


Municipality	 Illinois Department of Transportation	Preliminary Engineering Services Agreement For Motor Fuel Tax Funds	C O N S U L T A N T	Name Manhard Consulting, Ltd.
Township				Address 900 Woodlands Parkway
County Lake County – Division of Transportation				City Vernon Hills, IL
Section 10-00151-22-CH				State IL

THIS AGREEMENT is made and entered into this _____ day of _____, 2011 between the above Local Agency (LA) and Consultant (ENGINEER) and covers certain professional engineering services in connection with the improvement of the above SECTION. Motor Fuel Tax Funds, allotted to the LA by the State of Illinois under the general supervision of the State Department of Transportation, hereinafter called the "DEPARTMENT", will be used entirely or in part to finance ENGINEERING services as described under AGREEMENT PROVISIONS.

Section Description

Name Winchester Road at Metra and west County Access Road

Route Winchester Rd Length 0.35 Mi. 1800.00 FT (Structure No. N/A)

Termini 1000 feet east and west of Metra tracks. (Metra tracks are approximately 2400 feet west of Milwaukee Avenue).

Description:
Winchester Road improvements include widening Winchester Road to include an eastbound turn into the west County Access Road and a barrier median at the Metra tracks. The Metra tracks will also be widened.

Agreement Provisions

The Engineer Agrees,

1. To perform or be responsible for the performance of the following engineering services for the LA, in connection with the proposed improvements herein before described, and checked below:
 - a. Make such detailed surveys as are necessary for the preparation of detailed roadway plans
 - b. Make stream and flood plain hydraulic surveys and gather high water data, and flood histories for the preparation of detailed bridge plans.
 - c. Make or cause to be made such soil surveys or subsurface investigations including borings and soil profiles and analyses thereof as may be required to furnish sufficient data for the design of the proposed improvement. Such investigations are to be made in accordance with the current requirements of the DEPARTMENT.
 - d. Make or cause to be made such traffic studies and counts and special intersection studies as may be required to furnish sufficient data for the design of the proposed improvement.
 - e. Prepare Army Corps of Engineers Permit, Lake County Stormwater Management Commission Permit, Department of Natural Resources-Office of Water Resources Permit, Bridge waterway sketch, and/or Channel Change sketch, Utility plan and locations, and Railroad Crossing work agreements.
 - f. Prepare Preliminary Bridge design and Hydraulic Report, (including economic analysis of bridge or culvert types) and high water effects on roadway overflows and bridge approaches.
 - g. Make complete general and detailed plans, special provisions, proposals and estimates of cost and furnish the LA with one (1) copy of each document in both hardcopy and electronic format. Additional copies of any or all documents, if required, shall be furnished to the LA by the ENGINEER at the ENGINEER's actual cost for reproduction.
 - h. Furnish the LA with survey and drafts in duplicate of all necessary right-of-way dedications, construction easement and borrow pit and channel change agreements including prints of the corresponding plats and staking as required.
 - i. Assist the LA in the tabulation and interpretation of the contractors' proposals.

Draft

- j. Prepare the necessary environmental documents in accordance with the procedures adopted by the DEPARTMENT's Bureau of Local Roads & Streets.
 - k. Prepare the Project Development Report when required by the DEPARTMENT.
 - l. Services as included and/or defined in the attached Scope of Services.
2. That all reports, plans, plats and special provisions to be furnished by the ENGINEER pursuant to the AGREEMENT, will be in accordance with current standard specifications and policies of the LA and of the DEPARTMENT. It is being understood that all such reports, plats, plans and drafts shall, before being finally accepted, be subject to approval by the LA and the DEPARTMENT.
 3. To attend conferences at any reasonable time when requested to do so by representatives of the LA or the Department.
 4. In the event plans or surveys are found to be in error during construction of the SECTION and revisions of the plans or survey corrections are necessary, the ENGINEER agrees that the ENGINEER will perform such work without expense to the LA, even though final payment has been received by the ENGINEER. The ENGINEER shall give immediate attention to these changes so there will be a minimum delay to the CONTRACTOR.
 5. That basic survey notes and sketches, charts, computations and other data prepared or obtained by the ENGINEER pursuant to this AGREEMENT will be made available, upon request, to the LA or the DEPARTMENT without cost and without restriction or limitations as to their use.
 6. That all plans and other documents furnished by the ENGINEER pursuant to this AGREEMENT will be endorsed by the ENGINEER and will show the ENGINEER's professional seal where such is required by law.

The LA Agrees,

1. ~~To pay the ENGINEER as compensation for all services rendered in accordance with this AGREEMENT according to the following method indicated by a check mark:~~
 - a. A sum of money equal to _____ percent of the awarded contract cost of the proposed improvement as approved by the DEPARTMENT.
 - b. A sum of money equal to the percent of the awarded contract cost for the proposed improvement as approved by the DEPARTMENT based on the following schedule:

Awarded Cost	Percentage Fees	
Under \$50,000	_____	(see note) %
	_____	%
	_____	%

Note: Not necessarily a percentage. Could use per diem, cost-plus or lump sum.

2. To pay for all services rendered in accordance with this AGREEMENT at the actual cost of performing such work plus 157.03 percent to cover profit, overhead and readiness to serve - "actual cost" being defined as material cost plus payrolls, insurance, social security and retirement deductions. Traveling and other out-of-pocket expenses will be reimbursed to the ENGINEER at the ENGINEER's actual cost. Subject to the approval of the LA, the ENGINEER may sublet all or part of the services provided in section 1 of the ENGINEER AGREES. If the ENGINEER sublets all or part of this work, the LA will pay the cost to the ENGINEER plus an additional service charge of up to five (5) percent.

"Cost to Engineer" to be verified by furnishing the LA and the DEPARTMENT copies of invoices from the party doing the work. The classifications of the employees used in the work should be consistent with the employee classifications for the services performed. If the personnel of the firm, including the Principal Engineer, perform routine services that should normally be performed by lesser-salaried personnel, the wage rate billed for such services shall be commensurate with the work performed.

The Total Not-to-Exceed Contract Amount shall be \$167,245.79

3. That payments due the ENGINEER for services rendered in accordance with this AGREEMENT will be made as soon as practicable after the services have been performed in accordance with the following schedule:
 - a. Upon completion of detailed plans, special provisions, proposals and estimate of cost - being the work required by section 1 of the ENGINEER AGREES - to the satisfaction of the LA and their approval by the DEPARTMENT, 90 percent of the total fee due under this AGREEMENT based on the approved estimate of cost.
 - b. Upon award of the contract for the improvement by the LA and its approval by the DEPARTMENT, 100 percent of the total fee due under the AGREEMENT based on the awarded contract cost, less any amounts paid under "a" above.

By Mutual agreement, partial payments, not to exceed 90 percent of the amount earned, may be made from time to time as the work progresses.

4. That, should the improvement be abandoned at any time after the ENGINEER has performed any part of the services provided for in sections 1 and 3 of the ENGINEER AGREES and prior to the completion of such services, the LA shall reimburse the ENGINEER for the ENGINEER's actual costs plus 157.03 percent incurred up to the time the ENGINEER is notified in writing of such abandonment - "actual cost" being defined as in paragraph 2 of the LA AGREES.
 5. That, should the LA require changes in any of the detailed plans, specifications or estimates except for those required pursuant to paragraph 4 of the ENGINEER AGREES, after they have been approved by the DEPARTMENT, the LA will pay the ENGINEER for such changes on the basis of actual cost plus 157.03 percent to cover profit, overhead and readiness to serve - "actual cost" being defined as in paragraph 2 of the LA AGREES. It is understood that "changes" as used in this paragraph shall in no way relieve the ENGINEER of the ENGINEER's responsibility to prepare a complete and adequate set of plans and specifications.
-

It is Mutually Agreed,

1. That any difference between the ENGINEER and the LA concerning their interpretation of the provisions of this Agreement shall be referred to a committee of disinterested parties consisting of one member appointed by the ENGINEER, one member appointed by the LA and a third member appointed by the two other members for disposition and that the committee's decision shall be final.
2. This AGREEMENT may be terminated by the LA upon giving notice in writing to the ENGINEER at the ENGINEER's last known post office address. Upon such termination, the ENGINEER shall cause to be delivered to the LA all surveys, permits, agreements, preliminary bridge design & hydraulic report, drawings, specifications, partial and completed estimates and data, if any from traffic studies and soil survey and subsurface investigations with the understanding that all such material becomes the property of the LA. The ENGINEER shall be paid for any services completed and any services partially completed in accordance with section 4 of the LA AGREES.
3. That if the contract for construction has not been awarded one year after the acceptance of the plans by the LA and their approval by the DEPARTMENT, the LA will pay the ENGINEER the balance of the engineering fee due to make 100 percent of the total fees due under this AGREEMENT, based on the estimate of cost as prepared by the ENGINEER and approved by the LA and the DEPARTMENT.
4. That the ENGINEER warrants that the ENGINEER has not employed or retained any company or person, other than a bona fide employee working solely for the ENGINEER, to solicit or secure this contract, and that the ENGINEER has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the ENGINEER, any fee, commission, percentage, brokerage fee, gifts or any other consideration, contingent upon or resulting from the award or making of this contract. For Breach or violation of this warranty the LA shall have the right to annul this contract without liability.

IN WITNESS WHEREOF, the parties have caused the AGREEMENT to be executed in quintuplicate counterparts, each of which shall be considered as an original by their duly authorized officers.

Executed by the LA:

County of Lake of the
(Municipality/Township/County)
ATTEST: State of Illinois, acting by and through its
County Board

By _____ Clerk
Lake County
(Seal)

By _____
Title Chairman of the County Board

RECOMMENDED FOR EXECUTION

Martin G. Buehler, P.E.
Director of Transportation/County Engineer
Lake County

Executed by the ENGINEER:

Manhard Consulting, Ltd.
Engineering Firm
900 Woodlands Parkway
Street Address
Vernon Hills, IL 60061
City, State

ATTEST:
By B. Wil
Title Project Manager

By [Signature]
Title Executive Vice-President

Approved

Date
Department of Transportation

Regional Engineer
County Engineer
On behalf of IDOT pursuant to Agreement
of Understanding dated January 22, 2003

**Winchester Road At Metra and West County Access Road
Lake County Division of Transportation**

PROJECT UNDERSTANDING

The Lake County Division of Transportation (LCDOT) desires to widen and resurface Winchester Road to improve access to the County's Libertyville campus. The project is located at the intersection of Winchester Road and West County Farm Road near the Metra Railroad crossing, approximately 2,400 feet west of Milwaukee Avenue. The proposed improvements include the widening and resurfacing of Winchester Road to provide an eastbound left turn lane to West County Farm Road, widening and resurfacing of West County Farm Road to provide left and right turn lanes, and construction of a barrier median at the at-grade railroad crossing as part of the Federal Railroad Administration's "Quiet Zone" program. The project also includes widening of Winchester Road to provide a westbound left turn lane to the Village of Libertyville's (Village) Butler Lake Park (Park).

A Phase I Project Development Report was not prepared for these improvements and the engineering scope will include Preliminary Engineering to analyze geometric alternates. Preliminary Geometric Design will also address the location of the Village's bike path crossing on Winchester Road.

The project will require coordination with the Village of Libertyville due to impacts to the Park site and the Bike Path

It is anticipated the improvements will impact the Park site and preparation of right-of-way conveyance documents will be necessary. The form of the documents will be determined as the project progresses.

A review of IDOT's Local Roads Manual, Chapter 20, Section 12 "Special Waste" recommends for MFT projects the preparation of a Special Waste Assessment when a project involves a railroad and railroad boxes.

The project will include a Traffic Control Plan based on maintaining traffic through the construction site. However, Metra will require the closing of Winchester Road for construction of the railroad crossing, which will require the preparation of a Detour Route.

This project will include potential work within the floodplain at the existing Bull Creek culvert. The floodplain and culvert impacts will be minimized by the proposed geometry and there is no anticipated change in the proposed water surface elevation. Any proposed filling of the floodplain will be offset by an equal amount of excavation adjacent to the floodplain. Design of a retaining wall or culvert extension is not included in the scope of services. This work will require coordination with the Lake County Stormwater Management Commission (LCSMC) and the Illinois Department of Natural Resources (IDNR).

The project may impact identified wetlands along Bull Creek and the Metra railroad and will require delineation and coordination with the LCSMC and U.S. Army Corps of Engineers (USACE). If wetland mitigation is necessary, credits at a wetland bank will be

utilized and mitigation plans are not included in this scope.

The project will require the widening of the Metra railroad crossing and an agreement with Metra / ICC will be required.

SCOPE OF SERVICES

All work will be performed in accordance with the Lake County Division of Transportation standards and guidelines and Chapter 49 of the Illinois Department of Transportation (IDOT) Bureau of Design and Environment (BDE) Manual. All work at the Park will be performed in accordance with the Village's standards and guidelines. In addition, all permitting will follow the requirements set forth by the Lake County Stormwater Management Commission (LCSMC), Illinois Environmental Protection Agency (IEPA), and the United States Army Corps of Engineers (USACE).

1. Data Collection and Early Coordination

- A. Kickoff Meeting – Manhard will meet with LCDOT to discuss the work to be performed, project requirements, schedule, and coordination with the Village, Metra and ICC and others involved with the project.
- B. Obtain/Update and Review Record Data - Manhard will obtain and review available LCDOT data including, but not limited to, highway plans and plats, existing/proposed record drawings, geotechnical reports, right-of-way data, aerial photography and contour mapping, other existing plans, and utility atlases.
- C. Preliminary Utility Company Coordination - Manhard will send letters to the utility companies within the project limits requesting copies of their utility atlases. The collected information will be incorporated into the project base drawing.
- D. Site Visit – Manhard will visit the site to observe existing conditions and note any items that may impact the project design. Manhard will photograph the corridor and prepare a photolog to organize the project photographs for ease in utilizing them.

2. Survey

Manhard will survey the project limits in accordance with the "LCDOT Survey Procedures", dated April 21, 2008. Manhard will coordinate with LCDOT's Land Surveyor prior to beginning the survey work.

- A. Horizontal and Vertical Project Control – Manhard will establish horizontal and vertical control throughout the project based on State Plane Coordinates, Illinois East Zone, NAD83 and known benchmarks (NGVD29 or NAVD88). The project will also be cross-referenced to benchmarks obtained from FEMA maps (if possible).
- B. Project Horizontal Alignment – Manhard will re-establish the original horizontal alignment of Winchester Road based on plats, stationing and other documents provided by LCDOT.

- C. Project Benchmarks – Manhard will establish one project benchmark east of the Metra railroad tracks and one project benchmark west of the Metra railroad tracks. Project Benchmarks will be located outside of the construction limits.
- D. Metra Access Permit – Manhard will coordinate with Metra and obtain the necessary permits and insurance required for the survey crews to obtain topographic information along the Metra corridor.
- E. Winchester Road and West County Farm Road Topography – Survey limits are approximately 2,000 feet along Winchester Road and 400 feet along West County Farm Road. Topography to extend 25 feet beyond the right-of-way. Elevations are to be provided at 50 foot intervals on even stations, at driveways and at other key locations for use in preparing cross sections. All trees 6 inches in diameter or larger will be located within the Winchester Road survey limits. Trees will not be tagged and identified. Soil Borings by the Geotechnical Subconsultant will be located.
- F. Metra Railroad – Survey limits are 200 feet north and 200 feet south of Winchester Road right-of-way and will extend 25 feet beyond the Metra right-of-way.
- G. Bull Creek Stream Topography – Survey limits are approximately 500 feet from 200 feet south to 200 feet north of Winchester Road. Information of the Metra crossing will also be obtained. Trees outside of the Winchester Road survey limits and Park site survey limits will not be located; however the limits of trees will be located.
- H. Potential Compensatory Storage Area Topography – Survey of triangle bounded by the north ROW of Winchester Road, Bull Creek on the west and the southerly ROW of Metra as a potential area for compensatory storage.
- I. Butler Lake Park – Survey limits are north of existing baseball/softball fields to south ROW of Winchester Road including parking lots, grandstand area, and athletic field fencing.
- J. Wetland Delineation Survey – Locate flagging provided by the Wetland Subconsultant.
- K. Alignment and Tie Sheet – Manhard will prepare an Alignment and Tie Sheet for the project including all the information required in the LCDOT Survey Procedures.
- L. Project Deliverables – Manhard will prepare and deliver a Base Drawing with a Digital Terrain Model and Contours in MicroStation format. Deliverables will also include copies of field books and point summary sheets as outlined in the LCDOT Survey Procedures.
- M. ROW/Conveyance Documents – At this time, it is anticipated the project will impact the Park site and some type of document allowing LCDOT to construct the improvements within the Park site will be required, but the format has not been determined. This proposal includes the preparation of necessary documents for a Permanent Easement and a Temporary Construction Easement at the Park site only. If during the design process, other parcels are required, this work would be completed under a separate supplemental agreement. Any required Title Commitments would be provided by LCDOT.
- N. Stake Centerline Alignment – The centerline PC's, PI's, PT,s and POT's will be staked as outlined in the LCDOT Survey Procedures.

- O. Stake Centerline Stationing – The centerline stationing will be staked with “Mag” nails at the 100 foot stations as outlined in the LCDOT Survey Procedures.

3. Geotechnical Study

The Geotechnical Subconsultant, Terracon, Inc. will obtain soil borings for the project and prepare a report with recommendations for earthwork and pavement subgrade preparation. Terracon will obtain seven (7) soil borings along the edge of Winchester Road in anticipation of the roadway widening and two (2) deeper borings near Bull Creek to help identify unsuitable materials. Structural borings and pavement cores are not included in this scope. Upon completion of the report, a meeting with LCDOT to discuss the report recommendations will be held. A copy of Terracon's proposal is included.

4. Wetland Study

The Wetland Subconsultant, Hey and Associates, Inc., will perform a field investigation to delineate the existing wetlands along the Winchester Road corridor and prepare a Wetland Delineation Report. Hey will coordinate with the Lake County Stormwater Management Commission (LCSMC) for a jurisdictional determination and boundary concurrence. Hey will also initiate a listed species consultation with the Illinois Department of Natural Resources. Hey will prepare and submit a Regional Permit application to the U. S. Army Corps and/or LCSMC Wetland Permit Application. Preparation of a mitigation plan is not included in this scope of work. A copy of Hey's proposal is included.

5. Lake County Stormwater Permitting and Documentation

This project will require a permit from the LCSMC in compliance with the Watershed Development Ordinance. Manhard will determine the Base Flood Elevation, assess compensatory storage requirements and prepare a report. Manhard will prepare and submit the permit application and supporting documentation to the LCSMC.

6. Preliminary Environmental Site Assessment

Manhard will conduct a Preliminary Environmental Site Assessment (PESA) along Winchester Road in accordance with the American Society for Testing Materials (ASTM) Practice E1527-05. The scope of work includes:

- 1) Provide a description of the project area including current land uses.
- 2) Provide a general description of the topography, soils, geology, and groundwater flow direction.
- 3) Review reasonably ascertainable and reviewable regulatory information published by federal, state, local, tribal, health, and/or environmental agencies pertaining to the project area.
- 4) Review historical data sources for the project area, including aerial photographs, topographic maps, fire insurance maps, city directories, and other readily available development data.
- 5) Conduct an area reconnaissance and an environmental review—including a visual inspection of adjoining properties—with a focus on indications of hazardous substances, petroleum products, polychlorinated biphenyls (PCBs), wells, storage tanks, solid waste disposal pits and sumps, and utilities.
- 6) Prepare a written report of methods, findings, and conclusions.

Investigative areas not included in the standard ASTM ESA scope include: asbestos, lead-based paint, lead in drinking water, radon, urea formaldehyde, wetland issues, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, and high voltage power lines. The scope of services for ESA projects also does not include the completion of soil borings, the installation of groundwater monitoring wells, or the collection of soil or groundwater samples. These items would be considered additional services.

7. Preliminary Engineering

- A. Establish Project Design Criteria – Manhard will review and document the required Design Criteria for this project based on LCDOT and IDOT policies.
- B. Field Review of Survey – Manhard will perform a "plan-in-hand" field check of the project site to verify the completeness and accuracy of the topographic survey. Manhard will prepare an inventory of existing signage and any other topographic features that may impact or be impacted by the proposed design. At this time we will also confirm as accurately as possible, the locations of existing private utilities in the field using a combination of the atlases obtained during our Preliminary Utility Company Coordination and visual observation in the field
- C. Prepare Base Plan Sheet - Manhard will plot existing topographic survey information and develop plan base sheets at a scale of 1" = 20' and 1"=50' for use in the development of contract plans. Any updated existing utility information that has been obtained during the data collection phase and survey phase will also be plotted on the base sheets.
- D. Prepare and Update Geometric Alternative Analysis – Manhard will develop various geometric alternates for the proposed improvements. Analysis will address right-of-way and parking lot impacts by creating cross sections. Alternates will be submitted to LCDOT for review and comment. Upon updating alternates per LCDOT comments, LCDOT will submit the geometric plans to the Village of Libertyville for their review and comment.
- E. Prepare Pavement Design/Typical Section - Manhard will prepare a pavement design for Winchester Road. This work will be in accordance with the geotechnical report and LCDOT requirements.
- F. Develop Project Drainage Design – Manhard will prepare drainage calculations for the proposed improvements based on IDOT and LCDOT criteria, including inlet spacing and storm sewer design
- G. Develop Concept Traffic Control Plan - A concept for the construction staging and maintenance of traffic will be prepared as part of the preliminary engineering. Construction staging, maintenance of traffic concepts and detour routes will be agreed to prior to the pre-final plan development. It is anticipated that the widening of Winchester Road can be accommodated under traffic, however Metra has indicated the widening of the railroad crossing will require closure of Winchester Road and a Detour Plan will be prepared.

8. Preliminary Plans (60%)

- A. Manhard will prepare Preliminary Plans in accordance with LCDOT's Plan

Preparation Guide and comments received during the Preliminary Design Phase. Preliminary Plans shall include the following drawings:

- 1) Cover Sheet and Index of Sheets (1 sheet)
- 2) General Notes and List of State and Local Standards (2 sheets)
- 3) Existing and Proposed Typical Sections (1 sheet)
- 4) Erosion Control and Landscaping - 2 stages 1"=50' (3 sheets)
- 5) Stages of Construction - typical sections and proposed detour route (2 sheets)
- 6) Roadway Plan and Profile 1"=20' (6 sheets)
- 7) Cross Sections at 50 foot intervals (18 sheets)

B. Preliminary Plan Review Meeting – Manhard will meet with LCDOT to review comments of Preliminary Plans.

Manhard will submit the Preliminary Plans to the utility companies for their review and comment of possible conflicts and to advise them of the overall project schedule.

9. Pre-Final Plans (90%)

A. Pre-Final Plans – Manhard will prepare Pre-Final Plans in accordance with LCDOT's Plan Preparation Guide and based on comments received of the Preliminary Plan Set. Plan set shall include the following:

- 1) Cover Sheet and Index of Sheets (1 sheet)
- 2) General Notes (2 sheets)
- 3) Summary of Quantities (2 sheets)
- 4) Schedule of Quantities (10 sheets)
- 5) Alignment, Ties and Benchmarks (1 sheet) 1"= 50'
- 6) Existing and Proposed Typical Sections (1 sheet)
- 7) Erosion Control and Landscaping - 2 stages, 1"=50' (3 sheets)
- 8) Stages of Construction - sequences and typical sections (1 sheet)
- 9) Stages of Construction - 2 stages, 1"=50' (2 sheets)
- 10) Roadway Plan and Profile 1"=20' (6 sheets)
- 11) Pavement Marking Plan 1"=50' (1 sheets)
- 12) Signing Plan 1"=50' (1 sheets)
- 13) Roadway Cross Sections (18 sheets)
- 14) Project Specific Construction Details (1 sheet)
- 15) LCDOT and IDOT Standard Construction Details (20 sheets assuming two details per sheet)

B. Pre-Final Special Provisions – Manhard will prepare any required special provisions that will supplement the IDOT Standard Specifications in accordance with LCDOT and IDOT policies.

C. Pre-Final Quantity Calculations – Manhard will prepare a quantity take-off of the plans to develop the project quantities.

D. Pre-Final Estimate of Cost and Construction Time – Manhard will prepare an Engineer's Opinion of Probable Costs and Opinion of Construction time based on the project quantities and recent bidding information from LCDOT and IDOT.

E. Pre-Final QA/QC Review – Manhard will perform an inhouse review of the Pre-

Final plans to check the plans for completeness and constructability.

F. Pre-Final Plan Review Meeting – Manhard will meet with LCDOT to review comments of the Pre-Final Plan package

10. Final Plans (100%)

Manhard will revise all documents per the comments received from all agencies and submit the Final Plan package to LCDOT in accordance with the Plan Preparation Guidelines.

11. Metra/Illinois Commerce Commission Coordination

This phase consists of assisting LCDOT in developing an agreement with Metra /ICC for the widening of the Winchester Road crossing including coordination, preparation of exhibits and meetings with Metra and the Illinois Commerce Commission. Design of the crossing, gates and signal equipment is not part of this scope.

12. Village of Libertyville Coordination

This phase consists of assisting LCDOT in developing an agreement for the improvements at the Park including coordination, exhibits, plans, and meetings with the Village of Libertyville.

13. Utility Company Coordination

This phase consists of assisting LCDOT in the coordination required for submittal of plans, applications, agreements and meetings with the various utility companies with facilities located along Winchester Road.

14. NPDES Permitting and Documentation

This phase consists of the preparation of the Stormwater Pollution Prevention Plan (IDOT form BDE 2342) and the Notice of Intent for insertion in the Contract Booklet.

15. Project Administration and Coordination

This phase includes project setup and project maintenance, internal team coordination meetings, and monthly progress reports and invoices. Continued coordination meetings and teleconference calls between Manhard and LCDOT will occur throughout the course the project to discuss progress, milestones, and hurdles.

16. Construction

- A. Requests for Information - Manhard Consulting will respond to any requests by LCDOT to contractor inquiries of the plans.
- B. Pre-Construction Meeting – Manhard will attend the Pre-Construction Meeting to answer any questions regarding the design and contract documents.
- C. Shop Drawing Review – Manhard will review shop drawings provided by LCDOT (assume 3 shop drawings).

PHASE II ENGINEERING
 COST ESTIMATE OF CONSULTANT SERVICES
 FEE CALCULATIONS
 WINCHESTER ROAD AT METRA AND WEST COUNTY ACCESS ROAD



FIRM: Manhard Consulting, Ltd. OVERHEAD RATE: 1.2448
 PSB: N/A COMPLEXITY: 0

DATE: 3-21-2011

	Manhours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Outside Direct Costs (E)	Service Charge on (E) (F)	Subtotal (G)	Profit (H)	Total (I)	% of Grand Total (J)
1										
2	27	\$761.84	\$948.34				\$1,710.18	\$247.98	\$1,958.15	1.17%
3	314	\$9,867.81	\$12,283.45	\$6,520.00			\$28,671.26	\$3,211.93	\$31,883.19	19.06%
4	14	\$473.27	\$589.13		\$13,720.00	\$686.00	\$15,468.40	\$154.05	\$15,622.44	9.34%
5	8	\$270.44	\$336.64		\$7,650.00	\$382.50	\$8,639.58	\$88.03	\$8,727.61	5.22%
6	90	\$2,484.80	\$3,093.08	\$159.00			\$5,736.88	\$808.79	\$6,545.67	3.91%
7	42	\$1,318.06	\$1,640.72	\$800.00			\$3,758.78	\$429.02	\$4,187.80	2.50%
8	161	\$4,471.10	\$5,565.63	\$4.95			\$10,041.68	\$1,455.33	\$11,497.00	6.87%
9	272	\$7,532.68	\$9,376.68	\$372.75			\$17,282.11	\$2,451.86	\$19,733.97	11.80%
10	528	\$14,817.81	\$18,445.21	\$988.70			\$34,251.72	\$4,823.14	\$39,074.86	23.36%
11	129	\$3,522.93	\$4,385.34	\$988.70			\$8,896.97	\$1,146.70	\$10,043.67	6.01%
12	48	\$1,440.00	\$1,792.51				\$3,232.51	\$468.71	\$3,701.23	2.21%
13	70	\$2,399.48	\$2,986.87				\$5,386.35	\$781.02	\$6,167.37	3.69%
14	28	\$794.96	\$989.57				\$1,784.53	\$258.76	\$2,043.28	1.22%
15	9	\$252.31	\$314.08				\$566.39	\$82.13	\$648.51	0.39%
16	26	\$951.32	\$1,184.20	\$1,858.00			\$3,993.52	\$309.65	\$4,303.17	2.57%
	14	\$431.02	\$536.53				\$967.55	\$140.30	\$1,107.85	0.66%
	1780	\$51,789.83	\$64,467.98	\$11,692.10	\$21,370.00	\$1,068.50	\$150,388.41	\$16,857.38	\$167,245.79	100.00%

PHASE II ENGINEERING
 COST ESTIMATE OF CONSULTANT SERVICES
 MANHOUR CALCULATIONS
 WINCHESTER ROAD AT METRA AND WEST COUNTY ACCESS ROAD



FIRM: Manhard Consulting, Ltd.
 PSB: N/A

OVERHEAD RATE: 1.2448
 COMPLEXITY: 0

DATE: 3-21-2011

	MANHOURS													Total Hours	% of Total Hours	Labor Cost
	Principal	Project Manager	Project Engineer	Staff Engineer	Land Planner/ Landscape Architect	Environmental Scientist	Project Surveyor	Staff Surveyor	Field Crew Chief	Instrument Person	Eng. CADD Technician	Admin. Assistant				
Summary	\$70.00	\$38.03	\$29.58	\$23.99	\$35.49	\$31.05	\$42.80	\$32.89	\$28.96	\$28.96	\$24.28	\$20.45				
1 Data Collection and Early Coordination	0	4	11	11	0	0	0	0	0	0	0	1	27	1.52%	\$761.84	
2 Survey	0	0	0	0	0	0	25	109	90	90	0	0	314	17.64%	\$9,867.81	
3 Geotechnical Study	0	7	7	0	0	0	0	0	0	0	0	0	14	0.79%	\$473.27	
4 Wetland Study	0	4	4	0	0	0	0	0	0	0	0	0	8	0.45%	\$270.44	
5 Lake County Stormwater Permitting and Documentation	0	10	34	36	0	0	0	0	0	0	8	2	90	5.06%	\$2,484.80	
6 Preliminary Environmental Site Assessment	0	2	0	0	0	40	0	0	0	0	0	0	42	2.36%	\$1,318.06	
7 Preliminary Engineering	0	20	57	52	0	0	0	0	0	0	32	0	161	9.04%	\$4,471.10	
8 Preliminary Plans (60%)	0	38	80	62	0	0	0	0	0	0	92	0	272	15.28%	\$7,532.68	
9 Pre-Final Plans (90%)	0	69	197	176	0	0	2	4	0	0	76	4	528	29.66%	\$14,817.81	
10 Final (100%) Plans, Special Provisions and Estimates	0	14	40	34	0	0	0	0	0	0	40	1	129	7.25%	\$3,522.93	
11 Metra Coordination	0	12	24	8	0	0	0	0	0	0	0	4	48	2.70%	\$1,440.00	
12 Village of Libertyville Coordination	2	32	32	4	0	0	0	0	0	0	0	0	70	3.93%	\$2,399.48	
13 Utility Company Coordination	0	4	12	12	0	0	0	0	0	0	0	0	28	1.57%	\$794.96	
14 NPDES Permitting and Documentation	0	1	4	4	0	0	0	0	0	0	0	0	9	0.51%	\$252.31	
15 Project Administration and Coordination	2	12	12	0	0	0	0	0	0	0	0	0	26	1.46%	\$951.32	
16 Bidding Assistance and Construction	0	2	12	0	0	0	0	0	0	0	0	0	14	0.79%	\$431.02	
													1780	100.00%	\$51,789.83	
Task No.																
1 Data Collection and Early Coordination																
A Kick-off Meeting with LCDOT		4	4													
B Obtain/Update and Review Record Data			3	3												
C Preliminary Utility Company Coordination				3								1				
D Visit Site, Photograph Existing Conditions, Create Photolog			4	5												
2 Survey																
A Establish Horizontal and Vertical Control							1	5	6	6						
B Establish Project Horizontal Alignment							3	12	16	16						
C Establish Project Vertical Alignment							1	1	5	5						
D Obtain Permits for Access to Metra							2	2								
E Perform Winchester Road and County Farm Road Topographic Survey							3	24	27	27						
F Perform Metra Topographic Survey							1	8	9	9						
G Perform Bull Creek Stream Topographic Survey							1	7	7	7						
H Perform Compensatory Storage Area Topographic Survey							1	3	3	3						
I Perform Butler Lake Park Topographic Survey							1	5	5	5						
J Perform Wetland Delineation Survey							1	2	4	4						
K Prepare Alignment and Ties Sheet							2	12								
L Prepare Project Deliverables							1	4								
M Prepare ROW/Easement Conveyance Documents							5	20								
N Stake Winchester Road Centerline Alignment Points							1	2	3	3						
O Stake Winchester Road Centerline at 100 foot stations							1	2	5	5						
3 Geotechnical Study																
A Subconsultant Coordination and Meetings		2	2													

PHASE II ENGINEERING
 COST ESTIMATE OF CONSULTANT SERVICES
 MANHOUR CALCULATIONS
 WINCHESTER ROAD AT METRA AND WEST COUNTY ACCESS ROAD



FIRM: Manhard Consulting, Ltd.
 PSB: N/A

OVERHEAD RATE: 1.2448
 COMPLEXITY: 0

DATE: 3-21-2011

	MANHOURS													Total Hours	% of Total Hours	Labor Cost	
	Principal	Project Manager	Project Engineer	Staff Engineer	Land Planner/ Landscape Architect	Environmental Scientist	Project Surveyor	Staff Surveyor	Field Crew Chief	Instrument Person	Eng. CADD Technician	Admin. Assistant					
B Review Report		2	2														
C Meeting with LCDOT		3	3														
4 Wetland Study																	
A Subconsultant Coordination and Meetings		2	2														
B Review Report		2	2														
5 Lake County Stormwater Permitting and Documentation																	
A BFE Determination		4	8	16						4							
B Compensatory Storage and WDO Application		2	8	12							1						
C Wetland Permitting and Coordination		2	2														
D Report Submittal and Coordination with LCSMC		2	16	8						4	1						
6 Preliminary Environmental Site Assessment		2															
7 Preliminary Engineering																	
A Establish Project Design Criteria		2	4														
B Field Review of Survey			4														
C Prepare Base Plan Sheet				4						4							
D Prepare/Update Geometric Alternative Analysis		16	24	20						12							
E Prepare Pavement Design / Develop Typical Section			1	4						4							
F Develop Project Drainage Design			12	24						4							
G Develop Concept Traffic Control Plan		2	12							8							
8 Preliminary Plans (60%)																	
A Preliminary Plans																	
Cover Sheet and Index of Sheets (1 sheet)				2						2							
General Notes and List of State and Local Standards (2 sheets)			4	4						4							
Existing and Proposed Typical Sections (1 sheets)		2	4	2						6							
Erosion Control and Landscaping - 2 stages 1"=50' (3 sheets)		4	8	6						12							
Stages of Construction - typical sections and proposed detour route (2 sheets)		8	16	8						20							
Roadway Plan and Profile 1"=20' (6 sheets)		8	24	24						24							
Cross Sections (18 sheets)		8	16	16						24							
B Preliminary Design Review Meeting		4	4														
C ROW Documents and Coordination		4	4														
9 Pre-Final Plans (90%)																	
A Pre-Final Plans																	
Cover Sheet and Index of Sheets (1 sheet)			1							1							
General Notes (2 sheets)		2	2	2						4							
Summary of Quantities (2 sheets)		8	12	16						4							
Schedule of Quantities (10 sheets)		8	20	24						8							
Alignment, Ties and Benchmarks (1 sheet) 1"= 50'		1	2				2	4		1							
Existing and Proposed Typical Sections (1 sheet)			2							2							
Erosion Control and Landscaping - 2 stages, 1"=50' (3 sheets)		2	2	2						4							
Stages of Construction - Sequences and typical sections (1 sheet)		4	2	4						4							
Stages of Construction - 2 stages, 1"=50' (2 sheets)		4	6	12						16							

PHASE II ENGINEERING
 COST ESTIMATE OF CONSULTANT SERVICES
 MANHOUR CALCULATIONS
 WINCHESTER ROAD AT METRA AND WEST COUNTY ACCESS ROAD



FIRM: Manhard Consulting, Ltd.
 PSB: N/A

OVERHEAD RATE: 1.2448
 COMPLEXITY: 0

DATE: 3-21-2011

	MANHOURS														Total Hours	% of Total Hours	Labor Cost
	Principal	Project Manager	Project Engineer	Staff Engineer	Land Planner/ Landscape Architect	Environmental Scientist	Project Surveyor	Staff Surveyor	Field Crew Chief	Instrument Person	Eng. CADD Technician	Admin. Assistant					
Roadway Plan and Profile 1"=20' (6 sheets)		8	24	12							16						
Roadway Cross Sections (18 sheets)		8	12	16							4						
Project Specific Construction Details (1 sheet)		4	8	16							4						
LCDOT and IDOT Standard Construction Details (20 sheets)		4	8	24							8						
B Pre-Final Special Provisions		4	24	16								4					
C Pre-Final Quantity Calculations		4	24	24													
D Pre-Final Estimate of Cost and Construction time		4	8	8													
E Pre-Final QA/QC Review				36													
F Pre-Final Design Review Meeting		4	4														
10 Final Plans, Special Provisions and Estimates (100%)																	
A Final Plans		8	24	24							40						
B Final Special Provisions		2	2	2								1					
C Final Quantity Calculations		2	8	8													
D Final Estimate of Cost and Construction time		2	2														
E Final QA/QC Review				4													
11 Metra and ICC Coordination			12	24	8							4					
12 Village of Libertyville Coordination	2		32	32	4												
13 Utility Company Coordination			4	12	12												
14 NPDES Permitting and Documentation			1	4	4												
15 Project Administration and Coordination	2		12	12													
16 Construction																	
A Bidding Assistance and Respond to Inquiries			1	4													
B Attend Pre-Construction Meeting				4													
C Review Shop Drawings			1	4													
	4	231	526	399	0	40	27	113	90	90	248	12	1780	0	0	0	0

Manhard Consulting, Ltd.

Direct Costs

Winchester Road at Metra and West County Farm Access Road

	Number	Size	Number of Sheets	Rate	Total
In-House Direct Costs					
Field Survey					
Vehicles	15			\$48.00	\$720.00
RR ROW Access - Permit	1			\$1,200.00	\$1,200.00
RR ROW Access - Flagger	2			\$800.00	\$1,600.00
RR ROW Access - Insurance	1			\$3,000.00	\$3,000.00
Preliminary Environmental Assessment					
	1			\$800.00	\$800.00
Preliminary Geometrics					
Plan Sets (2 LCDOT, 2 Village)	3	Quarter	3	\$0.25	\$2.25
	1	Full	3	\$0.90	\$2.70
Preliminary Plans (60%)					
Plan Sets (4 LCDOT, 6 Utilities, 2 Metra, 2 Village)	3	Quarter	35	\$0.25	\$26.25
	11	Full	35	\$0.90	\$346.50
Pre-Final Plans (90%)					
Plan Sets (4 LCDOT, 6 Utilities, 2 Metra, 2 Village)	3	Quarter	70	\$0.25	\$52.50
	11	Full	70	\$0.90	\$693.00
Special Provisions	8	Books	1	\$30.00	\$240.00
Cost Estimate	6	8 1/2" x 11"	3	\$0.15	\$2.70
Estimate of Time	2	11" x 17"	1	\$0.25	\$0.50
Final Plans (100%)					
Plan Sets (4 LCDOT, 6 Utilities, 2 Metra, 2 Village)	3	Quarter	70	\$0.25	\$52.50
	11	Full	70	\$0.90	\$693.00
Special Provisions	8	Books	1	\$30.00	\$240.00
Cost Estimate	6	8 1/2" x 11"	3	\$0.15	\$2.70
Estimate of Time	2	11" x 17"	1	\$0.25	\$0.50
Permit Submittals					
Stormwater Binders					
Stormwater Reports	15	8 1/2" x 11"	30	\$0.15	\$67.50
Stormwater Reports	15	11" x 17"	10	\$0.25	\$37.50
Permit Exhibits	15	22" x 34"	4	\$0.90	\$54.00
Assume (2 - LCSMC, 2 - LCDOT, 1- Village) = 5 copies/ submittal with 3 submittals = 15 copies					
Meetings					
Vehicles	21			\$48.00	\$1,008.00
ROW Plat and Legal Documents					
County Recorder Documents	10			\$10.00	\$100.00
Shipping	30			\$25.00	\$750.00
IN-HOUSE DIRECT COSTS TOTAL:					\$11,692.10
OUTSIDE DIRECT COSTS					
Wetland Delineation and Permitting					
Hey and Associates					\$7,650.00
Geotechnical Investigation					
Terracon Inc.					\$13,720.00
OUTSIDE DIRECT COSTS TOTAL:					\$21,370.00



Payroll Escalation Table
Fixed Raises
New Formula

FIRM NAME Manhard Consulting, Ltd.
PRIME/SUPPLEMENT

DATE 03-19-11
PTB NO. _____

CONTRACT TERM _____ MONTHS
START DATE 5-1-2011
RAISE DATE 1-1-2012

OVERHEAD RATE 124.48%
COMPLEXITY FACTOR 0
% OF RAISE 3.00%

ESCALATION PER YEAR

5-1-2011 - 1-1-2012	1-2-2012 - 1-1-2013	1-2-2013 - 5-1-2013	
8	12	4	
24	24	24	

= 33.33%

= 1.0252

51.50%

17.68%

The total escalation for this project would be:

2.52%

Payroll Rates

FIRM NAME Manhard Consulting, Ltd. DATE 03-19-11
PRIME/SUPPLEMENT _____
PTB NO. _____

ESCALATION FACTOR 2.52%

CLASSIFICATION	CURRENT RATE	ESCALATED RATE
Principal	\$70.00	\$70.00
Senior Project Manager	\$54.34	\$55.71
Project Manager	\$37.10	\$38.03
Project Engineer	\$28.85	\$29.58
Staff Engineer	\$23.40	\$23.99
Senior Planner		\$0.00
Land Planner		\$0.00
Landscape Designer/Architect	\$34.62	\$35.49
Environmental Scientist	\$30.29	\$31.05
Project Surveyor	\$41.75	\$42.80
Staff Surveyor	\$32.08	\$32.89
Field Crew Chief	\$28.25	\$28.96
Instrument Person	\$28.25	\$28.96
Survey/Construction Technician	\$22.80	\$23.37
Engineering CADD Technician	\$23.68	\$24.28
Administrative Assistant	\$19.95	\$20.45
		\$0.00