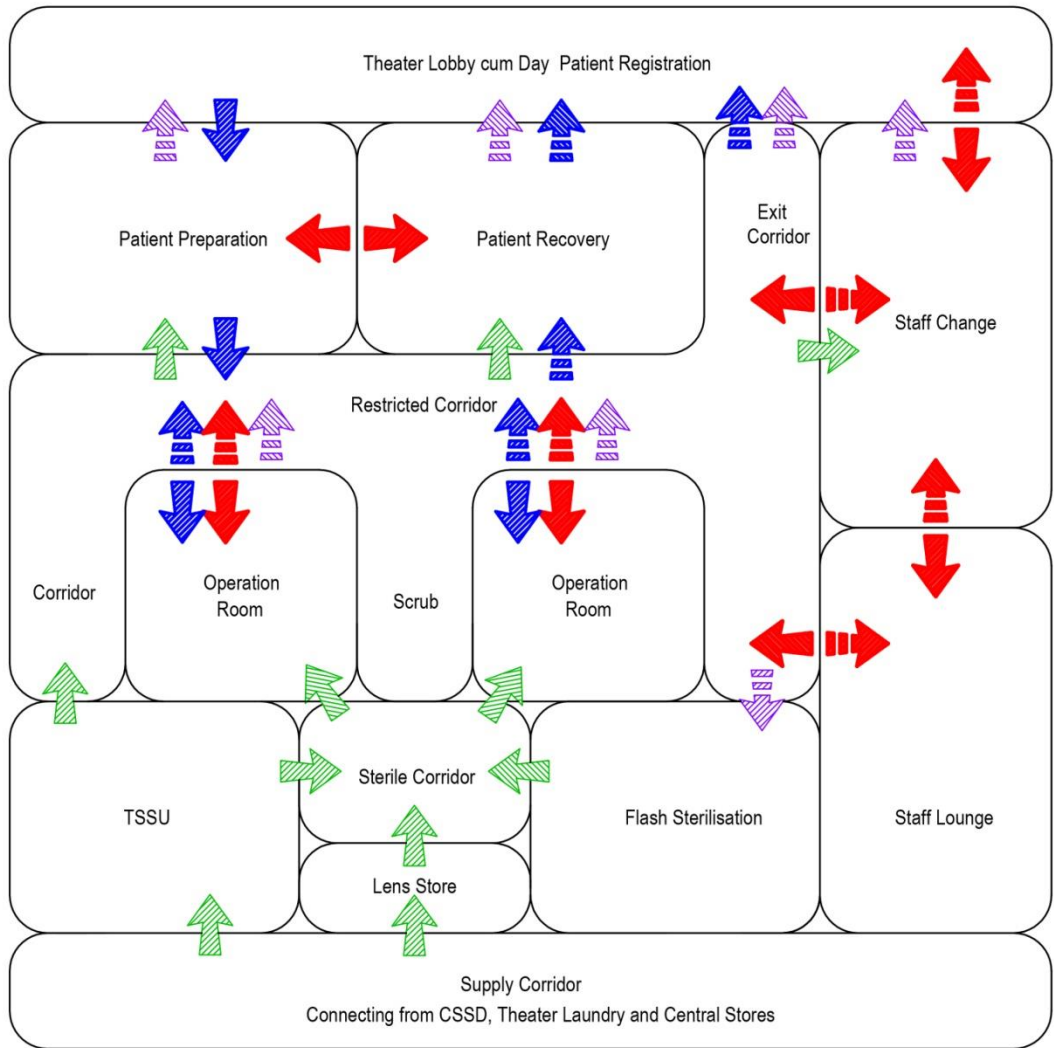








WORKSHOP ON ARCHITECTURAL DESIGN OF AN EYE HOSPITAL

OCTOBER 2017

SHOWCASING DESIGN OF AN OPERATION
THEATRE MODULE



LEGEND

-  Patient Entry
-  Patient Exit
-  Staff Entry
-  Staff Exit
-  Sterile Materials
-  Soiled Materials

OPERATION THEATRE SAMPLE LAYOUT - ADJACENCIES & FLOW

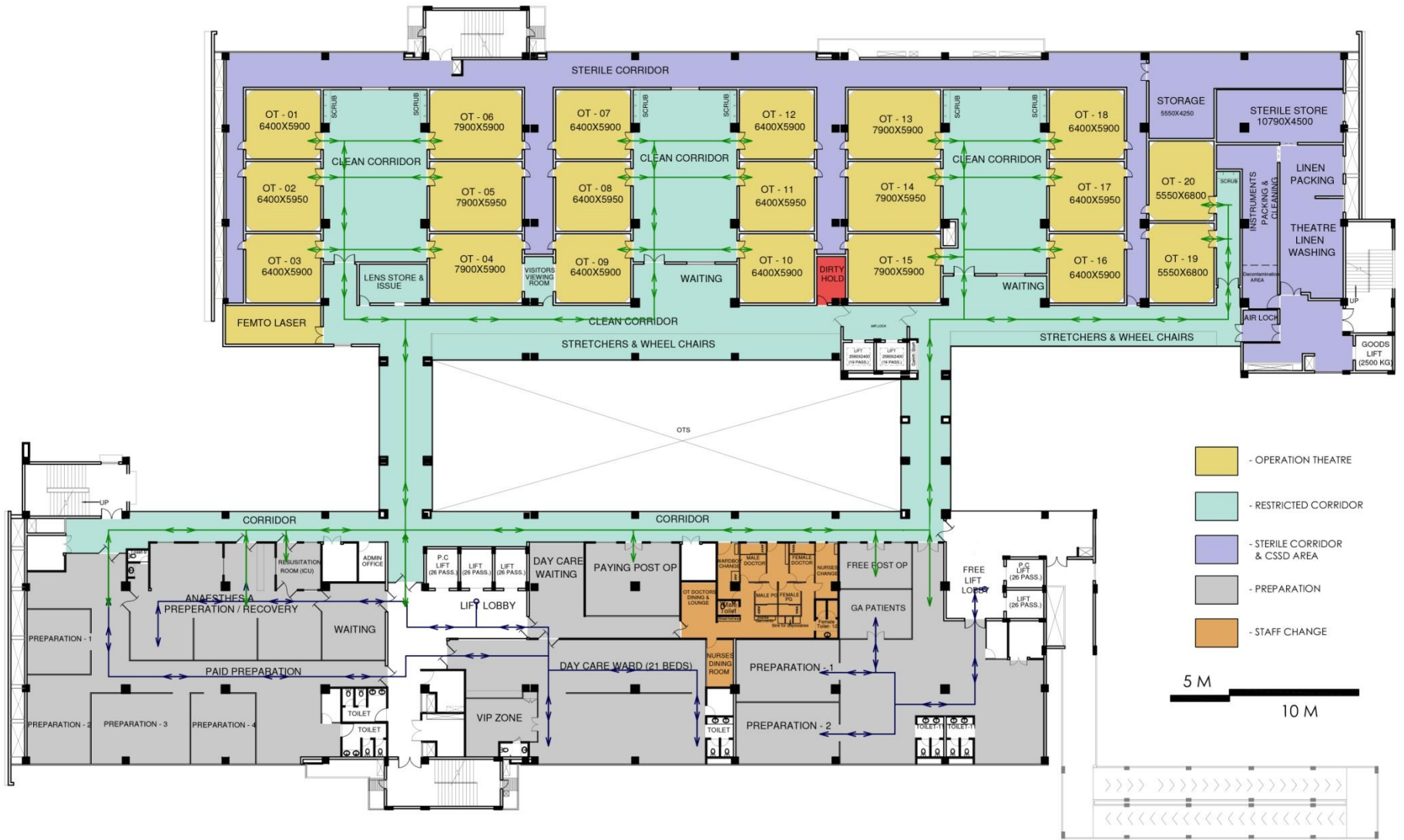
SHOWCASING DESIGN - OPERATION THEATRE MODULE



LEVEL +04

OPERATION THEATRE COMPLEX - AEH CHENNAI

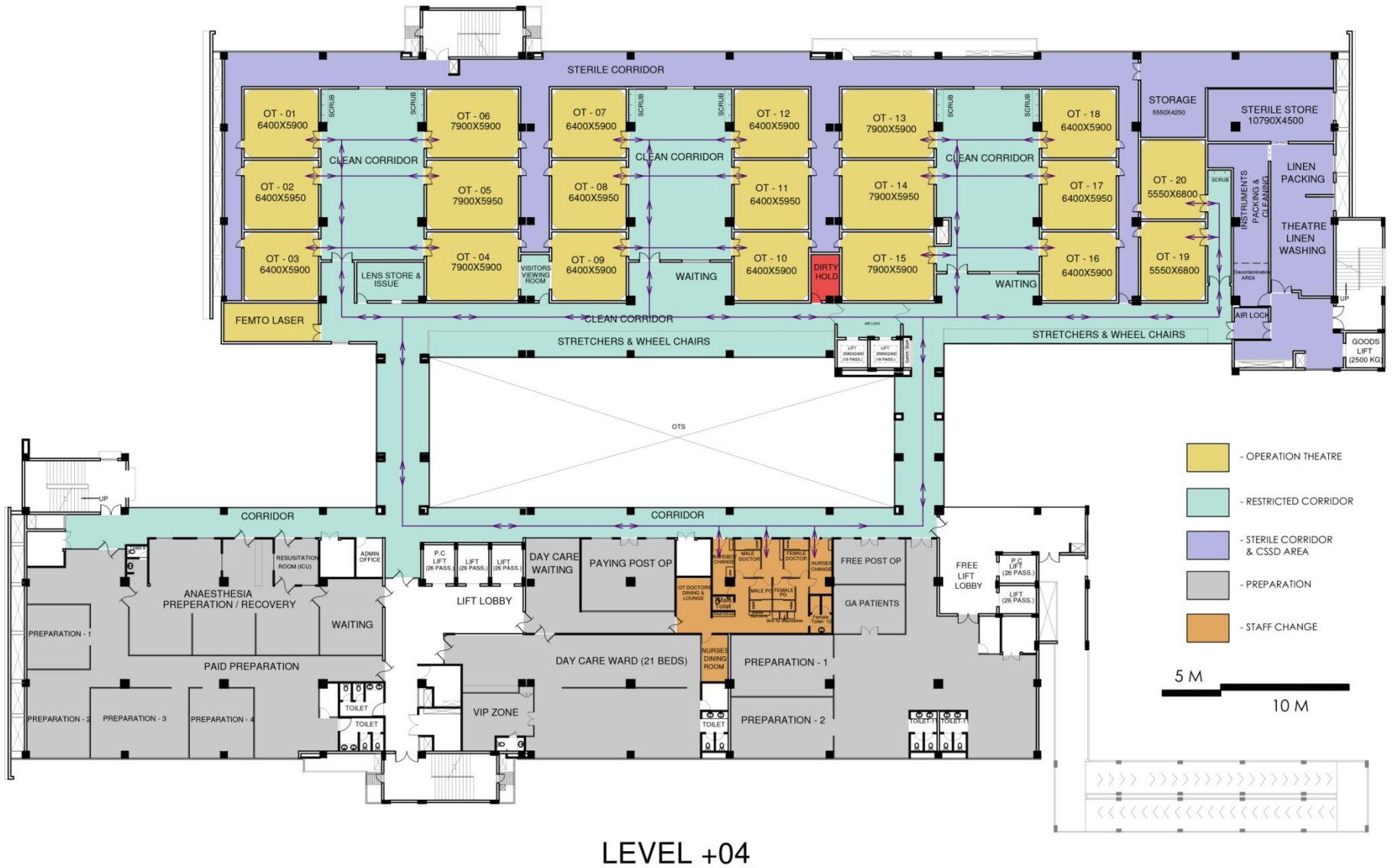
SHOWCASING DESIGN - OPERATION THEATRE MODULE



LEVEL +04

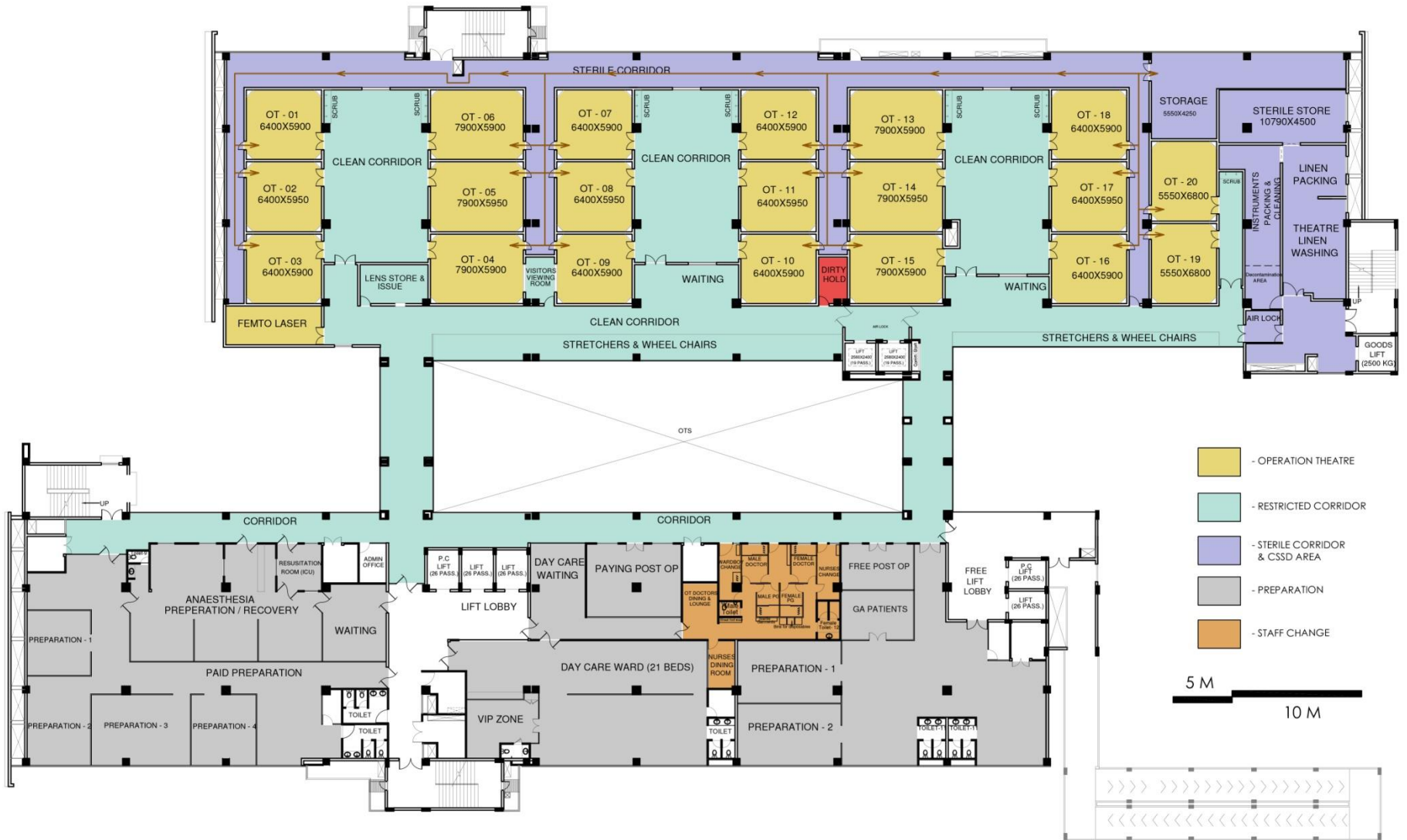
OPERATION THEATRE COMPLEX - AEH CHENNAI

SHOWCASING DESIGN - OPERATION THEATRE MODULE



OPERATION THEATRE COMPLEX - AEH CHENNAI

SHOWCASING DESIGN - OPERATION THEATRE MODULE



LEVEL +04

OPERATION THEATRE COMPLEX - AEH CHENNAI

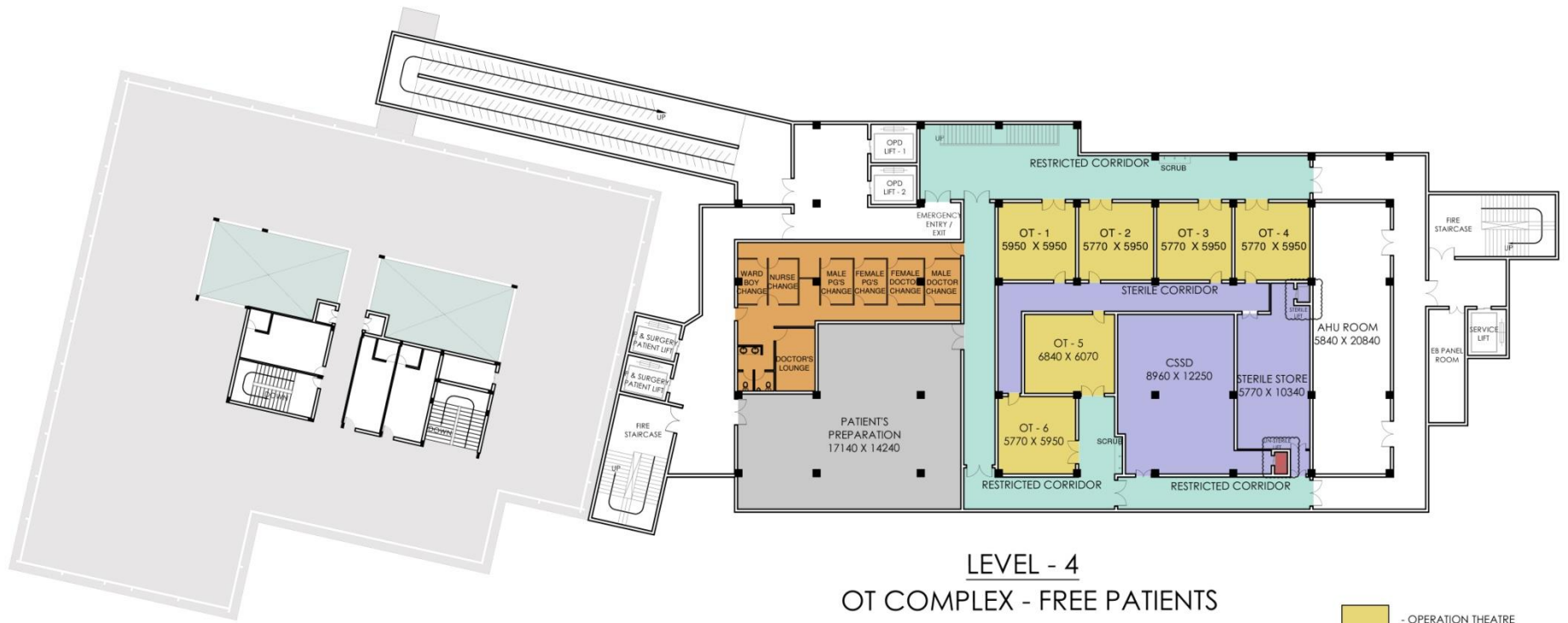
SHOWCASING DESIGN - OPERATION THEATRE MODULE



LEVEL +04

OPERATION THEATRE COMPLEX - AEH CHENNAI

SHOWCASING DESIGN - OPERATION THEATRE MODULE



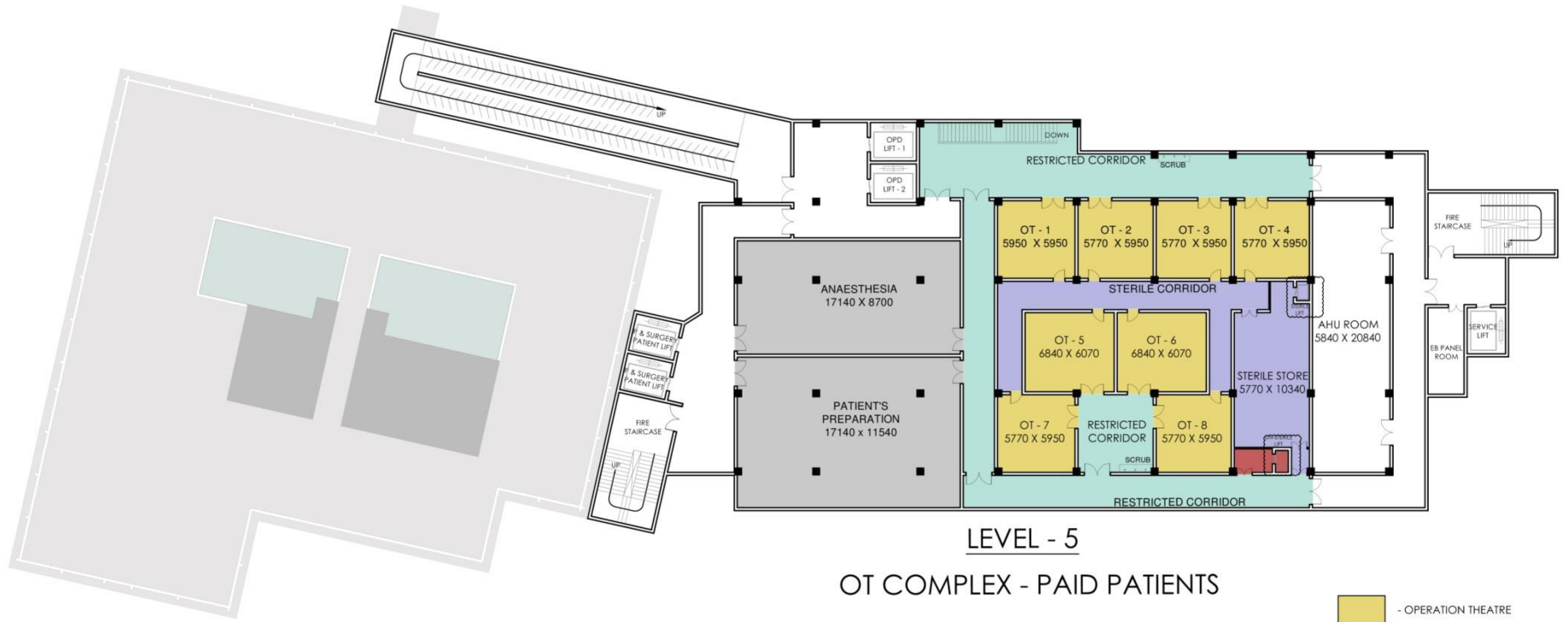
LEVEL - 4
OT COMPLEX - FREE PATIENTS

- OPERATION THEATRE
- RESTRICTED CORRIDOR
- PREPARATION
- STAFF CHANGE
- STERILE CORRIDOR & CSSD AREA



PROPOSED OPERATION THEATRE COMPLEX - AEH THIRUNELVELI

SHOWCASING DESIGN - OPERATION THEATRE MODULE



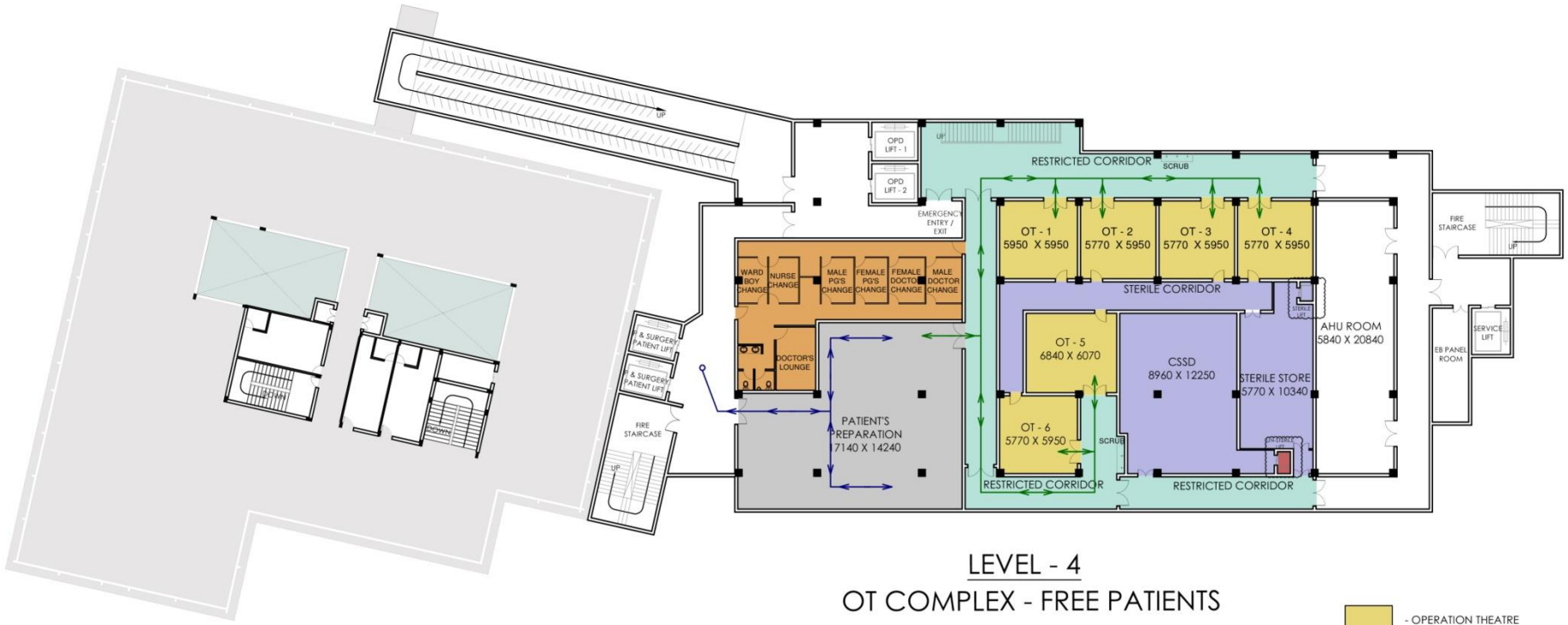
LEVEL - 5

OT COMPLEX - PAID PATIENTS

- OPERATION THEATRE
- RESTRICTED CORRIDOR
- STERILE CORRIDOR & CSSD AREA
- PREPARATION
- STAFF CHANGE



PROPOSED OPERATION THEATRE COMPLEX - AEH THIRUNELVELI



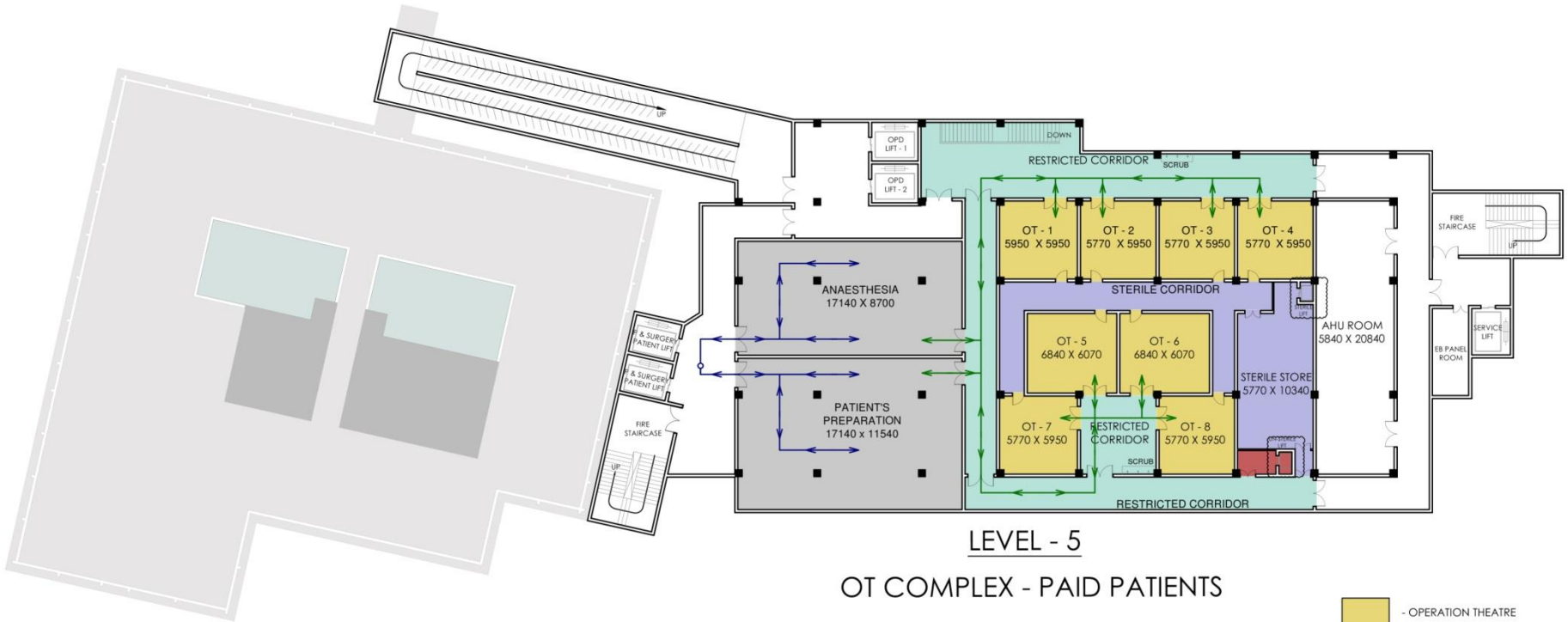
LEVEL - 4
OT COMPLEX - FREE PATIENTS

- OPERATION THEATRE
- RESTRICTED CORRIDOR
- STERILE CORRIDOR & CSSD AREA
- PREPARATION
- STAFF CHANGE



PROPOSED OPERATION THEATRE COMPLEX - AEH THIRUNELVELI

SHOWCASING DESIGN - OPERATION THEATRE MODULE



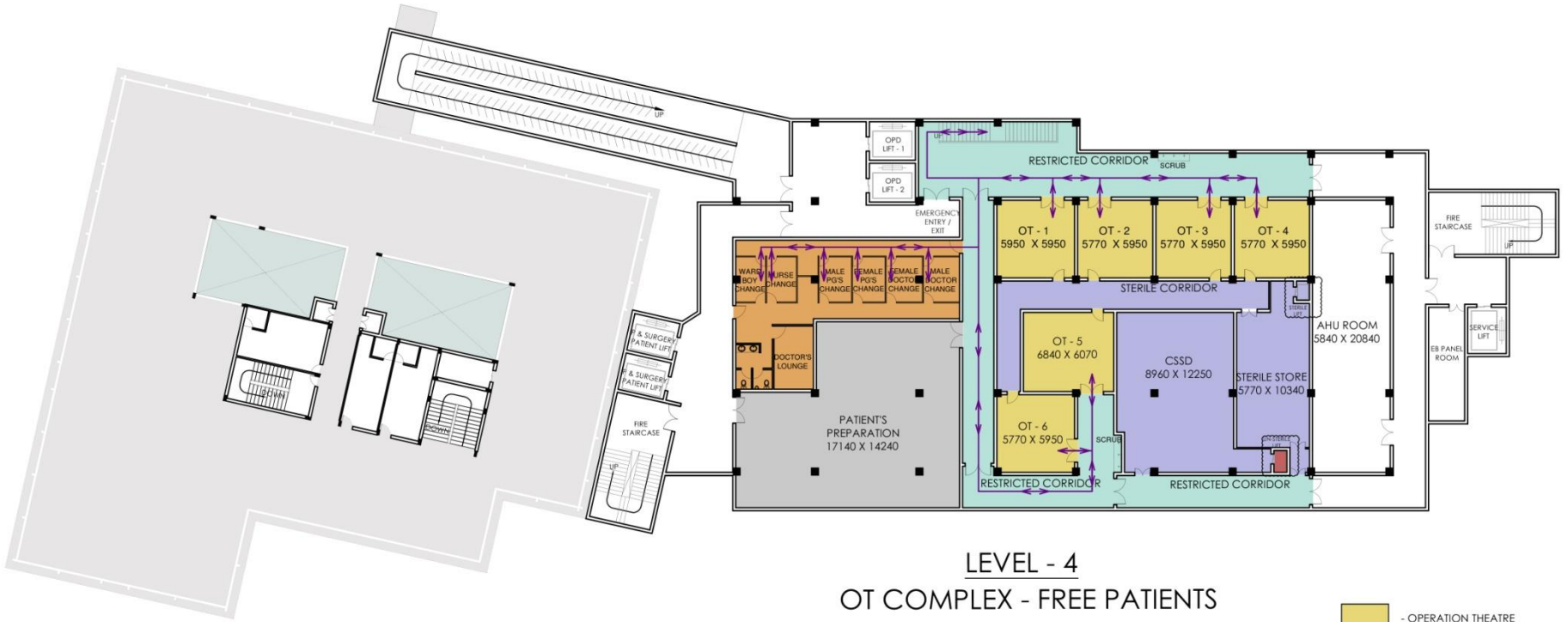
LEVEL - 5

OT COMPLEX - PAID PATIENTS

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- RESTRICTED CORRIDOR
- STERILE CORRIDOR & CSSD AREA
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- STAFF CHANGE



PROPOSED OPERATION THEATRE COMPLEX - AEH THIRUNELVELI



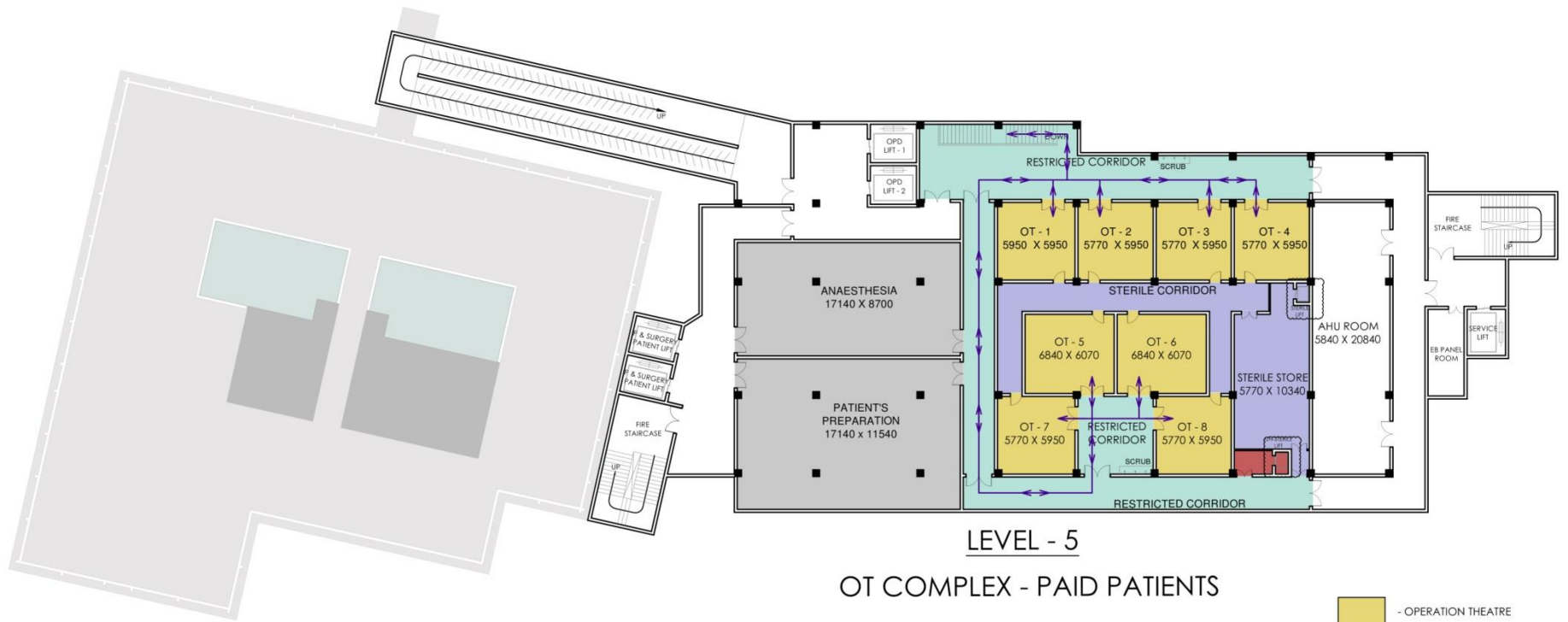
LEVEL - 4
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PROPOSED OPERATION THEATRE COMPLEX - AEH THIRUNELVELI

SHOWCASING DESIGN - OPERATION THEATRE MODULE



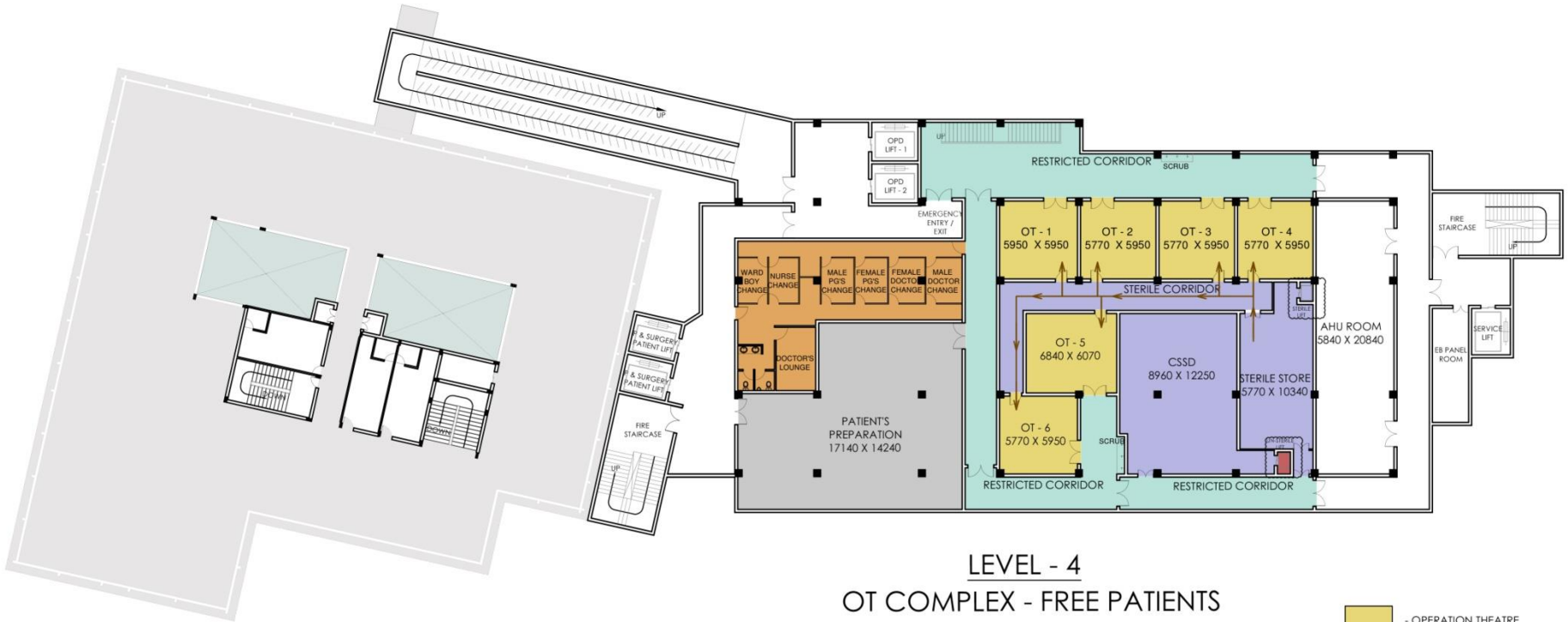
LEVEL - 5

OT COMPLEX - PAID PATIENTS

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- RESTRICTED CORRIDOR
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- PREPARATION
- STAFF CHANGE



PROPOSED OPERATION THEATRE COMPLEX - AEH THIRUNELVELI



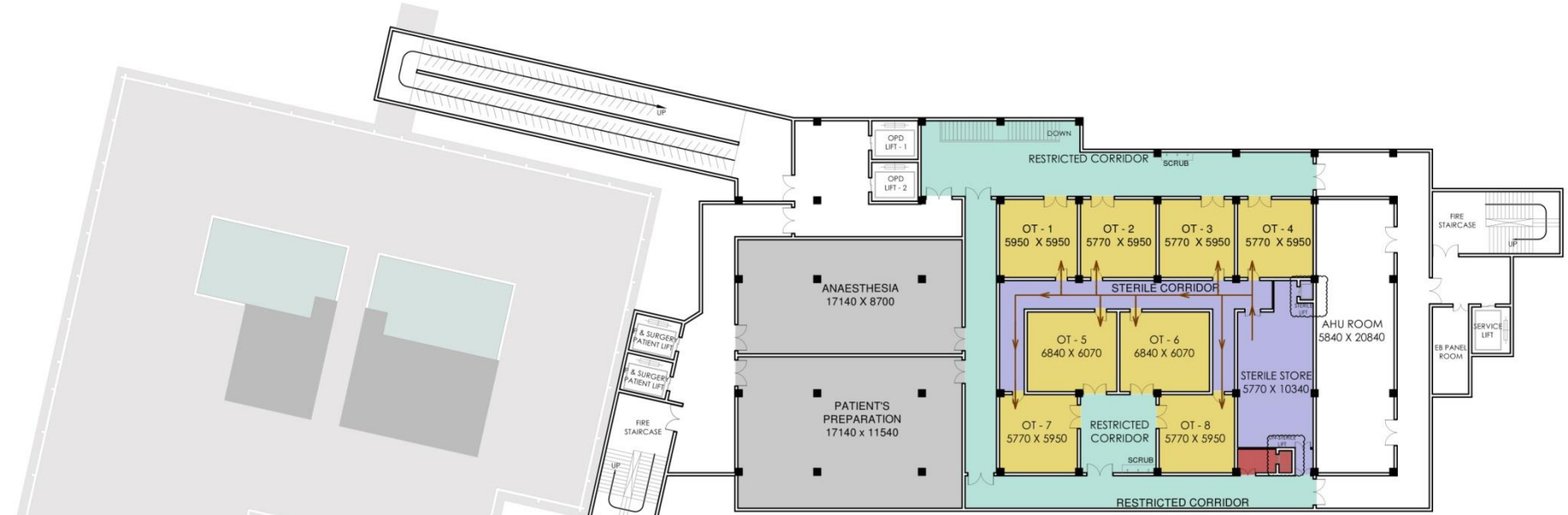
LEVEL - 4
OT COMPLEX - FREE PATIENTS

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- STERILE CORRIDOR & CSSD AREA
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- STAFF CHANGE



PROPOSED OPERATION THEATRE COMPLEX - AEH THIRUNELVELI

SHOWCASING DESIGN - OPERATION THEATRE MODULE



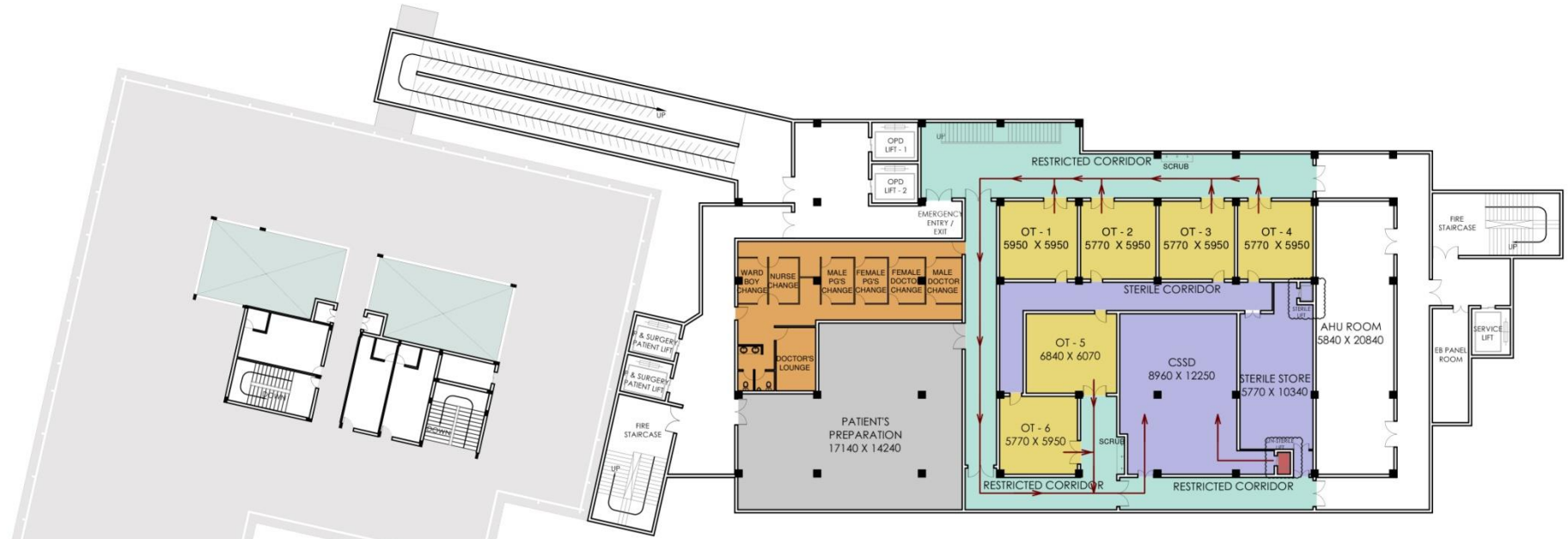
LEVEL - 5

OT COMPLEX - PAID PATIENTS

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PROPOSED OPERATION THEATRE COMPLEX - AEH THIRUNELVELI



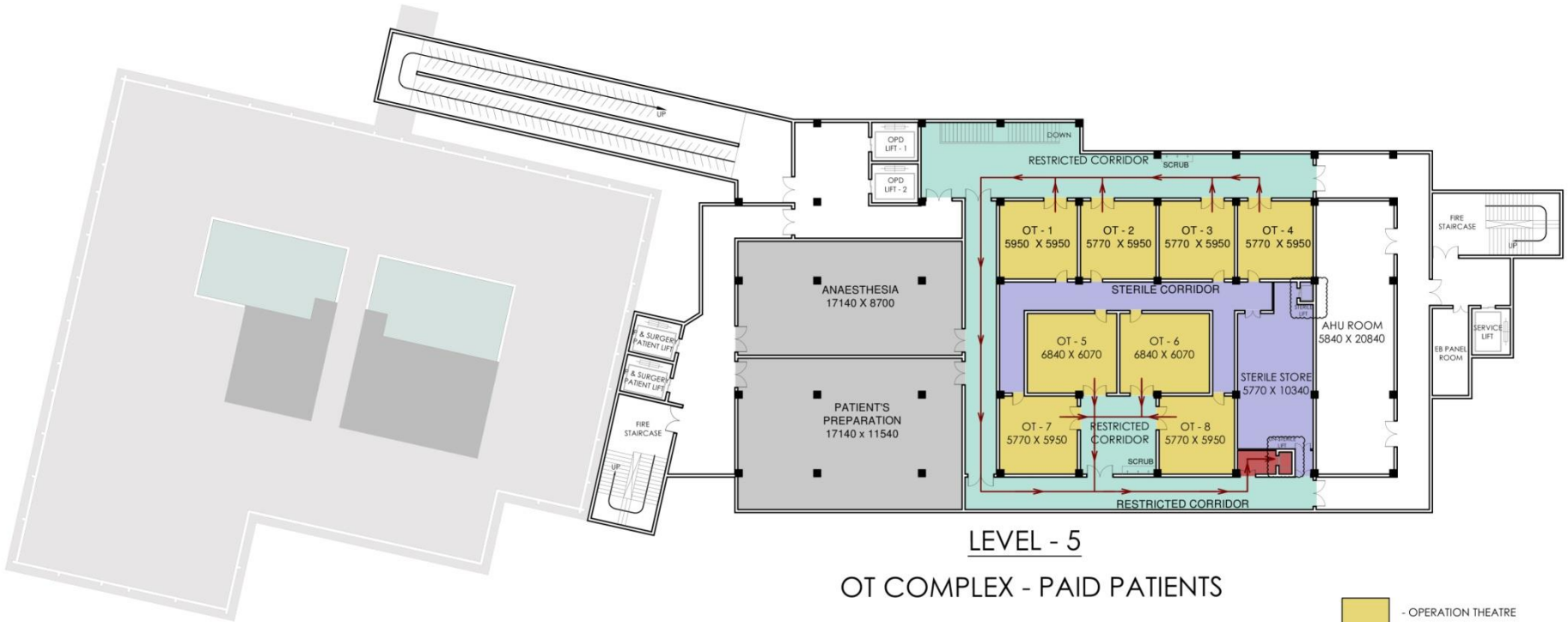
LEVEL - 4
OT COMPLEX - FREE PATIENTS

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PROPOSED OPERATION THEATRE COMPLEX - AEH THIRUNELVELI

SHOWCASING DESIGN - OPERATION THEATRE MODULE



LEVEL - 5

OT COMPLEX - PAID PATIENTS

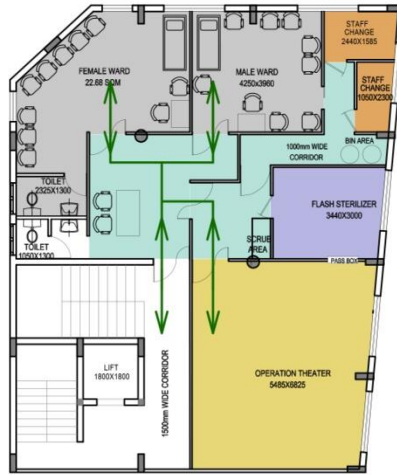
- OPERATION THEATRE
- RESTRICTED CORRIDOR
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- STAFF CHANGE



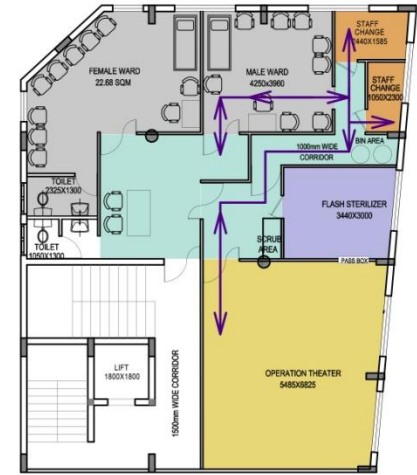
PROPOSED OPERATION THEATRE COMPLEX - AEH THIRUNELVELI



FLOOR PLAN



PATIENT FLOW



DOCTOR FLOW



STERILE MATERIALS PATH



SOILED ITEMS PATH

- OPERATION THEATRE
- RESTRICTED CORRIDOR
- STERILE CORRIDOR & CSSD AREA
- PREPARATION
- STAFF CHANGE



OPERATION THEATRE - AL SALAMA EYE HOSPITAL , KANNUR

SHOWCASING DESIGN - OPERATION THEATRE MODULE

MATERIALS / CONSTRUCTION SPECIFICATION:

WALLS: NON - PORUS AND SEAMLESS MATERIAL SHOULD BE USED. LAMINATED POLYESTER OR METAL SHEETS CAN BE USED. COLOUR OF PAINT SHOULD ALLOW REFLECTION OF LIGHT AND YET SOOTHING TO EYES. LIGHT COLOUR (LIGHT BLUE OR GREEN) WASHABLE PAINT WILL BE IDEAL.

FLOORING: THE FLOORING SHOULD BE ANTI - STATIC AND CONDUCTIVE. NON - PORUS AND SEAMLESS MATERIAL WITH LESS JOINTS IS RECOMENDED. PVC VINYL FLOORING IS RECOMENDED

CEILING: THE MATERIAL SHOULD BE NON PORUS. THE FALSE CEILING MATERIAL CAN BE BASED ON ALUMINIUM , STAINLESS STEEL AND COATED GALVANISED IRON.

DOORS: SHOULD BE HERMITICALLY SEALED , AUTOMATIC AND TOUCH FREE IS PREFERED.



PRINCIPLES IN PLANING OT & NABH STANDARDS
SHOWCASING DESIGN - OPERATION THEATRE MODULE

LIGHTING:

- GENERAL LIGHTING: COLOUR CORRECTED FLUORESCENT LAMPS TO PRODUCE EVEN ILLUMINATION OF ATLEAST 500 LUX ATWORKING HEIGHT, WITH MINIMAL GLARE ARE PREFERRED. THE RATIO OF INTENSITY OF GENERAL ROOM LIGHTING TO THAT AT THE SURGICAL SITE SHOULD NOT EXCEED 1:5, PREFERABLY 1:3. THIS CONTRAST SHOULD BE MAINTAINED IN CORRIDORS AND SCRUB AREAS, AS WELL AS IN THE ROOM ITSELF, SO THAT THE SURGEON BECOMES ACCUSTOMED TO THE LIGHT BEFORE ENTERING THE STERILE FIELD. COLOUR AND HUE OF THE LIGHTS ALSO SHOULD BE CONSISTENT.

- OPERATING AREA :OVERHEAD LIGHT SHOULD BE SHADOWLESS AND GIVE 25000-125000 LUX OF LIGHT.

- LIGHTS SHOULD BE FREELY MOVABLE BOTH IN HORIZONTAL AND VERTICAL RANGES. PENDANT SYSTEMS ARE PREFERRED OT LIGHT SHOULD PRODUCE BLUEWHITE COLOUR OF DAYLIGHT.



HVAC & VENTILATION SYSTEM:

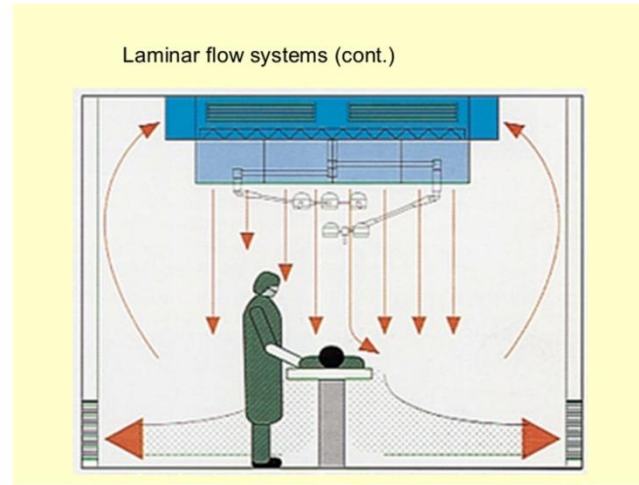
AIR CHANGE :

MINIMUM TOTAL AIR CHANGES SHOULD BE 20 BASED ON INTERNATIONAL GUIDELINES ALTHOUGH THE SAME WILL VARY WITH BIOLOGICAL LOAD AND THE LOCATION. THE FRESH AIR COMPONENT OF THE AIR CHANGE IS REQUIRED TO BE MINIMUM 4 AIR CHANGES OUT OF TOTAL MINIMUM 20 AIR CHANGES.

AIR VELOCITY:

THE AIRFLOW NEEDS TO BE UNIDIRECTIONAL AND DOWNWARDS ON THE OT TABLE. THE AIR FACE VELOCITY OF 25-35 FPM (FEET PER MINUTE) FROM NON-ASPIRATING UNIDIRECTIONAL LAMINAR FLOW DIFFUSER/CEILING ARRAY IS RECOMMENDED. THERE IS A REQUIREMENT TO MAINTAIN POSITIVE PRESSURE DIFFERENTIAL BETWEEN OT AND ADJOINING AREAS TO PREVENT OUTSIDE AIR ENTRY INTO OT. THE MINIMUM POSITIVE PRESSURE RECOMMENDED IS 2.5 PASCAL (0.01 INCHES OF WATER).

- LAMINAR FLOW :



LAMINAR FLOW BOXES/DIFFUSERS SHOULD BE INSTALLED IN THE OT FOR SUPPLYING MAJORITY AIR AND ALSO MAJORITY RETURN AIR SHOULD BE PICKED UP 75-150 MM ABOVE FLOOR LEVEL.

AIR HANDLING/FILTRATION:

THE AHU (I.E. AIR HANDLING UNIT) MUST BE AN AIR PURIFICATION UNIT AND AIR FILTRATION UNIT. THERE MUST BE TWO SETS OF WASHABLE FLANGE TYPE FILTERS OF EFFICIENCY 90% DOWN TO 10 MICRONS AND 99% DOWN TO 5 MICRONS WITH ALUMINIUM/ SS 304 FRAME WITHIN THE AHU. THE NECESSARY SERVICE PANELS TO BE PROVIDED FOR SERVICING THE FILTERS, MOTORS & BLOWERS. HEPA FILTERS OF EFFICIENCY 99.97% DOWN TO 0.3 MICRONS OR HIGHER EFFICIENCY ARE TO BE PROVIDED .

TEMPERATURE AND HUMIDITY:

THE TEMPERATURE SHOULD BE MAINTAINED AT 21C +/- 3 DEG C INSIDE THE OT ALL THE TIME WITH CORRESPONDING RELATIVE HUMIDITY BETWEEN 20 TO 60%.