

D.O.T. 66

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

**FILE** P. I. No. 522540-, Coffee-Telfair Counties **OFFICE** Preconstruction  
EDS-441(37)  
US 441/SR 31 Improvements **DATE** February 17, 2006

**FROM** *Cybil Juvala*  
Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

**TO** *MBP* SEE DISTRIBUTION

**SUBJECT** APPROVED REVISED PROJECT CONCEPT REPORT

Attached for your files is the approval for subject project.

MBP/cj

Attachment

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# **REVISED PROJECT CONCEPT REPORT**

## **EDS-441(37) COFFEE/TELFAIR COUNTY**

### **P.I. # 522540**

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

The US 441/SR 31 Improvements are part of the Governors Road Improvement Program (G.R.I.P.) and involves the multi-laning of this primary north-south corridor in South Georgia, serving as a catalyst for the development of this region. The improvements will aid in the economic development of sparsely populated rural areas and small towns along this route. Traffic carrying capacity will be increased; safety and operational characteristics along this segment will be improved.

#### **Project Location:**

Project EDS-441(37) begins in Telfair County near mile post 1.3, and would widen and reconstruct US 441/SR 31 from just north of the Ocmulgee River to approximately CR 240 at mile post 11.0 in the community of Workmore. The revised project length would be approximately 10.3 miles.

#### **Description of the approved concept:**

Project EDS-441(37), in Coffee/Telfair counties, would widen and reconstruct US 441/SR 31 from just north of the Mill Creek Bridge at SR 107 to CR 240 in the community of Workmore for a project length of 11.6 miles. This project ties into the EDS-441(27) project at the beginning and EDS-441(36) at the end. Bridge project BRN-023-2(7) falls within the limits of EDS-441(37) and would build bridges beside the existing bridges at Alligator Creek, Big Horse Creek Overflow and Big Horse Creek. The following crossroads would be realigned: SR 117, CR 206, CR 72, CR 122, CR 44, CR 120 and CR 217. The existing right of way varies from 100 feet to 300 feet. The additional proposed right of way would vary from 50 feet to 150 feet. The speed design is 45 and 55 MPH desirable, which meets 65 MPH minimum. This will allow a posted speed limit of 65 MPH.

The project would begin just north of the Mill Creek at SR 107 and would widen US 441/SR 31 on the east side, adding a 44-foot grassed median with two 12-foot lanes of pavement and would continue northward approximately 1,900 feet. The median would then reduce to a 32-foot grassed median and would continue northward to just north of the Ocmulgee River Bridge. This concept would minimize wetland impacts. The concept would then construct four 12-foot lanes and a 32 foot grassed median, continuing northward on a skew, crossing the existing roadway towards the west side and continue northward to approximately 1,700 feet south of Gregory Creek bridge. This concept would improve the existing horizontal alignment. The median would start to reduce to a 14-foot flush rural section and the concept would tie into the existing pavement just south of Gregory Creek Bridge. The concept would then add two 12-foot lanes, widening to the west and would continue northward to approximately 800 feet south of SR 117. This alignment would minimize impacts to wetlands and displacements. The alignment would shift to widening symmetrically with a 14-foot flush median in an urban section while adding four 12-foot lanes and would continue to approximately 400 feet north of SR 117. This alignment would reduce displacements and avoid two historical resources on the east side and a church on the west side. This would be done within the existing 100 feet of right of way. The alignment would then shift to a rural four lane divided roadway with a 14-foot flush median widening on the east side to approximately 1,600 feet north of SR 117. This alignment would avoid a historical resource on the west side. The concept would shift to the west side and the median would change to 44-foot grassed median continuing northward to approximately 2,900 feet north of CR 72. This alignment would avoid a cemetery along the east side. The alignment would shift to the east side adding four 12-foot lanes of roadway and hold the existing right of way on the west side to just north of Alligator Creek bridge. This alignment would minimize impacts to wetlands and displacements. The alignment would shift to the west side and continue northward on a skew crossing the existing roadway, and tie into the existing right of way along the west side approximately 2,100 feet south of big Horse Creek overflow bridge. This alignment would avoid historical resources along both

sides of the existing roadway. The alignment would continue northward holding existing right of way along the west side and would widen to the east to approximately 4,300 feet south of CR 240 in the community of Workmore. The alignment would then proceed onto new location along the east side of US 441/SR 31 and would continue northward tying into the existing right of way along the west side at the intersection of US 441/SR 31 and CR 240 in the community of Workmore where the project would end. This alignment would improve the existing horizontal alignment.

**PDP Classification:** Major   X   Minor           

**Federal Oversight:** Full Oversight ( ), Exempt (X), State Funded ( ), or Other ( )

**Functional Classification:** Rural Principal Arterial

**U. S. Route Number(s):**   441   **State Route Number(s);**   31  

**Traffic (AADT) as shown in the approved concept:**

|                      |      |               |               |
|----------------------|------|---------------|---------------|
| Initial Design Year: | 2005 | Daily Volume: | 3,650 – 5,200 |
| Final Design Year:   | 2025 | Daily Volume: | 6,900 – 8,200 |

**Proposed features to be revised:**

- **Project Description:** Due to several changes along the project, the description is to be updated.
- **Speed Design:** The speed design is proposed to be 65 MPH throughout project EDS-441(37).
- **Typical Section:** The typical section of EDS-441(37) has been proposed to be revised due to realignment of the previously proposed concept and recently identified historical resources.
- **Beginning Terminus:** It is recommended that the southern terminus of EDS-441(37) be revised.
- **Alignment Change:** In order to avoid impacting protected cultural resources, new location sections were needed to bypass Jacksonville and to avoid the Jones Family Farm.

**Describe the revised feature(s) to be approved:**

- **Project Description:** This project ties into the EDS-441(27) project at its southern terminus near mile post 1.3 and EDS-441(36) at its northern terminus roughly at mile post 11.0. Bridge project BRN-023-2(7) fell within the limits of EDS-441(37) and is constructing a parallel bridge to the east of the old bridges at Alligator Creek, Big Horse Creek Overflow and Big Horse Creek, while removing the older bridges. The new bridges will be built west of the bridges being constructed for BRN-023-2(7). The proposed right-of-way would be 250 feet. The speed design is proposed to be revised to 65 MPH, which will allow a posted speed limit of 65 MPH throughout the project.

Project EDS-441(37) would begin approximately 2,500 feet north of the Ocmulgee River Bridge in Telfair County. The alignment would reconstruct US 441/SR 31 from two lanes to four 12-foot lanes with a 44-foot grassed median rural typical section on approximately 250 feet of right-of-way throughout the project. Just north of the beginning of the project, the proposed alignment would continue northward on new location to avoid impacting the Jacksonville historic district creating the bypass of Jacksonville. On new location west of existing US 441/SR 31, approximately 1,000 feet south of the Jacksonville city limits, the alignment would cross into the city of Jacksonville where

two new parallel bridges would be constructed over Gregory Creek. As the alignment turns eastward and proceeds northward through the city of Jacksonville, the proposed concept would tie into SR 117 at grade. The proposed alignment would avoid the Jacksonville historic district and a resource to the west of US 441/SR 31. North of Jacksonville, the alignment would return to the existing roadway and hold the existing eastside right-of-way avoiding impacting two cemeteries on the eastside of US 441/SR 31. The eastern right-of-way boundary would be held until the proposed lanes begin to cross the existing alignment approximately half a mile north of the proposed reconstruction of CR 123. The proposed alignment minimizes displacements, avoids a church, a cemetery, and a historic site to the east. The alignment shifts to hold the western existing right-of-way in the vicinity of the bridge over Alligator Creek. The alignment will be constructed to the west and parallel to the bridge which is currently under construction as a part of project BRN-023-2(7). Continuing northward, the proposal continues to hold to the eastern right of way until it reaches the northern tie-in of CR 72. Approximately 1,400 feet north of Alligator Creek, the alignment turns west on to new location, creating a bypass that would avoid the Jones Family Historic District which is in the vicinity of the intersection of US 441/SR 31 and CR 44/CR 122. The alignment would intersect CR 44 at grade on new location. Continuing northward, the proposal would return to follow the existing US 441/SR 31 and shift to hold the west right-of-way approximately 1800 feet north of CR 121. This would reduce the impact to a historical resource located along the west side of the main roadway. North of the historic site, new bridges would be constructed west of and parallel to the existing Big Horse Creek and Big Horse Creek Overflow bridges currently under construction as part of Project BRN-023-2(7) to accommodate the proposed southbound lanes. Holding the western right-of-way, CR 120 and CR 217 would be realigned to form a single intersection with US 441/SR 31. Continuing northward with two 12-foot lane and a 44-foot depressed median typical section on approximately 250 feet of right-of-way, the proposed alignment would continue to hold to the existing western right-of-way until approximately 3,000 feet south of CR 240 in Workmore. Here the proposed alignment shifts, acquiring right-of-way to the east and west of US 441/SR 31. Approximately 2,300 feet south of CR 240, the alignment turns to widen to the east of US 441/SR 31 minimizing environmental impacts. The project then crosses CR 240 at grade, where project EDS 441(37) ends.

- **Speed Design:** The speed design would be revised to 65mph throughout the project in accordance department policy for GRIP corridors.
- **Typical Section:** The four 12-foot lanes and a 32-foot grassed median and the 20-foot raised median rural are to be revised to four 12-foot lanes with a 44-foot depressed median typical section throughout the project. Bypasses on new location are to be included in the revisions of the project, which require section revisions to remain consistent with GDOT's policy for GRIP corridors.
- **Beginning Terminus:** The beginning of EDS-441(37) would be approximately 2,500 feet north of the Ocmulgee River Bridge. It has been requested by District 4 that the two Ocmulgee River Overflow bridges and the Ocmulgee River Bridge be included in project EDS-441(27).

**Updated traffic data (AADT):**

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| Current Traffic:                    | Design Traffic:                     |
| Year: 2010      AADT: 2,800 – 5,300 | Year: 2030      AADT: 4,500 - 8,500 |

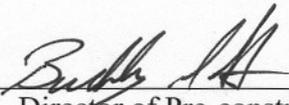
**Programmed/Schedule:**

P.E.: 2002      R/W: 2007      Construction: 2008

| <b>Estimated Cost:</b>            | <b>Proposed</b> | <b>Approved</b> |
|-----------------------------------|-----------------|-----------------|
| Construction (incl. E&C + infl.): | \$31,427,000.00 | \$22,685,000.00 |
| Right-of-way:                     | \$ 7,940,185.00 | \$ 2,485,100.00 |
| Utilities:                        | Requested 06/05 | not available   |

Is the project located in a Non-attainment area? \_\_\_Yes \_\_\_**X**No

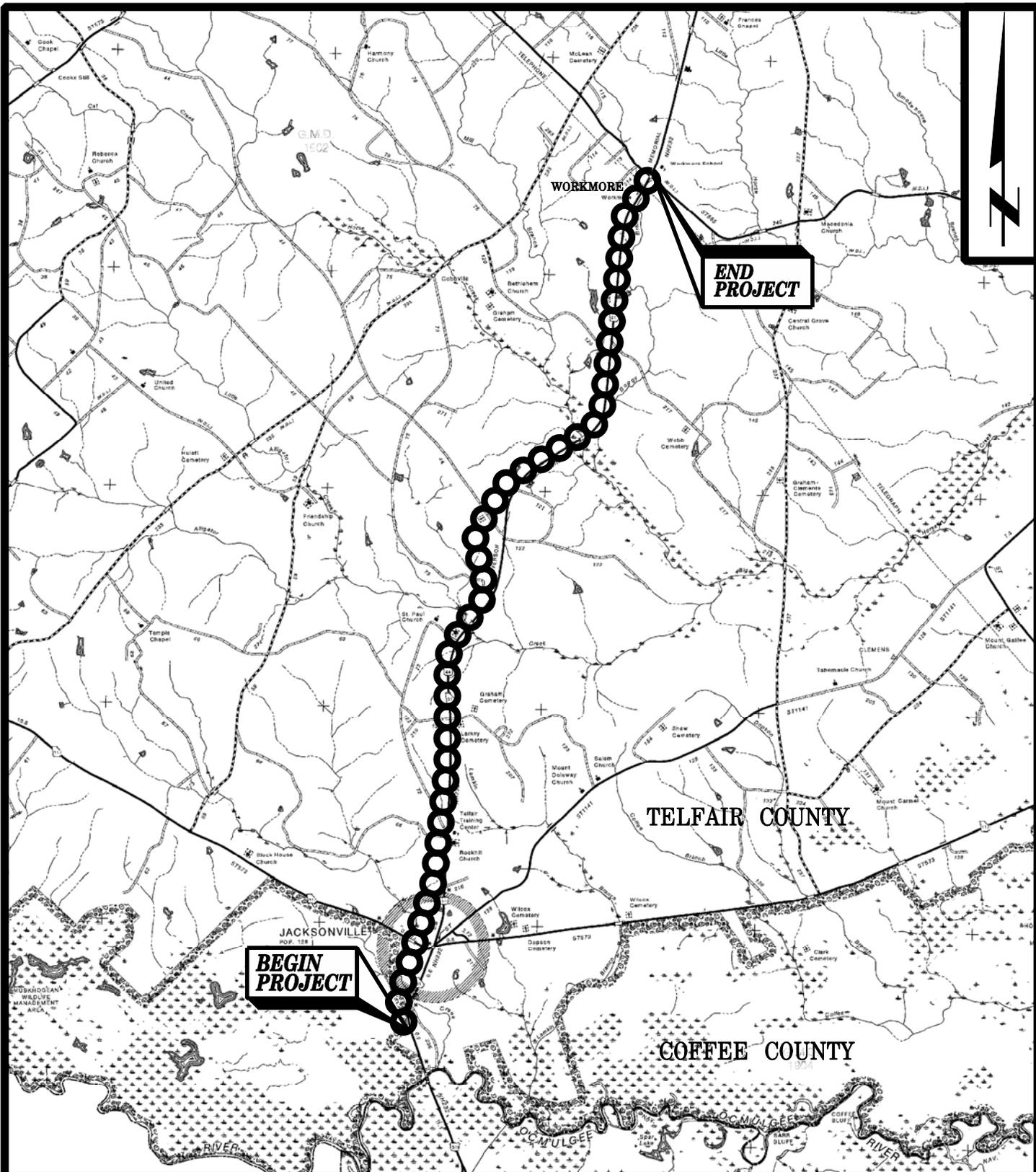
**Recommendation:** It is recommended that the proposed revisions to the concept be approved for implementation.

Concur:   
Director of Pre-construction

Approve:   
Chief Engineer

HDK/ DRP/KLP/gtw

Attachment: Sketch Map  
Cost Estimates  
Typical Sections



**BEGIN PROJECT**

**END PROJECT**

TELFAIR COUNTY

COFFEE COUNTY

JACKSONVILLE  
POP. 128

WORKMORE



SCALE IN MILES



LOCATION

STRIPMAP

EDS-441(37)

IMPROVEMENTS TO US 441/SR 31  
COFFEE/TELFAIR COUNTIES

P.I.# 522540

SOURCE: GENERAL HIGHWAY MAP, COFFEE / TELFAIR CO., GEORGIA  
PREPARED BY THE GEORGIA DEPARTMENT OF TRANSPORTATION, 1996, 1998

# CONCEPT COST ESTIMATE

Office of Environment/Location

December 6, 2005 10:15 AM

County(s)

PI Number  Project Number

Project Name  Project Length  Miles

## Project Description

GRIP PROJECT TO WIDEN AND IMPROVE FROM 2,500 FEET NORTH OF OCMULGEE BRIDGE IN TELFAIR COUNTY TO THE COMMUNITY OF WORKMORE

## Existing Roadway

## Comments

## TRAFFIC:

Current Design Year  Daily Volume (AADT)

Future Design Year  Daily Volume (AADT)

Concept Estimate  Feasibility Estimate

## Typical Section(s) Used in Estimate

## Typical Section Length

|  |  |
|--|--|
| <input type="text" value="Rural New Location: 4-Lanes with 44 ft Divided Median"/> | <input type="text" value="10.30"/> Miles |
| <input type="text" value="Rural New Location: 2-Lanes with 24 ft Pavement"/>       | <input type="text" value="2.00"/> Miles  |
| <input type="text"/>   | <input type="text"/> Miles               |
| <input type="text"/>   | <input type="text"/> Miles               |
| <input type="text"/>   | <input type="text"/> Miles               |
| <input type="text"/>   | <input type="text"/> Miles               |

Prepared By

**MAJOR STRUCTURES***Note! All distances are in feet***Bridges: Stream Crossings & Grade Separations**

| NO | LOCATION             | QTY | CROSSING TYPE | WIDTH | LENGTH | UNIT COST | TOTAL   |
|----|----------------------|-----|---------------|-------|--------|-----------|---------|
| 1  |                      |     |               |       |        |           |         |
| 2  |                      |     |               |       |        |           |         |
| 3  |                      |     |               |       |        |           |         |
| 4  | GREGORY CREEK BRIDGE | 2   | Stream-New    | 41.50 | 125.0  | 54.00     | 560,000 |
| 5  | ALLIGATOR CREEK      | 1   | Stream-New    | 41.50 | 240.0  | 54.00     | 538,000 |
| 6  | BHC OVERFLOW         | 1   | Stream-New    | 41.50 | 120.0  | 54.00     | 269,000 |
| 7  | BHC BRIDGE           | 1   | Stream-New    | 41.50 | 220.0  | 54.00     | 493,000 |
| 8  |                      |     |               |       |        |           |         |
| 9  |                      |     |               |       |        |           |         |
| 10 |                      |     |               |       |        |           |         |
| 11 |                      |     |               |       |        |           |         |
| 12 |                      |     |               |       |        |           |         |

**Bridge Culverts**

| NO | LOCATION | TYPE / W x H / FILL | LENGTH | UNIT COST | TOTAL |
|----|----------|---------------------|--------|-----------|-------|
| 1  |          |                     |        |           |       |
| 2  |          |                     |        |           |       |
| 3  |          |                     |        |           |       |
| 4  |          |                     |        |           |       |
| 5  |          |                     |        |           |       |
| 6  |          |                     |        |           |       |
| 7  |          |                     |        |           |       |
| 8  |          |                     |        |           |       |

**Walls**

| NO | LOCATION | TYPE | HEIGHT | LENGTH | UNIT COST | TOTAL |
|----|----------|------|--------|--------|-----------|-------|
| 1  |          |      |        |        |           |       |
| 2  |          |      |        |        |           |       |
| 3  |          |      |        |        |           |       |
| 4  |          |      |        |        |           |       |
| 5  |          |      |        |        |           |       |
| 6  |          |      |        |        |           |       |

**MAJOR STRUCTURES SUBTOTAL** \$ 1,860,000

**Typical Section**

Rural New Location: 4-Lanes with 44 ft Divided Median

Typical Section Length  Miles

Right-of-Way Width  Feet

**GRADING AND DRAINAGE**

- 1. EARTHWORK
  - a. Unclassified Excavation Soil
  - b. Unclassified Excavation Rock
  - c. Borrow Excavation
- 2. MINOR DRAINAGE

| QUANTITY                             | UNIT COST | TOTAL              |
|--------------------------------------|-----------|--------------------|
| 772,300 CY                           | 2.18      | 1,684,000          |
|                                      |           |                    |
| 77,230 CY                            | 5.90      | 456,000            |
| 10.30 MI                             | 82,114    | 846,000            |
| <b>GRADING AND DRAINAGE SUBTOTAL</b> |           | <b>\$2,986,000</b> |

**BASE AND PAVING**

- 1. GRADED AGGREGATE BASE
- 2. ASPHALT PAVING
  - a. Asph Conc 9.5 mm Superpave
  - b. Asph Conc 19 mm Superpave
  - c. Asph Conc 25 mm Superpave
  - d. Bituminous Tack Coat
- 3. CONCRETE PAVING
  - a. Curb and Gutter
  - b. Miscellaneous
- 4. OTHER PAVING

| THICKNESS and SPREAD RATE       | QUANTITY   | UNIT COST | TOTAL               |
|---------------------------------|------------|-----------|---------------------|
| 10"                             | 222,940 TN | 15.25     | 3,400,000           |
|                                 |            |           |                     |
| 1 1/2" (165 LB/SY)              | 32,404 TN  | 43.87     | 1,422,000           |
| 3" (330 LB/SY)                  | 65,382 TN  | 42.08     | 2,751,000           |
| 4" (440 LB/SY)                  | 80,646 TN  | 39.47     | 3,183,000           |
|                                 | 47,463 GL  | 1.03      | 49,000              |
|                                 |            |           |                     |
|                                 | 10.30 MI   | 59,170    | 609,000             |
|                                 |            |           | 1,141,000           |
| <b>BASE AND PAVING SUBTOTAL</b> |            |           | <b>\$12,555,000</b> |

**LUMP ITEMS**

- 1. TRAFFIC CONTROL
- 2. CLEARING AND GRUBBING
- 3. EROSION CONTROL
- 4. SIGNING & MARKING
- 5. MISCELLANEOUS

| QUANTITY                  | UNIT COST | TOTAL              |
|---------------------------|-----------|--------------------|
| 10.30 MI                  | 41,000    | 422,000            |
| 312.12 AC                 | 6,000     | 1,873,000          |
| 10.30 MI                  | 167,267   | 1,723,000          |
| 10.30 MI                  | 24,305    | 250,000            |
| 10.30 MI                  | 112,128   | 1,155,000          |
| <b>LUMP ITEM SUBTOTAL</b> |           | <b>\$5,423,000</b> |

**MISCELLANEOUS PROJECT ITEMS**

- 1. GUARDRAIL
- 2. GUARDRAIL ANCHORS
- 3. DETOURS
- 4. SPECIAL FEATURES

| QUANTITY                      | UNIT COST | TOTAL              |
|-------------------------------|-----------|--------------------|
| 5,000 LF                      | 10.37     | 52,000             |
| 17 EA                         | 432.93    | 7,000              |
| 3.00 MI                       | 354,098   | 1,062,000          |
| <b>MISCELLANEOUS SUBTOTAL</b> |           | <b>\$1,121,000</b> |

**Typical Section**

Rural New Location: 2-Lanes with 24 ft Pavement

Typical Section Length  Miles

Right-of-Way Width  Feet

**GRADING AND DRAINAGE**

- 1. EARTHWORK
  - a. Unclassified Excavation Soil
  - b. Unclassified Excavation Rock
  - c. Borrow Excavation
- 2. MINOR DRAINAGE

| QUANTITY                             | UNIT COST | TOTAL            |
|--------------------------------------|-----------|------------------|
| 5,000 CY                             | 2.18      | 11,000           |
|                                      |           |                  |
| 500 CY                               | 5.90      | 3,000            |
| 2.00 MI                              | 26,069    | 269,000          |
| <b>GRADING AND DRAINAGE SUBTOTAL</b> |           | <b>\$283,000</b> |

**BASE AND PAVING**

- 1. GRADED AGGREGATE BASE
- 2. ASPHALT PAVING
  - a. Asph Conc 9.5 mm Superpave
  - b. Asph Conc 19 mm Superpave
  - c. Asph Conc 25 mm Superpave
  - d. Bituminous Tack Coat
- 3. CONCRETE PAVING
  - a. Curb and Gutter
  - b. Miscellaneous
- 4. OTHER PAVING

| THICKNESS and SPREAD RATE       | QUANTITY  | UNIT COST | TOTAL              |
|---------------------------------|-----------|-----------|--------------------|
| 10"                             | 21,961 TN | 15.25     | 335,000            |
| 1 1/2" (165 LB/SY)              | 3,582 TN  | 43.87     | 157,000            |
| 3" (330 LB/SY)                  | 7,219 TN  | 42.08     | 304,000            |
| 4" (440 LB/SY)                  | 6,373 TN  | 39.47     | 252,000            |
|                                 | 4,568 GL  | 1.03      | 5,000              |
|                                 |           |           |                    |
|                                 |           |           |                    |
|                                 | 2.00 MI   | 22,322    | 45,000             |
| <b>BASE AND PAVING SUBTOTAL</b> |           |           | <b>\$1,208,000</b> |

**LUMP ITEMS**

- 1. TRAFFIC CONTROL
- 2. CLEARING AND GRUBBING
- 3. EROSION CONTROL
- 4. SIGNING & MARKING
- 5. MISCELLANEOUS

| QUANTITY                  | UNIT COST | TOTAL            |
|---------------------------|-----------|------------------|
| 2.00 MI                   | 10,696    | 21,000           |
| 24.24 AC                  | 6,000     | 145,000          |
| 2.00 MI                   | 117,737   | 235,000          |
| 2.00 MI                   | 8,801     | 18,000           |
| 2.00 MI                   | 29,251    | 59,000           |
| <b>LUMP ITEM SUBTOTAL</b> |           | <b>\$478,000</b> |

## ESTIMATE SUMMARY

| <b>TYPICAL SECTION</b>                                      | <b>COST (per mile)</b> |
|---|------------------------|
| 1. Rural New Location: 4-Lanes with 44 ft Divided Median    | \$ 2,035,000           |
| 2. Rural New Location: 2-Lanes with 24 ft Pavement          | \$ 985,000             |
| <b>PROJECT COST</b>   |                        |
| <b>A. MAJOR STRUCTURES</b>                                  | <b>\$ 1,860,000</b>    |
| <b>B. GRADING AND DRAINAGE</b>                              | <b>\$ 3,269,000</b>    |
| <b>C. BASE AND PAVING</b>                                   | <b>\$ 13,763,000</b>   |
| <b>D. LUMP ITEMS</b>  | <b>\$ 5,901,000</b>    |
| <b>E. MISCELLANEOUS</b>                                     | <b>\$ 1,121,000</b>    |
| <b>SUBTOTAL CONSTRUCTION COST</b>                           | <b>\$ 25,914,000</b>   |
| <b>ENGINEERING &amp; CONTINGENCIES (10%)</b>                | <b>\$ 2,591,000</b>    |
| <b>INFLATION</b> <u>  2  </u> yr(s) @ <u>  5  </u> % per yr | <b>\$ 2,922,000</b>    |
| <b>GRAND TOTAL CONSTRUCTION COST</b>                        | <b>\$ 31,427,000</b>   |

