



An oncology centre

The project will start as cancer day care centre

BY TEAM HR

Location: Neeti Bagh, New Delhi

Type of project: Brownfield. The erstwhile National Chest Institute (NCI) is being turned into an oncology day care centre and then a hospital under a long-term agreement. The new entity is a venture of Indraprastha Cancer Society (the society that governs Rajiv Gandhi Cancer Institute & Research Centre or RGCIR) and Asthma Bronchitis & Cancer Lung Foundation (which runs NCI).

Name of the hospital: The name is yet to be decided.

Type of hospital: The new centre will start as cancer day care centre with medical and surgical oncology and day care procedures. It would have a bed strength of 26 beds, which will all be day care beds. There are plans of expansion to 250 beds in the near future, after due diligence and permissions.

Status of the project: To be commissioned by March, 2016.

USP of the project: Says Rakesh Chopra, chairman, RGCIRC, "Our existing facility is considered amongst the premier cancer care centres of the continent. We wanted to bring that expertise and capability to the doorstep of patients in south Delhi. Our super-specialists will offer multi-disciplin-

ary consults to all patients walking in at this centre, which improves efficacy of the treatment plan."

The centre will introduce the concept of Multi-disciplinary First Consult (MFC). In an MFC, every new patient will be jointly examined by a surgical oncologist and a medical oncologist, increasing accuracy and efficacy of the treatment plan and enhancing patient safety.

In-built area: 15,000 square feet for the day care centre.

Land area in acres: 1.38 acres

Cost of the project: Rs 6 crore. The cost of revamping the infrastructure and installing equipment would be borne by NCI.

Type of funding: Internal accrual.

Type of rooms: Single and double occupancy as well as daycare ward (multiple beds).

Patient catchment area: Southern NCR

Technology: Operation theaters with laminar flow and HEPA filters for day surgery procedures, digital mammogram and Roentgenogram integrated with digital PACS, integrated OPDs with tele-medicine.

Number of employees: 150

Architect: The building's façade or internal structure is not being changed or modified. RMS Architects has been hired for doing the interiors. 



Rakesh Chopra

1. The cost of the project would be borne by NCI.



A design tool

Planning grids are the backbone of hospital planning and design

BY MANU MALHOTRA

Planning grids are the basic tools of architectural design. Often, they are the first step of the design process that gets drafted out on a blank sheet of paper or a blank computer screen. Most of the times, they serve as the guideline for the structure of the building, which, in the modern age, is based on post-and-beam construction. As a result, planning grids, as their name suggests, are usually made of a network of horizontal and vertical lines, though this may not always be the case.

Healthcare buildings today are planned more on vertical lines rather than the vast sprawl of earlier days. The advent of high-speed, as well as healthcare specific bed and stretcher elevators, has brought about this change regardless of the setting, be it urban or semi-rural. Vertical planning helps in keeping the building footprint small, designing lean buildings, resulting in efficient circulation and higher patient-staff proximity.

A standard healthcare facility usually consists of a wide podium housing the out-patient, diagnostic and treatment areas

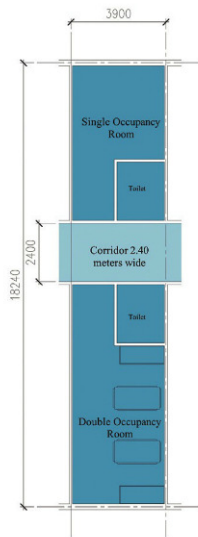
and a narrow, but tall 'bed tower' housing the in-patient department. The buildings are generally designed in reverse with the shape and size of the bed-tower being derived first and the podium spreading out from beneath the tower itself. However, this process is not linear. There is a lot of back and forth as the bed-tower as well as the podium goes through several iterations before the best solution is achieved.

Thus, the planning grid of a hospital is based on the shape and size of the bed-tower. A typical bay of a planning grid would consist of two rooms, a single occupancy and a double occupancy on either side of a double loaded corridor. Generally, two of these bays would constitute a structural grid of eight columns in four rows of two each.

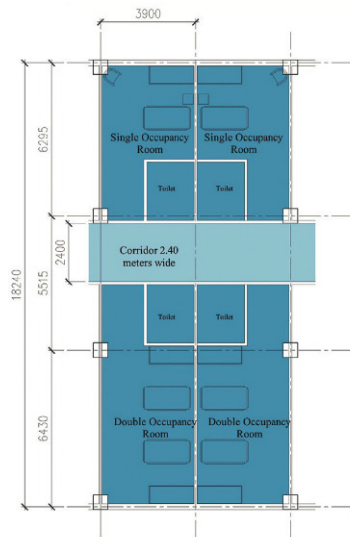
The three parts of a planning bay are the corridor, the rooms and the toilets. While the location of the corridor and the rooms are fixed, the laying out of the toilet is essentially done in one of the three ways.

The first of the solutions is to place the toilets in the inner side of the rooms aligned with the corridor. This is generally the most

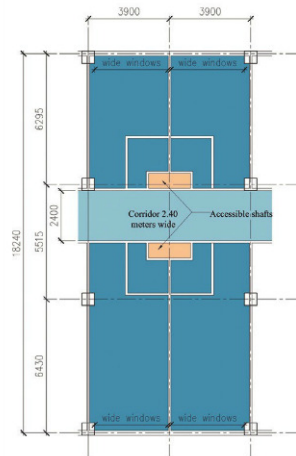
A typical planning bay.



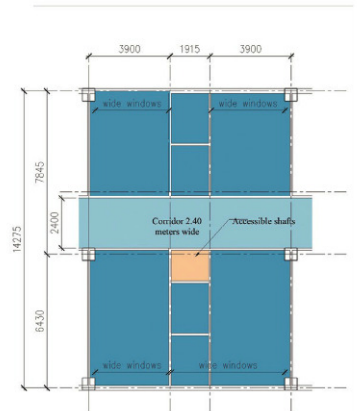
A typical structural grid.



Configuration 1 - Toilets on the inside of the building.



Configuration 2 - Toilets between in-patient rooms.

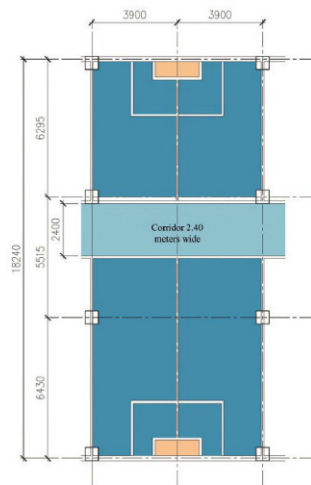


preferred and the most ideal of the solutions as it allows for greater window size in the patient rooms and higher daylight penetration. Additionally, the toilets are serviced by shafts which may be accessed from the corridor providing ease of maintenance.

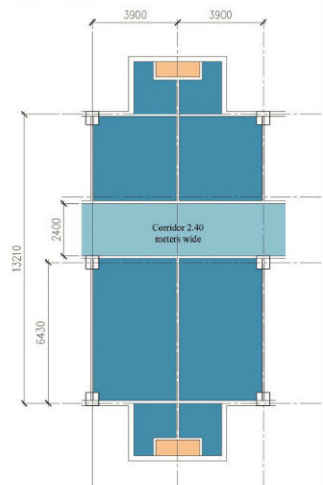
In many cases, building widths are determined by planning bye-laws which may not allow for the width of a planning grid to accommodate two rooms along with their toilets. Increasingly, healthcare facilities are also being planned in existing structures as brown-field projects where the structure may or may not have been designed for the same purpose. In such cases, too, there often arises the condition where the planning grid is narrower than the optimum width. The toilets, in such conditions, may be placed between the rooms. This solution can offer the same conditions as the first solution of greater daylight in the rooms and an accessible service shaft.

Another solution is to place the toilets on the outer side of the building. In this solution, the width of the toilet eats into the amount of external wall space available for daylight. As a result, the amount of daylight coming into the room is significantly

Configuration 3 - Toilets placed on exterior side of building



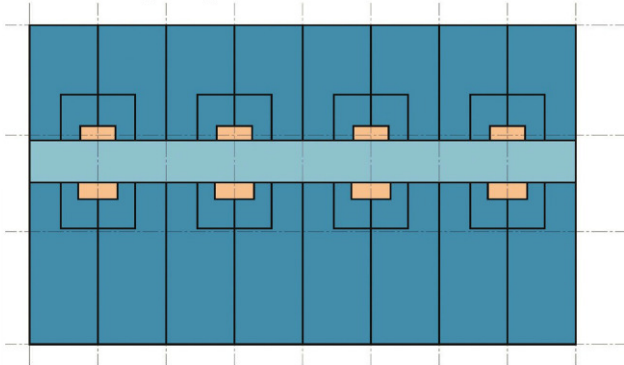
Configuration 3 - Toilets placed on exterior side as shading devices



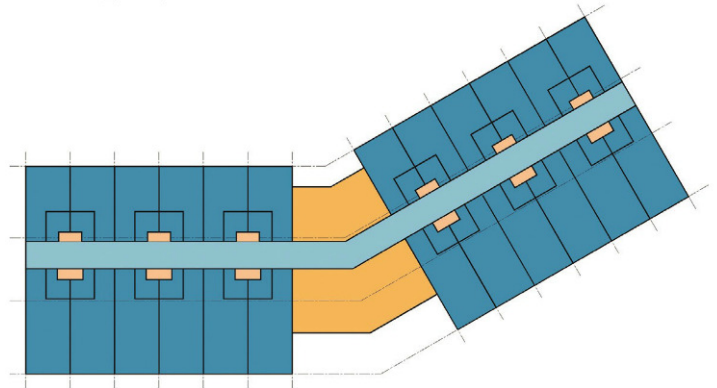
reduced. However, in a variation to the same theme, the toilets may be pushed out to act as shading devices in cases of hotter climates or on the southern faces of the hospital buildings which will be exposed to a stronger sun. This will help in reducing heat gain and as a result reduce the load on the mechanical ventilation systems.

This planning grid can be used in a linear

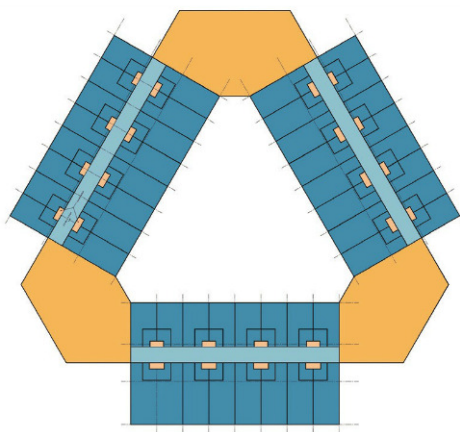
Planning along linear axis.



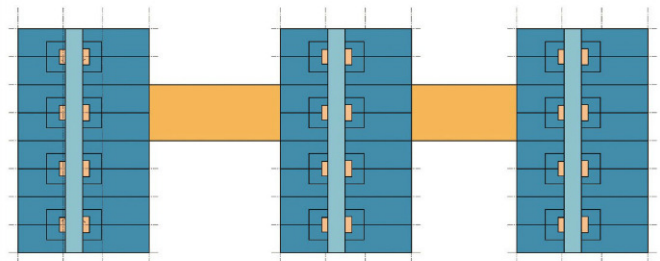
Planning along bent axis with building core at the angular junction.



Planning to form a closed geometric figure.



Repetition of planning grid with building core in intermediary spaces.



fashion, or along a bent axis or closed geometric shape. Alternatively, the grid can also be duplicated into multiple towers with the intermediary spaces acting as building cores. The building cores are highly critical and consist of vertical transport as well as service cores.

Once the shape of the bed-tower is derived, the podium spreads out from beneath the tower. The different facilities that are a part of the hospital require different grid sizing as compared to the in-patient department. Thus, departments like surgery, out-patient department and diagnostics may be designed on a planning grid that

is derived wholly or partly from the grid of the in-patient tower, or they may be designed on an entirely separated and independent planning grid. The juxtaposition of the two systems can be used to create interesting architectural forms and to derive an aesthetic language for the building.

While the strict gridiron planning system of hospitals seems at first glance to be restrictive, the possibilities and permutations of tweaking and arrangement of the planning grid add interest as well as excitement to the whole process of healthcare design. ^{HR}



Manu Malhotra is director, RSMS Architects.