



Prepared for the Tulsa County Board of County Commissioners

# Conditions Assessment Report Review

TULSA COUNTY COURTHOUSE RENOVATION

January 24, 2023

**FENTRESS**  
ARCHITECTS

**LILLY** ARCHITECTS





# PROJECT TEAM



Architect of Record: <b>Lilly Architects</b>	Wall Condition Evaluation: <b>Atkinson-Noland &amp; Associates</b>
Design Architect: <b>Fentress Architects</b>	Building Envelope: <b>Armko Industries</b>
MEP Engineering: <b>Phillips + Gomez</b>	Code Specialist: <b>FSC</b>
Civil & Structural Engineering: <b>Wallace Design Collective</b>	Court Planning Specialist: <b>Fentress Inc.</b>
Cost Estimating: <b>OCMI</b>	Accessibility Specialist: <b>Ed Roether Consulting</b>
Microbial Baseline Survey: <b>Allied Environmental Consultants</b>	Elevator Specialist: <b>Lerch Bates</b>

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# TIMELINE

**TODAY**  
**1/24/2023**

**Conditions  
Assessment Phase**

CM@R SELECTION

**Schematic  
Design Phase**

CM@R PRICING

**Design Development  
Phase**

**Construction Document  
Phase**

**CONSTRUCTION  
± 18 MONTHS**

**2023**

**2024**

**2026**

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# THE FOLLOWING SLIDES ARE A SUMMARY OF THE BELOW REPORT



REPORT NAME:

**CONDITIONS ASSESSMENT REPORT**

BUILDING NAME:

**TULSA COUNTY COURTHOUSE**

DATE:

**JANUARY 3, 2023**



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## THE REPORT INCLUDES THE BELOW ASSESSMENTS

- **BUILDING FAÇADE**
  - **MEP SYSTEM**
  - **FIRE PROTECTION**
  - **ELEVATORS**
  - **BUILDING CODE COMPLIANCE**
  - **ADA COMPLIANCE**
- 
- THE COST ESTIMATE OPINION INCLUDED IN THE REPORT IS IN RESPONSE TO THE ABOVE ANALYSIS.
  - THE DESIGN PHASE WILL FOLLOW, AND THE CONSTRUCTION MANAGER AT RISK WILL DEVELOP A MORE DETAILED COST OPINION.



# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

Marble Panel Location Diagram



**THE MARBLE PANELS ARE FAILING ACROSS ALL INSTALLED LOCATIONS AND NEED TO BE REPLACED**

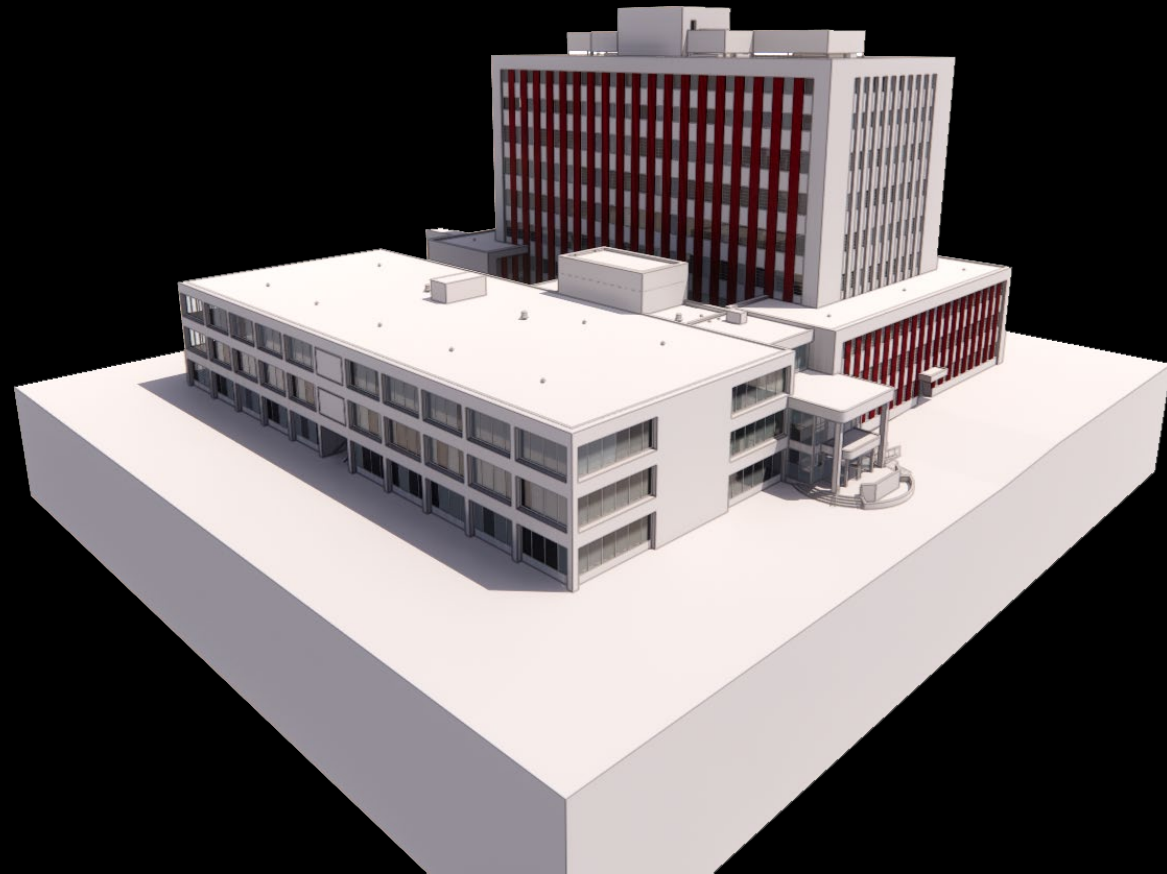






# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

Brick Façade Location Diagram

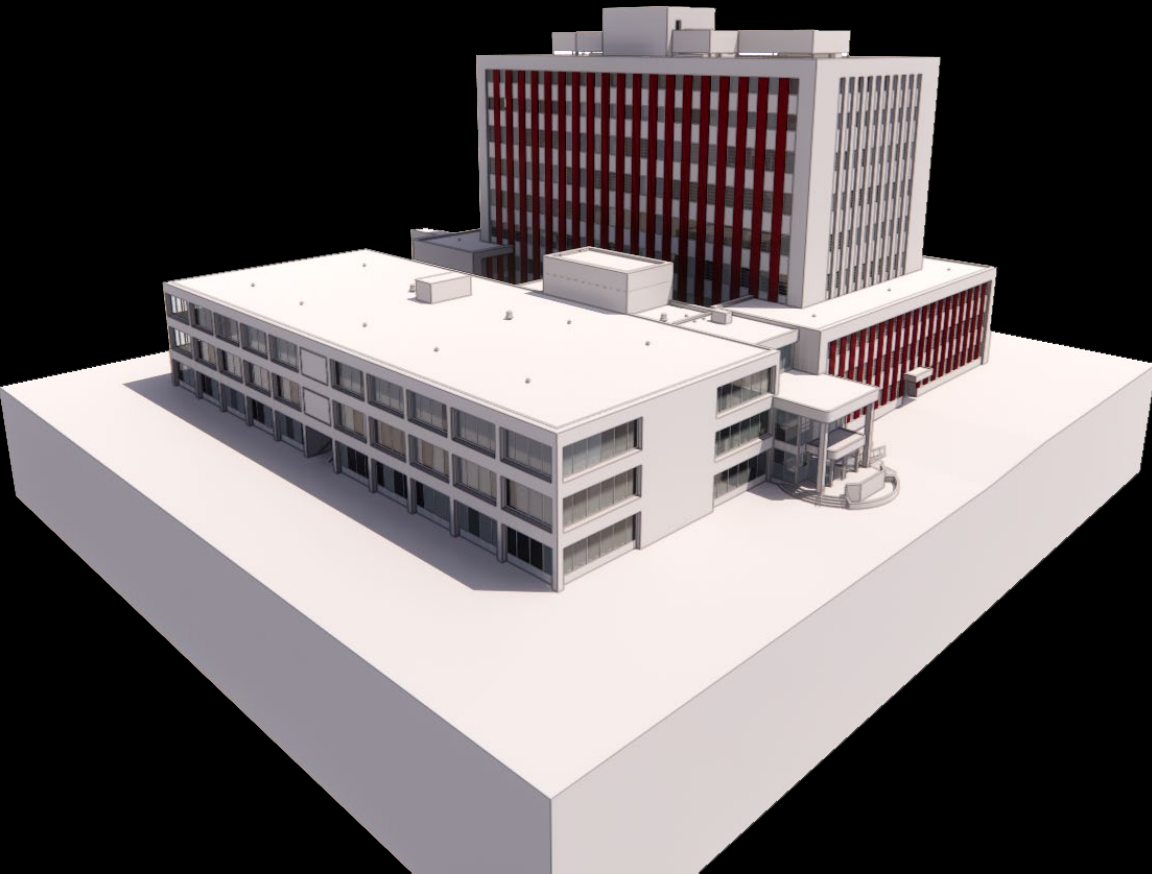


**BRICK FAILURES**



# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

Brick Façade Location Diagram



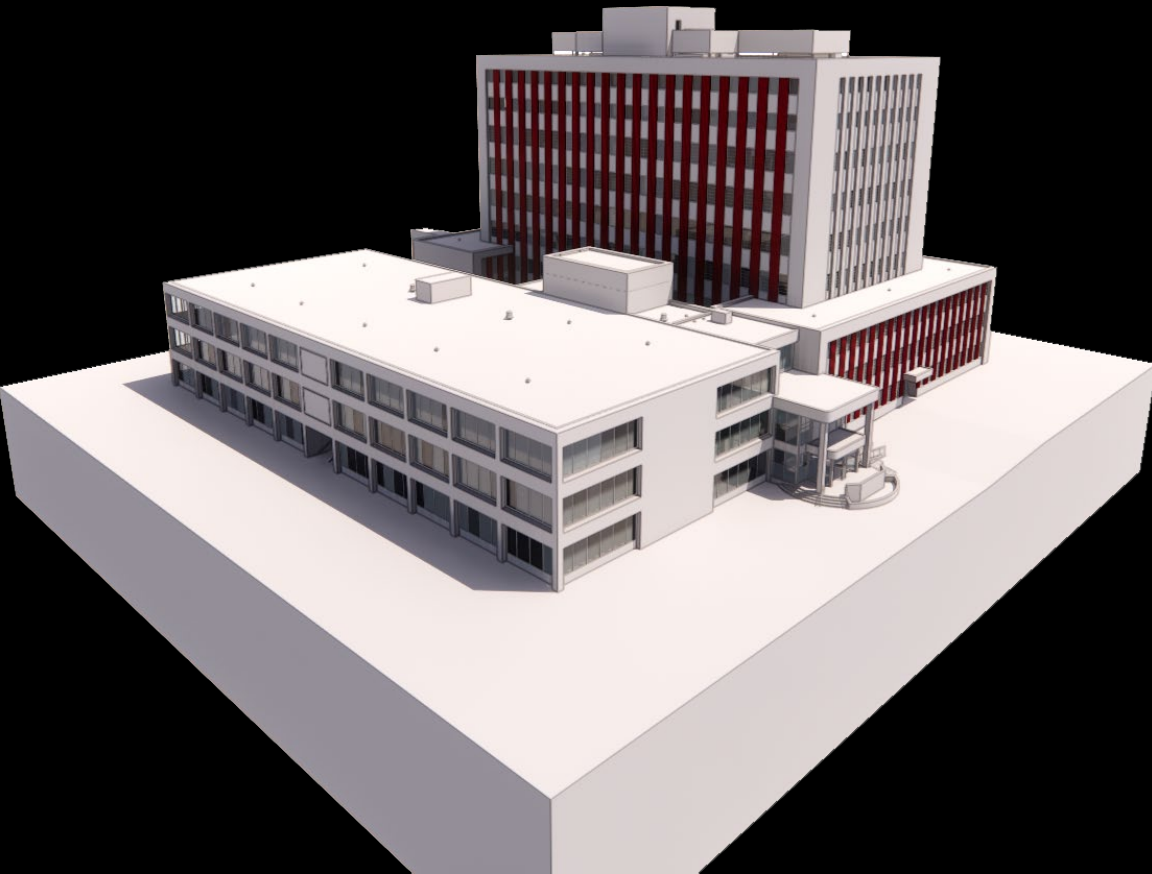
**BRICK FAILURES**





# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

## Brick Façade Location Diagram

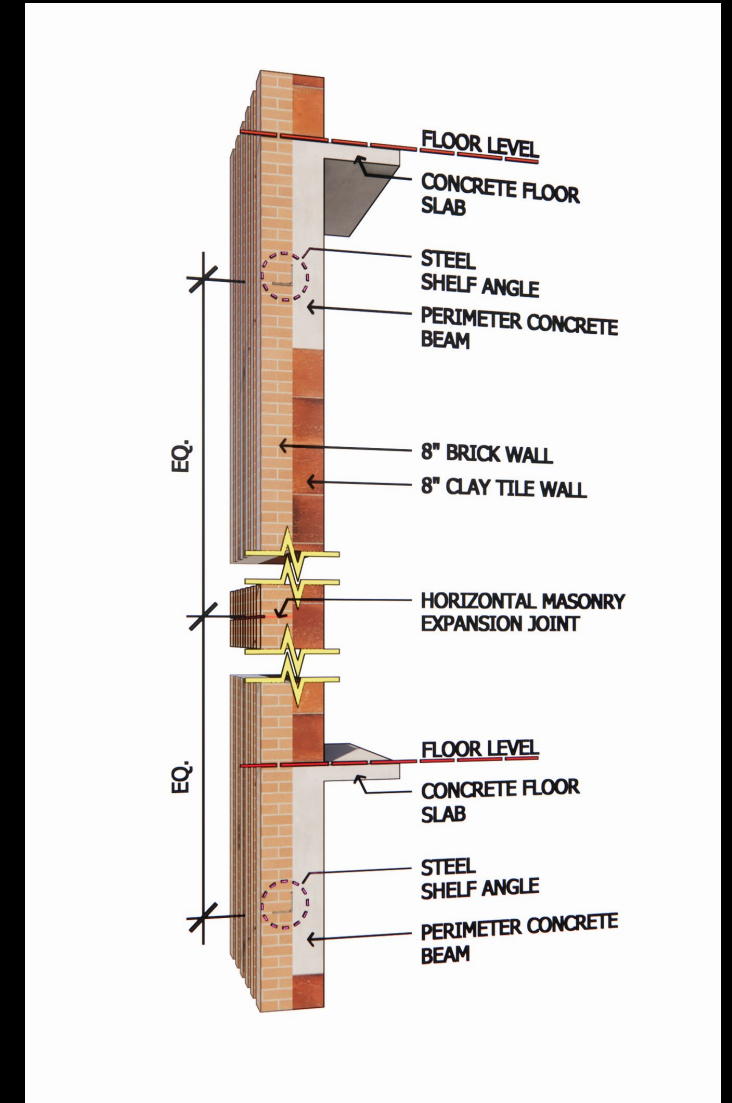
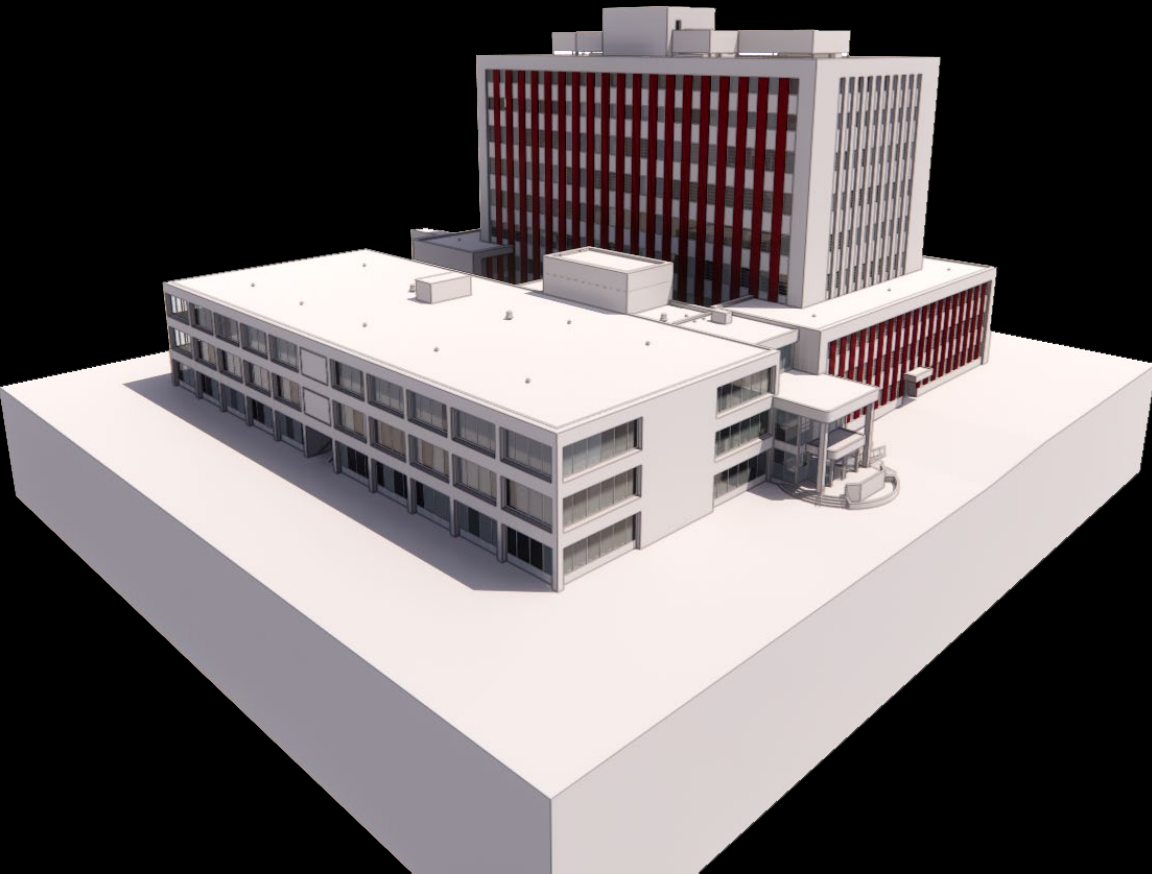


**BRICK FAILURES**



# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

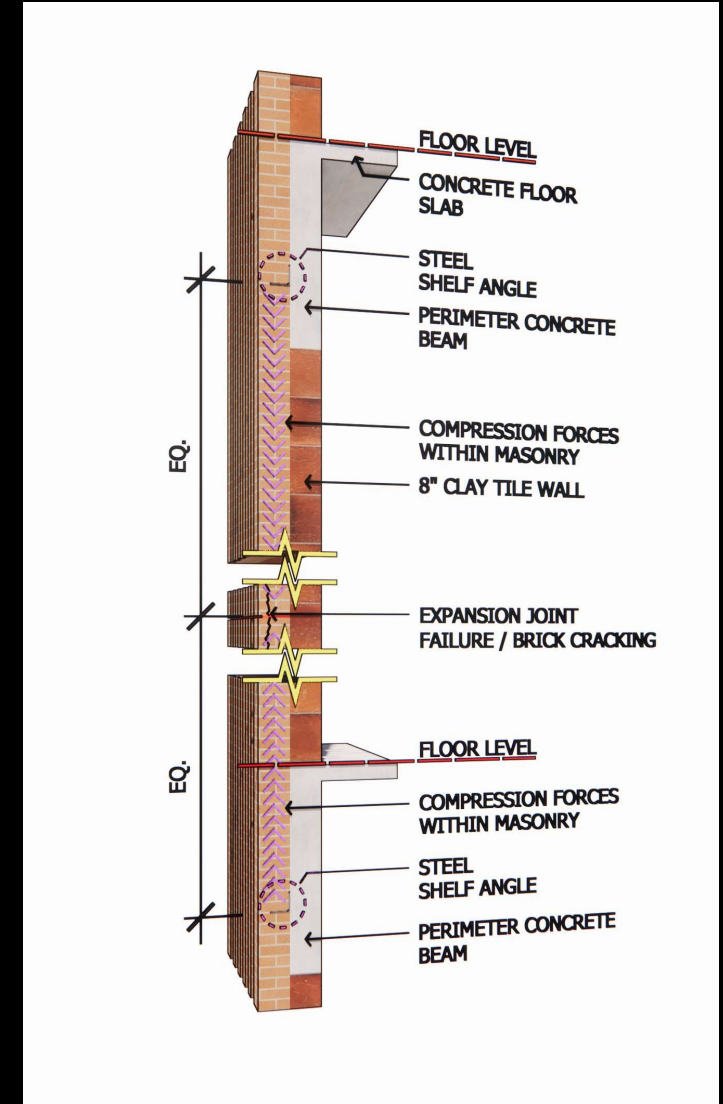
## Brick Façade Location Diagram





# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

## Brick Façade Location Diagram

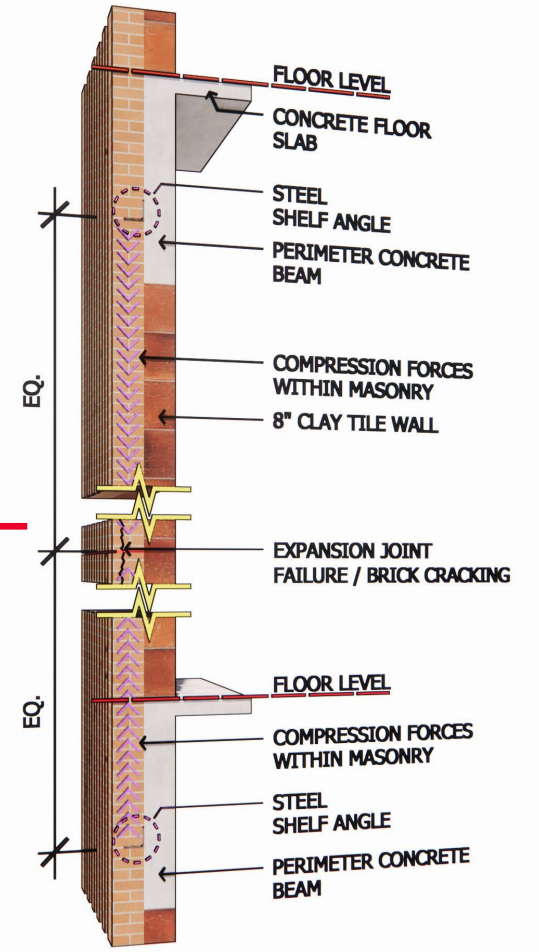






# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

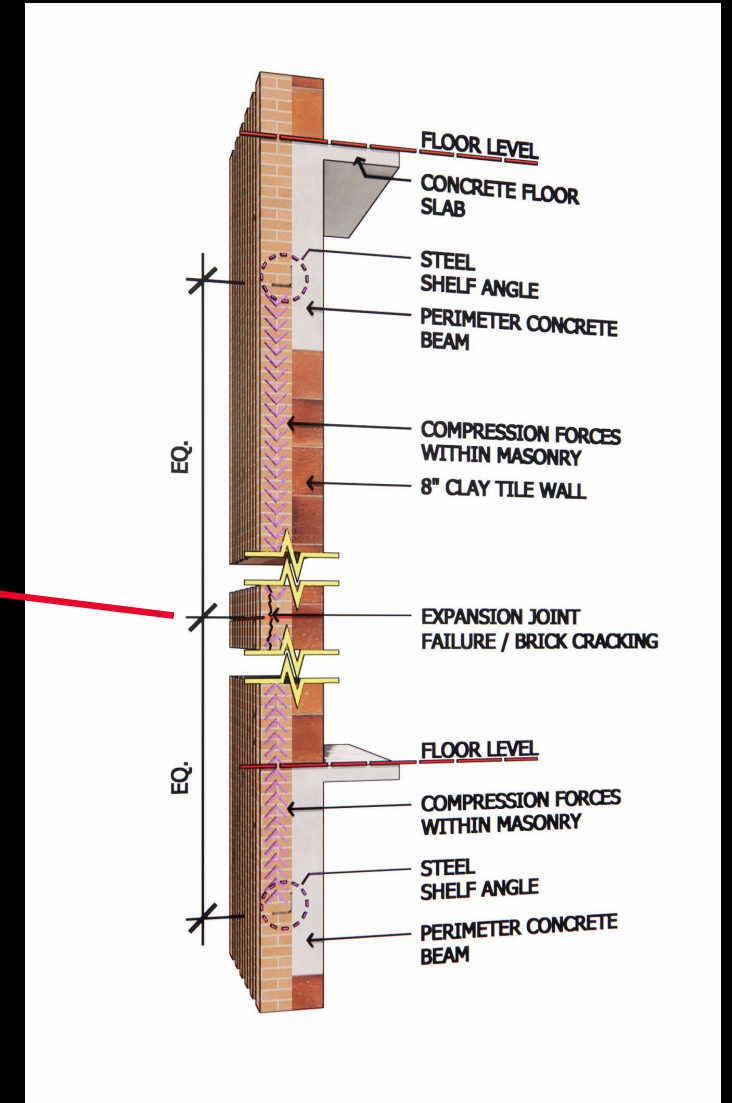
## Brick Façade Location Diagram





# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

## Brick Façade Location Diagram







# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

### Uncovered Expansion Joint Material



### Peeled Back Expansion Joint Material







SECTION 1:  
**EXTERIOR MASONRY RECOMMENDATIONS**

THE POTENTIAL FOR UNOBSERVED  
OR "HIDDEN" MOLD IS ELEVATED  
AND WILL BE ELEVATED UNTIL THE  
COURTHOUSE CAN IMPROVE THE  
BUILDING ENVELOPE  
WATERPROOFING

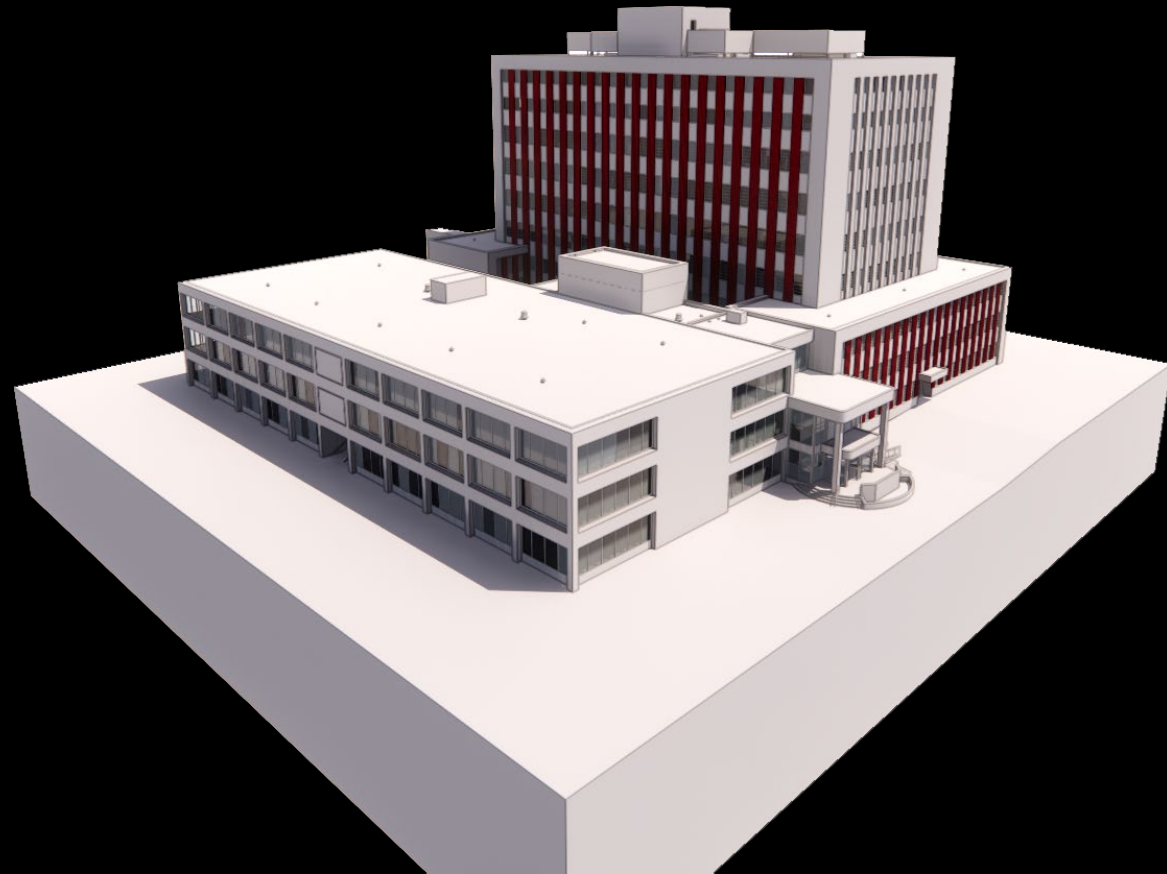
Water Damage Photos



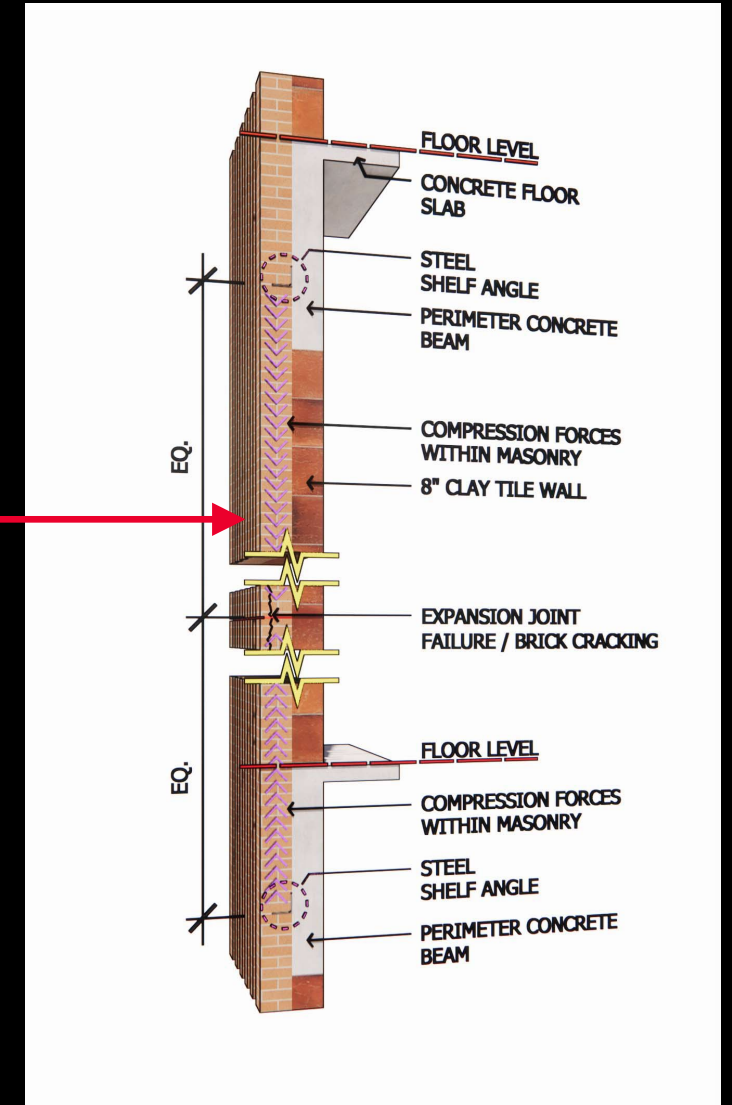


# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

## Brick Façade Location Diagram



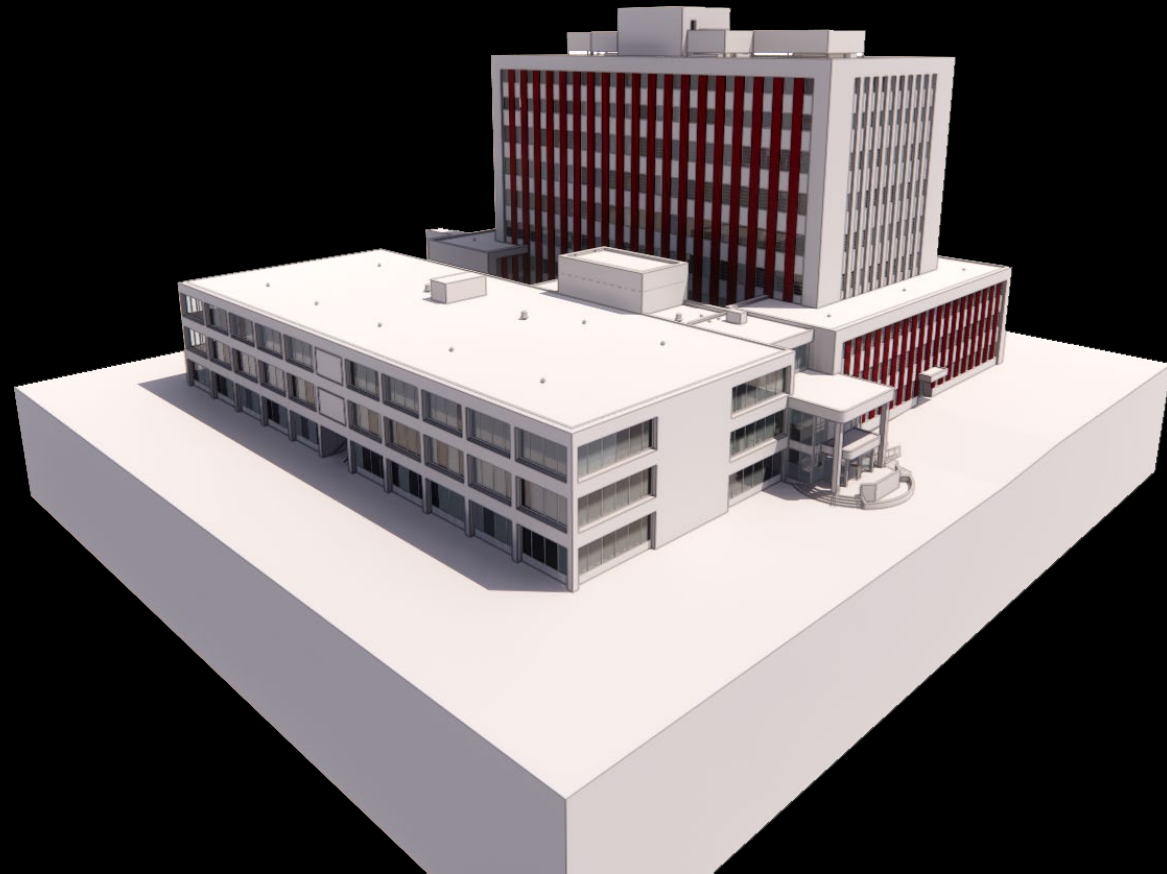
**REMOVE BRICK**



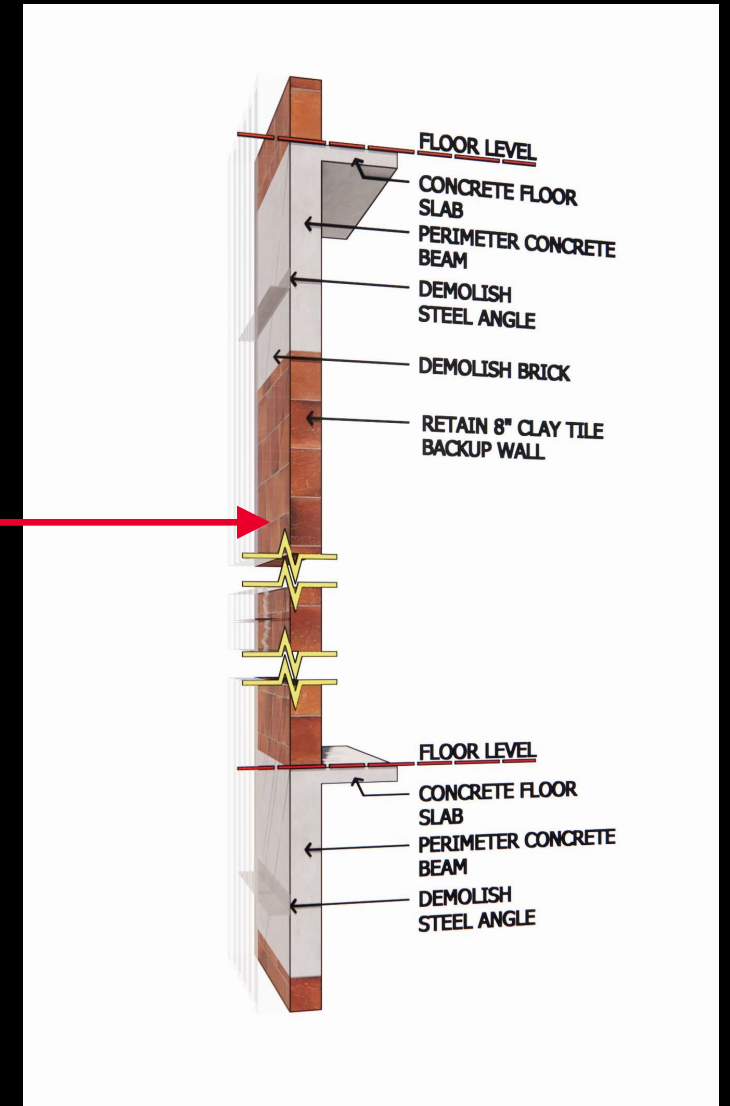


# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

## Brick Façade Location Diagram



**RETAIN CLAY TILE  
BACKUP WALL**







# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

Brick Façade Location Diagram

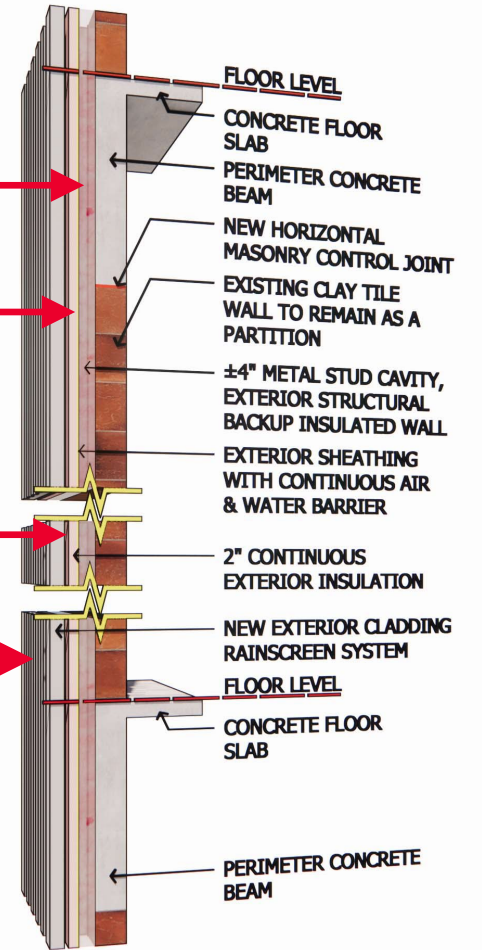


**STRUCTURAL FRAMING**

**CONTINUOUS  
AIR/MOISTURE BARRIER**

**CONTINUOUS INSULATION**

**NEW CLADDING SYSTEM**





## SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

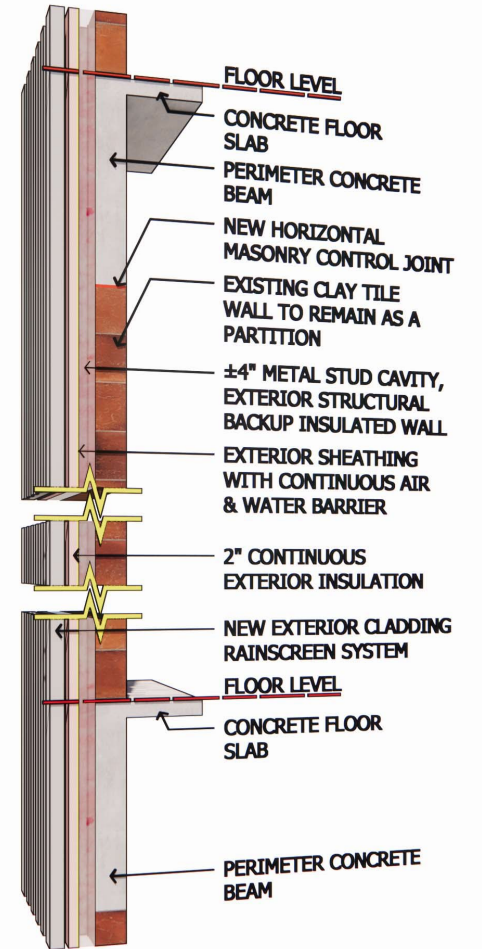
### BRICK PILASTER / OPTION A - REPLACEMENT

#### PROS

- Modern structural performance
- Improved thermal performance
- Continuous air and water barrier
- Vented rainscreen maximizes the wall's outward drying potential.
- Long-term solution
- Update building appearance.
- Prevents moisture wicking into the interior through wall at window jambs

#### CONS

- Cost
- Construction time / disruption





## SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

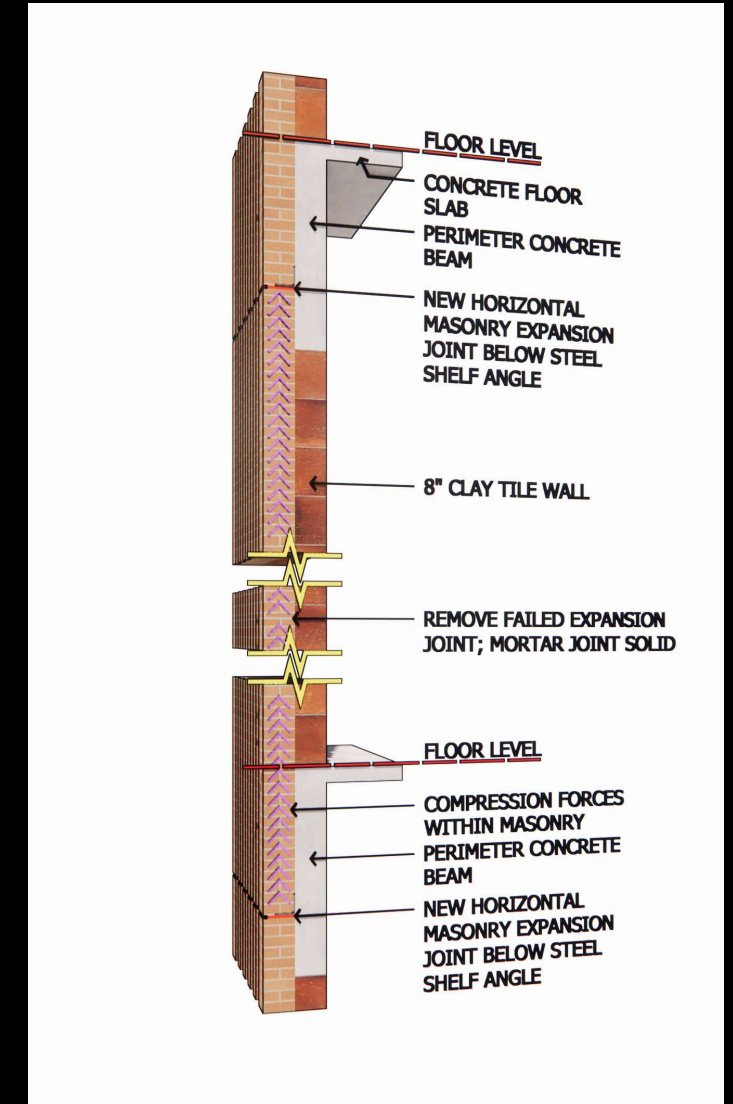
### BRICK PILASTER / OPTION B - REPAIR

#### PROS

- This may be a more affordable option and improves the current failing elements of the assembly.
- Maintains appearance and original materials.

#### CONS

- A water repellent can be applied however, the inherent risks of moisture migration of this assembly will remain.
- Supplemental retrofit ties may be needed to connect the existing brick to the clay tile back up wall which may not have the capacity for them.
- Unforeseen conditions and hidden conditions, such as galvanized corrugated tie corrosion, will remain risks.
- No thermal improvement to assembly.
- No control joint at inner clay tile wall
- To ensure color match, existing brick will need to be cut to provide for new expansion joint.

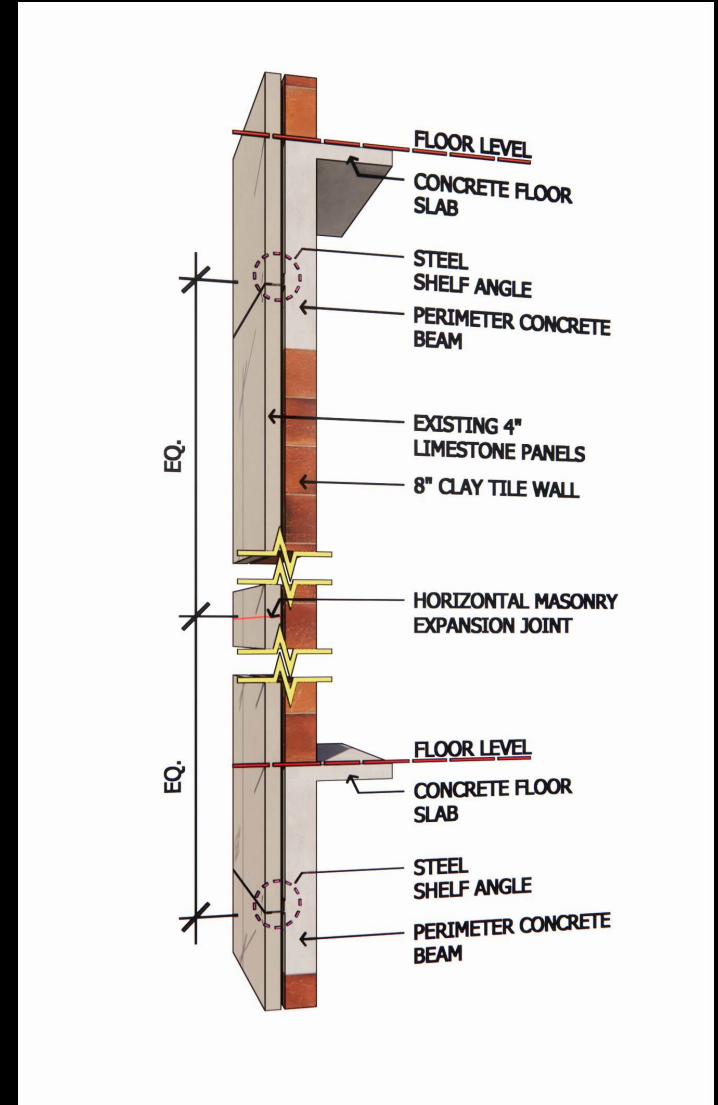






# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

## Limestone Panel Location Diagram



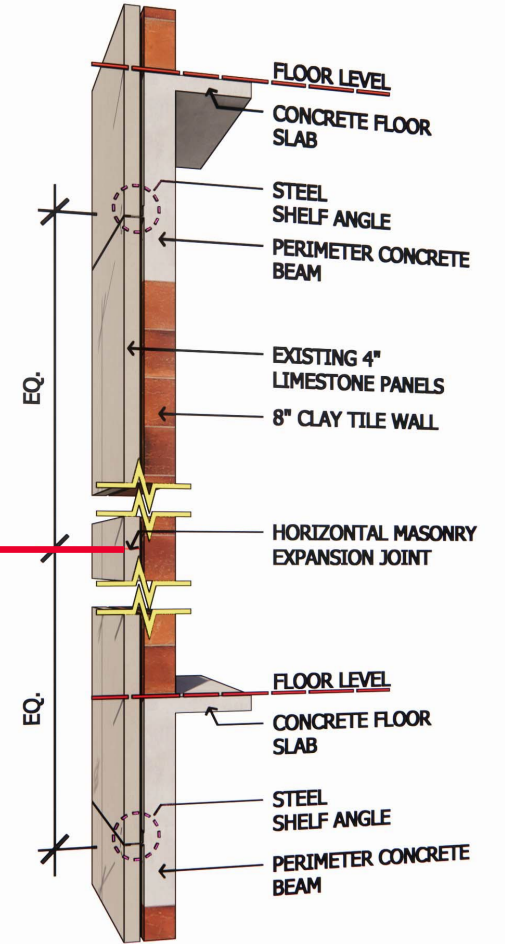


# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

## Limestone Panel Location Diagram



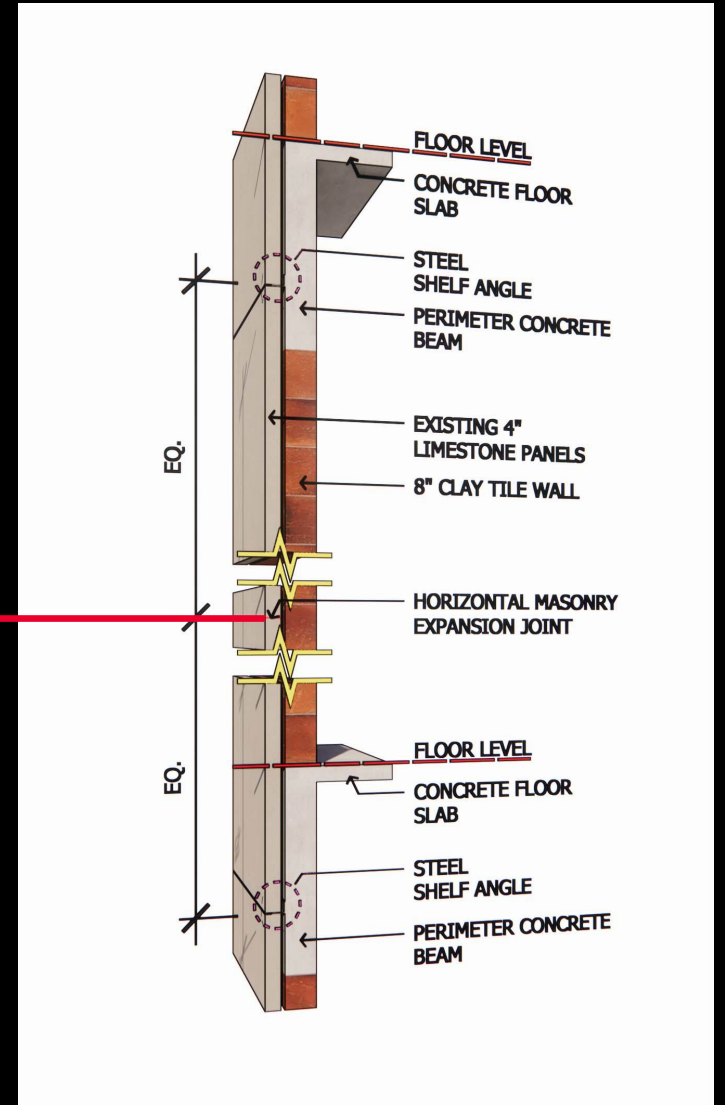
Galvanized Steel  
Stone Anchors





# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

## Limestone Panel Location Diagram

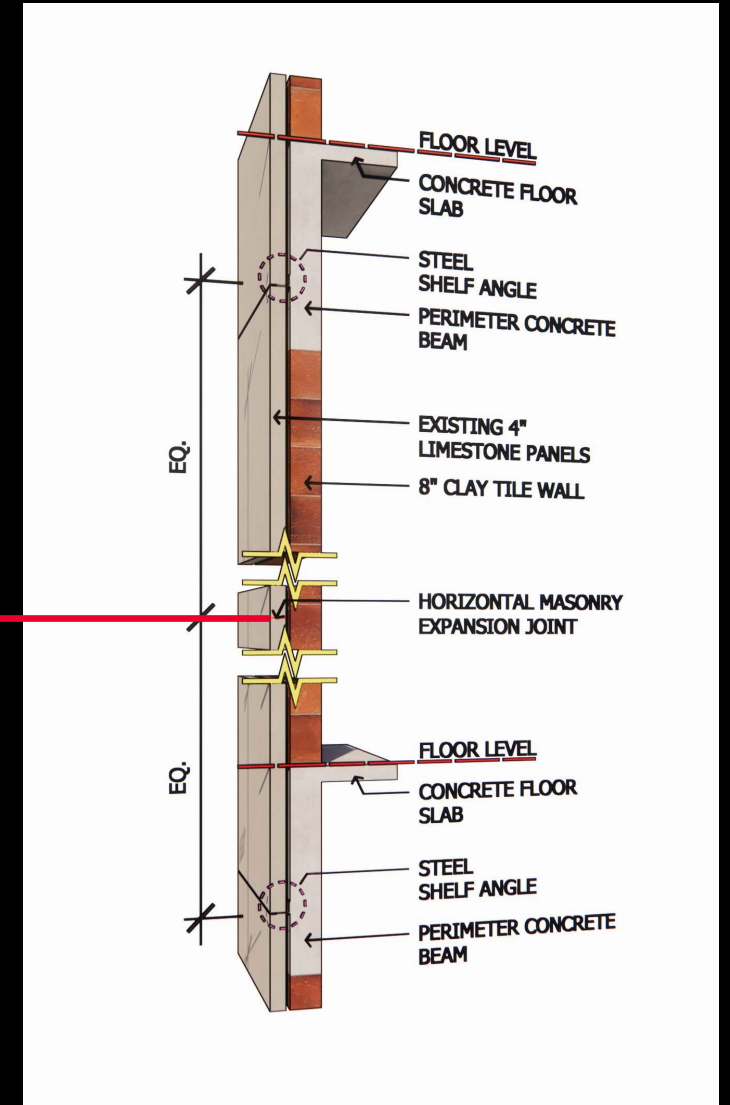






# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

## Limestone Panel Location Diagram





# SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

Limestone Panel Location Diagram

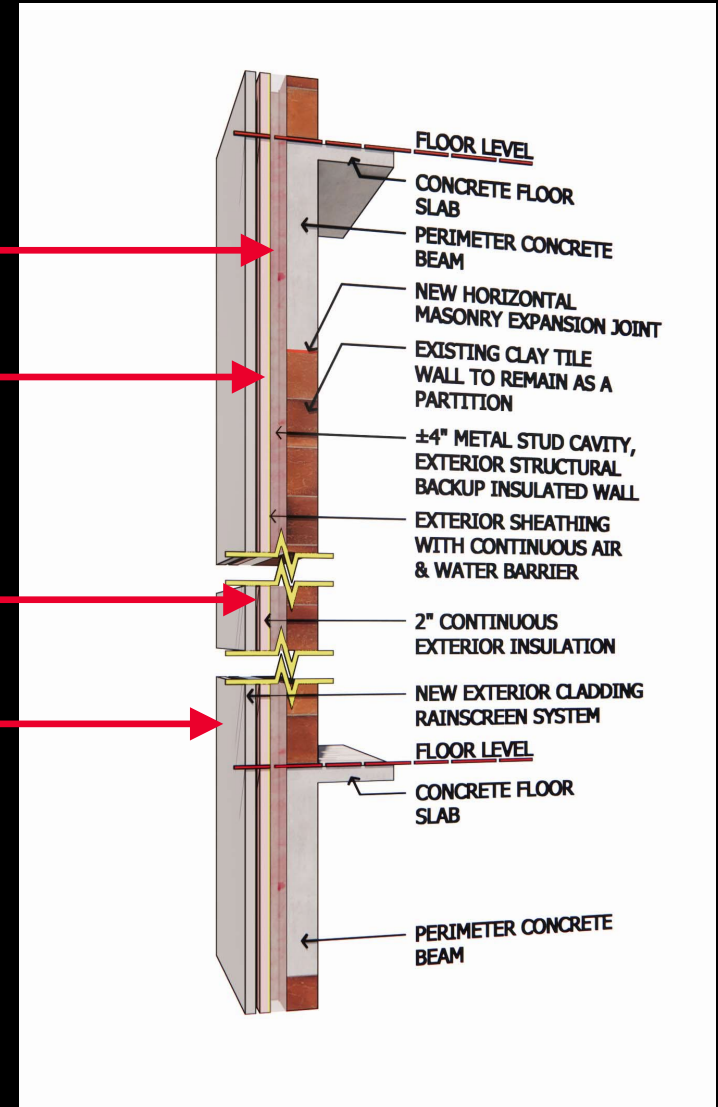


**STRUCTURAL FRAMING**

**CONTINUOUS  
AIR/MOISTURE BARRIER**

**CONTINUOUS INSULATION**

**NEW CLADDING SYSTEM**





## SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

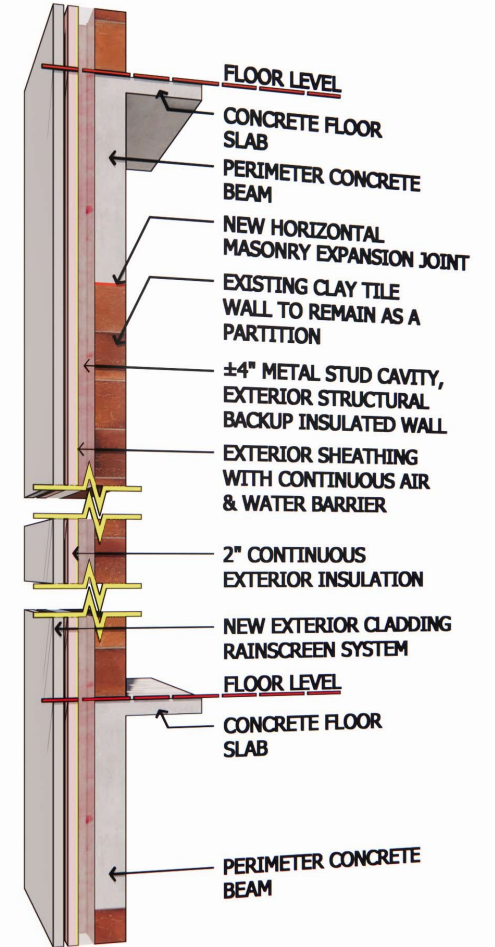
### LIMESTONE PANEL / OPTION A - REPLACEMENT

#### PROS

- Modern structural performance
- Improved thermal performance
- Continuous air and water barrier
- Vented rainscreen maximizes the wall's outward drying potential.
- Long-term solution
- Update building appearance..

#### CONS

- Cost
- Construction time / disruption







## SECTION 1: EXTERIOR MASONRY RECOMMENDATIONS

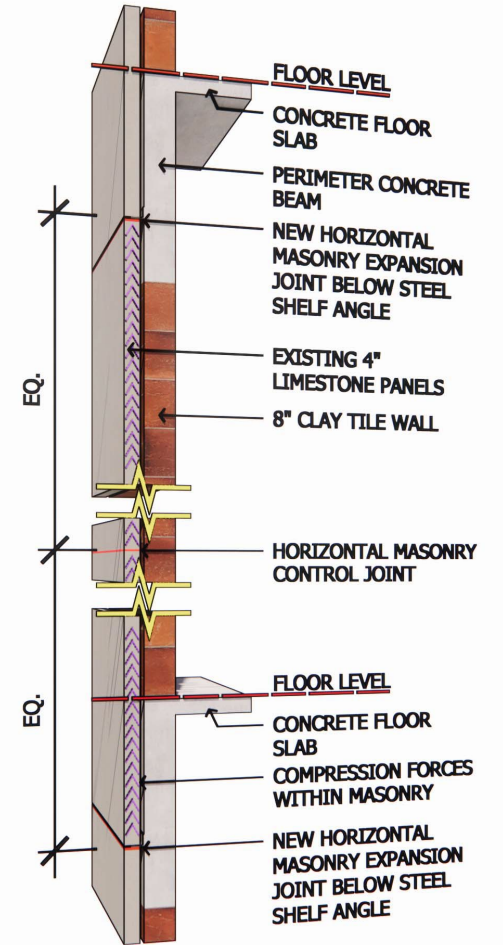
### LIMESTONE PANEL / OPTION B - REPAIR

#### PROS

- This may be a more affordable option and improves the current failing elements of the assembly.
- Maintains appearance and original materials.

#### CONS

- A water repellent can be applied however, the inherent risks of moisture migration of this assembly will remain.
- The galvanized steel stone anchors will continue to corrode when exposed to moisture until ultimate failure.
- Unforeseen conditions and hidden conditions will remain risks.
- No thermal improvement to assembly.
- No control joint at inner clay tile wall.





SECTION 1:  
**EXTERIOR MASONRY RECOMMENDATIONS**

**COST OPINION**

**FAÇADE REPLACEMENT** (RECOMMENDED)

**\$24,369,545**

**FAÇADE REPAIR** (NOT RECOMMENDED)

**\$6,593,029**



## SECTION 2: MEP ASSESSMENT

### MECHANICAL SUMMARY

Inclusive of equipment end of life replacement and life safety improvements

#### EQUIPMENT UPGRADES

- 5 LARGE AIR HANDLING UNITS
- 9 SINGLE ZONE AIR HANDLING UNITS
- 2 MULTI-ZONE AIR HANDLING UNIT
- 27 FAN COIL UNITS
- 344 PERIMETER INDUCTION UNITS
- 26 VAV BOXES
- 2 HYDRONIC PUMPS
- CHILLED WATER PUMPS (BOILER LEVEL)
- 1 EXPANSION TANK

#### COST OPINION

**\$19,293,402**

#### EXTENSIVE DUCT MODIFICATIONS

- MODIFY RETURN AIR PLENUMS
  - LEVEL 2
  - LEVEL 5
  - LEVEL 6







## SECTION 2: MEP ASSESSMENT

### ELECTRICAL SUMMARY

#### EQUIPMENT UPGRADES

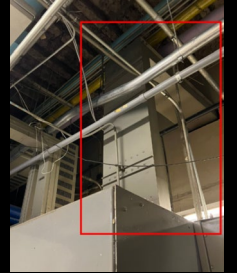
- 5 NEW MAIN SWITCHBOARDS
- 2 NEW BUS DUCT RISERS
- 2 NEW BUS DUCTS
- 75 NEW PANELBOARDS
- 5 PANELBOARD UPGRADES
- 9 NEW EMERGENCY PANEL BOARDS

#### COST OPINION

**\$13,191,477**

#### LIGHTING UPGRADES

- REPLACE LIGHTING WITH ENERGY EFFICIENT LED LIGHTING SYSTEMS
  - ALL LEVELS





SECTION 2:  
**MEP ASSESSMENT**

## PLUMBING SUMMARY

### FIXTURE UPGRADES

- 1 LAVATORY AND FAUCET
- 1 FLUSH TANK WATER CLOSET
- 142 WATER TOILET SEATS
- 122 MANUAL FAUCETS TO AUTO-SENSING
- 55 MANUAL FLUSH VALVES TO AUTO-SENSING
- 17 SINGLE WATER COOLER TO BI-LEVEL
- 1 STAINLESS STEEL SECURITY WATER CLOSET
- 3 STAINLESS STEEL SECURITY LAVATORY/WATER CLOSET PLUMBING FIXTURE

### COST OPINION

**\$770,964**

### ROOF DRAINAGE

- ADD SECONDARY OVERFLOW ROOF DRAINS OR SCUPPERS



SECTION 2:  
**MEP ASSESSMENT**

## **FIRE PROTECTION SUMMARY**

### **COST OPINION**

**\$2,273,471**

### **COVERAGE UPGRADES**

- ADD HEADS TO PROVIDE REQUIRED NFPA COVERAGE
  - LEVEL 11 MACHINE ROOM
  - LEVEL 10 PENTHOUSE AND ROOF
  - LEVEL 07
  - LEVEL 06
  - LEVEL 05
  - LEVEL 03
  - LEVEL 02
  - BASEMENT LEVEL
  - BOILER LEVEL

### **CONNECTION UPGRADES**

- ROOF LEVEL – ADD HOSE VALVE CONNECTIONS TO PROVIDE REQUIRED NFPA COVERAGE





## SECTION 3: ADA SURVEY

### SUMMARY

#### RECOMMENDED UPGRADES

- PATH OF TRAVEL
- RESTROOMS
- COURTROOMS
- COUNTERS
- BREAK ROOMS
- STORAGE
- PROJECTIONS

#### COST OPINION

**\$1,690,246**



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ARCHITECTS

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## SECTION 4: **CODE STUDY**

### **SUMMARY**

#### **EXISTING HAZARDOUS CONDITIONS**

- UNPROTECTED VENTILATION SHAFT CONNECTING THE CORRIDOR ON LEVELS 1 -5.
  - THIS CONDITIONS IS EXTREMELY DANGEROUS BECAUSE OF THE POTENTIAL RAPID SPREAD OF SMOKE.
- ISOLATION OF THREE-STORY VOLUME AT ESCALATOR ADDITION. THIS IS AN ATRIUM WITH NO SMOKE CONTROL.
- BOTH EXIT DISCHARGE STAIRS CONNECTING LEVEL 1-9 TO DISCHARGE TO THE INTERIOR OF THE BUILDING
  - A FIRE ON THE GROUND LEVEL COULD PREVENT OCCUPANTS FROM LEVELS ABOVE FROM HAVING A SAFE EGRESS PATH
- EXIT SEPARATION – DISTANCES ON LEVELS 4-9 ARE TOO LONG
- UNPROTECTED CORRIDORS

#### **RECOMMENDATIONS**

- LISTED RECOMMENDATIONS OF LIFE SAFETY IMPROVEMENTS INTENDED TO EXTEND THE LIFE OF THE TULSA COUNTY COURTS BUILDING BY MITIGATING THE MOST PRESSING DANGERS TO OCCUPANTS AND BRINGING THE BUILDING CLOSER TO COMPLIANCE WITH CURRENT CODE REQUIREMENTS, WHERE TECHNICALLY FEASIBLE.



## SECTION 5: MICROBIAL BASELINE SURVEY

### SUMMARY

#### FINDINGS / RECOMMENDATIONS

- GENERAL INDOOR AIR QUALITY CONSIDERED TO BE ACCEPTABLE TO EXCEPTIONAL.
- ALL AREAS WERE NOTED AS BEING FREE FROM ODORS AND MOVEMENT OF AIR WAS NOTED.
- RECOMMENDS REPLACING DAMAGED ACOUSTIC TILE.
- KEEP SUPPLY AND RETURN VENTILATION FIXTURES CLEAN.



#### BUILDING ENVELOPE

- FAÇADE LEAKS ARE MENTIONED SEVERAL TIMES IN REPORT.
- GIVEN THE POTENTIAL FOR WATER TO MOVE INTO THE BUILDING, THE POTENTIAL FOR UNOBSERVED OR "HIDDEN" MOLD IS ELEVATED AND WILL BE ELEVATED UNTIL THE COURTHOUSE CAN IMPROVE THE BUILDING ENVELOPE WATERPROOFING AND ROOFING.





SECTION 6:  
**ELEVATOR MODERNIZATION**

## **ELEVATOR UPGRADE SUMMARY**

### **EXISTING ELEVATOR UPGRADES**

- UPGRADE REQUIRED FOR SIX (6) EXISTING ELEVATORS

### **COST OPINION**

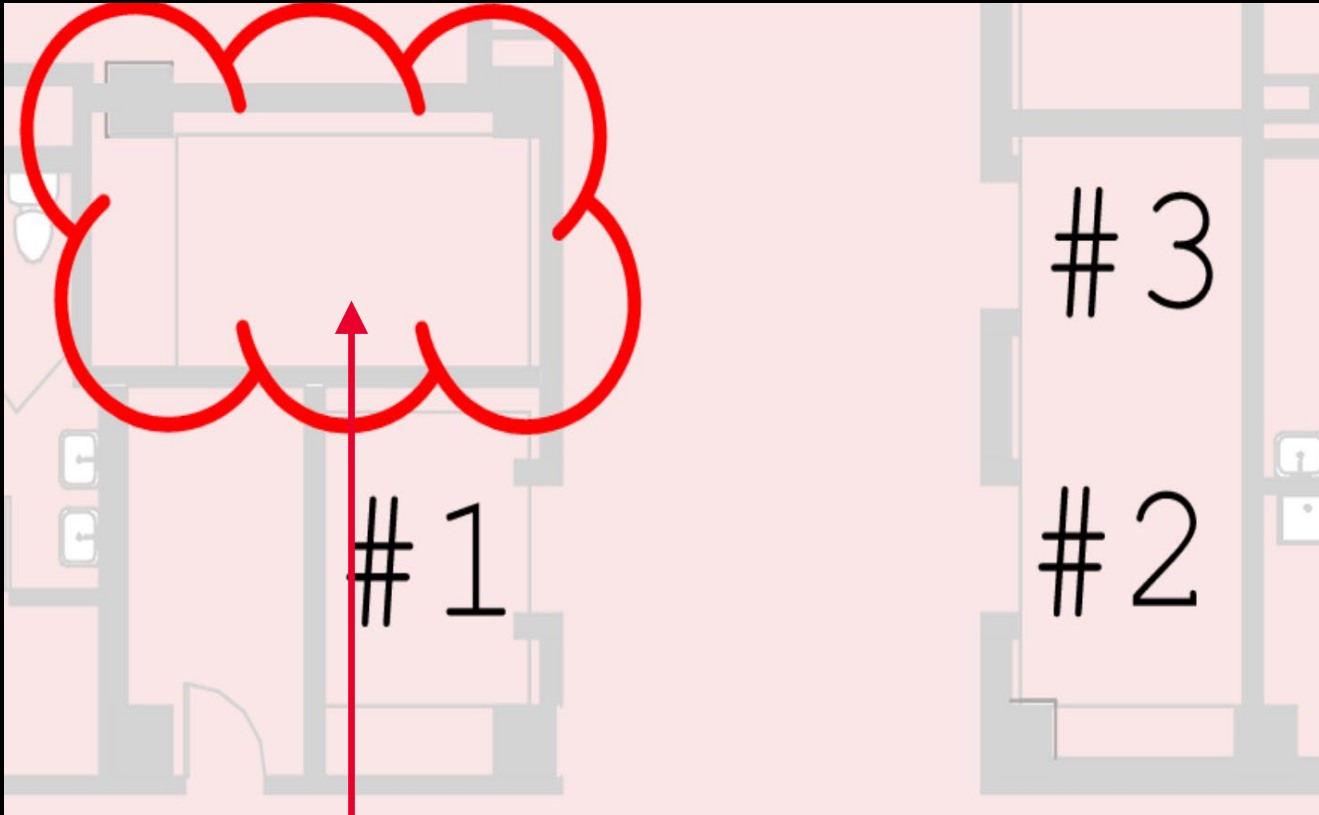
**\$4,375,862**

### **NEW ELEVATOR UPGRADE**

- ADD ONE (1) SERVICE SIZE ELEVATOR IN WHAT IS CURRENTLY A VENTILATION SHAFT.



# SECTION 6: ELEVATOR MODERNIZATION



**PROPOSED LOCATION OF NEW ELEVATOR**



**EXISTING SHAFT INTERIOR**



SECTION 6:  
**ELEVATOR MODERNIZATION**







SECTION 7:  
**COST ESTIMATE OPINION TOTALS**

**OPTION A**

**COST OPINION**

Façade Replacement	\$24,369,545
MEP System Renovations	\$47,121,403
ADA Corrections	\$1,690,246
<b>TOTAL CONSTRUCTION COST</b>	<b>\$73,181,194</b>

**OPTION B**

**COST OPINION**

Façade Repair	\$6,539,029
MEP System Renovations	\$47,121,403
ADA Corrections	\$1,690,246
<b>TOTAL CONSTRUCTION COST</b>	<b>\$55,404,678</b>

OPTION A – OPTION B = **\$17,776,516**



**QUESTIONS?**

**FENTRESS**  
ARCHITECTS

**LILLY** ARCHITECTS