New Mexico FINANCE AUTHORITY

March 12, 2009

I. GENERAL INFORMATION

Date:* Wednesday 01 October 2008
Name of Entity:* County of Sandoval
Project Name:* Sandoval County Desalination Project
Type of entity:* County

Primary Contact Person:

Name: *Dianne Ross
Phone #: *505-867-7551 Fax #: *505-771-7184
Address: *P.O. Box 40
City: *Bernalillo Sate: *New Mexico Zip: *87004 County: *Sandoval
E-mail address: *dross@sandovalcountynm.gov

Secondary Contact Person:

Name: *Guy Bralley
Phone #: *505-867-7695 Fax #: *505-771-7184
Address: *P.O. Box 40
City: *Bernalillo Sate: *New Mexico Zip: *87004 County: *Sandoval
E-mail address: *gbralley@sandovalcountynm.gov

Consulting Engineers:

Name: *Gary Lee
Phone #: *816-887-4016 Fax #: *816-884-3206
Address: *801 Westchester Ave.
City: *Harrisonville, Sate: *MO Zip: *64701 County: *Cass
E-mail address: glee@uam-llc.com

Legal Counsel:

Name: *David Mathews
Phone #: *505-867-7536 Fax #: *505-771-7184
Address: *P.O. Box 40
City: *Bernalillo Sate: *New Mexico Zip: *87004 County: *Sandoval
E-mail address:
*dmathews@sandovalcountynm.gov

Other Consulting Professionals (Feasibility Consultants, etc.):

Name: *Rob Sengebush, R.G. - Intera
Phone #: *505-246-1600 Fax #: *505-246-2600
Address: *6000 Uptown NE, Suite 100
City: *Albuquerque Sate: *New Mexico Zip: *87110 County: *Bernalillo
E-mail address: *rsengebush@intera.com

Project Type: Please check the appropriate box for your project type.

Water Storage, Conveyance & Delivery.	[X]
Watershed Restoration and Management.	[ ]

Endangered Species Act Collaborative Program Implementation. [ ]
Flood Prevention (dam rehabilitation). [ ]
Water Conservation Treatment, Recycling or Reuse. [ ]

Proposed Project Start Date: Thursday 01 January 2009
Proposed Project Completion Date: Monday 31 October 2011

Provide the water system's long-term (minimum 10 year) water plan; if no plan exists, indicate when and how it will be developed.

In January 2008 the County completed a long-term water plan. This plan was developed by INTERA, Albuquerque, NM. The intent of this long-term plan was to summarize the essential elements of the Sandoval County Rio Puerco Basin brackish groundwater development program. A copy of this plan is attached.

Outline the metering and measuring of all water diversion and uses in the water system; if the system is not fully metered, describe the plans to do so or the process for allocating water in the system.

The Sandoval County Wholesale Water Utility is a water treatment and supply project with the primary goal of meeting the water demands of municipalities and districts within the County boundaries. Generally these wholesale customers will be classified as either "sole source" or "partial source" user. Partial source users must contract for a consistant daily water consumption while a sole source user may take twice its average annual daily contracted rate on any one day to account for maximum day requirements. Customers will be required to provide storage for peak hour requirements and fire flow.

Because this groundwater source is expensive to develop, all water contracted from this source will be carefully monitored as follows:

1. Each well will have a meter.
2. Each major process through the plant will be metered to account for all product water and spent waste concentrate brine.
3. Each customer delivery point will be metered.

In addition all meters will be linked to a SCADA system, allowing for instant measurement and tracking of contract volumes and notification of line breaks.

Is the system in compliance with Federal Safe Drinking Water and Clean Water Act regulations and applicable Department of Environment regulations? If not, please discuss major deficiencies.

The current project is in compliance with applicable federal and state rules and regulations. Currently drilling operations and discharges have occurred in accordance with the following authorizations:
- Well Permits from OSE for Well 6 is #RG88934 Exp 6, and for Well 5 is # RG 88934 Exp 5.
- Discharge Permit for Land application is from NMED DP-1682

All design of future facilities will meet State Guidelines and all water quality and operational parameters will be in compliance with the Federal Safe Drinking Water Act and Clean Water Act.

Outline the billing system and its functionality in terms of invoicing and collecting revenues.

Sandoval County Wholesale Water Utility is designed and organized only for the purpose of providing "wholesale" water. No retail customers are anticipated. As such, there are two billing parameters:
1. User Charge: $6.01/1,000 gallons billed monthly with a minimum required "take" as stipulated in customer's water purchase agreement. This user charge is subject to adjustment in those cases where a customer makes an initial cash contribution in aide of construction for a dedicated capacity.
2. Impact Fee: $6,232.38 Equivalent Residential Customer to be billed to new wholesale customers requiring dedicated supply and treatment capacity. Impact fees must be paid prior to the issuance of a capacity dedication letter by the Utility.

Explain how the rate structure is designed to cover operations and maintenance, including leak detection and repair, infrastructure and equipment replacement, technical staff, and other elements required to ensure self-sufficiency in line with the long-term plan.

The water rate has been designed on a "cost of service" basis using a uniform rate structure. The cost of service was distributed using the Commodity Demand Method. System Development Charges have been constructed as impact fees with the intent to use this mechanism to construct future expansion of the Utility due to growth associated with permitted development.

All rate analysis and development of user charges have followed the guildelines of "Principals of Water, Rates, Fees, and Charges," Manual of Water Supply Practices M1 published by the American Water Works Association. A copy of the base rate calculations for Phase I of this project is attached.

Provide an adopted water conservation plan or any plans in progress, include hydrologic studies that show how the design of the project reduces consumptive use, carriage losses, or incidental losses.

see attached.

Provide the estimated water savings from the implementation of conservation measures and the expected extension of your presently available water supply for the first 10 years of the water system's long-term plan.

The largest single water conservation measure adopted in the Utility's Plan is the dedication to minimizing waste brine disposal quantities. Based upon recent engineering studies, the use of membrane technology would result in 1.25 MGD of waste flow to produce 5.0 MGD of water production (the Phase I target plant capacity over the next 10 years). By selecting a thermal process with a high efficiency brine concentrator, the waste flow was reduced to 0.5 MGD over a 50% reduction in groundwater resource depletion.

II. PROJECT INFORMATION

FY 09 Water Trust Board Financial Assistance Request $

4,637,560.00

Project Description

The Sandoval County Wholesale Water Utility is a proposed regional groundwater supply project. Sandoval County's efforts in this regard have been well publicized and are known by State officials. When fully implemented, the Utility will be capable of delivering potable water to existing and future wholesale customers throughout Sandoval County. The City of Rio Rancho has the most pressing and immediate need to identify a water supply source. This Utility has determined that Rio Rancho's critical water requirements should form the basis of the first phase of this program.
See attached document for graphic of project location.
The project seeks to develop a 3,500' deep brackish water aquifer in the Rio Puerco Basin as a potable water supply. Because of the brackish water quality of this source, water desalination treatment processes will be required. It is envisioned that as this region develops up to 38.6 MGD of potable water supply may be required. Of this requirement the City of Rio Rancho represents 10.7 MGD, or just over a quarter of the anticipated demand.
See attached document for graphic of base map with water demand.
The project will be comprised of five 4,000 feet deep wells each delivering between 500 to 1,000 gpm of brackish water to treatment facility. This provides four wells to meet a firm yield of 5 MGD plus a standby well. Those wells will be drilled in a "star" pattern centered on a section.
The treatment process will require desalination techniques. The brackish water has a temperature of between 140° to 155° F. Inland desalination plants exhibit three significant issues that must be addressed.
1. High energy consumption
2. Concentrated brine waste disposal
3. Low recovery rates
In order to address these issues, the project has selected a combination of lime softening, membrane R.O., and thermal desalination as its primary treatment process in order to significantly increase recovery and reduce waste brine disposal. In addressing the energy issue the project incorporates a 10 MW natural gas fired electrical generation plant. This plant will provide the equivalent of 3.5 MW of waste heat to the thermal process to greatly reduce the energy requirements of the desalination process.

See attached Engineering Report for additional information

Please describe any scientific, hydrologic or biological studies that demonstrate the water project will accomplish its planned objectives.

The following studies have been completed:

Intera - Long-Term Water Supply Study
Intera - Water Treatment Report
Combustion Engineering/Univeral Asset Management - Conceptual Engineering Report

List all of the "public benefits" from conducting this project (water quality, flood control, wildlife habitat, water quantity, water supply, public safety, etc.).

The primary public benefit of this project is derived from increasing the regional water supply. The benefits may be enumerated as follows:
a. Increase in the availability of potable water to existing communities and for future economic development.
b. Provision of a long term sustainable water supply for Sandoval County residents.
c. Improved water quality
d. Lessons learned in the development of this project will provide others a roadmap to similar solutions dealing with deep brackish water aquifers.
e. Puts to beneficial use a heretofore un-utilized water source.
f. Provides a water source with a long term predictable water quality.
g. Presents a regional solution focused on wholesale water production and benefits from the economics of scale derived there from.
h. Serves as a principal economic development tool for the county to utilize in attracting "job creating" industries to the area. The construction and operation of this project will have significant positive impacts on economic activities in the region and will generate regional income and employment to offset the initial and ongoing costs of the system. The regional entities, as well as the State and Federal tax base, will benefit directly and significantly from construction, operation, and maintenance of the system over the long term. Expenditures for the construction and operation of the system will generate demand for labor, equipment, construction materials, electrical supplies, pipeline, fuel, and other goods and services, which will, in part, be met by local suppliers. In order to meet this demand, local suppliers must hire workers and buy supplies in greater quantities than if the project were not built. The income derived from these sales is then spent on other goods and services and the process starts over again.

It should also be recognized that any commercial activity attributable to the water supply project, either through the attraction of businesses due to improved water supplies or through the retention of businesses that would have left if water supplies became worse in the future, would also generate positive regional economic impacts. The magnitude of these impacts cannot be estimated with any certainty because the extent to which business activity is affected is not known.

Describe any urgent needs that affect the health, safety and welfare of this project (i.e., public health, federal matching funds etc.).

Urgent Needs - The most urgent issue impacting this project is the time frame facing the City of Rio Rancho's search for an alternative water supply source. The city has expressed a concern that they must see this alternative manifest itself no later than 2011. If this project is not functional by this date the City will be facing the very expensive option of purchasing a minimum of 1,000 ac-ft of fresh water rights from the Rio Grande Basin which could cost in the range of $25,000 per ac-ft. In addition, the City would incur the expense of conveyance and treatment.

Outline efforts towards wildlife and environmental compatibility.

Because this project utilizes ground water resources and minimizes waste brine discharges, the environmental impacts are minimal. Wildlife habitat should not be impacted by the project except briefly during construction of the facilities. All design documents will be submitted to appropriate authorities for review, comment, and public vetting as appropriate.

Hicks Environmental has initiated an environmental review of this project. A list of sensitive species is provided in the attached Engineering Report.

Describe how the project contributes to improved water quality and water conservation improvements.

Water Quality Improvement - Existing shallow aquifers currently providing water supply within the intended service area often exhibit high levels of arsenic. This is particularly the case with some of the wells serving the City of Rio Rancho. Under the county Wholesale Water Supply Utility plan, this water quality problem can be abated in one of two manners: 1) through the off setting of arsenic laced waters with the Wholesale Utility district water, or, 2) possibly through the use of Utility Wholesale water thru shallow aquifer replenishment thus diluting the effect of arsenic concentrations on water quality.

Water Conservation – The development of previously undiscovered deep aquifer ground water resources enhances the economic development of the area without diminishing known limited fresh water reserves. In addition, the new utility committed to reducing the water lost in process due to brine waste streams and the full exploitation of water recycling as new wastewater plants come online.

Wastewater generated within the service area will need to be treated to remove organic contaminants so that it can be beneficially re-used through a variety of different methods. The Rio West Master Plan's Wastewater Disposal Plan calls for using centrally located plants that "...provide preliminary , primary, secondary, and tertiary wastewater treatment along with disinfection" as needed to "produce an effluent suitable for irrigation of community parks, golf courses, and other landscaped areas" (Consensus Planning, 2006). The level of treatment being contemplated will yield a high quality effluent that likely meets the standards for Class 1A effluent as defined by NMED i.e.:

NMED Standards for Class 1A Effluent
Effluent Parameter 30-day Average Maximum
BOD5 10 mgl/L 15 mg/L
Turbidity 3 NTU 5 NTU
Fecal Coliforms 5 orgs. per 100 ml 23 orgs. Per 100 ml

Using reclaimed wastewater as a feedstock for a potable water treatment plant as described has not been done anywhere in New Mexico. The Village of Capitan reclaims its Class 1A effluent by discharge to an impoundment that stores surface water it uses for its drinking water supply. This reclamation method however is still considered to be indirect potable re-use. As such, the concept described here for reclaiming wastewater in the service area will probably receive much regulatory agency scrutiny even at the pilot plant stage.

Engineering analysis shows that treating a 50/50 blend of RPB brackish water and reclaimed Class 1A wastewater will be less costly that treating 100% RPB brackish water. This concept warrants full evaluation as it provides a strong position for developing a sustainable water supply beyond the specific yield of the aquifer.

List all identified or expected positive and negative impacts resulting from the project development. If negative impacts may exist, please describe other alternatives examined or efforts to mitigate impact. Please limit this discussion to a single page.

Funding this project will explore the potential for development of a currently untapped source of water (which will be desalinated) to provide for the demands associated with future growth. To not fund this will deny the exploration of this source of water, and further continue demands against the Santa Fe Group aquifers, which are already stressed by the demands of Rio Rancho and Albuquerque, as well as the New Mexico Utilities systems. The project has the potential to provide water to multiple communities and systems (both existing and future). As Sandoval County is the fastest growing county in the state, driven largely by the City of Rio Rancho (the fastest growing city in the state), the demands for water are real, and they are here now. Development of desalination, and the wells to supply brackish water to the plant, will prove the potential of this source for water in the future.

III. COMMUNITY SUPPORT

List all of the partners involved in this project with the outlined responsibilities for each partner; describe how the surrounding communities are involved and identify the number of water users affected by the project.

The following entities have been involved in this project:

PARTNER
County: Sandoval County
INVOLVEMENT
The county has contributed funding, project administrative and management staff. The county has provided leadership and overall vision.

PARTNER
Municipal: City of Rio Rancho
INVOLVEMENT
The city has provided advice and support through participation in regularly scheduled project meetings. The City has also provided a letter of interest which is attached to this application.

PARTNER
Developers: Aperion Partners
INVOLVEMENT
The county teamed with this partner to drill two deep test wells located within Rio West. These wells are being used to establish the sustainable yield and water quality.
King Ranch This partner has provided access to properties for surveys and has cooperated in planning sessions.
Quail Ranch This partner has regularly participated in planning meetings.

PARTNER
Newspapers: ABQ Journal (Print & Online)
INVOLVEMENT
The news media has regularly published public updates as to the county's efforts in developing this project. Relevant articles have been published on the following dates:
Oct 14, 2007 Jun 24, 2007
Aug 12, 2008 Jun 26, 2007
Jun 21, 2007 Jul 01, 2007
Jul 01, 2008 Aug 16, 2008
Apr 20, 2008 July 26, 2008
Apr 22, 2008 Dec 9, 2005

Jun 24, 2007 Aug 10, 2007

The number of potential users impacted by this project is illustrated in the attached document, Table Service Area Population and Water Use at Build-out.

Does this project require a Joint Powers Agreement (JPA), Memorandum of Understanding (MOU) or Agency Agreement?
If Yes, attach a copy of the JPA or Agreement in the Readiness to Proceed Section.

No

There aren't any attach document

Identify the regional collaboration, nature and history of stakeholder group involvement and provide documentation of collaboration, including how stakeholders are participating both financially and programmatically.

Since early in 2005 as the county began to address water supply issues facing the region all local governments have been included in the planning process. As this utility has been incubated by the county government and officially established as an enterprise fund of the county, the issues have been discussed in public county meetings as part of the county public agenda. All impacted stakeholders are regularly updated in planning meetings and in periodic progress reports.

Please describe the water system's governance structure and the ability for this structure to provide adequate direction and oversight. (Compliant with Opening Meetings Act; Inspection of Public Records Act; Regular Board elections held and members trained.)

Much like a municipal utility enterprise the county has selected and officially confirmed the establishment of this utility as an "enterprise fund" of the county. As such it will be governed by the elected officials of the county much as other county departments. The utility will be subject to all the policy and procedures of Sandoval County and the state laws and regulations with which the county is compelled to comply.

Provide a summary on the public involvement plan.

Public involvement programs for this utility will involve Citizens Advisory Committees (CACs) comprised of a broad spectrum of stakeholder representatives. CACs are particularly useful because of the zero-sum game nature of cost-of-service questions—every dollar of revenue responsibility not distributed to one customer class must be borne by other customer classes. Citizens Advisory Committees are generally comprised of a diverse mix of community representatives with competing interests. It is important to establish guidelines for committee interaction and its role in the public decision process. The county has adopted the attached guideline. Public involvement approaches may also include distribution of informational brochures or newsletters (possibly with accompanying survey instruments), speakers' bureaus, print or broadcast media articles as well as a variety of public meeting forms. Recently, computer technology advances have made available additional information exchange vehicles. This utility has an internet home page that can be modified to allow citizens to access a wealth of information and provide input on issues.

SANDOVAL COUNTY WHOLESALE WATER UTILITY
CITIZENS ADVISORY COMMITTEE GUIDELINES

The Citizens Advisory Committee (CAC) will primarily serve to advise the utility's project team on public concerns and perspectives regarding water supply issues. The CAC will operate under the following general guidelines and conditions, subject to consensus revision of rate study participants.

• CAC members will be appointed by the utility's governing board and will be selected to assure representation of a diversity of groups. CAC members are asked to solicit the opinions of their constituency and articulate the positions of their memberships.

• CAC meetings may be open to the public and may include a period for general public comment.

• Members of the CAC will not hold "voting" positions or adopt recommendations under majority rule requirements. Rather, members will participate in discussions with the objective of developing consensus recommendations. In the event that consensus may not be achieved on specific issues, both majority and minority opinions will be considered by the project team and reported to the utility's governing board.

• CAC discussions will review options for water supply issues to reflect, to the extent practicable, community values and concerns. The project team will provide objective information on these options to the CAC and solicit CAC recommendations. The project team will balance CAC recommendations with its fiduciary and management responsibilities in selecting from available options. CAC recommendations are non-binding on either the rate study project team or the utility's governing board. However, all CAC recommendations will be documented and forwarded to the utility's governing board for their review and consideration.

• Project team decisions will be reported to the CAC once determined but will not be subject to re-review during subsequent CAC meetings. Similarly, the CAC will not review and recommend reconsideration of past utility decisions. In particular, CAC activities will not duplicate existing budget practices or processes.

• Project team support of CAC activities will be limited to provision of information necessary for consideration of outstanding issues and decisions. The project team will provide information that is available from utility records that can be collected and distributed without extensive expenditures of staff time or budget resources.

The CAC will discontinue once the project is completed and water rates have been adopted for one year. CAC membership is voluntary and will not be compensated by the utility.

IV. FINANCIAL SUSTAINABILITY

Is a five-year financial plan in place that aligns projected revenues and expenses, including costs for regulatory compliance, debt, capital improvements, and needed reserves? Please describe the elements of plan. If no financial plan is in place, please describe the estimated timeline of implementing a five-year

plan.

The following five (5) year financial plan has been developed on a "cash-needs" basis. This plan follows the traditional protocol for use of funds under typical tax-exempt municipal bond covenants. This protocol includes:
•First - Funding O&M expenses
•Second – Funding debt service requirements
•Third – Short life equipment replacement fund Excess Funding
•Fourth – Debt service reserve fund Used to Calculate
•Fifth – Depreciation reserve Bond Coverage

Please describe the asset management plan including how it was developed, monitored and overseen.

The asset management plan was developed using Reliability Centered Maintenance (RCM) techniques. These techniques are industry-leading methods for assuring sustainable reliability of equipment performance.

The RCM philosophy employs Preventive Maintenance (PM), Predictive Testing and Inspection (PT&I), repair (also called reactive maintenance), and Proactive Maintenance techniques in an integrated manner to increase the probability that a machine or component will function in the required manner over its design life-cycle. The goal of the philosophy is to provide the stated function of the facility, with the required reliability and availability at the lowest cost. RCM requires that maintenance decisions be based on maintenance requirements supported by sound technical and economic justification. As with any philosophy, there are many paths, or processes, which lead to a final goal. This is especially true for RCM where the consequences of failure can vary dramatically.

Sandoval County has adopted a streamlined approach to the traditional, or rigorous, RCM process practiced in some industries. This is due to the high analysis cost of the rigorous approach, the relative low impact of failure of most facilities systems, the type of systems and components maintained, and the amount of redundant systems in place. Underlying Sandoval County's RCM approach is the concept that maintenance actions should result in real benefits in terms of improved safety, required operational capability, and reduced life-cycle cost. It recognizes that unnecessary maintenance is counterproductive and costly and can lead to an increased chance of failure.

The primary principles upon which RCM is based are the following:
•RCM is function oriented. It seeks to preserve system or equipment function, not just operability for operability's sake. Redundancy of function, through multiple equipment, improves functional reliability but increases life-cycle cost in terms of procurement and operating costs.
•RCM is system focused. It is more concerned with maintain system function than individual component function.
•RCM is reliability centered. It treats failure statistics in an actuarial manner. The relationship between operating age and the failures experienced is important. RCM is not overly concerned with simple failure rate; it seeks to know the conditional probability of failure at specific ages (the probability that failure will occur in each given operating age bracket).
•RCM Acknowledges design limitations. Its objective is to maintain the inherent reliability of the equipment design, recognizing that changes in inherent reliability are the province of design rather than maintenance. Maintenance can at best, only achieve and maintain the level provided for by design. However, RCM recognizes that maintenance feedback can improve on the original design. In addition, RCM recognizes that a difference often exists between the perceived design life and the intrinsic or actual design life, and addresses this through the Age Exploration (AE) process.
•RCM is driven by safety and economics. Safety must be ensured at any cost; thereafter, cost-effectiveness becomes the criterion.
•RCM defines failure as any unsatisfactory condition. Therefore, failure may be either a loss of function (operation ceases) or a loss of acceptable quality (operation continues)
•RCM uses a logic tree to screen maintenance tasks. This provides a consistent approach to the maintenance of all kinds of equipment.
•RCM tasks must be applicable. The tasks must address the failure mode and consider the failure mode characteristics.
•RCM tasks must be effective. The tasks must reduce the probability of failure and be cost effective.
•RCM acknowledges two types of maintenance tasks and run-to-failure. The tasks are Interval (Time or Cycle) Based and Condition-Based. In RCM, Run-to-Failure is a conscious decision and is acceptable for some equipment.

Does your system have a water accounting system? Is your system fully metered? Describe the methodology to quantify use & loss, quantify the input & output water loss, outline supply & demand projections.

The Utility will meter all water wells, all primary treatment process trains including waste streams, all finished water product and all customer take off points. Each meter will be linked through a SCADA system which will be designed to provide early alerts to possible pipeline breaks or process failures. This system will provide regular water audit reports, as well as a historical record to be useful in making future projections.

SERVICE AREA BOUNDARIES
The service area established for this project which has the following overall boundaries:
•City of Rio Rancho to the east
•Pueblo of Zia to the north
•Pueblo of Laguna to the west
•Bernalillo County to the south

Projected Population and Water Demands
(1)Rio West Development – The developers for Rio West have a community master plan on file with Sandoval County that specifies future residential dwelling units, schools, commercial acreage, and related development that will be implemented for this area along with an approximate timetable for build-out (Consensus Planning, 2006). These data for housing units, commercial development acreage, and schools were combined with the following criteria to yield a build-out population for Rio West along with a projection for average daily water demand:

•Per capita occupancy rate for Dwelling Units (DU) = 2.6 persons/DU
•Water consumption per residential DU = 190 gpd or equivalently 73 gallons per capita per day
•Water consumption per acre of commercial development = 1,146 gpd
•Water consumption per public school site – 31,300 gpd

The water consumption criteria are consistent with nominal criteria used by the Mid-Region Council of Governments to plan water needs in the Middle Rio Grande Valley as part of its Focus 2050 planning effort.

All told, the current Rio West master plan indicates 29,434 DUs at build-out along with 10 public schools (about one school per 3,000 DUs) and 2,046 acres of adjoining commercial development. The expected average daily potable water need at build-out for Rio West is projected to be 6.89 Million Gallons per Day (MGD) or equivalently 7,700 AFY. In comparing projected average daily demands for residential and commercial water use in Rio West, it was determined that commercial water used equaled 17% of the total residential water demand.

(2)Development in Adjacent Areas – With the exception of Quail Ranch Phases 2-4, land use planning for the other service area has not yet progressed to

the same level as that performed for Rio West. In the absence of having land use master plans available to otherwise quantify future populations, expected schools and commercial development, and resultant water use at build-out, the following alternate approach was used to characterize expected growth for these areas:
•A series of meetings were held with representatives of Alamo Ranch, Rio Rancho Estates, Breezy Point, and Rancho Grande to establish their best "guesstimate" for residential DUs being considered for their respective developments.
•Residential population was next estimated at 2.6 persons per DU and water use at 190 gpd per DU.
•Water use for commercial areas within each of these developments was then estimated at commercial water use-to-residential water use calculated for Rio West.
•School water use was then calculated based on one school per 3,000 DUs as was done for Rio West and 31,300 gpd per school.

(3)Suggested Phasing of Water Supply Capacity – The year in which the 43,200 AFY build-out demand is actually realized depends on a number of variables in the region's economy. Tables 1 and 2 below respectively present a "high growth" scenario and a "low growth" scenario for future population and corresponding average day water demand.

See attached document for Table 1-Low Growth Projection and Table 2-High Growth Projection

The "high growth" scenario assumes the build-out condition will be achieved within 50 years i.e., by the Year 2060 and that 80% of the total growth will be achieved within the first 40 years. In contrast, the "low growth" scenario assumes the build-out condition will be achieved within 70 years i.e., by the Year 2080 and that 80% of the total growth will be achieved within the first 55 years. In both cases, population growth has been projected using a Verhulst relationship that is commonly used to make long-range population projections. The Verhulst relationship yields an S-shaped curve for population growth as a function of time and which factors in the following two overall concepts:
•Population growth will be proportional to the population in place and;
•Population growth will also be proportional to the available resource needed to sustain growth

The second overall concept provides a natural "braking action" to population growth and considers practical limits on growth e.g., availability of undeveloped land that can support growth.

Describe the long-term stewardship of this project, including a long-term project operations and maintenance plan which addresses stability of funding and overall project sustainability.

Long-term project operations and maintenance has been designed for sustainability. Using RCM methods and routinely applying strong organizational procedures.

MANAGEMENT OF FACILITIES MAINTENANCE PROGRAM
(1)Maintenance at Sandoval County is more than just repairing a leaking pipe or restoring power. It involves the coordinated effort of many talented people to ensure that facilities are in the best possible condition to support the Utility's mission. To accomplish this, the maintenance program must be managed to provide the maximum benefits from the available resources without waste.

See attached document for Figure - Whole Maintenance Universe

(2)A CMMS is an integral component of a Utility's facilities maintenance management operations. This automated system is designed to assist facilities maintenance managers in work reception, work planning, work control, work performance, work evaluation, and work reporting. This system is usually linked to other database systems, such as Integrated Asset Program Management (IAPM), material management, and personnel management.

(3)Figure 2 depicts the basic facilities maintenance management program. The program has four major aspects: Requirements Definition, Planning, Execution, and Analysis. Requirements Definition includes analyzing facilities condition assessments and the Utility's mission to identify, quantify, and document Utility operation and maintenance requirements.

See attached document for Figure - Basic Facilities Maintenance Program

(a)Facility Inventory -- The facilities inventory is the cornerstone of facilities maintenance management. It provides the detailed identification of what is inspected, operated, and maintained. Without an accurate inventory, maintainable items may not receive required maintenance, and maintenance budgeting, planning, and scheduling cannot be effective. Note that the inventory is not static; it includes continuous updates based upon facility and equipment changes.
(b)Recurring Maintenance – After identification of what is inspected, operated, and maintained, a Utility's Reliability Centered Maintenance program starts with identifying recurring maintenance requirements. The requirements must be derived from analyzing the Utility's mission and facilities inventory and utilizing a well-established set of local standards. The standards used in assessing facilities and determining what recurring maintenance and operations effort is needed to maintain the Utility at specified quality level must include statutory, regulatory, and compliance requirements. Requirements are continually updated to include new facilities and changes based on the RCM analysis of work data provided during the acceptance process, which sets the baseline.
(c)Nonrecurring Maintenance – Nonrecurring requirements are determined by facility condition assessments and analyzing historical data, current inventory, and mission requirements. A part of nonrecurring work is facility repairs (breakdown maintenance), including facility TC's.

PLANNING
(1)Priorities set by management based upon mission requirements are important considerations in determining what is to be accomplished and in what order. The 5-year Maintenance Plan is an invaluable reference for the budgeting process, providing the information needed to plan allocation of resources.
(2)Upon receipt of the annual budget, the 5-year Maintenance Plan (including the maintenance organization's CoF work) is reviewed again, together with updated facility needs.

Does the water system have a professional manager?

Yes

Describe how the estimates for project contingencies were derived. Has a Professional Engineering Report been completed?

A groundwater study has been developed by a professional Hydro-Geologist, Intera. An engineering study has been provided by Intera, professional engineer ASCS, and supplemented by a financial project modeling program developed by a professional engineer, AWE - Engine and Compressor Systems, Inc, in coordination with Gary M. Lee, P.E. with Universal Asset Management. A conceptual engineering report is attached. This report was prepared by Gary M. Lee, P.E.

V. PROJECT COMPLIANCE

Is the water system in compliance with Office of the State Engineer regulations?

Yes. Please complete the OSE Water Rights Form as attached.

Project compliance attachment.pdf

Is the project part of an Interstate Stream Commission-accepted regional water plan or part of a plan under development? Please explain how this project complies with such a plan. If not, please explain.

The project involves the utilization of a deep groundwater aquifer (below 2,500 feet) and therefore is not involved in an Interstate Stream Commission–accepted regional water plan.

Provide documentation of water rights availability (i.e., willing seller/leaser and necessary permitting from the state engineer and show compliance with law 2003 N.M. Laws, ch. 135 (effective March 1, 2004) if water will be acquired from an Acequia.

There aren't any attach document.

File No.1111 Application No.1111

Number of Acre Feet Available: 11

Type of Water Rights Available: (i.e. ground, surface, other)na

If water rights are not available, please explain why and outline a plan of action to obtain the necessary water rights.

The water source being developed is a deep groundwater aquifer (below 2,500 feet) and is not in a declared basin and is not governed by water rights of the State of New Mexico. (See NMSA 72.12.25, Exhibit V.1.1). The approvals of the State Engineer for our preliminary testing wells are provided in Exhibit V.1.2.

Does the system supply, deliver, distribute or otherwise provide at least 500 acre feet annually for domestic, commercial, industrial or government customers for other than agricultural purposes, but does not include Indian tribes, pueblos, nations, chapters or any entity of a tribe, pueblo, nation or chapter? If so please provide a copy of the water conservation plan submitted to OSE in accordance with Chapter 72, Article 14 NMSA 1978).

The water produced by the system is not in a declared basin and is not governed by water rights of the State of New Mexico.

Briefly list and describe any alternative to this project that was considered and the decisions to reject or otherwise implement the alternatives. Please limit this description to no more than one page.

The system is projected to provide in excess of 500 acre feet of water annually. The system is a wholesale water distributor with, at this time, only one intended customer, the City of Rio Rancho. A copy of the City's Water Resources Management Plan, which contains the City's policies relating to conservation in Section VII, has been provided in Exhibit 1.

The wholesale water supply utility itself will utilize state-of-the-art SCADA and metering systems to allow for the identification of waters lost or unaccounted for in the delivery system, so corrective actions can immediately be taken to restore integrity to the system while minimizing any water loss.

Describe the methodology in measuring the project expected outcome and planned objectives. Outline the benchmarks for measuring project results.

This project is unique to this area, as it utilizes a deep groundwater aquifer as the low water source. This is an alternative source which will relieve the stresses on the traditional systems in current use by communities in the mid-Rio Grande Basin.

A number of desalination technologies and co-generation technologies have been reviewed during the preliminary design stages of the project.

VI. FUNDING DETAIL

List Total Project Costs and Sources of Funds for Project

Type	WTB Funds	Local Funds	State Funds	Federal Funds	Total Funds
Feasibility Funds	0.00	1,000,000.00	0.00	0.00	1,000,000.00
Planning and Design	4,637,560.00	0.00	0.00	0.00	4,637,560.00
Inspection of Construction	0.00	4,637,560.00	0.00	0.00	4,637,560.00
Special Engineering Services	0.00	1,000,000.00	0.00	0.00	1,000,000.00
Environmental Surveys	0.00	500,000.00	0.00	0.00	500,000.00
Archeological Surveys	0.00	250,000.00	0.00	0.00	250,000.00
Construction	0.00	71,639,095.00	0.00	0.00	71,639,095.00
Land Acquisition	0.00	274,290.00	0.00	0.00	274,290.00

Easements & Right of Way	0.00	200,000.00	0.00	0.00	200,000.00
Legal Costs	0.00	662,508.00	0.00	0.00	662,508.00
Fiscal Agent Fees	0.00	1,987,525.00	0.00	0.00	1,987,525.00
Total Costs	4,637,560.00	82,150,978.00	0.00	0.00	86,788,538.00

Are these costs certified by a resource specialist, engineer or architect? If so, please provide the date of certification and name of company.

Please Specifically Identify Source, Terms and Status of all State and Federal Funds

Source	Amount	Type	Terms (# of years)	Status
	$	Grant		Pending
	$	Grant		Pending

Provide evidence of existing debt in the form of debt documents, including Loan agreements, Debt Default Summary and if any a Pending Litigation Summary.

There aren't any attach document.

Outline the match component - identify form and source: (half of the required match component may be in kind services in labor and or equipment at fair market values; the second half o the match component may be in the form of a hard cash match).

The County has committed $6,000,000 towards this project to-date. The balance of local funds required will come from a County Enterprise Revenue Bond. The County will provide credit enhancement for these bonds in the form of a pledge of County gross receipts.

Outline the source of the local cost share.

The balance of local funds required will come from a County Enterprise Revenue Bond. The County will provide credit enhancement for these bonds in the form of a pledge of County gross receipts. The revenue bonds will be secured by the wholesale water purchase contracts entered between the untility enterprise and the individual wholesale customer.

VII. CERTIFICATION & READINESS TO PROCEED

I certify that
We have the authority to request funding as described in this application. We will comply with all applicable state and federal regulations and requirements. To the best of my knowledge all information contained in this application is valid and accurate and the submission of this application has been authorized by the governing body of the undersigned jurisdiction.

(Highest Elected Official)

Signature *: Joshua Madalena
Title *: Commission Chair
Print Name *: Joshua Madalena
Date *: Monday 27 October 2008

(Finance Officer/Director)

Signature *: Leroy Arquero
Title *: Finance Director
Print Name *: Leroy Arquero
Date *: Monday 27 October 2008

COMPLIANCE / READINESS TO PROCEED

The following items must accompany this application in order for this application to be considered complete: (These documents will not be considered part of the 30 page maximum).

Three most recently completed fiscal year audit reports.
Current financials, including current fiscal year budget.
List of all debt, including debt holder, pledged revenues, payment schedule and any prohibitions or test for additional debt.
Resolution of the governing body authorizing the submission of an application to the Water Trust Board.
Articles of Incorporation and By-laws (if applicable).
Documentation that each non-WTB project funding source has been approved.
Joint Powers Agreement or MOU (if applicable).
Detailed project phase schedule.
Explanation of land ownership arrangements (if applicable).
Documentation showing status of landowner/agency agreements (if applicable).
List all required permits and licenses necessary to complete this project. Detail the status of each item, a plan of action, and time frame for completing incomplete permits and licenses. Also provide a copy of all permits and licenses.
Is there litigation pending which would have a bearing on this project or applicant? If yes, provide a complete summary of all circumstances relating to such litigation.
Conservation plans as required by law.
Right of Way Acquisition Documentation.

ATTACH DOCUMENTS

Section II Attachments.doc
Section III Attachments.doc
Section IV Attachments.doc
Section III - Letter of Interest.pdf
Compliance Readiness Attachment .pdf
Engineering Report Sec I-XIII.pdf
Engineering Report Sec XIV-XXVIII.pdf
Engineering Report Appendices A-E.pdf
Engineering Report Appendices G-J.pdf
Engineering Report Appendix F.pdf
well easements attachment.pdf
Provide an adopted water conservation plan or any plans in progress.doc
Signature Page.pdf

Sandoval County, New Mexico

Resolution No. 10-16-08.7C

SANDOVAL COUNTY
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Be it resolved on this 16th day of October 2008; that:

WHEREAS, Sandoval County has invested in deep water wells and a desalination project in the Rio Puerco Basin that will deliver critically needed water supplies for economic development and residential use and ease demand on the Rio Grande Basin.

WHEREAS, Sandoval County previously has invested $6 million dollars of County funds and hereby identified the Water Trust Board as an additional source of revenue for project development.

WHEREAS, the County Development Division is requesting a resolution authorizing the application to the New Mexico Water Trust Board for funding.

NOW THEREFORE, we, the duly elected Commission of Sandoval County hereby authorize the application for funding for the continued project development of the desalination project.

Done at Bernalillo, County of Sandoval, New Mexico, this 16th day of October, 2008.

Sally Padilla, County Clerk

Joshua Madalena, Chairman

David Bency, Vice Chairman

Orlando J. Lucero, Member

Don Leonard, Member

David Mathews, County Attorney

Jack Thomas, Member