

DATE: June 4, 2008

TO: Northern Nevada Water Planning Commission

FROM: Terri Svetich, P.E., City of Reno Public Works

THROUGH: Jim Smitherman, Water Resources Program Manager

SUBJECT: North Valleys Initiative – Funding Request

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The Cities of Reno and Sparks and Washoe County are responsible for publicly owned water reclamation facilities (WRF) within their jurisdictions. As new water resources are developed and growth continues in the region, wastewater flows will increase, water reclamation facilities (WRF) will need to be expanded and the volume of reclaimed water will increase proportionally. Each entity is facing challenges of what can be done with the reclaimed water within the constraints of state and local water quality and public health regulations, water rights considerations, watershed water balances for surface water and groundwater, aquifer protection, soil types, potential demand and customer base.

The Directors of the Cities of Reno and Sparks, Washoe County Department of Water Resources, and the Truckee Meadows Water Authority recognize that reclaimed water is a resource that can be used effectively and conjunctively to benefit the entire region. Planning for integrated reclaimed water management on a regional basis may provide flexibility and efficiencies that cannot be realized with separate, independent systems. The need for this regional program has been identified in the Regional Water Management Plan. The Directors and staff appreciate that tackling this for an entire region can be a daunting endeavor, and recognize that the North Valleys, an area in which each of the entities has a vested interest, can provide a fairly manageable project serving as a regional model. This regional reclaimed model will be referred to as the North Valleys Initiative. The Directors have identified key staff to form a “core group” and tasked them with the development of a work plan, scope and budget to look at the issues.

The City of Reno owns and operates the Reno-Stead Water Reclamation Facility. The City has had Eco:Logic Engineers under contract for several years pursuing master planning of water reclamation facilities to serve the potential growth resulting from the imported water to the North Valleys. Eco:Logic has the experience and expertise in this area to provide technical assistance with the North Valleys Initiative. Attached for consideration is a Scope of Work and budget in the amount of \$172,448 to engage Eco:Logic for this work. Staff has identified preliminary issues and has drafted a planning approach, as shown in Attachment A. It is envisioned that the agencies staff time will be an in kind contribution for this effort, as illustrated in Attachment D.

## **North Valleys Initiative Scope of Work**

### **Background:**

The "water reuse programs" section of the Regional Water Management Plan presents a high level introduction of the potential benefits of a regionally integrated reclaimed water system. To initiate the first steps to work towards a regionally integrated system, it is recommended that many of the reclaimed water issues be addressed using the Stead, Lemmon Valley and Cold Springs areas as a pilot case to develop a process of working together to resolve issues of mutual concern.

The purpose of the North Valleys Initiative is to develop a process and implement a work plan to address the many inter-related issues associated with expanding reclaimed water service. Key personnel from each entity will be involved to define and resolve the many policy, regulatory, technical and financial issues. An outline of the pertinent issues to be addressed by this work effort is included as Attachment A. A schematic representing many of the inter-related water management options is presented in Figure 1.

The City of Reno will lead the overall cooperative planning effort with staff from Sparks, Washoe County, TMWA and the WRWC. The Core Group includes Mike Drinkwater, Stan Shumaker and Terri Svetich from the City of Reno, Janelle Thomas and JoAnn Meacham from the City of Sparks, Joe Howard and John Buzzone from Washoe County, Ron Penrose and Mark Foree from TMWA, and Jim Smitherman for the WRWC. The Core Group will also be responsible for reviewing information and proposals with their own staff, and bringing forward answers and direction from their respective entities. Consensus documents will then be prepared and brought forward to the Executive Group, including periodic updates as needed. Following review, each director will then carry forward the recommendations of the planning teams to the NNWPC, the WRWC and their respective Boards for action / direction.

### **Scope of Work:**

A list of "big picture" NVI objectives that need to be addressed as part of the Core Group's assignment was developed. These objectives include:

1. Updating existing or establishing new reuse ordinances;
2. Addressing public health protection responsibilities;
3. Recommending and implementing new water rights policies (many potential issues, reduced water rights dedication could be an outcome);
4. Obtaining local and State regulatory buy-in for expanded use of reclaimed water (residential irrigation / storage options / ASR);
5. Recommending and implementing more consistent reclaimed water rate structures (connection and O&M fees);

6. Addressing technical challenges (storage options, effluent management plans, cross-connection control, inspection, etc.);
7. Recommending administrative roles (i.e. does each utility manage their own system or does one entity oversee the whole reclaimed system?);
8. Developing a community outreach program to gain broad support for the program.

To help accomplish these objectives, ECO:LOGIC will provide technical support to the North Valleys Initiative Core Group. ECO:LOGIC will leverage existing technical information previously developed for the City of Reno and the Regional Water Planning Commission to address technical questions, conduct additional research, and prepare memoranda and reports to bring information forward to the Core Group for review, discussion and resolution. The proposed scope of work and estimated level of effort for ECO:LOGIC is presented below. It is anticipated that this effort will be conducted over a 12-month time frame. Direction to ECO:LOGIC on specific tasks will be managed by Jim Smitherman and Mike Drinkwater, based on specific information needs identified by the Core Group.

#### **Task 1 – Project Management**

Project management and coordination, prepare for and attend an average of two Core Group meetings per month, prepare draft agendas and meeting summaries.

#### **Task 2 – Prepare Technical Information**

ECO:LOGIC will provide supporting technical information to the Core Group to assist in evaluating alternative concepts. ECO:LOGIC will prepare requested technical information and cost estimates, based largely on prior work developed for the City of Reno and the Regional Water Planning Commission. It is anticipated that technical information and cost estimates will be needed for planning level reclaimed water treatment facilities, pumping and distribution system facility needs and costs, estimated operating costs, water demand estimates, and similar information.

#### **Task 3 – Research / Collect Existing Information**

ECO:LOGIC will conduct research as directed to compile pertinent information (existing ordinances, design and construction standards, plumbing codes, rate structures, etc.) from other municipalities where reclaimed water systems, including residential irrigation, are in place. This task also includes time and expenses for a tour of the Serrano reclaimed water systems in El Dorado County, to include regulators and local policy-makers.

#### **Task 4 – Prepare Consolidated Review Documents**

ECO:LOGIC will integrate information from each entity into consolidated review documents, technical memoranda and/or issue papers. It is anticipated that these documents will include:

- Draft reclaimed water ordinance;
- Water supply / water rights implications;

- Overall connection fee and rate recovery requirements;
- Public education / outreach issues;
- Documents to support regulatory processes;
- Emergency contacts;
- Regional integrated reclaimed water system recommendations.

This task also includes time for a regulatory sub-consultant, John Gaston with CH2MHill, to assist with development, negotiation and implementation of the regulatory process.

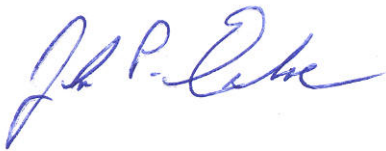
**Task 5 – Contingency Budget**

A contingency budget is proposed to allow for the addition of unforeseen tasks during the course of work, or if the work effort takes longer than the 12 months anticipated. It is recommended that the contingency budget be authorized; however, it will only be utilized upon written approval of a revised scope of work, jointly approved in advance by the Jim Smitherman, the WRWC contract administrator, and Mike Drinkwater, the Core Group Project Manager.

Based on the above scope of work, ECO:LOGIC proposes to complete this work on an as-directed, time and expense basis, with a budget authorization of \$172,448. An estimated breakdown by task of our anticipated level of effort is included as Attachment B. ECO:LOGIC's 2008 Fee Schedule is included as Attachment C.

Thank you for the opportunity to assist you with this evaluation. If you have any questions regarding this scope of work, please contact me at 689-0106.

Sincerely,  
ECO:LOGIC Engineering



John P. Enloe, P.E.  
Principal-in-Charge

## **Attachment A**

### **North Valleys Initiative Key Issues To Be Addressed**

1. Expand reclaimed water service to existing commercial potable water customers in Stead and Lemmon Valley
  
2. Provide reclaimed water service to future customers in Stead, Lemmon Valley and Cold Springs
  - Shall reclaimed water be required for new development?
  - May reclaimed water be used for residential landscaping?
  
3. Washoe County may temporarily augment reclaimed water supplies with Vidler water. What other short term beneficial uses can be achieved with Vidler water, and what is necessary to realize these benefits?
  
4. For the short term, during the non irrigation season, effluent in excess of what is discharged to Swan Lake, could go either to Whites Lake, the proposed storage reservoir, or to the Sparks reclaimed water system.

## **1. Expand reclaimed water service to existing commercial potable water customers**

### a. Policy issues:

1. Require existing potable water users to convert?
2. Water rights displacement value, who gets the financial benefit?
3. Public education / outreach

### b. Regulatory issues:

1. Inspection and testing requirements, oversight
2. Cross connection prevention
3. Separation between facilities

### c. Technical issues:

1. Operating pressure differences
2. Coordination between water and reclaimed water providers
3. Reclaimed water system operations
4. High wind shut down

### d. Financial issues:

1. How to pay for upfront capital costs
2. Connection fees
3. Reclaimed water system rates
4. Temporary loss of water revenues
5. Incorporate value of displaced water rights

## **2. Provide reclaimed water service to future customers in Stead, Lemmon Valley and Cold Springs**

**Shall reclaimed water be required for new development?**

**May reclaimed water be used for residential landscaping?**

### a. Policy issues:

1. Adopt a regional policy that reclaimed water is a valuable water resource for this community that needs to be further developed.
2. Is this an accepted, community-wide objective, supported by Reno, Sparks, Washoe County, TMWA, SVGID and others?
3. Require new development, including residential users, to use reclaimed water where it is reasonably available?
4. What water quality / level of treatment is required to alleviate public health concerns for residential watering?
5. Development of a coordinated, top-down regulatory strategy is required
6. Development of a coordinated public education and outreach program is required.

### b. Regulatory issues:

1. Current NDEP regulations do not allow residential reuse, will need to amend current policies or change regulations.
2. District Health Dept approval of concept
3. Development of new, dual plumbing system residential design and construction standards
4. Development of inspection and testing requirements, oversight
5. Identify new permitting requirements
6. Implementation of new ordinances and building code modifications

### c. Technical issues:

1. Ensure adequate cross connection prevention
2. Coordination between water and reclaimed water providers
3. Reclaimed water system operations and maintenance
4. Annual / periodic testing

### d. Financial issues:

1. How to pay for upfront capital costs
2. Connection fees
3. Reclaimed water system rates
4. Mitigate differences in costs between entities
5. Incorporate value of water rights

**3. Washoe County may temporarily augment reclaimed water with Vidler water. What other beneficial uses can be achieved with Vidler water, and what is necessary to realize these benefits?**

a. Policy issues:

1. Wheeling water from Washoe County through TMWA to RSWRF, Spanish Springs or other locations
2. Approval of temporary use of Vidler water for this purpose

b. Regulatory issues:

1. Cross connection prevention
2. District Health Dept approval of concept

c. Technical issues:

1. How much water is needed / can be supplied?
2. What facilities are necessary to integrate the systems?
3. How much capacity is available to serve other uses, such as new demands within the TMWA system, or wheeling water to Heinz Ranch in Cold Springs?
4. How are systems isolated to provide adequate water quality protection?

d. Financial issues:

1. How to pay for upfront capital costs
2. Cost of wholesale County water service to TMWA
3. Reclaimed water system rates
4. TMWA wheeling charges

**4. For the short term, during the non irrigation season, effluent in excess of what is discharged to Swan Lake, could go either to Whites Lake, the proposed storage reservoir, or to the Sparks reclaimed water system.**

a. Policy issues:

1. What is the priority use of this water? Sparks, White Lake, reservoir?
2. Can existing reclaimed water uses in Sparks be displaced with RSWRF water?
3. Formalize TMWRF reclaimed water allocation between Reno and Sparks
4. Should Vidler water be considered for this use as well?
5. Consider timing and needs of both RSWRF and Cold Springs WRF relative to these issues

b. Regulatory issues:

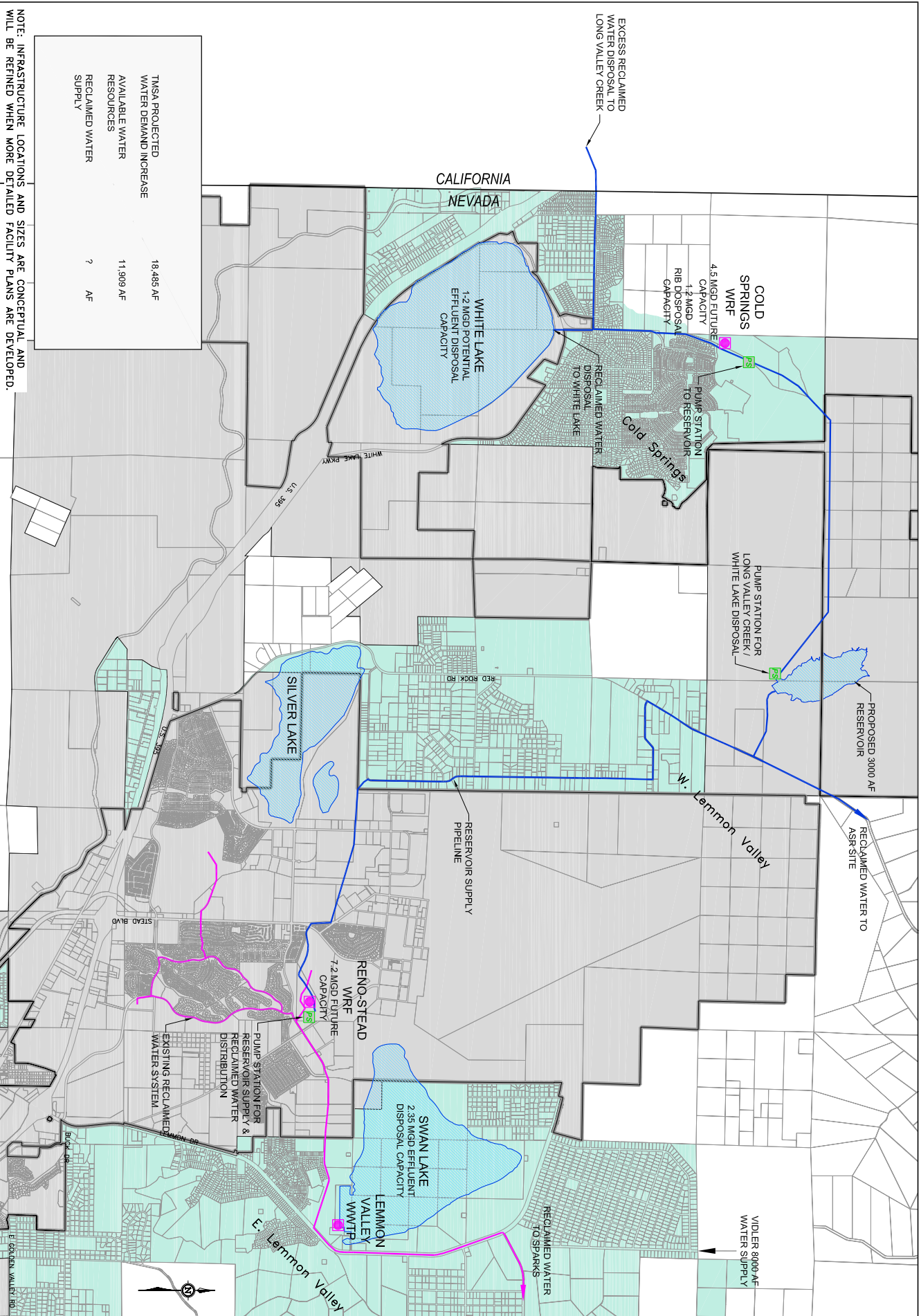
1. Interconnection of two independent reclaimed water systems
2. NDEP permitting requirements for an integrated system
3. District Health Dept approval of concept

c. Technical issues:

1. How much water is needed / can be supplied?
2. What facilities are necessary to integrate the systems?
3. Timing of alternative improvements relative to need
4. Water quality and cost implications relative to each alternative

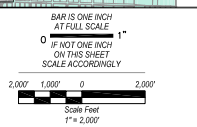
d. Financial issues:

1. How to pay for upfront capital costs
2. Cost of water service from RSWRF to Sparks
3. Reclaimed water system rates and connection fees, differences between systems
4. Cost of County water service if Vidler water is used



TMSA PROJECTED WATER DEMAND INCREASE	18,485 AF
AVAILABLE WATER RESOURCES	11,909 AF
RECLAIMED WATER SUPPLY	? AF

NOTE: INFRASTRUCTURE LOCATIONS AND SIZES ARE CONCEPTUAL AND WILL BE REFINED WHEN MORE DETAILED FACILITY PLANS ARE DEVELOPED.



MAP SYMBOLS

	WATER RECLAMATION FACILITY		CITY OF RENO TMSA		OUTSIDE TMSA
	REUSE PIPES (EXISTING)		WASHOE COUNTY TMSA		CITY OF RENO LIMITS
	DISPOSAL PIPELINE				

**ECO:LOGIC** Consulting Engineers  
 10381 Double R Boulevard Reno, Nevada 89521 Phone: (775) 827-2311 Fax: (775) 827-2316

**NORTH VALLEYS INITIATIVE**  
**PROPOSED RECLAIMED WATER & DISPOSAL FACILITIES**  
 COUNTY OF WASHOE, NEVADA

REV NO.	REVISION	BY	JOB #	RENO08-002	DESIGNED	JPE
			DATE	MAY 2008	DRAWN	RJG
			SCALE	1" = 2,000'	CHECKED	JPE

**ATTACHMENT "B"**  
**North Valleys Initiative**

jpe 5-16-08

**Task 1 - Project Management**

*Project management and coordination  
 Working Group meetings, agendas, summaries*

Principal Engineer	48 hrs. @	\$ 165.00 /hr. =	\$ 7,920.00	
Senior Engineer	96 hrs. @	\$ 130.00 /hr. =	\$ 12,480.00	
Secretary II	6 hrs. @	\$ 62.00 /hr. =	\$ 372.00	
Mileage	300 mi. @	\$ 0.505 /hr. =	\$ 151.50	
				<b>Subtotal Task 1: \$ 20,924</b>

**Task 2 - Prepare Technical Information**

*Prepare requested technical information and cost estimates  
 Treatment, pumping and distribution system facility needs and costs  
 Estimated operating costs,  
 Water demand estimates*

Principal Engineer	48 hrs. @	\$ 165.00 /hr. =	\$ 7,920.00	
Senior Engineer	96 hrs. @	\$ 130.00 /hr. =	\$ 12,480.00	
Misc. Office/Reproduction	1 L.S.	\$ 300.00 =	\$ 300.00	
				<b>Subtotal Task 2: \$ 20,700</b>

**Task 3 - Research / Collect Existing Information**

*Conduct research to compile pertinent information  
 existing ordinances, rate structures  
 design and construction standards, plumbing codes, etc.  
 Bus tour of Serrano reclaimed water system*

Principal Engineer	48 hrs. @	\$ 165.00 /hr. =	\$ 7,920.00	
Senior Engineer	96 hrs. @	\$ 130.00 /hr. =	\$ 12,480.00	
Junior Engineer	144 hrs. @	\$ 93.00 /hr. =	\$ 13,392.00	
Bus Tour of Serrano	1 L.S.	\$ 2,000.00 =	\$ 2,000.00	
Misc. Office/Reproduction	1 L.S.	\$ 300.00 =	\$ 300.00	
				<b>Subtotal Task 3: \$ 36,092</b>

**Task 4 - Prepare Consolidated Review Documents**

*Draft reclaimed water ordinance  
 Water supply / water rights implications  
 Overall connection fee and rate recovery requirements  
 Public education / outreach bullet points  
 Documents to support regulatory strategies  
 Regionally integrated reclaimed water recommendations*

Principal Engineer	96 hrs. @	\$ 165.00 /hr. =	\$ 15,840.00	
Senior Engineer	144 hrs. @	\$ 130.00 /hr. =	\$ 18,720.00	
Junior Engineer	96 hrs. @	\$ 93.00 /hr. =	\$ 8,928.00	
Secretary II	12 hrs. @	\$ 62.00 /hr. =	\$ 744.00	
Regulatory Sub-Consultant	1 L.S.	\$ 20,000.00 =	\$ 20,000.00	
Misc. Office/Reproduction	1 L.S.	\$ 500.00 =	\$ 500.00	
				<b>Subtotal Task 4: \$ 64,732</b>

**Task 5 - Contingency Budget**

*Addition of unforeseen tasks as directed by Working Group*

Additional task orders, as directed	1 L.S.	\$ 30,000.00 =	<u>\$ 30,000.00</u>	
			<b>Subtotal Task 2:</b>	<b>\$ 30,000</b>
			<b>Total:</b>	<b>\$ 172,448</b>

**Attachment C  
ECO:LOGIC, INC.  
2008 FEE SCHEDULE**

LABOR CHARGES	HOURLY RATE
<b>Professional</b>	
Principal Engineer	\$165.00
Managing Engineer	\$150.00
Supervising Engineer	\$140.00
Envir. Compliance Manager	\$140.00
Senior Engineer	\$130.00
Senior Electrical Engineer	\$130.00
Senior SCADA/PLC Programmer	\$130.00
Chief Hydrogeologist*	\$130.00 / \$100.00
Senior Hydrogeologist*	\$120.00 / \$95.00
Assoc. Engineer II	\$124.00
Assoc. Engineer I	\$116.00
Engineer	\$110.00
Asst. SCADA/PLC Programmer	\$110.00
Asst. Engineer	\$99.00
Junior Engineer	\$93.00
Junior Electrical Engineer	\$93.00
Hydrogeologist I	\$84.00
<b>Technical</b>	
GIS Specialist	\$98.00
Senior Designer	\$98.00
Designer I	\$88.00
Engineering Technician III	\$82.00
Engineering Technician II	\$62.00
Engineering Technician I	\$52.00
Supv. Inspector / Inspector III	\$92.00
Inspector II	\$85.00

Note: Hourly billing rates will be updated annually by ECO:LOGIC, and the revised fees will be in effect as of January 1<sup>st</sup> of each year. The revised rates will be provided at the clients request.

\*Office/Field

\*\*Or current IRS mileage rate

**Attachment C  
ECO:LOGIC, INC.  
2008 FEE SCHEDULE**

Inspector I	\$80.00
<b>Administrative</b>	
Principal	\$135.00
Secretary II	\$62.00
Secretary I	\$58.00

<b>OTHER EXPENSES</b>	<b>RATE/AMOUNT</b>
Vehicle Mileage**	\$0.505/mile
CADD / Modeling Equipment	\$15.00/hour
Outside Services (Subconsultants)	Cost plus 10%
Reproductions	Cost plus 10%
Mini Troll	\$115/day
Laptop Computer	\$20.00/day
Field pH, E.C., and Temperature Meter	\$12.00/day
Water-level Sounder	\$12.00/day

Note: Hourly billing rates will be updated annually by ECO:LOGIC, and the revised fees will be in effect as of January 1<sup>st</sup> of each year. The revised rates will be provided at the clients request.

\*Office/Field

\*\*Or current IRS mileage rate

**Attachment D**  
**North Valleys Initiative – Staffing Commitment**

	<b>TMWA</b>	<b>Reno</b>	<b>Sparks</b>	<b>Washoe County</b>
<b>Policy</b>	Directors, Core Group, Legal, Water Rights staff, Community Development, Public Information Officers			
<b>Regulatory</b>	Directors, Core Group, Water Quality and Cross Connection staff, Legal, Lobbyist, Community Development (planning,/bldg dept/engineering) , Water Reclamation Facility staff, Emergency Response			
<b>Technical</b>	Core Group, Cross Connection staff, Water Reclamation Facility staff, hydro-geologists, Operations & Maintenance, Parks staff, landscape architects			
<b>Financial</b>	Directors, Core Group, Finance Managers, Water Rights staff, possibly financial consultant			