

An aerial photograph of a detention dam. The dam is a long, curved structure made of gravel and earth, separating a large, calm pool of water from a smaller, more turbulent pool below. The surrounding area is lush with green trees and grass. In the background, a residential neighborhood with houses and a swimming pool is visible. The text "Detention Dams" and "EAC Meeting September 21, 2023" is overlaid in white on the image.

Detention Dams

EAC Meeting September 21, 2023



What is a dam?

- Any barrier constructed for the purpose of either permanently or temporarily impounding water.

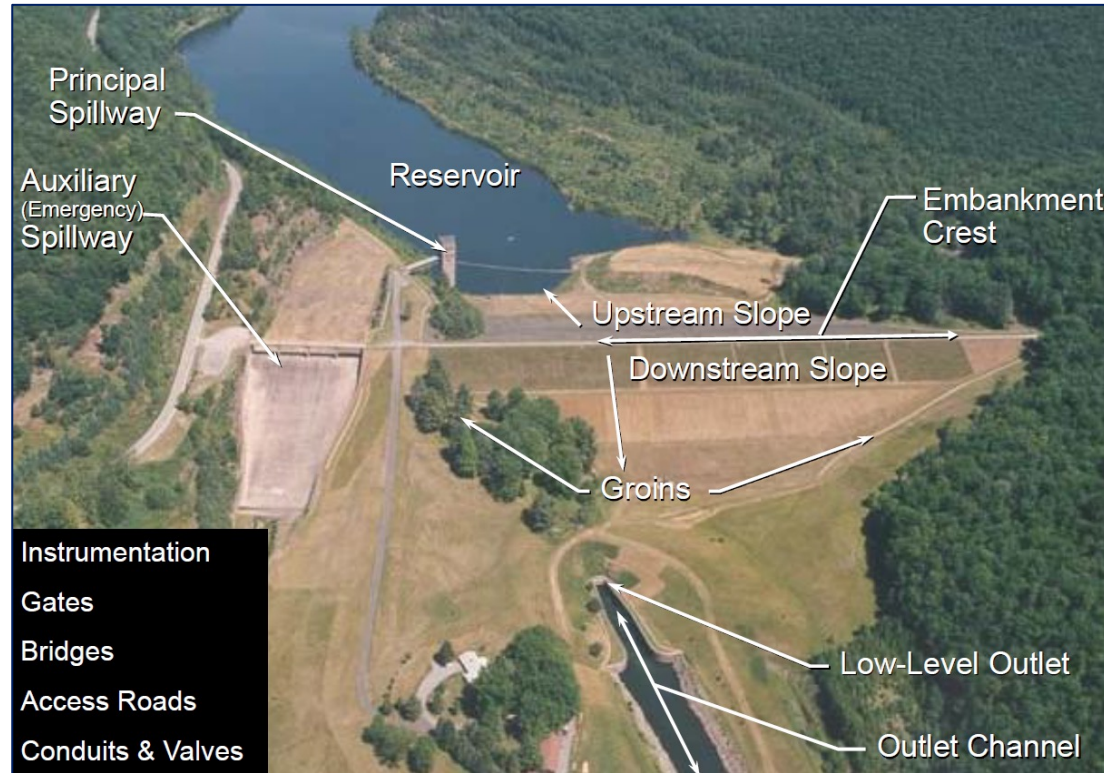


Hazard Categories

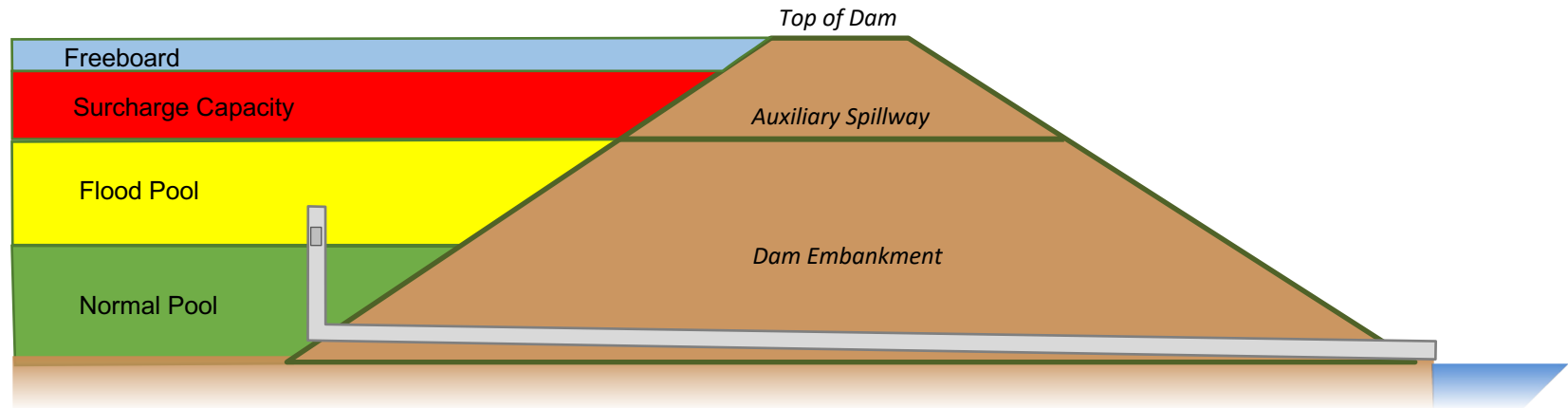
- **Low:** No threat to human life and no economic loss
- **Significant:** Threat to 1-6 human lives and/or significant economic loss
- **High:** Threat to >6 human lives and/or severe economic loss



Structural Elements

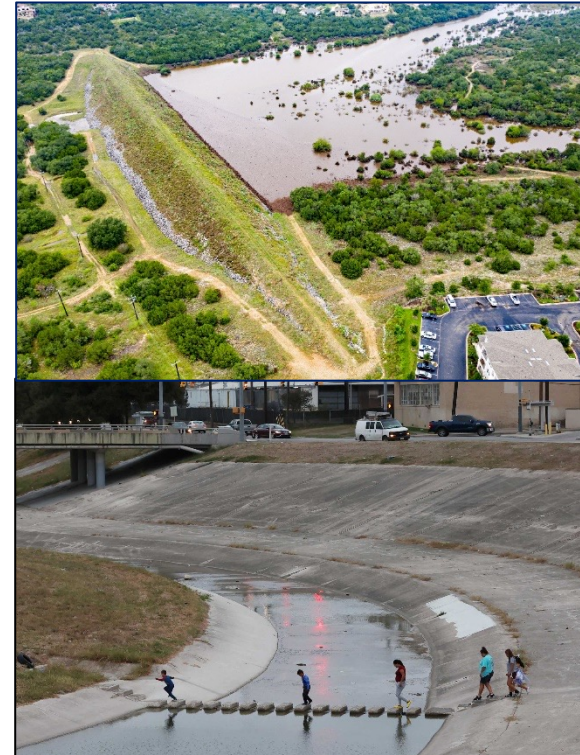


Storage Zones



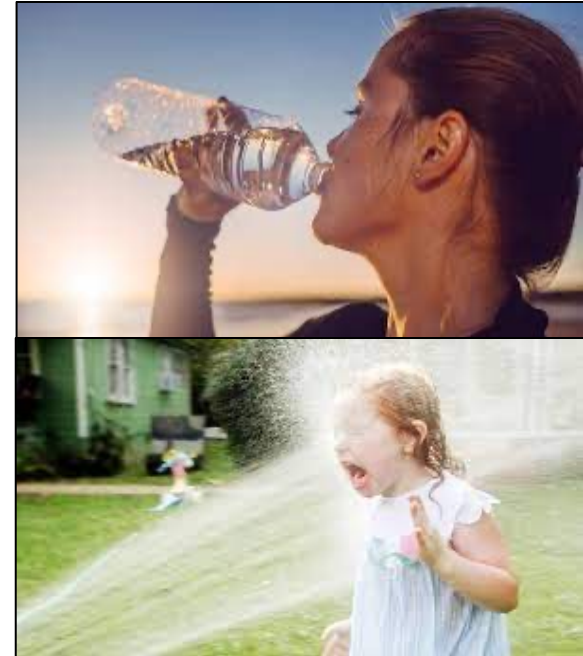
Dam vs. Conveyance Channel

- Dam
 - Small footprint
 - Less design effort
 - Simpler property negotiations
 - Lower environmental impact
 - Timing/volume control
- Conveyance Channel
 - Large footprint
 - High design effort
 - Complex property negotiations
 - Extensive environmental impacts
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Challenges

- Development
- Human foot traffic
- Vandalism
- Off-road vehicles



Risks

- Homes below dam crests
 - SARA controls 2 ft above auxiliary spillway through easements



Risks

- Failure
 - All dams have breach inundation maps
 - Estimated >10,000 lives impacted by any given breach



Key Take-aways

- Dams provide a metered release device, compared to channel conveyance.
- Dams pose an unlikely, but potential threat to life and property upstream & downstream
- The public is largely unaware of the number of dams in the community
- A dam failure will strain response resources



Questions?

SARA Dam Safety

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