

Received Sept 14, 2004

**MRWPCA WATER SUPPLY OPTIONS INFORMATION SHEET  
FOR GROUNDWATER RECHARGE PROJECT**

**NOTE: THE GROUNDWATER RECHARGE PROJECT IS A CONCEPT THAT IS CURRENTLY UNDERGOING A PRELIMINARY STAFF EVALUATION. IF THE PRELIMINARY EVALUATION INDICATES THE CONCEPT HAS MERIT, THE RESULTS OF THE EVALUATION WILL BE PRESENTED THROUGH A COMMITTEE TO THE FULL BOARD FOR FURTHER AUTHORIZATION IN OCTOBER OR NOVEMBER 2004)**

**DECISION ELEMENT****PROJECT YIELD**

Meet Order 95-10? This could potentially provide approximately 3,000 to 10,000 AFY for recharge of the Seaside aquifer, thereby providing that amount of additional supply to Cal Am's wells in that aquifer. The size of the project would depend on future negotiations between MRWPCA and MCWRA.

Future Mont Penin Needs: As flows to the recycling plant increase with growth within MRWPCA's service area, the amount of water that could be provided for groundwater recharge would also increase slightly.

Future Non-MP Needs: The groundwater recharge project would likely only deliver water to a single location for recharge, namely the Seaside aquifer. Hence, at this point no other recharge areas are being considered.

TOTAL YIELD: Currently approximately 10,000 AFY of water is not being recycled due to lack of food crop irrigation demand during the winter months. With the groundwater recharge project, an amount of water (3,000 to 10,000 AFY) could also be recycled with treatment to a higher level to make it suitable for recharge into a domestic water supply aquifer, the Seaside groundwater basin.

It should be noted that this technology and this concept have been successfully practiced in Orange County, California since 1975. Water Factory 21, as the recycling plant is known, was built and operated by the Orange County Water District (OCWD) to supply 5,000 to 10,000 AFY of highly treated recycled water to groundwater recharge injection wells. Those wells pumped into a domestic water supply aquifer to augment the natural recharge. Much larger amounts of recycled water were also allowed to percolate into other nearby domestic supply aquifers.

OCWD reports indicate that the cost of producing recycled water for groundwater replenishment could be on the order of \$500/AF for the Groundwater Recharge Project described herein. The costs of piping the water to the injection site, together with the injection wells, would probably make the total cost of the water comparable to the \$1,100-

\$1,200/AF water costs under the Urban Reuse Project.

### **PROJECT COST**

**Capital:** Capital costs have not yet been developed for this Project. It is still in the feasibility study phase.

**O&M per year:** O&M costs have not yet been developed for this Project. It is still in the feasibility study phase.

**Energy cost (\$/kwh):** Will probably be based on about \$0.11/kwh

**Total Annual Cost:** Total annual costs have not yet been developed for this Project. It is still in the feasibility study phase.

### **COST TO PENINSULA**

**Share of total project cost:** No funding concepts have yet been developed for this Project, as it is still in the feasibility study phase and costs have not yet been determined. All of the water would be recharged into an aquifer used solely by Peninsula residents and businesses. Therefore, it is likely that the total project cost would need to be borne by them and/or with Cal Am as a major participant, since this would essentially be a new water supply to them.

**How share determined:** Not yet determined.

**Cost sharing of existing vs. future ratepayers:** This has not yet been determined.

**Unit Cost (\$/AF Cal-Am):** No costs have yet been developed. However, this Project would likely be less costly than the currently proposed Coastal Water Project (desalination in Moss Landing) so it could well keep Cal Am rates from rising as high as they will have to if the Coastal Water Project is built.

**Impact to Cal-Am Bill:** See above.

### **FINANCING ASSUMPTIONS**

**Interest rate (%):** Financing assumptions have not yet been made. However 3% is the typical rate for SWRCB's State Revolving Fund (SRF) loans, and they may be available for this type of project.

**Term (yrs):** SRF loans have 20 year terms. Other financing vehicles generally have longer terms, e.g. 30 or more years.

**Public vote required?:** May depend on who the Project participants are, e.g. if MPWMD is a participant a public vote might be required.

**Grants (describe):** None are anticipated.

### **TIMELINE**

**Draft EIR (and/or EIS):** If the feasibility study determines that this is a viable Project, then regulatory and institutional review and approval would be solicited followed by preparation of an EIR. It would likely be late 2005 by the time preparation of the EIR could begin.

**Certify FEIR (EIS ROD):** It would likely take on the order of one year to certify the EIR once the draft EIR was complete. Hence, certification would likely occur in early 2007.

**Obtain key permits:** 2005-2006

Secure financing: 2006  
Secure ROW/property access: 2006-2007  
Prepare Design: 2007  
Start construction: 2008  
Commence water delivery: 2010  
Total time to water delivery: Approximately 6 years (2004 to 2010)

### **PERMITS/REGS**

**Federal Agencies:** U.S. Bureau of Reclamation

EIS needed? NEPA compliance will be required for this project, as this is a requirement from the U.S. Bureau of Reclamation for the loans made by that agency to help finance the existing reclamation plant. NEPA compliance would be pursued, based on using the Draft and Final EIRs to the maximum extent possible. It is not anticipated that a separate EIS will be required, as the EIR will be prepared with the intent to fulfill most of the Federal environmental requirements.

Fed lead agency? May be the U.S. Bureau of Reclamation

**Sanctuary permit?** None expected to be required

**State Agencies:** DHS, RWQCB, Coastal Commission

CPUC approval? No, unless required via Cal Am's participation in the project.

EIR lead agency: Not yet determined, but would likely be MRWPCA.

SWRCB/Water Rights: Unknown

**Regional Agencies:** MPWMD

**Monterey County:** Public Works, Environmental Health, and Planning; Monterey County Water Resources Agency

**Local Agencies:** Cities of Marina and Seaside (for pipeline right of way) and Seaside for its involvement in pumping from the Seaside aquifer.

### **SITE CONTROL**

Confirmed site?: No. This is being evaluated in the feasibility study.

Alternative sites? N/A

### **OPERATIONS/OTHER**

Energy interruptions: At the recycling plant there is existing storage to provide recycled water supply during typical duration power outages. Since all water being delivered under this project would be for groundwater recharge, short duration outages will not have an adverse impact, because recharged can be resumed after the power has been restored. The pump station to deliver the recycled water to the recharge site would probably have emergency generator hookups, to allow this station to operate during longer power outages.

### **PROJECT PARTICIPANTS**

MPWMD participation: MPWMD's participation would likely be integrated into the project sponsorship through an agreement between all of the project proponents.

Other entities participation: Cal Am would likely be involved, and potentially the City of Seaside due to their pumping from this aquifer.

## **PUBLIC INVOLVEMENT**

Outreach programs: Public outreach would likely be performed prior to and/or during the EIR process. Although groundwater recharge projects of this type are in operation elsewhere, the most publicized one in our area being in Orange County, the concept is nevertheless not well known or understood by the general public in this area. Therefore, public outreach work will be an essential part of the planning for this project in order to gain public acceptance and support.

## **DECISION ELEMENT**

### **CAPITAL COST DETAIL**

Groundwater Recharge

Treatment: Additional treatment beyond that currently provided by the Salinas Valley Reclamation Plant will be required to produce water of suitable quality for groundwater recharge. Additional treatment steps are likely to include microfiltration, reverse osmosis, and/or carbon adsorption.

Storage: The Project will hopefully not require any storage facilities, as it would be designed to inject recycled water into the aquifer at any time that recycled water is available.

Transmission Pipelines: Unknown at this time, but could be on the order of \$8 million.

Pump stations: Unknown at this time, but could be on the order of \$3 million.

Energy facilities: None

Groundwater Recharge SUBTOTAL: Unknown at this time

ASR COSTS: N/A

RECYCLED WATER COSTS: Unknown at this time

OTHER WATER SOURCES: None required for this project

### **ADDITIONAL COSTS**

At this time none of the costs listed below are known. They would begin being developed in the current feasibility study, and refined as the design progressed.

Right-of-way: Unknown at this time

Envtl review, permits: Unknown at this time

Mitigation measures: Unknown at this time

Engineering: Unknown at this time

Construction Management: Unknown at this time

Admin/legal: Unknown at this time

Profit/other: N/A

SUBTOTAL: Unknown at this time

**TOTAL CAPITAL COST:** Unknown at this time

### **O&M COST DETAIL (Annual O&M Costs)**

Energy: Unknown at this time

Facilities O&M: Unknown at this time

Mitigation O&M: Unknown at this time

**TOTAL O&M: Unknown at this time**