

Centre of Excellence in Transfusion Medicine & Metro Blood Bank - at Delhi

The Project forms part of Centre of Excellence in Transfusion Medicine & Metro Blood Banks proposed to be put up at prime locations in the Country i.e. Chennai, Delhi, Kolkata and Mumbai. This represents a new initiative by the Government of India to improve and strengthen Blood Transfusion Services in the Country. These Blood Banks are being planned to have state of the art facilities, based on latest standards as well as to conform to Rules and Regulations of National Blood Transfusion Council of India.

By Manchanda Associates, New Delhi



The Project Site

The proposed site for the Project is close to the junction of Ring Road and Aurobindo Ashram Marg in South Delhi. It is thus ideally situated, close to most of the major hospitals i.e. All India Institute of Medical Sciences, Safdarjung

Hospital, Mool Chand Hospital as well as recently developed Trauma Centre run by the AIIMS establishment. The proximity of major roads network and 'Metro' rail system also makes the site easily and quickly accessible for most of the people residing in various parts of the Capital City.

Land Formation

The proposed plot of land is situated on the corner of Service Road on eastern side of Aurobindo Ashram Marg and a major road leading to a residential development. It is a flat piece of land measuring 4046 sq. meters and facing North-South direction, which is considered an ideal ori-

entation for Tropical Climates. The surrounding area is well developed and therefore all services such as Municipal Water Supply, Sewerage /drainage system, Electricity and Telephone lines etc. are available around the site.

Proposed Development

The requirements for the proposed Blood Bank can be distinctly subdivided into following categories, which need to function independently as well as co-relate with each other as and when required for optimum utilization of resources as well as desired efficiency and utility.

- 1. Public and Semi-Public Areas:** Include Blood Donors, their registration, Medical Examination, Waiting Area, Bleeding Room etc.; Social Workers and Donor Motivators with related facilities; Hemotherapy Centre, Aphaeresis Centre, with related officers/staff cabins, Blood Issue area etc.
- 2. Research Laboratories:** Include all Research and Operative laboratories, with lecture halls and related Medical Officers and staff, Component preparation with Cold Storage facilities, Quality

Management, Research & Development, etc.

- 3. Administration & Utilities:** Include Conference rooms, Faculty Staff, Library, Seminar Hall, and various Services etc.

SPATIAL INTER- RELATIONSHIPS

Easy and unhindered movement of Blood Donors, Patients, Doctors and Visitors is of prime importance in the functioning of any Blood Bank. The Public and Semi-Public Areas are most important and play a dominant role in the planning process, followed by Research Laboratories and Administration/Utilities. The limited site with mandatory setbacks has defined the building envelope which is close to the permitted ground coverage. The building form, thus, emerged in a rectangular shape with most of the Public and Semi Public functions falling in place in the lower two floors, leaving the upper floors to accommodate other activities. The Stack Diagram explains these spatial inter relationships.

Any other building envelope simply does not work. Every thing has fallen in place by projecting the building envelop from 3rd. floor onwards,

than on lower floors.

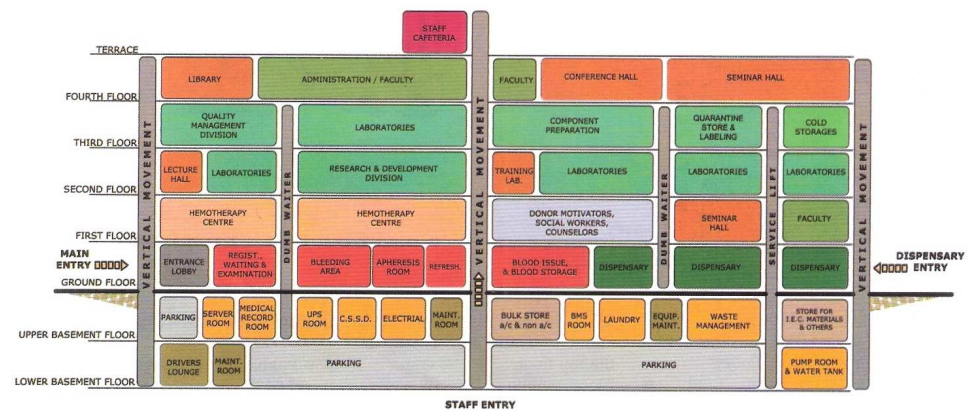
All related services for the building have been accommodated in the Basement, which is in two levels to accommodate as much services and parking as possible.

Circulation

Easy and smooth flow of traffic for Doctors, Donors and visitors is of prime importance in the functioning of any Blood Bank. Following steps have been taken in the design of Circulation system for the project:

Internal Circulation:

- System of corridors connecting all Departments to vertical cores to ensure easy movement within the building.
- Public restricted to move between Ground Floor and First Floor only.
- Vertical cores provided at convenient locations to ensure efficient movement between floors.
- Separate entry provided for Staff from staff parking at Ground Floor level.
- Vertical cores & fire escape staircases ensure safe and easy evacuation in case of any emergency.

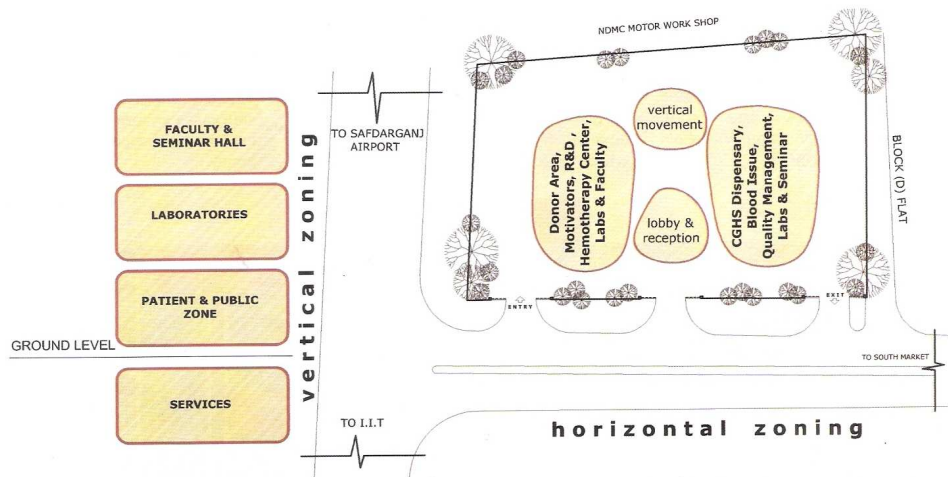
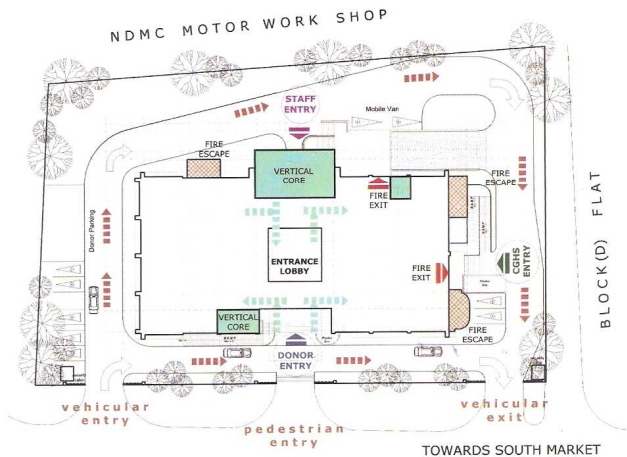


External Circulation:

- Main Entry to Building planned primarily for Donors / Patients.
- Ramps provided for easy access to Handicap persons.
- Parking provided for donors, visitors & staffs around ground floor.
- Parking spaces screened by landscaping.
- Separate parking provided for mobile vans.
- Separate Service entry provided through Basement.
- Road provided all around the building for firefighting purpose.

Micro Zoning

- Segregation between Donor & Blood Issue Area
- Social services are well correlated with Donor Area
- Vertical Movement is located in the focal point of the building
- Patient movement is restricted at first floor



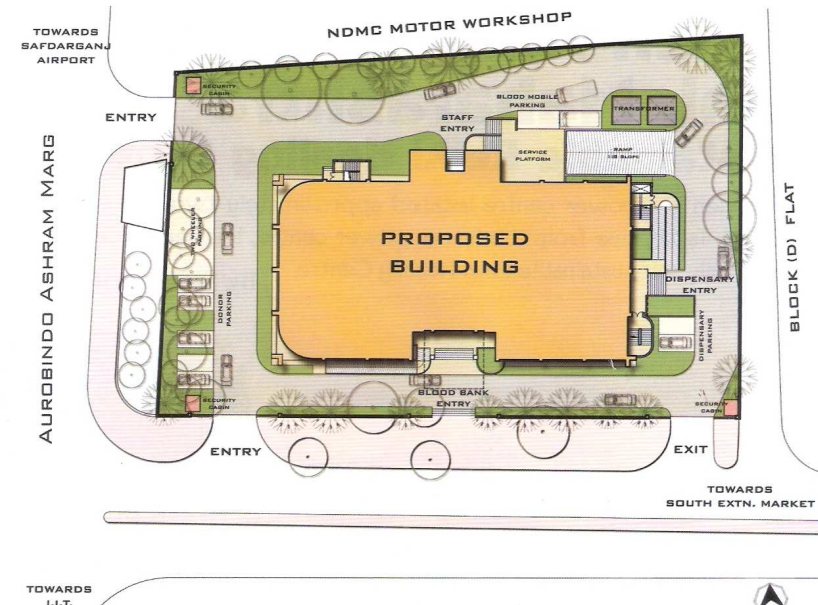
- Quality Management and R&D is located in first floor to control both upper and lower floors.
- Component preparation, Cold storage facilities & laboratories are located together
- Administration, faculty, Library,

Seminar Hall, Conference hall etc. are totally segregated on the top floor.

- Blood mobile is Directly accessible from service entry
- All services are restricted in Basements.

Broad Specifications

For Public Health Buildings, wall & floor finishes and other elements require two very important basic premises - low on maintenance and should not help breed infection.



To achieve the above objectives it is proposed to provide the following:

- seamless walls and floors in clinical and critical areas by using epoxy coatings, anti-bacterial coatings etc.
- corners to be coved in all areas
- ceramic and vitrified tiles finishes
- stainless steel counters
- flooring to be a mix of marble, granite, and Floor tiles

Doors to consist of pre-laminated shutters fixed in aluminum frames with stainless steel fittings and fixtures. Windows & structural glazing to be in aluminum with judicious mix of insulated, tinted, Low E and normal glass panes.

Services

Electrical

Building information systems to be incorporated for efficient use of electricity by controlling, lighting, air-conditioning, lifts, pumps etc.

Water Supply and Sewerage

Water supply shall be split into following uses within the building.

- Drinking water - Municipal supply
- General washing and bathing - Bore well supply after basic filtration and chlorination
- Flushing - recycled water

This strategy reduces dependence on municipal supply.

HVAC

The HVAC system proposed to have energy efficient VRF compressors. Mechanical ventilation to be provided in CSSD and other non air-conditioned areas

ENERGY EFFICIENCY SYSTEMS

- Use of Solar panels both for heating water and generating electricity to run non-crucial systems.
- Use of cavity walls to reduce heat intake into buildings

- Use of Low E and insulated glass to minimize heat gain while still maintaining large glazing for increasing day-lighting within buildings
- Use of waste water re-cycling
- Use of Building Management Systems to monitor and control all electrical appliances from simple water pumps to complex air-conditioning systems and lighting levels.

Project Particulars

Area: 10,000 sqm (Approx)

Architects:

Manchanda Associates
Team: R C Manchanda, Shamit Manchanda, Shweta Manchanda, Abhilash Kiran, Lalit Pandey, Dilip Bhojawat
Structure: Charu Engineering Consultants
MEP: V S Kukreja & Associates
Project Managers: HLL Lifecare Ltd