

Appendix K

IEUA Recycled Water Business Plan

Recycled Water Three Year Business Plan

November 28, 2007

Prepared By:
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"Red Team"**

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ACKNOWLEDGEMENTS

This Business Plan represents the efforts and contributions of the staff, consultants, and municipalities. The Board of Directors of the Inland Empire Utilities Agency expresses its sincere appreciation to the staff and consulting team who developed the Business Plan for the implementation of recycled water.

PREAMBLE

Southern California is currently experiencing the driest year on record and may be entering an extended drought. These drought conditions, coupled with the recent environmental court decisions affecting the operation of the State Water Project, will significantly reduce the availability of imported water to the Chino Basin, creating immediate water and economic impacts to the cities and water agencies served by the Inland Empire Utilities Agency.

Recycled water has been identified by the State of California as an alternative that can serve many water uses that are currently served with potable water. The State of California has made water recycling an important element of California's water supply policy and has adopted a statewide goal of achieving 1,000,000 acre-feet of reuse by the year 2010. The use of recycled water has several incentives to IEUA and its member agencies: it is the only source of additional water supply within California, it is reliable during drought and conditions of climate change, it requires significantly less energy to deliver to customers and can reduce greenhouse gas emissions. The State of California has implemented laws and regulations that are fully protective of human health and require a specific level of water quality and treatment.

The Inland Empire Utilities Agency has recognized and embraced the advantages of using recycled water and currently produces approximately 60 million gallons per day. This high quality recycled water is available for landscape irrigation, industrial cooling, groundwater recharge, environmental enhancement and other uses identified under California law. By using recycled water the IEUA is helping to ensure that the Chino Basin has water to meet the current and future demands of the growing population and economy.

The Inland Empire Utilities Agency, in partnership with Chino Basin Watermaster and all the cities and water agencies in the area, has invested almost \$500 million over the last ten years to increase the availability of local water supplies through water recycled as well as through conservation, recharge improvements, the MWD groundwater storage and recovery project, Chino Desalter, and other water management programs that will reduce the region's need for imported water, especially during drought and other conditions when imported water supplies will not be available.

The IEUA and its member agencies, recognize that the water supply situation facing Southern California is very serious. It is in the best interest of all residents and businesses to prepare for immediate reductions in imported water supplies and encourage all cities, public agencies, and businesses to make every effort to use available recycled water for outdoor irrigation and industrial uses so that drinking water supplies can be conserved for potable uses. They must commit to work together and to offer technical and financial services to help expedite the actions needed to deliver and hook up recycled water for use by all cities, schools, parks and businesses within the Chino Basin.

This Business Plan (Plan) is intended to guide the expansion of the recycled water system during the next three years. The Plan will focus on the most cost effective and rapid ways to increase the amount of recycled water available and used within IEUA's service area. The Plan is intended to focus on the next three years and will be revised and updated on an annual basis. Metrics and an annual usage goal will be identified every year.

INTRODUCTION

The Inland Empire Utilities Agency was initially formed in 1950 to import supplemental water from Metropolitan Water District of Southern California (MWD) to augment the local stream and groundwater supplies. IEUA has since expanded its service to include sewage, composting of manure and municipal biosolids, energy generation, desalinization of groundwater supplies, disposal of non-reclaimable industrial wastewater and brine, and the production and distribution of recycled water. IEUA currently serves approximately 800,000 residents in a 242-square mile area in San Bernardino County including the cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Rancho Cucamonga, and Upland.

Southern California continues to develop rapidly increasing demand on the limited potable water supply. In the past, local and imported water supplies were sufficient to meet the potable water demands; however due to Colorado River cutbacks, drought conditions, historical overproduction from groundwater, groundwater quality and environmental regulations, the regional water supplies are subject to shortages as the region continues to grow.

As documented in the workshop conducted by the RAND Corporation on September 17, the economic benefits of accelerating implementation of the recycled water program are very large (in excess of \$1 billion). Chino Basin Watermaster has also documented the economic benefits of additional water supplies (i.e. use of recycled water). The expansion of a recycled water system is an important supply of water that can be used to meet the growing water demands. Due to population increases (about 1.2 million in 2025), the expansion of IEUA's recycled water system offers tremendous opportunities to offset the need for more imported water from MWD.

The Business Plan (Plan) is intended to guide the expansion of the IEUA recycled water system. The Plan will focus on the most cost effective and rapid ways to increase the amount of recycled water available and used within IEUA's service area. The Plan is intended to focus on the next three years and will be revised and updated on an annual basis. Metrics and an annual usage goal will be identified every year. A monthly progress report will be created to track these metrics and assess the progress toward the annual usage goal. This progress report will allow IEUA to make changes necessary to meet the goals for the year.

SECTION 1 - EXECUTIVE SUMMARY

A. Overview

Southern California is currently facing a serious water supply shortage due to statewide drought conditions and court decisions affecting the State Water Project operations. In response to potential water supply shortages and potential reductions in MWD imported water supplies this report was developed to accelerate implementation of the Regional Recycled Water Implementation Plan (2005). IEUA and its member agencies will make every effort to use available recycled water wherever appropriate, as well as make an effort to increase the use of recycled water within the agencies' boundaries. By committing to the 3-Year Business Plan, the implementation of recycled water projects will be coordinated with all agencies within the Chino Basin area. This will increase the delivery of recycled water quickly to ensure reliable supplies to avoid shortages to residents and customers. This will allow IEUA and its member agencies to continue to provide a reliable water supply to its customers in the future when shortages of imported supplies could be over a multiple year period as documented in the RAND September 17, 2007 workshop.

The implementation of the Three Year Business Plan will result in multiple benefits summarized below. The program is self-funding through recycled water sales and the MWD local projects program. In addition, the recycled water supply is not impacted by drought and will mitigate the impacts of regional or statewide water supply limitations.

- New Water Supply – 37,000 AFY (50,000 AFY Total)
- Capital Projects – an average expenditure of \$41 million/year over three years (\$123 million total with SRF and Grant funding for approximately \$115 million and other sources).
- Recycled Water Revenues – About \$10 million/year (wholesale rate revenue plus MWD rebates)
- Annual expenditures of debt service (approximately \$6 million per year) and operation and maintenance costs (approximately \$4 million per year) will be funded through recycled water rates, MWD rebate revenues, and other existing IEUA revenue sources.

B. Business Plan

The 3-Year Business Plan is intended to be a “short-term” action oriented document that will guide the IEUA recycled capital improvement program through the expansion of its recycled water distribution system. The 3-Year Business Plan will be updated annually to adjust the goals, timelines and projects that will expand the use of recycled water. Currently, this document focuses on the 2007-2010 fiscal years. The annual goals for connecting customers to recycled water are summarized in **Table 1**.

Table 1
Annual Goals for Connected Demand and Sales

Year		Connected Demand (AFY)	Increase		Estimated Sales*
			AFY	%	AFY
Base Year	2006/07	13,000		----	----
1	2007/08	21,500	8,500	65%	15,000*
2	2008/09	35,800	22,800	175%	24,000*
3	2009/10	50,000	37,000	285%	35,000*

*Estimated sales lag connections

C. Recycled Water Marketing and Connections Plan

As regional backbone and local distribution recycled water facilities are constructed to provide capacity to serve existing and new recycled water customers there is a significant amount of work that must be done onsite to prepare the site to receive recycled water. Based on preliminary estimates there will be approximately 400-500 irrigation, commercial and industrial sites that will be converted to use recycled water over the next three years. Assuming 200 working days per year that will require that approximately one site be converted every day for the next 2 – 3 years.

The tasks required for each site include an initial site assessment, water audit, documentation of irrigation, plant condition, development of system drawings, preparation of connection details, preparation of an engineer’s report, retrofitting the site with signs and marking the system purple, performing a cross-connection shutdown test, connecting the onsite recycled water system to the new service connection and offer customer support program. These tasks provide for the responsible use of recycled water meeting all regulatory as well as the intended water use.

D. Financial Plan

In order to accomplish the goals of the Three Business Plan a financial plan has been developed which includes an evaluation of the cost of the Plan, the funding sources that pay the costs of the Plan, and estimates of annual revenues.

- a. Cost – the three year capital improvement budget for the Plan, including laterals and retrofit financing will be approximately \$123 million.
- b. Capital Budget Funding Sources – funding will be obtained from three sources, State and Federal Grants (\$28 million), State Revolving Fund loans (\$87 million), and 2008 IEUA Bond Funds (\$5 - \$10 million).
- c. Annual Revenues – based on 50,000 AFY in sales in the Year 2011, recycled water sales will generate \$4.5 million annually, and the MWD LRP Program will generate \$6 million annually. And fixed repayment of local lateral SRF/Bond repayments will be about \$1

million per year. At 50,000 AFY the revenues from recycled water sales, MWD LRP program, and other IEUA revenue sources will be sufficient to meet the debt service on loans.

E. Red Team

The Red Team prepared this 3-Year Business Plan. The purpose of the Red Team is to provide a group of people that will be able to lead the projects through the design, construction and permitting phases. The Red Team will consist mainly of IEUA staff but will also include key staff from member agencies. The purpose behind this is to open avenues of communication to aid with the construction of projects as well as potentially identify new recycled water projects. The member agencies are listed later in the Business Plan. The organization of the Red Team is shown in Figure 2 in Section 6.

SECTION 2 - MISSION STATEMENT & RECYCLED WATER POLICY

The Inland Empire Utilities Agency has adopted a Mission Statement for the guidance of the agency as a whole as well as a Mission Statement aimed specifically at the use of recycled water. Both mission statements are listed below.

A. IEUA Mission Statement

The mission of the IEUA (Agency) is to supply imported drinking water and recycled water, collect, treat, and dispose of wastewater, and provide other utility-related services to the communities it serves. The Agency strives to provide these services in a regionally planned, managed, and cost effective manner. Priorities of the Agency include protecting public health and the environment, maximizing the reuse of water and solids in the service area, protecting and cleaning up of the Chino Groundwater Basin, and maintaining a high level of public awareness and customer satisfaction.

B. IEUA Mission Statement on Recycled water

Inland Empire Utilities Agency, in cooperation with its seven Member Agencies, is offering Disinfected Tertiary Recycled Water that meets all the requirements for the highest level of Title 22 Water Recycling Criteria.

IEUA is dedicated to offering a clean, safe and drought-proof source of water, thereby reducing the dependence on expensive imported water. This recycled water can be used for a variety of non-potable purposes, such as landscape irrigation, agricultural irrigation, construction, and industrial cooling. By replacing these water-intensive applications with high quality recycled water, fresh water can be conserved or used for other purposes such as drinking and bathing. Every drop of recycled water made is potentially a drop of potable water saved.

C. IEUA's Goal For Recycled Water

The IEUA has adopted the following goal for recycled water:

“The overall goal of the IEUA Recycled Water Program is to encourage maximum use of the recycled water resource for beneficial purposes, thereby conserving water within the Chino Basin and reducing the dependency on imported water.”

D. IEUA's Policy for Recycled Water

The IEUA has also adopted a Policy for the use of recycled water. This policy is outlined in Resolution 2007-6-15 and is summarized below.

The drought condition that are being experienced in Southern California, may seriously impact IEUA's water supplies. Two of Southern California's main sources of water, the California Sierra Nevada and the Colorado River, are also experiencing extremely dry conditions, thus reducing the availability of imported water. In addition to the decrease in water supply, legal decisions affecting the operation of the State Water Project may reduce or even halt the

availability of imported water to the Metropolitan Water District of Southern California as early as this summer. Therefore, the IEUA recognizes that aggressive action must be taken by the cities, residents, business and agencies within its service area to reduce their reliance on imported water supplies.

The IEUA Board of Directors advocates the efficient use of water which can be accomplished by the following:

- Encouraging the use of recycled water for outdoor irrigation and industrial users
- Offering its technical and financial services to all cities, agencies and businesses to help expedite the process needed for them to connect to recycled water source
- Encouraging all cities, agencies, businesses and residents to promote water wise education and implementation of conservation programs

Currently, the IEUA and its contracting cities and local agencies have been offering high quality recycled water for outdoor irrigation and industrial uses that can cost-effectively replace potable water uses and contribute to a reduction in imported water demand. IEUA in cooperation with the MWD, California Department of Water Resources and U.S. Bureau of Reclamation, offers a variety of money-saving conservation rebates to residents of the cities within the IEUA's service area.

SECTION 3 - STATEMENT OF PROBLEM

The Inland Empire region faces serious water shortage issue due to the following conditions:

- Drought conditions;
- Climate change;
- Increase in population and urban development;
- Supply Reliability of the State Water Project; and
- Protection of Groundwater Quality.

Due to these conditions, the Inland Empire Utilities Agency has embraced the use of recycled water to supplement the potable water demands within its service area. As a result IEUA and Chino Basin Watermaster have shifted their priorities to increase the amount of recycled water used locally.

The following is a message from the Chief Executive Officer, from the Operating and Capital Program Budget – Fiscal Year 2007/08, June 20, 2007. This message addresses the shift in priorities for the next fiscal year.

“Water supply issues are front page because of drought conditions and the endangered species ‘regulatory’ and litigious environment. As a result IEUA priorities during the next fiscal year will be significantly affected by the potential reduction of MWD imported supplies to our service area. To compound the water problems, during the past winter it was the lowest annual rainfall total on record in southern California. Utilizing our MWD drought groundwater storage account, increasing recycled water use and additional conservation measures will be critical to assuring adequate supply to our 800,000 residents.....”

SECTION 4 - BACKGROUND AND RECENT DEVELOPMENTS

This section of the Business Plan reports background information on IEUA's recycled water program.

A. Background/History

IEUA's experience with recycled water dates back as far as 1972, when IEUA began to deliver recycled water. Then in 1991 the State of California adopted the "Water Recycling Law."

In 1993, MWH Americas, Inc. (MWH) conducted the first recycled water implementation plan for IEUA. In 1995, the Carbon Canyon Water Reclamation Facility (CCWRF) operation began and its facility continues to work in tandem with RP-2. CCWRF currently serves the cities of Chino, Chino Hills, Montclair and Upland.

The preliminary design report for IEUA's distribution system began in 1996. Two years later, Carbon Canyon Recycled Water System sent its first delivery.

In February, 1998 the Court appointed a new Watermaster Board to develop and implement the Optimum Basin Management Program (OBMP). As part of implementing the OBMP, a "Peace Agreement" was approved through the Watermaster process on June 29, 2000. The Peace Agreement provides the framework under which components of OBMP will be implemented for the next 30 years. Goals from the OBMP included enhancing the Chino Basin water supplies and protecting and improving groundwater quality.

In 2001, Carollo completed the Recycled Water Facilities Planning study for IEUA. The model developed by Carollo would later be used as a basis for the Recycled Water Implementation Plan (RWIP, 2002). The RWIP report is update of the Recycled Water Feasibility Study (IEUA, 2002). This report plans and sizes the recycled water system pipelines and facilities required to serve recycled water throughout the IEUA's service area and prepare a Capital Improvement Program (CIP). The RWIP updates the three previous report and hydraulic model that was developed as part of the Recycled Water Facilities Planning Study. The objective of this RWIP is to provide IEUA with a document that provides a guideline for the development of the ultimate recycled water system.

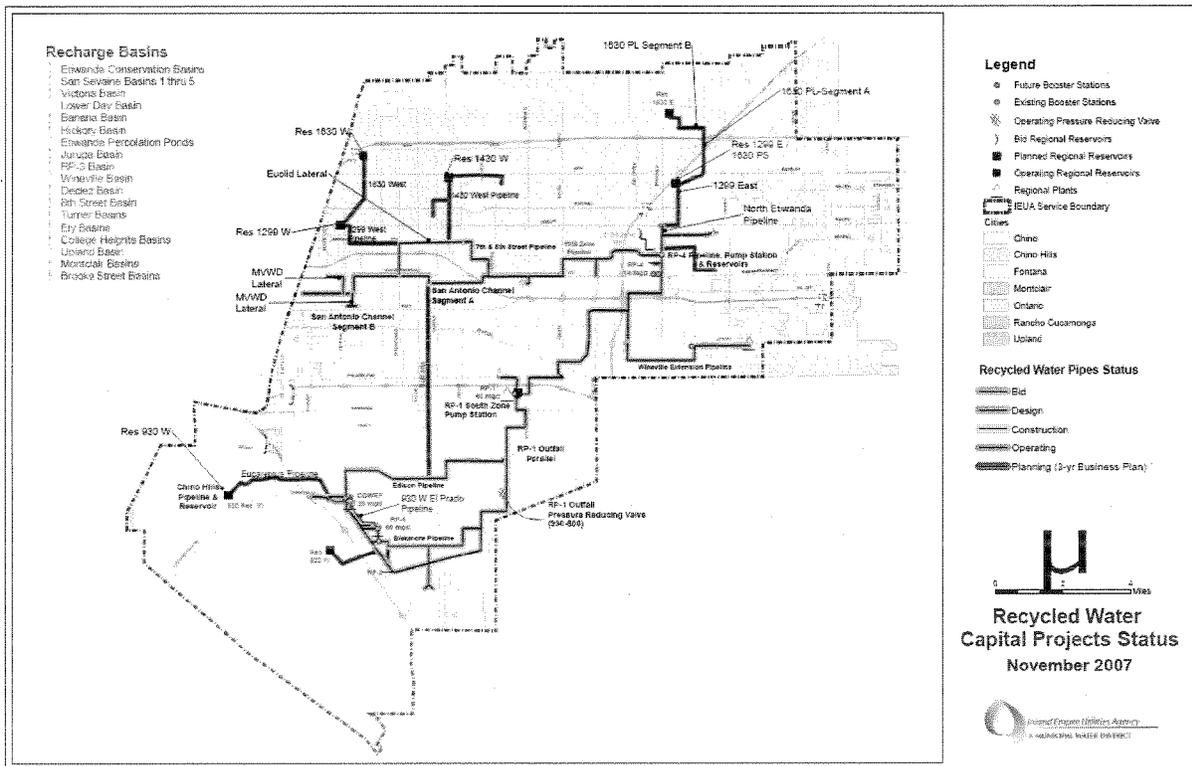
Over the next several years a series of steps were taken to assist IEUA with the implementation of recycled water in the area. These steps are listed below.

- 2002 Programmatic EIR (June 29th certified by IEUA Board)
- 2003 SWRCB Grant (\$5 million) Loan (\$22 million) Approved
- 2003 Initiate Construction of Phase I Facilities
- 2004 Initiate Design of Phase II Facilities
- 2005 Regional Recycled Water Program Implementation Plan
- 2005 Phase III Design initiated

SECTION 5 - CURRENT RECYCLED WATER PROGRAM

The IEUA currently produces over 60 million gallons per day of recycled water to be used within its service area, and there are several projects under way to expand the use of recycled water. These projects and the location of the capital projects are shown in **Figure 1** below.

Figure 1
Recycled Water Capital Projects Status
November 2007



Details of the projects listed on the figure that are currently in design or construction are summarized below. Each project has an associated status report on the bottom of each update.

Wineville Pipeline Extension - The Wineville Extension Pipeline is part of Zone 1158 and has a total length of approximately 5,300 lineal feet. This pipeline has a north-south alignment in the City of Ontario. The pipeline branches off of the existing Wineville Pipeline near the intersection of Wineville Avenue and Jurupa Street and heads south across Philadelphia Street ending at the JCSD service area boundary. Midway along the alignment, the Francis Segment 1 Pipeline ties in as well, and extends east, ultimately connecting to the Jurupa Basin Force Main pipeline, to deliver recycled water to the RP-3 recharge site. The estimated ultimate recycled water demand on this pipeline is (the demand should be much higher) acre-ft/yr. **Status: Pipeline has been designed but has not been advertised. Project is on hold to secure letters of intent to use recycled water from key customers. Critical to the 3-year business plan.**

Edison Avenue Pipeline – The Edison Pipeline is part of Zone 930 and has a total length of approximately 34,100 lineal feet. This pipeline has an alignment that runs east-west primarily along Edison Avenue in the cities of Ontario and Chino. The alignment is as follows: beginning west of the intersection of Edison Avenue and the existing RP-1 Outfall Line to which it connects, the pipeline runs west on Edison Avenue, south on Bon View Avenue, west on Eucalyptus Avenue, continuing west just south of Eucalyptus Avenue, ties into an existing recycled water pipeline along Edison Avenue and 12th Street, heads south on Central Avenue and ties into the existing pipeline at the intersection of Central Avenue and Chino Hills Parkway. *Status: Pipeline has been constructed and is in operation.*

7th/8th Street Pipeline - The 7th/8th Street Basin Pipeline is part of Zone 1270 and has a total length of approximately 10,500 lineal feet. This pipeline has an alignment that runs north and west from the intersection of 4th Street and Corona Street to the 8th Street Basin in the City of Ontario. The alignment is as follows: beginning at the intersection of 7th Street and Corona Street, the pipeline runs north on Corona Street, west on 6th Street, north on Glenn Avenue, west on 7th Street, north on Del Norte Avenue, west on 8th Street and ends at the 8th Street Basin. At the turnout to the 8th Street Basin at the city boundary of Ontario and Upland, a tee is provided as a potential temporary recycled water connection to the City of Upland. However, service beyond 8th Street would require a pump station. *Status: Pipeline has been constructed and is supplying recycled water to the 8th Street Basin. The plan is to connect two customers along the pipeline as well as expanding into the City of Upland.*

TP-1 South Pump Station - The TP-1 South Pump Station is located at the RP-1 site southeast of the intersection of the Cucamonga Creek and State Highway 60 in the City of Ontario. This station will initially pump from RP-1 and discharge to the north-south aligned RP-1 Outfall Pipeline in the 930 Zone. Under the initial conditions, the TP-1 Pump Station will serve both the 930 Zone and the 800 Zone, with the 800 Zone being served through a PRV station. Under future conditions, the TP-1 Pump Station will only serve the 930 Zone through a new parallel 60/54/36-inch diameter pipeline, while the existing 30-inch diameter RP-1 Outfall Pipeline will serve the 800 Zone via gravity. Under ultimate conditions, this 1,400 HP station will have a TDH of 120 feet and an installed capacity of 27,300 gpm. *Status: TP-1 Pump Station has been constructed and is in start up operations.*

San Antonio Channel Pipeline Segment A – The San Antonio Channel Pipeline (SACP) Segment A is part of Zone 1270 and has a total length of approximately 14,925 lineal feet. This pipeline has an alignment that runs west to east from the intersection of 4th Street and Del Rio Street to the intersection of Sultana Street and Granada Street in the City of Ontario. The alignment is as follows: beginning at the intersection of 4th Street and Del Rio Street, the pipeline runs west on 4th Street, south on Mariposa, west on Granada Street, and ends at the intersection of Granada Street and Sultana Street. *Status: Pipeline has been constructed and is supplying recycled water to customers along the pipeline.*

San Antonio Channel Pipeline Segment B – The San Antonio Channel Pipeline (SACP) Segment B is part of Zone 1270 and has a total length of approximately 23,420 lineal feet. This

pipeline has an alignment that runs west to east from the intersection of Sultana Street and Granada Street to a discharge point at the San Antonio Channel in the City of Montclair. The alignment is as follows: beginning at the intersection of Sultana Street and Granada Street, the pipeline runs north on Sultana Street, west on 4th Street, south on Vernon Street, west on Orchard Street and ends at the Discharge point of the San Antonio Channel in the City of Montclair. **Status: Pipeline construction has been started and is scheduled for completion in June 2008.**

RP-4 1158/1270 Pump Stations - The RP-4 1158/1270 Zone Pump Stations are two pump stations supplying the 1158 Zone and 1270 Zone, respectively. The project includes 800 linear feet of 1270 Zone pipeline. The pump stations are located on the south side of RP-4 between the CCB and the storm water basins. The 1158 Zone Pump Station is a conversion of 3 existing vertical turbine pumps rated for the 1270 Zone to 1158 Zone as well as the installation of two new vertical turbines. The 1270 Zone Pump station is installing six horizontal split case pumps supplied with the supply from the 1158 Zone Pump Station discharge header. The 1270 Zone Pump Station requires the installation of 800 linear feet of 42-inch pipeline from the pump station to Etiwanda Avenue along the south side of the storm water basins. **Status: Pump stations and pipeline is in construction and should be completed by May 2008.**

RP-4 1158 Zone Pipeline Segment A - The RP-4 1158 Zone Pipeline Segment A is part of Zone 1158 and has a total length of approximately 1,340 lineal feet. This pipeline has an alignment that runs west from the 1158 Zone Pump Station to the western property of RP-4 then north terminating at 6th Street. The alignment is as follows: beginning at the 1158 Zone Pump Station the pipeline runs west within RP-4 just south of the Chlorine Contact Tanks, north along the western property of RP-4 and terminates on the south side of 6th Street. **Status: Pipeline is in construction and should be completed by October 2008.**

RP-4 1158 Zone Pipeline Segment B - The RP-4 1158 Zone Pipeline Segment B is part of Zone 1158 and has a total length of approximately 2,850 linear feet. This pipeline has an alignment that turns west on 6th Street, runs north through a Southern California Edison (SCE) property terminating at the 1158 Reservoirs. The alignment is as follows: beginning at the south side of 6th Street the pipeline runs north to a 40-foot wide dirt road easement within property owned by SCE, then west to the 1158 Reservoirs. **Status: Pipeline is in construction and should be completed by March 2008.**

RP-4 Reservoirs - The RP-4 Reservoirs are a part of the 1158 Zone and are two 5.5 MG above ground steel reservoirs. The RP-4 Reservoirs formerly were fuel oil tanks utilized for supplying SCE facilities. IEUA purchased the property and reservoirs and has completed the design to clean, blast, and recoat the inside of both reservoirs to bring into AWWA compliance. The design also included the connection point from RP-4 1158 Zone Pipeline Segment B along with demolition, site improvements, level sensors and security requirements. **Status: Reservoir is in construction and should be completed by August 2008.**

North Etiwanda Pipeline - The North Etiwanda Pipeline is part of 1270 Zone and has a total length of approximately 1,770 lineal feet. This 42-inch pipeline has an alignment that runs north along Etiwanda Avenue between Whittman Avenue and Arrow Highway. **Status: Pipeline is in construction and should be completed by March 2008.**

Satellite Plants - Also underway is an evaluation of a satellite water recycling plant at Red Hill Park. This satellite plant will serve Red Hill Park, Red Hill Golf Course, and Upland Hill Golf Course. This evaluation will also investigate other satellite plant sites in Upland. *Status: On-going.*

RP-5 Utility Water Pump Station Upgrade – the RP-5 Utility Water Pump Station needs to be upgraded to insure that RP-5 continues to supply recycled water to the distribution system. *Status: Under evaluation.*

930 Zone Storage – Additional storage capacity is needed in the 930 pressure zone. A reservoir site has been identified and preliminary engineering is complete for a 5 MG Reservoir in Chino Hills. *Status: Preliminary design complete.*

The status of the above recent projects is summarized in **Table 2**.

**Table 2
Current Project Status**

Project Title	Status
San Antonio Channel Pipeline - Segment B	Designed and in Construction – Hold
RP-4 1158 Pipeline – Segment A	Construction
RP-4 1158 Pipeline – Segment B	Construction
RP-4 1158 Pipeline – Reservoirs	Construction
RP-4 1158/1270 Pump Station	Construction
N. Etiwanda Pipeline – Segment A	Construction
MVWD Laterals	Design
Euclid Laterals	Design

Current planning activities to expand the IEUA regional system:

- Upland Master Plan (approved in November 2007 by City of Upland)
- Fontana Master Plan completed in May 2006.
- City of Chino northern area master plan, initiated in December 2007
- Eastern Pomona Recycled Water Feasibility Study, completed in October 2007

SECTION 6 - THE BUSINESS PLAN

This Business Plan is intended to guide IEUA through the expansion of the recycled water system. This section of the Business Plan will present the overall strategy of the Plan, the focus and goals, the Red Team purpose and organization, and a summary of the future demands for each agency.

A. Strategy

The overall strategy of meeting the Plan's goals is to increase the use of recycled water within IEUA's service area by working with the cities and water agencies. Recycled water will be increased through two avenues; one will be through the expansion and retrofit for recycled water customers and the other will be through the increase in groundwater recharge. An important element to the strategy of increasing recycled water demand is the development of a team, consisting of IEUA staff, that will be utilized to implement recycled water projects and monitor the progress toward the annual goals. This team will be called the Red Team. Member agencies will also contribute key staff to coordinate with, and be part of, the Red Team, with emphasis on their agency's recycled water program.

B. Focus and Goals

The Plan focuses on the most cost effective and rapid ways to increase the amount of recycled water available and used within IEUA's service area. It is the intent that this Business Plan will be a live document that is updated on an annual basis. The Plan will look at the next three years and will be updated at the end of each fiscal year. The purpose of looking only at the three year horizon is to allow reasonable goals to be set and tracked. It will also make it easier for IEUA to address Stakeholder priorities and secure funding for upcoming projects. Annual reuse goals have been identified for the next three years. These goals are listed in **Table 3** below:

Table 3
Annual Recycled Water Connection Goals

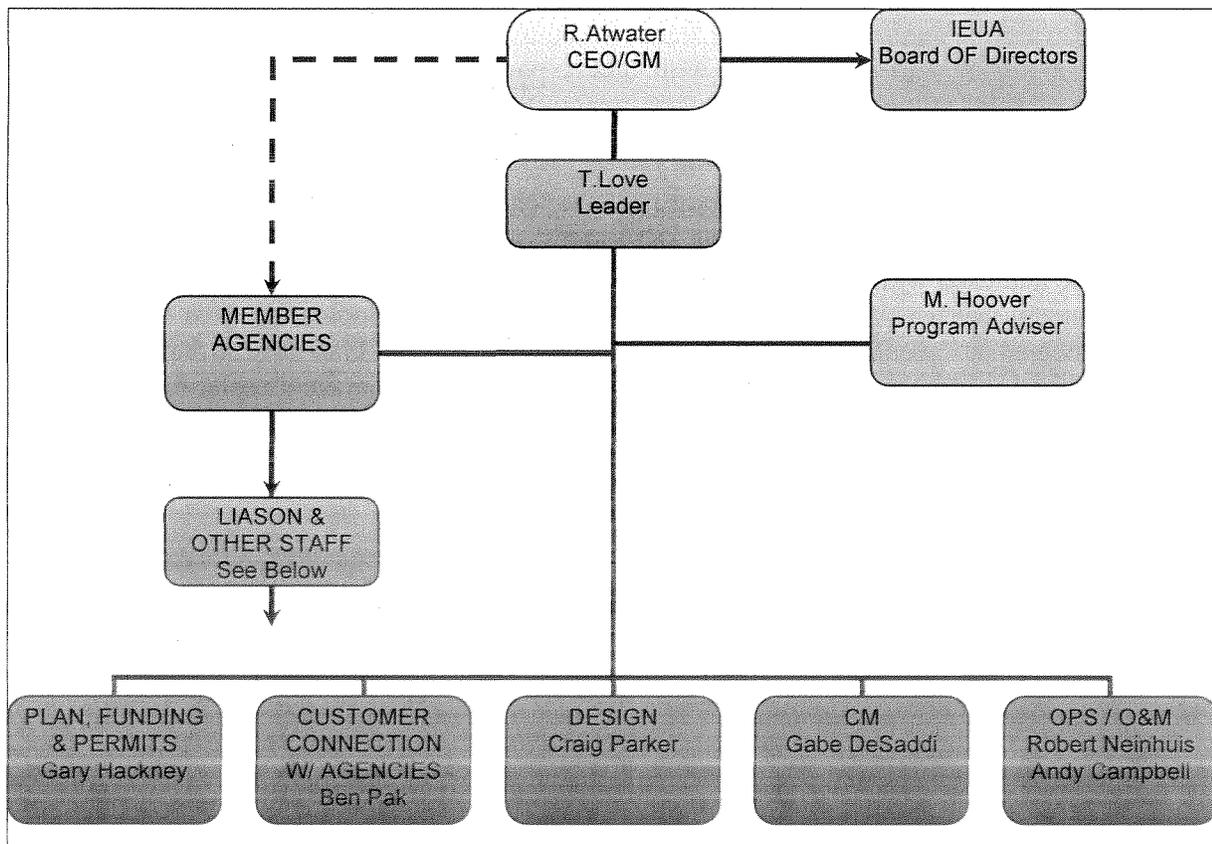
Year		Connected Demand (AFY)	Increase		Estimated Sales*
			AFY	%	AFY
Base Year	2006/07	13,000		----	----
1	2007/08	21,500	8,500	65%	15,000*
2	2008/09	35,800	22,800	175%	24,000*
3	2009/10	50,000	37,000	285%	35,000*

*Estimated sales lag connections

C. Red Team Organization

The Red Team will consist of IEUA staff and will have the organization shown in **Figure 2** below. The purpose of the Red Team is to provide a group of people to lead the design and construction of the projects identified in the Recycled Water Implementation Plan. This team may also assist with the connection of new customer connections and in identifying new projects. The Red Team will consist mainly of IEUA staff and will be split into teams to increase the efficiency of the process.

Figure 2
Red Team Organization



The Red Team will meet twice a month to provide progress reports and identify action items that need to be taken. Another important element to the Red Team are the member agencies. Each of the member agencies will appoint a representative to attend these meetings and provide an avenue for information to be distributed within their respective agencies. The strategy is to

involve the member agencies throughout the entire process. This will aid in the identification of new projects or demands, as well as critical path items. The member agencies and cities that will be involved include:

Member Agency Liaison:

- City of Chino – Jim Hill and Gil Aldaco
- City of Chino Hills – Steve Nix and Mike Maestas
- City of Fontana – Chuck Hays and Brian A. Wren
- City of Montclair – Mike Hudson
- City of Ontario – Scott Burton
- City of Upland – Rosemary Hoerning
- Cucamonga Valley Water District – Rita Kurth
- Fontana Water Company – Michael J. McGraw and Robert K. Young
- Monte Vista Water District – Van Jew and John Reddick

Others:

- City of Rancho Cucamonga – Jeff Barnes
- City of Pomona – Jim Taylor
- Jurupa Community Services District – Robert Tock
- Chino Basin Watermaster – Gordon Treweek
- Chino Basin Water Conservation District – Eunice Ulloa
- San Bernardino County Flood Control District – Ken Eke
- Department of Public Health – Sean McCarthy

D. Summary of Supplies and Demands

The Business Plan focuses on the increase of recycled water through one of two ways: one is through the expansion and retrofit of recycled water connections, the other is through an increase in groundwater recharge. However, the supplies need to be taken into account as well. Currently, the wastewater treatment plants in the IEUA service area treat 60.5 mgd (67,760 acre-feet/year). It should be noted that of this amount 16,875 acre-feet/year is mandated to be discharged to the Santa Ana River as required by the 1969 Court Judgment. IEUA will continue to discharge the excess recycled water to the Santa Ana River, and will meet the annual goal. However, it is anticipated that the amount of excess flow during the summer months will be minimal due to increases in irrigation demands.

Each of the cities and water agencies within the IEUA's service area were polled to determine the projected reuse in the future years. Projected reuse for the recycled water is summarized in **Table 4**.

**Table 4
Projected Direct Reuse Added Capacity By Agency (AFY)**

Member Agency	Existing	2007/08	2008/09	2009/10	2010/11	Subtotal (AFY)
Chino	2,304	2,490	750			5,544
Chino Hills	1,631	750		750		3,131
CVWD	600	210	2,919	594		4,323
Fontana				1,656	5,000	6,656
MVWD		366				366
Ontario	3,760	4,194	728			8,682
Upland		40		610		650
IEUA	2,674	200				2,874
Pomona				1,550		1,550
JCSD					1,850	1,850
Total*	10,969	8,200	4,400	5,200	6,800	35,600

*Ready to sell

The second avenue of increasing recycled is through groundwater recharge. The following tables summarize the basin recharge capacity. **Table 5** summarizes the recharge capacity utilizing the existing system. **Table 6** summarizes the recharge capacity with the recycled water system expanded.

**Table 5
Groundwater Basin Recharge Existing Capacity (AFY)**

Basin	Ely	Banana	Hickory	Turner	8th St.	Brooks	Total Capacity (AFY)
FY 07/08	870	870	870	1,040	870	0	4,520
FY 08/09	870	870	870	1,040	870	870	5,390
FY 09/10	870	870	870	1,040	870	870	5,390
FY 10/11	870	870	870	1,040	870	870	5,390

Table 6
Groundwater Basin Recharge Expanded Capacity (AFY)

Basin	RP3	Declez	Victoria	San Sevaïne	Etiwanda DB	New Capacity	Total Capacity** (AFY)
FY 07/08	---	---	---	---	---	---	4,520
FY 08/09	---	---	1,040	8,670	---	9,710	14,200
FY 09/10	1,210				1,210	2,400	16,600
FY 10/11		1,040				1,040	17,700

** Includes AFY from Table 4

Table 7
Annual Recycled Water Added Capacity Summary (AFY)

Type	Existing	2007/08	2008/09	2009/10	2010/11	Subtotal (AFY)
Direct Use	10,969	8,250	4,397	5,160	6,850	35,600
Groundwater Recharge	2,989	1,500	9,700	2,400	1,000	17,500
Total	13,958	9,700	14,000	7,600	7,800	53,100

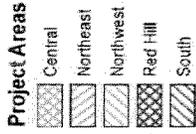
As shown in **Table 7**, overall system demand is expected to reach 45,000 AFY in the next 2.5 years. To meet the demand, additional recycled water delivery facilities are needed.

E. Capital Improvement Priorities Needed to Meet Recycled Water Demand

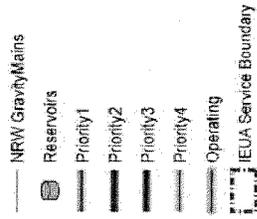
Key facilities in the capital improvement program include increased storage and the pumping and piping needed to move recycled water supplies (at treatment plants) to reservoirs serving demand centers. Another key feature is the availability of IEUA funding for local laterals and on-site retrofits that was previously the sole responsibility of the customer and the retail agency.

The bases of the capital improvement program for the Three Year Business Plan are to expand the existing facilities discussed previously that have already been installed or that are under construction by IEUA, and existing retail agency facilities (usually potable water) that have been recommended for conversion to recycled water. It is these existing facilities that allow the aggressive ramp-up in recycled water use. Projects are evolving primarily based on the existence of high potential storage facilities that are candidates for conversion to recycled water use in five Project Areas. The five project areas shown on **Exhibit A** have been developed to coincide with planning by member agencies for funding and capital projects. These include the Northeast (CVWD and Fontana), Northwest (Upland and Montclair), Red Hill (Satellite Plant to serve Upland and CVWD), Central (Ontario) and South (Chino, Chino Hills, and others) Project Areas. Specific projects in each area are shown schematically on **Exhibit B** with priorities shown for expansion of the existing system (projects under construction are included as existing).

EXHIBIT A



Recycled Water Pipes Status



Recycled Water Capital Projects Business Plan

November 2007

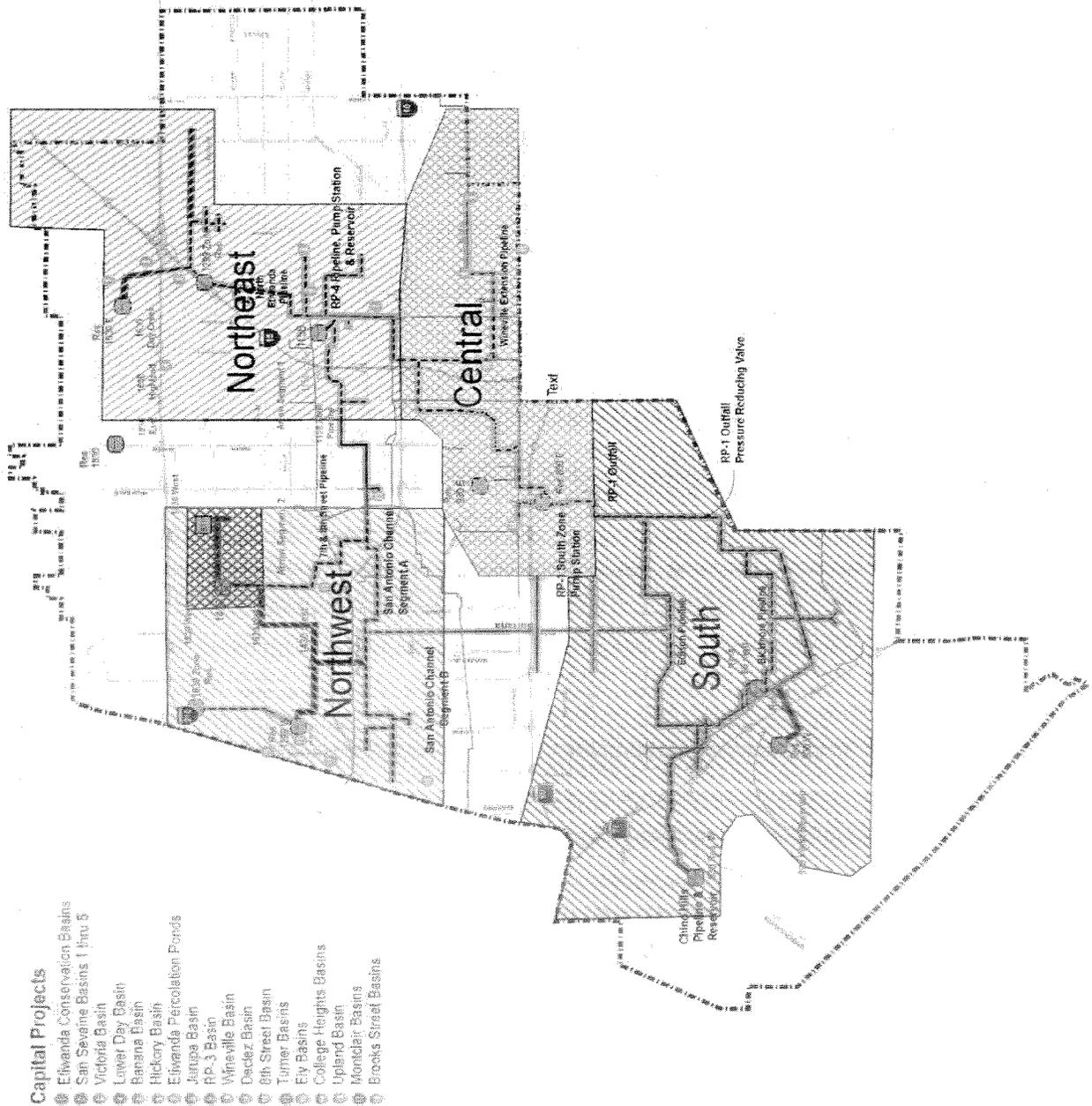
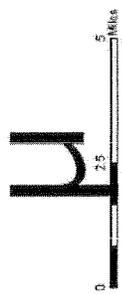


EXHIBIT B

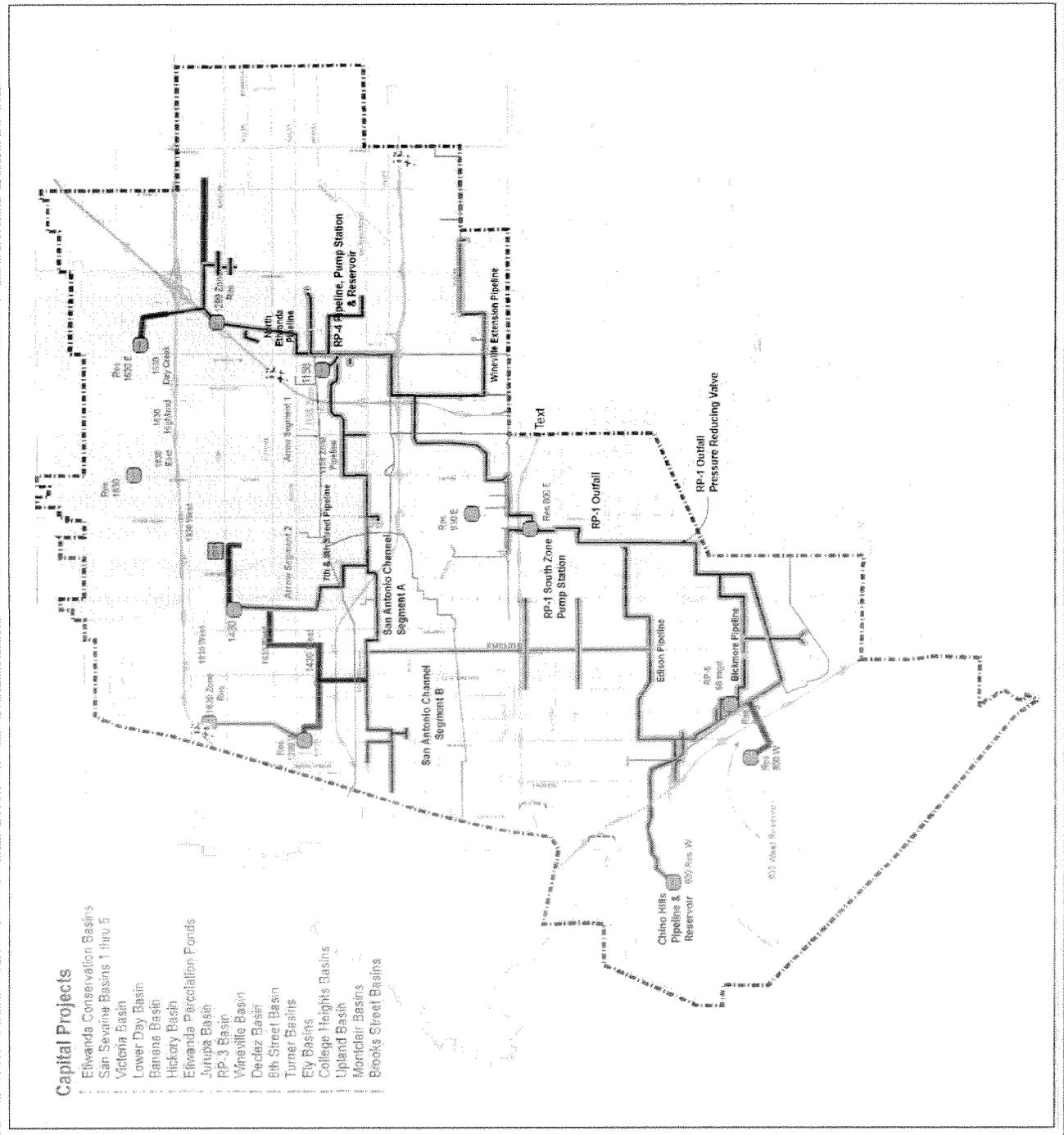
Recycled Water Pipes Status

- NRW Gravity Mains
- Reservoirs
- Priority 1
- Priority 2
- Priority 3
- Priority 4
- Operating
- IEUA Service Boundary
- Chino
- Upland
- Rancho Cucamonga
- Montclair
- Fountain
- Ontario
- Chino Hills



Recycled Water Capital Projects Business Plan

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SECTION 7 – RECYCLED WATER MARKETING, CONNECTIONS AND CUSTOMER SUPPORT PLANS

As regional backbone and local distribution recycled water facilities are constructed to provide capacity to serve existing and new recycled water customers there is work that must be done onsite to prepare the site to receive recycled water. Based on preliminary estimates there will be approximately 400-500 irrigation, commercial and industrial sites that will be converted to use recycled water over the next three years. Assuming 200 working days per year that will require that approximately one site be converted every one to two days for the next 2 – 3 years.

A. Overview of Recycled Water Conversions and Responsible Use of Recycled Water

The objective at each potential use site is the conversion of potable water use (in part or whole) to recycled water use. In order to minimize the effect of conversion on the end user, the differences between potable water service and recycled water service should be evaluated during preliminary assessments. Differences in service pressure and water quality are usually negligible, but should be examined before conversion. Depending on the complexity of the site, and the available information, the tasks that are required and the associated resources will be adjusted. The largest number of recycled water conversion sites are for irrigation at schools, parks, golf courses, cemeteries, and agricultural operations. There are also several large industrial users that use recycled water for cooling towers, water features, making concrete products, industrial process water, and commercial laundries.

For the proper and responsible use of recycled water, it is essential that both water purveyors and end users understand that the use of recycled water must comply with the requirements in Title 22 of the California Code of Regulations and other common sense requirements for general use. Water must not be applied at a rate or in a manner that could cause site runoff and this is particularly true for recycled water. Other considerations for responsible water use include schedule of use, water management, cross connection control and monitoring, water quality and pressure variations. Peak capacity demands need to be managed. Recycled water purveyors need to inform and educate the end users (customers) on these and other aspects of recycled water application. It is recommended that the water purveyors provide their end users with a Recycled Water User Manual developed and endorsed by the WateReuse Association. In addition, it is recommended that a customer support program be developed including a site water audit, documentation of irrigation and plant conditions and provision of information on landscape water saving rebates.

B. Tasks Required for Onsite Conversions

1. Basic Tasks - there are nine basic tasks required to convert a retrofit site:
 - a. Initial customer contact and ongoing customer development and prioritize the largest users
 - b. Water service connection design
 - c. Site assessment, condition documentation, and as-built drawings

- d. Preparation of an Engineer's Report
- e. Obtain approval of the retrofit from the Department of Public Health (DPH)
- f. Construction of onsite retrofit connections and system marking
- g. Cross Connection Shutdown Testing
- h. Onsite Supervisor and Member Agency Staff Training
- i. Customer service program

2. Program Management Tasks - in addition to the site specific tasks there are four additional activities needed to move the retrofit connections program forward.

- a. IEUA program management assistance and inter-departmental/inter-agency communication
- b. Administrative Support and Recording Keeping/Data Input/Information Bulletins
- c. Onsite Retrofit Financing Assistance Support
- d. Finance agreements, as appropriate, with local and public agencies for each site

SECTION 8 - CAPITAL BUDGET AND FUNDING PLAN

The Business Plan will be evaluated on an annual basis, allowing IEUA to reevaluate the annual goals that have been set and update these goals for the next three years. As mentioned previously, there are different methods of funding these projects. The estimated capital expenditures and funding plan is described herein. IEUA financial staff is developing the budget cash flow and details necessary for implementation of the Business Plan. In brief, the three year capital budget is \$123 Million. IEUA has been successful in obtaining low interest loans and grant funds for the majority of its capital costs for its recycled water projects and expects to receive the same for the projects identified in the Business Plan. Low interest loans and grants are an integral part of the recycled water program funding strategy. In addition, IEUA has adopted the philosophies described herein when it comes to financing local laterals and on-site retrofit costs.

A. Capital Budget

The Capital Project Budget for the projects identified in Section 6 is provided below in Table 8. The projected annual expenditure is based on the priorities and details of each of the Projects as noted previously in Exhibits A and B. As shown in Table, the three year capital improvement budget for the Plan, including laterals and retrofit financing will be approximately \$123 million.

Table 8
Recycled Water Capital Improvement Cost Spread
2007 - 2011

Project Area	Project Cost	FY 07-08	FY 08-09	FY 09-10	FY 10-11
Northeast	\$ 46,500,000	\$ 14,095,000	\$ 25,805,000	\$ 600,000	\$ 6,000,000
Northwest	\$ 40,722,000	\$ 989,700	\$ 9,522,300	\$ 19,426,500	\$ 10,783,500
Central	\$ 7,920,000			\$ 7,128,000	\$ 792,000
South	\$ 28,565,000	\$ 2,458,000	\$ 16,972,000	\$ 3,313,500	\$ 5,821,500
Red Hill	\$ 40,000,000	\$ 250,000	\$ 100,000	\$ 2,000,000	\$ 37,650,000
Other	\$ 24,220,000	\$ 2,291,000	\$ 9,123,000	\$ 9,123,000	\$ 3,683,000
Total	\$ 187,927,000	\$ 20,083,700	\$ 61,522,300	\$ 41,591,000	\$ 64,730,000
Three Year Plan Cost				\$ 123,197,000	

B. Funding and Revenue

There are five types of funding that could be used for the recycled water projects: State Revolving Fund Loans (SRF), State and Federal Grants, Local Resources Program (LRP), USBR Title 16 funds, and the MWD Accelerated Public Sector Water Efficiency Partnership Demonstration Program. In addition, as discussed later, there will be repayment revenue from loans for local laterals and retrofits. Funding types and revenue sources are described in more detail below.

State Revolving Fund – A State Revolving Fund provides a significant financial incentive for municipalities to finance upgrades or expansion of recycled water systems. These programs usually provide low interest rate financing for the construction of projects that are eligible for funding. As financing is repaid, this money becomes available to fund the next set of projects.

Grants – A federal Grant is an award of financial assistance from a federal agency to a recipient in order to carry out a public purpose of support or stimulation authorized by a law of the United States. Grants are not federal assistance or loans to individuals. Most of the grants that have been available for IEUA are State grants from the Department of Water Resources or the State Water Resources Control Board.

Local Resources Program - The Local Resources Program (LRP) is offered through the Metropolitan Water District of Southern California (MWD). MWD provides funding for the development of water recycling and groundwater recovery supplies that replace an existing demand or prevent a new demand on MWD's imported water supplies through either direct replacement of potable water or increased regional groundwater production. The LRP will usually set up in such a way that it will pay IEUA a certain dollar amount per acre-foot of water that is recycled. The dollar amount varies as well as the time frame for which MWD will reimburse IEUA. The LRP has replaced the Local Projects Program (LPP) that currently provides a revenue stream of \$154/AF of direct reuse for irrigation and industrial process water. The LPP does not subsidize recycled water used for groundwater recharge. IEUA's current LPP contract with MWD subsidizes up to 13,500 AFY of direct recycled water use and expires in 2017. It is assumed that the LPP agreement will be renewed prior to its expiration.

USBR – The U.S. Bureau of Reclamation, under its Title 16 program provides up to 25% funding for construction of recycled water facilities. IEUA has strong legislative support for up to \$30 million under Title 16. IEUA received \$1 million in grant funds from the program in 2006.

Funding sources for projects included in this 3 years Business plan are expected to come for State and Federal Grants (\$27 million), State Revolving Fund loans (\$86 million), and 2008 IEUA Bond Funds (\$9.8 million).

C. Local Lateral Financing Policy

IEUA will apply for SRF funding for all laterals and will provide 100 percent funding for the costs for all laterals not funded by SRF SWRCB low interest loans. All repayment agreements

by the retail agency serving the recycled water customers via the local lateral will be consistent with SRF requirements (e.g., MVWD draft agreement) and local lateral debt service will be paid for by the retail agency.

General Terms:

1. 20 year repayment at approximately 2.5 percent interest rate.
2. Fixed annual payments consistent with SRF payment schedules.
3. Operation and maintenance of laterals are responsibility of retail water agency.
4. Ownership transfers after completion of repayment of capital costs.

D. Financing of On-Site Retrofit Costs

IEUA will attempt to secure MWD funding for all future “on-site” retrofit plumbing costs to convert to recycled water. However, IEUA will offer to all public facilities 100 percent financing of the initial retrofit plumbing costs to be repaid within a maximum of 5 years through the savings in lower customer water rates (percentage discount from potable versus recycled water). Attached is the MWD funding program for on-site plumbing retrofit of public facilities. Retrofit costs, will therefore be paid by IEUA, when requested, who in turn will be reimbursed by either the recycled water user, the retail agency or MWD.

General Terms:

1. Five year repayment at 0% for public facilities; for private facilities, rate will be at IEUA’s average bond rate (approximately 4.5%).
2. Repayment based on potable and recycled water rate differential.
3. IEUA provides engineering report and obtains DPH approval.

IEUA will prepare general agreements for each retail agency to provide the funding for on-site plumbing retrofits of public facilities and develop administrative agreements for the repayment of the financing through savings on the monthly water charge. For example, recycled water has a twenty-five percent lower commodity rate than potable water for city parks. Twenty percent of the potable rate will be used to repay the retrofit costs, while providing the City with a net five percent savings until the retrofit costs have been repaid. After full repayment of the retrofit costs the City will begin to realize the full twenty-five percent savings.