



RHMG ENGINEERS, INC.

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EXHIBIT A

April 22, 2014

Mr. Fred Treven
Principal Engineer
Lake County Public Works Department
650 Winchester Road
Libertyville, IL 60048

Re: Proposal for Engineering Services
2015 Watermain Replacement Project

Dear Mr. Treven:

Pursuant to your request, we are pleased to submit this proposal for the design, bidding and construction phase services relative to LCPWD's 2015 Watermain Replacement Project.

Background

The 2015 Watermain Replacement Project will include the following:

Fox Lake Hills

Approximately 4,450 feet of watermain replacement at the following locations:

1. Lehmann Boulevard between Columbia Bay Drive and Glade Drive.
2. Glade Drive between Lehmann Boulevard and Chesney Drive.
3. Chesney Drive between Lehmann Boulevard and Academy Drive.
4. Park Court between Chesney Drive and Academy Drive.

Highland Lake

Approximately 550 feet of watermain replacement in backyard and sideyard easements between Hainesville Road and Lakeshore Drive/Circle Drive.

Pekara/Innverrary

Approximately 85 feet of watermain replacement between Grouse Court and Mallard Drive.

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Vernon Hills

Approximately 1,800 feet of watermain replacement on Mall Drive in the southeast corner of the Westfield Hawthorn Shopping Center.

Scope of Services

Our proposed scope of services for this assignment includes:

1. Pre-Design Work

- 1.1. **Project Scoping** - As part of this task, RHMG will assist LCPWD in establishing and defining the detailed scope of the 2015 Watermain Replacement Project.
- 1.2. **Project Budgeting** - RHMG will assist LCPWD in establishing project budgets for the various components of the 2015 Watermain Replacement Project.

2. Preliminary Design Phase

- 2.1. **Project Initiation Meeting with LCPWD Staff** - This initial task will consist of a meeting of key RHMG team members and LCPWD staff to discuss project requirements, design criteria, and milestone dates for submittals and review meetings.
- 2.2. **Research and Data Collection** - This initial phase will involve the collection and review of all existing data pertinent to the project including:
 - Aerial photographs and topography
 - Right-of-way and easement maps
 - Subdivision plans
 - Utility location maps
 - FEMA maps
 - Soil survey maps
 - Wetland maps

Some of this data has already been collected and reviewed in conjunction with RHMG's previous efforts on previous watermain replacement projects for LCPWD.

- 2.3. **Prepare Base Drawings** - RHMG will prepare base maps for recommended improvements. These maps will be drawn at a scale of 1-inch = 30 feet or 1-inch = 40 feet and will show right-of-way and property

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lines, utility locations, and other relevant information obtained during the research and data collection task.

- 2.4. **Perform Topographic Surveys** - Under this task, a detailed field survey of the project corridors will be performed. All topographic features will be located in the field. The topographic features located will include (but not be limited to) driveways, trees, utility poles, sign posts, mail boxes, valve boxes, manholes, catch basins, and culverts.
- 2.5. **Hardline Drawings per Existing Conditions** - In this task, the detailed topographic information obtained during the field investigations will be added to the CAD drawings of the base maps.
- 2.6. **Prepare Preliminary Drawings** - Preliminary drawings showing the proposed horizontal location of the watermains and service lines will be prepared. The drawings will be prepared at a scale of 1-inch = 30 feet or 1-inch = 40 feet.
- 2.7. **Preliminary Opinion of Probable Construction Cost** - A preliminary opinion of probable construction cost will be prepared based on the preliminary design layout of the watermains. This estimate will be based on historical cost data and will reflect the unique project conditions/constraints.
- 2.8. **Meet with LCPWD Staff** - The preliminary drawings will be reviewed with LCPWD staff. Comments from the LCPWD will be incorporated into the preliminary drawings before submitting them to other interested parties for review.
- 2.9. **Review with Other Interested Parties** - The preliminary drawings will be reviewed with the Lake Villa Township Highway Commissioner, Avon Township Highway Commissioner, Lake County Stormwater Management Agency, and Homeowners Associations, if applicable. Comments from these parties will be incorporated into the final design as appropriate.

3. Final Design Phase

- 3.1. **Prepare Final Drawings (90% Complete)** - CAD drawings illustrating all details necessary for bidding and construction will be prepared using Microstation. These will include the plan sheets, as well as additional drawings necessary to illustrate valve vaults, hydrants, soil erosion and sediment control, road restoration and other appropriate details.

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- 3.2. Prepare Contract Documents and Specifications (90% Complete) -** RHMGE will prepare contract documents, bidding documents, and specifications for the proposed project, utilizing the Engineers Joint Contract Documents Committee (EJCDC) General Conditions. Required construction schedules will be identified. The construction contract will be set up on a unit price basis. All required bid items will be identified and their associated quantities estimated. Technical specifications will be written for pipe, valve vaults, and all associated materials and workmanship. LCPWD will provide the front end sections of the Contract Documents.
- 3.3. Quantities and Final Cost Estimate -** A detailed takeoff will be prepared and incorporated into the bid form. Using these quantities, detailed construction and project cost estimates will be prepared. The construction cost estimate will be prepared in bid tabulation format.
- 3.4. Meet with LCPWD Staff -** Review sets of the pre-final (90% complete) plans will be submitted to LCPWD. A meeting will then be held to discuss the plans and LCPWD's comments.
- 3.5. IEPA Permit Application and Coordination -** RHMGE will prepare the IEPA permit application and provide the necessary followup and coordination.
- 3.6. Lake Villa Township, and Avon Township Application/Plan Approval -** RHMGE will prepare the necessary applications and documentation, as well as followup coordination and meetings, necessary to obtain approval of the watermain replacements by the Lake Villa Township, and Avon Township Highway Commissioners.
- 3.7. Hawthorn Center/Vernon Hills Application/Plan Approval -** RHMGE will prepare the necessary applications and documentation, as well as followup coordination and meetings, necessary to obtain approval of the watermain replacement by the Westfield/Hawthorn Center and/or Village of Vernon Hills.
- 3.8. Lake County Stormwater Management Commission Application/Meeting/Plan Approval -** RHMGE will prepare the Watershed Development Ordinance permit application for the erosion and sediment control portion of the project. An NPDES Stormwater Notice of Intent (NOI) form will also be prepared.

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- 3.9. **Independent In-House Review** - As a final quality control measure, a final in-house review of the complete design will be performed. The final review will address such issues as coordination between plans and specifications, coordination between drawings, missing details, constructability, and potential for construction claims.
- 3.10. **Prepare Final Contract Documents** - Review comments from LCPWD and the other permitting agencies will be incorporated into the final plans and specifications. Both hard copies and two electronic copies (one ArcGIS or CAD and one PDF) will be furnished to LCPWD. Electronic copies of the bidding documents will be furnished to the County Purchasing Department.
- 3.11. **Coordination and Administration** - RHMG will provide the required project coordination and administration.

4. **Bidding and Construction Phase**

- 4.1. **Bidder Inquiries and Addenda/Attend Pre-Bid Meeting** - RHMG will field inquiries from prospective bidders and issue addenda where required to make any necessary clarifications to the contract plans and specifications. RHMG will also attend the pre-bid meeting.
- 4.2. **Preconstruction Conference** - RHMG will conduct a preconstruction conference with the Contractor, LCPWD, Lake Villa, and Avon Township Highway Commissioners, utility company representatives, and other applicable parties.
- 4.3. **Shop Drawing Review** - RHMG will review shop drawings, which the Contractor is required to submit, for conformance with the contract documents.
- 4.4. **Notice of Intent Submittal** - The NPDES Stormwater Notice of Intent (NOI) form will be finalized and submitted to the Illinois EPA.
- 3.5. **Record Drawings** - RHMG will prepare a set of record drawings incorporating those changes made during construction based on marked up prints furnished by the contractor and LCPWD's project inspector. Two electronic copies will be furnished to LCPWD, one in ArcGIS or CAD and the second in PDF format.

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Additional Scope Services

Additional scope services for the project shall include, but not be limited to the following:

1. Services due to major changes in general scope of the project or to preliminary alignments.
2. Revising plans, specifications, studies, reports and other design documents which have been previously approved by the LCPWD and/or County or other governmental agencies.
3. Detailed studies resulting from the discovery of threatened or endangered species within the project limits.
4. Wetlands consulting involving wetlands delineation, jurisdictional determination and/or the preparation of an Individual Permit application for U.S. Army Corps of Engineers jurisdictional wetlands and/or design of wetlands mitigation areas.
5. Preparation of easement documents, if required.
6. Providing construction observation services.
7. Giving testimony as an expert witness for the LCPWD in litigation or other court proceedings involving this project.
8. Providing engineering studies regarding the capacity of existing sanitary and/or water systems, or the ability of said systems to handle any additional loading from the proposed project.
9. Preparation of any special documents (other than the Final Engineering Plans and Contract Documents previously referenced in the Scope of Services) for the County's use in obtaining a loan or financing for the project.

LCPWD Responsibilities

During the performance of services, the LCPWD shall supply all criteria and full information as to its requirements for the project; designate a person to act with authority on LCPWD's behalf in respect to all aspects of the project; and provide and agree to the following:

1. Provide all criteria and full information as to the requirements for the project.
2. Perform potholing to locate existing watermains in critical conditions.
3. Acquire all property and easements required for the project.

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4. Guarantee access to the property and make all provisions for RHMG to enter upon public and private land as required for the performance of our services.
5. Examine all studies, reports, sketches, opinions of the construction costs, specifications, drawings, proposals and shall promptly render in writing decisions pertaining thereto within period mutually agreed upon.
6. Provide full-time construction observation for the project.

Proposed Fees and Schedule

RHMG proposes to perform the above services on an hourly rate basis using the rates included in the attached Exhibit A with a not-to-exceed fee limit of \$86,781. A detailed manpower estimate illustrating the basis of the proposed fee limit is included as Exhibit B. We will complete the design phase services within 120 calendar days after authorization to proceed, provided that we are not delayed by circumstances beyond our control.

We appreciate this opportunity to be of continuing service to the Lake County Public Works Department. If you have any questions or wish to discuss this proposal in more detail, please contact me.

Sincerely yours,

RHMG ENGINEERS, INC.



William R. Rickert, P.E., BCEE, CFM
President

WRR/amd

Enclosures



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EXHIBIT A BILLING RATES

Classification	Average Hourly Billing Rate
Project Manager	\$155.76
Senior Designer	\$131.16
Senior Project Engineer	\$129.84
Project Engineer	\$93.16
Structural Engineer	\$124.80
Architect	\$106.60
Electrical Engineer	\$108.33
Senior Drafter/Technician	\$86.64
Drafter/Technician	\$81.32
Junior Drafter/Technician	\$58.29
Clerical	\$61.33

**EXHIBIT B
MANPOWER AND FEE REQUIREMENTS
YEAR 2015 WATERMAIN REPLACEMENT PROJECT
(FOX LAKE HILLS, HIGHLAND LAKE, PEKARA & VERNON HILLS SERVICE AREAS)
LAKE COUNTY PUBLIC WORKS DEPARTMENT**

TASK	HOURS					Total
	Project Manager	Lead Designer	Project Engineer	Drafter/ Technician	Clerical	
1. Pre- Design Work						
1.1. Project scoping	1	20		5	1	27
1.2. Project budgeting	0.5	21	1		0.5	23
Subtotal	1.5	41	1	5	1.5	50
2. Preliminary Design						
2.1. Project initiation meeting	2	2			1	5
2.2. Research & data collection		3	3	6		12
2.3. Prepare base maps		28	6	48		82
2.4. Topographic surveys		8	80	72		160
2.5. Hardline drawings per existing conditions		8	6	48		62
2.6. & 2.7. Prepare preliminary drawings & opinion of cost	2	14	5	65		86
2.8. & 2.9. Meet with LCPWD staff, Associations and agencies / incorporate comments	4	8				12
Subtotal	8	71	100	239	1	419
3. Final Design						
3.1. Prepare final drawings (90% complete)	11	40	8	64		123
3.2. Prepare contract specifications (90% complete)	3	24	3		7	37
3.3. Quantities and final cost estimate	3	6	26		3	38
3.4. Meet with LCPWD staff	2	3				5
3.5. IEPA application / permit coordination	1	6	5		3	15
3.6. Lake Villa Township & Avon Township application/plan approval		4	4		2	10
3.7. Hawthorn Center/Vernon Hills application/plan approval		4	4		2	10
3.8. Lake County Stormwater Management Commission application/meeting/plan approval	1	4	4			9
3.8. & 3.9. Independent in-house review/incorporate comments	4	8		8		20
3.11. Coordination & administration	4	4				8
Subtotal	29	103	54	72	17	275
4. Bidding & Construction Phase						
4.1. Answer bidder questions and issue addenda as required	4	11		4	4	23
4.2. Preconstruction conference		4				4
4.3. Shop drawing review			8	2		10
4.4. Notice of Intent submittal			3			3
4.5. Record drawings			4	20		24
Subtotal	4	15	15	26	4	64
GRAND TOTAL	42.5	230	170	342	23.5	758
Hourly Billing Rate	\$155.76	\$131.16	\$93.16	\$86.64	\$61.33	
Labor Cost	6,620	30,167	15,837	29,631	1,441	\$83,696
Direct Expenses						3,086
TOTAL FEE						\$86,781