**Roles of local, state, and federal agencies relative to preparing for, mitigating, and recovering from floods?**

**This effort will require a fundamentally new approach by all levels of government and will include the decreased use of concrete to direct stormwater reduce drainage areas. Begin using multidisciplinary solutions that work with and enhance natural systems providing long-term resiliency.**

1. Federal :
   1. Set standards and continue incentivizing green infrastructure for new development and retrofits. Fund research in strategic locations to verify the validity of stormwater runoff calculations and submitted LOMRs before allowing floodplain changes.
   2. Ensure that highway funding for projects requires stormwater facilities that address quantity and quality of runoff and discharges.
   3. Be more pro-active in issuing violations to local jurisdictional entities for floodplain violations.
   4. Increase the area designated for voluntary buyouts and ensure the land is left for open space devoted to flood-tolerant uses such as parks, recreation areas and wetlands. Forgive the flood insurance program's current debt and reinstate the federal flood risk management standard.
   5. Require floodplain maintenance practices to have a sound ecological/horticultural basis that would improve the functioning of riparian vegetation to provide ecosystem services using the NRCS as a resource.
   6. Incentivize the use of constructed wetlands to not only build flood resiliency, but to also act as carbon sinks while providing additional benefits.
2. State :
   1. Create a state-wide watershed plan that includes standards that must be met even in counties. Provide design and technical guidance with an emphasis on solutions that address multiple environmental issues with an emphasis on those that address both water and air quality.
   2. Include regulations for impacts to groundwater especially aquifers for all developments/industries and require environmental assessments throughout the state.
   3. Ensure a more active state role for implementing water quality standards that include consideration of discharge impact on ecological functioning of receiving water bodies.
   4. Fund studies for “flash flood alley”, that assist local stormwater utilities to better understand the role of vegetation and its maintenance in providing flooding resiliency while allowing the “correct” amount of stormwater to move through stream/river channels.
   5. Acknowledge that litter is a pollutant and allow local governments to control as they deem necessary to protect water quality of surface and below ground water, protect from flooding and provide resiliency to recover from natural disasters.
   6. Change TCEQ contested hearings to allow state agencies to testify and for those with standing to be able to cross examine a developer’s expert witnesses to ensure that contested hearings for permits allow sufficient process and public input.
   7. Incentivize the use of constructed wetlands to not only build flood resiliency, but to also act as carbon sinks while providing additional benefits.
3. Local :
   1. Require a minimum of on-site detention for 25yr event that includes a water quality component and fees to support future inspections.
   2. Add an additional factor in “run-off” calculations to consider individual site conditions.
   3. Create a transparent system to document stormwater variances given to projects during the permitting process.
   4. Discourage and disincentivize additional concrete channelization which negatively impacts;
      1. Water and air quality
      2. Aesthetics, wildlife habitat and recreational area
      3. Flooding resiliency
   5. Ensure that Stormwater review staff and inspectors are trained to fully implement and facilitate Low Impact Development and natural channel design to increase their effectiveness in working with consulting engineers.
   6. Make water quality a priority and set standards above state’s requirements.
   7. Utilize Stormwater utility fees for gap funding to install retrofit water quality and debris collection components at major discharge points before entering a “natural” stream.
   8. Develop maintenance policies that promote slowing stormwater down to allow infiltration. Training would be required for maintenance staff; parks, public golf courses, etc. Initiate public education on the purpose of “grow it and slow it” and emphasize that these new practices address flooding, water quality and air quality.
   9. Ensure that taxpayers are not paying for new developments’ impact on the City’s stormwater infrastructure.
   10. Develop a stormwater fee credit program where property owners retrofit to reduce their stormwater discharge and/or improve water quality. Offer additional credits when practices that can also address air quality are used such as constructed wetlands that act as carbon sinks (~ 25 metric tons of CO2/ac sequestered annually).