Guidelines For

STANDARDIZATION OF LABOR ROOMS AT DELIVERY POINTS





Maternal Health Division
Ministry of Health & Family Welfare
Goverment of India

April-2016

Designed and printed with support from
The Children's Investment Fund Foundation

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CHILDREN'S
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FOUNDATION

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Goverment of India

April-2016 (Updated)

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Preface

The Government of India has laid significant emphasis on improving the quality of care during the intra and immediate postpartum period. This is owing to the fact that risk of maternal and newborn mortality is disproportionately high around the period of childbirth. It was recognized that majority causes of maternal and newborn mortality are preventable through appropriate care of mothers during and after labor and appropriate care of the newborns immediately after birth.

In line with these efforts, Ministry of Health and Family Welfare, Government of India, launched a national initiative "Dakshata" in 2015 to improve the quality of maternal and newborn care during the intra and immediate postpartum period through providers who are competent and confident. The program is strategically striving to help build capacity of the providers, so as to prevent and manage complications that are major causes of maternal and newborn mortality during and after childbirth.

In order to sustain this effort, it is imperative to strengthen the labor rooms at the facilities, which form an integral part of intra and immediate postpartum service delivery. Periodic reviews as a part of CRMs revealed that condition of infrastructure of labor rooms and quality of service delivery is not uniform, and requires improvement. Recognizing this critical need, Ministry of Health and Family Welfare has compiled these Guidelines for the standardization of labor rooms across all sub-centers, Primary Health Centers, Community Health Centers, District Hospitals and MCH wings.

These guidelines will enable systematic and uniform strengthening of existing labor rooms, re-organizing them for high-efficiency and high quality service delivery, and development of new ones. I am confident that the labor room guidelines will act as standard protocols for setting up and strengthening labor rooms in hospitals, enabling a favorable environment for reducing maternal and infant mortality at large, by improving quality of care during and after delivery.

(C.K.Mishra)

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Foreword

India's maternal mortality has reduced from 301 (2001-03) to 167 (2011-13) per 100,000 live births and the infant mortality has reduced from in 66 (2001) to 40 (2013) per 1000 live births. However, the maternal and infant mortality in our country still remain unacceptably high. Additionally, the highest proportion of maternal and newborn deaths takes place during and immediately after childbirth.

Government of India has been consistently moving towards the direction of strengthening quality of intra and immediate postpartum care with national initiatives like "Dakshata", and aims at improving the quality of care at the delivery points of the country through focused programming. The RMNCH+A strategy also significantly focuses on improving care at birth for overall improvement in maternal and child health outcomes in the country.

In continuation to this effort, the Ministry of Health and Family Welfare is launching the Labor Room Guidelines to augment uniform and methodical strengthening of labor rooms across the country. Labor rooms are fundamental to providing quality intra and immediate postpartum services, hence playing a vital role in reducing maternal and newborn mortality. It therefore is essential to lay substantial emphasis on developing the labor rooms for high-efficiency and high quality service delivery.

These Guidelines explain how to upgrade the labor rooms for standardization, i.e. reorganizing existing labor rooms or constructing new labor rooms/delivery units as per need, thereby bringing in uniformity in the infrastructure and service standard and quality of labor rooms across the country.

I compliment the efforts put in by the Maternal Health Division and contributing experts for developing these Guidelines. I am hopeful that the Guidelines, if implemented in a coordinated manner, will help in improving the quality of intra and immediate postpartum care, thereby helping in reducing the needless and preventable deaths of mothers and infants.

Rakesh

(Dr. Rakesh Kumar)

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Program Officer's Message

Government of India has made significant progress in addressing the issue of high maternal mortality ratio in the country. However, progress on reduction of neonatal and infant mortality rate remains suboptimal. Moreover, high institutional delivery rates have not brought about proportionate reduction in these mortality rates in the country. Considering the fact that highest numbers of maternal and newborn deaths occur during and around childbirth, improving quality of care for childbirth related services is highly important.

With national initiatives like RMNCH+A and "Dakshata", the Ministry of Health and Family Welfare is making significant efforts towards improving care during birth and post-partum period. While these strategies are being implemented, additional efforts are being made to create an enabling environment for high-quality service delivery.

In light of this background, these Guidelines are being released for strengthening the existing labor rooms and re-organizing them for high quality service delivery. For accelerating the decline in maternal and infant mortality, it is important to identify, track and manage high-risk pregnancies and simultaneously improve intra-partum care. It is envisioned these Guidelines will enable upgradation of labor rooms across all hospitals in the country for uniform standardization of infrastructure, practices and service delivery.

I express my deep gratitude to Shri C.K.Mishra, AS&MD (NHM) for providing constant support and guidance. I am indebted to Dr. Rakesh Kumar, Joint Secretary (RCH) for his able and extraordinary leadership in taking the process forward.

I thank all the members of the Expert Group for their contribution in developing the content of these technical and operational Guidelines. I sincerely thank Dr. Bulbul Sood and Jhpiego team, especially Dr. Somesh Kumar, Dr. Vikas Yadav, and Dr. Deepti Singh for their technical inputs, support in content development, and facilitating the process of guideline development. I would also like to thank Dr. Malalay Ahmadzai, Health Specialist UNICEF, my colleague Dr. Veena Dhawan AC-MH, Mohd. Shoeb Alam, Consultant UNICEF, Dr. Tarun, Dr. Rajeev, Dr. Pushkar and Dr. Salima and Ms. Jenita, Consultants, MoHFW for their valuable contributions.

I am hopeful that the efforts put in by the experts in drafting these Guidelines shall be useful for all stakeholders while working towards improving the quality of services to the mothers and newborn in the country.

Baswal

(Dr. Dinesh Baswal)

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Standardization of Labor Rooms at Delivery Points

Background

India has made significant progress in addressing the issue of high maternal mortality ratio. However, progress on reduction of neonatal and infant mortality rate is suboptimal. Moreover, high institutional delivery rates have not resulted in proportionate reduction in these mortality rates in the country. This points out to the need for improving the quality of practices in the labor room. Also, during the post- Millennium Development Goal (MDG) period, high-quality service delivery will be essential to further improve the health indicators. Quality of service is influenced by service providers' competencies, availability of adequate resources, and the presence of an enabling environment for translation of competencies into actions for following the best practices. While many initiatives have been taken for improving competencies, activities to facilitate an enabling environment for high-quality service delivery have not received enough attention. With this background, these guidelines are being released for strengthening the existing labor rooms and re-organizing them for high-efficiency and high quality service delivery.

Preamble

Labor rooms in every delivery point should be standardized for delivering high-quality services during childbirth. Delivery points with high case load should be prioritized first for standardization. This document explains how to upgrade the labor rooms for standardization, i.e. constructing new labor rooms/delivery units as per need or reorganizing the existing labor rooms. Detailed guidelines on the same in terms of reporting and recording, quality of care tools and standards, IMEP protocols, guidance on constructing MCH wings, etc. have already been described in the MNH toolkit. This document is an extension of the MNH toolkit, focusing essentially on the space and layouts, HR requirements, equipment and supplies, consumables, and protocols specifically for labor and delivery suits.

The guidelines here have been designed to create new labor rooms or upgrade existing labor rooms using the following methodology in different scenarios:

Scenario 1:
When the space and resources permit construction of new units: Labor room should be newly constructed to meet specifications as per the model labor room guidelines.

Scenario 2:
When the space and resources do not permit construction of new units, but some additional space is available for the labor room in the premises: In such cases, labor room should be expanded/ shifted to larger space to meet specifications as per these guidelines.

Scenario 3:

When new construction is not possible and no additional space is available for labor rooms: Every effort should be made to ensure that labor room space is re-organized as per these guidelines. In all cases, the facilities should adhere to these guidelines for re-organization of equipment, consumables, human resources, practices and protocols.

The guidelines for up-gradation of labor rooms focus on five important areas as given below:

- Space and layout
- Equipment and accessories
- Consumables
- Human resources
- Practices and protocols

The document initially describes the space and layout organization for new construction or upgradation of labor room complexes of various levels of delivery points, such as Sub-Center (SC) and Primary Health Center (PHC), Community Health Center (CHC), Area Hospital (AH), Sub-District Hospital (SDH), and District Hospital (DH). While space and layout re-organization/re-construction is ongoing, the facilities should start focusing on ensuring adequate equipment, consumables, and human resources in the labor room as per these guidelines and introduce mechanisms for adherence to recommended practices and protocols preferably with tools such as Assessment Protocols & Safe Child Birth Checklist (SCC), and standardized case sheets as detailed in the MNH tool kit.

Space and Layout

A labor room should be upgraded through the following process:

- Hire short term services of a registered architect in the district to assess the existing space of all delivery points and to draw specific plans for up-gradation of the labor rooms.
- Identify alternate/additional space for re-organizing/shifting the labor room.
- If major renovations need to be carried out, shift the labor room to an appropriate alternate space.
- Develop facility-specific plans for improving equipment, commodities, human resource, etc., simultaneously.
- Clearly lay down the SOPs for labor room practices and technical protocols including infection prevention based upon these guidelines. Designate a technical officer for each facility who will take daily rounds to monitor adherence to these protocols.

Number of Labor Tables/beds

The most important factor for defining the space and layout of the labor room is the number of labor beds in the facility. In this document, two types of labor rooms are being recommended—labor rooms with labor-delivery-recovery (LDR) room concept (a pregnant woman spends the duration of labor, delivery, and 4 hours postpartum in the same bed) and conventional labor rooms (a pregnant woman is admitted to labor room only at or near full dilation of cervix and is shifted to the postpartum ward after 2 hours).

LDR concept is more client-centric and ensures better care, privacy, and comfort to the pregnant woman during labor process. It also obviates the need for having additional waiting area or labor area and associated services. It is being recommended that, if there is adequate space available without any significant resource constraints, all the DHs, AHs, SDHs, and FRU CHCs, and any facility with more than 500 deliveries in a month should be upgraded to have labor rooms as per the LDR concept. Even Non-FRU CHCs with delivery load more than 100 deliveries per month can be considered for upgradation to have LDR units if space and resource availability permits. For the rest of the facilities, and in DH/AH/SDH/FRU CHC where space for LDR rooms is not available, the labor rooms should be upgraded using the conventional labor room concept.

The following table gives the recommended number of labor tables per health facility as per delivery load:

Criteria	Number of labor table(s)
<20 Deliveries/month	1
20-99 Deliveries/month	2
100-199 Deliveries/month	4*
200-499 Deliveries/month	6*
>500 Deliveries/month	To be calculated as per the given formula for LDR or Conventional Labor Room concept as applicable
FRU CHC/AH/SDH/DH	To be calculated as per the given formula for LDR or Conventional Labor Room concept as applicable

*The number given is for conventional labor rooms. Even for these facilities, if LDR concept is being used, number of beds should be calculated using the formula given below.

Formula to calculate the number of beds for LDR units:
No. of LDR beds = {(Projected LDR events in a year)*(Average length of stay)}/ {(365)*(Occupancy rate)}

Calculation:

- Step 1: Determine the number of LDR events in a year, i.e. the number of vaginal births per annum (projected number of births per annum plus the projected number of unplanned C-section births).
- Step 2: Take 0.67 days or 16 hours (12 hours for labor and delivery, 4 hours recovery, including the room clean-up) as the average length of stay.
- Step 3: 75% or 0.75 is the recommended occupancy rate for health facilities.
- Step 4: Insert the numbers attained in the above steps, in the formula, and calculate the number of LDR beds required.

For example, LDR bed requirement for a hospital with 7200 projected deliveries (6120 normal deliveries 1080 C-sections out of which 600 are unplanned C-sections) can be calculated as follows:

• Number of LDR events in a year: (6120+600) = 6720

• Number of LDR beds required = (6720* 0.67)/ (365*0.75) = 16 beds

Formula for calculating number of LDR units:

As per specifications given in the next section, each LDR unit will have 4 LDR beds. Thus the formula for calculation number of LDR units will be as follows:

Number of LDR units = (Number of LDR beds/4) rounded off to the next higher integer

Example: In the above example, the number of LDR beds was 16. Hence, in this facility, the number of LDR units will be = (16/4) rounded off to next higher integer = 4.

Formula to calculate the number of labor beds/tables for conventional labor rooms

No. of labor beds = {(Projected labor events in a year)*(Average length of stay)}/ {(365)*(Occupancy rate)

Calculation:

- Step 1: Determine the number of labor and delivery events in a year, i.e. the number of vaginal births per annum (projected number of births per annum plus the projected number of unplanned C-section births).
- Step 2: Take 0.33 days or 8 hours (4 hours for pre-delivery preparations and delivery, and 4 hours for recovery and labor room cleaning) as the average length of stay.
- Step 3: 75% or 0.75 is the recommended occupancy rate for health facilities.
- Step 4: Insert the numbers attained in the above steps, in the formula, and calculate the number of labor beds required.

For example, labor bed requirement for a hospital with 7200 projected deliveries (6120 normal deliveries, 1080 C-sections out of which 600 were unplanned C-sections) can be calculated as follows:

- Number of labor events in a year: (6120+600) = 6720
- Number of labor beds required = (6720* 0.33)/ (365*0.75) = 8 labor beds

Each labor bed should be in a bed form with the following specifications:

- Adjustable side rails.
- Facilities for Trendelenburg/reverse positions.
- Facilities for height adjustment (hydraulic pump preferably).
- Stainless steel IV rod.
- Mobility: swiveling castor wheels & brakes.
- Mattress should be in three parts and seamless in each part with a thin cushioning at the joints, detachable at perineal end. It should be washable and water proof with extra set and
- disposable draw sheet.
- Steel basins attachments.
- Calf support, hand grip, leg support.

Standardizing Space and Layout (LDR Complexes)

Having adequate space as per protocols for ensuring provision of recommended services, is one of the most important aspects of up-gradation of labor rooms. For this purpose, wherever needed, labor rooms should be newly constructed. Following specifications should be adhered to while constructing new labor rooms/labor room complexes:

LDR Complexes in CHCs, AHs, SDHs, and DHs

It is being recommended that all the DH and FRU CHC/AH/SDH should be upgraded to have labor rooms as per the LDR concept. Even Non-FRU CHCs with delivery load more than 100 deliveries per month can be upgraded to have LDR units. Rest of the facilities should have conventional labor rooms. This means creating delivery units where a pregnant woman stays from the time of active labor until 4 hours after delivery.

Specifications for LDR based labor room complexes in FRU CHC/AH/SDH/DH area are being described in this section. Next section will cover description of conventional labor rooms for Non-FRU CHCs. The LDR based labor room complex will have two main components—Core LDR unit and support areas. Each institution will have varying number of LDR units based on the delivery load and relevantly sized support area. Calculation of number of labor units as per delivery load has been described earlier.

Standard LDR unit

Each standard LDR unit will have the following components—4 labor areas with one labor table each, one nursing station, one newborn care area, two toilets and two washing areas. A suggested layout for a standard LDR unit is given as annexure I. The specifications for the components of the LDR unit are as follows:

Labor areas

Each LDR unit should have 4 labor areas with the following specifications:

a. Each labor area should be of size 10'X 10'.
b. There should be a partition between two consecutive labor areas extending up to the ceiling. The partition should be opaque till 6.5' and can have glass (optional) for the rest of the height.
c. Each labor area should have one labor table (see specifications on page 23).
d. Each labor area should have one stool for birth companion.
e. Each labor area should have adequate lighting and ventilation.
f. Each labor area should have a ceiling/wall mounted fan.
g. There should be two curtains, one from each side of the door, extending to the partition walls of the nursing station area.

Nursing station

Each LDR unit should have a centrally located nursing station with the following:

a. One table of size 4'X 2'.
b. Two plastic/wooden chairs.
c. A storage cupboard for storing documents and supplies.
d. A white board on the wall next to the nursing station.

Newborn Care Area (NBCA)

Each LDR unit should have one centrally located NBCA with the following:

a. Radiant warmer.
b. Resuscitation kit with functional bag and mask.
c. Mucus extractor.
d. Pre-warmed baby receiving towels.
e. Shoulder roll.
f. Pediatric stethoscope.
g. A clock with seconds hand on the wall near the NBCA.
h. An oxygen cylinder/oxygen concentrator in the vicinity of the NBCA.

Toilets

Each LDR unit should have two toilets, one at each end of the unit, with the following:

a. Size of at least 6'X 6'.
b. A western style toilet.
c. A wash basin.
d. An external window of at least 2.5'X 1.5'.

Handwashing Area

Each LDR unit should have one handwashing area with the following:

a. A steel sink of dimension 28"X18"X8".
b. Two elbow-operated taps with 24x7 running water supply.
c. A geyser of at least 10 liter capacity.
d. Soap dispenser.
e. Hand washing protocol should be mounted on the wall above the hand washing area.

Washing area

Each LDR unit should have one washing area of size 6'2"X 6' with the following:

a. Two taps with running water supply.
b. One geyser of at least 10 liter capacity.

A. LDR Labor Room Complexes for Non-FRU CHCs

New Labor Room Complexes for Non-FRU CHCs (with delivery load >100/month) can be constructed following the LDR concept where the number of LDR units in the Labor Room Complex will depend on the delivery load of the facility. Suggested layouts for LDR-based Labor Room Complex for such facilities with 1 LDR unit (4 LDR Beds) are being given as annexure II. Any newly constructed labor room complex for a CHC should have the following components and specifications:

Overall specifications:

a. The walls of the labor room complex should be made of 1'x1.3' white wall tiles, with seamless joint, and extending up to the ceiling.
b. The floor of the labor room complex should be made of white anti-skid vitrified tiles or natural stone of size 2'x2' and with seamless joints.
c. The main entry doors of the labor room complex should be made of wood and should be of size 4'x7'. It should have two door frames, one large (3/5th of the width) and another small (2/5th of the width).
d. The walls and ceiling of the labor room complex should be of white color.
e. The windows of the complex should be of size 3'x 2.5'. Each window should have 2-panel sliding doors. The outside panel should be fixed and should have half ground glass and half mesh. The second panel should be moving with frosted glass and a lock.

Lighting

The labor room complex should have adequate lights. Apart from the ambient light, there should also be provision for additional focus lights for the labor tables and examination tables for procedures. To ensure adequate lighting in the labor rooms of CHCs, the following guidance should be used:

a. Lighting requirement using LED lights should be calculated. For conventional labor room layout, the labor area should have 500 Lx lighting. Smaller attached rooms such as staff duty room, utility rooms, storage areas etc. should have at least 150 Lx. All passages should have 75 Lx. All the wash rooms should have 100 Lx.
b. Based upon the above reference Lx figures, number of Lumens should be calculated for each area using the area in square meters.
c. Number of LED lights should be calculated based upon the number of Lumens required.
d. The LED lights should be placed in a way that they are situated some distance away from the corners of the room.
e. Apart from ceiling mounted lights, there should be one goose-neck movable shadow less light/ focus light for each table. Wherever possible these lights should be mounted on the ceiling.
f. All the attached wash rooms should have adequate lights (at least 1 LED light).

Power supply

a. All labor room complexes should have adequate power back-up to continuously run the radiant warmer, the lights and the fan.

b.It is recommended that these complexes have solar panels installed to provide the necessary power back-up.

LDR unit

The labor room complex should have LDR units based on the delivery load of the facility.

Waiting/Registration Area

There should be a reception and registration area at the entry of the labor room complex that is separate from the regular in-patient reception area of the hospital for mothers in labor and in emergency. Ideally, this entry should be approachable by ambulance. It should have the following specifications:

- Size and layout as per specification in annexure II.
- A registration desk of size 4'X 2'.
- Three chairs, one for person manning the desk and two for the pregnant woman and her attendant.
- Seating arrangement in the form of fixed chairs for 10 people.
- Two toilets (size as per layout in annexure II), one for men and another for women.

Staff Room

There should be a staff room with the following specifications:

a. Size as per layout in annexure II.
b. A bed for off duty staff to rest.
c. A cabinet to store documents, supplies, and personal effects of the staff.
d. There should be an attached toilet with:
    i.One western style water closet.
    ii.One wash basin.

Space for changing shoes before entering the labor room

A shoe rack alcove should be built in the wall of the staff room. A shoe rack should be fitted in this space, where the staff can wear labor room shoes before entering.

Store

There should be a store room within the complex with the following specifications:

a. Size and position as per the layout given in annexure II.
b. Cabinets and storage racks for storing supplies.

Doctor's Room

There should be a doctor's room with the following specifications:

a. Size as per the layout in annexure II with one window of size 3'x 2.5'.

b. A bed for off duty staff to rest.
c. A cabinet to store documents, supplies, and personal effects of the staff.
d. There should be an attached toilet with size 6' X 6' with:
   iii.One western style water closet.
   iv.One wash basin.

Clean-utility room

There should be a clean-utility area in the facility to store clean and autoclaved supplies received from the central sterile supply department (CSSD). Entry to this area should be restricted only to the on-duty staff. This room should be fitted with storage racks for storing autoclaved supplies and other clean utility items.

Dirty-utility area

There should be a dirty-utility area in the facility (size as per the layout in annexure II) for storing used supplies such as towels, linen, used instruments prior to shifting to the CSSD. This should have tubs for storing used and un-clean re-usable supplies and other items.

Air-Handling Unit

There should be an air-handling unit (AHU) in the labor room complex to provide proper quality and conditioned air to various complex areas. The AHU should be able to ensure 6 air changes per hour in the labor room complex. The AHU room should have a size and position as per the layout given in annexure II and III for 1 and 2 LDR unit complexes respectively.

B LDR Labor Room Complexes for FRU Community Health Centers/Area Hospitals/Sub-district Hospitals

New Labor Room Complexes for FRU CHCs/AHs/SDHs) should be constructed following the LDR concept where the number of LDR units in the Labor Room Complex will depend on the delivery load of the facility. Suggested layout for Labor Room Complexes for CHC/AH/SDH with 2 LDR units (8 labor tables) is being given as annexure III. Any newly constructed labor room complex for a CHC/AH/SDH should have the following components and specifications:

Overall specifications:

a. The walls of the labor room complex should be made of 1'x1.3' white wall tiles, with seamless joint, and extending up to the ceiling.
b. The floor of the labor room complex should be made of white anti-skid vitrified tiles or natural stone of size 2'x2' and with seamless joints.
c. The main entry doors of the labor room complex should be made of wood and should be of size 4'x7'. It should have two door frames, one large (3/5th of the width) and another small (2/5th of the width).
d. The walls and ceiling of the labor room complex should be of white color.
e. The windows of the complex should be of size 3'x 2.5'. Each window should have 2-panel sliding doors. The outside panel should be fixed and should have half ground glass and half mesh. The second panel should be moving with frosted glass and a lock.

Lighting

The labor room complex should have adequate lights. Apart from the ambient light, there should also be provision for additional focus lights for the labor tables and examination tables for procedures. To ensure adequate lighting in the labor rooms of CHCs, the following guidance should be used.

a. Lighting requirement using LED lights should be calculated. For conventional labor room layout, the labor area should have 500 Lx lighting. Smaller attached rooms such as staff duty room, utility rooms, storage areas should have at least 150 Lx. Passages should have 75 Lx. All the wash rooms should have 100 Lx.
b. Based upon the above reference Lx figures, number of Lumens should be calculated for each area using the area in square meters.
c. Number of LED lights should be calculated based upon the number of Lumens required.
d. The LED lights should be placed in a way that they are situated some distance away from the corners of the room.
e. Apart from ceiling mounted lights, there should be one goose-neck movable shadow less light/ focus light for each table. Wherever possible these lights should be mounted on the ceiling.
f. All the attached wash rooms should have adequate lights (at least 1 LED light).

Power supply

a. All labor room complexes should have adequate power back-up to continuously run the radiant warmer, the lights and the fan.
b. It is recommended that these complexes have solar panels installed to provide the necessary power back-up.

LDR unit

The labor room complex should have adequate LDR units as per the delivery load of the hospital. The specifications of the LDR units remain same as that given earlier.

Waiting/Registration area

There should be a reception and registration area at the entry of the labor room complex that is separate from the regular in-patient reception area of the hospital for mothers in labor and in emergency. Ideally, this entry should be approachable by ambulance. It should have the following specifications:

a. Size as per the layout given in annexure III.
b. A registration desk of size 4'X 2'.
c. Three chairs, one for person manning the desk and two for the pregnant woman and her attendant.
d. Seating arrangement in the form of fixed chairs for 10 people.
e. Two toilets (size as per layout in annexure III), one for men and another for women.

Triage/Examination Room

There should be an examination cum triage room to first examine the pregnant woman who has come to the facility. The examination room will function as the triage area based on risk stratification into low risk and high risk, based on history, examination and referral notes. The mother is examined, necessary investigations done, and admitted to LDR if low or no risk or High Dependency Unit (HDU) if moderate or high risk. The examination room should have the following:

a. 1 examination bed with adequate provisions for movement and privacy, including screens.
b. A table for nurse of size 4' X 4' for paper work.
c. Three chairs, 1 for the nurse/examiner and 2 for the pregnant woman and her attendant.
d. A storage cabinet for storing essential supplies.
e. A granite counter running the full length of the shortest wall of the labor room to keep equipment and supplies for use during examination. The size of the examination/triage room should be as per the layout given in annexure III.

Nurse's Duty Room

There should be a nurse's duty room or staff room with the following specifications:

a. Size as per the layout given in annexure III.
b. A bed for off duty staff to rest.
c. A cabinet to store documents, supplies, and personal effects of the staff.
d. There should be an attached toilet with size 6' X 6' with:
    I. One western style water closet.

ii.One wash basin.

e.There should be an attached changing room of size as per the layout given in annexure III.

Space for changing shoes before entering the labor room

A shoe rack alcove should be built in the wall of the staff room. A shoe rack should be fitted in this space, where the staff can wear labor room shoes before entering.

Doctor's Room

There should be a doctor's room with the following specifications:

a. Size as per the layout given in annexure III.
b. A bed for off duty staff to rest.
c. A cabinet to store documents, supplies, and personal effects of the staff.
d. There should be an attached toilet with size 8' X 6' with:
   i.One western style water closet.
   ii.One wash basin.
e. There should be an attached changing room of size as per the layout given in annexure III.

Procedure room

There should be a procedure room of (size as per layout in annexure III) which can be used for conducting USG examination or any other minor procedure. This room should have an examination bed, a stool for the birth companion, a room size appropriate table and chair for the staff, and a storage trolley.

Staff Changing Room

There should be a staff changing room of size 15'X 10'.

Store

There should be a store room within the complex with the following specifications:

a. Size as per the layout given in annexure III.
b. Cabinets and storage racks for storing supplies.

Clean utility area

There should be a clean utility area (size as per layout in annexure III) for storing autoclaved supplies and other clean utility items.

Dirty-utility area

There should be a dirty-utility area (size as per layout in annexure III) for storing used and un-clean re-usable supplies and other items.

Air-Handling Unit

There should be an air-handling unit (AHU) in the labor room complex. The AHU should be able to ensure 6 air changes per hour in the labor room complex. The AHU room should have a size as per the layout given in annexure III.

C LDR Labor Room Complexes for District Hospitals (DHs)

New Labor Room Complexes for the District Hospitals (DHs) should be constructed following the LDR concept where the number of LDR units in the Labor Room Complex will depend on the delivery load of the facility. Suggested layout for Labor Room Complexes for DH with 7 LDR units (28 labor tables) is being given as annexure IV. Any newly constructed labor room complex for a DH should have the following components and specifications:

Overall specifications:

1. The walls of the labor room complex should be made of 1'x1.3' white wall tiles, with seamless joint, and extending up to the ceiling.
2. The floor of the labor room complex should be made of white anti-skid vitrified tiles or natural stone of size 2'x2' and with seamless joints.
3. The main entry doors of the labor room complex should be made of wood and should be of size 4'x7'. It should have two door frames, one large (3/5th of the width) and another small (2/5th 4'x7'. It should have two door frames, one large (3/5th of the width) and another small (2/5th of the width).
4. The walls and ceiling of the labor room complex should be of white color.
5. The windows of the complex should be of size 3'x 2.5'. Each window should have 2-panel sliding doors. The outside panel should be fixed and should have half ground glass and half mesh. The second panel should be moving with frosted glass and a lock.

Lighting

The labor room complex should have adequate lights. Apart from the ambient light, there should also be provision for additional focus lights for the labor tables and examination tables for procedures. To ensure adequate lighting in the labor rooms of DHs, the following guidance should be used.

a. Lighting requirement using LED lights should be calculated. Each LDR unit area should have 500 Lx lighting. Smaller attached rooms such as staff duty room, utility rooms, storage areas should have at least 150 Lx. Passages should have 75 Lx. All the wash rooms should have 100 Lx.
b. Based upon the above reference Lx figures, number of Lumens should be calculated for each area using the area in square meters.
c. Number of LED lights should be calculated based upon the number of Lumens required.
d. The LED lights should be placed in a way that they are situated some distance away from the corners of the room.
e. Apart from ceiling mounted lights, there should be one goose-neck movable shadow less light/ focus light for each table. Wherever possible these lights should be mounted on the ceiling.
f. All the attached wash rooms should have adequate lights (at least 1 LED light).

Power supply

a. All labor room complexes should have adequate power back-up to continuously run the radiant warmer, the lights and the fan.
b. It is recommended that these complexes have solar panels installed to provide the necessary

power back-up.

LDR unit

The labor room complex should have adequate LDR units as per the delivery load of the hospital, and as per specifications given on page number 12.

Waiting/Registration area

There should be a reception and registration area at the entry of the labor room complex that is separate from the regular in-patient reception area of the hospital for mothers in labor and in emergency. This area is not shown in the layout plan for the layout given in annexure IV, since this will be a part of the Maternal Child Health Wing (layout plan in annexure XI). Ideally, this entry should be approachable by ambulance. It should have the following specifications:

a. Size and position as per the layout given in annexure XI.
b. A registration desk of size 4'X 2'.
c. Three chairs, one for person manning the desk and two for the pregnant woman and her attendant.
d. Seating arrangement in the form of fixed chairs for 20 people.
e. Two toilets (size as per layout given in annexure IV), one for men and another for women.

Triage/Examination Room

There should be an examination cum triage room to first examine the pregnant woman who has come to the facility. The examination room will function as the triage area for risk stratification into low risk and the high risk pregnancy, based on history, examination and referral notes. The mother is examined, necessary investigations done, and admitted to LDR if low or no risk or HDU if moderate or high risk. The examination room should have the following:

a. 2 examination beds with adequate provisions for movement and privacy, including screens.
b. A table for nurse of size 4' X 4' for paper work.
c. Three chairs, 1 for the nurse/examiner and 2 for the pregnant woman and her attendant.
d. A storage cabinet for storing essential supplies.
e. A granite counter running the full length of the shortest wall of the labor room to keep equipment and supplies for use during the examination. The size of the examination counter should be as per the layout given in annexure IV.

Doctor's duty room

There should be a doctor's room with the following specifications:

a. Size as per layout given in annexure IV with one window of size 5'X 3'.
b. A bed for off duty staff to rest.
c. A cabinet to store documents, supplies, and personal effects of the staff.
d. There should be an attached toilet with size 8' X 6' with:
I. One western style water closet.
ii. One wash basin.

Nurse's Duty Room

There should be a staff room with the following specifications:

a. Size as per layout given in annexure IV with one window of size 5'X 3'.

b. A bed for off duty staff to rest.
c. A cabinet to store documents, supplies, and personal effects of the staff.
d. There should be an attached toilet (size as per layout given in annexure IV) with:
   i. One western style water closet.
   ii. One wash basin.
e. There should be an attached changing room of size as per layout given in annexure IV.

Space for changing shoes before entering the labor room

A shoe rack alcove should be built in the wall of the staff room. A shoe rack should be fitted in this space, where the staff can wear labor room shoes before entering.

Procedure room

There should be a procedure room (size as per layout given in annexure IV) which can be used for conducting USG examination or any other minor procedure. This room should have an examination bed, a stool for the birth companion, and a storage trolley.

Staff changing room

conducting USG examination or any other minor procedure. This room should have an examination bed, a stool for the birth companion, and a storage trolley.

Doctor's and Nurse's Changing Rooms

There should be separate changing rooms for doctors and nurses in the premises.

Store

There should be a store room within the complex with the following specifications:
a. Size as per layout given in annexure IV.
b.Cabinets and storage racks for storing supplies.

Clean utility area

There should be a clean utility area (size as per layout given in annexure IV) for storing autoclaved supplies and other clean utility items.

Dirty-utility area

There should be a dirty-utility area (size as per layout given in annexure IV) for storing used and un-clean re-usable supplies and other items.

Air-Handling Unit

There should be an air-handling unit (AHU) in the labor room complex. The AHU should be able to ensure 6 air changes per hour in the labor room complex. The AHU room should have a size as per layout given in annexure IV.

Standardizing Space and Layout (Conventional Labor Room Complexes)

Facilities where space constraints do not allow construction of LDR based labor rooms, those having a delivery load below 100 deliveries per month and those below the non-FRU level CHCs can have conventional labor rooms. This means having a labor bed that will be used primarily for 2nd stage of labor and having associated space for women in early stages of labor and in postpartum period. The period of stay of the pregnant women in the labor room in such cases will be approximately 8 hours (4 hours for pre-delivery preparations and delivery, and 4 hours for recovery and labor room cleaning). Considering this, the requirement of number of beds will be less in such cases.

A Conventional Labor Room Complexes for Sub-Centers (SCs) and Primary Health Centers (PHCs)

The guidelines apply to the SCs and PHCs functioning as Delivery Points. These facilities usually function as a Level 1 delivery unit, and have a one-room labor room with one or two delivery tables based upon the number of deliveries. A SC or PHC with less than 20 deliveries should have 1 labor table labor room, and facilities with more than 20 deliveries per month should have 2 labor table labor room.

Room Specifications

a. The labor room should have 3 ceiling LED lights (between 300-500 Lx), 1 goose neck shadow-less/ focus light for each labor table.
b. The labor room should have ceiling mounted fan for each labor table.

Layout and specifications

a. Size of the labor room should be as per layouts given in annexure V and VI for single labor table and two labor table labor rooms respectively.
b. The walls of the labor room should be made of 1'x1.3' white wall tiles, with seamless joint, and extending up to the ceiling.
c. The floor of the labor room should be made of white anti-skid vitrified tiles or natural stone of size 2'x2' and with seamless joints.
d. The door of the labor room door should be made of wood and should be of size 4'x7'. It should have two door frames, one large (3/5th of the width) and another small (2/5th of the width).
e. The labor room should have 2 windows of size 3'x 2.5'. Each window should have 2-panel sliding doors. The outside panel should be fixed and should have half ground glass and half mesh. The second panel should be moving with frosted glass and a lock.
f. The labor room should have a granite counter running the full length of the shortest wall of the labor room to keep equipment and supplies for use during the examination. The space below the platform should be used for storing the crash trolley loaded with 5 trays (autoclaved delivery tray, baby tray, episiotomy tray, normal drug tray and emergency drug tray: contents given in annexure- trays to be kept in labor room). There should be one crash trolley per labor table.
g. The walls and ceiling of the labor room should be of white color.
h. There should be an attached toilet of size 6'x8' with the labor room. The toilet should have:
   - A western style toilet.

- A wash basin.
- An external window of at least 2.5'X 1.5'.

Labor table and delivery area

a. The labor room should have 1 or 2 labor tables as per the delivery load.
b. The labor tables should be placed in a way that there is a distance of at least 3' from the side wall, at least 2' from head end wall, and at least 6' from the second table in case of two-table labor room. In case of single-table labor room, the table should have at least 4' distance from each wall.
c. In case of two labor tables, each labor table should have 3-side wrap around curtains.

Newborn Care Area

a. The labor room should have a Newborn Care Area (NBCA). The NBCA should not be a separate enclosed space attached to the labor room, but rather an area within the labor room designated for resuscitation of newborns.
b. The NBCA should be situated in a way that there is no obstruction between the labor table(s) and the NBCA and any child needing resuscitation can be shifted there within 5 seconds.
c. The NBCA should have the following:
   - Radiant warmer.
   - Resuscitation kit with functional bag and mask.
   - Mucus extractor.
   - Pre-warmed baby receiving towels.
   - Shoulder roll.
   - Pediatric stethoscope.
d. The radiant warmer should be placed in a way that it has free space on three sides.
e. There should be a clock with seconds hand on the wall near the NBCA
f. There should be an oxygen cylinder/ oxygen concentrator in the vicinity of the NBCA.

Nursing Station

The labor room should have one nursing station with the following:
a. One table of size 4'X 2'.
b. Two plastic/wooden chairs.
c. A storage cupboard for storing documents and supplies.
d. A white board on the wall next to the nursing station.

Handwashing station

a. There should be a hand washing station with the following:
   - A steel sink of dimension 28"X18"X8".
   - Two elbow-operated taps with 24x7 running water supply..
   - A geyser of at least 10 liter capacity.
   - Soap dispenser.
b. Hand washing protocol should be mounted on the wall above the hand washing area.

Ventilation

The labor room should have adequate ventilation. At the same time, the temperature of the labor room should be kept around 250 C. The labor room should not have broken windows panes or doors that can create draughts of air. To ensure adequate ventilation in labor rooms of SC and PHCs, the following guidance should be used:

following guidance should be used:

a. The labor room should have a split AC with a capacity of at least 2 tonnes installed for ventilation.
b. The labor room should have one ceiling mounted fan for each labor table.

Lighting

The labor room should have adequate light in the labor room. There should also be provision for additional focus lights for the labor tables for procedures. To ensure adequate lighting in the labor rooms of SC and PHCs, the following guidance should be used.

a. The labor room should have 3 ceiling LED lights (between 300-500 Lx).
b. There should be one goose-neck movable shadow less light/focus light for each table. Wherever possible these lights should be mounted on the ceiling.
c. The attached wash room should have adequate light (at least 1 LED light).

Power supply

a. Every new construction should have adequate power back-up to continuously run the radiant warmer, the lights and the fan.
b. Every new construction should have solar panels installed to provide the necessary power back-up.

B Conventional Labor Room Complexes for Community Health Centers (CHCs)

Considering various factors including delivery load, usually these centers will have labor rooms with number of labor tables ranging from 2 to 6. Suggested layout of labor room complexes with 4 labor tables is given as annexure VII.

Overall specifications

a. The walls of the labor room complex should be made of 1'x1.3' white wall tiles, with seamless joint, and extending up to the ceiling.
b. The floor of the labor room complex should be made of white anti-skid vitrified tiles or natural stone of size 2'x2' and with seamless joints.
c. The main doors of the labor room complex should be made of wood and should be of size 7'X4'. It should have two door frames, one large (3/5th of the width) and another small (2/5th of the width).
d. The walls and ceiling of the labor room complex should be of white color.
e. The windows of the complex should be of size 3'x 2.5'. Each window should have 2-panel sliding doors. The outside panel should be fixed and should have half ground glass and half mesh. The second panel should be moving with frosted glass and a lock.

Lighting

The labor room complex should have adequate lights. Apart from the ambient light, there should also be provision for additional focus lights for the labor tables and examination tables for procedures. To ensure adequate lighting in the labor rooms of CHCs, the following guidance should be used.

a. Lighting requirement using LED lights should be calculated. For conventional labor room layout, the labor area should have 500 Lx lighting. Smaller attached rooms such as staff duty room, utility rooms, storage areas should have at least 150 Lx. Passages should have 75 Lx. All the wash rooms should have 100 Lx.
b. Based upon the above reference Lx figures, number of Lumens should be calculated for each area using the area of the area in square meters.
c. Number of LED lights should be calculated based upon the number of Lumens required.
d. The LED lights should be placed in a way that they are situated some distance away from the corners of the room.
e. Apart from ceiling mounted lights, there should be one goose-neck movable shadow less light/ focus light for each table. Wherever possible these lights should be mounted on the ceiling.
f. All the attached wash rooms should have adequate lights (at least 1 LED light).

Power supply

a. Every new construction should have adequate power back-up to continuously run the radiant warmer, the lights and the fan.
b. Every new construction should have solar panels installed to provide the necessary power back-up.

Ventilation

The labor room should have adequate ventilation. At the same time, the temperature of the labor room should be kept around 250 C. The labor room should not have broken windows panes or doors that can create draughts of air. To ensure adequate ventilation in conventional labor room complexes of CHCs, the following guidance should be used:

a. The labor complex should have split ACs for ensuring adequate ventilation and air changes.
b. Tonnage for ACs for the different sections of the labor room complex can be calculated using the following formula (for a room with ceiling height of 9')
   Tonnage = (square root of area)/10
   For example, for a section with an area of 150 square feet (15'X 10'), AC tonnage can be calculated as follows-
   Tonnage = (square root 150)/10
   = 12.48/10
   = 1.248 or 1.25 tonne
c. Number and size of split ACs should be calculated using this formula.
d. Apart from the AC units, the labor room complex should have one ceiling mounted fan for every labor table in the labor area, and one ceiling mounted fan for every workspace.

Waiting/Registration area

There should be a reception and registration area at the entry of the labor room complex that is separate from the regular in-patient reception area of the hospital for mothers in labor and in emergency. Ideally, this entry should be approachable by ambulance. It should have the following specifications:

a. Size and position as per the layout given in annexures VII.
b. A registration desk of size 4'X 2'.
c. Three chairs, one for person manning the desk and two for the pregnant woman and her attendant.
d. Seating arrangement in the form of fixed chairs for 20 people.
e. Two toilets (size as per layout given in annexure VII), one for men and another for women.

Triage/Examination Room

There should be an examination cum triage room to first examine the pregnant woman who has come to the facility. The examination room will function as the triage area based on risk stratification into low risk and the high risk, based on history, examination and referral notes. The mother is examined, necessary investigations done, and admitted to LDR if low or no risk or HDU if moderate or high risk. The examination room should have the following:

a. 1 examination bed with adequate provisions for movement and privacy including screens.
b. A table for nurse of size 4' X 4' for paper work.
c. 3 chairs, 1 for the nurse/examiner and 2 for the pregnant woman and her attendant.
d. A storage cabinet for storing essential supplies.
e. A granite counter running the full length of the shortest wall of the labor room to keep equipment and supplies for use during the examination. The size of the examination should be

as per the layout given in annexures VII.

Staff Room

There should be a staff room with the following specification:

a. Size as per layouts in annexures VII.
b. A bed for off duty staff to rest.
c. A cabinet to store documents, supplies, and personal effects of the staff.
d. There should be an attached toilet with:
   - One western style water closet.
   - One wash basin.

Labor & Delivery Area

The labor area should be organized in a way to ensure most efficient space utilization and free movement space for the nursing staff between different labor tables.

a. The labor area should have adequate space to accommodate recommended number of labor beds as per the layout given in annexures VII.
b. The labor room should have adequate number of labor beds as per the delivery load.
c. The labor beds should be placed in a way that there is a distance of at least 3' from the side wall, at least 2' from head end wall, and at least 6' from the second table in case of two-table labor room. In case of single-table labor room, the table should have at least 4' distance from each wall.
d. There should be an attached toilet of size 6'x8' with the labor room. The toilet should have:
   - A western style toilet.
   - A wash basin.
   - An external window of at least 2.5'X 1.5'.

Newborn Care Area

a. The labor room should have one Newborn Care Area (NBCA) for every 4 labor tables. The NBCA should not be a separate enclosed space attached to the labor room, but rather an area within the labor room designated for resuscitation of newborns.
b. The NBCA should be situated in a way that there is no obstruction between the labor table(s) and the corner and any child needing resuscitation can be shifted there within 5 seconds.
c. The NBCA should have the following:
   - Radiant warmer.
   - Resuscitation kit with functional bag and mask.
   - Mucus extractor.
   - Pre-warmed baby receiving towels.
   - Shoulder roll.
   - Pediatric stethoscope.
d. The radiant warmer should be placed in a way that it has free space on three sides.
e . There should be a clock with seconds hand on the wall near the NBCA.
f. There should be an oxygen cylinder/oxygen concentrator in the vicinity of the NBCA.

Nursing Station

The labor room should have one nursing station with the following:

a. An L-shaped table with size as per specification in annexures VII.
b. Two plastic/wooden chairs.
c. A storage cupboard for storing documents and supplies.
d. A white board on the wall next to the nursing station.

Store

There should be a store room within the complex with the following specifications:

a. Size as per layout given in annexure VII.
b. Cabinets and storage racks for storing supplies.

Clean utility area

There should be a clean utility area (size as per layout given in annexure VII) for storing autoclaved supplies and other clean utility items.

Dirty-utility area

There should be a dirty-utility area (size as per layout given in annexure VII) for storing used and un-clean re-usable supplies and other items.

C Conventional Labor Room Complexes for District Hospitals (DHs)

District hospital labor room complexes should ideally be up-graded following the LDR concept. However, in cases there are space restrictions, conventional labor rooms can be developed for the DHs. Typically a DH will have 8 or more labor tables (layout in annexure VIII).

Overall specifications:

a. The walls of the labor room complex should be made of 1'x1.3' white wall tiles, with seamless joint, and extending up to the ceiling.
b. The floor of the labor room complex should be made of white anti-skid vitrified tiles or natural stone of size 2'x2' and with seamless joints.
c. The main doors of the labor room complex should be made of wood and should be of size 4'x7'. It should have two door frames, one large (3/5th of the width) and another small (2/5th of the width).
d. The walls and ceiling of the labor room complex should be of white color.
e. The windows of the complex should be of size 3'x 2.5'. Each window should have 2-panel sliding doors. The outside panel should be fixed and should have half ground glass and half mesh. The second panel should be moving with frosted glass and a lock.

Lighting

The labor room complex should have adequate lights. Apart from the ambient light, there should also be provision for additional focus lights for the labor tables and examination tables for procedures. To ensure adequate lighting in the labor rooms of DHs, the following guidance should be used.

a. Lighting requirement using LED lights should be calculated. For conventional labor room layout, the labor area should have 500 Lx lighting. Smaller attached rooms such as staff duty room, Utility rooms, storage areas should have at least 150 Lx. Passages should have 75 Lx. All the wash rooms should have 100 Lx.
b. Based upon the above reference Lx figures, number of Lumens should be calculated for each area using the area in square meters.
c. Number of LED lights should be calculated based upon the number of Lumens required.
d. The LED lights should be placed in a way that they are situated some distance away from the corners of the room.
e. Apart from ceiling mounted lights, there should be one goose-neck movable shadow less light/ focus light for each table. Wherever possible these lights should be mounted on the ceiling.
f. All the attached wash rooms should have adequate lights (at least 1 LED light).

Power supply

a. Every new construction should have adequate power back-up to continuously run the radiant

warmer, the lights and the fan.

b. Every new construction should have solar panels installed to provide the necessary power back-up.

Ventilation

The labor room should have adequate ventilation. At the same time, the temperature of the labor room should be kept around 250 C. The labor room should not have broken windows panes or doors that can create draughts of air. To ensure adequate ventilation in conventional labor room complexes of DHs, the following guidance should be used:

a. The labor complex should have split ACs for ensuring adequate ventilation and air changes.

b. Tonnage for ACs for the different sections of the labor room complex can be calculated using the following formula:
Tonnage = (square root of area)/10
For example, for a section with an area of 150 square feet (15'X 10'), AC tonnage can be calculated as follows-
Tonnage = (square root 150)/10
= 12.48/10
= 1.248 or 1.25 tonne

c. Number and size of split ACs should be calculated using this formula.

d. Apart from the AC units, the labor room complex should have one ceiling mounted fan for every labor tables in labor area and one ceiling mounted fan for every workspace.

Waiting/Registration area

There should be a reception and registration area at the entry of the labor room complex that is separate from the regular in-patient reception area of the hospital for mothers in labor and in emergency. Ideally, this entry should be approachable by ambulance. It should have the following specifications:

a. Size and position as per the layout given in annexure VIII.

b. A registration desk of size 4'X 2'.

c. Three chairs, one for person manning the desk and two for the pregnant woman and her attendant.

d. Seating arrangement in the form of fixed chairs for 30 people.

e. Two toilets (size as per layout given in annexure VIII), one for men and another for women.

Triage/Examination Room

There should be an examination cum triage room to first examine the pregnant woman who has come to the facility. The examination room will function as the triage area based on risk stratification into low risk and the high risk, based on history, examination and referral notes. The mother is examined, necessary investigations done, and admitted to LDR if low or no risk or HDU if moderate or high risk. The examination room should have the following:

a. 2 examination beds with adequate provisions for movement and privacy including screens.

b. A table for nurse of size 4' X 4' for paper work.

c. 3 chairs, 1 for the nurse/examiner and 2 for the pregnant woman and her attendant.

d. A storage cabinet for storing essential supplies.

e. A granite counter running the full length of the shortest wall of the examination room to keep equipment and supplies for use during the examination.
f. The size of the examination should be as per the layout given in annexure VIII.
g. There should be a toilet attached to the examination room with the following specifications:
   - A western style toilet.
   - A wash basin.
   - An external window of at least 2.5'X 1.5'.

Staff Room

There should be a staff room with the following specifications:
a. Size as per layouts in annexure VIII.
b. A bed for off duty staff to rest.
c. A cabinet to store documents, supplies, and personal effects of the staff.
d. There should be an attached toilet with:
   - One western style water closet.
   - One wash basin.

Doctor's Duty room

There should be a doctor's duty room with the following specifications:
a. Size as per layouts in annexure VIII.
b. A bed for off duty doctors to rest.
c. A cabinet to store documents, supplies, and personal effects of the staff.
d. There should be an attached toilet with:
   - One western style water closet
   - One wash basin

Labor & Delivery Area

The labor area should be organized in a way to ensure most efficient space utilization and free movement space for the nursing staff between different labor tables.
a. The labor area should have adequate space to accommodate recommended number of labor beds as per the layout given in annexure VIII.
b. The labor room should have adequate number of labor tables as per the delivery load.
c. The labor tables should be placed in a way that there is a distance of at least 3' from the side wall, at least 2' from head end wall, and at least 6' from the second table in case of two-table labor room. In case of single-table labor room, the table should have at least 4' distance from each wall.
d. There should be two attached toilets of size 6'x8' with the labor room. Each toilet should have:
   - Two western water closet areas.
   - A wash basin.
   - An external window of at least 2.5'X 1.5' for each water closet areas.

Newborn Care Area

a. The labor room should have one Newborn Care Area (NBCA) for every 4 labor tables. The NBCA should not be a separate enclosed space attached to the labor room, but rather an area within

the labor room designated for resuscitation of newborns.

b. The NBCA should be situated in a way that there is no obstruction between the labor table(s) and the corner and any child needing resuscitation can be shifted there within 5 seconds.

c. The NBCA should have the following:
   - Radiant warmer.
   - Resuscitation kit with functional bag and mask.
   - Mucus extractor.
   - Pre-warmed baby receiving towels.
   - Shoulder roll.
   - Pediatric stethoscope.

d. The radiant warmer should be placed in a way that it has free space on three sides.

e. There should be a clock with seconds hand on the wall near the NBCA.

f. There should be an oxygen cylinder/oxygen concentrator in the vicinity of the NBCA.

Nursing Station

The labor room should have one nursing station with the following:

a. An L-shaped table with size as per specification in annexure VIII.

b. Two plastic/wooden chairs.

c. A storage cupboard for storing documents and supplies.

d. A white board on the wall next to the nursing station.

Store

There should be a store room within the complex with the following specifications:

a. Size as per layout given in annexure VIII.

b. Cabinets and storage racks for storing supplies.

Clean utility area

There should be a clean utility area (size as per layout given in annexure VIII) for storing autoclaved supplies and other clean utility items.

Dirty-utility area

There should be a dirty-utility area (size as per layout given in annexure VIII) for storing used and un-clean re-usable supplies and other items.

Central Sterile Supply Department

Central sterile supply department (CSSD) is a service unit in a hospital that processes, issues, and controls the sterile stores supply to all departments of the hospital, both to specialized units as well as general wards and out patients department (OPD). It is recommended that each FRU CHC, AH, SDH, and DH has a CSSD to supply sterile utilities to labor rooms, operation theaters, and other work areas such as wards.

The objectives of the department are:

- To ensure one source supply of sterilized material from a central department where sterilizing practice is conducted under recommended practices to ensure infection prevention and control.
- To avoid duplication of any costly equipment that may be infrequently used.
- To maintain record of effectiveness of cleaning, disinfection and sterilization process.
- To monitor and enforce controls necessary to prevent cross infection according to infection control policy.
- To provide a safe environment for the patients and staff.

Specifications Of CSSD

General recommendations

- The floor of the CSSD should be made of white anti-skid vitrified tiles or natural stone of size 2'x2' and with seamless joints.
- The walls of the CSSD should be made of 1'x1.3' white wall tiles, with seamless joint, and extending up to the ceiling
- Light fittings in the CSSD area should be recessed. Lighting CSSD should have 400 Lx lighting. LED light requirements should be calculated according to various areas
- Relative humidity inside the CSSD should be maintained at 45 ± 5 per cent.
- The clean area should be provided with air locks and maintained at positive pressures relative to the adjoining spaces.
- The CSSD should be connected to the air handling units. The minimum ventilation rate should be 6 to 10 air changes per hour.
- The work area should be made of granite or stainless steel.

Functions and activities

The CSSD is supposed to ensure the following functions:

Receiving supplies: The CSSD will receive unclean materials, supplies, equipment, and other specialized surgical items for processing. Each set of such supplies should be clearly logged at the time of receiving so that it can be correctly issued to the appropriate department after processing.

Cleaning: This includes cleaning of the used equipment/material, rubber and plastic goods manually or mechanically. Instruments should be washed thoroughly with detergent and brush, and trays and

trollies should also be cleaned in special designated areas. The purpose of cleaning and rinsing is to remove all visible debris from an item and to reduce the number of particulates, micro-organisms and potential pathogens.

Decontamination: Decontamination using chemical means ensures inactivation of pathogens on a surface of the supplies. This should be done prior to the assembling and sterilizing supplies.
Checking, assembling and packaging: This includes checking of glass items for breakages, needles and instruments for sharpness and breakages, assembling of the equipment after washing and drying, making sets and packaging for sterilization. The preparation or packaging workstation should be designed in such a way that the work can be done efficiently, preventing physical problems to the workers. A table of a suitable size and height, with easy access to all required materials is indispensable.

Sterilization: This one of the main functions of the CSSD. The CSSD should have provisions for performing both steam and chemical sterilization of instruments and supplies. The sterilization rooms should be constructed in a manner that they become the entry barrier between unsterile and sterile supply areas. Any supplies from the non-sterile instrument areas can move to sterile instrument area only through the sterilization room.

Labelling: This ensures easy identification for prompt and proper use.

Storage: The function includes storage of sterilized packs, drums and disposables, dressing materials, spare parts of machines or sterilizers for routine maintenance and broken/unserviceable items for condemnation etc. There should be provision for space for storing distribution trolleys. The sterile store should maintain inventory of all types of sterile packs.

Issue and distribution: This function entails issue of the sterilized packages of equipment and other supplies to various departments of the hospitals. The issuing or dispatch area should use one or more systems for distribution of supplies, so as to avoid hoarding of supplies in order to minimize unproductive storage of expensive items, re-sterilization of packs kept for long periods, and stock outs during emergency needs. A few of these recommended systems are:

- One for One Exchange System- All the used articles are collected in the locked canvas bags and similar numbers of packs in sterile state are returned to the respective areas. 2 such rounds of collection and distribution could be planned in a day.
- The Milk Round System- Daily topping up of each department stock level to an agreed level with delivery and collection rounds planned once or twice daily.
- The Grocery System- The departments send their requisition to CSSD from where deliveries are made in accordance with the demand.
- The Clean for Dirty Exchange System- Issuing of one clean article for each dirty returned to the CSSD.

Quality assurance and monitoring: The hospital CSSDs are required to adopt strict quality control processes with the latest cutting technology to mitigate hospital acquired infections.

Layout

The layout of the CSSD is given in annexure X. For a smooth work flow, the CSSD should have in-area for receiving the used and dirty supplies and out-area for issuing sterilized supplies. Various

functional areas in the CSSD are organized in a way to ensure a unidirectional flow of items (Refer to annexure IX):

1. Receiving and decontamination area: This area should be the first point of contact with the CSSD. The receiving and decontamination area should have size as per the layouts and should have push entry doors.

    a. There should be an attached trolley washing area where trollies and equipment trays etc. can be washed and decontaminated before processing.
    b. There should be a dumbwaiter area that connects OT to the CSSD.
    c. Towards the end of the room, there should be counters with window to the assembly and preparation area. These counters should have a washing area and decontamination area to wash and decontaminate instruments before passing on to the preparation and assembly area. This should have the following:
        i. One stainless steel sink with taps with elbow operated handles for washing the instrument.
        ii. A container for immersing the instruments for chemical decontamination.
        iii. Transfer trays to pass on the decontaminated instruments to the next area.

2. Preparation and assembly area: This area should be of size as per the layout. It should have the following:

    a. Receiving counters next to the window with decontamination area.
    b. Checking area: A counter against the wall adjacent clockwise to the receiving counters to check for broken supplies, any sharps, and unusable equipment for discarding before assembly. This counter should have a puncture proof container for discarding supplies.
    c. Assembly area: A counter against the wall adjacent clockwise to the checking counters assemble trays for various procedures and preparing batches for equipment. This area should have the provision for the following:
        i. Posters of the various trays to be assembled with pictorial description of equipment.
        ii. Adequate number of autoclave trays and the wrapping clothes.
        iii. Labelling stickers for labelling instruments.
    d. Handing over area: There should be a counter for logging supplies for handing over to the sterilization room. This should have a window (operable only from sterilization room) with the sterilization room.

3. Autoclave/sterilization area:
    a. This area should have horizontal sterilizers of adequate capacity to cover the instrument processing needs of the hospital. Ideally, there should be at least two sterilizers in a CSSD—for supply processing and back up to allow for servicing the sterilizers.

4. Sterile storage area:
    a. This area should have adequate storage space for processed supplies.

5. Issuing/dispatch area:
    a. This area should have provision for issuing supplies against the coupons of receipt of used supplies at the receiving area. Additionally, supplies can be issued against specific indents to cover and urgent needs.

6. Managers/staff room:
   a. There should be a room for the facility manager and provision for a table and 3 chairs for completing administrative work.

7. Changing rooms and lockers- male and female:
   a. There should be separate changing rooms and lockers for males and female workers working in the CSSD. The changing rooms should each have attached toilets.

Equipment and accessories

All the labor rooms, whether newly constructed or re-organized from an existing labor room, should have equipment and accessories with appropriate specifications and in adequate quantities, as per the recommendations given below:

	Sub-Center/PHC	Non-FRU CHC	FRU CHC/AH/SDH	District Hospital
	Equipment and other important items for labor room			
Radiant warmer	1	@1 radiant warmer per 4 labor tables	@1 radiant warmer per 4 labor tables	@1 radiant warmer per 4 labor tables
Hand-held Fetal Doppler	1	1 per 4 LT (at least 2)	1 per 4 LT (at least 2)	1 per 4 LT (at least 2)
Fetoscope	1	1 per 4 LT	1 per 4LT	1 per 4 LT
Autoclaved delivery tray for each labor table	+ 1 extra for SC/PHC/non-FRU CHCs, 2 extra for FRU CHCs/AH/SDH, and 4 extra for DH per day			
Stethoscope	1	1 per 4LT	1 per 4LT	1 per 4LT
Protein urea test kit	(No. of deliveries per year/365) +20% extra			
Glucometer (calibrated for venous blood samples)	1	1	2	2
Digital BP instrument	2	1 per 4 LT (at least 2)	1 per 4 LT (at least 2)	1 per 4 LT (at least 2)
Adult digital thermometer	2	1 per 4 LT (at least 2)	1 per 4 LT (at least 2)	1 per 4 LT (at least 2)
Baby digital thermometer	1	1 per 4 LT (at least 2)	1 per 4 LT (at least 2)	1 per 4 LT (at least 2
Baby forehead thermometer	1	2	2	2
Pediatric resuscitator bag (volume 250 ml) with masks of 0 and 1 size	1	1	@1 bag for each radiant warmer	@1 bag for each radiant warmer

	Sub-Center/PHC	Non-FRU CHC	FRU CHC/AH/SDH	District Hospital
	Equipment and other important items for labor room			
delivery)				
Cheatles forceps	1	1	2 (1 per LDR unit in case of LDRs)	2 (1 per LDR unit in case of LDRs)
Tags for mother and baby (to be calculated @ one mother and one baby tag for each delivery)	(Number of deliveries/365) per day Ensure one months' supply in LR (or more)	(Number of deliveries/365) per day Ensure one months' supply in LR (or more)	(Number of deliveries/365) per day Ensure one months' supply in LR (or more)	(Number of deliveries/365) per day Ensure one months' supply in LR (or more)
Disposable sterile gloves (to be calculated @ 4 sets for each delivery	(Number of deliveries/365) per day X 4 Ensure one months' supply in LR (or more)	(Number of deliveries/365) per day X 4 Ensure one months' supply in LR (or more)	(Number of deliveries/365) per day X 4 Ensure one months' supply in LR (or more)	(Number of deliveries/365) per day X 4 Ensure one months' supply in LR (or more)
Disposable utility gloves (to be calculated @ 4 sets for each day	(Number of deliveries/365) per day X 4 Ensure one months' supply in LR (or more)	(Number of deliveries/365) per day X 4 Ensure one months' supply in LR (or more)	(Number of deliveries/365) per day X 4 Ensure one months' supply in LR (or more)	(Number of deliveries/365) per day X 4 Ensure one months' supply in LR (or more)
Plastic buckets of which the inner bucket should be perforated or fenestrated for chlorine solution.	2	2	2 (1 per LDR unit in case of LDRs)	2 (1 per LDR unit in case of LDRs)
Mops with stand	3	3	3	3
Overhead water storage tank	250 liters	1000 liters	To be calculated by a service engineer based on	

	Sub-Center/PHC	Non-FRU CHC	FRU CHC/AH/SDH	District Hospital
	Equipment and other important items for labor room			
Wall clock with seconds hand	1 in each Labor room and 1 opposite to each NBCC	1 in each Labor room and 1 opposite to each NBCC	1 in each Labor room and 1 opposite to each NBCC	1 in each Labor room and 1 opposite to each NBCC
Wall mounted thermometer for measuring room temperature	1 in each Labor room and 1 in each NBCC	1 in each Labor room and 1 in each NBCC	1 in each Labor room and 1 in each NBCC	1 in each Labor room and 1 in each NBCC
Blower/convector	1		2	2
Color coded buckets/bins [yellow, red, blue & white (puncture proof for sharps)] with color-coded bags and biomedical waste segregation and disposal	1 set of three buckets with container for sharp waste and respective disposable bags 1 Yellow bin attached to each labor table	1 set of three buckets with container for sharp waste and respective disposable bags 1 Yellow bin attached to each labor table	1 set of three buckets with container for sharp waste and respective disposable bags in each service area 1 Yellow bin attached to each labor table	1 set of three buckets with container for sharp waste and respective disposable bags in each service area 1 Yellow bin attached to each labor table
Hub cutter	1	1	2 (1 per LDR unit in case of LDRs)	2 (1 per LDR unit in case of LDRs)
Autoclave (electrical or gas stove) (Only horizontal autoclaves to be used)	1	1	1	As per CSSD requirement
Baby weighing scale	1	1	2 (1 per LDR unit in case of LDRs0	2 (1 per LDR unit in case of LDRs)
Mucus extractor (De lee's and adult) (to be calculated @ 1per	(No. of deliveries per year/365)+ 20% extra per day			

	Sub-Center/PHC	Non-FRU CHC	FRU CHC/AH/SDH	District Hospital
	Equipment and other important items for labor room			
			the requirement	
Sterilized swabs and instruments - A sterile tray with sim's speculum and swab	1	4	4	4
Hb test kit	1	1	2	2
Sanitary napkins (to be calculated @2 for each delivery)	(Number of deliveries/365) per day X 2 Ensure one months' supply in LR (or more)	(Number of deliveries/365) per day X 2 Ensure one months' supply in LR (or more)	(Number of deliveries/365) per day X 2 Ensure one months' supply in LR (or more)	(Number of deliveries/365) per day X 2 Ensure one months' supply in LR (or more)
Sterile pad (to be calculated @ 4 sterile pads for each delivery)	(Number of deliveries/365) per day X 4 Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X 4 Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X 4 Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X 4 Ensure one weeks supply in LR (or more)
MCP card, Safe motherhood booklet (to be calculated @ 1MCP card and 1 safe motherhood booklet for each delivery)	(Number of deliveries/365) per day Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day Ensure one weeks supply in LR (or more)
Standardized Case sheet including the Safe Childbirth Checklist and Partograph (to be	(Number of deliveries/365) per day	(Number of deliveries/365) per day Ensure one weeks	(Number of deliveries/365) per day Ensure one weeks	(Number of deliveries/365) per day Ensure one weeks supply

	Sub-Center/PHC	Non-FRU CHC	FRU CHC/AH/SDH	District Hospital
	Equipment and other important items for labor room			
calculated @ 1 SCC for each delivery)	Ensure one weeks supply in LR (or more)	supply in LR (or more)	supply in LR (or more)	in LR (or more)
Disposable gowns for service provider and birth companion (to be calculated @ 2 per delivery + 20% extra)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)
Disposable face masks for service provider and birth companion (to be calculated @ 2 per delivery +20% extra)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)
Disposable caps (head covers) for service provider and birth companion (to be calculated @ 2 per delivery +20% extra)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)
Disposable shoe covers for service providers and birth companion (to be calculated @ 2 per delivery +20% extra)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)

	Sub-Center/PHC	Non-FRU CHC	FRU CHC/AH/SDH	District Hospital
	Equipment and other important items for labor room			
Protective eye cover (to be calculated @ 1 per service provider on duty)	Each set to be changed every quarter	Each set to be changed every quarter	Each set to be changed every quarter	Each set to be changed every quarter
Disposable baby receiving sheets (to be calculated @ 2 per delivery + 20% extra)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries/365) per day X2 + 20% extra Ensure one weeks supply in LR (or more)
Socks and caps for the baby (disposable) (to be calculated @ 1 set per delivery)	(Number of deliveries per year /365) per day Ensure one weeks supply in LR (or more)	(Number of deliveries per year /365) per day Ensure one weeks supply in LR (or more)	(Number of deliveries per year /365) per day Ensure one weeks supply in LR (or more)	(Number of deliveries per year /365) per day Ensure one weeks supply in LR (or more)
Disposable cord clamp (to be calculated @ 1 per delivery +20% extra)	(Number of deliveries in previous year/365) per day + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries in previous year/365) per day + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries in previous year/365) per day + 20% extra Ensure one weeks supply in LR (or more)	(Number of deliveries in previous year/365) per day + 20% extra Ensure one weeks supply in LR (or more)
Gown for mother	1 gown per delivery to be made available in labor room for each day	1 gown per delivery to be made available in labor room for each day	1 gown per delivery to be made available in labor room for each day	1 gown per delivery to be made available in labor room for each day
Disposable sheet for covering labor table for each delivery (to be calculated @ 1 per delivery	Number of deliveries per year/365) per day + 20% extra	Number of deliveries per year/365) per day + 20% extra	Number of deliveries per year/365) per day + 20% extra	Number of deliveries per year/365) per day + 20% extra

	Sub-Center/PHC	Non-FRU CHC	FRU CHC/AH/SDH	District Hospital
	Equipment and other important items for labor room			
+20% extra)	Ensure one weeks supply in LR (or more)	Ensure one weeks supply in LR (or more)	Ensure one weeks supply in LR (or more)	Ensure one weeks supply in LR (or more)
Refrigerator (to be made available in labor room)	1 (Small or capacity as per state norm)	1 (Small or capacity as per state norm)	1 (Medium or capacity as per state norm)	1 (Large or capacity as per state norm)
HIV Kits	To be made available as per the SACS guideline			

Other equipment and supplies:

- Wheel chairs and stretchers should be made available in labor room (@ 4 in district hospital, 2 in each FRU CHC/AH/SDH, and 2 in Non-FRU CHC).

- Consumables such as cotton, thread, gauze, catgut, IV drip sets, needles, medicines-oral and parenteral, leucoplast, soap, hand-wash, betadine solution, mosquito repellent etc. should be available in adequate quantities in the labor room.

Consumables

All the labor rooms, whether newly constructed or re-organized from an existing labor room, should have consumables with appropriate specifications and in adequate quantities, as per the recommendations given below:

A. Consumables such as cotton, thread, gauze, catgut, IV drip sets, needles, medicines-oral and parenteral, leucoplast, soap, hand-wash, betadine solution, mosquito repellent etc. should be available in adequate quantities in the labor room. A general rule of thumb to calculate the number of such items is to review use for last six months and making adequate numbers available for at least a month in the labor room store.

B. Disposable mother and baby supplies (Refer to annexure- photographs of few recommended items for LR complexes):
   a. Two baby sheets made of absorbent material for receiving and immediate drying of the newborn and covering the baby.
   b. One cap and a pair of socks for the newborn.
   c. One sterile disposable draw sheet of absorbent material for covering the labor table surface.

B. Disposable mother and baby supplies (Refer to annexure- photographs of few recommended items for LR complexes):
   a. Two baby sheets made of absorbent material for receiving and immediate drying of the newborn and covering the baby.
   b. One cap and a pair of socks for the newborn.
   c. One sterile disposable draw sheet of absorbent material for covering the labor table surface.

Human Resource exclusively for labor room

All the labor rooms, whether newly constructed or re-organized from an existing labor room, should have human resources (HR) in adequate numbers strictly, as per the recommendations given below. If needed, redeployment or hiring of new staff should be done. HR posted in the labor room should not be rotated outside the labor room.

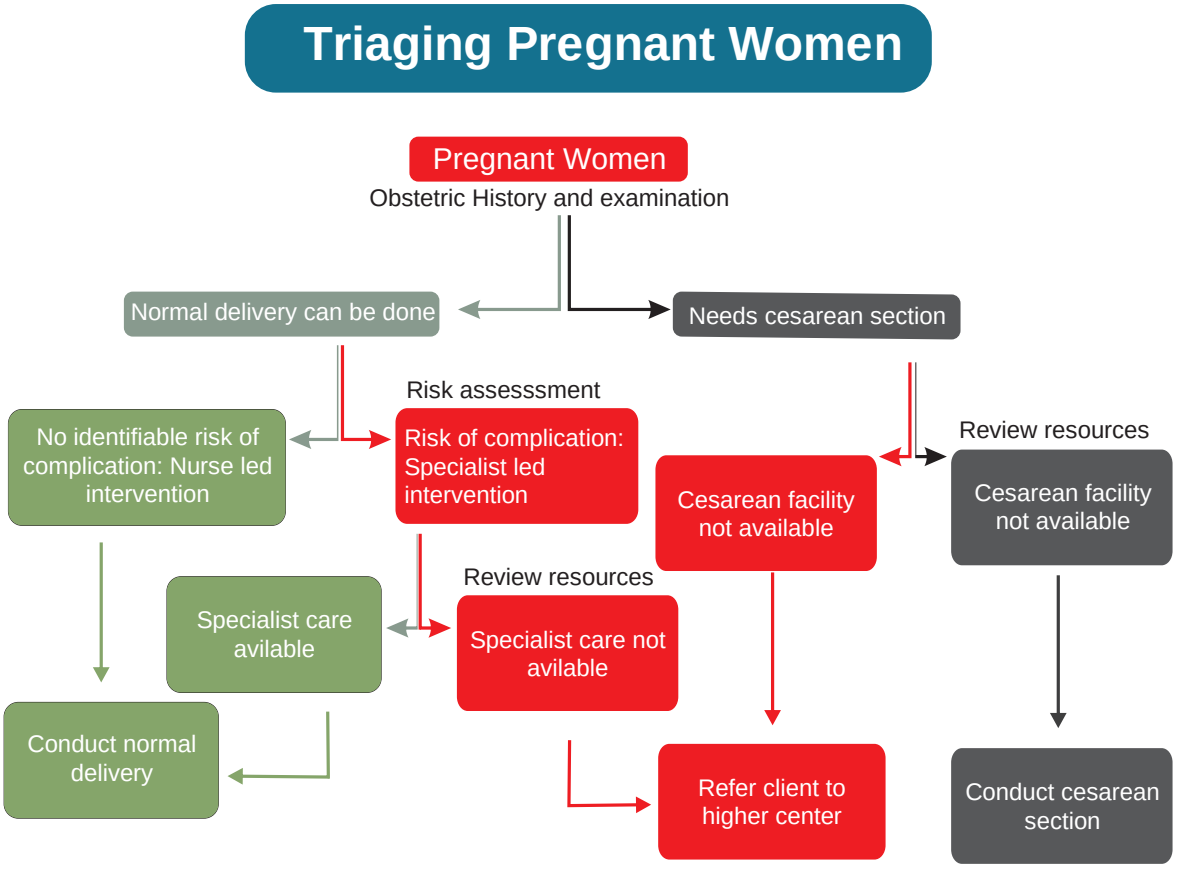
Sub-Center	PHC		CHC/AH/SDH and District Hospital*						
1. Ideally at least one ANM for every 8-hourly shift at delivery points. a. Up to 50 deliveries: minimum 3 ANMs b. 50 – 100 deliveries: up to 5 ANMs 2. Cleaning staff for round the clock coverage	1. 1-2 Medical Officers 2. 3 staff nurses/ ANMs 3. Cleaning staff for round-the-clock coverage 4. Guard for round-the-clock coverage	No. of deliveries	Staff nurses (Facilities with LDR)	Staff nurses (Non-LDR Facilities **)	ANM	MO	Sweeper	DEO	Guard
		100-200	In LDR facilities there should be 4 staff nurses per LDR unit (1 for each shift and o1 for back-up)	4	4	4 MO 1 OBG/EmoC 1Anesthetist/LSAS 1 Pediatrician	4	1	4
		200-500		8	4	1 OBG (Mandatory) + 4 OBG/EmOC) +1 Anesthetist + 4 LSAS + 1 Pediatrician + 4 MO	4	1	4
		>500		10	6	3 OBG + 4 EmOC) +1 Anesthetist + 4 LSAS + 1 Pediatrician + 4MO	4	1	4

*All normal deliveries in labor room in the district hospital should be conducted by staff nurses. OBG, CEmOC trained MO, and anesthetists should also be available on call at all times.

Practices and Protocols

A Triaging

Every client coming to the institution for delivery should be triaged into two categories by the examining obstetrician—category 1 cases which can undergo a normal delivery by skilled birth attendants and category 2 cases in which regular care by an obstetrician is needed. In the institutions where there is an HDU, category 2 cases should be sent to the HDU and category 1 cases should be delivered by the nurses in the labor rooms. In other institutions, the obstetrician should be available all the time for managing category 2 cases.



B Bio-medical Waste (BMW) Management

Biomedical waste is the waste that is generated during examination, immunization, investigations, diagnosis and treatment such as bandages or surgical sponges; which includes blood, blood products (fresh or dried blood) or other body fluids. There are three kinds of waste generally found in health facilities: general waste, medical waste, and hazardous chemical waste. It is important to dispose all kinds of waste properly, since improper disposal of medical and hazardous chemical waste poses the most immediate health risk to the community.

General instructions

- Most waste (e.g. paper, trash, food, boxes) at health centers and hospitals is not contaminated and poses no risk of infection to people who handle it. Some waste, however, is contaminated and, if not disposed properly, can cause infection.
- Contaminated waste must therefore be disposed separately from non-contaminated waste.
- Segregation at source in color-coded waste bins, as per the guideline, is hence essential.
- Each facility must have housekeeping and waste management protocols depending upon the caseload, waste generated, available HR, and facility of waste disposal.
- Staff in the facility must be aware of infection prevention practices and protocols.

BMW Management Plan

There are four components for BMW management plan: Segregation; Disinfection; Proper Storage before Transportation; and Safe Disposal.
General/non-contaminated waste: General waste should be put in black bin.
BMW/contaminated waste: The segregation and disposal of BMW should be done as mentioned below.

Guidelines for segregation and safe disposal

Category	Type of waste	Type of Bag/ Container to be used	Treatment and Disposal options
(1)	(2)	(3)	(4)
Yellow	(a) Human Anatomical Waste: Human tissues, organs, body parts and fetus below the viability period (as per the Medical Termination of Pregnancy Act 1971, amended from time to time).	Yellow colored non-chlorinated plastic bags	Incineration or Plasma Pyrolysis or deep burial*
	(b) Animal Anatomical Waste: Experimental animal carcasses, body parts, organs, tissues, including the waste generated from animals used in experiments or testing in veterinary hospitals or colleges or animal houses.		
	(c) Soiled Waste: Items contaminated with blood, body fluids like dressings, plaster casts, cotton swabs and bags containing residual or discarded blood and blood components.		Incineration or Plasma Pyrolysis or deep burial* In absence of above facilities, autoclaving or micro-waving/hydroclaving followed by shredding or mutilation or combination of sterilization and shredding. Treated waste to be sent for energy recovery.

Category	Type of waste	Type of Bag/ Container to be used	Treatment and Disposal options
(1)	(2)	(3)	(4)
	(d) Expired or Discarded Medicines: Pharmaceutical waste like antibiotics, cytotoxic drugs including all items contaminated with cytotoxic drugs along with glass or plastic ampoules, vials etc.	Yellow colored non-chlorinated plastic bags or containers	Expired cytotoxic drugs and items contaminated with cytotoxic drugs to be returned back to the manufacturer or supplier for incineration at temperature > 1200 degree C or to common BMW management facility or hazardous waste treatment, storage and disposal facility for incineration at > 1200 degree C. All other discarded medicines shall be sent back to manufacturer or disposed by incineration.
	(e) Chemical Waste Chemicals used in production of biologicals and used/discarded disinfectants.	Yellow colored containers or non-chlorinated plastic bags	Disposed of by incineration or Plasma Pyrolysis or Encapsulation in hazardous waste treatment, storage and disposal facility.
	(f) Chemical Liquid Waste: Liquid waste generated due to chemicals in production of biologicals and used or discarded disinfectants, Silver X-ray film developing liquid, discarded Formalin, infected secretions, aspirated body fluids, liquid from laboratories and floor washings, cleaning, house-keeping and disinfecting activities etc.	Separate collection system leading to effluent treatment system	After resource recovery, the chemical liquid waste shall be pre-treated before mixing with other wastewater. The combined discharge shall conform to discharge norms.
	(g) Discarded linen, mattresses, beddings contaminated with blood or body fluid.	Non-chlorinated yellow plastic bags or suitable packing material	Non-chlorinated chemical disinfection followed by Incineration or Plasma Pyrolysis or for energy recovery.

Category	Type of waste	Type of Bag/ Container to be used	Treatment and Disposal options
(1)	(2)	(3)	(4)
			In absence of above facilities, shredding or mutilation or combination of sterilization and shredding. Treated waste to be sent for energy recovery or Incineration or Plasma Pyrolysis.
	(h)Microbiology, Biotechnology and other clinical laboratory waste: Blood bags, laboratory cultures, stocks or specimens of micro- organisms, live or attenuated vaccines, human and animal cell cultures used in research, industrial laboratories, production of biologicals, residual toxins, dishes and devices used for cultures.	Autoclave safe plastic bags or containers	Pre-treat to sterilize with non-chlorinated chemicals on-site as per National AIDS Control Organization or World Health Organization guidelines, thereafter for Incineration.
Red	Contaminated Waste (Recyclable) (a) Wastes generated from disposable items such as tubing, bottles, intravenous tubes and sets, catheters, urine bags, syringes (without needles and fixed needle syringes and vacutainers with their needles cut) and gloves.	Red colored non-chlorinated plastic bags or containers	Autoclaving or micro-waving/ hydro-claving followed by shredding/ mutilation or combination of sterilization and shredding. Treated waste to be sent to registered or authorized recyclers or for energy recovery or plastics to diesel or fuel oil or for road making, whichever is possible. Plastic waste should not be sent to landfill sites.
White (transluce nt)	Waste sharps including Metals: Needles, syringes with fixed needles, needles from needle tip cutter or burner, scalpels, blades, or any other contaminated sharp object	Puncture proof, leak proof, tamper proof containers	Autoclaving or Dry Heat Sterilization followed by shredding or mutilation or encapsulation in metal container or cement concrete; combination of shredding cum

Category	Type of waste	Type of Bag/ Container to be used	Treatment and Disposal options
(1)	(2)	(3)	(4)
	that may cause puncture and cuts. This includes both used, discarded and contaminated sharps.		autoclaving; and sent for final disposal to iron foundries (having consent to operate from the State Pollution Control Boards or Pollution Control Committee) or sanitary landfill or designated concrete waste sharp pit.
Blue	(a) Glassware: Broken or discarded and contaminated glass including medicine vials and ampoules except those contaminated with cytotoxic wastes.	Cardboard boxes with blue colored marking	Disinfection (by soaking the washed glass waste after cleaning with detergent and Sodium Hypochlorite treatement) or through autoclaving or microwaving or hydro-claving and then sent for recycling.
	(b) Metallic Body Implants.	Cardboard boxes with blue colored marking	

*Disposal by deep burial is permitted only in rural or remote areas where there is no access to common BMW treatment facility. This will be carried out with prior approval from the prescribed authority and as per the standards specified. The deep burial facility shall be lacated as per the provisions and guidelines issued by Central Pollution Control Board from time to time.

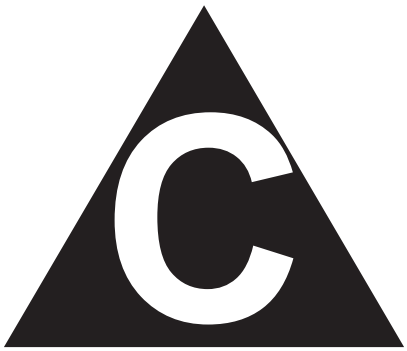
Notes

1. All plastic bags shall be as per BIS standards as and when published, till then the prevailing Plastic Waste Management Rules shall be applicable.
2. Chemical treatment using at least 10% Sodium Hypochlorite solution having 30% residual chlorine for twenty minutes or any other equivalent chemical reagent that should demonstrate $Log_{10}4$ reduction efficiency for microorganisms.
3. Mutilation or shredding must be to an extent to prevent unauthorized reuse.
4. There will be no chemical pretreatment before incineration, except for microbiological, lab and highly infectious waste.
5. Incineration ash (ash from incineration of any BMW) shall be disposed through hazardous waste treatment, storage and disposal facility, if toxic or hazardous constituents are present beyond the prescribed limit as given in the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008 or as revised from time to time.
6. Dead fetus below the viability period (as per the MTP Act 1971, amended from time to time) can be considered as human anatomical waste. Such waste should be handed over to the operator of common BMW treatment and disposal facility in yellow bag with a copy of the official MTP certificate from the Obstetrician or the Medical Superintendent of hospital or healthcare establishment.
7. Cytotoxic drug vials shall not be handed over to unauthorized person under any circumstances. These shall be sent back to the manufacturers for necessary disposal at a single point. As a second option, these may be sent for incineration at common BMW treatment and disposal facility or TSDFs or plasma pyrolysis at temperature > 1200 degree C.
8. Residual or discarded chemical wastes, used or discarded disinfectants and chemical sludge can be disposed at hazardous waste treatment, storage and disposal facility. In such case, the wate should be sent to hazardous waste treatment, storage and disposal facility through operator of common BMW treatment and disposal facility only.
9. Onsite pre-treatment of laboratory waste, microbiological waste, blood samples, blood bags should be disinfected or sterilized as per the WHO or NACO Guidelines, and then given to the common BMW treatment and disposal facility.
10. Installation of in-house incinerator is not allowed. However in case there is no common BMW treatment facility nearby, the same may be installed by the occupier after taking authorization from the State Pollution Control Board.
11. Syringes should be either mutilated or needles should be cut and or stored in tamper proof, leak proof and puncture proof containers for sharp storage. Wherever the occupier is not linked to a disposal facility it shall be the responsibility of the occupier to sterilize and dispose in the manner prescribed.
12. BMW generated in households during healthcare activities shall be segregated as per these rules and handed over in separate bags or containers to municipal waste collections. Urban Local Bodies shall have tie up with the common BMW treatment and disposal facility to pickup this waste from the Material Recovery Facility (MRF) or from the household directly, for final disposal in the manner as prescribed.

LABEL FOR BIO-MEDICAL WASTE CONTAINERS/BAGS

BIOHAZARD

CYTOTOXIC HAZARD SYMBOL



HANDLE WITH CARE

Note: Label shall be non-washable and prominently visible.

Standards for autoclaving of BMW

The autoclave should be dedicated for the purposes of disinfecting and treating biomedical waste.

1. When operating a gravity flow autoclave, medical waste shall be subjected to:
   a. A temperature of not less than 121° C and pressure of 15 pounds per square inch (psi) for an autoclave residence time of not less than 60 minutes; or
   b. A temperature of not less than 135° C and a pressure of 31 psi for an autoclave residence time of not less than 45 minutes; or
   c. A temperature of not less than 149° C and a pressure of 52 psi for an autoclave residence time of not less than 30 minutes.
2. When operating a vacuum autoclave, medical waste shall be subjected to a minimum of three pre-vacuum pulses to purge the autoclave of all air. The air removed during the pre-vacuum, cycle should be decontaminated by means of HEPA and activated carbon filtration, steam treatment, or any other method to prevent release of pathogen. The waste shall be subjected to the following:
   a. A temperature of not less than 121°C and pressure of 15 psi per an autoclave residence time of not less than 45 minutes; or
   b. A temperature of not less than 135°C and a pressure of 31 psi for an autoclave residence time of not less than 30 minutes.
3. Medical waste shall not be considered as properly treated unless the time, temperature and pressure indicators indicate that the required time, temperature and pressure were reached during the autoclave process. If for any reasons, time temperature or pressure indicator indicates that the required temperature, pressure or residence time was not reached, the entire load of medical waste must be autoclaved again until the proper temperature, pressure and residence time were achieved.
4. Recording of operational parameters: Each autoclave shall have graphic or computer recording devices which will automatically and continuously monitor and record dates, time of day, load 21 identification number and operating parameters throughout the entire length of the autoclave cycle.

5. Validation test for autoclave: The validation test shall use four biological indicator vials or strips; one shall be used as a control and left at room temperature, and three shall be placed in the approximate center of three containers with the waste. Personal protective equipment (gloves, face mask and coveralls) shall be used when opening containers for the purpose of placing the biological indicators. At least one of the containers with a biological indicator should be placed in the most difficult location for steam to penetrate, generally the bottom center of the waste pile. The occupier or operator shall conduct this test three consecutive times to define the minimum operating conditions. The temperature, pressure and residence time at which all biological indicator vials or strips for three consecutive tests show complete inactivation of the spores shall define the minimum operating conditions for the autoclave. After determining the minimum temperature, pressure and residence time, the occupier or operator of a common biomedical waste treatment facility shall conduct this test at least once in three months and records in this regard shall be maintained.
6. Routine Test: A chemical indicator strip or tape that changes color when a certain temperature is reached can be used to verify that a specific temperature has been achieved. It may be necessary to use more than one strip over the waste package at different locations to ensure that the inner content of the package has been adequately autoclaved. The occupier or operator of a common bio medical waste treatment facility shall conduct this test during autoclaving of each batch and records in this regard shall be maintained.
7. Spore testing: The autoclave should completely and consistently kill the approved biological indicator at the maximum design capacity of each autoclave unit. Biological indicator for autoclave shall be Geobacillus stearothermophilus spores using vials or spore Strips; with at least $1X10^6$ spores per mL. Under no circumstances will an autoclave have minimum operating parameters less than a residence time of 30 minutes, regardless of temperature and pressure, a temperature less than 121 degree C or a pressure less than 15 psi. The occupier or operator of a common bio medical waste treatment facility shall conduct this test at least once in three months and records in this regard shall be maintained.

Standards for deep burial

1. A pit or trench should be dug about 2 meters deep. It should be half filled with waste, and then covered with lime within 50 cm of the surface, before filling the rest of the pit with soil.
2. It must be ensured that animals do not have any access to burial sites. Covers of galvanized iron or wire meshes may be used.
3. On each occasion, when wastes are added to the pit, a layer of 10 cm of soil shall be added to cover the wastes.
4. Burial must be performed under close and dedicated supervision.
5. The deep burial site should be relatively impermeable and no shallow well should be close to the site.
6. The pits should be distant from habitation, and located so as to ensure that no contamination occurs to surface water or ground water. The area should not be prone to flooding or erosion.
7. The location of the deep burial site shall be authorized by the prescribed authority.
8. The institution shall maintain a record of all pits used for deep burial.
9. The ground water table level should be a minimum of 6m below the lower level of deep burial pit.

C Disinfection, Sterilization And Processing Of Instruments And Other Supplies For Labor Rooms

Instrument Processing

1.Instruments and gloves should be cleaned after each use with the following processes:
a. Immediately after each use, the instruments should be soaked in chlorine solution for at least 10 minutes.
b.deally, the chlorine solution should be stored in a double bucket, where the inner bucket or the container is fenestrated/ perforated. The instruments should be put in the perforated inner bucket which is then dipped in the outer bucket containing the chlorine solution.
c. After soaking, rinse the instruments and clean them in a bucket of water using a brush (utility gloves should be worn at all times by the staff handling the instruments after use).
d. After thorough cleaning, the instruments should be dried and sterilized by autoclaving.
e. Sterilized equipment should be stored in the relevant trays on the trollies.

Linen and Laundry

Laundry service serves the purpose of processing soiled (potentially infected) and/or used linen in order to provide clean linen, which shall not be able to cause infection or physical irritation to the users. Highly infectious diseases like Ebola (EVD) or Marburg etc. are not covered and laundry guidelines in vogue and circulated by appropriate government authorities at that time, shall be adhered to strictly. Only a brief on disposal is given herein.

Definitions

- Clean Linen: Post Laundry linen before use.
- Soiled linen: All used linen irrespective of the state, whether wet or dry, whether contaminated by body fluids or blood or excreta or any other such fluids or material as deemed infective.

Handling of clean linen and laundry

- Adequate supply of clean linen shall be maintained by the Housekeeping Department.
- Each client should have clean linen for usage when needed.
- Clean linen and soiled linen should be kept separately.
- Clean linen and soiled linen shall be transported separately.
- The laundry floor surface shall be cleaned at least once daily with detergent and water.
- All bench areas shall be cleaned at least once daily similarly.
- All laundry staff must follow all ‘Universal Precautions’ and should adhere to hand hygiene strictly.

Handling of soiled and used linen

- 'Universal/Standard Precautions' shall be followed by all laundry staff while collecting linen in the wards and they shall wear utility gloves and mask while handling the soiled linen.
- Soiled linen should be handled as little as possible.
- Linen heavily contaminated with blood or other body fluids should be bagged and transported in a manner that will prevent leakage.
- Any linen infested with bedbugs or linen from scabies or lice infested patients shall be treated as soiled linen.
- Linen shall not be dusted in any area and shall not be vigorously handled or rinsed, to avoid environmental contamination.
- Linen bags shall not be filled more than three fourth of its capacity and shall be tied at the top to avoid spillage.
- Containers/trolleys used for transporting soiled linen bags shall be cleaned at least twice daily with detergent and water and disinfected with hypochlorite before storage or use.
- Counting of used linen shall be done by designated housekeeping staff.
- A separate well demarcated area in the laundry shall be used for sorting of the linen
- While sorting, all 'Universal/Standard Precautions' including mask), caps, gloves and aprons are to be strictly followed by everyone indulging in the procedure.
- Linen bags shall not be held close to the body when collecting or loading linen into the trolley.

Transport of soiled linen

- These shall be sent directly to the laundry in a covered trolley and through a lift in between floors, at dedicated timings.
- If leaking, over spillage is likely, the linen may be transported by impermeable containers.

LAUNDRY

WASHING PROCEDURES IN LAUNDRY: For soiled linen (for 60 kg machine)

1. Immerse all soiled linen in cold water, and drain. Repeat the cycle four times.
2. Dilute 1000 ml of 4% Hypochlorite in 350 – 400 liters of wash water to give an available chlorine concentration of at least 50-150 ppm (freshly prepared). Care should be taken while exposing colored linen to bleach
3. Immerse all linen for 20 minutes.
4. Neutralize with liquor ammonia 250 ml, leave for 5 – 10 minutes.
5. Add 250 gm of Metasilicate–Detergent crystals to the entire load.
6. Add 500 ml of bleach with cold water for 10 minutes to the entire load.
7. Load the machine with steam at 65 – 80°C or heat through a thermostat fitted machine to 65 – 80°C. Expose for at least 20 minutes after attaining the required temperature of 65°C or at least 3 minutes at 71 °C and at least 1 minute at 80°C.
8. Rinse and drain thrice with cold water.
9. Add Metasilicate–Neutralizer (Sour)150 grams.
10. This is then put into the hydro extractor for 4 – 10 minutes to squeeze the water in the clothes.
11. The clothes shall be put in the tumbler machines for 15 minutes to 1 hour depending upon the linen used.

PROCESSING AFTER WASHING: Pressing/Ironing

1. O.T. linen shall be properly folded and sent to CSSD for autoclaving as linen packs.
2. Bed sheets and Pillow covers shall be processed by calendaring machine.
3. Rest of the linen is steam pressed.

Handling and Storage of Clean Linen

1. Items 2 and 3 (listed above) shall be stored in the linen room for issue to various patient care areas.
2. O.T. linen after sterilization shall be stored in CSSD in 'positive pressure sterile storage' room, for issue through the "pass window".
3. Clean linen shall be stored in the patient care areas at designated places before being issued to the patient.

BLANKETS

- Blankets shall be changed on discharge of a patient and in between patients.
- All used blankets shall be treated as per used linen protocol.

D Cleaning And Disinfection Of Labor Room

- The labor room along with all equipment and all surfaces should be cleaned every morning and all equipment and surfaces used should be cleaned after every delivery.
- Labor table should be cleaned in each shift and after each delivery with (a) cloth soaked in clean water (and soap water if required) (b) cloth soaked in 0.5 chlorine solution.
- Cheatles forceps should not be kept in antiseptic, and should be autoclaved daily and kept in autoclaved holder with date and time labelled each day.
- Toilet should be cleaned with phenyl or lysol at start of each shift and after each delivery.
- The overhead tank supplying water to the labor room should be cleaned at least once a week.

Daily at the beginning of the day:

- The floor and sinks should be cleaned with detergent (soap water) or chlorine solution daily in the morning and thereafter every three hours. The floor should be kept dry.
- All the table tops and other surfaces such as lamp shades, almirah, lockers, trollies etc. should be cleaned with low level disinfectant (2% carbolic acid).
- Monitor machines should be cleaned with 70% alcohol.

After each delivery:

- Table tops should be cleaned thoroughly with chlorine solution or disinfectant (2% carbolic acid).
- Disposable absorbent sheet placed on the labor table should be changed.
- Any spillage of blood or body fluids on the floor should be soaked with chlorine solution for 10 minutes. Should be absorbed in a spillage kit or absorbent paper and then mopped. The soaked absorbent paper should be discarded in appropriate plastic bin.

Procedure for mopping:

- Prepare 3 buckets with clear water. Put phenyl or lysol or bleaching solution in one of the buckets. (So that you have two buckets of clean water and one bucket containing disinfectant).The clean water buckets should be labelled as 1st, 2nd and 3rd bucket. The 3rd bucket will be containing disinfectant.
- The cleaning begins on the floor starting from inside to outside. Towards the end, all corners and groves have to be cleaned.
- After each sweep of the floor, the mop should be dipped first in the 1st bucket then in the 2nd bucket and lastly in the 3rd bucket containing disinfectant.
- Mops should be cleaned in the dirty utility area and put in the stand under the sun with the mop head upward and tilted, not straight.
- Mopping of floors would be done at least thrice a day and in-between whenever required.
- Mopping of floors would be done with water with detergent and disinfectant (phenolic based) in Negative Pressure Isolation rooms.
- In case of visible blood/body-fluids spills, the protocol of managing spills would be followed.
- All soiled mops would be treated as soiled linen and transported likewise in a covered (lid) container.

- At the end of each shift & a cleaning schedule for an area, all soiled mops should be sent, in a hamper, to the laundry for washing.
- Mops should be visibly clean before starting cleaning of an area.
- Mops should be replaced after interim cleaning is done, as and when called for and mops kept in the wringer trolley well squeezed and out of the solution.
- Mops should be changed routinely and immediately following the cleaning of blood, body-fluids secretions and excretions, after cleaning contaminated areas, Operation theatres or isolation rooms.
- Mops should not be left wet.
- Store mops dry in a designated well demarcated utility storage area away from the clean area.
- Mops should be washed in a laundry in a cycle dedicated for mops washing only with 1% Hypochlorite. This should be followed by a non-load disinfectant cycle with 1% Hypochlorite giving an exposure of 20 minutes at least.
- Personnel carrying out the cleaning and transporting the soiled mops would wear adequate PPE (gloves, mask and gown).
- Trolleys transporting mops should be cleaned as per schedule with detergent followed by chlorine solution/ 70% isopropyl alcohol –as per compatibility according to manufacturer's instructions.
- Hand-mops mounted on wipers should be used for the bathroom mopping after putting on gloves.

E Protocols for entry to the labor room

- Entry to the labor room should not be direct. Ideally a buffer zone needs to be created if possible for changing of shoes, wearing of mask and cap before entering the labor room.
- Entry to the labor room should be allowed only to the pregnant woman, her birth companion, doctor, nurse/ANM on duty, and other support staff. Cleaning staff should be allowed periodic entry as per the SOP and protocols of cleaning.
- Before entering the labor room, slippers, cap and mask should be worn by all visitors including the birth companion.
- Any visits of people other than on-duty staff, pregnant women, and birth companion to the labor room should be short and timed to the task (such as cleaning etc.)
- Entry of male staff should be restricted only to those who are on duty or have been called for any accessories and fittings. They should be polite and respectful to the dignity and privacy of the women.

F Protocols for working in the labor room

- All the staff should wear personal protective attire at the time of conducting delivery, and at all other times caps and masks should be worn.
- Disposable sterile gloves should be used after thorough hand-washing while examining or conducting the delivery. Infection prevention protocols i.e., adherence, segregation and disposable in the bins should strictly be adhered and the IMEP protocol poster should be wall mounted in the area where color-coded bins are located.

G Protocols for safe care in the labor room

- In LDR labor rooms, the pregnant woman should be directly sent to the LDR unit after admission. She can be transferred to the postpartum ward 4 hour after the delivery, if the mother and baby are free of complications and there are other cases. If the rooms are free, she should be kept in the same room for as long as possible.
- In case of convention labor rooms, the pregnant woman should be brought in the labor room in active phase of labor and can be shifted to postpartum ward after 2 hours if there are other cases.
- Pregnant woman should be brought in the labor room/LDR unit after changing into properly washed and dried delivery gown.
- One birth companion of her choice should be encouraged to be present in the labor room for giving her emotional and physical support.
- The duty nurse and doctor should undertake a thorough examination to assess the progress of labor and relevant medical and obstetric history.
- If the woman is in active labor, the partograph should be plotted.
- The pregnant woman can be made ambulatory or she can remain in a comfortable position.
- After a thorough initial examination, the provider should use the Safe Childbirth Checklist (SCC) check point 1 to review whether she/he (service provider) has completed all essential actions as per the check point 1.

• In the second stage of labor, besides attending nurse one additional support may be required.

H Displays

All essential practices protocols (for example, AMTSL, partograph, essential newborn care, hand washing, IMEP protocols etc.) should be displayed in and around the labor room and clearly visible at appropriate places. Such as, the hand-washing poster should be displayed near the washing station; newborn resuscitation poster should be displayed near the newborn care area, AMTSL and partograph on a wall near the labor table, etc.
Following essential practices should be performed in all the delivery cases. The SCC should be used at all relevant check points {on admission, before delivery, just after delivery (within 1 hour), and at the time discharge} to ensure that these practices have been completed in all cases:
Following are some of the harmful practices that should not be performed in every case without specific indication. Please remember, induction/augmentation should not be done routinely. Also, whenever needed, augmentation of labor should be done only in centers capable of performing cesarean sections.

Do's (Essential Practices) for Sub-Center, PHC, CHC and DH		
At the time of admission	In Labor room	After delivery and before discharge
Assessment of Maternal and fetal condition by: • Measurement of BP and temperature of mother • Measurement of Fetal Heart Rate • Measurement of Hemoglobin • Measurement of urine protein • Assessment of gestational age (give ANCS if <34 weeks).	• Partograph • Active management of third stage of labor • Delayed cord clamping • Essential newborn care • Drying and wrapping of baby • Immediate resuscitation, if required. • Skin to skin contact of the newborn • Immediate initiation of breastfeeding • Injection vitamin K	• Assessment of maternal bleeding • Assessment of newborn condition by measurement of temperature and respiratory rate • Assessment of maternal condition by measurement of BP and temperature

Following are some of the harmful practices that should not be performed in every case without specific indication. Please remember, induction/augmentation should not be done routinely. Also, whenever needed, augmentation of labor should be done only in centers capable of performing cesarean sections.

Don'ts (Harmful Practices) for Sub-Center, PHC, CHC and DH

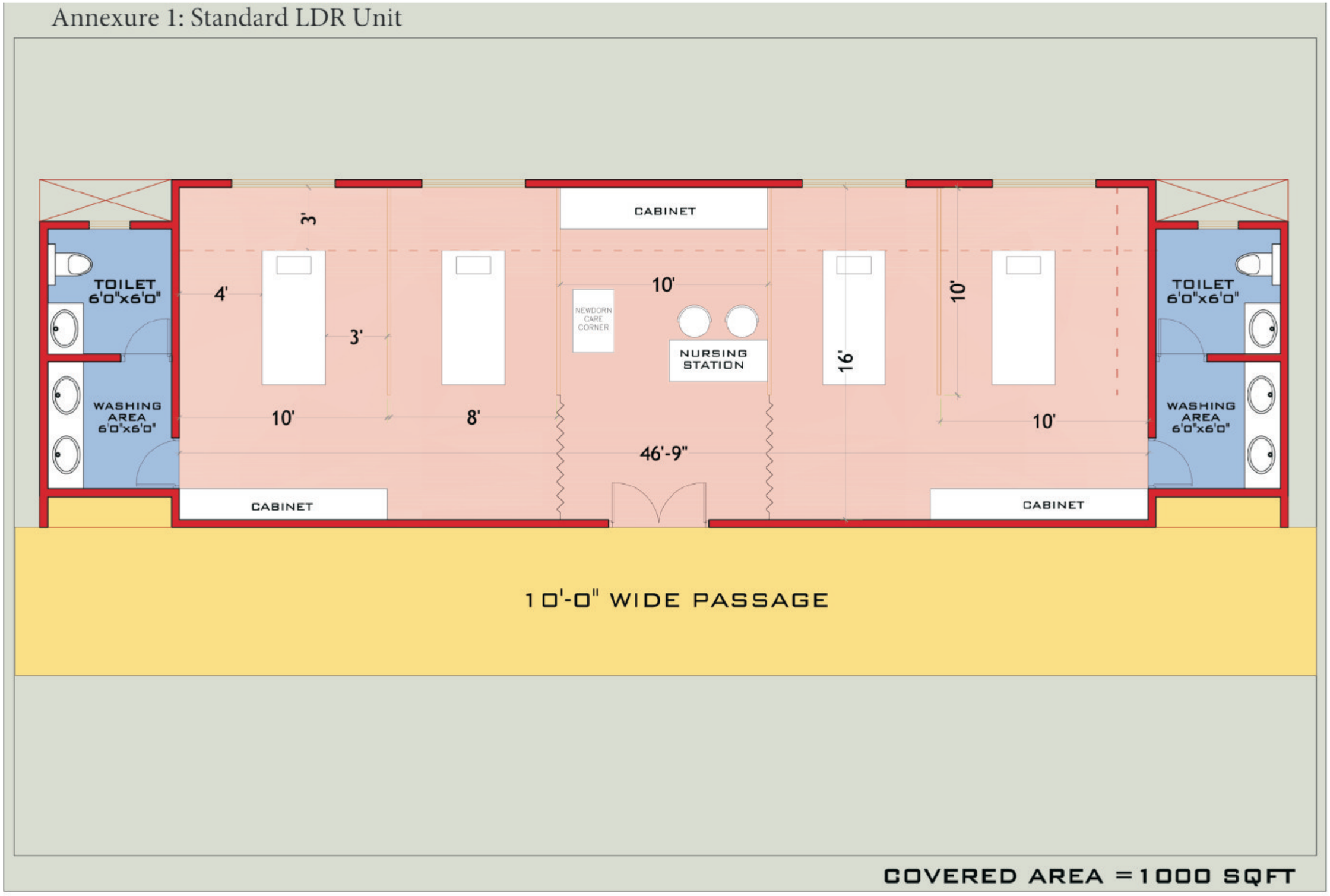
1. No routine enema
2. No routine shaving
3. No routine induction/augmentation of labor
4. No place for routine suctioning of the baby
5. No pulling of the baby. Allow natural slow delivery (3 minutes – 1min for head, 1 min for shoulders and 1min for body). Only assist when required at the time of delivery of body (prevents PPH)
6. No routine episiotomy
7. No fundal pressure
8. No immediate cord cutting
9. No immediate bathing of the newborn
10. No routine resuscitation on warmer (every baby should not be kept on warmer unless there is an indication)

I Supportive supervision for quality of care in the labor room for SC, PHC, CHC and DH

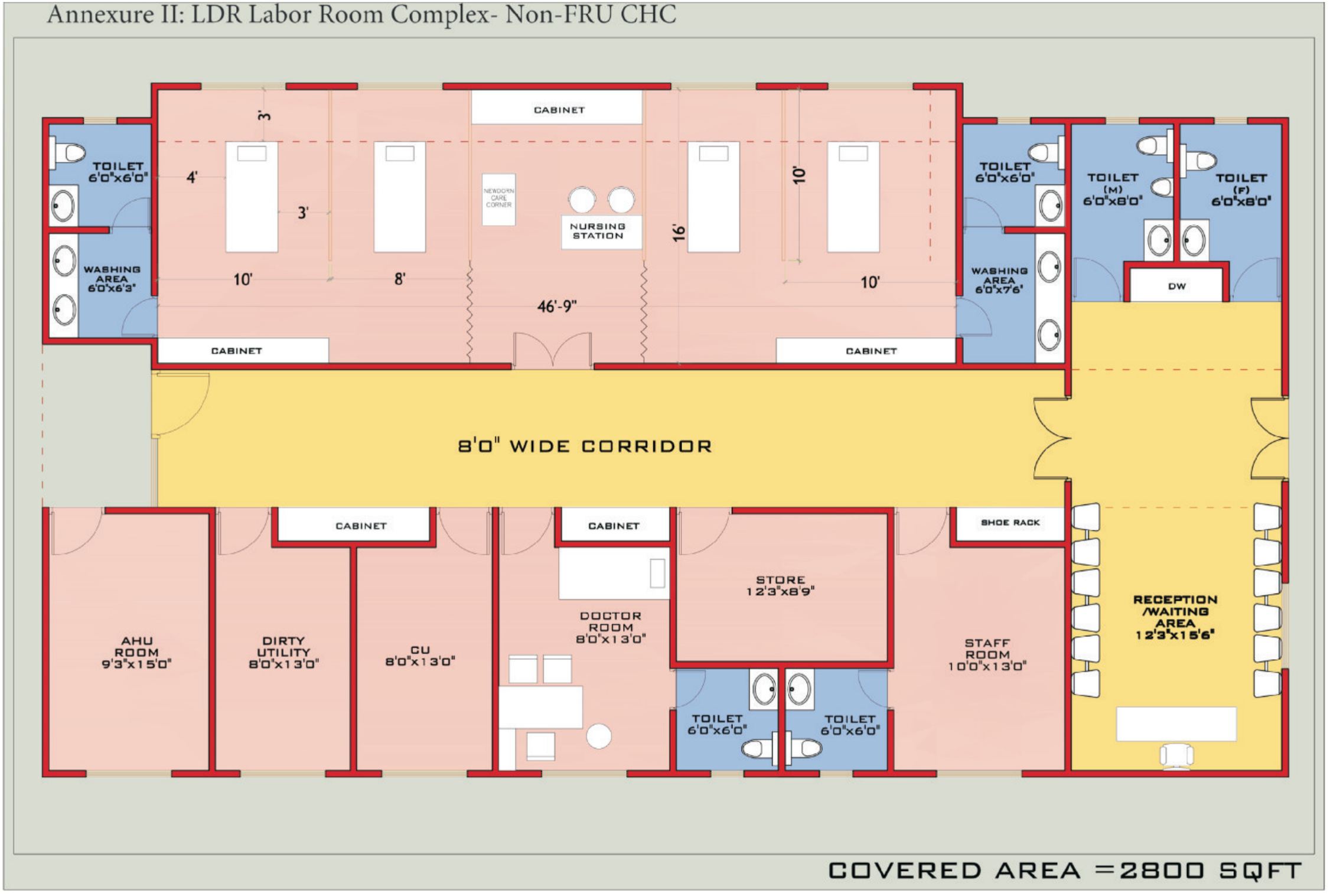
- The labor room should have a cleanliness checklist for cleanliness assessment that should be completed and signed by every supervisor conducting a visit of the labor room.
- The facility in-charge should visit the labor room at least twice during each week.
- The OBG/MO (wherever available) in-charge of the labor room should visit labor room twice every day.
- The nursing supervisor/nurse in-charge should visit the labor room at least once in every shift.
- During every visit, the supervisors should observe the cleanliness in the labor room and mark appropriate responses in the cleanliness (no wet areas) checklist. Further, they should review the availability of essential supplies. And finally, they should observe practices using the SCC to ensure all essential practices are being performed appropriately and in timely manner.
- Every month, a labor room practice review meeting should be organized at each facility. All staff involved in care in labor room, including support and cleaning staff, should participate in this meeting. The group should deliberate upon ways to improve quality in the labor rooms. Feedback of supportive supervision should also be shared during these meetings.

Annexures

Annexure 1: Standard LDR Unit



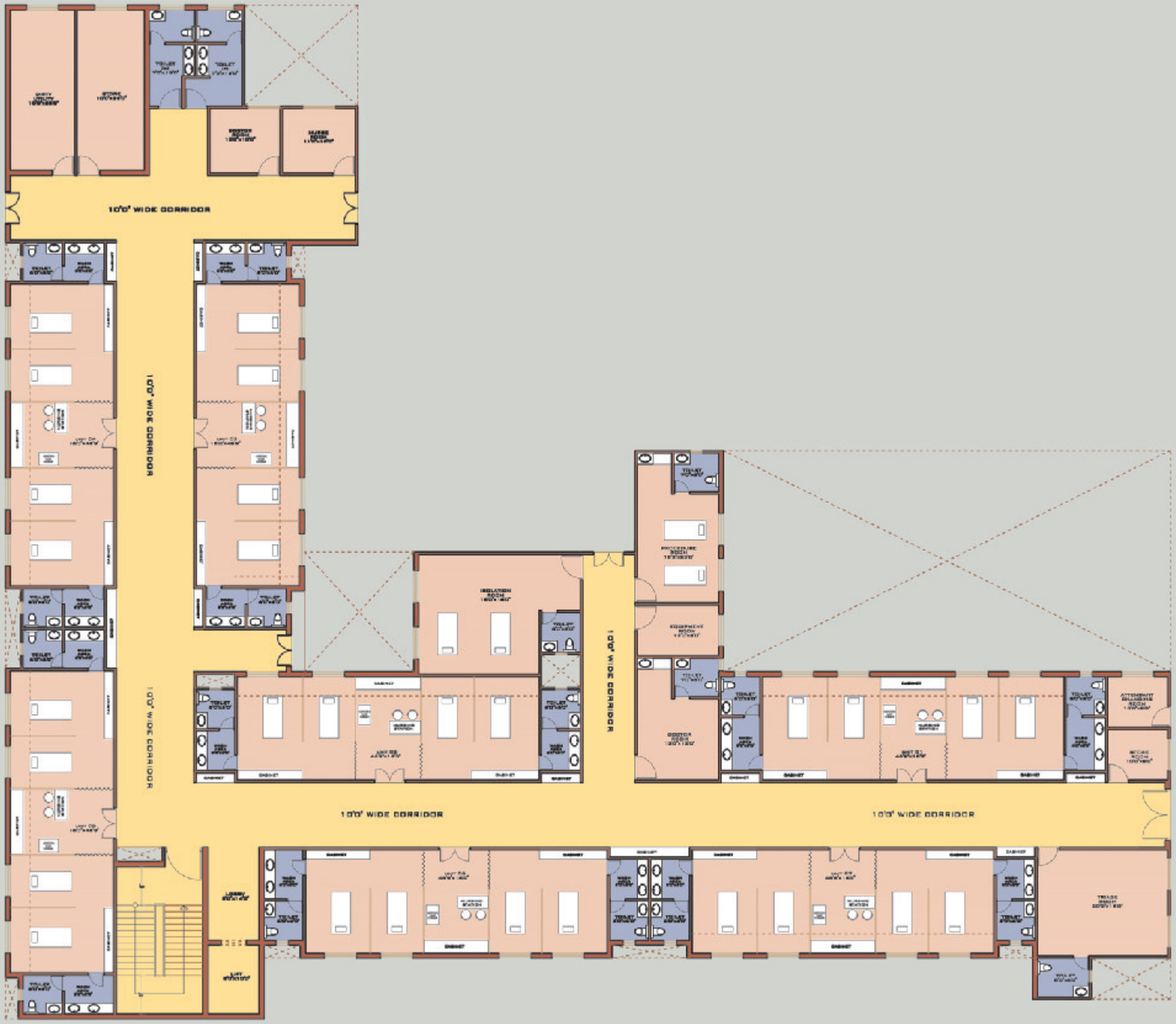
Annexure II: LDR Labor Room Complex- Non-FRU CHC



Annexure III: LDR Labor Room Complexes for FRU-CHC/AH/SDH

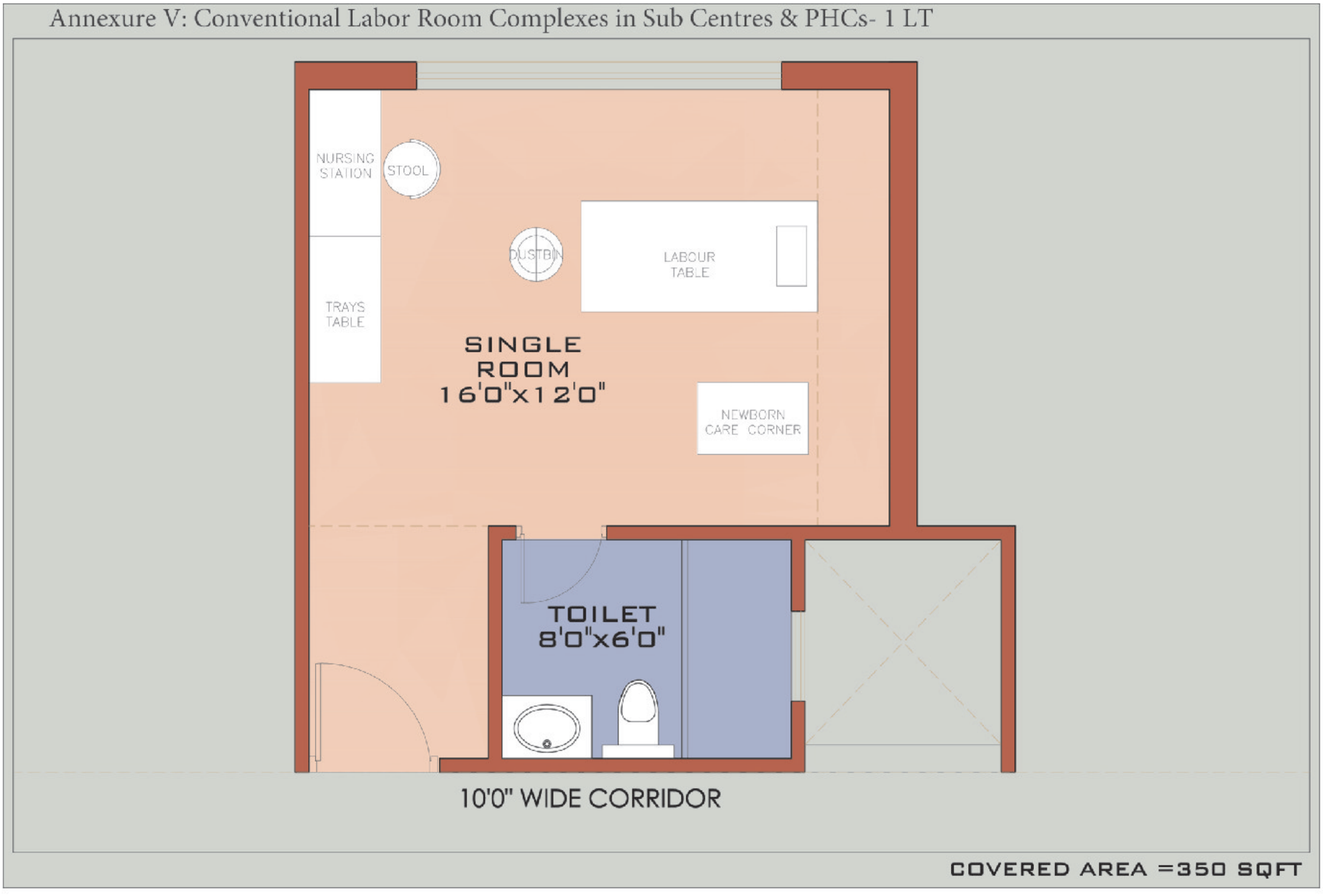
COVERED AREA =5750 SQFT

Annexure IV: LDR Labor Room Complexes for District Hospitals

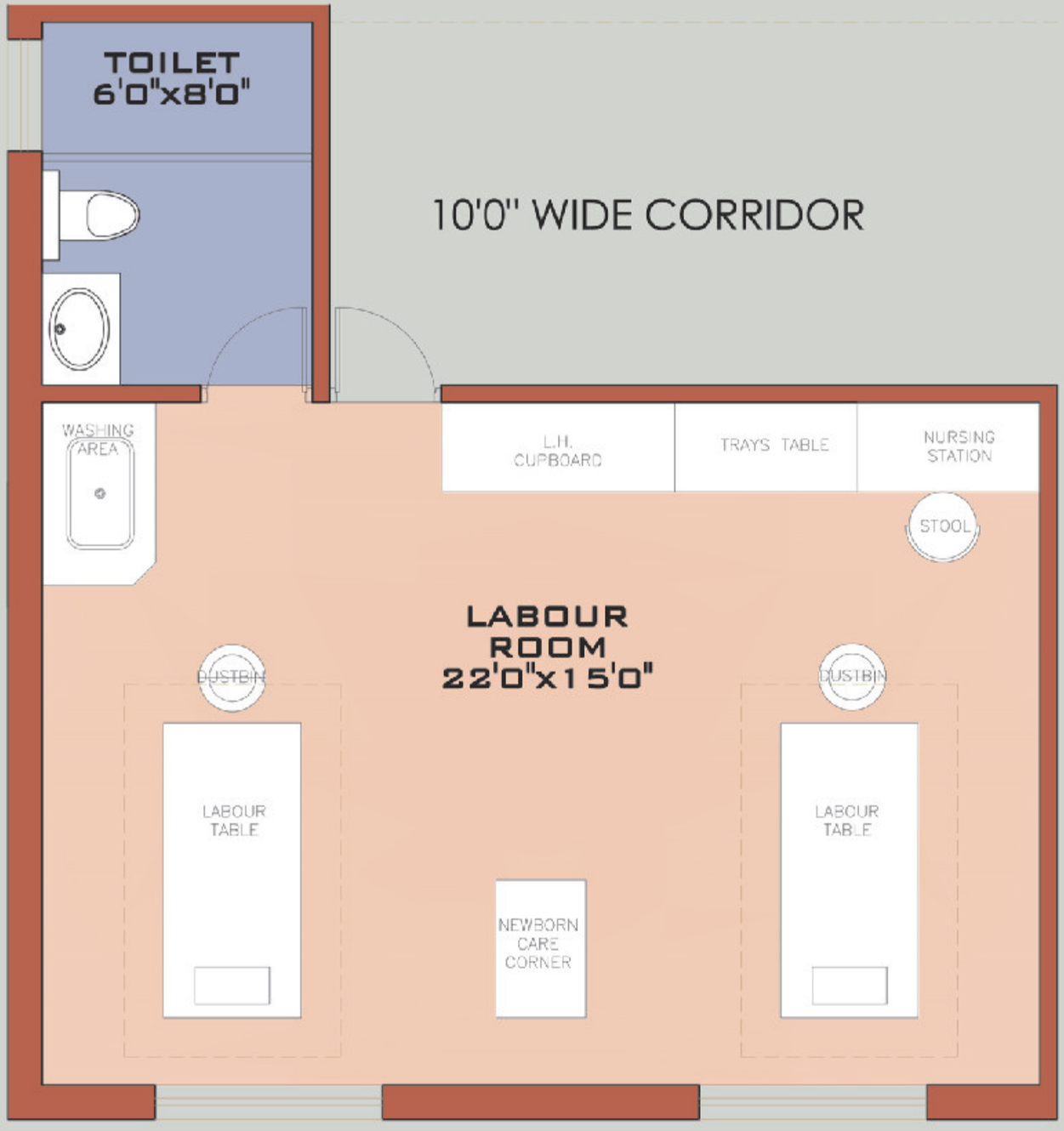


COVERED AREA =15000 SQFT

Annexure V: Conventional Labor Room Complexes in Sub Centres & PHCs- 1 LT

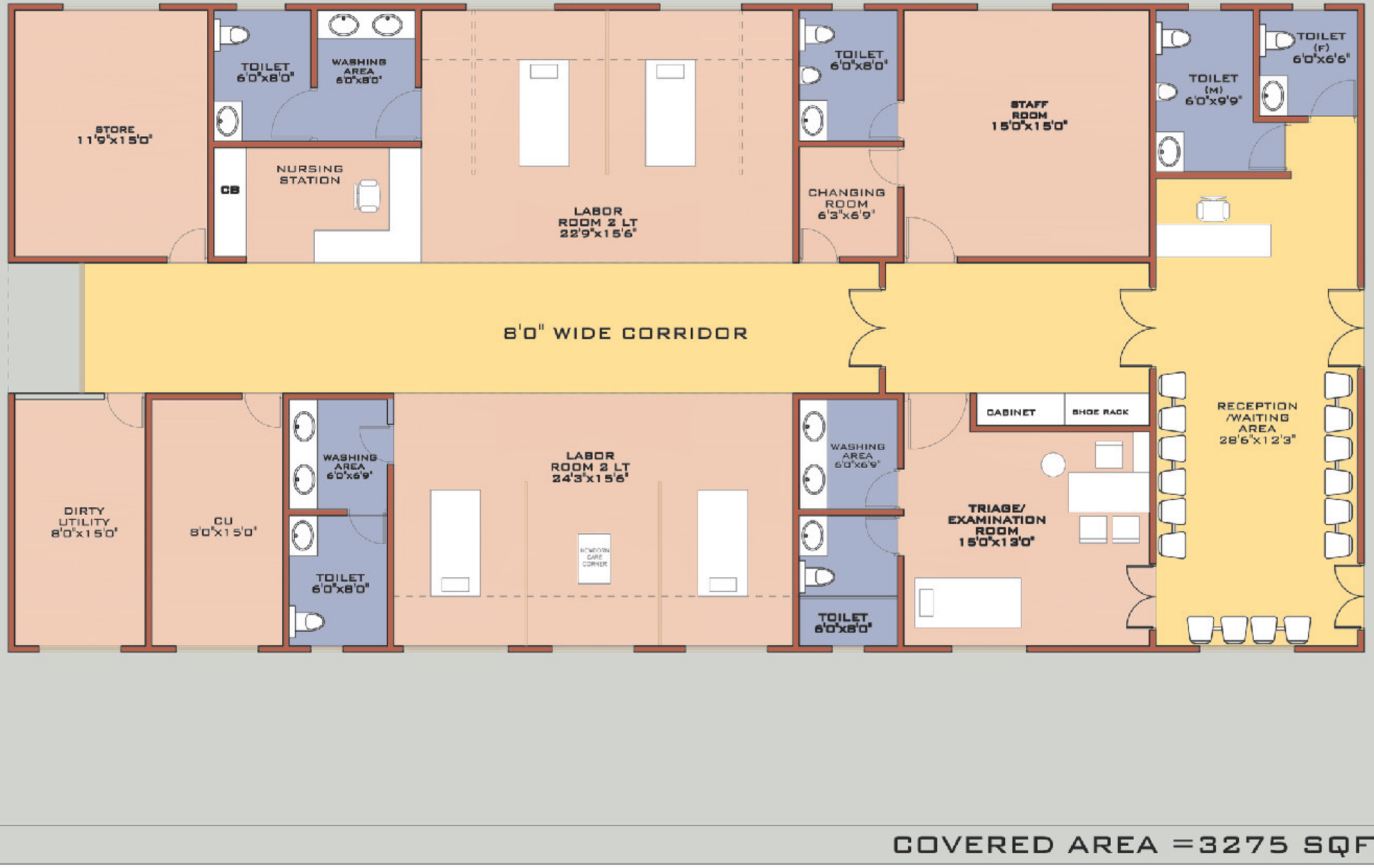


Annexure VI: Conventional Labor Room Complexes for Sub-centers and PHCs- 2LT



COVERED AREA =450 SQFT

Annexure VII_Conventional Labor Room Complex for CHCs

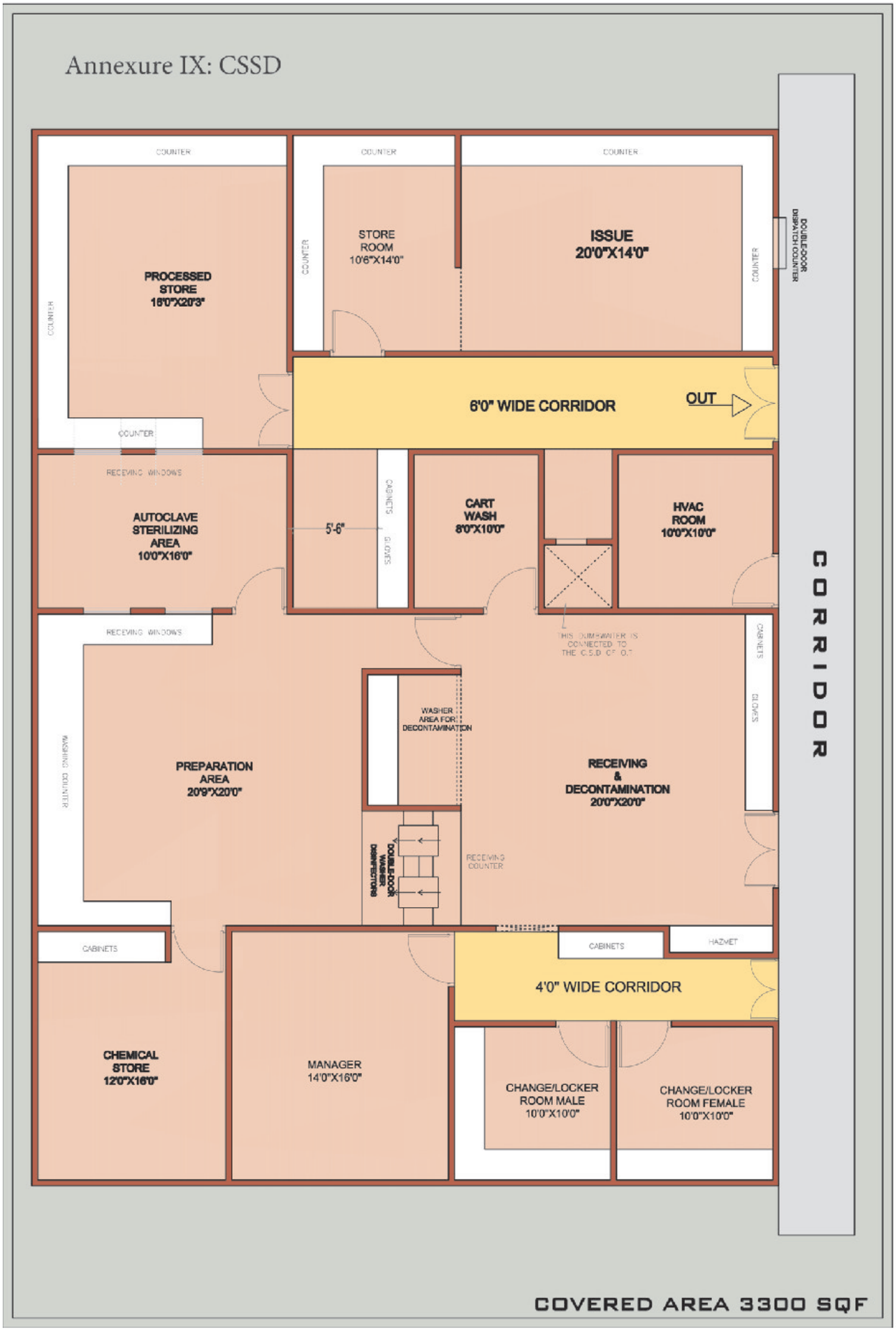


COVERED AREA =3275 SQFT

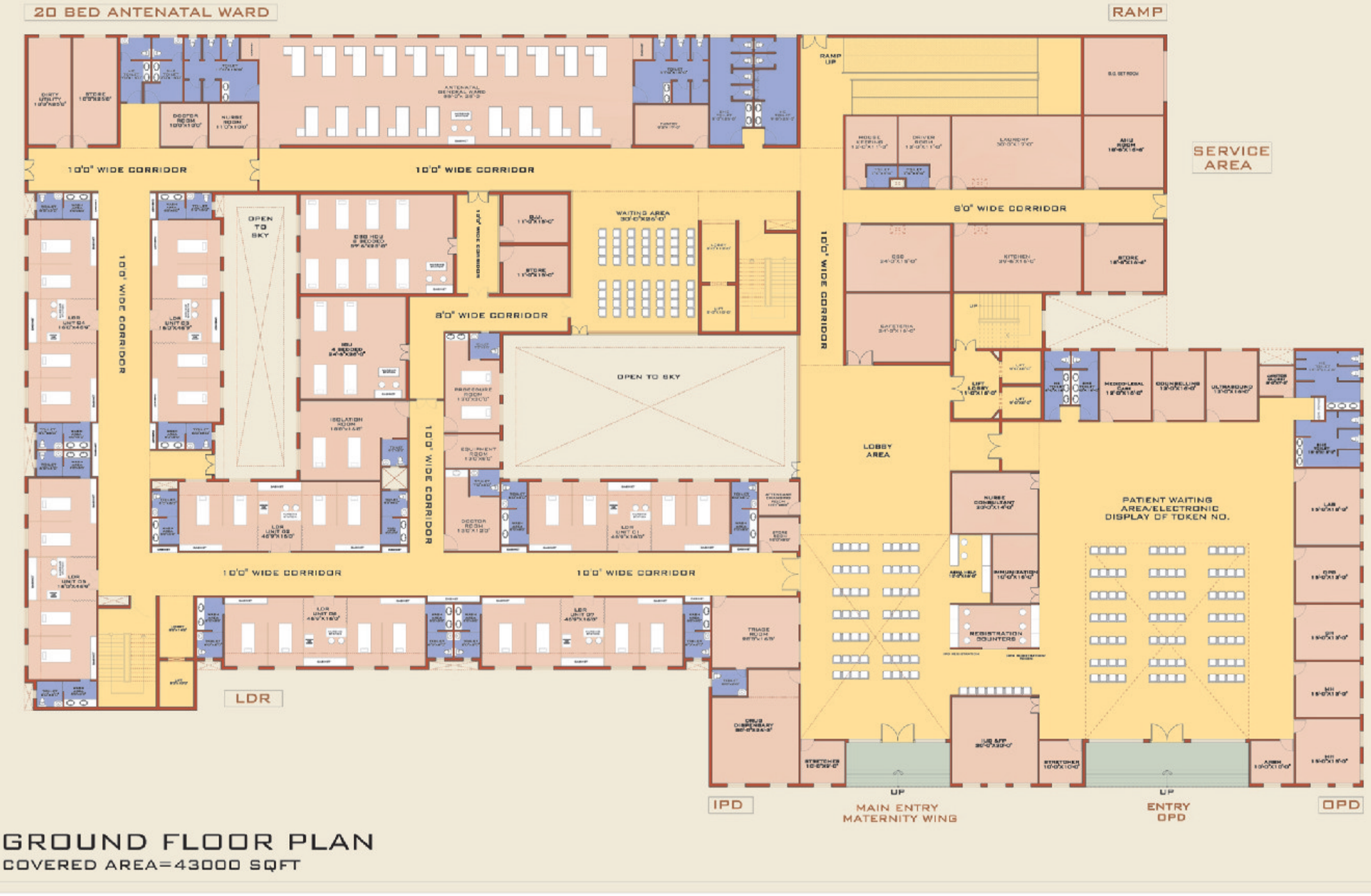
Annexure VIII: Conventional Labor Room Complex for DH

COVERED AREA =4300 SQFT

Annexure IX: CSSD



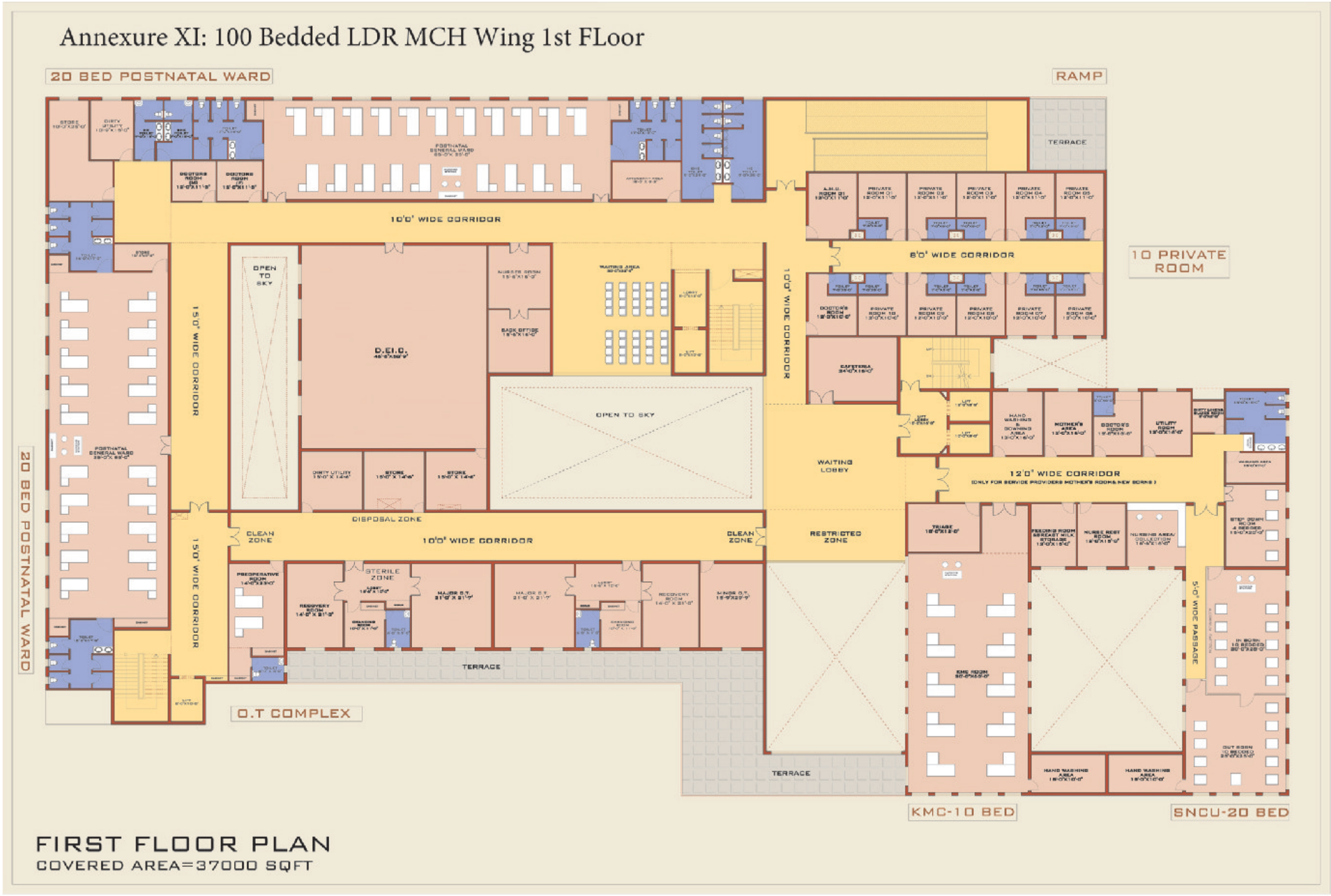
Annexure X: 100 Bedded LDR MCH Wing Ground FLoor



GROUND FLOOR PLAN

COVERED AREA=43000 SQFT

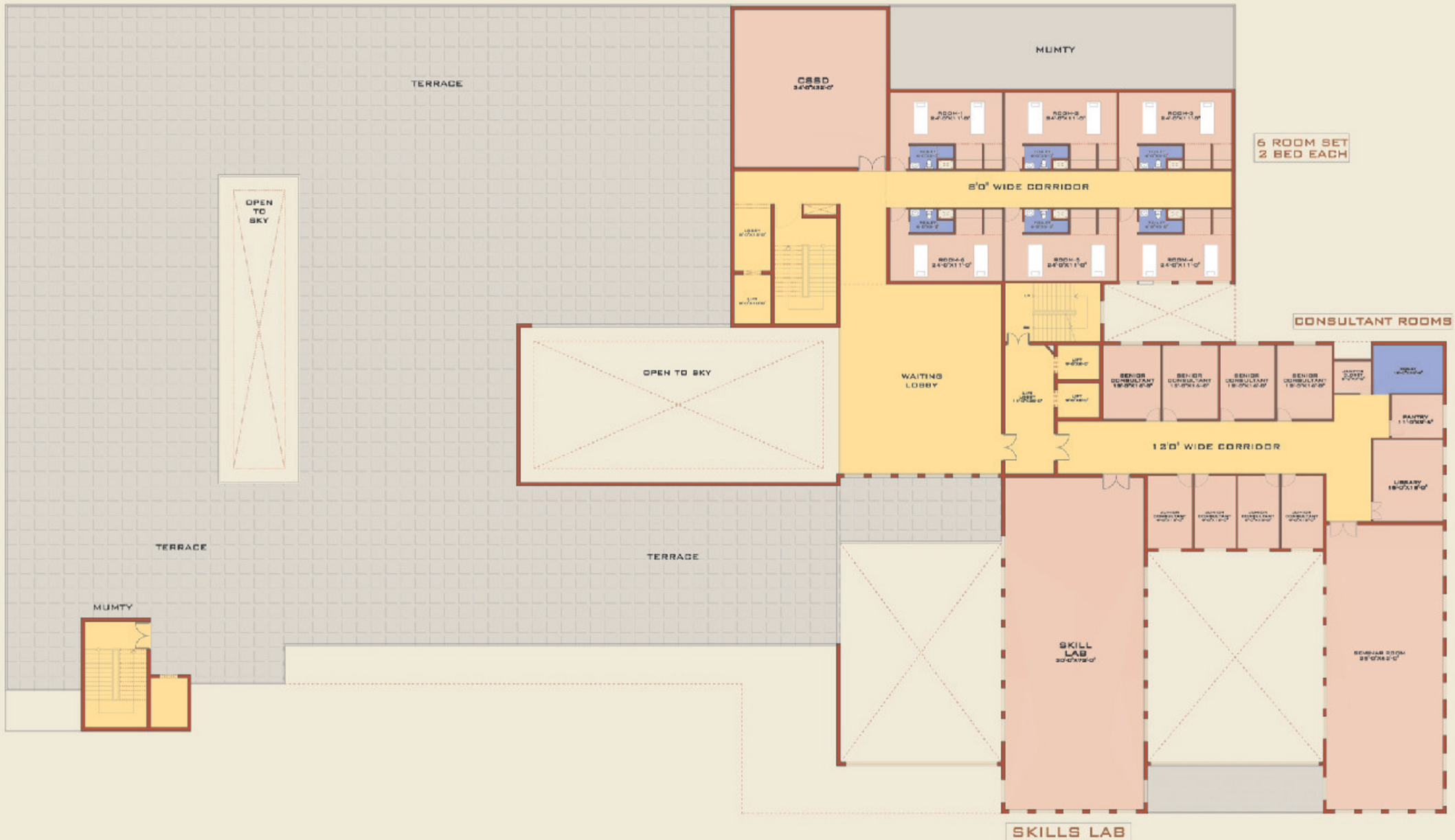
Annexure XI: 100 Bedded LDR MCH Wing 1st FLoor



FIRST FLOOR PLAN

COVERED AREA=37000 SQFT

Annexure XII_100 Bedded LDR MCH Wing 2nd FLoor



SECOND FLOOR PLAN

COVERED AREA=10000 SQFT

Photographs of a few recommended items for labor room complexes:

Forehead strip thermometer for babies

- A liquid crystal thermometer, temperature strip or plastic strip thermometer is a type of thermometer that contains heat-sensitive (thermo-chromic) liquid crystals in a plastic strip that change colour to indicate different temperatures.
- Liquid crystals possess the mechanical properties of a liquid, but have the optical properties of a single crystal.
- Temperature changes can affect the colour of a liquid crystal, which makes them useful for temperature measurement.

Head Light

- The LED light provides one of the best shine times and light intensities in low resource settings.
- It can be used both as a focused task light and as an ambient room light.
- The lithium ion battery allows for long shelf life and a large number of recharge cycles.

Liquid soap dispenser

- A soap dispenser is a device that, when triggered appropriately, yields soap (usually in small, single-use quantities).
- It can be manually operated by means of a handle, or can be automatic.

Cheatle forceps

- Cheatle Sterilizer Forceps are used to remove sterilised instruments, towels and pads from delivery tray, drums, boilers and formalin cabinets.
- They are used to ensure that as each item is removed, others are not infected.

Kelly's pad

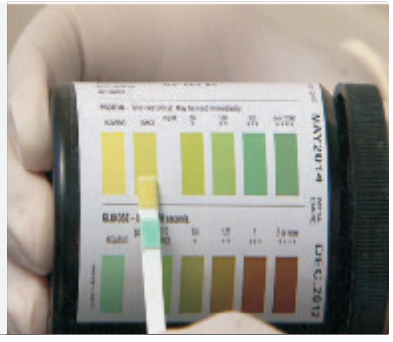
- The Kelly's Pad is a simple medical device to funnel blood to a collection device in order to help detect postpartum hemorrhage.
- The pad is washable and sterilizable.

Radiant Warmer

- Radiant warmers are used to maintain the body temperature of newborn infants.
- The heat output of these devices is usually regulated by servo-control to keep the skin temperature constant where a thermistor probe is attached.

Proteinuria Dipsticks

- Strip test for testing the urine for the presence of protein (albumin) for the detection of pre-eclampsia.



Utility gloves

- Used to prepare chlorine solution and to handle biomedical waste.
- It prevents injury and harm to the handlers

Puncture proof container

- Used to dispose off sharps which otherwise can cause pricks to the handlers during transport and may transmit infections

Hub cutter with needle destroyer

- Used to destroy needles
- Also has provision to cut hub in case no electricity is available

Gowns for mother

- Mother should not be without appropriate clothing on the labor table
- To provide respectful maternity care and to avoid soiling of her cloths and acquiring infections, hospitals can provide gowns to mother

Foot operated suction device

- Useful in suctioning when power is absent
- Can generate low pressure useful for suctioning secretions in newborns (whenever recommended)
- Helps in management of eclampsia and secretions obstructing airway

Crash cart

- Has provisions to hold emergency drugs, instruments for resuscitation, oxygen cylinder, defibrillator and consumables
- Can be moved to the site of need
- Can be used to organize supplies in labor rooms

Trays to be kept in labor room:

Trays to be kept in Labour Room

Delivery tray

- Gloves
- Scissor
- Artery forceps
- Cord clamp
- Sponge holding forceps
- Urinary catheter
- Bowl for antiseptic lotion
- Gauze pieces and cotton swabs
- Speculum
- Sanitary pads
- Kidney tray

Episiotomy tray

- Inj. Xylocaine 2%
- 10 ml disposable syringe with needle
- Episiotomy scissor
- Kidney tray
- Artery forceps
- Allis forceps
- Sponge holding forceps
- Toothed forceps
- Needle holder
- Needle (round body and cutting)
- Chromic catgut no.0
- Gauze pieces
- Cotton swabs
- Antiseptic lotion
- Thumb forceps
- Gloves

Baby tray

- Two pre-warmed towels/sheets for wrapping the baby
- Cotton swabs
- Mucus extractor
- Bag and mask
- Sterilized thread for cord/cord clamp
- Nnasogastric tube and gloves Inj. Vitamin K
- Needle and syringe. (Baby should be received in a pre-warmed towel. Do not use metallic tray.)

Medicine tray*

- Inj. Oxytocin (to be kept in fridge)
- Cap Ampicillin 500 mg
- Tab Metronidazole 400 mg
- Tab Paracetamol
- Tab Ibuprofen
- Tab B complex
- IV fluids
- Inj. Oxytocin 10 IU
- Tab. Misoprostol 200 micrograms
- Inj. Gentamycin
- Vit K
- Inj. Betamethason
- Ringer lactate
- Normal Saline
- Inj. Hydrazaline
- Nefidepin
- Methyldopa
- Magnifying glass

(*-Nevirapin and other HIV drugs only for ICTC and ART Centres)

Emergency drug tray**

- Inj. Oxytocin (to be kept in fridge)
- Inj. Magsulf 50%
- Inj. Calcium gluconate-10%
- Inj. Dexamethasone
- Inj. Ampicillin, Inj.Gentamicin
- Inj. Metronidazole
- Inj. Lignocaine-2%
- Inj. Adrenaline
- Inj. Hydrocortisone Succinate
- Inj. Diazepam
- Inj. Pheneramine maleate
- Inj.Carboprost
- Inj. Fortwin
- Inj. Phenergan
- Ringer lactate
- Normal saline
- Betamexthazon Inj. Hydrazaline
- Nefidepin
- Methyldopa
- IV sets with 16-gauge needle at least two
- Controlled suction catheter
- Mouth gag
- IV Canula
- Vials for drug collection Ceftriaxone (3rd generation cephalosporins) - For L3 facility

(–only for L2, L3 facilities)**

MVA/ EVA tray: Gloves, speculum, anterior vaginal wall retractor, posterior vaginal wall retractor, sponge holding forceps, MVA syringe and cannulas, MTP cannulas, small bowl of antiseptic lotion, sanitary pads, pads /cotton swabs, disposable syringe and needle, misoprostol tablet, sterilized gauze/pads, urinary catheter.

PPIUCD tray*–** PPIUCD Insertion Forceps, Cu IUCD 380A/ Cu IUCD 375 in a sterile package.

(* – only for L3 facilities with PPIUCD trained provider)**

Maternal Health Division
Ministry of Health & Family Welfare
Goverment of India

March-2016