

MANIKGANJ MEDICAL COLLEGE HOSPITAL, MANIKGANJ



Submitted by

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Abstract

Bangladesh at present is one of the major developing countries of the world that has been making significant socio-economic developments in recent years. Despite its success in improving numerous significant healthcare indicators, the health sector of the country is yet to reach its full potential. Bangladesh, being one of the lowest ranked countries in terms of health expenditure, requires reinforcement in healthcare infrastructure. As a part of ongoing proliferation in this sector public medical colleges, medical university, private medical colleges, private clinics, private hospitals, district hospital, rural health centers, and community clinics are being established. The Manikganj Medical College Hospital, is one of the latest medical institutes to be commissioned by the Ministry of Health and Welfare of Bangladesh to be erected on an undeveloped piece of land at Joyra, Manikganj. The aim of this paper is to propose a possible solution for this project.

CHAPTER 1: BACKGROUND OF PROJECT

In this chapter a brief of the project is given along with a general information on site, and surroundings. A rudimentary program obtained for the type of the project is also presented, along with formal introduction to the project, and, its aims and objectives.

1.1 Introduction

Bangladesh currently has the 46th largest economy, and, is considered as one of the next eleven emerging markets, according to the World Economic Outlook Database of 2016. It is a remarkable progress in the short history of this country. Considering the country's huge population, it has been a steep slope to climb on, but the country has been making ascend in health sector faster than its already growing economy (Hossain, 2016). This progress can be clearly visible in an ongoing countrywide establishment of both government, and privately funded medical colleges, hospitals and healthcare institutes. A notable progress has been made in the pharmaceutical sector through securing affordable medicine, and drugs. This has contributed to achieving decline in mortality rates, and increase in average life expectancy. Despite this continual progress in this sector, the healthcare facilities available to a great portion of the population of this country is not up to the mark. The existing healthcare facilities are still not adequate enough in terms of both size, and accessibility. A great portion of personal income by an average citizen has to be spent on healthcare (Tabassum, & Chowdhury, 2015). One of the few possible solutions to make healthcare more affordable, and accessible to the less privileged part of population is to establish additional medical college hospitals.

A medical school/college is a tertiary educational institution or part of such an institution that awards a professional degree for physicians, and surgeons. In a lot of cases a medical college operate jointly with a hospital, forming a medical college hospital. Establishment of a public medical college hospital can serve the country both by nurturing, and training for its students to become physicians for a nominal cost, and, providing affordable medical care to people. For this reason, the government of Bangladesh have established 22 public medical colleges in the last 27 years, and very recently sanctioned two new medical college hospitals. The Manikganj Medical College Hospital is one of them (BM&DC, 2016).

1.2 Project Brief

Project Title: Manikganj Medical College Hospital

Project Type: Medical institute

Client: The Ministry of Health and Welfare of Bangladesh

Location: Joyra, Manikganj

Area: 19.8 acre

1.3 Aims and Objectives

The general objective of a medical institute is providing quality medical science education to the students, and thus producing quality physicians. In order to achieve this goal, the medical college had to be designed with cutting-edge medical equipment, and educational facilities. Being the only medical college in the district, this project also aimed to become a role model in its line of work by providing an interactive relationship with its surrounding community.

CHAPTER 2: LITERATURE REVIEW

2.1 History of Medical Education in Bangladesh

The present medical education system in this country was adopted from the West. Founded by the British in 1835, Calcutta Medical College was the first medical college in this region, which was part of the British ruled Indian sub-continent (Amin, 2008, p. 244). The British rulers established a new medical school with the intention of propagate scientific medicine as a part of their colonizing mission in the name of spreading civilization, and also serve their military force with local medical practitioners (Hochmuth, 2006).

The first medical college to be established in present day Bangladesh was Dhaka Medical College in 1946. Not more than a year later, in 1947 the Partition of British India took place, and as a result, divided colonial Bengal into two different countries- West Bengal which remained part of India, and East Pakistan, the present-day Bangladesh. As a result of the partition, some students left Dhaka for Calcutta across the border and vice versa. Rajshahi Medical College was the second to be established in 1956. East Pakistan later became independent Bangladesh after the 1971 liberation war. The first non-government medical college, Bangladesh Medical College, was established in 1986 (Amin, 2008, p. 244).

2.2 Current Status of Health Sector in Bangladesh

Bangladesh's population currently stands a little shy of 161 million, and is the eighth most populous country in the world, according to Population Reference Bureau (2017). According to their Urban Population Demographics (2017), only 23% of the population

live in urban areas of the country. The constitution of the country dictates that it is obligatory for the government of the country to provide basic health services for each one of its citizens. The government developed policies and programs to be implemented through the central control of the Ministry of Health and Family Welfare. Although it is a constitutional right of people to be provided health services from the government, in practice this responsibility has been significantly shared with the private sector.

The health system in this country is termed 'entrepreneurial', which means that access to health services is considered an individual's responsibility depending on their financial ability. It is also pluralistic, as a number of actors perform diverse roles, and functions through a mixed system of medical practices. There are four key actors that define the structure and functioning of the broader health system: Government, the private sector, NGOs and donor agencies (Ahmed, Alam, Anwar, Begum, Haque, Khan, Nababam, & Osman, 2015, p. 25).

2.3 Educational Environment

The curriculum of the medical education system is designed to produce graduates who have adequate knowledge, sufficient problem solving and manipulative skills, and the correct professional attitudes. There is a very unique nature to the educational environment of a medical college institute. It aims at nurturing simultaneously two different orientations in its students: a) task-orientation, where the emphasis is on complex, and diverse scientific tasks and b) social-emotional orientation, where development of providing medical care to people in the need of it is emphasized (Dunne, McAleer, & Roff, 2006). Medical education is also very expensive, to the point that any academic failure is wasteful both to the society and to the individual

themselves. Because of all these reasons, it has to be ensured that the environment is as conducive as possible to learn, and thus reducing the risk of academic underachievement (Bakhshialiabad, Bakhshi, & Hassanshahi, 2015).

A very notable aspect of the medical education system is the increased stress medical students go through. Lack of systems to alleviate this stress is a significant problem that many medical students acknowledge (Mohsena, Haque, 2016). In fact, this is an issue that is prevalent in most medical colleges worldwide. There is also an impression in medical students that the teachers, despite being knowledgeable, and well-prepared for their classes, can be too authoritarian, and strict at times (Bakhshialiabad et al, 2015). This makes for more stress in students, and hence the demand for a stress-free atmosphere for learning appears (Jishnu, Gilhotra, Mishra, 2011). The situation is all the same in Bangladeshi as study revealed that Bangladeshi medical students suffer from stress too (Eva, Islam, Mosaddek, Rahman, Rozario, & Iftekhar, 2015). To address these issues, non-threatening environment, good social, and academic support, pleasant accommodation, extra-curricular activities are suggested by previous studies (Nahar, Talukder, Khan, Mohammad, Nargis, 2012).

CHAPTER 3: SITE, AND CONTEXT ANALYSIS

3.1 Background

The land, allocated by the Ministry of Health and Welfare of Bangladesh, was situated at Joyra, Manikganj. It was only 2km northward from Mankiganj bus stand. With this moderate distance from the busy traffic of Dhaka-Aricha highway, and Manikganj town, the site sat surrounded by privately owned lands. It still remained an undeveloped area to some extent, but since the city of Manikganj was expanding northward, it was predicted to change soon upon the completion of the project.



Figure 1: Location of the site with nearby landmarks (Source: Author, original satellite image extracted with Google Earth)

3.2 Present Condition of the Site, and Surrounding

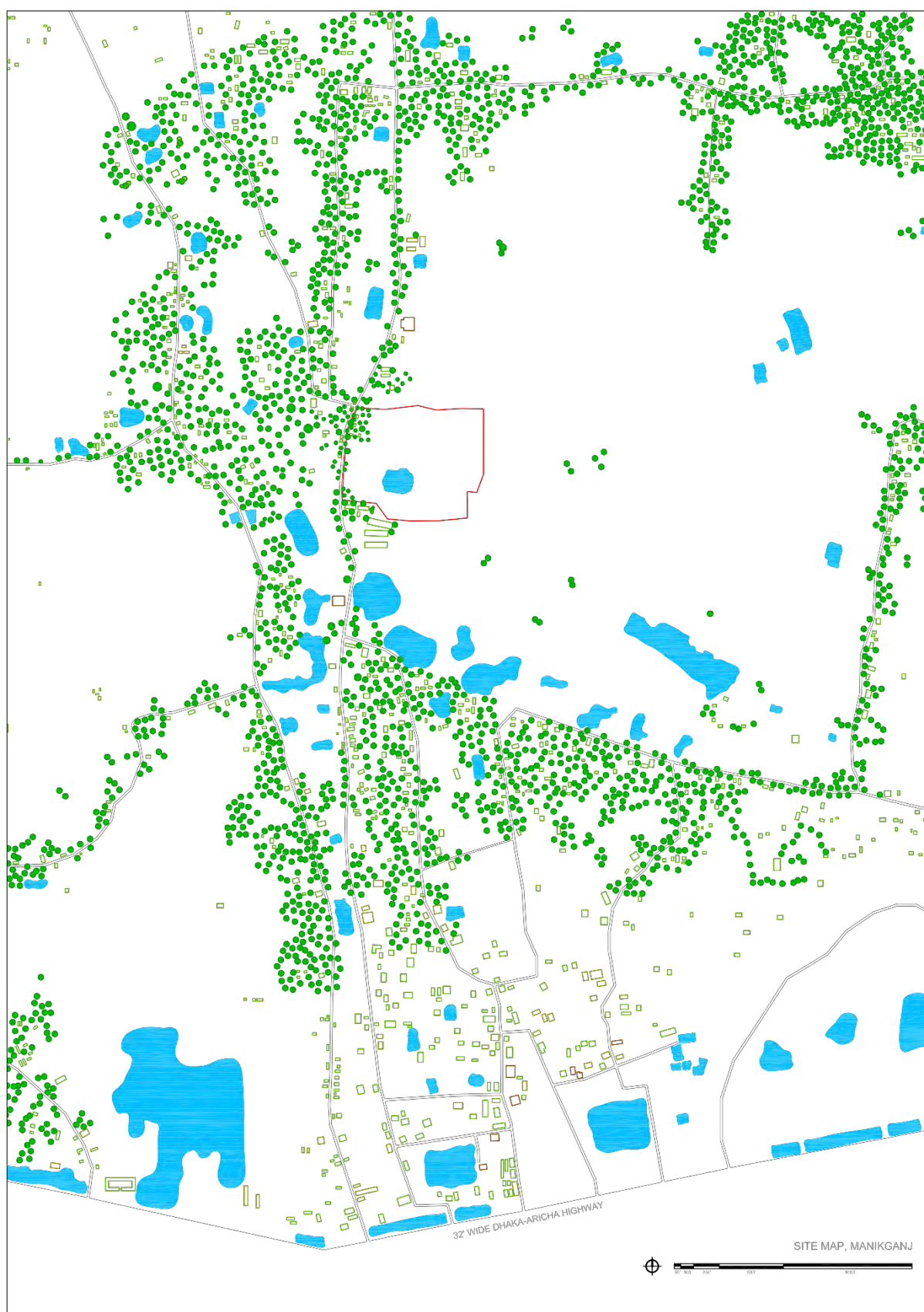


Figure 2: Map of Joyra, Manikganj (Source: Author)

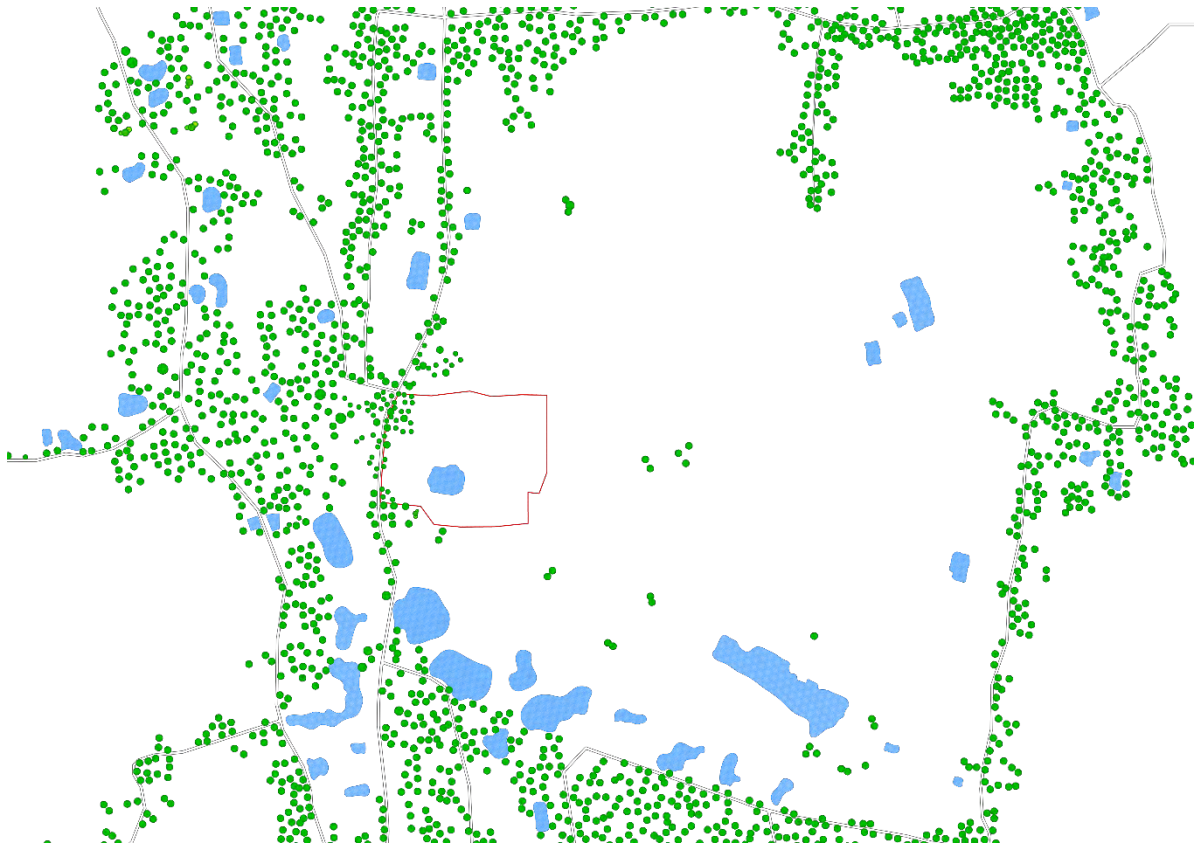


Figure 3: Vegetation, and waterbodies around the site (Source: Author)



Figure 4: Waterbody in the center of the site (Source: Author)

The site was about 19.8 acre in size. Not all of it had been public property initially. Once the project was commissioned, some of the surrounding private lands were acquired by government to form it up to its current size. The whole project consisted of an academic campus for the medical college, a general hospital building, and residential facilities for students, faculties, and the staffs. The construction process of the residential facilities had already started to provide accommodation for the already enrolled students of Manikganj Medical College. However, design for the hospital, and the academic campus was still under process, and once approved, the construction process was to be supervised by a different project team.



Figure 5: Shah Khalilur Rahman Road, the road adjacent to the site (Source: Author)

The road adjacent to the site was relatively narrow- 16.5 feet in width with 2 feet wide footpath on both sides of the road. A road this wide was determined to be not sufficient enough to support the traffic the medical college hospital would generate once it

became fully operational. This was an issue that played an important role in the design process of the project. It was also fairly predictable that the area the site was situated in would become developed over the course of a decade or so, changing the whole dynamic of the relationship between the project, and its surrounding communities. Nonetheless, there was an extensive network of pedestrian paths used by the local people both along, and additional to the existing vehicular roads. These pedestrian path pattern could be used to predict the future possible roads that were likely to be constructed as the Manikganj city kept growing.

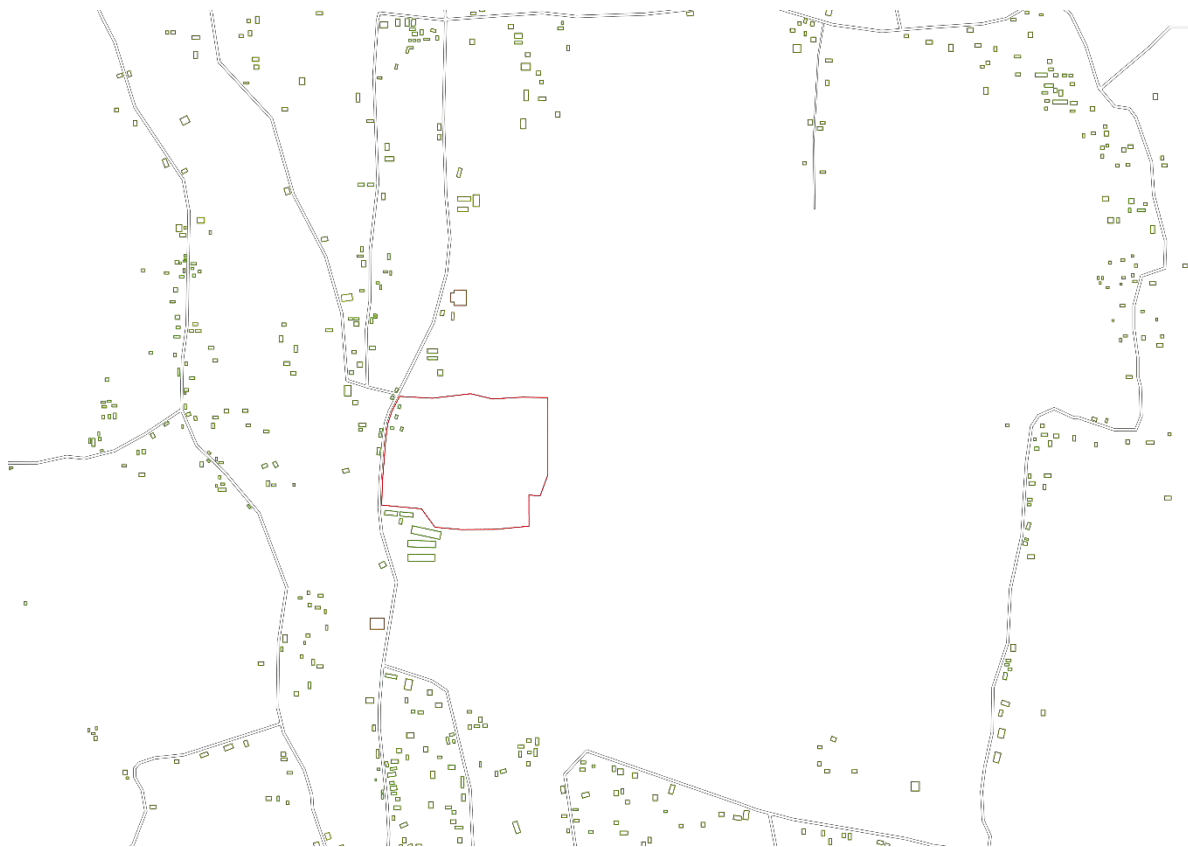


Figure 6: Existing built form around the site (Source: Author)

The site topography was slightly undulated at the time it was commissioned, with a manmade ditch turned into water-body slightly southwest from the dead center of the site. There were some ditches around the site that filled up with water around, and

throughout the rainy season. These were the only remaining mark of the low-lying lands around the project site that in the past used to remain under water for about a month every year. After the site was selected for this project, it was turned into a landfill to achieve a higher elevation. However, it was still about 8 feet below the road's surface.



Figure 7: Pedestrian path around the site (Source: Author)

3.3 Climatic Condition

Bangladesh is a country with tropical climate. Similar to most of the central parts of the country, the district of Manikganj goes through a mild winter from November to February, and a hot, humid summer from March to June. The average annual temperature is 27.4°C. It reaches its peak in midsummer months May-June, when the

monthly average high temperature rises to 34°C- 35°C, resulting in scorching heat. January is the coldest month of the year with the monthly average low temperature dropping to 11°C. It is also the driest month of the year with almost no rainfall. By late summer of August, the wettest month of the year, the average precipitation rises to 337mm.

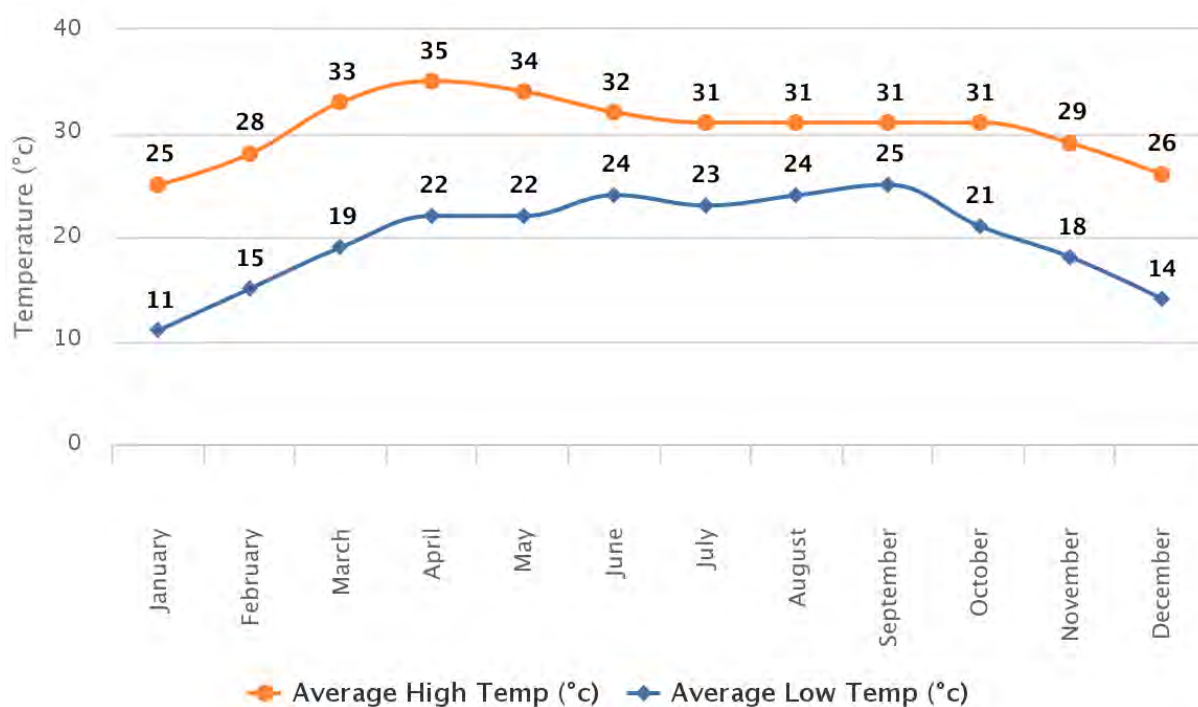


Figure 8: Average temperature (°C) throughout the year for Manikganj. (Source: World Weather Online)

During the winter months, sun remains at a comparatively low altitude which offers pleasant winter daylights coming from all directions. During hot summer days, however, this direct daylight is undesirable. In this season, sun's rays usually come from the east, south, and west direction. General wind direction varies from southwest to south in the summer and northeast to north in winter. Breeze during summer, particularly in the humid season (June-September) is very pleasant.

3.4 SWOT Analysis

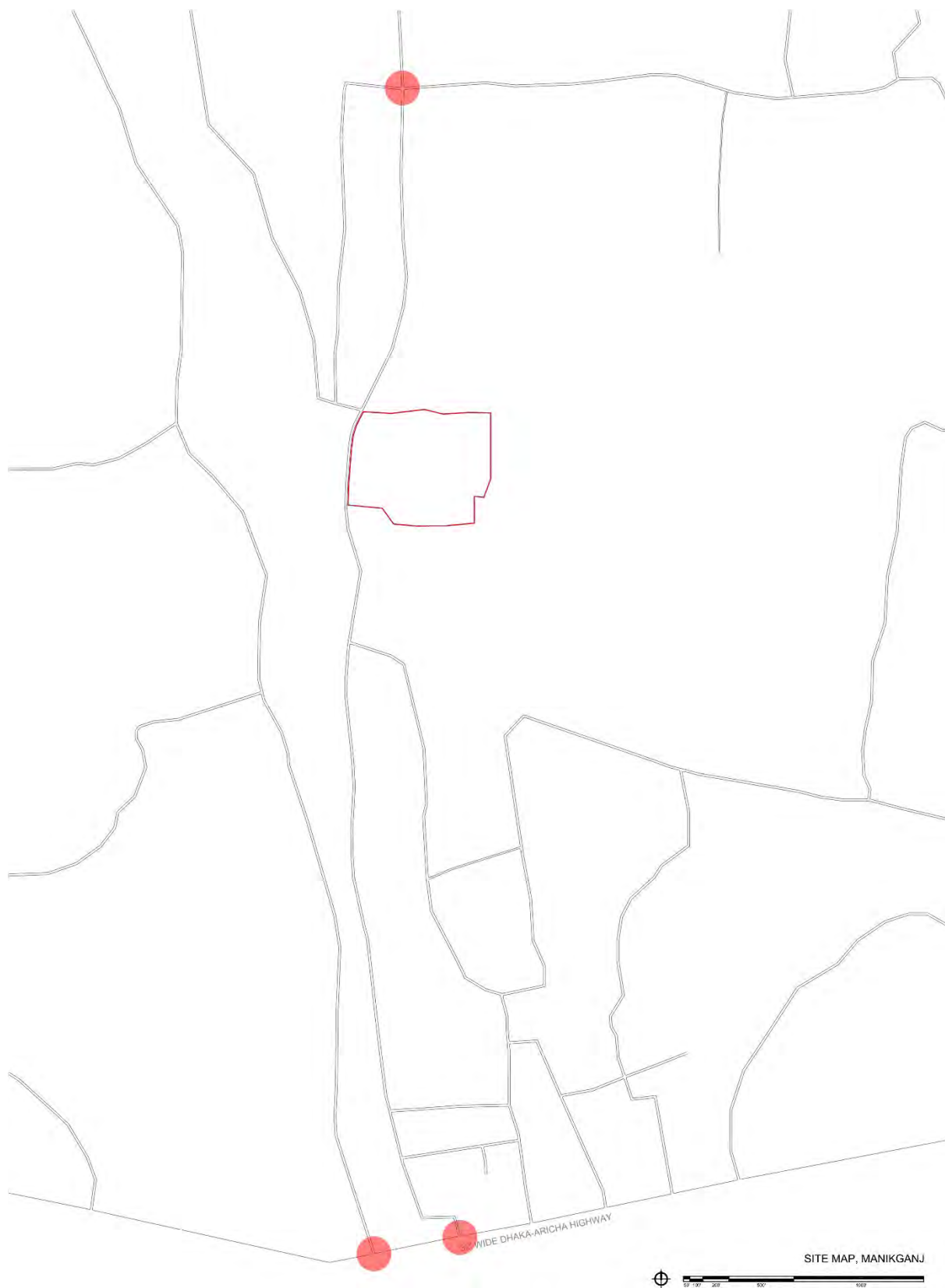


Figure 9: Nodes nearby site (Source: Author)

Strength:

- The entire western border of the site was adjacent to the road.
- It was only 2.1 km northward from the Manikganj bus stand that was intersected by the Dhaka-Aricha highway.

Weakness:

- The adjacent road was very narrow, and might face problem sustaining the traffic the hospital would generate once it became operational.

Opportunity:

- The surrounding lands were mostly used for agricultural purpose. Therefore, if any necessity arises, the site could be further extended in all three directions except west.
- The establishment of the hospital could pave the way for retail shops, and various other commercial buildings in the surrounding area, opening up new business opportunity for local population.

Threat:

- Although the site remained at a distance from heavy traffic, being so near the highway, and in the path of future city expansion, it could soon become part of an expanded urban area. In that case the traffic flow of a project this big was likely to be disrupted by the city traffic.

CHAPTER 4: PROGRAM ANALYSIS

A medical college hospital is divided into three major sections. They are:

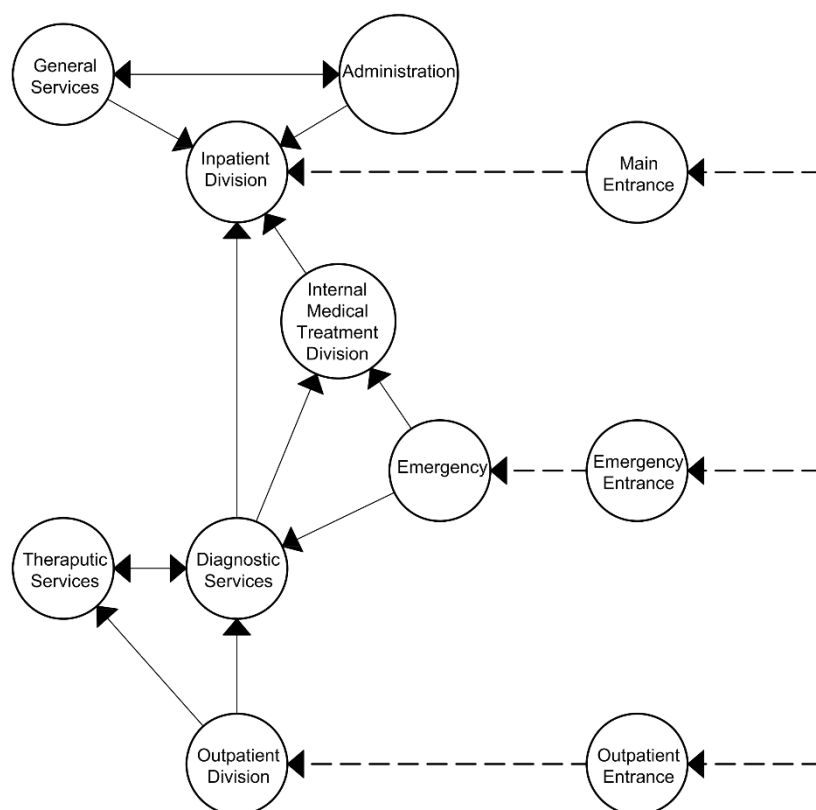
- Hospital
- Academic campus with recreational facilities for students
- Residential facility for staff, and students

4.1 Hospital Functions

The proposed hospital for this project would be a 250-bed capacity hospital providing general healthcare to people. The major divisions of such type of hospitals are:

<i>No.</i>	<i>Division</i>	<i>Function</i>
1	Administration	Reception, and registration Treasury, and Accounts Staff office Head office Nursing head office
2	Outpatients	Outpatient clinics Pharmacy Emergency reception
3	Diagnostic services	Laboratories Radiology (diagnostic)
4	Therapeutic services	Physical therapy Radiology (therapeutic)
5	Internal medical treatment	Operation theatres Intensive care unit Maternity section Central sterilization department

No.	Division	Function
6	Inpatients	Patient wards Nurses wards Inpatient services
7	General services	Kitchen Laundry Storages Workshops Mechanical services Mortuary Security Parking



While planning, and designing a hospital, it has to be kept in mind that achieving maximum efficiency in circulation, and control is the goal. The departments, and dissimilar activities have to be separated, yet integrated in a way that the flow of function and traffic remains separated, but saves steps for people (Goble, 1972, p. 2).

Figure 10: Functional diagram of a hospital (Source: Author)

4.2 Academic Functions

In this country, a medical college generally consists of 11. The academic activities of 8 of these departments are conducted in academic buildings; they fall under the category of basic science department, and the rests are clinical departments.

- Basic science departments
 - Department of Anatomy
 - Department of Physiology
 - Department of Biochemistry
 - Department of Pharmacology
 - Department of Pathology
 - Department of Microbiology
 - Department of Forensic Medicine
 - Department of Community Medicine
- Clinical departments
 - Department of Obstetrics & Gynecology
 - Department of Orthopedics & Surgery
 - Department of Medicine

Here, the functional, and spatial requirements of those 8 basic science departments are presented in detail. These programs are generated on the basis of the space requirement for a medical college with annually 50 student intake capability according to internationally accepted standard.

4.2.1 Lecture theaters

- 4x 2500 sft Gallery lecture theaters for 4x 60 students

4.2.2 Department of Anatomy

- Lecture theater - As per item **4.2.1**
- Dissection hall - (2000 sft, 50 students)
 - Well lit, well ventilated with exhaust fans (preferably centrally air-conditioned)
 - Ante-room for students with lockers & 10x wash basins
 - Embalming room (150 sft)
 - Storage space for 3x storage tanks (30 sft & 2x 20 sft)
 - Cold storage room (200 sft) with space for 10-12 dead bodies
- Histology laboratory - (1600 sft, 50 students)
 - Work benches fitted with water taps, sinks, and cupboards for microscope storage and electric connection points for 50 students
 - Preparation room (200 sft) for technicians and storage of equipment
- Museum - (1000 sft)
 - 2x Attached rooms (2x160 sft) for the preparation of models/ specimens
- Class room- (350 sft)
- Department office zone - (1200 sft)
 - Professor & head of the department (200 sft)
 - 2x Associate professor (2x160 sft)
 - Assistant professor / lecturers (3 persons) (220 sft)
 - Tutor / demonstrators (160 sft)
 - Clerical room (130 sft)
 - Accommodation for non-teaching staff (130 sft)

4.2.3 Department of Physiology

- Lecture theater - As per item **4.2.1**
- Hematology Laboratory (1600 sft, 50 students)
 - Continuous working tables.
 - Stainless steel wash basin with every seat
 - Drawer, cupboard, electric point, and fire/steam proof top including provisions of light sources on each table
 - Preparation room (150 sft)
- Class room- (350 sft)
- Department office zone - (1200 sft)
 - Professor & head of the department (200 sft)
 - 2x Associate professor (2x160 sft)
 - Assistant professor / lecturers (3 persons) (220 sft)
 - Tutor / demonstrators (160 sft)
 - Clerical room (130 sft)
 - Accommodation for non-teaching staff (130 sft)
 - Toilets (as needed)

4.2.4 Department of Biochemistry

- Lecture theater - As per item **4.2.1**
- Practical laboratory - (1600 sft, 50 students)
 - Work benches fitted with shelves, cupboards, water taps, sinks, electric, and gas connections
 - 2x ante rooms (2x150 sft) for technicians
 - Storage for balance, and distillation apparatus
 - Preparation room (200 sft) for technicians and storage of equipment
- Class room- (350 sft)
- Department office zone - (1200 sft)
 - Professor & head of the department (200 sft)
 - 2x Associate professor (2x160 sft)
 - Assistant professor / lecturers (3 persons) (220 sft)
 - Tutor / demonstrators (160 sft)
 - Clerical room (130 sft)
 - Accommodation for non-teaching staff (130 sft)
 - Toilets (as needed)

4.2.5 Department of Pharmacology

- Lecture theater - As per item **4.2.1**
- Pharmacology laboratory - (1600 sft, 50 students)
 - Ante room (150 sft) for technicians, storage of equipment
 - Preparation room (200 sft) for technicians and storage of equipment
- Museum - (1000 sft)
- Class room- (350 sft)
- Department office zone - (1200 sft)
 - Professor & head of the department (200 sft)
 - 2x Associate professor (2x160 sft)
 - Assistant professor / lecturers (3 persons) (220 sft)
 - Tutor / demonstrators (160 sft)
 - Clerical room (130 sft)
 - Accommodation for non-teaching staff (130 sft)
 - Toilets (as needed)

4.2.6 Department of Pathology

- Lecture theater - As per item **4.2.1**
- Pathology laboratory (1600 sft)
 - Balance room (150 sft)
 - Store room (150 sft)
 - Special room for high speed centrifuge (150 sft)
 - Wash room (150 sft)
- Museum - (1000 sft)
 - Display of specimen, charts, models
- Class room- (350 sft)
- Department office zone - (1200 sft)
 - Professor & head of the department (200 sft)
 - 2x Associate professor (2x160 sft)
 - Assistant professor / lecturers (3 persons) (220 sft)
 - Tutor / demonstrators (160 sft)
 - Clerical room (130 sft)
 - Accommodation for non-teaching staff (130 sft)
- Blood bank (1200 sft)
 - Registration room, and waiting room
 - Medical examination, and donor selection room
 - Blood collection room
 - Laboratory for blood group serology and testing transmissible diseases
 - Sterilization, and washing room

4.2.7 Department of Microbiology

- Lecture theater - As per item **4.2.1**
- Microbiology laboratory - (1600 sft, 60 students)
 - Work benches fitted with shelves, cupboards, water taps, sinks, electric, and gas connections
 - 2x ante rooms (2x150 sft) for technicians
 - Preparation room (200 sft) for technicians and storage of equipment
 - Bacteriology, Serology, Virology, Parasitology, Mycology, Tuberculosis, Immunology laboratory
 - Media preparation and storage (250 sft)
 - Autoclaving (150 sft)
 - Wash room (150 sft)
- Museum - (1000 sft)
 - ante room (150 sft) for technicians, storage of equipment
- Class room- (350 sft)
- Department office zone - (1200 sft)
 - Professor & head of the department (200 sft)
 - 2x Associate professor (2x160 sft)
 - Assistant professor / lecturers (3 persons) (220 sft)
 - Tutor / demonstrators (160 sft)
 - Clerical room (130 sft)
 - Accommodation for non-teaching staff (130 sft)
 - Toilets (as needed)

4.2.8 Department of Forensic Medicine

- Lecture theater - As per item **4.2.1**
- Museum - (1000 sft)
- Laboratory - (1600 sft)
 - Examination of specimens, tests, and forensic histopathology, serology, anthropology, and toxicology.
- Class room- (350 sft)
- Department office zone - (1200 sft)
 - Professor & head of the department (200 sft)
 - 2x Associate professor (2x160 sft)
 - Assistant professor / lecturers (3 persons) (220 sft)
 - Tutor / demonstrators (160 sft)
 - Clerical room (130 sft)
 - Accommodation for non-teaching staff (130 sft)
 - Toilets (as needed)

4.2.9 Department of Community Medicine

- Lecture theater - As per item **4.2.1**
- Laboratory - (1600 sft)
- Museum - (1000 sft)
 - Display of models, charts, specimens, and other material concerning communicable diseases, community health, family welfare planning, biostatics, national health programs, environmental sanitation etc
- Class room- (350 sft)
- Department office zone - (1200 sft)
 - Professor & head of the department (200 sft)
 - 2x Associate professor (2x160 sft)
 - Assistant professor / lecturers (3 persons) (220 sft)
 - Tutor / demonstrators (160 sft)
 - Clerical room (130 sft)
 - Accommodation for non-teaching staff (130 sft)
 - Toilets (as needed)

4.3 Central Library

There shall a central library (17,500 ft²) serving a total of 200 people with provision for

- Staff reading room for 20 persons
- Rooms for librarian and other staffs
- Journal room
- Room for copying facilities
- Video and Cassette room
- Air-conditioned computer room with internet facility with minimum of 25 nodes

4.4 Supporting Functions

Mosque (3000 ft² for 100 people)

Cafeteria (3000 ft² for 100 people)

Gymnasium (4000 ft²)

Indoor games room (5000 ft²) and playground

Auditorium (3000 ft² for 250 people)

Examination halls (2x3000 ft² for 2x150 students)

4.5 Existing Master-plan

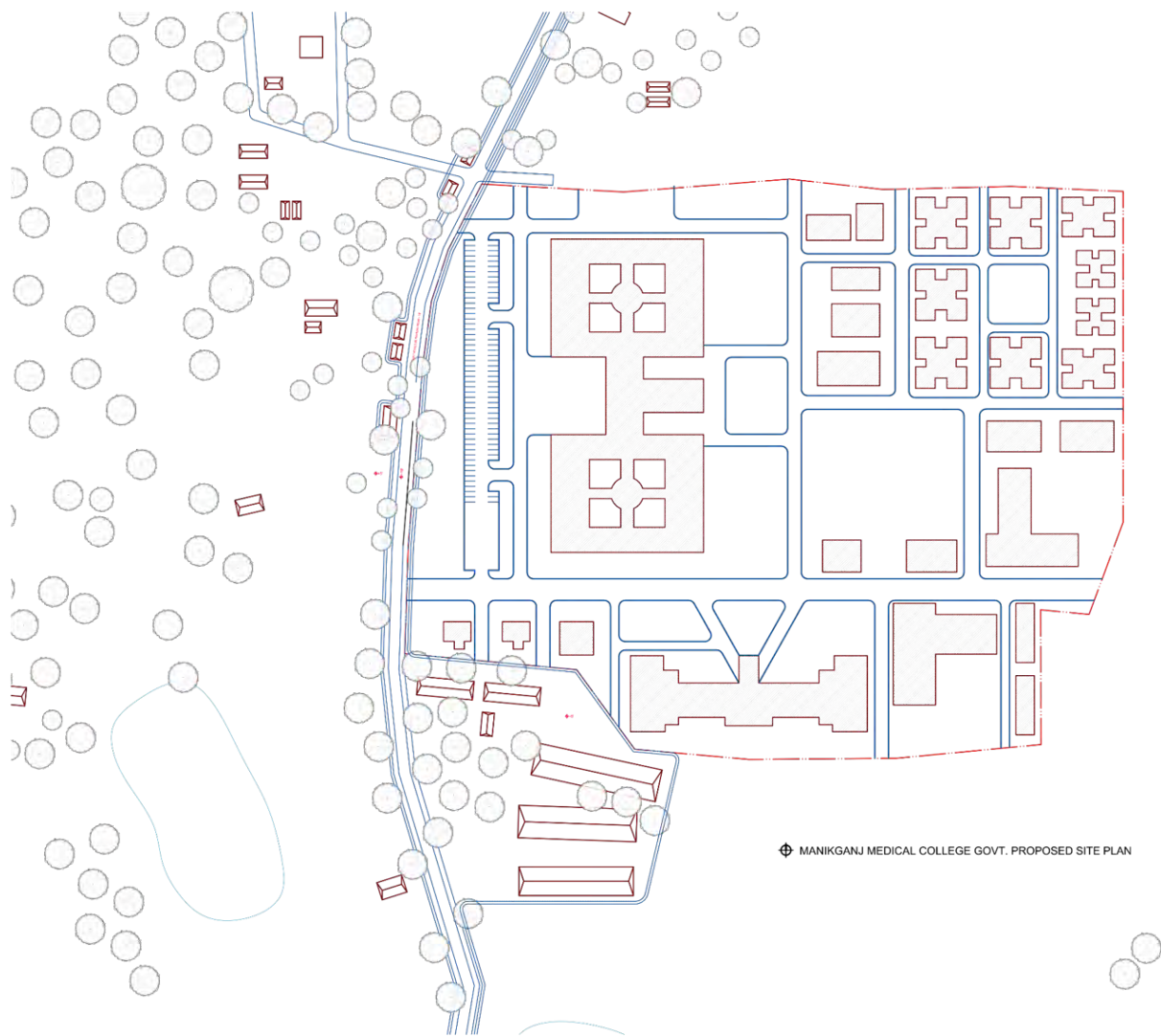


Figure 11: Existing Masterplan (Source: Project architect, prepared by author)

There was a tentative masterplan for the project part of which was under construction. The construction process for the accommodation facility for the students had begun by the time this project was approved for academic exercise. The remaining parts of the project, however, was still in design phase. As a part of academic exercise, the existing masterplan was analyzed, and taken into consideration for this paper in the design process.



Figure 12: Construction process of the residential facilities for students and staffs (Source: Author)

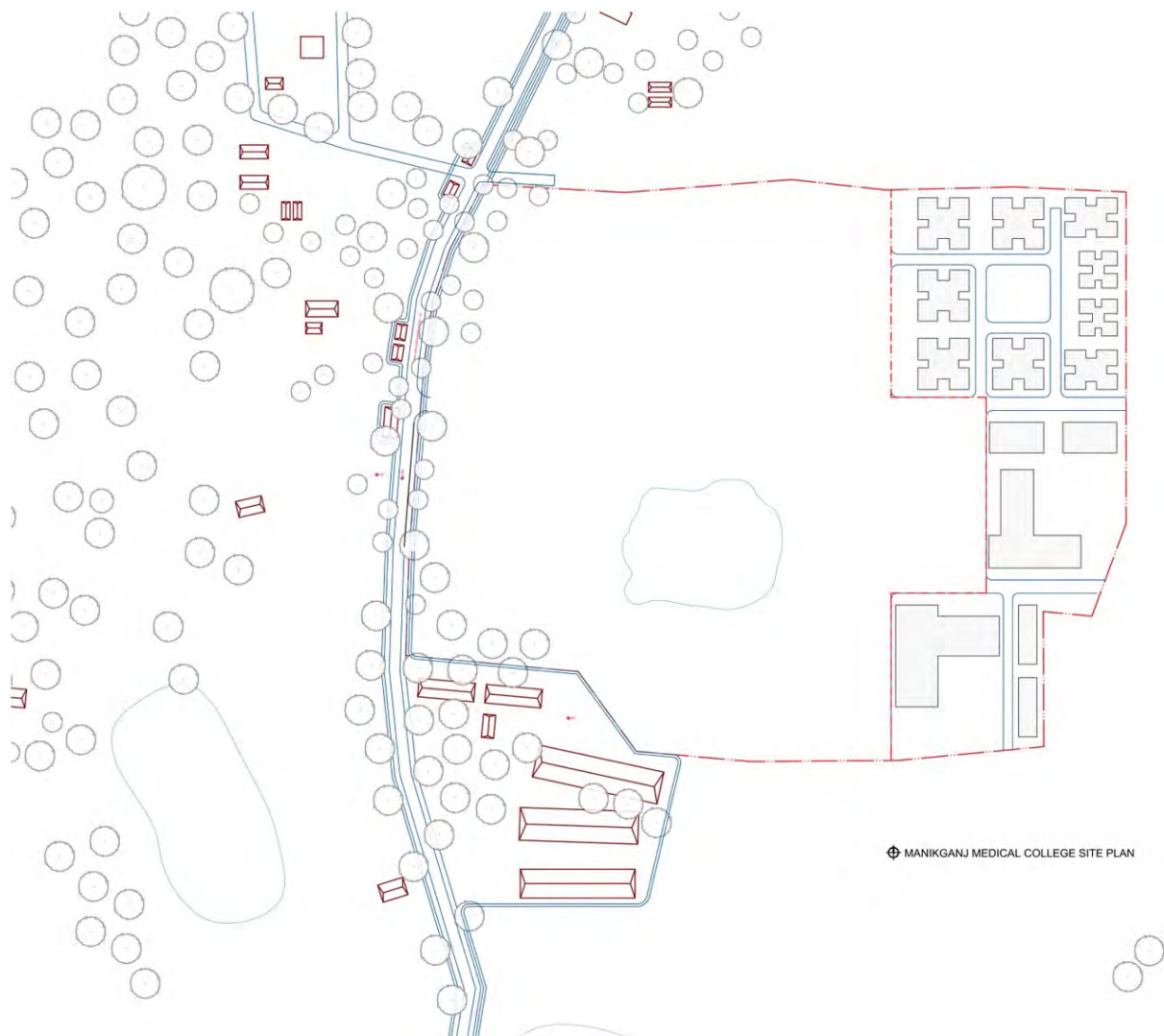


Figure 13: Site available for design (Source: Author)

CHAPTER 5: CASE STUDIES

5.1 Arignar Anna Memorial Cancer Institute, Kanchipuram

This Institute is a referral hospital with almost all the cases being referred from various government secondary, and tertiary care government hospitals, namely the District Hospital, and the General hospital located in and around the state of Tamil Nadu. The institution established in 1969 initially was part of the General Hospital in Kanchipuram, and in 1980 moved to the current independent campus with a capacity of 300 beds located on the outskirts of Kanchipuram town, on the National Highway-45 thus, enabling the patients from various parts of the state to avail the service.



Figure 14: Site plan of Arignar Anna Memorial Cancer Institute (Source: Public work department, Chennai, 2002)



A. Ground floor plan-Outpatient area-diagnostic area-ward area



Figure 15: Floor plan of Arignar Anna Memorial Cancer Institute {Source: Public work department Chennai, 2002}

The plan layout of the institute is horizontal spread type with two-storied and three-storied wards block. It is located on a 13,53,500 m² site with the building occupying 7% of site area. The institute is a horizontal structure with a central corridor spanning across the building from the main entrance, passing through various facilities and terminating in the wards, while the departments are anchored independently on the

circuitous corridor with adequate open space between them. The building with less percentage of site coverage, and connecting department physical profile provides the indoor-outdoor coalition. The functional hierarchy of the outpatient area and diagnostic area are provided in the front while the patient wards with a singular modular plan are located at the rear with a distinct distance between the male and female wards. The operation theater, and administrative sections are located on the first floor followed by additional male, and female wards for post-operative care.

5.2 Weill Cornell Medical College



Figure 16: Weill Cornell Medical College (Source: <https://goo.gl/HiEwDV>)

Weill Cornell Medical College is the biomedical research unit and medical school of Cornell University, a private Ivy League university. The medical college is located at 1300 York Avenue, on the Upper East Side of Manhattan in New York City, along with the Weill Cornell Graduate School of Medical Sciences.

The new Belfer Research Building provides Weill Cornell Medical College with a cutting-edge medical research facility in close proximity to the institution's existing clinical,

research and academic buildings, reinforcing its mission as an urban academic biomedical center and world leader in its field.

An outgrowth of Ennead's 2003 master plan for the campus, the design of the Belfer Research Building is intended to complement the National Healthcare Design Award-winning Weill Greenberg Center, the institution's flagship ambulatory care facility designed by Schliemann and opened in 2007.

A two-story space extends from the Belfer entrance to a landscaped garden that connects the two buildings and creates an internalized campus green for Weill Cornell. Classrooms, conference rooms, lounge and study spaces, and a café- all are connected to the garden.



Figure 17: First floor plan, and second floor plan of WCMC (Source: <https://goo.gl/716oeF>)

A humanistic research environment, the building is designed to facilitate high-impact translational research, providing both state-of-the-art efficiency and optimal quality of life on thirteen floors of laboratories, three floors of academic programs and two floors of research support space. Flexible, transparent, open and easily adaptable spaces are designed to break down research silos and encourage communication and cross-disciplinary collaboration.

Natural light is optimized throughout the building as transparency between the office and the laboratory. The building envelope features a high-performance double-skinned, fritted-glass curtain wall that defines the building's formal identity and maximizes energy efficiency.

CHAPTER 6: DESIGN DEVELOPMENT

6.1 Zoning

The design process was driven by the idea that the outcome of the project should be an academic campus that would build up an interactive relationship, both with the surrounding community, and the students. To achieve that, the location of each of the functions had to be carefully derived. Since the site was very likely to be developed in a decade or so, the future possible developments in the surrounding area had to be taken into account. To determine the possible nature, and pattern of those developments, a study was conducted.

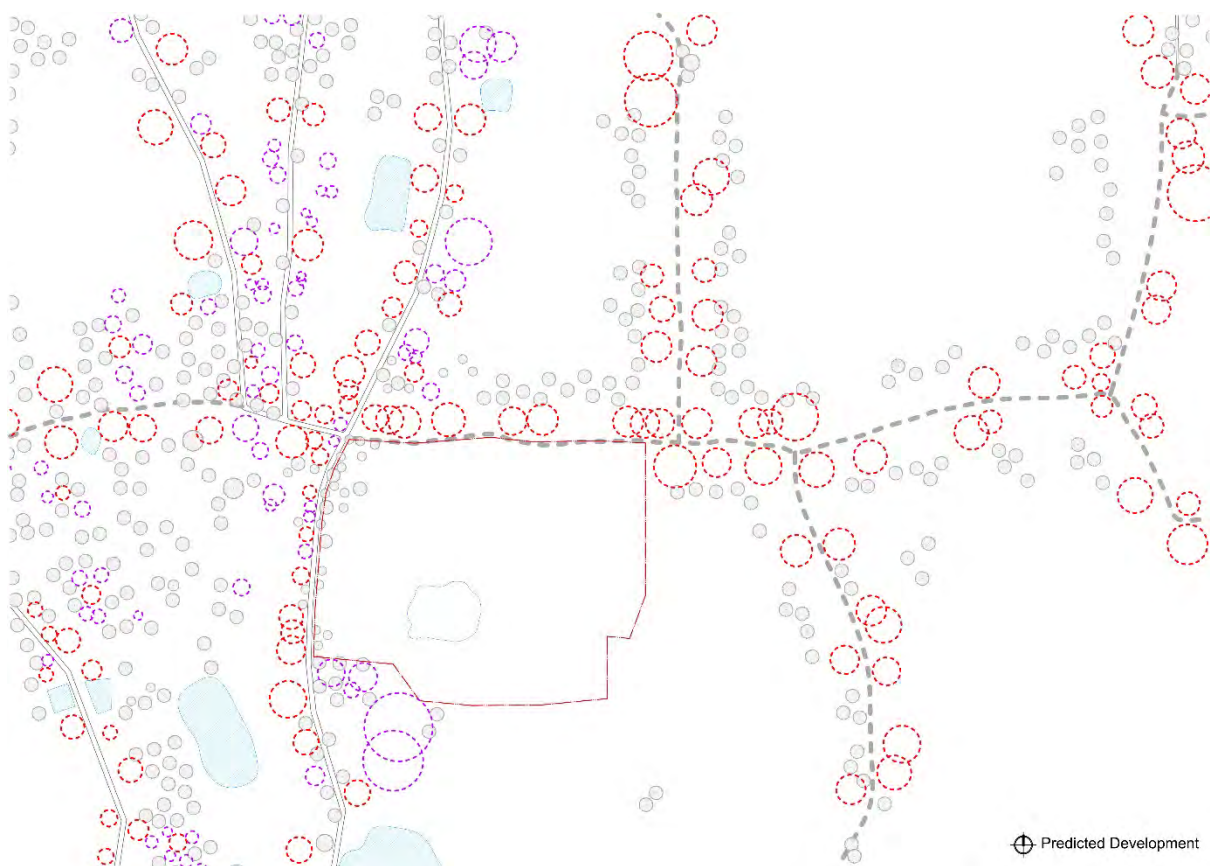


Figure 18: Future possible development pattern (in violet), and roads (dashed), with existing developments (in red) (Source: Author)

Based on that, it was derived that the north-western portion of the site was best suitable for placing public function, i.e. the hospital, and the southern portion of the site was best suitable for placing the academic campus.

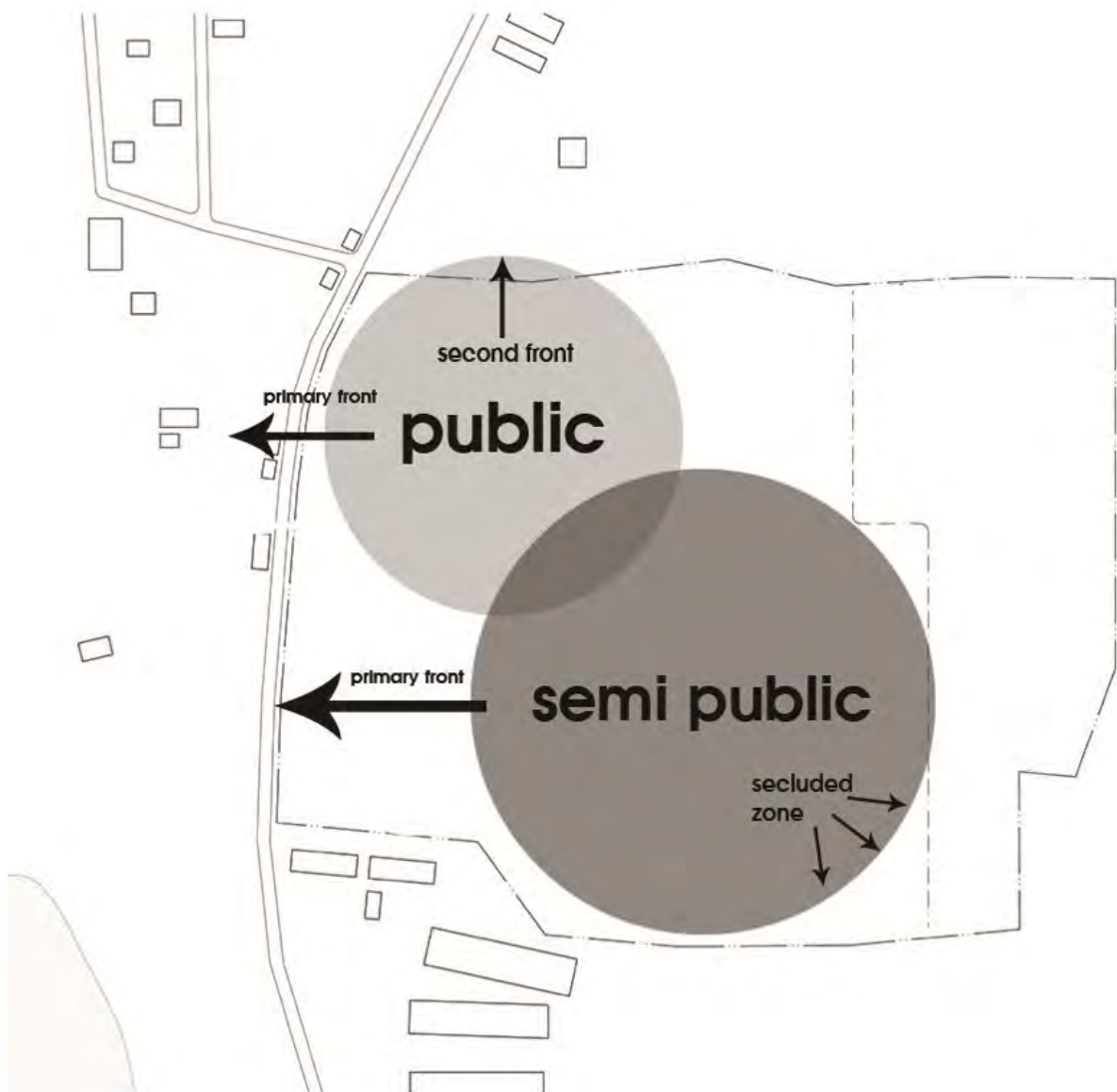


Figure 19: Functional zoning (Source: Author)

6.2 Masterplan

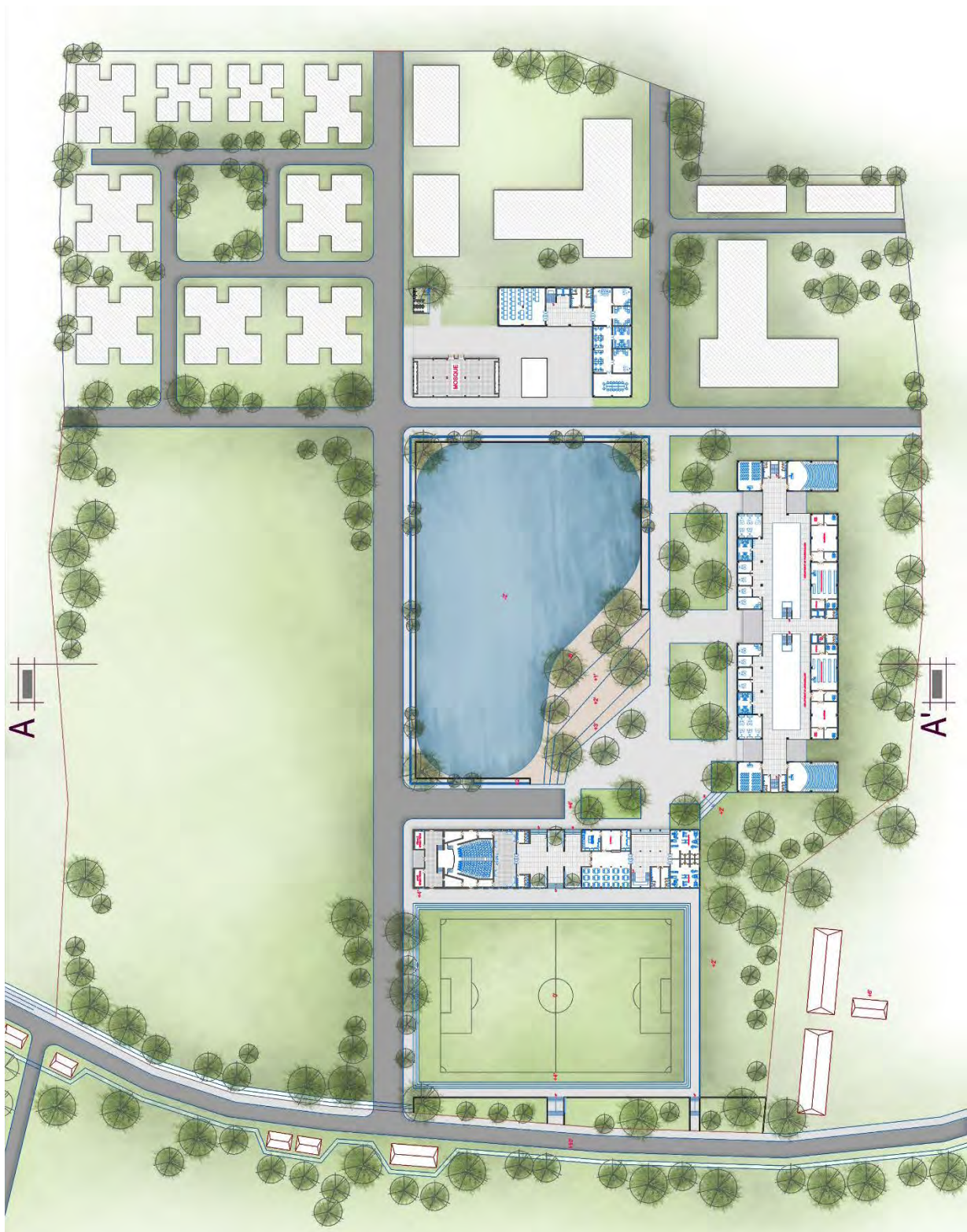


Figure 20: Site masterplan with ground floor plans (Source: Author)

6.3 Architectural Drawings



CHAPTER 7: CONCLUSION

A very noticeable characteristic of the medical college campuses in this country is that they are all cut off from their surrounding environment, and enclosed with boundary walls that prevent any kind of interaction with the surrounding communities. This is the very feature that was tried to avoid in this design by involving the surrounding communities by inviting them in offering playgrounds, park spaces for the future possible city around the site. Taking the possible future developments into account, and designing an academic campus based on that was undoubtedly demanding; the partially constructed part of the complex also proved to be challenging to incorporate in the design process, but in the end it was a great learning experience.

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