

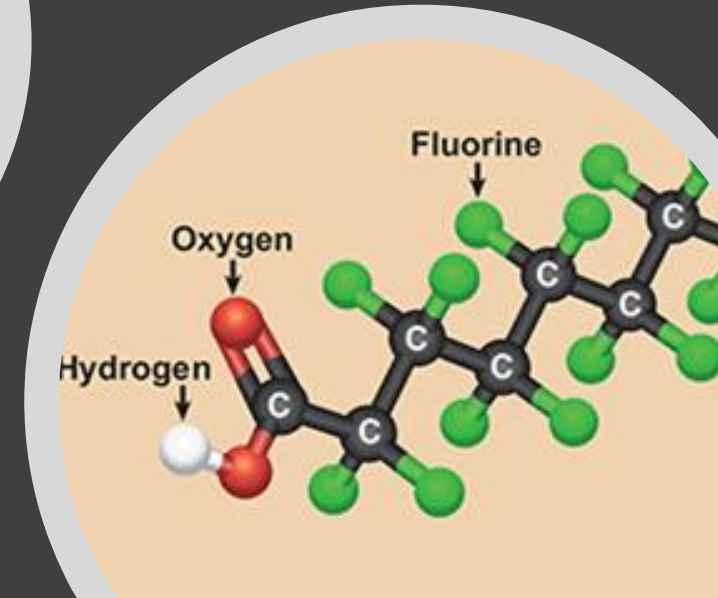
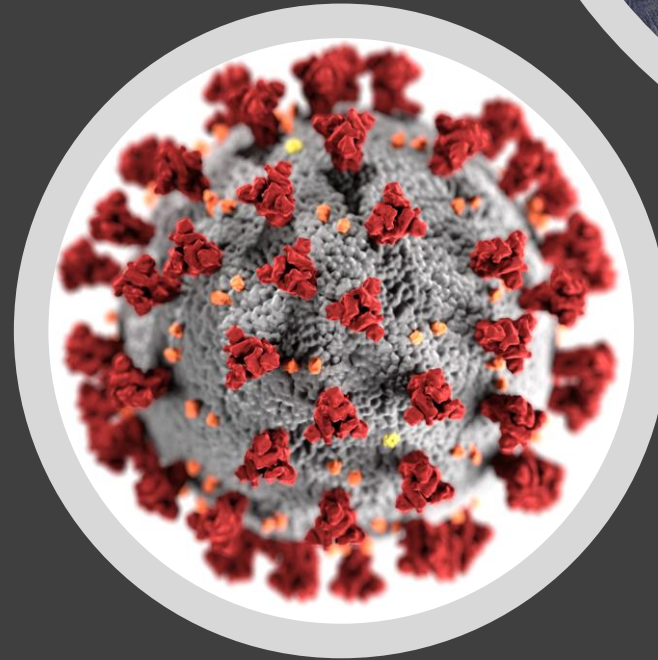
Managing Through A Crisis

- Rich Howlett – NJ Water Association
 - Rich Calbi – Ridgewood Water
- Kareem Adeem – Newark Water and Sewer
 - Bob Fischer – PS&S

Association of Environmental Authorities

Spring Utility Management Conference

March 9, 2021



PS&S



Managing Through a Crisis

The Superstorm Sandy Case Study

Robert C. Fischer – Senior Director Water Resources, PS&S

Presentation Agenda

- Introduction
- Crisis vs. Emergency
- Case Study – Hurricane Sandy
- Finding Opportunity Amid Crisis
- Presentation Takeaways





Emergency vs. Crisis

Emergency

- Usually Short Term, Limited in Duration
- Limited in Scope
- Limited in Number of Stakeholders Effected
- Limited in Cost

Crisis

- Often Long Term, Extended in Duration
- Extensive Scope
- Extended Number of Stakeholders Effected
- Expansive in Cost

Case Study – Hurricane Sandy

Bayshore Regional Sewerage Authority

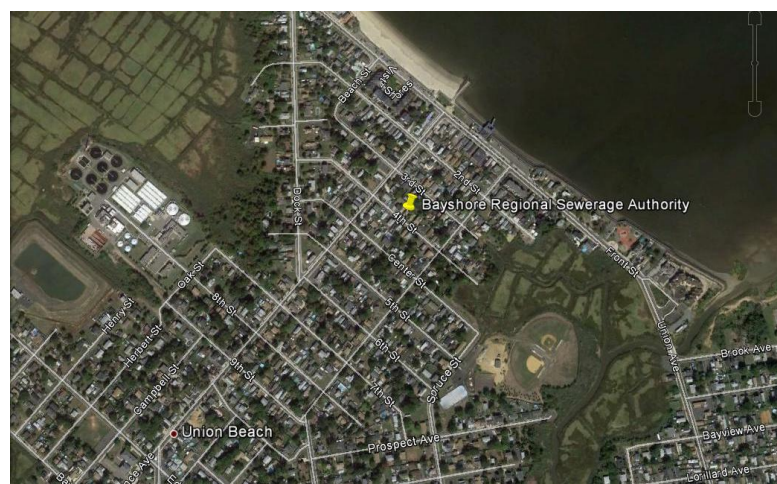




-
- **Bayshore Regional Sewerage Authority**
 - **16 MGD Wastewater Treatment Plant**
 - **2 Fluidized Bed Incinerators**
 - **Serves 7 Municipalities and 1 Sewerage Authority**
 - **2 parallel treatment trains built 24 years apart at different elevations**
 - **Located in 4 different flood zones and erroneously located in the Coastal Barrier Resource System.**

October 29, 2012





Main Pump Stations

Recycle Pump Stations

Blower Buildings

Administration Building

Incineration Buildings

Emergency Protective Measures

Sludge Removal

Primary sludge Pump Stations

Power Distribution System

\$45,000,000 to date



Emergency & Alternate Sludge Disposal

Somerset Raritan Valley R.S.A.

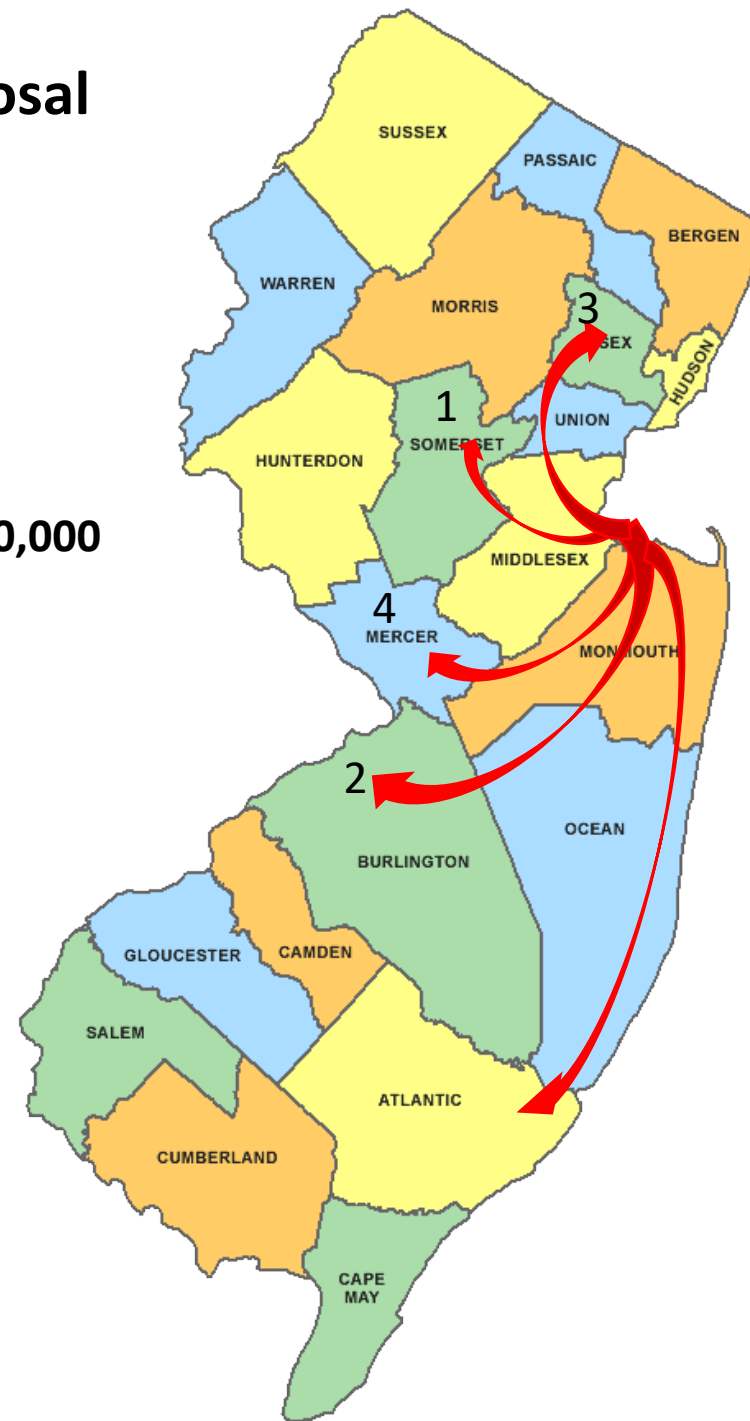
Mount Holly S.A.

Spectraserv

Stoney Brook Regional S.A.

ACUA

\$3,500,000





Superstorm Sandy Crisis Response

Emergency Response

“Keeping the Staff Motivated”

Not Working

Inf Pump 1

Sludge pump
No. 1

Clarifier
No.1

Blower
No. 2

Recirc Pump
No. 2

Blower No. 5

MCC 1A

Fire Water
P.S.

Odor
Control 3

Incinerators

Inf Pump 2

Return
Pump 3

Sludge
Pump 2

Process
Water 2

Final
Clarifier 7

Working

Not Working

Sludge pump
No. 1

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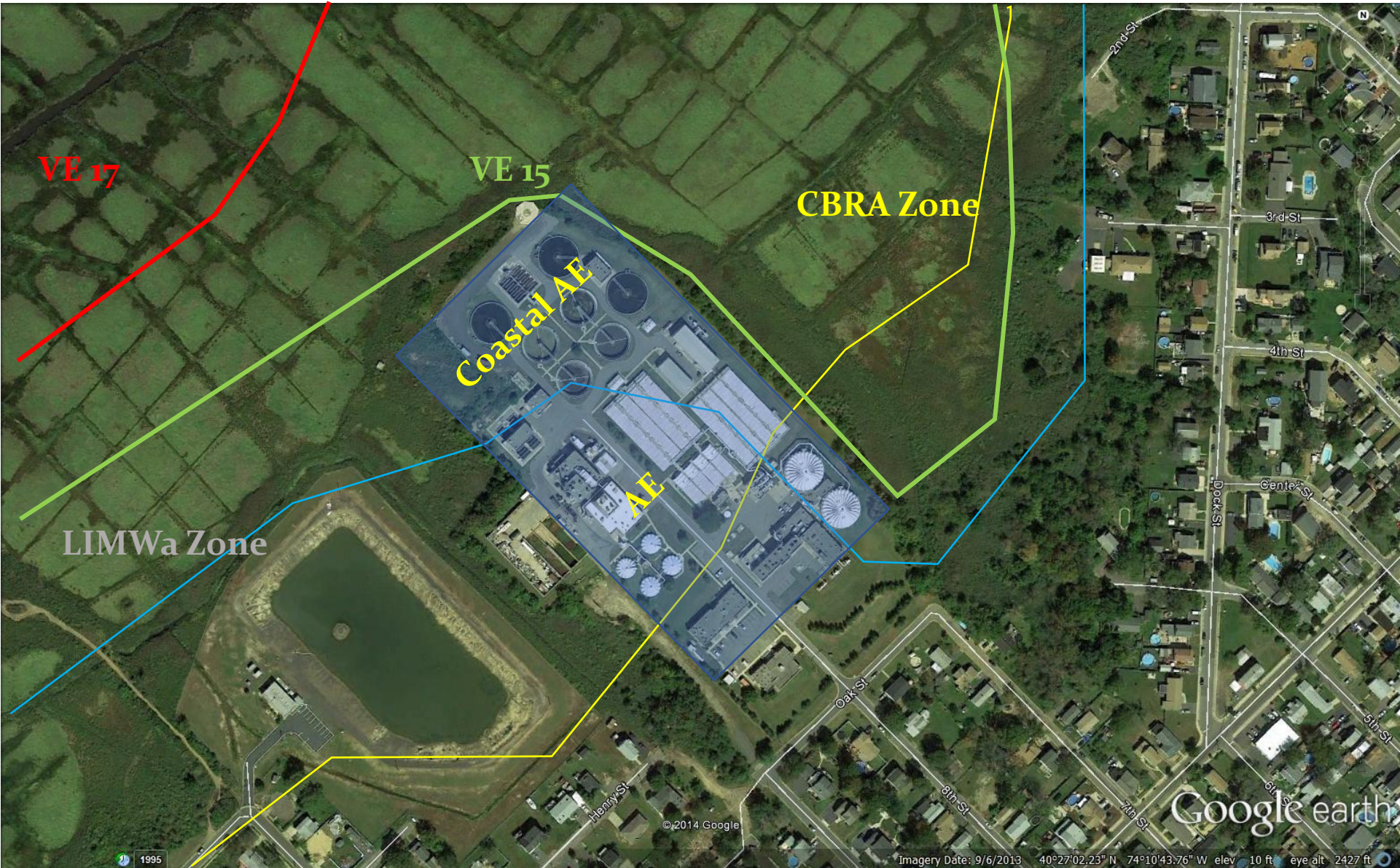
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Clarifier 7

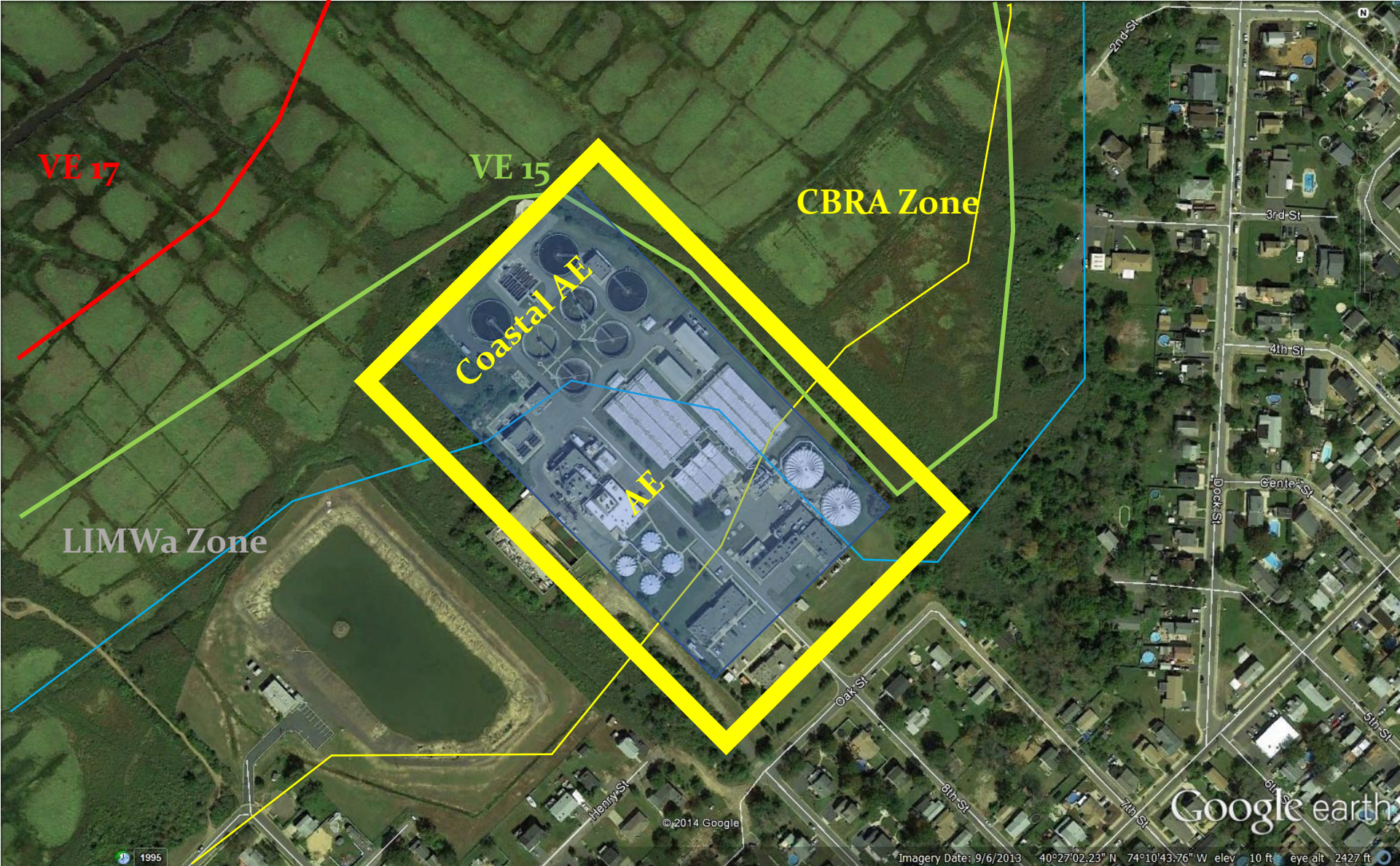


Superstorm Sandy Crisis Response

Mitigation

“You Can’t Build That Here”







Anatomy of the Flood Wall

1. Remove Brick
2. Support brick
3. Install steel
4. Form and pour
5. Protective layer



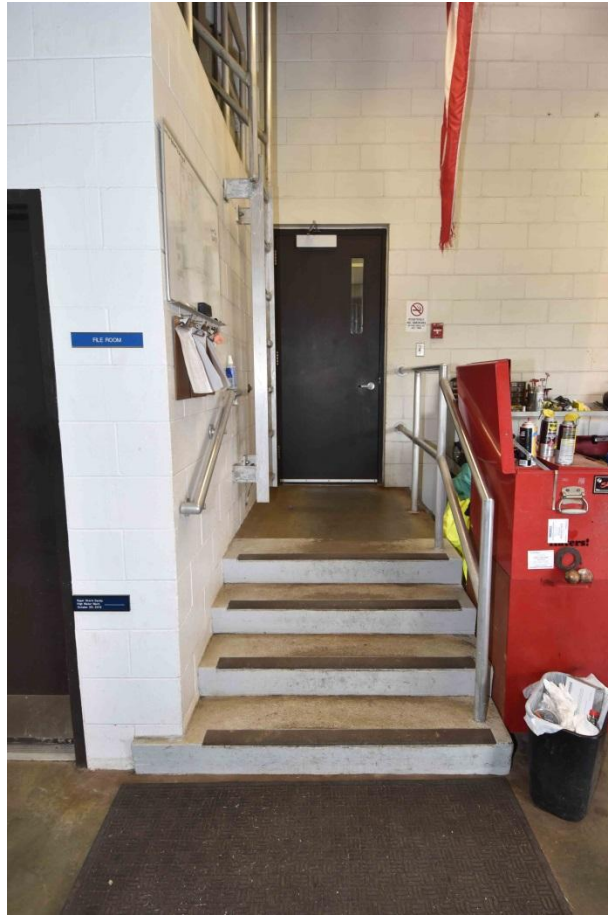


Building Flood Walls



Elevating Equipment

“Out of the Box Thinking”





Superstorm Sandy Crisis Response

Challenge – Funding

“Bridging the gap”



NJEIT/NJDEP



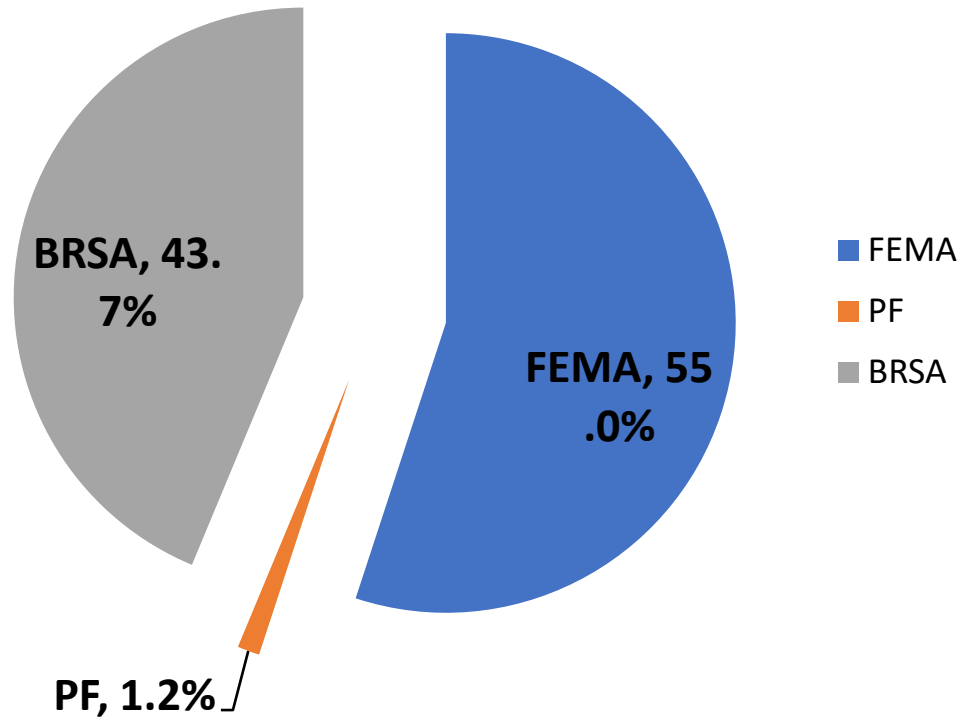
NJOEM/FEMA

Cash Flow

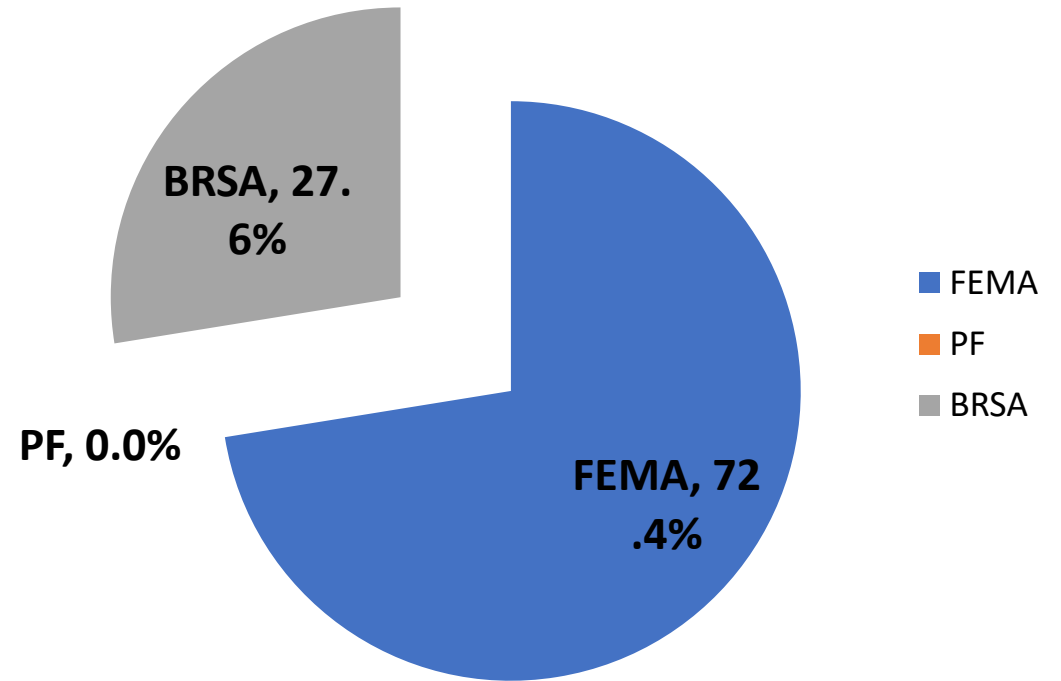


Contractors

Funding Breakdown Phase I



Distribution of Funding Phase II





Superstorm Sandy Crisis Response

Opportunities

“Turning Crisis into Opportunity”



Turning Crisis into Opportunity

- Added Redundancy to Power Distribution System where it didn't exist
- Sewage Sludge Incinerator Act Rules implemented on time and in compliance
- New membrane aeration basin diffuser system installed in all 8 aeration basins
- Process air blower buildings consolidated
- Older process air blower building converted to storage building

Summary

A Crisis Lifecycle

- Event
- Emergency Response
- Recovery
- Mitigation
- Opportunities and Challenges

“Leadership Will Turn Challenge Into Opportunity”