DISTRICT OF COLUMBIA
“POTOMAC PARK”
LEVEE RISK COMMUNICATION

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Lincoln Memorial & Reflecting Pool

Facing West
ELEVATION 6.1 FT. NAVD88 AT WASHINGTON CHANNEL GAGE
(~10 YEAR FLOOD)
ELEVATION 9.9 FT. NAVD88 (~RECORD 1936 FLOOD)
ELEVATION 16.1 FT. NAVD88 (PRIOR TO LEVEE OVERTOPPING)
ELEVATION 17.1 FT. NAVD88 (LEVEE OVERTOPPING)

POTOMAC

RIVER

Tidal Basin

ANACOSTIA RIVER
DISTRICT OF COLUMBIA LEVEE SYSTEM

NW 23rd St. and Constitution Ave. sandbag closure

17th Street closure structure
DISTRICT OF COLUMBIA LEVEE SYSTEM

NW 23rd St. and Constitution Ave. sandbag closure
23rd Street and Constitution Ave.
Sandbag Closure

Example of Sandbag Installation
DISTRICT OF COLUMBIA LEVEE SYSTEM

17th Street closure structure
17TH STREET CLOSURE

Lincoln Memorial Washington Monument

Post and Panel

Floodwall

Floodwall

Lincoln Memorial Washington Monument
17TH STREET CLOSURE

December 1996

Present Day
17TH STREET CLOSURE- ANNUAL EXERCISE
2ND AND P ST. SW SANDBAG CLOSURE

National Mall

2nd and P St. sandbag closure
2ND AND P STREET SW CLOSURE (SANDBAGS)

2nd Street SW
Facing North
ADDITIONAL TEMPORARY FLOOD BARRIER BEING PLANNED

Increase level of flood risk management using sand baskets
LEVEE SAFETY PROGRAM

Working to better understand, prioritize and manage flood risks associated with levees through inspections and risk communication

USACE is conducting levee risk assessments on all of its levee systems and is sharing risks and benefits associated with each levee

USACE LEVEE SCREENING RISK ASSESSMENTS

HAZARDS
What are the hazards and how likely are they to occur?

PERFORMANCE
How will the levee perform in the face of these hazards?

CONSEQUENCE
Who and what are in harm’s way?
How susceptible to harm are they?
How much harm is caused?

RISK = f (HAZARD, PERFORMANCE, CONSEQUENCE)
HAZARD: HOW AND WHEN COULD FLOODING OCCUR?

• The levee reduces risk from Potomac River flooding (riverine and storm surge)
  • Between the 0.2% and 0.1% annual chance flood events (500-1,000 year floods)
  • The Corps is evaluating increasing the height of the levee system by 1 foot pending approval and Congressional funding

• The levee does NOT manage flood risk for heavy rainfall/ stormwater flooding (including Federal Triangle area)
THREE TYPES OF FLOODING:

- Freshwater / Riverine
- Interior / Stormwater
- Tidal / Storm surge
PERFORMANCE: HOW WILL THE LEVEE HANDLE THE NEXT POTOMAC RIVER FLOOD?

- Levee is in **good physical condition**
- Well maintained by National Park Service
- Routine and comprehensive periodic (every 5 years) inspections by USACE
- Panel and sandbag closures **must** be installed correctly and in time prior to the storm

*Photo on the right: USACE performing risk assessment*
CONSEQUENCES: WHAT COULD FLOOD IF WATER FLOWS OVER THE TOP AND/ OR THE LEVEE BREAKS

- **High impacts**: Flood depths in some areas could be more than 15 feet
  - ~40,000 people (population at risk)
  - ~$4.8 billion in estimated flood damages
    - ~1,860 structures (39 critical facilities)
    - National government and monuments
    - Residential/commercial
    - Metro
    - Communication systems

Overall levee system will **NEVER** be considered low risk because of what is at stake!
DEPTH OF FLOODING AFTER OVERTOPPING IN LEVEED AREA
LEVEE SYSTEM SUMMARY (LSS)

- General data about the levee system
- Main risks and courses of action to reduce risk
- Status of the system under FEMA’s National Flood Insurance Program
NEW NATIONAL LEVEE DATABASE

https://levees.sec.usace.army.mil/
EMERGENCY MANAGEMENT

- Current alert system
- Evacuation planning
- Emergency planning
- Reducing risk to homes and businesses
ALERT SYSTEMS

- HSEMA App – Apple & Google devices
- AlertDC
  - SMS
  - Email
- Emergency Alert System (EAS)
  - Television
  - Radio
- Wireless Emergency Alert (WEA) System
- Digital Road Signs
EVACUATION ROUTES

• 25 designated evacuation routes
• **Outbound signs** to I-495 in MD&VA
• **Traffic lights** timed to move traffic away from downtown
• **Law enforcement at critical intersections** on the emergency evacuation routes
- **Ready DC** is a public resource designed to educate and promote preparedness of residents and visitors.

- Be aware, make a plan, build a kit, stay informed.
BUSINESS PREPAREDNESS

• DC’s Business Emergency Management Operations Center (BEMOC) provides member businesses with:
  – Preparedness guidance
  – Timely, vetted situation awareness information during incidents/events
  – Response and recovery training

• Register your business at https://bit.ly/DCBEMOC
REDUCING RISK TO HOMES

Protect Against a Flood
If you live in a flood prone area, taking proactive measures are a must in order to protect your house and your valuables.

- Take pictures of valuables for insurance
- Store important documents in waterproof containers
- Create digital versions and save them on a secure thumb drive
- Get flood insurance so you’re protected against the damages of a flood
- Learn about your flood risk and the floodplain in your area at FloodSmart.gov
- Keep your valuable out of the basement so they’re not in danger of flood water
- Raise utilities (electrical panels, water heater, furnace, etc.) above the base flood elevation
- Utilities are the #1 reason that people file claims and most typically have to pay out of pocket because the claim is less than or equal to their deductible
- Keep your sump pump in working order with a battery back-up.
- Keep a supply of sandbags, plywood, plastic sheeting, or lumber to protect homes and valuables from flooding.
- Consider installing “check valves” in your home and sealing the walls in your basement.
- Sign up for local weather alerts
- Protect Your Home And Property From Flood Damage
  Mitigation Ideas For Reducing Flood Loss
  October, 2010

Protect Your Home from Flooding
LOW-COST PROJECTS YOU CAN DO YOURSELF
REDUCING RISK TO BUSINESSES

1. **Seal Cracks**
   - Use high-quality, urethane-based caulk to seal cracks and utility pipe penetrations.

2. **Sump Pump**
   - Connect sump pumps to a battery backup or generator.

3. **Backflow Valve**
   - Install backflow valves on main waste drain pipes that leave the structure.

4. **Protect Openings**
   - Keep a supply of water-absorbent or water-filled barriers to divert water away. Install watertight shields over all doors and windows at least 12 inches above anticipated flood level. The type of barrier used will depend on the size and type of opening.

5. **Slope**
   - Evaluate the drainage of the property to make sure the ground slopes away from the building.
MITIGATION RESOURCES LINKS

- [www.ready.dc.gov](http://www.ready.dc.gov) - learn how to navigate individual and family (and pet) preparedness
- [www.hsema.dc.gov/page/alertdc](http://www.hsema.dc.gov/page/alertdc) - subscribe for the email/SMS-based alert, tailored to your interests
- [www.hsema.dc.gov/page/hsema-application](http://www.hsema.dc.gov/page/hsema-application) - download the new and improved HSEMA app
- [www.fema.gov/protect-your-property](http://www.fema.gov/protect-your-property) - learn how to mitigate flood risk in protecting your home (and business)
- [www.floodsmart.gov](http://www.floodsmart.gov) - learn about the National Flood Insurance Program
- [www.sba.gov/funding-programs/disaster-assistance](http://www.sba.gov/funding-programs/disaster-assistance) - learn about the Small Business Administration's loan program(s)
KNOW YOUR RISK: FLOOD INUNDATION MAPPING TOOL

http://www.weather.gov/washington/PotomacInundationMaps
WHY ENGAGE IN RISK COMMUNICATION?

Levees help manage risk

They do not eliminate risk
Questions & Answers