TEAM KENTUCKY®

ENERGY AND ENVIRONMENT CABINET

September 13, 2022

Drinking Water & Clean Water Advisory Council

John Webb & Carey Johnson, KDOW
Kentucky Department for Environmental Protection

Water Infrastructure

- Water quality and quantity are of vital importance
- Maintenance and operations of critical infrastructure is vital for community growth and sustainability
- Healthier, safer communities
- "If it's on the ground, it's in our water"
- Build back **Safer and Stronger**

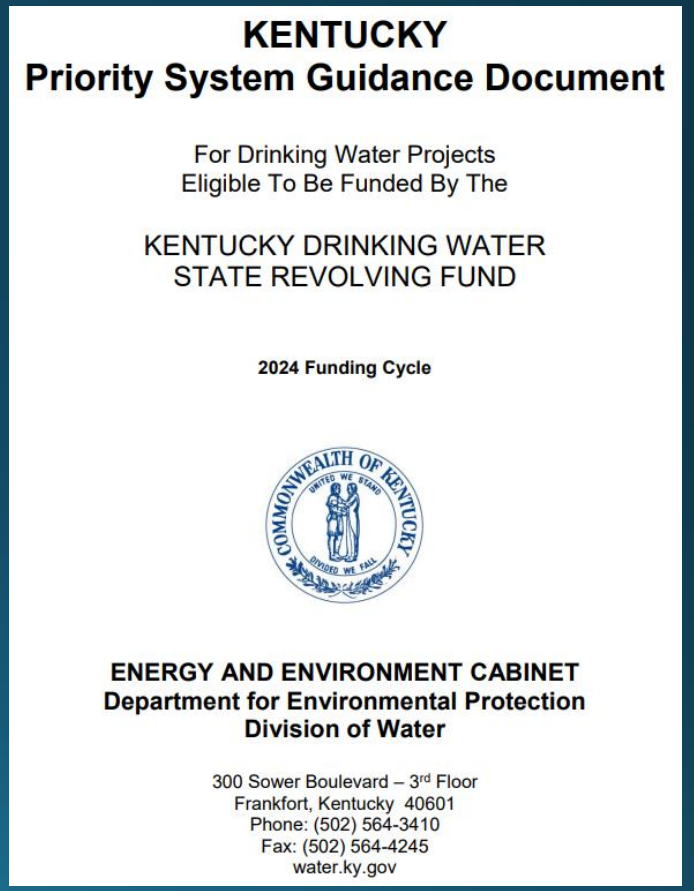
2024 CWSRF & DWSRF Guidance

BIL/IIJA ➡ Additional Criteria

- Lead Service Line Inventory & Replacements
- Emerging Contaminants (PFAS)

Additional Focus

- Green Infrastructure/Nature Based Solutions



KENTUCKY
Priority System Guidance Document

For Drinking Water Projects
Eligible To Be Funded By The

KENTUCKY DRINKING WATER
STATE REVOLVING FUND

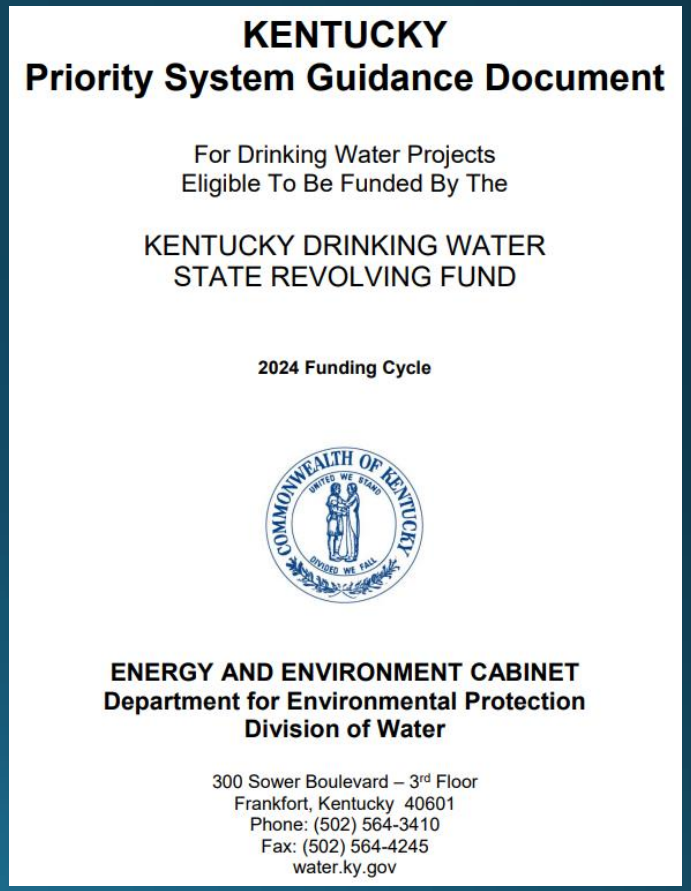
2024 Funding Cycle

ENERGY AND ENVIRONMENT CABINET
Department for Environmental Protection
Division of Water

300 Sower Boulevard – 3rd Floor
Frankfort, Kentucky 40601
Phone: (502) 564-3410
Fax: (502) 564-4245
water.ky.gov

2024 CWSRF & DWSRF Guidance

Questions?



KENTUCKY
Priority System Guidance Document

For Drinking Water Projects
Eligible To Be Funded By The

KENTUCKY DRINKING WATER
STATE REVOLVING FUND

2024 Funding Cycle

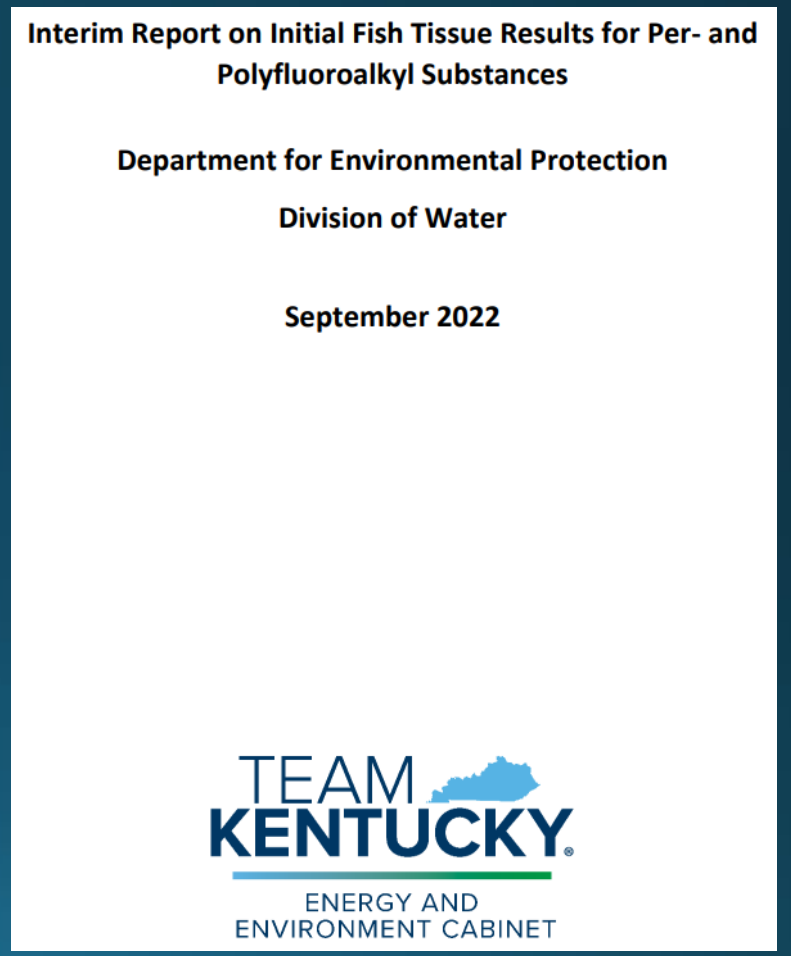
ENERGY AND ENVIRONMENT CABINET
Department for Environmental Protection
Division of Water

300 Sower Boulevard – 3rd Floor
Frankfort, Kentucky 40601
Phone: (502) 564-3410
Fax: (502) 564-4245
water.ky.gov

PFAS Update

- New DOW Report on Fish Tissue PFAS Results
  - Sept 9 report release – 2021-2022 study period
  - PFAS detected in all 98 fish tissue samples
  - PFOS = highest of all 16 PFAS compounds ranging from 0.31 to 50 parts per billion (ppb)
  - Average PFOS in streams = 13 ppb
  - Average PFOS in lakes = 5 ppb

- Recommendation (DEP, DPH, and DFWR) to follow existing statewide fish consumption advisory for mercury and any site-specific advisories
- Sensitive populations may want to exercise additional caution regarding frequency and quantity of fish consumed



eec.ky.gov/pfas

PFAS Update

- New action under EPA's PFAS Strategic Roadmap
  - August 26 – Notice of Proposed Rulemaking to designate of PFOA & PFOS as "hazardous substances" under CERCLA (Comprehensive Environmental Response, Compensation, & Liability Act)
  - Hazardous substances = may present substantial danger to the public health or the environment
  - Would require facilities to report on releases of reportable quantities
  - Reportable quantity = one pound of PFOA or PFOS
  - Under CERCLA, EPA can require potentially responsible parties to remediate, and pay clean-up costs
  - Designated as economically significant

PFAS Treatment

Comparison of PFAS Removal Technologies

PAC	GAC	Ion Exchange	Reverse Osmosis / Nanofiltration
Effective for removal of long chain PFAS (PFOA, PFOS)	Effective for removal of long chain PFAS (PFOA, PFOS)	Effective for removal of long chain PFAS (PFOA, PFOS)	Effective barrier to PFAS and *almost all* additional CECs
Less effective for short chain PFAS	Less effective for short chain PFAS	More effective for short chain PFAS	High energy use
Many facilities may already have PAC	Effective Removal of many CECs	PFAS Specificity a blessing and a curse	Disposal challenges of highly concentrated PFAS reject stream
High doses of PAC required	Media can be reactivated and put back into service	No media regeneration process	
Long contact time ideal	EBCT required ~ 10 – 20 minutes	EBCT ~ 2 – 4 minutes	
Variable PAC performance (water quality and carbon)			
Impacts to solids handling?			

From WPC 2022 "Managing PFAS in an Uncertain Regulatory Future: Drinking Water Case Studies", Rosenfeldt, Alpert, and Charles