ATTACHMENT 4

Regional Conservation Program Ideas for Organizational Structure

Interim Regional Conservation Entities

The expectation is that there will be a regional entity identified to coordinate the regional Conservation Activity described as part of the Edwards Aquifer Recovery Implementation Program (EARIP). This regional entity will seek out local program implementation entities, such as water purveyors, to deliver the services to actual water users. The regional entity, County Governments or some other contractor may take responsibility for program delivery to exempt well owners and water users in areas where the water purveyor chooses not to operate the program.

The regional entity will also handle the funding and respond to invoices from water purveyors and other implementers. In addition, the regional entity will keep account of committed water amounts and monitor water use by the implementing entity to insure compliance.

To enhance the likelihood of successful programming, the regional entity will develop a set of forms and procedures for use by the local implementing entity. Technical assistance will also be provided or coordinated by the regional entity. It is expected that the Regional Program will adapt the forms, processes and procedures of the San Antonio Water System for uses to expedite the development of the Regional Program.

It is envisioned that the regional entity will handle recruitment of water purveyors and other entities to implement the Regional Water Conservation Program in their jurisdiction. A contract will be negotiated and completed between the regional coordinating entity and the local implementing agencies.

In recognition that funding opportunities for the regional conservation effort may arise before the long-term program structure is organized, the EARIP Conservation Work Group recommends that an interim structure is identified.

The Work Group believes that the Edwards Aquifer Authority (EAA) is the obvious entity to take responsibility for an interim regional coordinating structure. The organization has regional responsibility and has a regional water conservation effort.

To become the EARIP interim regional conservation entity, the Work Group believes the EAA would have to take the following action:

1. The General Manager and Board would have to agree to take on the responsibility.

2. An Executive Advisory Committee would be organized to include the Chairperson of the EARIP Conservation Work Group, a representative from each of SAWS, San Marcos, New Braunfels, and a small water purveyor.

The interim entity would accept opportunistic funding if and when it became available prior to organization of the long-term Regional Conservation effort if the funding goals and conditions are acceptable to the interim entity and the Executive Advisory Committee.

The Executive Advisory Committee would take responsibility for responding to questions and will informally seek the aforementioned opportunistic funds by discussing the proposed Regional Conservation Program with potential funding sources such as foundations, state agencies and private sector firms as opportunities arise in the interim period.

Regional Entity Role after Implementing Agreement in Place

A. Functions as Coordinating Entity
   - Recruit Local Contractors
   - Negotiate Contracts
   - Provide Forms and Procedures
   - Instruction on Use of Forms and Procedures
   - Media Effort
   - Mail Outs to Water Users from Local Entity
   - Respond to Invoice
   - Record Water Savings
   - Monitor Water Use by Permitee
   - Staffing as Coordinating Entity
     - Manager
     - Field Person
     - Clerical Support

B. Staffing Option if Regional Entity Operated the Program Organized by Geography
   - Manager
   - Field Person – Uvalde/Medina Counties
   - Field Person – Bexar County
   - Field Person – Hays/Comal Counties
   - Clerical Support
   - Lost Water Specialist (Engineering Contractor?)

C. Staffing Option if Regional Entity Organized by Function
   - Manager
   - Plumbing Distribution
   - Commerical/Industrial
   - Graywater/Condensate/Rainwater Collection
   - Lost Water
   - Clerical Support

D. Staffing Option for Regional Entity would be adjusted to accommodate the variations of delivery ideas to follow.

How to Operate Activities

Lost Water

Option 1 – Designed for the water purveyor that has calculated its lost water percentage and identified where it is occurring. The purveyor submits an application with the calculations and a plan to reduce the lost water. If the purveyor agrees to commit half of the saved water to stay in the Aquifer for 15 years, $500 for each acre-feet saved can be provided.

Example – The City of Dassel has discovered that 10% of the water transported through a one mile poly butylene pipe is lost in transmission. The pipe transports 327 million gallons per year. The water loss is 32.6 million gallons (100 acre-feet). Dassel would be entitled to $50,000 to use towards the cost of the pipeline. Half of the remaining cost for the pipeline was obtained by the City from Community development funds and half from the Dassel water system's infrastructure account.

Option 2 – The EAA acting as the EARIP agent contracts with SAWS, San Marcos and New Braunfels to do a system leak detection and lost water survey for three, two and one other area water purveyor respectively each year. They use the data to prepare a lost water analysis and improvement plan for the targeted purveyors.

The balance of up to $500 per acre-foot water saved is used to address the lowest hanging fruit revealed in the analyses.

SAWS, San Marcos and New Braunfels are paid for the time and equipment used in preparing the analyses. In lieu of cash, the large purveyors may credit the expenses from their share of the Implementation Plan Costs.

EAA, SAWS or another entity may also have a staff person or consultant on hand to help the water purveyor seek grants or organize bond sales to address the identified lost water actions.

A consultant may be enlisted to deliver this option rather than SAWS, San Marcos or New Braunfels. In that case, they may have to contract with SAWS or another entity to do the leak detection work.

Low Flow Toilet Distribution Program

Option 1, Sponsor organized - A water purveyor takes responsibility for recruiting its customers to replace their old high flow toilet with a Camora, two-speed, water saving toilet (or another high efficiency toilet). The sponsor then organizes the distribution of the toilets to the participating customers. The participating customers make their own arrangements to have the toilet or toilets installed. The old toilet is collected to verify that the new toilet is installed.

Variations – (1) Plumbers – The sponsor may make arrangements with local plumbing firms to install the toilets at a special cost. The advantage to this variation is that the toilets are more

likely to be installed quickly and correctly, especially if the plumbers have received training from the manufacturer or a plumber experienced in installation of the new toilets.

(2) Non-Profits – The sponsor may enlist the help of area non-profits to receive commitments from area residents to install the toilet. SAWS paid $25 to non-profits for every toilet picked up by enrolled ratepayers. The variation could be changed to only pay the $25 when the participant returned his old toilet.

(3) Public Distribution – For several years, SAWS distributed the toilets arranged by non-profits at a public event. One year it was at the Alamodome. The advantage to this type of distribution is that it completes the distribution in one day and there is publicity resulting in significant educational impact.

The semi-trucks arrive the day before the event and volunteers from the non-profits (churches, schools, service clubs, PTA's, etc.) help with the distribution.

The sponsoring purveyor is making the commitment to leave 50% of the water savings in the Aquifer for 15 years. The toilets wholesale for about $100, the project identifies another $50 to be available for administrative costs. The $50 may have to cover staff support from the EAA or other Regional entity plus costs in the local sponsoring agencies jurisdiction. It may not cover all costs.

Option 2, Exempt wells - EAA or subcontractor, such as a county government makes the toilets available to Edwards' pumpers with exempt wells. The toilets can be distributed in the same manner (and variations) as Option 1 or a central depot can be established that is staffed at specified times.

The EAA or the subcontractor would obtain the commitment in the form of a contract with the recipient to replace a high flow toilet using Edwards' water. It would also be effective to require a commitment to proper maintenance (new flapper every year, leak repair) in the contract.

Plumbers and/or non-profits could be utilized for this option as well.

Commercial/Industrial Rebate

Option 1, Sponsoring Water Purveyor – A medium to large water purveyor may choose to operate this program themselves. It would require that they provide a full or part-time staff person to make the contacts and complete the paperwork. Invoices from the participating commercial or industrial concern can be sent to the sponsoring entity (or to the regional entity).

SAWS' program pays for 50% of the cost of the technological change or $400 per acre-foot of water saved over 10 years, whichever is less. It is believed that the Regional Program could be modeled on SAWS' program even to the point of duplicating the paperwork. It is also expected that SAWS staff would provide training and perhaps on-going technical assistance for the sponsoring entities staff.

If $400 per acre-foot is paid to the participating commercial concern, that will leave $100 per acre-foot for administrative funding. One of every two acre-feet saved will have to be left in the Aquifer by the sponsoring entity.

Option 2, Regional Program – EAA, SAWS or another contractor operates the program for the entire Region. It may be accomplished by one full-time staff person. The proposed budget has about $500,000 designated for administrative and operational costs over the 10-year period if the participating commercial concern is paid $400 per acre-foot. That is only about enough funding for a half-time person. If the subsidy is reduced to $300 per acre-foot, a small subsidy could go to the local water purveyor for committing to leave 50% of the water saved in the Aquifer for 15 years.

This option is better suited for serving industrial concerns with their own wells. If they participated they would agree to the commitment of one-half of the water to stay in the Aquifer for 15 years.

Graywater, Condensate and Rainwater Harvesting

Option 1, Regional Entity – This program seems best suited to be operated by a central entity such as EAA and to target exempt well pumpers for the field implementation portion of the Program.

The staff person involved would have to be technically proficient in a number of related technologies including condensate collection, graywater use, rainwater collection, xeriscape, self-contained water systems and drip irrigation. Her/his goal would be to identify rural residents that were excited about the technologies and willing to implement them with a small subsidy from the sponsoring entity. The subsidy of $300 or $400 per acre-foot saved is the same as that for the other conservation programs but is nowhere near covering 50% of the total cost of the technology. A participant will have to commit to leaving 50% of the water savings in the Aquifer for 15 years.

Variation – Urban Opportunity – The real opportunity for this Conservation effort may be in new construction or conversions in urban areas. The key will be to obtain a commitment from the water purveyor involved to leave 50% of the water saved by the conversion in the Aquifer.

Monitoring Committee

To maximize the potential of the Regional Conservation Program, a monitoring committee will be organized made up of the SAWS Conservation Director, a Conservation representative from San Marcos, New Braunfels and Bexar Met; and one representative from another entity that was involved as a participant. The Regional Conservation Committee will review and evaluate the Regional Program each year and make specific comments on:

- Ranking the activities in order of efficiency based on water saved/cost;
- Consider and comment on the potential of each activity to achieve its goal for the term of the Habitat Conservation Program;
- Make specific recommendations on adjustments that should be made to each activity with the expected result; and
- Make a statement on the expectation that the program goals – 20,000 acre-feet saved and 10,000 acre-feet committed to the Aquifer for 15 years by the 10^{th} year of operation.

The comments will be provided to the adaptive management authority for action.

Large Water Purveyors

Special opportunities exist if the large water purveyors, such as SAWS, Bexar Met, San Marcos and New Braunfels participate. To achieve the goals of the Regional Water Conservation Program, one or more of the large Edwards' area water purveyors will have to participate. In the calculations completed by the Water Conservation Work Group, it was determined that if $7.99 million was utilized and approximately 7,000 acre-feet of water would be saved through efforts by the pumpers apart from the large four purveyors.

The administrative structure of the Regional Conservation Program should be organized to target and accommodate the smaller pumpers including municipalities, industrial users and exempt well owners, but to achieve the program's goals beyond 7000 acre ft, all or some of the larger purveyors will have to participate.

The Regional Conservation Work Group thinks that the best way for them to be involved is if they review the goals and resources of this Program in relation to their own needs and identify how they might participate.

The participation may be in the form of access to their ratepayers of the toilet distribution in the same form as outlined or in another form better suited for their situation. The participation might also be something unique like an experimental green development seeking resources from the graywater/condensate/rainwater harvesting activity or an industry or University accessing the industrial rebate for a major recycling program.

Regional Conservation Education

Education has been an important part of the San Antonio Conservation effort and is believed to be an essential part of any successful water conservation effort.

Components of the various conservation education efforts in the Edwards Aquifer Region include: water bill inserts, billboards, television, radio, newspaper, websites, speakers, school curriculum, informational brochures, and e-newsletters. The media includes both paid and unpaid efforts.

The education can be general education promoting conservation techniques such as fixing leaks, irrigating appropriately, washing full loads of clothes; or it can be education promoting participation in a specific conservation program such as the commercial rebates or high efficiency toilets.

The Regional Conservation Activity does not include funding for a general education program but a portion of the funds specified for the four programs (toilet and plumbing, commercial/industrial rebate, graywater/rainwater harvesting/condensate, lost water) could be used to recruit participants. It is hoped, however, that the participating entities would see it as their responsibility to seek the appropriate audience as part of their in-kind contribution.

It is expected that this recruiting would be achieved by bill inserts, called meetings, non-profit rallies, church communications, phone solicitations, posted bulletins, response to press releases, radio interviews and other local opportunities that can be achieved without cash outlays.

In terms of general education, it is expected that the Regional entity will assess the current conservation education efforts of SAWS, San Antonio River Authority, EAA, Bexar Met, San Marcos, New Braunfels, Guadalupe-Blanco River Authority and other Regional entities and supplement it as best they can through coordination discussions and cooperation. The fact that a single or two (San Antonio, Austin) media markets cover the entire Region should make it relatively easy for all entities to benefit by the efforts of the entities within the Region.

Brochures produced by the various entities are generally available and could be made more available through coordination agreements. The same agreements might include curriculums. The SAWS e-newsletter is an example of one Conservation education vehicle open to all residents in the area.

Enforcement/Monitoring

Enforcement/Monitoring has several components that are important to the success of a Regional Conservation Program.

- Voluntary participation is the key to the successful conservation programs in the Region but enforcement of well thought out ordinances and rules can be important. One of the functions of the Regional Conservation Program will be to encourage communities to pass and enforce reasonable water use rules. San Antonio and other area entities have water use rules on leak repair, irrigation technology, irrigation timing and frequency, car washes, swimming pools and other topics that require responsible water use. Penalties such as citations that result in fines are utilized effectively.

- To contribute to protection of the endangered species at the Springs, the Regional Conservation Activity has goals that require that 50% of the water saved be committed to the Aquifer for 15 years. To reassure the U.S. Fish and Wildlife Service that the water will be in the Aquifer for springflow, there will have to be a strong monitoring effort and effective penalties for failure to comply.

  It is believed that this enforcement can be achieved through contracting penalties such as those currently contained in SAWS and EAA contracts with communities, businesses and individuals participating in their conservation programs.

Adaptive Management

The Regional Conservation Program calls for savings of 20,000 acre-feet through expenditure of $23.48 million. Ten-thousand (10,000) acre-feet of those savings will be available for use by participants and the same amount will be left in the Aquifer for 15 years.

The Program will immediately have 10,000 acre-feet or more water committed to the Aquifer for springflow because of the upfront commitment of conserved water by large water purveyors with temporarily excess water due to their own Conservation Programs.

During the initial 10 years of the Program, the Regional Conservation activities in toilet/showerhead/faucet flow restrictors, commercial/industrial rebates, lost water, and graywater/condensate/rainwater harvesting activities will be initiated and the 20,000 acre-feet of savings will be achieved.

The structure of the activity offers an opportunity for adaptive management at several levels.

- One or all of the activities can be adjusted or reorganized;
- The funding of the activities can be shifted to take advantage of the most effective activities; and
- The program can be deemed more effective or less effective than originally envisioned with a resultant change in the overall implementation plan.
- The Agricultural Water Enhancement Program (AWEP) can be implemented to replace a portion of the goals described in the Regional Conservation Program.

Agricultural Water Enhancement Program

Through the AWEP, the Natural Resource Conservation Service (NRCS) partners with a local political subdivision or entity to provide financial and technical assistance to farmers and ranchers to assist them in applying agricultural water enhancement activities that conserve ground and surface water and improve water quality on agricultural lands. Projects of mutual interest to the NRCS and the EARIP include the installation of efficient irrigation systems, which have the potential to conserve water for the duration of the HCP and beyond.

In this proposal, the EARIP will apply to NRCS to administrate and monitor an AWEP on the Edwards Aquifer region. Targeted activities include replacement of older, inefficient pivots with higher efficiency, low pressure pivots; and conversion of furrow/flood irrigation to more efficient center pivot, lateral pivot, or drip irrigation systems. AWEP would provide 70% of installation cost for each project, and the EARIP would provide the remaining 30% of the cost. In return, the irrigator would be required to leave half of the water conserved in the Aquifer, neither marketed nor pumped, for 15 years.

The estimated cost to the EARIP would be $3,900,000. Approximately 8,250 acre feet of water would be conserved, of which 4,125 acre feet would be required to remain in the Aquifer.

It has been determined that the Region will not be ready to operate this program during the first year of the HCP. Agricultural representatives on the EARIP will, however, prepare the grant request in preparation for application in 2012 for a program to begin in 2013 and through 2014.

The current modeling does not account for the 4,125 acre-feet water identified as available from AWEP to be left in the Aquifer for 15 years. This program and the savings described can replace or supplement the water identified in the operation of the Regional Conservation Program.