

# Lessons Learned from the Long Term Recovery of Healthcare Facilities after a Natural Disaster

WITT|O'BRIEN'S  
CONTROL THE OUTCOME

# Session Overview

## Lessons Learned from the Long Term Recovery of Healthcare Facilities after a Natural Disaster

- This hour long presentation will discuss:
  - Deliver a summary of common pitfalls in the recovery process.
  - Provide a proven decision making process for moving forward after an event.
  - Present audience with successful examples of mitigation measures at healthcare facilities after a major disaster.

# Presenter

- **Rick Patterson, CFM**
  - Associate Managing Director, Disaster Recovery
  - Former State Coordinating Officer for the State of Texas
  - Over 15 years experience with restoration of damaged facilities and Infrastructure
  - Over 25 years experience in public safety

## Section I : Lessons Learned

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# Avoid

- Not making a plan for a disaster
- Not following your procurement rules
- Expecting FEMA to replace everything damaged
- Not having a master plan with mitigation



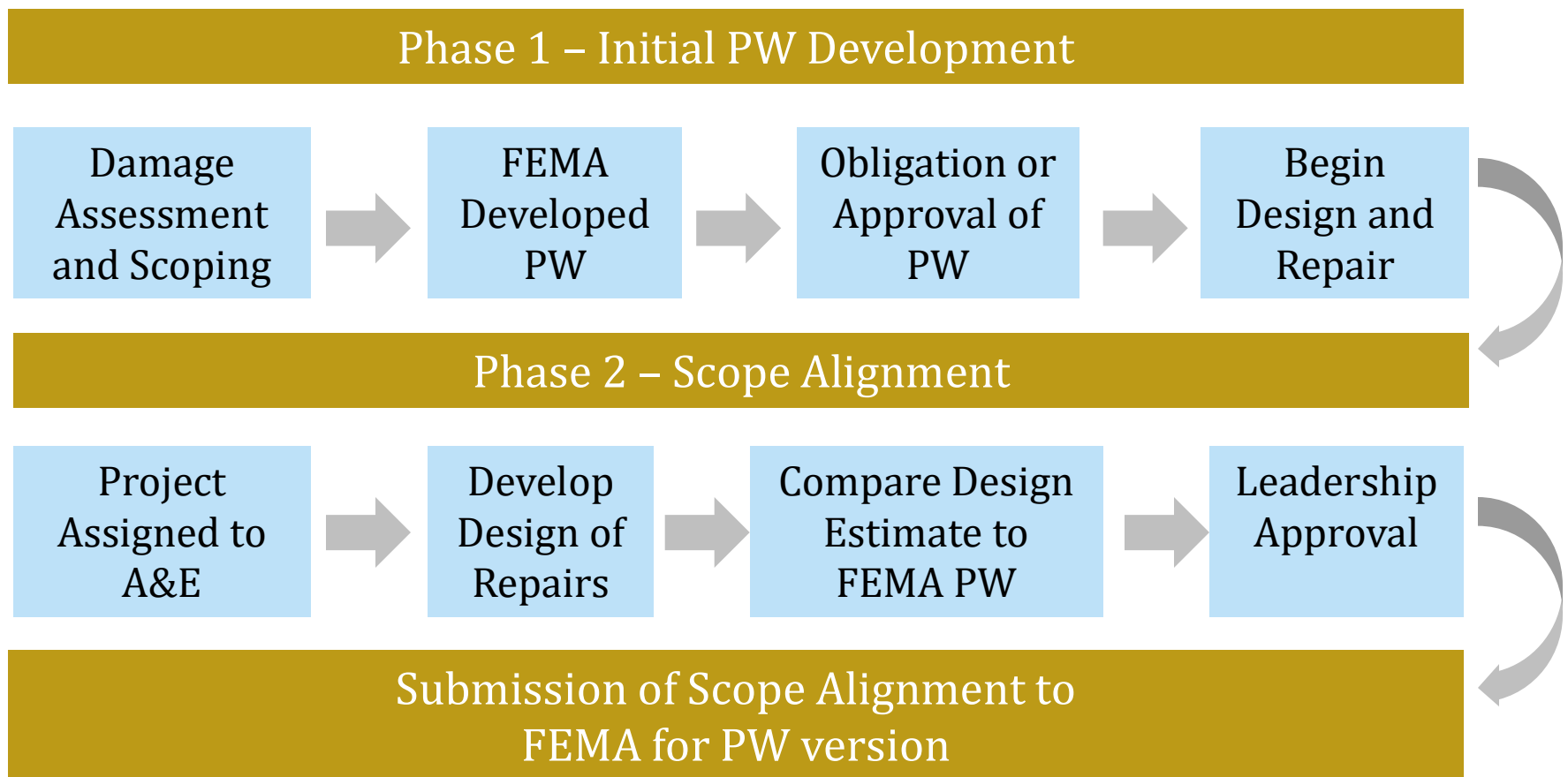
# Best Practices

# Step 1: Divide and Conquer

## “The Bucket Method”

- Divide the work into smaller logical groups
  - Based on function
- Overall Project Management Group to oversee work
- Project Manager employs teams:
  - Architects
  - Engineers
  - Specialty consultants
  - Contractors

# Step 2: Project Development





# Step 2: Project Development

## Phase 3 – Mitigation

Leadership Approves  
Mitigation Concept



Project Assigned  
to A&E for Design



Prepare 406  
Mitigation  
Proposal



## Submission of Mitigation Proposal to FEMA for 406 Mitigation Version

FEMA will review  
for Technical  
Feasibility



FEMA will Perform  
a Benefit Cost  
Analysis



Approval  
of  
Amendment

# Step 2: Project Development

## Phase 4 – Capital Improvement

Leadership Approves  
CIP Concept



Project Assigned  
to A&E for Design



Applicant  
requests  
Improvement



## Submission of Improved/Alternate Project to FEMA and State for Version

FEMA will review  
for Compliance  
with NEPA, etc.



FEMA will  
Determine Level of  
Participation



Approval  
of  
Version

## Step 3: From Design to Construction

- Repair make functional; without mitigating risk
- Repair and mitigate (elevate) critical functions
- Upgrade, improve, and modernize
- Reuse/re-purpose
- Resistant systems/materials
- Demolish

## Step 4: Coordinate with Everyone

- Operations – Equivalent of repairing an airplane while it is flying
- Capital Projects already in progress on planned
  - Coordination of different projects in the same location
  - Coordination of connected projects in different locations
  - Needed to be blended or combined into the Ike projects
  - FEMA will not pay for a capital renewal program

# Step 5: Procurement Process Must Pass Audit Review

- Procurement process must be meticulously detailed
- FEMA will do audit in the end
- Don't want to have to pay back funding
- If FEMA sees that it was not done right, this could result in loss of federal funding and repayment.
- **Lesson:**
  - *Don't short change this process*

# Step 5: Procurement Process

## 2 CFR §200.318

- General Procurement Standards
- (a) Use own **documented procurement procedures**
- (b) **Maintain oversight** of Contractors
- (c) Maintain **written standards of conduct** covering conflicts of interest and contracting issues.
- (d) Avoid acquisition of **unnecessary or duplicative items**.
- (e) Use of state and local **intergovernmental agreements**.

# Step 5: Procurement Process

## 2 CFR §200.318

- (f) Use federal **excess and surplus property**
- (g) Use **value engineering** clauses.
- (h) Award contracts only to **responsible contractors**
- (i) **Maintain records** sufficient to detail the history of procurement.
- (j) Use a **time and materials** type contract only if no other contracting method will *work*.
- (k) Be responsible, for the settlement of all **contractual and administrative issues** arising out of procurements.

# Step 5: Procurement Process

## 2 CFR §200.320

- Methods of Procurement to be Followed
- (a) **Micro-purchases** - \$3,500
- (b) **Small purchase procedures** - \$150,000
- (c) **Sealed bids**
- (d) **Competitive proposals**
- (f) **Noncompetitive proposals** :
  - (1) single source;
  - (2) Public emergency
  - (3) Request approved by federal awarding agency
  - (4) Competition is determined inadequate.



# Step 5: Procurement Process

## 2 CFR §200.321

- Contracting with Small and Minority Businesses, Women's Business Enterprise and Labor Surplus Firms
- Affirmative steps to assure these entities are used when possible must include:
  - (1) Placing qualified entities on solicitation lists;
  - (2) Assuring entities are solicited whenever they are potential sources;
  - (3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by entities;
  - (4) Establishing delivery schedules, where the requirement permits, which encourage participation by entities;
  - (5) Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce; and
  - (6) **Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (1) through (5) of this section.**

# Step 5: Procurement Process

## 2 CFR §200.323

- Contract Cost and Price
- (a) Must perform a **cost or price analysis** in connection with every procurement action in excess of the Simplified Acquisition Threshold including contract modifications.
- (b) Must **negotiate profit** as a separate element of the price for each contract in which there is no price competition and in all cases where cost analysis is performed
- (c) Costs or prices based on estimated costs for contracts under the federal award are allowable only to the extent that costs incurred or cost estimates included in negotiated prices would be allowable for the non-federal entity under Subpart E—Cost Principles of this part. The non-federal entity may reference its own cost principles that comply with the Federal cost principles.
- (d) The **cost plus a percentage** of cost and **percentage of construction cost** methods of contracting **must not be used**.

# Step 5: Procurement Process

## 2 CFR §200.326, Appendix II

### ➤ Contract Provisions

- (A) **Address administrative, contractual, or legal remedies**
- (B) **Termination for cause and for convenience.**
- (C) **Equal Employment Opportunity.**
- (D) **Davis-Bacon Act and Copeland “Anti-Kickback” Act**
- NOTE: Davis-Bacon does not apply for work completed using PA funds.
- (E) **Contract Work Hours and Safety Standards Act**
- (F) **Rights to Inventions**
- (G) **Clean Air Act and the Federal Water Pollution Control Act..**
- (H) **Debarment and Suspension.**
- (I) **Byrd Anti-Lobbying Amendment.** Contracts exceeding \$100,000.
- (J) See §200.322 **Procurement of recovered materials.**

# Step 5: Procurement Process

## Remedies for Noncompliance

- If a non-federal entity fails to comply with federal statutes, regulations, or the terms and conditions of a federal award, the federal awarding agency or pass-through entity may impose additional conditions, as described in §200.207 Specific Conditions.
- If the federal awarding agency or pass-through entity determines that noncompliance cannot be remedied by imposing additional conditions, the federal awarding agency or pass-through entity may take one or more of the following actions, as appropriate in the circumstances:

# Step 5: Procurement Process

## Remedies for Noncompliance

- (a) Temporarily withhold cash payments pending correction of the deficiency.
- (b) Disallow all or part of the cost of the activity or action not in compliance.
- (c) Wholly or partly suspend or terminate the federal award.
- (d) Initiate suspension or debarment proceedings.
- (e) Withhold further federal awards for the project or program.
- (f) Take other remedies that may be legally available.

# Lessons to Successful Recovery Projects

- How do you best prepare for this situation in the future?
- Global perspective:
  - Diversify, get out of the higher risk area
  - If staying in the risk area, minimize it by elevation or flood proofing
- **Lesson:**
  - *Know the game... Carpe Diem (Seize the Day)*
- **Opportunity:**
  - *Best for renewal and mitigation with federal help*

# Be Prepared...

## Have a Plan to Provide Guidance

- Need guiding documents in place prior to catastrophe
  - Be able to give to design teams when they walk in
- **Lesson:**
  - *Have an updated Master Plan and Design Guidelines*
  - Identify your potential hazards and risks
  - Design Guideline – almost complete; pre-determined principals
  - Consensus from stakeholders

# Managing Expectations

- Early on there is the feeling that FEMA will pay for everything
- Perception that New Orleans got all new as a result of Katrina
- Everyone thought that sky was the limit
- Looked at all kinds of designs; 6 different designs for one situation
- Design teams more than happy to look at lots of options
- **Lesson:**
  - *Be realistic – If it sounds too good to be true, it is*



# Analysis Paralysis

- Don't go overboard on the design options
- Numerous instances where design cost exceeded entire project cost
- Keep to an option or two; most likely to be approved by FEMA
- Have very finite time/dollars to make a decision and get the job done
- Analysis paralysis results in additional cost, lost time, continued risk to facilities
- **Lesson:**
  - *We are a team, need to limit to what is realistic*

# Prepare to Help FEMA in Its Own Process

- FEMA: slow, understaffed, some with limited training/ experience
- Low funding participation; difficult to accept
- Results in running out of time to get things done
- **Lesson:**
  - Be prepared to provide as much information and make FEMA's job easy

# Know your History



## Section II : Recovery with Mitigation

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# Hazard Mitigation – Decreasing Future Vulnerability

- Suggested Recovery Action Plan:
  - Debris removal and stabilization of facilities
  - Establishment of temporary measures
  - Identify and initiate facility repairs utilizing professionals in the design and project management
  - Design facility protection through mitigation measures identified in a mitigation study

# Hazard Mitigation – Decreasing Future Vulnerability

## ➤ Recovery Goals

- Repair damaged facilities to pre-disaster conditions
- Mitigate those facilities to reduce the damage from future events
- Improve facilities to better serve its customers
- Promptly pay for all disaster-related services
- Receive maximum reimbursement for disaster-related costs

# 406 Hazard Mitigation

- The mission of the 406 Hazard Mitigation Grant Program is to consider funding additional measures, not required by applicable codes and standards, that will enhance the ability of an eligible damaged element to resist similar damage in future, similar, declared events.

# 406 Hazard Mitigation

- Permanent Work
  - (Cat C through G)
  - (Cat A & B dollars can be used for the HMP)
- Related to a damaged element
- Reduce or eliminate the threat of future damage to the damaged element
- Be cost effective



# 406 Hazard Mitigation

- Damaged elements are building or components
  - Electrical panels
  - MEP
  - Contents may be the damaged element
  - Window
  - AC Unit
  - Roof
  - Interior surfaces
  - Damage caused by loss of environment controls

# Examples of Successful FEMA HMP



# Elevate Me! Please!



Although it was anchored and not displaced by floodwaters, this generator was out of service after being submerged.

Oh Yea!



Elevated utility box

University of Texas Medical  
Branch

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HURRICANE IKE 2008

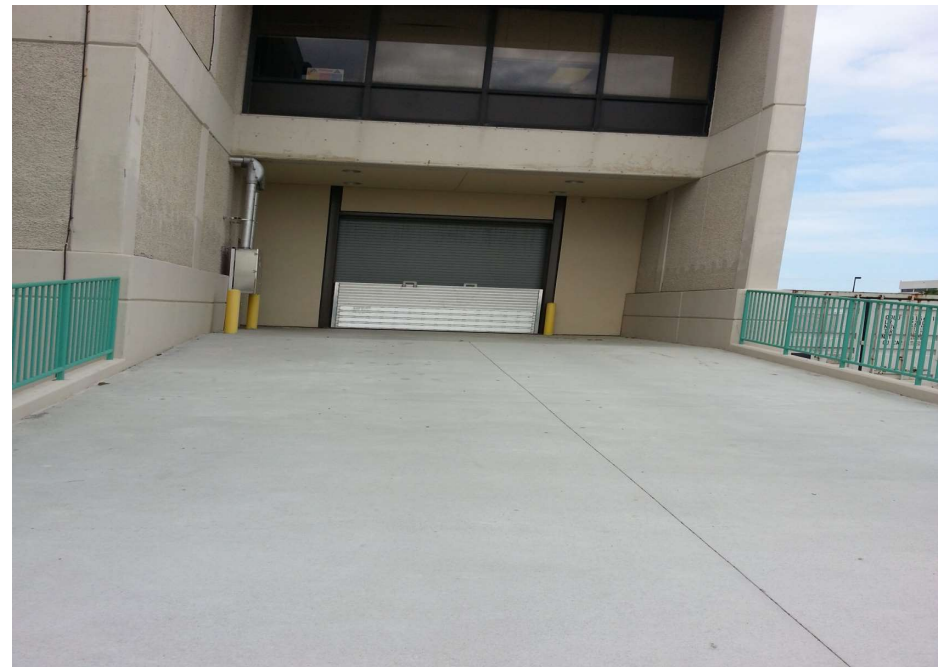
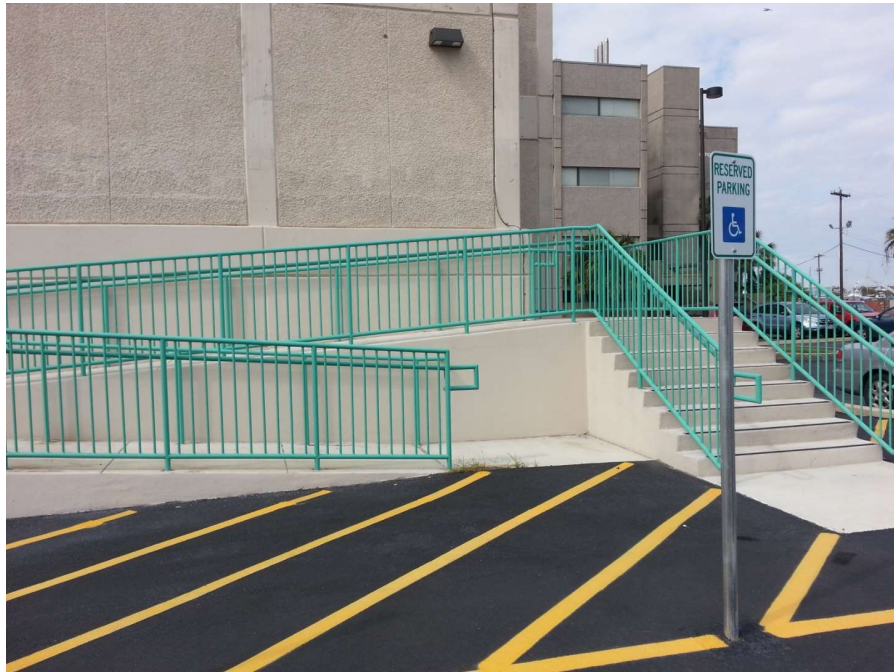
# Dry Flood Proofing



Permanent watertight doors for deep water



# NMR Dockside

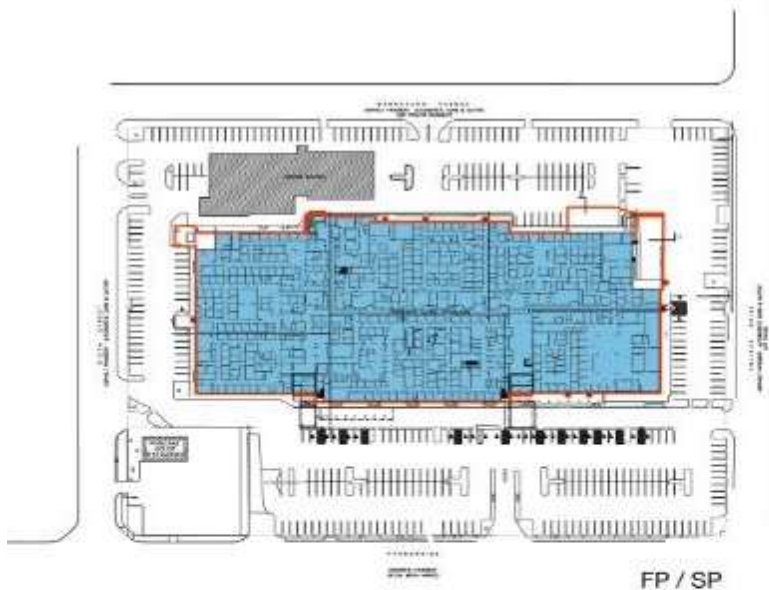


# Floodwalls

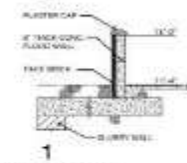
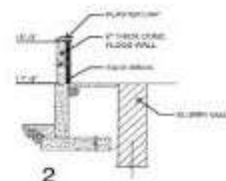


# Primary Care Pavilion Flood Wall

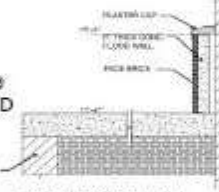
Equipment Mitigation  
 New Flood Wall  
 Renovated Spaces



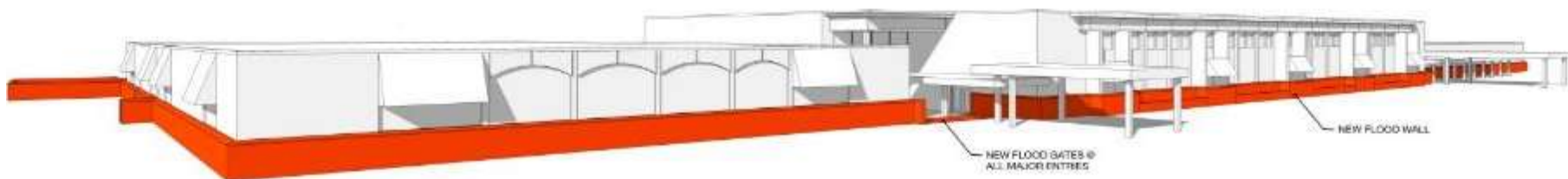
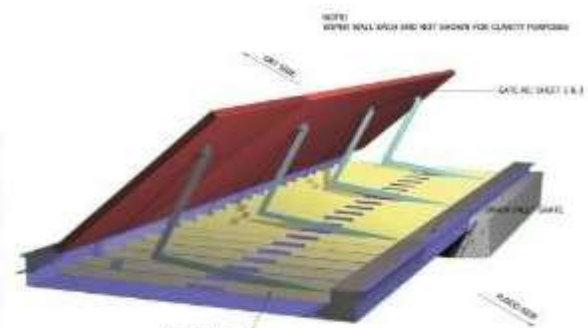
NEW 6" CONCRETE WALL TO BE CONSTRUCTED AROUND BUILDING. RAISING FLOOD GATES TO BE INSTALLED IN PERIMETER FLOOD WALL WHERE NEEDED FOR BUILDING ACCESS



TYP. FLOOD WALL SECTIONS @ MECHANICAL YARD



TYP. FLOOD WALL SECTION @ BUILDING







# Mitigate the Function Clinical Service Wing

## ➤ Project Description/Purpose:

- Construct new 6-story building to house all the primary functions that were on the first floor of the 8 hospitals in the Healthcare Core Complex
- Pharmacology, food services, sterile process, blood bank, laundry, storage of medical supplies and equipment

## ➤ Total Project Cost:

\$127.5 million

- FEMA Participation: \$64.3 million (50%)
- UTMB's Share: \$63.2 million (50%)

# Clinical Services Wing





# FEMA Project – Clinical Services Wing Opened 2015



# Concourse

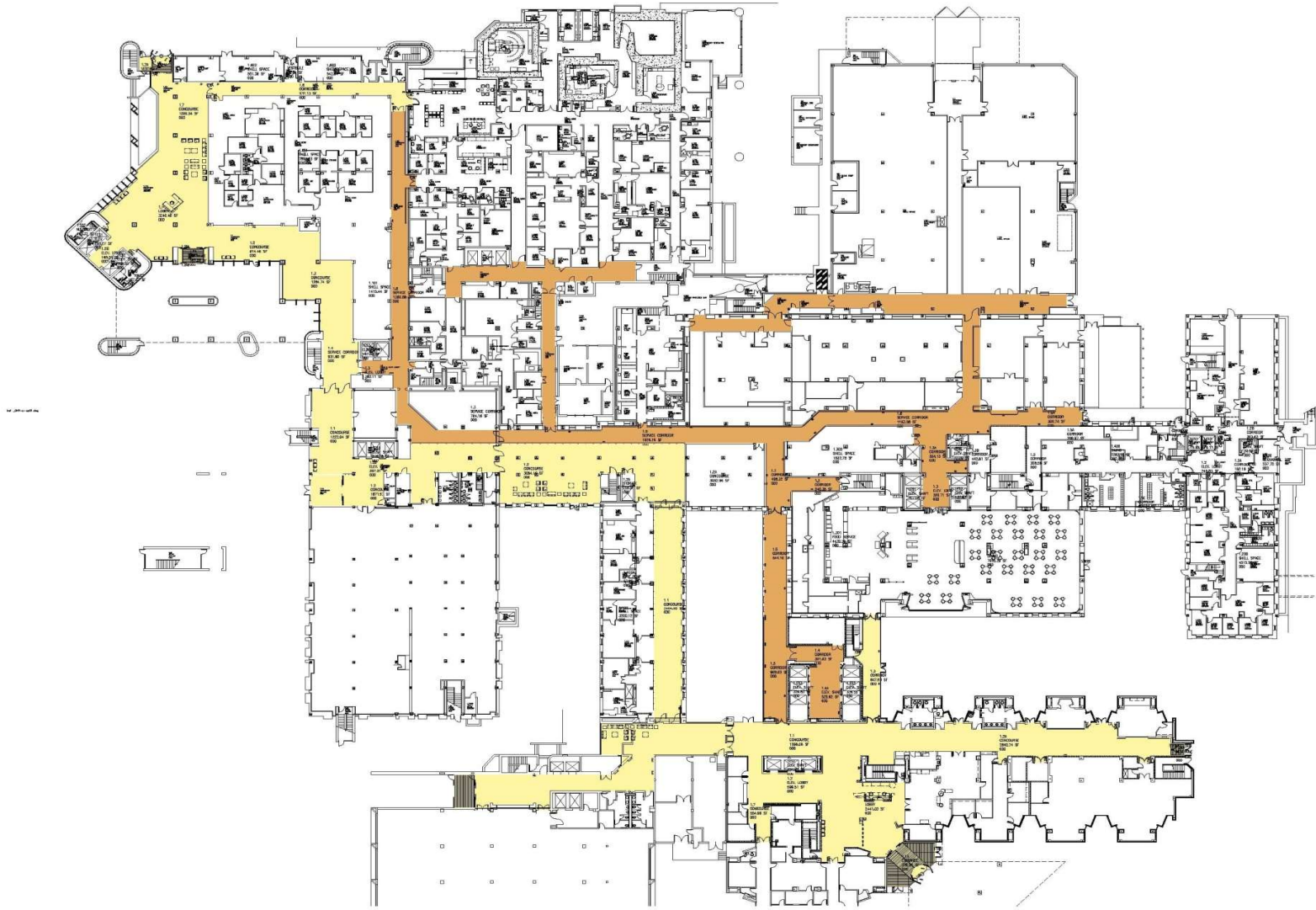
## ➤ Project Description/Purpose:

- Revamp of all public corridors on the ground floor through eight connected hospitals
- Waterproof all surfaces
- Widen all Corridors
- Separate HVAC system from 11 floors above it
- More pedestrian friendly

## ➤ Total Project Cost: \$15.3 million

- FEMA Participation: \$2.1 million (14%)
- UTMB's Share: 13.2 million (87%)

# Concourse



# MEP to be Elevated





# Abandon the Space Student Testing Center

## ➤ Project

### Description/Purpose:

- Convert the ground floor of the Children's Hospital into a testing center
- Relocate mechanical and electrical systems to the second floor

## ➤ Total Project Cost: \$10.8 million

- FEMA Participation: \$5 million (46%)
- UTMB's Share: \$5.8 million (54%)



# Student Testing Center



Columbus Regional Hospital

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JUNE 2008

# Columbus Regional Hospital

- On June 7, 2008, floodwaters inundated the hospital. The entire basement, containing much of the hospital's medical and lab equipment was filled floor to ceiling with floodwater, mud and silt. In addition, the first floor area sustained heavy damage from the floodwater and mud.



# Columbus Regional Hospital

- FEMA funded the construction of a flood wall to protect the basement and first floor from a similar flooding event.

# Conclusion

## ➤ This hour long presentation discussed:

- Deliver a summary of common pitfalls in the recovery process.
- Provide a proven decision making process for moving forward after an event.
- Present audience with successful examples of mitigation measures at healthcare facilities after a major disaster.

# Questions

