Urban Flooding in the United States
Decision Making and Policies in Houston

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Chief Resilience Officer
Resilience is the capacity of individuals, communities and systems to survive, adapt, and grow in the face of stress and shocks, and even transform when conditions require it. Building resilience is about making people, communities and systems better prepared to withstand catastrophic events—both natural and manmade—and able to bounce back more quickly and emerge stronger from these shocks and stresses.
What’s in a name?

THE FLOOD CZAR
Stephen Costello, P.E. - Chief Resilience Officer for the City of Houston

Making Sure We Don’t Forget
Local Efforts to Build Public Trust

WORK TOGETHER TO SOLVE FLOODING ISSUES
Seek regional flooding solutions
Be prepared and mitigate for disasters
Invest in infrastructure
Provide relief as quickly as possible
Apply rules consistently and
ensure responsible development
Encourage green solutions
& citizen participation

“Just keep water out of our homes!”
• $43 million loan from Texas Water Development Board
• City to advance funding to Harris County for flood protection measures on Brays
• Harris County to reimburse city with federal funds
• City hopes to advance total of $130 million for flood damage reduction projects on Brays, Hunting and White Oak Bayous
• Unprecedented coordination between city, county, state and federal agencies

Common Taxpayer, Common Problem, Common Solution
Brays Bayou Bridge Work
Disaster Relief

- U.S. Housing and Urban Development, Texas General Land Office
- CDBG Disaster Recovery 2015 ($60 million) and 2016 ($12 million) for infrastructure
- Emphasis on infrastructure projects to benefit more people
- Collaboration – Housing and Public Works
- SWAT and CIP projects
- Buyouts
Build Public Trust

Work together to solve flooding issues
SEEK REGIONAL FLOODING SOLUTIONS
Be prepared and mitigate for disasters
Invest in infrastructure
Provide relief as quickly as possible
Apply rules consistently and ensure responsible development
Encourage green solutions & citizen participation

“Just keep water out of our homes!”
Seek Regional Flooding Solutions

PWE consultant looking for regional detention sites
Exploring use of golf courses, landfills, and parks for detention

Inwood

James Lee Park
Work together to solve flooding issues
Seek regional flooding solutions
BE PREPARED AND MITIGATE FOR DISASTERS
Invest in infrastructure
Provide relief as quickly as possible
Apply rules consistently and ensure responsible development
Encourage green solutions & citizen participation

“Just keep water out of our homes!”
Be Prepared and Mitigate for Disasters

City of Houston

HAZARD MITIGATION ACTION PLAN
Build Public Trust

Work together to solve flooding issues
Seek regional flooding solutions
Be prepared and mitigate for disasters
INVEST IN INFRASTRUCTURE
Provide relief as quickly as possible
Apply rules consistently and ensure responsible development
Encourage green solutions & citizen participation

“Just keep water out of our homes!”
Invest in Infrastructure

- ReBuild Houston Program
- 5-year Capital Improvement Plan projects
- Ongoing maintenance
- Storm Water Action Teams (SWAT) for rehabilitation and upgrade to standards
Build Public Trust

- Work together to solve flooding issues
- Seek regional flooding solutions
- Be prepared and mitigate for disasters
- Invest in infrastructure
- PROVIDE RELIEF AS QUICKLY AS POSSIBLE
- Apply rules consistently and ensure responsible development
- Encourage green solutions & citizen participation

“Just keep water out of our homes!”
Provide Relief as Quickly as Possible - SWAT

Improvements
- Ditch Widening
- Driveway Culvert Replacement
- Inlet Replacement
- Side Lot Swales
- Sewer Line Replacements

Issues
- Department Resources and Funding
- Policy Changes
  - De minimus Storage
  - Roadside Ditch Driveways
  - Roadside Ditch Obstructions

Pothole Program for Drainage Between Normal Maintenance and CIP
Roadside Ditch Repair

In Design

10058 Briarwild Ln.
(N - Warwana Rd.; S - Briarwild Ln.;
E - Gessner Rd.; W - Witte Rd.)

Drainage Issues:
Culverts undersized, collapsed or
not set to proper flow line
Silted ditch flow lines and culverts
Storm Sewer Repair

3600 Flora St.

Drainage Issues: Existing culvert/grate failure blocking proper drainage
Outfall Repair

11507 Bowlan Ln.
(Westbury Pkg. 2)

Drainage Issues:
24-inch outfall collapse
SWAT Side Lot Swale Pilot Projects
Build Public Trust

Work together to solve flooding issues
Seek regional flooding solutions
Be prepared and mitigate for disasters
Invest in infrastructure
Provide relief as quickly as possible
APPLY RULES CONSISTENTLY AND ENSURE RESPONSIBLE DEVELOPMENT
Encourage green solutions
& citizen participation

“Just keep water out of our homes!”
Apply Rules Consistently and Ensure Responsible Development

Re-examine city criteria as it relates to detention and fill requirements

Step up enforcement of rules in place to protect homeowners
Build Public Trust

Work together to solve flooding issues
Seek regional flooding solutions
Be prepared and mitigate for disasters
Invest in infrastructure
Provide relief as quickly as possible
Apply rules consistently and
ensure responsible development
ENCOURAGE GREEN SOLUTIONS
& CITIZEN PARTICIPATION

“Just keep water out of our homes!”
Encourage Green Solutions and Citizen Participation

Grey to Green Concept
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