

Demystifying Bridge 4(f)



Session Agenda

- **Overview** of the Bridge 4(f) process
- **Case studies**
- **Question and answer** session

Overview

Section 4(f) of DOT Act of 1966

- **Regulated use of land from:**
 - Publicly owned and accessible:
 - Parks
 - Recreational areas
 - Wildlife and waterfowl refuges
 - Public or private historical properties
- **Cannot use a historic properties unless:**
 - No feasible or prudent alternative
 - All possible planning conducted to minimize harm**OR**
 - Appropriate for de minimis use

Overview – Feasible and Prudent

- **Feasible:**

Technically possible to design
and build alternative

Overview — Feasible and Prudent

- **Prudent:**

- Meets purpose and need
- No unacceptable operational/safety problems
- No unique problems or unusual factors
- No unacceptable/severe adverse social, economic, or environmental impacts
- No severe community disruption
- No additional construction costs of extraordinary magnitude
- No accumulation of factors that collectively, rather than individually, have adverse impacts that present unique problems or reach extraordinary magnitudes

Overview – Final Rule

- Response to a mandate in SAFETEA-LU
- Key points
 - New definition of “feasible and prudent alternative”
 - Clarification of constructive use
 - All possible planning = all reasonable planning
 - Balancing test
 - Exception 4(f) clause for temporary occupancy

Case Studies

De Minimis 4(f)



**Programmatic
Bridge 4(f)**

Programmatic Bridge 4(f) - Process

Bridge Replacement Project

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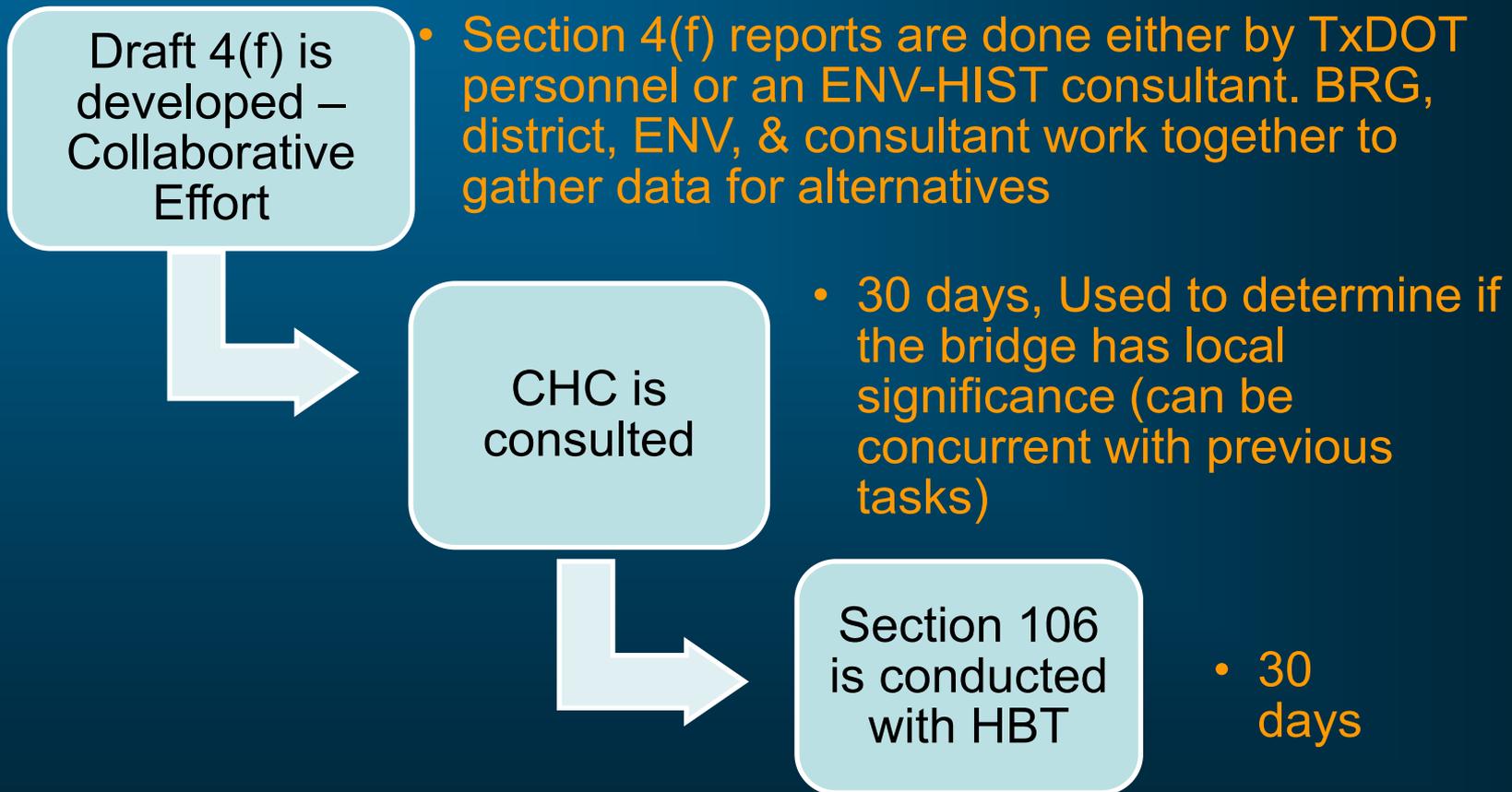
- Bridge was previously determined eligible or NRHP listed

Historic Bridge Team (HBT) Meets

- Goes over project basics

HBT Report & Condition Assessment Report are done

Programmatic Bridge 4(f) - Process



Programmatic Bridge 4(f) - Process

Concurrent Section
106 and 4(f) review
by THC

- 45 days

Bridge Marketing &
Mitigation

Programmatic Bridge 4(f) – Alt #1

- The No-Build alternative must be considered (Routine Maintenance)
- Rehabilitation for full vehicular service must show that activities are not adverse, no 4(f)!



Limestone County, CR 786 at Frost Creek



View of roadway, bridge and approaches
Looking to the south



Damaged concrete approaches to be repaired

Programmatic Bridge 4(f) – Alt #2

- Reduced level of vehicular service:
 - Repair for vehicular use
 - usually requires design exception
 - must retain NRHP qualities and features

Travis County, Old San Antonio Road at Onion Creek low water crossing



Travis County, Old Highway 20 bridge, near Manor



Programmatic Bridge 4(f) – Alt #3

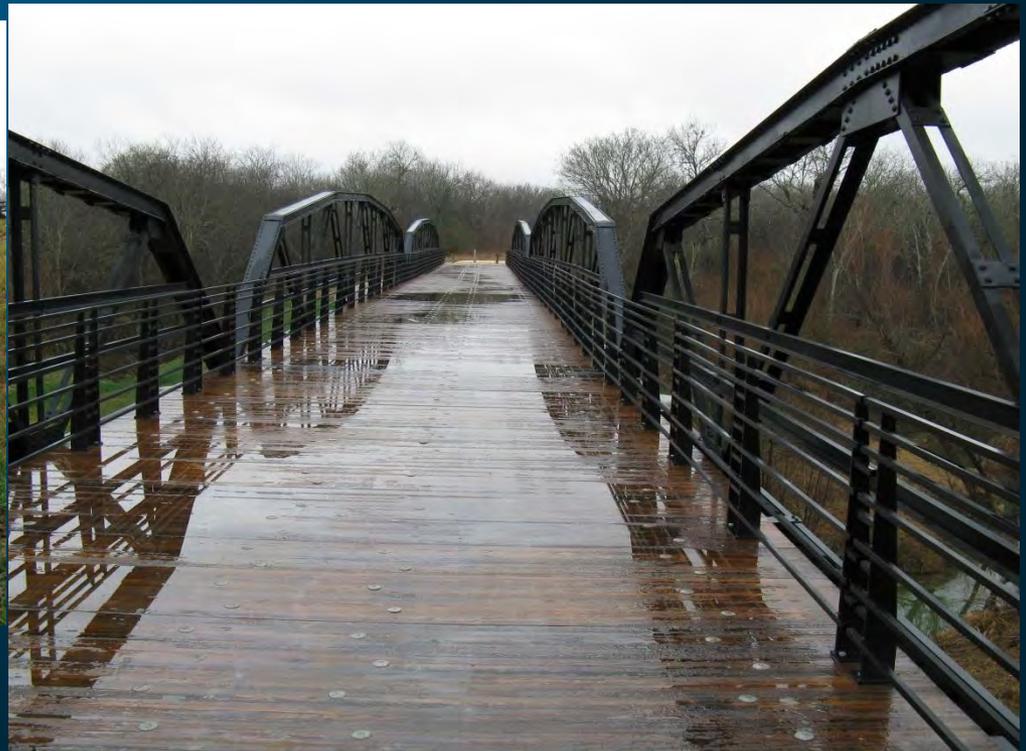
- Bypass and use as a pedestrian facility



Sugarloaf bridge, Milam County

Programmatic Bridge 4(f) – Alt #4

- Relocate for vehicular or pedestrian use



CR 120 bridge, Wilson County

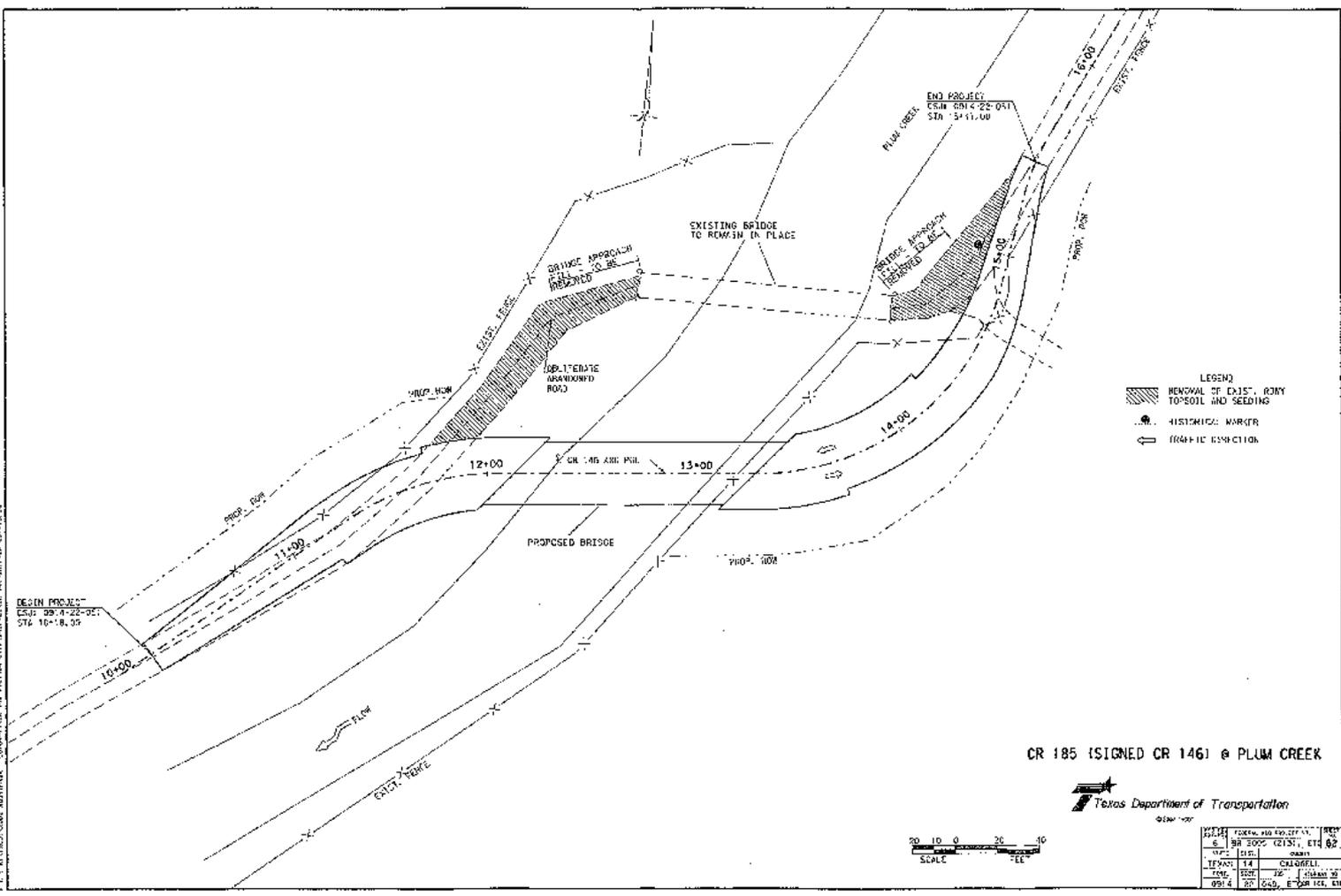
Programmatic Bridge 4(f) – Alt #5

- Leave in place as a monument
- This can mean no 4(f) if the bridge is simply closed without alterations.
- Either TxDOT or local govt. will have to maintain the bridge.

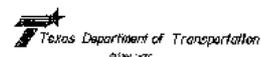
Caldwell County, CR 185,
SE of Lockhart



DATE: 01-18-07
 FILE: A:\PROJECTS\2006\CR 185\CR 185.dwg
 DRAWN BY: J. G. HARRIS
 CHECKED BY: J. G. HARRIS
 APPROVED BY: J. G. HARRIS
 PROJECT: CR 185 (SIGNED CR 146) @ PLUM CREEK



CR 185 (SIGNED CR 146) @ PLUM CREEK



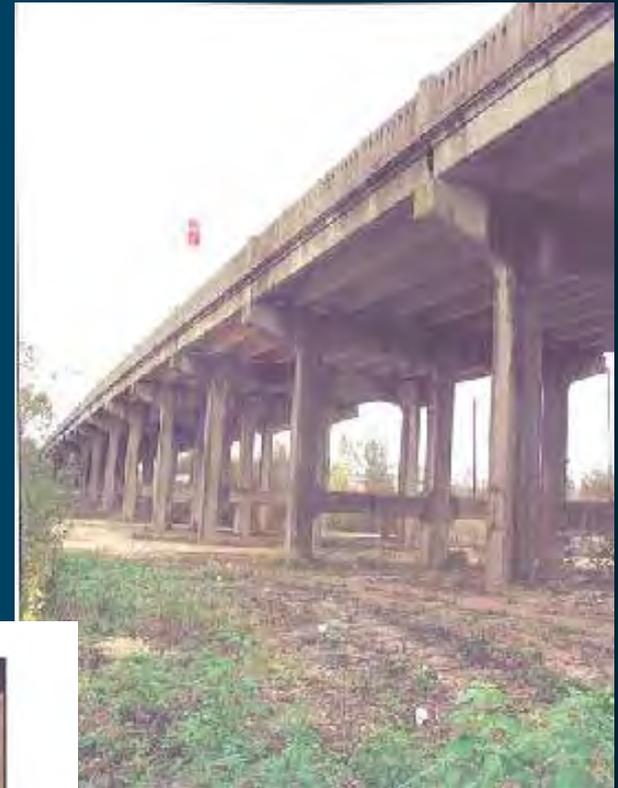
DATE	7/26/06	BY	J. G. HARRIS
NO.	6	PROJECT	CR 185 (SIGNED CR 146) @ PLUM CREEK
DATE	11/11/06	BY	J. G. HARRIS
NO.	1	PROJECT	CR 185 (SIGNED CR 146) @ PLUM CREEK
DATE	01/18/07	BY	J. G. HARRIS
NO.	2	PROJECT	CR 185 (SIGNED CR 146) @ PLUM CREEK

Programmatic Bridge 4(f) – Alt #6

- Removal/destruction with mitigation



Shelby County, US 84 at Sabine River



Existing US 84 railing



Example of proposed US 84 railing

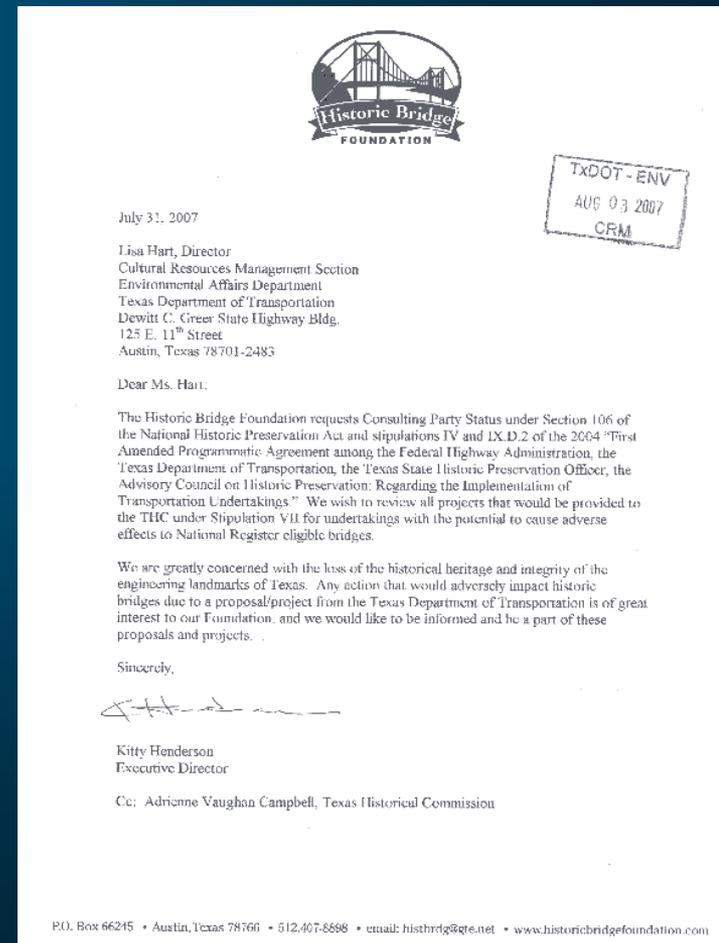
Limestone County, US 84 at UPRR crossing, Mexia

Programmatic Bridge 4(f) – Process cont.

- Determine preferred preservation alternative (make sure it meets purpose and need of project)
- If bridge cannot remain in full vehicular service (preservation Alt. #1), or can remain in service but activities are found to be adverse, must write 4(f) document

Historic Bridge Foundation

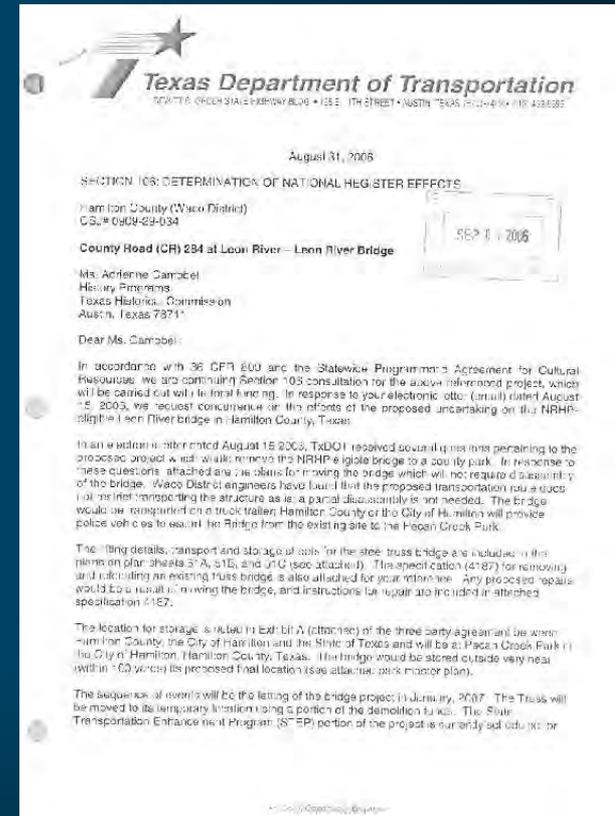
- The Historic Bridge Foundation (HBF) was granted consulting party status for all projects that may adversely affect historic bridges
- TxDOT historians must consult with HBF before consulting with SHPO about the effects of a project



Programmatic Bridge 4(f) – Consultation Timelines

Using the draft 4(f) document

- historians will consult with Historic Bridge Foundation (HBF) as well as any other identified consulting parties (30 days)
- historians will consult with the SHPO (20 days)



Programmatic Bridge 4(f) – Items Needed for Consultation

- Good draft 4(f) document (well written purpose and need statement and alternatives discussion)
- Latest BRG inspection report and condition report
- Recent photos of condition of bridge
- Map
- At least 60% complete schematics of proposed project
- Marketing completed (whether buyer is found or not)

Items needed for consultation, con't

- If the bridge will be relocated:
 - Three party agreement (signed) if bridge will be turned over to county or city ownership
 - Relocation plan drafted by the district that shows the proposed use and location of the bridge

Programmatic Bridge 4(f) – Project Wrap-up

- SHPO concurs, send 4(f) as an attachment to the NEPA document to FHWA
- **DONE!**



Bridges



- FM 1689 Bridge at Tributary to Jimmy's Creek – Comanche County
- CR 140 at Jim Ned Creek – Coleman County

FM 1689 Bridge



FM 1689-Project Specific Issues

- Masonry construction built by WPA in 1940
- Sufficiency Rating of 19.3
- Farm to Market Roadway with need for widening for safety

“Rocks” on the Bridge

- Communication between TXDOT personnel
- Communication between TXDOT and THC

COMMUNICATION!!!

COMMUNICATION!!!

COMMUNICATION!!!

Solution – modified Alt #2

- Given time and multiple translations the solution comes to fruition.
 - Incorporation of the significant masonry elements.
 - Development of near in-kind railing
 - Text marker explaining the history of the bridge and new design

Wahlah!!





CR 140 at Jim Ned Creek

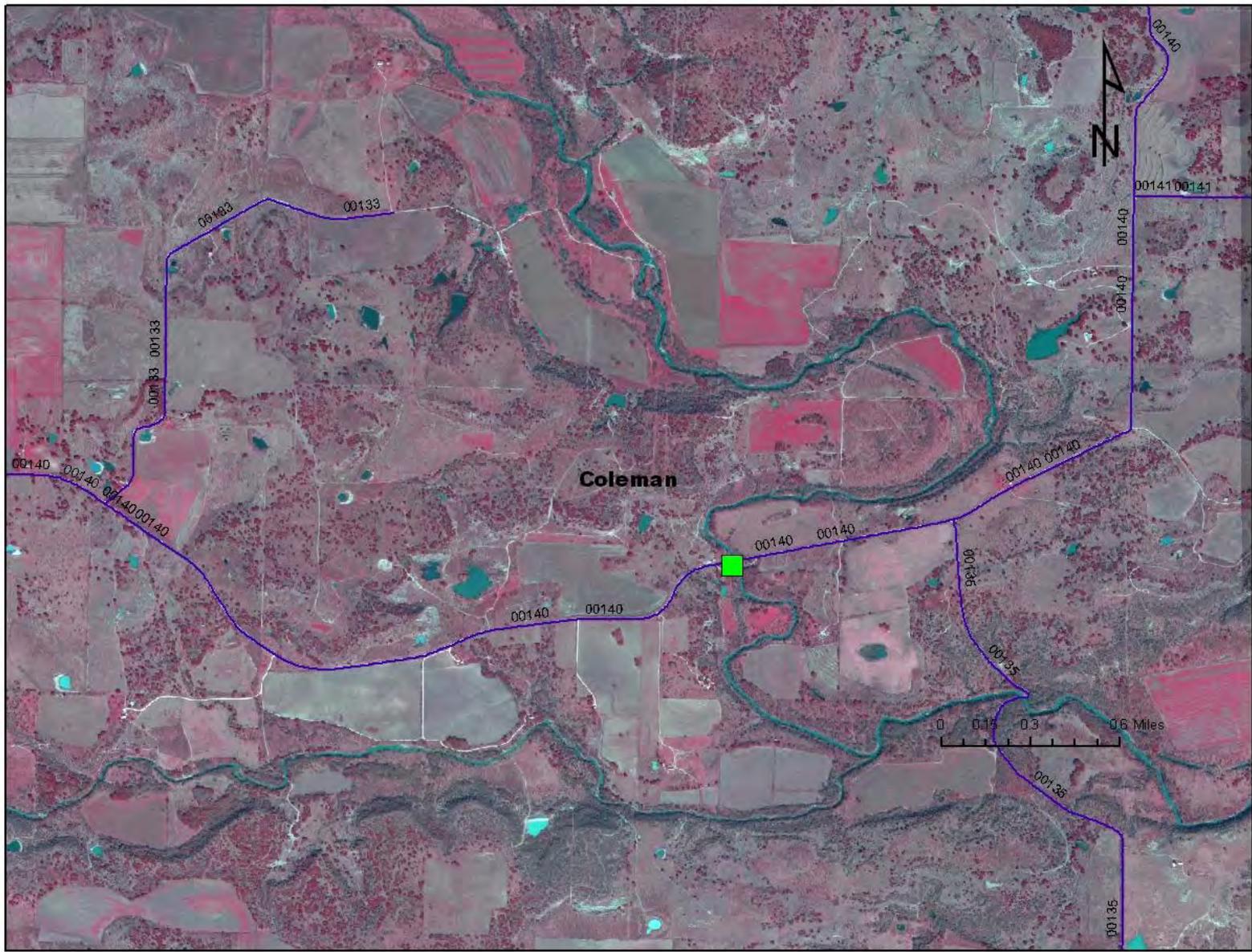


CR 140-Project Specific Issues

- 80-ft Pratt Truss built in 1915 and a 100-ft Warren truss built in 1907 both moved to present location in 1923 (also 4 steel stringer approach spans)
- Sufficiency Rating of 24.0
- Agricultural area with large equipment currently detouring 15 miles or using the adjacent low water crossing

Issues

- THC wanted to make it a one-way pair
- TXDOT addressed why this was not prudent.
 - Load posting would still be required on historic bridge even after rehabilitation
 - Oversize vehicles would use the new wider structure to cross in the wrong direction



Solution - Alt. #5

- Leaving as monument
- Minor repairs
- Eliminating vehicular and pedestrian access
- Providing marker

Communication

- The different disciplines and agencies (engineering, historians, TXDOT, and THC) don't speak the same language.
- The 4(f) audience is the public:
 - No habla engineering...No habla historical architecture!
- District environmental personnel and TXDOT historians are left to be the interpreters.

Time

- Local County Historic Commissioner
- Bridge Condition Report
- Historic Bridge Team Report
- Draft 4(f)
- Informal/Formal Coordination with THC/HBF
- FHWA

Patience

- Language Barriers
- Timeframes
- Frustration

Keys to Success

Communication

Starting Early

Patience