PANBOWL DAM PROJECT

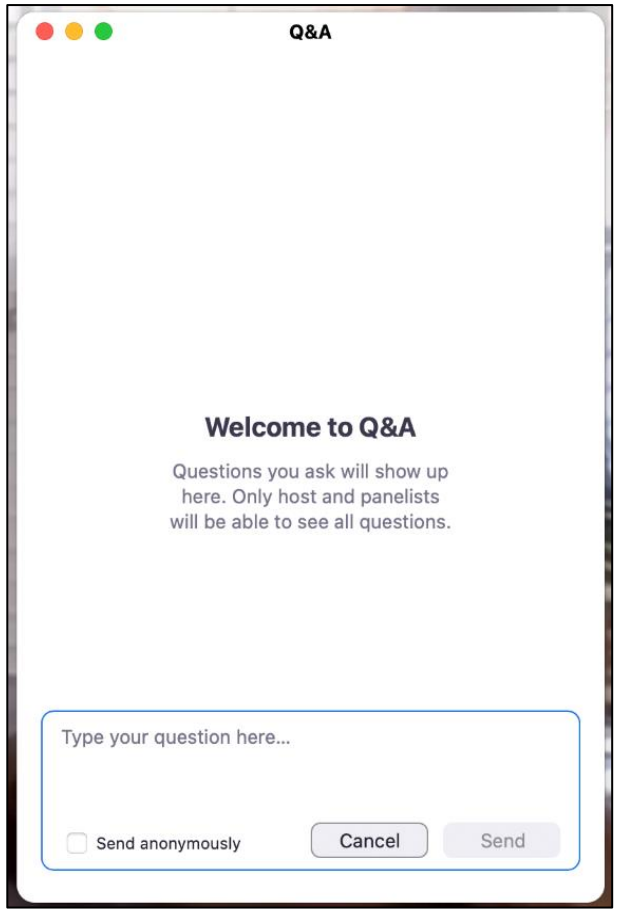
Virtual Public Meeting

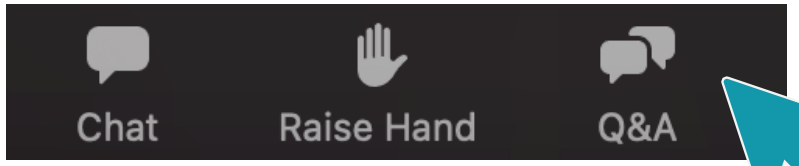
January 27, 2022

VIRTUAL MEETING

- **This meeting is being recorded.**
- **Only the Project Team** has cameras and mics on.
- **Use the Q&A function** in the black bar to submit a question or make a comment.
- Questions or comments can be entered at **any time during the presentation.** There will be a designated Q&A time.
- Some questions may be **answered outside of this meeting** using the email you provided during registration.
- Depending on your screen size, **minimize the video panel** to avoid overlapping presentation

Click to hide presenter video





Q&A at Bottom of your screen

PRESENTERS

CORBETT CAUDILL
Chief District Engineer

ARIC SKAGGS
Project Manager

AGENDA FOR PRESENTATION

PROJECT VIDEO
Overview of Panbowl Lake dam

PANBOWL LAKE DAM
Structure and history

2021 FLOOD
Embankment slip

ENGINEERING STUDY
Report findings

RECOMMENDATIONS
What's next for KY 15

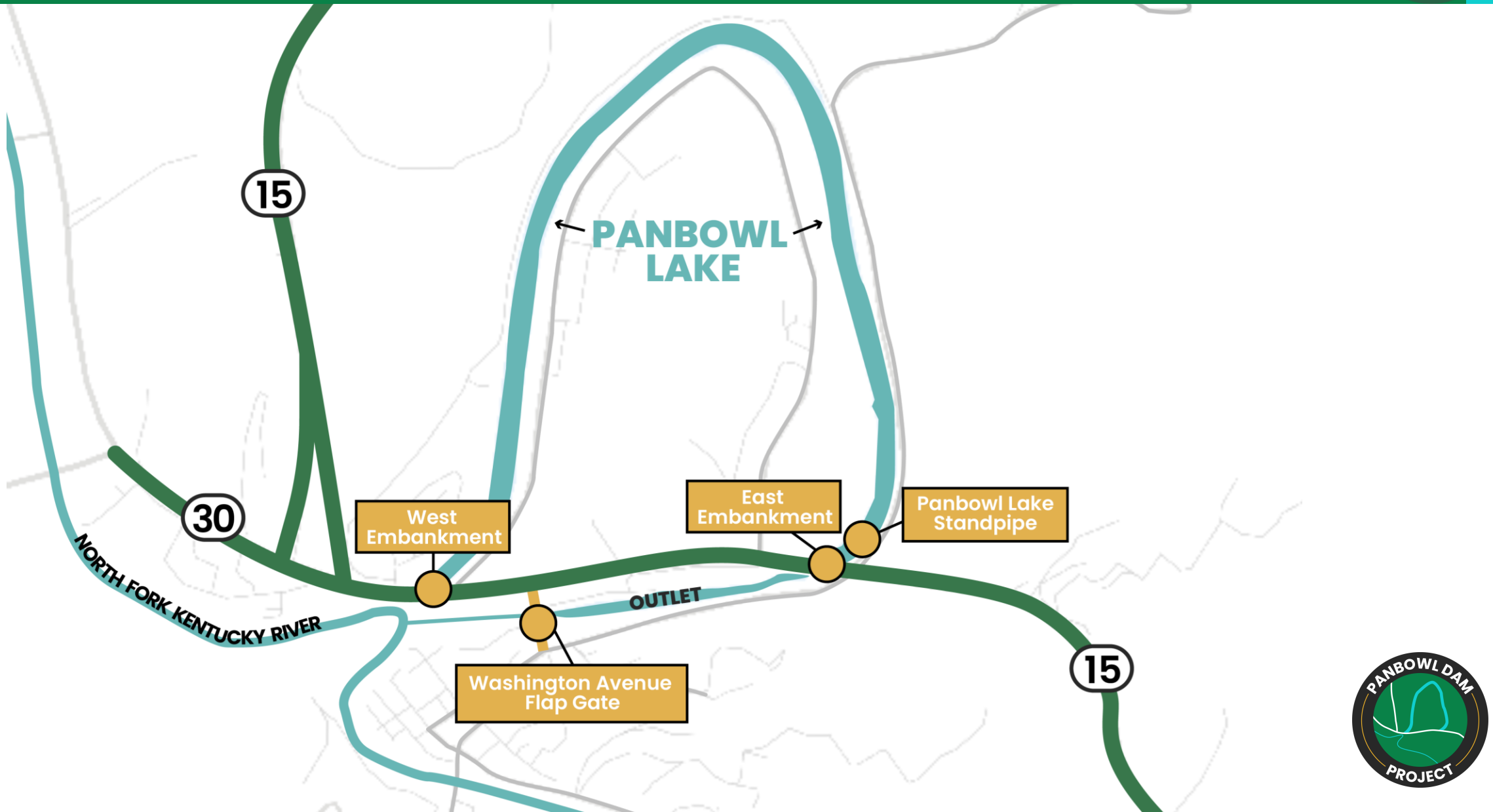
Q & A

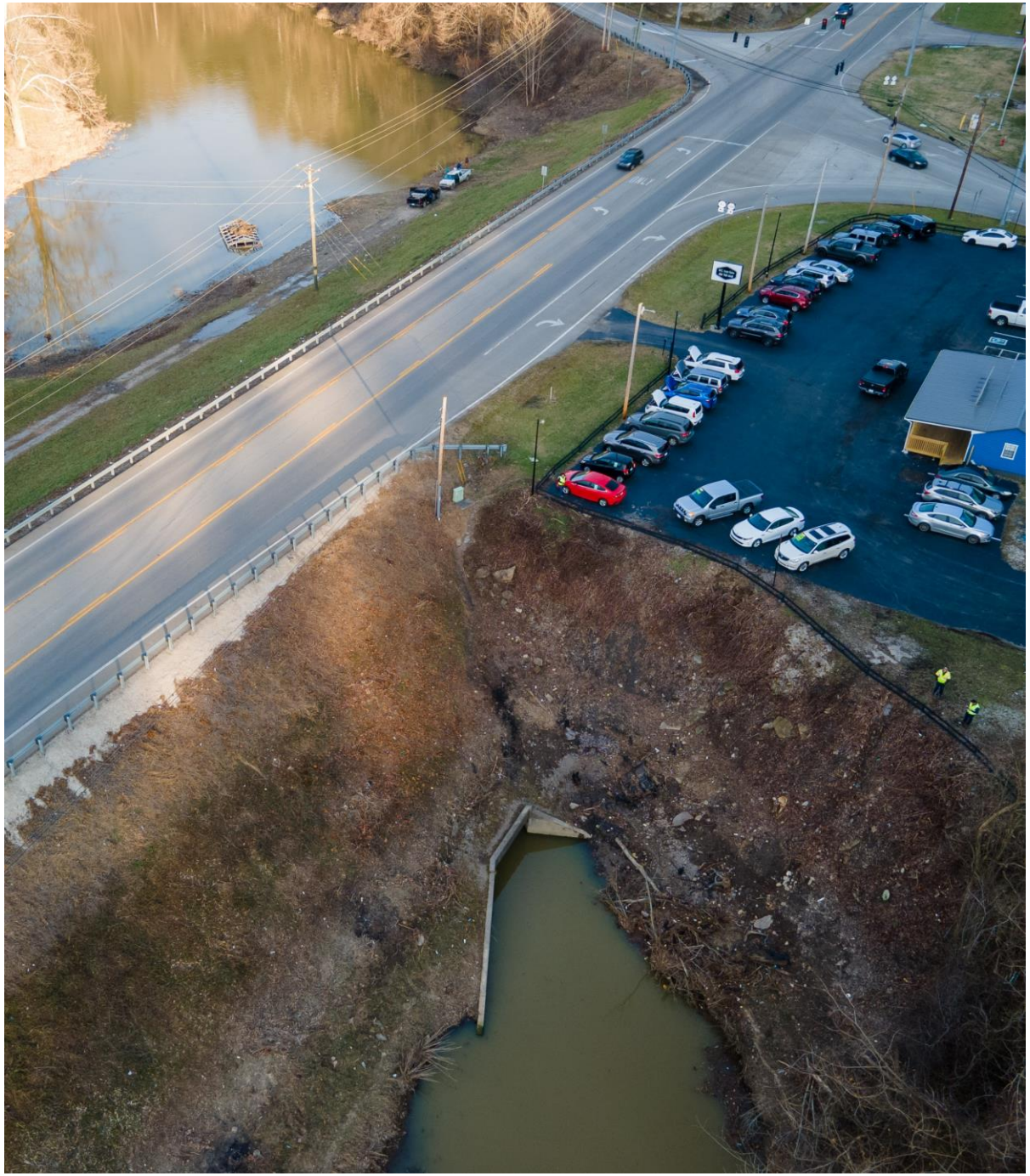

PROJECT VIDEO
PANBOWL DAM
PROJECT

PANBOWL DAM PROJECT

PANBOWL LAKE

PANBOWL LAKE





EAST EMBANKMENT

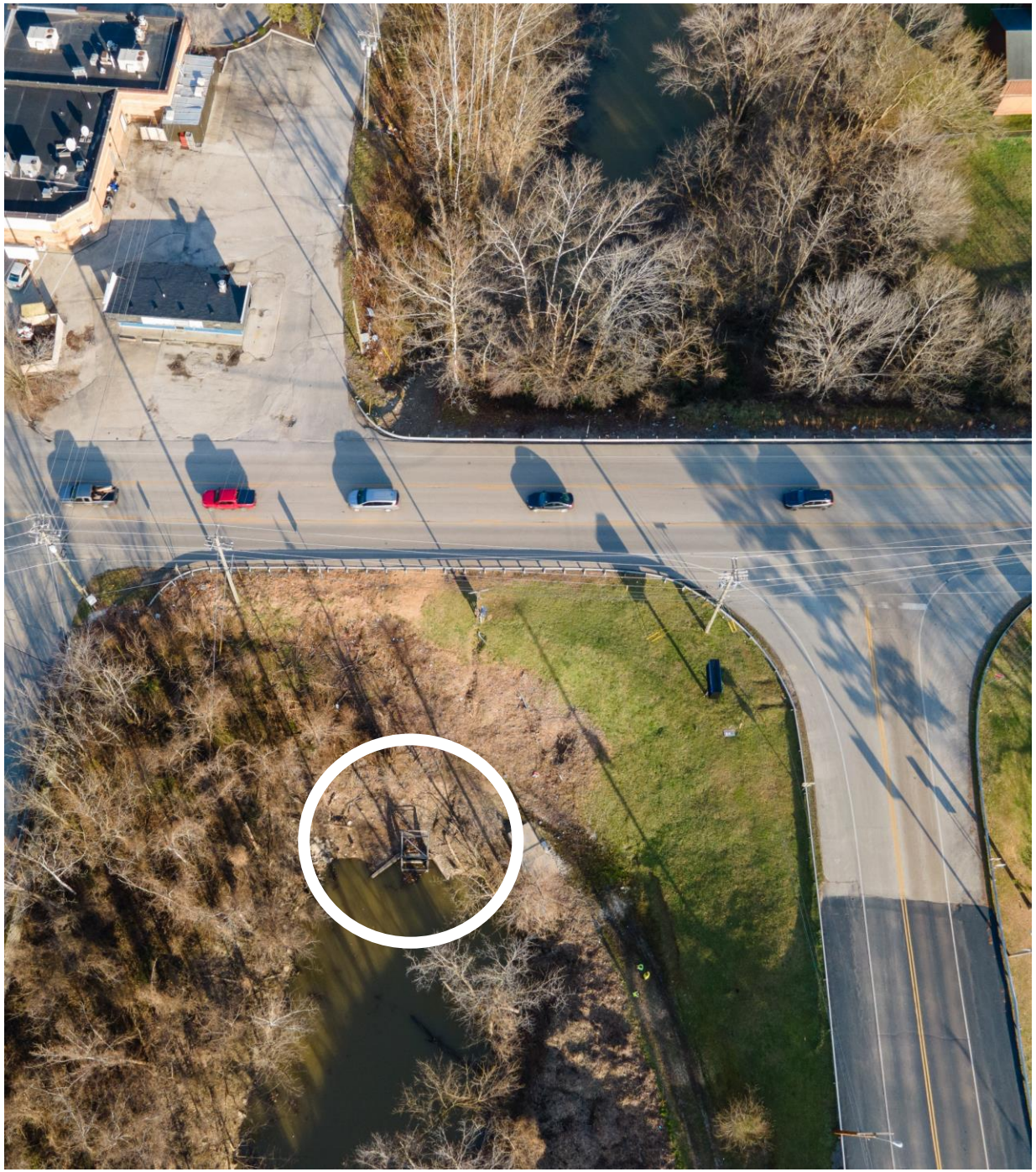
- 975 feet long
- Crest elevation up to 744 feet
- Slope ratios range from 1.5H:1V to 3.3H:1V

STANDPIPE RISER

- 20’ x 9.6’ spillway pipe leading to box culvert under KY 15
- Elevation = 713 feet

OUTLET CHANNEL

- 4,700 feet long; parallel to KY 15
- Encroachment over the years
- Typically has standing water



FLAP GATE

- Located under Washington Avenue
- Helps withstand a backflow of water from the river into the lake

FLAP GATE

WEST EMBANKMENT

- 1,035 feet long
- Crest elevation up to 741 feet
- Slope ratios range from 2H:1V (lake side) to 1.2H:1V (river side)

EMBANKMENT MATERIAL

- Both east and west embankments were built with clay cap/blanket
- Archived plans show various clay thickness up to 12 feet, but this is likely inaccurate

PANBOWL DAM PROJECT

2021 FLOOD EVENT

HISTORIC FLOODING

- River elevation reached just under 736 feet
- Lake elevation rose to 729 feet
- 10th worst flood in Jackson history


Courtesy Travis Bowling
PANBOWL DAM
PROJECT


Courtesy Travis Bowling
PANBOWL DAM
PROJECT

EMBANKMENT SLIP

- Water seeped from river through west embankment
- Soil began to slough on the lake side embankment

EMBANKMENT SLIP

- Sandbags, geotextile fabric and rock fill were used to make a temporary repair

PANBOWL DAM PROJECT

ENGINEERING STUDY

ENGINEERING STUDY

1. Consultants from HDR Engineering
2. Investigate soil and rock conditions
3. Study stability of embankments
4. Hydrologic & hydraulic report
5. Provide recommendations for improvement

SUBSURFACE CONDITIONS

SOIL SAMPLES

- 12 geotechnical borings
- Drilling from ground surface to bedrock
- Lab testing for soil type and moisture levels
- Strength testing for rock

SOIL OBERVATIONS

- Asphalt and topsoil
- Silty shale and silt
- Sandy lean clay
- Coarse grained alluvium
- Weathered shale
- Pikeville shale/sandstone
- Groundwater

SLOPE STABILITY

- Factor of safety evaluated for all embankments
- Different conditions considered with steady water seepage
- The factor of safety for the embankments was determined to be acceptable *when lake and river levels are normal*.

SLOPE STABILITY

- When the river level is high or the lake level is above normal AND there is steady water seepage, the factor of safety is considered too low.

H & H REPORT

- Hydrologic modeling of 2021 storm and beyond
- Panbowl Lake **has sufficient capacity** to pass a 6-hour Probable Maximum Precipitation Design Storm

PANBOWL DAM PROJECT

RECOMMENDATIONS AND KY 15 WIDENING

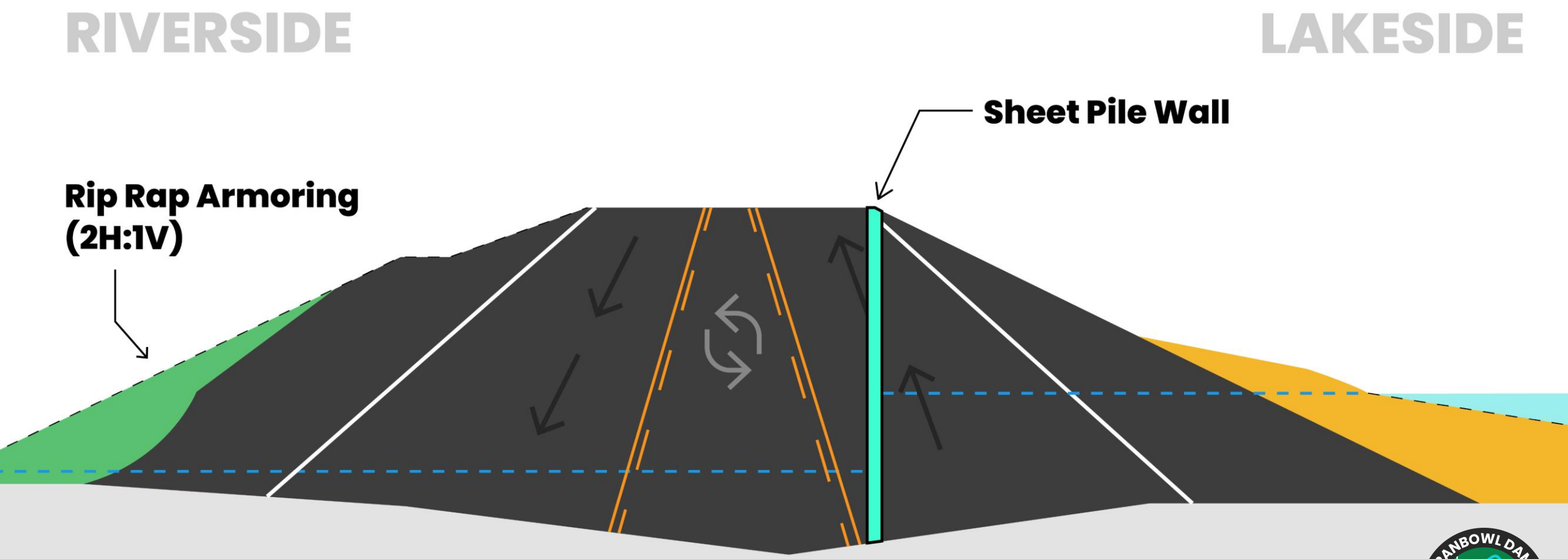
RECOMMENDATIONS

- Replace debris gate over east embankment standpipe
- Remove vegetation along embankments
- Install sheet pile wall at west embankment
- Flatten slopes
- Add secondary gate on Washington Ave outlet channel
- Add low-level drawdown valve at east embankment
- Widen KY 15

PANBOWL DAM PROJECT

DEBRIS GATE REPLACEMENT

SHEET PILE WALL INSTALLATION



KY 15 WIDENING PROJECT

PANBOWL DAM PROJECT

PROPOSED EAST EMBANKMENT

PROPOSED WASHINGTON AVE

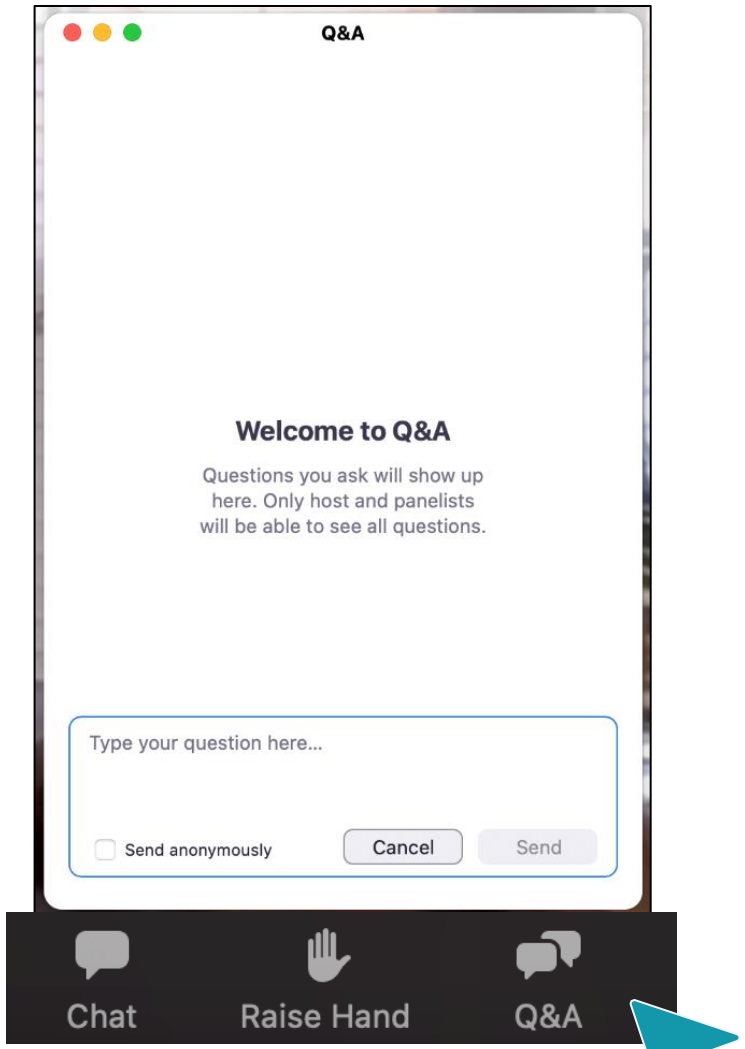
- Replace 60-year-old flap gate
- Additional secondary gate upstream

PROPOSED WEST EMBANKMENT

PANBOWL DAM PROJECT

QUESTIONS?

Q&A



Bottom of your screen

Reach out via email or phone to ask questions or to schedule time in-person with District 10 officials to review materials.

Appointments available
January 31 - February 11.

KYTC.District10Info@ky.gov

(606) 666-8841

PANBOWL DAM PROJECT

THANK YOU