

E58 Cincinnati Children's New Mental Health Facility

Strategy, Concept,
Implementation &
Lessons Learned

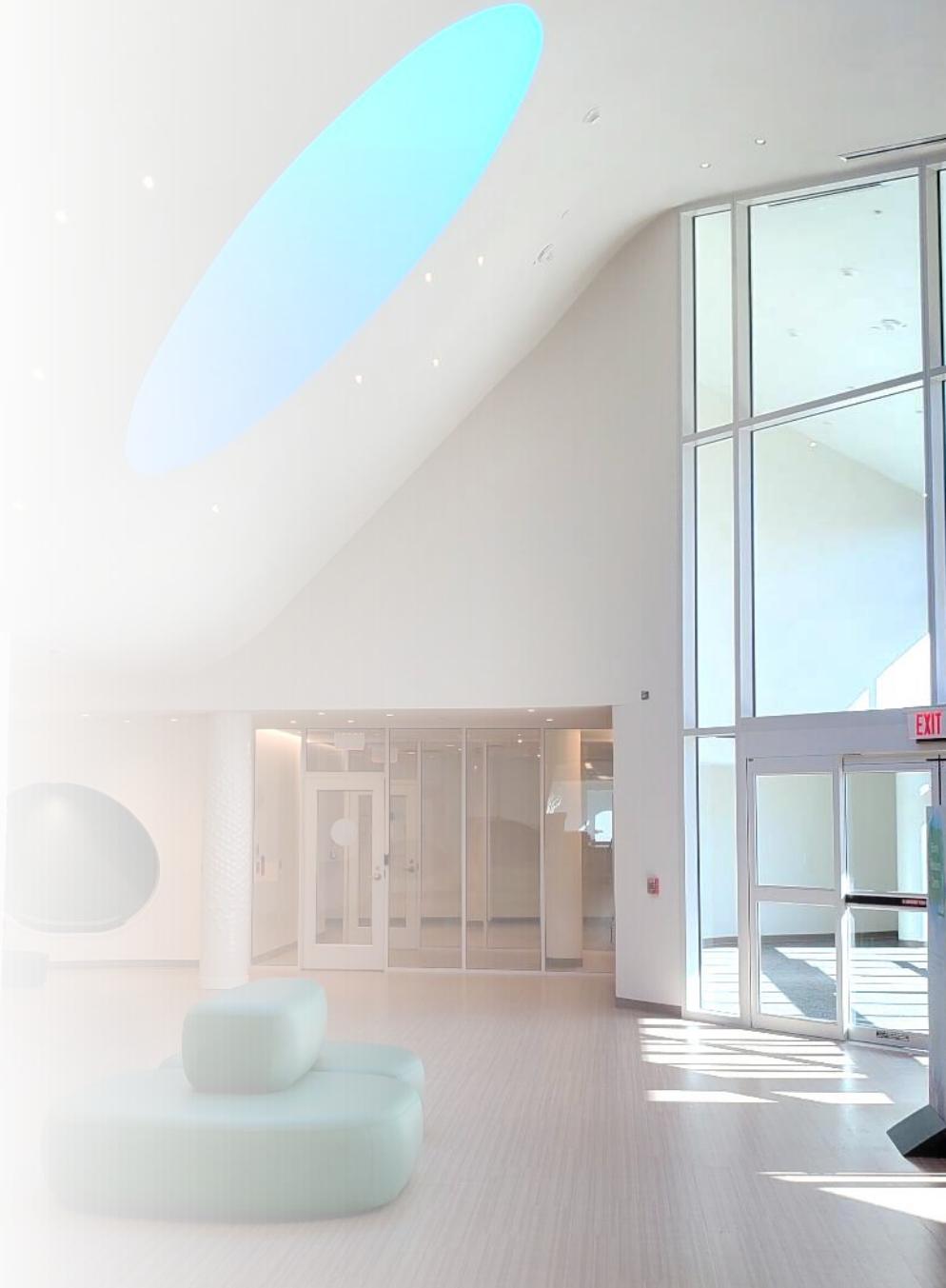


Acknowledgements



Additional Partners:

Messer Construction - Construction Manager
Schaefer - Structural Engineer
CMTA - Mechanical, Electrical, & Plumbing
Bayer Becker - Civil Engineer
The Kleingers Group - Landscape Architect
Pivotal Lighting - Lighting Designer
Kolar - Graphics, Art, & Wayfinding
RCF - Furniture



Introductions



Michael Browning | CCHMC
VP Facility Planning, Design,
Construction & Real Estate



Scott Vidourek | GBBN
Principal | Project Lead



Aaron Anderson | GBBN
Principal | Market Design Leader



Learning Objectives

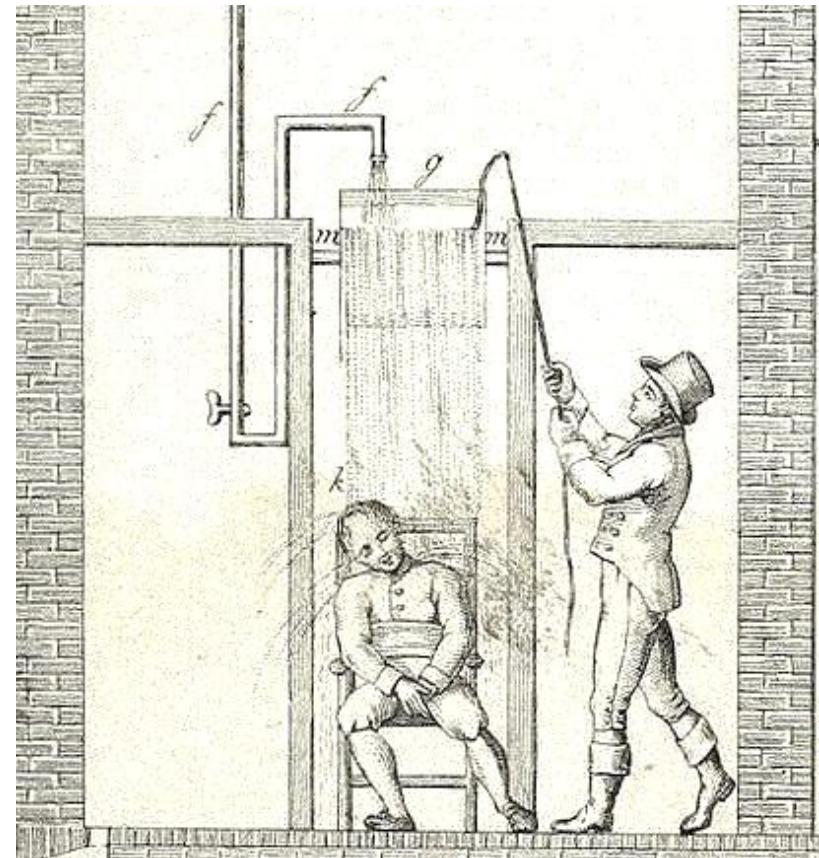
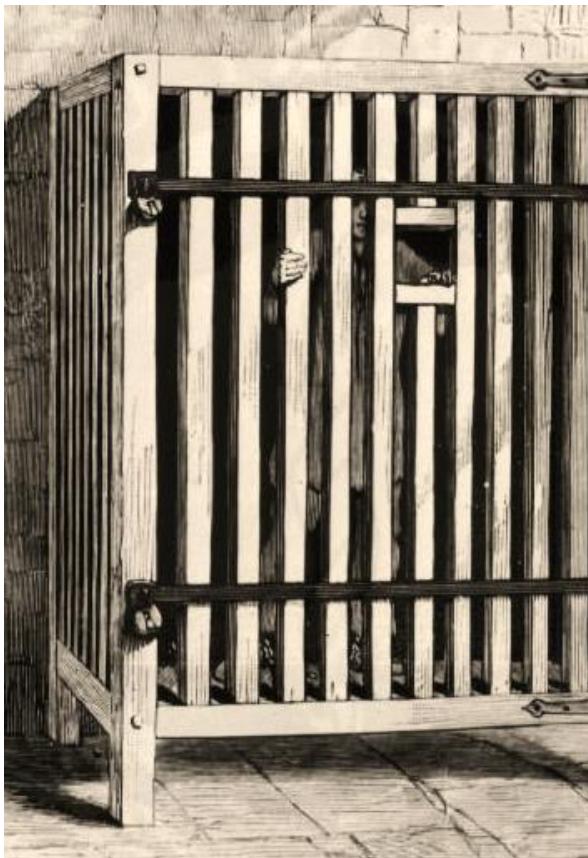
- Understand the key decisions a pediatric hospital system faces when replacing a large existing psychiatric inpatient facility.
- Examine the significance of storytelling in crafting an early concept narrative to effectively prioritize and preserve crucial design elements.
- Learn what key decisions help drive cost-effective, safe, inclusive, uplifting, and resilient healthcare facilities.
- Identify construction challenges, detailing issues, and available resources in behavioral health environments.



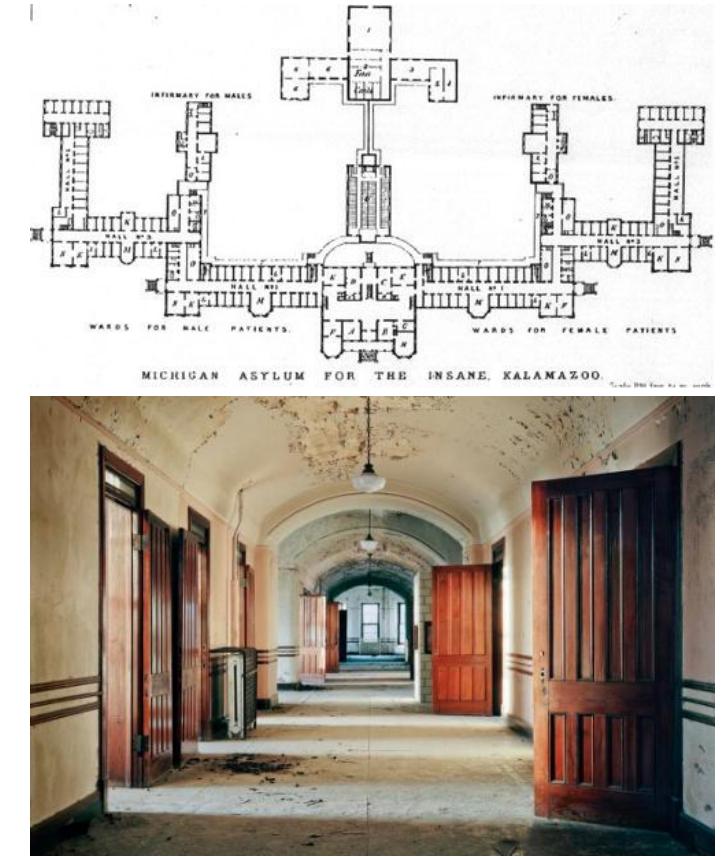
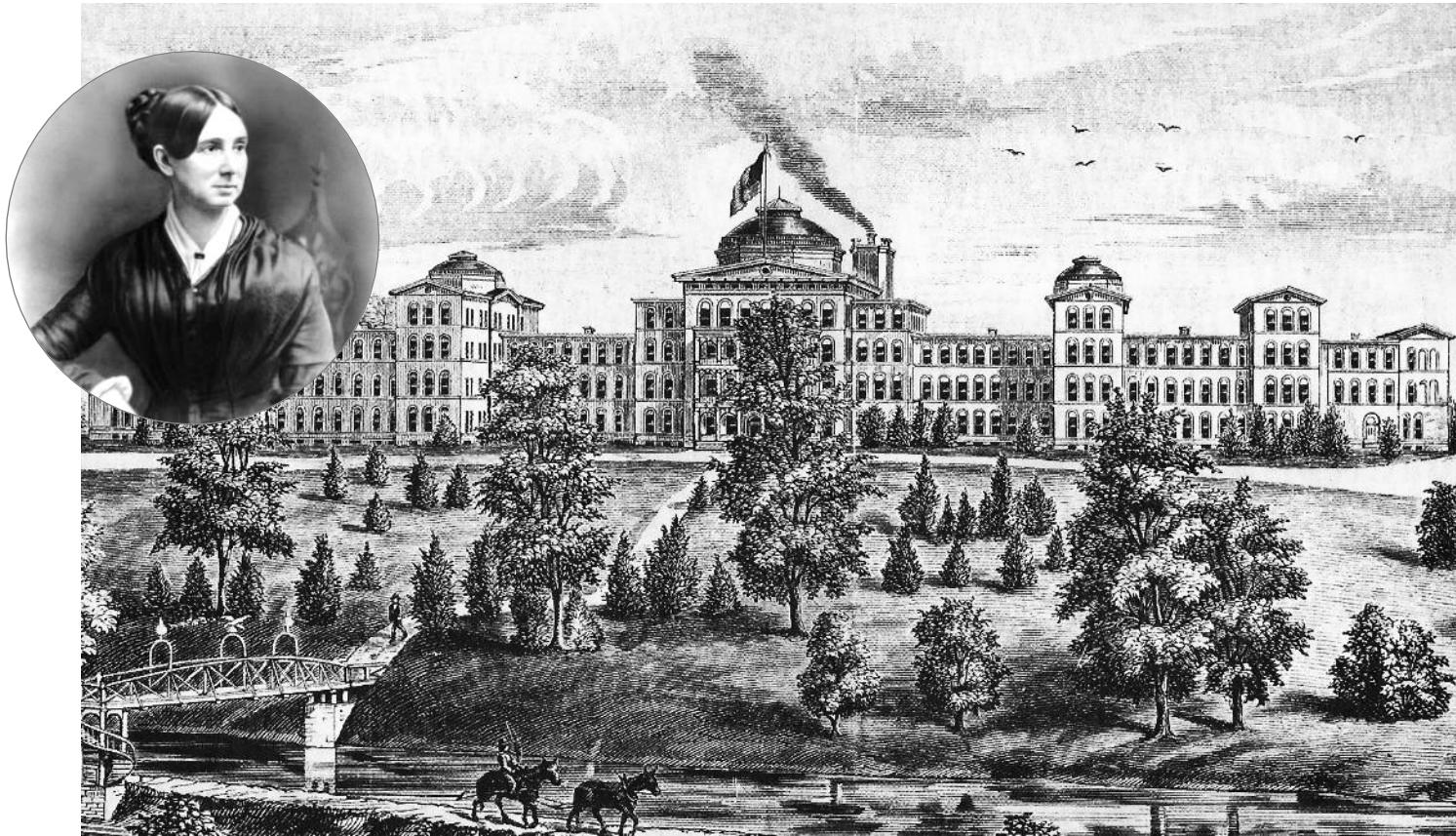


It's a heavy world...

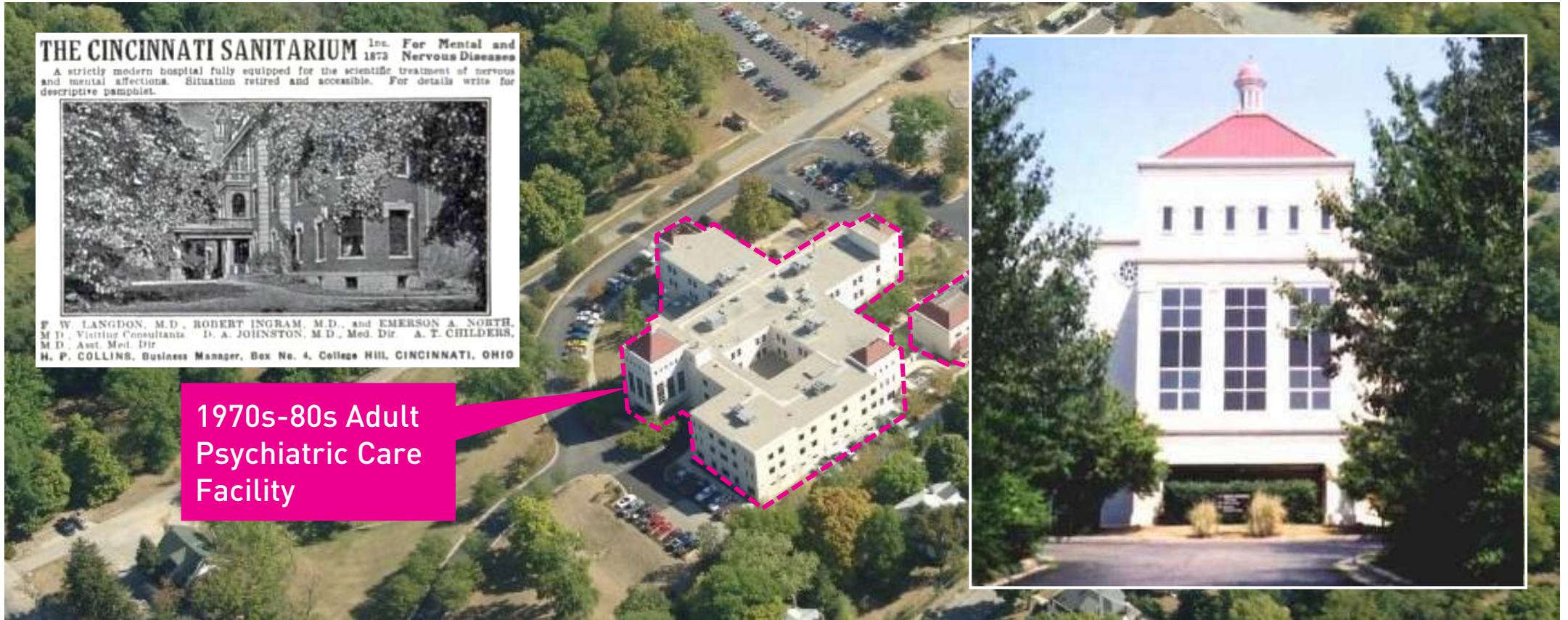
Historic Context



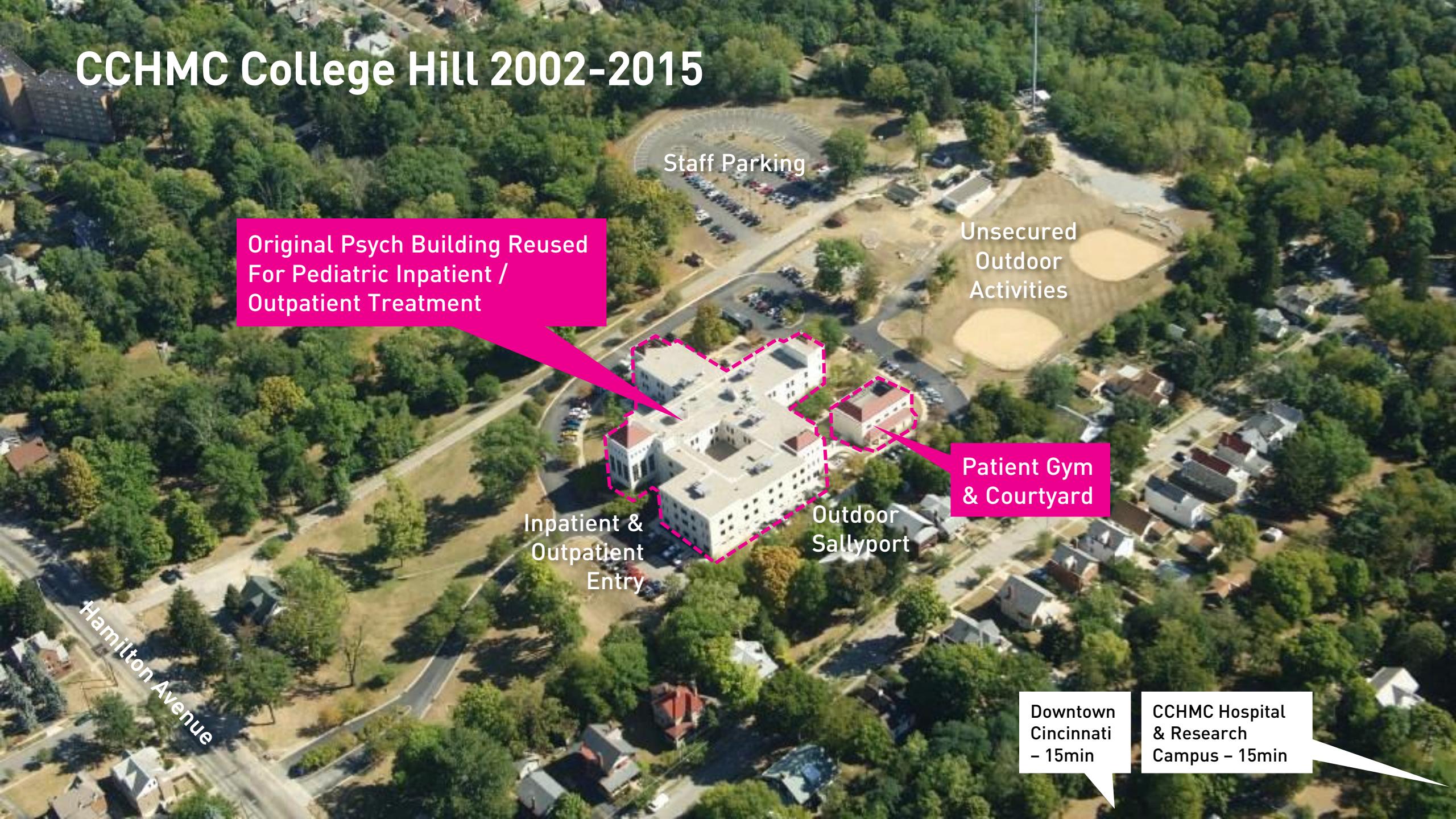
Historic Context



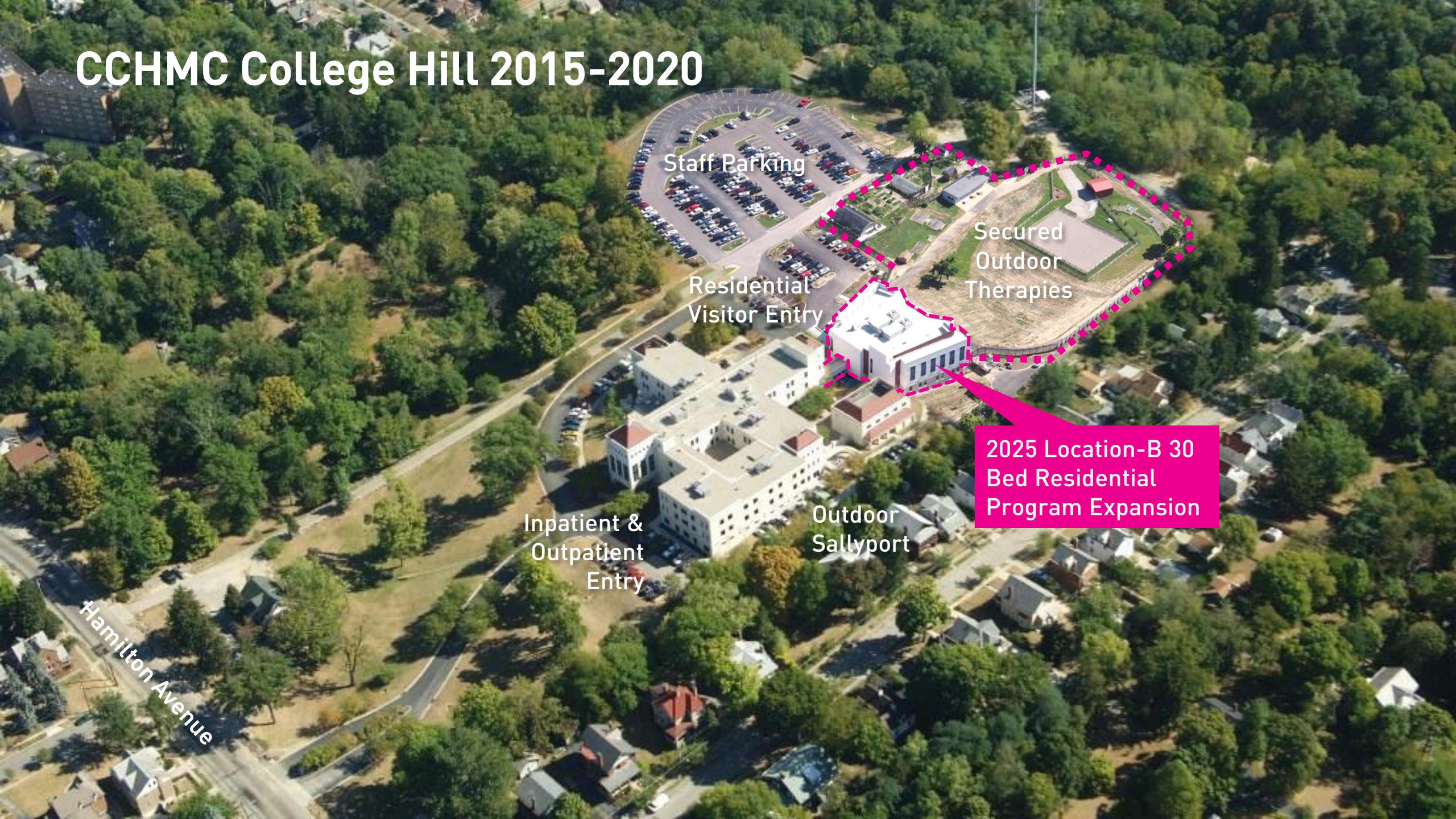
Historic Context



CCHMC College Hill 2002-2015



CCHMC College Hill 2015-2020



CCHMC College Hill's Pioneering Journey

GOALS

1. Convey Hope Throughout
2. Empower Progress Through Robust Milieu Space
3. Distinctive Entry & Welcome





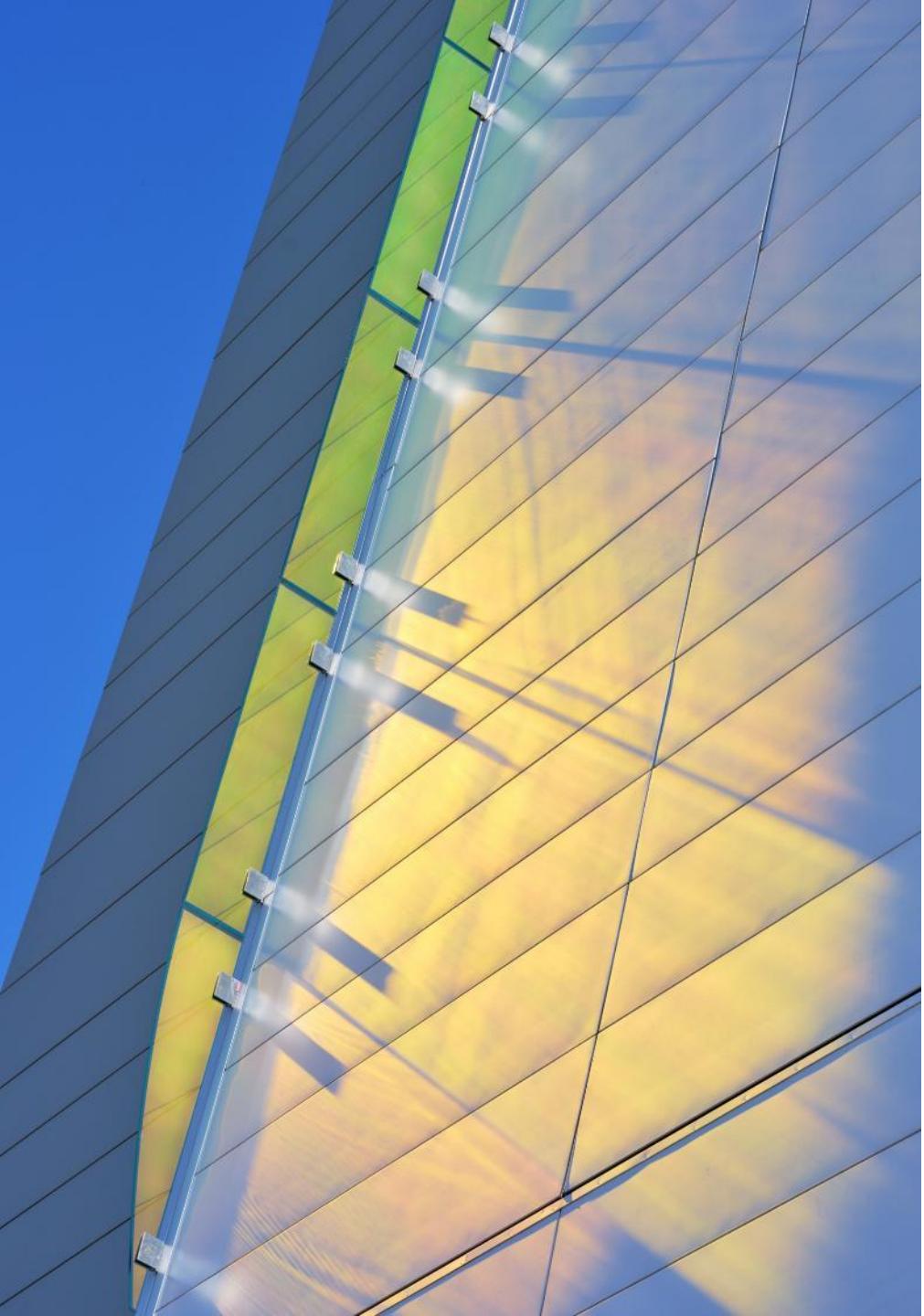
160,000 SF Addition | \$112m

68% Larger Than Previous Facility

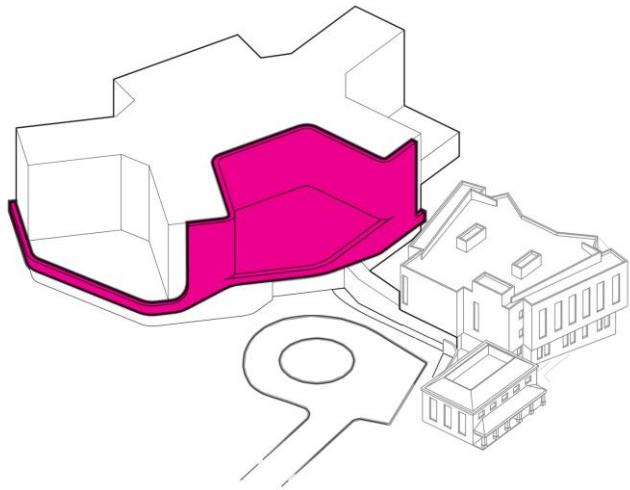
75 Inpatient Beds + 8 Neurobehavioral Beds

30 Residential Program Beds In Adjoining Building

SBIT | NB PHP | Outpatient Clinic Space



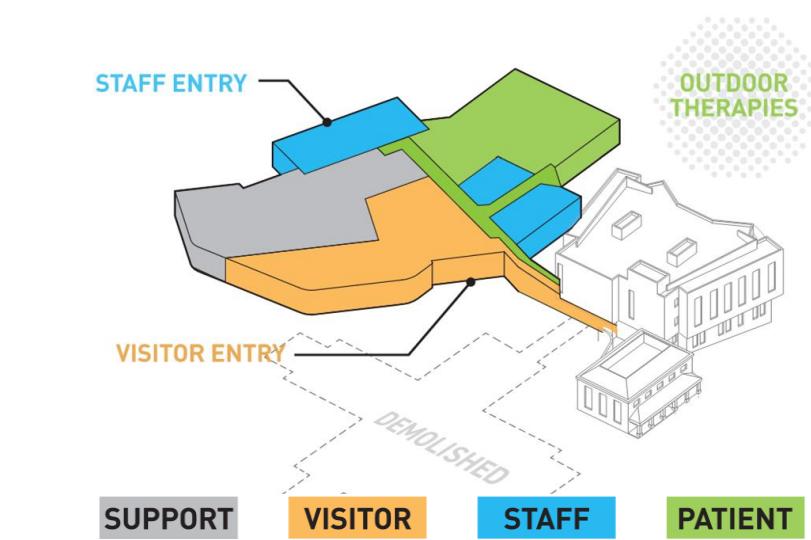
Uplifting Arrival



The façade's soft, blanket-like aesthetic gently wraps the building, creating a comforting presence while lifting at the entry to offer a welcoming, light-filled arrival experience that supports the emotional well-being of pediatric patients and families.



Energetic Base

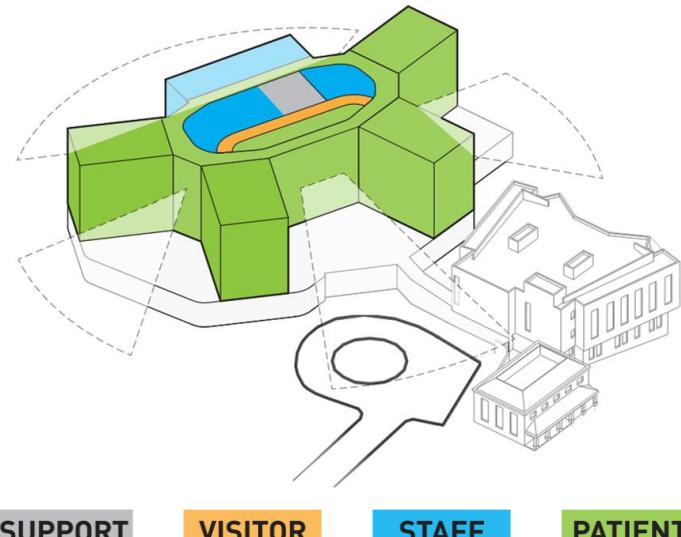


LVL 1 – Cafeteria, Family Resource Center, Gym, Art, Intake, Conference

LVL 2 - Outpatient Psychiatry, Neurobehavioral Outpatient, Office



Elevated Inpatients



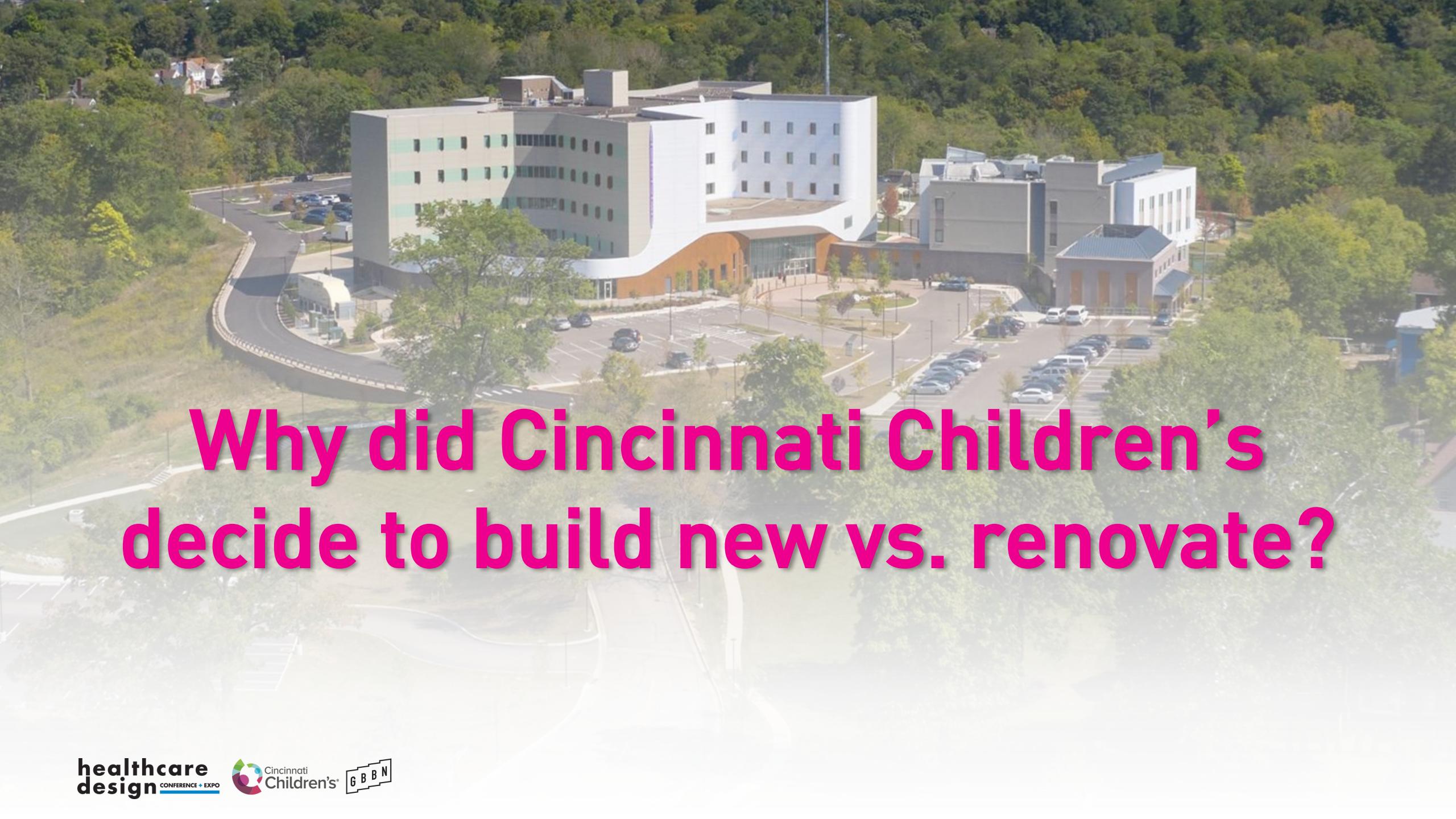
**LVL 3 - Extended Unit,
Neurobehavioral Inpatient,
Neurobehavioral PHP & SBIT**

LVL 4-5 - Psychiatric Inpatient



Therapy Beyond Thresholds





Why did Cincinnati Children's decide to build new vs. renovate?



Longterm Strategic Study

- CCHMC College Hill facility – Intentionally not a medical center.
- 10+ years of systemwide evaluation of behavioral health needs.
- Early question: Renovate or replace?



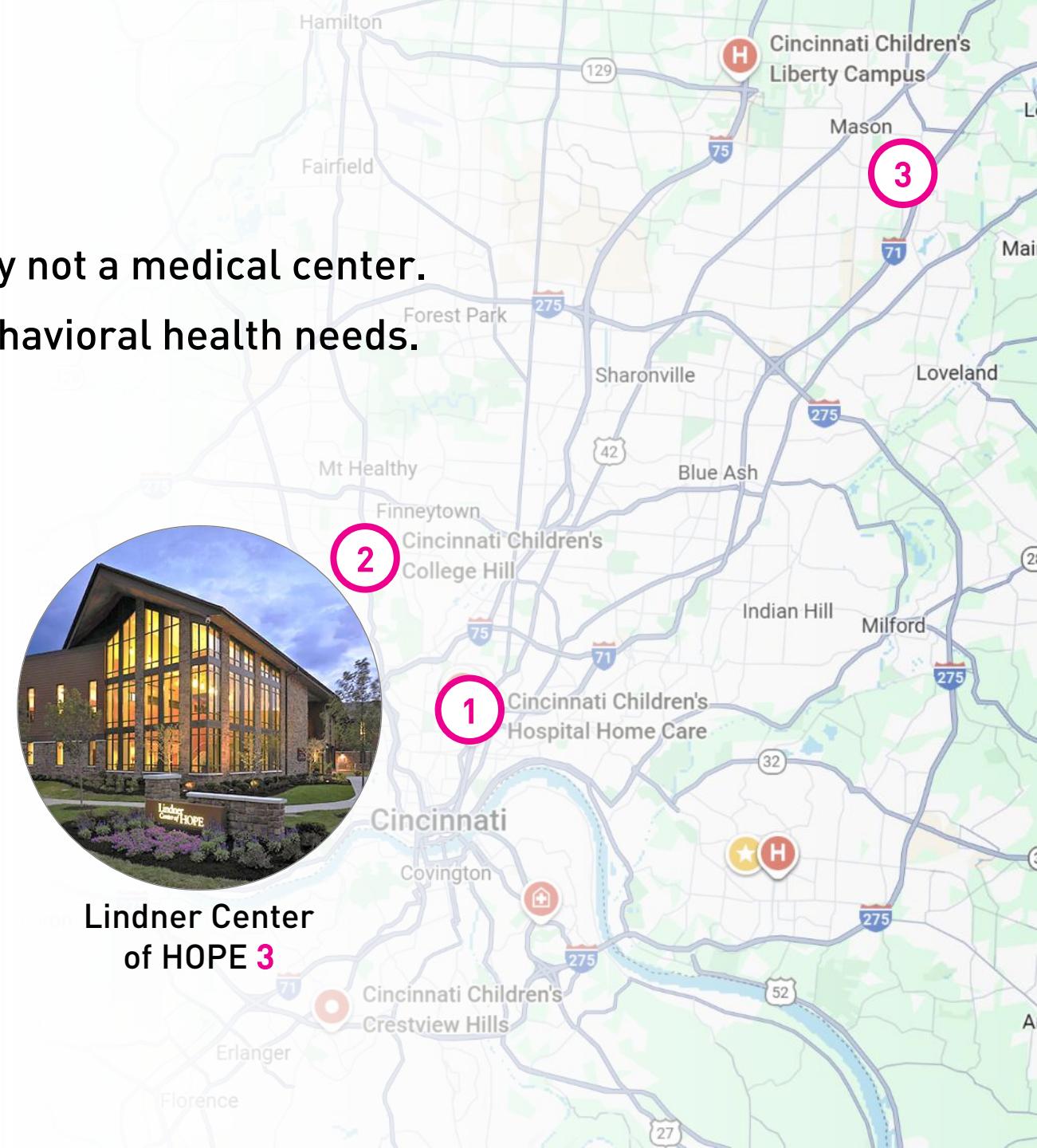
Burnet - Main Medical &
Research Campus 1



College Hill – Behavioral
Health Campus 2



Lindner Center
of HOPE 3



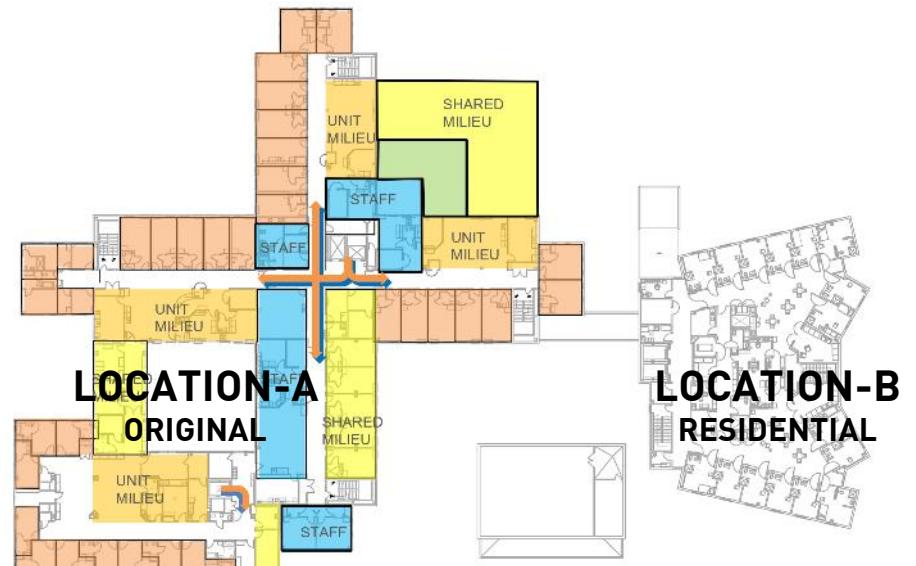
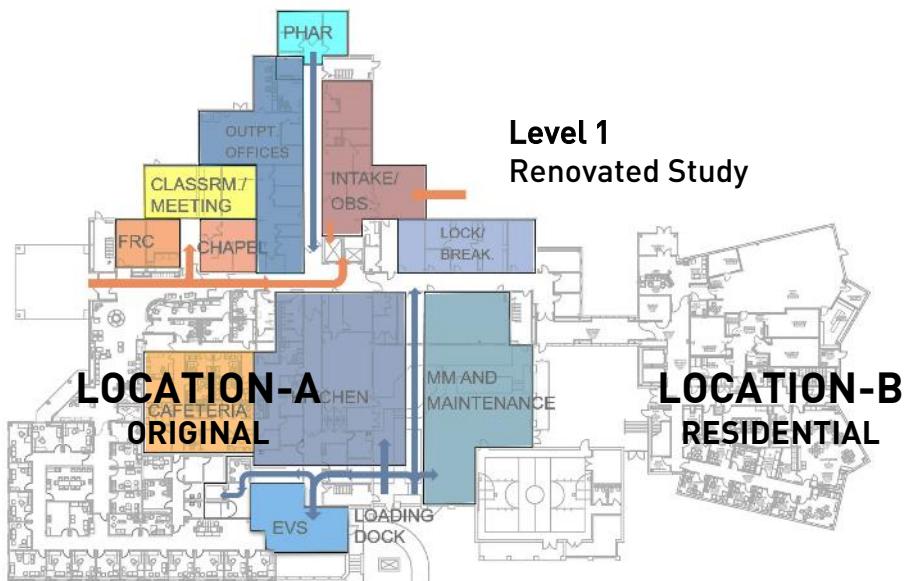
Why Not Renovate?

- 25 years of additions inefficiency & costs
- Renovation couldn't meet modern safety or dignity standards
- Systemic issues like low ceilings & aging infrastructure



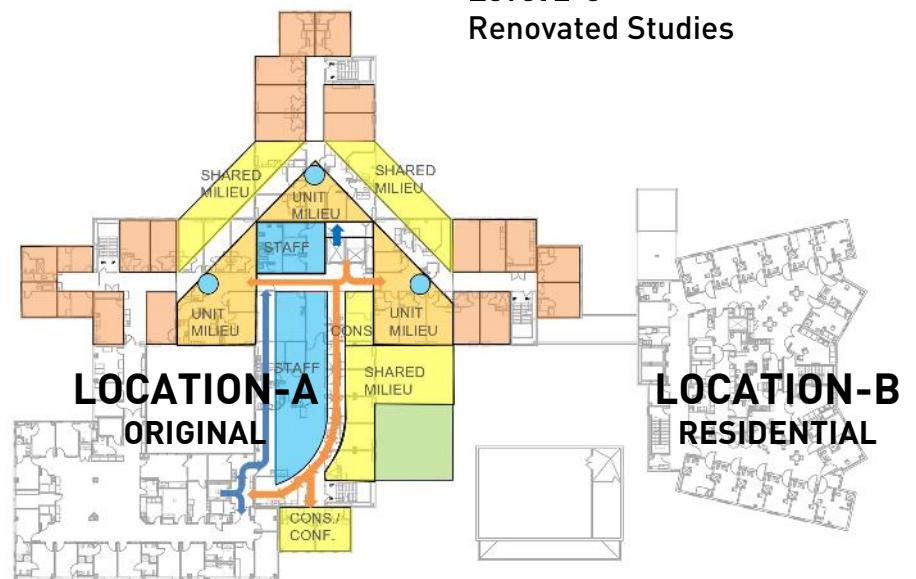
Why Not Renovate?

- Tested renovation and small expansions
- Core issues unsolved



Level 2-3

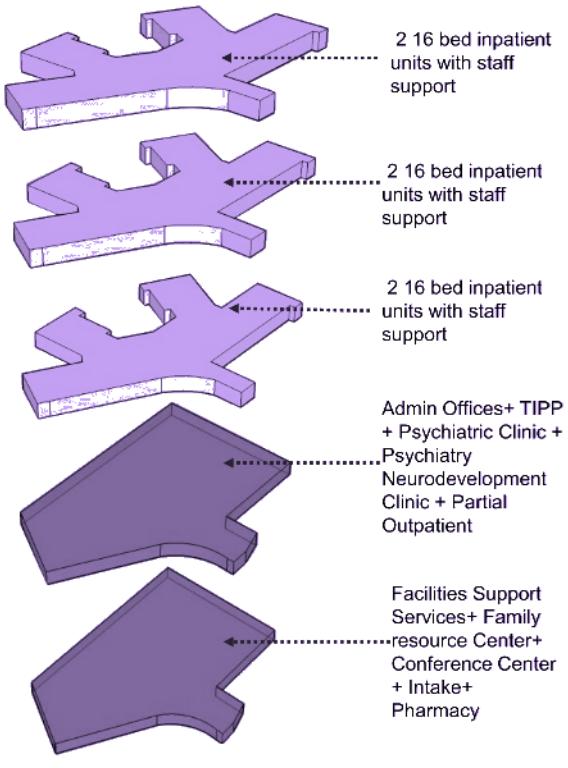
Renovated Studies



Which Expansion Approach?

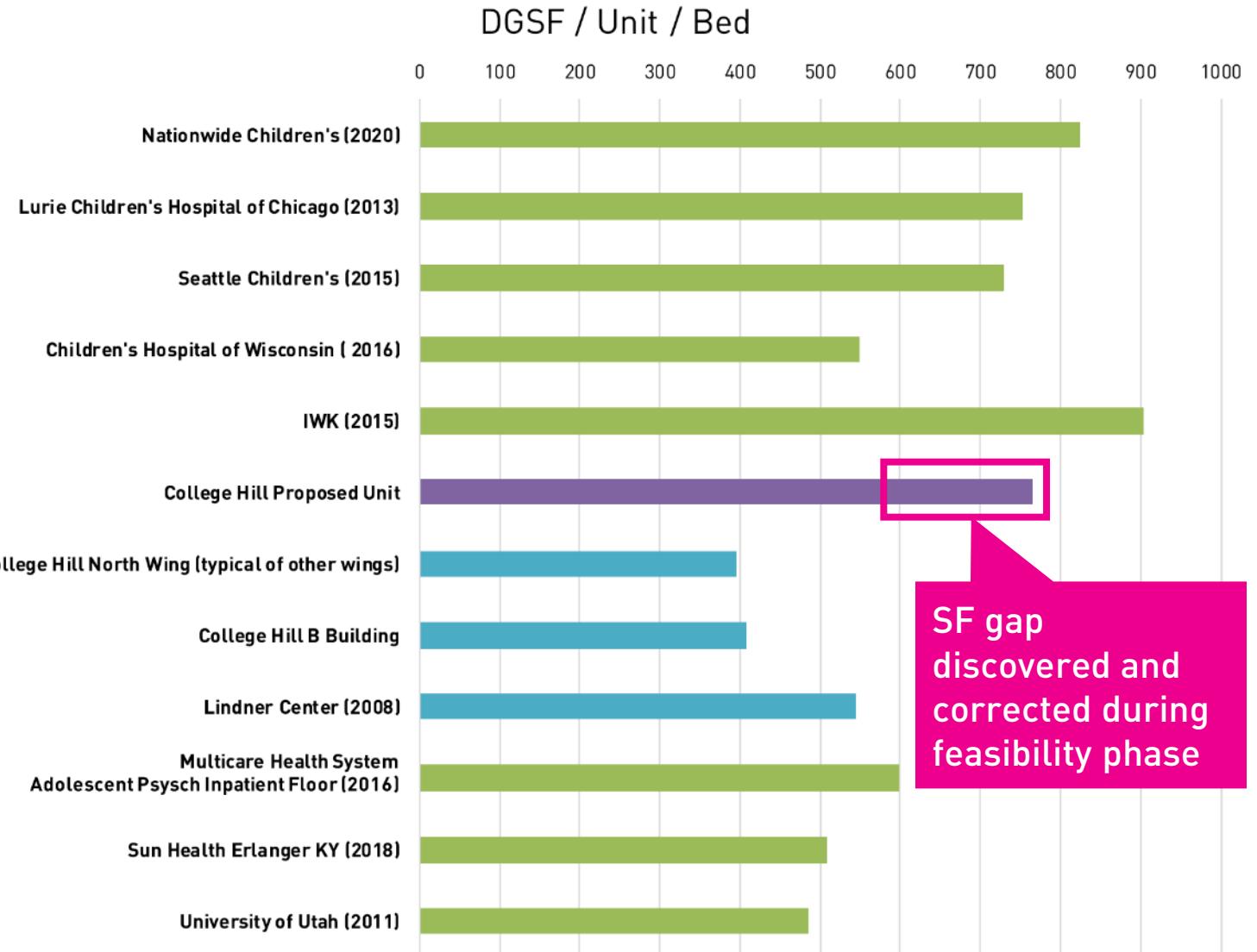
- Options balancing cost, disruption, and operations
- Continuous care during construction was essential
- “Purple Haze” offered the best balance of safety, efficiency, connection, min. disruption, & flexibility

ORANGE CRUSH \$\$\$		THINK PINK \$\$		GREENER PASTURES \$\$		PURPLE HAZE \$\$\$	
Demolish A building in 2 phases	+	Demolish East and North Wing of A Building. Build new addition connected to A with all utilities relocated to new construction. Renovate South and West Wings on floors 1-3	+	Demolish East Wing of A Building. Build new addition connected to B with all utilities relocated to new construction.	+	Replace A Building with new Inpatient Building North of and connected to B Building	+
Construction of each phase is highly disruptive to operations Noise issues	-	Construction is highly disruptive to operations would have to occur in two phases	-	Construction is highly disruptive	-	Minimal disruption to patients and operations	-
Energy Efficient		New building infrastructure provided within addition will replace aging undesirable infrastructure in current A building		New building infrastructure provided within addition will replace aging undesirable infrastructure in current B building		Energy Efficient- Option to optimize siting to reduce solar gain	
Low Maintenance						Low Maintenance	
						Utilities will be extended to new building	
						Potential rerouting of existing fiber optic line involves negotiating with a third party	
No renovation to A building		A building retro completely Outpatient and Admin use	for outpatient programs (PHP or TIPP)			Operational freedom to create the critical adjacencies that best serve staff and patients	
New main entry central to A and B		New main entry central to A and B	New addition connects to A only on first floor, B on all floors	New main entry central to A and B	Suboptimal workflows in Southwest and West wings cannot be completely addressed.	Existing drive does not provide a direct route around the building-expanding the service drive would involve some regrading	
Potential structural modifications may be required to remaining portions of A during phase 1			Potential structural modifications may be required to remaining portions of A during phase 1		Limited floor to floor height if A building connection is retained on all floors.	May have to get variance related to setback requirements	
Too much operational space would be lost at a time			Too much operational space would be lost at a time		Operational space would be compressed during construction	Expand surface parking to A location plus add on of lot at front	
No deferral to future- Entire vision for campus can be realized in a single project		Long construction schedule	May not have enough outpatient space in remaining A building			Option to have structured parking	



Defining The New Facility

- **Goal:** right-sized, right care – not growth for growth's sake
- Balance bed count, acuity, staffing, and community need
- Support system-wide care through a network model
- Benchmark against recent BH facilities
- Right-size for efficiency, flexibility, and long-term sustainability



Financial & Organizational Decisions

- Funding mix: donor, Convalescent Board, and ARPA/State of OH support
- Majority from operations - required disciplined design & construction
- Strategic investment in behavioral health despite lower reimbursements

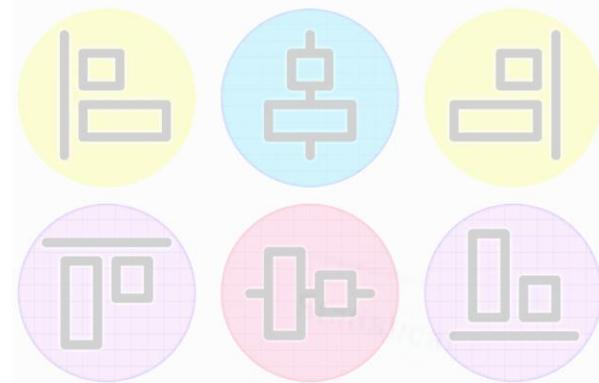




**How did the decision to build new
change what was possible?**

Setting The Narrative

- 2019 – Design and Construction team began a 3-week alignment phase
- CCHMC was confirming scope, goals, and cost
- Philanthropy seen as key to moving forward



Setting The Narrative

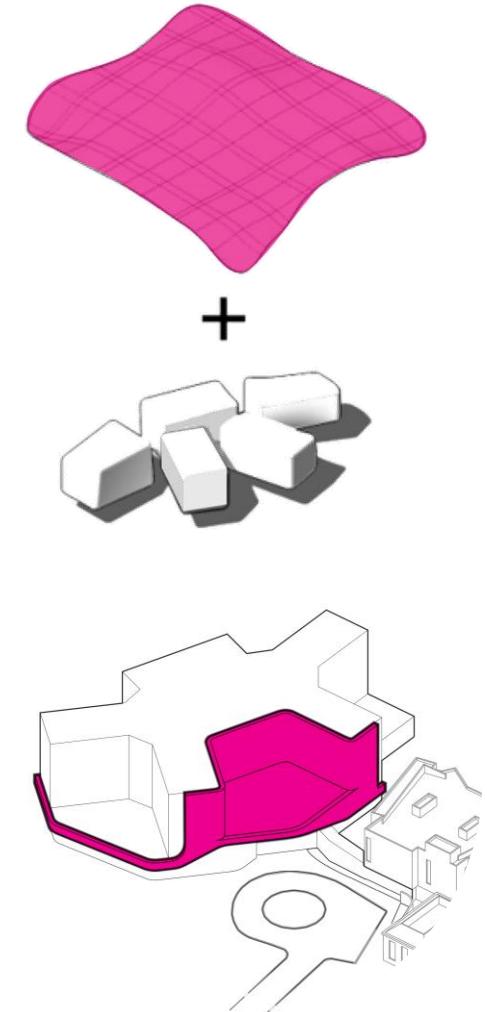
The first impression and experience of the facility creates a significant impact on patients and their families.

“The unit feels cold, drab and institutionalized. It feels like a step-child – not a part of Cincinnati Children’s. You don’t feel any sense of kindness, love, warmth. It’s really hard to leave your child there.” PARENT

CCHMC Parent / Patient Interviews and Surveys – Provided By Kolar

Setting The Narrative

- Used the phase to craft a story that connected with donors
- A “Blanket Fort” became a metaphor for safety, softness, and dignity



Setting The Narrative

- Gave development teams clear language and imagery for fundraising engagements
- Funding goal met in ONE year vs FIVE

TURNING THE CORNER



The public environment delights and rewards patients and visitors while providing intentional moments of respite and recovery. Strong natural singular colors and patterns are offset with neutral pauses and subtle textures, which promote discovery.



Date 01.15.2020
COLLEGE HILL BEHAVIORAL HEALTH EXPANSION CONCEPTUAL RENDERINGS

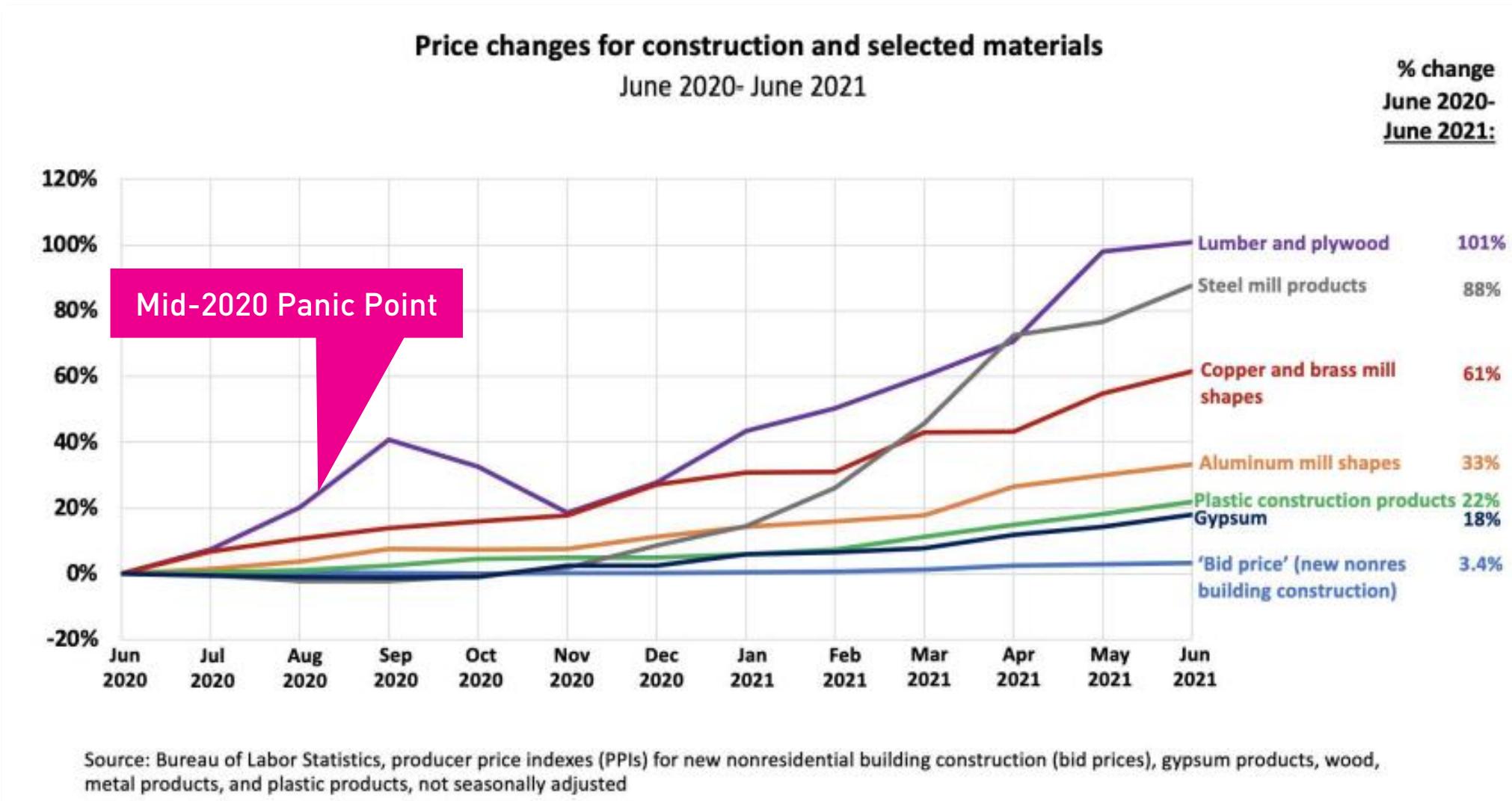
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Translating Story to Concept

Early workshops with staff helped translate emotional goals into tangible design drivers guided by Salutogenic lenses

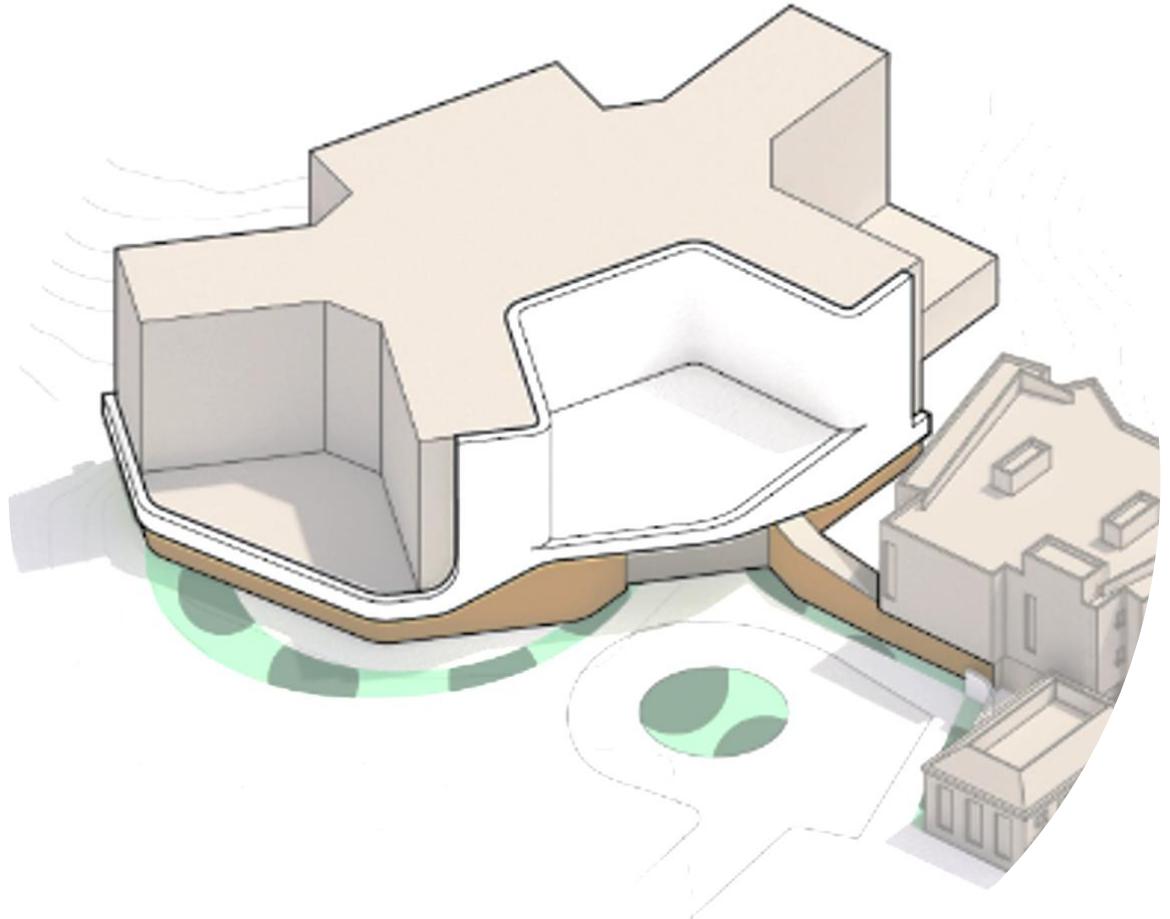
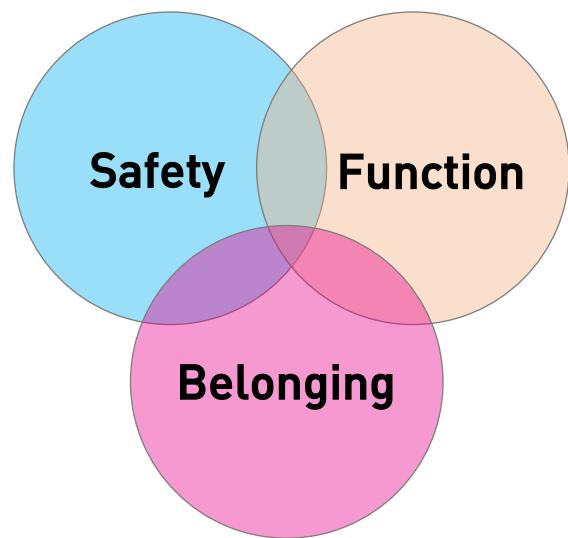


COVID, Budget, & Market Volatility



Holding The Story Through VE

- The story guided decisions through multiple rounds of cost pressures
- Asked: “Does this protect Safety, Function, and Belonging?”



Holding The Story Through VE

- The story, through design, humanizes
the most safety-driven environments





How did the story influence the mock-ups and detail strategies?

Designing for...

- Variety of diagnosis and acuity
- Neurobehavioral population
- Increasing family engagement
- Needed respite for staff

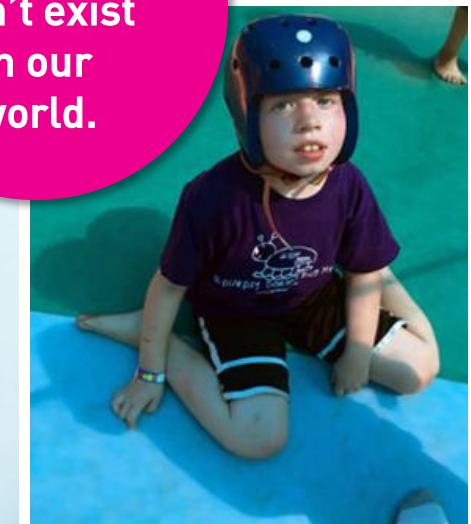
Family Moments



Staff well-being



**“Typical”
patients
don’t exist
in our
world.**



Profiles Encourage Empathy

- Understanding through surveys

4 Patients

Ages 13 – 19

Received care as early as 3 years old

6 Parents

Inpatient
Residential
Partial Programs
Outpatient

7 Support

Social Work
Guardian Ad Litem
Transport
Protective Services

Anxiety, Autism, Attention Deficit Hyperactivity Disorder, Bi-polar, Eating Disorder, Fetal Alcohol Syndrome, Learning Disability, Intellectually Delayed, Major Depression / Mood Disorder, Non-verbal, OCD, PTSD, Reactive Attachment Disorder, Trauma

Cincinnati Children's College Hill, A4C, Green Township, Lindner Center of Hope, Private Therapy, Out of State- California, Michigan, Oregon, Utah, Wisconsin

Profiles Encourage Empathy

- Understanding through surveys
- Avatars to define needs of patients
- Inpatient vs Outpatient
- Existing Residential Program stories



CHRIS, 15

Background:
History of violence. Threatened teacher at school. Absentee parents

Diagnosis:
Psychotic, Obese, diabetic, intellectually delayed

Admission: Police brought to ED then brought to CH by transport team.

Length of stay: variable

Visitors: Case manager, probation officer, HFS representatives

ISSUE	Physical Setting	People	Process
Violent behavior	<ul style="list-style-type: none"> Inpatient – private room (secure setting) De-stimulation, restraint and seclusion rooms with appropriate walls and floor, placed appropriately on the unit with ante room (see ante room on P&E) 	<ul style="list-style-type: none"> Inpatient – need to mobilize increased staffing or support if becomes violent. Involvement of behavior specialist; Nutrition; Psychiatry; Social work; School teacher to obtain MFS to ascertain executive level of functioning 	<ul style="list-style-type: none"> Inpatient – adequate assessment of violence risk and mitigation planning including discussion of how physical intervention would occur if needed given patient's size; consistent communication between all



NATALIE, 14

Background:
Suicidal/ Depressed, Self-Injurious

Diagnosis: Major Depression/ Mood Disorder

Admission: Direct admission, first stay

Length of stay: 2 Days

Visitors: Parents, Grandparents, siblings

ISSUE	Physical Setting	People	Process
First stay	<ul style="list-style-type: none"> Private room- parents may want to room in with patient. Inviting, non-institutional appearance (applies to all patients and families) "noise control rooms" similar 	<ul style="list-style-type: none"> Unit staff to appropriately orient to treatment Family Resource Center NAMI (parent support groups) Social work 	<ul style="list-style-type: none"> Room should be closer to nurses station to make it easier to observe her Frequent contact with parents Orient them to treatment



PETE, 17

Background:
Trauma, Learning disability, Legal issues, conduct disorder

Diagnosis: Bi- polar with psychotic features

Admission:
Brought in by Police for disorderly conduct at home

Length of stay: 30 Days

Visitors: Parents, grandparents, siblings

ISSUE	Physical Setting	People	Process
Age	<ul style="list-style-type: none"> Access to outpatient services for transitional age youth 	<ul style="list-style-type: none"> Social work Branch of lighthouse that he can be referred to 	<ul style="list-style-type: none"> Transition to adult services when 18. Patients on inpatient unit cannot access these.
Legal	<ul style="list-style-type: none"> Private room Environment of safety including separate space where we could discharge the patient to police and not have 	<ul style="list-style-type: none"> May need extra staff if becomes violent Probation officer Police or protective services involvement if becomes violent 	<ul style="list-style-type: none"> Develop plan early on what to do if patient becomes violent on the unit including when he can't be on the unit anymore (i.e. sending him to 2020)



FRED, 10

Background:
Trauma, lives in residential facility, intellectual delay

Diagnosis:
Oppositional defiant disorder, attention deficit hyperactivity disorder

Admission:
Brought in by police, frequent flyer

Length of stay: 14 Days

Visitors: Parents, Case worker, JFS, Wrap-around services, Minister, aunts/uncles

ISSUE	Physical Setting	People	Process
Trauma	<ul style="list-style-type: none"> Possibly in need of private room if victim of sexual trauma and he has sexualized behavior 	<ul style="list-style-type: none"> Staff who are able to provide trauma-informed care, including unit staff, therapist, behavior specialist Parents Outpatient therapist 	<ul style="list-style-type: none"> Understand the nature of patient's trauma, initiate trauma-based therapy and include parents Educate parents on impact of trauma on behavior Psychological testing if not
Intellectual disability	<ul style="list-style-type: none"> Hyperactive, impulsive 	<ul style="list-style-type: none"> Unit staff 	



ADAM, 11

Background:
Trauma, (JFS) County Custody, volatile

Diagnosis:
Reactive attachment disorder, impulse control

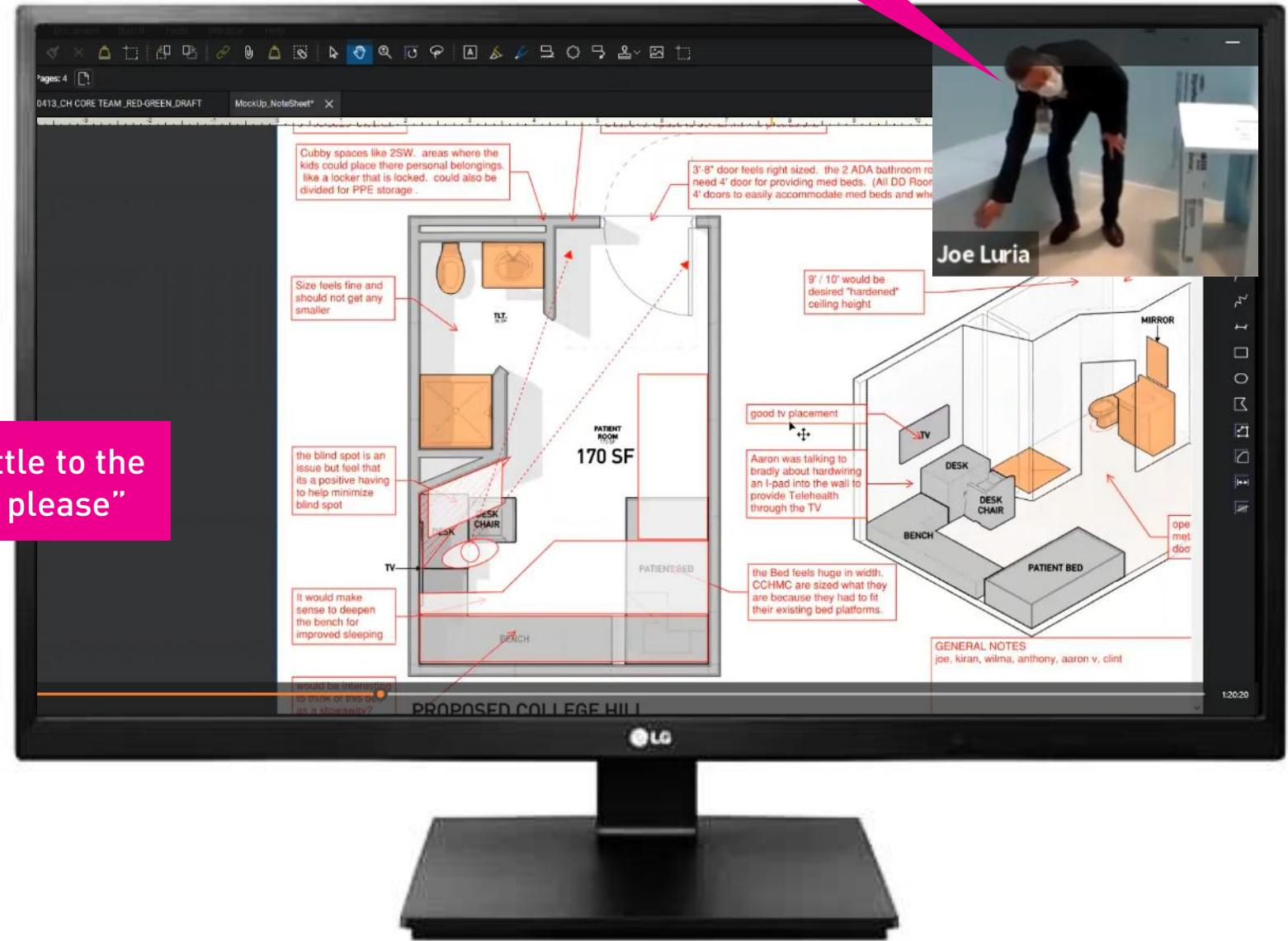
Admission:
Admit from emergency room, has been here 1-2 x before

ISSUE	Physical Setting	People	Process
JFS custody	<ul style="list-style-type: none"> Separate area for awaiting placement rather than staying on an inpatient unit 	<ul style="list-style-type: none"> Social work Social work supervisors JFS supervisors 	<ul style="list-style-type: none"> Contact with JFS within 24 hours to begin treatment planning as soon as possible
Trauma	<ul style="list-style-type: none"> Possibly in need of private room if victim of sexual trauma who has sexualized behavior 	<ul style="list-style-type: none"> Staff who are able to provide trauma-informed care, including unit staff, therapist, behavior specialist Parents Outpatient therapist 	<ul style="list-style-type: none"> Understand the nature of patient's trauma, initiate trauma-based therapy and include parents Educate parents on impact of trauma on behavior Opportunities for coaching and training (one way glass) teaching interview skills
Reactive attachment disorder – may become inappropriately attached		<ul style="list-style-type: none"> Unit staff Behavior specialist Foster family 	<ul style="list-style-type: none"> Staff awareness Appropriate and consistent boundaries Regular and frequent involvement of foster parent on the unit
Drug and alcohol issues		<ul style="list-style-type: none"> Drug counselor Medical physician 	<ul style="list-style-type: none"> Protocol for detox After care process and follow-up

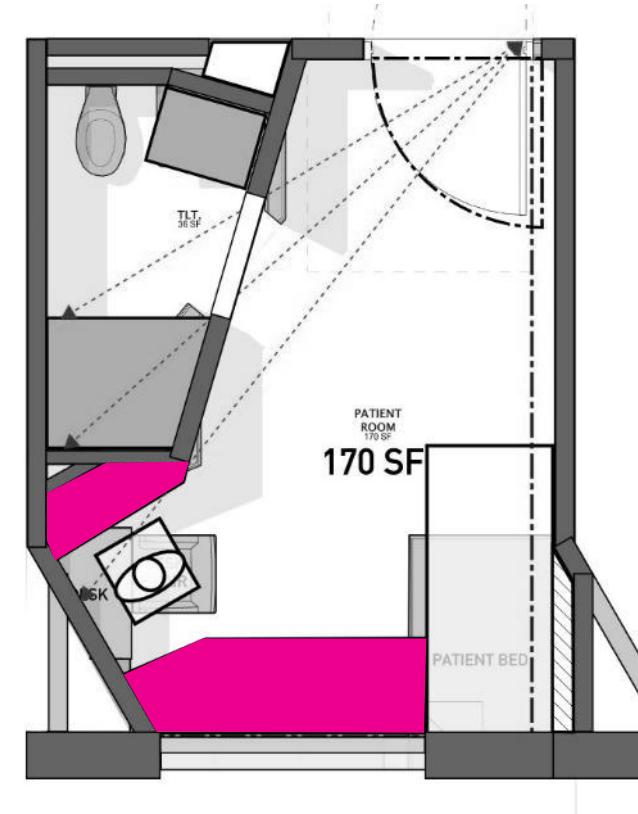
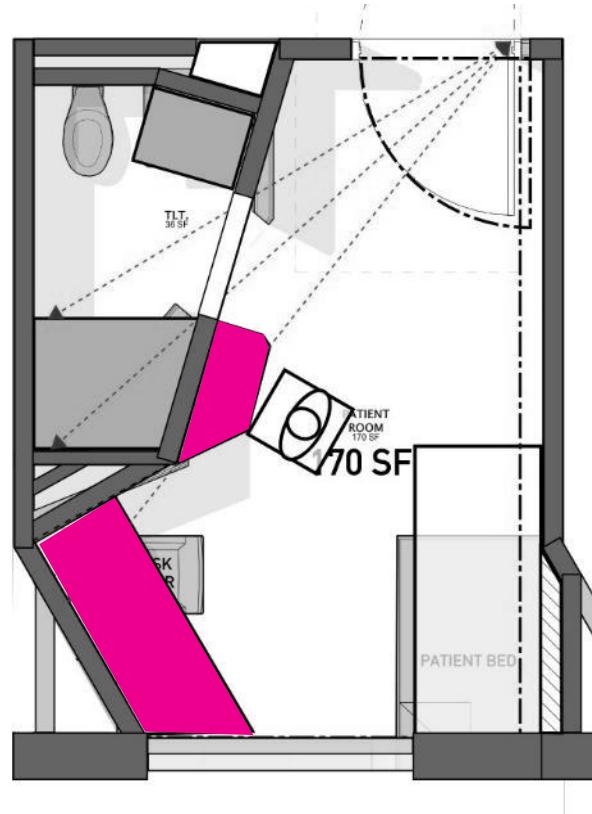
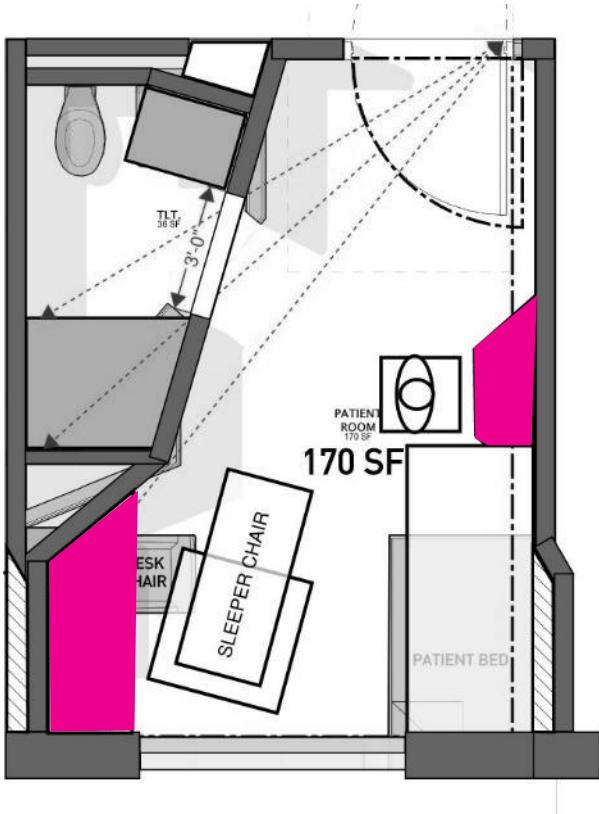
and then 2020...



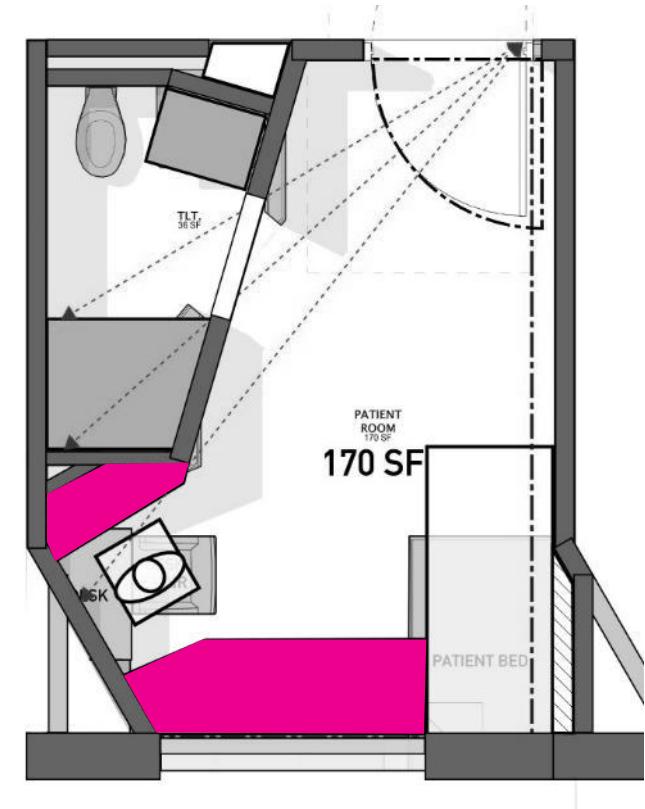
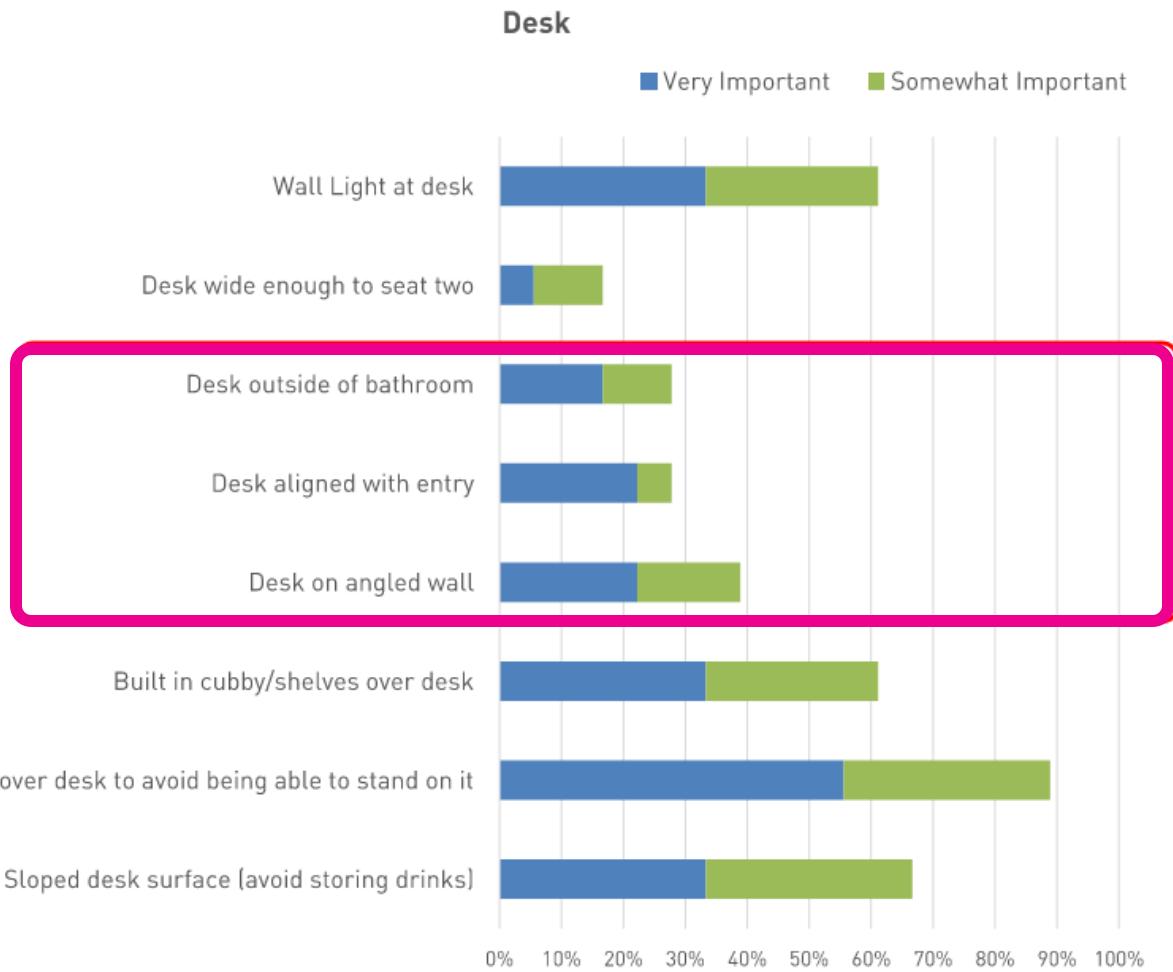
Patient Bedroom Mockup



Patient Bedroom Mockup



Patient Bedroom Mockup





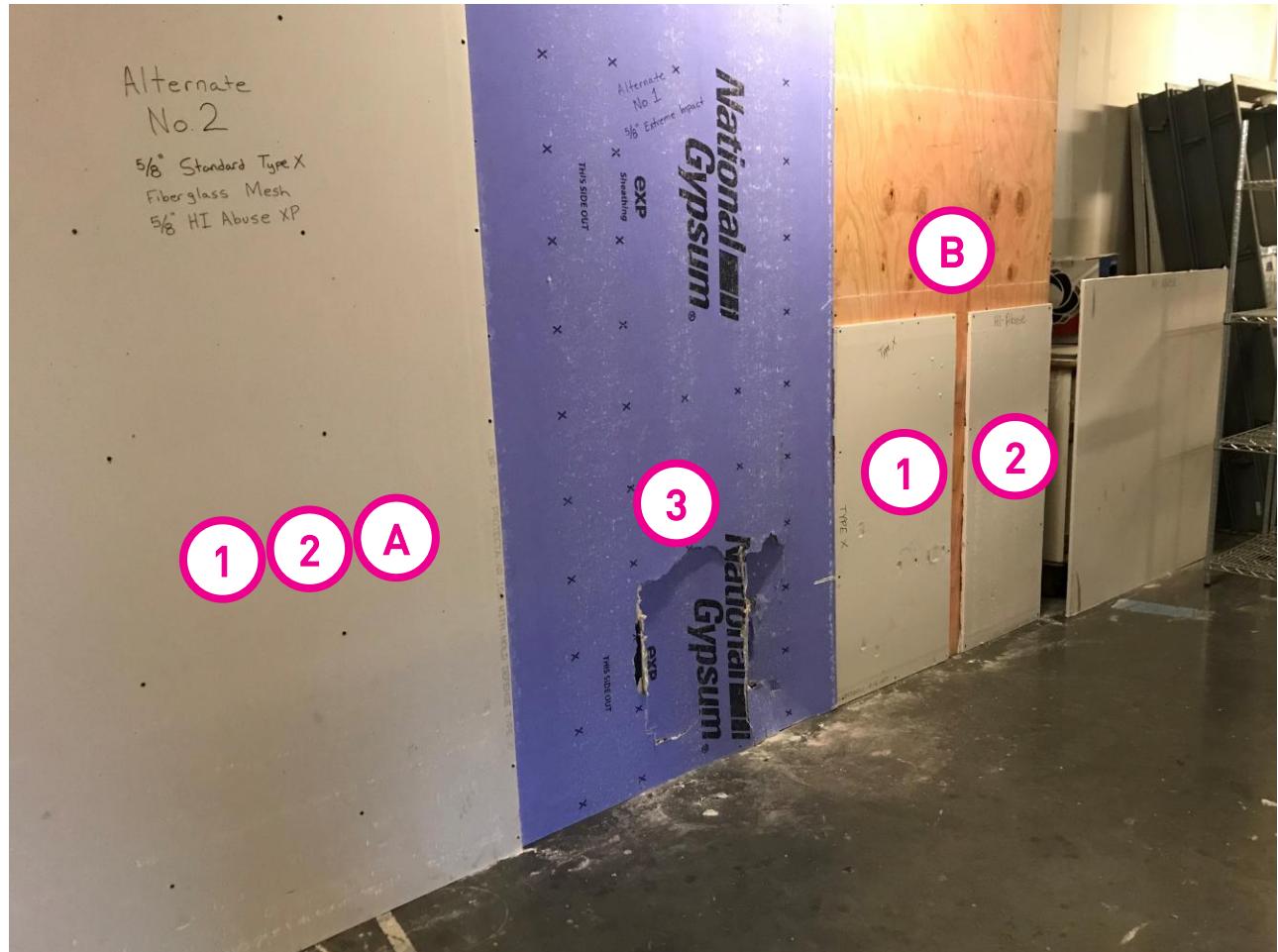
Typical Inpatient Level

- 15 private bed units
- Unit milieu
- Shared milieu
- Centralized support
- Offstage staff respite
 - Adjacent to unit

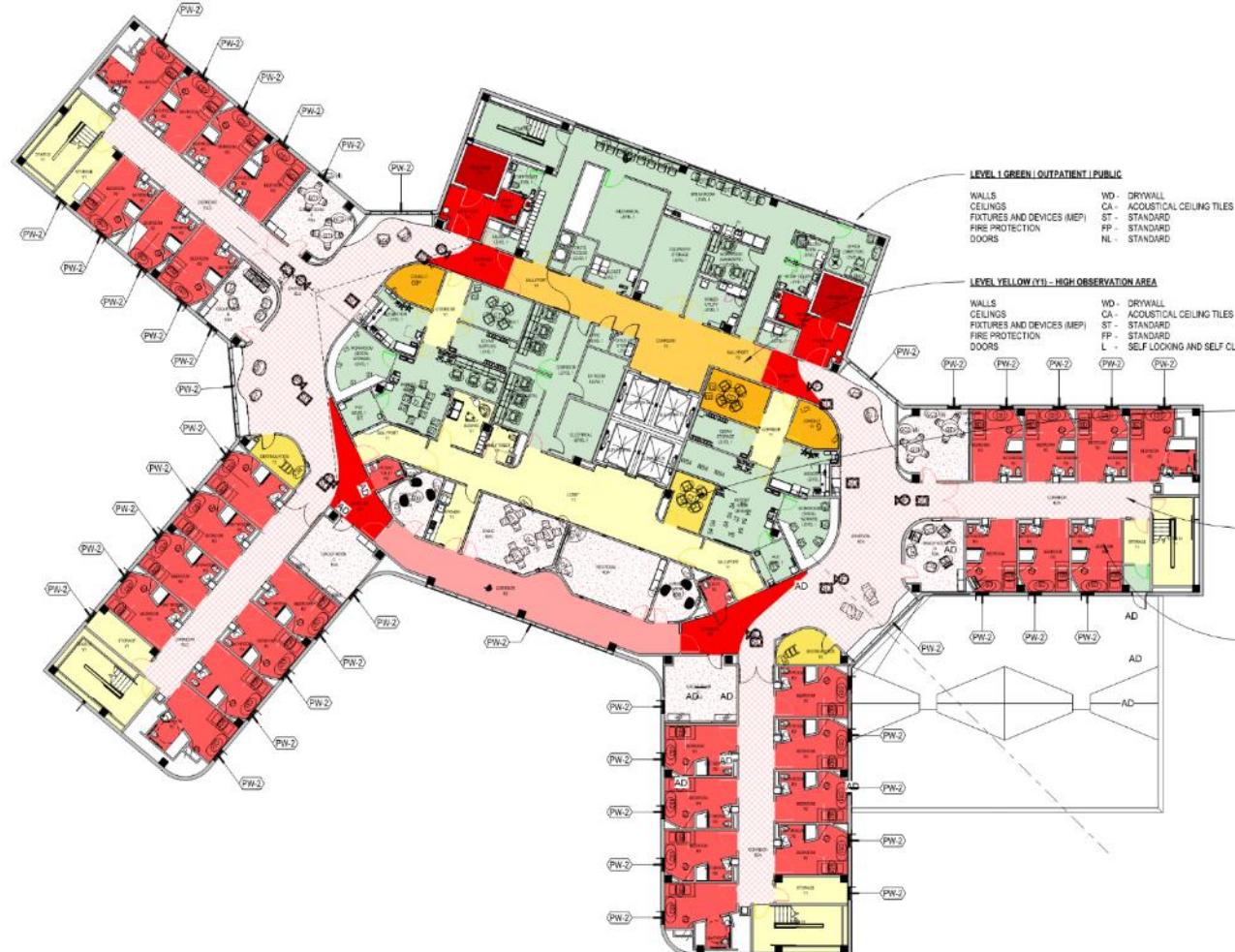


Through The Lens of Safety

- Safety while balancing cost
- Gypsum Board tested
 - Type X - 1
 - Abuse Resistant - 2
 - Impact Resistant - 3
- Wall backup
 - Fiberglass mesh - A
 - Plywood backup - B
- Concerns with accessing wall cavity
- Operation Cost
 - Down time and repairs



Lessons Applied



LEVEL 1

Y1

Y2

Y3

Y4

R2.0

R3A

R2

R3

R4

R5

SAFETY ASSESSMENT LEVELS

LEVEL 1 GREEN | OUTPATIENT | PUBLIC

WALLS	WD	DRYWALL
CEILINGS	CA	ACOUSTICAL CEILING TILES
FIXTURES AND DEVICES (MEP)	ST	STANDARD
FIRE PROTECTION	FP	STANDARD
DOORS	NL	STANDARD

LEVEL YELLOW (Y1) - HIGH OBSERVATION AREA

WALLS	WD	DRYWALL
CEILINGS	CA	ACOUSTICAL CEILING TILES
FIXTURES AND DEVICES (MEP)	ST	STANDARD
FIRE PROTECTION	FP	STANDARD
DOORS	L	SELF LOCKING AND SELF CLOSING

LEVEL YELLOW (Y2) - HIGH OBSERVATION AREA

WALLS	WD	DRYWALL
CEILINGS	CA	ACOUSTICAL CEILING TILES
FIXTURES AND DEVICES (MEP)	ST	STANDARD
FIRE PROTECTION	FPBH	RAVEN HEADS (LIGATURE RESISTANT HEADS)
DOORS	L	SELF LOCKING AND SELF CLOSING

LEVEL YELLOW (Y3) - HIGH OBSERVATION AREA

WALLS	WD	DRYWALL
CEILINGS	CA	ACOUSTICAL CEILING TILE WITH CLIPS
FIXTURES AND DEVICES (MEP)	BH	BEHAVIORAL HEALTH RATED
FIRE PROTECTION	FPBH	RAVEN HEADS (LIGATURE RESISTANT HEADS)
DOORS	L	SELF LOCKING AND SELF CLOSING

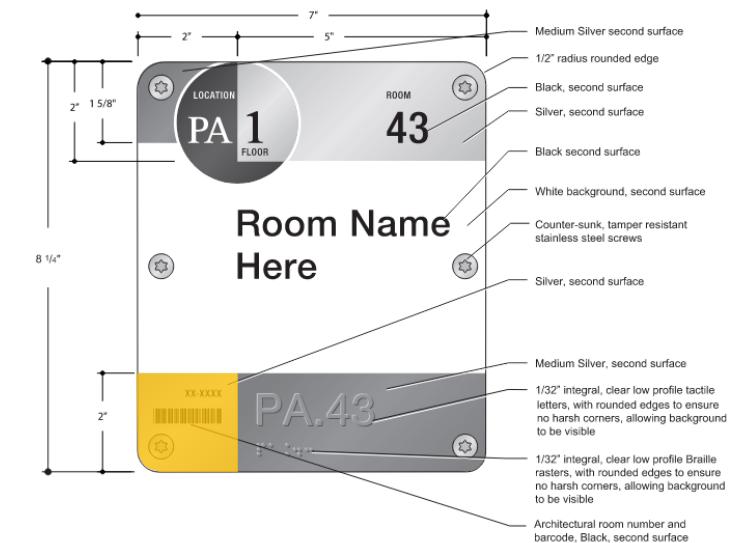
LEVEL YELLOW (Y4) - HIGH OBSERVATION AREA

WALLS	WD	DRYWALL
CEILINGS	CA	ACOUSTICAL GYPSUM CEILING (MONOLITHIC) PAINTED
FIXTURES AND DEVICES (MEP)	BH	BEHAVIORAL HEALTH RATED
FIRE PROTECTION	FPBH	RAVEN HEADS (LIGATURE RESISTANT HEADS)
DOORS	L	SELF LOCKING AND SELF CLOSING

Risk Assessment Plan



- PATIENT AREAS - HIGH RISK**
PATIENT/ RESIDENT HAS MOMENTS ALONE
- PATIENT AREAS - MEDIUM RISK**
STAFF OBSERVING AT ALL TIMES
- LOW RISK**
STAFF AREA / NO PATIENTS/ RESIDENTS
- OUTPATIENT AREAS**
- PUBLIC SPACE/ OUTPATIENT WAITING**



Within Reach

- Safety priority while balancing cost
 - Preventing access to above ceiling
- Ceiling Heights
 - 10' CCHMC preference
 - 9' Gypsum at blind spots
 - Metal concealed system at lower patient areas
- Furniture Impacts
 - May require hardened ceiling
- Color Coding
 - Allowed to review transitions
 - Overall floor impact areas



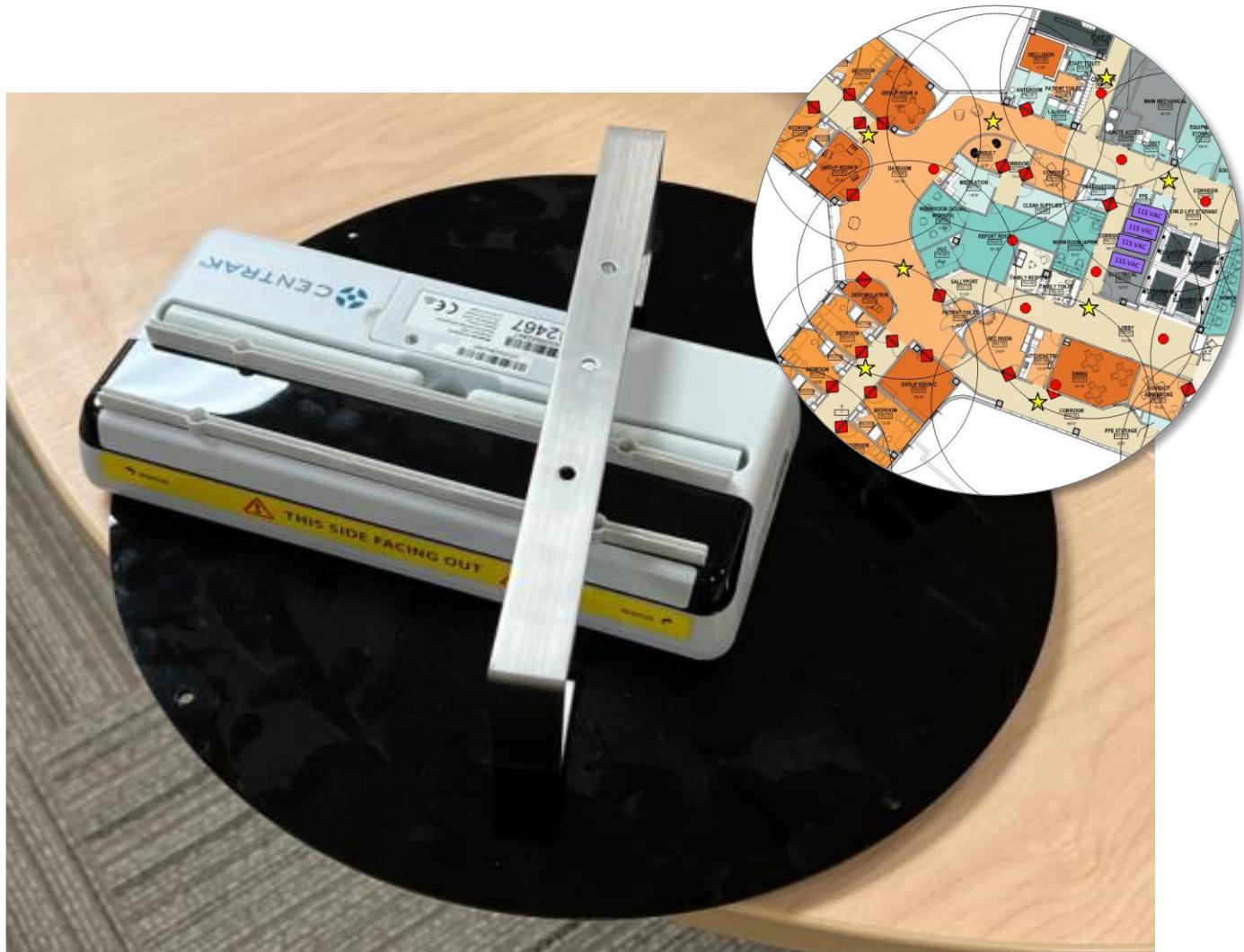
Finding The Right Solutions

- Samples for all products
 - Safety review by CCHMC Facilities
 - Durability
- Limitations in market
 - Lack of acceptable products
 - Review leveraging new technologies



Finding The Right Solutions

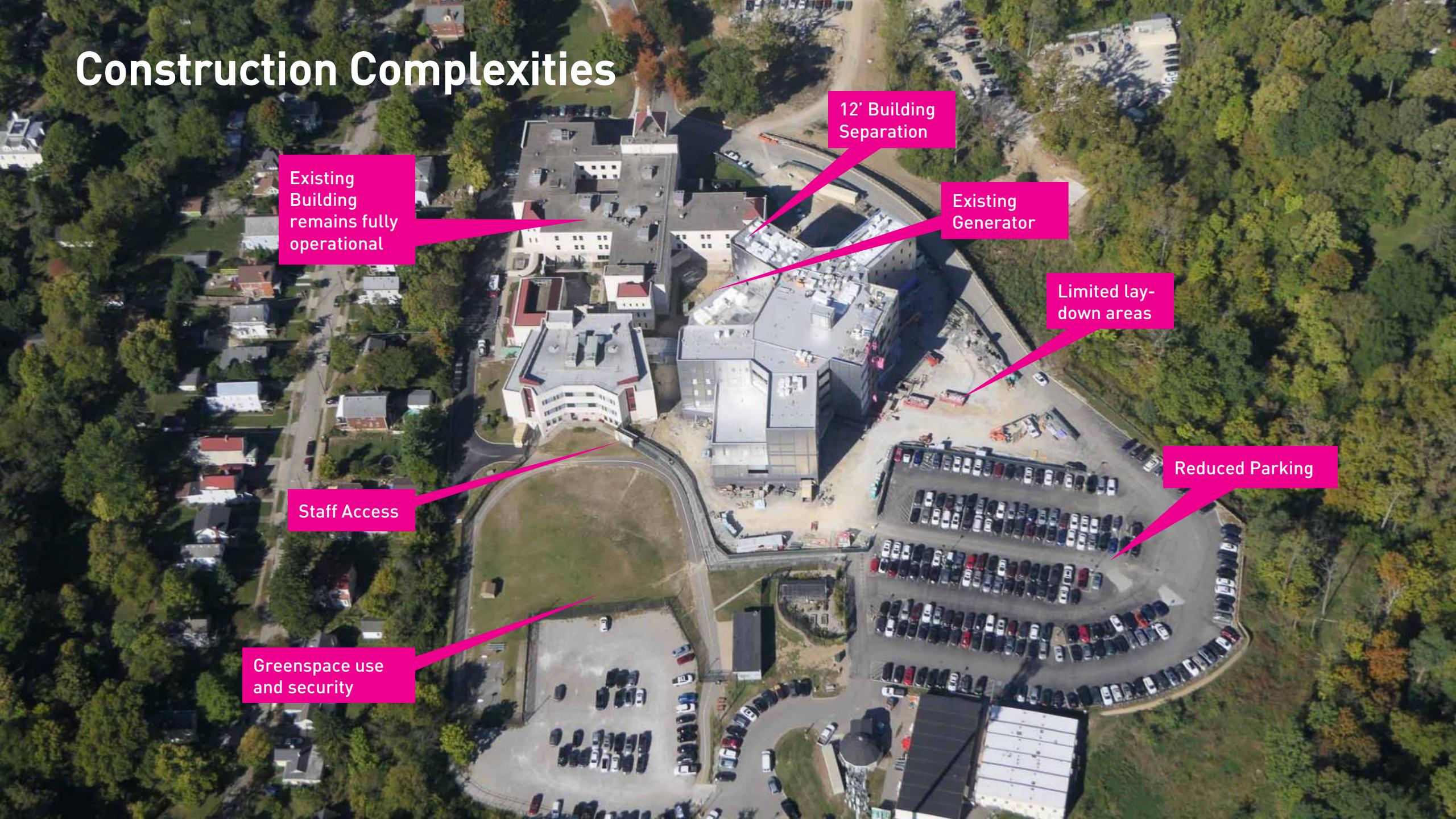
- Samples for all products
 - Safety review by CCHMC Facilities
 - Durability
- Limitations in market
 - Lack of acceptable products
 - Review leveraging new technologies
- RTLS (real time location system)
 - Adapting to behavioral health





What were the most challenging aspects throughout construction?

Construction Complexities



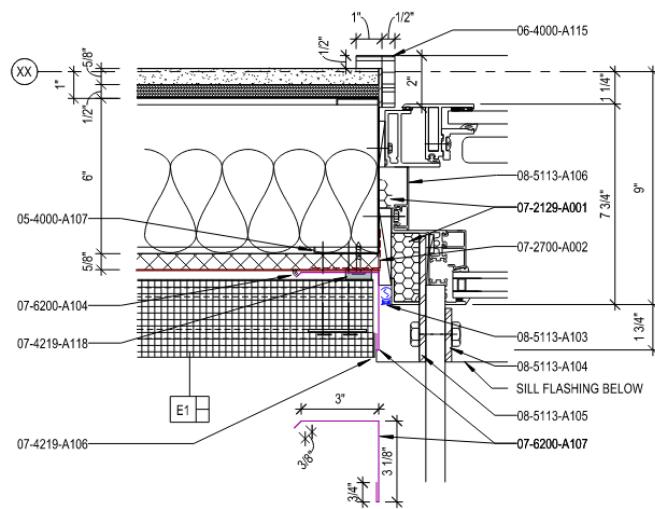
Mockups 2.0

- Materiality
 - Final brick selection & pattern
 - Metal panel textures



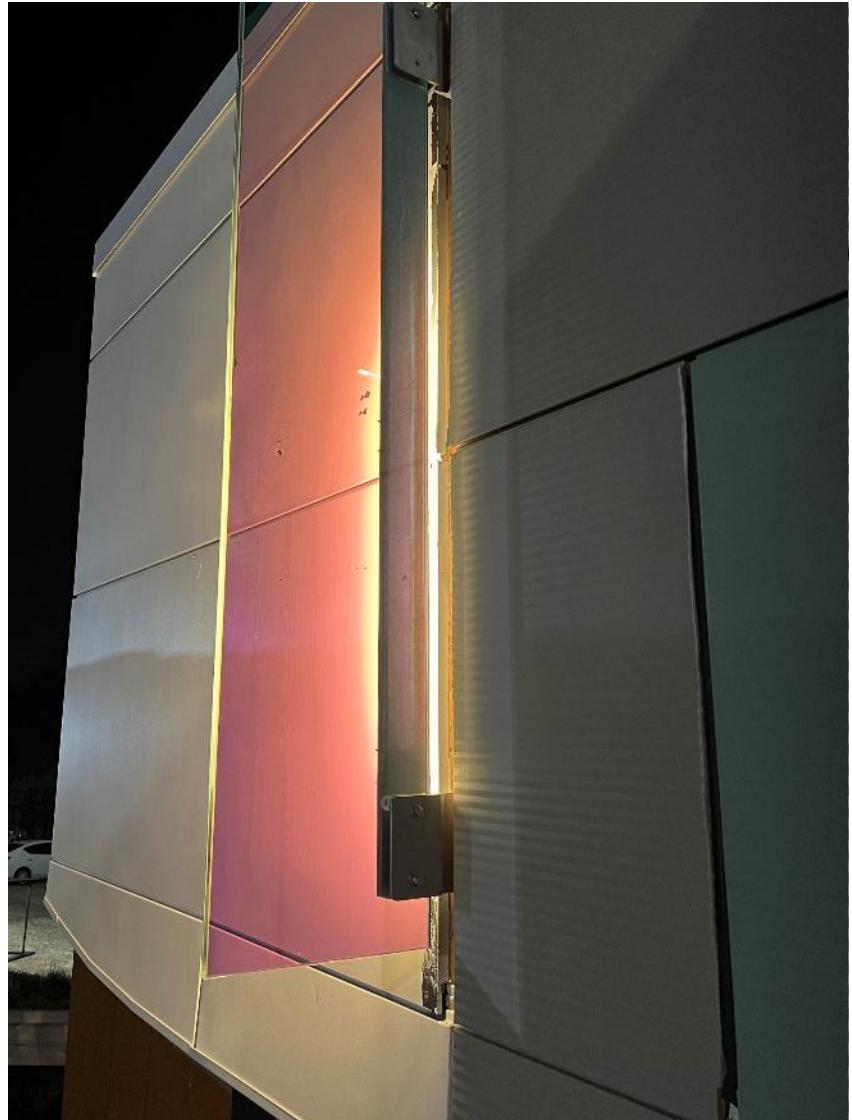
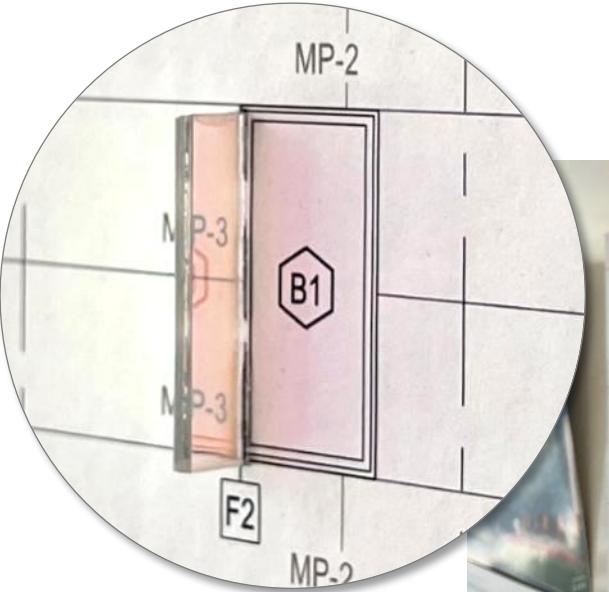
Mockups 2.0

- **Materiality**
 - Final brick selection and pattern
 - Metal panel textures
- **Construction Mockup**
 - Contractor collaboration
 - Confirming the details



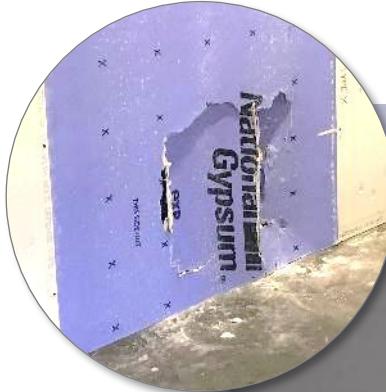
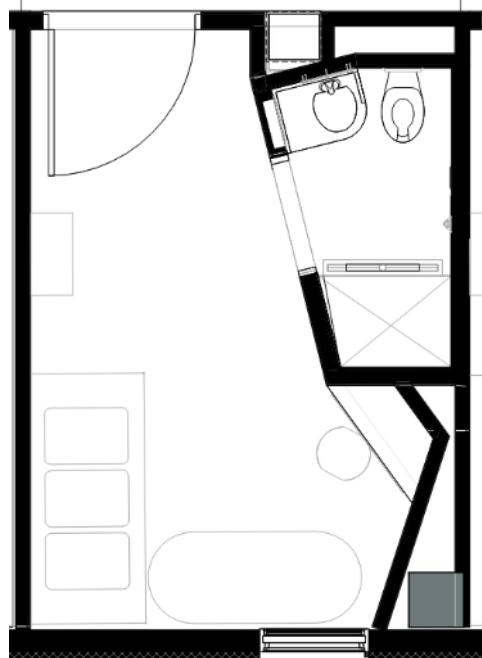
Mockups 2.0

- Dichroic glass and details
- Testing application at night
 - Impact to daylighting and shadows



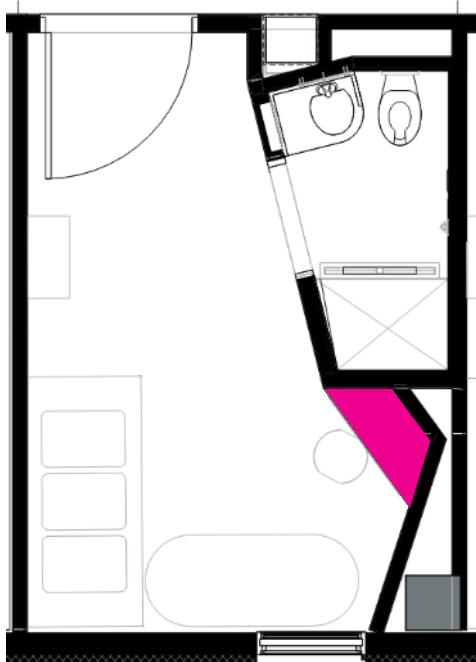
Patient Bedroom 2.0

- Fully functional mockup
- Tested final furniture options
- It's the details that matter
- Input from Clinical to EVS



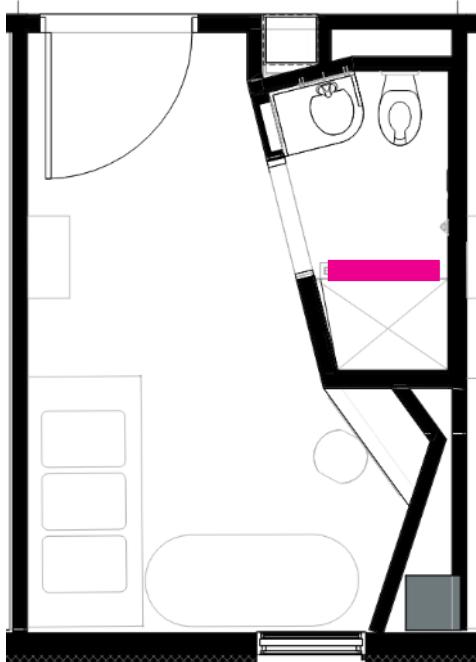
Patient Bedroom 2.0

- Final safety reviews
 - Depth for desk
 - Wall shelf and reach
- TV enclosure
 - Accessible yet secured



Patient Bedroom 2.0

- Final safety reviews
 - Depth for desk
 - Wall shelf and reach
- TV enclosure
 - Accessible yet secured
- Down to the details
 - Eased edge at shower surround (toe hold)
- Previous water issues
 - time needed to flood room
 - Shower head location and splashing
 - Shut-off valves



Outcome



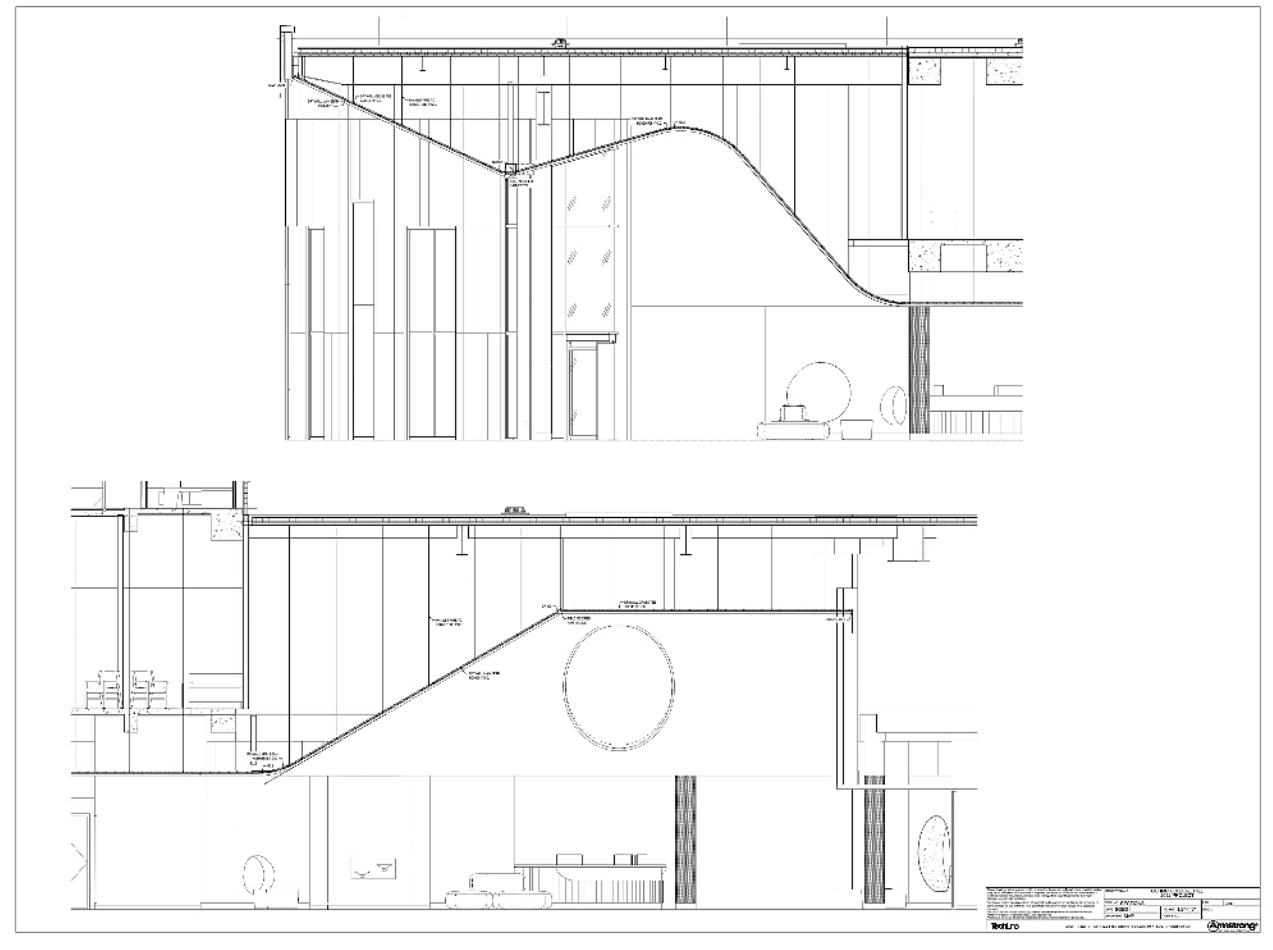
Collaboration

- Exterior Modulars
 - Coordinated fabricated wall panels
 - Accelerated enclosure
 - Reduced site congestion, truck to building



Collaboration

- **Lobby Ceiling**
 - Collaboration turned complexity into clarity — simple, coordinated moves made the project's signature features achievable.





Family Resource Center

 Cincinnati
Children's
College Hill





What outcomes and lessons did we take away for future projects?

Early Impact & Lessons / Takeaways

Key Results

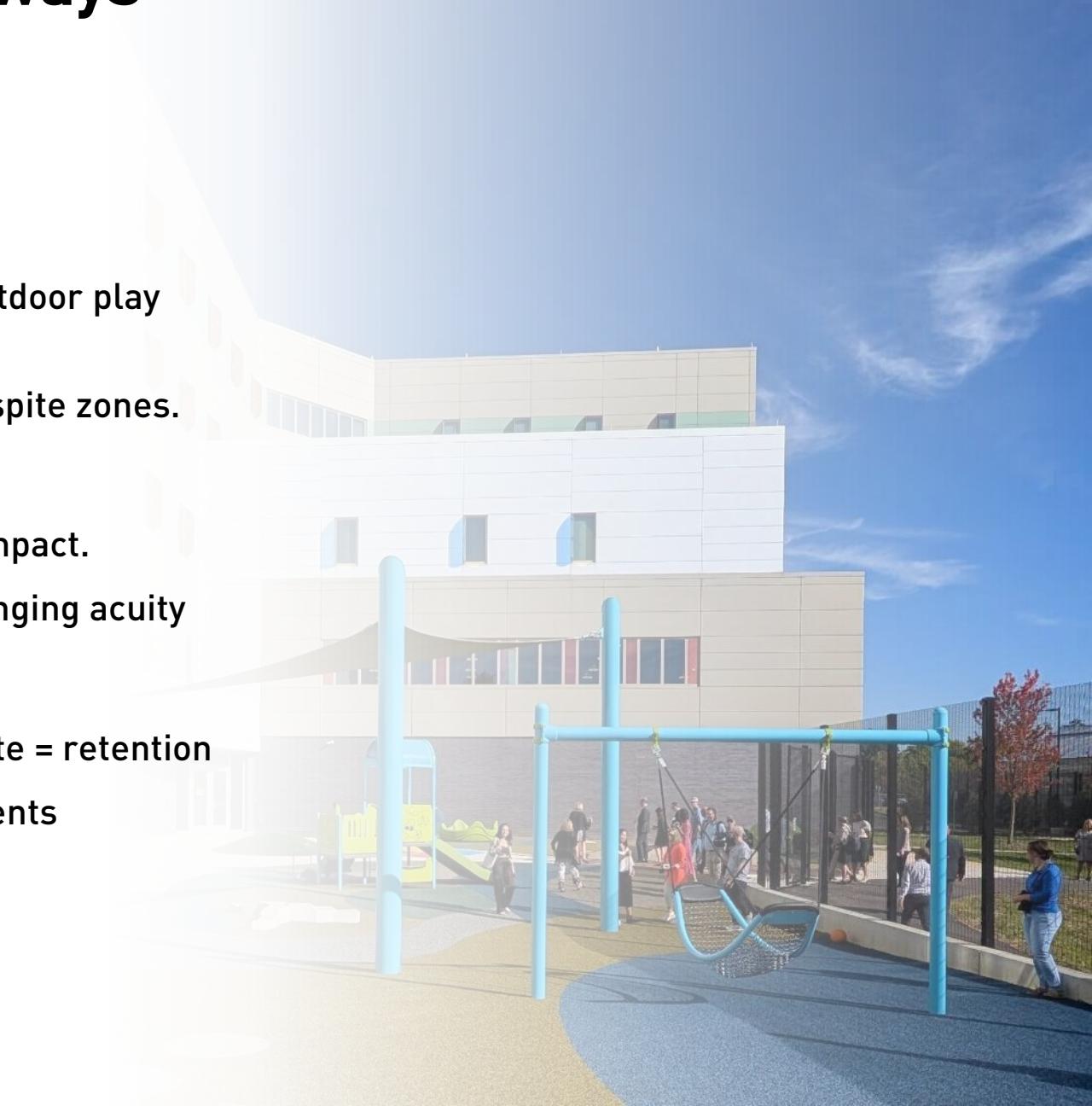
- Served 1,600+ inpatients served since 2023
- Fewer restraints & aggression after move-in and outdoor play access.
- Higher staff morale with daylight, sightlines, and respite zones.

Design Process

- Mock-ups reveal what matters - small details, big impact.
- BH needs evolve – regular POEs keep pace with changing acuity

People & Well-being

- Staff well-being – it is clinical infrastructure / respite = retention
- Play heals – outdoor activity reduced restraint incidents



Testing & Ongoing Research

Continuous Improvement

- Keep testing – new dayroom furniture under review
- Simplify wayfinding – too many doors and checkpoints
- Adaptable design – Shelled spaces have been repurposed for education and simulation, and milieu layouts continue to adjust with patient needs, reinforcing long-term resilience and value.

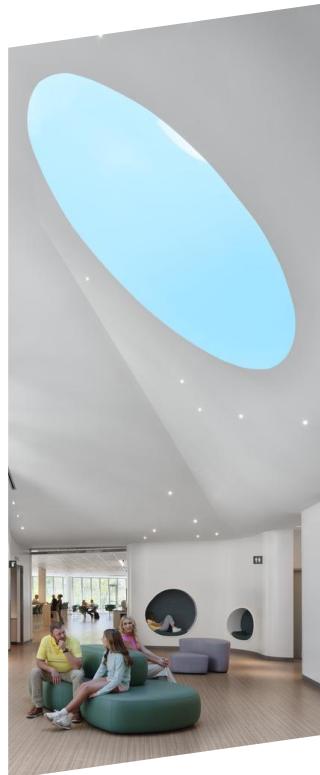
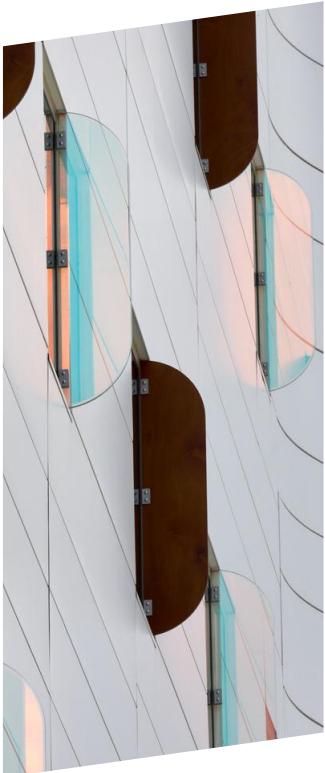
Collaborative Partnership



- Multi-year, grant-funded pre & post-occupancy study
- Measuring how design impacts safety, teamwork, and outcomes
- Create an evidence-based Behavioral Health Design Toolkit
- One of the first pediatric BH facilities validated by its care model



Q&A



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