Layered Spaces

Project: Pathways School, Gurgaon
Architects: FABCONCEPTS, New Delhi

The school is designed on an 11-acre site and consists of 10 separate buildings. The programme was reinterpreted and all the 10 buildings were integrated into one mega block, which has been placed in the corner of the L-shaped plot thus retaining the spirit of the place, which is the open field.

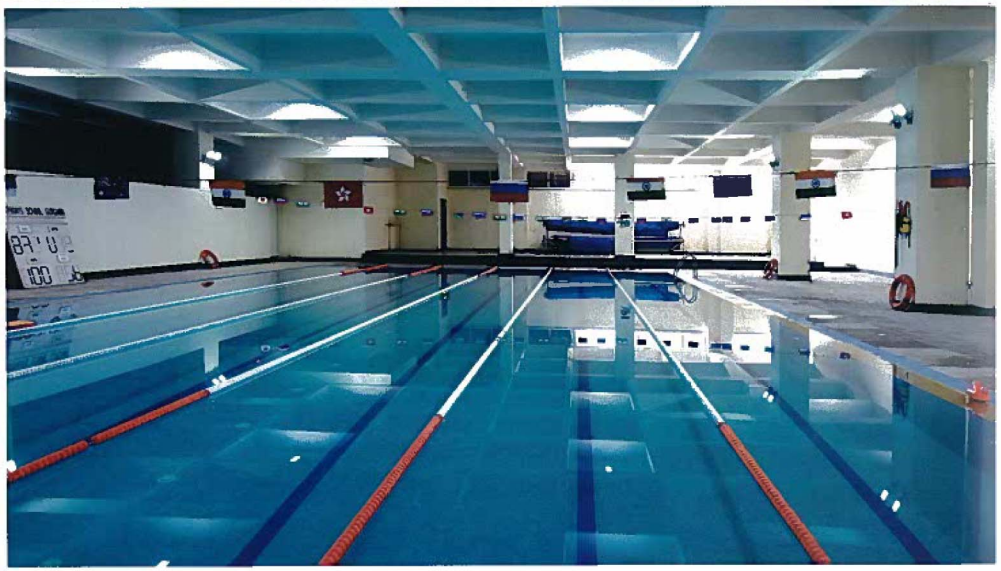
The mega block is a 60,000sq ft floor plate with three compartments- the right wing, the left wing and the central large span block lit up by a series of nine skylights. The right and left wings are essentially academic wings and the central compartment consists of the supportive functions such as the administrative, the library, sports and corporate office and the multipurpose hall, all of which were as per the original brief of separate buildings.

By virtue of nine skylights which act as informal spill out spaces within the building, the quality of daylight is enhanced in circulation areas as well as classrooms. The increase in passive areas reduces dependency on artificial light and results in a huge saving of electricity and reduction in overall load.

The school has been rated as world's first school serving all grades K-12 to achieve LEED-EB Platinum by USGBC and also rated as 'Highest Rated Green Educational Building in the World'. The architects have adapted age old Indian architecture techniques to make the building environment-friendly and cost effective. Simple ancient architectural methods have been used to maintain internal conditions in strong summers and cold winters. Innovative and unique approach has been taken up in building facilities contributing hugely to reduce carbon footprints by 50 per cent.

The site is a sustainable one, where all the water used for irrigation is out of the STP, and by a network of catch basins and harvesting pits the runoff water is restored in ground, and by means of high green cover and canopied walkways there is a control on heat islands.

The efficiency of operation and maintenance in building goes up due to the fact that various different footprints that would have been a major intervention on site are consolidated and layered up into a singular structure. This means lesser circulation, practicability for users, greater efficiency in services and an experience of moving through distinct spaces separated through a landscaped courtyard.



Factfile

Client: Sarla Holdings Pvt Ltd

Design team: Ishwak Singh, Jaskaran Singh (Principal Architects); Siraj Bania, Neeharika Singh, Prayasha Pattasani, Kawalpreet Singh

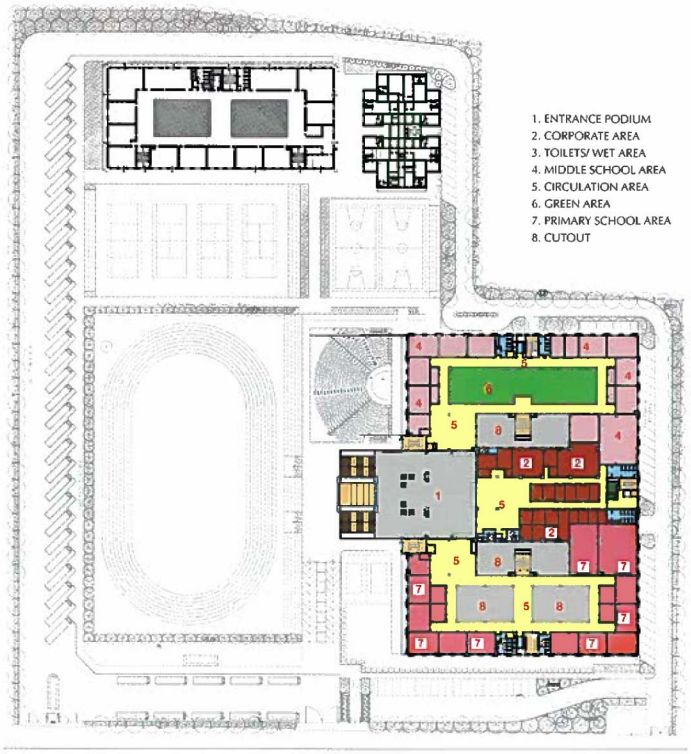
Consultants: Fabinteriors (Interior Design), BMSF Design consultants Pvt Ltd (Structural), Integral Designs (Landscape, Plumbing, Electrical), Panasea Technologies Pvt Ltd (HVAC)

Contractors: Sun Nirmana

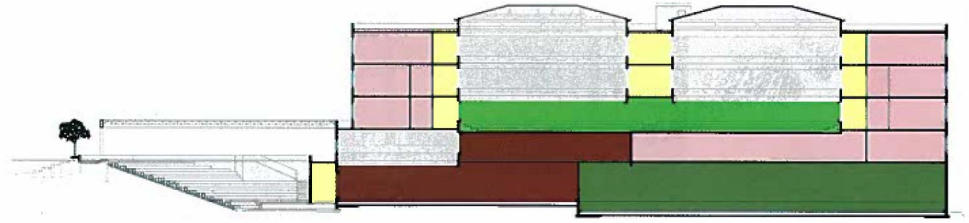
Built-up area: 451341sq ft

Cost of project: Rs 62 crore (approx)

Year of completion: 2011



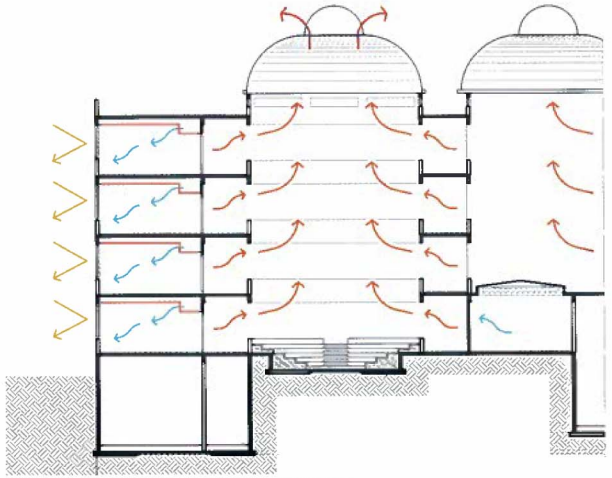
FIRST FLOOR PLAN



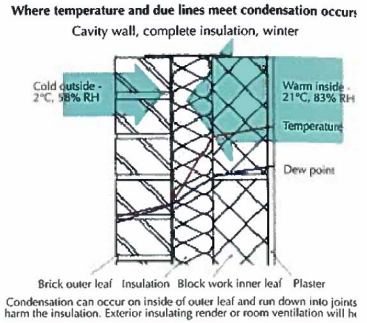
SECTION

The right and left wings are divided in a modular system and wherever necessary, the modules of a wing get consumed or extend into the adjoining block and even the open space in order to meet the challenging floor space. This phenomenon of overlapping and sharing spaces is what was used as the conceptual tool called layering.

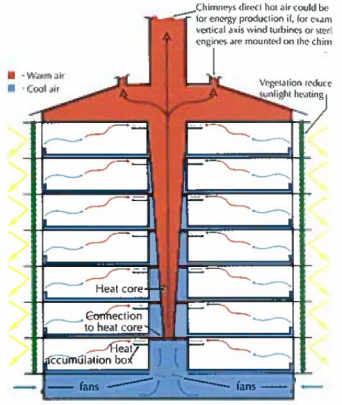
The mega block presents itself on a plinth in order to scale the large mass and create a split level entry for different users. The lower floors and essentially the basement are cooled by geothermal energy whereas this geothermally cooled air is fed into the TFA units for the entire building.



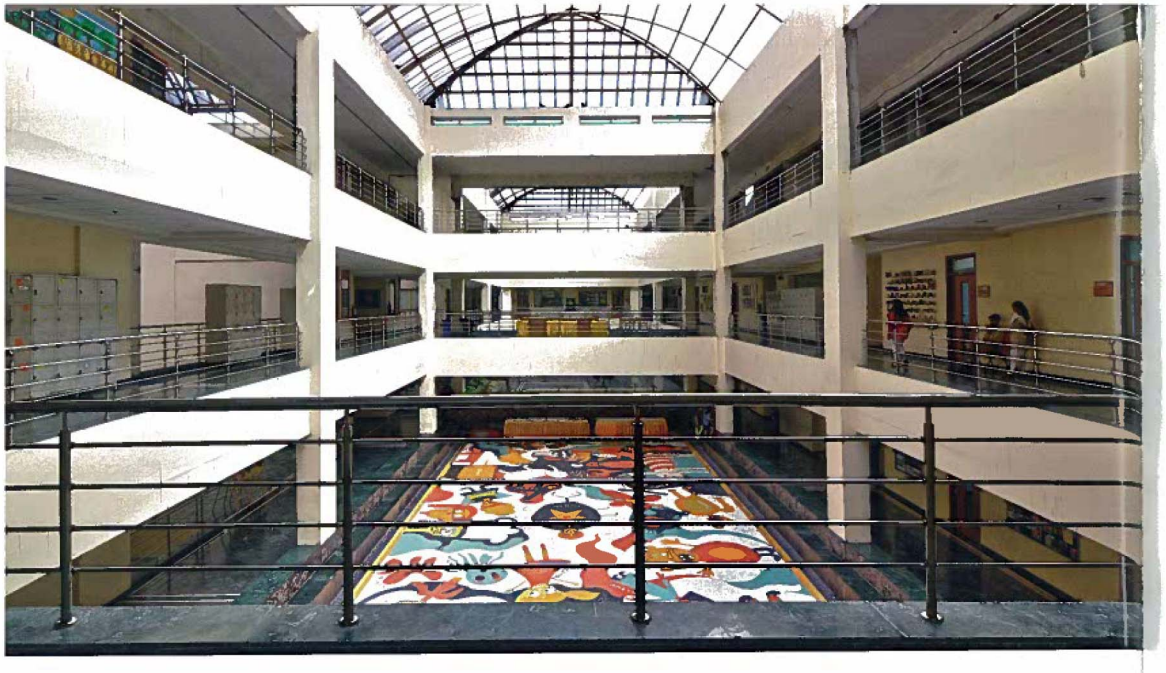
PART SECTION SHOWING THE VENTILATION SCHEME



HEAT INSULATION THROUGH CAVITY WALL



NATURAL VENTILATION FOR HIGH-RISE BUILDING (TERMITE MODEL)

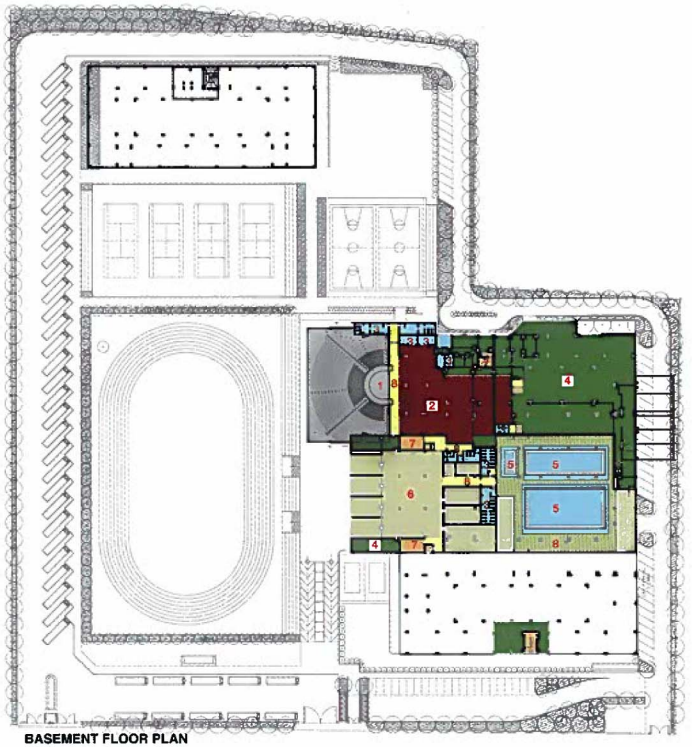


1. OPEN AIR AMPHITHEATRE
2. DINING HALL
3. TOILETS/WET AREA
4. BOH/KITCHEN AREA
5. LAB
6. MEDICAL CENTRE
7. PRIMARY SCHOOL AREA
8. SHOP
9. CUTOUT
10. INDOOR SPORTS AREA
11. BUS PARKING
12. MAIN ENTRANCE
13. RUNNING TRACK AND SOCCER FIELD
14. TENNIS
15. BASKETBALL
16. SENIOR BLOCK

SITE PLAN

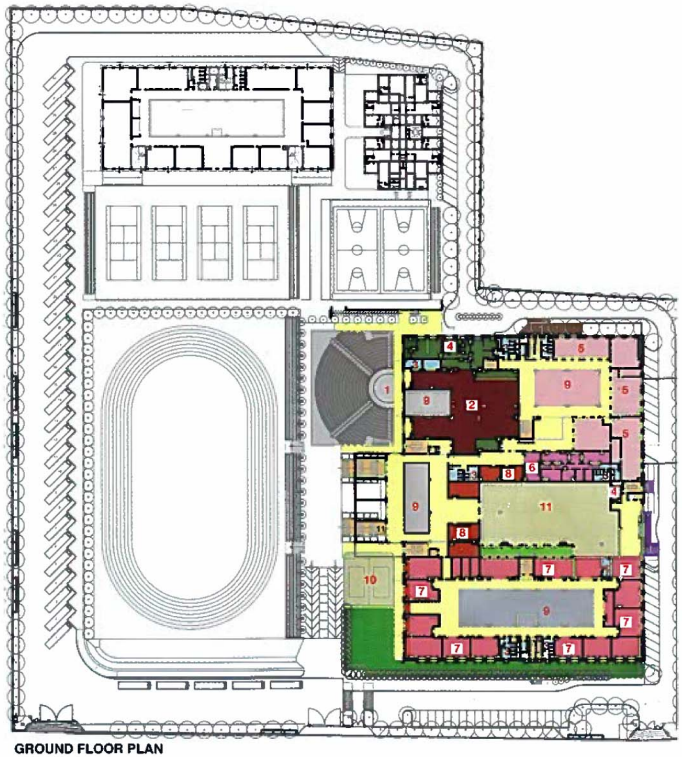
ZONING AREA

- BOH/KITCHEN AREA
- DINING AREA
- TOILETS/WET AREA
- PRIMARY SCHOOL AREA
- MIDDLE SCHOOL AREA
- CUTOUTS
- VERTICAL MOVEMENT
- CIRCULATION AREA
- CORPORATE AREA
- LIBRARY AREA
- OPEN AREA
- INDOOR SPORTS AREA
- MEDICAL AREA



1. OPEN AIR AMPHITHEATRE
2. DINING HALL
3. TOILETS/ WET AREA
4. BOH/KITCHEN AREA
5. SWIMMING POOL
6. INDOOR SPORTS AREA
7. STAIRCASE / LIFT
8. CIRCULATION AREA

BASEMENT FLOOR PLAN



1. OPEN AIR AMPHITHEATRE
2. DINING HALL
3. TOILETS/ WET AREA
4. BOH/KITCHEN AREA
5. LAB
6. MEDICAL CENTRE
7. PRIMARY SCHOOL AREA
8. SHOP
9. CUTOUT
10. INDOOR SPORTS AREA
11. GYMNASTICS

GROUND FLOOR PLAN