



# Investigating Post-Pandemic Hospital Design:

An exploration of the interior design efficiencies to improve patient recovery time in postoperative hospital units.



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# Introduction

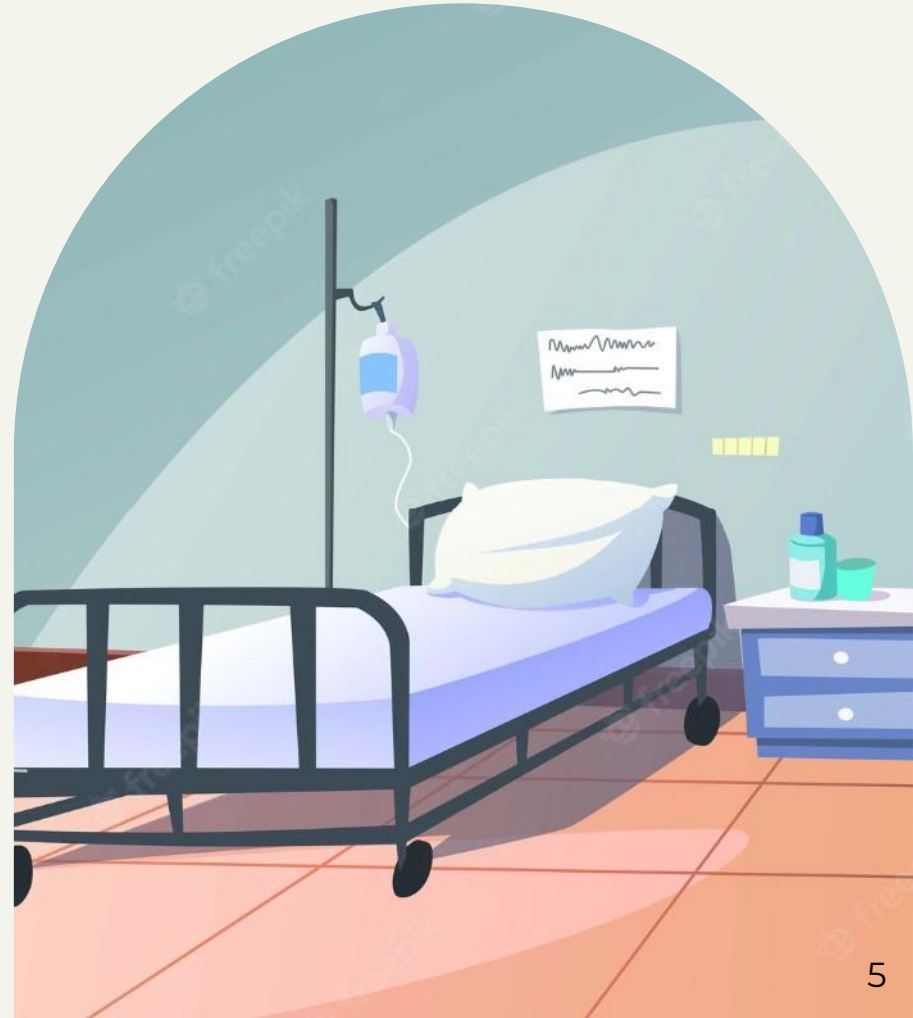
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Research question, importance, and  
hypothesis



# Query:

How does interior design impact caregiving efficiencies to improve patient recovery speeds in a postoperative hospital unit?



# Literature Review Summary

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Key literature review points that will  
inform creative agenda

# Patient Outlook

## On Recovery

Patient's outlook on recovery is more realistic and optimistic, they will recover faster.

- Mondloch et al.
- Faster than those with opposing views

## Physical Health

Positive thinking improves overall physical health.

- Mind's power over the immune system
- Help people recover faster and cope from serious illnesses and diseases

# Human-Centered design

How can well-being be influenced by interior design?

Color and Lighting Theory

Psychology behind color and how it affects users in space and the suitable quantity, quality, and distribution of light within space

Biophilic Design

Occupant connectivity to the natural environment

Spatial Flexibility

Creating space that can be used in a multitude of ways to account for any needs that may arise in the postoperative setting

# Healing Environments

## Applying design efficiencies in space

- Abbas and Ghazali
- Explored in pediatric units
- Healing Environment
  - creating a more homelike family environment would give benefit to children
    - encourage children to feel like at home, active and playful



# Healing Environments

## Creating Healing Environments in a postoperative unit

### Adaptability

Healing at home isn't possible for every patient, but the flexibility of space that we get at home is possible in patient rooms.

### Color

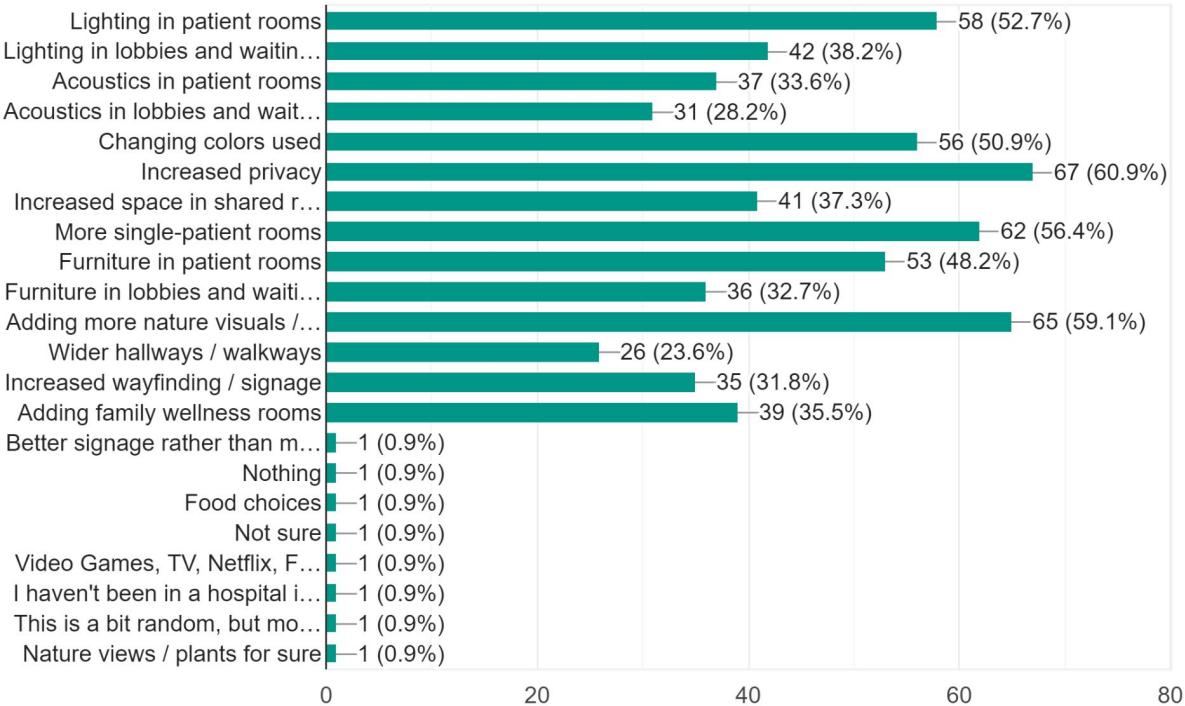
Hospital color schemes can be cold and deterring in many of the less new or modern settings. Bringing in warmer and brighter color palettes can help a space feel more comfortable for the user.

### Privacy

One main feature about the home is it is a private setting. Creating visual and acoustic privacy in space can make patients feel more at home.

What are some changes to the design of hospitals you would like to see? Please check all that apply.

110 responses



Biggest grievances from patients and families found through survey tend to include lack of privacy, lack of nature views, and lighting problems in patient rooms.



# Workflow for Staff

## Circulation

Circulation within hospital settings accounts for 30% of the usable square footage in America

## Acoustics

Dedicated service corridors reduce noise levels and staff stress increasing staff satisfaction

## Function

## Nurses' Stations

Essential viewpoints from nurse station as nurses and other support staff spend significant time viewing from this post

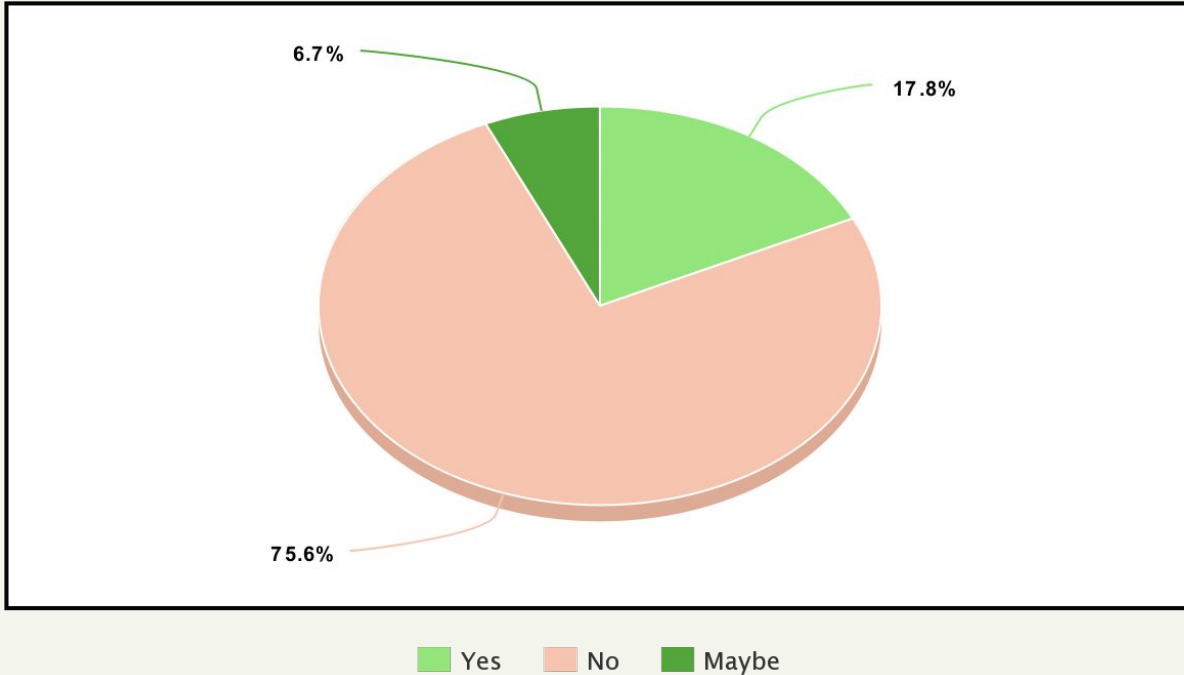
## Wellness Rooms

The physical work environment can affect one's overall job performance, and physical and psychological stress

# Wellness Rooms



Wellness rooms are private spaces that are designated for quiet time, recuperation, and escape from everyday stressors and anxiety. Have you ever been in a wellness room?



## Wellness Rooms:

Only about 75% of survey respondents had knowledge on wellness rooms, and even then not one respondent got the question fully correct on their benefits.

# FGI Guidelines

## **Section 2.2 : outlines requirements for general hospitals**

- General hospitals are those that provide and treat patients with a wide range of disease and injury
  - May be academic health facilities or community-based facilities
  - All types of medical and surgical cases
  - Most common type of hospital across the United States
  - Tend to concentrate on patients needing relatively short-term care

# Creative Agenda

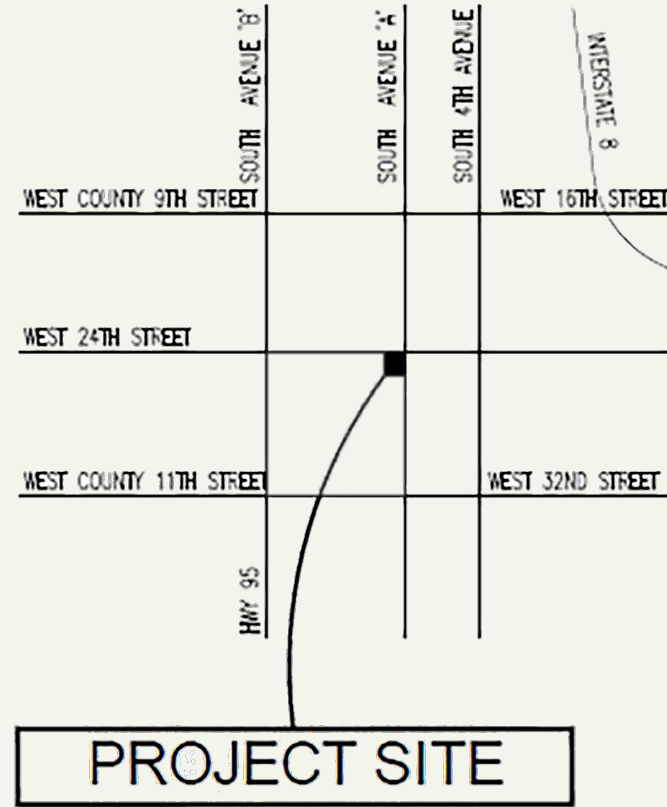
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Project statement, goals and objectives, project site, existing conditions, concept statement

# Project Site

Name: Yuma Regional Medical Center Hybrid Suite and Prep/Recovery Unit

Location: 2400 South Avenue 'A'  
Yuma, Arizona 85364



## Overview of Site

The current existing conditions for the space incorporate the hybrid suite, locker rooms, and the recovery space. The locker rooms and employee toilet space occupies 1,265 square feet and the recovery space occupies 7,235 square feet for a total of 8,500 square feet in the space.





# Project Statement/Scope of Work

One of the many criticisms about hospital visits tends to fall towards the design of the building, and not on the care one receives. Many patients and family members view hospitals as boring and dull, making them difficult spaces to heal in. This project will seek to adjust these patterns by evaluating the most efficient forms of interior design that benefit healing in order to boost patient recovery speeds and make patient stays more comfortable.

# Project objectives

01

## Redefine

Redefine the postoperative space to benefit patients and staff.

02

## Workflow

Establish workflow patterns and site lines for doctors and nurses in the unit.

03

## Connect

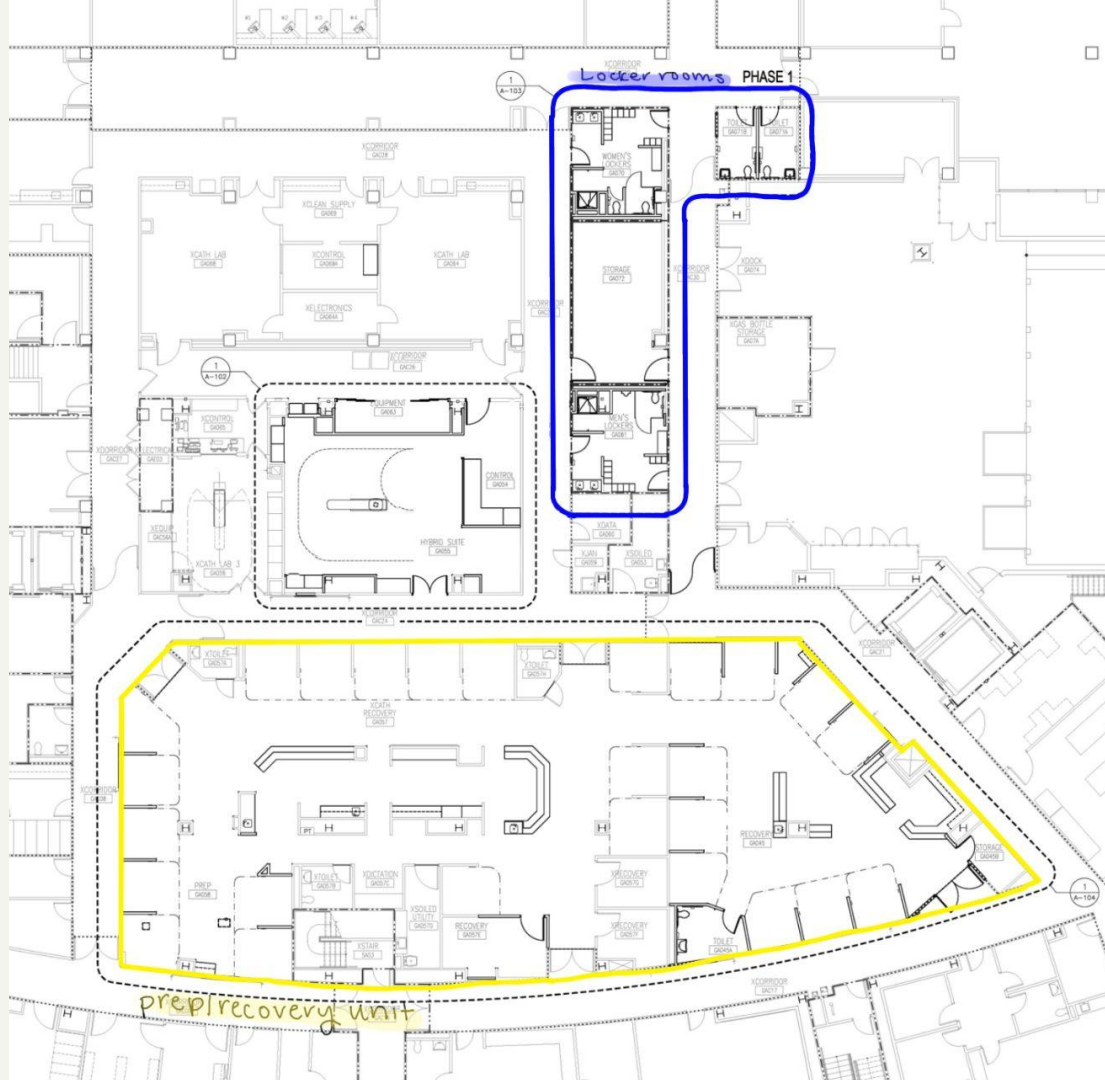
Connect patients and staff to allow patients to feel they are receiving better care.

04

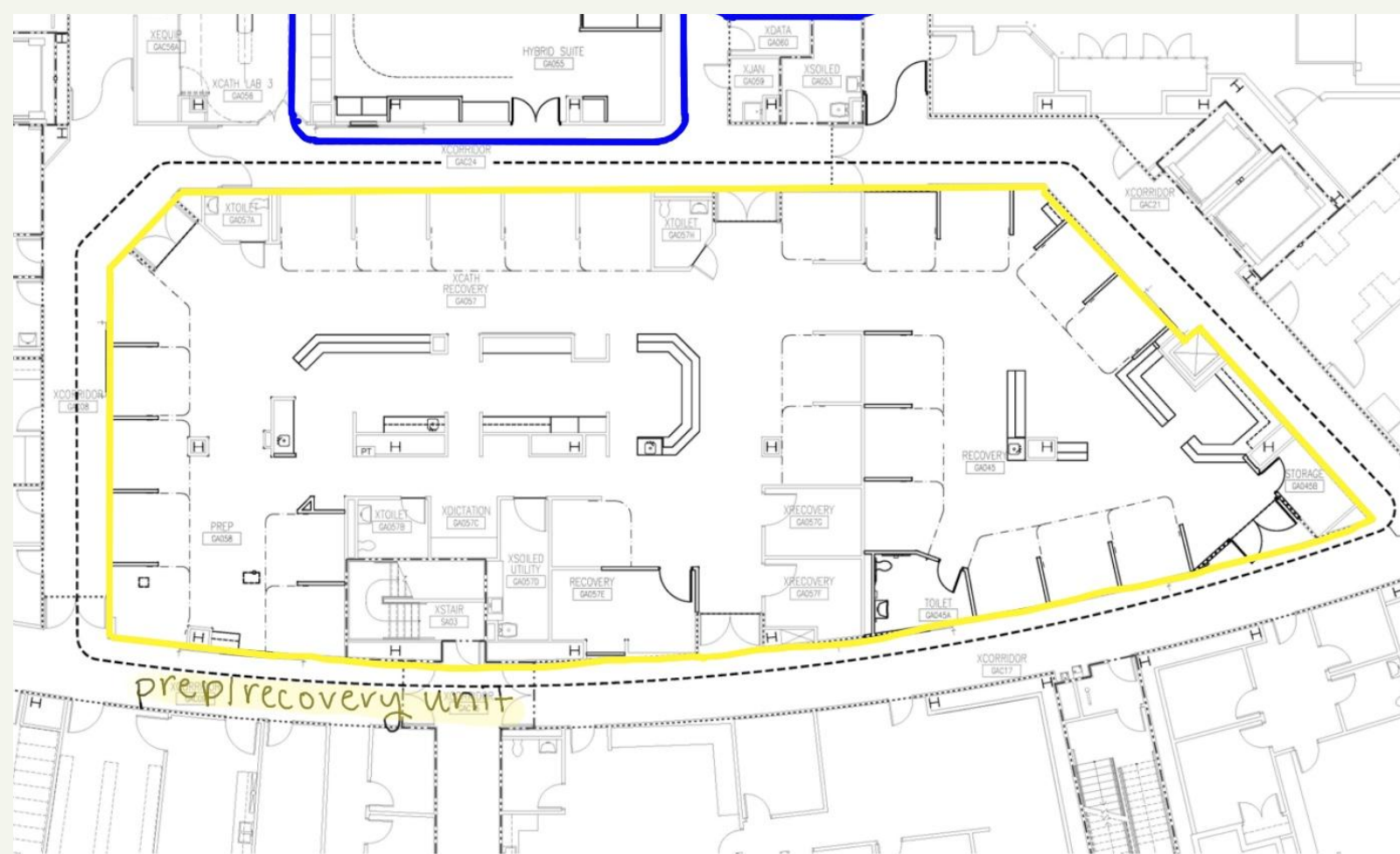
## Provide

Provide private spaces for patients, staff, and families to better mental wellbeing.







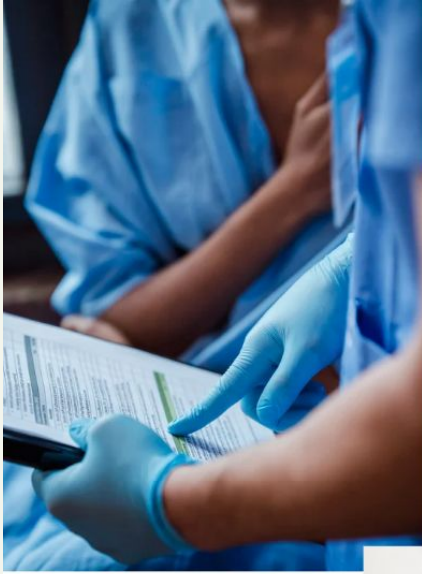


Recovery Suite Floor Plan

# Concept Statement

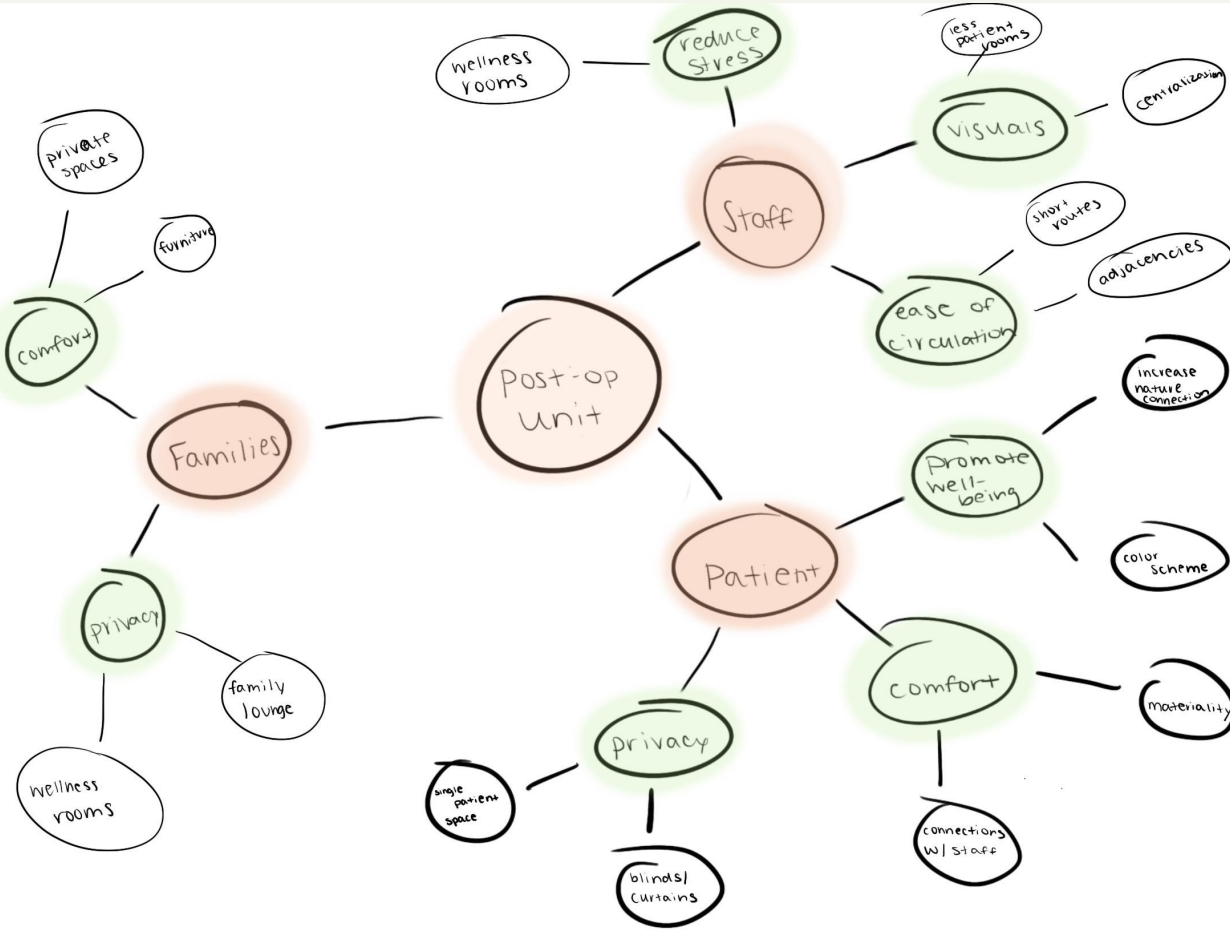
Established in 1958, the Yuma Regional Medical Center has committed itself to family and patient care as an unwavering priority for its hospital space. To ensure this commitment can stand true for many years to come, the recovery unit within this space will be redeveloped to include interior design efficiencies that have shown to boost patients' mental wellbeing and improve recovery speeds. Incorporating more privacy, creating patient spaces that can be adjusted to user satisfaction, and developing workflow for staff in this space will create an optimal healing environment to guarantee the commitment to patient care.

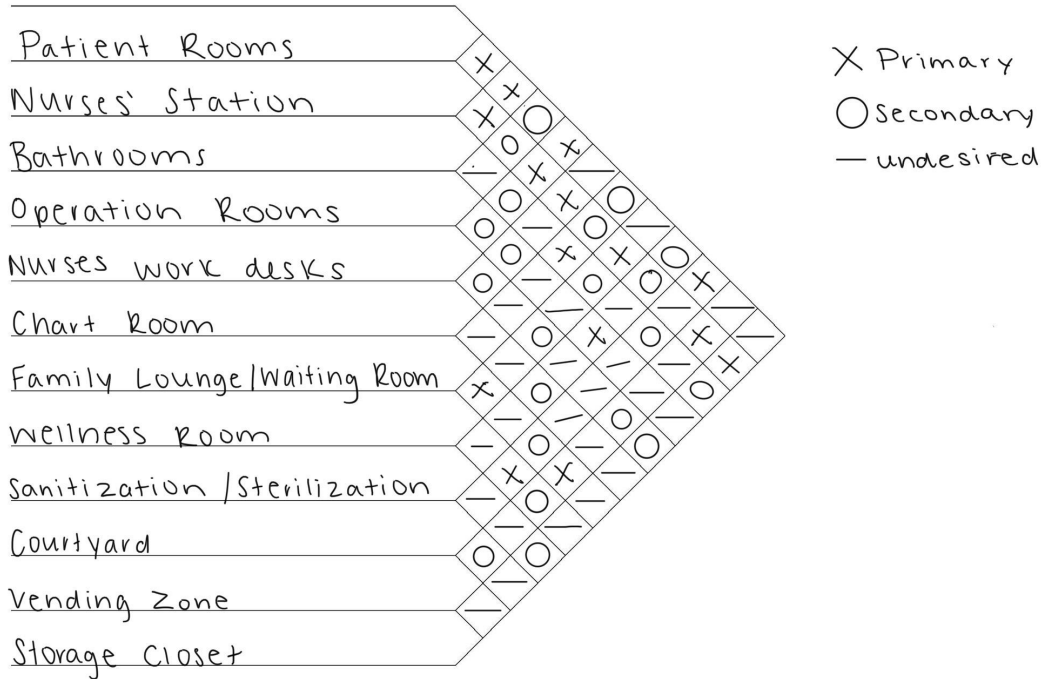
# Mood Board

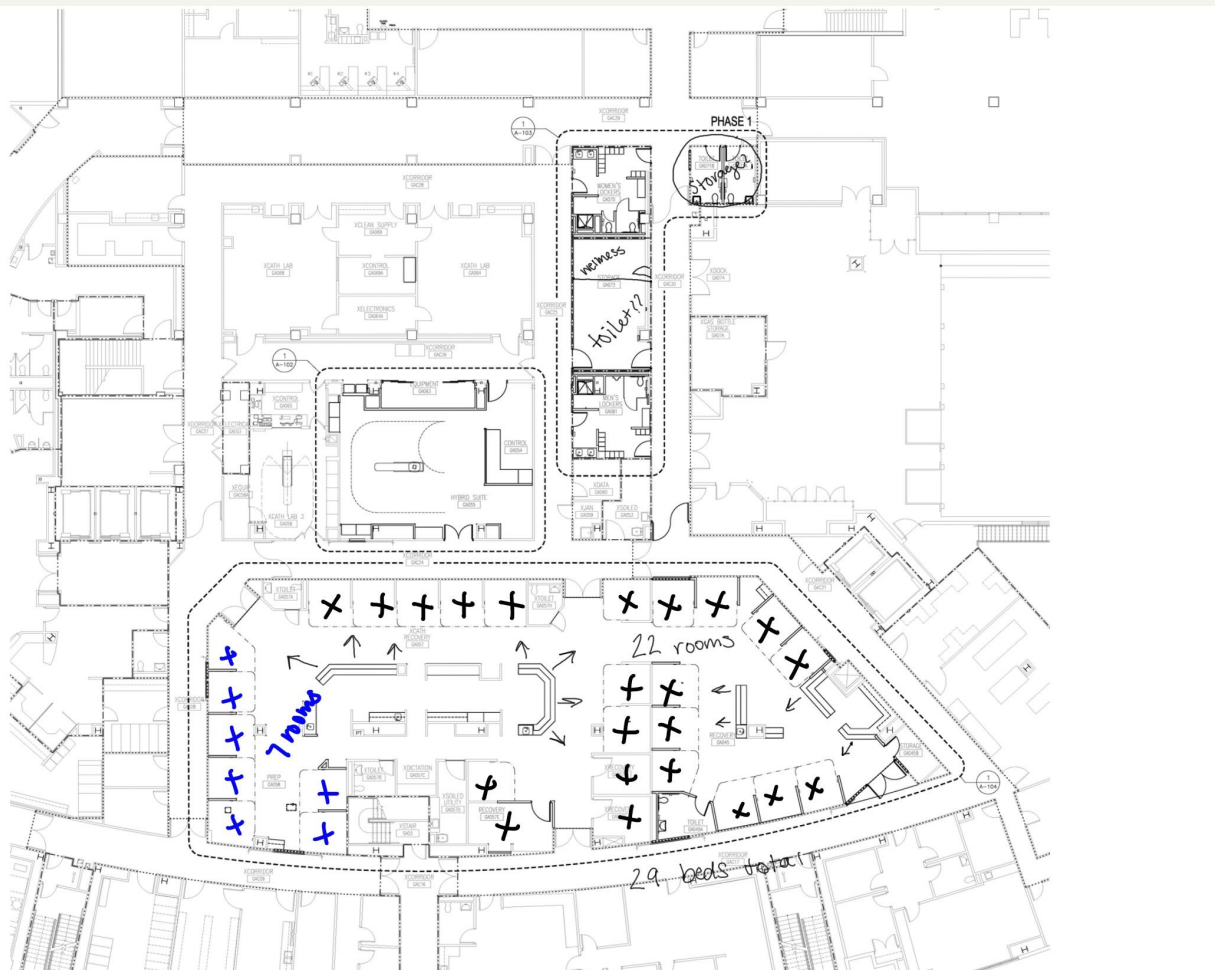




# Diagrams/Sketches







# Initial Challenge Notes

1. Columns in the space are structural - impact some patient room visuals

2. Slow Progress - all work must be compared with FGI Guidelines

3. Healthcare grade materials are more difficult to find - resilient materials

4. All existing plumbing will remain the same in the space

# Goals for Each Sector

## 1. Prep/Recovery

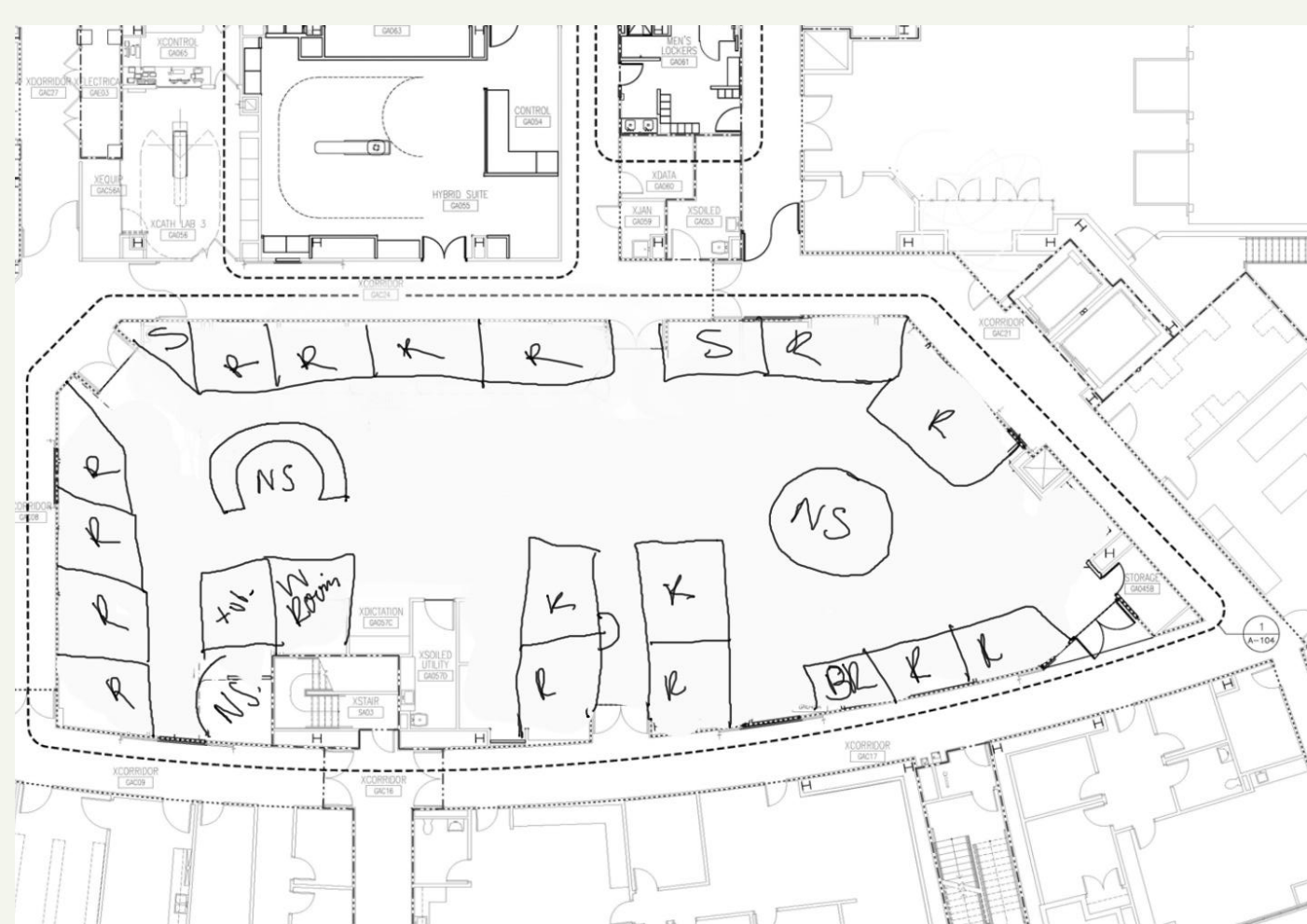
- Create (at least) one enclosed prep room
- Create a storage area on prep side of the space
- Extend walls in bays for increased privacy behind curtains
- Create nurse desking stations
- Adjust nursing station to maximize space
- Implement a way for nature visuals to be incorporated into patient rooms

# Goals for Each Sector

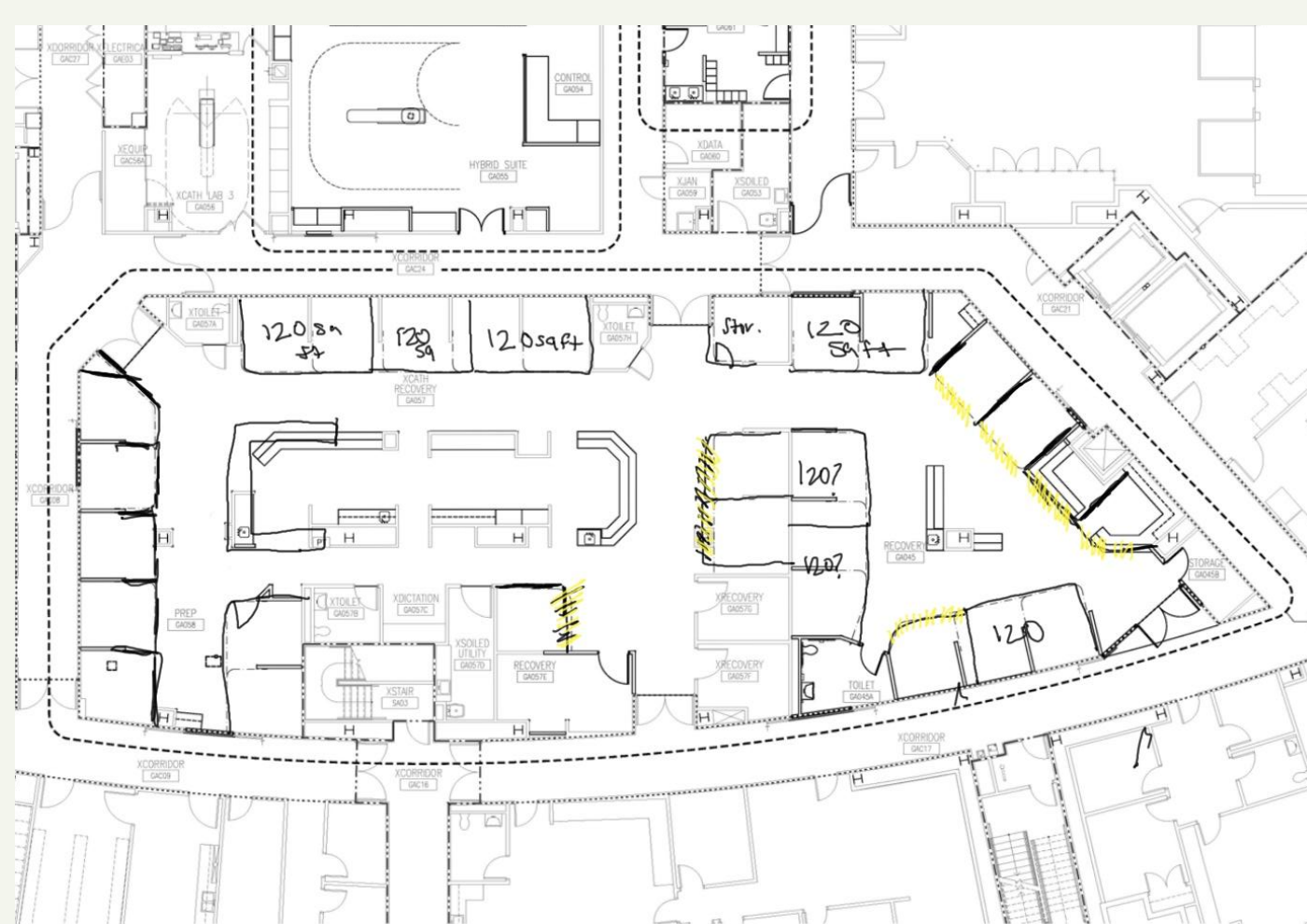
## 2. Locker Rooms

- Expand locker rooms to allow for a larger changing zone
- Implement wellness rooms or pods in this zone
- Adjust configuration to move lockers from being in front of door
- Keep existing plumbing





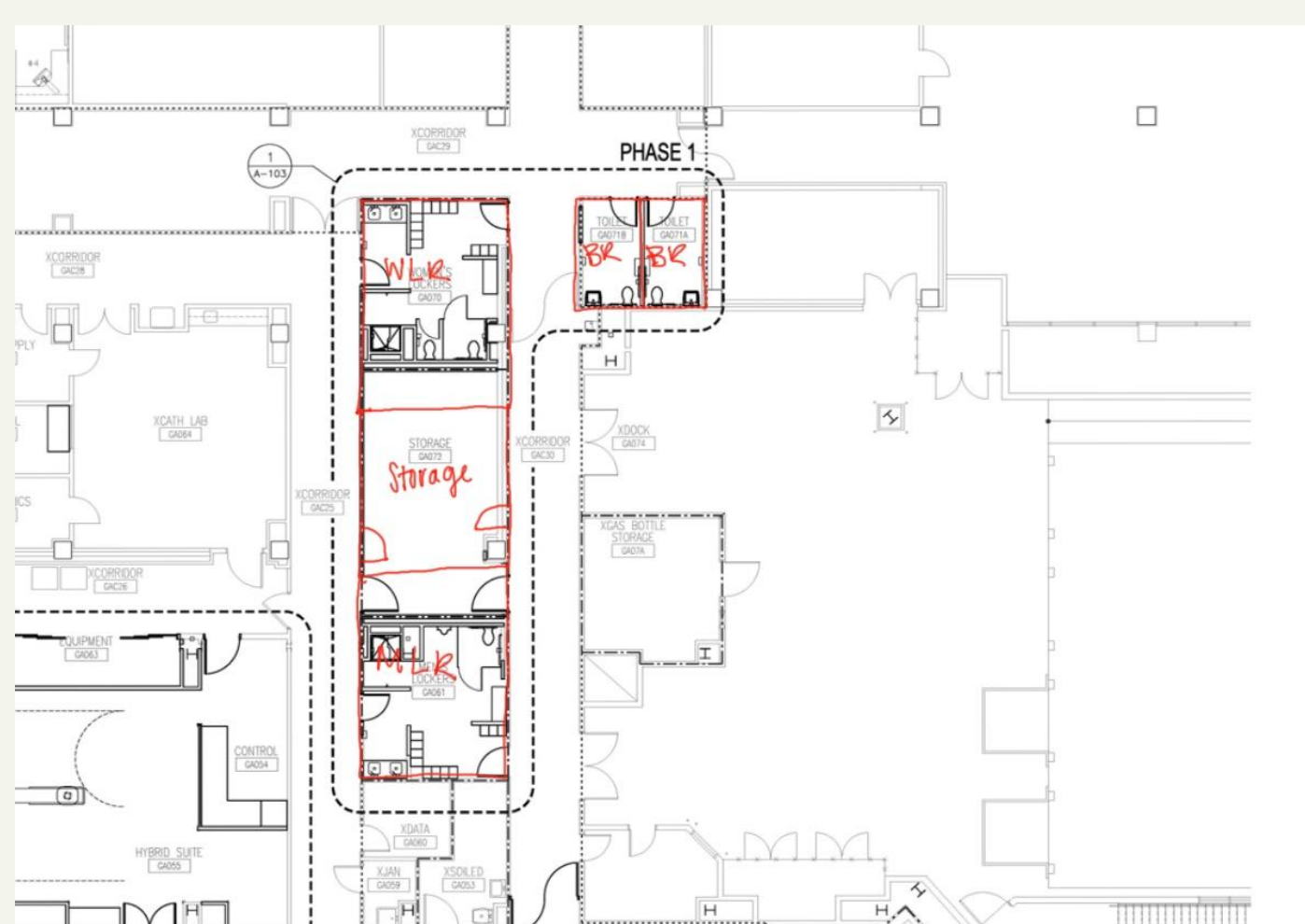
Layout Sketch 1 - Recovery



Layout Sketch 2 - Recovery







Locker rooms Layout 2





# Furniture and Equipment

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Furniture and Equipment currently  
found for recovery unit

## Carroll CS7 Hi-Low Hospital Bed



- High-low height adjustable
- One touch floor locking system
- Auto-contour body positioning with remote control

## Seca mVSA 535 Spot-Check Blood Pressure and Vital Signs Monitor

- NiBP, SpO2, temperature, and heart rate
- Wheeled-stand for easy transportation
- Can attach mounting for a smart bucket on the rolling stand







## Samsung "The Frame TV"

- 50" Display
- When TV is not on, it displays art visuals
- "Picture Frame" design to not appear as a TV and more like art on the wall
- Wall-mounted



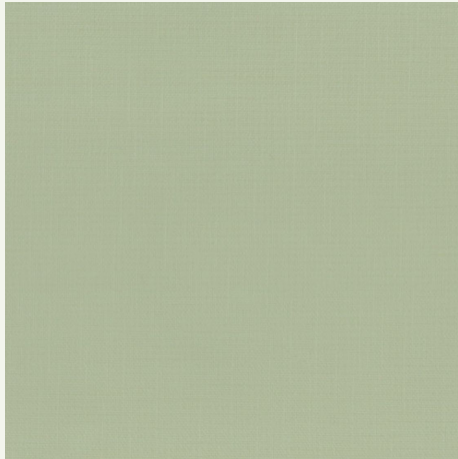
## Vaunn Medical Adjustable Overbed Bedside Table With Wheels

- Height adjustable
- Wheels
- For use with hospital beds and wheelchairs
- 30" length, 15" depth



## COVOC Flexible I-Beam Curtain Track

- 16 ft of track
- Can be bent by hand during installation for adjustment to space
- Ceiling mounted curtain track



## COVOC SURE-CHEK Vinyl Curtains

- Anti-microbial vinyl material
- Width variety up to 282"
- Height variety up to 120"
- Tear resistant, fluid and stain resistant, antistatic



## Tuttnauer T-EDGE 11 Autoclave

- ANSI/AAMI ST55
- More than 75% chamber capacity with 5 extra-long trays
- Fast cycles including drying
- User-friendly touchpad control panel



## AFC Industries Mobile Medical Monitor Pole Computer Cart

- Height adjustable
- Metal keyboard tray with a retractable left or right side mouse tray.
- Built in wire management with three cutout locations in the pole.
- Additional base weight plates for increased stability.



## Waterloo Healthcare Emergency Healthcare Supply Cart

- Aluminum
- Self-closing ball bearing slides
- Dual pull out work shelves
- Drawer divider set



## Unicel Architectural Group Vision Control Windows

- Louvered glazing technology
- Control of vision, light, temperature and sound
- Cordless louvers ensure total privacy and optimal hygiene

# Materials

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Materials currently found for recovery  
unit



## Johnsonite Minerality Rubber Tile and Plank

- Brand: Tarkett
- Tile Size: 6in x 48in, 12in x 24in
- Slip resistant, acoustic, LEED accredited



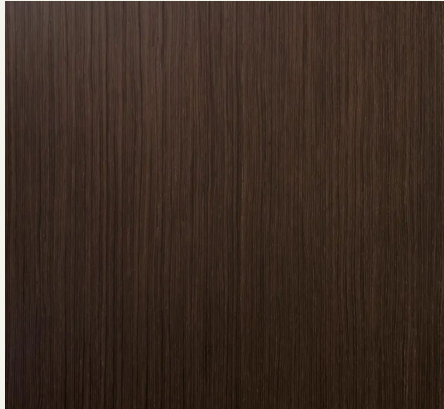
## Enviroacoustic Wood Wool Designs - Current

- Brand: Acoustic Solutions
- Wall-mounted acoustic system
- Wood material allows for color variation



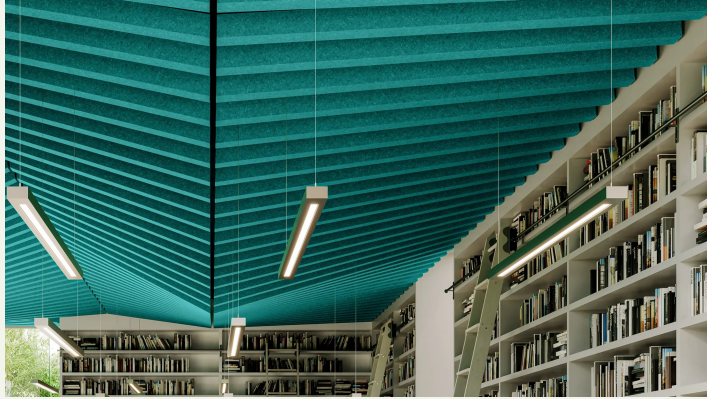
## Benjamin Moore Kensington Blue: 840

- Light Reflectance Value: 10.130
- BM Classics Collection



## Wolf Gordon WonderWood Oak

- Wood Veneer
- Finish: Prefinished: Matte lacquer with UV inhibitor
- Backing: Cellulose with Foil Stabilizer
- Width: 24"



## TURF Block Acoustic Ceiling Panel

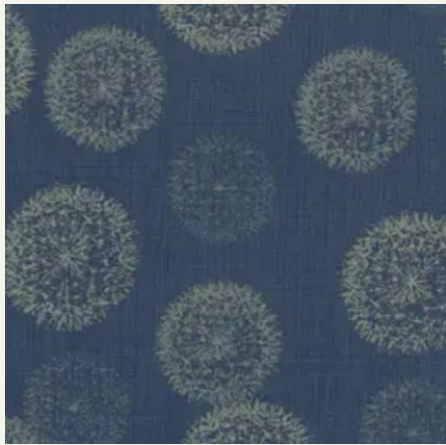
- Acoustic Rating NRC 1.9 – 2.25
- 60% pre-consumer recycled polyester felt



## Tarkett Johnsonite Reveal 6" Wall Base

- Color: Pewter
- Specific for hospital flooring
- Modular installation





## Anzea Big Bang Upholstery

- Color: Isotropy
- Stain resistant
- Anti-microbial
- Anti-bacterial



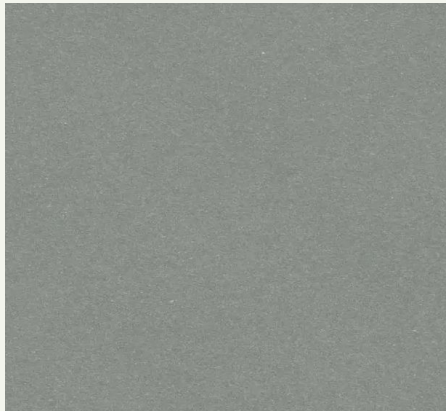
## MDC Interior Solutions

- Resilient Wallcovering
- Color: CODA



## Turf

- 9mm Acoustic Felt
- Color: Topo Green



## Turf

- 9mm Acoustic Felt
- Color: Celadon



## Benjamin Moore

- Paint
- Color: Gondola Ride: 602



## Benjamin Moore

- Paint
- Color: High Park



## Benjamin Moore

- Paint
- Color: Woodlawn Blue



## Sherwin Williams

- Paint
- Color: Valleyview



## Sherwin Williams

- Paint
- Color: Commodore



## Zandur Rubber Flooring

- Color: Flex Khaki
- Slip Resistant Rubber Floor
- Modular Installation



## Interface LVT

- Natural Woodgrains Modular LVT
- Color: Washed Wheat



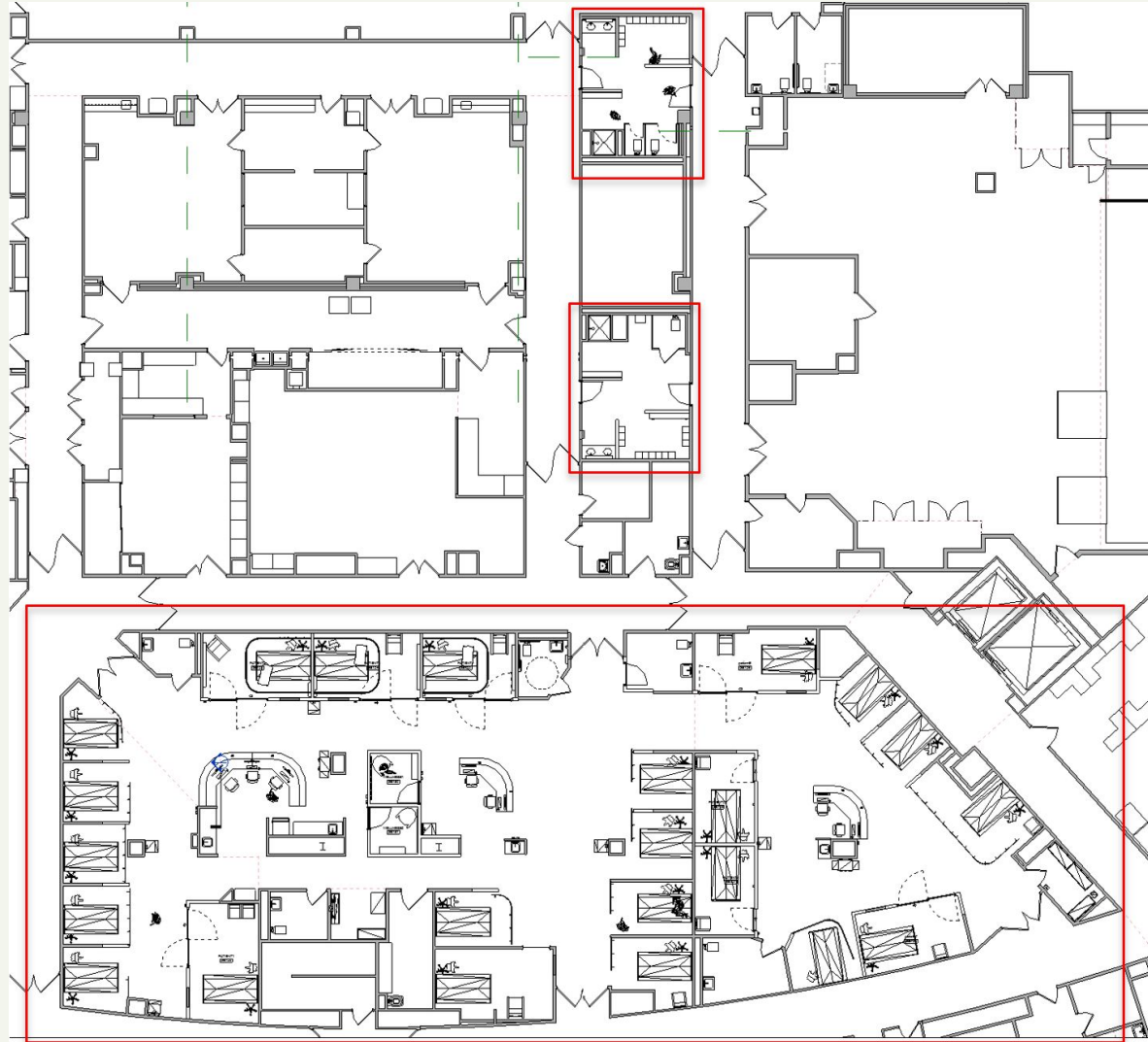
## Interface LVT

- Natural Woodgrains Modular LVT
- Color: Chestnut

# Floor Plan and RCP

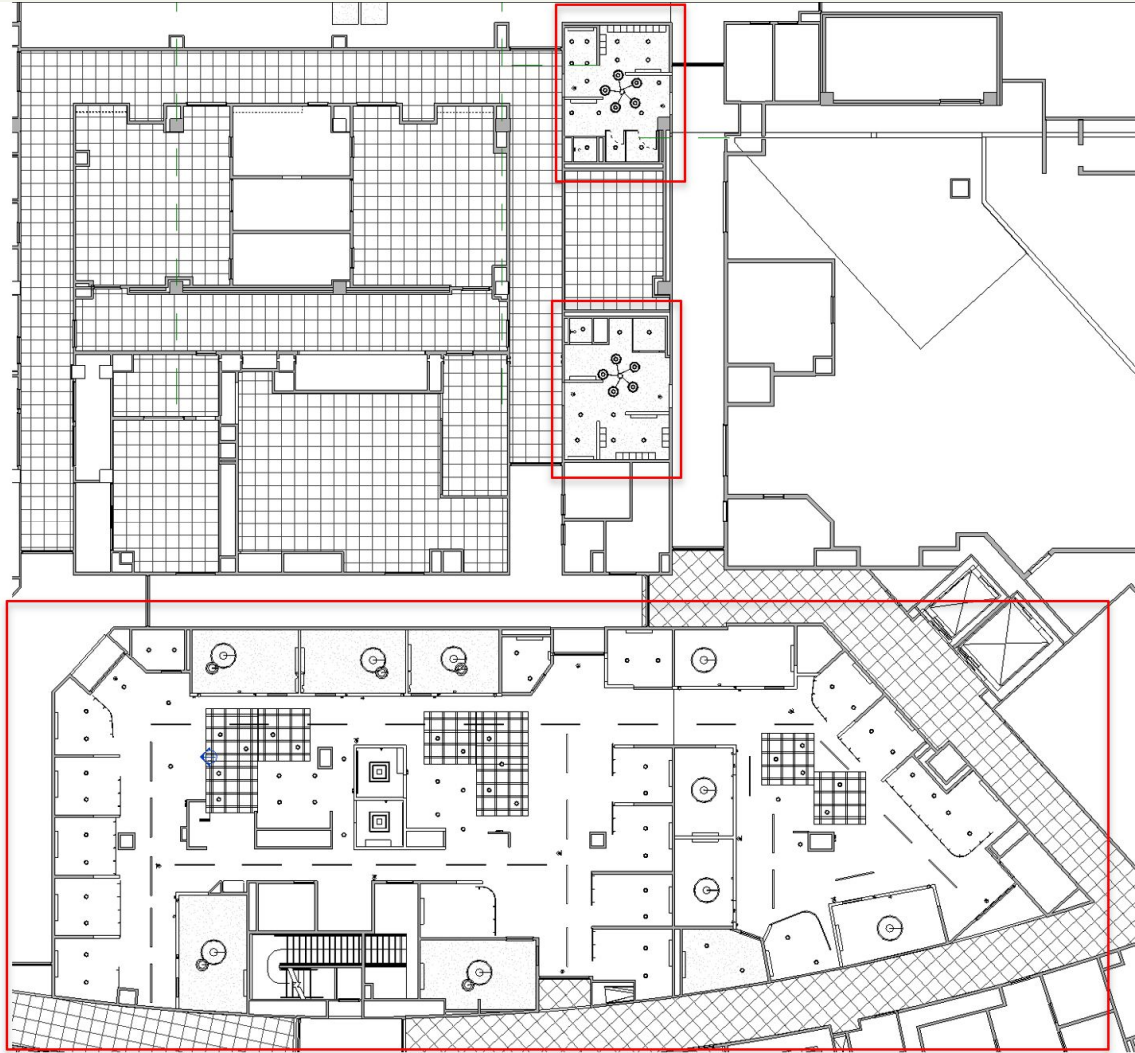
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Recovery Unit Final Floor Plan and  
Reflected Ceiling Plan



Overall Floor Plan





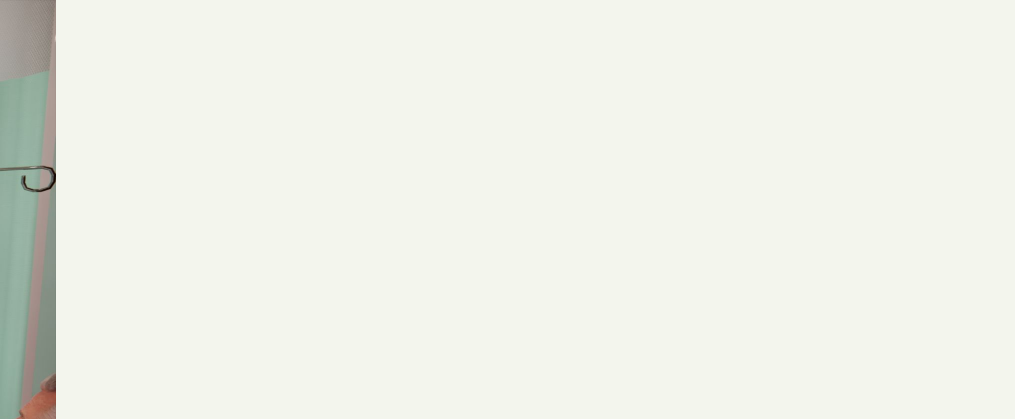
Overall RCP

# Renders

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Recovery Unit Final Renders





Enclosed Patient Room



Curtained Patient Room





View of Patient Rooms from Nurses Station 3



Sterilization and Storage near Patient Rooms







View of Wellness Room Behind Nurses Station



Inside Wellness Room



Women's Locker Room - Bathroom Section



Men's Locker Room - Locker Zone

Thank you!

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