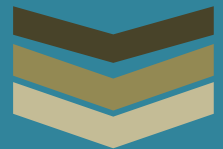


# PROJECT MANAGEMENT CONSULTANCY FOR IMPLEMENTATION OF SMART CITY MISSION PROJECTS FOR MANGALURU CITY

## 37 Bedded Wenlock Hospital (ICU) Unit

## DETAILED PROJECT REPORT - VOLUME I



The purpose of the DPR note is to ideate the elements proposed for the project as mentioned in the title above. It aims to give a basic design idea to all the stakeholders before proceeding for final design and estimates.

### MANGALORE SMART CITY PROJECT

Lalbaug, M.G. Road, Mangalore  
- 575003

1/1/2019

## ISSUE AND REVISION RECORD

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## ABBREVIATIONS

ABD	Area Based Development
ATM	At The Moment" or "Automated Teller Machine
DBFOT	Design Built Finance Operate and Transfer
MCC	Mangaluru City Corporation
MSCL	Mangaluru Smart City Limited
<i>MLCP</i>	<i>Multi-Level Car Park</i>
<i>PPP</i>	<i>Public Private Partnership</i>
<i>Gol</i>	<i>Government of India</i>
<i>GoK</i>	<i>Government of Karnataka</i>
<i>SCP</i>	<i>Smart City Proposal</i>
SPV	Special Purpose Vehicle

## 1. Introduction

Among public institutions, the large buildings and complicated intervening and surrounding areas of hospitals usually tend to be seen by the public as removed from the urban context, as spaces to be feared, which one only accesses in emergencies or out of necessity. However, this psychological perception of their distance and separation can be decreased by today's more hospitable approaches to their content and design. With a growing understanding of the importance of the physical environment for the quality of hospital care and the health and safety of patients and staff, the outdoor spaces of hospitals are beginning to be considered, particularly in scenic and more green areas, as a productive complement to the interior areas which are reserved for patient treatment and have traditionally been prioritized. As a result of this new, holistic approach to medicine which entails alleviating the fears and disorientation of patients that may hinder medical treatment, the hospital has come to be seen today as a necessarily comforting and stress-free environment, created with a broader, patient-oriented sense

This means that the outdoor as well as the indoor spaces of hospitals are understood as crucial to patients' physical, psychological and social recuperation and wellness, appropriately designed active and passive hospital landscapes enhance patients' interaction with nature and so reduce stress, facilitating interaction with others in ways compatible with and complementary to those found in the urban environment.

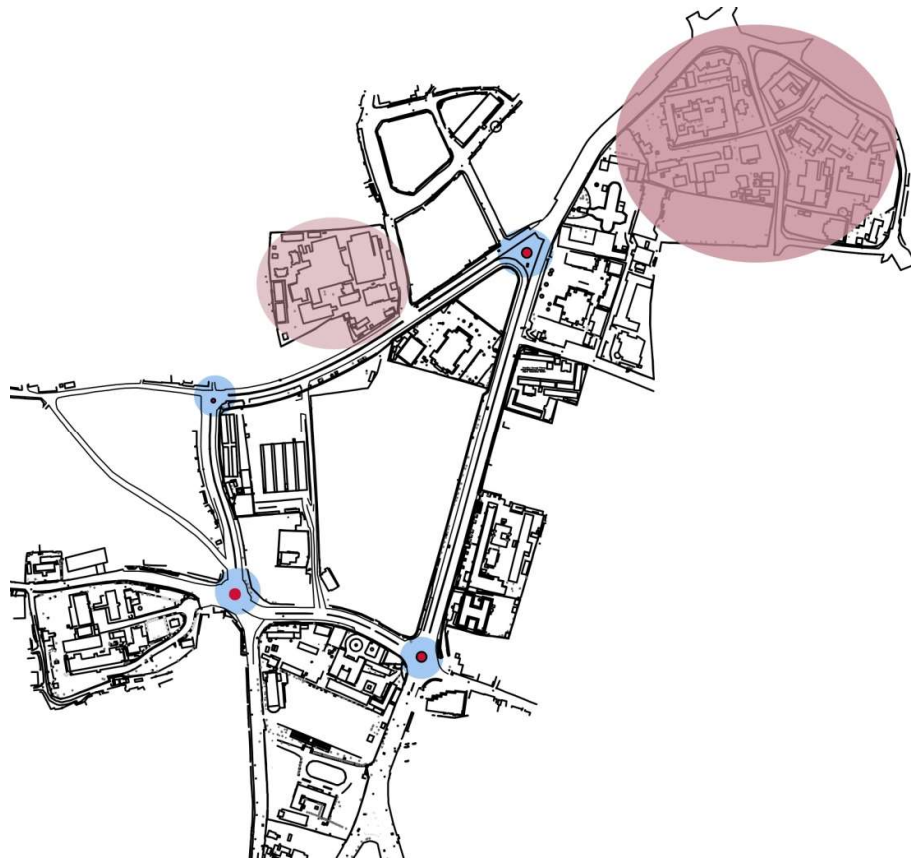
Here we shall with sustainable Landscape interventions improve the outdoor quality and user experience of the Hospital campus.




## 2. Current Scenario

### 2.1 Site Location

Wenlock District Hospital established in 1848, is located in Mangalore District No 8 – Ward No. 86 Attavar village, Mangalore, Dakshin Kannada. The project site is easily accessible from all parts of the city and has excellent connectivity from the existing public transport routes. The site is strategically located within the central business district of Mangaluru and is in close proximity to all the important places such as the Central Market, Railway Station, City Centre Mall and Town Hall. The site is within the Hampankatta - Old Port - Bunder area selected for Area Based Development (ABD) under the Smart City Mission.

**Figure 1: Location Map**



	Wenlock District Hospital
	Lady Goschen Hospital
	Important junctions

## 2.2 Characteristics

### Wenlock District Hospital

Wenlock District hospital has a sprawling campus, with an approximate area of 7 acres which has been primarily split into two by Mangalore Station road.

The site has a combination of old and new structures, with interactive courtyards with green open spaces.

The campus also exhibits undulating levels owing to the basic physical attribute of the city.

There are existing old trees which provide shade.

**Figure 2: Satellite Image of Wenlock District Hospital**



**OBSERVATIONS**

The site is bifurcated by Mangalore Railway Station Road

Campus is sprawling in pieces.

Requires orientation for users.

**LEGEND**

1. ADMINISTRATIVE BLOCK : 102166 SQ.FT.
2. OPD BLOCK : 62957SQ.FT.
3. PHYSIO-ORTHO BLOCK : 26620 SQ.F T.
4. PEDIATRIC CENTRE : 45547SQ.FT.
5. NURSING SCHOOL AND HOSTEL: 55304 SQ.FT.
6. SPECIALITY BLOCK :
7. MRI AND AMBULANCE SHED : 1334 SQ.FT.

## 2.3 Healthcare Overview of ICU

Health care environment is critical. Patients safety and need to prevent infections remain the overriding factor in hospital care.

Ambiance also affects the sick persons path to recovery and their response to medication and advice.

New technology and good design with hygienic conditions of hospital can be very famous with words of mouth. We believe that good design can accelerate the healing process and make staff also, aware of good care & well behavior with patient.

If this is achieved in Government Hospitals then the local government get good blessings of masses.



## 2.4 Site in Context.



**Figure 3: Satellite Image of Wenlock District Hospital**

## 2.4 Proposed brief

Considering the current situation of ICU and present requirements to serve the poor patients, the hospital has requirement of minimum 35-40 beds considering 3 level on emergency basis. Hence the 34 bed ICU & 2 Isolation rooms are proposed in 1<sup>st</sup> floor of upcoming 300 beds Super speciality medicine block. Measuring approximately 900.00 sq.mt

### Amenities in the ICU-

1. ICU – 1 Essential 19 beds.
2. ICU – 2 Step down 8 beds ( 5 bed Dialysis)
3. ICU – 3 Step down – 8 beds
4. Isolation – 2 beds
5. Power back up with UPS
6. Critical necessities like Oxygen , Air and Vacuum
7. 5 bed emergency dialysis with RO water & drainage connection
8. HVAC (Air conditioning) with HEPA filters for 24 x 7 operations.
9. Antistatic Vinyl flooring.
10. Vertical wall panelling for medical Gas & Power outlets
11. Metal false ceiling
12. Providing dirty utility room & clean utility room
13. 3 nurse station with corian finish top
14. Doctor, Nurse change and rest room.



LC.U Site Images

**Figure 3: Existing Site Images of facility**

## 2.5 Proposed Specification

### Specification-

ICU block is designed with considering NABH compliances like 100 % hygiene with proper ventilation and power back up.

### Design Consideration

The layout is designed considering the compliance of NICU with proper isolation between ICU & External corridor, Separate Entry for Nurse and Staff, Dirty Rest Room, Medicine store, Adequate Nurse station and Scrubs.

1. Flooring: Antistatic Vinyl flooring with easily maintain type with 3mm thick multicolour.
2. Lighting: Natural lighting + lux level maintained as per NBC 2016 during non availability of natural light with each bed wise control as patient comfort.
3. Power Back Up: UPS with each unit 6 / 16A Socket – 4 Nos / Bed, 2 Nos for Raw power for Bed adjustment.
4. HVAC: Air conditioning Designed with considering 25 Air exchange / Hour with HEPA Filters at AHU end.
5. Ceiling: Aluminium Metal ceiling with Cliton type system to ease of maintenance and avoid any infection coming in from external molecules and ease of fumigation corridors with Normal Metal ceiling.
6. All beds provided with 1 oxygen, 1 Air, 1 Vacuum Outlet.



Reference Image

**Figure 4: Reference Images showing Vinyl flooring.**

### 3. Design Intend



Figure 5: Reference Images showing Room finishes.

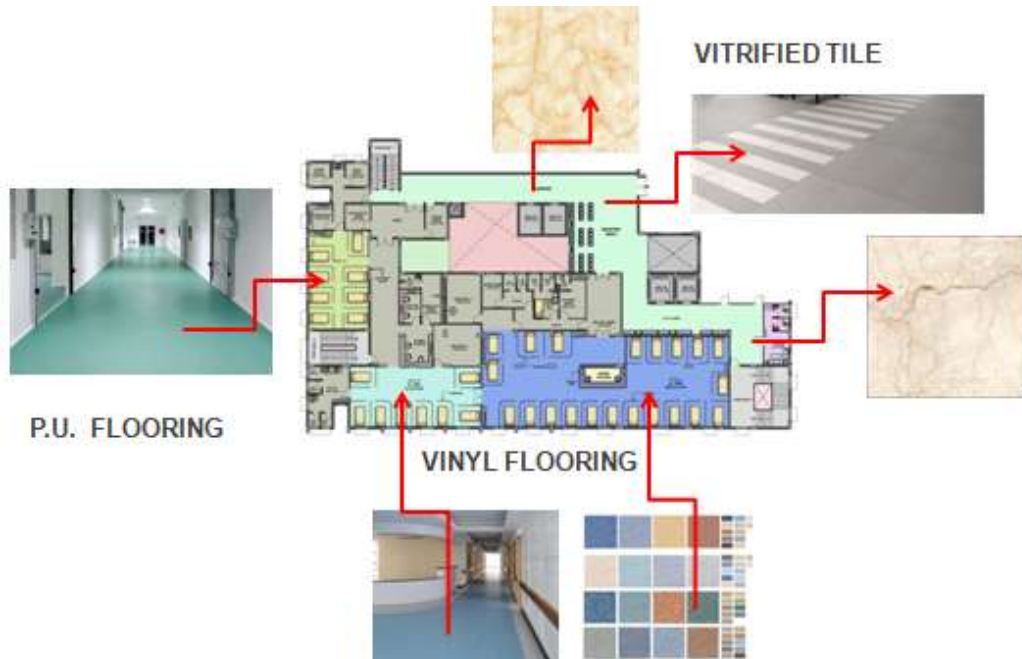


Figure 6: Reference Images showing Floor finishes.

### 3.1 I.C.U 1



**Figure 7: Reference Images showing I.C.U 1 material finishes.**

### 3.2 I.C.U 2



**Figure 8: Reference Images showing I.C.U 2 material finishes.**

### 3.3 I.C.U 3



**Figure9: Reference Images showing I.C.U 3 material finishes.**



**Figure 10: Reference Images showing I.C.U Standard Beds.**

### 3.4 Design of Nurses Station 1



Figure 11: Images showing I.C.U Nurses Station - 1.



Figure 12 : Images showing I.C.U Nurses Station - 2.



Figure 13 : Images showing Isolation Room Interior Theme.

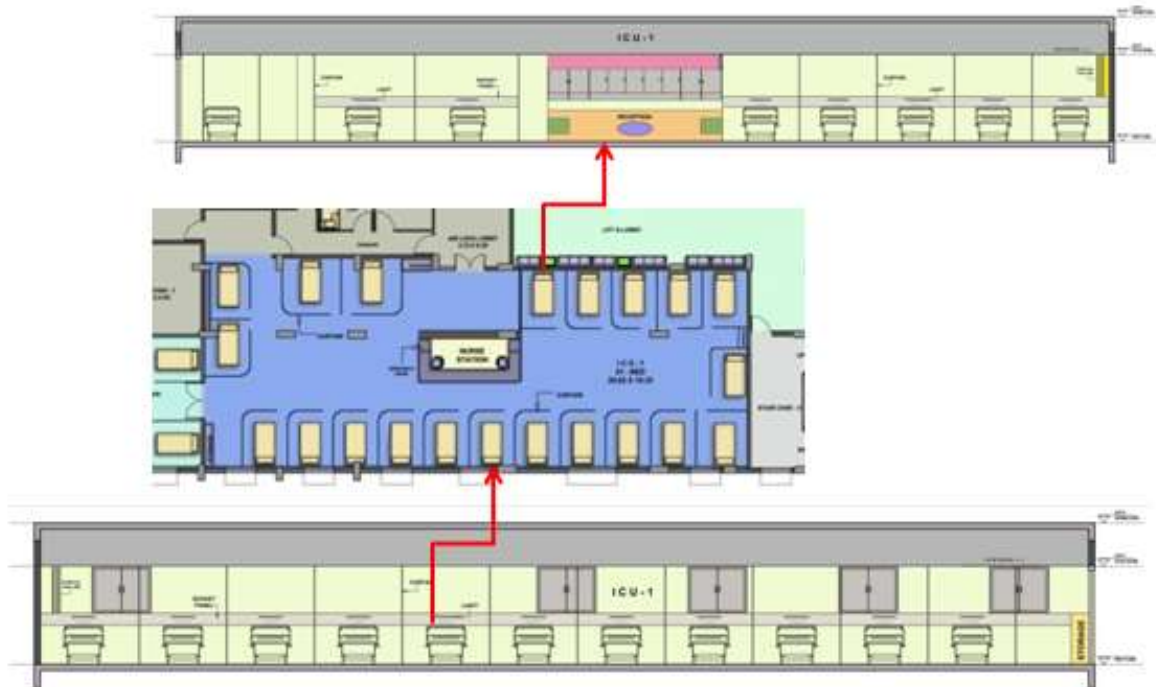


Figure 14 : Images showing I.C.U | Room Interior Theme.



Figure 15 : Images showing I.C.U 2 Room Interior Theme.

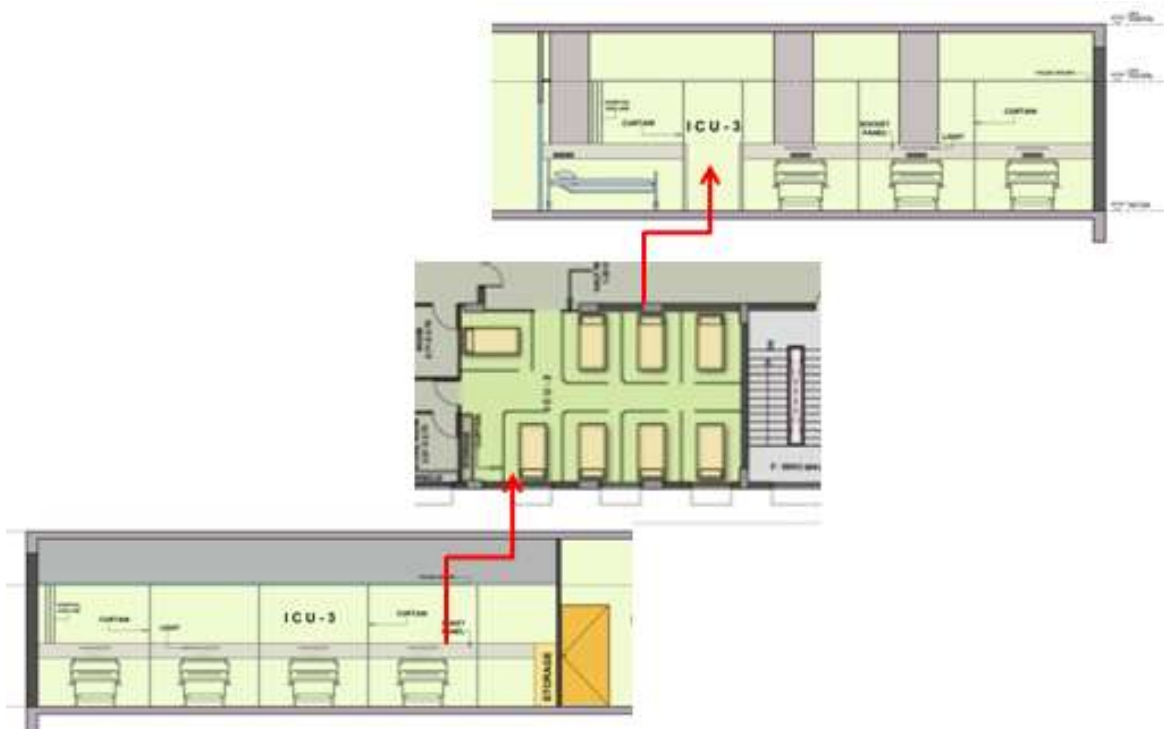


Figure 16 : Images showing I.C.U 3 Room Interior Theme.



### 3.5 Design Demonstration

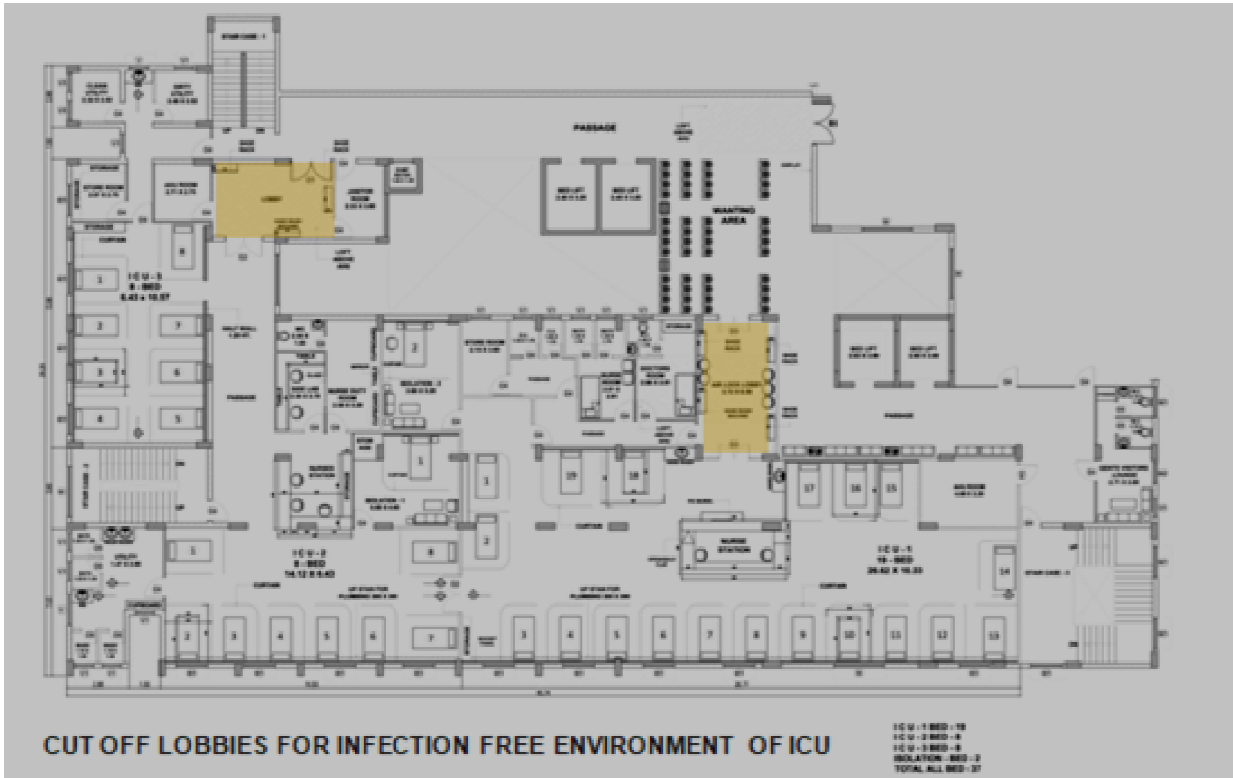


Figure 17 : Image showing I.C.U cutoff lobbies.

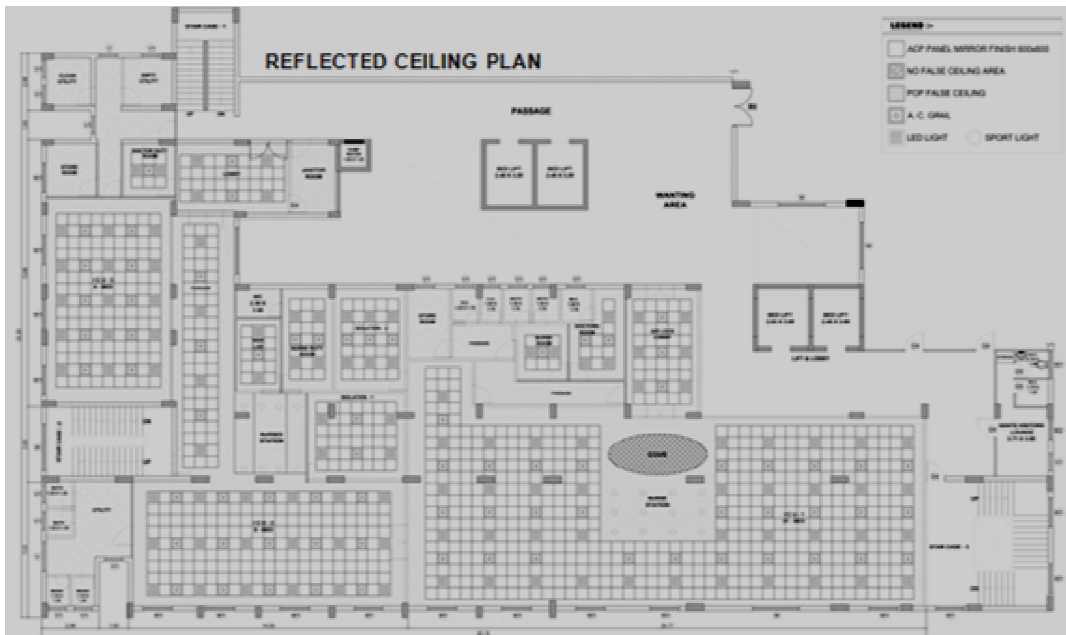


Figure 18 : Image showing I.C.U Grid false ceiling.

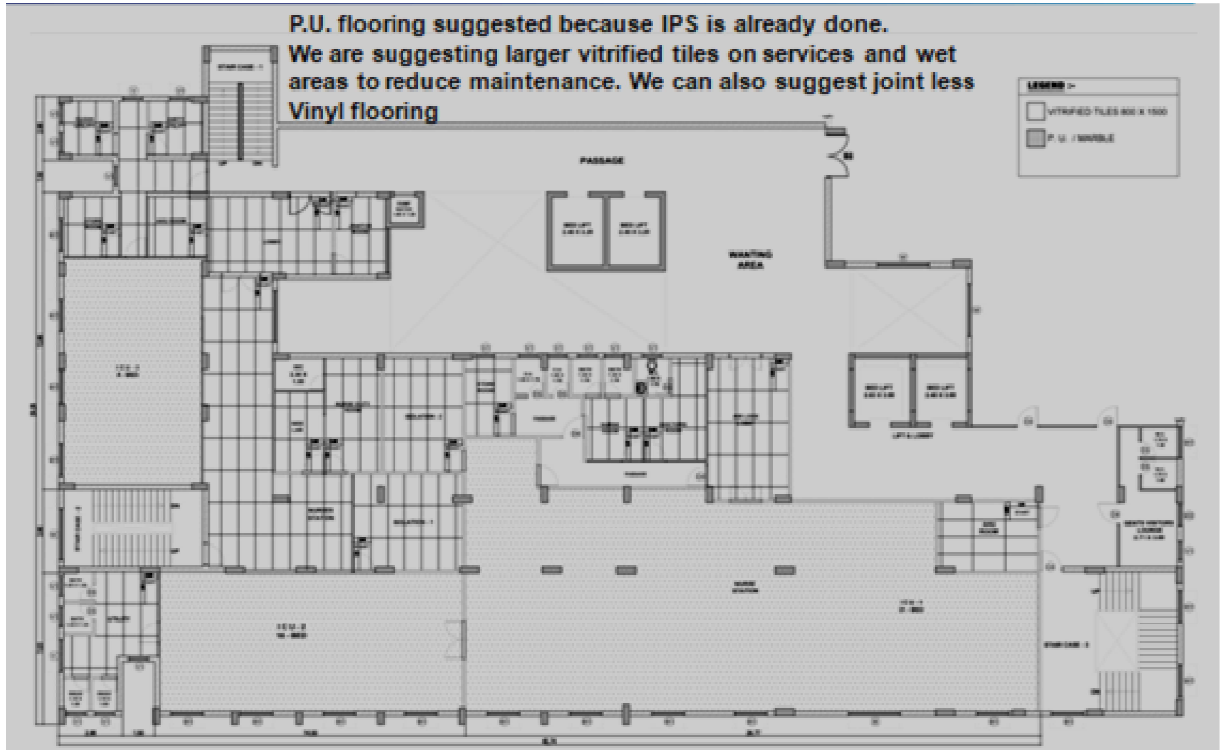


Figure 19 : Images showing I.C.U Flooring.

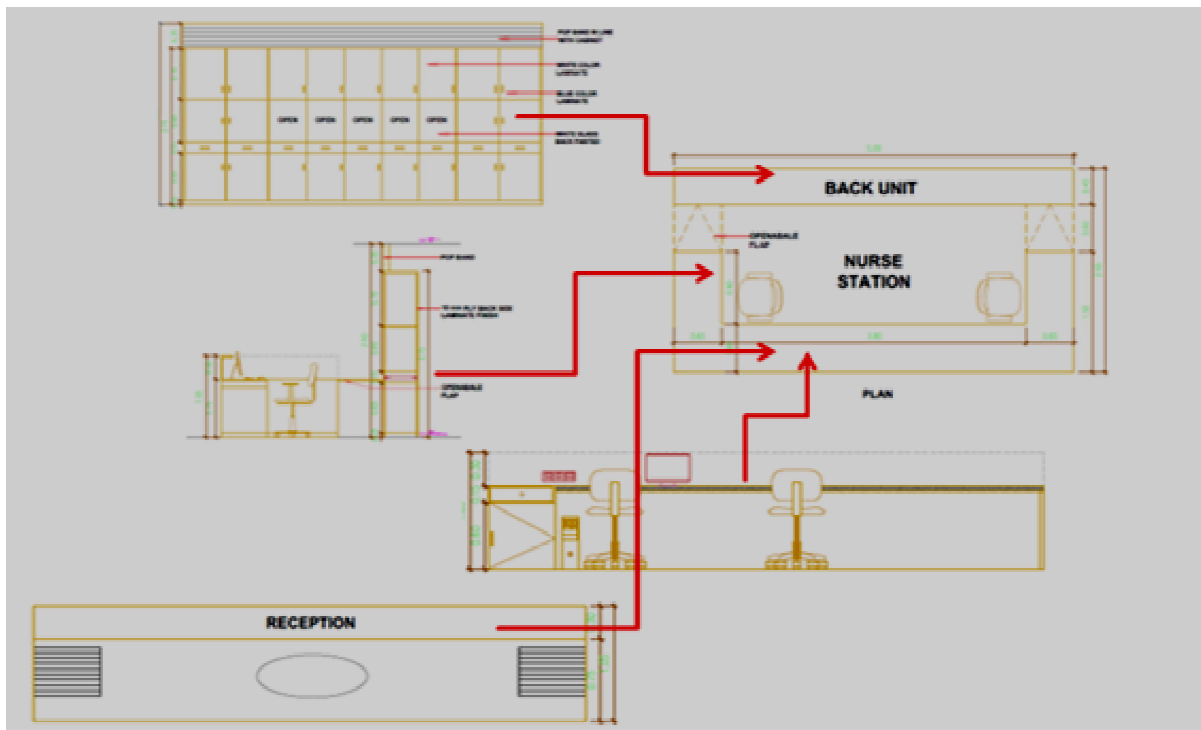


Figure 20 : Images showing Nursing Station Details.

#### 4. Project Time Line

Considering the above Requirement the Timeline of the Project will approximately -3 months from the date of approval.

Total Estimated Cost 3,38, 50,000/-

## 5. Budget Allocation

SUMMARY OF WORK		
SR. NO.	DESCRIPTION OF WORK	AMOUNT IN INR
1	INTERIOR	1,29,97,798
2	ELECTRICAL	72,34,252
3	PLUMBING	7,05,934
4	FIRE FIGHTING	33,45,322
5	HVAC	38,74,517
<b>Sub Total</b>		<b>2,81,57,822</b>
GST @12%		33,78,939
Contengency @ 3% ( on Amt. Without GST)		8,44,735
Tender Premiun @ 5%		14,07,891
Miscellaneous and Rounding off		60,613
<b>Grand Total</b>		<b>3,38,50,000</b>