MAINTAINING AGING INFRASTRUCTURE
With Limited Resources

Tulsa SAME Workshop on Extending the Life of USACE's Aging Infrastructure

Presented by: Miro Kurka

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U.S. Army Corps of Engineers Tulsa District

U.S. Army Corps of Engineers

Mason&Hanger
A Day & Zimmermann Company

Mead &Hunt

Workshop Purpose and Methodology

- Workshop Purpose: Discuss and Identify Solutions for Extending the Life of USACE's Aging Infrastructure.
- Panel Members:
  - Johnny Bell - SWT Chief of Physical Support Branch
  - Chris Strunk - SWT Engineering
  - Dan Keithline - Principal, Keithline Engineering
  - Robert Day – Vice President, Cyntergy, FSAME
  - Miro Kurka - Vice President, Mead & Hunt
- Methodology:
  - Identify the Issues
  - Present Case Studies within Tulsa District USACE in Extending the Life of Aging Infrastructure
  - Moderated Discussion with Audience Participation on the Issue.

USACE Infrastructure Strategy

"The USACE Infrastructure Strategy must lead to reliable, resilient and adaptable infrastructure systems, enabled by an efficiently funded long-term life cycle investment plan. It will enable us to achieve the goals of the Civil Works Strategic Plan, and advance the success of our Civil Works mission in addressing 21st century water resources challenges and demands."

—Steven L. Stockton, USACE Director of Civil Works
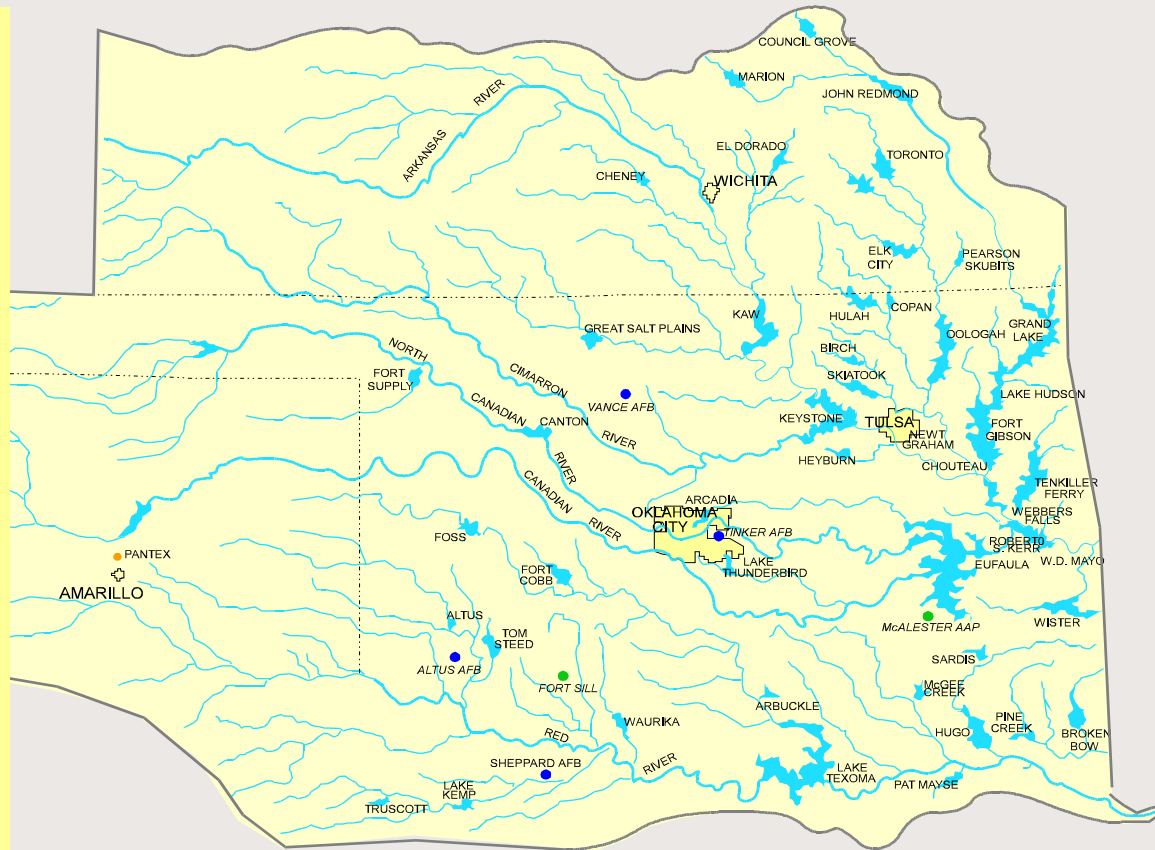
USACE Water Resources Infrastructure Portfolio

- USACE infrastructure assets ($200B+):
- 1000 coastal structures and 610 dams that serve a variety of purposes.
  - Reduce risk to communities—over $700 billion in property damages avoided in the last 25 years.
  - 250 Locks reduce highway congestion—2.5 billion tons, valued at $70 billion annually, move through the inland navigation system.
  - 75 hydroelectric power plants provide low-cost renewable energy—20 percent of America's hydropower.
  - Restored ecosystems—29,000 acres were produced by USACE water resources projects in the last five years.
  - Enhance quality of life—over 370 million visits a year to quality water-based recreation in America's great outdoors.
- Most Projects are more than 50 years old
- Pressing need to either recapitalize, repurpose, or divest

USACE Infrastructure Transformation Strategy

- Develop reliable methods of assessing the current value and levels of service of our infrastructure systems to determine where priority investments need to be applied.

- Emphasize the interdependence and interrelationship of our assets within a watershed or system to provide reliable, resilient, and adaptable infrastructure systems that deliver the required levels of service.

- Evaluate assets in terms of their value to the Nation.

- Systematically evaluate infrastructure based on current performance in meeting original authorized project purposes, and how demands within the watershed or system have evolved and changed over time.

- Seek alternative and innovative funding

- Consider:
  - Leveraging its federal appropriations with potential non-federal investments.
  - Removing unnecessary administrative or regulatory obstacles, and streamlining procedures for non-federal parties to move forward on their own.

Tulsa District Water Resources Infrastructure

- **38 projects** to be operated and maintained—multiple-purpose lakes; primary purpose is flood control; other purposes include water supply, hydropower, navigation, fish and wildlife and recreation.
- **8 hydroelectric projects**.
  - 22 main generating units.
  - Total output capacity of units is 585,000 kilowatts.
  - Average annual benefit of $128M.
- **Navigation.**
  - 150 miles of navigation channel
  - 5 locks
  - 67 industries provide direct employment for over 3,700 people
- **Water Supply**
  - 18 Lakes, 2.2 million people served.

Tulsa Infrastructure Funding (O&M)

- 2005 - $77M ($95M in 2016 dollars)
- 2015 - $98M ($99.6M in 2016 dollars)
- 2016 - $102M

Tulsa District Reservoir Sustainability

- **Maintaining Infrastructure**
  - Aging infrastructure
  - Funding challenges
- **Sedimentation and nutrient loading**
  - Blue-Green Algae
  - Watershed activity
  - Impacts all project purposes
- **Best uses of storage**
  - Flood control, Hydropower, Water Supply, Navigation, or Recreation?
  - Reallocation

* Taken from a briefing by the District Commander

Questions?