



Streamlining Section 7 Review

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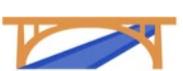
Bridging Kentucky Goals

Purpose

- Improve safety/soundness of current Kentucky Bridges

Goals

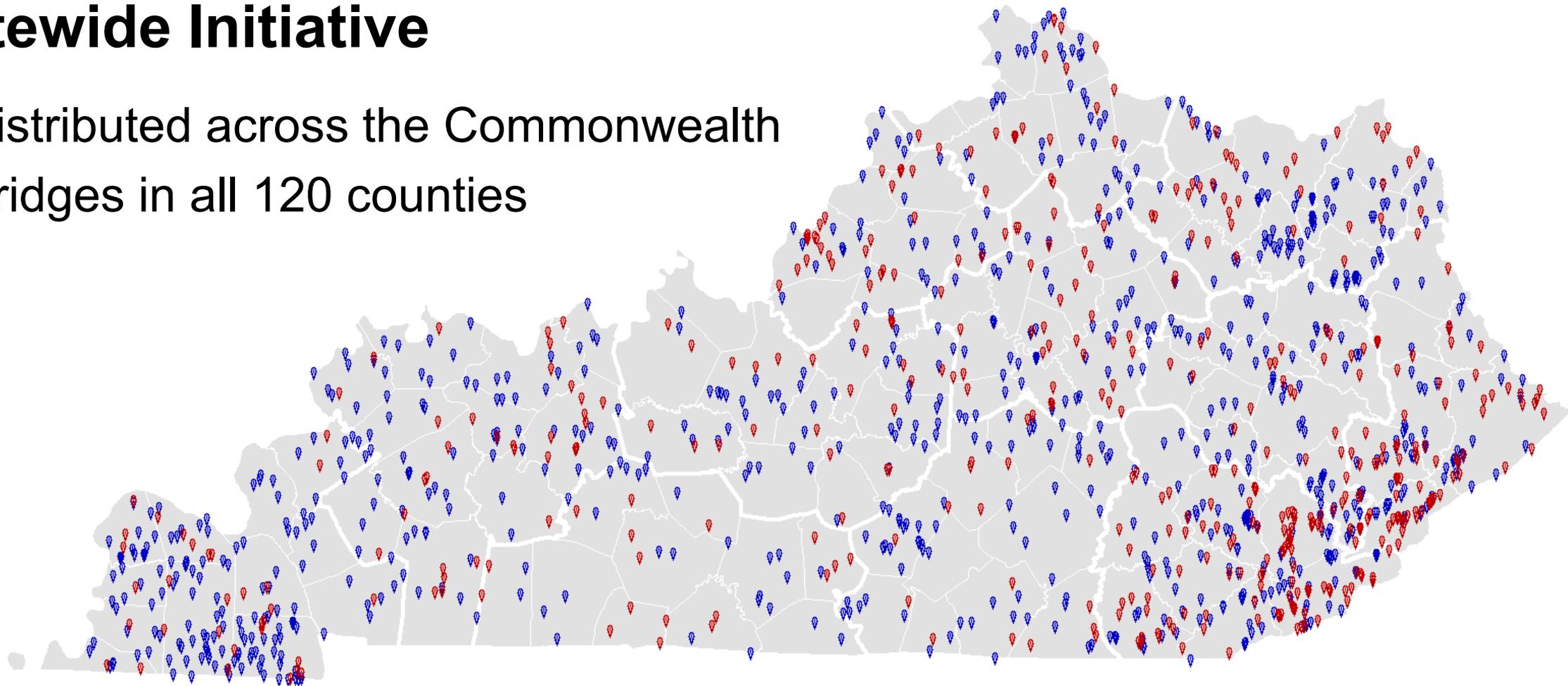
- Deliver **1,000 bridges** for construction within **6 years**
- Deliver **400 bridges** for construction within **2 years**



Bridging Kentucky Overview

Statewide Initiative

- Distributed across the Commonwealth
- Bridges in all 120 counties



Section 7 Streamlining Approach

Typical Design Approach

- Same location
- Limited approach work
- Replacement
- Rehabilitation



Section 7 Streamlining Approach

Strong Relationships



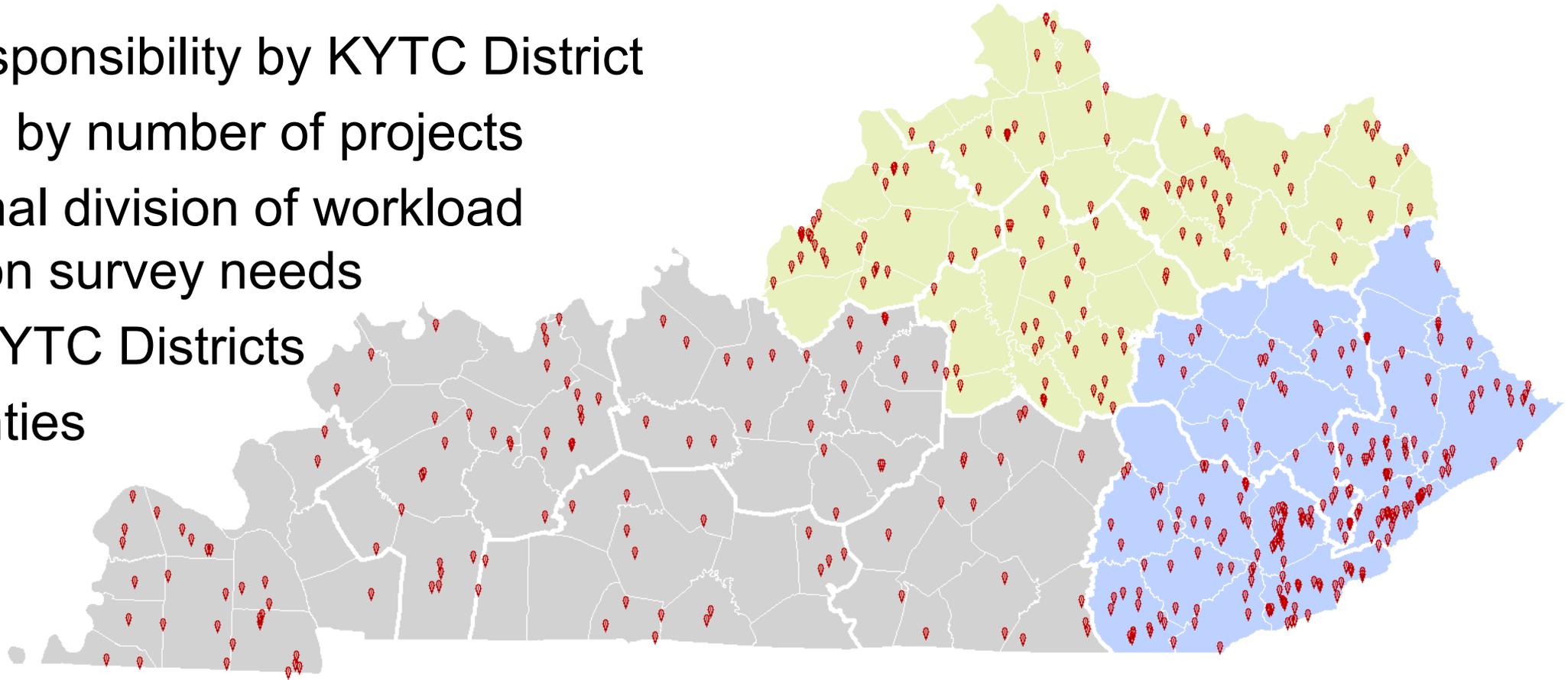
COPPERHEAD
ENVIRONMENTAL CONSULTING



Section 7 Streamlining Approach

Division of Work

- Firm responsibility by KYTC District
- Division by number of projects
- Additional division of workload based on survey needs
- All 12 KYTC Districts
- 98 counties



Section 7 Streamlining Approach

Use of Existing Agreements

Screening

- KYTC Habitat Assessment Manual

Non-species Specific

- No Effect Finding Forms

Bat Specific

- 4(d) Rule
- 2015 Interim Programmatic Agreement for Forest Dwelling Bats



Survey Methodology

Desktop Review

- Initial Project Screening
 - Screening checklist
 - ❖ Information for Planning and Consultation (IPaC)
 - ❖ KYTC Bridge Inspection Photos
 - Major/Minor Issues
(flag projects which may affect schedule)



Habitat Assessments

Tools

- KYTC Habitat Assessment Manual
- Bats in Bridges Datasheet
- Site reconnaissance
- Water quality screening
- Visual screening

Results

- No effect
- Survey required

BRIDGING KENTUCKY
Rebuild | Renew | Replace

BATS IN BRIDGES DATASHEET

KYTC Structure ID _____ KYTC Item No _____

Bridge Location: _____

County: _____ Lat: _____ Lon: _____

Date: _____ Time of Survey: _____ Investigator Name(s): _____

Bridge Type: (check one)

<input type="checkbox"/> Parallel Box Beam 	<input type="checkbox"/> Steel I-beam 
<input type="checkbox"/> Pre-stressed Girder 	<input type="checkbox"/> Flat Slab / Box 
<input type="checkbox"/> Cast in Place 	<input type="checkbox"/> Trapezoidal Box 
<input type="checkbox"/> Culvert - Box 	<input type="checkbox"/> Culvert - Pipe/Round 
<input type="checkbox"/> Other: _____	

Road Type: (check one) Interstate U.S. Highway State Road Local Road

Surrounding Habitat: (check all that apply)

Residential Row Crop Commercial Woodland Grassland Pasture Riparian

Conditions Under Bridge: (check all that apply)

Bare ground / soilment Concrete Rip rap Flowing water

Open vegetation (not obstructing flight path) Closed vegetation (may obstruct)

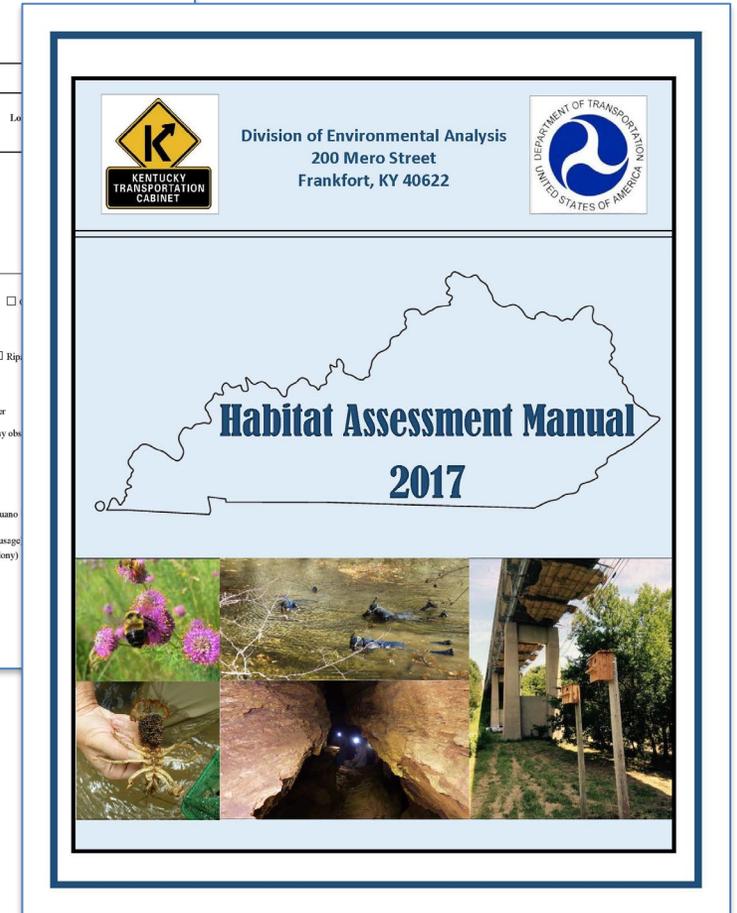
Two lane road Four (or more) lane highway Dirt road

Evidence of superstructure flooding Bridge Height: _____

Bat indicators: (check all that apply) Visual Smell Sound Staining Guano

Use intensity: (check one) Minor (scattered guano/staining - few bats or temporary usage) Major (guano piles/staining obvious - semipermanent colony)

Bats Present: YES NO



Surveys

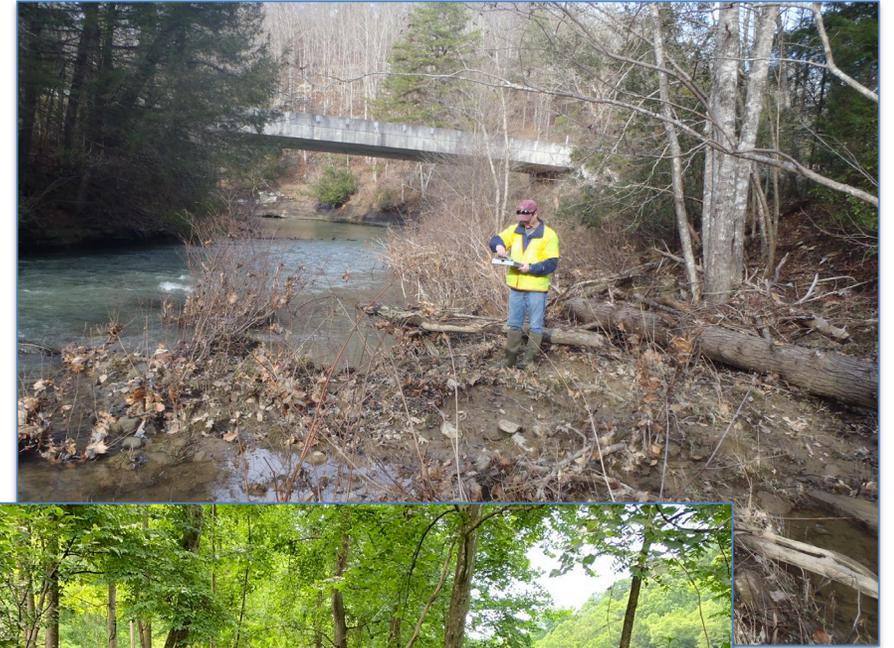
Survey Plans

- Programmatic Survey Plans
 - Fish/mussels
 - Similar projects
 - Reduced USFWS plan reviews
 - Faster survey scheduling
- Site-specific plans
 - Critical habitat
 - Special Use Waters
 - Crayfish



Reporting

- No Effect Forms – No T&E species habitat
 - USFWS opportunity to review
- Batch Biological Assessments (Batch BAs)
 - No T&E species found
 - Bat habitat concerns addressed
 - USFWS review up to 30 days
 - Concurrence has been faster
- Re-initiation process
 - Modification of project footprint
 - Modification of project timing



Individual and Formal Consultation

- Site-specific Biological Assessments
 - Critical Habitat
- Formal Consultation (Biological Opinions)
 - T&E species found
 - USFWS review – up to 165 days
 - Efforts underway to shorten timeline
- Close, continuous coordination
 - USFWS and design firms
 - Report template, avoidance, minimization, conservation measures



Streamlining Highlights

Flora and Fauna Listed Species

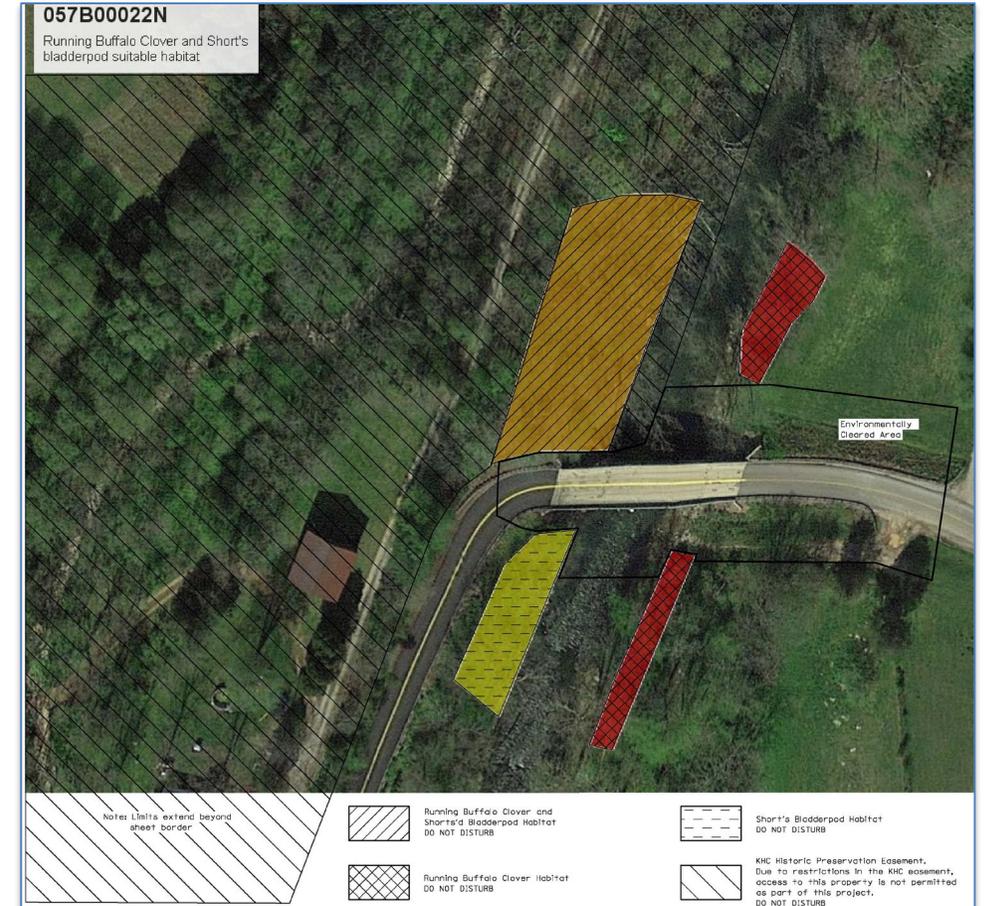


Taxa Surveyed	Number of Species	Total Surveys Completed
Bats	4	All
Fish	6	75
Crayfish	1	16
Mussels	11	71
Plants	9	14
Total	31	176

Streamlining Highlights

Agency Consultation

- **380 projects** addressed in BA documents
- Largest batch BA contained **49 projects**
- **12 projects** with formal ESA consultation
- **221 projects** with No Effect Findings



Jessamine County Bridge

Structural Assessment

- Box beam bridge built in 1983
- Tensioning rod failure and beam separation observed
- Superstructure replacement
- Project letting and construction proposed for fall 2019



Jessamine County Bridge

Agency Coordination and Bat Survey

- Bat signs and individuals identified
- No habitat for plants and mussels
- USFWS confirms known gray bat maternity colony
- One of few remaining maternity colonies in Bluegrass Region
- USFWS estimates 4,000 bats during maternity season



Jessamine County Bridge

Coordination and Reporting Timeline

- 3 / 2019 - Roosting locations mapped
- 4 / 2019 - Meet with USFWS & Bridging KY
- 4 / 2019 - Meet with project engineer
- 5 / 2019 - Platform inspection of bridge
- 6 / 2019 - First draft BA submitted
- 7 / 2019 - Final draft BA submitted
- 8 / 2019 - Final Section 7 approval



Jessamine County Bridge

Avoidance and Minimization Measures

- Construction timeframe limited to November 15 to March 31
- Typical erosion and sediment control measures
- Preconstruction platform bridge inspection
- Post-construction monitoring
- **BUILD A BAT BRIDGE** for recolonization of gray bats



Jessamine County Bridge

Building a Bat Bridge

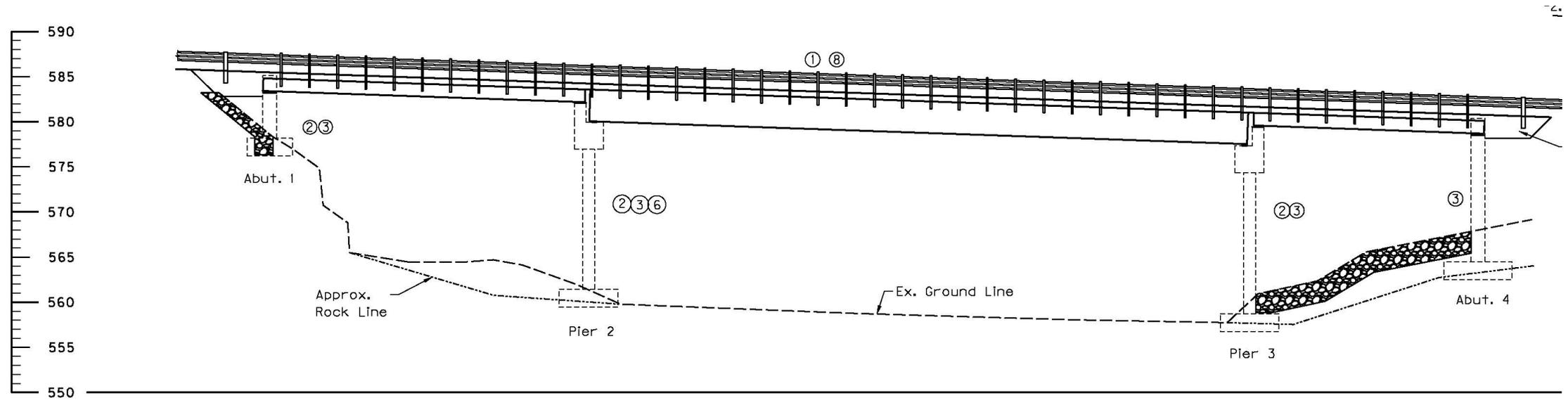
- **ROOST RESEARCH**
 - Identify optimal thermal and roost spacing parameters
 - Coordination with other DOTs and well-known bat colony managers at bridge locations
- **TALK TO AN ENGINEER**

Design Parameters

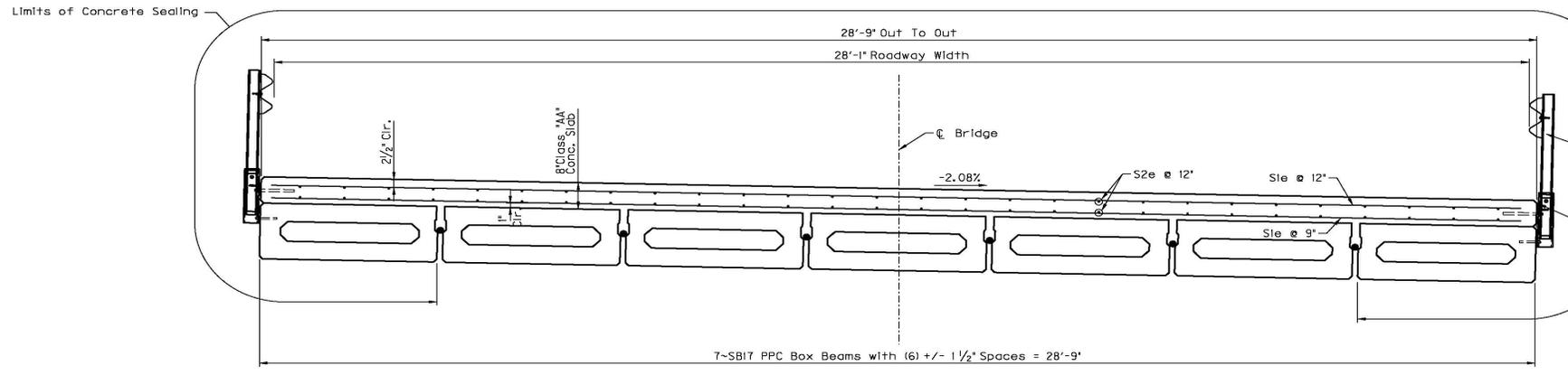
- Box beam gap spacing of 1.5"
- Net increase of linear roosting area from 572' to 762'
- Joint depths range from 9" to 34"
- Roosting volume increase from 133 ft³ to 218 ft³
- Stable and protected bat habitat for 30-year lifespan bridge design



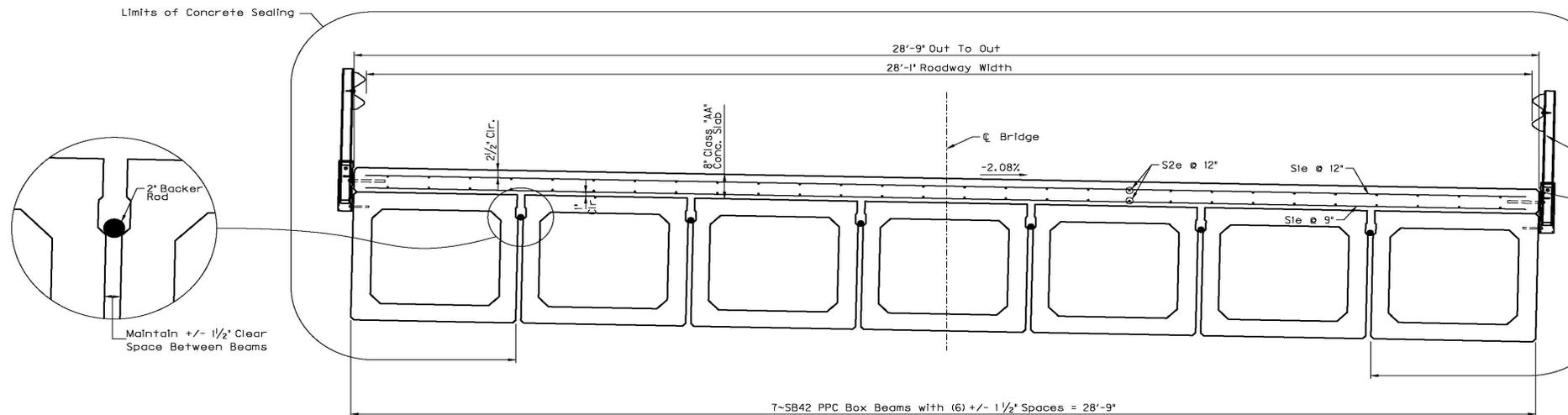
Jessamine County Bridge



Jessamine County Bridge



TYP. SECTION (SPANS 1 & 3)



Public Outreach

BridgingKentucky.com



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