

# “REHABILITATION OF EXTERIOR BALCONIES IN NEW YORK CITY”

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INTERNATIONAL  
**CONCRETE REPAIR**  
INSTITUTE



EUCLID CHEMICAL

# Chatham Green Towers

165, 185, 215 Park Row, NY, NY



# Chatham Green Towers



- Completed in 1962
- Chatham Green was the first apartment structure in New York to exploit the free form design made possible by modern reinforced-concrete construction.
- The 21 story, S-shaped building with its unusual lines permit each apartment to extend the building's full depth, with through ventilation and sweeping views to both east and west.



# Chatham Green Towers

- The project cost \$8.6 million.
- The buyers of the apartments contributed 20% of the cost in the form of initial payments averaging \$935 per room.
- The building, together with its adjacent stores and shops, occupies barely 25% of the site with the remainder set aside for landscaped areas, a playground and open parking spaces.

# Project History

Developer	<a href="#"><u>Association for Middle Income Housing, Inc.</u></a>
Architect	<a href="#"><u>Kelly &amp; Gruzen</u></a>
Management Company	<a href="#"><u>Chatham Green Management</u></a>
Number of Units	840
Number of Floors	21
Year Built	1960
Construction Method	<a href="#"><u>Concrete</u></a> Frame

# Subtle signs of Hidden Problems



# Concrete deterioration and corrosion



- ◎ Pop-outs
- ◎ Staining
- ◎ Cracks

# Chatham Towers

- Project commenced around May 2011
  - Architects-Cutsogeorge Tooman & Allan, PC
  - Structural Engineer – GACE Consulting Engineers
  - Contractor – Quality Building Construction

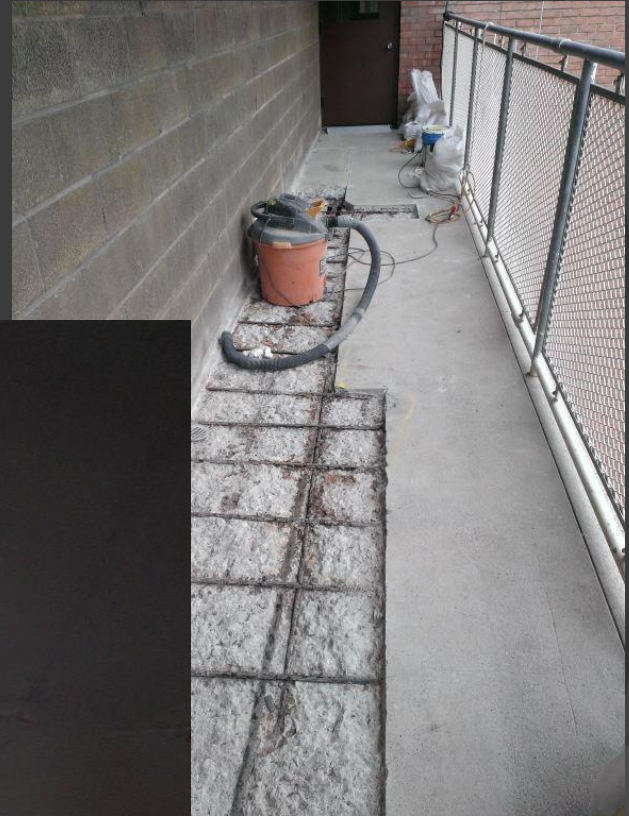




# All Balconies showed signs



# Types of Repair



# Chatham Green

- Product types used were
- **Corrosion inhibitor and bonding compound** -is a three component, pre-proportioned, water based epoxy modified portland cement bonding agent and anti-corrosion coating, used as a bonding agent for placing fresh concrete to existing concrete and for repair and restoration of concrete surfaces.
- **Polymer Modified Repair Mortar**- one part polymer-modified high performance repair material for horizontal and form and pour repairs.
- **Vertical and Overhead Repair Mortar**- Single component, microsilica and polymer modified, vertical and overhead repair mortar with corrosion inhibitor. Capable of being trowel applied from 1/4" to 2" per lift.
- **Breathable Elastomeric Coating**- a fiber reinforced, elastomeric, emulsion based coating, which protects and beautifies wall surfaces and other building materials.
- **Elastomeric Deck Coating** – waterproofing elastomeric wearing surface coating

# Chatham Green Towers



Subtle signs that tend to be more than what you see



# Chatham Green Towers

- Reinforcing
- Electrical Conduit
- Heating lines/pipes



# Overhead Repairs



# Surface Preparation and Placement



Perimeter of repair area  
was sawcut  
Concrete removed to  
sound surface

Repair mortar placed in lifts  
as needed



# Finished Placement



- Troweled flush to adjacent surfaces
- Steel trowel finish



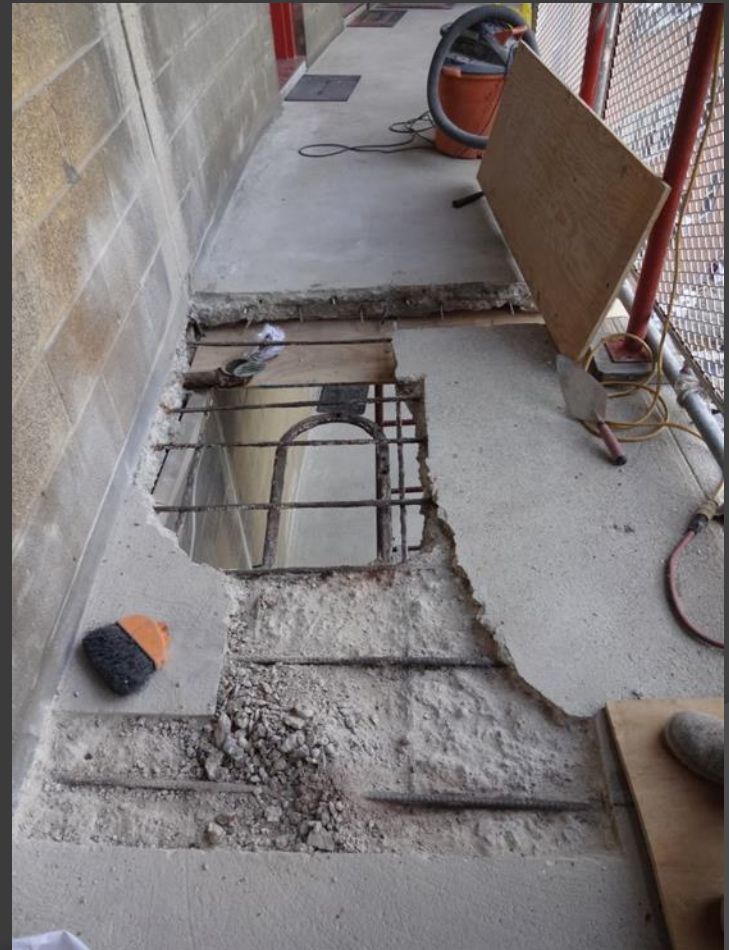


# Horizontal Repairs



# Full Depth Replacement

- ⦿ Relocation of Tenants
- ⦿ Extended period of time
  - Additional site protection
  - Removals
  - Forming and shoring
  - curing
- ⦿ Material placement
  - Hoisting of concrete
  - ¼ yard bucket

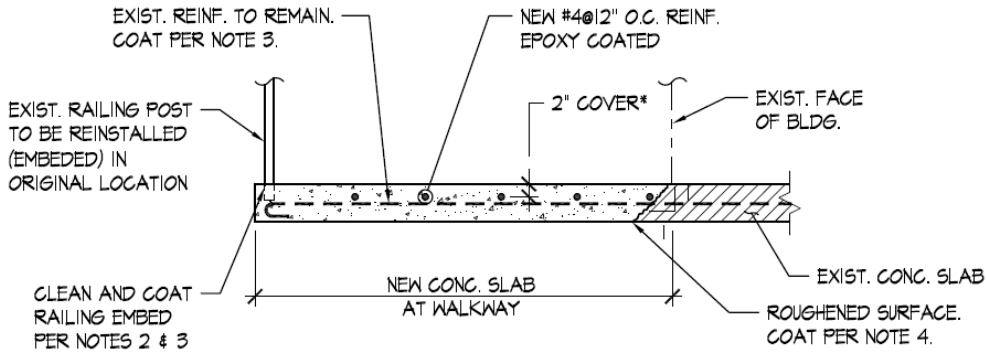


# Chatham Green Towers

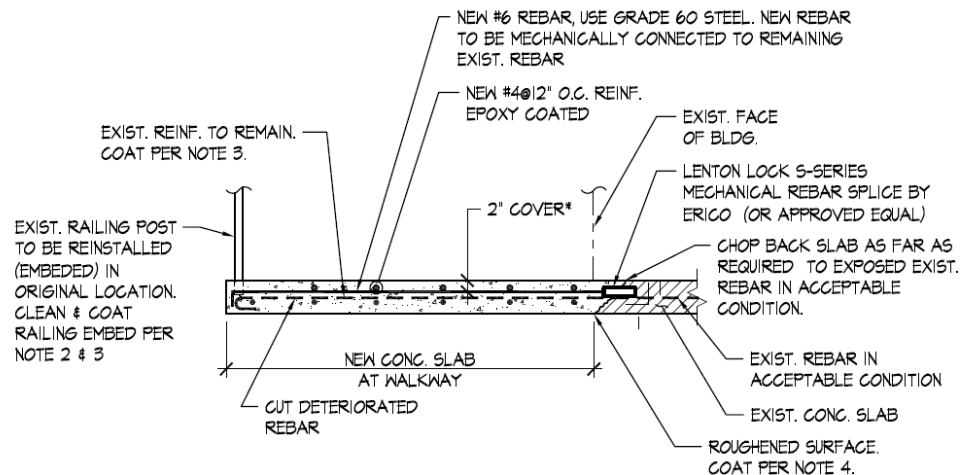
- Large Scale Replacement
  - Full deck removal
  - Forming
  - Concrete Placement



# Full Depth Replacement



SECTION AT CONCRETE WALKWAY SLAB



# Full depth replacement



# Transport and Placement of Concrete



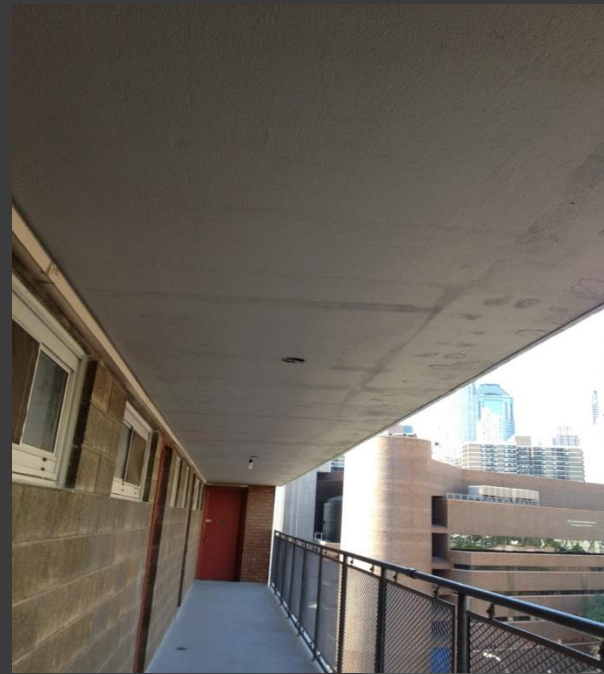
# Completed Concrete Placement



- Placed
- Float Finish
- Wet cured/protected with plastic
- Surface to receive a membrane wearing surface

# Finished Sections Coated

Ceilings receive a breathable acrylic coating





# Finished Sections Coated



# Chatham Green Balconies



# Southeast side balconies





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Thank you and muchos gracias

Questions

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