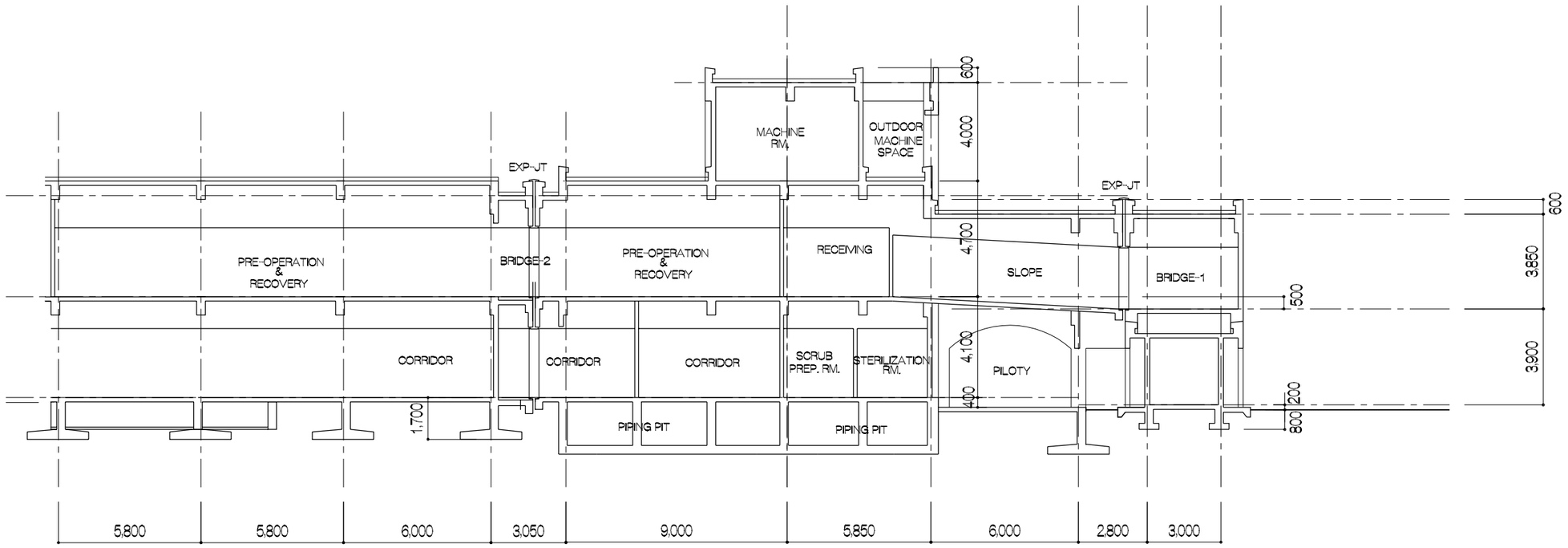
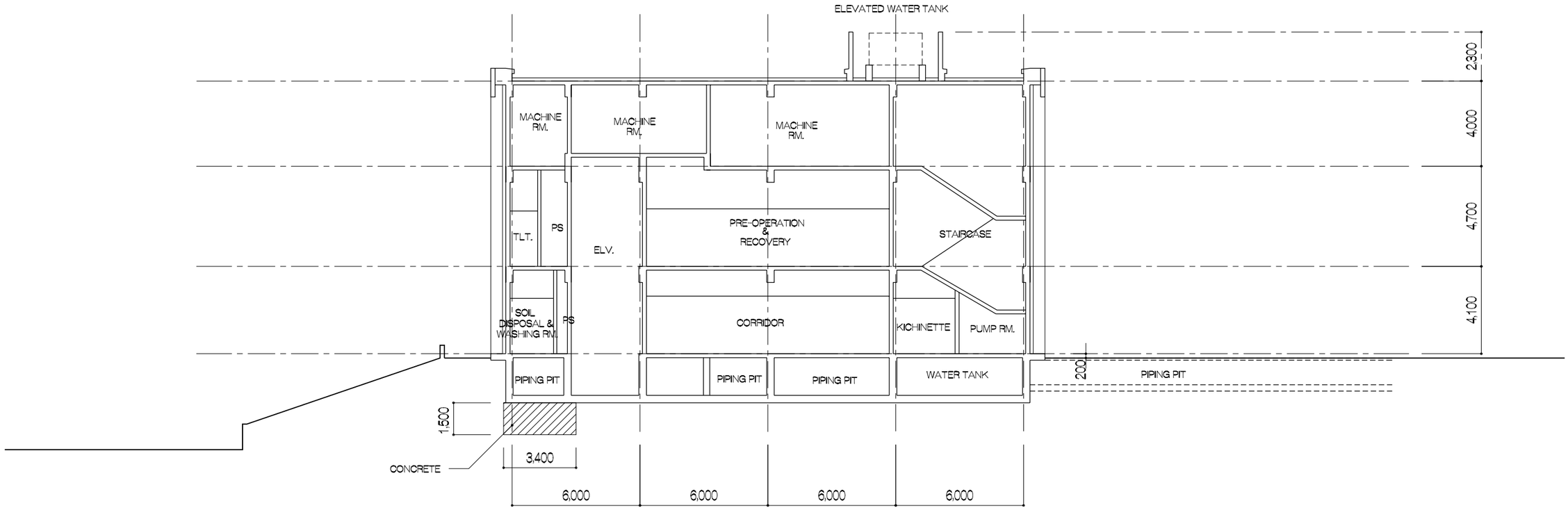
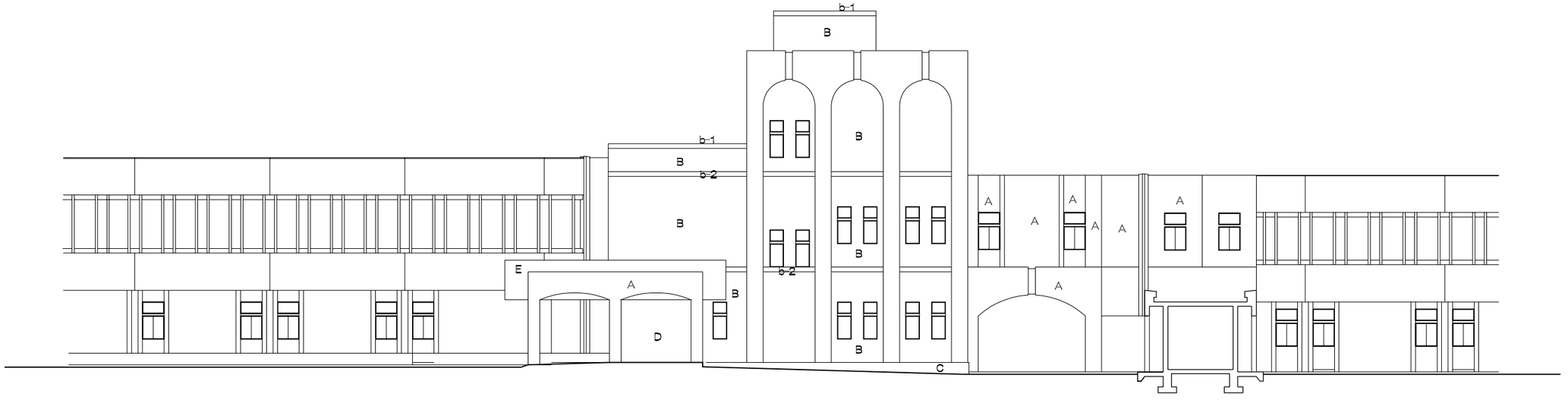
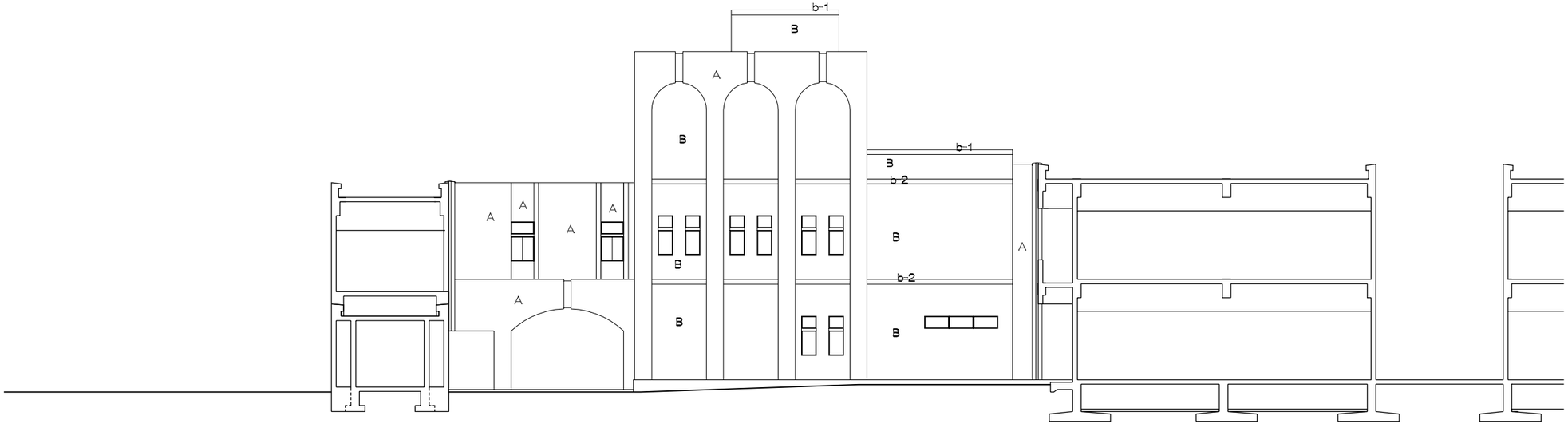


THE PROJECT FOR RENOVATION OF THE ISLAMABAD CHILDREN'S HOSPITAL

SECTIONS-1 S 1:200


ELEVATED WATER TANK
MACHINE RM.
MACHINE RM.
MACHINE RM.
TLT.
PS
ELV.
PRE-OPERATION & RECOVERY
STAIRCASE
SOIL DISPOSAL & WASHING RM.
PS
CORRIDOR
KICHINETTE
PUMP RM.
PIPING PIT
PIPING PIT
PIPING PIT
WATER TANK
PIPING PIT
200
2,300
4,000
4,700
4,100
1,500
CONCRETE
3,400
6,000
6,000
6,000
6,000

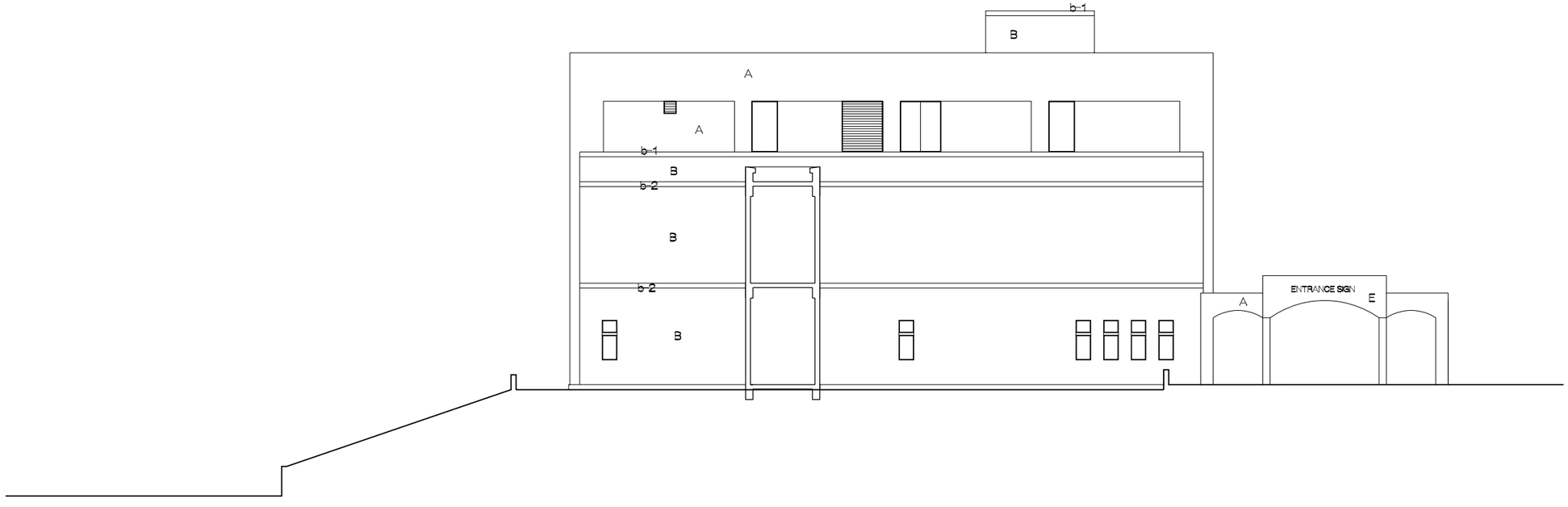


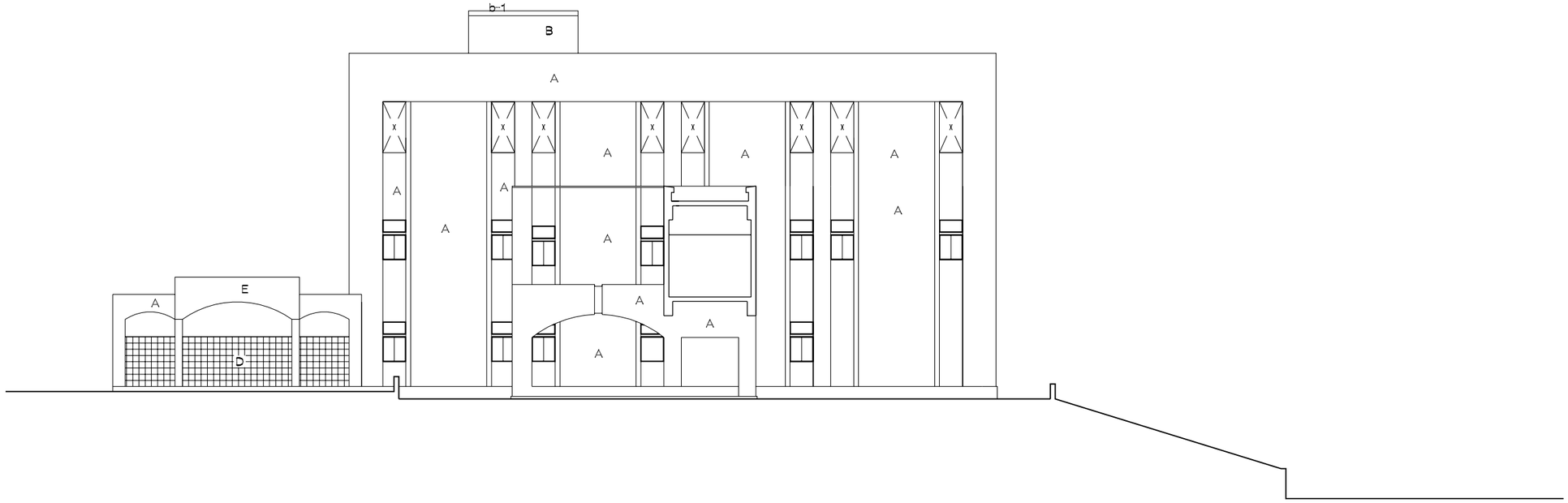


A: RESIN SPRAY COATING (TYROLAN FINISH) ON CONCRETE MORTAR TROWEL FINISH
B: FAIR FACED BRICK
b-1: TOP EDGE BRICK
b-2: BORDER PATTI BRICK
C: CONCRETE MORTAR TROWEL FINISH
D: HOLLOW BRICK
E: CERAMIC TILE

THE PROJECT FOR RENOVATION OF THE ISLAMABAD CHILDREN'S HOSPITAL

ELEVATIONS-1 S 1:200





THE PROJECT FOR RENOVATION OF THE ISLAMABAD CHILDREN'S HOSPITAL

ELEVATIONS-2 S 1:200

Medical Equipment List for Supply

Item No.	Section	Name of Equipment	Qt'y of supply
New Operating Theater			
NOT-1	Operating Room	Operating lamp	3
NOT-2	Operating Room	Operating table	3
NOT-3	Operating Room	Electrosurgical unit	3
NOT-4	Operating Room	Anesthesia apparatus	3
NOT-5	Operating Room	Anesthesia ventilator	3
NOT-6	Operating Room	Patient monitor	3
NOT-7	Operating Room	Suction machine	3
NOT-9	Operating Room	Syringe infusion pump	3
NOT-10	Operating Room	Oxygen flow meter	3
NOT-11	Operating Room	Suction flow meter	3
NOT-12	Operating Room	Fiber gastroscope	1
NOT-13	Operating Room	Fiber colonoscope	1
NOT-14	Operating Room	Bronchoscope, Rigid	1
NOT-15	Operating Room	Sigmoidoscope, Rigid	1
NOT-16	Operating Room	Cystoscope, Rigid	1
NOT-17	Operating Room	Operation microscope for ENT	1
NOT-18	Operating Room	Electric drill for orthopedic surgery	1
NOT-19	C-arm Room	Hip spica table	1
NOT-20	C-arm Room	Plaster cutter, Electric	1
NOT-21	Recovery	Patient monitor	2
NOT-22	Recovery	Pulse oximeter	2
NOT-23	Recovery	Infusion pump	2
NOT-24	Recovery	Ventilator, Pediatric to Adult	1
NOT-25	Recovery	Infant incubator	2
NOT-26	Recovery	Infant warmer	2
NOT-27	Sterilization Room	Autoclave	1
Existing Department			
RAD-1	Radiology	X-ray unit W/TV System	1
RAD-2	Radiology	X-ray unit	1
RAD-3	Radiology	Mobile X-ray	1
RAD-5	Radiology	Ultrasound unit, B/W	2
RAD-6	Radiology	X-ray film processor	1
NIC-1	NICU	Ventilator, Infant	2
NIC-2	NICU	Phototherapy unit	5
NIC-3	NICU	Infant incubator	7
NIC-4	NICU	Jaundice meter	1
NIC-5	NICU	Syringe infusion pump	10
NIC-6	NICU	Patient monitor	1
NIC-7	NICU	Infant warmer	4
NIC-10	NICU	Oxygen analyzer	2
PIC-1	PICU	Ventilator, Infant	1
PIC-2	PICU	Ventilator, Pediatric / Adult	2
PIC-3	PICU	Syringe infusion pump	5
PIC-3-2	PICU	Infusion pump	5
PIC-4	PICU	Patient monitor	7
EOT-1	Operating Room	Operating lamp	2
EOT-2	Operating Room	Operating table	2

Medical Equipment List for Supply

Item No.	Section	Name of Equipment	Qt'y of supply
EOT-3	Operating Room	Plaster cutter, Electric	1
EOT-4	Operating Room	Electrosurgical unit	2
EOT-8	Operating Room	Electric drill for orthopedic surgery	1
EOT-9	Operating Room	Suction machine	2
EOT-12	Operating Room	Skin graft knife	2
EOT-13	Operating Room	Manual dermatome	1
AE-1	AE	Infant warmer	1
AE-2	AE	Plaster cutter, Electric	1
AE-3	AE	Autoclave, Small size	1
LAB-1	Laboratory	Hematology analyzer	1
LAB-2	Laboratory	Chemistry analyzer	1
LAB-6	Laboratory	Microscope w/Photo and TV monitor	1
LAB-8	Laboratory	Microscope	3
LAB-10	Laboratory	pH Meter	1
LAB-11	Laboratory	Blood gas analyzer	1
LAB-13	Laboratory	Water bath	1
LAB-14	Laboratory	Pipette set	1
LAB-15	Laboratory	Distillation plant	1
LAB-17	Laboratory	Freezer	1
LAB-19	Laboratory	Hot air oven	1
ENT-1	ENT	Ultrasonic nebulizer	1
DNT-1	Dental	Dental unit	1
DNT-2	Dental	X-ray film processor	1
EYE-1	Ophthalmology	Electric tonometer	1
EYE-4	Ophthalmology	Fundus camera	1
EYE-5	Ophthalmology	Synoptophore	1
PHY-1	Physiotherapy	Low frequency therapy unit	1
WAD-1	Ward	Ultrasonic nebulizer	5
WAD-2	Ward	Suction machine	5
WAD-3	Ward	Pulse oximeter	5
WAD-5	Ward	Infant incubator	5
COM-1	Different dept.	Oxygen flow meter	24
COM-2	Different dept.	Suction flow meter	24

2-2-4 Implementation/procurement plan

(1) Implementation/procurement policy

1) Implementation scheme

After approval at a Cabinet meeting in Japan, the Exchange of Notes (E/N) on the Project will be concluded between the Government of Japan and the Government of Pakistan. Consequently, the Project will be implemented according to Japan's grant aid scheme and procedures. The implementation scheme for this Project is shown in Figure.

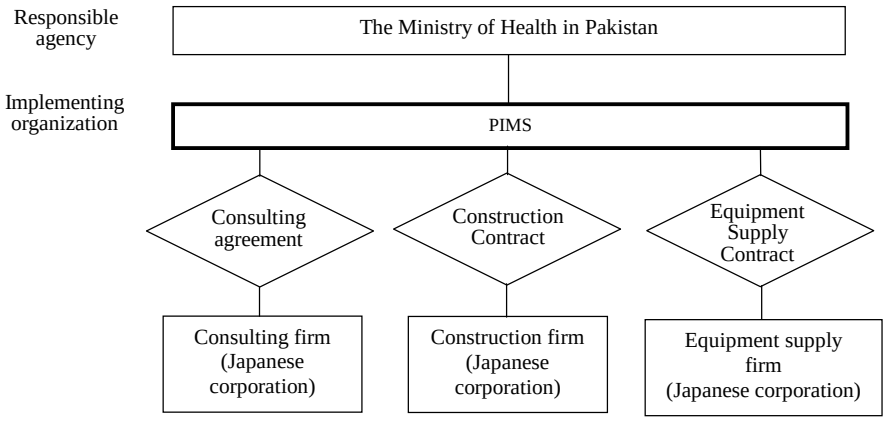


Figure 8 Implementation scheme

In this Project, the Ministry of Health in Pakistan is responsible for its implementation, while PIMS will be in charge of the actual implementation. The Children's Hospital is one of the facilities of PIMS.

PIMS will enter into a Consulting Agreement, Construction Contract, and Equipment Supply Contract on the Project, and will implement the work assigned to the Pakistani side. Moreover, PIMS will examine the tender documents (including detailed design drawings and specifications), inspect the construction work and the equipment supply.

2) Consultants

After the conclusion of the Exchange of Notes, PIMS will enter into a Consulting Agreement regarding the preparation of detailed design drawings and the supervision of the work, using a consulting firm (Japanese corporation), and should obtain verification from the Government of Japan.

For the smooth implementation of the Project, it is important to conclude the Consulting Agreement immediately after the conclusion of the Exchange of Notes. After the signing of the Agreement, the consultant will prepare the detailed design drawings and equipment specifications based on the report of the basic design study on the Project, and obtain the approval of PIMS. Based on the detailed

design drawings and equipment specifications, the consultant will undertake the tendering procedures and proceed with the supervision of the work.

3) Contractor and equipment supplier

A contractor and an equipment supplier will be selected from among the eligible Japanese corporations through open competitive bidding based on pre-qualification assessment. PIMS will enter into a Construction Contract with the selected contractor, and an Equipment Supply Contract with the selected supplier, and should obtain the certification for each contract from the Government of Japan. Then, based on the Contracts, the construction work and the supply work will be carried out.

4) Utilization of local construction firms and dispatch of Japanese technical staff

As this project is conducted to extend and renovate the operating department of a hospital, quality control is crucial. Construction must be completed within the specified period since this project is a grant aid project of Japan.

The Japanese contractor will therefore employ local construction firms for the implementation of the construction work. There is unlikely to be any problem in carrying out construction work using local construction methods if the work is managed properly and substantial guidance is provided. However, it is necessary to dispatch Japanese technical staff when high quality or sophisticated precision is required for construction, such as waterproof construction, operating unit installation, connecting work for main feeder lines and adjustment of the mechanical facilities. Medical Equipment, on the other hand, can be installed and connected by local engineers alone.

(2) Points to be noted for construction and procurement

1) General matters

The procurement of construction work in Pakistan, in general, is based on a split contract. Thus, neither the coordination of various work nor progress control is carried out efficiently. Even large-scale construction work carried out in Islamabad can be rarely completed within the contract period. Compared to Japanese construction firms, Pakistani construction firms cannot prepare a detailed plan for temporary work. Moreover, as construction work in Pakistan is not fully mechanized, and in most cases, precise working plans for detailed parts are not prepared, the quality of work is not uniform. In addition, Pakistani construction firms tend to regard equipment installation work as being separate from other construction work.

As mentioned previously, even though the contractor of the construction work in this project is a Japanese construction firm, a Pakistani construction firm will be in charge of carrying out the actual work. However, when the need arises for technical construction management in the course of electrical and mechanical work, Japanese technical staff should be dispatched to Pakistan to provide technical guidance and construction management.

2) Points to be noted regarding the construction

Under this project, the construction work will be carried out during the operating hours of the Children's Hospital. Renovation work will also be carried out while the existing NICU, PICU and other facilities are in operation. The safety of the patients and medical staff must therefore be secured by preparing the plan for temporary work carefully so that the line of flow of vehicles and workers does not interfere with that of the patients and medical staff. For the implementation of the construction work in the existing facilities, it is necessary to minimize noise, vibration, and dust to the maximum extent possible.

When the electrical and medical gas systems are changed, it is essential to take preventive measures against accidents caused by an interruption in the power and gas supply and make efforts to reduce the time of the switching during a changeover of power sources or medical gas so that hospital operations are least affected.

3) Points to be noted for procurement

Most of the construction materials can be procured around Islamabad. However, the finishing materials market in Islamabad is small, and retail stores are located in a neighboring city, Rawalpindi. It is therefore necessary to order goods directly from Lahore or Karachi. It should be noted that it takes about one week to order goods from Lahore, and two weeks from Karachi.

The amount of supply is satisfactory. However, as for mechanical facilities and materials imported from Japan and third countries, it is necessary to carry out the required procedures in advance, including tax exemption measures, so as not to adversely affect the construction period.

A medical equipment supplied for this project, whether it is a product made in Japan or a third country, should be selected, as far as possible, from among products for which there is an agency located in Islamabad. This is one of the crucial conditions for future maintenance and management. As it is an imported product, it is necessary to carry out the required procedures in advance, including tax exemption measures, as is the case with the imported construction materials mentioned above. Smooth procedures will make it possible for the medical equipment to be carried into position as soon as the construction work proceeds to a point where it can be installed.

(3) Scope of construction and equipment supply/installation

As mentioned in the Minutes, the scope of the work is divided between the Japan side and the Pakistan side as shown below.

Table 12 Scope of the work

The Japanese side	The Pakistani side
Included in the basic plan A. Construction work a. Architectural work Extension of the Operating Department (including ELV.), Renovation of the existing Operating Department b. Electrical work New building facilities, renovation of the existing Operating Department and other existing facilities resulting from the extension work (main feeder lines, lighting, receptacle, telephone, public address system, nursing call, intercom system, fire alarm) c. Mechanical work Equipment for the new building, renovation of the existing Operating Department (water, hot water, sanitary, air conditioning, ventilating, medical gases) Water treatment equipment in the Operating Department, Repair of Existing wastewater treatment plant.	A. Construction work a. Temporary shifting of the power line b. Temporary shifting of the water tank and demolishing of the present tank c. Shifting of the oxygen gas and fuel gas pipe d. Replacement of the canteen e. Removal of existing furniture
B. Equipment supply a. Equipment for the new building (operating tables and lights, etc.) b. New equipment for the existing hospital (X-ray equipment, ultrasonic diagnostic equipment, mechanical ventilator, etc.)	B. Equipment supply a. Removal of existing equipment X-ray equipment (2 units) X-ray film development equipment, dental units, etc.

(4) Consultation/procurement supervision

PIMS and the Japanese consulting firm will enter into a Consulting Agreement to prepare detailed designs and to carry out supervision of the work.

The consultant will carry out the supervision of the work for the following purposes: (i) to confirm whether the construction work is carried out according to the drawings and specifications; (ii) to ensure the appropriate execution of the contracted work; and (iii) to enhance the quality through guidance, advice, and coordination among the various work contractors from the standpoint of fairness. The supervision of the work includes the following tasks:

1) Cooperation in tendering for and signing contracts

- To prepare the tender documents required for the selection of contractors for construction work and the suppliers of equipment to be procured
- To carry out the following activities for tendering: announcement of the tender; acceptance of applications for the tender; pre-qualification work; explanatory meetings; issuance of the tender documents; acceptance of the tender documents; and evaluation of the bids
- To provide advice on the conclusion of the Contract Agreement between PIMS and the successful tenderer (contractor or supplier)

2) Guidance, advice, and coordination for the contractors and suppliers

- To check the work and supply schedules, work and supply procedures, procurement and installation plans
- To provide guidance and advice to the contractors and suppliers based on the above checks, and coordinate the work

3) Examination and approval of the work plans, shop drawings and equipment specifications

- To examine the documents, including work plans and shop drawings, submitted by the contractors and those, including equipment specifications, submitted by the suppliers, and approve these documents along with the necessary instructions

4) Confirmation and approval of Electrical/Mechanical equipment and materials and medical equipment

- To confirm conformity between the contract documents and Electrical/Mechanical equipment and materials to be procured by the contractors, and approve the procurement; and
- To confirm conformity between the contract documents and medical equipment to be procured by the suppliers, and approve the supply

5) Inspection of the work and confirmation of the procured equipment

- To attend, if necessary, the inspection of work at the factory where electrical and mechanical equipment is manufactured in order to confirm that the quality and performance are assured; and
- To confirm specifications, quantities and other aspects of medical equipment before it is loaded onto a ship

6) Report on the progress of work and procurement

- To confirm the progress of work and supply and conditions of the construction and procurement site, and inform the related agencies in both countries of the progress of the work and supply

7) Inspection for the final handing over and test runs

- To conduct a prompt and full inspection of the construction work and electrical and mechanical work, and to carry out test runs in order to confirm that the performance is as specified in the contract documents
- To submit a document indicating the completion of the tests to the Pakistan side
- To conduct inspections of completed sections under this project when the extension work and repair work (step 1) is each completed
- To confirm the supply and installation of medical equipment in accordance with the progress of the construction and renovation work
- To hand over the facilities and equipment to PIMS when each item of work or supply is completed, and carry out the inspection and handing over so that the operations of the hospital are not interrupted

8) System of supervision of work/supply

When executing the above-mentioned tasks, the consultant may assign supervisors depending on the size of the project. The supervisors are to be stationed at the site for the whole duration of the project. The consultant may dispatch technical staff (for electrical and mechanical equipment and medical equipment) around the mid point of the project in accordance with the progress of the work, and carry out the necessary consultations, inspection, guidance, and coordination. Technical staff should also be stationed in an office in Japan, which should serve as a resident office, thus establishing a backup system. They will provide assistance for the examination of the preparation of the work plans, work procedures, and shop drawings, inspect the factory products and machinery to be procured from Japan, and inspect them before they are loaded onto a ship.

Moreover, the consultant should inform the relevant Japanese Government agencies of all essential matters regarding the project, such as the progress of the work, the payment procedures, and the final handover. The scheme for the supervision of the work is as follows.

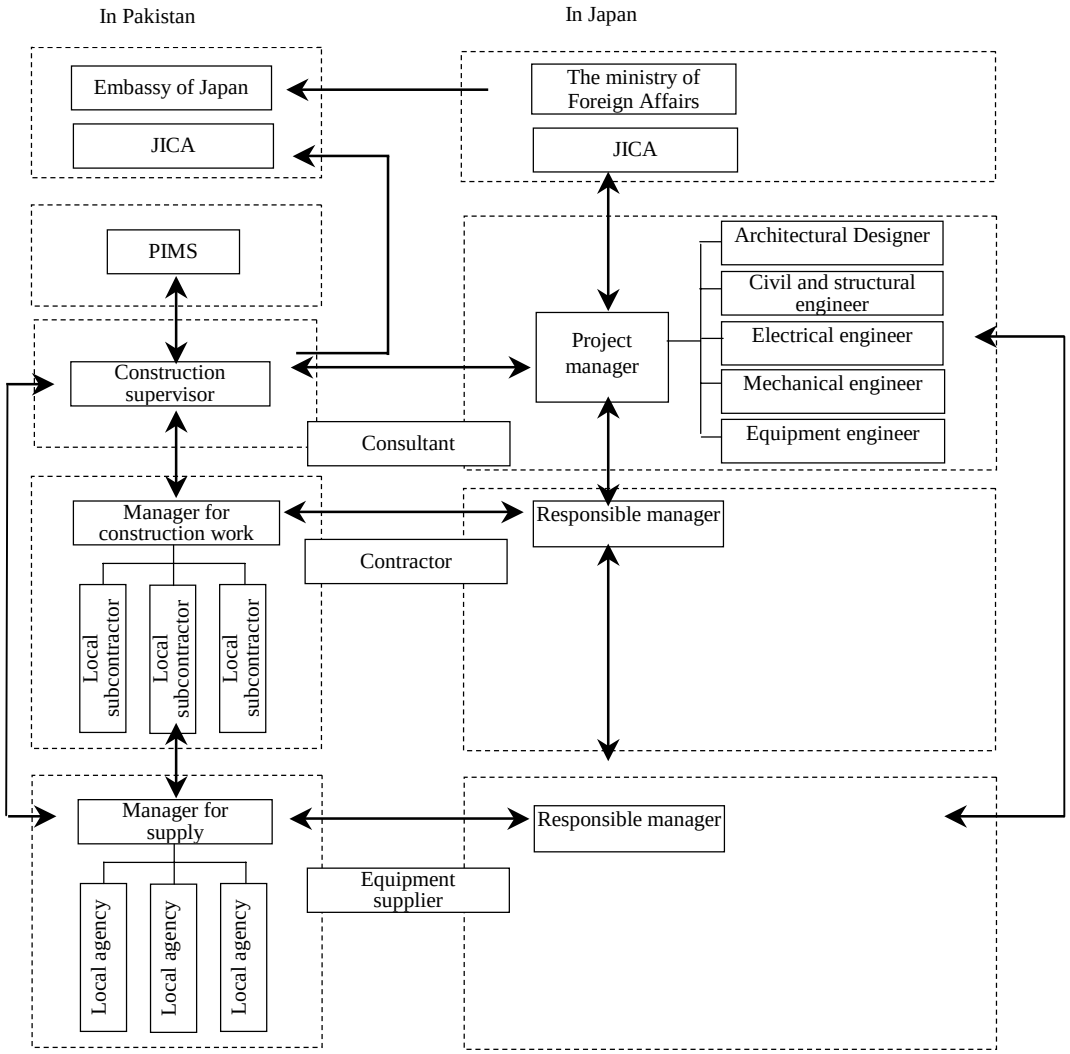


Figure 9 Scheme for the supervision of the work/procurement (draft)

(5) Quality control plan

This project is an unusual case of extension and renovate work to existing operating department. Although the construction work is to be carried out at the central facilities of the hospital, the services must continue to be provided even during the extension and renovation work. Partly due to the fact that the facilities are equipped with important and expensive machinery, they require high levels of air- and water-tightness, as well as high finishing precision. The facilities must be handed over to and operated by PIMS immediately after the extension and renovation (step 1) work has been completed. Needless to say, it is therefore important to confirm the functionality and performance of the equipment as soon as the work has been completed, but it is also important to do this for each system while the work is being carried out.

For this purpose, a checklist should be prepared for the inspection before the work as well as for the confirmation during and on completion of the work. Such records should be retained and used to develop a maintenance plan after the final handover.

For the architectural work, contractors do not use freshly-mixed concrete produced at a cement plant, which is normal in Japan, but produce the concrete according to an on-site batch process. Thus, it is necessary to carry out the following quality control procedures.

1) Confirmation of the concrete materials

Material	Items for quality control	Inspection method
Cement Sand, sand and gravel, crushed stone	Heat of hydration Grading Specific gravity under absolute dry conditions Alkali-aggregate reaction Organic impurities	Confirmation of the heat of dissolution Sieving Specific gravity test and water absorption test Alkali-aggregate reaction test Water quality test

2) Inspection at the time of preliminary mixing

Items for quality control	Inspection method
Estimation test on the concrete of the structure	Measurement using a compression tester
Slump	Measurement using a slump cone
Temperature of the concrete	Measurement using a thermometer
Air content	Measurement using a dynamometer
Chloride content	Measurement using a salinometer

<Note> Inspection of other materials with the same specifications can be omitted.

3) Inspection before concrete placement (one time/day)

Items for quality control	Inspection method
The period from mixing to placement	Checking the completion time of mixing
Slump	Measurement using a slump cone
Temperature of the concrete	Measurement using a thermometer
Air content	Measurement using a dynamometer
Chloride content	Measurement using a salinometer

4) Inspection of the precision of the concrete

Items for quality control	Inspection method
Estimation test on the concrete of the structure	Measurement using a compression tester
Condition of the finished surfaces	Visual inspection

(6) Procurement plan

1) Local procurement

a) Construction work

In order to facilitate the repair, maintenance, and management after the completion of the work, the construction machinery and materials to be used in the work, whether they are used for the architecture, electrical equipment or mechanical equipment, should be procured locally to the extent that this is possible. It is necessary to confirm the quality and the volume of supply during the work, so that there is no disruption of the progress of the work.

When imported machinery and materials are available on the domestic market (i.e. they are constantly available on the market without requiring import procedures), they are regarded as locally procured goods.

b) Equipment supply
Since the operating instruments for general surgery, which are included in the equipment list of the original request, have been excluded from those items procured for this project, no native products are supposed to be procured. Some products made in a third country, however, may be procured in local markets in Pakistan.

2) Procurement through importation

a) Construction work
Electrical/Mechanical equipment and materials should be procured from Japan or a third country when:
the Electrical/Mechanical equipment and materials of the existing facilities were procured from Japan and require a unified design;
the Electrical/Mechanical equipment and materials are not available through local procurement;
the Electrical/Mechanical equipment and materials do not fulfill the quality standards; or
the amount of supply is insufficient.
In such cases, it is necessary for the contractor to make contact with PIMS regarding import procedures, thereby ensuring smooth customs clearance.
If the price of goods procured from Japan or a third country, including packing and transportation fees, is lower than the purchase price in Pakistan, the goods should be procured from Japan or the third country. In this project, procurement from a third country is excluded from the plan.

b) Equipment supply

We executed the marketing research of the circulation of the fact of the after sales service of medical equipment, the spare parts, and the consumptions in Pakistan. As a result, it was possible to confirm the headquarters in a lot of agencies was located in Karachi and Lahore.
It was also confirmed that there are some branches of agencies in Rawalpindj near Islamabad.
These agencies take care of a Japanese product, American product, and a European product, etc., and his service needed not only to sell of the equipment but also to maintain and to manage is being provided.
Especially, technical support of a local agency becomes a precondition when attaching to X-ray unit, Ultrasound, Anethesia apparatus, Ventilator, Patient monitor, Autoanalyzer, and etc. to which are scheduled supply for this plan.
The biomedical engineers at PIMS and the children’s hospital are doing the troubleshooting and the repair within the range that they can do well.
In addition, it seems that effective use that reaches many years of the medical equipment that will be procured in the future becomes possible if technical support and the service of a private company are received.
Therefore, this plan is preferable the supply of the product that these

conditions are satisfactory as much as possible.

3) Transportation plan

a) Construction work
Mechanical equipment and materials procured from Japan will be transported by sea to Karachi Harbor in Pakistan, then to the PIMS site (about 1,500 km) by inland transportation.

In relation to marine transportation, container carriers sail quite frequently according to a precise sailing schedule. However, the transportation costs to Pakistan are high. It is therefore desirable that bulk carriers be used in this project, with consideration for the content of the cargoes. Bulk carriers sail once a month, and as ports of call change on route according to the cargo, the date on which they call at Japanese ports is not definite. Though the route takes about 30 days by marine transportation, it is necessary to allow additional days for waiting for a port of call as well as days for changing the ports of call before arriving at Karachi Harbor. It takes about 14 to 18 days for arrival, unloading and customs clearance at Karachi Harbor (the whole procedure from the submission of documents to completion), and about three to five days for ground transportation from Karachi Harbor to Islamabad. Moreover, it takes about two weeks for packaging and customs clearance in Japan.

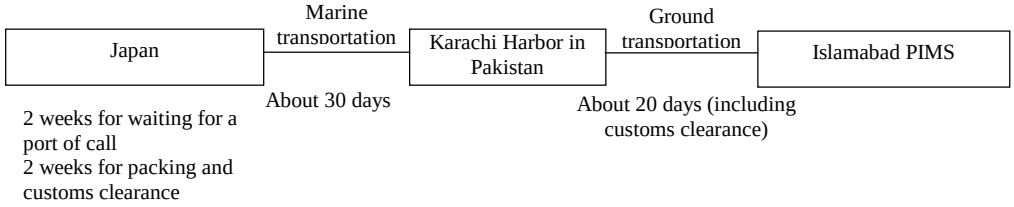


Figure 10 Flow of the transportation and the number of days required

Based on the procurement plan in Figure the Electrical/Mechanical equipment and materials used in the project are classified into two categories: local procurement and procurement from Japan, as shown in the following table.

Table 13 Procurement Plan for Major Machinery and Materials

Construction work

Type of work	Material	Local	Third country	Japan	Notes
Reinforced concrete	Cement	○			
	Aggregate	○			
	Deformed bar	○			
	Forms	○			
Masonry work	concrete blocks	○			
Waterproofing work	Waterproofing of the rooftop, sealing			○	Securing a high quality (the same as the existing facilities)
Tile work	Tiles	○			
Metal work	Light-gauge steel (LGS) components	○			
	Expansion joints			○	Securing a high quality (the same as the existing facilities)
Plaster work	Mortar	○			
Finishing builders' hardware work	Aluminium sash			○	Securing a high quality (the same as the existing facilities)
	Steel sash			○	Same as above
Glazing work	Glass	○			
Special work	Elevator Autoclave (steam sterilizer)	○			Maintenance and management
	operating unit			○	Securing a high quality (the same as the existing facilities)
Painting work	Interior paint	○			
	Exterior paint	○			
Interior finishing work	Gypsum wallboard	○		○	Local products for the new building and Japanese products for replacement in the existing building
	Acoustic board			○	Replacement of the existing ones.
	Glass wool board			○	Not available in Pakistan.
	Flexible board	○			
External work and landscaping work	Concrete pits	○			
	Paving (asphalt)	○			
	Grating			○	Ones with load resistance are not available in Pakistan.
	Fence	○			

Electrical and mechanical work

Type of work	Material	Local	Third country	Japan	Notes
Electrical equipment	Receptacles	○			
	Switches	○			
	General equipment	○			
	Intercom, nursing call, television terminals	○			
	Distribution boards	○			
	Power control boards	○			
	Medical earth			○	Not available in Pakistan.
	Fire detector			○	Same as existing ones
	Cable for weak current	○		○	Some parts not available in Pakistan.
	Cable for power	○	○		
	Steal conduit pipes		○	○	Not available in `Pakistan
	PVC conduit pipes	○			
Mechanical equipment	Sanitary ware	○		○	Hand washing ware and slop sinks are not available in Pakistan.
	Medical gases			○	Same as existing ones

	Pumps			○	Water supply for operations, securing the quality
	Air conditioners	○			
	Blowers	○		○	Local products are noisy. Japanese ones are installed in the Operating Department.
	Piping materials	○		○	Piping for medical gases. Securing the quality of steam pipes.
	Heat insulating material	○			
	Automatic controllers			○	Same as existing ones
	Hot water heaters	○			
	Valves			○	Securing quality
	Operation treated water tanks			○	Securing quality
	Water treatment equipment			○	Not available in Pakistan
	Duct material	○			

b) Equipment supply

It is preferable that the marine transport of the medical equipment uses the container vessel, because there are a lot of numbers of the container vessel and luggage transport safely and accurately.

The transportation period is about 20 days. As for the ship, a days increase according to the port of call change to Karachi and the port call waiting period are considered in the supply plan.

It takes about the 15 days to unload and to clear the customs in Karachi (completion from document submission) and approx. 3-5 days are expected by land transportation from Karachi to Islamabad. Luggage is transported from the Karachi port to the site so called Children's hospital in Islamabad by the trailer.

The supply items from the third country are transported by sea to the Karachi port with the container or LCL (consolidation), and after building, it transports by truck there.

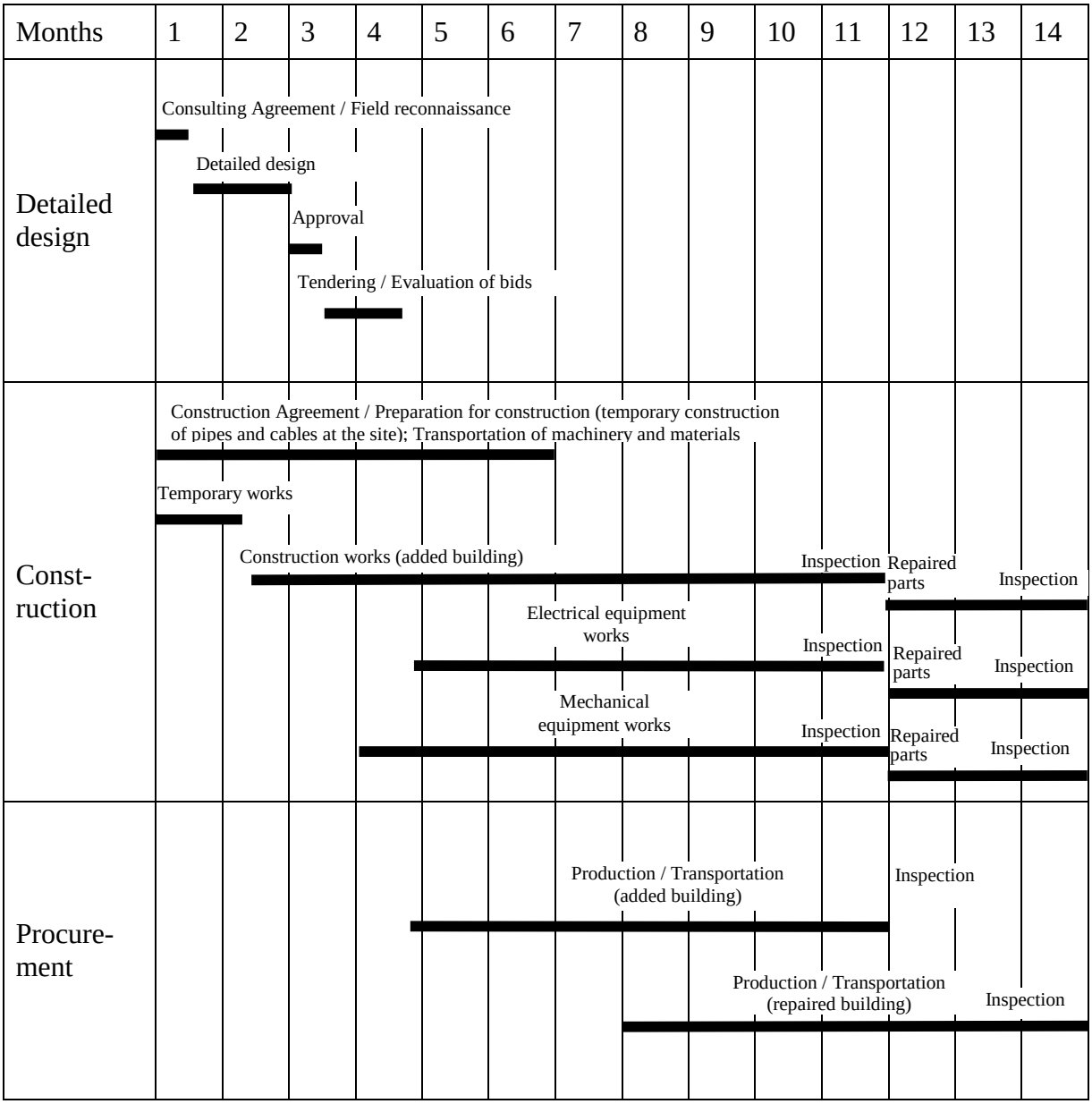
Table 14 Main equipment procurement plan

Department	Equipment	Third Country	Japan
Radiology	X-rat unit with TV system		○
	X-ray unit		○
	Mobile X-ray unit		○
	Ultrasound unit		○
Operating theatre	Operating light		○
	Operating table		○
	Anesthesia apparatus		○
	Fiberscope		○
	Bronchoscope	○	
	Sigmoidoscope	○	
	Cystoscope	○	
NICU / PICU	Ventilator	○	○
Laboratory	Hematology analyze	○	○
	Chemistry analyzer	○	○
	Blood gas analyzer	○	

(7) Implementation schedule

After the conclusion of the Exchange of Notes (E/N), it takes about four months to go through the Consulting Agreement, field reconnaissance, and detailed design, before tendering. After the conclusion of the Contract Agreement, it takes about 14 months to complete the steps including field surveys, temporary work, construction work, electrical and mechanical equipment work, procurement of equipment, and the inspection for the final handover. The draft implementation schedule is shown below.

Table 15 Implementation schedule (draft)



Since, under this project, construction work will be carried out during the operating hours of the Children's Hospital, the construction work will be divided into many phases, and will often be carried out on Saturdays and Sundays. It is necessary to give sufficient careful consideration to safety measures for the patients, their families and the medical staff.

2-3 Obligations of the recipient country

2-3-1 Portions to be undertaken by Pakistan

In this project, as the existing pipes, cables, water tanks, shops and restaurants are located within the construction site of the new building, the recipient country is normally obliged to carry out removal or temporary construction work on the facilities before the Japanese side starts construction work. For the installation of medical equipment, the recipient is also obliged to remove the existing equipment.

2-3-2 Procedures on the part of Pakistan

In the implementation of Japan's Grant Aid Project, the Pakistani side will take on the following tasks:

1) To exempt the project from all taxes related to it

2) To apply for and acquire permits regarding the connection of drainage pipes in the project

3) To issue a Banker's Acceptance (B/A) and the Authorization to Pay (A/P), and to bear the related charges

4) To guarantee expeditious unloading at the unloading port, ensure smooth tax exemption measures and customs clearance, as well as the expeditious domestic transportation of machinery and materials

5) To facilitate the entry into Pakistan and stay in Pakistan by Japanese people in charge of the supply of machinery and materials and the implementation of the project based on the approved contract

6) To exempt from all Pakistani taxes, including tariffs, the Japanese people in charge of the supply of machinery and materials and the implementation of the project based on the approved contract

7) To implement budgetary measures for the effective operation and maintenance of the constructed facilities and procured machinery and materials through the Grant Aid Project

2-4 Project operation / maintenance and management plan

2-4-1 Project operation plan

When this project is completed, there will be three additional operating theatres, and only one operating table in the existing ones. This will require, therefore, only one additional unit of operating staff, which consists of doctors, nurses and anaesthetists. No additional staff, except those for general surgery, will be needed. The current three units of general surgery staff will be increased to four units. Present status of the general surgery staff in the hospital, and that after the project completed are as follows.

Table 16 Status of general surgery staff

Category	Present	Plan
Doctor	12	20
Anaesthetist	8	12
Nurse	10	16
Operation technician	6	20
Total	36	68

Considering the current status, the number of the staff in the children's hospital and PIMS, the staff addition can be appropriate and allowable if it is either of personnel change among the sections in PIMS or the employment from external areas.

2-4-2 Maintenance and management plan

Currently at PIMS, the Engineering Department is organized under the Deputy Executive Director. The Engineering Department is divided into the General Services Division and the Medical Equipment Services Division. The General Services Section consists of the following four sections: (1) Civil Engineering Section (including architecture), (2) Electrical Equipment Section, (3) Mechanical Equipment Section, and (4) Air Conditioning Equipment Section. The Electrical Equipment Section and the Mechanical Equipment Section are in charge of the maintenance and management of the whole PIMS. At the Children's Hospital, there are staff members exclusively in charge of architecture, air conditioning equipment, and medical equipment. After the implementation of the project, the current staff members will continue to also be in charge of the maintenance and management of the Children's Hospital.

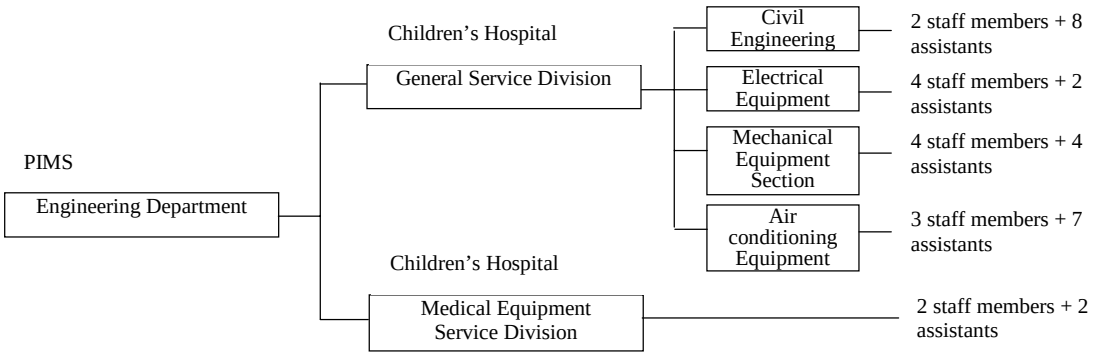


Figure 11 Organizational chart of the maintenance department of the Children's Hospital

2-5 Estimated project expenses

2-5-1 Estimated expenses for the requested Japanese assistance

The total expenses, which are required to complete this project as a grant aid project of Japan, are estimated at ¥657 million. With the estimation conditions as shown below, the expenses Japan and Pakistan each should bear on the basis of their respective share of the construction costs as previously stated are broken down into:

(1) Portion by Japan

Total expenses

Approx. ¥657 million

(New building Total floor Area: 980 m^2)
Islamabad (Renovation of existing operation Department: 520 m^2)

Division		Expenses (¥ million)	
Construction	New building	333	373
	Renovation of existing operation Department	40	
Equipment Supply	New building	50	201
	Existing Children Hospital	151	
Consultant fee			83

(2) Portion by Pakistan

The estimated expenses that Pakistan should pay are ¥17.86 million (9,500,000Rs). Major expenses include the costs for:

1) Temporary shifting of the power line (Approx. ¥4.78 million, 2,540,000Rs);
2) Temporary shifting of the water tank and demolishing of the present tank (Approx. ¥0.42 million, 223,000Rs);
3) Shifting of the oxygen gas and fuel gas pipe (Approx. ¥30,000, 16,000Rs);
4) Replacement of the canteen (Approx. ¥0.15 million, 80,000Rs); and
5) B/A and A/P costs of domestic banks (Approx. ¥12.48 million, 6,638,000Rs)

(3) Estimation conditions

a. Month of estimation: December 2004
b. Exchange rate: US$1 = ¥109.90
   Rs1 = ¥1.88
c. Duration: The construction is carried out in one term. The duration of detailed designing and construction work is stated in the Project Implementation Schedule.
d. Other matters: Carried out in accordance with the grant aid system of the government of Japan.

2-5-2 Operation and running costs

Since the Children's Hospital was completed as a Japanese Grant Aid Project and handed over to Pakistan 20 years ago, it has been operating as the children's medical treatment facilities of PIMS, the core medical institution in Pakistan. Its activities in the Outpatient Department, the Inpatient Department, and the Emergency Department have been fulfilling the initial objectives. Regardless of the insufficient budget for its maintenance and management, the technical medical staff have been properly assigned to implement the daily activities.

The implementation of the Project (extension and renovation of the Operating Department) will not cause major changes in the costs for operation and maintenance. The replacement of medical equipment is expected to help reduce maintenance costs since the facilities and machines that need to be replaced or repaired due to deterioration will be replaced or repaired in this project. Electrical and mechanical equipment on the first side was replaced in the previous project, although other equipment on the secondary side is in an advanced state of deterioration. It is necessary, therefore, to prepare a long-term or annual repair work plan after confirming the extent of deterioration, while taking the necessary budgetary measures.

After this project is completed, the Children's Hospital is expected to pay the additional expenses for the operation and maintenance/management of the new building, as shown below:

(1) Operating costs

Staff costs for the operating department are to be increased along with the addition of the staff. The figures of the increases are as follows respectively.

Table 17 Figures of increases

Category	Number of staff addition and per cost
1. Doctor	2 persons × 25,000Rs/m × 12 m = 600,000Rs/y 6 persons × 20,000Rs/m × 12 m = 1,440,000Rs/y
2. Anaesthetist	1 person × 25,000Rs/m × 12 m = 300,000Rs/y 3 persons × 20,000Rs/m × 12 m = 720,000Rs/y
3. Nurse	1 person × 10,000Rs/m × 12 m = 100,000Rs/y 5 persons × 9,000Rs/m × 12 m = 540,000Rs/y
4. Support staff	14 persons × 6,000Rs/m × 12 m = 1,008,000Rs/y
Total	4,708,000Rs/y

(2) Maintenance costs

Maintenance costs in the whole of the existing PIMS, Islamabad Hospital, and the Children's Hospital in 2003 were as below:

Table 18 Facilities maintenance costs

Unit: 1000Rs

	PIMS	Islamabad Hospital	Children's Hospital
Electricity charges	54,825	54,825	Included in the figure for Islamabad Hospital
Telephone charges	6,641	4,954	1,599
Water charges	1,300	1,300	Included in the figure for Islamabad Hospital
Gas charges	14,973	1,434	3,538

The new building will incur the maintenance costs indicated below.

1) Electricity charges
The supply contract of the Pakistan Water and Power Development Authority (WAPDA) stipulates the current charge structure as shown below:
Meter rate: 0 to 100kWh/month 6.88Rs/kWh+tax (6%)
over 100kWh/month 7.00Rs/kWh+tax (6%)

For the new building, the estimated maximum power demand is approximately 94kW, and the estimated annual power consumption is around 361,000kWh.
Meter charges: 361,000kWh/year × 7.00RS/kWh × 1.06＝2,678,620Rs/year

The total estimated annual electricity charge for the new building is 2,678,620Rs. For electricity charges after the completion of the new building, therefore, PIMS should increase its operational budget for electricity charges by approximately 5% from the FY 2003 level of 54,825,000Rs.

2) Telephone charges
In this project, only four extension phones will be installed, and no new lines will be added. The running costs for telephones after the completion of the new building will be covered by the same level of operational budget for telephone charges, 6,641,000RS.

3) Water charges
The new building will be supplied through PIMS's elevated water tank with free well water, in principle. PIMS, however, is supplied with city water in dry seasons, and pays water charges of 1,300,000Rs in total. The Children's Hospital uses 30% of the total water supply to PIMS, or 390,000Rs of the 1,300,000RS charge. The estimated water consumption for the new building is 6.7% of the consumption of the existing Children's Hospital, or an additional water charge of 26,000Rs.

4) Gas charges
At the new building, gas will be used to heat water. They will consume 7,000 litres of hot water daily, for which 14,300 m^3 of gas should be supplied annually.

The annual gas charges, therefore, are:
7.45Rs/m^3 × 14,300 m^3＝106,535 Rs/year
For gas charges after the completion of the new building, therefore, PIMS should increase its operational budget for gas charges by approximately 7% from the FY 2003 level of 14,973,000Rs.

5) Equipment
Most of the equipment in this project will be renewal for the existing ones. The increasing costs, which are estimated to cover the expenses of maintenance purpose, are as follows.

Table 19 Maintenance costs of the Children's Hospital

Dept.	Equipment	Qty	Content	Unit price	Total
New OT	Operation light	3	Halogen bulb etc.	¥17,500	¥52,500 (Rp.27,920)
New OT	Electrosurgical unit	2	Electrode etc.	¥11,040	¥22,080 (Rp.11,740)
New OT	Anesthesia apparatus	2	Sodalime, etc.	¥147,580	¥295,160 (Rp.157,000)
New OT	Patient monitor	2	Gel and recording paper, etc.	¥9,120	¥18,240 (Rp.9,700)
New OT	Syringe pump	3	Extension tube etc.	¥121,600	¥364,800 (Rp.194,040)
Recovery	Patient monitor	2	Gel and recording paper, etc.	¥9,120	¥18,240 (Rp.9,700)
Recovery	Infusion pump	2	Infusion set etc.	¥156,800	¥313,600 (Rp.166,800)
Recovery	Ventilator	1	Suck catheter and airway, etc.	¥133,710	¥133,710 (Rp.71,120)
Recovery	Incubator	2	Filter etc.	¥3,680	¥7,360 (Rp.3,910)
NICU	Phototherapy unit	3	Blue-White light etc.	¥8,000	¥24,000 (Rp.12,760)
NICU	Syringe pump	4	Extension tube etc.	¥121,600	¥486,400 (Rp.258,720)
PICU	Syringe pump	5	Extension tube etc.	¥121,600	¥608,000 (Rp.323,400)
Laboratory	Blood cell counters	1	Reagent pack and recording paper, etc.	¥160,320	¥160,320 (Rp.85,270)
Laboratory	Blood gas analyzer	1	Reagent pack and recording paper, etc.	¥465,320	¥465,320 (Rp.247,510)
Ward	Ultrasonic nebulizer	3	Air filter etc.	¥15,300	¥45,900 (Rp.24,410)
Ward	Incubator	2	Filter etc.	¥3,680	¥7,360 (Rp.3,910)
Japanese yen total					¥3,022,990
Local currency conversion (Rp.1 = ¥1.88) Rp.					Rp.1,607,970

CHAPTER 3

PROJECT EVALUATION AND RECOMMENDATION

Chapter 3 Project evaluation and recommendation

3-1 Project effect
By implementing this operation, following effects can be expected.

Table 20 Effects after implementation of the plan

Current status and problems	Measurements on this plan (detail description)	Effects and improvements
In the area north of Islamabad-Pakistan, there is no children's hospital other than PIMS. Due to this shortage of facilities, the number of operations at PIMS has continued to grow, and has failed to meet the demand for its services. The function of the facility has not measured up the change in the international standard of health care.	- Operating Department ward shall be enlarged to add 3 operation theatres, each of which is to set up 1 bed at most, including a day surgery room. - Number of the beds for existing operation theatres shall be changed to 1 from 2.	Direct effect The number of operations per year is expected to be more than 4500, and patients' waiting period for operation is expected to be shortened from the current level of 6 months. In-hospital infection shall be prevented. Indirect effect It is expected to provide satisfaction for patients and to raise the motivation of the staff by creating a good working environment. Medical standard of the children's hospital shall be improved by enhancing the service.
Due to the shutdown of wastewater facilities, the wastewater goes into rivers and the urban drainage system without neutralizing and sterilizing in the same manner as rainwater. This is causing the environmental pollution.	- Repair of sewerage system	Direct effect Restart of the facilities Indirect effect Prevention of the environmental pollution
Due to the aged deterioration of existing medical equipment, it does not function well. Number of examinations is limited.	New operating theater: 26 items including operating table, operating light, anesthesia apparatus, ventilator for anesthesia apparatus, patient monitor, electrosurgical unit, electric drill for orthopedic surgery, operating microscope for	Direct effect When the Operating Department ward is enlarged, certain equipment shall be reorganized. Various types of operations, on which including general surgery, orthopedic surgery,

	ENT, endoscopes, etc. Renewal of medical equipment in existing department: 53 items including various x-ray unit, ultrasound unit, x-ray film processor, infant incubator, infant warmer, patient monitor, ventilator, hematology analyzer, biochemistry analyzer, blood gas analyzer, dental unit, fundus camera, synoptophore, etc.	otolaryngology, etc., shall be performed. Endoscopes shall be equipped to make it possible examining patients' vital function. The renewal of the X-ray unit and ultrasound unit improves the accuracy of a basic imaging diagnosis. The number of examinations is expected to be increased. The high level patient care with high reliability becomes possible in the intensive care unit (NICU and PICU) because of updates such as the incubator, the patient monitors, and artificial respirators. There is about twice much improvement in increasing in number of hematology examinations, biochemistry examinations in laboratory section. A special outpatient can especially expect the improvement of service with the diagnosis and the treatment in the dental department and the ophthalmology department. Indirect effect It is expected to contribute for staff's motivation as well as improving function of the facility. Educational function at the hospital shall be recovered. The system of medical service at whole PIMS shall also be enhanced.

3-2 Recommendations

PIMS, which the Children's Hospital belongs to, is a leading public medical institution in Pakistan, and has a higher level of facilities, equipment and staff than any other hospitals. Because the Children's Hospital is the sole specialty hospital for pediatrics operated north of Islamabad, it attracts patients from not only surrounding districts but also distant areas. Therefore, with the increase of patients, the number of operations is growing.

When this project has been completed, the operation capacity will be expanded and waiting lists will have fewer patients on them. In addition, renewed medical facilities are expected to enhance capacities and accuracies of inspection and treatment. Buildings and electrical and mechanical equipment, however, should be repaired and improved in whole now, as they have been used since the hospital was inaugurated twenty years ago. Electrical and mechanical equipment on the first side was renewed through restoration work carried out with grant aids from Japan after the flood. But secondary side equipment, such as air-conditioners and lights at rooms, should be renewed immediately. Waterproofed rooftops should also be recoated or renewed now.

For repair and renewal of the Children's Hospital equipment, as mentioned above, long-term and annual plans should be drawn and implemented. The plans are crucial for maintaining efficiencies of the Hospital.

Engineers should conduct daily inspections of facilities and equipment they are in charge of, and keep inspection records, which will be quite valuable when a repair and renewal plan is drawn in future. For maintenance of electric, mechanical and medical equipment, in addition, it is desirable that the Children's Hospital should develop a technical support system operated in close cooperation with local agencies.

APPENDICES

1. **Members of the Study Team**
2. **Itinerary of Survey Team**
3. **Itinerary of Draft Report Explanation**
4. **List of Parties Concerned in the Recipient Country**
5. **Result of Examination for Requested Equipment Procurement**
6. **Main Equipment List**
7. **Minutes of Discussions**
8. **Soil Investigation Report**

Members of the Study Team

The study team for the Basic Design Study is composed of the following members.

Mr. Nobuyuki YAMAURA	Team Leader	JICA Pakistan office
Dr. Yoshiko TSUYUKI	Project Adviser	Bureau of international cooperation International Medical Center of JAPAN Ministry of Health Labor & Welfare
Mr. Kenya YOSHINO	Project Coordinator	JICA Health Team Project Management GroupⅢ
Mr. Kenji MIYAZAKI	Chief Consultant/ Architecture Planner	K.ITO Architects & Engineers Inc
Mr. Chiaki IMOTO	Architecture Facility Planner	K.ITO Architects & Engineers Inc
Mr. Koichi SUZUKI	Construction/Cost Planner	K.ITO Architects & Engineers Inc
Mr. Hiroaki NARITA	Equipment Planner	INTEM Consulting, Inc.
Mr. Kenzo MIYOSHI	Procurement/Cost Planner	INTEM Consulting, Inc.
Mr. Tatsuo ISHIGURO	Electrical Facility Planner	K.ITO Architects & Engineers Inc

Itinerary of Survey Team

No.	date	day	Leader Mr. YAMAURA Nobuyuki	Technical Advisor Drs. TSUYUKI Yoshiko	Project Coordinator Mr. YOSHINO Kenya	Chief Consultant/ Architecture Planner Mr. MIYAZAKI Kenji	Architecture Facility Planner Mr. IMOTO Chiaki	Equipment Planner Mr. NARITA Hiroaki	Construction/Cost Planner Mr. SUZUKI Kouichi	Electrical Facility Planner Mr. ISHIGURO Tatsuo	Procurement/Cost Planner Mr. MIYOSHI Kenzo
1	12/2	Thu				Narita→Bangkok→Karachi					
2	12/3	Fri				Karachi→Islamabad, Corutesy Call on and dicussion with JICA office,EoJ					
3	12/4	Sat				Courtesy Call on MoH, PIMS					Narita →Bangkok →Karachi
4	12/5	Sun				Discussion within the team					Karachi →Islamabad
5	12/6	Mon				Discussion with PIMS, Site survey					
6	12/7	Tue				Discussion with PIMS, Site survey					
7	12/8	Wed				Discussion with PIMS, Site survey					
8	12/9	Thu				Discussion with PIMS, Site survey					
9	12/10	Fri		Narita→Beijing→Islamabad		Discussion with PIMS, Site survey					
10	12/11	Sat		Courtesy call on and dicussion with PIMS							
11	12/12	Sun		Discussion within the team							
12	12/13	Mon	Disucssion with JICA office, Courtesy call on MoH, EAD, EoJ				Discussion with PIMS, Site survey				
13	12/14	Tue	Discussion with PIMS, Site survey								Survey on manufacutres' agents
14	12/15	Wed		Discussion with PIMS, Site survey						Islamabad →Karachi	Islamabad→ Karachi
15	12/16	Thu		Discussion with PIMS, Site survey						Karachi →Bangkok, →Narita	Survey on manufacutres' agents
16	12/17	Fri		Discussion on the draft of the Minutes of Discussions							Survey on manufacutres' agents
17	12/18	Sat	Signing of the Minutes of Discussions				Site Survey				Survey on manufacutres' agents
18	12/19	Sun		Islamabad→Beijing→		Discussion within the team					organizing collected data
19	12/20	Mon		Narita		Islamabad→ Multan, Survey on local agents	Islamabad→ Lahore, Survey on local agents	Islamabad→ Lahore, Survey on local agents	Islamabad→ Multan, Survey on local agents		Survey on manufacutres' agents
20	12/21	Tue				Survey on local agents, Multan → Islamabad	Survey on local agents, Lahore → Islamabad	Survey on local agents, Lahore → Islamabad	Survey on local agents, Multan → Islamabad		Survey on manufacutres' agents Karachi→
21	12/22	Wed				Complement Survey					Bangkok→ Narita
22	12/23	Thu				Complement Survey					
23	12/24	Fri				Report to EoJ and JICA office Islamabad→Karachi→					
24	12/25	Sat				Bangkok→Narita					

Draft Report Explanation on the Project for Renovation for Islamabad Children's Hospital in the Islamic Republic of Pakistan

Members of the Team

Mr. Nobuyuki YAMAURA	Team Leader	JICA Pakistan office
Mr. Kenji MIYAZAKI	Chief Consultant / Architecture Planner	K.ITO Architects & Engineers Inc
Mr. Hiroaki NARITA	Equipment Planner	INTEM Consulting, Inc

Survey Schedule Plan 24th Feb. 2005 to 5th Mar. 2005

			Leader	Chief Consultant/ Architecture Planner	Equipment Planner
No.	date	day	Mr. YAMAURA Nobuyuki	Mr. MIYAZAKI Kenji	Mr. NARITA Hiroaki
1	2/24	Thu		10:55Narita(JL717) → 15:55Bangkok, 17:30Bangkok(TG507) → 21:05Karachi	
2	2/25	Fri	Corutesy Call on and dicussion with JICA office,EoJ at PM	7:00Karachi(PK300) → 9:00Islamabad, Corutesy Call on and dicussion with JICA office,EoJ at PM	
3	2/26	Sat	Courtesy Call on EAD, MoH, PIMS		
4	2/27	Sun	Discussion within the team, Organizing collected data		
5	2/28	Mon	Dicussion with PIMS (Surgery, Each Section) , complement Survey		
6	3/1	Tue	Dicussion with PIMS (Surgery, Each Section) , Complement Survey		
7	3/2	Wed	Dicussion with PIMS, Discussion on M/D		
8	3/3	Thu	Signing of the Minutes of Discussions, Report to EoJ		
9	3/4	Fri		Complement Survey 19:00Islamabad(PK309)→20:55Karachi, 23:55Karachi(CX2700) →	
10	3/5	Sat		06:30Bangkok, 08:30Bangkok(JL708)→16:10Narita	

List of Parties Concerned in the Recipient Country

1) Ministry of Health and Social Welfare

Mr. Mattiullah Khan	Senior Joint Secretary
Mr. Kayser Ali Shah	Joint Secretary
Dr. Fahim Arshad Marik	Deputy Senior Joint Secretry

2) Economic Affairs Division

Mr. Muhammad Ashraf Khan	Joint Secretary EDA
Mr. Zulfiger Haider	Deputy Secretary EAD

3) PIMS (Pakistan Institute of Medical Sciences)

Dr. Syed Fazli Hadi	Executive Director
Dr. Tahir Sajjad	Joint Executive Director
Mr. Major Jahanieb	Deputy Executive Director
Dr. Amjad Mahmood	Deputy Executive Director
Dr. Jahanzeb Aurakzai	Director (Children's Hospital)
Dr. Shazia F. Khan	Associate Prof. Radiology
Mr. Aibem Koral	Head of Pathologist
Dr. Haroon R. Khan	Consultant Pathologist
Mr. Shah Gulzar Hussein	Assistant Director, Procurement Dept.
Mr. Abul Razzaque	Senior Accounts Officer
Mr. Syed Manzor Abba Naqui	Application Programmer
Mr. Rafaqat Ali Butt	Civil Engineer
Mr. Shahzad Iqubal	Sub Electrical Engineer
Mr. Syed Talaat Pasha	Sub Electrical Engineer
Mr. Mahfooz ur rahman Sarhadi	Electrical Engineer
Mr. Azahaer Medhi	Generator Operator
Mr. Mohd Anwar	Generator Operator
Mr. Mahhooz ur rahman Sarhadi	Electrical Engineer
Mr. Shereen Zada	Telephone Mechanical
Mr. Akhtar Hussain Shah	Boiler Engineer
Mr. Mohammad Zulfigar	A.C. Technical Engineer
Mr. Abadwl Aleem Koral	Electro Medical Engineer
Mr. Muhammad Munia	Gas A-C Mech. Engineer

4) Children's Hospital

Dr. Muhammad Tahir Sajjad	Joint Executive Director
Dr. Syed Iqbal Raza	Director
Prof. M. Zaheer Abbasi	Prof.& Head of Pediatric Surgery
Dr. Nadeem Akhtar	Associate Pediatric Surgeon
Dr. Anwar Ul Haq	Senior Register Pediatric Surgical
Dr. Faroog Afzal	Head of Dept, Ophthalmology
Dr. Anser Maxood	Head of Dental Dept, Dental Surgeon
Dr. Mahmood Jamal	Neonatologist
Dr. Jaikrishin	Head of PICU
Dr. Farkhanda Nazli	Head of Physical med & Rehabilitation
Dr. Shehla Baig	In charge of Biological Lab
Ms. Magsoon Akhtar	Head Nurse of OT

5) National Bank of Pakistan

Mr. Sultan Mahmood	Branch Chief of PIMS

6) Embassy of Japan

Mr. Nobuaki TANAKA	Ambassador
Mr. Takeshi MATSUNAGA	Head of Economic and Development Section
Mr. Kazunobu SHIMURA	Secretary
Mr. Teruo KOBAYASHI	Secretary

7) JICA Pakistan Office

Mr. Nobuyuki YAMAURA	Resident Representative
Mr. Mitsunobu INABA	Deputy Resident Representative
Dr. Akihiro YOMO	Project Formulation Adviser, Health
Mr. Sohail Ahmad	Senior Program Officer

8) Japan Overseas Cooperation Volunteers

Miss. Naoko Hazama	PIMS

Result of Examination for Requested Equipment

Item No.	Section	Name of Equipment	Requested Quantity	Priority			Basic Criteria													New	Re-newal	Supple-ment	Result		Content of individual examination
				A	B	C	Criteria for giving High Priolity							Criteria for giving Low Priolity										Evalu-ation	Quantity	
							1	2	3	4	5	6	7	1	2	3	4	5	6	7						
	New Operating Theater																								
NOT-1	Operating Room	Operating lamp	3	3				●		●	●	●										3	◯	3	Three new OT rooms are targeted in the supplementary.
NOT-2	Operating Room	Operating table	3	3				●		●	●	●										3	◯	3	ditto
NOT-3	Operating Room	Electrosurgical unit	3	2	1			●		●	●	●									1	2	◯	3	Because the trouble of the transfer schedule equipment with
NOT-4	Operating Room	Anesthesia apparatus	3	2	1		●	●		●	●	●									1	2	◯	3	ditto
NOT-5	Operating Room	Anesthesia ventilator	3	2	1		●	●		●	●	●									1	2	◯	3	ditto
NOT-6	Operating Room	Patient monitor	3	2	1		●	●		●	●	●									1	2	◯	3	ditto
NOT-7	Operating Room	Suction machine	3	2	1		●	●	●												1	2	◯	3	ditto
NOT-8	Operating Room	Muscle stimulator	1		1					●													◯	1	Required to confirm the selected equipment whether it is right or not.
NOT-9	Operating Room	Syringe infusion pump	3	2	1			●	●	●	●											3	◯	3	At least one set is planned to each operation room.
NOT-10	Operating Room	Oxygen flow meter	3	3				●	●													3	◯	3	ditto
NOT-11	Operating Room	Suction flow meter	3	3				●	●													3	◯	3	ditto
NOT-12	Operating Room	Fiber gastroscope	1	1			●			●												1	◯	1	Procurement is planned as a renewal of existing breakdown equipment. 10-15/month diagnosis demand is assumed.
NOT-13	Operating Room	Fiber colonoscope	1	1			●			●												1	◯	1	ditto
NOT-14	Operating Room	Bronchoscope, Rigid	1	1			●			●												1	◯	1	Existing equipment is renewed, and it is judged that the restitution of the diagnosis and the therapeutic instrument ability is pressing
NOT-15	Operating Room	Sigmoidoscope, Rigid	1	1			●			●												1	◯	1	ditto
NOT-16	Operating Room	Cystoscope, Rigid	1	1			●			●												1	◯	1	ditto
NOT-17	Operating Room	Operation microscope for ENT	1	1			●			●												1	◯	1	ditto
NOT-18	Operating Room	Electric drill for orthopedic surgery	1	1				●		●												1	◯	1	The procurement of one unit is planned about the entire new
NOT-19	C-arm Room	Hip spica table	1	1			●			●												1	◯	1	ditto
NOT-20	C-arm Room	Plaster cutter, Electric	1	1				●		●												1	◯	1	ditto
NOT-21	Recovery	Patient monitor	2	2				●	●	●	●	●										2	◯	2	2 sets of disposition are planned to the recovery room of the F2 floor. It considers it at a rate of 1 set against every 2 beds.
NOT-22	Recovery	Pulse oximeter	2	2				●	●	●	●	●										2	◯	2	ditto
NOT-23	Recovery	Infusion pump	2	2				●	●	●	●	●										2	◯	2	ditto
NOT-24	Recovery	Ventilator, Pediatric to Adult	1	1				●		●												1	◯	1	1 set is planned as a exclusive use of the recovery room.
NOT-25	Recovery	Infant incubator	2	2				●	●	●	●	●	●									2	◯	2	2 sets are planned to the recovery room of the F2 floor. 2 sets are assumed to be a closed type of incubator among four all alcoves.
NOT-26	Recovery	Infant warmer	2	2				●	●	●	●	●	●									2	◯	2	2 sets are planned to the recovery room of the F2 floor. 2 sets are assumed to be a closed type of incubator among four all alcoves.
NOT-27	Sterilizing room	Autoclave	1	1				●			●	●	●									1	◯	1	It disposes it to sterilizing room of the F1 floor.
	Existing Department																								
RAD-1	Radiology	X-ray unit w/TV System	1	1			●			●			●								1		◯	1	In equipment concerned, the correspondence years pass, and the update is necessary in immediacy for providing with good service of the quality.
RAD-2	Radiology	X-ray unit	1	1			●		●	●	●	●	●								1		◯	1	It is a basic equipment of the imaging, and it thinks the update to be necessary indispensable from the use frequency and utility high, too.

Result of Examination for Requested Equipment

Item No.	Section	Name of Equipment	Requested Quantity	Priority			Basic Criteria													New	Re-newal	Supple-ment	Result		Content of individual examination
				A	B	C	Criteria for giving High Priolity							Criteria for giving Low Priolity										Evaluation	Quantity	
							1	2	3	4	5	6	7	1	2	3	4	5	6	7						
RAD-3	Radiology	Mobile X-ray	2	1		1	●		●	●	●	●	●									1		○	1	It is thought that at least 1 set update is indispensable among 2 existing equipment.
RAD-4	Radiology	Ultrasound with Colour Doppler (Cardiac and Brain Transducer)	1			1											●							×	-	There is no existing equipment. It gives priority to the further enhancement of the diagnosis with present black and white functions.
RAD-5	Radiology	Ultrasound unit, B/W	2	2			●			●	●	●	●									2		○	2	Existing equipment is a model of a portable type that there are problems in the one that was advanced by superannuation and the probe. The updates of these are planned.
RAD-6	Radiology	X-ray film processor	2		1	1	●			●	●											1		○	1	1 under breakdowns is assumed to be an update though 2 disposed
NIC-1	NICU	Ventilator, Infant	3	2		1	●			●												2		○	2	This equipment is important machine in NICU. It is thought that the renewal of 2 superannuation machine are indispensable.
NIC-2	NICU	Phototherapy unit	10	2	3	5	●	●	●		●	●	●									2	3	○	5	Two is updated. Moreover, the disposition that can correspond to half the inpatient by 3 supplementaries is done.
NIC-3	NICU	Infant incubator	8	7		1	●		●	●	●	●	●									7		○	7	7 incubators made in Japan that passes 20 years are targeted in the replacement.
NIC-4	NICU	Jaundice meter	2	1		1		●	●		●	●	●										1	○	1	The equipment has a large demand in neonatal exam., so 1 set of supplementary is conscerned against 2 sets of request.
NIC-5	NICU	Syringe infusion pump	10	6	4		●	●	●		●	●										6	4	○	10	In ICU, a lot of necessities and the validities of 4 supplementaries are high when there is 2-3 demand for one patient.
NIC-6	NICU	Patient monitor	5	1		4	●		●	●	●	●										1		○	1	The renewal of 1 superannuation machine is aimed at from indispensable machine in ICU.
NIC-7	NICU	Infant warmer	5	2		3	●		●	●	●	●	●									2		○	2	The renewal of 2 superannuation machine is planned in the emergency though there are 5 requests.
NIC-8	NICU	Distillation plant	1			1								●										×	-	The disposition of a medium model is planned to the lab room.
NIC-9	NICU	Ultrasound with Colour Doppler (Cardiac and Brain Transducer)	1			1											●							×	-	The section doesn't have it as existing machine. It gives priority to the further enhancement of the diagnosis by present black and white functions.
NIC-10	NICU	Oxygen analyzer	2		2		●			●	●	●										2		○	2	1 set of procurement is considered against 6 beds.
PIC-1	PICU	Ventilator, Infant	2	1		1	●			●												1		○	1	1 update is planned to 2 requests.
PIC-2	PICU	Ventilator, Pediatric / Adult	5	2		3	●			●												2		○	2	There are a lot of respirators of the breakdown, and this model plans 2 updates in PICU.
PIC-3	PICU	Syringe infusion pump	10	10			●	●	●		●	●										5	5	○	10	A lot in ICU when there is 2-3 demand for one patient. The necessity and the validity are high. 5 sets of Infusion pump are disposed instead of 5 sets of Syringe pump.
PIC-4	PICU	Patient monitor	5	7			●		●	●	●	●										7		○	7	These equipment that planned 7 updates are all the monitors for the time of opening a children's hospital.
PIC-5	PICU	Infant warmer	3	2		1	●		●	●	●	●	●									2		○	2	2 existing machines that becomes superannuated renewal is planned. But designated section should be changed from PICU to NICU.
PIC-6	PICU	Distillation plant	1			1								●										×	-	The disposition of a medium model is planned to the lab room. Otherwise, it should be excluded,

Result of Examination for Requested Equipment

Item No.	Section	Name of Equipment	Requested Quantity	Priority			Basic Criteria													New	Re-newal	Supple-ment	Result		Content of individual examination
				A	B	C	Criteria for giving High Priolity							Criteria for giving Low Priolity										Evaluation	Quantity	
							1	2	3	4	5	6	7	1	2	3	4	5	6	7						
EOT-1	Operating Room	Operating lamp	2	2			●			●	●	●										2		○	2	2 existing operating lights are updated, because of the illuminance deficiency by superannuation.
EOT-2	Operating Room	Operating table	2	2			●			●	●	●										2		○	2	Two operating tables by which the movement of Bogeition has already become difficult are renewed.
EOT-3	Operating Room	Plaster cutter, Electric	2	1		1	●			●												1		○	1	1set procurement is aimed at to share in an existing operating theater.
EOT-4	Operating Room	Electrosurgical unit	4	2		2	●			●	●	●										2		○	2	2 sets of procurements out of 4 sets of requests judged that the update are immediately necessary.
EOT-5	Operating Room	Fiber gastroscope	1			1								●										×	-	To plan disposition to a new operating theater, it deletes as duplication machine.
EOT-6	Operating Room	Fiber colonoscope	1			1								●										×	-	Ditto
EOT-7	Operating Room	Autoclave, Small size	1			1								●										×	-	Ditto
EOT-8	Operating Room	Electric drill for orthopedic surgery	1		1		●			●												1		○	1	Because it is equipment with high utility, one update is aimed at in the orthopedic surgery operation.
EOT-9	Operating Room	Suction machine	2	2			●		●													2		○	2	2 existing equipment renewal is aimed at.
EOT-10	Operating Room	Video camera for endoscopy	1			1								●		●	●							×	-	Because a general-purpose fiberscope is disposed to new operating theater, it is excluded.
EOT-11	Operating Room	Head mounted operation microscope	1			1								●		●	●							×	-	It becomes repetition from the plan of disposition to new operation theater.
EOT-12	Operating Room	Skin graft knife	5	2		3	●			●												2		○	2	Plan to procure 2 sets because of demand such as the vulnuses and the thermal burns.
EOT-13	Operating Room	Manual Dermatome	1		1		●			●												1		○	1	Plan to procure 1 set because of demand such as the vulnuses and the thermal burns.
EOT-14	Operating Room	Video camera for OT	1			1								●		●	●							×	-	This is judged that the importance degree and the emergency are low, and assumed to be C priority.
EOT-15	Operating Room	Video gastroscope with accessories	1			1								●		●	●							×	-	A general-purpose fiber scope is disposed to new operating theater. Therefore, it is excluded here.
AE-1	AE	Infant warmer	2	1		1	●		●	●	●	●	●									1		○	1	1 disposition is planned as a exclusive equipment of the emergency room.
AE-2	AE	Plaster cutter, Electric	2	1		1		●		●													1	○	1	The minimum 1 disposition is planned for the emergency room.
AE-3	AE	Autoclave, Small Size	1	1				●	●		●	●											1	○	1	It procures it as one special machine of a section concerned.
LAB-1	Laboratory	Hematology analyzer	1		1			●		●	●												1	○	1	1 disposition is planned to the emergency laboratory in congressional.
LAB-2	Laboratory	Chemistry analyzer	1		1		●			●	●											1		○	1	The renewal of existing machine of OPD (breakdown) is planned.
LAB-3	Laboratory	Platelet aggregator	1			1														●				×	-	The self-procurement of a simple equipment is requested.
LAB-4	Laboratory	Coagulo meter	1		1															●				×	-	The self-procurement of a simple equipment is requested.
LAB-5	Laboratory	Multi head microscope	1			1								●										×	-	It excludes it from the plan object because it has it to OPD.

Result of Examination for Requested Equipment

Item No.	Section	Name of Equipment	Requested Quantity	Priority			Basic Criteria													New	Re-newal	Supple-ment	Result		Content of individual examination
				A	B	C	Criteria for giving High Priolity							Criteria for giving Low Priolity										Evaluation	Quantity	
							1	2	3	4	5	6	7	1	2	3	4	5	6	7						
LAB-6	Laboratory	Microscope w/Photo and TV Monitor	1	1						●		●									1			○	1	Utility is higher to execute the staff's education and training.
LAB-7	Laboratory	ELISA Plate reader	1			1									●									×	-	There is no existing machine, and it becomes a new request. The continuance of the correspondence of the current state is requested from the execution of the inspection with PIMS if necessary.
LAB-8	Laboratory	Microscope	4	2	1	1	●	●	●		●	●										2	1	○	3	1 disposition is planned in emergency lab and 2 dispositions are planned in OPD lab.
LAB-9	Laboratory	Centrifuge	2			2														●				×	-	Because there are some amount, so priority is low.
LAB-10	Laboratory	pH Meter	1	1				●	●												1			○	1	1 procurement is indispensable and because a basic equipment in the lab.
LAB-11	Laboratory	Blood gas analyzer	1		1			●		●													1	○	1	1 disposition is planned to an emergency lab.
LAB-12	Laboratory	Electrolyte analyzer (Na/K/Cl)	1			1														●				×	-	It is thought that substitution is possible by the function of LAB-12.
LAB-13	Laboratory	Water Bath	2	1		1	●															1		○	1	1 update of 2 requests is planned.
LAB-14	Laboratory	Pipette set	1		1			●															1	○	1	1 disposition is planned to an emergency lab.
LAB-15	Laboratory	Distillation plant	2		1	1																1		○	1	1 is disposed to an emergency lab though there are two requests.
LAB-16	Laboratory	Refrigerator	1			1								●										×	-	There is a large-scale medicine refrigerator operating in the OPD lab.
LAB-17	Laboratory	Freezer	1	1			●																1	○	1	There was one before though it did not have now. Therefore, 1 disposition is aimed at.
LAB-18	Laboratory	Computer with laser jet printer	1			1														●				×	-	The procurement of the computer was assumed to be a plan off the subject in this cooperation. Therefore, this request is excluded.
LAB-19	Laboratory	Hot air oven	2	1		1	●															1		○	1	1 update is planned to the OPD lab though there are two requests.
ENT-1	ENT	Ultrasonic nebulizer	1	1			●															1		○	1	It is the renewals of basic equipment, therefore, priority is higher.
DNT-1	Dental	Dental unit	2	1		1	●			●	●	●										1		○	1	Ditto
DNT-2	Dental	X-ray film processor	1	1			●															1		○	1	Ditto
EYE-1	Ophthalmology	Electric tonometer	1	1			●			●												1		○	1	Ditto
EYE-2	Ophthalmology	Slit lamp microscope	1			1								●										×	-	A new model has been procured in 2004.
EYE-3	Ophthalmology	Ophthaomological examination unit	1		1									●										×	-	A doctor has this item for diagnosis.
EYE-4	Ophthalmology	Fundus camera	1		1		●			●												1		○	1	Existing equipment is indispensable and an early update is indispensable due to the breakdown.
EYE-5	Ophthalmology	Synoptophore	1		1		●			●												1		○	1	Ditto
PHY-1	Physiotherapy	Low frequency therapy unit	2	1		1	●				●	●										1		○	1	1 update is planned though there are 2 requests.
WAD-1	Ward	Ultrasonic nebulizer	3	3	2																	2	3	○	5	1 is disposed to the treatment room in each floor in each ward.
WAD-2	Ward	Suction machine	10	3	2	3		●													5			○	5	Ditto
WAD-3	Ward	Pulse oximeter	10	3	2	3		●													5			○	5	Ditto

Result of Examination for Requested Equipment

Item No.	Section	Name of Equipment	Requested Quantity	Priority			Basic Criteria													New	Re-newal	Supple-ment	Result		Content of individual examination
				A	B	C	Criteria for giving High Priolity							Criteria for giving Low Priolity										Evalu-ation	Quantity	
							1	2	3	4	5	6	7	1	2	3	4	5	6	7						
WAD-4	Ward	Glucometer	10			10														●				×	-	It is judged that the cheap one can be procured in a local market, and excludes it from this project.
WAD-5	Ward	Infant incubator	7	4	2	1	●	●	●	●	●	●	●								2	3		◯	5	1 is disposed to the treatment room in each floor in each ward.
COM-1	Different dept.	Oxygen flow meter	30	24		6	●				●											24		◯	24	24 sets (NICU 12 beds and PICU 12 bed's worth) in total for which correspondence is needed in the emergency this time are targeted in the update.
COM-2	Different dept.	Suction flow meter	40	24		26	●				●											24		◯	24	Ditto
COM-3	Different dept.	Oxygen outlet point w/Packin	50	24		26														●		24		×	-	There is no standard product of the existing manufacturer by the manufacturing discontinuance, and procurement is impossible.
COM-4	Different dept.	Suction outlet point w/Packin	50	24		26														●		24		×	-	Ditto
		Hospital management information system	1lot			C														●				×	-	Refer to the text details explanation.
		Spare parts	1lot			C														●				×	-	Ditto
		General surgical instrument	1lot			C														●				×	-	Ditto

Main Equipment List

No.	Item	Dept.	Planned Qt'y	Main specification	Use and Level
RAD-1	X-ray Unit w/TV system	Radiology	1	Type: Remotocontrol, Fluoroscopy Max rating: 500mA-125kva X-ray tube: 1 tube Local control CRT X-ray TV	The patient receives the diagnosis of the diseased part by using this fluoroscopic system especially for the disease of digestive organs.
RAD-2	X-ray Unit	Radiology	1	Type: Ceiling suspension type X-ray tube: Single tube Voltage/Ampair: 150KV / 500mA Composition: X-ray generator, X-ray tube, Bucky table, Bucky stand	Multi-purpose equipment for general radiography of the skeleton, chest, abdomen, soft tissues, etc.
RAD-3	Mobile X-ray unit	Radiology	1	Type: Moter driven Generator: Inverter type Tube voltage : 125kV Tube current : 200mA	Used in serious cases of those patients are too infirm to go to the X-ray examination room. Since the whole body is the subject of examination, simple radiography is done for each bodily part.
RAD-5	Ultrasound unit, B/W	Radiology	2	Display mode: B, M, B/B, B/M Monitor: 10-12inch / white and black Scanning method: electric convex, linear Probe: Linear: 7.5MHz～10MHz (small probe head for pediatrics) Convex:5.0MHz～7.5MHz (small probe head for pediatrics)	Detecting and observing the echoes, we can interpret the morphology of specific lesion or the characteristics of affected tissue, etc. It enables us to diagnose the patient.
RAD-6	X-ray Film Processor	Radiology	1	Type: Roller transport Film size: 4"x 4"-14"x17" Capacity of processing: 90pcs./h	This equipment automatically makes all the process from development to drying of the films after the X-ray photography, and it enables to shorten the waiting time before the diagnosis.
DNT-1	Dental Unit	Dental	1	Movement: Chair seat Hydraulic Height of seat: Min.450-660mm Operating light: Provided with Airturbine tHand-piece,and Air compreser	Equipment used for basic treatment in dentistry.
NIC-1(2) PIC-1(1)	Ventilator, Infant	NICU	3	Application: Infant Tidal volume: 5 - 999m⏐ or wider Respiratory rate : 2-120/mini. or more I/E ratio : variable	There is a problem in the respiratory function, and the equipment used with newborn baby's ICU.
NOT-24(1) PIC-2(2)	Ventilator, Pediatric / Adult	New OT/Recovery	3	Application: Pediatrics to Adult Mode: CMV, IDV, PEEP, CPAP Tidal volume: 50-2000ml or wider I/E ratio : variable	There is a problem in the respiratory function, and the equipment used with PICU.

Main Equipment List

No.	Item	Dept.	Planned Qt'y	Main specification	Use and Level
NOT-6(3) NOT-21(2) NIC-6(1) PIC-4(7)	Patient Monitor	New OT/Theater	13	Parameter: electrocardiogram, respiration rate, temperature,pulsation, SpO_2,NIBP Display: CRT or LCD Recorder: built-in Wire type Accessories for Infant and Pediatrics	Bedside monitor to be installed near a specific patient for monitoring cardiogram, heartbeat frequency of respiration, body temperature, blood pressure, etc.
NOT-12	Fiber Gastroscope	New OT	1	Compositions: Main unit, Light source, TV monitor, Suction pump Application: Pediatrics Field of view: 100° or more Working length: 1,345mm or more Light source: Xenon	Used for internal medicine, mainly for the purpose of Gastropathic diagnosis.
NOT-13	Fiber Colonoscope	New OT	1	Compositions: Accessories to be applicable with Item NOT-12 Application: Pediatrics Field of view: 120° Working length: 1,650mm	Used for the examination and treatment of the large intestines such as colonal polypectomy and submucosal resection.
EYE-1	Electric Tonometer	Ophthalmology	1	Type: Non-contact Measuring range: 1-60mmHg or wider Measuring increment: 1mmHg or less Measurement mode: Auto/Manual with preinter	It is necessary to inspect the tension of the eye in large quantities, safely, and accurately in clinical of the ophthalmology department. As for this equipment, the speed is fast damage, and can play clinical a big role.
LAB-1	Hematology Analyzer	Laboratory	**1**	Parameters: WBC,RBC,Plt,etc. 18items in total with 3 part WBC differantial Throughput: 55samples/hour, more	It is used to diagnose the diseases by the inspection of blood component (blood corpuscle, thrombocyte and leukocyte).
LAB-2	Chemistry Analyzer	Laboratory	**1**	Throughput : 180 tests/hour, or more No. of test items : 34 test items or more Sample volume : 2 - 35uL/test	This analytical equipment provides clinically important data through chemical measurement of the vital and physiological phenomena in the patient. This equipment is a basic requirement for laboratory testing.
LAB-6	Microscope w/Photo and TV Monitor	Laboratory	1	Magnification : 40X - 1,000X Objective: 4x,10x,40x spring, and 100x spring Condenser: Abbe type Camera, TV monitor: provided	Used for microscopic observation and recording in routine pathological practice.
LAB-11	Blood Gas Analyzer	Laboratory	1	Blood gas module : pH, PCO2, PO2, or more Electrolytemodule : Na/K/Ca/Cl/Het. or more	It is used to analyze the blood concentration such as the saturation of oxygen, moisture, and electrolytic concentration, and also used to grasp the respiratory function of the patient.

Main Equipment List

No.	Item	Dept.	Planned Qt'y	Main specification	Use and Level
NOT-2(3) EOT-2(2)	Operating Table	New OT	3	Type: universal, hydraulic and manual operation Table top: 1,900(L)×490(W)mm Adjustable height: 725-1,000mm or more Trendelenburg: Approx.+/-15° Lateral tilting: Approx. +/-20°	Used for placing a patient on the table for operation. Unlike an ordinary bed, the operating table can be tilted and rolled to adjust the position of the patient for ease and safety of the operation.
NOT-4	Anethesia apparatus	New OT	3	Method: 0_2 and N_20 shut-off mechanism Vaporizer: Fluramic and Isoflurane or more With Co_2 Canister Flow meter: 30% shut-off mechanism	The patient inhales the anesthetizing gas and general anesthesia is done. This makes the patient's consideration lost, and becomes possible the painless operation.
NOT-14	Bronchoscope, Rigid	New OT	1	Application: Infant to pediatric Type: Rigid type Main unit: Telescope, Sheath, Guide cable, etc. with Light source.	This equipment is supplied to the diagnosis of the direct straight at the removal and the inside of the accidental ingestion foreign body to the bronchial tube and the collection of the organization, etc.
NOT-16	Cystoscope, Rigid	New OT	1	Application: Infant to pediatric Type: Rigid type Main unit: Telescope, Sheath, Guide cable, etc. with Light source and TV monitor	Used for obsevation, diagnosis and treatment of the uretha and bladder.
NOT-19	Hip spica table	New OT	1	Composition: Universal operating table, Lower leg traction attachment, Lead aprons Application: Plaster treatment and operation for pediatric.	This equipment is supplied for the treatment of infant's orthopedics and plastic surgery area. The lead aprons are also supplied becouse of the protection for the staff the exposion from C-arm x-ray unit
EYE-4	Fundus Camera	Ophthalmology	1	Composition: Main unit, 35mmCamera, Table, Field angle: 32 ° or more Working distance: 39mm or more	It is an equipment that records the eyeground change in a variety of eyeground diseases, and doesn't allow the ophthalmology department section to lack it in the one that the blood circulatory system for the retina and the choroid diagnoses abnormality etc.
NOT-17	Operating Microscope for ENT	New OT	1	Application: ENT operation Composition: Main unit, Mobile stand, Foot swich Objective lens: f=230mm Magnification change: 3～4 changes or more Eyepiece: 10.0 x or more	This is a microscope which is able to provide to the main operation of the ENT department.

MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY
ON THE PROJECT FOR THE RENOVATION OF
ISLAMABAD CHILDREN'S HOSPITAL
IN THE ISLAMIC REPUBLIC OF PAKISTAN

In response to a request from the Government of the Islamic Republic of Pakistan (hereinafter referred to as "Pakistan"), the Government of Japan decided to conduct a Basic Design Study on The Project for the Renovation of Islamabad Children's Hospital (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Pakistan the Basic Design Study Team(hereinafter referred to as "the Team"), which is headed by Mr. Nobuyuki Yamaura, Resident Representative, JICA Pakistan Office, and is scheduled to stay in the country from 2nd December to 24th December 2004.

The Team held discussions with the officials concerned of the Government of Pakistan and conducted a field survey at the study area.

In the course of discussions and field survey, both parties confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

As a result of the discussions, the Team and Pakistani authorities concerned agreed to recommend to their Governments the matters referred to in the document attached hereto. It was explained on behalf of the Ministry of Health, Government of Pakistan that the approval of Economic Affairs Division (EAD) and Central Board of Revenue (CBR), Government of Pakistan is essential for implementation of the Project in view of financial implications.

Islamabad, 17th December 2004

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Basic Design Study Team
Japan International Cooperation Agency
Japan

Mr. Matiullah Khan
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ATTACHMENT

1.Objective of the Project

The objective of the Project is to improve the medical service provided by Islamabad Children's Hospital through construction of the new operation theater and renovation of the operation theater and related medical equipment of the hospital.

2.Project site

The site of the Project is Islamabad, Pakistan.

3.Responsible and Implementing Agency

3-1.The Responsible Ministry is the Ministry of Health, Government of Pakistan.

3-2.The Implementing Agency is Pakistan Institute of Medical Sciences (PIMS).

4.Items requested by the Government of Pakistan

After discussions with the Team, the items described in Annex-1 and Annex-2 were finally requested by Pakistani side. JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval.

(1) Construction of the Buildings and Facilities

Details of items are listed in Annex-1.

(2) Procurement of the Equipment

Details and priorities of equipment are listed in Annex-2.

5.Japan's Grant Aid Scheme

5-1.Pakistani side understands the Japan's Grant Aid Scheme explained by the Team, as described in Annex-3.

5-2.Pakistani side will take the necessary measures, as described in Annex-4, for smooth implementation of the Project, as a condition for the Japanese Grant Aid to be implemented.

6.Schedule of the Study

6-1. The consultants will proceed to further studies in Pakistan until 24th December.

6-2. JICA will prepare the draft report in English and dispatch a mission in order to explain its contents around the middle of February 2005.

6-3. In case that the contents of the report is accepted in principle by the Government of Pakistan, JICA will complete the final report and send it to the Government of Pakistan by end of May 2005.

7.Other relevant issues

7-1. The Team confirmed that PIMS has taken necessary steps to amend the A/P for the consultant agreement of "the Project for Improvement of Children's Hospital, Islamabad". However, the A/P for the contract for construction also needs to be amended and both sides confirmed that PIMS would amend the A/P by the end of December 2004 so that payments would be made on schedule. The Team expressed the concern that if these measures were not taken by the Pakistani side, it would have a negative effect on the decision making of implementation of the Project.

7-2. Both sides confirmed that PIMS would take necessary measures to complete the undertakings to be covered by the Pakistani side, namely installation of the underground drainage pipe to the exterior stream, in "the Project for Improvement of Children's Hospital, Islamabad" by the end of February, 2005.

7-3. Pakistani side guaranteed to secure an appropriate land for the construction of a new operation theater in the premises of PIMS through ①temporary shifting of the power line, ②temporary shifting of the water tank and demolishing of the present tank ③Replacement of the canteen, and ④shifting of the oxygen gas and fuel gas pipe on the corridor. The permanent shifting of the power line and water tank would be covered by the Japanese side.

7-4. Both sides confirmed equipment that should be repaired, renewed, or procured by the Pakistani side would be excluded from the Project.

7-5. Both sides agreed that materials that should be covered by the Pakistani side as a part of the regular maintenance would be excluded from the Project.

7-6. Pakistani side promised to take following measures for the implementation of the Project.

(1) to secure and allocate necessary budget including the processing fee of Authorization to Pay (A/P)
(2) to secure and allocate personnel including doctors and nurses for the operation theater
(3) to ensure items described in 7-3
(4) to take all other necessary measures

7-7. The Japanese side will ensure the equipment would be given appropriate guarantees period that manufacturer could provide in a regular practice.

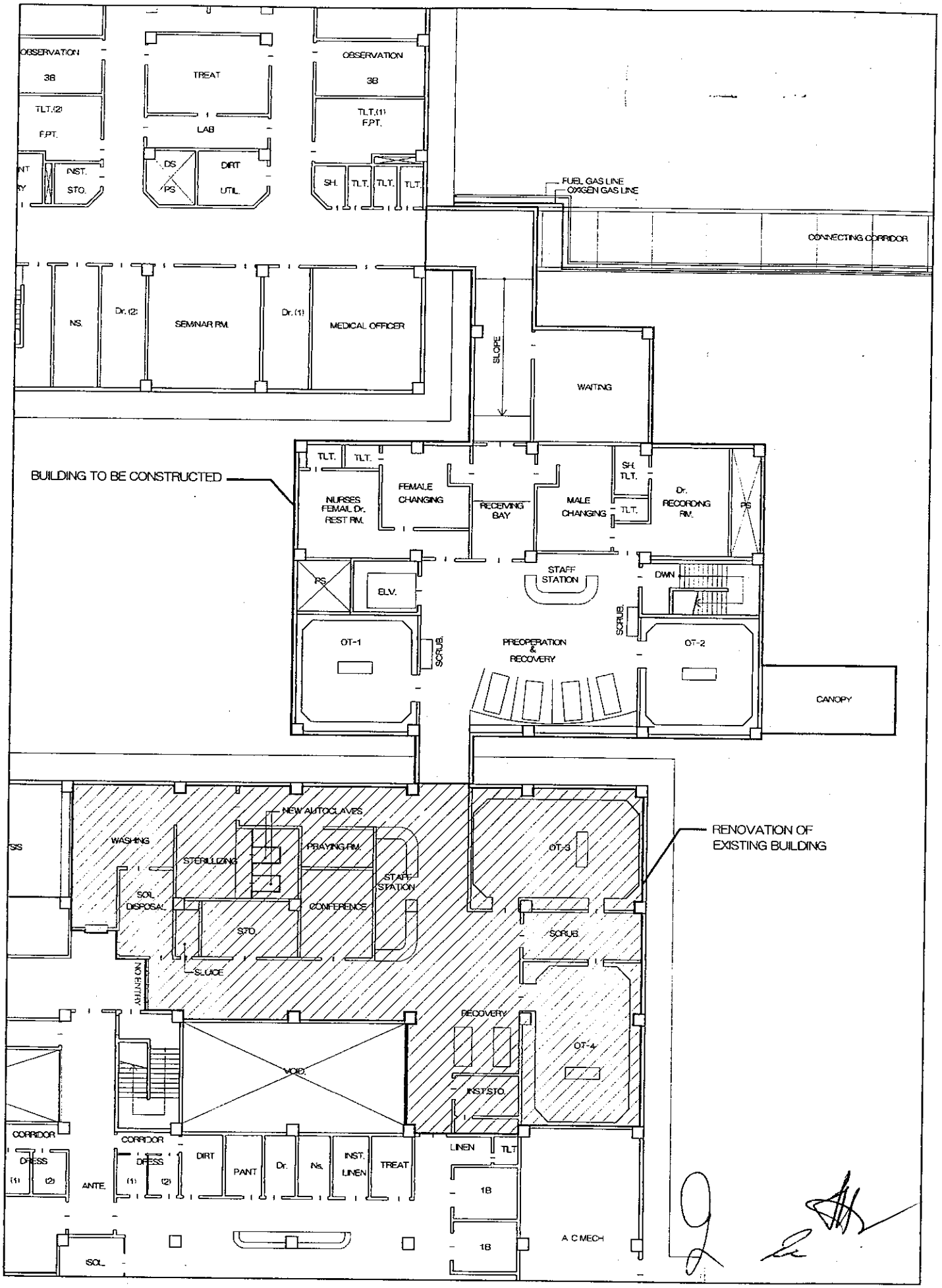
7-8. The necessity of Ultra Sound with Color Doppler(Cardiac and Brain Transducer) was emphasized by the Pakistani side.

7-9. The Team advised strongly to repair the water treatment system of the Children's Hospital that is currently out of order. The Pakistani side promised to take necessary measures to repair the water treatment system at the earliest possible time.

7-10. Pakistani side promised to operate and maintain the facility and equipment provided by the Project properly and effectively.

7-11. Pakistani side will exempt Japanese nationals who will be engaged in the Project, from all duties and related fiscal charges, which may be imposed in Pakistan with respect to the import and local procurement of equipment, materials and services supplied under the verified contract.

ANNEX-1



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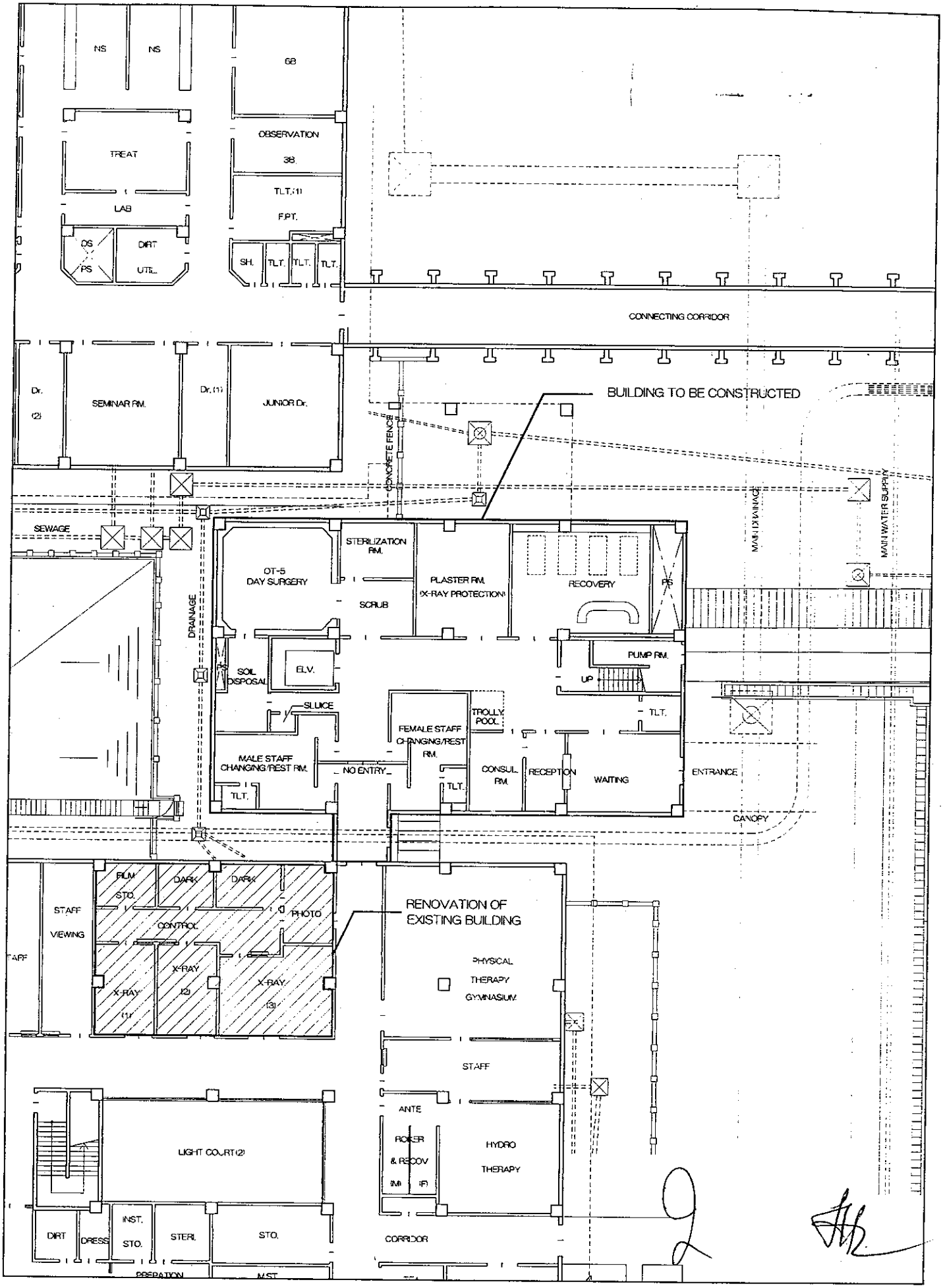
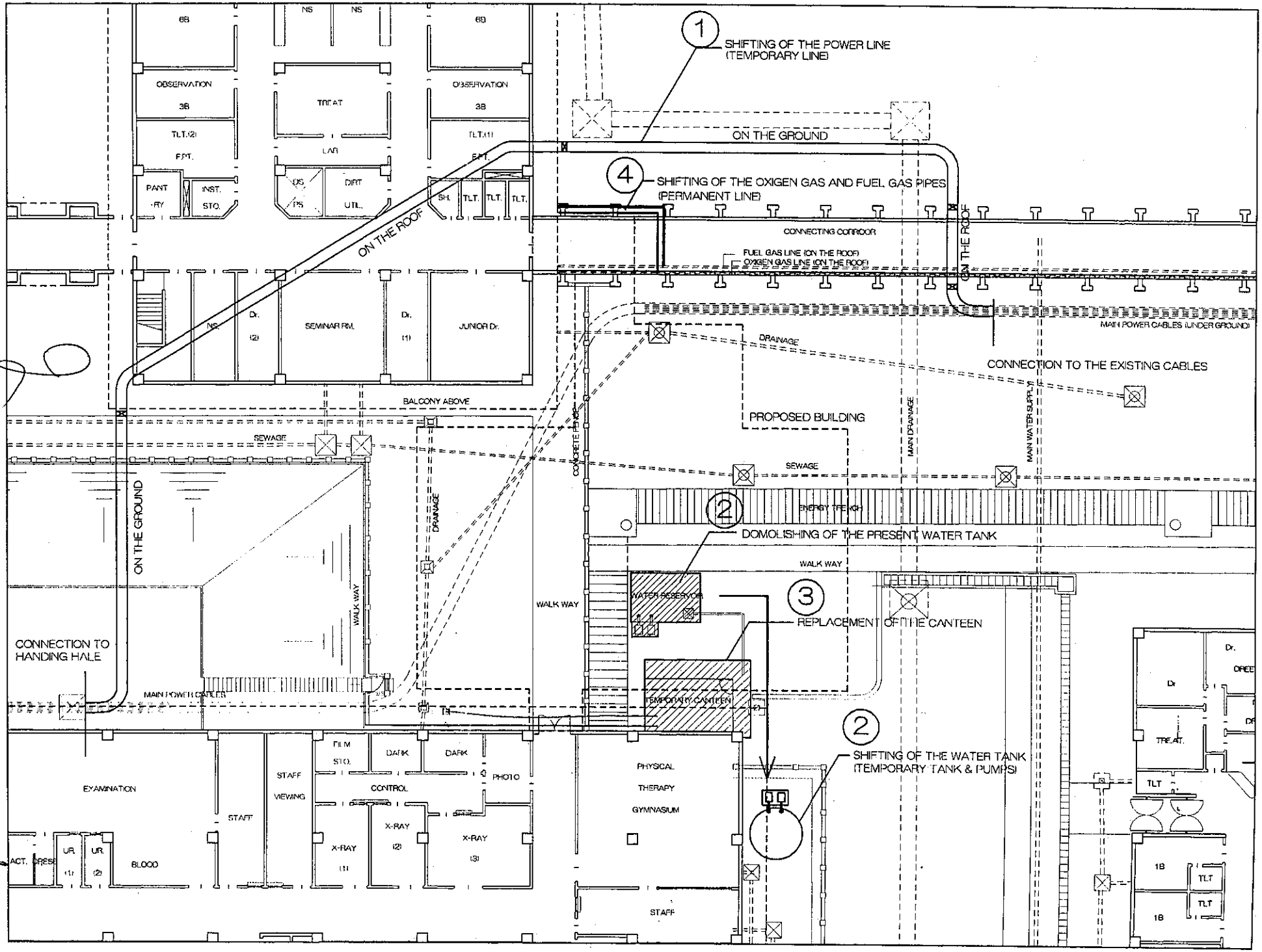


GROUND FLOOR PLAN S=1:250

WORKS TO BE BORNE BY PAKISTAN



ANNEX-2

Equipment list to be requested

Item No.	Dept.	Item	Requested Qty	Priority & Qty		
				A	B	C
	New Operating Theater					
NOT-1	Operating Room	Operating Lamp	3	3		
NOT-2	Operating Room	Operating Table	3	3		
NOT-3	Operating Room	Electrosurgical unit	3	2	1	
NOT-4	Operating Room	Anaethesisa appratus	3	2	1	
NOT-5	Operating Room	Anaethesisa ventilator	3	2	1	
NOT-6	Operating Room	Patitent monitor	3	2	1	
NOT-7	Operating Room	Suction Machine Heavy Duty	3	2	1	
NOT-8	Operating Room	Muscle stimulator	1		1	
NOT-9	Operating Room	Syringe Infusion Pump	3	2	1	
NOT-10	Operating Room	Oxygen flow meter	3	3		
NOT-11	Operating Room	Suction flow meter	3	3		
NOT-12	Operating Room	Fiber Gastroscope	1	1		
NOT-13	Operating Room	Fiber Colonoscope	1	1		
NOT-14	Operating Room	Bronchoscope, Rigid	1	1		
NOT-15	Operating Room	Sigmoidoscope, Rigid	1	1		
NOT-16	Operating Room	Cystoscope, Rigid	1	1		
NOT-17	Operating Room	Operation Microscope for ENT	1	1		
NOT-18	Operating Room	Electric Drill for orthopedic surgery	1	1		
NOT-19	C-arm Room	Hip spica table	1	1		
NOT-20	C-arm Room	Plaster cutter, Electric	1	1		
NOT-21	Recovery	Patitent monitor	2	2		
NOT-22	Recovery	Pulse Oximeter	2	2		
NOT-23	Recovery	Infusion Pump	2	2		
NOT-24	Recovery	Ventilator, Infant to Pediatric	1	1		
NOT-25	Recovery	Infant incubator	2	2		
NOT-26	Recovery	Infant warmer	2	2		
NOT-27	Prep. Room (F1)	Autoclave	1	1		
	Existing Department					
RAD-1	Radiology	X-ray Unit W/TV System	1	1		
RAD-2	Radiology	X-ray Unit 500mA	1	1		
RAD-3	Radiology	Mobile X-ray	2	1		1
RAD-4	Radiology	Ultrasound with Colour Dopper (Cardiac and Brain Transducer)	1			1
RAD-5	Radiology	Ultrasound unit, B/W	2	2		
RAD-6	Radiology	X-ray Film Processor	2		1	1
NIC-1	NICU	Ventilator Infant	3	2		1
NIC-2	NICU	Phototherapy Unit	10	2	3	5
NIC-3	NICU	Baby Incubator	8	7		1
NIC-4	NICU	Jaundice Meter	2	1		1
NIC-5	NICU	Syringe Infusion Pump	10	6	4	
NIC-6	NICU	Cardiac Monitor	5	1		4
NIC-7	NICU	Infant Warmer	5	2		3
NIC-8	NICU	Distillation Plant	1			1
NIC-9	NICU	Ultrasound with Colour Dopper (Cardiac and Brain Transducer)	1			1
NIC-10	NICU	Oxygen Analyzer	2		2	
PIC-1	PICU	Ventilator Infant	2	1		1
PIC-2	PICU	Ventilator Infant / Adult	5	2		3
PIC-3	PICU	Syringe Infusion Pump	10	10		
PIC-4	PICU	Cardiac Monitor	5	7		
PIC-5	PICU	Infant Warmer	3	2		1
PIC-6	PICU	Distillation Plant	1			1
EOT-1	Operating Room	Operating Lamp	2	2		
EOT-2	Operating Room	Operating Table	2	2		

Equipment list to be requested

Item No.	Dept.	Item	Requested Qty	Priority & Qty		
				A	B	C
EOT-3	Operating Room	Electric POP Cutter	2	1		1
EOT-4	Operating Room	Surgical Diathermy	4	2		2
EOT-5	Operating Room	Fiber Gastroscope	1			1
EOT-6	Operating Room	Fiber Colonoscope	1			1
EOT-7	Operating Room	Autoclave Small Size	1			1
EOT-8	Operating Room	Electric Drill w/Accessories for orthopedic surgery	1		1	
EOT-9	Operating Room	Suction Machine Heavy Duty	2	2		
EOT-10	Operating Room	Video Camera for Endoscopy	1			1
EOT-11	Operating Room	Head Mounted Operation Microscope	1			1
EOT-12	Operating Room	Skin Graft Knife	5	2		3
EOT-13	Operating Room	Meshgraft Manual Dermatome	1		1	
EOT-14	Operating Room	Video Camera for OT	1			1
EOT-15	Operating Room	Video Gastroscope with Accessories	1			1
AE-1	AE	Infant Warmer	2	1		1
AE-2	AE	Electric POP Cutter	2	1		1
AE-3	AE	Autoclave Small Size	1	1		
LAB-1	Laboratory	Hematology Analyzer	1		1	
LAB-2	Laboratory	Chemistry Analyzer	1		1	
LAB-3	Laboratory	Platelet Aggregator	1			1
LAB-4	Laboratory	Coagulo Meter	1		1	
LAB-5	Laboratory	Multi Head Microscope	1			1
LAB-6	Laboratory	Microscope w/Photo and TV Monitor	1	1		
LAB-7	Laboratory	ELISA Plate Reader	1			1
LAB-8	Laboratory	Microscope	4	2	1	1
LAB-9	Laboratory	Centrifuge Heavy Duty	2			2
LAB-10	Laboratory	pH Meter	1	1		
LAB-11	Laboratory	Blood Gas Analyzer	1		1	
LAB-12	Laboratory	Electrolyte Analyzer (Na/K/Cl)	1			1
LAB-13	Laboratory	Water Bath	2	1		1
LAB-14	Laboratory	Auto pipette, 40 μ L to 1,000 μ L	1		1	
LAB-15	Laboratory	Distillation Plant	2		1	1
LAB-16	Laboratory	Refrigerator	1			1
LAB-17	Laboratory	Freezer	1	1		
LAB-18	Laboratory	Computer with Laser jet printer	1			1
LAB-19	Laboratory	Hot Air Oven	2	1		1
ENT-1	ENT	Ultrasonic Nebulizer	1	1		
DNT-1	Dental	Dental Unit	2	1		1
DNT-2	Dental	X-ray Film Processor	1	1		
EYE-1	Ophthalmology	Electric Tonometer	1	1		
EYE-2	Ophthalmology	Slit Lamp Microscope	1			1
EYE-3	Ophthalmology	Ophthaomological Examination Unit	1		1	
EYE-4	Ophthalmology	Fundus Camera	1		1	
EYE-5	Ophthalmology	Synoptophore	1		1	
PHY-1	Physiotherapy	Muscle Stimulator	2	1		1
WAD-1	Ward	Ultrasonic Nebulizer	3	3	2	
WAD-2	Ward	Suction Machine	10	3	2	3
WAD-3	Ward	Pulse Oximeter	10	3	2	3
WAD-4	Ward	Glucometer	10			10
WAD-5	Ward	Infant Incubator	7	4	2	1
COM-1	Different dept.	Oxygen Flow Meter	30	24		6
COM-2	Different dept.	Suction Flow Meter	40	24		26
COM-3	Different dept.	Oxygen Outlet Point w/Packin	50	24		26
COM-4	Different dept.	Suction Outlet Point w/Packin	50	24		26
	Hospital Management Information System					
	Management Information Dept.	Server Computer	1			○
	Management Information Dept.	Desktop Computer	15			○
	Management Information Dept.	Local Area Network System	1			○

Equipment list to be requested

Item No.	Dept.	Item	Requested Qty	Priority & Qty A	B	C
	Management Information Dept.	External Hard Disk Drive	1			○
	Management Information Dept.	Laser Printer	6			○
	Management Information Dept.	UPS	8			○
	Spare Parts					
	Radiology	X-ray Tube, 500mA	2			○
	NICU	Phototherapy Rod	20			○
	Radiology	X-ray Transport Belt	20			○
	Operating Theater	Shadowless Lamp, 24Volt, 40W	30			○
	Different dept.	Pulse Oximeter Probe	5			○
	Operating Theater	UV Rod for Scrub Washing	20			○

The instruments listed below should be taken care of Pakistani side to start new OT service smoothly.

	General Surgical Instruments					
	Operating Theater	Sponge Holding Forceps	30			○
	Operating Theater	Robert Artery Forceps	80			○
	Operating Theater	Spenser Well's Artery Forceps	160			○
	Operating Theater	Kocher Artery Forceps	80			○
	Operating Theater	Dunhil Aretry Forceps	200			○
	Operating Theater	Mosquite Artery Forceps	200			○
	Operating Theater	Tooth Disecting Forceps, 6"	60			○
	Operating Theater	Non Tooth Dissecting Forcep, 6"	60			○
	Operating Theater	Adison Dissecting Tooth Forceps, 4"	60			○
	Operating Theater	Adison Dissecting Non Tooth Forceps, 4"	60			○
	Operating Theater	Gillus Dissecting Forceps (Painted)	60			○
	Operating Theater	Suction Pool (Straight)	40			○
	Operating Theater	Dissecting Forceps Curved, 8"	60			○
	Operating Theater	Dissecting Forceps Curved, 6"	60			○
	Operating Theater	Mayo Straight Scissors	60			○
	Operating Theater	Kidney Trays Large	20			○
	Operating Theater	Kidney Trays Small	20			○
	Operating Theater	Gali Pots Medium	20			○
	Operating Theater	Gali Pots Small	20			○
	Operating Theater	Allis Forceps, 6"	60			○
	Operating Theater	Babcock Forceps	32			○
	Operating Theater	P. Scalaper Handle, No. 3	18			○
	Operating Theater	Gossete Retractor Self Retainging JW-T two Blade	14			○
	Operating Theater	Meyerding Retractor	8			○
	Operating Theater	Counter Scissors	8			○
	Operating Theater	Needle Holder, 6"	10			○
	Operating Theater	Microsurgery Needle Holder	10			○
	Operating Theater	Liston Bone Cuting Forceps, 8" & 9" (each 2)	4			○
	Operating Theater	Chisels	6			○
	Operating Theater	Watson Skin Grafting Knife	5			○
	Operating Theater	Norman Dottage with Three Blades	4			○
	Operating Theater	Concretractor Self Retractor 6 1/2"	2			○
	Operating Theater	Self Retaining Retractor Curved	4			○
	Operating Theater	Harris Iaminectomy Retractor	2			○
	Operating Theater	Jansen Rongeur	2			○
	Operating Theater	Stookey Rongeur	2			○
	Operating Theater	Kerrison Rongeurumm	2			○
	Operating Theater	Barman Rongeur	2			○
	Operating Theater	Tooth Bone Rongeur	2			○
	Operating Theater	Toothed Bone Rongeur	2			○
	Operating Theater	Sequestrum Forceps Straight, 7 1/2"	2			○
	Operating Theater	Health Mallet	2			○
	Operating Theater	Hibbs Osteotome	2			○
	Operating Theater	Lane Bone Lever	2			○
	Operating Theater	Bone Lever	2			○
	Operating Theater	Hohmarm Muller Srike Retractor	2			○
	Operating Theater	Kocher Bone Hook	2			○
	Operating Theater	S washer Clincher 215mm 8 1/2"	2			○

Equipment list to be requested

Item No.	Dept.	Item	Requested Qty	Priority & Qty		
				A	B	C
	Operating Theater	Lane Screw Guiding Forceps	2			○
	Operating Theater	Craniotome Bone Cutter	2			○
	Operating Theater	Rib Spread and Approximater	1			○
	Operating Theater	Thoracic Retractor	6			○
	Operating Theater	Lung Forceps	4			○
	Operating Theater	Akey Tissue Forceps	1			○
	Operating Theater	Fine Scissors Curved	10			○
	Operating Theater	Fine Dissecting Forceps Tooth	10			○
	Operating Theater	Fine Dissecting Forceps Non Tooth	10			○
	Operating Theater	Needle Holder	10			○
	Operating Theater	Needle Holder	10			○
	Operating Theater	Needle Holder	10			○
	Operating Theater	Diathermy Leads Unipolar	15			○
	Operating Theater	Diathermy Leads Bipolar	10			○
	Operating Theater	Diathermy Leads Bipolar	15			○
	Operating Theater	Plates for Diathermy Machine	10			○
	Operating Theater	Skin Graft Knife, adjustable	5			○

(Note) The final procurement plan of the equipment and its quantitity will be decided by the further study in Japan.

The priority given in the equipment list consider as follows:

A: The equipment which confirmed the necessity and appropriateness of the procurement.

B: The equipment which required further study and analysis in Japan.

C: The equipment which excluded from the procurement plan.

ANNEX3 : JAPAN'S GRANT AID SCHEME

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

1. Grant Aid Procedure

1) Japan's Grant Aid Program is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a study on the request. If necessary, JICA send a Preliminary Study Team to the recipient country to confirm the contents of the request.

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Programme, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project"), is to provide a basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

a) confirmation of the background, objectives and benefits of the Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation;

b) evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from the technical, social and economic points of view;

c) confirmation of items agreed on by both parties concerning the basic concept of the Project;

d) preparation of a basic design of the Project; and

e) estimation of costs of the Project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even through they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For the smooth implementation of the Study, JICA uses a consulting firm selected through its own procedure (competitive proposal). The selected firm participates the Study and prepares a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design and Construction Supervision of the Project, JICA recommends the same consulting firm which participated in the Study to the recipient country, in order to maintain the technical consistency between the Basic Design and Detailed Design as well

as to avoid any undue delay caused by the selection of a new consulting firm.

3. Japan's Grant Aid Scheme

1) Exchange of Notes (E/N)

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

2) "The period of the Grant" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consulting firms and contractors and final payment to them must be completed.

However, in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

3) Under the Grant, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

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

However, the prime contractors, namely consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

4) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability of Japanese taxpayers.

5) Undertakings required to the Government of the recipient country

a) to secure a lot of land necessary for the construction of the Project and to clear the site;

b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities outside the site;

c) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;

d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;

e) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;

f) to ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and

g) to bear all the expenses, other than those covered by the Grant Aid, necessary for the Project.

6) "Proper Use"

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

7) "Re-export"

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

8) Banking Arrangement (B/A)

a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified contracts.

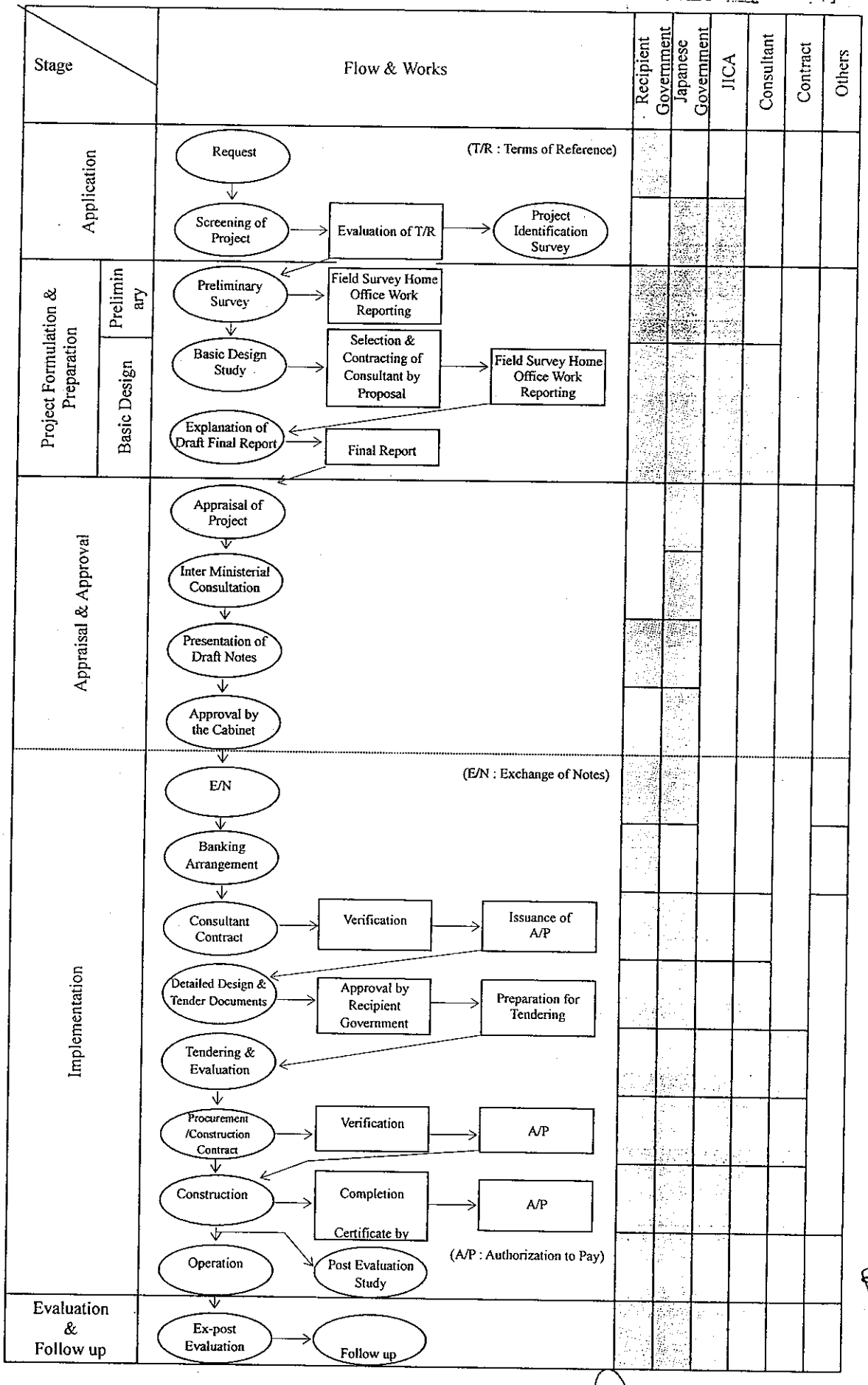
b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay (A/P) issued by the Government of recipient country or its designated authority.

9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commission to the Bank.

Attachment 1

FLOW CHART OF JAPAN's GRANT AID PROCEDURES



Attachment 2

Major Undertakings to be taken by Each Government

NO	Items	To be covered by Grant Aid	To be covered by Recipient side
1	To secure land		●
2	To clear, level and reclaim the site when needed		●
3	To construct gates and fences in and around the site		●
4	To construct the parking lot	●	
5	To construct roads		
1) Within the site		●	
2) Outside the site			●
6	To construct the building	●	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
1)Electricity			
a.The distributing line to the site			●
b.The drop wiring and internal wiring within the site		●	
c.The main circuit breaker and transformer		●	
2)Water Supply			
a.The city water distribution main to the site			●
b.The supply system within the site (receiving and/or elevated tanks)		●	
3)Drainage			
a.The city drainage main (for storm, sewer and others) to the site			●
b.The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site		●	
4)Gas Supply			
a.The city gas main to the site			●
b.The gas supply system within the site		●	
5)Telephone System			
a.The telephone trunk line to the main distribution frame / panel (MDF) of the building			●
b.The MDF and the extension after the frame / panel		●	
6)Furniture and Equipment			
a.General furniture			●
b.Project equipment		●	
8	To bear the following commissions to a bank of Japan for the banking		
1) Advising commission of A/P			●
2) Payment commission			●
9	To ensure prompt unloading and customs clearance at the port of		
1) Marine(Air) transportation of the products from Japan to the recipient country		●	
2) Tax exemption and customs clearance of the products at the port of disembarkation			●
3) Internal transportation from the port of disembarkation to the project		●	

10	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
11	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		●
12	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		●
13	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for construction of the facilities as well as for the transportation and installation of the equipment		●

ANNEX4;UNDERTAKINGS BY THE GOVERNMENT OF THE RECIPIENT COUNTRY

1. To secure a lot of land necessary for the Project;

2. To clear and level the site for the Project prior to the commencement of the construction;

3. To provide a proper access road to the Project site;

4. To provide facilities for distribution of electricity, water supply, telephone trunk line and drainage and other incidental facilities outside the site;

5. To undertake incidental outdoor works, such as gardening, fencing, exterior lighting, and other incidental facilities in and around the Project site, if necessary;

6. To ensure prompt unloading and customs clearance of the products purchased under the Japan's Grant Aid at ports of disembarkation in the Recipient Country;

7. To exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in THE RECIPIENT COUNTRY with respect to the supply of the products and services under the verified contracts;

8. To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such facilities as may be necessary for their entry into THE RECIPIENT COUNTRY and stay therein for the performance of their work;

9. To bear commissions, namely advising commissions of an Authorization to Pay (A/P) and payment commissions, to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement (B/A);

10. To provide necessary permissions, licenses, and other authorization for implementing the Project, if necessary;

11. To ensure that the facilities constructed and equipment purchased under the Japan's Grant Aid be maintained and used properly and effectively for the Project; and

12. To bear all the expenses, other than those covered by the Japan's Grant Aid, necessary for the Project.

MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY ON
THE PROJECT FOR RENOVATION OF ISLAMABAD CHILDREN'S HOSPITAL
IN THE ISLAMIC REPUBLIC OF PAKISTAN
(EXPLANATION ON DRAFT REPORT)

In December 2004, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on The Project for Renovation of Islamabad Children's Hospital (hereinafter referred to as "the Project") to the Islamic Republic of Pakistan (hereinafter referred to as "Pakistan"), and through discussion, field survey, and technical examination of the results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult the Pakistani side on the components of the draft report, JICA sent to Pakistan the Draft Report Explanation Team (hereinafter referred to as " the Team "), which is headed by Mr. Nobuyuki Yamaura, Resident Representative, JICA Pakistan Office, from 24th February 2005 to 4th March 2005.

As a result of the discussions, the Mission and Pakistan authorities concerned agreed to recommend to their respective governments the matters referred to in the document attached hereto. It was explained on behalf of the Ministry of Health, that approval of Economic Affairs Division (EAD) and Central Board of Revenue (CBR) is essential for implementation of such Programmes in view of financial implications.

Islamabad, 3rd March 2005

Mr. Nobuyuki Yamaura
Leader
Draft Report Explanation Team
Japan International Cooperation Agency
Japan

S. Kayser Ali Shah 2/3/05
Joint Secretary
Ministry of Health
The Islamic Republic of Pakistan

Mr. Muhammad Ashraf Khan
Joint Secretary
Economic Affairs Division
The Islamic Republic of Pakistan

Dr. Syed Fazle Hadi
Executive Director
Pakistan Institute of Medical Sciences
The Islamic Republic of Pakistan

ATTACHMENT

1.Components of the Draft Report

The Government of Pakistan agreed and accepted in principle the components of the draft report explained by the Team as described in Annex-1.

2.Japan's Grant Aid scheme

The Pakistani side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Pakistan as explained by the Team and described in Annex-3 and Annex-4 of the Minutes of Discussions signed by both parties on 17th December, 2004.

3.Schedule of the Study

JICA will complete the final report in accordance with the confirmed item and send it to the Government of Pakistan by May 2005.

4.Other relevant issues

4-1. Long term plan

The Pakistani side promised to make long term and annual repair programme for the building and the equipment, and to execute the further renewal, renovation and procurement of the additional equipment.

4-2. Maintenance

The Pakistani side promised to keep the building and the equipment in good condition and allocate necessary budget for maintenance.

4-3. Increase of staff at the new OT

In order to meet the new demand of staff increase at the new Operation Theater that would be constructed under the Project, the Pakistani side agrees to increase the staff for the operation theater at the Children's Hospital on the approval of relevant ministry vide Annex-2.

4-4. Pakistani work

The team explained the estimated cost of the work borne by Pakistani side. Pakistani side promised to allocate the necessary budget.

4-5. The water treatment system

The Japanese side included the repair works for the water treatment system of the Children's Hospital which is currently out of order. This repair will address the environmental concerns.

4-6. Tax exemption

The Pakistani side agrees to take necessary measures to ensure that all fiscal levies and taxes relating to the Project would be exempted from the Japanese nationals.

4-7. Confidentiality of the Report

Both sides confirmed that the contents of the draft final report must be confidential until the time of tender.

Medical Equipment List for Supply

Item No.	Section	Name of Equipment	Qt'y of supply
New Operating Theater			
NOT-1	Operating Room	Operating lamp	3
NOT-2	Operating Room	Operating table	3
NOT-3	Operating Room	Electrosurgical unit	3
NOT-4	Operating Room	Anesthesia apparatus	3
NOT-5	Operating Room	Anesthesia ventilator	3
NOT-6	Operating Room	Patient monitor	3
NOT-7	Operating Room	Suction machine	3
NOT-9	Operating Room	Syringe infusion pump	3
NOT-10	Operating Room	Oxygen flow meter	3
NOT-11	Operating Room	Suction flow meter	3
NOT-12	Operating Room	Fiber gastroscope	1
NOT-13	Operating Room	Fiber colonoscope	1
NOT-14	Operating Room	Bronchoscope, Rigid	1
NOT-15	Operating Room	Sigmoidoscope, Rigid	1
NOT-16	Operating Room	Cystoscope, Rigid	1
NOT-17	Operating Room	Operation microscope for ENT	1
NOT-18	Operating Room	Electric drill for orthopedic surgery	1
NOT-19	C-arm Room	Hip spica table	1
NOT-20	C-arm Room	Plaster cutter, Electric	1
NOT-21	Recovery	Patient monitor	2
NOT-22	Recovery	Pulse oximeter	2
NOT-23	Recovery	Infusion pump	2
NOT-24	Recovery	Ventilator, Pediatric to Adult	1
NOT-25	Recovery	Infant incubator	2
NOT-26	Recovery	Infant warmer	2
NOT-27	Sterilization Room	Autoclave	1
Existing Department			
RAD-1	Radiology	X-ray unit W/TV System	1
RAD-2	Radiology	X-ray unit	1
RAD-3	Radiology	Mobile X-ray	1
RAD-5	Radiology	Ultrasound unit, B/W	2
RAD-6	Radiology	X-ray film processor	1
NIC-1	NICU	Ventilator, Infant	2
NIC-2	NICU	Phototherapy unit	5
NIC-3	NICU	Infant incubator	7
NIC-4	NICU	Jaundice meter	1
NIC-5	NICU	Syringe infusion pump	10
NIC-6	NICU	Patient monitor	1
NIC-7	NICU	Infant warmer	4
NIC-10	NICU	Oxygen analyzer	2
PIC-1	PICU	Ventilator, Infant	1
PIC-2	PICU	Ventilator, Pediatric / Adult	2
PIC-3	PICU	Syringe infusion pump	5
PIC-3-2	PICU	Infusion pump	5
PIC-4	PICU	Patient monitor	7
EOT-1	Operating Room	Operating lamp	2
EOT-2	Operating Room	Operating table	2

Medical Equipment List for Supply

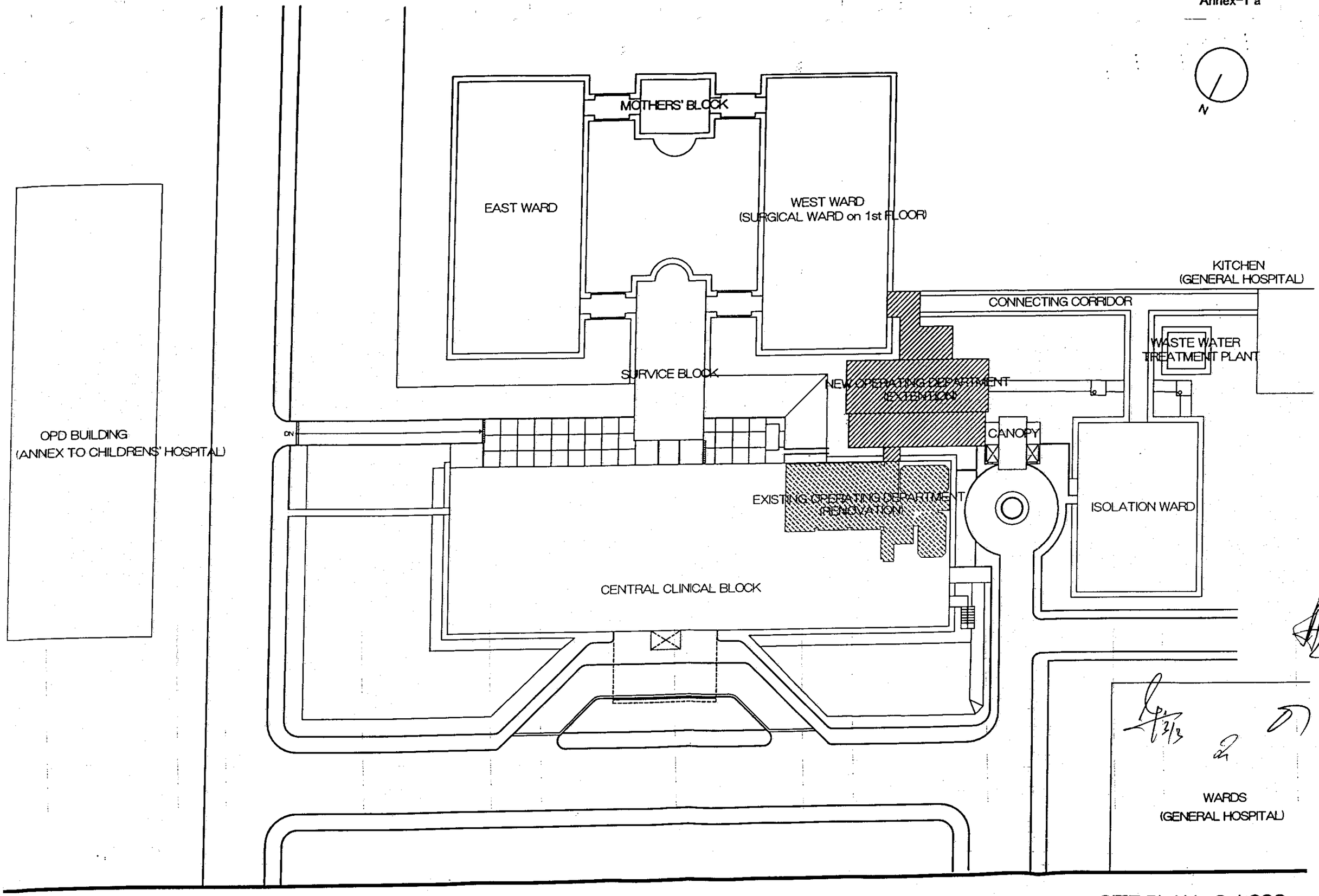
Item No.	Section	Name of Equipment	Qt'y of supply
EOT-3	Operating Room	Plaster cutter, Electric	1
EOT-4	Operating Room	Electrosurgical unit	2
EOT-8	Operating Room	Electric drill for orthopedic surgery	1
EOT-9	Operating Room	Suction machine	2
EOT-12	Operating Room	Skin graft knife	2
EOT-13	Operating Room	Manual dermatome	1
AE-1	AE	Infant warmer	1
AE-2	AE	Plaster cutter, Electric	1
AE-3	AE	Autoclave, Small size	1
LAB-1	Laboratory	Hematology analyzer	1
LAB-2	Laboratory	Chemistry analyzer	1
LAB-6	Laboratory	Microscope w/Photo and TV monitor	1
LAB-8	Laboratory	Microscope	3
LAB-10	Laboratory	pH Meter	1
LAB-11	Laboratory	Blood gas analyzer	1
LAB-13	Laboratory	Water bath	1
LAB-14	Laboratory	Pipette set	1
LAB-15	Laboratory	Distillation plant	1
LAB-17	Laboratory	Freezer	1
LAB-19	Laboratory	Hot air oven	1
ENT-1	ENT	Ultrasonic nebulizer	1
DNT-1	Dental	Dental unit	1
DNT-2	Dental	X-ray film processor	1
EYE-1	Ophthalmology	Electric tonometer	1
EYE-4	Ophthalmology	Fundus camera	1
EYE-5	Ophthalmology	Synoptophore	1
PHY-1	Physiotherapy	Low frequency therapy unit	1
WAD-1	Ward	Ultrasonic nebulizer	5
WAD-2	Ward	Suction machine	5
WAD-3	Ward	Pulse oximeter	5
WAD-5	Ward	Infant incubator	5
COM-1	Different dept.	Oxygen flow meter	24
COM-2	Different dept.	Suction flow meter	24

Annex-2

REQUIRED ADDITIONAL STAFF FOR THE PROJECT

Item	NAME OF POST	NUMBER OF POST
1	Consultant Surgeon	5
2	Senior Registrar	2
3	Medical Officer	3
4	Assistant Anesthetist	5
5	Charge Nurse	6
6	O.T. Technician	4
7	Anesthesia Technician	4
8	Sterilization Technician	1
9	Ward Boy	3
10	Sanitary Worker	2
11	Chawkidar	4

Annex-1 a

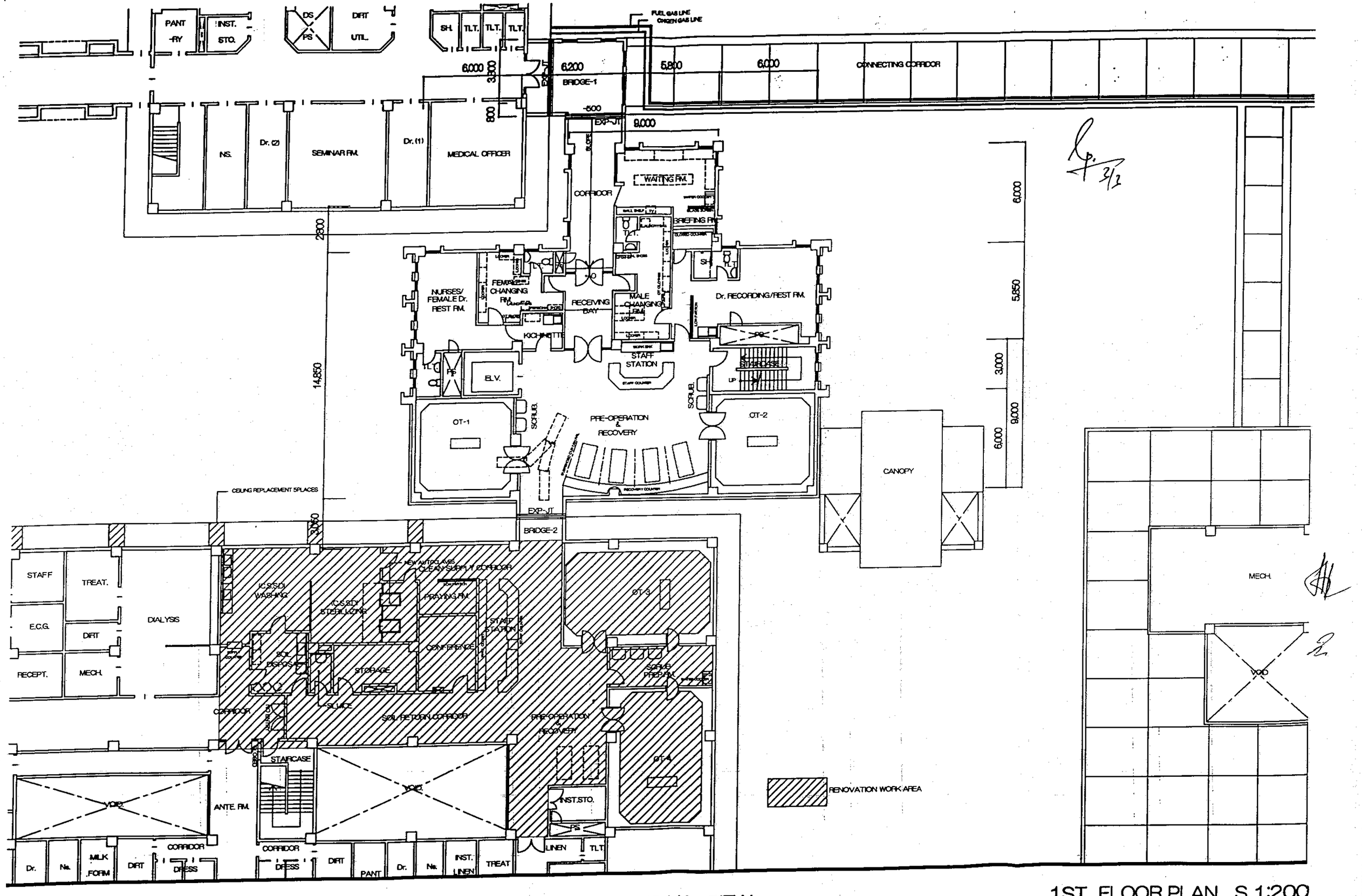


THE PROJECT FOR RENOVATION OF THE ISLAMABAD CHILDREN'S HOSPITAL

SITE PLAN , S 1:600

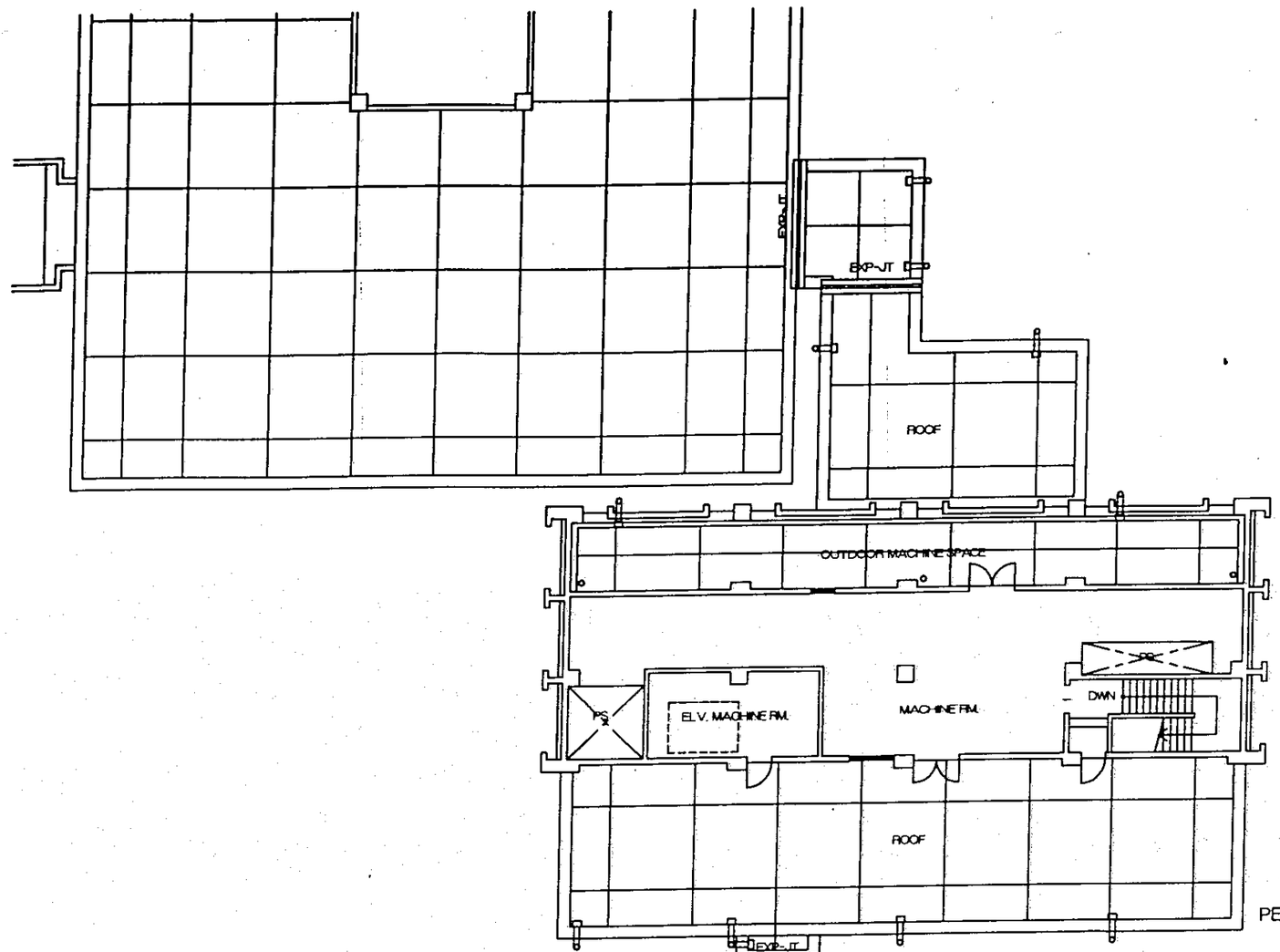
THE PROJECT FOR RENOVATION OF THE ISLAMABAD CHILDREN'S HOSPITAL

GROUND FLOOR PLAN S 1:200

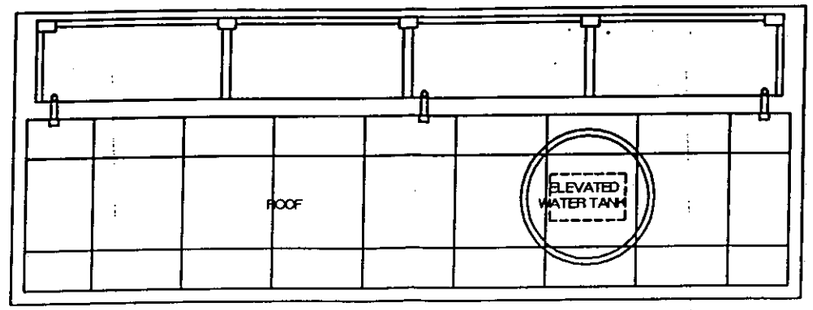


THE PROJECT FOR RENOVATION OF THE ISLAMABAD CHILDREN'S HOSPITAL

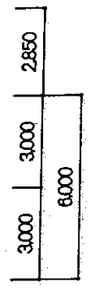
1ST FLOOR PLAN S 1:200



PENTHOUSE PLAN



ROOF PLAN



THE PROJECT FOR RENOVATION OF THE ISLAMABAD CHILDREN'S HOSPITAL

PENTHOUSE AND ROOF PLAN S 1:200

SOIL INVESTIGATION REPORT

CONSULTANCY SERVICES

Project Planning & Design, Feasibility Studies, Structural Designs,
Soil & Foundation Designs,
Highway & Airport Designs, Hydraulic & Sedimentation Studies,
Municipal Designs, Irrigation Studies

FIELD & LABORATORY SERVICES

Material Testing, Water & Sewage Sample Testing

DEPARTMENT OF CIVIL ENGINEERING
UNIVERSITY OF ENGINEERING & TECHNOLOGY, TAXILA
PHONE: 0596-9314235 FAX: 0596-9314226

To,

M/s K. ITO International,
Architects & Engineers,
Tokyo, Japan.

Dear Sir,

We take pleasure in submitting to you the report on soil investigation for the construction in the premises of Pakistan Institute of Medical Sciences (PIMS), Islamabad.

The report describes various soil properties and design parameters for the site. It is hoped that results presented in this report will provide all the information required for the design of foundations for the proposed building.

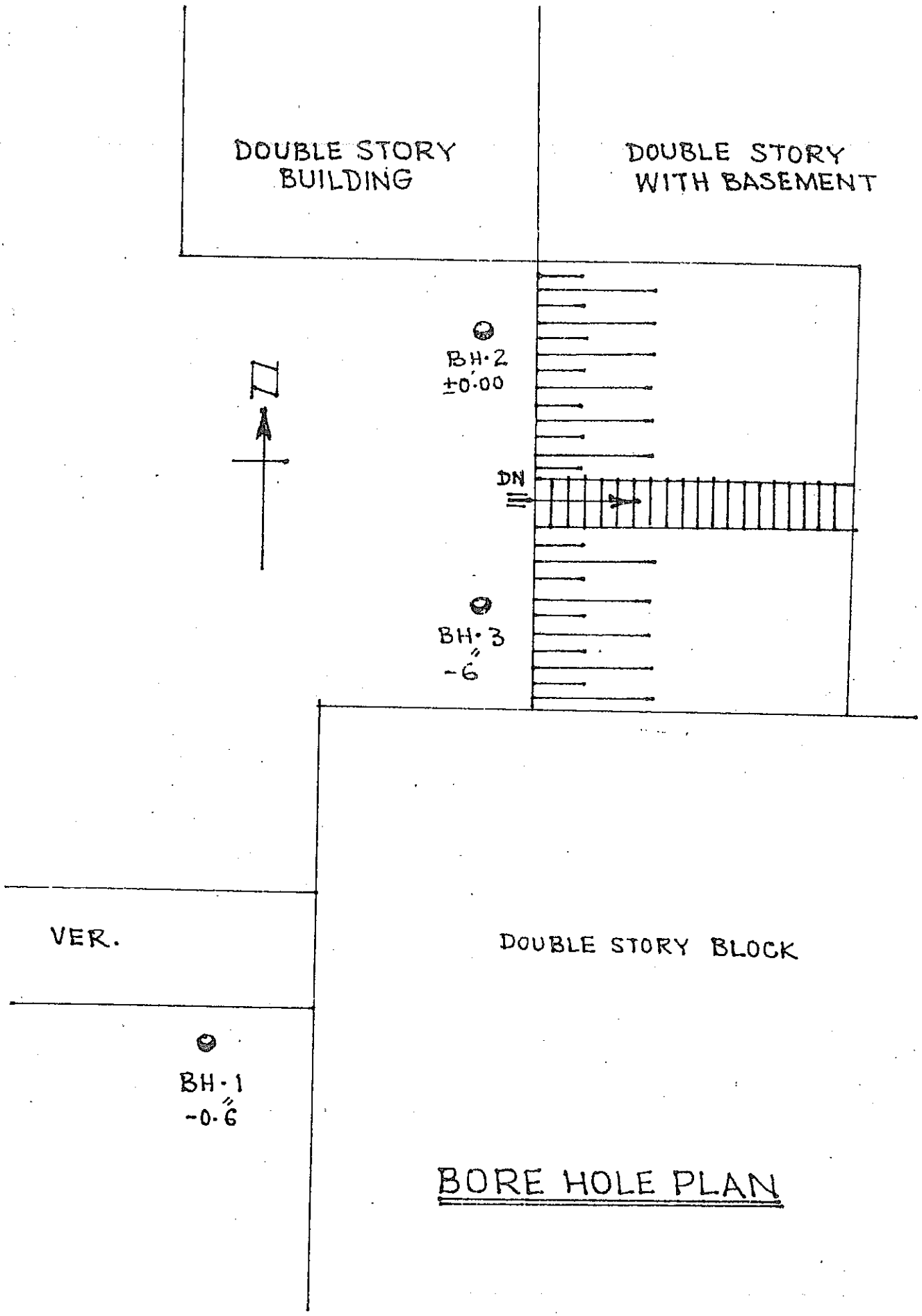
Yours Faithfully,

27.12.04

(PROF. DR. MUMTAZ AHMED KAMAL)
Chairman
Department of Civil Engineering

DEPARTMENT OF CIVIL ENGINEERING

UNIVERSITY OF ENGINEERING & TECHNOLOGY, TAXILA.



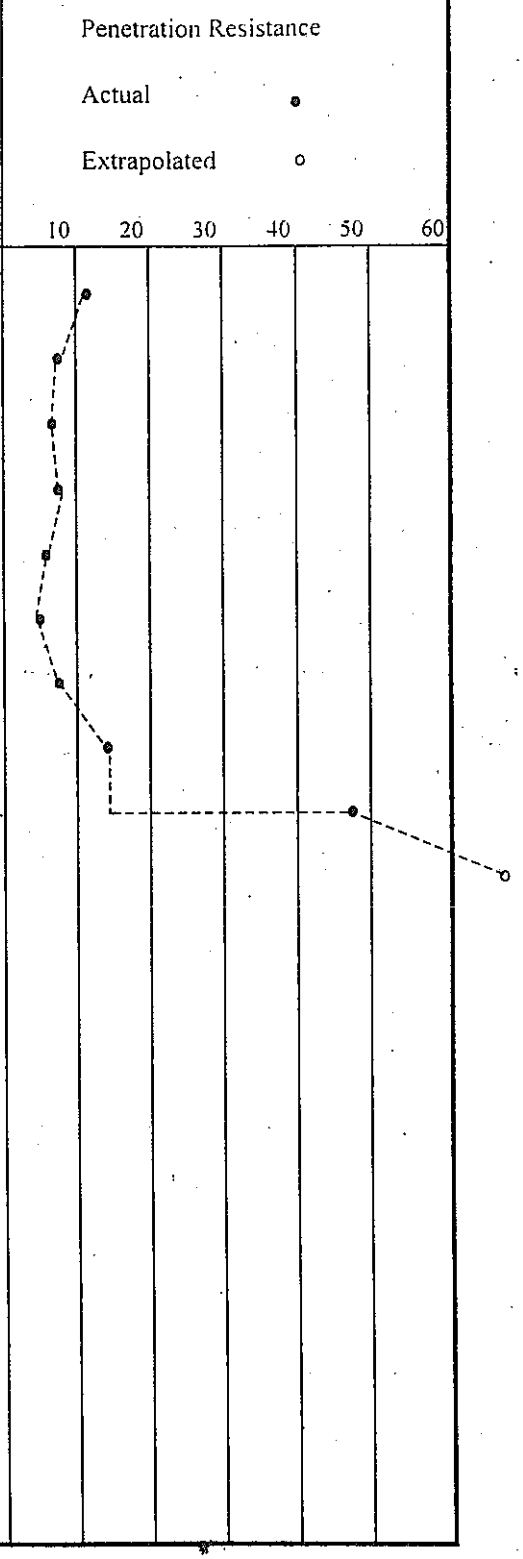
BORE HOLE PLAN

SUBSURFACE EXPLORATION - PENETRATION RESISTANCE AND LOG

Project Name Pakistan Institute of Medical Sciences (PIMS). **B.H. No.** 1

Site Location Islamabad. **Method of Boring** *Percussion drilling*

Elevation / Depth (M)	Sample Number	SPT	mc %	Description and Classification of Material
1	1	11	20.47	Silt, brown colour, low plasticity, inorganic.
2	2	8	23.46	
3	3	7	22.4	
4	4	8	23.2	
5	5	6	26.83	
6	6	5	27.27	
7	7	8	22.5	
8	8	14	16.73	
9	9	48		Poorly graded gravel, low plasticity, inorganic.
10	10	50/3"		

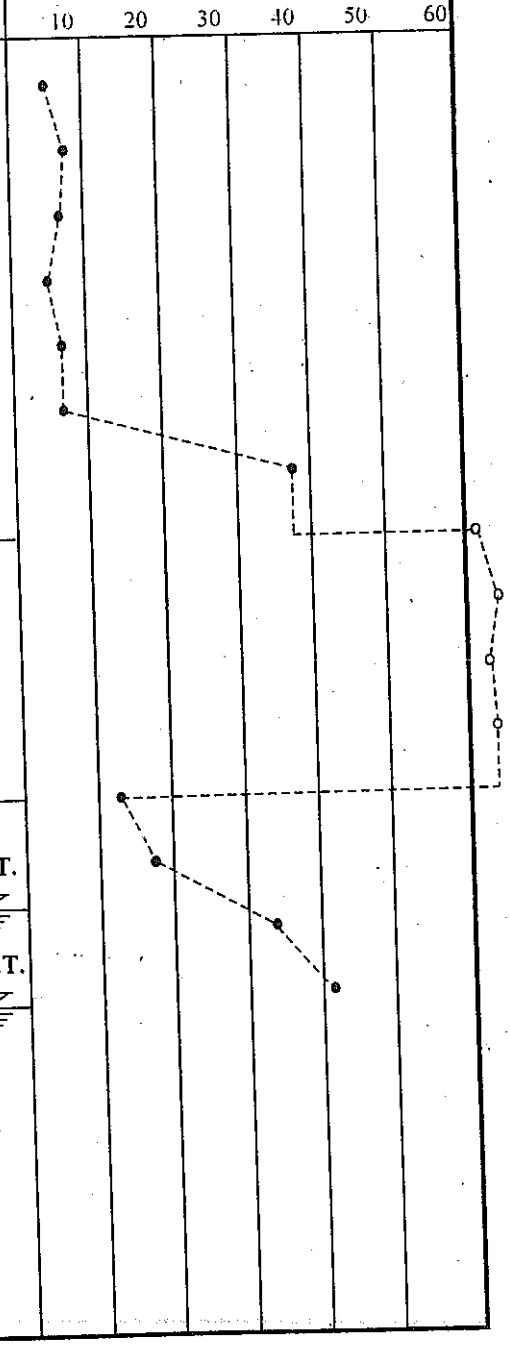


SUBSURFACE EXPLORATION - PENETRATION RESISTANCE AND LOG

Project Name Pakistan Institute of Medical Sciences (PIMS). ***B.H. No.*** 2

Site Location Islamabad. ***Method of Boring*** *Percussion drilling*

Elevation / Depth (M)	Sample Number	SPT	mc %	Description and Classification of Material
1	1	5	20.9	
2	2	8	21.84	
3	3	7	24.41	
4	4	5	25.55	Silt with small amount of sand, high plastic, inorganic.
5	5	7	28.52	
6	6	7	27.78	
7	7	38	15.02	
8	8	50/9"	5.7	
9	9	50/5"		Poorly graded gravels, high plastic, inorganic.
10	10	50/7"		
11	11	50/6"		
12	12	13	21.95	
13	13	18	19.51	Silt, brown colour, high plastic, inorganic. G.W.T. After 24 hours of boring.
14	14	34	14.32	G.W.T.
15	15	41	15.29	Intercepted during boring.



SUBSURFACE EXPLORATION - PENETRATION RESISTANCE AND LOG

Project Name Pakistan Institute of Medical Sciences (PIMS). ***B.H. No.*** 3

Site Location Islamabad. ***Method of Boring*** *Percussion drilling*

Elevation / Depth (M)	Sample Number	SPT	mc %	Description and Classification of Material
1	1	6	22.93	Silt, brown colour, medium plasticity, inorganic.
2	2	7	24.83	
3	3	6	24.67	
4	4	7	29.19	
5	5	4	27.48	
6	6	4	29.28	
7	7	5	29.06	
8	8	50/3"		Poorly graded gravels, high plastic, inorganic.
9	9	50/6"		
10	10	50/4"		

Penetration Resistance

Actual ●

Extrapolated ○

10 20 30 40 50 60