



**ARCHIMEDES**  
HEALTHCARE ARCHITECTURE





*“Truth is by nature self-evident.  
As soon as you remove the cobwebs of ignorance that surround it,  
it shines clear.”*



## CONTENTS

About Archimedes India Associates .....	01
Our Strengths .....	02
Our Goals .....	02
Scope of Consultancy .....	03
Our Network .....	03

### Completed Projects - National

Akshaya Apollo Hospitals, Ahmedabad, Gujarat .....	04
Sahara Apollo Hospitals, Lucknow, Uttar Pradesh .....	05
Jehangir Hospital & Medical Centre, Pune, Maharashtra .....	06
Satguru Pratap Singh Apollo Hospital, Ludhiana, Punjab .....	08
Pushpanjali Crosslay Hospital, Vaishali, Ghaziabad, Uttar Pradesh .....	09
Sarvodaya Super-speciality Hospital and Research Institute, Faridabad, Haryana .....	10
101 Bed Ortho-Trauma Hospital for Dr. Bharat Mody, Baroda, Gujarat .....	11
The Cradle, GK-II, New Delhi .....	12
R.N.Modi Multispeciality Hospital, Kota, Rajasthan .....	13
Mahatma Gandhi Cancer Hospital & Research Institute, Visakhapatnam, Andhra Pradesh .....	14
Centre for Sight, New Delhi .....	15
Synapse Neurocare Pvt. Ltd., Mangalore, Mangalore, Karnataka .....	16
Sakra World Hospital, Bangalore, Karnataka .....	17

## Ongoing Projects - National

Gurudevan Institute of Medical Sciences, Perumbavoor, Cochin, Kerala	18
Sardar Vallabhbhai Patel Institute if Medical Sciences and Research, Ahmedabad	20
United Hospital, Hyderabad, Andhra Pradesh	24
Shree Harihar Maharaj Kamadhenu Gausevashram Dharmik Trust, Ahmedabad, Gujarat	26
Believers Church Medical College Hospital, Thiruvalla, Kerala	28
Believers Church Medical Mall, Thiruvalla, Kerala	30
SVGH Trust Hospital, Chikmagalur, Karnataka	32
Trivandrum International Medical College, Trivandrum, Kerala	34

## Completed Projects - International

Apollo Hospitals, Colombo, Sri Lanka	36
Apollo Hospitals, Dhaka, Bangladesh	38
Jigme Dorji Wangchuk National Referral Hospital, Thimpu, Bhutan	40
Regional Referral Hospital, Mongar, Bhutan	42
Neurotrauma Unit for National Hospital, Colombo, Sri Lanka	44
200 Bed Al-kafeel Specialised Hospital-Holy Attaba Abbasiah, Karbala, Iraq	46

## Ongoing Projects - International

200 Bed Al-kafeel Specialised Hospital-Holy Attaba Abbasiah, Babylon, Iraq	48
Aioport City Hospital, Accra, Ghana	50



# About AIA

Archimedes India Associates



**Archimedes India Associates (AIA) was formed in July 2014 by Mr. Cherukuri Sasidhar along with his core team to provide exclusively Architectural Consultancy Services in Healthcare sector.**

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Earlier Mr. Cherukuri Sasidhar was heading the firm Archimedes India Consultants Private Limited (AICPL), formed in the year 1995. AICPL was formally re-constituted as an independent organization, out of the architectural projects division of Apollo Hospitals Enterprise Limited (AHEL). Since its inception, it was functioning as one of the sub-divisions of AHEL, and had been providing comprehensive Consultancy Services focused on Healthcare facilities Planning and Design to the Apollo Hospitals Group, as well as to various other top-of-the-line National and International clients.

**Archimedes India Associates (AIA) was formed** as per the directive of Council of Architect since under the provisions of the Architect Act, 1972 Private Limited companies are not permitted to carry out the profession of Architecture in India and only individual or association of individuals having the qualification and registration with the Council of Architecture only can carry on with the profession of Architecture.

Today, **Archimedes India Associates (AIA)** is one of the very few consultancy firms in the country Specializing exclusively in Healthcare Architecture. With a highly competent, multi-disciplinary team of professionals comprising Architects, Engineers, Doctors and Hospital Management & Administration experts, the firm provides high quality comprehensive Healthcare planning and Design services for various Healthcare facility types.

Archimedes has made a foray into Turnkey Projects for Healthcare buildings. This includes services from design concept development , architectural detailing of the design, preparation of good for construction drawings, setting up team of construction management at site, medical equipment planning, arranging men, materials and project processes so as to enable a smooth workflow up to the commissioning of the project.

Each project we undertake is a collaborative effort of a team of highly dedicated, skilled and experienced professionals from various streams, **Medical Architecture & Engineering, Landscape Architecture, Project Planning & Management, Medicine, Healthcare Operations & Management, Finance and Medical technology**. Our team's long and diverse experience in Strategic Planning and Design of a wide spectrum of Healthcare facilities, our ability to adopt a Holistic approach to any planning and design exercise, our skilled multi-disciplinary team, our willingness to be innovative and adopt nonconventional approaches to planning and design, our ability to work together with our clients to help them achieve their strategic goals and objectives based on ground realities — these we consider as our principal strengths.

The firm's knowledge base is continuously broadened through professional association and collaboration with internationally recognized experts in the field of Healthcare and Architecture and interaction with its clients. Team members keep themselves abreast of the latest developments in Healthcare facilities design and Medical technology through direct interaction with experts in the USA, Australia, United Kingdom, Africa, Hong Kong and the Middle East.

**Archimedes India Associates** have their offices stratigicallay located in the cities of Bangalore, Ahmedabad, Delhi and Kochi.

## Our Strengths

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Each project we undertake is a collaborative effort of a team of highly dedicated, skilled and experienced professionals from various streams, Medical Architecture & Engineering, Landscape Architecture, Project Planning & Management, Medicine, Healthcare Operations & Management, Finance and Medical technology.

Our team's long and diverse experience in Strategic Planning and Design of a wide spectrum of Healthcare facilities, our ability to adopt a Holistic approach to any planning and design exercise, our skilled multi-disciplinary team, our willingness to be innovative and adopt non-conventional approaches to planning and design, our ability to work together with our clients to help them achieve their strategic goals and objectives based on ground realities — these we consider as our principal strengths.

## Our Goals

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Each one of us at Archimedes India Associates has a deep sense of responsibility towards our clients and the community we design for. It is this sense of responsibility and commitment that urges us to continue to acquire new knowledge, sharpen our professional skills and continue to provide high value consultancy service to our clients to help them realize their individual and collective goals.

**Creating well-designed environments for healing environments that are friendly and comfortable for patients; environments that support efficient delivery of Healthcare services; environments that are robust and energy efficient; improving upon and learning from each experience in order to serve our clients' needs better — these will continue to be our goals... goals that are not static but continue to expand and challenge us to excel over our own achievements.**



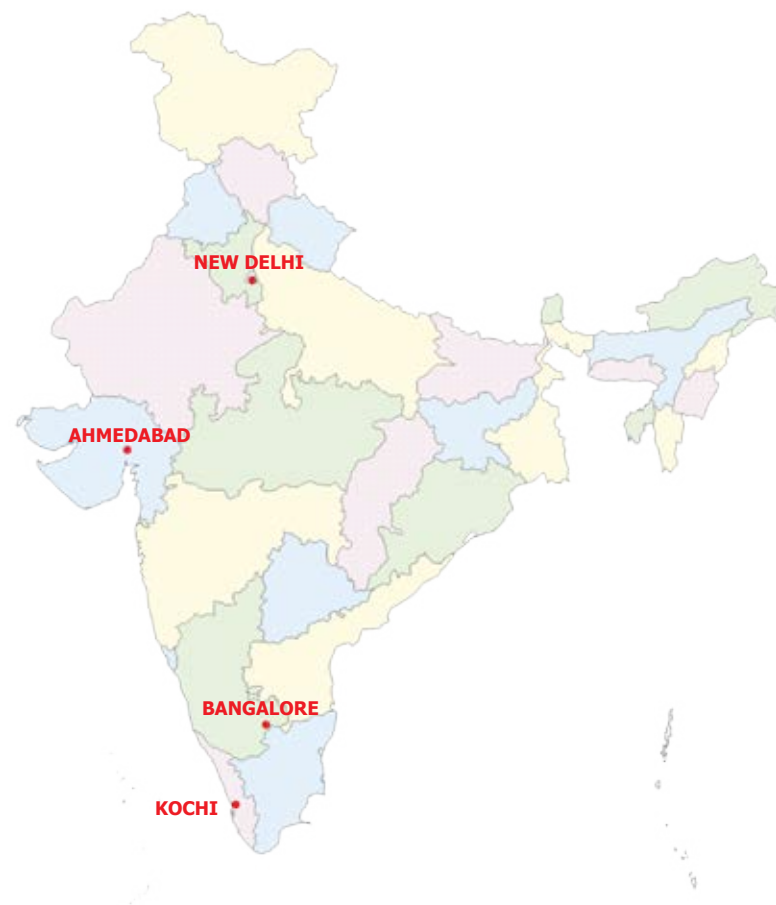
## Scope of Consultancy

Our in-house team of Healthcare Planners, Architects, Engineers, Interior Designers and Healthcare professionals, in collaboration with a select panel of well-qualified Specialists Consultants, provide the following services

1	Market Research & Analysis
2	Architecture
3	Interior Design
4	Landscape Architecture
5	Medical Equipment Planning
6	Medical Space Programming
7	Project Management Services
8	Building Management System
9	Structural Engineering
10	Fire Detection & Suppression System
11	Kitchen & Laundry Services
12	Strategic Business Planning
13	Way-finding & Signage Design
14	Heating, Ventilation & Air-conditioning system
15	Medical Gas Supply System
16	Hospital Information System
17	Water Supply & Sanitation System
18	Security & Access Control System

## Our Network

Archimedes India Associates has its principal design office at Bangalore. In order to facilitate easier and speedier client servicing, we are offices in the following cities :



# Akshaya Apollo Hospital, Ahmedabad, Gujarat

## SITE PLAN



As part of its strategic plans to expand its multi-speciality hospital network in the country, especially in the north-western region, the Apollo Hospitals Group initiated the establishment of a **multi-speciality tertiary care hospital** in Ahmedabad sometime in the mid-nineties. **Project implementation commenced in 1998** based on designs drawn up by Stone Marracini Patterson (SMP) Architects, a healthcare design consultancy firm based in San Francisco, USA. Fresh architectural designs were drawn up by Apollo's in-house design team, strictly adhering to Vaastu principles. Construction resumed based on the new design. Larsen & Toubro, the principal contractors of the project, completed the construction in April, 2003. The hospital was formally **inaugurated on 11th May, 2003**.

With a total **built-up area of 300,000.00 sqft** on a site measuring 10.00 acres, Apollo Hospitals, Ahmedabad, is the **first quaternary-care hospital** in Gujarat, providing research facilities in addition to tertiary-care medical facilities. Designed to accommodate **400 in-patient beds**, the hospital provides healthcare services in 52 medical specialties including **Cardiology, Cardio-thoracic Surgery, Neurology, Nephrology, Oncology, Hepatology, Orthopaedics, Physiotherapy, etc.** It is equipped with latest generation **1.5 Tesla MRI, 64-slice Spiral CT-Scanner with Laser Camera & Auto-Processor, Gamma Camera, Linear Accelerator, Chemotherapy Unit, Dialysis Unit,**

**Cardiac Cath-lab, 7(seven) Operation Theaters** supported by 75 critical care beds, a full-fledged **Blood Bank, Emergency & Trauma center, well-equipped Birthing Center, Telemedicine Center, 24-hour pharmacy, a helipad** to enable air-ambulance service, besides numerous other medical facilities.





## SITE PLAN



Labelled as the first '**7-star hospital**' in the country, this **fully air-conditioned 350-bed multi-speciality tertiary-care hospital** building with a total built-up area of 800,000.00 sqft, and rising upto 15 floors, will be the largest private run hospital in India. The building is being constructed on a 31.00 acre plot of land on the outskirts of Lucknow city.

Archi Medes (I) Consultants Pvt. Ltd., provided hospital interior architecture & planning as well as engineering services inputs. Larsen & Toubro are the principal contractors.

Over 50 medical specialities will be provided in the hospital. These specialities will be supported by the latest-generation **medical equipment, 90 ICU beds, 14 ultra-modern OT's, 2 Cath-Labs and 10 Dialysis beds**, besides other facilities.



# Jehangir Hospital & Medical Centre, Pune, Maharashtra

## SITE PLAN



The history of Jehangir Hospital & Medical Center dates back to the years when World War-II was coming to an end. It was around this time that Dr. Edulji H. Coyaji conceived the idea for a hospital. On a **6.0 acre piece of land donated by Sir Cowasji Jehangir** and Lady Hirabai Jehangir at Sassoon Road, Poona, a small hospital was set up. The hospital was named **Jehangir Nursing Home**, in memory of Sir Cowasji Jehangir's son, Jehangir, who died in an accident in 1944. A Trust was formed to manage and operate the facility. Over the years the hospital expanded rapidly. But the growth was rather organic and without a structured development strategy. Additions & alterations of various facilities were done in a haphazard manner, resulting in highly inefficient utilization of precious land and other resources.

In 1989, as part of a major expansion plan, a five-storeyed new block was constructed to house state-of-the-art computerized diagnostic and therapeutic facilities, besides additional in-patient beds.

In 1998, the Trust invited the Apollo Hospitals Group and its hospital design team to advise them on future growth and development strategies for the hospital campus. As an outcome of this exercise, the design team came up with a **Master Plan proposal for the integrated development of the entire hospital campus. Rationalization of land utilization, bringing about a higher sense of order and structure within the campus, rationalization of functional adjacencies and creating greater imaginability for the campus were the principal objectives of the exercise.**

Besides providing more parking space, a **modern 5-storeyed block was added as a contiguous extension of the existing 5-storeyed hospital building.** With a total built-up area of **66,000.00 sqft**, the new block was designed to house a **Mother & Child Unit, an 8-bed Dialysis Unit, 6 (six) state-of-the-art Operating Theaters supported by surgical & medical ICUs, in-patient deluxe rooms, OPD rooms, a Physiotherapy Unit, CT-scanner and an upgraded Emergency Department.**

Today, under the professional management of Apollo Hospitals Enterprise Ltd., the hospital is fully operational as a high end **250-bed multi-speciality tertiary-care hospital**, providing high quality Healthcare services not only to the citizens of Pune but also to the entire region of this part of the country.









# Satguru Pratap Singh Apollo Hospital, Ludhiana, Punjab

SITE PLAN



Constructed on a **4.35 acre plot** of land donated by the Namdharis, this **245,000.00 sqft, 300-bed, 9-floor-high** imposing hospital building is the realization of Satguru Partap Singh's dream of setting up a hospital to serve the Healthcare needs of not only the devotees of the Namdhari community, which he founded, but also the common people of Ludhiana and the region of Punjab and the neighbouring states. Promoted by SJS Holdings Limited, the hospital is operated and managed by Apollo Hospitals Enterprise Limited. Complete architectural and engineering services support was provided by Apollo's in-house Projects Division.

Located at Sherpur Chowk on the National Highway, right at the entry point to the city of Ludhiana, this **multi-speciality tertiary-care hospital** provides world class healthcare services in all the core disciplines including **Cardiology & Cardio-thoracic Surgery, Neurology & Neuro-Surgery, Nephrology, Urology, Orthopedics, Physiotherapy, a 10-bed Dialysis Unit, Gastroenterology, Obstetrics & Gynecology, Ophthalmology, ENT, Dentistry, General Medicine & General Surgery, 7(seven) hi-tech Operation Theaters** supported by 48 well-equipped Critical Care beds and ER & Trauma Unit.

The foundation stone for the building was laid on 28th October, 2000, and 54 months later, the hospital opened to the public in April, 2005.



# Pushpanjali Crosslay Hospital, Vaishali, Ghaziabad, Uttar Pradesh

SITE PLAN



A **400 bed Multispeciality Hospital** is being setup at Ghaziabad, Uttar Pradesh by Crosslay Remedies Pvt. Ltd. which was incorporated in 2002 and subsequently acquired by Pushpanjali group of Companies in 2005. Puspanjali Group of Companies has been in existence for 15 years and has considerable experience in providing Healthcare services in Delhi. With a **site area of 13879.05 sqm** and a **total built up area of 40,300 sqm**. Site is located on National Highway no. 24 and within 5 km from railway station and 35 Km from the Indira Gandhi International Airport.



Designed to have the latest **state-of –the-art medical equipments and an internal and external ambience expressing efficiency, cleanliness, comfortable to sooth the strained nerves of the patients, relatives and the staff this hospital will be the first of its kinds in the region** to provide quality Healthcare at an affordable cost.





# Sarvodaya Super-speciality Hospital and Research Centre, Faridabad, Haryana

## SITE PLAN



A **150 bed multispeciality hospital** is being put up by Dr Rakesh Gupta. He along with Mrs. Gupta own and manage an existing 150 bed hospital at Faridabad which they had constructed gradually over the years.

The new Hospital will have **6 operating rooms, 1 Cathlab, 40 Intensive care beds**. There is also a **nursing college within the site** connected to the hospital building on all floors. The hospital has a **building area of 1,70,400 sft** and nursing college area including **accommodation for nurses of approximate 70,000 sft** all within a **site area of 16139.04 sqm**.

There is a welcoming front entrance portico which extends to a **front atrium which will provide shelter for the visitors** as during the visiting hours there is always a sudden surge of crowd. The hospital spatial layout was painstakingly developed along with the client so that movement is easy and locating any department would not confuse the patients.

Service by separate patients and separate lifts and also staircases attempt has been made to create patient oriented comfortable ambience.



# 101 Bed Ortho-Trauma Hospital for Dr. Bharat Mody, Baroda, Gujarat

## SITE PLAN



Proposed **101 Bed Ortho-Trauma Hospital** in a site area of **2.86 acres** owned by **Dr. Bharat Mody** conceptualized to develop a comprehensive master plan with phase wise development. The **first phase to target 101 beds and the future phase will develop into 175 beds with mixed land use facilitating a Shopping mall and Hotel.**

The master plan was conceptualized with strict adherence to the principles of **vaastu-shastra** which was a major factor in the evolution of architectural design.

An analysis to develop **an energy efficient building** also resulted in the architecture of the building, to develop a **cost effective building technology aiming to economize on the operational cost of hospital systems.**



The site is prone to flooding and water logging during monsoon as Vishwamitri river is 1.5 km from the site. Hence considerable amount of land filling would be done to elevate general formation levels.

The hospital for **first phase to cover a total area of 1, 28,860 sq.ft** with **4 Operation theatres, 24 Intensive care Beds, 77 Intermediate Beds to form part of 101 Beds.** Other facilities within the campus would include **residential quarter for nurses and resident doctors. A large double height atrium space between the first phase and the future phase will have translucent roof with podium structure for landscape gardens** connecting and providing a respite to the battered and bruised soul of the patients.





# The Cradle, GK - II, New Delhi



With the sobriquet Boutique Birthing Center, The Cradle is AHEL's first ultra-modern **super-speciality birthing center** devoted entirely to the mother and her child. Promoted by Sunrise Medicare Limited, a joint venture of the Talwar Group and the Dabur Group, **The Cradle is designed to provide home-like comforts and convenience to the mother, the child and their family members.**

Set amidst sylvan surroundings, this birthing center is equipped with state-of-the-art birthing related medical facilities. **2 (two) Operation Theaters, 4 (four) Labour Delivery Recovery (LDR) rooms, a 4D Ultrasound Unit, 6-bed Level-III Neo-natal ICU, 4 (four) suites, 6 (six) Super Deluxe Rooms and 16 (sixteen) Deluxe Rooms** are some of the major facilities of the center. **A 24-hour pharmacy, coffee shop, communication center, a gift shop and a children's play area** are some of the other support facilities.

Facility planning and engineering services support were provided by AHEL's design team. Project implementation was coordinated by Apollo Health & Lifestyle Ltd.





# R.N.Modi Multi-speciality Hospital, Kota, Rajasthan

SITE PLAN



**RN Modi Charitable Trust** with Mr. R.N Modi at its helm has spearheaded setting up of many Engineering and Technical colleges which have been availed of by students from all over the country. The Hospital has been setup with Technical support from Apollo Group of Hospitals and is operated by this group.

The hospital has **170 beds within 1, 16, 175.5 sft area, constructed within a site area of 6120.1 sqm** executed at a cost of 23.2 crores. Equipped with **4 Operating rooms, 1 Cathlab and about 40 Intensive Care beds** the hospital has ushered in the first professionally managed healthcare in the region. Providing **medical care at a tertiary care level** this hospital has been a boon to the local patients who otherwise have to travel to Delhi for availing of quality healthcare. An architectural expression of small "jharokhas" in a modern language instead of large glass windows, has been adopted, as is befitting the climate of the region. A **5 storeyed high atrium at the centre** of the building brings in natural light and provides for waiting space for patients and relatives.



# Mahatma Gandhi Cancer Hospital & Research Institute, Visakhapatnam, Andhra Pradesh

A proposed **50 bed** Cancer hospital with all modern diagnostics like **CTscan, MRI, Nuclear Medicine, OT complex, Intensive care beds, Therapy ward, two Linear Accelerators** this hospital will provide comprehensive treatment for Cancer in that region.





## Centre for Sight, New Delhi



**Dr. Mahipal Sachdev**, Chairman & Managing Director, **CFS**, needs no introduction. As a well-known consultant eye surgeon at Apollo Hospitals, New Delhi, and running a highly successful private practice in South Delhi, Dr. Sachdev was one of the first eye surgeons in the country who pioneered the practice of LASIK Surgery.

Fuelled by the desire to provide international standard ophthalmologic services to his patients, Dr. Sachdev initiated the construction of a brand new eye care center at Safdarjung Enclave, New Delhi. Construction commenced in early 2003. The project was **commissioned in mid 2004**. With a total **built-up area of 9800.00 sqft**, with an investment of **INR 6 crores**, Center for Sight, today, is fully operational. In addition to the standard **LASIK** and other **ophthalmologic** facilities, the center is now equipped with a **Bausch & Lomb's Zyoptix z-100**. An optical sales counter and a pharmacy outlet have been integrated into the Center. Today, Center for Sight ranks among the top four eye care centers in India.



## Synapse Neurocare Pvt. Ltd., Mangalore, Karnataka

Synapse Neurocare Private Limited, Mangalore is a **105 bedded Brain and Spine Specialty hospital** constructed with **ground and 4 floors** above , with a total **built up area of 64,000 Sq.Ft**, having departments like Neurology/Neurosurgery etc.

This was commissioned by September 2015.





# Sakra World Hospital, Bangalore, Karnataka

The proposed Hospital is to be a **300 bedded Multi-Specialty** constructed in one phase, with phase wise operations with phase 1 accommodating and operating **120 beds with infrastructure made ready for 300 beds**. An additional 180 beds to be added in the Phase 2 with proper allocation of support services for the entire Hospital building in phase 1.

With the intention of providing world-class medical treatment, the proposed hospital will be having world-class infrastructure & will be equipped with the latest medical equipment. Utmost care has been taken to ensure that the surrounding environment is preserved by keeping pollution within the stipulated standards and using eco friendly techniques.



The **total Site area of the proposed Project is 11008 Sq mts.** ample parking space has been planned. Sewage treatment plant to keep the environment free from pollution & also rain water harvesting is taken care. Total power requirement is taken care by means of emergency & permanent power arrangements, where as emergency is taken care by alternate power system.



**The following departments will be present in the hospital:**

- Neuro & Spine surgery.
- Orthopedics.
- Cardiology.
- Emergency & Trauma.
- Plastic & Vascular Surgery.
- Radiology department housing X-ray, CT scan and MRI.
- Nephrology & Urology.

**The following departments also proposed in the hospital:**

- Physiotherapy & Rehabilitation
- Day Care facilities.

The departments are supported by requisite number of Operation Theatres, Intensive care beds and inpatient beds. Support services like clean utilities, sluice rooms stores, toilets, housekeeping etc are also provided.





# Gurudevan Institute of Medical sciences, Perumbavoor, Cochin



**Sree Narayana Gurukulam Trust** is a registered Charitable Society. The trust is dedicated to the principles of **Sree Narayana Guru** who gave top priority to education and technical training and with better quality education and treats equally all of its aspirants without regard to caste, creed and economic status.



To fulfill his mission, the Trust established in the year 2002 Sree Narayana Gurukulam College of Engineering state of the art infrastructure, dedicated highly qualified senior faculty, disciplined campus of a high reputation with an emphasis on the personal development of each and every individual. The trust with eminent personalities from diverse spheres in Kerala have been working towards continuous pursuit of bringing Guru's vision of making quality education within the reach of all and opening avenues to the youth, far and near of world class higher education. The trust has been relentlessly and emphatically focusing on education and private enterprise for the ongoing upliftment of the quality of life. The trust with this mission is willing to establish "**Gurudevan Institute Of Medical Sciences**" within 21 acres of land at Aimury, Perumbavoor with a focus to start a Multispeciality Hospital with a vision to provide a 150 Admission Medical College and 750 Bedded Teaching Hospital with other Para- Medical College and Nursing College.

The Centre of Excellence "**Gurudevan Institute Of Medical Sciences**" would encompass of 150 bedded Multispeciality hospital specializing in Cardiology and Cardiac-thoracic surgery, Orthopedics, Neurology and Neuro-surgery,

**Oncology, Obstetrics and Gynecology and General and Minimal Invasive Surgery**, state of the art internationally accredited healthcare service in Kerala.

The hospital is designed to have all advanced and modern **Radiology, Imaging (CT scan & MRI), Radiation Therapy( Linear Accelerators), state of the art OT Complex, Intensive care units, Cathlab Complex, and inpatient beds as single occupancy, double occupancy and general ward of 6 beds** in each bay with elements of Kerala architecture to be embodied with a essence of its nature to create an "Healing environment".

The hospital is been designed with a provision to expand to 300 beds in a phased manner to cater the demands of the healthcare service required in the region and expand into a world class institute in the time to come.

The trust focus is to deliver International Class healthcare with a service focus, by creating an institution committed to the highest standards of medical and service excellence, patient care, scientific knowledge and medical education.







# Sardar Vallabhbhai Patel Institute of Medical Sciences and Research, Ahmedabad, Gujarat

Ahmedabad Municipal Corporation (AMC) is putting up Asia's largest 1611 Bed Multispecialty Hospital named **Sardar Vallabhbhai Patel Institute of Medical Sciences and Research** at Existing VS Hospital campus in Ellisbridge area of Ahmedabad, Gujarat. A site area from existing 27 Acres has been allocated for this hospital and the total built up area for proposed facility is 16,14,141.35 Sq. Ft. with 1611 Beds. Total cost of the project is estimated to be 373.75 Crores. Site is located within existing Vadilal Sarabhai Hospital campus facing the Sabarmati River Front Development at back side and adjoining to existing NHL Medical College. To be managed by AMC, Multispecialty hospital will offer high quality healthcare services with **32 OTs, 297 ICUs, 1152 total Wards, 162 Paid Beds and 490 doctors' residences**.

The Hospital buildings will be 18 storeys high with helipad for air ambulance facility on top.

This is first Teaching/General hospital to be JCI (Joint Commission International) accredited hospital, it is single structure- largest and tallest hospital in India encompassing of 1600 beds with 16,00,000 sq.ft. on a foot print of 1,00,000 sq.ft. This is also largest steel hospital structure in India with state of art construction technology. This is also first LEED accredited teaching hospital with modularized design for easy maintenance and operations. It has state of the art Operation Theatre modular complex with 297 ICUs with state of the art medical equipments comprising of MRI, CT Scan, Cath-Lab with digitally blanket for easy maintenance and management with least amount of manpower and resources.









### Highlights of project:

- It has easy access to Emergency & Trauma department preferably on the ground floor with covered drop off leading into a 5- storey atrium.
- Out patient department is split into ground and first floor in close proximity with the diagnostic area.
- Operation Theatre and Intensive Care units are adjacent to each other, stacked above each other in the modules of 4 OT and Intensive Care units of 20 beds with mechanized movement of clean material and dirty material.
- General wards designed for a 30 bedded unit with the respective Operation Theatres and Intensive Care units.
- Provision of paid beds – semi deluxe rooms and single deluxe rooms in block A at top most 5 floors.
- Provision of residents doctor' accommodation in block B and block C at topmost 5 floors.
- Emergency & Trauma beds – 60 beds.
- High end diagnostic- 2 MRI ( 1 for future), 2CTscan (1 for future)
- Low end diagnostic – x- rays, USG, mammography, TMT, echo, ECG, EEG, EMG, urodynamics labs, and PFT etc.
- Out patient department- all specialty spread at ground floor and first floor with laboratory and blood bank at upper floors.
- Operation Theatres- 32 nos, Cath-lab-2 nos. (4 Nos of ot at every floor for 8 floors) along with CSSD at the upper floor with mechanized transport of clean material and dirty material.
- General wards- 1152 nos.( 30 Bedded wards with support facilities).
- Hospital administration and services at services building – WTP, HT panel, LT panel, AC plant room, kitchen, laundry, boilers, medical record room, engineering maintenance workshop.
- Parking facilities in 2 nos of basement for 364 cars, with a future provision of mechanical car parking facility for 728 cars.











United Hospitals is a **300 bedded Multi-Specialty hospital** constructed with two basements and 8 upper floors, with a **total built up area of 3,86,505 Sq.Ft**, having departments like **Neurology/Neurosurgery, Orthopedics, Cardiology, CT Surgery, CT Pediatrics**.

It is constructed in single phase as a building, with phase- wise occupancy and Operations.

The expected time of completion is by March 2016.







# Shree Harihar Maharaj Kamadhenu Gausevashram Dharmik Trust, Ahmedabad, Gujarat

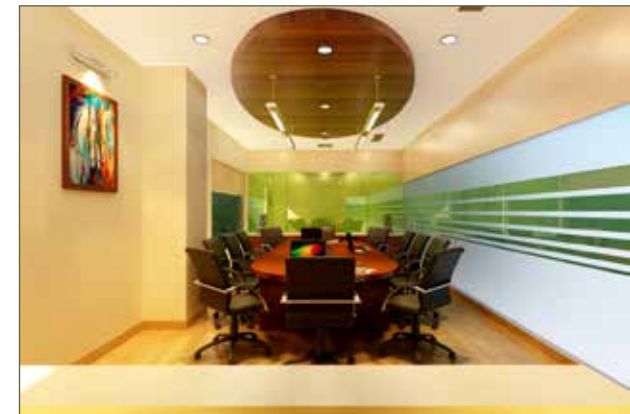
**Shree Harihar Maharaj Kamdhenu Gau Sevashram Trust** is putting up **300 bedded Multispecialty Hospital** at prime location at Vaishnodevi circle at Ahmedabad, Gujarat. The Concept design is based on preliminary information shared by client, followed by the space program which is developed as per the new regulations of Medical Council of India. **Total Site area is about 2,50,000 sq. ft.**



## FEATURES

Hospital Building is proposed with **300 beds and Service building as separate building for total area of 4,22,888 sq. ft** as construction area. Basement parking facility for staff and dedicated separate parking facility for doctors and visitors as surface parking in site plan. It has centralized CSSD, LAUNDRY and Administration areas with IP Pharmacy store with state of an art facilities. **Grand Entrance with Skylight and atrium with sufficient waiting area with OPD and low end Diagnostic facility, Master Health Check up and Emergency Department and related facility are located on Ground floor for ease of flow of patients.** Entire first floor proposed with OPD and Master Health Check up

facility with provision of escalators is provided for easy access of flow of patients. Two Endoscopy suites, Ophthal and IVF, Physiotherapy, Dialysis with view of Terrace Garden and Mother and Child care unites are provided immediately above OPD floors. Five modular state of an art operation theatres and additional three conventional Operation Theatres with Neuro, Surgical ICUs in addition to 10 bedded ICU with CTVS pre- op , Post- OP areas and CTVS POST OP are the critical areas provided considering sterile and non sterile corridors with international standard materials and finishes. Blood Bank, Laboratory and other admin areas are common facilities approached by staff without disturbance to patient/staff movements. **Two Cath Labs with 10**



**bedded CCU, Pre and Post Angio 10 beds, and Two ICUS each 10 bedded** are proposed with excellent views of scenic beauty and landscapes around site. Top three floors are in- patient floors with **145 patients beds** in various categories like general wards, twin sharing Single deluxe rooms and suite rooms. Two light wells are provided to get enough light into the common spaces. Total of nine elevators are proposed with all being bed elevators. Service building is proposed with Central HVAC Plant, Central Kitchen, Cafeteria, Auditorium and Nurse quarters which will help Compulsory HVAC systems for ICU, operation theatres and other critical facilities. Power backup of critical facilities and non-conventional energy use shall only be compulsory in case of non – critical facilities are also considered.







# Believers Church Medical College Hospital, Thiruvalla, Kerala

**Believers Church Medical College Hospital** is a multi-Specialty Hospital in Thiruvalla, Kerala, India. Believers Church Medical College Hospital is a healthcare project of Believers Church India. The BCH is involved in nation-building social and educational projects, healthcare initiatives, charitable activities, community development programs, rehabilitation projects and relief works.

**Dr. K.P. Yohannan**, Metropolitan of Believers Church is the patron of the hospital.

The work majorly consists, construction of Multi storied of Composite Structure **(15 Floors – 03 Phase) of area 18,80,000sq.ft**, RCC (Piling work) + Structural Steel of Hospital Building with finishes and provisions of all internal services for the said proposed project at Believers Church Medical College Hospital.

“Propose Believers church multispecialty hospitals consists of **2107 beds of 15 floors cum terrace with helipad** for the Heli-ambulance service. Only few multispecialty hospitals in India have this facility. The building is planned to construct with combination of **Structural Steel and RCC**. This type of buildings will give high protection from fire, earthquake and many other natural hazards, further it is very much reliable, quicker by Reducing Construction time by 50 to 75% and also Safer being in existing hospital with less air & noise pollution during the construction of this additional Hospital space. The main facilities in the Proposed hospital are as follows, a very **big main lobby, Cancer treatment have been LINAC departments with PET CT, Hi-tech medical equipment, Cath lab, 26 no's of operation theaters, around 10000 patients capable of Outpatient department and diagnostic center.**

Also for patients and visitors purpose we have planned 36 No's lifts, 06 escalators reserved for the utility work, fully centralized air condition system, automatic fire fighting system, well equipped kitchen & laundry service, plumbing and will be IGBC rated green building”.

In brief, building foundation work consists of bored cast in situ piling work to carry entire load safely below the ground through Pile Cap also Grade Slab, thereafter as per design, Shear walls, planned Internal and external staircases with provision of Ramps, block/brick wall and other finishes as required with a provision of Helipad on top of building for air ambulance facility. The Main building contains RCC structure up to foundation level only or Ground Floor finish level. Thereafter Structural Steel work of column, beam and decking sheet. All steel columns will be encased with block at every floor level from Ground Floor itself and the connected Steel beams (MB and SB) are fire protected/coated with designed thickness fire protection paint as per the fire norms. Decking Sheet above the steel frame, floors with all necessary accessories as per drawing galvanized with the provision of shrinkage bars prior to concrete casted over decking sheet at each floor ensuring all connection and cut out provision.

All internal and external finishes have been designed as per Health care industry norms with appropriate utilization of space as per latest Medical practice/norms requirement. All Services required for multispecialty Hospital have been also incorporated, which mainly consists of Electrical, Plumbing, Fire Fighting, HVAC, Medical Gas Line and other specialized services to give integrated look and sustainable building. External Infrastructures development consists of Landscape, Electrical services, Plumbing & Fire Fighting, Sewage Treatment plants, LT, HT & Transformer provision, DG set up and other ancillary services to support entire project.







# Believers Church Medical Mall, Thiruvalla, Kerala

This shopping complex building along with multiplex, service apartments and hotel with a **built-up area of 64641.50 Sq.Mts (695542.54 Sq.Ft)** rising up to Eighteen floors with helipad . The building is being constructed on a three acre plot of land.



The layout integrates leisure and recreational facilities with commercial and residential components for a comprehensive and authentic destination for residential and visitors. Entertainment, Dining and Leisure are the nutrients that are enriching commercial complex.



**Amenities include puzzle parking in ground floor retail shops at lower levels from First to Fourth Floor, Physiotherapy at Fifth Floor multiplex of 5 no's of each 150 capacity at Third Floor Level, patients relatives accommodation at Sixth and Seventh Floor, terrace garden at sixth floor service floor at eighth floor Service Apartments, Single Rooms at Ninth Floor Level, Single Bedroom and Double Bedroom units at Tenth to Fifteenth Floor and hotel & restaurant at Sixteenth to Eighteenth Floor Level.**

Beautiful interior landscapes not only provide buffers, but also create pedestrian connections that help reduce traffic congestion. Common spaces to create more points of convergence and grandeur. It excels in four areas like extraordinary design, hyper levels of service, the internationalization of brands and decentralization of food and beverages.

The building is **planned to construct with combination of structural steel and R.C.C.** This type of buildings will give high protection from fire, earthquake and many other natural hazards, further it is very reliable, quicker by reducing construction time by 50% to 75%.the steel columns, beams and deck slab is fire protected, coated with designed thickness fire protection paint as per the fire norms.

All **internal and external finishes have been designed as per the latest technology** and locally available materials. All services like Electrical, Plumbing, Fire Fighting and HVAC are incorporated.







## SITE PLAN



A **World Class Charitable Hospital** that delivers medical treatment for Heart, Joints, Brain, spinal cord, Kidney, Skin, Ear, Nose, throat, Lung and Cancer, working through a network of collaborations in its centers of excellence with the best Doctors to treat the economically backward sections.

The Hospital is developed in two phases.

**Phase-I: 150 bedded Multi-speciality Hospital.**

**Phase-II: 1100 bedded Institutional Medical Hub** in 28 acres of land offering teaching services from Medical, Dental, Nursing, Pharmacy and Paramedical. It also consists of Patient-care services for all specialities.







**Specialties of a high standard and quality to be available for:**

1. Cardiology
2. Cardiothoracic Surgery
3. Internal Medicine
4. Pulmonary Medicine
5. General surgery
6. Orthopedic
7. Neurology
8. Neurosurgery
9. Nephrology
10. Urology
11. Dialysis
12. ENT
13. Pediatrics
14. Radiation Oncology
15. Medical Oncology
16. Laboratory
17. Blood Bank
18. Laundry
19. CSSD

**Hospital Architectural Design Approach:**

Environmentally friendly hospital with emphasis on energy saving, natural light and outdoor view. Hospital building to be designed as a humane and civilized space which is not threatening, but comfortable and stress free for both doctors and patients.

Proper utilization of space designed, to keep In- Patient and Out-Patient separate. Emphasis to reduce patients and staff movement between frequently used spaces. To minimize check in and discharge time through appropriate planning. Movement of Inpatient to Diagnostic to be separated from Outpatient. Food supply for Inpatient to be separated from OP.

Easy patient movement in the hospital for faster recovery and easy way finding anywhere in the hospital with due importance to signage's. Controlled circulation of people and goods so that back end facility is not mixed with Main facility.

# Trivandrum International Medical Center, Trivandrum, Kerala



The hospital provides world class healthcare services in all core disciplines including hi-tech operation theatres supported by critical care beds, Internationally accredited diagnostics and laboratory services, Affordable to a wide range of income groups.

Along with the Hospital Project the site also includes aged care accommodation (the Geriatric Center) – a home away from home with daily care and access to hospital facilities with **total built – up area of 3,45,493 sq.ft including 5 basements + Ground + twelve floors in the site area of 2.25 acres.**



This **550 Bedded Multispecialty Hospital**, Trivandrum International Medical Centre with **total built – up area of 7,99,706 square feet (Basement + Ground + Tenth Floor)** is proposed on a **site of 8.5 acres of total land area of 10.80 acres (4,70,567 Sq.Ft)** at Mamam, Trivandrum . It's expected time of completion is April 2019.

This hospital **specializing in Cardiology and Cardio vascular surgery, Neurology and Neurosurgery, Joint Replacements, Liver diseases, Minimal access surgeries , Mother & Child care, Pulmonology, Endocrinology, Gastro-intestinal diseases (GI diseases), Dermatology, ENT, Radiation therapy, Haematology, Medical Oncology, Critical Care medicine, Nephrology, Ophthalmology, Dental care, General medicine and General surgery, Geriatrics and Cosmetology.**



The Geriatric Centre accommodates **248 units with basic amenities at every floor. These units are based on the areas of 600 sq.ft, 750 sq.ft and 1200 sq.ft** . It's expected time of completion is April 2019.

This hospital is put up by the chairman and managing director Dr. Y. A. Naser, a world renowned heart surgeon and Mr. V.K Ashraf Director, a successful entrepreneur based in U.A.E and Mr. T.S Ashok, Director of well-known construction group, Artech.







SITE PLAN



Apollo Hospitals, Colombo, is **Apollo's first multi-speciality tertiary-care hospital outside India.** With the objective of bringing international quality healthcare to the people of Sri Lanka and this part of South-East Asia, the hospital provides over **50 medical specialities.**

Designed to accommodate **350 beds** within a total **built-up area of 310,000.00 sqft spread over 11 floors**, the hospital is equipped with the latest high-end **Radiology and Imaging facilities, 10 (ten) Operating Theaters, 10 (ten) Dialysis Units, 72 Intensive Care Beds, a modern ER & Trauma Unit, 15 (fifteen) Super-Deluxe Suites** and other in-patient facilities. A roof-top helipad has been provided to enable air ambulance service. The original architectural design of the hospital, as proposed by SMP Architects, San Francisco (now SmithGroup), was identical to that of Apollo Hospitals, Ahmedabad. However, as was the case in Ahmedabad, the building had to be re-designed by AHEL's in-house design team, based on Vaastu principles. Construction commenced at the site in December, 2000. The hospital was inaugurated in June, 2002.







# Apollo Hospital, Dhaka, Bangladesh

## SITE PLAN



**Health Check OPD, a Platinum Lounge, a roof-top helipad to facilitate Emergency Air Ambulance service, and many other first-time medical facilities in Bangladesh. The Out-Patient system is planned based on successful American models.**



On 30th March, 2005, the Prime Minister of Bangladesh declared open this **ultra-modern multi-speciality tertiary-care facility** to the people of Bangladesh. Promoted by STS Holdings Limited and managed by Apollo Hospitals Enterprise Limited, the project is aimed at arresting the high outflow of patients to other countries for specialized medical treatment. Designed to accommodate **333 beds** which is expandable to 500 beds, the total built-up area of the facility is about **400,000.00 sqft.** Constructed on a 4.0 acre plot of land, the architecture of the building reflects the high-tech medical facilities offered by the hospital. A **1.5 Tesla MRI, 64-slice CT-Scanner, Gamma Camera, Fluoroscope, Fibrescope endoscopy, Cath-Lab, 2(two) Cardiac OT's, 5(five) OT's assigned for General Surgery, Neuro-Surgery and Ortho-Surgery, well-equipped Laboratories, a full-fledged Blood Bank, a state-of-the-art Physiotherapy Department, 90 Intensive Care Beds, 24-hour ER & Trauma Department, a modern Birthing Center, an exclusive Master**



**The Hospital Information System has been designed to make this the first paper-less hospital system in Bangladesh.** Based on schematic architectural designs drawn up by SmithGroup, San Francisco (USA), detailed architectural services, including all hospital engineering services, were provided by Archi Medes India Consultants Pvt. Ltd., New Delhi.







# Jigme Dorji Wangchuk National Referral Hospital, Thimpu, Bhutan

## SITE PLAN



JDWNR Hospital is the largest healthcare facility in the whole of Bhutan. It is the only national referral hospital in the country. However, the quality of medical facilities in the existing set-up is far below optimal standards of healthcare. The process to upgrade and modernize the hospital was initiated way back in the early 90's. As a first step, the government set up the Filter Clinic adjacent to the existing hospital building. In **1998, AHEL's design team was appointed by the Ministry of Health, Royal Government of Bhutan (RGOB), to develop a master plan proposal for the modernization and re-vitalization of the hospital complex.** Various development options were examined and presented to the RGOB. **The selected option addressed the need to retain the existing hospital building even as the new hospital building is being constructed.** The master plan also addressed the need to upgrade this facility into a national level teaching hospital.

Construction work at the site commenced February, 2005. When commissioned, the new **400-bed multi-speciality tertiary-care JDWNR Hospital** covering a total built-up area of 310,000.00 sqft will be the only hospital in Bhutan equipped with the most modern **MRI, Linear Accelerator, CT-Scanner, Gamma Camera, Fluoroscope** and other high-end diagnostic and treatment tools.

**RGOB norms require that all buildings reflect the vernacular architectural style of the region.** Extensive design consultations were carried out with the Traditional Architect of RGOB to ensure that all necessary traditional **architectural features were incorporated into the design of the hospital.**

The project is being funded on grant provided by the Government of India. The Project was completed in December 2008.







# Regional Referral Hospital, Mongar, Bhutan

## SITE PLAN



Encompassing a total land area of **44.00 acres**, RRH Mongar serves as the principal referral center for the entire eastern region of Bhutan. The **existing 100-bed hospital building** is no longer fit to serve as a healthcare facility of any standard. Taking cognizance of the urgent need for a modern healthcare facility in the region, the **RGOB floated an international design competition in 2000**, to identify and appoint a suitable design firm for the design of the new hospital building. After a rigorous selection process, **AHEL's design team was appointed as hospital design consultants for the project.**



Within a master plan framework covering the entire **44.00 acres**, the **1st phase of the project envisages the construction of the main hospital building** and the development of the area around the hospital covering about 10.00 acres. The new hospital building with a total built-up area of **180,000.00 sqft** is designed to accommodate **150 in-patient beds**. The project was commissioned in April, 2008. The design of the hospital building **incorporates all the necessary and mandatory traditional architectural features as required by the Royal Government of Bhutan.**







# Neuro-Trauma Unit for National Hospital, Colombo, Sri Lanka

SITE PLAN



This **300-bed super-speciality tertiary-care** facility has been conceived with special focus on **Neuro-Trauma, Neurology and Neuro-Surgery**. The unit is being set up as an extension of the **Accident & Trauma Department of the National Hospital of Sri Lanka (NHSL)**. The project is funded through a US \$ 4.89 million loan provided to the Sri Lankan Government by the Saudi Fund for Development. This **175,000.00 sqft** building accommodates 6 (six) ultra-modern **Operation Theaters (3 for Neuro-Trauma & 3 for Neuro-Surgery)**, 33 (thirty-three) **Neuro-Surgery ICU beds**, 33 (thirty-three) **Neuro-Trauma ICU beds**, 43 (forty three) **HDU beds**, 37 (thirty-seven) **Spinal Ward beds**, 53 (fifty-three) **Head Injury beds** and 46 (forty-six) **Neuro-Surgery beds**. A **roof-top helipad** is provided to enable air-ambulance service.



**AHEL's design team was appointed as hospital design consultants through a competitive international selection process.** The project was completed by the end of 2008.





## 200 Bed Al-kafeel Specialised Hospital, Holy Attaba Abbasiah, Karbala, Iraq

SITE PLAN



Al-Kafeel hospital at Karbala is a **200 Bed Multi-speciality hospital**, managed by the board from Holy Attaba Abbasiah, Karbala. This hospital is planned in an **area of 25,000sqm.** and spanning across **five floors**. This hospital is well equipped with the state of the art Diagnostic facility both high end and low end well connected to the OPD in the ground floor. The facility has an impressive entrance lobby leading to the central atrium which is well lit with natural light and gives the patient and attendant a pleasant experience.



The shape of the hospital has been evolved based on the site profile and as a design, we were successful segregating inpatient facility with treatment facility. Operation theatre complex has been planned in one wing in second and third floor with ICU and Daycare beds in the first floor. This enables the hospital management to segregate the public movement from controlled treatment areas.

The entire hospital shall be centrally air conditioned and equipped with other building services like fire detection and protection, nurse call system, PA system surveillance. Hospital is self sufficient with its own laundry, CSSD and kitchen and centralised medical system.

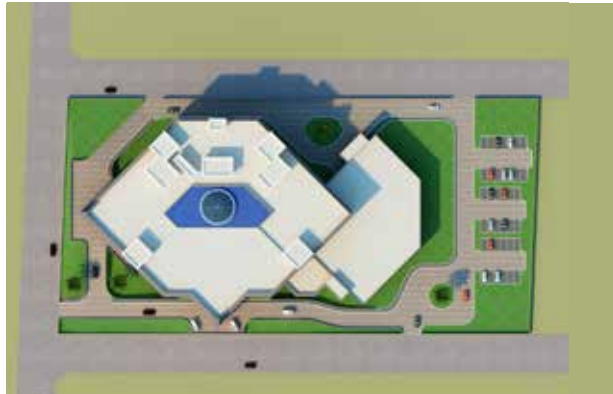






# 200 Bed Al-kafeel Specialised Hospital, Holy Attaba Abbasiah, Babylon, Iraq

## SITE PLAN



This is a **135 bed Multi Specialty Hospital** with focus on **Orthopedics, Emergency and Pain Clinic** among others. It is planned with state of art Diagnostics & Treatment facilities to enable a better treatment by the Hospital Staff to the Patients.

The Hospital building is designed in as TWO BLOCKS-  
1. MAIN HOSPITAL BLOCK  
2. SERVICE BLOCK.

THE MAIN HOSPITAL BLOCK has 3 floors and one Lower Ground with an **area of 23,969.09 Sqm** and total height of 19M. The main block has **Emergency Department, Diagnostic Department and the Out Patient Department, In-patient rooms, Operation theatres and Intensive Care Beds.**

The Emergency Entrance is right in the front facing the Highway towards the east and well highlighted. The Main Entrance is from the North Side of the plot from the Branch Road. The Main Entrance of the Hospital is a very spacious LOBBY which leads into the lively Grand ATRIUM .

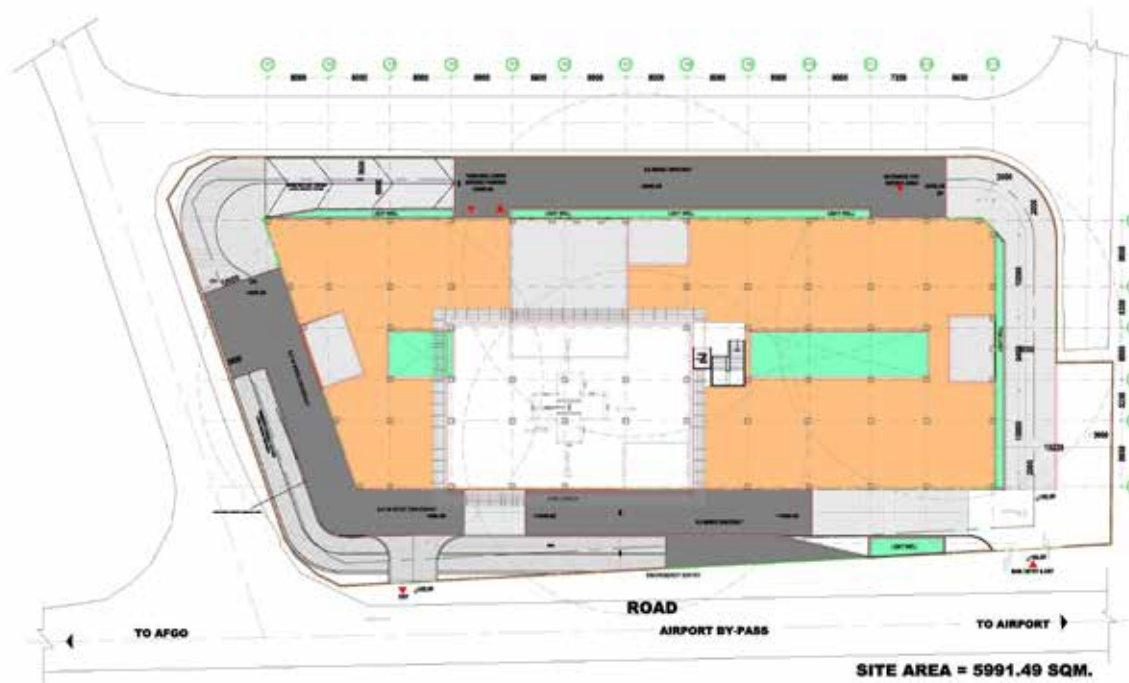






# Airport City Hospital, Accra, Ghana

## SITE PLAN



The Airport City Hospital at Accra is planned as the **first private Tertiary Hospital** in Ghana and fill a huge vacuum in the healthcare market in the country and the sub-region, the market for the high quality, international standard medical services which do not exist in Ghana and the West African sub region.

The Hospital would have **400 beds and spread over a Total Built up Area of approximately 5,70,000 Sq. Ft.** It will also offer optimum relationship between and within the departments for economy of physical stress to the patients and hospital staff. The simple internal circulation with various functional zones meeting around central core.

The Hospital would be equipped with **state-of – the-art diagnostic and clinical facilities** to provide best in class treatment. The building will comprise a modern and esthetically planned synthesis of functions and services.

The proposed Hospital would accommodate **120 Outpatient consultation rooms, 12 OTS and 112 ICU Beds and 220 In-patient Beds which caters to Single Deluxe, Twin Sharing, Suites and Presidential Suites.**

The entire hospital shall be centrally air conditioned and equipped with other building services like fire detection and protection, nurse call system, PA system surveillance. Hospital is self-sufficient with its own laundry, CSSD and kitchen and centralized medical system.





AIRPORT CITY HOSPITAL









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