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Marina Coast Water District
Agenda Transmittal

Agenda Item: 9-B | Meeting Date: March 8, 2011

Submitted By: Gary Rogers | Presented By: Gary Rogers
Reviewed By: Carl Niizawa

Agenda Title: Consider Adoption of Resolution No. 2011-22 to Authorize a Professional Services Agreement with Luhdorff & Scalmanini Consulting Engineers for the Eastern Distribution System Watkins Gate Well Installation for a Not-To-Exceed Amount of $195,960

Detailed Description: The Board of Directors is requested to approve the execution of a Professional Services Agreement with Luhdorff & Scalmanini Consulting Engineers to provide professional engineering services related to the design and construction of a well near the intersection of former Ft. Ord road "Watkins Gate Road" and Reservation Road in furtherance of the Proposition 50 Grant funded Eastern Distribution Project.

Generally, the Luhdorff & Scalmanini scope will include: 1) The Review of Existing Data, Site Assessments, and Provide a Conceptual Well Design. 2) Provide Preliminary Well Station Layout and Well Design for review by Regulatory Agencies. 3) Complete Test Hole Drilling, Evaluation, and Monitoring Well Installation. 4) Provide Final Well Design and Specifications. 5) Provide Bidding Process and Technical Assistance During Well Construction and Testing. 6) Provide Project Management, Permitting Assistance and Final Project Report of Well Construction. Please refer to Luhdorff & Scalmanini proposal letter dated February 28, 2011 (attached) for a more detailed description for the proposed scope of work.

Staff determined Luhdorff & Scalmanini was the preferred respondent to a Request for Qualification(s) for Hydrogeology Services the District solicited in January of this year. The Request was advertised on the District website, local circular and electronic mailers. Nine firms responded to the solicitation. Of the nine consultants, two were approached to propose for the Eastern Distribution Project Watkins Gate Well.

Based on staff review of the proposals received, qualifications, work plans, and approaches, Luhdorff & Scalmanini is the recommended firm.

Environmental Review Compliance: Further CEQA analysis will be done for the Eastern Distribution System Watkins Gate Well installation including a Draft Initial Study, Negative Declaration or Mitigated Negative Declaration due to environmental consultant recommendation that original CEQA Draft IS/Negative Declaration (Resolution No. 2009-11) for the Eastern Distribution Project did not consider this well location.

Prior Committee or Board Action: Resolution No. 2009-11, the Board adopted the Initial Study/Mitigated Negative Declaration (IS/MND) for the Well 32 Replacement/Eastern Distribution System Project and Approved the Mitigated Monitoring and Reporting Program; Resolution No. 2110-21 the Board authorized signature of a Professional Services Agreement

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with Denise Duffy and associates for biological/environmental services of the Eastern Distribution System; Resolution No. 2010-56 the Board adopted the Central Marina/Ord Budget for FY 2010-2011.

Board Goals/Objectives: *Strategic Plan, Goal No. 2 – To meet 100% of current and future customers' needs and make timely improvements and increase infrastructure and level of services and human resources to meet needs of expanding service areas in an environmentally sensitive way.*

Financial Impact: ___X___Yes _____No

Funding Source/Recap: The amount of $170,400 plus 15% contingency of $25,560 for a total of $195,960 will be encumbered against the approved FY 2010/2011 Budget as CIP No. OW-116.

Material Included for Information/Consideration: Resolution No. 2011-22; and, Scope of Work.

Staff Recommendation: Board of Directors is to consider adoption of Resolution No. 2011-22 that authorizes the General Manager and/or Deputy General Manager/District Engineer to enter into a Professional Services Agreement with Luhdorff & Scalmanini Consulting Engineers for engineering services related to the design and construction of the Eastern Distribution System Watkins Gate Well for a not-to-exceed amount of $195,960 that includes a 15 percent contingency of $25,560.

Action Required: ___X___Resolution _____Motion _____Review
(Roll call vote is required.)

Board Action

_____Resolution No____ Motion By_____ Seconded By_____

Ayes_____ Abstained_____

Noes_____ Absent_____

Reagendized_____ Date_____ No Action Taken_____

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March 8, 2011

Resolution No. 2011 - 22
Resolution of the Board of Directors
Marina Coast Water District
Authorize the Professional Services Agreement with
Luhdorff & Scalmanini for the Watkins Gate Well Installation
Not-To-Exceed $195,960

RESOLVED by the Board of Directors ("Directors") of the Marina Coast Water District ("District"), at a regular meeting duly called and held on March 8, 2011 at the business office of the District, 11 Reservation Road, Marina, California as follows:

WHEREAS, the 1993 Agreement with Monterey County Water Resources Agency Zones 2 and 2A allows for a combined annual withdrawal in the Ord Community of up to 6,600 acre feet per year of groundwater about equal to the historic demand from Army uses at Fort Ord; and,

WHEREAS, the proposed Watkins Gate Well/Eastern Distribution System Project contains components that are part of the MCWD CIP and within the framework of the 2006 Master Plan; and,

WHEREAS, the Salinas Valley Integrated Water Management Plan was approved on March 20, 2007 to receive Proposition 50 funds from the State Water Resources Control Board and is expected to reimburse a portion of the District costs for replacement wells from the pressure zone; and,

WHEREAS, in Resolution No. 2009-11, the Board adopted the Initial Study/Mitigated Negative Declaration (IS/MND) for the Well 32 Replacement/Eastern Distribution System Project and Approved the Mitigated Monitoring and Reporting Program; and,

WHEREAS, in Resolution No. 2110-21, the Board authorized signature of a Professional Services Agreement with Denise Duffy and associates for biological/environmental services of the Eastern Distribution System; and,

WHEREAS, in Resolution No. 2010-56 the Board adopted the Central Marina/Ord Budget for FY 2010-2011 which includes funding for the Watkins Gate Well; and,

WHEREAS, Luhdorff & Scalmanini Consulting Engineers, is a licensed, qualified consultant who has done hydrogeological and related work in the area in the past thus giving them knowledge of the local hydrogeology and qualifications;

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NOW, THEREFORE, BE IT RESOLVED, the Board of Directors of the Marina Coast Water District does herby:

1) Authorize the General Manager and/or Deputy General Manager/District Engineer to execute a Professional Services Agreement with Luhdorff & Scalmanini Consulting Engineers for engineering services related to the design and construction of a well near the intersection of former Ft. Ord road "Watkins Gate Road" and Reservation Road; and, to take all actions and execute all documents as may be necessary or appropriate to give effect to this resolution, for a total dollar amount not-to-exceed $195,960.

PASSED AND ADOPTED on March 8, 2011 by the Board of Directors of the Marina Coast Water District by the following roll call vote:

Ayes: Directors_____

Noes: Directors_____

Absent: Directors_____

Abstained: Directors_____

_____
William Y. Lee, President

ATTEST:

_____
Jim Heitzman, Secretary

CERTIFICATE OF SECRETARY

The undersigned Secretary of the Board of the Marina Coast Water District hereby certifies that the foregoing is a full, true and correct copy of Resolution No. 2010-22 adopted March 8, 2011.

_____
Jim Heitzman, Secretary

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LUHDORFF & SCALMANINI
CONSULTING ENGINEERS

GROUND-WATER RESOURCES
HYDROLOGY - DEVELOPMENT - MANAGEMENT

February 28, 2011
File No. 11-2-016

Mr. Gary Rogers
Project Engineer
Marina Coast Water District
11 Reservation Road
Marina, CA 93933

SUBJECT: PROPOSED SCOPE FOR THE INVESTIGATION AND CONSTRUCTION OF THE WATKINS GATE WELL

Dear Mr. Rogers:

In response to your request, Luhdorff and Scalmanini, Consulting Engineers (LSCE) are pleased to submit this letter proposal outlining a scope and estimated costs for engineering and field services for the site assessment, exploration, assistance with permitting, design, and well construction and testing oversight for the planned Watkins Gate Well. Our project understanding, detailed below, is based on upon the information contained in the Request for Qualifications (RFQ) distributed by Marina Coast Water District (MCWD).

LSCE has previously submitted statements of qualification specific to the hydrogeological consultant services related to the investigation and construction of the Watkins Gate Well, and engineering consultant services related to the design and construction of the Watkins Gate Well pump station to MCWD. LSCE also submitted a statement of qualifications for "Category A" services as outlined in the District's RFQ for water and waste water engineering services. The scope of work outlined below provides a more detailed project scope and cost estimates.

Project Understanding

The MCWD wishes to construct a municipal water supply well at the Watkins Gate site in the East Garrison area of the former Fort Ord. Previous work done by others for the District recommended the Watkins Gate site for a future municipal well based on a review of well construction details and lithologic logs from other wells in the area. The work to be completed as part of this project will include a more detailed analysis of available data and a site specific investigation, including exploratory drilling, to determine the feasibility of constructing a production well at the subject site. Contingent on the conclusions from the site specific investigation, work will proceed with the ultimate goal of installing a fully permitted municipal well including final siting of the well, interaction with regulatory agencies, well design, specification production, assistance with bidding, and well construction and testing.

Project Approach

LSCE's approach to completing this type of water supply project has been developed throughout our work in planning, designing and installing hundreds of municipal wells and pump stations throughout Northern California. Our approach considers the entire process as a series of sequential steps, which have varying degrees of interdependency. In the Request for Qualifications, MCWD outlines the tasks to be performed as part of this project. LSCE has retained the general tasks, but have renamed and arranged the tasks to be more reflective of our overall approach.

Proposed Scope

LSCE's proposed scope is detailed below according to the following tasks:

Task	Description
1	Review of Existing Data, Site Assessments, and Conceptual Well Designs
2	Preliminary Station Layout and Well Design for Review by Regulatory Agencies
3	Test Hole Drilling, Evaluation, and Monitoring Well Installation
4	Final Well Design and Specifications
5	Bidding Process and Technical Assistance During Well Construction and Testing
6	Project Management, Permitting Assistance, and Final Project Report

At the end of each task description, there is a summary of key meetings and deliverables on which budgeting is based. Following the task descriptions is a budget estimate for the proposed services.

Task 1: Review of Existing Data, Site Assessment, and Conceptual Well Design

Under Task 1, LSCE will conduct a project kick-off meeting with MCWD to discuss available project data, scheduling, coordination, and site assessment criteria. This meeting will also serve as a preliminary design meeting on station layout and well location to serve regulatory submittals under Task 2.

The objectives of this effort shall include:

1) Assess local hydrogeology and target depths for exploratory drilling.
2) Assess sites in terms of constructibility and ability to meet regulatory requirements.
3) Identify water quality issues and expected well yields.
4) Prepare preliminary, or conceptual, well design.

Objective 2 above represents a key aspect of Task 1 by determining whether the existing site is suitable for the installation of a municipal well and to address matters related to construction of the well such as access, water for drilling, fluid and cuttings disposal, and

other site requirements and/or restrictions. For objective 4, it should be noted that the preliminary well designs will reflect the anticipated depth and target completions for the production well and will be used as a basis for obtaining concurrence on the proposed well from the appropriate regulatory agencies under Task 2. Final designs will be based on test hole drilling performed under Task 3.

Task 1 Overview

Meetings

- *One kick-off meeting with MCWD.*

Deliverables

- *Preliminary well profile.*
- *Summary memo on design criteria and assessment results.*

Task 2: Preliminary Station Layout and Well Design for Review by Regulatory Agencies

Under Task 2, LSCE will use information from the pre-design meeting under Task 1 to prepare initial regulatory submittals. Based on input from MCWD, LSCE will prepare preliminary station layout that delineates facility components and production well location.

After obtaining concurrence from MCWD, LSCE will submit a preliminary station layout and conceptual well design to the California Department of Public Health (CDPH), Monterey County Water Resources Agency, and the county environmental health agency for concurrence on siting. The submittals will demonstrate that regulatory siting criteria and horizontal setback requirements are met, or provide justification for any requested variances for consideration by appropriate regulatory agencies. As part of the submittal, a preliminary Drinking Water Source Assessment Program Plan will be prepared for review by CDPH.

Task 2 Overview

Meetings

- *One design meeting with* MCWD.
- *One meeting with regulatory agency(s).*

Deliverables

- *Preliminary station layout.*
- *Preliminary DWSAP.*
- *Letters to CDPH, Monterey County Water Resources Agency, and County Environmental Health requesting concurrence on siting.*

Task 3: Test Hole Drilling, Evaluation, and Monitoring Well Installation

Although the RFQ does not specifically request monitoring well construction as part of this project, LSCE believes that a properly designed monitoring well is the best way to provide site-specific water quality and water level data that will be essential to designing a well that

has the highest likelihood of meeting drinking water quality standards. An alternate to monitoring well construction is zone sampling conducted within the test hole, but LSCE does not recommend this method. The construction of a dedicated monitoring well offers several advantages over the zone sampling method, including: capability to re-sample to verify questionable results; providing a non-pumping point to measure water levels and obtain aquifer parameters; and serving as a tool to evaluate any long-term changes in groundwater conditions, and, with proper monitoring well construction, water quality samples collected from zone specific monitoring wells are less likely to be contaminated with water from different zones and drilling fluids. Zone sampling in the test hole is also typically more expensive than the construction of a dedicated monitoring well. Also, a monitoring well can be constructed and sampled for water quality testing in less time than zone sampling in the test hole would take, and will thus help meet the project schedule goals.

Under Task 3, LSCE will coordinate and oversee test hole drilling and interpretation of data for use in final well design. LSCE will provide subcontracted drilling services from an experienced, licensed, well drilling contractor to drill the test hole and construct the monitoring well. LSCE will require that its subcontractors compensate workers associated with this project according to current Monterey County prevailing wage requirements. Payroll documents will be made available to MCWD upon request. The location for the test hole will be determined using the site layout developed under Task 2. Based on LSCE's preliminary assessment of local geologic conditions, a test hole target depth of 900 feet is proposed. Data collected from the test hole will be used to delineate precise depths for intake screens in the proposed water supply well to be specified in the well construction plans and contract documents. Formation samples from the test hole will be used to design the gravel filter pack to be installed around the intake screens of the well.

The test hole will be converted to small diameter monitoring well and completed in a manner that mimics the anticipated completions in the supply well. For budgeting purposes, it is assumed that the monitoring well will consist of up to three piezometers. The monitoring wells will be used to measure water levels and collect water samples to serve the final well design. In addition, the monitoring wells have utility as observation wells to assess production well efficiency during the well testing phase of construction and also for ongoing monitoring. Water quality results will also be used to aid in procurement of discharge permits from the Regional Water Quality Control Board and other regulatory agencies to dispose of fluids generated during well construction, development, and testing.

Monitoring well designs will be prepared by LSCE staff based on site conditions and compliance Monterey County Water Resources Agency regulations. Upon completion of the monitoring well construction and development, LSCE will provide a portable sampling rig to obtain ground-water samples from each of the piezometers. LSCE will deliver the samples to a DHS certified test laboratory for drinking water screening analyses. For budgeting purposes, we have allotted $4,000 for selected screening tests of groundwater samples collected in the monitoring well. This budget amount is typically sufficient for screening Title 22 constituents for feasibility and design purposes.

At the completion of test hole drilling, monitoring well construction, and water quality

testing, LSCE will submit a report summarizing results and, if warranted, recommendations for final well design to MCWD.

Task 3 Overview

Meetings

- *Multiple site visits for test hole drilling activities, monitoring well construction, and groundwater sampling.*

Deliverables

- *Report on test hole exploratory activities including recommendations for well design, estimates of yield, and water quality for production well.*
- *Lithologic logs and as-built profiles, for test holes and monitoring wells.*
- *Water Quality Summary Analysis*

Task 4: Final Well Design and Specifications

Under Task 4, LSCE will finalize well designs and prepare plans and specifications for the production well based on results from the preceding task. The principal design parameters shall include well depth, casing and screen dimensions, locations and types of seals, type and locations of intake screen, gravel envelope size and gradation for sand control, and size of screen openings to properly retain the gravel pack. These parameters will be selected to achieve a well that is hydraulically efficient and produces sand-free water all in accordance with accepted water well design practice. The well designs will also reflect water quality considerations such as corrosivity and the need to isolate or exclude individual zones to meet state drinking water standards.

LSCE will submit the plans and specifications for construction and testing of the well to MCWD for review and comment. Subsequently, LSCE will incorporate the plans into MCWD's contract documents for bid solicitation. It is assumed that MCWD will administer the contract for construction of the production well with assistance from LSCE as outlined under Task 5, below.

Task 4 Overview

Meetings

- *N/A*

Deliverables

- *Plans and specifications for the production well for incorporation into* MCWD*'s contract documents.*

Task 5: Bidding Process and Technical Assistance During Well Construction and Testing

LSCE will prepare an Engineer's Estimate for the construction and testing of the well and assist with solicitation of competitive bids from qualified, licensed California contractors. LSCE will prepare an agenda and conduct a pre-bid meeting to meet with prospective

contractors and answer questions. LSCE will issue any addenda, and will answer contractor questions throughout the bidding period. LSCE will also evaluate bids and recommend award.

LSCE's business niche is historically based on the importance of inspection services to the success of well construction projects. LSCE's staff includes personnel with extensive field experience with measuring and monitoring drilling fluid properties, detecting problems during gravel or seal placement, and evaluating well and aquifer tests. The firm was founded for the very reason that there was, and often still is, a gap between theoretical well hydraulics and actual well performance that can be attributed to construction practices.

LSCE has developed and refined its construction specifications and inspection protocol to ensure that formation damage from the drilling and completion process does not limit well efficiency and capacity. LSCE has developed a systematic approach to technical support and will assist MCWD with the following key elements to ensure that the well meets the performance requirements of the construction contract and that work is performed in the most timely and cost effective manner. Under Task 5, LSCE will provide technical assistance during well construction phase as follows:

Pre-construction Conference **–** Prior to commencement of construction, a conference will be held with the selected contractor to review work schedules, and confirm the contractor's understanding of the intent of the contract documents. A final site visit with the contractor is made as a part of the conference to review site access and to address questions by the contractor prior to mobilization.

Mobilization **–** Insure contractor compliance with labor, equipment requirements, and site preparation.

Drilling Operations **–** Inspect drilling fluid control and formation sampling techniques.

Conductor/Surface Casing **–** Witness conductor/surface casing installation and grouting operations.

Borehole Construction **–** Monitor drilling operations and drilling fluid control when drilling through the main aquifer units to insure minimal formation damage.

Casing Installation **–** Witness borehole conditioning and casing assembly installation including casing welds, alignment, casing guide placement, and screen locations.

Gravel and Annular Seal Placement **–** Inspect gravel and seal(s) installation and

estimate final quantities installed.

Well Development – Witness initial well development techniques with the drilling rig, final development of the well by pumping, and compliance with all discharge requirements.

Well Testing – Witness acceptance tests for minimum sand production and maximum well efficiency; obtain water quality samples and monitor well pump tests; and evaluate aquifer characteristics for present and projected well performance in order to develop pump design criteria.

Cleanup and Well Disinfection – Witness contractor's compliance with site cleanup and well security requirements.

Payment and Acceptance – Review contractor's progress billings and provide recommendation for final acceptance.

Well Records – Assemble construction records for the Districts permanent well file and for submittal to DHS for the water supply permit application.

Task 5 Overview

Meetings

- *Pre-bid and pre-construction meetings.*
- *Multiple site visits for milestone construction inspection and testing activities.*

Deliverables

- *Inspection reports.*
- *Status reports on construction and testing of production wells including as-built well profile.*

Task 6: Project Management, Permitting Assistance, and Final Project Report

Under Task 6, LSCE will coordinate throughout the project with MCWD, contractors, and applicable regulatory agencies to complete the scope of work described herein, all with the objective of commissioning a fully functioning and permitted well for use in MCWD's distribution system.

Other elements of Task 6 include DHS permitting assistance and preparation of Project Summary Report as described below.

Permitting Assistance

LSCE will coordinate with CDPH, Monterey County Water Resources Agency and the local environmental health agency throughout the project to ensure that the well meets

the requirements for a fully permitted public water supply. LSCE will assist both the test hole and production well drilling contractors in obtaining the necessary well permits (well permit fees covered by the drillers) through the appropriate agencies. Note that under Task 2, LSCE will submit a conceptual well and station design package to the CDPH and Monterey County Water Resources Agency to gain concurrence on the well location and station layout. Under this task, Task 6, final construction and DWSAP reports will be submitted to the appropriate agencies to reflect as-built conditions.

LSCE will assist MCWD with an application to amend its existing water supply permit in accordance with Section 116550 of the Health and Safety Code. Specific elements of the CDPH permit application process are listed below along with LSCE's role.

1. LSCE to assist MCWD in completing the application for Domestic Water Supply Permit Amendment form.
2. LSCE to provide required well construction documentation.
3. LSCE to complete the Drinking Water Source Assessments and Protection Program documentation.

Documentation satisfying the California Environmental Quality Act (CEQA) and compliance must also be submitted with the permit application and is required at the time of the permit application. For this project, it is assumed that MCWD will provide the appropriate documents.

Final Project Report

At the completion of the construction and testing of the new well, LSCE will provide a summary report on the construction and testing activities, including an as-built well profile, well construction tests (geophysical surveys, caliper log, plumbness and alignment survey), development records, pump test data and hydrographs, water quality results, project permits, any monitoring reports as required by regulatory agencies, and other relevant project data.

Task 6 Overview

Meetings

- *Meetings included under Tasks 1 through 5.*

Deliverables

- *Final DWSAP and assistance with permit application submittal.*
- *Project summary report (two hard copies and electronic) on construction and commissioning of well including records for all construction activities, development, testing, and written correspondence on modifications/corrections and final acceptance.*

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Budget and Contract Administration

The estimated cost to provide the engineering and field services described above are shown in the following table:

Task	Description	Outside Services	Engr. Services	Total
1	Review of Existing Data, Site Assessments, and Conceptual Well Designs	n/a	$9,500	$9,500
2	Preliminary Station Layout and Well Design for Review by Regulatory Agencies(1)	n/a	$6,000	$6,000
3	Test Hole Drilling and Evaluation	n/a	$7,500	$7,500
	Subcontract Drilling Services – Test Hole Drilling(2)	$46,000	n/a	$46,000
	Monitoring Well Construction Oversight	n/a	$7,000	$7,000
	Subcontract Drilling Services – Monitoring Well Construction(3)	$48,300	n/a	$48,300
	Water Quality Sampling and Analysis(4)	$4,600	$3,000	$7,600
4	Final Well Design and Specifications	n/a	$3,500	$3,500
]5	Bidding Process and Technical Assistance During Well Construction and Testing(5)	n/a	$32,000	$32,000
6	Project Management, Permitting Assistance, and Final Project Report	n/a	$3,000	$3,000
	Totals	$98,900	$71,500	$170,400

Budget Notes:

1) *Including Preparation of Preliminary DWSAP.*
2) *Estimated cost for 900 foot test hole.*
3) *Estimated cost for 3, 2-inch piezometers.*
4) *Water quality testing by State certified laboratory.*
5) *Construction of wells and pump stations to be contracted separately by MCWD.*

LSCE proposes to perform the work described under Tasks 1 - 6 for a sum of $170,400. This sum includes LSCE's labor under each task and outside services for test hole drilling, monitoring well construction, and water quality analysis all as delineated in this proposal. LSCE will bill monthly for labor and materials charges in accordance with the following rate schedule:

- LSCE Schedule of Fees - Engineering and Field Services January 2011

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In the event that the MCWD directs LSCE to deviate from the proposed scope, or as dictated by unforeseen field conditions, LSCE will provide notification of any potential changes in the estimated cost to complete the work. LSCE will not proceed with any work that deviates from the approved scope and budget until approval to proceed is granted.

LSCE is prepared to begin work on this project immediately as is our drilling contractor.

We appreciate the opportunity to provide you with this scope and budget.

Sincerely,

LUHDORFF AND SCALMANINI,
CONSULTING ENGINEERS

Scott Lewis, P.G.

Attachments: Schedule of Fees for Engineering and Field Services

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LUHDORFF AND SCALMANINI
CONSULTING ENGINEERS
500 FIRST STREET
WOODLAND, CALIFORNIA 95695

SCHEDULE OF FEES - ENGINEERING AND FIELD SERVICES
January, 2011

Professional:*	
Senior Principal	*$ 245.00/hr.*
Principal Professional	*$ 188.00/hr.*
Project Manager	*$ 170.00/hr.*
Senior Professional	*$ 153.00/hr.*
Project Professional	*$ 137.00/hr.*
Staff Professional	*$ 98.00/hr.*
Technical:	
Engineering Inspector	*$ 98.00/hr.*
Engineering Assistant	*$ 88.00/hr.*
Technician	*$ 92.00/hr.*
ACAD Drafting	*$ 97.00/hr.*
Clerical Support:	
Word Processing, Clerical	*$ 58.00/hr.*
**********	
Vehicle Use	*$ 0.60/mi.*
Aircraft Use	*$ 375.00/hr.*
Subsistence	*Cost Plus 15%*
Groundwater Sampling Equipment (Includes Operator)	*$ 170.00/hr.*
Copies	*.20 ea.*
**********	
Professional or Technical Testimony	*200% of Regular Rates*
Outside Services/Rentals	*Cost Plus 15%*
Services by Associate Firms	*Cost Plus 15%*

* *Engineer, Geologist, Hydrogeologist, and Hydrologist*

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PROJECT ESTIMATE WORKSHEET

LUHDORFF & SCALMANINI
CONSULTING ENGINEERS

Client	MCWD	Date	2/28/2011
Project Name	Watkins Gate Well Project	File Number	11-2-016
Task	No. 1	Estimate By	ASL

	Rate	*Units*	*Estimated Quantity*		*Estimated Cost*
*Professional Staff**					
Senior Principal	$245.00	Hours	1	$	245.00
Principal Professional	$188.00	Hours		$	-
Project Manager	$170.00	Hours		$	-
Senior Professional	$153.00	Hours	48	$	7,344.00
Project Professional	$137.00	Hours		$	-
Staff Professional	$98.00	Hours	16	$	1,568.00
Engineering Inspector	$98.00	Hours		$	-
Engineering Assistant	$88.00	Hours		$	-
* Engineer, Geologist, Hydrogeologist, Hydrologist, Scientist					
Support Staff					
Technician	$92.00	Hours		$	-
GW Sampling Equipment (including operator)	$170.00	Hours		$	-
ACAD Drafting	$97.00	Hours	1	$	97.00
Clerical	$58.00	Hours	1	$	58.00
			Total Labor	**$**	**9,312.00**
Ground Travel	$0.60	Miles	350	$	210.00
Travel (Air & Ground)	As Incurred +15%			$	-
Subsistence	As Incurred +15%			$	-
Miscellaneous Supplies	+15%	Total		$	-
			Total Direct Expenses	**$**	**210.00**
1				$	-
2				$	-
Overhead (15%)				$	-
			Total Outside Expenses	**$**	**-**
			TOTAL FOR TASK	**$**	**9,522.00**

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PROJECT ESTIMATE WORKSHEET

LUHDORFF & SCALMANINI
CONSULTING ENGINEERS

Client	MCWD	Date	2/28/2011
Project Name	Watkins Gate Well Project	File Number	11-2-016
Task	No. 2	Estimate By	ASL

	Rate	*Units*	*Estimated Quantity*	*Estimated Cost*
*Professional Staff**				
Senior Principal	$245.00	Hours		$ -
Principal Professional	$188.00	Hours		$ -
Project Manager	$170.00	Hours		$ -
Senior Professional	$153.00	Hours	16	$ 2,448.00
Project Professional	$137.00	Hours		$ -
Staff Professional	$98.00	Hours	30	$ 2,940.00
Engineering Inspector	$98.00	Hours		$ -
Engineering Assistant	$88.00	Hours		$ -
* Engineer, Geologist, Hydrogeologist, Hydrologist, Scientist				
Support Staff				
Technician	$92.00	Hours		$ -
GW Sampling Equipment (including operator)	$170.00	Hours		$ -
ACAD Drafting	$97.00	Hours	4	$ 388.00
Clerical	$58.00	Hours	1	$ 58.00
			Total Labor	**$ 5,834.00**
Ground Travel	$0.60	Miles	350	$ 210.00
Travel (Air & Ground)	As Incurred +15%			$ -
Subsistence	As Incurred +15%			$ -
Miscellaneous Supplies	+15%	Total		$ -
			Total Direct Expenses	**$ 210.00**
1				$ -
2				$ -
Overhead (15%)				$ -
			Total Outside Expenses	**$ -**
			TOTAL FOR TASK	**$ 6,044.00**

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PROJECT ESTIMATE WORKSHEET

LUHDORFF & SCALMANINI
CONSULTING ENGINEERS

Client	MCWD	Date	2/28/2011
Project Name	Watkins Gate Well Project	File Number	11-2-016
Task	No. 3	Estimate By	ASL

	Rate	*Units*	*Estimated Quantity*	*Estimated Cost*
*Professional Staff**				
Senior Principal	$245.00	Hours		$ -
Principal Professional	$188.00	Hours		$ -
Project Manager	$170.00	Hours		$ -
Senior Professional	$153.00	Hours	30	$ 4,590.00
Project Professional	$137.00	Hours		$ -
Staff Professional	$98.00	Hours	90	$ 8,820.00
Engineering Inspector	$98.00	Hours		$ -
Engineering Assistant	$88.00	Hours		$ -
* Engineer, Geologist, Hydrogeologist, Hydrologist, Scientist				
Support Staff				
Technician	$92.00	Hours		$ -
GW Sampling Equipment (including operator)	$170.00	Hours	16	$ 2,720.00
ACAD Drafting	$97.00	Hours		$ -
Clerical	$58.00	Hours		$ -
			Total Labor	**$ 16,130.00**
Ground Travel	$0.60	Miles	1,050	$ 630.00
Travel (Air & Ground)	As Incurred +15%			$ -
Subsistence	As Incurred +15%		$500	$ 578.00
Miscellaneous Supplies	+15%	Total	$ 200.00	$ 231.20
			Total Direct Expenses	**$ 1,439.20**
1 Water Quality Analysis				$ 4,000.00
2 Test Hole Drilling				$ 42,000.00
3 Monitoring Well Construction				$ 40,000.00
Overhead (15%)				$ 12,900.00
			Total Outside Expenses	**$ 98,900.00**
			TOTAL FOR TASK	**$ 116,469.20**

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PROJECT ESTIMATE WORKSHEET

LUHDORFF & SCALMANINI
CONSULTING ENGINEERS

Client	MCWD	Date	2/28/2011
Project Name	Watkins Gate Well Project	File Number	11-2-016
Task	No. 4	Estimate By	ASL

	Rate	*Units*	*Estimated Quantity*	*Estimated Cost*
*Professional Staff**				
Senior Principal	$245.00	Hours		$ -
Principal Professional	$188.00	Hours		$ -
Project Manager	$170.00	Hours		$ -
Senior Professional	$153.00	Hours	12	$ 1,836.00
Project Professional	$137.00	Hours		$ -
Staff Professional	$98.00	Hours	12	$ 1,176.00
Engineering Inspector	$98.00	Hours		$ -
Engineering Assistant	$88.00	Hours		$ -
* Engineer, Geologist, Hydrogeologist, Hydrologist, Scientist				
Support Staff				
Technician	$92.00	Hours		$ -
GW Sampling Equipment (including operator)	$170.00	Hours		$ -
ACAD Drafting	$97.00	Hours	4	$ 388.00
Clerical	$58.00	Hours	1	$ 58.00
			Total Labor	**$ 3,458.00**
Ground Travel	$0.60	Miles		$ -
Travel (Air & Ground)	As Incurred +15%			$ -
Subsistence	As Incurred +15%			$ -
Miscellaneous Supplies	+15%	Total		$ -
			Total Direct Expenses	**$ -**
1				$ -
2				$ -
Overhead (15%)				$ -
			Total Outside Expenses	**$ -**
			TOTAL FOR TASK	**$ 3,458.00**

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PROJECT ESTIMATE WORKSHEET

LUHDORFF & SCALMANINI
CONSULTING ENGINEERS

Client	MCWD	Date	2/28/2011
Project Name	Watkins Gate Well Project	File Number	11-2-016
Task	No. 5	Estimate By	ASL

	Rate	*Units*	*Estimated Quantity*	*Estimated Cost*
*Professional Staff**				
Senior Principal	$245.00	Hours		$ -
Principal Professional	$188.00	Hours		$ -
Project Manager	$170.00	Hours		$ -
Senior Professional	$153.00	Hours	60	$ 9,180.00
Project Professional	$137.00	Hours		$ -
Staff Professional	$98.00	Hours	200	$ 19,600.00
Engineering Inspector	$98.00	Hours		$ -
Engineering Assistant	$88.00	Hours		$ -
* Engineer, Geologist, Hydrogeologist, Hydrologist, Scientist				
Support Staff				
Technician	$92.00	Hours		$ -
GW Sampling Equipment (including operator)	$170.00	Hours		$ -
ACAD Drafting	$97.00	Hours		$ -
Clerical	$58.00	Hours		$ -
			Total Labor	**$ 28,780.00**
Ground Travel	$0.60	Miles	2500	$ 1,500.00
Travel (Air & Ground)	As Incurred +15%			$ -
Subsistence	As Incurred +15%		$1,500	$ 1,734.00
Miscellaneous Supplies	+15%	Total	$ 100.00	$ 115.60
			Total Direct Expenses	**$ 3,349.60**
1				$ -
2				$ -
Overhead (15%)				$ -
			Total Outside Expenses	**$ -**
			TOTAL FOR TASK	**$ 32,129.60**

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PROJECT ESTIMATE WORKSHEET

LUHDORFF & SCALMANINI
CONSULTING ENGINEERS

Client	MCWD	Date	2/28/2011
Project Name	Watkins Gate Well Project	File Number	11-2-016
Task	No. 6	Estimate By	ASL

	Rate	*Units*	*Estimated Quantity*	*Estimated Cost*
*Professional Staff**				
Senior Principal	$245.00	Hours		$ -
Principal Professional	$188.00	Hours		$ -
Project Manager	$170.00	Hours		$ -
Senior Professional	$153.00	Hours	10	$ 1,530.00
Project Professional	$137.00	Hours		$ -
Staff Professional	$98.00	Hours	14	$ 1,372.00
Engineering Inspector	$98.00	Hours		$ -
Engineering Assistant	$88.00	Hours		$ -
* Engineer, Geologist, Hydrogeologist, Hydrologist, Scientist				
Support Staff				
Technician	$92.00	Hours		$ -
GW Sampling Equipment (including operator)	$170.00	Hours		$ -
ACAD Drafting	$97.00	Hours	1	$ 97.00
Clerical	$58.00	Hours		$ -
			Total Labor	**$ 2,999.00**
Ground Travel	$0.60	Miles		$ -
Travel (Air & Ground)	As Incurred +15%			$ -
Subsistence	As Incurred +15%			$ -
Miscellaneous Supplies	+15%	Total		$ -
			Total Direct Expenses	**$ -**
1				$ -
2				$ -
Overhead (15%)				$ -
			Total Outside Expenses	**$ -**
			TOTAL FOR TASK	**$ 2,999.00**

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