



Tupelo Mississippi
Planning & Environmental Study
Railroad Relocation

FINAL

APPENDIX G

**Alternative Alignment
Detailed Cost Estimates**

May 2006

Prepared for:



Prepared by:



| Appendix G Preliminary Construction Cost Estimate Operational Improvements | | | | |
|--|----------|------|-----------------|----------------------|
| Description | Quantity | Unit | Unit Cost | Item Cost |
| Grading & Track Work | | | | |
| Clearing and Grubbing | 33 | AC | \$8,200.00 | \$ 270,600 |
| Grading / Earthwork | | CY | \$12.00 | \$ - |
| Erosion Control Silt Fence | 6,422 | LF | \$4.00 | \$ 25,688 |
| Subballast - 6" Compacted Layer | 23,300 | TON | \$23.15 | \$ 539,395 |
| Track Construction (Ballast, Ties, Rail and Labor) | | | | |
| a. Construct New Siding Track w/141# Rail & Concrete Ties | 20,000 | TF | \$160.00 | \$ 3,200,000 |
| b. Construct New Main Line Track w/141# Rail & Concrete Ties | 7,000 | TF | \$160.00 | \$ 1,120,000 |
| New Turnouts | | | | |
| a. New No. 10 turnout - wood ties | 12 | EA | \$90,000.00 | \$ 1,080,000 |
| b. New No. 20 turnout - concrete ties | 2 | EA | \$250,000.00 | \$ 500,000 |
| c. New No. 24 turnout - concrete ties | 0 | EA | \$300,000.00 | \$ - |
| Remove Track | 0 | TF | \$21.00 | \$ - |
| Line and Surface Existing Track | 0 | TF | \$17.00 | \$ - |
| Diamond Crossings | 0 | EA | \$125,000.00 | \$ - |
| Grading & Track Work Subtotal: | | | | \$ 6,735,683 |
| Structures | | | | |
| Box Culvert: 1/mile - 60 feet in length | 80 | LF | \$600.00 | \$ 48,000 |
| Pipe Culvert: 2/mile - 60 feet in length | 80 | LF | \$190.00 | \$ 15,200 |
| Railroad Over Highway | 0 | LF | \$15,000.00 | \$ - |
| Railroad Trestle Bridge Structure | 450 | LF | \$5,000.00 | \$ 2,250,000 |
| Structures Subtotal: | | | | \$ 2,313,200 |
| Highway/Railroad Crossings* | | | | |
| Public At-Grade Crossings - Concrete (All Public) | 1 | EA | \$30,000.00 | \$ 30,000 |
| Public At-Grade Crossings - Rubber & Asphalt (All Private) | 0 | EA | \$10,000.00 | \$ - |
| Crossing Protection (Passive) | 0 | EA | \$100.00 | \$ - |
| Crossing Protection (Active) | 1 | EA | \$250,000.00 | \$ 250,000 |
| Grade Separation (New Highway Bridge) (2-Lane) | 2 | EA | \$6,000,000.00 | \$ 12,000,000 |
| Grade Separation (New Highway Bridge) (4-Lane) | 0 | EA | \$10,000,000.00 | \$ - |
| Grade Separation (Replace Highway Bridge) | 37,400 | SF | \$100.00 | \$ 3,740,000 |
| Highway/Railroad Crossings Subtotal: | | | | \$ 16,020,000 |
| Signal | | | | |
| Signal (New Track) | 1.3 | MI | \$400,000.00 | \$ 520,000 |
| Signal (Control Points) | 2 | EA | \$250,000.00 | \$ 500,000 |
| Signal (Defective Equipment Detectors) | 0 | EA | \$100,000.00 | \$ - |
| Signal Subtotal: | | | | \$ 1,020,000 |
| Miscellaneous | | | | |
| Mobilization | 1 | LS | 10% | \$ 2,608,888 |
| Environmental / Cultural Mitigation | 0 | AC | \$80,000.00 | \$ - |
| Additional Misc. Items | 1 | LS | 15% | \$ 3,913,332 |
| Miscellaneous Subtotal: | | | | \$ 6,522,221 |
| CONSTRUCTION SUBTOTAL: | | | | \$ 32,611,104 |
| Design** | 1 | LS | 20% | \$ 6,522,221 |
| CEI | 1 | LS | 15% | \$ 4,891,666 |
| Right-of-Way | | | | |
| Land Cost (Rural) | 0.00 | AC | \$250,000.00 | \$ - |
| Land Cost (Urban) | 29.49 | AC | \$425,000.00 | \$ 12,533,250 |
| Right-of-Way Subtotal: | | | | \$ 12,533,250 |
| SUBTOTAL: | | | | \$ 56,558,240 |
| Contingency | 1 | LS | 25% | \$ 14,140,000 |
| GRAND TOTAL: | | | | \$ 70,700,000 |

Note: Right-of-way and/or business damages are not included and have been estimated elsewhere.

* Track Work Included in Grading & Track Work

** Includes cost of preliminary and final engineering, survey, geotechnical, environmental permitting.

Appendix G
Preliminary Construction Cost Estimate
Alignment A

| Description | Quantity | Unit | Unit Cost | Item Cost |
|--|-----------|------|-----------------|-----------------------|
| Grading & Track Work | | | | |
| Clearing and Grubbing | 721 | AC | \$8,200.00 | \$ 5,912,200 |
| Grading / Earthwork | 1,959,000 | CY | \$12.00 | \$ 23,508,000 |
| Erosion Control Silt Fence | 156,738 | LF | \$4.00 | \$ 626,952 |
| Subballast - 6" Compacted Layer | 522,800 | TON | \$23.15 | \$ 12,102,820 |
| Track Construction (Ballast, Ties, Rail and Labor) | | | | |
| a. Construct New Siding Track w/141# Rail & Concrete Ties | 34,000 | TF | \$160.00 | \$ 5,440,000 |
| b. Construct New Main Line Track w/141# Rail & Concrete Ties | 157,000 | TF | \$160.00 | \$ 25,120,000 |
| New Turnouts | | | | |
| a. New No. 10 turnout - wood ties | 6 | EA | \$90,000.00 | \$ 540,000 |
| b. New No. 20 turnout - concrete ties | 8 | EA | \$250,000.00 | \$ 2,000,000 |
| c. New No. 24 turnout - concrete ties | 0 | EA | \$300,000.00 | \$ - |
| Remove Track | 0 | TF | \$21.00 | \$ - |
| Line and Surface Existing Track | 0 | TF | \$17.00 | \$ - |
| Diamond Crossings | 1 | EA | \$125,000.00 | \$ 125,000 |
| Grading & Track Work Subtotal: | | | | \$ 75,374,972 |
| Structures | | | | |
| Box Culvert: 1/mile - 60 feet in length | 1,800 | LF | \$600.00 | \$ 1,080,000 |
| Pipe Culvert: 2/mile - 60 feet in length | 3,600 | LF | \$190.00 | \$ 684,000 |
| Railroad Over Highway | 1,500 | LF | \$15,000.00 | \$ 22,500,000 |
| Railroad Trestle Bridge Structure | 6,420 | LF | \$5,000.00 | \$ 32,100,000 |
| Structures Subtotal: | | | | \$ 56,364,000 |
| Highway/Railroad Crossings* | | | | |
| Public At-Grade Crossings - Concrete (All Public) | 18 | EA | \$30,000.00 | \$ 540,000 |
| Public At-Grade Crossings - Rubber & Asphalt (All Private) | 27 | EA | \$10,000.00 | \$ 270,000 |
| Crossing Protection (Passive) | 27 | EA | \$100.00 | \$ 2,700 |
| Crossing Protection (Active) | 18 | EA | \$250,000.00 | \$ 4,500,000 |
| Grade Separation (New Highway Bridge) (2-Lane) | 4 | EA | \$6,000,000.00 | \$ 24,000,000 |
| Grade Separation (New Highway Bridge) (4-Lane) | 3 | EA | \$10,000,000.00 | \$ 30,000,000 |
| Grade Separation (Replace Highway Bridge) | 0 | SF | \$100.00 | \$ - |
| Highway/Railroad Crossings Subtotal: | | | | \$ 59,312,700 |
| Signal | | | | |
| Signal (New Track) | 29.7 | MI | \$400,000.00 | \$ 11,880,000 |
| Signal (Control Points) | 8 | EA | \$250,000.00 | \$ 2,000,000 |
| Signal (Defective Equipment Detectors) | 3 | EA | \$100,000.00 | \$ 300,000 |
| Signal Subtotal: | | | | \$ 14,180,000 |
| Miscellaneous | | | | |
| Mobilization | 1 | LS | 10% | \$ 20,523,167 |
| Environmental / Cultural Mitigation | 33 | AC | \$80,000.00 | \$ 2,624,000 |
| Additional Misc. Items | 1 | LS | 15% | \$ 30,784,751 |
| Interchange Yard (Shannon) | 1 | LS | | \$ 10,739,485 |
| Miscellaneous Subtotal: | | | | \$ 53,931,918 |
| CONSTRUCTION SUBTOTAL: | | | | \$ 259,163,590 |
| Design** | 1 | LS | 20% | \$ 51,832,718 |
| CEI | 1 | LS | 15% | \$ 38,874,539 |
| Right-of-Way | | | | |
| Land Cost (Rural) | 449.40 | AC | \$250,000.00 | \$ 112,350,000 |
| Land Cost (Urban) | 0.00 | AC | \$425,000.00 | \$ - |
| Right-of-Way Subtotal: | | | | \$ 112,350,000 |
| SUBTOTAL: | | | | \$ 462,220,847 |
| Contingency | 1 | LS | 25% | \$ 115,560,000 |
| GRAND TOTAL: | | | | \$ 577,780,000 |

Note: Right-of-way and/or business damages are not included and have been estimated elsewhere.

* Track Work Included in Grading & Track Work

** Includes cost of preliminary and final engineering, survey, geotechnical, environmental permitting.

Appendix G
Preliminary Construction Cost Estimate
Alignment B

| Description | Quantity | Unit | Unit Cost | Item Cost |
|--|----------|------|-----------------|-----------------------|
| Grading & Track Work | | | | |
| Clearing and Grubbing | 400 | AC | \$8,200.00 | \$ 3,280,000 |
| Grading / Earthwork | 980,000 | CY | \$12.00 | \$ 11,760,000 |
| Erosion Control Silt Fence | 86,815 | LF | \$4.00 | \$ 347,260 |
| Subballast - 6" Compacted Layer | 289,700 | TON | \$23.15 | \$ 6,706,555 |
| Track Construction (Ballast, Ties, Rail and Labor) | | | | |
| a. Construct New Siding Track w/141# Rail & Concrete Ties | 42,000 | TF | \$160.00 | \$ 6,720,000 |
| b. Construct New Main Line Track w/141# Rail & Concrete Ties | 87,000 | TF | \$160.00 | \$ 13,920,000 |
| New Turnouts | | | | |
| a. New No. 10 turnout - wood ties | 2 | EA | \$90,000.00 | \$ 180,000 |
| b. New No. 20 turnout - concrete ties | 6 | EA | \$250,000.00 | \$ 1,500,000 |
| c. New No. 24 turnout - concrete ties | 2 | EA | \$300,000.00 | \$ 600,000 |
| Remove Track | 20,064 | TF | \$21.00 | \$ 421,344 |
| Line and Surface Existing Track | 74,000 | TF | \$17.00 | \$ 1,258,000 |
| Diamond Crossings | 0 | EA | \$125,000.00 | \$ - |
| Grading & Track Work Subtotal: | | | | \$ 46,693,159 |
| Structures | | | | |
| Box Culvert: 1/mile - 60 feet in length | 1,020 | LF | \$600.00 | \$ 612,000 |
| Pipe Culvert: 2/mile - 60 feet in length | 2,040 | LF | \$190.00 | \$ 387,600 |
| Railroad Over Highway | 0 | LF | \$15,000.00 | \$ - |
| Railroad Trestle Bridge Structure | 8,950 | LF | \$5,000.00 | \$ 44,750,000 |
| Structures Subtotal: | | | | \$ 45,749,600 |
| Highway/Railroad Crossings* | | | | |
| Public At-Grade Crossings - Concrete (All Public) | 9 | EA | \$30,000.00 | \$ 270,000 |
| Public At-Grade Crossings - Rubber & Asphalt (All Private) | 12 | EA | \$10,000.00 | \$ 120,000 |
| Crossing Protection (Passive) | 12 | EA | \$100.00 | \$ 1,200 |
| Crossing Protection (Active) | 9 | EA | \$250,000.00 | \$ 2,250,000 |
| Grade Separation (New Highway Bridge) (2-Lane) | 3 | EA | \$6,000,000.00 | \$ 18,000,000 |
| Grade Separation (New Highway Bridge) (4-Lane) | 1 | EA | \$10,000,000.00 | \$ 10,000,000 |
| Grade Separation (Replace Highway Bridge) | 32,800 | SF | \$100.00 | \$ 3,280,000 |
| Highway/Railroad Crossings Subtotal: | | | | \$ 33,921,200 |
| Signal | | | | |
| Signal (New Track) | 16.5 | MI | \$400,000.00 | \$ 6,600,000 |
| Signal (Control Points) | 8 | EA | \$250,000.00 | \$ 2,000,000 |
| Signal (Defective Equipment Detectors) | 1 | EA | \$100,000.00 | \$ 100,000 |
| Signal Subtotal: | | | | \$ 8,700,000 |
| Miscellaneous | | | | |
| Mobilization | 1 | LS | 10% | \$ 13,506,396 |
| Environmental / Cultural Mitigation | 22 | AC | \$80,000.00 | \$ 1,784,000 |
| Additional Misc. Items | 1 | LS | 15% | \$ 20,259,594 |
| Interchange Yard (Tupelo) | 1 | LS | | \$ 45,144,354 |
| Miscellaneous Subtotal: | | | | \$ 35,549,990 |
| CONSTRUCTION SUBTOTAL: | | | | \$ 170,613,949 |
| Design** | 1 | LS | 20% | \$ 34,122,790 |
| CEI | 1 | LS | 15% | \$ 25,592,092 |
| Right-of-Way | | | | |
| Land Cost (Rural) | 110.66 | AC | \$250,000.00 | \$ 27,665,000 |
| Land Cost (Urban) | 85.27 | AC | \$425,000.00 | \$ 36,239,750 |
| Right-of-Way Subtotal: | | | | \$ 63,904,750 |
| SUBTOTAL: | | | | \$ 294,233,581 |
| Contingency | 1 | LS | 25% | \$ 73,560,000 |
| GRAND TOTAL: | | | | \$ 367,790,000 |

Note: Right-of-way and/or business damages are not included and have been estimated elsewhere.

* Track Work Included in Grading & Track Work

** Includes cost of preliminary and final engineering, survey, geotechnical, environmental permitting.

Appendix G
Preliminary Construction Cost Estimate
Alignment C

| Description | Quantity | Unit | Unit Cost | Item Cost |
|--|----------|------|-----------------|-----------------------|
| Grading & Track Work | | | | |
| Clearing and Grubbing | 340 | AC | \$8,200.00 | \$ 2,788,000 |
| Grading / Earthwork | 706,000 | CY | \$12.00 | \$ 8,472,000 |
| Erosion Control Silt Fence | 73,826 | LF | \$4.00 | \$ 295,304 |
| Subballast - 6" Compacted Layer | 246,400 | TON | \$23.15 | \$ 5,704,160 |
| Track Construction (Ballast, Ties, Rail and Labor) | | | | |
| a. Construct New Siding Track w/141# Rail & Concrete Ties | 21,000 | TF | \$160.00 | \$ 3,360,000 |
| b. Construct New Main Line Track w/141# Rail & Concrete Ties | 74,000 | TF | \$160.00 | \$ 11,840,000 |
| New Turnouts | | | | |
| a. New No. 10 turnout - wood ties | 2 | EA | \$90,000.00 | \$ 180,000 |
| b. New No. 20 turnout - concrete ties | 4 | EA | \$250,000.00 | \$ 1,000,000 |
| c. New No. 24 turnout - concrete ties | 2 | EA | \$300,000.00 | \$ 600,000 |
| Remove Track | 9,504 | TF | \$21.00 | \$ 199,584 |
| Line and Surface Existing Track | 74,000 | TF | \$17.00 | \$ 1,258,000 |
| Diamond Crossings | 0 | EA | \$125,000.00 | \$ - |
| Grading & Track Work Subtotal: | | | | \$ 35,697,048 |
| Structures | | | | |
| Box Culvert: 1/mile - 60 feet in length | 840 | LF | \$600.00 | \$ 504,000 |
| Pipe Culvert: 2/mile - 60 feet in length | 1,680 | LF | \$190.00 | \$ 319,200 |
| Railroad Over Highway | 0 | LF | \$15,000.00 | \$ - |
| Railroad Trestle Bridge Structure | 7,810 | LF | \$5,000.00 | \$ 39,050,000 |
| Structures Subtotal: | | | | \$ 39,873,200 |
| Highway/Railroad Crossings* | | | | |
| Public At-Grade Crossings - Concrete (All Public) | 7 | EA | \$30,000.00 | \$ 210,000 |
| Public At-Grade Crossings - Rubber & Asphalt (All Private) | 10 | EA | \$10,000.00 | \$ 100,000 |
| Crossing Protection (Passive) | 10 | EA | \$100.00 | \$ 1,000 |
| Crossing Protection (Active) | 7 | EA | \$250,000.00 | \$ 1,750,000 |
| Grade Separation (New Highway Bridge) (2-Lane) | 4 | EA | \$6,000,000.00 | \$ 24,000,000 |
| Grade Separation (New Highway Bridge) (4-Lane) | 1 | EA | \$10,000,000.00 | \$ 10,000,000 |
| Grade Separation (Replace Highway Bridge) | 27,300 | SF | \$100.00 | \$ 2,730,000 |
| Highway/Railroad Crossings Subtotal: | | | | \$ 38,791,000 |
| Signal | | | | |
| Signal (New Track) | 14.0 | MI | \$400,000.00 | \$ 5,600,000 |
| Signal (Control Points) | 6 | EA | \$250,000.00 | \$ 1,500,000 |
| Signal (Defective Equipment Detectors) | 1 | EA | \$100,000.00 | \$ 100,000 |
| Signal Subtotal: | | | | \$ 7,200,000 |
| Miscellaneous | | | | |
| Mobilization | 1 | LS | 10% | \$ 12,156,125 |
| Environmental / Cultural Mitigation | 7 | AC | \$80,000.00 | \$ 520,000 |
| Additional Misc. Items | 1 | LS | 15% | \$ 18,234,187 |
| Interchange Yard (Tupelo) | 1 | LS | | \$ 45,144,354 |
| Miscellaneous Subtotal: | | | | \$ 30,910,312 |
| CONSTRUCTION SUBTOTAL: | | | | \$ 152,471,560 |
| Design** | 1 | LS | 20% | \$ 30,494,312 |
| CEI | 1 | LS | 15% | \$ 22,870,734 |
| Right-of-Way | | | | |
| Land Cost (Rural) | 75.02 | AC | \$250,000.00 | \$ 18,755,000 |
| Land Cost (Urban) | 90.33 | AC | \$425,000.00 | \$ 38,390,250 |
| Right-of-Way Subtotal: | | | | \$ 57,145,250 |
| SUBTOTAL: | | | | \$ 262,981,856 |
| Contingency | 1 | LS | 25% | \$ 65,750,000 |
| GRAND TOTAL: | | | | \$ 328,730,000 |

Note: Right-of-way and/or business damages are not included and have been estimated elsewhere.

* Track Work Included in Grading & Track Work

** Includes cost of preliminary and final engineering, survey, geotechnical, environmental permitting.

Appendix G
Preliminary Construction Cost Estimate
Alignment D

| Description | Quantity | Unit | Unit Cost | Item Cost |
|--|-----------|------|-----------------|-----------------------|
| Grading & Track Work | | | | |
| Clearing and Grubbing | 607 | AC | \$8,200.00 | \$ 4,977,400 |
| Grading / Earthwork | 3,704,000 | CY | \$12.00 | \$ 44,448,000 |
| Erosion Control Silt Fence | 131,325 | LF | \$4.00 | \$ 525,300 |
| Subballast - 6" Compacted Layer | 439,500 | TON | \$23.15 | \$ 10,174,425 |
| Track Construction (Ballast, Ties, Rail and Labor) | | | | |
| a. Construct New Siding Track w/141# Rail & Concrete Ties | 32,000 | TF | \$160.00 | \$ 5,120,000 |
| b. Construct New Main Line Track w/141# Rail & Concrete Ties | 132,000 | TF | \$160.00 | \$ 21,120,000 |
| New Turnouts | | | | |
| a. New No. 10 turnout - wood ties | 2 | EA | \$90,000.00 | \$ 180,000 |
| b. New No. 20 turnout - concrete ties | 8 | EA | \$250,000.00 | \$ 2,000,000 |
| c. New No. 24 turnout - concrete ties | 0 | EA | \$300,000.00 | \$ - |
| Remove Track | 0 | TF | \$21.00 | \$ - |
| Line and Surface Existing Track | 54,000 | TF | \$17.00 | \$ 918,000 |
| Diamond Crossings | 1 | EA | \$125,000.00 | \$ 125,000 |
| Grading & Track Work Subtotal: | | | | \$ 89,588,125 |
| Structures | | | | |
| Box Culvert: 1/mile - 60 feet in length | 1,500 | LF | \$600.00 | \$ 900,000 |
| Pipe Culvert: 2/mile - 60 feet in length | 3,000 | LF | \$190.00 | \$ 570,000 |
| Railroad Over Highway | 0 | LF | \$15,000.00 | \$ - |
| Railroad Trestle Bridge Structure | 8,630 | LF | \$5,000.00 | \$ 43,150,000 |
| Structures Subtotal: | | | | \$ 44,620,000 |
| Highway/Railroad Crossings* | | | | |
| Public At-Grade Crossings - Concrete (All Public) | 19 | EA | \$30,000.00 | \$ 570,000 |
| Public At-Grade Crossings - Rubber & Asphalt (All Private) | 22 | EA | \$10,000.00 | \$ 220,000 |
| Crossing Protection (Passive) | 22 | EA | \$100.00 | \$ 2,200 |
| Crossing Protection (Active) | 19 | EA | \$250,000.00 | \$ 4,750,000 |
| Grade Separation (New Highway Bridge) (2-Lane) | 5 | EA | \$6,000,000.00 | \$ 30,000,000 |
| Grade Separation (New Highway Bridge) (4-Lane) | 2 | EA | \$10,000,000.00 | \$ 20,000,000 |
| Grade Separation (Replace Highway Bridge) | 0 | SF | \$100.00 | \$ - |
| Highway/Railroad Crossings Subtotal: | | | | \$ 55,542,200 |
| Signal | | | | |
| Signal (New Track) | 25.0 | MI | \$400,000.00 | \$ 10,000,000 |
| Signal (Control Points) | 8 | EA | \$250,000.00 | \$ 2,000,000 |
| Signal (Defective Equipment Detectors) | 1 | EA | \$100,000.00 | \$ 100,000 |
| Signal Subtotal: | | | | \$ 12,100,000 |
| Miscellaneous | | | | |
| Mobilization | 1 | LS | 10% | \$ 20,185,033 |
| Environmental / Cultural Mitigation | 11 | AC | \$80,000.00 | \$ 856,000 |
| Additional Misc. Items | 1 | LS | 15% | \$ 30,277,549 |
| Interchange Yard (Saltillo) | 1 | LS | | \$ 12,050,385 |
| Miscellaneous Subtotal: | | | | \$ 51,318,581 |
| CONSTRUCTION SUBTOTAL: | | | | \$ 253,168,906 |
| Design** | 1 | LS | 20% | \$ 50,633,781 |
| CEI | 1 | LS | 15% | \$ 37,975,336 |
| Right-of-Way | | | | |
| Land Cost (Rural) | 408.17 | AC | \$250,000.00 | \$ 102,042,500 |
| Land Cost (Urban) | 54.49 | AC | \$425,000.00 | \$ 23,158,250 |
| Right-of-Way Subtotal: | | | | \$ 125,200,750 |
| SUBTOTAL: | | | | \$ 466,978,773 |
| Contingency | 1 | LS | 25% | \$ 116,750,000 |
| GRAND TOTAL: | | | | \$ 583,730,000 |

Note: Right-of-way and/or business damages are not included and have been estimated elsewhere.

* Track Work Included in Grading & Track Work

** Includes cost of preliminary and final engineering, survey, geotechnical, environmental permitting.

Appendix G
Preliminary Construction Cost Estimate
Alignment E

| Description | Quantity | Unit | Unit Cost | Item Cost |
|--|-----------|------|-----------------|-----------------------|
| Grading & Track Work | | | | |
| Clearing and Grubbing | 726 | AC | \$8,200.00 | \$ 5,953,200 |
| Grading / Earthwork | 3,277,000 | CY | \$12.00 | \$ 39,324,000 |
| Erosion Control Silt Fence | 157,473 | LF | \$4.00 | \$ 629,892 |
| Subballast - 6" Compacted Layer | 526,100 | TON | \$23.15 | \$ 12,179,215 |
| Track Construction (Ballast, Ties, Rail and Labor) | | | | |
| a. Construct New Siding Track w/141# Rail & Concrete Ties | 32,000 | TF | \$160.00 | \$ 5,120,000 |
| b. Construct New Main Line Track w/141# Rail & Concrete Ties | 158,000 | TF | \$160.00 | \$ 25,280,000 |
| New Turnouts | | | | |
| a. New No. 10 turnout - wood ties | 2 | EA | \$90,000.00 | \$ 180,000 |
| b. New No. 20 turnout - concrete ties | 8 | EA | \$250,000.00 | \$ 2,000,000 |
| c. New No. 24 turnout - concrete ties | 0 | EA | \$300,000.00 | \$ - |
| Remove Track | 0 | TF | \$21.00 | \$ - |
| Line and Surface Existing Track | 48,000 | TF | \$17.00 | \$ 816,000 |
| Diamond Crossings | 1 | EA | \$125,000.00 | \$ 125,000 |
| Grading & Track Work Subtotal: | | | | \$ 91,607,307 |
| Structures | | | | |
| Box Culvert: 1/mile - 60 feet in length | 1,800 | LF | \$600.00 | \$ 1,080,000 |
| Pipe Culvert: 2/mile - 60 feet in length | 3,600 | LF | \$190.00 | \$ 684,000 |
| Railroad Over Highway | 3,000 | LF | \$15,000.00 | \$ 45,000,000 |
| Railroad Trestle Bridge Structure | 9,600 | LF | \$5,000.00 | \$ 48,000,000 |
| Structures Subtotal: | | | | \$ 94,764,000 |
| Highway/Railroad Crossings* | | | | |
| Public At-Grade Crossings - Concrete (All Public) | 23 | EA | \$30,000.00 | \$ 690,000 |
| Public At-Grade Crossings - Rubber & Asphalt (All Private) | 32 | EA | \$10,000.00 | \$ 320,000 |
| Crossing Protection (Passive) | 32 | EA | \$100.00 | \$ 3,200 |
| Crossing Protection (Active) | 23 | EA | \$250,000.00 | \$ 5,750,000 |
| Grade Separation (New Highway Bridge) (2-Lane) | 7 | EA | \$6,000,000.00 | \$ 42,000,000 |
| Grade Separation (New Highway Bridge) (4-Lane) | 2 | EA | \$10,000,000.00 | \$ 20,000,000 |
| Grade Separation (Replace Highway Bridge) | 0 | SF | \$100.00 | \$ - |
| Highway/Railroad Crossings Subtotal: | | | | \$ 68,763,200 |
| Signal | | | | |
| Signal (New Track) | 29.9 | MI | \$400,000.00 | \$ 11,960,000 |
| Signal (Control Points) | 8 | EA | \$250,000.00 | \$ 2,000,000 |
| Signal (Defective Equipment Detectors) | 1 | EA | \$100,000.00 | \$ 100,000 |
| Signal Subtotal: | | | | \$ 14,060,000 |
| Miscellaneous | | | | |
| Mobilization | 1 | LS | 10% | \$ 26,919,451 |
| Environmental / Cultural Mitigation | 22 | AC | \$80,000.00 | \$ 1,784,000 |
| Additional Misc. Items | 1 | LS | 15% | \$ 40,379,176 |
| Interchange Yard (Saltillo) | 1 | LS | | \$ 12,050,385 |
| Miscellaneous Subtotal: | | | | \$ 69,082,627 |
| CONSTRUCTION SUBTOTAL: | | | | \$ 338,277,134 |
| Design** | 1 | LS | 20% | \$ 67,655,427 |
| CEI | 1 | LS | 15% | \$ 50,741,570 |
| Right-of-Way | | | | |
| Land Cost (Rural) | 471.80 | AC | \$250,000.00 | \$ 117,950,000 |
| Land Cost (Urban) | 54.49 | AC | \$425,000.00 | \$ 23,158,250 |
| Right-of-Way Subtotal: | | | | \$ 141,108,250 |
| SUBTOTAL: | | | | \$ 597,782,381 |
| Contingency | 1 | LS | 25% | \$ 149,450,000 |
| GRAND TOTAL: | | | | \$ 747,230,000 |

Note: Right-of-way and/or business damages are not included and have been estimated elsewhere.

* Track Work Included in Grading & Track Work

** Includes cost of preliminary and final engineering, survey, geotechnical, environmental permitting.

Appendix G
Preliminary Construction Cost Estimate
Shannon Yard (for Alignment A)

| Description | Quantity | Unit | Unit Cost | Item Cost |
|--|----------|------|-----------------|----------------------|
| Grading & Track Work | | | | |
| Clearing and Grubbing | 14 | AC | \$8,200.00 | \$ 114,800 |
| Grading / Earthwork | | CY | \$12.00 | \$ - |
| Erosion Control Silt Fence | 2,422 | LF | \$4.00 | \$ 9,688 |
| Subballast - 6" Compacted Layer | 10,000 | TON | \$23.15 | \$ 231,500 |
| Track Construction (Ballast, Ties, Rail and Labor) | | | | |
| a. Construct New Siding Track w/141# Rail & Concrete Ties | 20,000 | TF | \$160.00 | \$ 3,200,000 |
| b. Construct New Main Line Track w/141# Rail & Concrete Ties | 3,000 | TF | \$160.00 | \$ 480,000 |
| New Turnouts | | | | |
| a. New No. 10 turnout - wood ties | 12 | EA | \$90,000.00 | \$ 1,080,000 |
| b. New No. 20 turnout - concrete ties | 2 | EA | \$250,000.00 | \$ 500,000 |
| c. New No. 24 turnout - concrete ties | 0 | EA | \$300,000.00 | \$ - |
| Remove Track | 0 | TF | \$21.00 | \$ - |
| Line and Surface Existing Track | 0 | TF | \$17.00 | \$ - |
| Diamond Crossings | 0 | EA | \$125,000.00 | \$ - |
| Grading & Track Work Subtotal: | | | | \$ 5,615,988 |
| Structures | | | | |
| Box Culvert: 1/mile - 60 feet in length | 40 | LF | \$600.00 | \$ 24,000 |
| Pipe Culvert: 2/mile - 60 feet in length | 40 | LF | \$190.00 | \$ 7,600 |
| Railroad Over Highway | 0 | LF | \$15,000.00 | \$ - |
| Railroad Trestle Bridge Structure | 0 | LF | \$5,000.00 | \$ - |
| Structures Subtotal: | | | | \$ 31,600 |
| Highway/Railroad Crossings* | | | | |
| Public At-Grade Crossings - Concrete (All Public) | 0 | EA | \$30,000.00 | \$ - |
| Public At-Grade Crossings - Rubber & Asphalt (All Private) | 0 | EA | \$10,000.00 | \$ - |
| Crossing Protection (Passive) | 0 | EA | \$100.00 | \$ - |
| Crossing Protection (Active) | 0 | EA | \$250,000.00 | \$ - |
| Grade Separation (New Highway Bridge) (2-Lane) | 0 | EA | \$6,000,000.00 | \$ - |
| Grade Separation (New Highway Bridge) (4-Lane) | 0 | EA | \$10,000,000.00 | \$ - |
| Grade Separation (Replace Highway Bridge) | 0 | SF | \$100.00 | \$ - |
| Highway/Railroad Crossings Subtotal: | | | | \$ - |
| Signal | | | | |
| Signal (New Track) | 0.6 | MI | \$400,000.00 | \$ 240,000 |
| Signal (Control Points) | 2 | EA | \$250,000.00 | \$ 500,000 |
| Signal (Defective Equipment Detectors) | 0 | EA | \$100,000.00 | \$ - |
| Signal Subtotal: | | | | \$ 740,000 |
| Miscellaneous | | | | |
| Mobilization | 1 | LS | 10% | \$ 638,759 |
| Environmental / Cultural Mitigation | 0 | AC | \$80,000.00 | \$ - |
| Additional Misc. Items | 1 | LS | 15% | \$ 958,138 |
| Miscellaneous Subtotal: | | | | \$ 1,596,897 |
| CONSTRUCTION SUBTOTAL: | | | | \$ 7,984,485 |
| Design** | 1 | LS | 0% | \$ - |
| CEI | 1 | LS | 0% | \$ - |
| Right-of-Way | | | | |
| Land Cost (Rural) | 11.02 | AC | \$250,000.00 | \$ 2,755,000 |
| Land Cost (Urban) | 0.00 | AC | \$425,000.00 | \$ - |
| Right-of-Way Subtotal: | | | | \$ 2,755,000 |
| SUBTOTAL: | | | | \$ 10,739,485 |
| Contingency | 1 | LS | 25% | |
| GRAND TOTAL: | | | | \$ 10,740,000 |

Note: Right-of-way and/or business damages are not included and have been estimated elsewhere.

* Track Work Included in Grading & Track Work

** Includes cost of preliminary and final engineering, survey, geotechnical, environmental permitting.

Appendix G
Preliminary Construction Cost Estimate
Tupelo Yard (for Alignments B & C)

| Description | Quantity | Unit | Unit Cost | Item Cost |
|--|----------|------|-----------------|----------------------|
| Grading & Track Work | | | | |
| Clearing and Grubbing | 33 | AC | \$8,200.00 | \$ 270,600 |
| Grading / Earthwork | | CY | \$12.00 | \$ - |
| Erosion Control Silt Fence | 6,422 | LF | \$4.00 | \$ 25,688 |
| Subballast - 6" Compacted Layer | 23,300 | TON | \$23.15 | \$ 539,395 |
| Track Construction (Ballast, Ties, Rail and Labor) | | | | |
| a. Construct New Siding Track w/141# Rail & Concrete Ties | 20,000 | TF | \$160.00 | \$ 3,200,000 |
| b. Construct New Main Line Track w/141# Rail & Concrete Ties | 7,000 | TF | \$160.00 | \$ 1,120,000 |
| New Turnouts | | | | |
| a. New No. 10 turnout - wood ties | 12 | EA | \$90,000.00 | \$ 1,080,000 |
| b. New No. 20 turnout - concrete ties | 2 | EA | \$250,000.00 | \$ 500,000 |
| c. New No. 24 turnout - concrete ties | 0 | EA | \$300,000.00 | \$ - |
| Remove Track | 0 | TF | \$21.00 | \$ - |
| Line and Surface Existing Track | 0 | TF | \$17.00 | \$ - |
| Diamond Crossings | 0 | EA | \$125,000.00 | \$ - |
| Grading & Track Work Subtotal: | | | | \$ 6,735,683 |
| Structures | | | | |
| Box Culvert: 1/mile - 60 feet in length | 80 | LF | \$600.00 | \$ 48,000 |
| Pipe Culvert: 2/mile - 60 feet in length | 80 | LF | \$190.00 | \$ 15,200 |
| Railroad Over Highway | 0 | LF | \$15,000.00 | \$ - |
| Railroad Trestle Bridge Structure | 450 | LF | \$5,000.00 | \$ 2,250,000 |
| Structures Subtotal: | | | | \$ 2,313,200 |
| Highway/Railroad Crossings* | | | | |
| Public At-Grade Crossings - Concrete (All Public) | 1 | EA | \$30,000.00 | \$ 30,000 |
| Public At-Grade Crossings - Rubber & Asphalt (All Private) | 0 | EA | \$10,000.00 | \$ - |
| Crossing Protection (Passive) | 0 | EA | \$100.00 | \$ - |
| Crossing Protection (Active) | 1 | EA | \$250,000.00 | \$ 250,000 |
| Grade Separation (New Highway Bridge) (2-Lane) | 2 | EA | \$6,000,000.00 | \$ 12,000,000 |
| Grade Separation (New Highway Bridge) (4-Lane) | 0 | EA | \$10,000,000.00 | \$ - |
| Grade Separation (Replace Highway Bridge) | 37,400 | SF | \$100.00 | \$ 3,740,000 |
| Highway/Railroad Crossings Subtotal: | | | | \$ 16,020,000 |
| Signal | | | | |
| Signal (New Track) | 1.3 | MI | \$400,000.00 | \$ 520,000 |
| Signal (Control Points) | 2 | EA | \$250,000.00 | \$ 500,000 |
| Signal (Defective Equipment Detectors) | 0 | EA | \$100,000.00 | \$ - |
| Signal Subtotal: | | | | \$ 1,020,000 |
| Miscellaneous | | | | |
| Mobilization | 1 | LS | 10% | \$ 2,608,888 |
| Environmental / Cultural Mitigation | 0 | AC | \$80,000.00 | \$ - |
| Additional Misc. Items | 1 | LS | 15% | \$ 3,913,332 |
| Miscellaneous Subtotal: | | | | \$ 6,522,221 |
| CONSTRUCTION SUBTOTAL: | | | | \$ 32,611,104 |
| Design** | 1 | LS | 0% | \$ - |
| CEI | 1 | LS | 0% | \$ - |
| Right-of-Way | | | | |
| Land Cost (Rural) | 0.00 | AC | \$250,000.00 | \$ - |
| Land Cost (Urban) | 29.49 | AC | \$425,000.00 | \$ 12,533,250 |
| Right-of-Way Subtotal: | | | | \$ 12,533,250 |
| SUBTOTAL: | | | | \$ 45,144,354 |
| Contingency | 1 | LS | 25% | \$ - |
| GRAND TOTAL: | | | | \$ 45,140,000 |

Note: Right-of-way and/or business damages are not included and have been estimated elsewhere.

* Track Work Included in Grading & Track Work

** Includes cost of preliminary and final engineering, survey, geotechnical, environmental permitting.

Appendix G
Preliminary Construction Cost Estimate
Saltillo Yard (for Alignments D & E)

| Description | Quantity | Unit | Unit Cost | Item Cost |
|--|----------|------|-----------------|----------------------|
| Grading & Track Work | | | | |
| Clearing and Grubbing | 14 | AC | \$8,200.00 | \$ 114,800 |
| Grading / Earthwork | | CY | \$12.00 | \$ - |
| Erosion Control Silt Fence | 2,102 | LF | \$4.00 | \$ 8,408 |
| Subballast - 6" Compacted Layer | 10,000 | TON | \$23.15 | \$ 231,500 |
| Track Construction (Ballast, Ties, Rail and Labor) | | | | |
| a. Construct New Siding Track w/141# Rail & Concrete Ties | 20,000 | TF | \$160.00 | \$ 3,200,000 |
| b. Construct New Main Line Track w/141# Rail & Concrete Ties | 3,000 | TF | \$160.00 | \$ 480,000 |
| New Turnouts | | | | |
| a. New No. 10 turnout - wood ties | 10 | EA | \$90,000.00 | \$ 900,000 |
| b. New No. 20 turnout - concrete ties | 2 | EA | \$250,000.00 | \$ 500,000 |
| c. New No. 24 turnout - concrete ties | 0 | EA | \$300,000.00 | \$ - |
| Remove Track | 0 | TF | \$21.00 | \$ - |
| Line and Surface Existing Track | 0 | TF | \$17.00 | \$ - |
| Diamond Crossings | 0 | EA | \$125,000.00 | \$ - |
| Grading & Track Work Subtotal: | | | | \$ 5,434,708 |
| Structures | | | | |
| Box Culvert: 1/mile - 60 feet in length | 40 | LF | \$600.00 | \$ 24,000 |
| Pipe Culvert: 2/mile - 60 feet in length | 40 | LF | \$190.00 | \$ 7,600 |
| Railroad Over Highway | 0 | LF | \$15,000.00 | \$ - |
| Railroad Trestle Bridge Structure | 0 | LF | \$5,000.00 | \$ - |
| Structures Subtotal: | | | | \$ 31,600 |
| Highway/Railroad Crossings* | | | | |
| Public At-Grade Crossings - Concrete (All Public) | 0 | EA | \$30,000.00 | \$ - |
| Public At-Grade Crossings - Rubber & Asphalt (All Private) | 0 | EA | \$10,000.00 | \$ - |
| Crossing Protection (Passive) | 0 | EA | \$100.00 | \$ - |
| Crossing Protection (Active) | 0 | EA | \$250,000.00 | \$ - |
| Grade Separation (New Highway Bridge) (2-Lane) | 0 | EA | \$6,000,000.00 | \$ - |
| Grade Separation (New Highway Bridge) (4-Lane) | 0 | EA | \$10,000,000.00 | \$ - |
| Grade Separation (Replace Highway Bridge) | 0 | SF | \$100.00 | \$ - |
| Highway/Railroad Crossings Subtotal: | | | | \$ - |
| Signal | | | | |
| Signal (New Track) | 0.6 | MI | \$400,000.00 | \$ 240,000 |
| Signal (Control Points) | 2 | EA | \$250,000.00 | \$ 500,000 |
| Signal (Defective Equipment Detectors) | 0 | EA | \$100,000.00 | \$ - |
| Signal Subtotal: | | | | \$ 740,000 |
| Miscellaneous | | | | |
| Mobilization | 1 | LS | 10% | \$ 620,631 |
| Environmental / Cultural Mitigation | 0 | AC | \$80,000.00 | \$ - |
| Additional Misc. Items | 1 | LS | 15% | \$ 930,946 |
| Miscellaneous Subtotal: | | | | \$ 1,551,577 |
| CONSTRUCTION SUBTOTAL: | | | | \$ 7,757,885 |
| Design** | 1 | LS | 0% | \$ - |
| CEI | 1 | LS | 0% | \$ - |
| Right-of-Way | | | | |
| Land Cost (Rural) | 0.00 | AC | \$250,000.00 | \$ - |
| Land Cost (Urban) | 10.10 | AC | \$425,000.00 | \$ 4,292,500 |
| Right-of-Way Subtotal: | | | | \$ 4,292,500 |
| SUBTOTAL: | | | | \$ 12,050,385 |
| Contingency | 1 | LS | 25% | |
| GRAND TOTAL: | | | | \$ 12,050,000 |

Note: Right-of-way and/or business damages are not included and have been estimated elsewhere.

* Track Work Included in Grading & Track Work

** Includes cost of preliminary and final engineering, survey, geotechnical, environmental permitting.