

Agenda Item # 68

DISTRIBUTION

County Board
County Clerk
Public Works

STATE OF ILLINOIS)
) SS
COUNTY OF LAKE)

COUNTY BOARD, LAKE COUNTY, ILLINOIS

REGULAR JUNE A.D., 2007 SESSION

JUNE 12, A.D., 2007

MADAM CHAIR AND MEMBERS OF THE COUNTY BOARD:

Your Public Works and Transportation Committee and Financial and Administrative Committee present herewith a Joint Resolution authorizing execution of an Agreement for Professional Services with Rezek, Henry, Meisenheimer and Gende, Inc., Libertyville, IL, in the amount of \$666,621 for engineering services associated with the Hawthorn Woods – Glennshire Water System Design Project, charging the costs thereof to Account No. 610-4836698-71170-48310; and request its adoption.

Respectfully submitted,

Aye Nay
Deanna O'Kelly ✓
CHAIR David S. ✓

VICE CHAIR
Ann B. Mare ✓

Debra Douglas ✓

PUBLIC WORKS AND TRANSPORTATION
COMMITTEE

Aye Nay
[Signature] X
CHAIR Ann Marie Bossi ✓

VICE CHAIR David S. ✓

Paul [Signature] ✓

Deanna O'Kelly ✓

[Signature]
FINANCIAL AND ADMINISTRATIVE
COMMITTEE

RESOLUTION

WHEREAS, the County of Lake owns, operates and maintains the water distribution system serving the Hawthorn Woods – Glennshire area; and

WHEREAS, the Illinois Attorney General has filed a lawsuit against the County of Lake, in Case No. 06 CH 2569, relating to chlorination violation notices, seeking an injunction and civil penalties arising from the Hawthorn Woods-Glennshire water system; and

WHEREAS, the Lake County Public Works Department and representatives of the Village of Hawthorn Woods and the users of the Hawthorn Woods-Glennshire water system, and others, have met to research, discuss, and select the options available for water supply to the residents in the Hawthorn Woods-Glennshire water system area, and surveys of said resident-users have been conducted; and

WHEREAS, the results of those surveys were that an overwhelming majority of the resident-users preferred the option of replacement of the system with a Code compliant water system, without fire-suppression, by the Lake County Public Works Department; and

WHEREAS, Lake County has had a prior satisfactory relationship for professional services with Rezek, Henry, Meisenheimer and Gende, Inc. (RHM & G) and these A/E services are in accordance with Lake County Purchasing Ordinance Article 5-101(3) and the Local Government Professional Services Selection Act (59 ILCS 510/1 et seq); and

WHEREAS, RHM & G has done the preliminary engineering on this project and is very familiar with the engineering aspects of this project; and

WHEREAS, RHM & G can meet the schedule requirements of this project as mandated by the Attorney General; and

WHEREAS, RHM & G is qualified to perform these professional design services; and

WHEREAS, an Agreement has been negotiated with RHM & G, Inc. to provide the necessary engineering services; and

WHEREAS, execution of an Agreement for Professional Services must be authorized by Resolution of this County Board.

NOW, THEREFORE, BE IT RESOLVED, by this County Board of Lake County, Illinois, that the Purchasing Agent is hereby authorized and directed to execute the attached Agreement for Professional Services with RHM & G, Libertyville, IL in the amount of \$662,621 for engineering services associated with the Hawthorn Woods – Glennshire Water System Design Project and charging the costs thereof to Account No. 610-4836698-71170-48310.

DATED at WAUKEGAN, LAKE COUNTY, ILLINOIS, on this 12th day of June, A.D., 2007.



Rezek, Henry, Meisenheimer and Gende, Inc.

CONSULTING ENGINEERS

June 1, 2007

Mr. Dennis Price, P.E.
Chief Engineer
Lake County Public Works Department
650 Winchester Road
Libertyville, IL 60048

Re: Proposal for Engineering Services
Hawthorn Woods - Glennshire Water System

Dear Mr. Price:

Pursuant to your request, we are pleased to submit this proposal to perform engineering services relative to a new water supply system for the LCPWD's Hawthorn Woods - Glennshire (HWG) Water System.

Background

The existing HWG Water System has numerous deficiencies relative to current practices for a public water supply. As a result, the County negotiated a compliance schedule with IEPA and the Illinois Attorney General's Office that requires completion of construction of water system improvements by the end of November, 2009. Based on an extensive evaluation of alternatives involving a Technical Advisory Committee (TAC), public meetings, and resident preference surveys, the selected alternative is a centralized County water system.

Specific components of the new system will include:

- One 200 GPM deep sandstone well and two 125 GPM shallow limestone wells or
- Two 250 GPM deep sandstone wells
- 125,000 gallon cast-in-place concrete partially buried ground storage reservoir
- Booster pumps
- Hydropneumatic tank
- Chlorination, polyphosphate and fluoridation chemical feed systems
- Ion exchange softening treatment system for radium removal
- Piping, valving and meters
- Electrical, instrumentation and controls



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Chief Engineer
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- Standby generator
- Control building to house treatment systems, pumps, hydropneumatic tank, controls, etc.
- Sitework at water facilities site including access road, parking, fencing, and landscaping
- Approximately 9,930 feet of 8-inch PVC watermain installed by open-cut with tunneled road crossings
- Approximately 20,070 feet of 4-inch PVC watermain installed by open-cut with tunneled road crossings.
- Valves and hydrants
- 224 1-1/2-inch service lines from the watermain to the individual homes
- Erosion and sediment control
- Restoration of all disturbed lawns and driveways

It is envisioned that there will be three separate bid packages/construction contracts for this project as follows:

Bid Package No. 1 - Wells

Bid Package No. 2 - Water Treatment and Storage/Booster Pumping Facilities

Bid Package No. 3 - Water Distribution System

Scope of Services

Our proposed scope of services for this assignment includes:

1. Water Distribution System

1.1. Preliminary Design Phase

- 1.1.1. 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,



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design criteria, and milestone dates for submittals and review meetings.

1.1.2. Project Initiation and Coordination Meetings with Other Interested Parties - It is envisioned that there will be additional project initiation and coordination meetings with the Village of Hawthorn Woods staff, the Technical Advisory Committee (TAC), CFEWS, and the Countryside Fire Protection District. Ten such meetings are included in the project scope.

1.1.3. 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 this project.

1.1.4. Coordination with Homeowners Regarding Service Locations - A mailing will be sent to all of the homeowners within the HWG service area requesting information relative to their preferred location for their new water service line. RHMG will review and summarize the feedback from the mailings and provide followup as required.

1.1.5. 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.

Topographic surveys of the individual lots will also be performed in order to identify the locations of the existing water services and to provide information necessary for design and construction of the new water services.



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RHMG will subcontract with TFW Surveying and Mapping for the topographic survey work.

- 1.1.6. **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.
- 1.1.7. **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.
- 1.1.8. **Review with Other Interested Parties** - The preliminary drawings will be reviewed with the Village of Hawthorn Woods staff, the TAC, CFEWS, and the Countryside Fire Protection District. Comments from these parties will be incorporated into the final design as appropriate.
- 1.1.0. **Wetlands Consulting** - A wetlands delineation and jurisdictional determination request will be prepared for the entire watermain corridor. An initial threatened and endangered species consultation will also be conducted. Any detailed studies or followup would be additional scope work. RHMG will subcontract with Hey and Associates for this specialty work.

1.2. Final Design Phase

- 1.2.1. **Prepare Final Drawings** - 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.
- 1.2.2. **Prepare Contract Documents and Specifications** - RHMG 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



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associated quantities estimated. Technical specifications will be written for pipe, manholes, and all associated materials and workmanship. LCPWD will provide the front end sections of the Contact Documents.

- 1.2.3. **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.
- 1.2.4. **Meet with LCPWD Staff** - Review sets of the pre-final plans will be submitted to LCPWD. A meeting will then be held to discuss the plans and LCPWD's comments.
- 1.2.5. **Review with Other Interested Parties** - The pre-final drawings will be reviewed with the Village of Hawthorn Woods staff, the TAC, CFEWS, and the Countyside Fire Protection District. Comments from these parties will be incorporated into the final design as appropriate.
- 1.2.6. **IEPA Permit Application and Coordination** - RHMG will prepare the IEPA permit application and provide the necessary followup and coordination.
- 1.2.7. **WDO Permit Application** - RHMG 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.
- 1.2.8. **LCDOT Application/Plan Approval** - Plan and permit application documents will be submitted to LCDOT for the portions of the watermain, which are proposed to be located within the Old McHenry Road Right-of-Way.
- 1.2.9. **Village of Hawthorn Woods Permitting** - RHMG will prepare the necessary applications and documentation, as well as followup coordination and meetings, necessary to obtain approval of the water distribution system by the Village of Hawthorn Woods.



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1.2.10. Wetlands Permitting - Depending on the outcome of the wetlands delineation and jurisdictional determination in Task 1.1.9., U.S. Army Corps of Engineers and/or Lake County SMC Isolated Wetlands permit applications will be prepared. For Army Corps of Engineers jurisdictional wetlands, it is assumed that the project will be eligible for a Regional Permit as opposed to an Individual Permit. In addition, it is assumed that no mitigation will be necessary and that simple restoration plans will suffice.

1.2.11. 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.

1.2.12. Coordination and Administration - RHMG will provide the required project construction administration.

1.3. Bidding Phase

1.3.1. Bidder Inquiries and Addenda - RHMG will field inquiries from prospective bidders and issue addenda where required to make any necessary clarifications to the contract plans and specifications.

1.4. Construction Phase

1.4.1. Preconstruction Conference - RHMG will conduct a preconstruction conference with the contractor, LCPWD, Village of Hawthorn Woods representatives, utility company representatives, and other applicable parties.

1.4.2. Shop Drawing Review - RHMG will review shop drawings, which the contractor is required to submit, for conformance with the contract documents.

1.4.3. General Consultation - On an as-requested basis, RHMG will provide consultation and advice to the LCPWD throughout the course of construction. This will include answering any questions, which may arise, providing interpretation and/or clarification of the plans and specifications, and participating in meetings. Up to 100 hours



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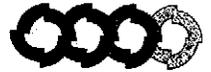
of general consultation time has been included in our manpower estimate for this task.

- 1.4.4. **Record Drawings** - RHMGM 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. Both a hard copy and an electronic CAD file will be furnished to the LCPWD.

2. Wells

2.1. Design Phase

- 2.1.1. **Project Initiation Meeting with LCPWD Staff** - This initial task will consist of a meeting of key RHMGM team members and LCPWD staff to discuss project requirements, design criteria, and milestone dates for submittals and review meetings. It is envisioned that at this meeting a decision will be made as to whether to utilize two shallow wells and one deep well or two deep wells.
- 2.1.2. **Prepare Drawings** - CAD drawings illustrating all details necessary for bidding and construction of the deep well and two shallow wells will be prepared using Microstation. The drawings will include a location map, site plan, and anticipated well logs/well profiles. The drawings will be 8-1/2 x 11-inch drawings, which will be bound in the back of the specifications.
- 2.1.3. **Coordinate Test Well Drilling (Shallow Wells)** - It is recommended that test wells be drilled to verify that adequate yields can be obtained at the desired locations. RHMGM will coordinate these activities with a well driller contracted by LCPWD.
- 2.1.4. **Prepare Contract Documents and Specifications** - RHMGM 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



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be written for all materials and workmanship. LCPWD will provide the front end sections of the Contact Documents.

- 2.1.5. **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.
- 2.1.6. **IEPA Permit Application and Coordination** - RHMGM will prepare the IEPA permit application and provide the necessary followup and coordination.
- 2.1.7. **Meet with LCPWD Staff** - Review sets of the pre-final plans will be submitted to LCPWD. A meeting will then be held to discuss the plans and LCPWD's comments.

2.2. Bidding Phase

- 2.2.1. **Bidder Inquiries and Addenda** - RHMGM will field inquiries from prospective bidders and issue addenda where required to make any necessary clarifications to the contract plans and specifications.

2.3. Construction Phase

- 2.3.1. **Preconstruction Conference** - RHMGM will conduct a preconstruction conference with the contractor, LCPWD, Village of Hawthorn Woods representatives, utility company representatives, and other applicable parties.
- 2.3.2. **Shop Drawing Review** - RHMGM will review shop drawings, which the contractor is required to submit, for conformance with the contract documents.
- 2.3.3. **General Consultation** - On an as-requested basis, RHMGM will provide consultation and advice to the LCPWD throughout the course of construction. This will include answering any questions, which may arise, providing interpretation and/or clarification of the plans and specifications, and participating in meetings. Up to 20 hours of general consultation time has been included in our manpower estimate for this task.



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2.3.4. Record Drawings - RHMGM 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. Both a hard copy and an electronic CAD file will be furnished to the LCPWD.

3. Water Treatment and Storage/Booster Pumping Facilities

3.1. Preliminary Design Phase

- 3.1.1. Project Initiation Meeting with LCPWD Staff** - This initial task will consist of a meeting of key RHMGM team members and LCPWD staff to discuss project requirements, design criteria, and milestone dates for submittals and review meetings.
- 3.1.2. Field Survey of Site** - A topographic survey of the selected water facilities site will be performed. An ALTA/ACSM-land title survey will also be performed as required for purchase of the site. RHMGM will subcontract with TFW Surveying and Mapping for this task.
- 3.1.3. Basis of Design Report** - RHMGM will prepare a Basis of Design Report that will outline the design criteria for the water treatment, storage, and booster pumping facilities.
- 3.1.4. Prepare Preliminary Drawings** - A preliminary site plan showing the footprints and layout of the major system components will be prepared along with a process schematic diagram.
- 3.1.5. 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.
- 3.1.6. Phase 1 Environmental Assessment** - RHMGM will subcontract with a qualified environmental consultant to perform a Phase 1 Environmental Assessment of the selected water facilities site.
- 3.1.7. Drain Title Survey** - RHMGM will subcontract with a specialty consultant to perform a drain title survey of the selected water facilities site. The first phase of this survey



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will include a field reconnaissance focusing on tile blowouts and outlets to determine likely locations for drain tiles. Following the reconnaissance, a program of investigative trenching primarily along the property perimeter to determine the presence or absence of drain tiles in accordance with the standards identified in the Watershed Development Ordinance will be undertaken. Drain tile damaged as part of the investigation will be repaired to a condition equal to or better than original. Trenches will be backfilled with the material excavated from the trench. Any drain tile encountered will be staked and logged for location, size, material, condition, percentage of flow, percentage of siltation and depth of cover in accordance with the ordinance.

- 3.1.8. **Tree Inventory/Survey** - RHMG will subcontract with a specialty consultant to perform a tree inventory of the selected water facilities site in accordance with the Village of Hawthorn Woods requirements. This will involve identification, tagging and measurement of trees as required by the ordinance.
- 3.1.9. **Geotechnical Investigation** - RHMG will subcontract with a geotechnical consultant to perform soil borings and prepare a geotechnical investigation report relative to the water storage and treatment facilities.
- 3.1.10. **Review with Other Interested Parties** - The preliminary drawings will be reviewed with the Village of Hawthorn Woods staff, the TAC, CFEWS, and the Countryside Fire Protection District. Comments from these parties will be incorporated into the final design as appropriate.
- 3.1.11. **Wetlands Consulting** - A wetlands delineation and jurisdictional determination request will be prepared for the selected water facilities site. An initial threatened and endangered species consultation will also be conducted. Any detailed studies or followup would be additional scope work. RHMG will subcontract with Hey and Associates for this specialty work.



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3.2. Final Design Phase

- 3.2.1. Prepare Final Drawings** - CAD Drawings illustrating all details necessary for bidding and construction will be prepared using Microstation. These will include civil/sitework, mechanical, architectural, structural, electrical, landscaping and erosion/sediment control. A list of the anticipated drawings is included in the manpower and fee estimate.
- 3.2.2. Prepare Contract Documents and Specifications** - RHMG 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 all materials and workmanship. LCPWD will provide the front end sections of the Contract Documents.
- 3.2.3. 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.
- 3.2.4. Meet with LCPWD Staff** - Review sets of the pre-final plans will be submitted to LCPWD. A meeting will then be held to discuss the plans and LCPWD's comments.
- 3.2.5. Review with Other Interested Parties** - The pre-final drawings will be reviewed with the Village of Hawthorn Woods staff, the TAC, CFEWS, and the Countyside Fire Protection District. Comments from these parties will be incorporated into the final design as appropriate.
- 3.2.6. IEPA Permit Application and Coordination** - RHMG will prepare the IEPA permit application and provide the necessary followup and coordination.



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- 3.2.7. **WDO Permit Application** - RHMG 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.
- 3.2.8. **Wetlands Permitting** - Depending on the outcome of the wetlands delineation and jurisdictional determination in Task 3.1.8., U.S. Army Corps of Engineers and/or Lake County SMC Isolated Wetlands permit application will be prepared. For Army Corps of Engineers jurisdictional wetlands, it is assumed that the project will be eligible for a Regional Permit as opposed to an Individual Permit. In addition, it is assumed that no mitigation will be necessary and that simple restoration plans will suffice.
- 3.2.9. **Village of Hawthorn Woods Permitting** - Variances, a special use permit, and a building permit will be required for the Village of Hawthorn Woods. RHMG will prepare the necessary applications and documentation, as well as followup coordination and meetings necessary to obtain these approvals.
- 3.2.10. **Coordinate Electrical Service** - RHMG will complete the ComEd service and meter application and coordinate with ComEd relative to providing the necessary electrical service to the site.
- 3.2.11. **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.
- 3.2.12. **Meetings, Coordination and Administration** - RHMG will provide the required project construction administration.

3.3. Bidding Phase

- 3.3.1. **Bidder Inquiries and Addenda** - RHMG will field inquiries from prospective bidders and issue addenda where required to make any necessary clarifications to the contract plans and specifications.



Mr. Dennis Price, P.E.
Chief Engineer
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3.4. Construction Phase

- 3.4.1. Preconstruction Conference** - RHMGM will conduct a preconstruction conference with the contractor, LCPWD, Village of Hawthorn Woods representatives, utility company representatives, and other applicable parties.
- 3.4.2. Shop Drawing Review** - RHMGM will review shop drawings, which the contractor is required to submit, for conformance with the contract documents.
- 3.4.3. General Consultation** - On an as-requested basis, RHMGM will provide consultation and advice to the LCPWD throughout the course of construction. This will include answering any questions, which may arise, providing interpretation and/or clarification of the plans and specifications, and participating in meetings. Up to 100 hours of general consultation time has been included in our manpower estimate for this task.
- 3.4.4. Record Drawings** - RHMGM 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. Both a hard copy and an electronic CAD file will be furnished to the LCPWD.

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 CLIENT and/or County or other governmental agencies.
3. Detailed studies resulting from the discovery of threatened or endangered species within the project limits.



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4. Detailed wetlands consulting involving the preparation of an Individual Permit application for U.S. Army Corps of Engineers jurisdictional wetlands and/or design of wetlands mitigation areas.
5. Giving testimony as an expert witness for the CLIENT in litigation or other court proceedings involving this project.
6. 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.
7. 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. Acquire all property and easements required for the project.
3. 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.
4. Contract with a well drilling contractor for drilling of test wells for the shallow wells.
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.



Mr. Dennis Price, P.E.
Chief Engineer
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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 as follows:

Water Distribution System	\$319,934
Wells	16,443
Treatment and Storage/Booster Pumping	<u>330,244</u>
Total	\$666,621

Detailed manpower estimates illustrating the basis of the proposed fee limit are included as Exhibits B, C, and D. We will complete the design phase services no later than November 30, 2007, provided that we are not delayed by circumstances beyond our control.

Sincerely yours,

REZEK, HENRY, MEISENHEIMER AND GENDE, INC.

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

WRR/amd

AMD/WP/Prop.Ltrs./Price-LCPWD

Enclosures



EXHIBIT A
BILLING RATES

Classification	Average Hourly Billing Rate
Project Manager	\$155.76
Senior Designer	\$126.12
Senior Project Engineer	\$125.45
Project Engineer	\$89.58
Structural Engineer	\$120.00
Architect	\$102.50
Electrical Engineer	\$104.16
Senior Drafter/Technician	\$84.12
Drafter/Technician	\$78.19
Junior Drafter/Technician	\$56.05
Clerical	\$59.55

**EXHIBIT B
MANPOWER/FEE ESTIMATE
HAWTHORN WOODS GLENNSHIRE WATER SYSTEM
WATER DISTRIBUTION SYSTEM
LAKE COUNTY PUBLIC WORKS DEPARTMENT**

TASK	MANHOURS						
	Project Manager	Senior Designer	Project Engineer	Sen. Draft /Tech.	Draft./ Tech.	Clerical	Total
1.1 Preliminary Design Phase							
1.1.1 Project Initiation Meeting with LCPWD Staff	3	3	2			1	9
1.1.2 Project Initiation & Coordination Meetings w/Other Parties	30	30	20	20		10	110
1.1.3 Research & Data Collection		8	6	12			26
1.1.4 Coordinate with Homeowners Regarding Service Locations	2	8	16	120		4	150
1.1.5 Perform Topographic Surveys*	4	8					12
1.1.6 Prepare Preliminary Drawings	10	45	18	135			208
1.1.7 Meet with LCPWD Staff	2	3	2				7
1.1.8 Review with Other Interested Parties	2	4	4	6		1	17
1.1.9 Wetlands Consulting*	1	2	6	4			13
SUBTOTAL	54	111	74	297		16	552
1.2 Final Design Phase							
1.2.1 Prepare Final Drawings	28	148	37	296			509
1.2.2 Prepare Contract Documents and Specifications	6	24	10			15	55
1.2.3 Quantities and Final Cost Estimate	4	24	16	12		8	64
1.2.4 Meet with LCPWD Staff	2	3	3				8
1.2.5 Review with Other Interested Parties	6	8	10	10		2	36
1.2.6 IEPA Permit Application/Coordination	1	3	3			1	8
1.2.7 WDO Permit Application		1	3				4
1.2.8 LCDOT Application/Plan Approval	1	3	3				7
1.2.9 Village of Hawthorn Woods Permitting	12	24		10		6	52
1.2.10 Wetlands Permitting*	1	3					4
1.2.11 Independent In-House Review	8	8		12			28
1.2.12 Coordination & Administration	40	16					56
SUBTOTAL	109	265	85	340		32	831
1.3 Bidding Phase							
1.3.1 Bidder Inquiries and Addenda	8	32	12			12	64
1.4 Construction Phase							
1.4.1 Preconstruction Conference		4				2	6
1.4.2 Shop Drawing Review		10	16			4	30
1.4.3 General Consultation	16	60	16			8	100
1.4.4 Record Drawings		8	32		50		90
SUBTOTAL	16	82	64	0	50	14	226
TOTAL	187	490	235	637	50	74	1673
Billing Rate	155.76	126.12	89.58	84.12	78.19	59.55	
Labor Cost	\$29,127	\$61,799	\$21,051	\$53,584	\$3,910	\$4,407	\$173,878
Expenses							
						6,624	
						128,432	
						11,000	
						146,056	
TOTAL FEE							\$319,934

* Subconsultant task - time shown is for coordination only

EXHIBIT D
MANPOWER/FEE ESTIMATE
HAWTHORN WOODS GLENNSHIRE WATER SYSTEM
WATER TREATMENT AND STORAGE/BOOSTER PUMPING FACILITIES
LAKE COUNTY PUBLIC WORKS DEPARTMENT

TASK	MANHOURS									
	Project Man.	Senior Engineer	Project Engineer	Struct. Engineer	Arch.	Elect. Engineer	Sen. Draft /Tech.	Draft./ Tech.	Clerical	Total
3.1 Preliminary Design Phase										
3.1.1 Project Initiation Meeting with LCPWD Staff	3	3	2						1	9
3.1.2 Field Survey of Site*	1	2								3
3.1.3 Basis of Design Report	4	12	16	4	4	4	12		6	62
3.1.4 Prepare Preliminary Drawings										0
Site Plan	2	16						24		42
Process Schematic	2	16						24		42
3.1.5 Meet with LCPWD Staff	3	3	3							9
3.1.6 Phase I Environmental Assessment*		2								2
3.1.7 Field Tile Survey*		2								2
3.1.8 Tree Inventory/Survey*		2								2
3.1.9 Geotechnical Investigation*		2								2
3.1.10 Review with Other Interested Parties	30	30	20				20		1	101
3.1.11 Wetlands Consulting*	1	2								3
SUBTOTAL	46	92	41				32		8	279
3.2 Final Design Phase										
3.2.1 Prepare Final Drawings	60	250	40	260	284	150	354	190		1588
3.2.2 Prepare Contract Documents and Specifications	12	40	10	8	16	24			40	150
3.2.3 Quantities and Final Cost Estimate	4	24	16	8	8	8			2	70
3.2.4 Meet with LCPWD Staff	2	3								5
3.2.5 Review with Other Interested Parties	6	8							2	16
3.2.6 IEPA Permit Application/Coordination	1	2	6						3	12
3.2.7 WDO Permit Application		1	3							4
3.2.8 Wetlands Permitting*	1	3								4
3.2.9 Village of Hawthorn Woods Permitting	12	40			24		24		10	110
3.2.10 Coordinate Electrical Service						6				6
3.2.11 Independent In-House Review	12	8					12			32
3.2.12 Coordination & Administration	80	16								96
SUBTOTAL	190	395	75	276	332	188	390	190	57	2093
3.3 Bidding Phase										
3.3.1 Bidder Inquiries and Addenda	8	48	12	8	8	8	12		12	116
3.4 Construction Phase										
3.4.1 Preconstruction Conference		4							2	6
3.4.2 Shop Drawing Review	4	40	16	8	16	16			32	132
3.4.3 General Consultation	16	60	16						8	100
3.4.4 Record Drawings		40		2	2	2		40		86
SUBTOTAL	20	144	32	10	18	18	0	40	42	324
TOTAL	264	679	160	294	358	214	434	230	119	2812
Billing Rate	155.76	126.12	89.58	120.00	102.50	104.16	84.12	78.19	59.55	
Labor Cost	\$41,121	\$85,635	\$14,333	\$35,280	\$36,695	\$22,290	\$36,508	\$17,984	\$7,086	\$296,932
Expenses										
										11,312
										4,000
										4,000
										3,500
										5,000
										1,500
										4,000
										33,312
TOTAL FEE										\$330,244

* Subconsultant task - time shown is for coordination only