4-6 SITE PLAN

1. Access

The proposed site is accessible from two streets running north and south.

Main access will be planned from the Ismail Sabri Street, south of the site, instead of the Aly Basha Ibrahim Street, north of the site, where one-way traffic is exercised but with a heavy traffic. An isolated exit will be provided to carry out a dead corpus on the south side to prevent a public notice.

On the north side an auxially access for In-Patient, Emergency cases and hospital staff will be provided.

These accesses were designed so as it could be serviceable even just after the first phase building's completion.

2. Transportation

Mostly buses, taxis and private cars will be the main transportation means to come to the proposed hospital. So, ample consideration will be given to deal with cars.

3. Approach to the Building

Four approaches to the proposed hospital from the South will be provided depending on each function, for Out-Patient, Kitchen, Pharmacy and Machine Room. Three independent approaches from the north each for the In-Patient, Emergency and Hospital Staff will be provided. On the west side, in addition to an emergency exit, exits for dead corpus and refuses are provided. The refuses will be carried out through a separated

service yard, while the dead corpus will be carried through a special independent passage to the mortuary , then direct to the public road.

4. Building Layout

The building layout is planned based on the following concept.

i) To maintain space for main and auxiliary approach where rotary and parking are needed, service yard and service facilities such as pumping house etc.

ii) To remain the Sewage Pumping Station on the west as it is now. When this Sewage Pumping Station is demolished or completely made underground in the future, that space could be converted into a beautiful garden.

iii) The space on the north could be used as parking or rotary till the Aly Basha Ibrahim Street is expanded in the future.

iv) Locating the building closest to the north, it becomes more advantageous in the building height limit set by the narrow street on the south of the site leaving a possibility of future expansion to this hospital.

v) To prevent a severe afternoon sunshine.

5. Construction Phasing

Giving consideration to the coordination with the existing Children's Hospital and the planned Demonstration Center, Phase I construction will be on the east side and Phase II construction will be on the west side of the site.

4-7 BUILDING DESIGN

1. Architectural Design

The buildings are composed as follows:

	Phase I	Phase II
Ground Floor	a. Out-Patient Component Referral Clinie Recovery Room Examine Room Waiting Hall etc. Information Lecture Hall b. Services Component Electrical Room Mechanical Room Medical Gas Storage Shop	a. Out-Patient Component Pharmacy b. Emergency Component c. Central Clinical Component Library d. Services Component Central Sterilizing Room Kitchen, Food Storage Cafeteria Telephone Exchange e. In-Patient Component Reception Preparation Room f. Administrative Component Offices Lecture Hall
Annex	a. Service Component Pumping Room b. Administration Component Guard House	a. Central Clinical Component Mortuary Postmortem b. Services Component Work Shop Refuges Storage

1st Floor	a. Out-Patient Component Special Clinics Waiting Hall etc. b. Administrative Component Staff Room Lounge	a. In-Patient Component Ward Nurse Station Treatment Room Mother's Room etc. b. Administrative Component Professors' Room Lecture Hall
2nd Floor	a. Central Clinical Component Laboratory X-ray Room b. Administrative Component Staff Room Lounge	Same to 1st. Floor
3rd Floor	a. Central Clinical Component Surgical Suite Central Supply b. In-Patient Component Neonatology ICU Rehydration Dialysin c. Administrative Component Staff Room Lounge	Same to 1st. Floor
Pent House 1st. Floor	a. Central Clinical Component Physical Exercise b. Administrative Component Storage	a. Administrative Component Storage
2nd Floor	a. Services Component Lift Machine Room	a. Services Component Lift Machine Room

2. Material

1. Structural Material

Cement: Underground Structure ..... ASTM type - V
Structure ..... ASTM type - I
Reinforcement: Deformed bar ..... STEEL 52
Pile: Raymond Pile, Vibro Pile and Pre-pact pile etc. locally obtainable pile.

2. Exterior Finishes

Roof: Asphalt built-up, water-proof mortar
Wall: Brick layer
Sashes: Alminum sashes

3. Interior Finishes

a. Laboratory, Central Sterilizing Room, Kitchen, Bath, Lavatory	Floor: Terrazzo Wall: Ceramic tile Ceiling: Asbestos board resin painted
b. Operating theatre, Pharmacy	Floor: Terrazzo Wall: Epoxy tile Ceiling: Mortar resin painted
c. Ward, Office Corridor	Floor: Terrazzo Skirting: Terrazzo block Wall: Mortar resin painted Ceiling: Mortar resin painted
d. Special Clinic	Floor: Terrazzo Skirting: Terrazzo block Wall: Mortar resin painted

Ceiling: Asbestos accoustic board, resin painted

e. Waiting Hall

Floor: Marble
Skirting: Marble
Wall:
Ceiling: Mortar resin painted

3. Structural Design

1. Basic Policy

a. In Egypt, most of the buildings are constructed of reinforced concrete framings with reinforced concrete slub or a precasted concrete block for floor integrated with reinforced concrete beam. Brick or concrete block masonry work in the reinforced concrete frame is general for the wall.

For this project, the above mentioned construction will be used.

b. Since this project is proposed to be constructed in two phases, an expansion joint will be provided in between the Phase I and Phase II construction to cope with the shrinkage of concrete, thermal stresses and uneven settlement of the building.

c. To cope with the geological condition of the site, a cast-in-place pile, which is most common in Egypt, will be used to this project.

d. Wherever practicable and problem-free, local products will be used.

2. Structural Design Policy

As the result of discussions held with the Egyptian Authorities concerned,it was agreed that the structual design is based on the followings.

a. As a principle, structural design will be made with the working stress design method recommended by ACI -318 of U.S.A. according to the stresses obtained through frame analysis based on the elastic theory.

Egyptian 'Code of Practice for the Use of Reinforced Concrete in Buildings'will be referred to as an information.

b. As a principle, main structural materials to be used shall be in conformance to A.S.T.M.

Adopted allowable stresses will be as follow:

i. Reinforcement — Round bar (steel 37) ft = 1,400kg/cm^2
Deformed bar (steel 52) ft = 2,000kg/cm^2

ii. Concrete — Fc = 245kg/cm^2 (3,500 PSI) 28 days
fc = 80kg/cm^2
fs = 8kg/cm^2

iii. Cement — Underground: Sulphate Resisting Portland Cement
Others: Ordinary Portland Cement

c. The foundation construction will be of piles supported by the well consolidated medium to coarse sand layer approximately 15 meters below the ground surface.

Head of these piles will be fixed to the footing which will be connected each other with highly rigid reinforced concrete beams.

3. Establishment of External Forces and Loads

Dead load and live load which directly relate to the structural design were established as follows:

a. Dead Load

i. Reinforced Concrete: 2.4 t/m^3
ii. Brick Light weight : 0.75 t/m^3
Normal : 2.0 t/m^3

b. Live Load

The following live loads were established referring to those of G.B., U.S.A. Egypt and Japan. Some considerations will be given on extraordinary heavy loads such as machines etc.

i.	Roof:	150kg/m^2
ii.	Court:	200kg/m^2
iii.	Ward, Nurse's Station, Office, Surgical Suite:	300kg/m^2
iv.	Clinic, Laboratory, X-ray rooms,Treatment, Kitchen, Cafeteria, Lecture Hall, Corridor, Staircase:	350kg/m^2
v.	Waiting Hall, Lobby, CT room:	400kg/m^2
vi.	A/C machine room, Library, Storage:	500kg/m^2
vii.	Machine room:	600kg/m^2

c. Other Loads

For the proposed buildings of 4 storied reinforced concrete, horizontal forces such as earthquakes and winds could be neglected.

4 Electrical and Mechanical Systems

1 Basic Design Policy

Taking the local climatic condition, living habit and custom into consideration, a simple, easily operable and maintenable systems will be designed. A rule to apply standardized equipment and component into the system shall be established for easy replacement or exchange in future and/or in case of failure.

2 Phases I and II in Construction Stages

This project is being planned to be constructed in two stages. Intake of electricity, city water and gas to the building from public utility systems and drainage connection to the public system from the first stage part of the building shall be planned as the first stage work, only drainage connection from the second part of the building to the public system will be planned in the second stage. As for the telephone system, the main switch board is planned so as to be placed in the second stage part of the building, so a temporal placement of the main exchange should be considered.

3 Electrical system

a. Power supply

From the electric power supply company main supply line, two 11KV circuits, will be installed underground up to the Electric Room where the power is to be transformed to 3-phase 380 volts and single-phase 220 volts. Through a low voltage panel, power will be distributed to power control panels, lighting panels

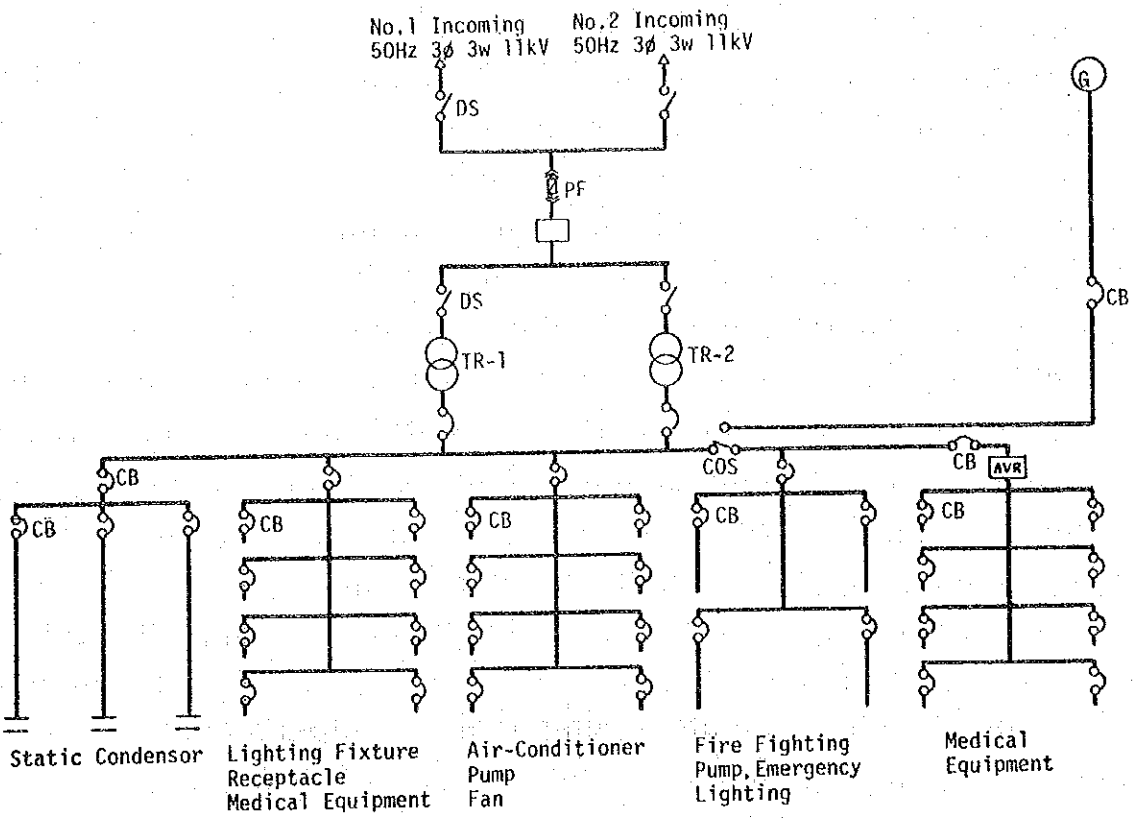


Fig. 4-7-i One Line Diagram for Power Supply

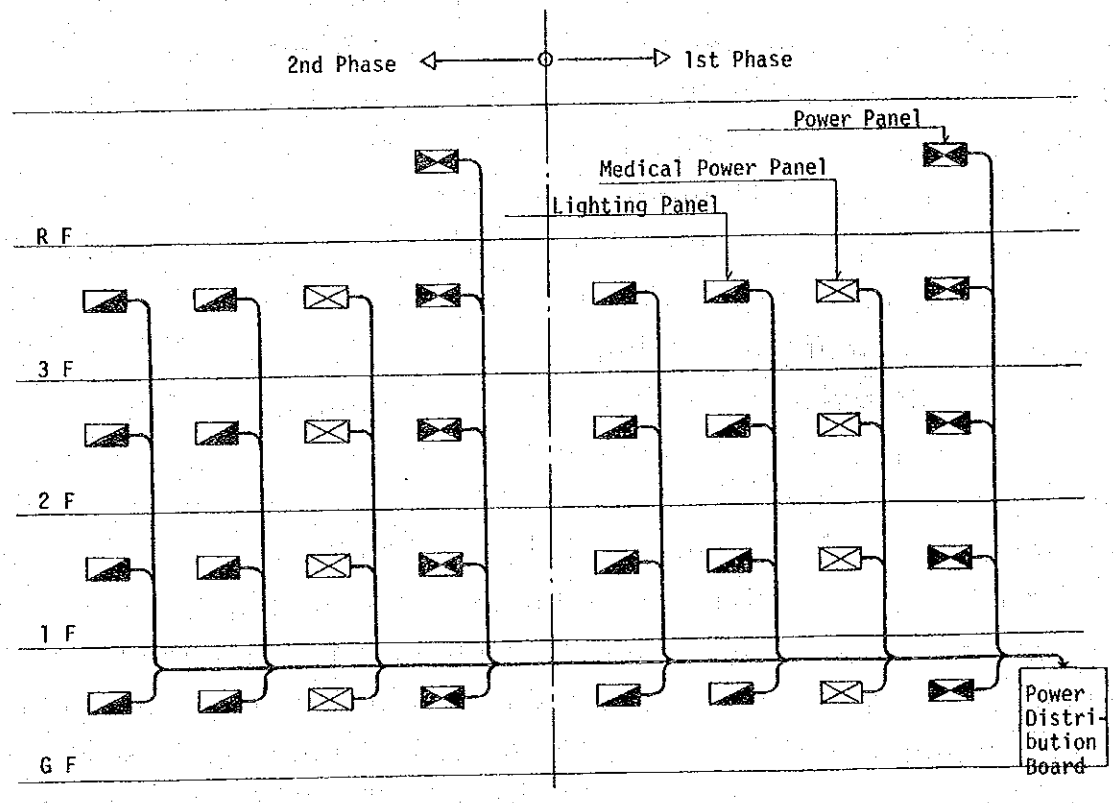


Fig. 4-7-ii Power Riser Diagram

and medical equipment panels. As voltage fluctuation more than 10 % from the rated voltage is expected, load selection will be considered to distribute power to main medical equipment through an automatic constant voltage device.

Estimated system design loads are as follow, totaling approximately 1,400KVA.

i.	Lighting, outlets	220KVA
ii.	Air-conditioning and ventilating load	550KVA
iii.	Plumbing load	130KVA
iv.	Medical equipment	400KVA
v.	Elevators	50KVA
vi.	Miscellaneous	50KVA

The above mentioned two incoming power should be used as usual power. A stand-by generator will be provided to supply emergency power. As in Cairo power interruption often occurs, the stand-by generator will be allowed to supply power to Operating Theaters, ICU, Neonatology, freezers, refrigerators, incubators, emergency lighting, fire fighting pumps and other necessary equipment. The estimated generator load is approximately 300KVA.

b. Stand-by generator

A 300KVA ganerator will be provided for emergency use and stand-by power supply.

c. Power mains

3-phase 380-volt and single-phase 220-volt power

mains will be installed through the distribution panel in the Electric Room up to power control panels, lighting panels and medical equipment panels.

Piping and wiring of the power mains for the Phase II building will be installed wherever necessary up to the junction boxes in the Phase I building, and from there the Phase II works will be carried on. Piping and wiring will generally be installed above the ceiling in horizontal direction, and in electric closet in vertical direction.

d. Lighting and receptacles

Office Rooms, Lecture Rooms, Waiting Halls and Corridors will be provided mainly with fluorescent fixtures and locally with incandescent fixtures. The following indicates the intensities of illumination in main rooms.

Office Room	300 luxes
Lecture Room	500 luxes
Professors' Room	300 luxes
Clinics	500 luxes
Waiting Hall	200 luxes
Dining Room and kitchen	200 luxes
Toilet and corridor	100 luxes
Operation theater	10,000 luxes
Ward	150 luxes
Machine Room	100 luxes

Receptacles will include general receptacle, medical equipment power supply receptacle, kitchen and laundry equipment power supply receptacle and receptacle for ventilating fan. All receptacles will be of single-phase 220 volts.

e. Monitor control system

Simple and convenient monitor control panels will be provided in the Electric Room to monitor air conditioners, ventilating fans, lifting pumps and draining pumps.

f. Power

Piping and wiring will be installed to distribute power to air conditioners, ventilating fans, fire fighting pumps, and lifting pumps. Piping from the power control panel to each load will generally be of exposed.

g. Telephone

It is considered necessary to provide 10 trank lines and about 100 extension lines. The telephone exchanger will be of simple cross-bar type having paging function.

h. Public address system

Public address system will be provided for paging throughout the Hospital, independent announcement in the Waiting Hall, and communication from the Control Room to the X-ray room.
Amplifier will be located in the Office Room and operated by a clerk. The office room is to be located in the Phase II building, so the system should be designed so as to be operative at the completion of Phase I, and permanently settled after the Phase II works. The system will include 20 lines. A BGM system will also be provided.

i. TV/Radio Antenna System

TV/Radio Antenna System and other necessary systems will be provided to permit employees and patients to enjoy TV programs in the Cafeteria, Waiting Hall and a part of Mother Rooms.

A VTR will be provided for health education in the waiting halls ground and 1st floor of Outpatient Clinic. Radio antenna system will also be provided.

j. Nurse call system

A nurse call system will be provided for paging nurses from patient rooms to the Nurse Station, and for communication from nurses to patients.

k. Interphone system

Interphone system will be provided for communication between the Gate House and the Office Room, the Machine Rooms and the Electrical Room.

l. Automatic fire alarm system

Automatic fire alarm system principally with thermal sensor will be provided, with the signed receiver located in the Office Room. Alarm will be effected through bell, located at fire hydrant cabinets.

m. Lift

Three stretcher typed lifts will be provided.

i. Passenger lift	1,000 kg	1 unit

ii.	Clear cargo lift	750 kg	1 unit
iii.	Soiled cargo lift	750 kg	1 unit

4 Air-conditioning, Heating and Ventilating Systems

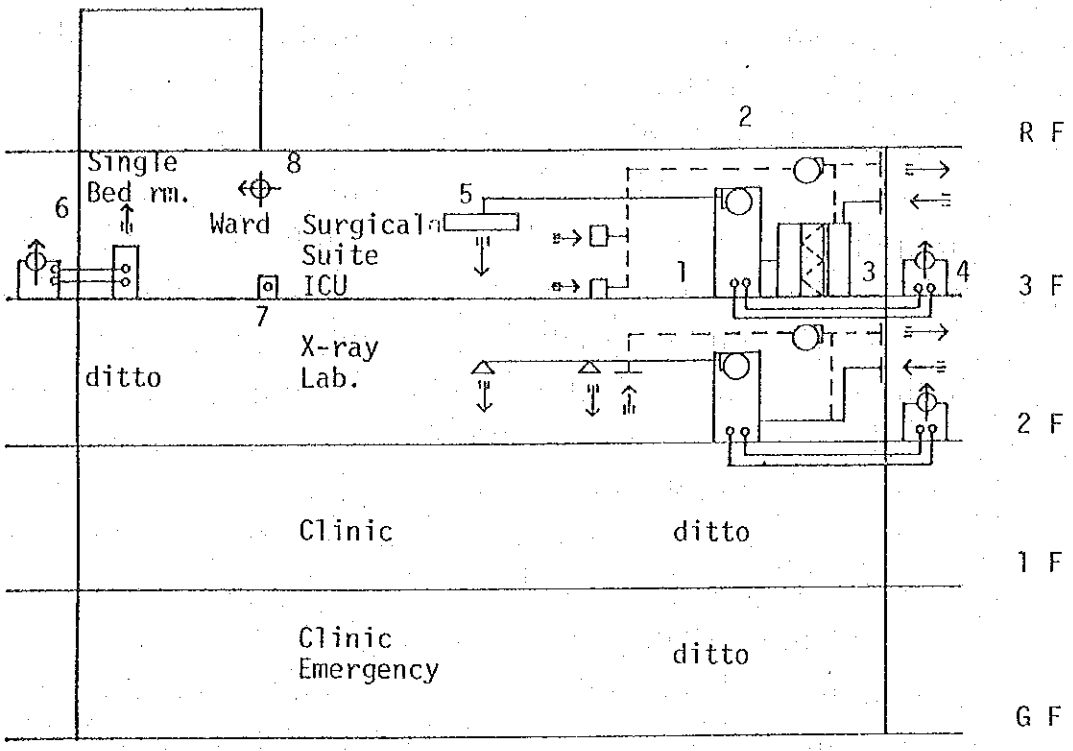
a. Refrigeration and Heating Equipment

Heating Equipment includes steam boiler, oil tank, hot well tank, etc. Considering the speciality of a hospital, these equipment will be provided in plural to prevent overall failure of the function in case of break down or required maintenance services. The steam boiler loads will cover heating, hot-water supply, kitchen and laundry equipment, and sterilization.

Cold heat generating system consisting of package type air conditioners (with enclosed chiller) will be sporadically arranged wherever necessary in the Hospital.

b. Air-conditioning Zoning and Heating

Depending on rooms' required temperature and humidity condition and air purity with time period and thermal load characteristics, air-conditioning zoning will be designed. Schematic zoing will be Surgical Suite zone, ICU zone, X-ray zone, Research Laboratory zone, Personal Examination zone, Clinic zones (north area and south area), Out-Patient zones (south area and north area), and Emergency zone. As a principle, private rooms (for example, professor's rooms) adjoining outside air and other private rooms apart from each air-conditioned zone will be cooled by mean of unit cooler. Kitchen and the Central Sterilizing Room will be provided with 'spot-cooling' air-conditioner. All bed rooms in ward is provided with heating system, architectural considerations will be given to obtain the



1:Package type Air-Conditioner 2:Return Fan 3: Air-Filter
4:Condensing Unit 5:Diffuser(with HEPA filter)
6:Separate type Air-Conditioner 7:Radiater 8:Exhaust Fan

Fig. 4-7-iii Air-Conditioning Diagram

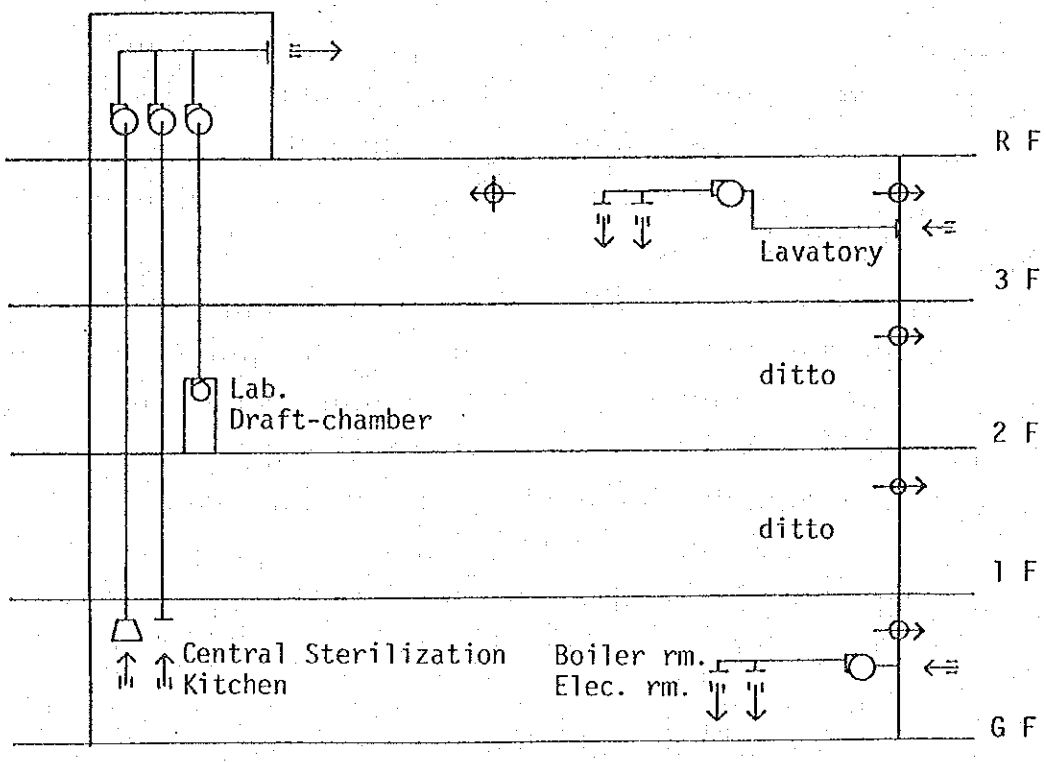


Fig. 4-7-iv Ventilation Diagram

maximum natural air flow and some mechanical ventilator will be provided auxilially where it is necessary.

c. Ventilation planning

Following rooms will be provided with a ventilating system with supply and exhaust fans: Boiler Room, Electrical Room, Kitchen and Laundry. Following rooms will be provided with exhaust fan only: Lavatories, filth disposal room. In addition, much malodor and harmful gases will be induced through hoods and draft chambers up to the roof where they will be dispersed. Namely, malodor and harmful gases from Kitchen, Central Sterilization Room and Laboratories will be induced through hoods and draft chambers up to the roof where they will be dispersed. A small quantify of exhaust air not detrimental to the surroundings will be locally exhaused at the place of origin.

5 Plumbing systems

a. Water supply system

Water will be conducted from the city mains to the water reservoir tank at the hospital compound where it will be further pumped up to an elevated water tank. A sterilizer will be connected to the pumping pipeline to keep chlorine concentration constant at all times. From the elevated water tank the water will be distributed by Gravity to where-ever necessary.

Approximate water consumption and capacity is estimated as follows:

i. Daily consumption: 240 wards x 1,500 l/ward.day
= 360 m^3/day

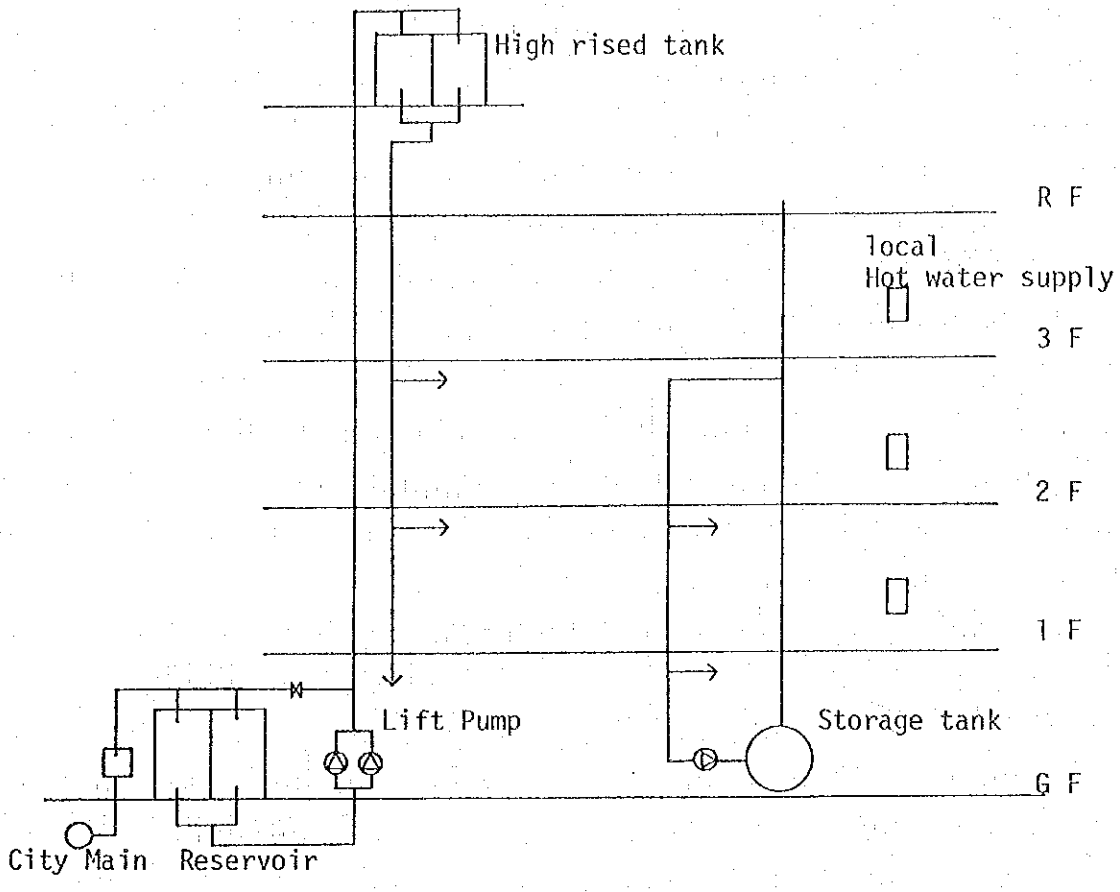


Fig. 4-7-v Water Supply Diagram

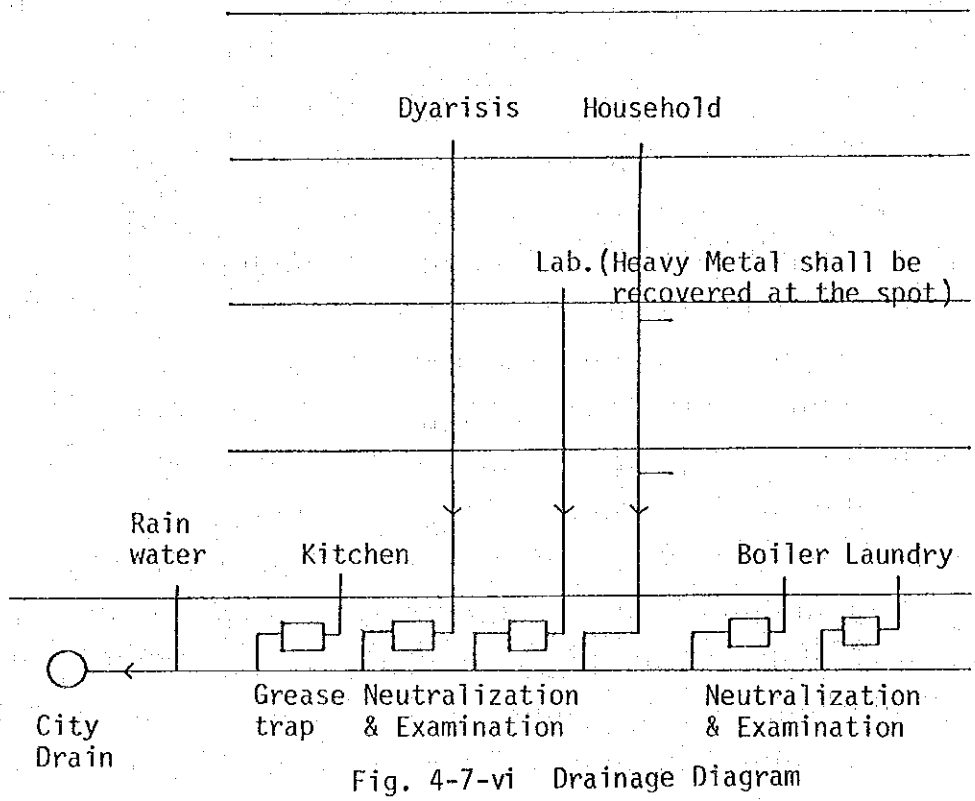


Fig. 4-7-vi Drainage Diagram

ii. Size of water reception tank to receive 180m^3 (a half day consumption) will be provided with partition so that some water can be used for clearing and maintenance services (90m^3 x 2 tanks).

iii. With consideration given to breakdown, two lifting pumps, one of which is for stand-by, will be provided.

b. Hot-water supply system

Supply system will consist of two subsystems; a central system with a hot-water storage tank located in the Machine Room to supply hot water to whatever necessary and the other with small-sized hot-water heaters (for drinking) at necessary places. The following rooms will be supplied with hot water: Kitchen, Central Sterilization Room, Pantry, Lavatories, Examination Rooms, Surgical Suites, ICU, Neonatology, Mortuary, and Central supply.

c. Drainage system

Drainage system shall be consisted of following sub-systems according to the nature of drain water from respective places through treatment or neutalization tanks where deemed necessary.

i. Household drainage (sewage and miscellaneous drainage)..... Discharged

ii. Drainage from Pharmacy and Examination Rooms.....
Neutralization tank ..... Discharged

iii. Drainage from kitchen ..... Grease trap
.....Discharged

iv. Drainage from laundry
and boilers .....Cooled .....Neutralization tank
.....Discharged.

v. Storm sewege ..... Discharged

However, the drainage contaminated by heavy metal such as developer and some from laboratory is subject to be recovered and not to be discharged to the public main.

d. To prevent hazard, gas supply will be limited to Kitchen and Examination Rooms.

e. Sanitary fixtures

Sanitary fixtures best suited to a children's hospital will be selected.

f. Fire fighting system

As a principle, a fire fighting system will be provided in accordance with applicable Japanese Law.

g. Incinerator

Incinerator will be provided to incinerate contaminated articles produced in the hospital by means of oil burners. Antipollution will be considered according to the Japanese environmental standard. Approximate capacity of the incinerator will be 240 beds x 2 kg/bed.day= 480 kg/day.

h. Kitchen

Kitchen apparatus best suited for the child's food will

be provided, also kitchenet and milk preparation apparatus will be provided on each floor.

i. Laundry

All laundry services for the hospital will be made in the hospital. Considerations will be given in selecting the laundry machines best suitable to treat some special linen in the children's hospital such as diapers. Capacity will be 1.0 - 1.5 kg/bed.day

j. Medical Gas

Oxygen, Nitrous Oxide, compressed air and suction outlets will be located at the necessitated places such as Operating Theatres, ICU, Neonatology, Private rooms in the Ward, Emergency Component etc.

k. Medical Equipment

These equipment related to medical services will be provided in the plumbing works.

i. Hand-wash basing in Surgical suite and Emergency, Out-Pacient Operating rooms with water sterilizer.

ii. Autoclaves in Central Sterilizing Room

iii. Bed pan sterilizer

iv. Utencils in Soiled Utility of the Ward.

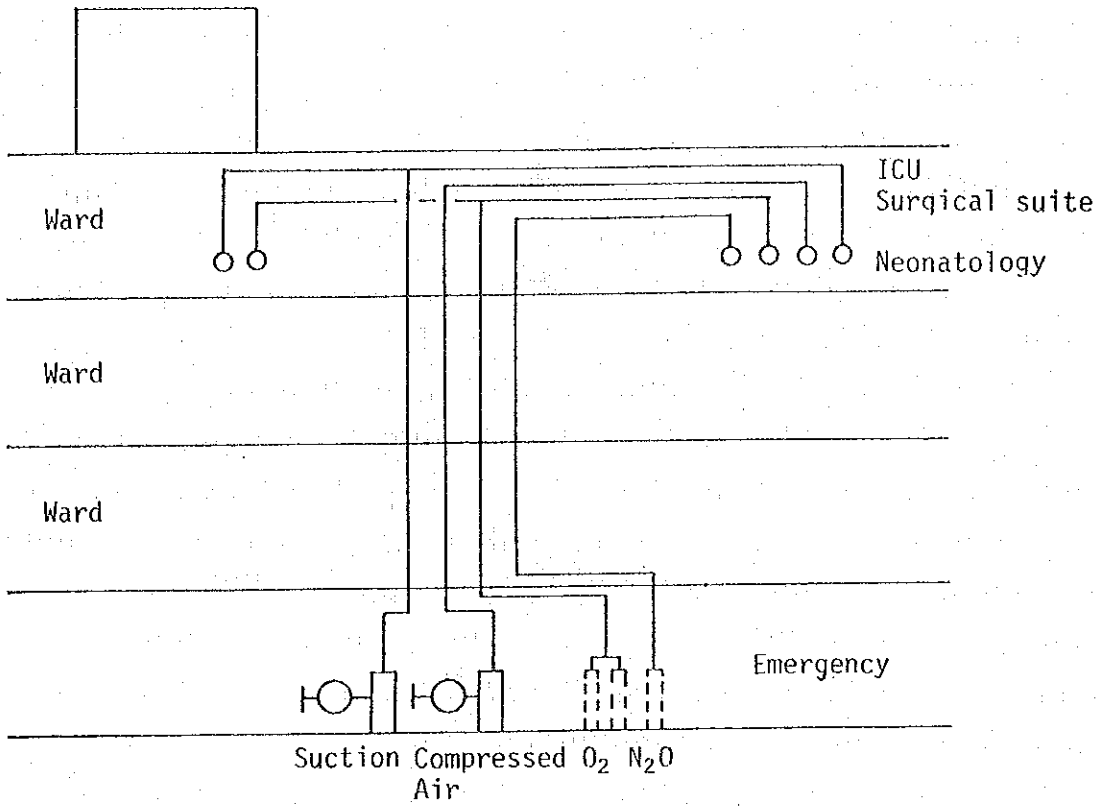


Fig. 4-7-vii Medical Gas Diagram

4-8 Medical Equipment

Schedule of medical equipment for each component and construction phase is as shown below:

Component	Phase I	Phase II
X-ray	TV-X-ray fluoroscopy Born & Chest X-ray Kidny & Galbradder X-ray Tomograph Automatic Film Processor Film Viewer	
Examine	Sonograph Endoscopy ECG EKG BMS ENG	
Laboratory	Auto analyzer Flame Photometer Spectro Photometer pH Blood Gas Analyzer Ballance Centrifuge Hemato Centrifuge Refrigerated Centrifuge Pathological Experiment Instrument Incubator Refrigerator Freezer Electro Microscope (Scanning type)	

	Fluorescent Microscope Microscope Photo Apparatus for Microscope	
Surgical Suite		Fundamental Instrument (Operating Table, Operating light, Anaesthetic Apparatus Film viewer Backet etc.) Monitor Resuscitator Mobile X-ray Micro-Surgery-Microscope
Out-Patient Clinic	Examine Couch, Desk, Film Viewer, Sphyg-momanometer, Luminous Fixer Audio-meter	
Emergency		Examine Couch, Treatment Table, Desk, Operating Table Operating light Resuscitator (Automatic & Manual) Mobile X-ray Blood-cell Counter
Post-Morten		Anatomical Table Operating light
Dialysin		Water Treatment Apparatus Individual Dialyzer

Central Supply	Autoclave EOG Sterilyzer	Autoclave
Pharmacy		Pharmaceutical Table Ballance Refrigerator Shelf
ICU	Monitor (Central & Bed side) Respirator (long term and short term) Resuscitator Emergency Examine Set	
Neonatology	Incubator Cott	
Ward		Bed Bed-side Table Nurse Station Apparatus

4-9 Scope of Works

1. Works to be borne by Japanese Grant Aid

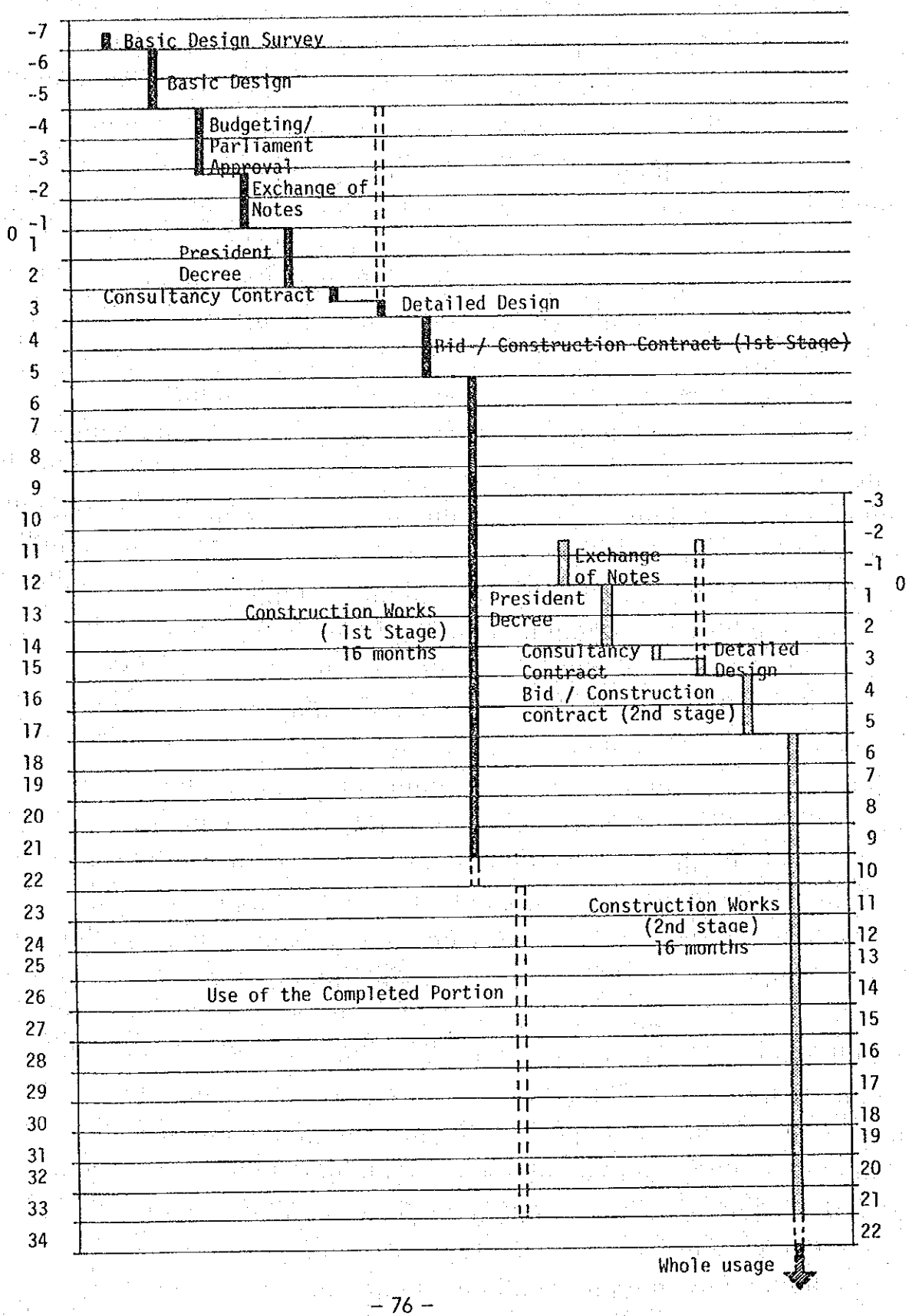
   a. Building Works
   b. Electric Works
   c. Plumbing Works
   d. Air-Conditioning, Heating and Ventilating Works
   e. Exterior Works
      i. Pavement with curbstone for the main entrance
      ii. Levelling within the site after completion
   f. Medical Equipment

2. Works to be borne by the Government of the Arab Republic of Egypt

   a. Site Measurement
   b. Geological Survey and Test
   c. Site Clearance
   d. Demolishing and removing of obstacles in the site including underground down to 2 meters deep.
   e. Main Power Cable to the main switch gear in the building including the connection
   f. Water Supply to the water reservoir in the site
   g. Drainage Connection to the public drain
   h. Gas Supply
   i. Medical Gas Supply
   j. Telephone Line to the main switch board in the building
   k. Gate (s) and Fence (s)
   l. Pavement and Curbestone except for the main entrance
   m. Landscaping and Gardening
   n. Office Supply
   o. Food Service Utencils
   p. Rugs and Curtains
   q. Bed and Bedding material

r. Linen
s. Drugs and Reagent
t. Mobile Furniture
u. Medical Equipment not to be included in Japanese Grant

4 - 10 SCHEDULE (TENTATIVE)



4-11 Maintenance and Cost

1. Maintenance Engineer

From the examples of similar hospitals in Japan, we estimate following numbers of maintenance engineers will be necessitated to this hospital when completed,

(1) Mechanical Maintenance Engineer	6
(2) Electrical Maintenance Engineer	5

2. Maintenance Cost

Cost for the maintenance of building, mechanical and electrical equipment in expected to be 150p - 200p per square meter per annual and repair cost will be needed after 4 or 5 years of completion, total cost is as follows:

(1) Maintenance Cost	appx. 2,000 LE/year
(2) Repair Cost (Example in Japan)	appx. 6,500 LE/year
	(500 - 750p/m^2. year)

3. Running Cost

To keep the hospital running, following running cost is estimated from our experiences in Japan taking local conditions into consideration.

(1) Kerosine	appx. 38,000	LE/year
(2) Gas	appx. 360	LE/year
(3) Electricity	appx. 30,400	LE/year
(4) Water	appx. 1,000	LE/year
Total	69,760	LE/year

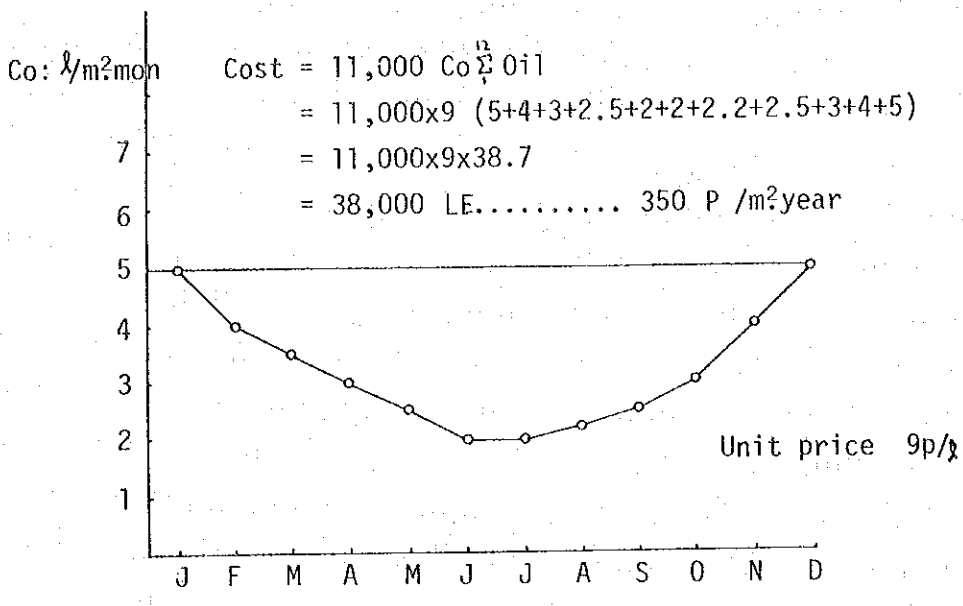


Fig. 4-13-i Fuel Comsumption

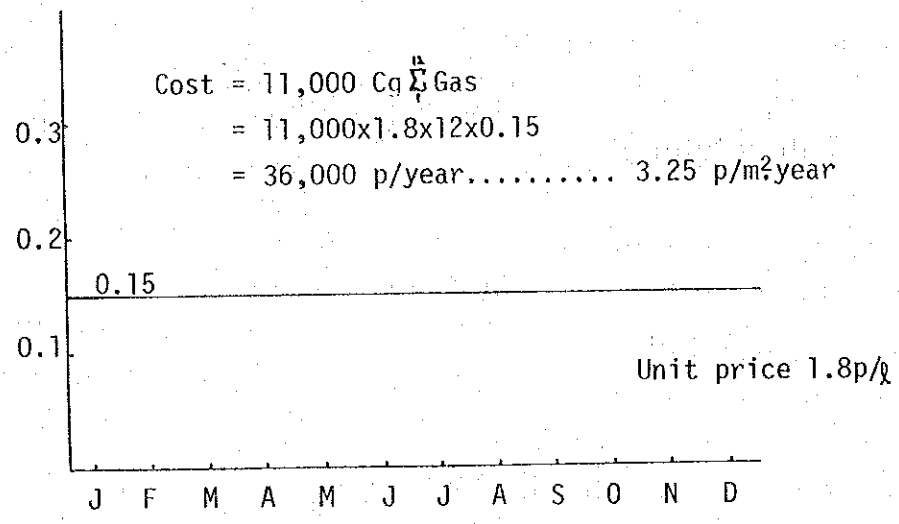


Fig. 4-13-ii Gas Comsumption

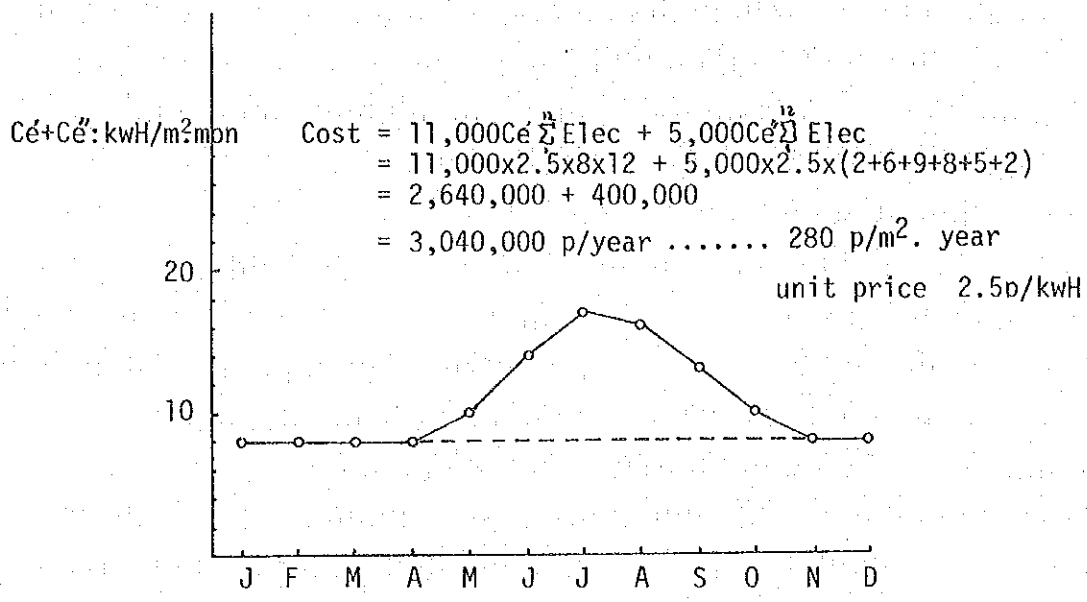


Fig. 4-13-iii Electricity Consumption

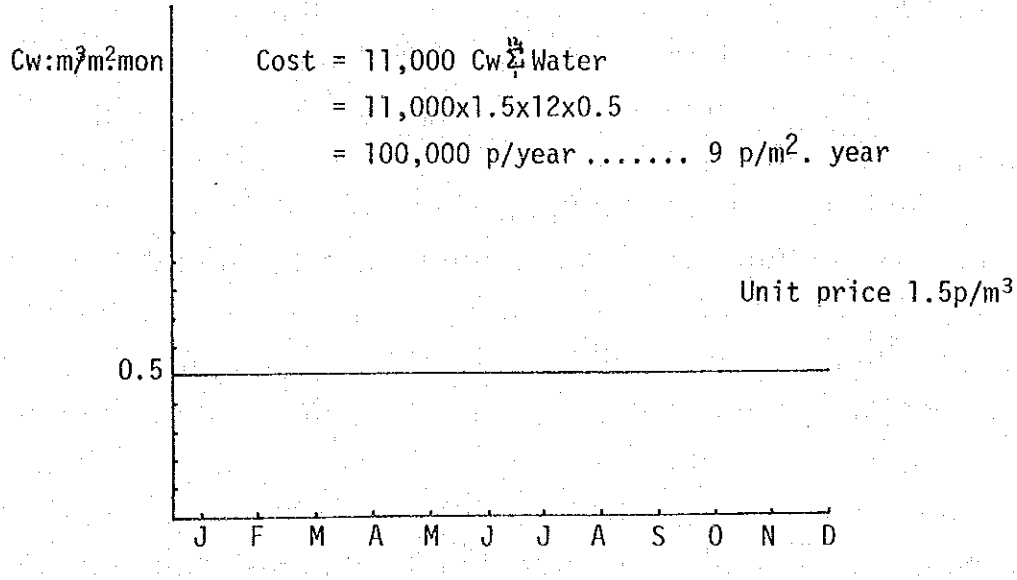


Fig. 4-13-vi Water Consumption

CHAPTER 5 : CONSIDERATION AND SUGGESTION

CHAPTER 5 : CONSIDERATION AND SUGGESTION

5-1 It is clear that the high ratio of children to total population and their high mortality ratio present so many difficulties to the Government of the Arab Republic of Egypt on the mother and child's health today and future society of Egypt. The existing Children's Hospital is now deteriorated after fifty years of its service, and quite unsuitable for the modern medical services and medical education and training of medical, para-medical personnel who are much in demand.

With these backgrounds in mind,it will be very easy to understand the construction of the new paediatric hospital as one of the most important policies of the Government of the Arab Republic of Egypt and its heartful anxiety for the cooperation of the Government of Japan on this project.

Considering that the Cairo University Paediatric Hospital has been the center of paediatric activities in Egypt and the Middle East, the Japanese cooperation to the construction of the new paediatric hospital means to contribute to the children's welfare and social development which clearly matches with the Japan overseas economic cooperation policy i.e. 'Basic Human Needs' and improve the good friendship between the two nations.

The year of 1979 is the United Nation's Year of Children'. In 1957 United Nation's 'Children's Chapter' was issued, and this year, after 20 years, was regarded as the time to revise program for the children. The Government of Egypt developed new programs for children's health and welfare in a big anticipation of the people. When this project comes into a realization at this occasion, there will never be a better timing.

5-2 There is no limit for a hope, and the future of medicine is unpredictable, anything could be expected to the new hospital, however, we must consider a financial and practical limitation, so with a series of discussions the Survey Team and the Egyptian Authorities concerned agreed to the schematic plan for the new hospital.

Most essential factors, most urgently needed facilities and future plan are taken into consideration to make the plan, and it is very sure that when completed this new hospital never fails to contribute to the children's and mother-and-child health care and welfare in Egypt, today and future.

5-3 When this project is realized, many modern medical equipment from Japan will be installed for the first time in Egypt and it requires skilled engineers who are trainned in maintenance, operation and administration of these equipment.

5-4 Analysis of the Schematic Plan

A comparison of the schematic plan for this project with the Japanese hospitals in floor area per bed is as shown on Fig. 5-4-i below and a ratio of each component to the total floor area is as shown on Fig. 5-4-ii on the next page.

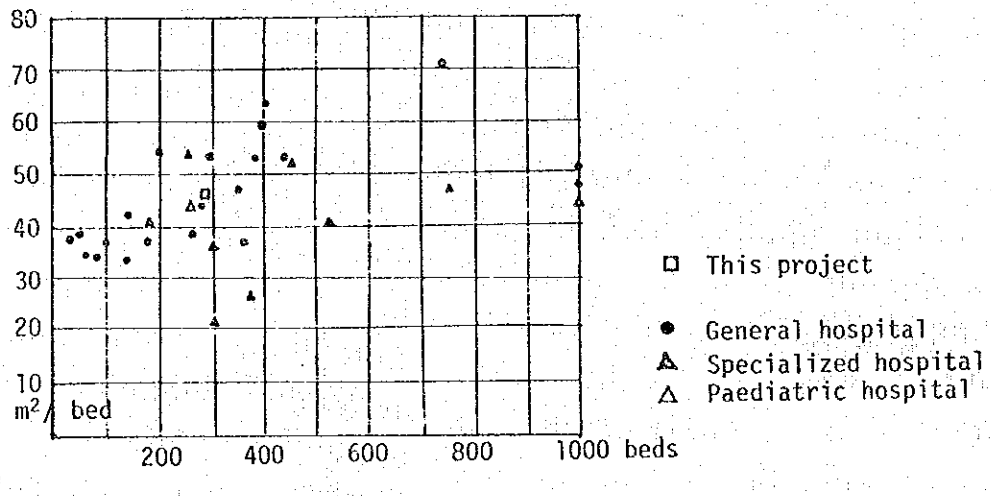


Fig. 5-4-i

From these data we will be able to state as follow and they also show the character of this project clearly.

1. The floor area per bed ratio shows almost mean value, but it is smaller compared with paediatric hospitals and university afiliated hospital. However, it will show a moderate value when the existing hospital is counted in.

2. In a small sized hospital, often the ward shows a high ratio, however, in this case well-equipped ICU, Neonatology and Dialysis Room is computed in this area.

3. As family members accompany more to the hospital in Egypt than in Japan, a wider waiting hall is requested, hence it shows bigger Out-Patient Component ratio. Emergency Component is included in this section.

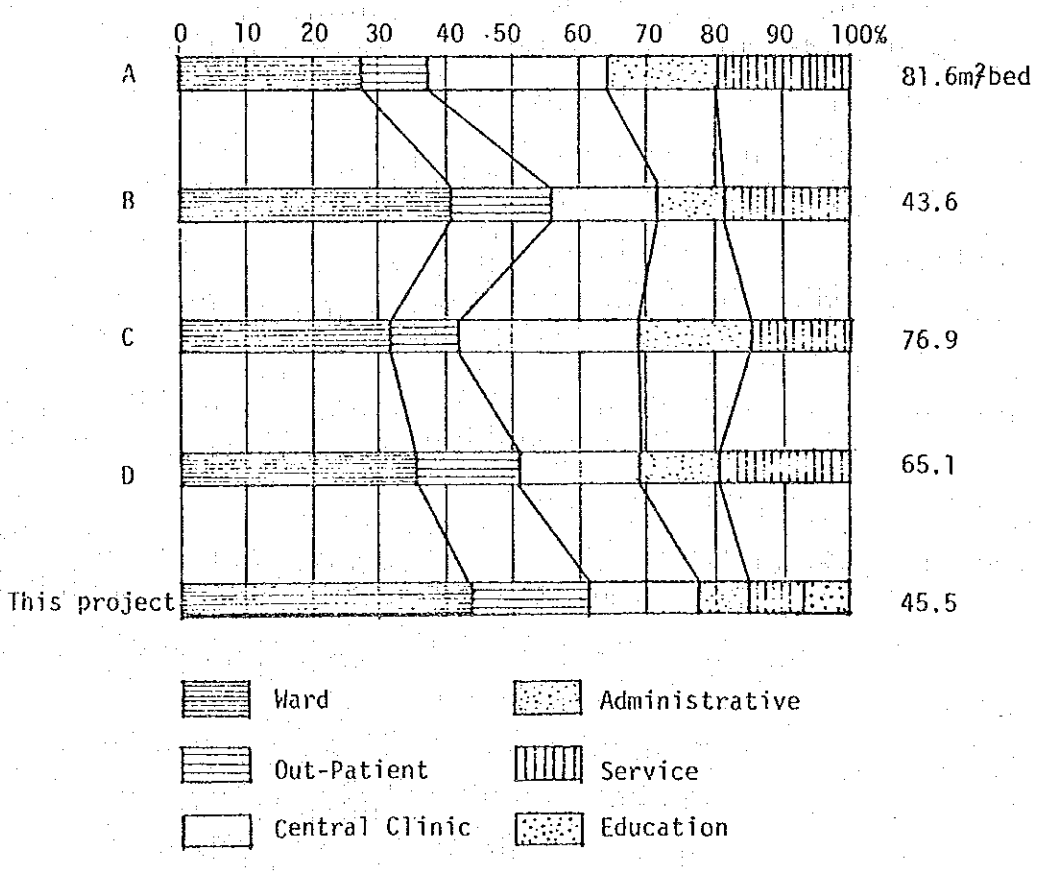


Fig. 5-4-ii

4. Enough floor area is secured for the Central Clinic Component. It is interesting to know that the Case B with the almost same floor area per bed shows almost the same percentage of the Central Clinical Component.

5. Some part of the Administrative Component remain at the existing, so the comparison is meaningless.

6. The area for Service Component depends on the local circumstances and living conditions. The system of hospital administration also differes, so a comparison could not be made.

7. Japanese examples are not classified for the Educational area.

5-5 Maintenance Staff and Cost

As it is stated in Chapter 4, 4-12 , eleven maintenance engineers will be needed to keep this building not including the maintenance for the medical equipment.

The maintenance cost for the building is estimated as follows;

Approx. 2,000 LE per year
Approx. 6,500 LE per year for repairing after 4 or 5 years from completion (Example in Japan)

5-6 Running Cost

The running cost for the new building is estimated as follows:

1.	Kerosene	Approx.	38,000 LE/year
2.	Gas	Approx.	360 LE/year
3.	Electricity	Approx.	30,400 LE/year
4.	Water	Approx.	1,000 LE/year
	Total	Approx.	69,760 LE/year

5-7 The Government of the Arab Republic of Egypt shares the responsibility in realization of this project and will have a whole responsibility for the administration and maintenance of the new hospital.

Here we would like to describe some of these responsibilities which rest on the Government of Egypt.

1. Land preparation for the project

2. Prompt performance in the formal procedure required to this project from the Egyptian side

3. Executing the responsibilities of the Egyptian Government in accordance with the 'Exchange of Notes' on this project

4. Providing every convenience for execution of the Project

5. Preferential supply of building materials under governmental control

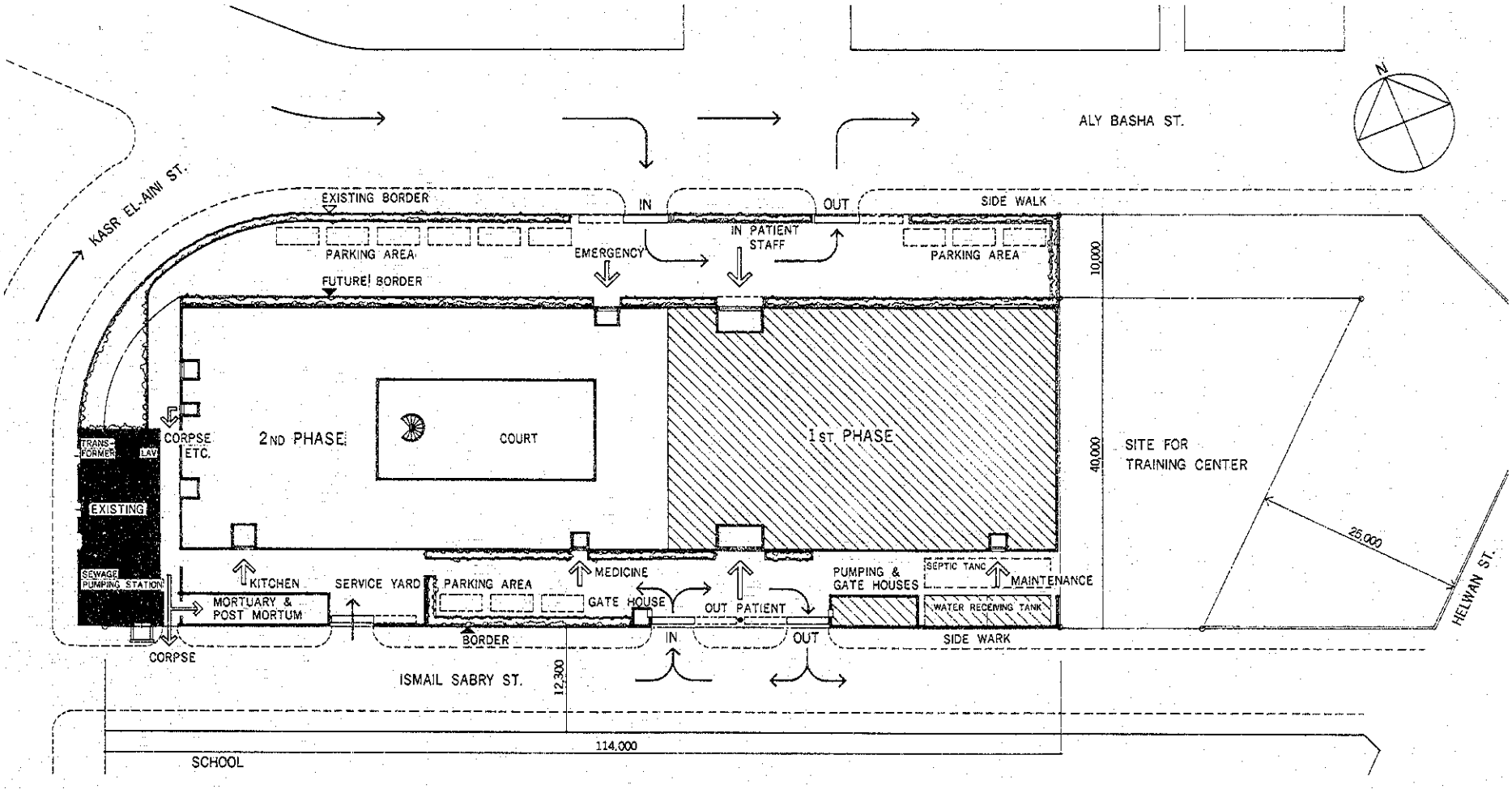
6. Prompt execution of works to be done by the Egyptian Government

7. Effective administration, operation and maintenance of the building and equipment by his own expense

Finally, we would like to emphasize the following suggestions to the Government of the Arab Republic of Egypt;

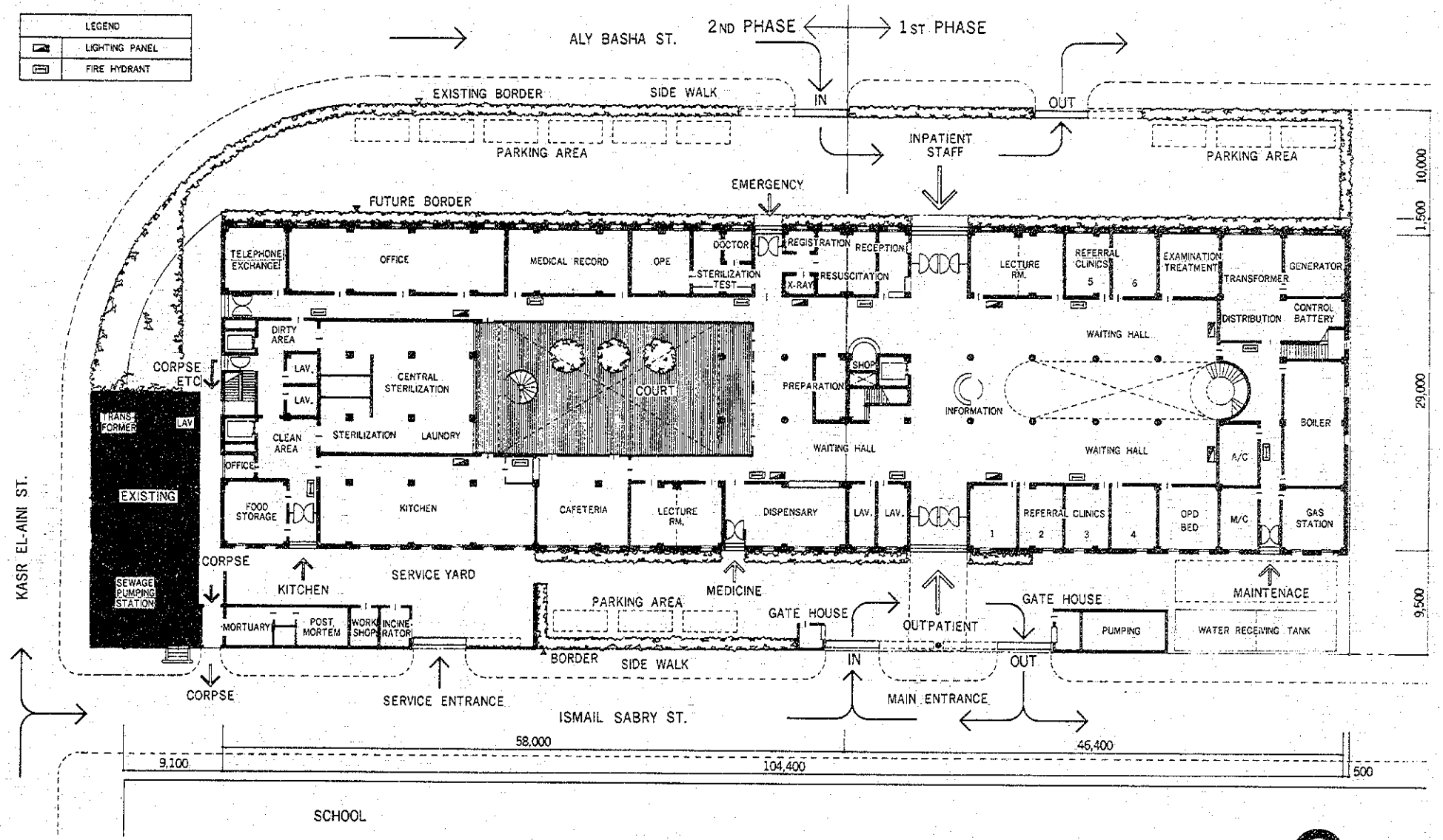
1. To train and educate doctors, nurses, para-medical staff and students in order to administrate, operate and maintain the hospital functionally.

2. To provide enough budget for administration, operation and maintenance of the building so that this hospital will be activated to its maximum faculty for medical services and welfare of the people of Egypt.



SITE PLAN SCALE 1:700

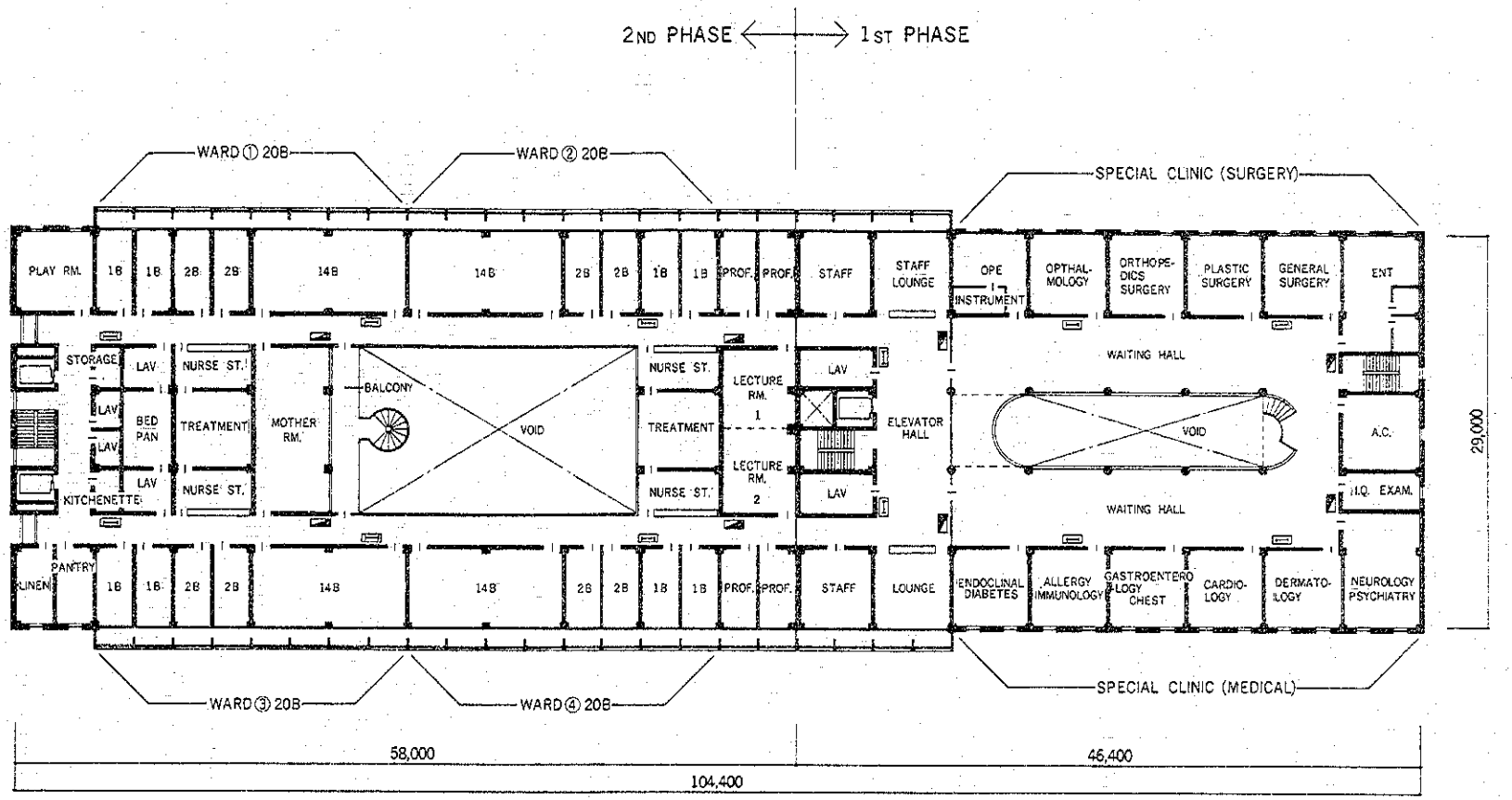
1



GROUND FLOOR PLAN

SCALE 1:500

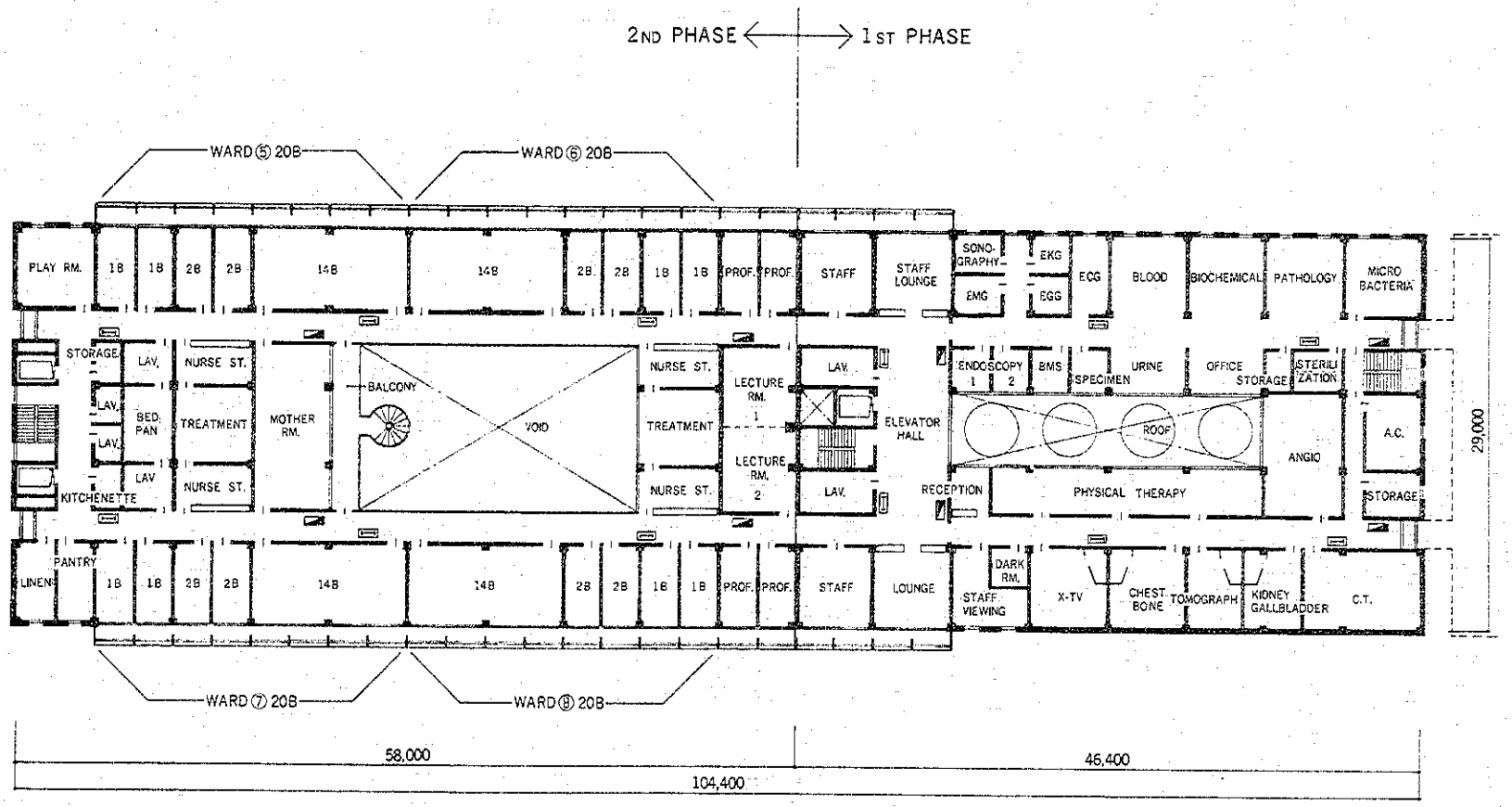
2



1ST FLOOR PLAN

SCALE 1:500

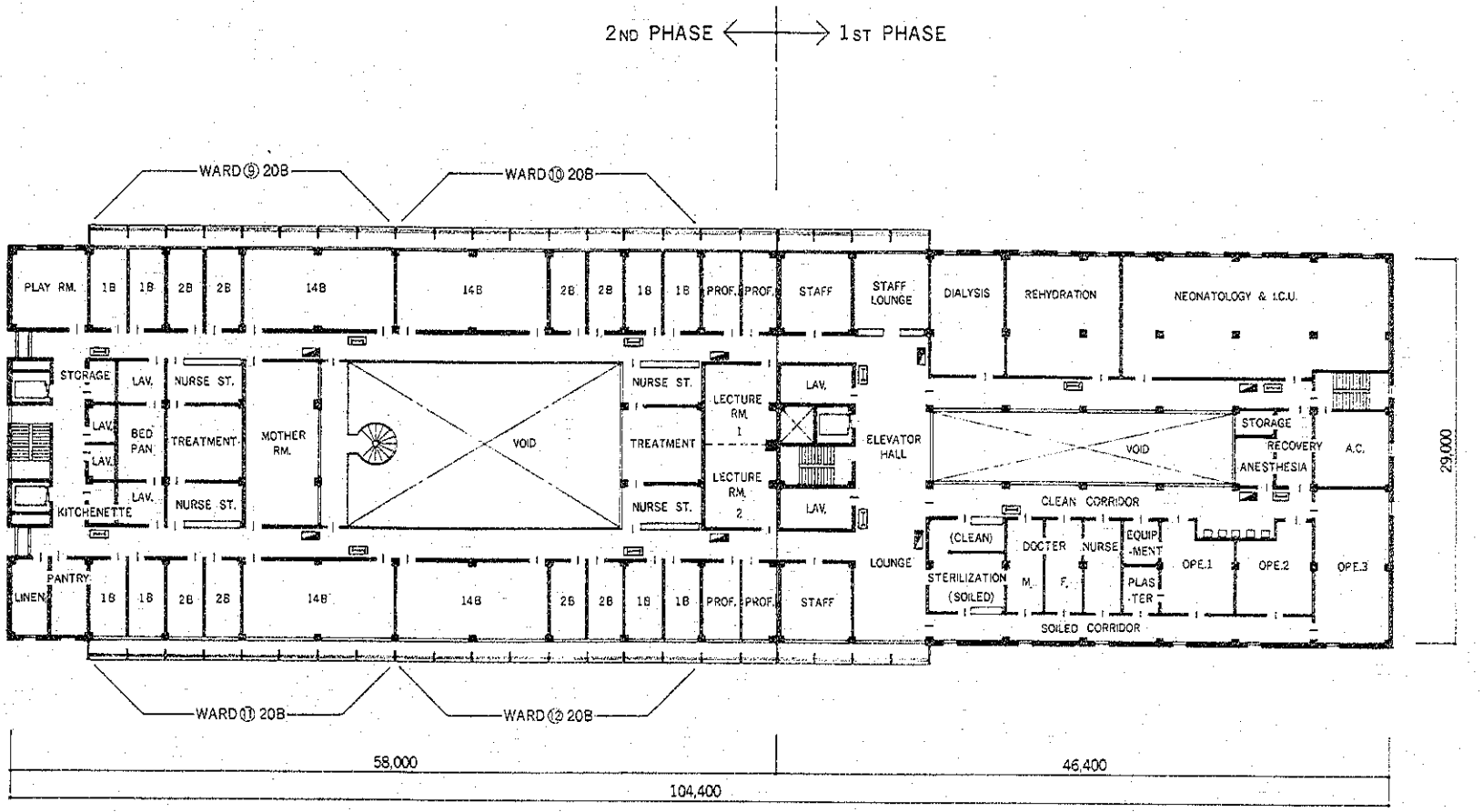
3



2ND FLOOR PLAN

SCALE 1:500

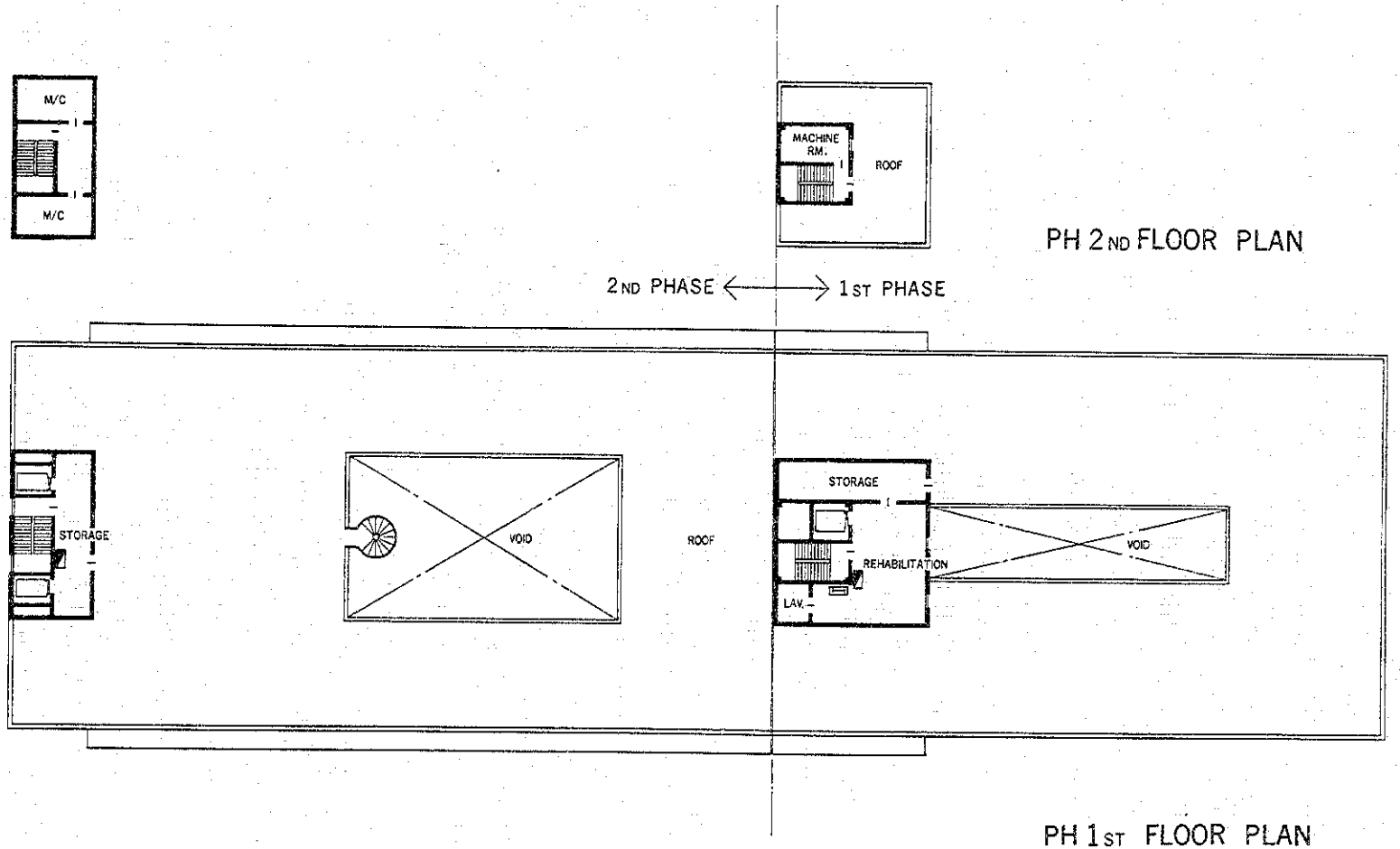
4



3RD FLOOR PLAN

SCALE 1:500

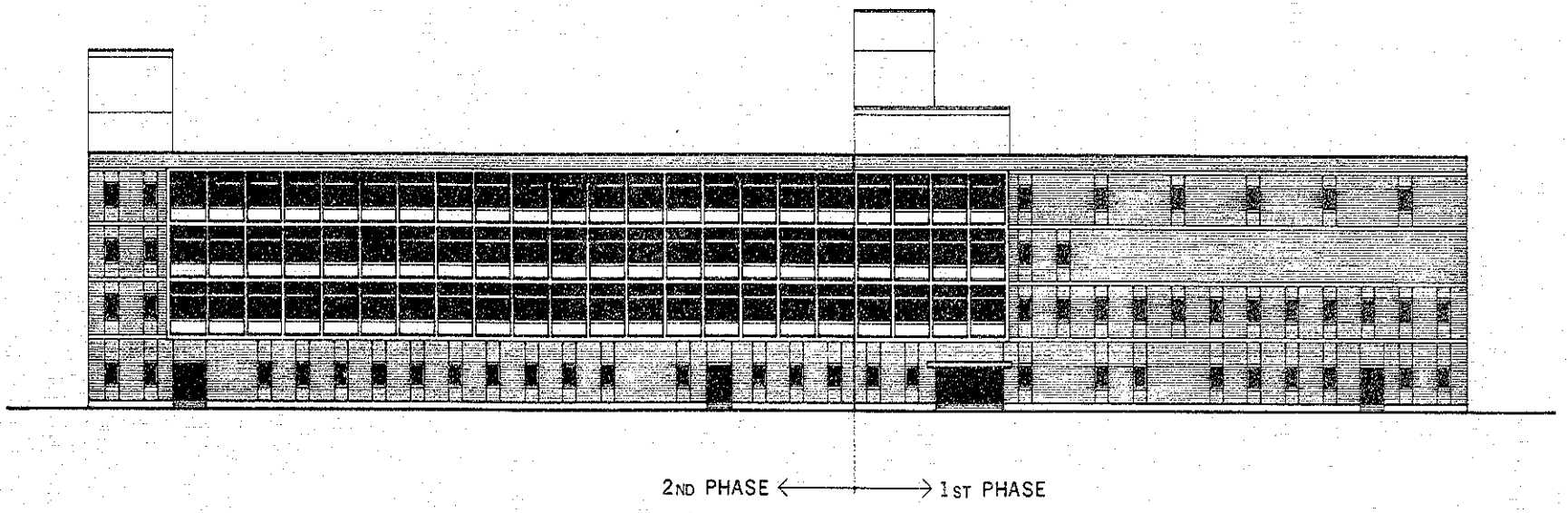
5



PH 1ST AND 2ND FLOOR PLANS

SCALE 1:500

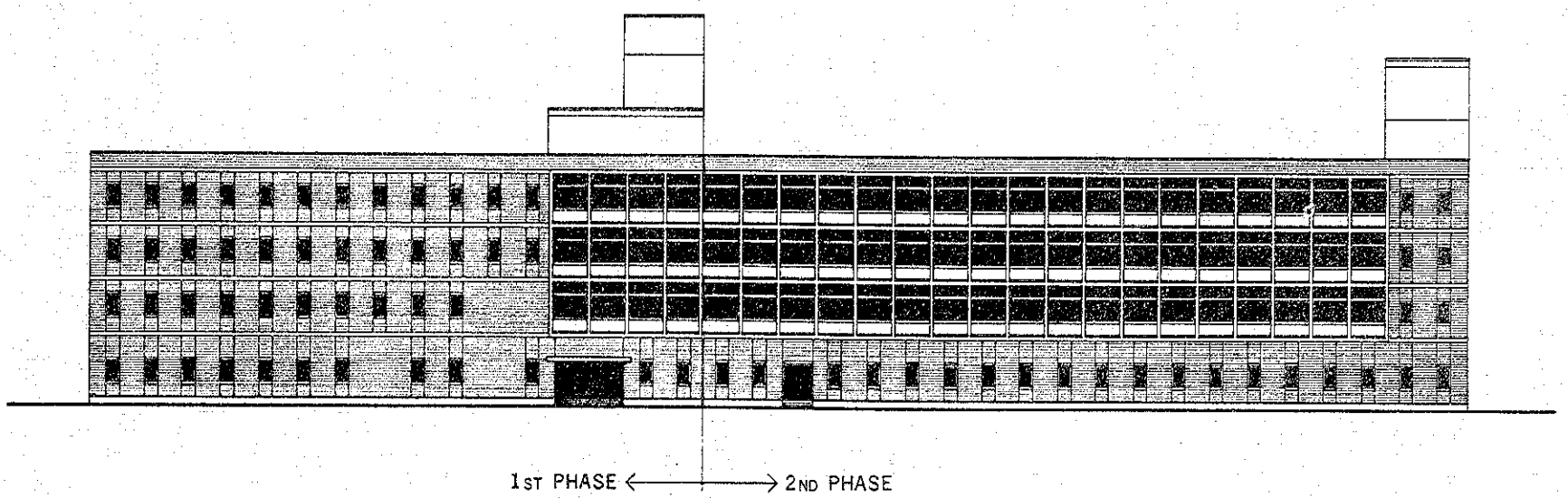
6



SOUTH ELEVATION

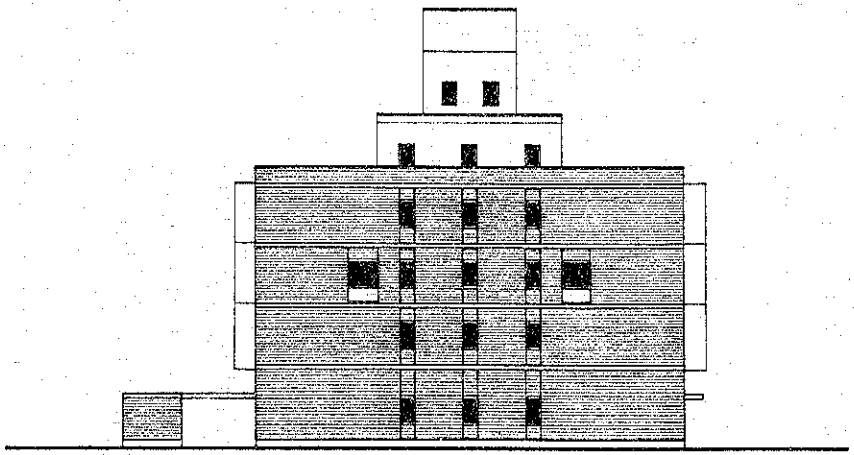
SCALE 1:500

7

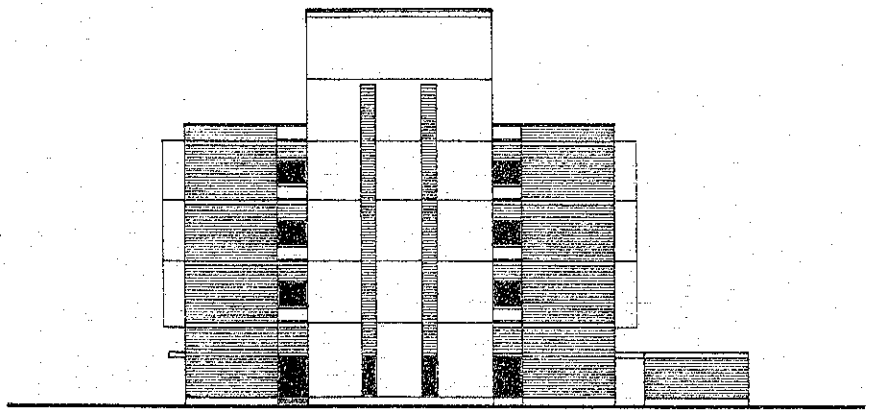


NORTH ELEVATION SCALE 1:500

8



WEST ELEVATION

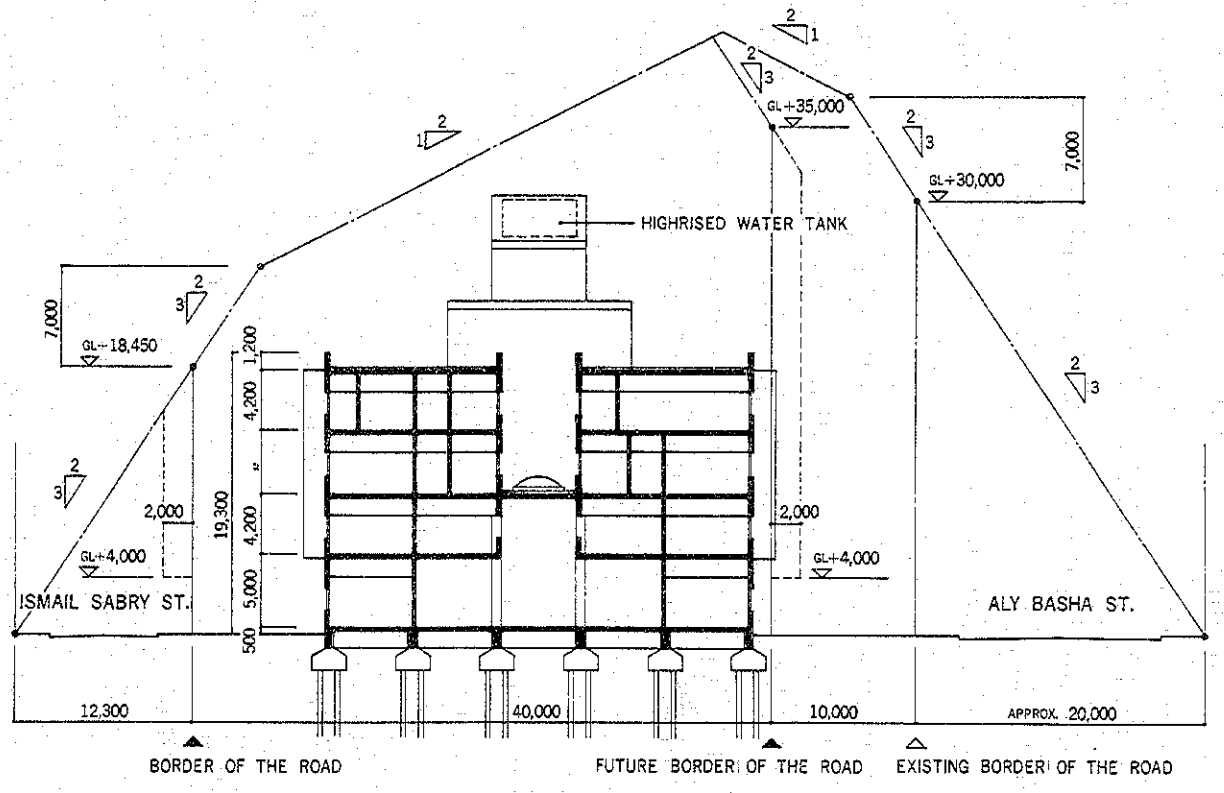


EAST ELEVATION

WEST AND EAST ELEVATIONS

SCALE 1:500

9



SECTION SCALE 1:500

10

APPENDIXES

APPENDIX I : MINUTES OF THE MEETING

APPENDIX II : EGYPTIAN GOVERNMENTAL AUTHORITIES CONCERNED

APPENDIX III: MEMBER AND DIARY OF JAPANESE TEAM

APPENDIX I

MINUTES OF THE MEETING ON THE PROJECT FOR THE CAIRO UNIVERSITY PAEDIATRIC HOSPITAL CONSTRUCTION

At the request of the Government of the Arab Republic of Egypt, the Government of Japan through Japan International Cooperation Agency (JICA) sent a survey team to Egypt headed by Professor Dr. Mikio Kimura, School of Medicine, Tokai University, from November 8th to November 26th, 1979 in order to work out the basic design for the new Cairo University Paediatric Hospital (hereinafter referred to as the Hospital).

During the above mentioned period, the team held a series of discussions with the Egyptian Authorities concerned and conducted a field survey on the basic design of the Hospital.

As the result, both parties have agreed to recommend their respective Governments to take necessary measures as described below:

1. The name of the Hospital is Cairo University Paediatric Hospital.

2. The Hospital will be constructed on a site at Aly Ibrahim Street, Mounira Sayeda Zeinab, Cairo, the Arab Republic of Egypt.

3. The objectives of the project is to provided necessary buildings and facilities for the Hospital, which will have the following functions;

   a) To provide medical facilities for paediatrics.

   b) To provide facilities for teaching, trainning and research in paediatrics for medical and para-medical personnel.

(to be continued)

(continued)

4. The Hospital will be composed as follows:
   a) Administrative Component
   b) Out-Patient and Emergency Component
   c) In-Patient Component
   d) Central Clinical Component
   e) Service's Component
   f) Teaching and Research Facilities

5. The necessary measures to provide the buildings and medical equipment for the Hospital shall be taken by the Government of Japan.

6. The necessary measures as stated below shall be taken by the Government of the Arab Republic of Egypt:
   a) To secure land suitable for the construction of the Hospital
   b) To secure land for temporary use necessary for the construction of the Hospital
   c) To provide data and information necessary for the design and construction of the Hospital including soil survey, soil test and other geological survey reports
   d) To ensure prompt unloading and customs clearance in the Arab Republic of Egypt of imported materials and equipment for the Hospital and also to facilitate the internal transportation of them
   e) To exempt Japanese nationals concerned from customs duties, internal taxes and other fiscal levies which may be imposed in the Arab Republic of Egypt on the occasion of the supply of goods and services for construction of the Hospital
   f) To provide and accord necessary permissions, licences and other authorization required for carrying out the project.
   g) To provide such items necessary for the Hospital as listed on the attached sheet hereto
   h) To provide all necessary expenses for the operation and maintenance of the Hospital

(to be continued)

(continued)

7. The Basic Design Report shall be presented to the Government of the Arab Republic of Egypt by the middle of January 1980.

November 25, 1979.
Cairo, The Arab Republic of Egypt.

Prof. Dr. Ibrahim Badran
Rector, Cairo University.

Prof. Dr. Mikio Kimura
Leader, Japanese Survey Team.

Prof. Dr. Moustafa Kamel Helmy
Minister of Education
The Arab Republic of Egypt.

Prof. Dr. Mamdouh Gabr
Minister of Health
The Arab Republic of Egypt.

ATTACHMENT TO THE MINUTES OF THE MEETING

The following items and cost incurred shall be born by the Government of the Arab Republic of Egypt:

1. Site reclamation
2. To remove obstacles in the site including the underground
3. Water supply from main pipe to the reservoir
4. Electric power supply to transformer sub-station
5. Telephone trunk line to main distribution board
6. Gas piping to the measurement meter in the site or installation of gas cylinder(s)
7. Medical gas cylinder(s) installation
8. Drainage and sewage connectionto main and/or sewage system
9. Landscaping, gateway, fence, exterior lighting and pavement not included in the building works
10. Furnitures, rugs, drapes and office supplies
11. Medical equipment other than supplied by the Government of Japan

APPENDIX II : EGYPTIAN GOVERNMENTAL AUTHORITIES CONCERNED
(MEMBERS OF THE COMMITTEE)

Prof. Dr. Mamdouh GABR	Minister of Health
Prof. Dr. Ibrahim BADRAN	Rector of Cairo University
Prof. Dr. Hashem FOUAD	Dean of Faculty of Medicine
Dr. Saad El-Din FOUAD	1st Under-Secretary of State Ministry of Health
Prof. Ahmad Safwat SHOUKRY	Head of Paediatric Department
Prof. Hussein Kamel BAHA-EL-DIN	Professor of Paediatrics
Prof. Ahmed HANAFY	Director General of University Hospital
Prof. Ahmed KOTB	Professor of Paediatrics
Prof. Abdel-Gelil BASSIONY	Professor of Medicine
Prof. Youssef Shafik	Professor of Architecture
Prof. Ibrahim GAFAAR	Professor of Civil Engineering
Prof. Helmy El-RAMLY	Professor of Civil Engineering
Dr. Ahmed GABER	Assistant Professor of Biomedical Engineering
Eng. Hassan SHARAWY	Assistant Secretary of Cairo University and Chief Engineer
Dr. Nabahat FOUAD	Ministry of Health
Dr. Hussein El-BOROLOSSY	Gombouria Company for Medical Equipment
Dr. Reda MAHFOUZ	ditto
Mr. Mounir HAFEZ	Administrator, Paediatric Hospital
Mr. Mohamed ABDEL-KERIM	Engineer
Mr. Ahmed Afify ABDEL-ZAHAR	Cairo University

APPENDIX III : MEMBER AND DIARY OF JAPANESE TEAM

1. Member

1. Preliminary Survey Team
(dispatched period: from July 31st to Aug. 14th 1979)

Prof. Dr. Hitoshi KASUGA	Professor Department of Public Health School of Medicine Tokai University
Prof. Dr. Mikio KIMURA	Professor Department of Paediatrics School of Medicine Tokai University
Mr. Takayuki SHIKATA	Architect Minister's Office Ministry of Welfare
Mr. Akira NAGASHIMA	Engineer Minister's Office Ministry of Welfare
Mr. Yoshio YABE	Social Development Cooperation Dept. Japan International Cooperation Agency

2. Basic Design Survey Team
(dispatched period: from Nov. 7 to Nov. 28th 1979)

Prof. Dr. Mikio KIMURA	Professor Department of Paediatrics School of Medicine Tokai University
Mr. Saburo YAMAGUCHI	Social Development Cooperation Dept. Japan International Cooperation Agency
Mr. Hideo WATANABE	Architect Manager: Design and Supervisory Div. Nikken Sekkei Ltd.
Mr. Koichiro SHIKIDA	Project Architect Design and Supervisory Div. Nikken Sekkei Ltd.
Mr. Koichi SUZUKI	Engineer Electrical and Mechanical Div. Nikken Sekkei Ltd.

Mr. Hiroyuki SUZUKI	Engineer Structural Div. Nikken Sekkei Ltd

3. Confirmation Survey Team

(dispatched period: from Jan. 10th. to Jan. 19th. 1980)

Prof. Dr. Hitoshi KASUGA	Professor Department of Public Health School of Medicine Tokai University
Mr. Yoshihisa KONDO	Councillor Social Development Cooperation Dept. Japan International Cooperation Agency
Mr. Hideo WATANABE	Architect Manager: Design and Supervisory Div. Nikken Sekkei Ltd
Mr. Koichi SUZUKI	Engineer Electrical and Mechanical Div. Nikken Sekkei Ltd

2. Diary

1. Basic Design Survey Team (November 7th - 28th, 1979)

Date	Day	Description
Nov. 7	Wed.	Onward flight from Tokyo
8	Thr.	Arrival in Cairo
9	Fri.	
10	Sat.	First meeting with the Egyptian Authorities: Explanation on schedule, survey, assignment of the Team, scope of work, procedure of Japanese Grant Aid etc. Visit to the proposed site and existing Paediatric Hospital
11	Sun.	Second meeting: Explanation and discussion on grand schedule of the project, survey items and questionairs, Set up of the working committee, requirement on the soil test
12	Mon.	Third meeting: Discussion on technical matters, preparation of soil test
13	Tue.	Fourth meeting: On technical matters Survey on technical matters
14	Wed.	Fifth meeting: On technical matters Visit to Ain Shams Hospital, Survey on technical matters
15	Thr.	Sixth meeting: On technical matters Survey on technical matters
16	Fri.	Seventh meeting: On technical matters Site survey Prof. Dr. Kimura left Cairo for Japan
17	Sat.	Eighth meeting: Submission of the First Revised Plan from the team Survey on technical matters Discussion on technical matters
18	Sun.	Survey on technical matters

Nov. 19	Mon.	Ninth meeting: On technical matters Survey on technical matters
20	Tue.	Tenth meeting: Submission of Second Revised Plan from the team, discussion on technical matters Survey on technical matters
21	Wed.	New year's holiday
22	Thu.	Eleventh meeting: Discussion on the draft of the Minutes Twelfth meeting: Submission on the Third Revised Plan from the team, discussion on technical matters Survey on technical matters Luncheon by the Minister of Education at the Sheraton Hotel
23	Fri.	Thirteenth meeting: On technical matters Survey on technical matters
24	Sat.	Interim Report to the Japanese Embassy Tea party by the First Lady Mrs. Sadat Survey on technical matters
25	Sun.	Fourteenth meeting: Exchange of the Minutes of the Meeting Submission of the Final plan from the team Survey on technical matters Cocktail party at the Sheraton Hotel inviting all Authorities concerned
26	Mon.	Visit to buildings in Cairo under construction
27	Tue.	Return flight for Japan
28	Wed.	Arrival in Tokyo

2. Confirmation Survey Team for Basic Design (January 10th - 19th, 1980)

Date	Day	Description
Jan. 10	Thr.	Onward flight from Tokyo
11	Fri.	Arrival in Cairo
12	Sat.	Courtesy call at the Embassy of Japan Courtesy call at the Ministry of Health First meeting with the Egyptian Authorities: Explanation and discussion on schedule of the confirmation survey, draft report on basic design and supplementary survey items
13	Sun.	Second meeting: Explanation and discussion on comments of the Egyptian Authorities to the draft report on basic design
14	Mon.	Third meeting: Explanation and discussion on view of the Japanese survey team to the comments of the Egyptian Authorities Luncheon by the Minister of Health at the Nile Hilton Hotel
15	Tue.	Fourth meeting: Discussion on the draft of the Minutes Site survey Visit to the existing children hospital
16	Wed.	Fifth meeting: Exchange of the Minutes of Discussion Luncheon by the Japanese ambassador at the ambassador's residence
17	Thr.	Survey on technical matters and supplementary survey items Dinner party by the Japanese survey team at the Meridian Hotel
18	Fri.	Survey on technical matter Return flight for Japan
19	Sat.	Arrival in Tokyo

94

JICA