Financing Climate Resilience

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Financing Resilient Infrastructure

- Historically, large protection projects have been entirely publically supported & funded
  - New Orleans Levee System
  - Thames Barrier (London)
- Investments were seen as public goods with low revenue generation potential (if any)
- Currently, there is growing pressure to stretch limited public resources and leverage private capital for resilience projects

Placing a Value on Infrastructure

Image credit: weather.gov

The High Cost of Infrastructure Failure

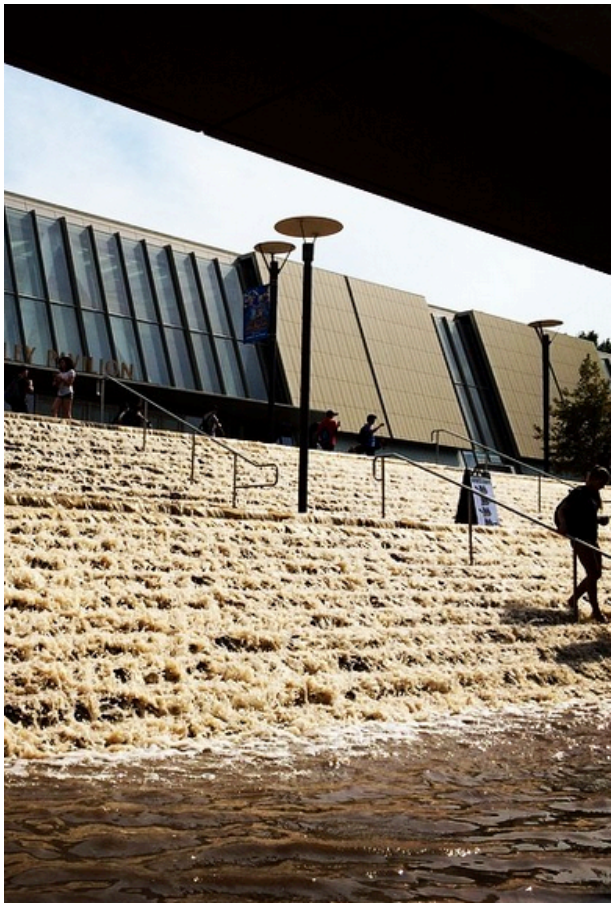
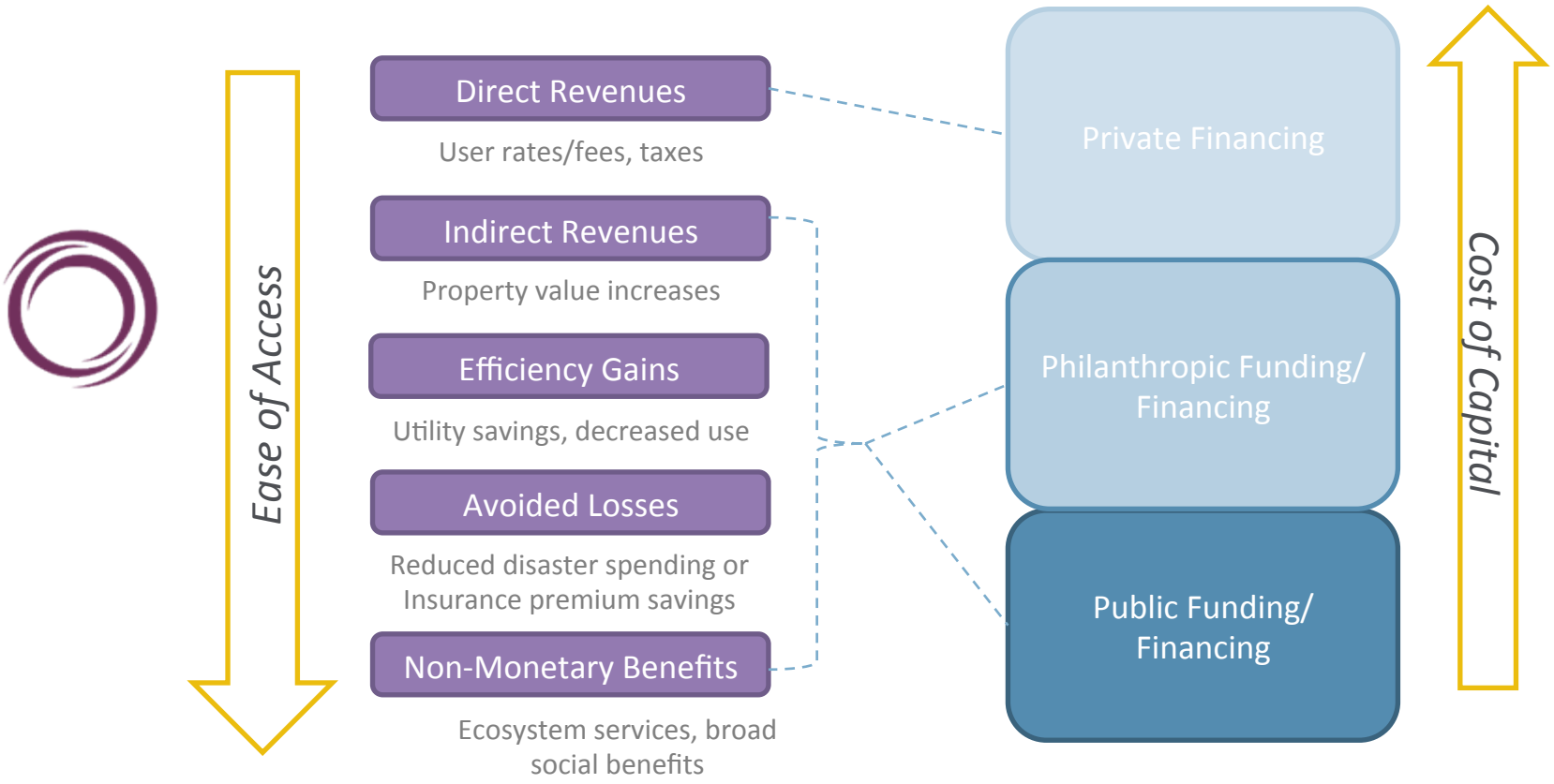


Image credit: Instagram (paulphootrakul)

Lucy Nicholson / Reuters

AP Photo/Mike Meadows

Infrastructure Funding versus Financing

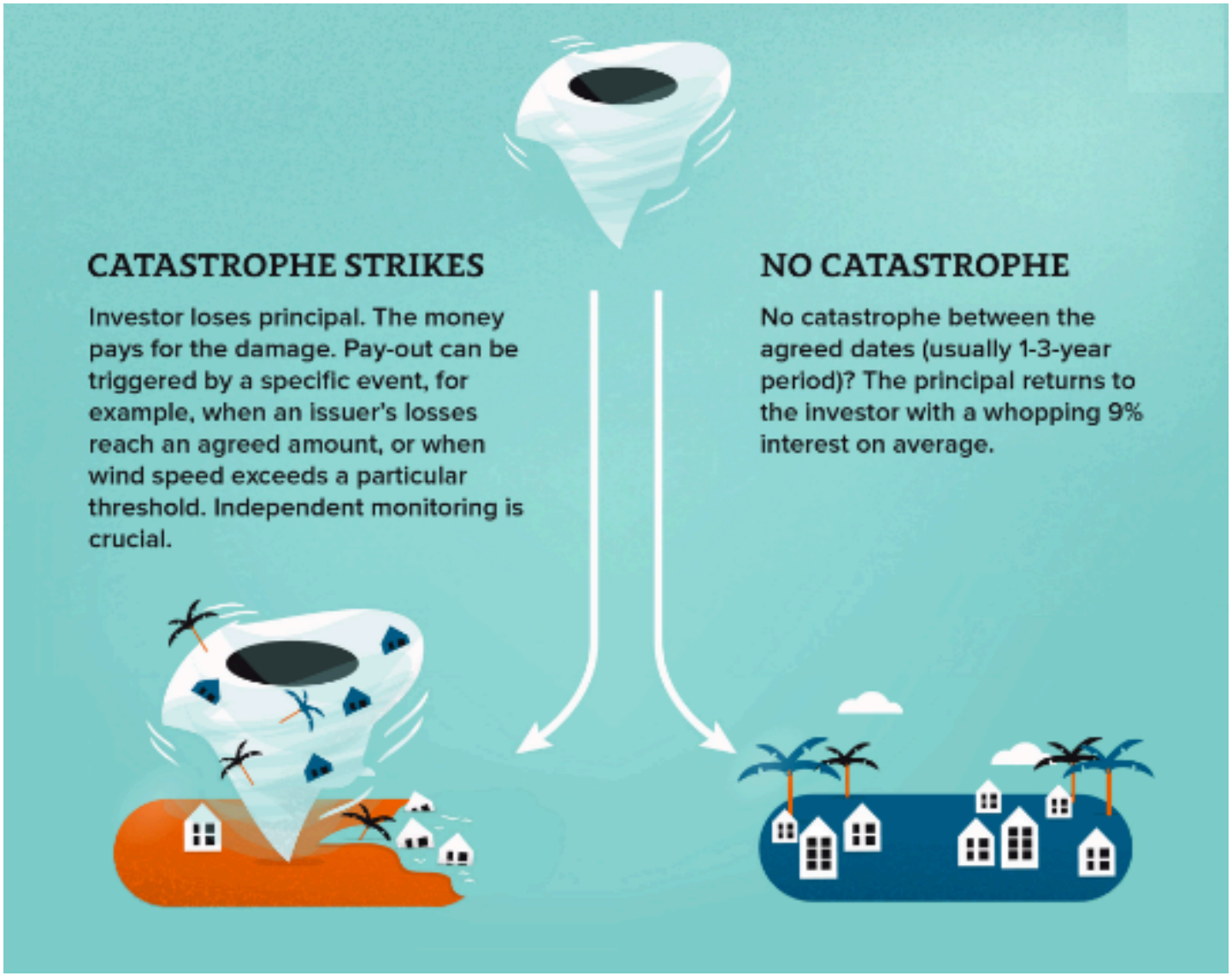


Drivers for Linking Resilience & Insurance

- Peril/Liability: growing risks & expected losses
  - New Orleans Levee Systems
  - Thames Barrier (London)
- Insurance: required coverage or compliance
  - New York MTA (2013)
  - Amtrak (2015)
- Project: planned resilience projects
  - New Construction
  - Required Upgrade/Recertification

Why the Public Sector is Looking at Catastrophe Bonds to Build Resilience

Image credit: http://roadtoparis.info/2014/11/18/cat-bonds-cashing-catastrophe/



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From Catastrophe to Resilience Bonds

- By definition, resilient infrastructure projects are designed to reduce risk
  - Public sector assets & services are safer
  - AND insurance companies lose less money when public & private policy holders are better protected

- Resilience Bonds are one way of ensuring the *financial* value created by these public investments returns to the public sector

Leveraging Private Finance for Projects

- The Opportunity: Linking Insurance & Infrastructure
  - Resilience Bonds can help close the loop
  - Create virtuous cycle of risk reduction investments

- The Challenge: Structuring Projects to Leverage $$$
  - Public resources for risk reduction projects are limited
  - Benefits are diffuse & rarely modeled/monetized
  - Success is often something that didn't happen

How Resilience Bonds Work

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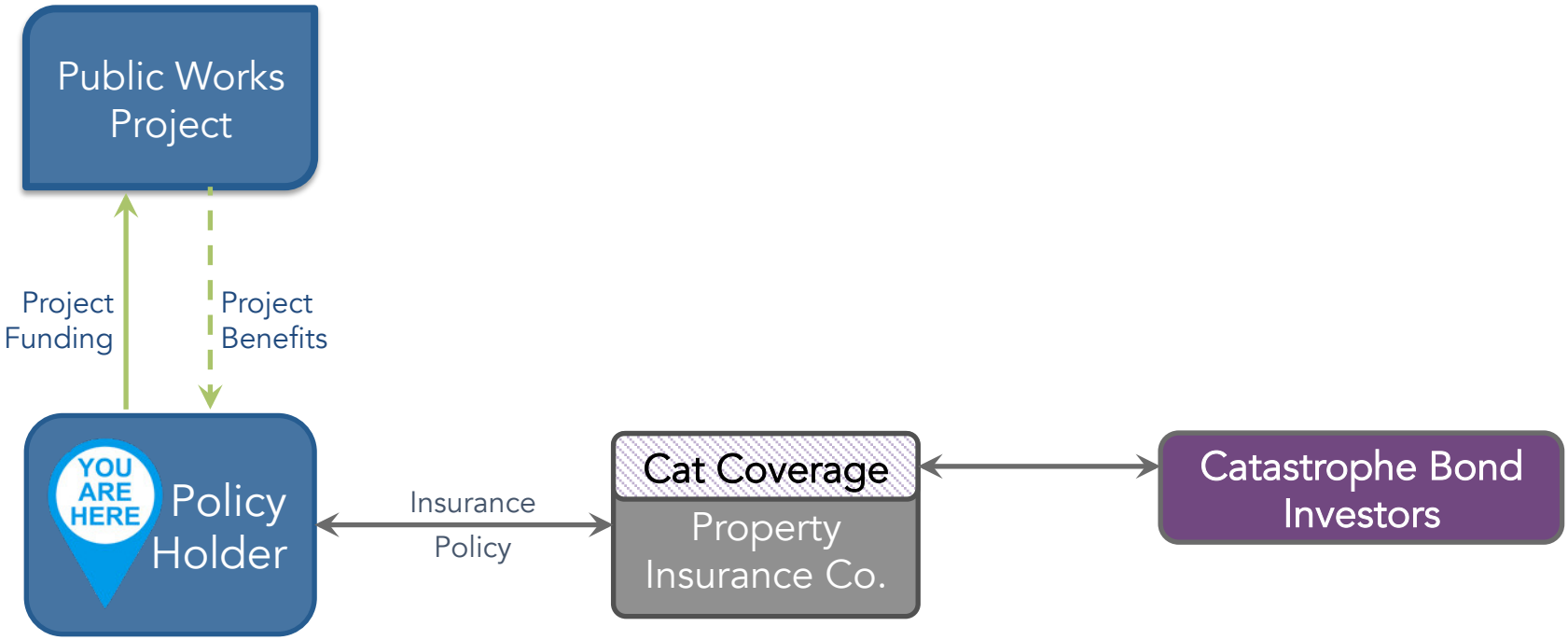
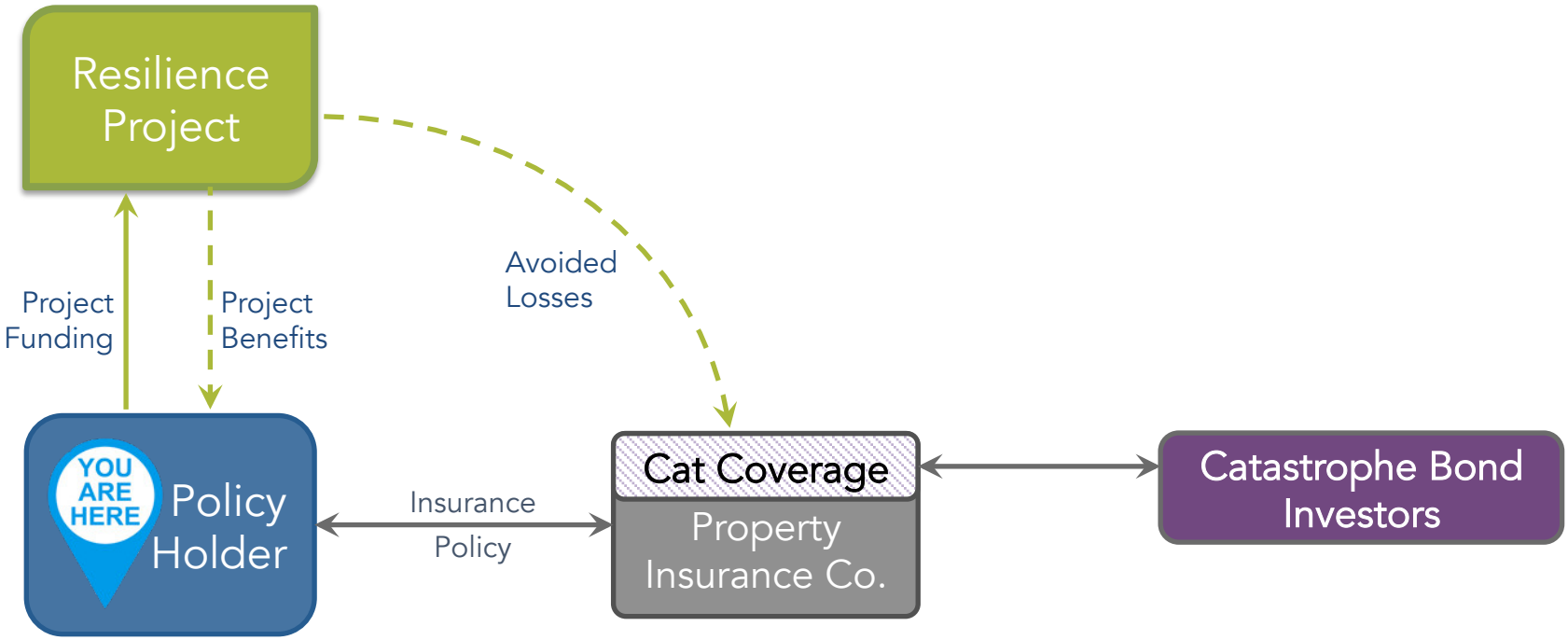


How Resilience Bonds Work



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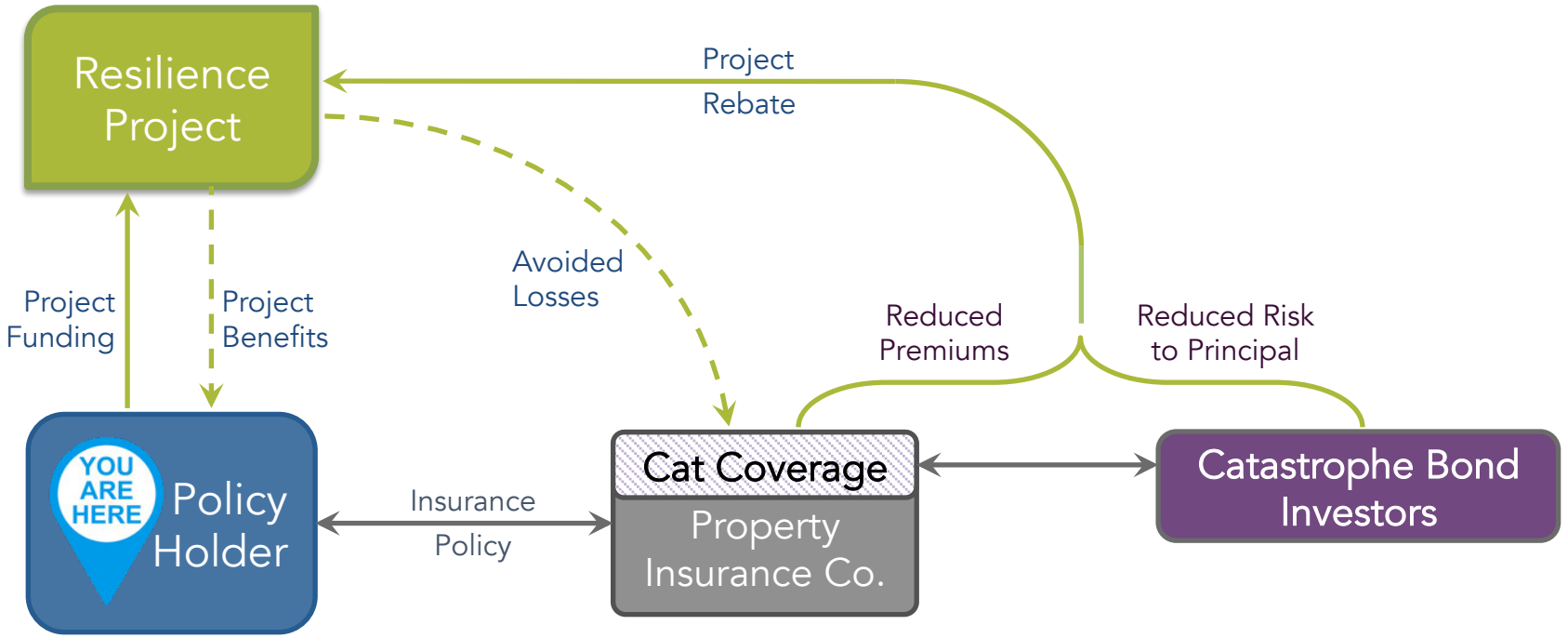

Benefits of Resilience Bonds

1. Fill Project Funding Gaps
    - Rebates can fund future phases of projects
    - Savings can cover O&M costs or addt'l insurance
2. Help Meet Insurance Compliance Obligations
    - Existing federal disaster assistance requirements
    - Potential new req's (i.e. FEMA Disaster Deductible)
3. Ensure Project Design Integrity
    - Set design standards linked to risk reduction value
    - Avoid value-engineering out key benefits

Questions?

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