of 250m$^2$, and there are no special difficulties both in the execution of the work and the technical requirements. However, the care should be taken for the following three points in execution the construction work for this project.

1. In executing the infrastructure work for the new building to be joined with that of the existing buildings, due cautions should be used so as not to disturb the performances of the works in the hospital and research buildings, since the activities in these buildings are made on the 24-hour basis, and the interruption of the activities are not permitted due to the importance of its effects on the results of these activities. Especially, adequate care should be taken in performing the electrical work. In designating the contractor, it is desirable to designate the contractor who is familiar with the structures of the existing buildings, and when such contractor cannot be designated, the contractor having the integrated technical capacity and the ability to analyze the conditions of the existing buildings. On the other hand, it is also necessary to establish the system through which proper and timely instructions can be given to the supervisors of the individual construction works.

2. The machines and equipments such as the washing tanks, cage racks and steam sterilizers to be transferred from the existing buildings to the new building are not supposed to stop their operations even during their transportation, since the experiments using these things have to be performed without being interrupted. Thus, in order to meet this requirement, it is essential to entrust the construction work accompanying such transfer work to the contractor who is able to establish the detailed and carefully-planned work execution and process control schedules, since the results of various experiments may be spoiled if the construction work is entrusted to the contractor lacking in such ability.

3. In the present phase of the project, some of the machines and the equipments needed for the project are expected to be supplied from the builder (JICA). The timing of the shipments of these items from Japan, the timing of the deliveries, installations and test runs, and the supplies of the materials needed for the test runs must be adjusted to the progress of the construction work at the site, and in order to meet this requirement, it is necessary for all the parties concerned to place the person who is capable of making such adjustment in the site at all times. Thus, in selecting the contractor for the construction work, the abilities of the on-the-job superintendents should also be considered besides the technical ability of the contractor.

   This project is small in scale, and so even if we designate the first-class local contractor for this project, we can hardly expect that such contractor will assign its own engineers to this project, it is customary in many instances for the first-class contractor to employ the on-the-job superintendents from the outside for each of the small project such as the case of this project.

From the aforementioned reasons, it is important for us not only to make the contractor to be familiar with the details of this construction project but also to conclude the free contract with the contractor if possible. Even when designating the contractor through the tender, the contractor should be designated from the comprehensive viewpoint in consideration of the above-mentioned points.

As for the design control program, the detailed instructions shall be given to the contractor at least three times (1) at the time designation of and the subsequent contract with the contractor, (2) at the time of the completion of the structural work and (3) at the time of the test run after the completion of the work. Especially, the period from the selection and the designation of the contractor to the start of the construction work is important, so that it is necessary for us to send the qualified on-the-job superintendents to the site of construction during this period.

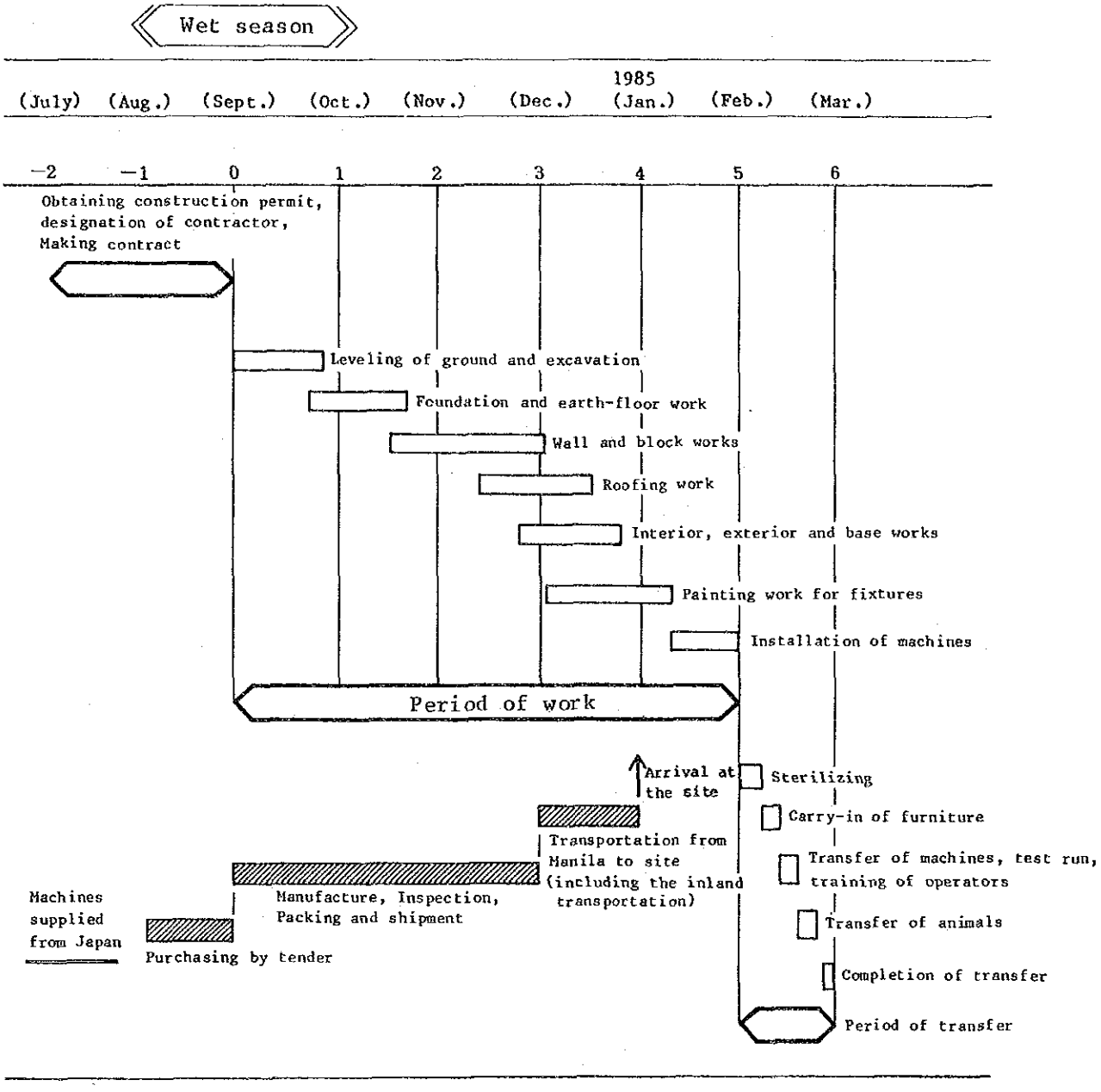
## 5-3 Scope of Work

The construction work for this project involves the construction of the new experimental animal laboratory building, the connections of various systems in the new building with those in the existing buildings of the research institute, the installation works for the new machines and equipments and the transfer of the machines and equipments in the existing buildings to the new building. The scope of the work is as follows:

| Scope of work | Content of work |
|---|---|
| Scope of work to be performed by the contractor of this project | (1) Construction work for building<br>(2) External structure work<br>(3) Connections of equipments/ facilities<br>(4) Installation of machines supplied from Japan<br>(5) Transfer of existing machines |
| Scope of work to be performed by JICA | (1) Purchases and shipments of the machines to be supplied from Japan.<br>(2) Sending Japanese specialists at the time of the test runs of the machines, when necessary. |
| Scope of work to be performed by Research Institute for Tropical Medicine | (1) Obtaining construction permit and other necessary permits.<br>(2) Installation of telephone lines and the installation of fire extinguishers.<br>(3) Customs clearance and inland transportation of the machines supplied from Japan<br>(4) Inspection of the infrastructure joint work<br>(5) Purchases of wooden furnitures<br>(6) Sterilizing work after the completion of the construction work, transfer of experimental animals and the machines<br>(7) Maintenance of the building and the affiliated facilities after the completion of the building<br>(8) Construction of the service road outside the site. |

## 5-4 Work Schedule

The work shall be perfomed according to the following work schedule setting the time of the start of the work to "0" point.



Notes:

- o Five months are taken as the period of construction work.
- o The work schedule should prepared on the assumption that the obtainment of the construction permit and the designation of the contractor will be made within two months from the arrival of the execution drawings (Detail design drawings) at Research Institute for Tropical Medicine.
- o The machines and equipment to be supplied from Japan should be carried in the site at least one month prior to the completion of the project.
- o The repairs and the alterations of the existing animal rooms shall not be included in the new project.

## 5-5 Maintenance and Control Program (for feeds, animals, sterilizers)

As for the maintenance and control of the building constructed under this project, the maintenance and control system for the existing experimental animal laboratory will be applied after improving it further.

At present, the existing animal experiment laboratory is located in the parasitic disease clinic building, and operated by F. Icatlo, veterinarian, and other two full-time staffs who are under R.M. Olveda, head of department, but when the new building under this project is completed, the laboratory will become independent as Department of Animal Experiment, and it will be operated by the head of department and four full-time staffs. Of these staffs, one is expected to be placed in the feed production room which will be provided newly under this project, but such staff is required to have a good knowledge of the maintenance of the feed production machine and quality control of the feed.

As for the maintenance and the adminitration of the new building, the engineering staffs who are in charge of the maintenance and the administration of the various facilities of the research institute will also take the charge. These engineering staffs have been engaging in the repairs and the alterations of the

existing various facilities of the research institute, and they have the technical knowledge and skill of considerable level.

Of the operating costs of (the existing) various facilities, the labor and the material costs are expected to remain unchanged, and so the research institute is not required to provide any new budgets for these costs.

## 5-6 Purchase Procedure of Construction Materials

In the Philippines, almost all the construction materials needed for this project are manufactured by the local manufacturers. However, the reinforcing bars, the finishing materials for the interior and the equipments are imported in many instances, since those with high qualities are not readily available domestically. Recently, however, the imports of these goods are controlled by the government due to the shortage of the foreign currencies. As a result, these goods are now undersupplied in the market, and there is no sign of the improvement in this situation in the near future.

Besides, the domestic productions of these goods have also begun to fall due to the shortage of the raw materials resulting from the control of the imports. As for the materials needed for this project, any special materials are not included, and the materials needed are relatively small both in quantities and the number of kinds, so that they will be able to be purchased locally. As for the separate type window coolers which have been manufactured on the knockdown basis by importing the parts from foreign countries, the supply of the parts after May, 1984 is not assured due to the control of the imports from foreign countries. Thus, in order to be on the safe side for the window coolers, it will be wise for us to purchase them in Japan.

The experimental equipments including the feed production machine should also be purchased in Japan, since all of these equipments have been imported by now.

# CHAPTER 6 EVALUATION OF PROJECT

In order to evaluate the effects of this project, first it is necessary to clarify the necessity of the project and the effect of the project so that the effect of the project can be evaluated based on the judgement of the propriety of the project.

It is obvious that both the existence of the animal experiment laboratory and the qualities of the experimental animals from which the research data will be obtained are extremely important, since the considerable part of the researches carried out in Research Institute for Tropical Medicine require the data based on the animal experiments.

As for the first problem with which the existing animal experiment laboratory is confronted now is concerned with the animal feed. In view of that the international appreciation of the result of the research based on the animal experiment depends largely not only on the quality of the animal but also the quality of the animal feed control system, it is essential requirements for the research institute to establish the effective animal feed control system by producing the animal feed by its own feed production facilities.

The space for the feed production facilities cannot be located in any of the existing buildings of the research institute, since all the spaces for the experiments in the existing research departments have become so small that they are using even the locker rooms as the research room.

The second problem is concerned with the need of the segregated animal rooms, since the experiment using the infected animals are conducted currently despite of that this kind of experiment in the existing animal experiment laboratory was not considered in the beginning, and such experiment which is highly liable to endanger the safety (of other animals and the research staffs) should be conducted in the barriered and segregated animal rooms.

The third problem with which the existing animal experiment laboratory is confronted is that the large-size animals and the small-size animals are kept in the same room despite of that it is not desirable to do so in view of the effective reproduction of the experimental animals. For example, in the existing laboratory, the rats and the rabbits are fed in the same room due to the reason that the individual rooms are not available for them. These situations indicate that the existing animal experiment laboratory is badly want of the additional animal rooms.

From the foregoing, it can be said that the construction of the new building for the new animal experiment laboratory will enable the animal experiments which provide the internationally comparable experimental data and the planned reproduction of the necessary experimental animals, and will prove the effect and the value of the aid supporting this project.

Judging from the amount of the financial expenditure to be made by the government of the Philippines, the estimated amount of the operated cost needed for the maintenance and the administration of the new building after its completion, that the Research Institute for Tropical Medicine has already have the experience in the operation of the existing animal experiment laboratory and that the construction cost to be borne by the research institute is quite small, both the government and the research institute will be able to support the operating cost of the new project.

# CHAPTER 7 CONCLUSION AND RECOMMENDATIONS

Prior to the preparation of the detail design of the proposed project, this survey team has confirmed the content of the request made by Research Institute for Tropical Medicine in the Republic of the Philippines, and made the necessary investigation and the analysis of various problems which must be solved in order to materialize the proposed project. In consideration of the results of these investigations and analyses, the survey team has prepared the draft of the detail design of the animal experiment laboratory most suited for the present conditions of Research Institute for Tropical Medicine described in Chapter 4. The facilities to be constructed under this project will constitute another foundation of Research Institute for Tropical Medicine that has been playing a leading role for the basic medical research in the Philippines, and thus the prompt materialization of this project is not only indispensable for the further progress of the activity of the research institute but also it will prove that this project as one of Japanese foreign aid projects is reasonable and worthwile.

In order to accomplish the objective of this project most effectively, it is important for the research institute to ensure the smooth operation and the effective maintenance of the facilities. In order to meet this requirement, adequate consideration should be given to the following points:

1. The present experimental animal raising system of the research institute needs to be improved to a considerable extent, mainly by increasing the experiences of the existing staffs. Thus, the training of the experimental animal raising staffs for the effective operation of the experimental animal raising system should be included in the future technical assistance program.

2. As for the production of the animal feeds by the own production facilities of the research institute, the test runs and the production of the samples after the installation of the production facilities such as the mixer and the pelleter should precede the regular production, since it is important to determine the ingredients of the animal feed best suited for the local conditions in the Philippines based on the results of the analyses of both the raw materials and the products. In this connection, it is also desirable to send the specialists in the production of the animal feeds and the operation of the feed production machines to the research institute.

# APPENDIX

## Field Survey Schedule

| Order | Date | Schedule | |
|---|---|---|---|
| 1. | Feb. 5th Sun. | | Leaving Tokyo for Manila by JAL 422. |
| 2. | Feb. 6th Mon. | (Morning) | Visiting local JICA office to explain the content of the project. |
| | | (Afternoon) | Inspecting the existing facilities of Research Institute for Tropical Medicine. |
| 3. | Feb. 7th Tues. | (Morning) | Discussing the details of the new project with Japanese specialists at Research Institute for Tropical Medicine. |
| | | (Afternoon) | Inspecting the site of new project. |
| 4. | Feb. 8th Wed. | (Morning) | Discussing the production of the animal feeds with the staffs of the research institute in charge. |
| | | (Afternoon) | Inspection of the existing buildings. |
| 5. | Feb. 9th Thu. | (Morning) | Discussion with the staffs of the research institute in charge of the construction work. |
| | | (Afternoon) | Re-inspection of the building in relation with its site. |
| 6. | Feb. 10th Fri. | (Morning) | Conference with the senior staffs of the research institute. |
| | | (Afternoon) | Inspection of equipments. |
| 7. | Feb. 11th Sat. | (Morning) | Inspection of materials. |
| | | (Afternoon) | Review of survey data. |
| 8. | Feb. 12th Sun. | | Review of survey data. |
| 9. | Feb. 13th Mon. | | Inspection of construction materials. |
| 10. | Feb. 14th Tue. | (Morning) | Inspection of existing equipments and materials of the research institute. |
| | | (Afternoon) | Survey of local feed manufacturing companies. |
| 11. | Feb. 15th Wed. | (Morning) | Inspection of construction and building materials. |
| | | (Afternoon) | Making the interim report on the progress of the survey to JICA. |

| Order | Date | Schedule |
|---|---|---|
| 12. | Feb. 16th Thu. | (Morning) Inspection of the equipments and materials of the research institute.<br>(Afternoon) Preparation of the drawings. |
| 13. | Feb. 17th Fri. | (Morning) Inspection of the construction materials (for facilities).<br>(Afternoon) Preparation of the drawings. |
| 14. | Feb. 18th Sat. | Review of survey data. |
| 15. | Feb. 19th Sun. | (Morning) Meeting the arriving head of survey team.<br>(Afternoon) Making the progress report on the survey. |
| 16. | Feb. 20th Mon. | (Morning) Making the interim report to JICA.<br>(Afternoon) Discussion with the specialists of the research institute. |
| 17. | Feb. 21st Tue. | (Morning) Preparation of the draft of the minutes.<br>(Afternoon) Preparation of the interim report. |
| 18. | Feb. 22nd Wed. | (Morning) Discussion with the staffs of the research institute.<br>(Afternoon) Preparation of the drawings. |
| 19. | Feb. 23rd Thu. | Calculations of construction costs. |
| 20. | Feb. 24th Fri. | Discussion with JICA, and consideration of the contents of the survey. |
| 21. | Feb. 25th Sat. | Inspection of the environmental conditions of construction industry. |
| 22. | Feb. 26th Sun. | The same as the above. |
| 23. | Feb. 27th Mon. | (Morning) Conference with JICA, and consideration of the content of the minutes.<br>(Afternoon) Visiting the architectural design office and JETRO. |
| 24. | Feb. 28th Tue. | (Morning) Signing the minutes at NSTC.<br>(Afternoon) Review of survey data. |
| 25. | Feb. 29th Wed. | Leaving Manila for Tokyo by NW004. |

Detail Design Servey Team for
the Research Institute of the Tropical Medicine

## List of the Members of Servey Team

| | |
|---|---|
| Leader,<br>Masaro Nakagawa | Chief<br>Laboratory of Experimental Animals I<br>Department of Veterinary Science<br>National Institute of Health |
| Koichi Tastumi | Designer<br>Building Division<br>Government Design Department<br>Minister's Secretariat<br>Ministry of Construction |
| Hisamitsu Nishio | Cordinater<br>Division of Medical Cooperation, JICA |
| Hidefumi Inoue | Archiect<br>Matsuda Consultant International Co., Ltd. |
| Yasuo Ohodera | Engineer<br>Matsuda Consultant International Co., Ltd. |

Japan International Cooperation Agency, Manila Office

Akihiro Mitarai

Hiroyuki Arai

Experts

Yoshinori Kaneko

Yoshimichi Kozuka

Kunio Yamaoka

Hideki Akeda

Sakae Inoue

Research Institute for Tropical Medicine

| | |
|---|---|
| A. G. ROMUALDEZ | DIRECTOR RITM |
| M. M. GALON | ASSIST. DIRECTOR |
| M. C. SANIEL | CHIEF. CLINICAL RESEARCH DIVISION |
| T. E. TUPASI | CHIEF. LABORATORY RESEARCH DIVISION |
| R. M. OLVEDA | CHIEF OF SECTION. PARASITIC DISEASES DEPT. |
| M. C. BACCAY | CHIEF OF SECTION. PATHOLOGY DEPT. |
| L. C. VIZCONDE | CHIEF. MEDICAL SERVICES |
| N. C. SERA | CHIEF. DIETARY SECTION |
| E. A. RODNIQUEZ | NURSING SERVICES |
| F. C. ICATLO | STAFF ANIMAL EXPERIMENT |

# MINUTES OF THE MEETING ON THE ANIMAL EXPERIMENTAL LABORATORY AT THE RESEARCH INSTITUTE FOR TROPICAL MEDICINE IN THE REPUBLIC OF THE PHILIPPINES

At the request of the Government of the Republic of the Philippines for assistance in establishing the Animal Experimental Laboratory (hereinafter referred to as the Project) at the Research Institute for Tropical Medicine (hereinafter referred to as RITM), the Government of Japan, through Japan International Cooperation Agency (JICA), has sent a survey team headed by Dr. M. NAKAGAWA to conduct the Detail Design Survey on the project from February 5 to February 29, 1984.

The team held a series of discussions and exchanged views with the Philippine Working Group concerned on the establishment of the Project.

As a result of the survey and discussions, both parties have agreed to recommend to their respective Government to take the necessary measures toward establishing the Project as stated in the Minutes of Discussions attached herewith

Feb. 28, 1984
Date

Dr. MASARO NAKAGAWA
Team Leader
Detail Design Survey Team
Japan International Cooperation Agency

DR. ALBERTO G. ROMUALDEZ, JR.
Director
Research Institute for Tropical Medicine

MINUTES

1. The Name of the Project is "The Animal Experimental Laboratory" at the Research Institute for Tropical Medicine.

2. Site for the Project is decided at the space surrounded by the Research and Training Department building, carport building and service area of Institute. (Attached as Annex A)

3. The Institute will take necessary measures stated below:

   a) Obtain the building permit and other permit necessary to start the construction of the project. The drawings and specifications will be provided by JICA.

   b) Provide the furniture necessary for the record keeping room and feed production room.

   c) Install the telephone cable between the Institute and the Project building.

   d) Install the portable fire distinguisher if necessary.

   e) Construct the walkway to the Research Department building and service road from the projected building.

4. The Institute will appoint the following staff to operate the Animal Experimental Laboratory:

   Head - 1

   Staff - 4

5. The Institute shall remodel, modify and repair the existing animal experimental laboratory into research laboratories utilizing their own fund.

6. The Institute shall be responsible for the release of equipment and materials to be sent by JICA if any at the Bureau of Customs and transport them to the RITM.

7. Provide all necessary expenses for the operation of the Animal Experimental Laboratory.

8. Japanese Survey Team will recommend to JICA to construct the building and purchase the equipment described in the interview report which is attached on this minutes. However, the final decision on the scope of work of the Project shall be decided by JICA and work shall be performed within the budget allocated for the project.

Interim Report
for Animal Experimental Laboratory
at the Research Institute for Tropical Medicine

## DESCRIPTION OF THE ANIMAL EXPERIMENTAL LABORATORY BUILDING

### 1. DESIGN POLICY

To provide the detailed design, the following conditions have been considered:

a) The facility should be practical and easy to use and maintain. Consideration to maintain the low running cost is the primary requirement.

b) The animal rooms shall be able to respond to future changes so that size and facility of the rooms should be designed for multi purpose. [By installing the clean rack in the isolated animal rooms. experiment of using infected animals on SPF animal can be performed in the future]

c) Services to the buildings should be independent as much as possible so that the operation of the present research at Institute shall not be distumbed.

### 2. SITE

Location of the Animal Experimental Laboratory Building is selected at the north west side of the research building. (see drawing A) Exact location shall be determined by considering

a) Location of existing drainage pipe line located at north west side of the site.

b) Location of the existing electrical manhole near the service road beside the machinery rooms.

c) Adequate distance from incinerator to avoid the smoke to affect the animals

d) Short distance to the research building since the people's movements are quite heavy between these buildings.

e) Natural wind direction in order to take advantage of natural ventilation.

3. PLAN

Animal Experimental Laboratory Building is the supply center of experimental animals which will help each department of the research division of RITM obtain the experimental materials and necessary data .

PLAN

The rooms to be contained in the Animal Experimental Laboratory Building are as follows:

| | |
|---|---|
| o Record Keeping Room | 19.5M$^2$ |
| o Feed Production Room | 27.2 |
| o Conventional Animal Room (3 units) | 36.9 |
| o Washing and Sterilizing Room | 63.0 |
| o Isolated Animal Room (3 units) | 63.0 |
| o Storage | 12.3 |
| o Toilet | 4.5 |
| o Corridor and other | 27.6 |
| T o t a l ..... | 252.0M$^2$ |

EXTERNAL FINISH

External Finishes of the building are as follows:

| | |
|---|---|
| Roof | corrugated asbestos |
| External Hall | hollow concrete block mortar trow paint finish |
| Base | Mortar Trow |
| Window and door | Steel Sash |
| Porch Floor | Polished Terazzo |

INTERVIEW FINISH SCHEDULE

All the rooms finish are identical

| | |
|---|---|
| Floor | Polished Terazzo |
| Base | Polished Terazzo |
| Wainscot | Polished Terazzo (at toilet and washing room) |
| Wall | Mortar Paint Finish |
| Ceiling | Asbestos sheet paint finish |

4. STRUCTURAL PLAN

Structure of the building is a combination of reinforced concrete and concrete block. Roof structure is planned as timber truss. Since the adobe (rock) exist about 20-60 cm under the top soil, the footing is set directly on the adobe.

Floor is planned as slab on the back fill earth. The live load on each rooms are taken from National Structural Code for Building (NSCB) Philippines and as follows:

| | |
|---|---|
| Research Laboratories | 500 ks/cm$^2$ |
| Office | 250 ks/cm$^2$ |
| Cooridor | 400 ks/cm$^2$ |

SEISMIC FORCES

For the purpose of the present project, seismic coefficient will be taken as 0.16 (rounded to two decimal places) based on the formula which is specified by Uniform Building Code.

$U = 0.16W$ Whane

U = total lateral force at the base

W - total dead load

WIND LOADING

Wind pressure will be determined in accordance with NSCB requirements. In the calculations for the structural design following is taken wind pressure - (p) x (wind force coefficient) According to the code the project site locates in Zone V where wind velocity is taken as 50 w/5cc. The value of (p) as given by code for Zone II is:

Building height below 9m p= 150 kg/m$^2$

5. SERVICES

AIR CONDITIONING AND VENTILATION

Isolated animal room (3 units) and Record Keeping Room are planned to be air-conditioned by window cooler (separate type). Other rooms are ventilated by using ceiling fan and motor fan where necessary. Installation of future window cooler at conventional animal rooms is planned.

WATER SUPPLY

Branch line from the garden hose bibb near the research building will be lead to the necessary water supply spots of the new building.

DRAINAGE

a) Storm water will be directly discharged into the river.
b) Sewage line will be connected to existing sewage line from the Research building.

HOT WATER SUPPLY

Electrical Hot Water Boiler with 200l storage tank will be installed at washing room and supply the hot water to cage wash basin.

L.P.G. GAS

Portable type gas cylinder will be set on the trolley and will be used when the gas is necessary.

INCINERATOR

Existing incinerator will be utilized.

ELECTRICITY

From the main switch panel in the RITM electrical room electricity will be supplied. Branch shall be taken not from the generator circute in order not to affect present generator circute.
This means that power supply to the animal rooms will be cut off when the main power failure occured. Power supply for lighting, outlet, air conditioner and equipment will be installed.

TELEPHONE

Internal extension from the terminal box at RITM will be installed into the record keeping room.

FIRE DISTINGUISHER

Portable fire distinguisher will be installed in the washing room.

WORKS NOT INCLUDED

Lighting arrestor and land scaping (planting) will not be included in the construction.

6. EQUIPMENT

Following Equipment will be installed into the new building.
The equipment marked 0 will be transferred from existing animal room, equipment marked X will be purchased or manufactured locally and equipment marked * will be imported from Japan. If the budget are not enough to install all equipment higher priority equipment will be installed.

| Room Name | Item of Equipment | Quantity | | Priority | Remarks |
|---|---|---|---|---|---|
| Record Keeping Room | Refrigerator | 1 | x | C | small type |
| | Work table | 1 | x | A | Wood |
| | Chair | 5 | x | A | wood or steel |
| | File cabinet | 1 | x | C | steel |
| | locker | 1 | 0 | | Wood |
| Feed Processing Room | Mixer | 1 | ¥ | B | |
| | Pellete | 1 | ¥ | B | |
| | Shelf | 1 | X | C | storage, wood |
| | Balance | 2 | X | B | Small and medium scale |
| | Work bench | 1 | X | C | wood |
| Conventional Animal Room | Cages and shelves | - | 0 | | |
| Washing and Sterilizing Room | Washing basin | 3 | 0 | | stainless steel |
| | Cage dry shelf | 3 | 0 | | -do- |
| | Equipment shelf | 1 | 0 | | wood |
| | Boiling Water Sterilizer | 1 | 0 | | |
| | Sterilizing Drier | 1 | ¥ | A | |
| | Steam Sterilizer | 1 | 0 | A | |
| | Deep Freezer | 1 | ¥ | A | (-20°C) |
| Isolated Animal Room | Clean rack | 2 | ¥ | C | One negative and one positive |
| | Sterilizing lamp | 6 | ¥ | A | |
| | Cages and shelves | - | - | | |