

TRAFFIC SIGNAL INTERCONNECT AND MODERNIZATION COST ESTIMATE

Indian Trail (IL Route 25 to Pensbury Lane)

City of Aurora

AURO-070690.15

| Pay Item | Unit | Quantity | Unit Price | Total Price | Assumptions / Notes: |
|---|-------|----------|--------------|---------------|---|
| Underground Conduit, Galvanized Steel, 2" Dia. | Foot | 8,000 | \$ 17.50 | \$ 140,000.00 | IL 25 to Church (3,980') + E-SB to Pensbury (3,275') + 10% buffer |
| Underground Conduit, Galvanized Steel, 2 1/2" Dia. | Foot | 200 | \$ 25.00 | \$ 5,000.00 | Mitchell Road only |
| Underground Conduit, Galvanized Steel, 3" Dia. | Foot | 200 | \$ 30.00 | \$ 6,000.00 | Mitchell Road only |
| Underground Conduit, Galvanized Steel, 4" Dia. | Foot | 400 | \$ 40.00 | \$ 16,000.00 | Mitchell Road only |
| Electric Cable in Conduit, Tracer, No. 14 1C | Foot | 18,000 | \$ 0.75 | \$ 13,500.00 | IL 25 to Church (3,980') + Farnsworth to Pensbury (12,285') + 10% buffer |
| Electric Cable in Conduit, Signal No. 14 2C | Foot | 4,500 | \$ 1.20 | \$ 5,400.00 | Felten (1,500'), W-SB (750'), E-SB (750') and Pensbury (1,500') |
| Electric Cable in Conduit, Signal No. 14 3C | Foot | 4,900 | \$ 1.30 | \$ 6,370.00 | Felten (1,500'), W-SB (750'), E-SB (750'), Pensbury (1,500') and Mitchell EVP (400') |
| Electric Cable in Conduit, Signal No. 14 5C | Foot | 1,200 | \$ 1.50 | \$ 1,800.00 | 200' per new signal head (Mitchell Road) |
| Electric Cable in Conduit, Signal No. 14 7C | Foot | 1,600 | \$ 1.70 | \$ 2,720.00 | 200' per new signal head (Mitchell Road) |
| Electric Cable in Conduit, Service, No. 6 2C | Foot | 1,200 | \$ 3.00 | \$ 3,600.00 | 200' per new service (IL 25, Mitchell, Felten, W-SB, E-SB and Pensbury) |
| Electric Cable in Conduit, Grounding, No. 6 1C | Foot | 4,500 | \$ 2.00 | \$ 9,000.00 | 750' per intersection (IL 25, Mitchell, Felten, W-SB, E-SB and Pensbury) |
| Electric Cable in Conduit, Lead-in, No. 14 1 Pair | Foot | 7,200 | \$ 1.50 | \$ 10,800.00 | 1,200' per intersection (far loops need to be added or split at 6 intersections) |
| Electric Cable in Conduit, Communication No. 16 6 Pair | Foot | 1,000 | \$ 3.00 | \$ 3,000.00 | Mitchell Road only |
| Electric Cable in Conduit, No. 20 3C Twisted Shielded | Foot | 400 | \$ 1.50 | \$ 600.00 | Mitchell Road only |
| Fiber Optic Cable in Conduit, No. 62.5/125 MM12F & SM12F | Foot | 18,000 | \$ 3.00 | \$ 54,000.00 | IL 25 to Church (3,980') + Farnsworth to Pensbury (12,285') + 10% buffer |
| CAT 5 Ethernet Cable | Foot | 800 | \$ 5.00 | \$ 4,000.00 | 100' per intersection (PTZ cameras) |
| Electric Cable in Conduit, 600V (XLP-Type Use) 3-1/C No. 10 | Foot | 1,000 | \$ 3.00 | \$ 3,000.00 | Mitchell Road only |
| Luminaire, Sodium Vapor, Horizontal Mount, 250 Watt | Each | 4 | \$ 500.00 | \$ 2,000.00 | Mitchell Road only |
| Lighting Controller, Pedestal Mounted, 240 Volt, 60 Amp | Each | 1 | \$ 6,000.00 | \$ 6,000.00 | Mitchell Road only |
| Handhole | Each | 47 | \$ 1,500.00 | \$ 70,500.00 | Assumes 400' spacing for interconnect + 6 @ Mitchell |
| Double Handhole | Each | 1 | \$ 3,000.00 | \$ 3,000.00 | Mitchell Road only |
| Service Installation - Pole Mounted | Each | 6 | \$ 1,500.00 | \$ 9,000.00 | IL 25, Mitchell, Felten, W-SB, E-SB and Pensbury |
| Maintenance of Existing Traffic Signal Installation | Each | 9 | \$ 1,200.00 | \$ 10,800.00 | All intersections except Ohio (won't be touched) |
| Full-Actuated Controller and Type IV Cabinet | Each | 5 | \$ 28,000.00 | \$ 140,000.00 | Mitchell, Felten, W-SB, E-SB and Pensbury |
| Traffic Signal Post, Galvanized Steel 16 ft. | Each | 4 | \$ 1,500.00 | \$ 6,000.00 | Mitchell Road only |
| Steel Combination Mast Arm Assembly and Pole, 40 ft. | Each | 4 | \$ 8,000.00 | \$ 32,000.00 | Mitchell Road only |
| Concrete Foundation, Type A | Foot | 16 | \$ 300.00 | \$ 4,800.00 | Mitchell Road only |
| Concrete Foundation, Type C | Foot | 4 | \$ 800.00 | \$ 3,200.00 | Mitchell Road only |
| Concrete Foundation, Type E 36-Inch Diameter | Foot | 52 | \$ 300.00 | \$ 15,600.00 | Mitchell Road only |
| Signal Head, LED, 1-Face, 3-Section, Mast Arm Mounted | Each | 6 | \$ 1,100.00 | \$ 6,600.00 | Mitchell Road only |
| Signal Head, LED, 1-Face, 5-Section, Bracket Mounted | Each | 4 | \$ 1,500.00 | \$ 6,000.00 | Mitchell Road only |
| Signal Head, LED, 1-Face, 5-Section, Mast Arm Mounted | Each | 4 | \$ 1,600.00 | \$ 6,400.00 | Mitchell Road only |
| Pedestrian Signal Head, LED, 1-Face, Bracket Mounted with Countdown Timer | Each | 24 | \$ 900.00 | \$ 21,600.00 | Felten (8), W-SB (4), E-SB (4) and Pensbury (8) |
| Pedestrian Push-Button | Each | 24 | \$ 300.00 | \$ 7,200.00 | Felten (8), W-SB (4), E-SB (4) and Pensbury (8) |
| Traffic Signal Backplate, Louvered, Aluminum | Each | 10 | \$ 175.00 | \$ 1,750.00 | |
| Uninterruptable Power Supply, Special | Each | 6 | \$ 7,500.00 | \$ 45,000.00 | IL 25, Mitchell, Felten, W-SB, E-SB and Pensbury |
| Modify Existing Controller Foundation | Each | 5 | \$ 2,000.00 | \$ 10,000.00 | IL 25, Felten, W-SB, E-SB and Pensbury |
| Remove Existing Traffic Signal Equipment (Modernized Intersections Only) | Each | 5 | \$ 2,500.00 | \$ 12,500.00 | IL 25, Felten, W-SB, E-SB and Pensbury |
| Remove Existing Traffic Signal Equipment (Complete Replacement) | Each | 1 | \$ 10,000.00 | \$ 10,000.00 | Mitchell Road only |
| Fiber Optic - Transceiver | Each | 7 | \$ 4,500.00 | \$ 31,500.00 | IL 25, Mitchell, Felten, W-SB, E-SB, Eola and Pensbury |
| Inductive Loop Detector | Each | 34 | \$ 250.00 | \$ 8,500.00 | |
| Light Detector | Each | 2 | \$ 1,500.00 | \$ 3,000.00 | Mitchell Road only |
| Light Detector Amplifier | Each | 9 | \$ 4,000.00 | \$ 36,000.00 | All intersections except Farnsworth (already has one). Needed for central EVP system. |
| Video Detection System | Each | 1 | \$ 35,000.00 | \$ 35,000.00 | Mitchell Road only |
| Drill Existing Handhole | Each | 12 | \$ 300.00 | \$ 3,600.00 | IL 25 (1), Church (1), Farnsworth (1), Felten (2), W-SB (2), E-SB (2), Eola (2), Pensbury (1) |
| Ground Existing Handhole Frame and Cover | Each | 48 | \$ 250.00 | \$ 12,000.00 | 8 per intersection (IL 25, Mitchell, Felten, W-SB, E-SB and Pensbury) |
| Signal Head, LED Retrofit | Each | 70 | \$ 500.00 | \$ 35,000.00 | IL 25 (18), Felten (12), W-SB (16), E-SB (12) and Pensbury (12) |
| EVP Confirmation Beacon, LED Retrofit | Each | 16 | \$ 200.00 | \$ 3,200.00 | IL 25, Church, Ohio, Felten, W-SB, E-SB, Eola and Pensbury |
| Intersection Video Traffic Monitoring System with PTZ Camera | Each | 8 | \$ 5,000.00 | \$ 40,000.00 | All intersections except Farnsworth (already has one) and Eola (DuPage County) |
| Terminal Server | Each | 1 | \$ 2,000.00 | \$ 2,000.00 | |
| Ethernet Switch | Each | 9 | \$ 3,000.00 | \$ 27,000.00 | All intersections except Farnsworth (already has one). |
| Fiber Optic Cable Splice | Each | 1 | \$ 3,000.00 | \$ 3,000.00 | |
| Centralized System Field Integration/Setup | L Sum | 1 | \$ 5,000.00 | \$ 5,000.00 | |
| Optimize Existing Traffic Signal System | Each | 1 | \$ 10,000.00 | \$ 10,000.00 | ~1% |
| PCC Sidewalk 6" | Sq Ft | 400 | \$ 20.00 | \$ 8,000.00 | Replacement of ramps per ADA requirements |
| Detectable Warnings | Sq Ft | 100 | \$ 30.00 | \$ 3,000.00 | 25% of new sidewalk ramp area |
| Miscellaneous Signage | L Sum | 1 | \$ 5,000.00 | \$ 5,000.00 | |

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|--------------------------------------|--------|---|--------------|------------------------|-----|
| Miscellaneous Pavement Marking | L Sum | 1 | \$ 5,000.00 | \$ 5,000.00 | |
| Engineer's Field Office | Cal Mo | 4 | \$ 2,000.00 | \$ 8,000.00 | |
| Traffic Control and Protection | L Sum | 1 | \$ 10,000.00 | \$ 10,000.00 | ~1% |
| Mobilization | L Sum | 1 | \$ 30,000.00 | \$ 30,000.00 | ~3% |
| Subtotal - Construction Costs | | | | \$ 1,038,540.00 | |

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|---|------------------------|
| NUMBER OF SIGNALIZED INTERSECTIONS | 7 |
| TOTAL PROJECT LENGTH (MILES) | 3.08 |
| PHASE III ENGINEERING | \$ 93,468.60 |
| CONSTRUCTION COST | \$ 1,038,540.00 |
| PROJECT GRAND TOTAL | \$ 1,132,008.60 |

Notes:

1. Estimate assumes the existing empty conduit between Farnsworth Avenue and Stonebridge Boulevard (east) is usable.
2. Estimate assumes intersections to be modernization (not complete replacement) will not require a change to the existing cables with the exception of the cables required for the pedestrian equipment.
3. All Light Detector Amplifiers will have to be replaced for compatibility with the City's EVP management system, but the remainder of the existing EVP equipment can remain in place with an LED retrofit.