

# 2009 APPLICATION FORM

(required for each entry)

Complete this section for (check one):  **Small Project**  **Large Project**  
 **Post-Design Solution**  **Off System Project**

**Job No.** J7P0591 **Route** 32 **County** Cedar

**Description** (attach separate sheet if necessary) This project addresses 4 substandard horizontal curves that are posted at 25 MPH on a stretch of highway otherwise posted at 55 MPH. Two disconnected sections will be constructed, one at the Bearcreek curve and the other through Route H and ending near Route RA.

Complete this section for: **Process Improvement**

**Process or Product** \_\_\_\_\_

**Description** (attach separate sheet if necessary) \_\_\_\_\_

**Project Leader** Sean Matlock

**Key Team Members** (include key personnel irrespective of employer-nine individuals maximum)

<u>Patrick Whitaker</u>	<u>Jim Conley</u>	<u>Bart Harper</u>
<u>Mark Throener</u>	<u>Tim Redmond</u>	<u>Mike Rinehart</u>
<u>Beth Schaller</u>	<u>John Mehuys/Travis Tesreau</u>	<u>Andy Ellsworth</u>

**Project Budget:**

**Initial Cost / Estimate** \$ 7.4 million to 10 million **Final Cost / Award** \$ \$1,524,308.45

**What would make this entry stand out from the rest of the entries when considering MoDOT's practical design philosophy?** (In layman's terms - 200 words or fewer-attach separate sheet if necessary) \_\_\_\_\_

The use of practical design on this project allowed us to fix only the most critical horizontal curves. Route 32 is minor route and with the focus on major routes and limited funding, this project would have been delayed or never constructed if practical design had not been applied.

**Send entries to:** MoDOT Design Division, ATTN: Joe Jones  
1320 Creek Trail Dr., Jefferson City, Missouri 65109

**ALL ENTRIES MUST BE RECEIVED NO LATER THAN CLOSE OF BUSINESS ON DECEMBER 1, 2008**



## ***Project Summary and Historical Background***

### ***Historical Background:***

Location of Project: From 0.8 mile east of Rte A to Rte RA

Length: 1.8 miles (two disconnected sections)

The Route 32 corridor east of Stockton to Route 13 was reviewed as part of a 1967 reconnaissance report. The original alignments were presented at Public Hearings in 1974 and were later shelved after initial public opposition to the Route 32 relocation. In 1986 (Project 7-P-32-29) the bridges to the east over Moore's Branch and Bear Creek were replaced and the road straightened and widened along the shortened segment. In 2000 a new project (J7P0591) acquired right of way along Route 32 from 0.3 mile west of Route A to 0.4 mile east of Route 245. The original scope of the project included elimination of the horizontal and vertical curves along that section of Route 32 and widening of Route 32. In 2001 a demolition contract (J7P0591B) was let to remove the buildings that were acquired.

### ***Purpose and Need:***

Route 32 provides an important corridor between Stockton and Bolivar as well as recreational access to Stockton Lake. This location has 4 sharp horizontal curves that are posted at 25 mph. There have been several accidents including one fatality along these curves. This project will help improve the safety of the road by eliminating these 4 sharp curves.

### ***Scope Comparison:***

#### Original Design (Metric)

Project included the elimination of horizontal curves, vertical curves, and tie into the previous straightening and widening project east of Route 245 (built in 1986).

Total Project Length = 4.7 miles.

Public Hearing 1998: Estimate cost of construction \$7.4 - \$10.3 Million.

Typical (2) 12' Lanes with 8' shoulders. Full depth pavement 28', with (2) 6' A2 shoulders. Total Roadbed width 40'.

#### PRACTICAL DESIGN

Project reduced to focus on the elimination of the horizontal curves. (4) curves signed at 25 mph are being eliminated. This is the primary area that has the most accidents.

Total Project Length = 1.856 miles, however, paving stops at Route RA so the effective length of the project is 1.5 miles.

Project Plans submitted July 2008. Estimated cost \$1,696,569.66. Program cost \$2,072,000. Bid letting (9/19/2008) \$1,524,308.45.

Typical (2) 11' Lanes with 4' Shoulders. Full depth pavement 26' with (2) 2' earth shoulders. Total Roadbed width 30'.

### ***Cost Savings***

The cost savings over the original project is a decrease of roughly 80 percent.

### ***Roadway User Expectations***

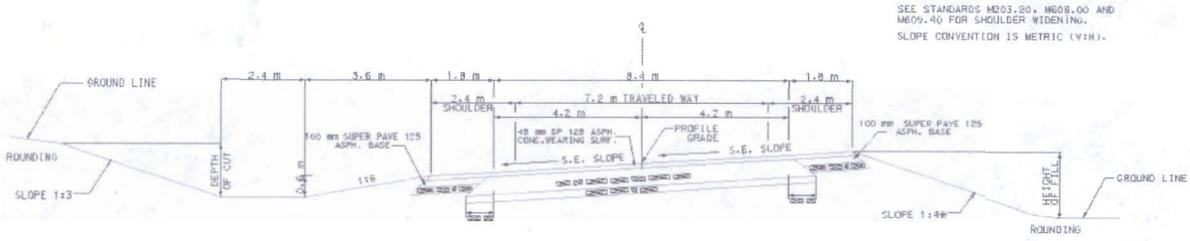
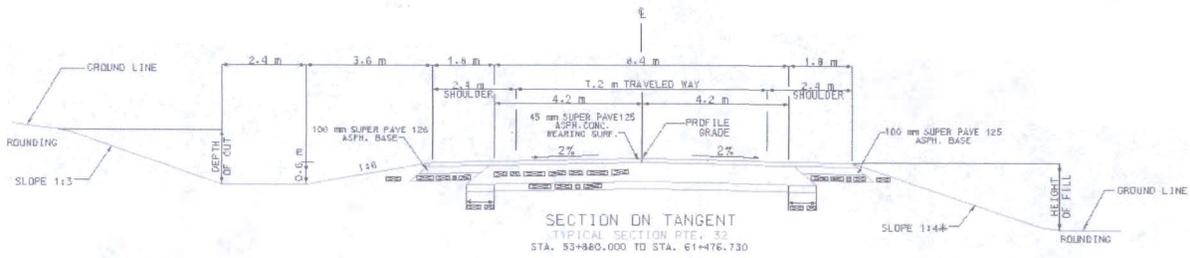
Once the construction of this project is completed, drivers will no longer have to slow down to navigate the sharp curves. Vehicles that stay at more consistent speeds make for a much safer overall route with gentler horizontal curves and elimination of the 25 mph signs.

### ***New Techniques, method and non-traditional design:***

Although Route 32 is an important recreational route it is not considered a major route. With the focus of keeping our major routes in good condition, it is necessary to use our budget wisely and decrease the scope of this project. Practical design allows us to concentrate our efforts on the most critical areas and still make the roadway much safer for the driving public.

The use of practical design on this project allowed us to fix only the most critical horizontal curves. Route 32 is a minor route and with the focus on major routes and limited funding, this project would have been delayed or never constructed if practical design had not been applied.

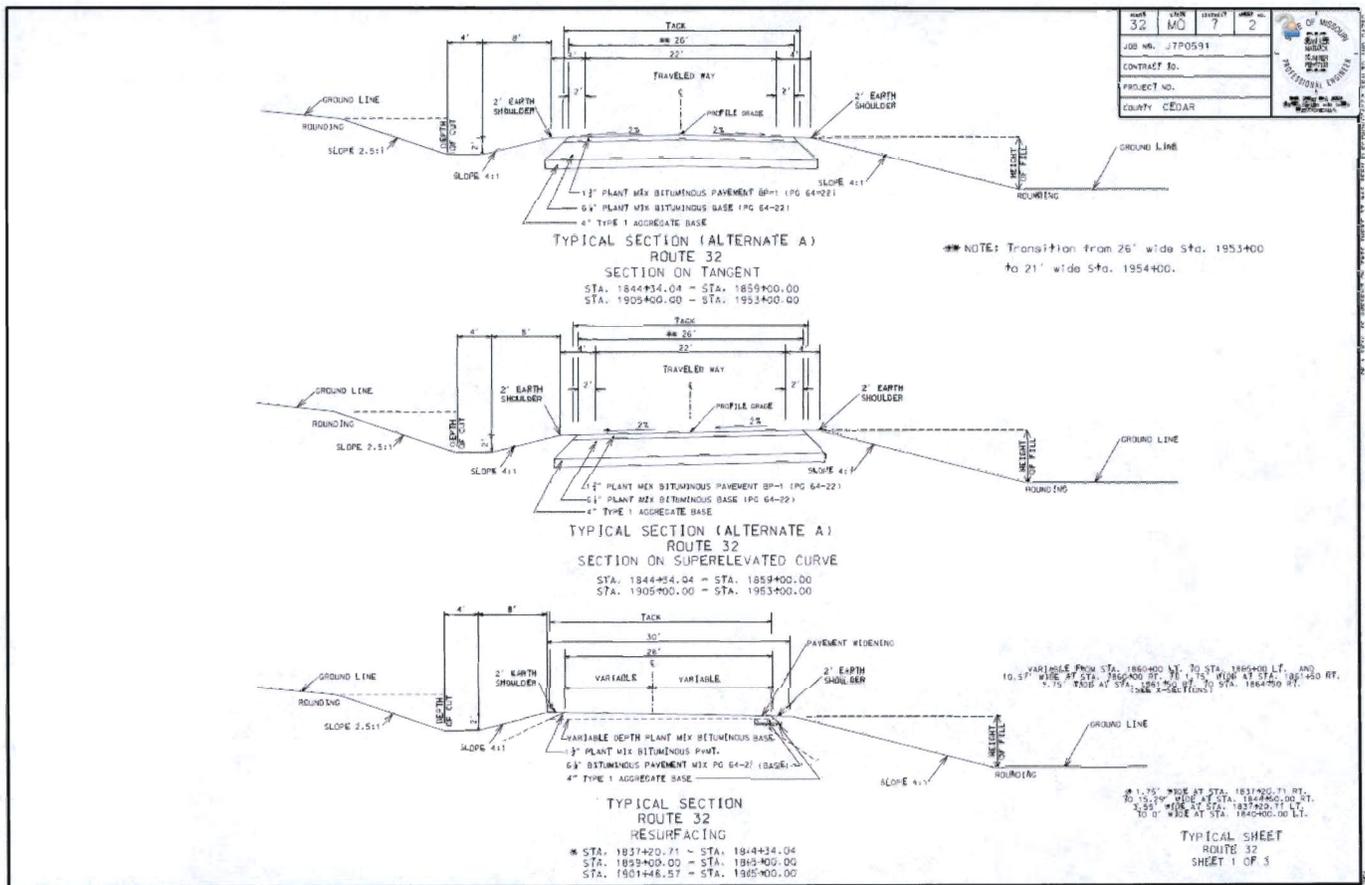




SEE STANDARDS MD03.20, ME09.00 AND ME09.40 FOR SHOULDER WIDENING. SLOPE CONVENTION IS METRIC (V:H).

\* THE OFFSET FROM TOE OF FILL TO THE SHOULDER POINT SHALL BE A MINIMUM OF 7.2 m. THE SLOPE WILL VARY TO MEET THIS REQUIREMENT BUT WILL BE NO STEEPER THAN 1:4

**Originally proposed typical section with 40-foot roadbed**



**New practical design typical with 26-foot roadbed**



***Existing Route 32 with sharp curve 25 M.P.H. guide sign***



***Existing Curves on Route 32***