

Every Day Counts - Case Study 2

| | |
|-----------------------------|--|
| Project name | Conventional Alt. CS 2 Fla. |
| Labor rate table | Labor 2011 |
| Equipment rate table | Equip 2011 |
| Notes | <ol style="list-style-type: none">1. Pricing is 2011 \$.2. Construction Schedule of 30 mos.3. Rates reflect majority of work performed evenings to minimize disruption.4. 2 Bridges.5. Labor Cost/Unit - This reflects the cost of Labor to put one unit of measure of work in place. This is comprised of a typical crew with associated productivity required to perform the activity. Labor is priced up to include base rate, fringes, taxes, insurance, etc.6. Material Cost/Unit - This cost represents the final installed cost for all the materials associated with the item of work.7. Sub Contract Cost/Unit - this represents the Sub Contract all in Cost to put one unit of work in place. This cost includes all costs necessary to reflect a total installed cost (incls. Labor, equipment and material).8. Equipment Cost/Unit - This represents the cost of Construction Equipment necessary to put one unit of work in place. This cost includes equipment ownership and maintenance and operational costs.9. Other Cost/Unit - This cost represents all other costs necessary to perform the item of work and not covered by the abovementioned costs.10. Total cost/unit - This is the summation of all unit costs to arrive at a total cost per unit to put one one item of work in place.11. Total Amount - Total cost to put the quantity of units specified in place. |
| Report format | Sorted by 'LOCATION/Pay Item/Group phase/Phase' 'Detail' summary Allocate addons |

Cost Estimating Spreadsheet Report
Conventional Alt. CS 2

| Spreadsheet Level | Takeoff Quantity | Labor Cost/Unit | Material Cost/Unit | Sub Cost/Unit | Equip Cost/Unit | Other Cost/Unit | Total Cost/Unit | Total Amount |
|--|------------------|-----------------|--------------------|---------------|-----------------|-----------------|-----------------|------------------|
| Additional Cost Additional Cost Detour | | | | | | | | |
| * unassigned * | | | | | | | | |
| <i>01-54-36.00 Equipment Mobilization</i> | | | | | | | | |
| <i>01-54-36.50 Mobilization Or Demob.</i> | | | | | | | | |
| Transport Bridge to Site | 4.00 ea | 517.79 | - | - | 817.10 | - | 1,334.89 | 5,340 |
| Transport Bridge back to | 4.00 ea | 517.79 | - | - | 817.11 | - | 1,334.90 | 5,340 |
| FDOT | | | | | | | | |
| <i>Mobilization Or Demob.</i> | | | | | | | | 10,679 |
| <i>Equipment Mobilization</i> | | | | | | | | 10,679 |
| <i>01-55-00.00 Vehicular Access And Parking</i> | | | | | | | | |
| <i>01-55-23.50 Roads And Sidewalks</i> | | | | | | | | |
| Temporary, roads | 2,000.00 lf | | | - | | 1,135.98 | 1,135.98 | 2,271,966 |
| Temporary, roads Remove | 2,000.00 lf | | | - | | 155.45 | 155.45 | 310,901 |
| <i>Roads And Sidewalks</i> | | | | | | | | 2,582,866 |
| <i>Vehicular Access And Parking</i> | | | | | | | | 2,582,866 |
| <i>32-34-00.00 Fabricated Bridges</i> | | | | | | | | |
| <i>32-34-10.10 Bridges, Highway</i> | | | | | | | | |
| Fabricated highway bridges, Install | 330.00 lf | 50.64 | 0.00 | - | 13.97 | - | 64.61 | 21,322 |
| Fabricated highway bridges, Remove | 330.00 lf | 50.64 | | - | 13.97 | - | 64.61 | 21,322 |
| Fabricated highway bridges, concrete in place, abutment | 350.00 cy | 293.61 | 198.50 | - | 19.01 | - | 511.12 | 178,891 |
| Fabricated highway bridges, concrete in place, abutment Remove | 350.00 cy | | 0.00 | - | | 149.47 | 149.47 | 52,315 |
| <i>Bridges, Highway Fabricated Bridges</i> | | | | | | | | 273,850 |
| | | | | | | | | 273,850 |
| <i>34-71-13.00 Vehicle Barriers</i> | | | | | | | | |
| <i>34-71-13.17 Security Vehicle Barriers</i> | | | | | | | | |
| Maintain Detour | 500.00 day | - | - | - | - | 89.68 | 89.68 | 44,841 |
| <i>Security Vehicle Barriers</i> | | | | | | | | 44,841 |
| <i>Vehicle Barriers</i> | | | | | | | | 44,841 |
| * unassigned * | | | | | | | | 2,912,237 |
| Additional Cost | | | | | | | | 2,912,237 |
| Additional Cost | | | | | | | | |
| Detour | | | | | | | | |

Cost Estimating Spreadsheet Report
Conventional Alt. CS 2

| Spreadsheet Level | Takeoff Quantity | Labor Cost/Unit | Material Cost/Unit | Sub Cost/Unit | Equip Cost/Unit | Other Cost/Unit | Total Cost/Unit | Total Amount |
|--|------------------|-----------------|--------------------|---------------|-----------------|-----------------|-----------------|--------------|
| General Conditions General Conditions | | | | | | | | |
| * unassigned * | | | | | | | | |
| <i>01-31-00.00 Project Management And Coordination</i> | | | | | | | | |
| <i>01-31-13.20 Field Personnel</i> | | | | | | | | |
| Field Personnel, clerk, average | 125.00 week | 472.96 | - | - | - | - | 472.96 | 59,120 |
| Field engineer, average | 129.00 week | 1,457.74 | - | - | - | - | 1,457.74 | 188,049 |
| Field Personnel, project manager, average | 129.00 week | 2,397.18 | - | - | - | - | 2,397.18 | 309,236 |
| Field Personnel, superintendent, average | 125.00 week | 2,202.81 | - | - | - | - | 2,202.81 | 275,351 |
| | | | | | | | | <hr/> |
| <i>Field Personnel</i> | | | | | | | | 831,756 |
| <i>Project Management And Coordination</i> | | | | | | | | 831,756 |
| <i>01-32-33.00 Photographic Documentation</i> | | | | | | | | |
| <i>01-32-33.50 Photographs</i> | | | | | | | | |
| Construction Photographs | 128.00 set | - | 567.99 | - | - | - | 567.99 | 72,703 |
| | | | | | | | | <hr/> |
| <i>Photographs</i> | | | | | | | | 72,703 |
| <i>Photographic Documentation</i> | | | | | | | | 72,703 |
| <i>01-45-00.00 Quality Control</i> | | | | | | | | |
| <i>01-45-23.50 Testing</i> | | | | | | | | |
| Field Testing | 2.00 prjc | - | - | - | - | 35,981.96 | 35,981.96 | 71,964 |
| | | | | | | | | <hr/> |
| <i>Testing</i> | | | | | | | | 71,964 |
| <i>Quality Control</i> | | | | | | | | 71,964 |
| <i>01-52-13.00 Field Offices And Sheds</i> | | | | | | | | |
| <i>01-52-13.20 Office And Storage Space</i> | | | | | | | | |
| Office Trailer, furnished, rent per month, 32' x 8', excl. hookups | 30.00 ea | - | 288.18 | - | - | - | 288.18 | 8,645 |
| Storage Boxes, rent per month, 20' x 8' | 60.00 ea | - | 87.89 | - | - | - | 87.89 | 5,273 |
| | | | | | | | | <hr/> |
| <i>Office And Storage Space</i> | | | | | | | | 13,919 |
| <i>01-52-13.40 Field Office Expense</i> | | | | | | | | |
| Field Office Expense, office equipment rental, average | 30.00 mo | - | 179.37 | - | - | - | 179.37 | 5,381 |
| Field Office Expense, office supplies, average | 30.00 mo | - | 113.60 | - | - | - | 113.60 | 3,408 |

Cost Estimating Spreadsheet Report
Conventional Alt. CS 2

| Spreadsheet Level | Takeoff Quantity | Labor Cost/Unit | Material Cost/Unit | Sub Cost/Unit | Equip Cost/Unit | Other Cost/Unit | Total Cost/Unit | Total Amount |
|---|------------------|-----------------|--------------------|---------------|-----------------|-----------------|-----------------|------------------|
| <i>01-52-13.40 Field Office Expense</i> | | | | | | | | |
| Field Office Expense, telephone bill; avg. bill/month, incl. long dist. | 30.00 mo | - | 251.11 | - | - | - | 251.11 | 7,533 |
| Field Office Expense, field office lights & HVAC | 30.00 mo | - | 131.54 | - | - | - | 131.54 | 3,946 |
| | | | | | | | | <u>20,268</u> |
| <i>Field Offices And Sheds</i> | | | | | | | | 34,187 |
| <i>01-56-26.00 Temporary Fencing</i> | | | | | | | | |
| <i>01-56-26.50 Temporary Fencing</i> | | | | | | | | |
| Temporary Fencing, chain link, 6' high, 11 ga | 2,000.00 lf | 3.43 | 8.37 | - | - | - | 11.80 | 23,607 |
| | | | | | | | | <u>23,607</u> |
| <i>Temporary Fencing</i> | | | | | | | | 23,607 |
| <i>01-58-00.00 Project Identification</i> | | | | | | | | |
| <i>01-58-13.50 Signs</i> | | | | | | | | |
| Project Signs | 50.00 sf | - | 21.40 | - | - | - | 21.40 | 1,070 |
| | | | | | | | | <u>1,070</u> |
| <i>Signs</i> | | | | | | | | 1,070 |
| <i>Project Identification</i> | | | | | | | | 1,070 |
| <i>01-71-23.00 Field Engineering</i> | | | | | | | | |
| <i>01-71-23.13 Construction Layout</i> | | | | | | | | |
| Survey Crew | 95.00 day | 2,057.23 | - | - | 90.63 | - | 2,147.86 | 204,047 |
| | | | | | | | | <u>204,047</u> |
| <i>Construction Layout</i> | | | | | | | | 204,047 |
| <i>Field Engineering</i> | | | | | | | | 204,047 |
| * unassigned * | | | | | | | | 1,239,334 |
| General Conditions | | | | | | | | 1,239,334 |
| General Conditions | | | | | | | | |
| Permanent Walls Permanent Walls | | | | | | | | |
| 400-2-10 Concrete Class II | | | | | | | | |
| <i>03-30-00.00 Cast-In-Place Concrete</i> | | | | | | | | |
| <i>03-30-53.40 Concrete In Place</i> | | | | | | | | |
| Approach Slab | 262.60 cy | 154.57 | 173.39 | - | 20.87 | - | 348.83 | 91,602 |
| | | | | | | | | <u>91,602</u> |
| <i>Concrete In Place</i> | | | | | | | | 91,602 |
| <i>Cast-In-Place Concrete</i> | | | | | | | | 91,602 |
| 400-2-10 Concrete Class II | | | | | | | | 91,602 |

415-1-9 Reinforcing Steel

03-21-05.00 Reinforcing Steel Accessories

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|--|------------------|-----------------|--------------------|---------------|-----------------|-----------------|-----------------|----------------|
| <i>03-21-10.60 Reinforcing In Place</i> | | | | | | | | |
| Reinforcing Steel Approach Slabs | 53,832.00 lb | 0.40 | 0.06 | - | 0.08 | - | 0.54 | 28,865 |
| | | | | | | | | <hr/> |
| <i>Reinforcing In Place</i> | | | | | | | | 28,865 |
| <i>Reinforcing Steel</i> | | | | | | | | 28,865 |
| <i>Accessories</i> | | | | | | | | |
| 415-1-9 Reinforcing Steel | | | | | | | | 28,865 |
| | | | | | | | | |
| 521-8-1 Concrete Traffic Railing | | | | | | | | |
| <i>34-71-13.00 Vehicle Barriers</i> | | | | | | | | |
| <i>34-71-13.26 Vehicle Guide Rails</i> | | | | | | | | |
| Concrete Traffic Railing Barrier Retaining Wall | 220.00 lf | 13.96 | 49.03 | - | 4.44 | - | 67.43 | 14,834 |
| | | | | | | | | <hr/> |
| <i>Vehicle Guide Rails</i> | | | | | | | | 14,834 |
| <i>Vehicle Barriers</i> | | | | | | | | 14,834 |
| 521-8-1 Concrete Traffic Railing | | | | | | | | 14,834 |
| | | | | | | | | |
| 548-12 Retainig Wall System | | | | | | | | |
| <i>32-32-23.00 Retaining Walls</i> | | | | | | | | |
| <i>32-32-23.13 Retaining Walls</i> | | | | | | | | |
| Retaining Wall System | 22,144.00 sf | 8.28 | 14.05 | - | 4.24 | - | 26.58 | 588,489 |
| | | | | | | | | <hr/> |
| <i>Retaining Walls</i> | | | | | | | | 588,489 |
| <i>Retaining Walls</i> | | | | | | | | 588,489 |
| 548-12 Retainig Wall System | | | | | | | | 588,489 |
| Permanent Walls | | | | | | | | 723,790 |
| Permanent Walls | | | | | | | | |
| | | | | | | | | |
| Substructure-End Substructure-End Bents | | | | | | | | |
| 400-4-5 Concrete Class IV (Substructure) | | | | | | | | |
| <i>03-30-00.00 Cast-In-Place Concrete</i> | | | | | | | | |
| <i>03-30-53.40 Concrete In Place</i> | | | | | | | | |
| Concrete Class IV | 144.00 cy | 309.15 | 197.30 | - | 41.73 | - | 548.18 | 78,938 |
| | | | | | | | | <hr/> |
| <i>Concrete In Place</i> | | | | | | | | 78,938 |
| <i>Cast-In-Place Concrete</i> | | | | | | | | 78,938 |
| 400-4-5 Concrete Class IV (Substructure) | | | | | | | | 78,938 |
| | | | | | | | | |
| 415-1-5 Reinforcing Steel Substructure | | | | | | | | |
| <i>03-21-05.00 Reinforcing Steel Accessories</i> | | | | | | | | |
| <i>03-21-10.60 Reinforcing In Place</i> | | | | | | | | |

Cost Estimating Spreadsheet Report
Conventional Alt. CS 2

| Spreadsheet Level | Takeoff Quantity | Labor Cost/Unit | Material Cost/Unit | Sub Cost/Unit | Equip Cost/Unit | Other Cost/Unit | Total Cost/Unit | Total Amount |
|--|------------------|-----------------|--------------------|---------------|-----------------|-----------------|-----------------|----------------|
| 415-1-5 Reinforcing Steel Substructure | | | | | | | | |
| <i>03-21-05.00 Reinforcing Steel Accessories</i> | | | | | | | | |
| <i>03-21-10.60 Reinforcing In Place</i> | | | | | | | | |
| Reinforcing Steel | 45,900.00 lb | 0.53 | 0.50 | - | 0.11 | - | 1.13 | 51,935 |
| | | | | | | | | 51,935 |
| | | | | | | | | 51,935 |
| <i>Accessories</i> | | | | | | | | |
| 415-1-5 Reinforcing Steel Substructure | | | | | | | | 51,935 |
| 455-143-5 Test Piles | | | | | | | | |
| <i>31-62-00.00 Driven Piles</i> | | | | | | | | |
| <i>31-62-13.23 Prestressed Concrete Piles</i> | | | | | | | | |
| Prestressed concrete piles, 24" square, Test Pile | 170.00 vlf | 32.18 | 65.77 | - | 18.54 | - | 116.48 | 19,802 |
| | | | | | | | | 19,802 |
| <i>Prestressed Concrete Piles</i> | | | | | | | | |
| | | | | | | | | 19,802 |
| 455-143-5 Test Piles | | | | | | | | 19,802 |
| 455-34-5 Concrete Piling Prestressed | | | | | | | | |
| <i>31-62-00.00 Driven Piles</i> | | | | | | | | |
| <i>31-62-13.23 Prestressed Concrete Piles</i> | | | | | | | | |
| Prestressed concrete piles, 24" square, Prestressed Concrete Piles | 1,960.00 vlf | 11.70 | 65.77 | - | 6.74 | - | 84.21 | 165,050 |
| | | | | | | | | 165,050 |
| <i>Driven Piles</i> | | | | | | | | |
| | | | | | | | | 165,050 |
| 455-34-5 Concrete Piling Prestressed Substructure-Piers | | | | | | | | 165,050 |
| Substructure-Piers | | | | | | | | 404,529 |
| Superstructure Superstructure | | | | | | | | |
| 110-3 Structure Removal of Existing | | | | | | | | |
| <i>02-41-16.00 Structure Demolition</i> | | | | | | | | |
| <i>02-41-16.33 Bridge Demolition</i> | | | | | | | | |
| Bridge demolition | 21,048.00 sf | 15.31 | - | - | 9.18 | - | 24.49 | 515,552 |
| | | | | | | | | 515,552 |
| <i>Structure Demolition</i> | | | | | | | | |
| | | | | | | | | 515,552 |

Estimate Totals

| Description | Amount | Cuts/Adds | Net Amount | Totals | Hours | Rate | Cost Basis | Percent of Total | |
|--------------|------------------|-----------|------------|------------------|---------------|------|------------|------------------|----------------|
| Labor | 2,261,867 | | 2,261,867 | | 23,167.905 ch | | | 29.67% | |
| Material | 1,346,597 | | 1,346,597 | | | | | 17.66% | |
| Subcontract | | | | | | | | | |
| Equipment | 455,609 | | 455,609 | | 2,779.449 ch | | | 5.98% | |
| Other | 3,560,137 | | 3,560,137 | | | | | 46.70% | |
| | 7,624,210 | | | 7,624,210 | | | | 100.00 | 100.00% |
| Total | | | | 7,624,210 | | | | | |