

Mother Nature

Research Summary

Mother and infant separation shortly after birth is a 20th century phenomenon. Throughout history, neonatal survival depended on close and continuous maternal contact. With the introduction of the NICU, mothers were deemed nonessential – even dangerous – to their newborns. Having a premature baby in the NICU is stressful and confusing for any parent (Serpero).

In a ward-style design of a NICU, babies are bombarded with stimuli that are not appropriate for their stage of development. Introducing light and sound at the wrong time rewires the brain of the infant. Studies have shown that babies learn to respond to the environment even when asleep (Designing).

The NICU needs to integrate rooming-in and skin-to-skin contact as a critical factor in newborn care. Increased privacy accommodate new mothers as they nurse or produce milk, and pain responses diminish during vaccines or blood sample collection. The length of stay in the hospital is shortened due to gains in sleep, decreased crying, improved oxygen capacity levels, reduced rates of infection, and environment control. During skin-to-skin contact, the smallest of infants can be kept as warm as or warmer than in an incubator (Serpero).

This new design approach for the NICU allows mother and baby to stay in the same room with no limitation of direct contact between the two. Particular attention will be paid to the lighting control, a vital element for premature infants. Even though access to natural light is important for staff and families, this is not the case for premature babies. Areas for patients, family and staff will be created so that patients receive excellent care without the caregivers and families getting in each other's way (Lynne).

Bibliography

Designing and Building a New NICU: Sunnybrook's Story. Perf. Michael Dunn, Lynne Wilson-Orr, Elizabeth Macmillan-York, Marion Deland, Kate Robson. YouTube, 2013. Film.

Lynne Wilson-Orr EDAC: Designing a NICU - An Architect's Perspective. Perf. Lynne Wilson-Orr. YouTube, 2014. Film.

Serpero, Laura D., Miriam Sabatini, Micaela Colivicchi, and Diego Gazzolo. "Rooming-in: An Update." Early Human Development 89.4 (2013): S12-14. Print.

Concept

TRANSITION. The transition between the setting sun and the appearance of the night sky represents the most relaxing time of day; this dusky time encourages patients and family to be calm and serene. We want to support families who are welcoming the transition of a new baby into their home with the same sense of calm and serenity. The circular shapes found in the natural curve of Mother Nature are the foundation of this space. Incorporating low emitting and sustainable materials with recycled contents in the private NICU room will produce a healthy and comforting environment.



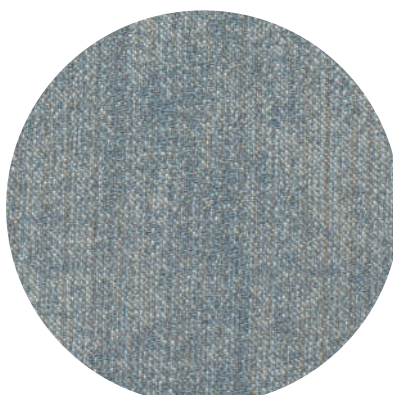
NeoBirth Infant Incubator designed by Parin Sanghvi



Steelcase Health Mitra Recliner
Designed with energetic curves and has features such as independent back, footrest control, and infinite recline positions.
Environmental Attributes:
14% Recycled content
59% Recyclable
Regional materials
Rapidly renewable materials

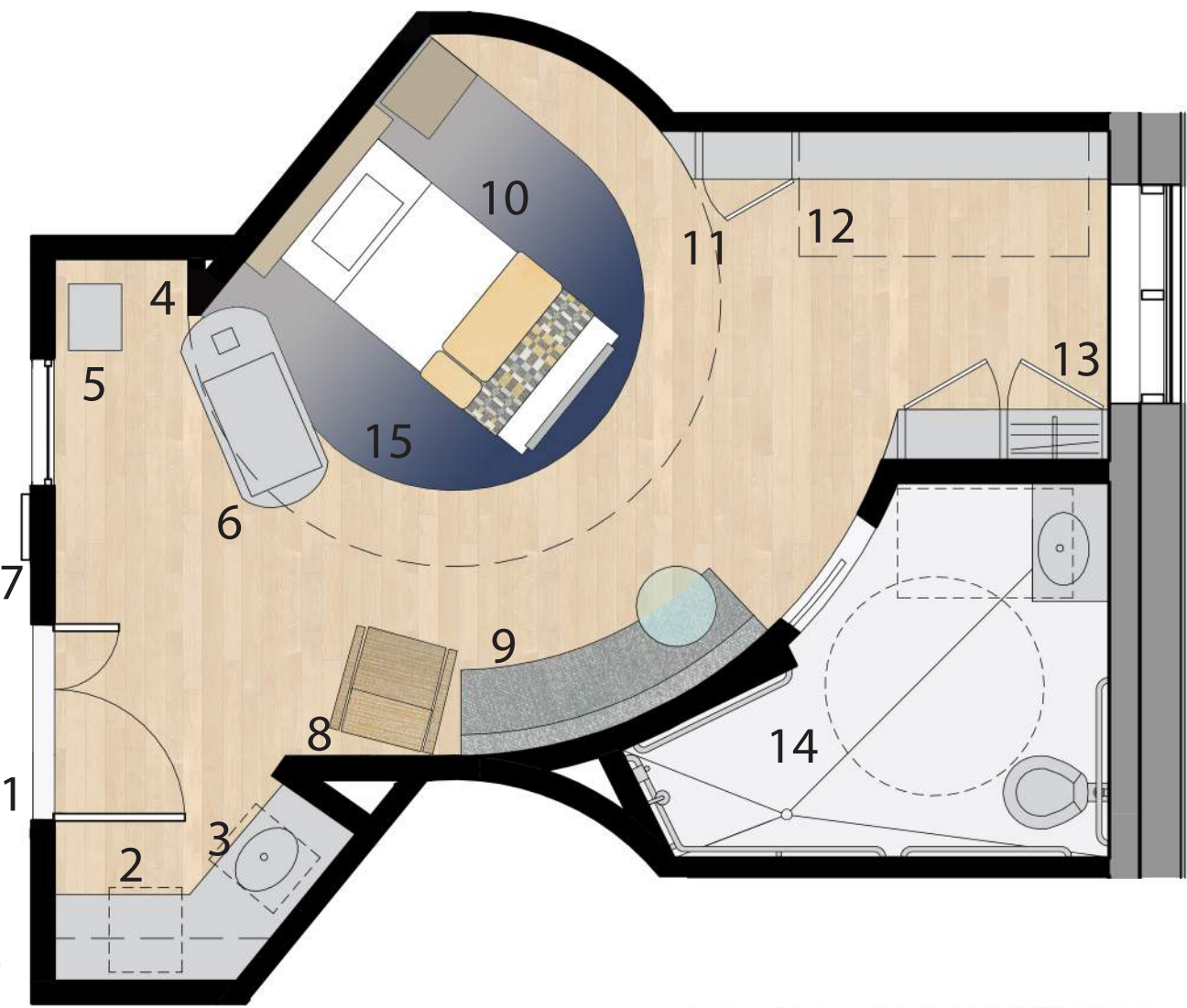


Luna Hifi Prosecco Upholstery
44% Post-Consumer recycled polyester
22% Post-Industrial recycled polyester
34% Polypropylene
Low emitting materials



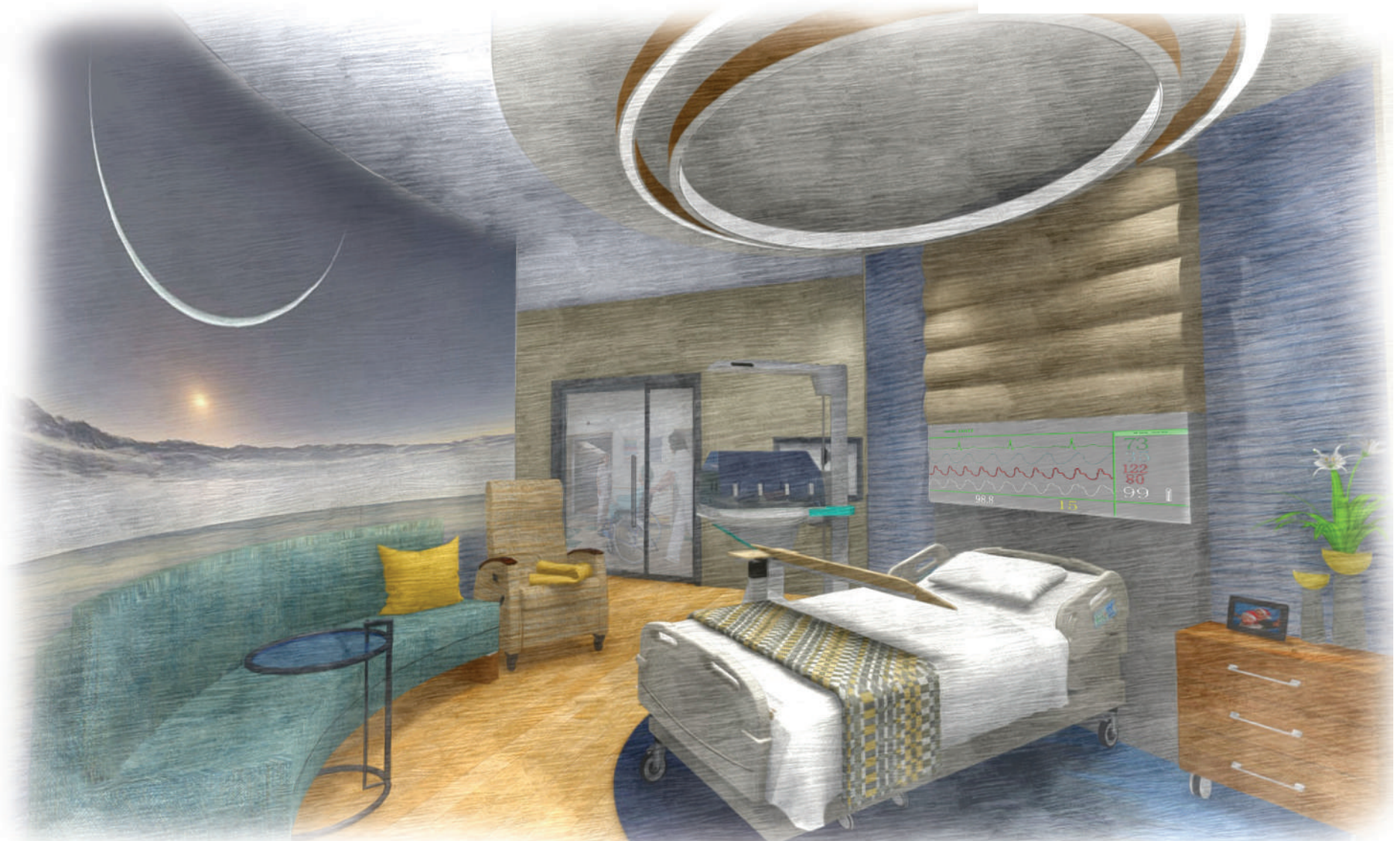
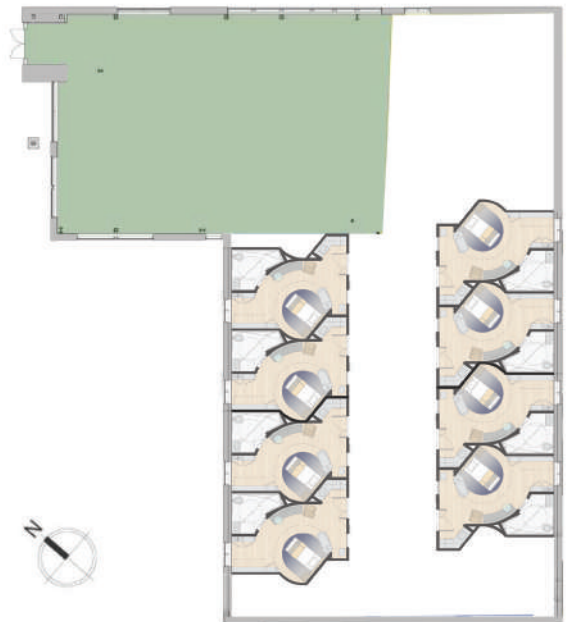
Pallas Patina Ice Upholstery
55% Sunbrella® Acrylic
45% Sunbrella® Polyester
Resist stain and mildew

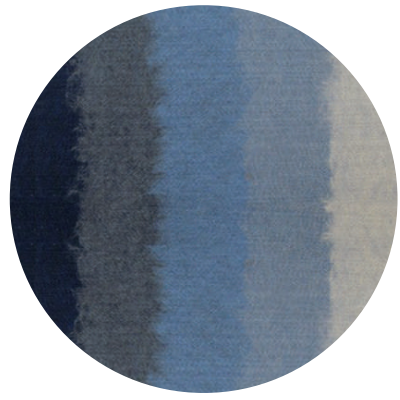
- 1 Entrance
- 2 Undercounter refrigerator to store milk and medication for patients
- 3 Sink and Undercounter trash receptacle
- 4 Monitor and plugs for newborn that are hidden behind a wall
- 5 Ventilator
- 6 Incubator or bassinet
- 7 Monitor to display vital sign information and video of infant (Infant's area)
- 8 Nursing chair
- 9 Visitors' sitting area (Family zone)
- 10 Mother's area angled for privacy
- 11 Storage
- 12 Murphy wall bed for overnight visitor
- 13 Coat closet
- 14 ADA compliant bathroom with french drain
- 15 Liora Manne Ombre Blue Rug and Nydree Natural Maple flooring are welded to sheet goods to create a seamless connection that eliminates bacteria growth



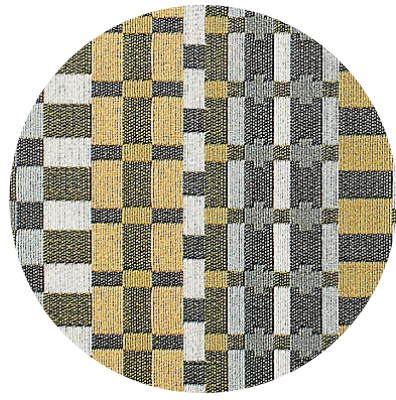
Goals

- I To create a relaxing and calming atmosphere where the mother and baby can heal from the delivery and develop a strong bond.
- II To allow the mother to have access to her baby twenty-four hours a day.
- III To create a zone where families can be comfortable together and provide support for the mother.
- IV To create clear paths for the nurse's and doctor's navigation of the room.





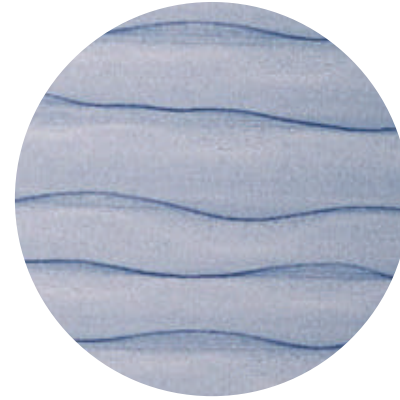
Liora Manne Ombre Blue Rug
Made of acrylic and polyester fibers with antimicrobial finish that prevents deterioration, odor, and growth of mildew



HBF Textiles Chatterbox
Color: Cindy
38% nylon, 35% cotton
14% post-consumer recycled polyester
13% polyester
35% rapidly renewable content,
14% recycled content



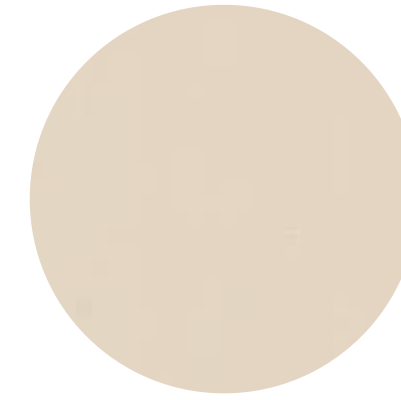
Nydree Natural Maple
Acrylic Infused wood flooring
FloorScore certified
Low emitting material



3Form Varia Ecoresin
Style: Moderna
Color: Drift Blue
Resin panels that contains 40%
Pre-consumer recycled content



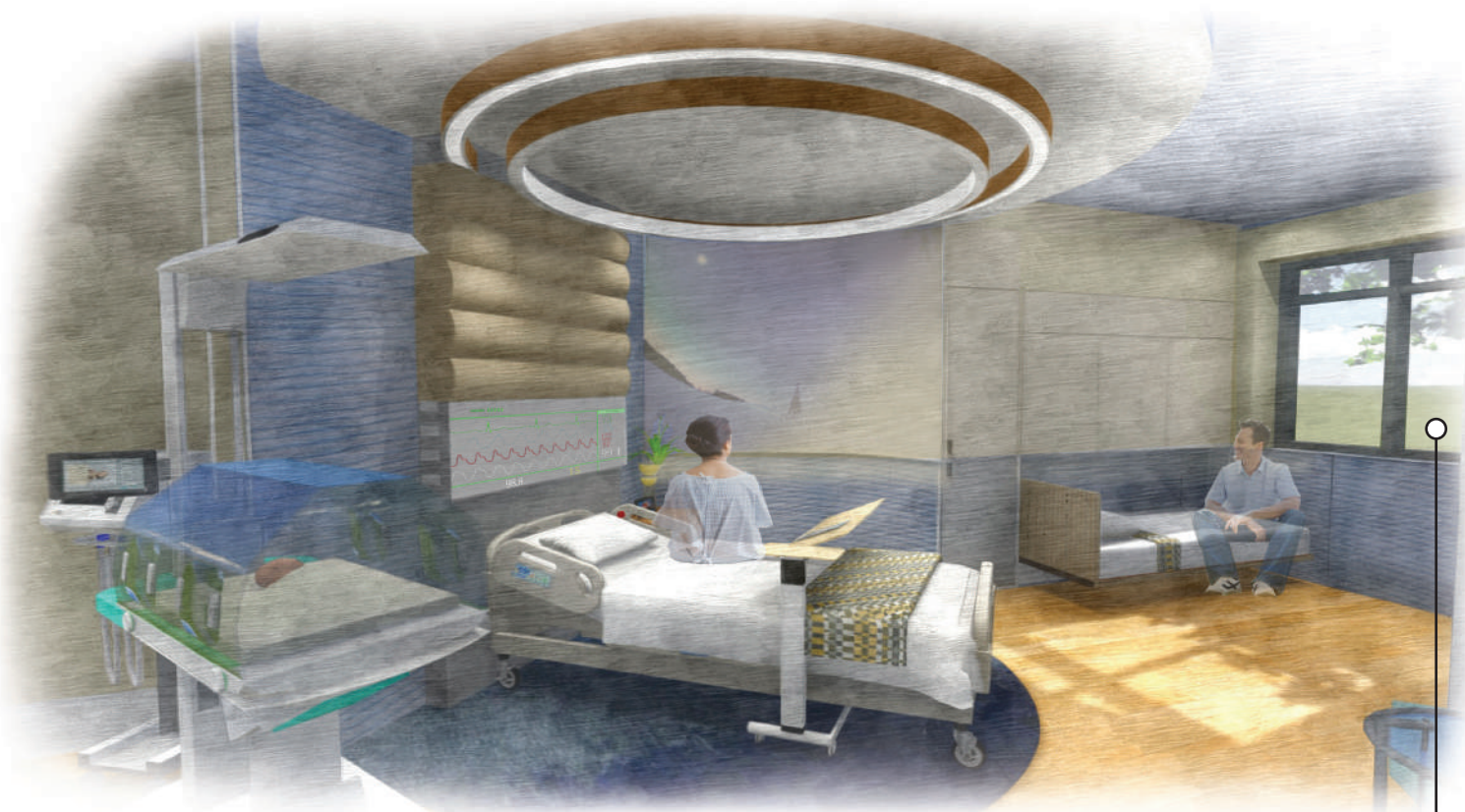
Flexible Interactive Glass Panel
applied on curved wall surface
and ceiling
above the patient area



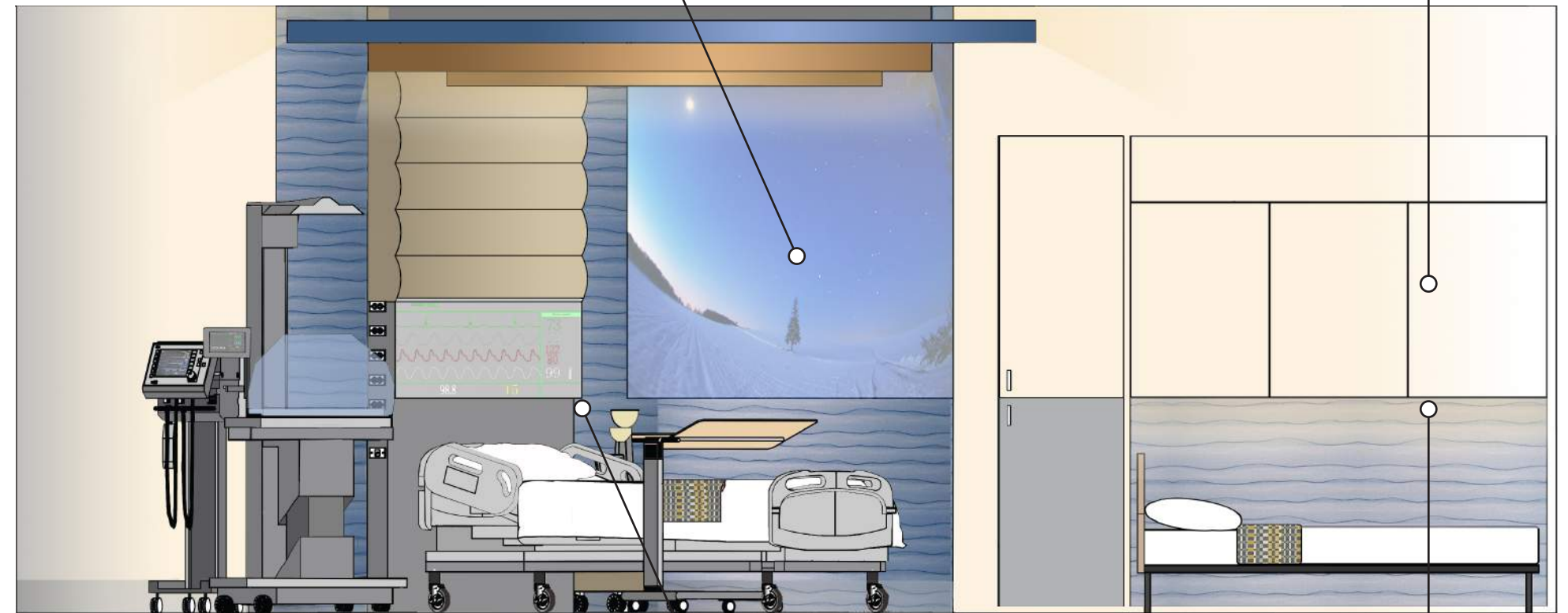
Shield Casework solid surface
in almond S02
Made from high quality acrylic ingredients
Maintenance free for 20 years, seamless,
moisture-proof, and antimicrobial.
Post-consumer recycled and low VOC



The murphy wall bed is a space saver



Smart glass for window and door to control the amount of light and visual privacy



Outlet and plugs for patients that are concealed on the side of headboard

LED Strips

Lighting Concept

The light fixture above the patient's bed has cove lighting that creates indirect ambient light. The same light fixture also has LED down lights that create task lighting. Interactive glass surface is incorporated in the drop ceiling for patients to create their own mood.

Resin panels are 3' - 6" high above the floor to create low lighting inspired by the sun setting.

