

Appendix F
Round 2 - Conceptual Level Construction Cost Estimates

Round 2

July 12, 2011

Draft Summary of Conceptual Level Construction Costs (2011 Dollars)

Willow Road Study (IL 43 to I-94)

| | Alternative / Exhibit | Description | Length (ft) | Improvement Items (in \$ Million) | | | | Subtotal (in \$ Million) | Contingency | Total Cost (in \$ Million) |
|-----------------------------|--------------------------|---|----------------|-----------------------------------|---------|-------|---------|-----------------------------|-------------|-------------------------------|
| | | | | Willow Road | Bridges | Walls | Signals | | | |
| | | | | | | | | | | |
| Willow Road Alts | 1 | No-Build Plus | | \$0.3 | \$0.0 | \$0.0 | \$1.2 | \$1.5 | 25% | \$2 |
| | 2 | Willow Road 2-lane with median | 6,960 | \$10.1 | \$2.0 | \$1.1 | \$1.2 | \$14.4 | 25% | \$18 |
| | 2A | Willow Road 2-lane with median (2005 Plan) | 6,000 | \$7.3 | \$2.0 | \$1.1 | \$0.6 | \$11.0 | 25% | \$14 |
| | 3 | Willow Road 4-lane with median | 7,220 | \$13.7 | \$2.0 | \$1.1 | \$1.2 | \$18.0 | 25% | \$23 |
| | 4 | Willow Road 3-lane unbalanced with median | 7,220 | \$11.7 | \$2.0 | \$1.1 | \$1.2 | \$16.0 | 25% | \$20 |
| | 5 | Willow Road 2-lane with roundabouts | 5,300 | \$12.8 | \$2.0 | \$1.0 | \$0.6 | \$16.4 | 25% | \$21 |
| Project Limit Intersections | | Willow Road at IL 43 Intersection Improvements | 3,600 | \$6.9 | \$0.0 | \$0.0 | \$0.3 | \$7.2 | 25% | \$9 |
| | | Willow Road at Central/Happ Intersection Improvements | 750 | \$1.5 | \$0.0 | \$0.0 | \$0.3 | \$1.8 | 25% | \$3 |

Key Assumptions:

1. All roadways and bridges are reconstructed
2. \$10 million per mile for new 5-lane roadway prorated based on number of lanes
3. Does not include costs for I-94 interchange
4. Bridges: \$250/square feet for first level bridges, \$325/square feet for second level bridges
5. Retaining walls: \$150/square feet for walls ≤ 10 feet, \$200/square feet for walls > 10 feet
6. Traffic signals: \$300,000 each, includes interconnect and temporary signals where applicable
7. Does not include any costs for utility relocations, land acquisition, relocations, detention, environmental mitigation, or engineering
8. Contingency provides for potential items to be determined in future design studies

PRELIMINARY ESTIMATE OF COST
Alternative 1 - Willow Road No-Build Plus
Corresponds to Exhibit 1
July 21, 2011

| <u>ITEMS</u> | <u>UNIT PRICE</u> | <u>UNIT</u> | <u>QUANTITY</u> | <u>ITEM TOTAL</u> |
|----------------------------------|-------------------|-------------|------------------|----------------------------|
| Road | | | | |
| Bracken Cul de Sac | \$100 | SQ YD | 390 | \$ 39,000 |
| Connect Bracken to Jeffery | \$100 | SQ YD | 830 | \$ 83,000 |
| Eaton Cul de Sac | \$100 | SQ YD | 390 | \$ 39,000 |
| Dickens Cul de Sac | \$100 | SQ YD | 390 | \$ 39,000 |
| Churchill Right-In Right-Out | \$100 | SQ YD | 270 | \$ 27,000 |
| | | | Subtotal: | \$ 227,000 |
| | | | Say: | \$ 300,000 |
| Bridges | | | | |
| No Bridges | | | 0 | \$ - |
| | | | Subtotal: | \$ - |
| | | | Say: | \$ - |
| Walls | | | | |
| No Retaining Walls | | | 0 | \$ - |
| | | | Subtotal: | \$ - |
| | | | Say: | \$ - |
| Signals | | | | |
| Sunset Ridge Road | \$300,000 | EACH | 1 | \$ 300,000 |
| Wagner Road | \$300,000 | EACH | 1 | \$ 300,000 |
| Northfield Road/Old Willow Road | \$300,000 | EACH | 1 | \$ 300,000 |
| Happ Road/Central Avenue | \$300,000 | EACH | 1 | \$ 300,000 |
| | | | Subtotal: | \$ 1,200,000 |
| | | | Say: | \$ 1,200,000 |
| Construction Subtotal | | | | \$ 1,500,000 |
| Contingency | | 25% | of Construction | \$ 375,000 |
| TOTAL ESTIMATED COST: | | | | <u>\$ 2,000,000</u> |

Notes:

1. See Summary Sheet for Key Assumptions
2. \$100 per square yard for roadway modifications based on minor roadway improvements

PRELIMINARY ESTIMATE OF COST
Alternative 2 - Willow Road 2-Lane with Median
Corresponds to Exhibit 2
July 21, 2011

| <u>ITEMS</u> | <u>UNIT PRICE</u> | <u>UNIT</u> | <u>QUANTITY</u> | <u>ITEM TOTAL</u> |
|--|-------------------|-----------------|------------------------------|-----------------------------|
| Road | | | | |
| Reconstruct 2 Lanes to 3 Lanes (3,300') | \$6,000,000 | MILE | 0.63 | \$ 3,750,000 |
| Reconstruct 3 Lanes to 4 Lanes (1,660') | \$8,000,000 | MILE | 0.31 | \$ 2,516,000 |
| Reconstruct 5 Lanes (2,000') | \$10,000,000 | MILE | 0.38 | \$ 3,788,000 |
| | | | Subtotal: | \$ 10,054,000 |
| | | | Say: | \$ 10,100,000 |
| Bridges | | | | |
| Willow Road over Middle Fork North Branch of the Chicago River | \$250 | SQ FT | 7,900 | \$ 1,975,000 |
| | | | Subtotal: | \$ 1,975,000 |
| | | | Say: | \$ 2,000,000 |
| Walls | | | | |
| North Side at Bridge over Chicago River - 6' Avg. Height | \$150 | SQ FT | 700 | \$ 105,000 |
| South Side at Bridge over Chicago River - 12' Avg. Height | \$200 | SQ FT | 3,800 | \$ 760,000 |
| West of Wagner Road on South Side - 6' Avg. Height | \$150 | SQ FT | 300 | \$ 45,000 |
| West of Bristol Street on South Side - 3' Avg. Height | \$150 | SQ FT | 900 | \$ 135,000 |
| | | | Subtotal: | \$ 1,045,000 |
| | | | Say: | \$ 1,100,000 |
| Signals | | | | |
| Three Lakes Drive | \$300,000 | EACH | 1 | \$ 300,000 |
| Sunset Ridge Road | \$300,000 | EACH | 1 | \$ 300,000 |
| Wagner Road | \$300,000 | EACH | 1 | \$ 300,000 |
| Northfield Road/Old Willow Road | \$300,000 | EACH | 1 | \$ 300,000 |
| | | | Subtotal: | \$ 1,200,000 |
| | | | Say: | \$ 1,200,000 |
| Construction Subtotal | | | | \$ 14,400,000 |
| Contingency | 25% | of Construction | | \$ 3,600,000 |
| | | | TOTAL ESTIMATED COST: | <u>\$ 18,000,000</u> |

Notes:

1. See Summary Sheet for Key Assumptions

PRELIMINARY ESTIMATE OF COST
Alternative 2A - Willow Road 2-Lane with Median (2005 Plan)
Corresponds to Exhibit 2A
July 21, 2011

| <u>ITEMS</u> | <u>UNIT PRICE</u> | <u>UNIT</u> | <u>QUANTITY</u> | <u>ITEM TOTAL</u> |
|--|-------------------|-----------------|------------------------------|-----------------------------|
| Road | | | | |
| Reconstruct 2 Lanes to 3 Lanes (1,400') | \$6,000,000 | MILE | 0.27 | \$ 1,591,000 |
| Reconstruct 2 Lanes to 4 Lanes (520') | \$8,000,000 | MILE | 0.10 | \$ 788,000 |
| Reconstruct 3 Lanes to 4 Lanes (370') | \$8,000,000 | MILE | 0.07 | \$ 561,000 |
| Reconstruct 2 Lanes (1,380') | \$4,000,000 | MILE | 0.26 | \$ 1,046,000 |
| Reconstruct 3 Lanes (1,550') | \$6,000,000 | MILE | 0.29 | \$ 1,762,000 |
| Reconstruct 4 Lanes (350') | \$10,000,000 | MILE | 0.07 | \$ 663,000 |
| Reconstruct 5 Lanes (430') | \$10,000,000 | MILE | 0.08 | \$ 815,000 |
| | | | Subtotal: | \$ 7,226,000 |
| | | | Say: | \$ 7,300,000 |
| Bridges | | | | |
| Willow Road over Middle Fork North Branch of the Chicago River | \$250 | SQ FT | 7,900 | \$ 1,975,000 |
| | | | Subtotal: | \$ 1,975,000 |
| | | | Say: | \$ 2,000,000 |
| Walls | | | | |
| North Side at Bridge over Chicago River - 6' Avg. Height | \$150 | SQ FT | 700 | \$ 105,000 |
| South Side at Bridge over Chicago River - 12' Avg. Height | \$200 | SQ FT | 3,800 | \$ 760,000 |
| West of Wagner Road on South Side - 6' Avg. Height | \$150 | SQ FT | 300 | \$ 45,000 |
| West of Bristol Street on South Side - 3' Avg. Height | \$150 | SQ FT | 900 | \$ 135,000 |
| | | | Subtotal: | \$ 1,045,000 |
| | | | Say: | \$ 1,100,000 |
| Signals | | | | |
| Sunset Ridge Road | \$300,000 | EACH | 1 | \$ 300,000 |
| Wagner Road | \$300,000 | EACH | 1 | \$ 300,000 |
| | | | Subtotal: | \$ 600,000 |
| | | | Say: | \$ 600,000 |
| Construction Subtotal | | | | \$ 11,000,000 |
| Contingency | 25% | of Construction | | \$ 2,750,000 |
| | | | TOTAL ESTIMATED COST: | <u>\$ 14,000,000</u> |

Notes:

1. See Summary Sheet for Key Assumptions

PRELIMINARY ESTIMATE OF COST
Alternative 3 - Willow Road 4-Lane with Median
Corresponds to Exhibit 3
July 21, 2011

| <u>ITEMS</u> | <u>UNIT PRICE</u> | <u>UNIT</u> | <u>QUANTITY</u> | <u>ITEM TOTAL</u> |
|--|-------------------|-----------------|------------------------------|-----------------------------|
| Road | | | | |
| Reconstruct 2 Lanes to 5 Lanes (3,300') | \$10,000,000 | MILE | 0.63 | \$ 6,250,000 |
| Reconstruct 3 Lanes to 5 Lanes (1,920') | \$10,000,000 | MILE | 0.36 | \$ 3,637,000 |
| Reconstruct 5 Lanes (2,000') | \$10,000,000 | MILE | 0.38 | \$ 3,788,000 |
| | | | Subtotal: | \$ 13,675,000 |
| | | | Say: | \$ 13,700,000 |
| Bridges | | | | |
| Willow Road over Middle Fork North Branch of the Chicago River | \$250 | SQ FT | 7,900 | \$ 1,975,000 |
| | | | Subtotal: | \$ 1,975,000 |
| | | | Say: | \$ 2,000,000 |
| Walls | | | | |
| North Side at Bridge over Chicago River - 6' Avg. Height | \$150 | SQ FT | 700 | \$ 105,000 |
| South Side at Bridge over Chicago River - 12' Avg. Height | \$200 | SQ FT | 3,800 | \$ 760,000 |
| West of Wagner Road on South Side - 6' Avg. Height | \$150 | SQ FT | 300 | \$ 45,000 |
| West of Bristol Street on South Side - 3' Avg. Height | \$150 | SQ FT | 900 | \$ 135,000 |
| | | | Subtotal: | \$ 1,045,000 |
| | | | Say: | \$ 1,100,000 |
| Signals | | | | |
| Three Lakes Drive | \$300,000 | EACH | 1 | \$ 300,000 |
| Sunset Ridge Drive | \$300,000 | EACH | 1 | \$ 300,000 |
| Wagner Road | \$300,000 | EACH | 1 | \$ 300,000 |
| Northfield Road/Old Willow Road | \$300,000 | EACH | 1 | \$ 300,000 |
| | | | Subtotal: | \$ 1,200,000 |
| | | | Say: | \$ 1,200,000 |
| Construction Subtotal | | | | \$ 18,000,000 |
| Contingency | 25% | of Construction | | \$ 4,500,000 |
| | | | TOTAL ESTIMATED COST: | <u>\$ 23,000,000</u> |

Notes:

1. See Summary Sheet for Key Assumptions

PRELIMINARY ESTIMATE OF COST
Alternative 4 - Willow Road Unbalanced Lanes with Median
Corresponds to Exhibit 4
July 21, 2011

| <u>ITEMS</u> | <u>UNIT PRICE</u> | <u>UNIT</u> | <u>QUANTITY</u> | <u>ITEM TOTAL</u> |
|--|-------------------|-------------|------------------|-----------------------------|
| Road | | | | |
| Reconstruct 2 Lanes to 4 Lanes (3,300') | \$8,000,000 | MILE | 0.63 | \$ 5,000,000 |
| Reconstruct 3 Lanes to 4 Lanes (1,920') | \$8,000,000 | MILE | 0.36 | \$ 2,910,000 |
| Reconstruct 5 Lanes (2,000') | \$10,000,000 | MILE | 0.38 | \$ 3,788,000 |
| | | | Subtotal: | \$ 11,698,000 |
| | | | Say: | \$ 11,700,000 |
| IL 43 Intersection & Central/Happ Intersection | | | | |
| IL 43 and Willow Road Intersection | \$7,100,000 | EACH | 1 | \$ 7,100,000 |
| Central/Happ and Willow Road Intersection | \$1,700,000 | EACH | 1 | \$ 1,700,000 |
| | | | Subtotal: | \$ 8,800,000 |
| | | | Say: | \$ 8,800,000 |
| Bridges | | | | |
| Willow Road over Middle Fork North Branch of the Chicago River | \$250 | SQ FT | 7,900 | \$ 1,975,000 |
| | | | Subtotal: | \$ 1,975,000 |
| | | | Say: | \$ 2,000,000 |
| Walls | | | | |
| North Side at Bridge over Chicago River - 6' Avg. Height | \$150 | SQ FT | 700 | \$ 105,000 |
| South Side at Bridge over Chicago River - 12' Avg. Height | \$200 | SQ FT | 3,800 | \$ 760,000 |
| West of Wagner Road on South Side - 6' Avg. Height | \$150 | SQ FT | 300 | \$ 45,000 |
| West of Bristol Street on South Side - 3' Avg. Height | \$150 | SQ FT | 900 | \$ 135,000 |
| | | | Subtotal: | \$ 1,045,000 |
| | | | Say: | \$ 1,100,000 |
| Signals | | | | |
| Three Lakes Drive | \$300,000 | EACH | 1 | \$ 300,000 |
| Sunset Ridge Drive | \$300,000 | EACH | 1 | \$ 300,000 |
| Wagner Road | \$300,000 | EACH | 1 | \$ 300,000 |
| Northfield Road/Old Willow Road | \$300,000 | EACH | 1 | \$ 300,000 |
| | | | Subtotal: | \$ 1,200,000 |
| | | | Say: | \$ 1,200,000 |
| Construction Subtotal | | | | \$ 16,000,000 |
| Contingency | | 25% | of Construction | \$ 4,000,000 |
| TOTAL ESTIMATED COST: | | | | <u>\$ 20,000,000</u> |

Notes:

1. See Summary Sheet for Key Assumptions

PRELIMINARY ESTIMATE OF COST
Alternative 5 - Willow Road 2-Lane with Roundabouts
Corresponds to Exhibit 5
July 21, 2011

| <u>ITEMS</u> | <u>UNIT PRICE</u> | <u>UNIT</u> | <u>QUANTITY</u> | <u>ITEM TOTAL</u> |
|--|-------------------|-----------------|------------------------------|-----------------------------|
| Road | | | | |
| Reconstruct 2 Lanes to 3 Lanes (3,300') | \$6,000,000 | MILE | 0.63 | \$ 3,750,000 |
| Reconstruct 5 Lanes (2,000') | \$10,000,000 | MILE | 0.38 | \$ 3,788,000 |
| Roundabout at Sunset Ridge Road | \$285 | SQ YD | 9,080 | \$ 2,588,000 |
| Roundabout at Wagner Road | \$285 | SQ YD | 9,080 | \$ 2,588,000 |
| | | | Subtotal: | \$ 12,714,000 |
| | | | Say: | \$ 12,800,000 |
| Bridges | | | | |
| Willow Road over Middle Fork North Branch of the Chicago River | \$250 | SQ FT | 7,900 | \$ 1,975,000 |
| | | | Subtotal: | \$ 1,975,000 |
| | | | Say: | \$ 2,000,000 |
| Walls | | | | |
| North Side at Bridge over Chicago River - 6' Avg. Height | \$150 | SQ FT | 700 | \$ 105,000 |
| South Side at Bridge over Chicago River - 12' Avg. Height | \$200 | SQ FT | 3,800 | \$ 760,000 |
| West of Bristol Street on South Side - 3' Avg. Height | \$150 | SQ FT | 300 | \$ 45,000 |
| | | | Subtotal: | \$ 910,000 |
| | | | Say: | \$ 1,000,000 |
| Signals | | | | |
| Three Lakes Drive | \$300,000 | EACH | 1 | \$ 300,000 |
| Northfield Road/Old Willow Road | \$300,000 | EACH | 1 | \$ 300,000 |
| | | | Subtotal: | \$ 600,000 |
| | | | Say: | \$ 600,000 |
| Construction Subtotal | | | | \$ 16,400,000 |
| Contingency | 25% | of Construction | | \$ 4,100,000 |
| | | | TOTAL ESTIMATED COST: | <u>\$ 21,000,000</u> |

Notes:

1. See Summary Sheet for Key Assumptions
2. \$285 per square yard for roundabout improvements based on prorated \$10 million per mile cost