

2023 TEAM Conference

March 17, 2023

Laurel McKean, PE Project Director MoDOT Tyson Stein, PE, SE Structures Lead Parsons

Design-Build Project Team

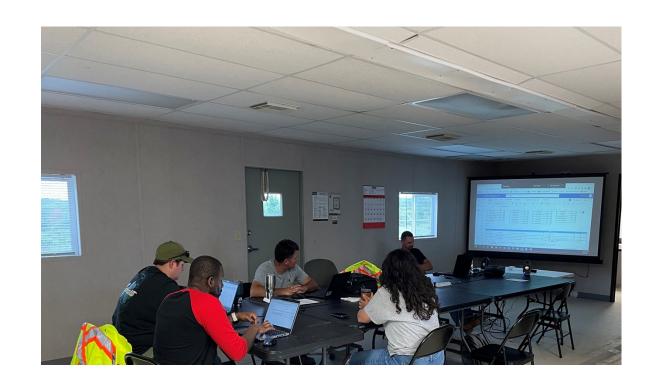
MoDOT (Owner)

• TREKK (Owner Engineer)

Emery Sapp & Sons (Contractor)

Parsons (Lead Designer)

- Terracon
- Civil Design, Inc.





Purpose

The purpose and need of the I-44 Corridor Bridge Bundle (I-44 CBB) Design-Build Project is to replace or rehabilitate poor and fair condition rated bridges along and within 15 miles of Interstate 44 across the Southwest District.



Goals

- 1. Deliver a safe project within the programmed budget of \$43.174 million
- 2. Maximize the number of locations to be addressed while providing quality structures
- 3. Use innovation to reduce delay and minimize impacts to the public
- 4. Deliver the Project using a diverse workforce
- 5. Complete the Project on or before November 1, 2024



Request for Proposal

Bridges are experiencing deterioration and require increasing maintenance to keep them safe for travel.

16 Mandatory Bridges:

- Nine (9) Bridge Replacements (5 on I-44)
- Six (6) Bridge Replacements or Rehabilitations (2 on I-44)
- One (I) Bridge Rehabilitation

16 Secondary Bridges:

- 14 Bridge Replacements
- Two (2) Bridge Replacements or Rehabilitations

Maintain two lanes of traffic in each direction on I-44 where the mainline bridge is being replaced, redecked, or the superstructure replaced (except for short-term lane closures).

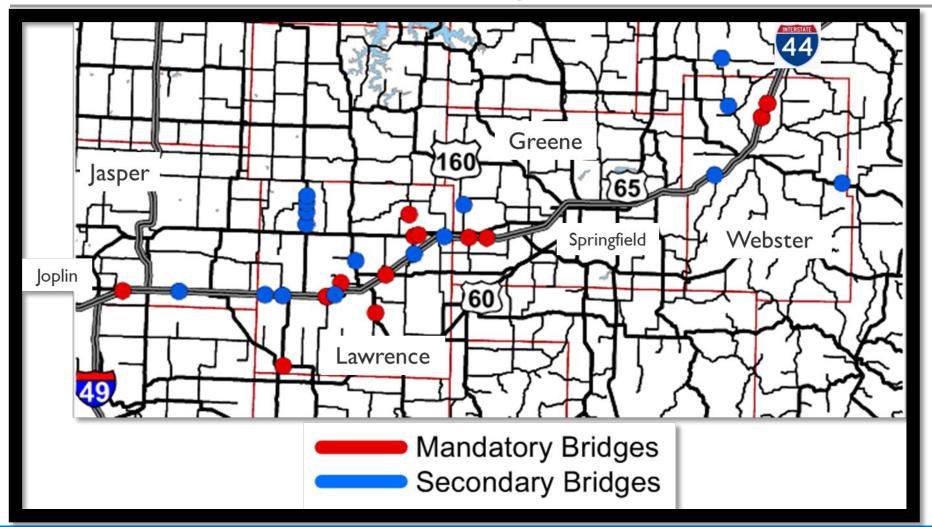
Utilize Dynamic Late Merge/Zipper Merge system on I-44 where the mainline bridge is being rehabilitated.

DURING BACKUPS USE BOTH LANES

TAKE TURNS AT MERGE



144 Corridor Bridge Bundle

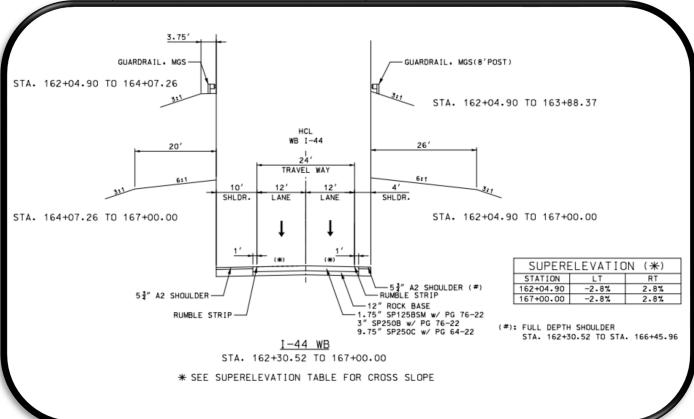




I-44 Corridor Bridge Bundle Design Criteria

| Location | Major or Minor | Lane Width* | Acceleration and Deceleration Lane Width | Normal Shoulder Width |
|-----------------------------------|----------------|-------------|--|--|
| Existing I-44 (Each Direction) | Major | 2-12' | 12' | 10' Outside 4' Inside |
| | | | | 6' Adjacent to Acceleration and Deceleration Lanes |





ESS Team Proposal

Improve 25 bridges at various locations in Jasper, Lawrence, Greene, Webster and Dallas counties

- 12 Multi-Girder Bridge Replacements
- Four (4) Culvert Replacements
- Six (6) Superstructure Replacements
- Three (3) Bridge Rehabilitations

Impact seven (7) bridges on I-44, five (5) over I-44, and 13 on other state routes within 15 miles of I-44.

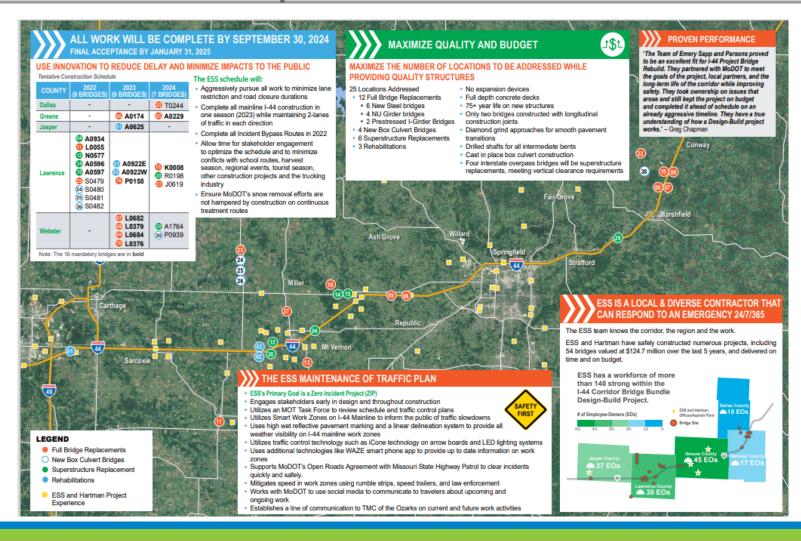
Traffic Impacts:

- I-44 bridge replacements will maintain two lanes of traffic.
- I-44 bridge rehabs will utilize Zipper Merge.
- Most others have signed detours.

| COUNTY | 2022 (9 BRIDGES) | 2023 (9 BRIDGES) | 2024 (7 BRIDGES) |
|----------|--|--|----------------------------------|
| Dallas | - | - | |
| Greene | - | 6 A0174 | ७ A0229 |
| Jasper | - | ① A0625 | - |
| Lawrence | 04 A0934 11 L0055 12 N0577 14 A0596 15 A0597 23 S0479 24 S0480 25 S0481 26 S0482 | 02 A0922E 03 A0922W 06 P0158 | 13 K0008 20 P0198 27 J0619 |
| Webster | - | © L0682 © L0379 © L0684 © L0376 | 29 A1764 30 P0939 |

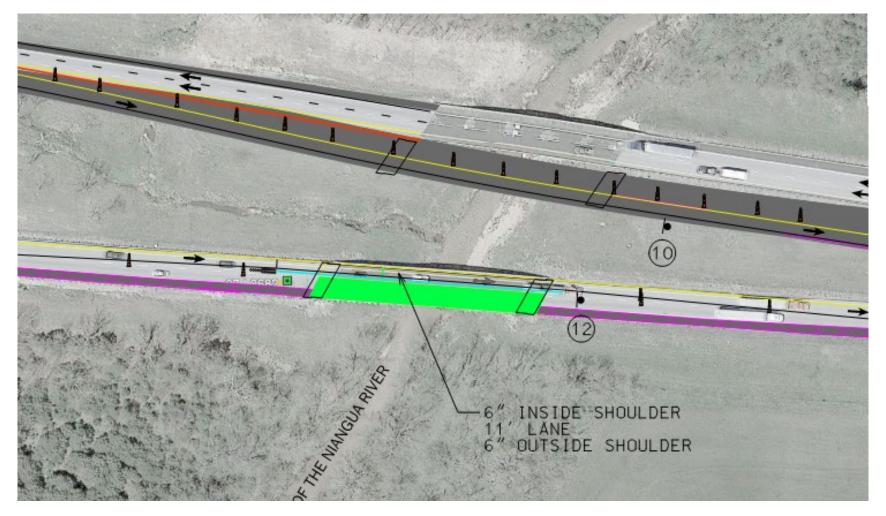
Note: The 16 mandatory bridges are in **bold**

ESS Team Proposal

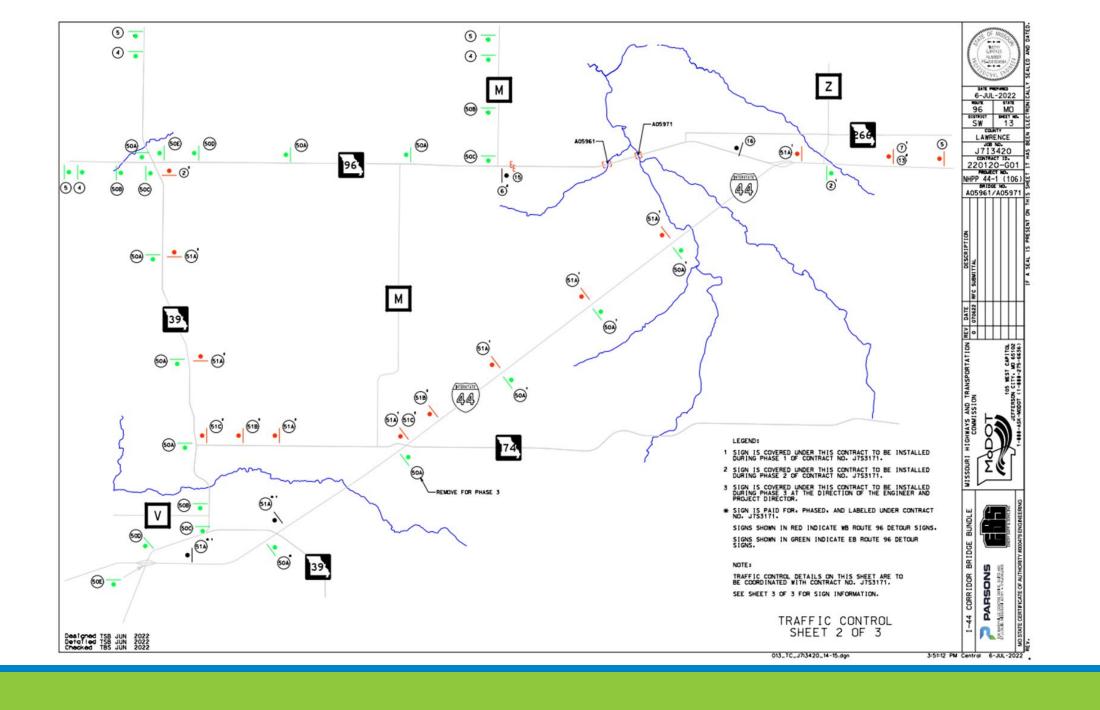




I-44 over East Fork of the Niangua River







Accelerated Schedule



Design Update

Multi-Girder Bridge Replacements

- 10 Released for Construction
- 2 at 90%

Superstructure Replacements

- 3 Released for Construction
- 1 Remaining

Box Culvert Replacements

- 3 Released for Construction
- 1 Remaining

Bridge Rehabilitations

- 3 Released for Construction
- 0 Remaining





Construction Update

Multi-Girder Bridge Replacements

- 2 Completed
- 3 Underway
- 7 Remaining

Superstructure Replacements

- 4 Completed
- 2 Remaining

Box Culvert Replacements

- 3 Completed
- 1 Remaining

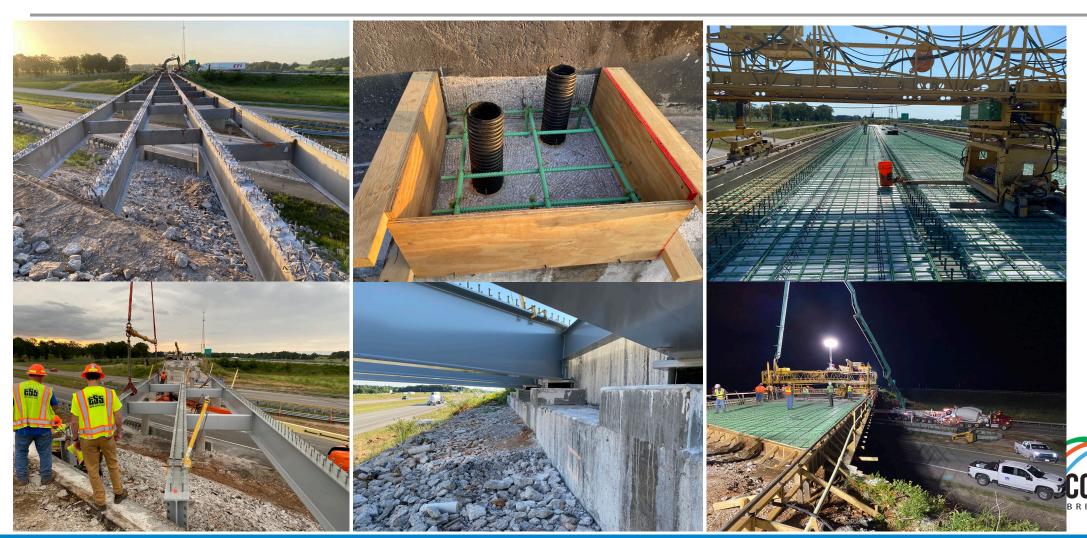
Bridge Rehabilitations

- 2 Underway
- 1 Remaining





2022 Construction – Rt. 174 over I-44

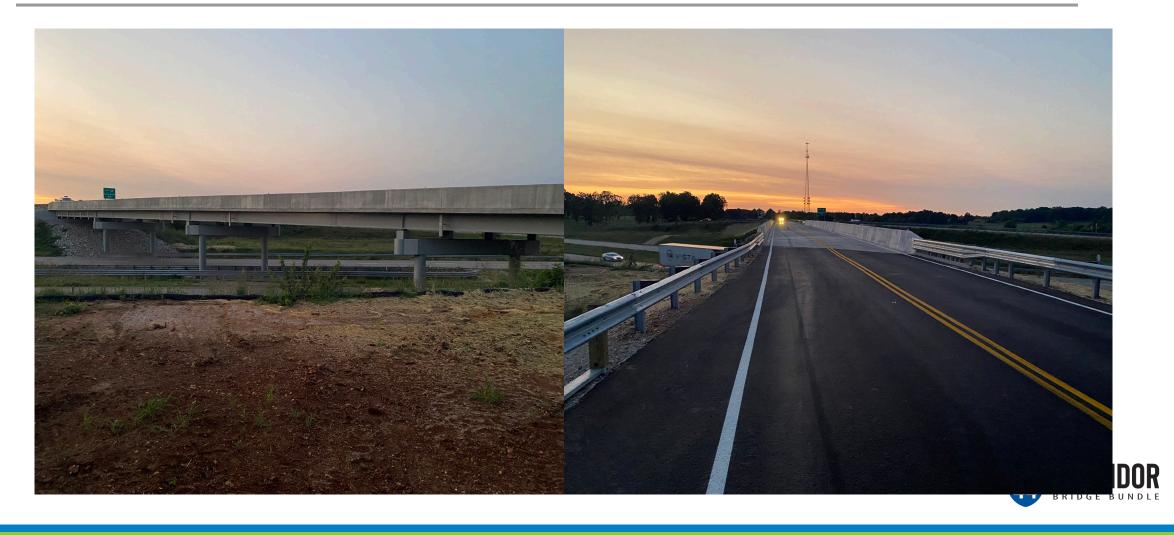


2022 Construction – Rt. 174 over I-44





MO 174: Bridge Complete





MO 37: Before

MO 37: Construction

















MO 37: Completion







MO 96: Construction





Rt. 96 – Previous Condition

Bent 3 Cap Replacement









MO 96: Construction





Route V: Before



MO V: Construction



MO V: Construction









MO 97





Bridge 24 (A9264) – MO 97 Over Dry Branch

- Box Culvert Replacement on Culvert Rated 5
- Widened
- First bridge in project



Bridge 25 (A9265) – MO 97 Over Wilder Branch







- Box Culvert Replacement on Culvert Rated 4
- Widened
- Wet Weather



Bridge 26 (A9266) – MO 97 Over S. White Oak Creek

- Box Culvert Replacement on Culvert Rated 5
- Widened







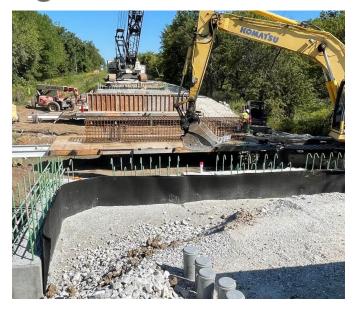




Bridge 23 (A9071) – MO 97 Over N. White Oak Creek

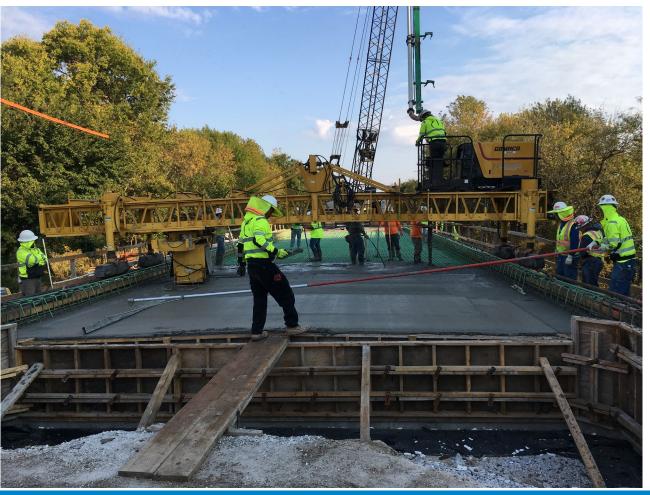
- Steel girder bridge replacement on existing one lane bridge rated 5-4-6
- Void in Shaft No. 5
- Shaft No. 5 & Shaft No. 7 drilled deeper
- Bridge in-progress







Bridge 23 (A9071) – MO 97 Over N. White Oak Creek





Bridge 23 (A9071) – MO 97 Over N. White Oak Creek



