

DURHAM



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CITY OF MEDICINE

City Hall Envelope Project



GENERAL SERVICES
101 CITY HALL PLAZA
DURHAM, NC 27701
2011 FAY STREET
DURHAM, NC 27704
P 919.560.4197



Project Basics

Major Scopes of Work

1. City Hall –
Cementitious Panels Replacement and Brick Repair
2. City Hall - Chillers Replacement
3. City Hall Annex Plaza –
Slab and Waterproofing Replacement

Design Team

- RND Architects, architect
- Conley Group, building envelope consultants
- Gardner & McDaniel PA, structural engineers
- Edmondson Engineers, MEP engineers
- Lappas & Havener PA, landscape design

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Panels - Existing Conditions



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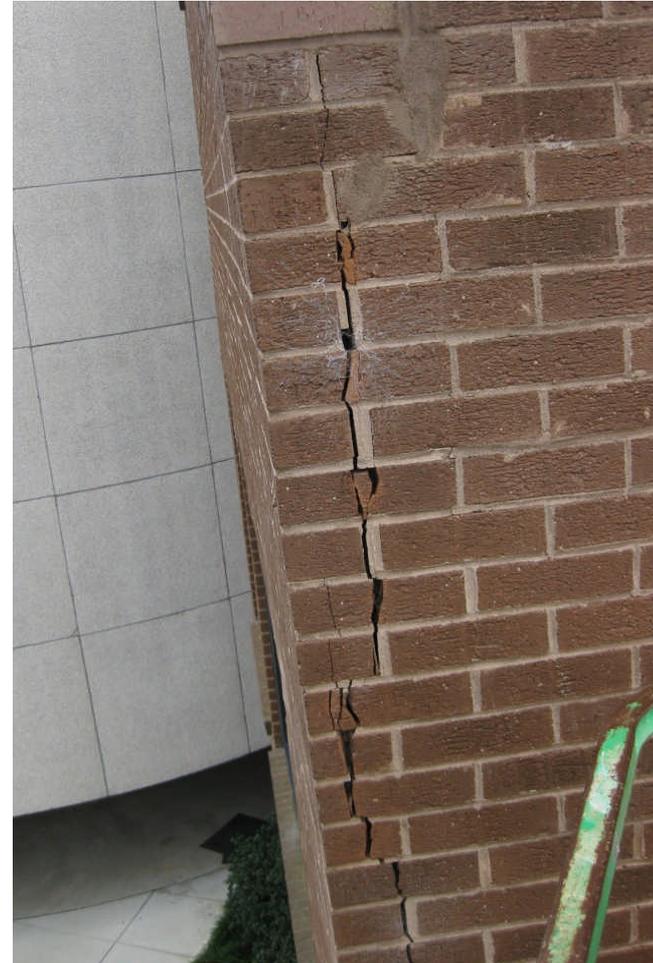
- Panels cracked and bowed
- Failed sealants
- Water intrusion at panel joints and openings
- Damaged fasteners
- Discolored panels on north facades and Mangum St.
- Missing and broken panels on monumental stair

Panels - Investigation Findings



- Oxidation of framing members at windows
- Damp and missing insulation
- No moisture/air barrier
- Missing fireproofing
- Conditions for mold growth

Brick - Existing Conditions



- Missing /improperly installed flashing
- Lack of weep holes
- Lack of control joints
- Insufficient bearing at shelf angles
- Cracking and spalling

Brick - Investigation Findings



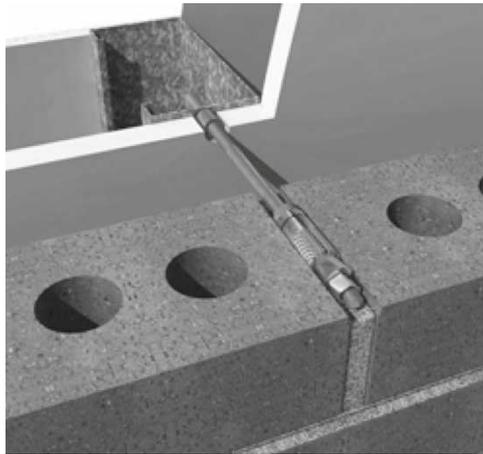
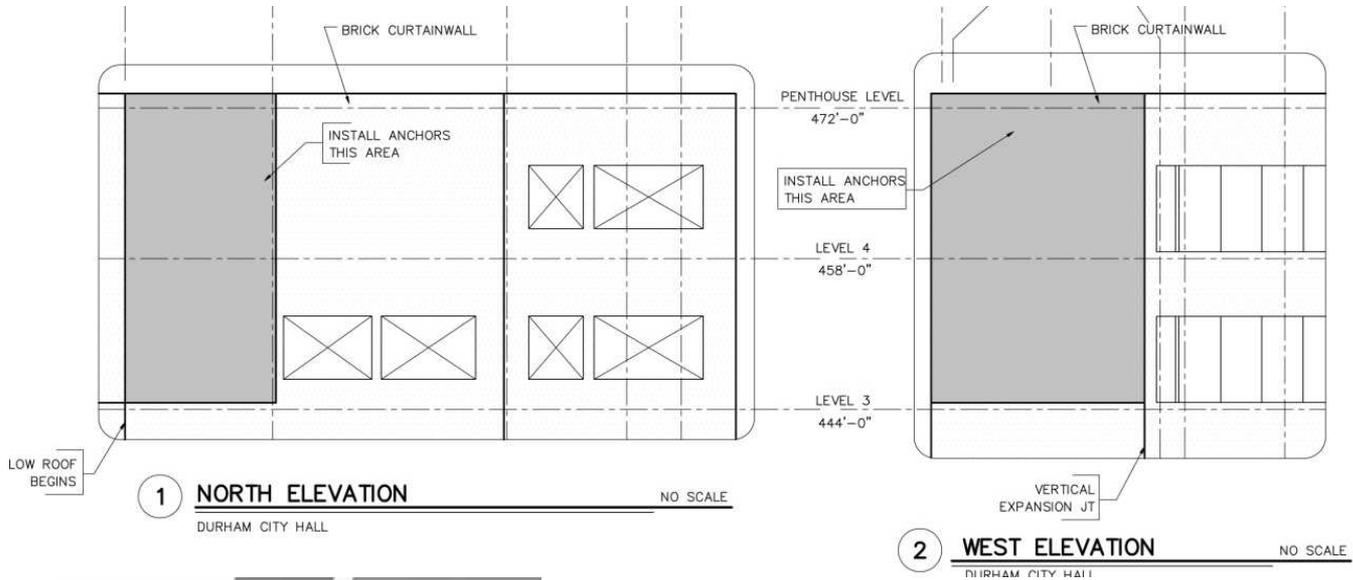
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At Northwest Corner

- Brick veneer installed incorrectly
- Brick not structurally supported in several locations on NW corner
- Insufficient bearing at shelf angles
- Out of plumb

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Northwest Brick Stabilization



- Temporary stabilization with 'BlokLok' anchors.
- Temporary repair work completed in February 2013.
- Recommended permanent solution: Remove brick veneer and re-lay brick in correct alignment.

Chillers - Existing Conditions

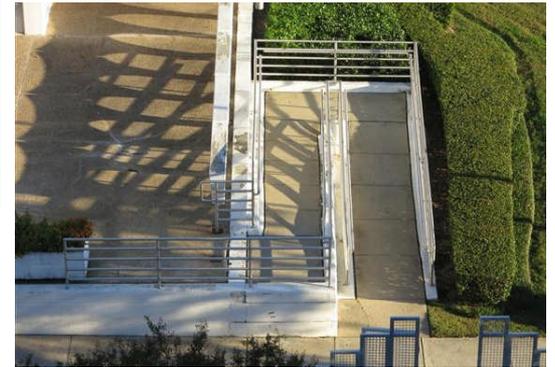


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- Existing two chillers are at the end of their life cycle
- Inefficient and expensive to operate
- No redundancy in case one chiller fails
- Replacing with same chiller requires crane
- Carbon dioxide emissions



Annex Plaza - Existing Conditions



- Existing plaza waterproofing and drain system is failing
- Handrails and guardrails are not code compliant
- Accessible walkways and ramp are not code compliant



Renovations – Annex Plaza



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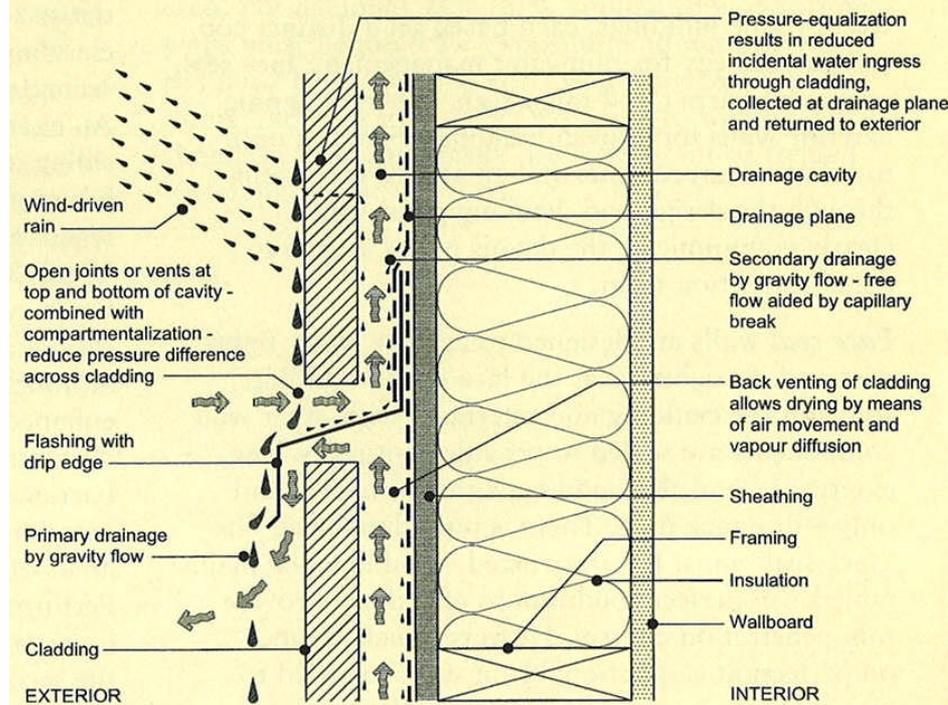
- New topping slab
- New waterproofing and additional drains
- New handrails and guardrails
- New accessible ramp
- Refurbished planters with added seating

Renovations – Chillers



- Existing chillers operate at a cost of \$55,500/year plus cost of pumps and cooling tower
- Oil-less centrifugal compressors would save \$24,000/year with payback time of 7.3 years and would reduce carbon dioxide emissions by 240 metric tons/year.

Renovations - Exterior Panels



Pressure Equalized Rainscreen Wall

- Metal panel
- ‘Rain screen’ system
- ‘Screen’ protects moisture/air barrier and sealants
- New insulation
- New sheathing
- New moisture/air barrier





Renovations – Exterior Panels



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- Proposed metal panels in “ashlar” pattern to add interest
- Proposed metal fins to highlight City Hall main entry

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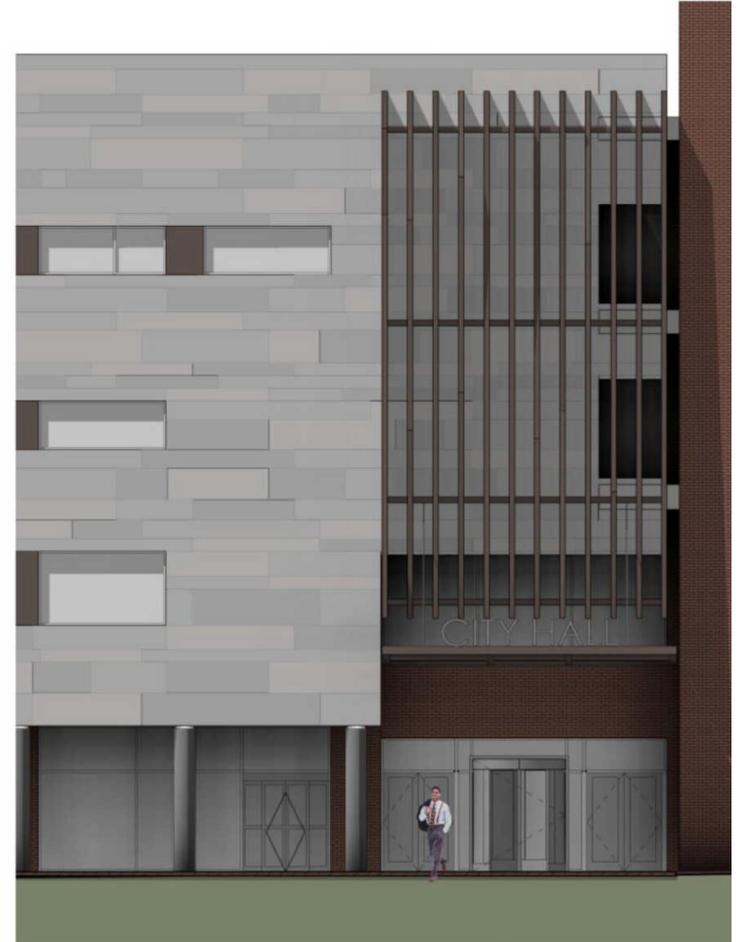
Renovations – Exterior Panels





Renovations – Exterior Panels

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Renovations – Exterior Panels



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Renovations – Exterior Panels



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Renovations – Mangum St. Entry



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Current
Condition



Renovations – Mangum St. Entry

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Current
Condition



Budget

Total Project Budget:	\$6,346,500
Previous Costs:	\$125,100
Design:	\$953,660
Construction:	\$4,719,400
Project Contingency:	\$548,400

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Schedule

09/04/12	Council Award – Design	08/15/13	Bid Documents Complete
Nov 2012	Investigations Complete	Sept 2013	Bid Opening
01/23/13	Basis of Design Report (BODR)	Nov 2013	Council Award – Construction
02/25/13	Temporary Brick Anchors installed	Dec 2014	Substantial Completion
05/07/13	Historic Preservation Approval		

