



TURNER BASIN IMPROVEMENTS PROJECT NO. WR11017.00 STATUS UPDATE: DECEMBER 31, 2014

The project involves grading and hauling activities and the design and installation of new pipes, gates, and controls for two new recharge basins east of Turner Basin No. 4. This project also connects an existing flood control retention facility, Basin No. 5, to capture additional stormwater and recycled water for groundwater recharge by constructing new stormwater piping from Deer Creek Channel into Basin No. 8, which feeds into Basin No. 5. This will allow the Turner Basin site to receive and capture channel flow further upstream and increase recharge potential. The goal of the project is to bring in an additional 600 acre-feet of annual recharge through stormwater and recycled water.

Schedule:

	Project Budget \$1,275,000		Actual Cost to Date \$1,268,620		
<u>Phase</u>	<u>Start</u>	<u>Finish</u>	<u>Status</u>	Projected Cost	Actual Cost
Project Development	03/01/11	02/22/12	Completed	\$32,622	\$35,380
Pre-design	02/22/12	04/01/12	Completed	\$13,419	\$75,548
Environmental Impact	03/01/11	12/20/12	Completed	\$72,892	\$74,197
Design	04/02/12	02/22/13	Completed	\$120,772	\$122,203
Permits	03/30/12	12/20/12	Completed	\$9,927	\$9,927
Bid and Award	12/21/12	02/20/13	Completed	\$2,736	\$2,747
Construction	02/20/13	02/27/15	In Progress	\$1,022,632	\$948,618
				\$1,275,000	\$1,268,620

This project is partially funded by the Bureau of Reclamation with a grant of \$406,712.

Cost Sharing Document: 2014 Amendment to the Turner/Gausti Cost Sharing Agreement 2012

Project Update:

Currently the major improvements to the site are completed with the exception of the dirt hauling and grading activities at the new Turner Basin 4b. This task is being finalized by GRB Engineering. They have removed over 50% of the existing soil since December 2014. They are scheduled to finalize material processing and removal by February 27, 2015.

Project Photos:



Completed junction structure



Completed valve and structure



Completed new south basin (Turner 4c)



Completed new outlet basin north of Gausti Park (Turner 8)



New north basin (Turner 4b) – grading/hauling in progress





WINEVILLE PROOF OF CONCEPT PROJECT NO. EN13031.00 STATUS UPDATE: DECEMBER 31, 2014

The Wineville Basin Proof of Concept Project (POC) was developed to provide information and data to determine the likely benefit if the basins were improved to facilitate artificial groundwater recharge. The primary objectives of the POC were to measure basin infiltration rates and use those rates to estimate the likely annual recharge capacity of the basin. The investigative project consisted of six cells designed to test and evaluates infiltration rates at strategic locations throughout the Basin. Each of the test cells were 0.5 acres in size and excavated at different depths to gather percolation data for soils above and below identified clay layer. The study was completed in April 2014 and concluded that the basin presents an opportunity for groundwater recharge.

Schedule:

<u>Project Budget</u>	Actual Cost to Date
\$424,300	\$362,745

<u>Phase</u>	<u>Start</u>	<u>Finish</u>	<u>Status</u>	Projected Cost	Actual Cost
Design	01/11/13	04/30/14	Completed	\$22,000	\$22,000
Weeding	09/01/13	09/30/13	Completed	\$28,000	\$28,000
Permits	04/24/13	01/17/14	Completed	\$2,200	\$2,200
Environmental Assist.	03/01/13	11/30/13	Completed	\$22,600	\$18,800
Survey	09/01/13	11/30/13	Completed	\$21,000	\$11,767
Construction	06/19/13	04/30/14	Completed	\$208,000	\$208,000
Extra Equipment	10/01/13	11/30/13	Completed	\$7,500	\$7,500
Ontario Pump Costs	10/01/13	11/30/13	Completed	\$19,967	\$19,967
CM/Testing Support	09/01/13	04/30/14	Completed	\$50,000	\$44,511
Contingency				\$43,033	
				\$424,300	\$362,745

Cost Sharing Document: Task Order No. 6 of the Master Agreement of 2014

Project Update:

This project is completed. IEUA staff is processing to close the project and invoice Watermaster for their final share.

Final Project Data:

Table 1 - Projected Basin Performance Summary in Acre-Feet per Year (AFY)

Scenario	Infiltration Rate	Stormwater Recharge	Supplemental Water Recharge	Total Annual Recharge
No. 1	0.13 ft./day	820 AFY	940 AFY	1,760 AFY
No. 2	0.24 ft./day	2,080 AFY	1,750 AFY	3,830 AFY

Figure 1- Image the of the temporary infiltration test cells constructed at Wineville







JURUPA PUMP STATION HVAC IMPROVEMENTS PROJECT NO. EN14040 STATUS UPDATE: DECEMBER 31, 2014

The Jurupa Pump Station (PS) is a key recharge facility that directly conveys storm water runoff, local runoff, imported and recycled water to Cell 1A at the RP-3 Basin. The PS is located on the north-east corner of Jurupa Basin which acts as a pass through basin for flows intercepted at the nearby San Sevaine Channel. The PS' electrical equipment, such as the motor control center, variable frequency drives (VFDs) and communication equipment, is critical to the operation of the pump station. With high temperatures experienced at the PS, vital controls and switches have been experiencing temperature related failures and shutdowns. The HVAC improvements will address these critical failures by installing a permanent air conditioning system, roof thermal insulation, controls, etc. for the electrical equipment at the Jurupa PS.

Schedule:

	\$300,0		\$77,4		
<u>Phase</u>	<u>Start</u>	<u>Finish</u>	<u>Status</u>	Projected Cost	Actual Cost
Project Development	09/02/13	10/30/13	Completed	\$3,000	\$3,031
Pre-design	10/31/13	03/03/14	Completed	\$5,000	\$2,731
Proposal	03/04/14	05/14/14	Completed	\$12,000	\$7,257
Design/Build	05/14/14	10/06/14	Completed	\$186,000	\$64,455
				\$206,000	\$77,474

Actual Cost to Date

Cost Sharing Document: Task Order No. 5 of the Master Agreement of 2014

Project Budget

Project Update:

This project is completed.

Project Photos:



Existing MCC control panel



Existing pumping system



Installed AC unit



Installed ceiling insulation and AC air ducting





SAN SEVAINE IMPROVEMENTS PROJECT PROJECT NO. EN13001 STATUS UPDATE: DECEMBER 31, 2014

San Sevaine basins consist of five, soft-bottomed basins along the San Sevaine Channel. The basins encompass approximately 93 acres with the potential to recharge up to 8,500 acre-feet per year (AFY) of recycled water (RW), storm water (SW) and imported water. The basins currently operate by delivering most flow to Basin No. 5, which has the lowest infiltration rate as compared to the other basins. This has limited current recharge to approximately 500 AFY.

As part of the 2013 Amendment to the 2010 Recharge Master Plan Update, this Project will evaluate, design and construct basin improvements needed to maximize infiltration and recharge capture at the San Sevaine Basins. Depending upon the final recommendation from the preliminary development report, either one or more of the following designs may be implemented as part of construction: (1) a new stormwater/recycled water pump station and pipeline, (2) extend the existing RW pipeline, (3) re-grade and deepen basin, (4) construct internal berms.

Schedule:

	Project Budget		Actual Co		
	\$3,550,00	0*	\$15	9,728	
<u>Phase</u>	<u>Start</u>	<u>Finish</u>	<u>Status</u>	Projected Cost	Actual Cost
Pre-design	10/01/12	02/19/15	In Progress	\$252,300	\$140,688
Environmental Impact	06/26/13	04/23/15	In Progress	\$32,200	\$0
Design	02/19/15	09/30/15	Not Started	\$216,200	\$0
Permits	05/15/13	09/30/15	In Progress	\$107,300	\$19,040
Bid and Award	10/01/15	12/16/15	Not Started	\$11,600	\$0
Construction	12/17/16	04/03/17	Not Started	\$2,930,400	\$0
				\$3,550,000	\$159,728

^{*}The project budget was in the July 2014 status update amended from \$2.5 Million to match the projected budget within the approved 2013 Recharge Master Plan Update.

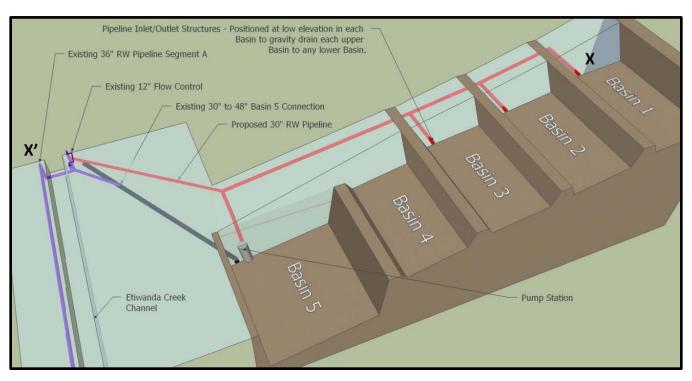
The project was approved for a \$750,000 grant from the Department of Water Resources through the Santa Ana Watershed Project authority as part of Proposition 84.

Cost Sharing Document: Task Order No. 8 of the Master Agreement of 2014

Project Update:

Following the completed preliminary design report, staff recommended to improve the San Sevaine recharge facility by constructing a pump station at Basin 5 to convey captured stormwater to the upper basins to utilize additional recharge surface and extending the existing RW pipeline to all basins to increase recycled water recharge. This option is currently being evaluated by Watermaster for acceptance and approval before the project proceeds to full design.

Conceptual Design:



Isometric View of the Recommended Basin Improvement
Pump Station in Basin 5 and Extension of the Recycled Water Pipeline to Basins 1, 2, and 3





GWR SCADA UPGRADES PROJECT NO. EN14047 STATUS UPDATE: DECEMBER 31, 2014

The Inland Empire Utilities Agency's existing Supervisory Control & Data Acquisition (SCADA) system is comprised of a wide range of equipment that is located at various remote sites and facilities throughout the IEUA's RW and GWR facilities. During the master planning process, a thorough and comprehensive review and evaluation of the recycled water and groundwater recharge SCADA system was conducted. The Master Plan recommended SCADA upgrades to the RW and GWR SCADA systems. The purpose of these upgrades will provide the foundation of a robust, reliable and seamless control system that will sustain and support the continued growth of the RW and GWR programs.

Schedule:

	Project Bud \$892,00		Actual Cost t \$41,48		
<u>Phase</u>	<u>Start</u>	<u>Finish</u>	<u>Status</u>	Projected Cost	Actual Cost
Project Development	11/11/11	02/24/14	Completed	\$927	\$422
Design	02/26/14	01/29/15	In Progress	\$129,900	\$41,061
Permits	09/12/14	01/29/15	In Progress	\$10,000	\$0
Bid and Award	02/05/15	03/18/15	Not Started	\$428	\$0
Construction	03/23/15	04/16/16	Not Started	\$750,745	\$0
			- -	\$892,000	\$41,483

This project qualified for a \$139,650 grant and a 1% interest 30-year loan at \$740,145 from the Santa Ana Project Water Authority and Clean Water State Revolving Fund loan program respectively.

Cost Sharing Document: Task Order No. 4 of the Master Agreement of 2014

Project Update:

The design consultant, MSO Technologies, is scheduled to finalize all design by Jan. 29, 2015. Construction bidding will begin in February 2015 and construction will start in March 23, 2015.

Project Photo:



San Sevaine turnout control panel





COMMUNICATION UPGRADES PROJECT NO. EN12019 STATUS UPDATE: DECEMBER 31, 2014

This project will transition the communication equipment within the remote GWR and RW sites (totaling over 20 sites) onto the new, faster and more reliable communication network. The upgrade will replace the radio equipment for each site and add several new communication towers to send all communication onto the Agency's new 18GHz Motorola network back-haul. The Communication System Upgrades proposes to upgrade all GRW remote sites to the new communication radio systems. Each site will be equipped with new antennas and radios. The proposed plan to include new towers at select sites will be deferred and planned for later capital projects because these sites do not require immediate remote communication and control.

Schedule:

	<u>Project Budget</u>		Actual Cost to Date		
	\$1,245,000		\$178,775		
<u>Phase</u>	<u>Start</u>	<u>Finish</u>	<u>Status</u>	Projected Cost	Actual Cost
Project Development	11/11/11	01/17/14	Completed	\$5,771	\$5,000
Pre-Design	01/20/14	11/27/14	In Progress	\$130,000	\$130,000
RFP/Solicitation	11/30/15	02/18/15	In Progress	\$44,000	\$43,775
Design/Construction	02/19/15	08/31/15	Not Started	\$1,065,229	\$0
				\$1,245,000	\$178,775

This project qualified for a \$192,850 grant and a 1% interest 30-year loan at \$1,022,105 from the Clean Water State Revolving Fund loan program, as part of the Proposition 50 grant program, and a Department of Water Resources Proposition 84 grant program through Santa Ana Project Water Authority.

Cost Sharing Document: Task Order No. 3 of the Master Agreement of 2014

Project Update:

By February 2015, staff will contract the installation services to a qualified communication contractor. Currently staff is finalizing the scope and terms with an experienced, qualified installer.

The following table summarizes the completed radio survey study:

Site	Remote Site	Distance	Tower Height (Feet)	Antenna Height
8th Street Basin	6-B	6.3 miles	Existing 55'	40' or above
Brooks Street Basin	6-B	10.8 miles	Existing 55'	55'
CB-11 MWD Turnout	6-B	1.6 miles	No tower (Need at least 45')	40' or above
CB-14 MWD Turnout	6-B	3.8 miles	No tower (Need at least 25')	20' or above
CB-15 MWD Turnout	6-B	2.5 miles	No tower (Need at least 20')	15' or above
CB-18 MWD Turnout	6-B	5.2 miles	No tower (Need at least 35')	30' or above
CB-20 MWD Turnout	6-B	4.8 miles	Need 10' extension on 25' square	30' or above
			monopole or new 35' tower	
College Heights	CCWRF	8.2 miles	Exitsing 55'	40' or above
Declez Basin	6-B	10.2 miles	Existing 55'	40' or above
Ely 3 Basin	RP-1	0.5 miles	Existing 55'	15' or above
Grove Basin	6-B	10.8 miles	Existing 55'	40' or above
Hickory Basin	6-B	6.1 miles	Existing 55'	40' or above
Hickory FMM Turnout	RP-4	1.3 miles	Existing 55'	40' or above
Jurupa Basin	6-B	8.8 miles	Existing 55'	40' or above
Lower Day Basin	6-B	2.9 miles	Existing 55'	15' or above
Montclair Basin	CCWRF	7.3 miles	Existing 55'	40' or above
Orchard RW Turnout	6-B	10.2 miles	No tower (Need at least 20')	15' or above
RP-3	6-B	10.4 miles	Existing 55'	40' or above
San Sevaine 5RW Turnout	6-B	4.5 miles	Existing 55'	40' or above
San Sevaine Basin 5	6-B	4.6 miles	No tower (25' lamp post or new 25' tower)	25' or above
Turner Basin 1	6-B	6.4 miles	Existing 55'	40' or above
Turner Basin 4	6-B	6.4 miles	Existing 55'	50' or above
Upland Basin	CCWRF	8.0 miles	No tower (Need at least 45')	40' or above
Victoria Basin	6-B	4.7 miles	Existing 55'	40' or above
Wineville Basin	6-B	8.8 miles	No tower (Need at least 45')	40' or above

Sites that need attention





CB20 NOISE MITIGATION PROJECT NO. EN14038 STATUS UPDATE: DECEMBER 31, 2014

In 2010, a recharge basin turnout structure was constructed within the Metropolitan Water District's right-of-way in the residential area of the City of Upland. The turnout was to provide immediate access to available raw water for the purpose of groundwater storage. The Noise Mitigation Project is to reduce the impact of operating noise to the surrounding residences. Current sound studies reveal the facility generates noise levels above the allowable limits permitted by Upland's Ordinances. As a public service effort, IEUA and Chino Basin Watermaster initiated a capital project to design and build a sound enclosure by a qualified sound specialist. The objective is to maintain compliance with City Ordinance and reduce the impact of noise to nearby residents.

Schedule:

	Project Budge \$160,000	<u>et</u>	Actual Cost to \$29,153	<u>Date</u>	
<u>Phase</u>	<u>Start</u>	<u>Finish</u>	<u>Status</u>	Projected Cost	Actual Cost
Project Development	09/25/13	01/23/14	Completed	\$200	\$182
Design	01/24/14	11/26/14	In Progress	\$29,000	\$28,971
Construction	11/30/14	02/19/15	In Progress	\$130,800	\$0
				\$160,00	\$29,153

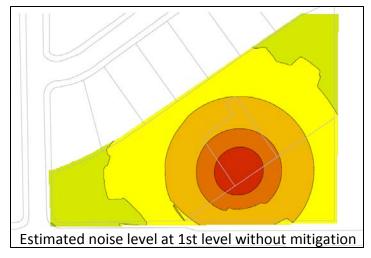
Cost Sharing Document: CBFIP, Phase II Cost Sharing Agreement of 2006

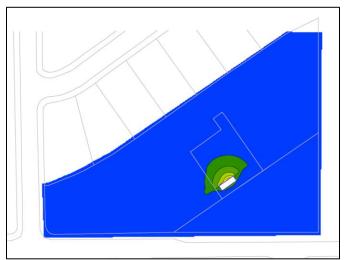
Project Update:

The schedule to receive the required sound wall materials was extended to mid-February 2015 because of a recent relocation of the manufacturer facility. This has created a temporary twelve weeks extension to their fabricating process and delivery.

Currently, the design is completed and material ordering and fabrication are in process.

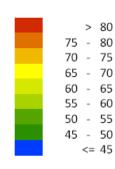
Sound study result which confirms the intended noise reduction with the added enclosure:





Estimated noise level at 1st level with mitigation

Estimated noise level at 2nd level with mitigation



Noise Level, dBA





HICKORY BASIN ARIZONA CROSSING PROJECT NO. EN12025 STATUS UPDATE: DECEMBER 31, 2014

The Hickory Basin Arizona Crossing Project designed and constructed a new soil cement access road and culvert over the inlet channel at the Hickory Basin. The purpose of the access road was to provide immediate maintenance and operational access for IEUA and San Bernardino Flood Control District (SBCFCD) personnel to the north area of the Basin without interrupting recharge or storm water detention operations. The goal of the project is to minimize maintenance costs and mitigate recharge interruptions due to basin dewatering when accessing critical pumping equipment for routine or emergency maintenance. Secondly, the access crossing was also a required condition with the Flood Control as part of a maintenance agreement to utilize the basin for continuous recharge. This project was a part of the Chino Basin Facilities Improvement Program, Phase II which was deferred due to Flood Control permitting approvals. In January 2012, the project re-commenced bidding after receiving full permitting documents from the District.

Schedule:

	<u>Project Bur</u> \$332,97		Actual Cost \$220,		
<u>Phase</u>	<u>Start</u>	<u>Finish</u>	<u>Status</u>	Projected Cost	Actual Cost
Design	10/01/11	12/31/11	Completed	\$7,200	\$7,200
Permits	10/01/11	01/12/12	Completed	\$2,000	\$1,518
Bid and Award	01/12/12	03/21/12	Completed	\$1,200	\$307
Construction	03/22/12	04/17/13	Completed	\$222,571	\$211,392
Added Contingencies				\$100,000	
				\$332,971	\$220,417

The added contingency was included into the project towards the later phase of construction to address potential change orders with the General Contractor.

Cost Sharing Document: CBFIP, Phase II Cost Sharing Agreement of 2006

Project Update:

In mid-September 2014 IEUA legal counsel informed staff that a settlement agreement was reached with Kaveh Engineering. IEUA will coordinate with CBWM on addressing the reimbursement billing before closing the project.

Project Photos:



Completed access road leading to the north side of Hickory Basin



Completed Arizona Crossing which spans the inlet channel





UPPER SANTA ANA RIVER WATERSHED HABITAT CONSERVATION PLAN PROJECT NO. RW15002 STATUS UPDATE: DECEMBER 31, 2014

The purpose of the Habitat Conservation Plan is to investigate and develop a plan to offset the biological impact of future water and recharge improvement projects in the Chino Basin area that have the potential to affect federally-listed endangered, threatened or special status species. This project will be a part of a regional plan with other proposed projects within the Upper Santa Ana River Region. The goal of the project is to identify in advance sites that may require biological offset/mitigation and avoid permitting delays on future RMPU projects or other identified recharge improvement projects.

Schedule:

Scneaule:					
	Project Budget		Actual Cost		
	\$160,000		\$0		
<u>Phase</u>	<u>Start</u>	<u>Finish</u>	<u>Status</u>	Projected Cost	Actual Cost
Investigate/Plan	07/01/14	06/30/17	In Progress	\$160,000	\$0
				\$160,000	\$0

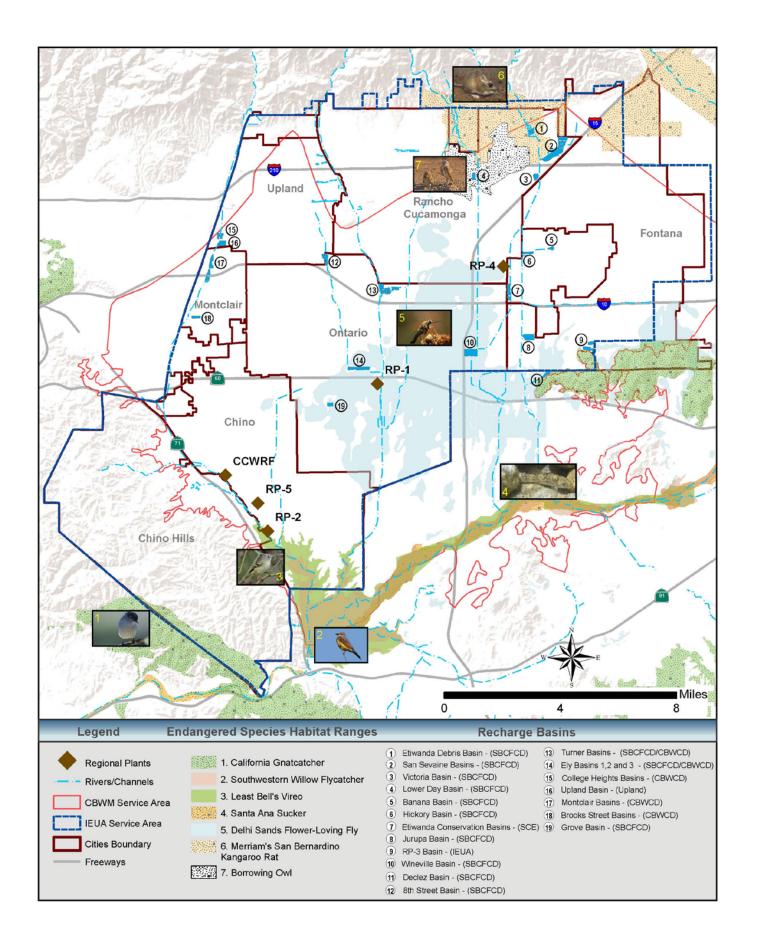
Cost Sharing Document: Task Order No. 7 of the Master Agreement of 2014

Project Update:

The HCP team has refined the covered activities for the proposed projects and is entering the hydraulic modeling phase. Hydraulic modeling will be used to determine the overall impacts to the Santa Ana River from all of the projects in the HCP (which include modifications to Wineville, Lower Day, San Sevaine, Victoria, Montclair as per the RMPU) in terms of altered stream flows, discharge points, etc. and be the basis for the environmental and habitat impacts.

RMPU Project	<u>Location</u>	Potential Species
PID - 19a	Wineville Basin	DSF
PID - 12	Lower Day Basin	SBKR,CAGN,BUOW
PID - 7	San Sevaine Basins (1-5)	SBKR
PID - 11	Victoria Basin	SBKR
PID - 2	Montclair Basins (1-3)	CAGN

DSF=Delhi Sands Flower-Loving Fly; SBKR=Merriam's San Bernardino Kangaroo Rat; CAGN=California Gnatcatcher; BUOW=Burrowing Owl







2013RMPU AMENDMENT YIELD ENHANCEMENT PROJECTS PROJECT NO. RW15003 STATUS UPDATE: DECEMBER 31, 2014

The 2013 Amendment to the 2010 Recharge Master Plan Update recommended that they yield enhancement projects listed below be implemented for preliminary-design, environmental review, permitting, and final design.

Basin Projects	Key Project Improvements	Yield	Recycled Water	
		acre-feet	t per year	
CSI Storm Water Basin	Improve the site as a new storage and recharge facility by deepening and removing over 36,000 cubic yard of soil	81	-	
Wineville, Jurupa, and RP3	Improve storage and recharge capacity by adding pumps and conveyance systems between basins and provide new diversion structures	3,166	2,905	
Sierra	Improve storage and recharge by removing over 40,000 cubic yards of soil - (<i>Removed-no longer feasible</i>)	64	-	
Declez Basin	Improve storage and capacity by modifying existing or adding new structures	241	-	
Victoria Basin	Improve the infiltration rate and increase storage by removing settled deposits	43	-	
Turner Basin	Increase storage and recharge by raising the spillway height	66	-	
Ely Basin	Improve storage and recharge by removing 470,000 cubic yard of basin material	221	ı	
Lower San Sevaine Basin	Construct a new storage flow through basin south-east of Victoria - (<i>Removed – Sale Pending</i>)	1,221	-	
Montclair Basins	Increase storage and recharge capacity by directing more channel flow	248	-	
	Total	5,351	2,905	

Schedule:

Soft Cost Project Budget \$8,122,500		Actual Cost	to Date		
Soft Cost Phases	<u>Start</u>	<u>Finish</u>	<u>Status</u>	Projected Cost	Actual Cost
Project Development	07/01/14	02/18/15	In Progress	\$58,100	-
Preliminary Design	02/19/15	06/30/16	Not Started	\$1,475,100	-
Environmental	02/19/15	06/30/16	Not Started	\$577,100	-
Design	07/01/16	12/29/17	Not Started	\$5,605,100	-
Permits	09/30/16	12/29/17	Not Started	\$407,100	
				\$8,122,500	-

Cost Sharing Document: Task Order No. 1 of the Master Agreement of 2014

Project Update:

Staff will withhold the design of Lower San Sevaine and Sierra Basins project from the upcoming Pre-Design RFP document. IEUA is scheduled to kick-off the PDR design in February 2015.

Concurrently, staff is finalizing a grant application with the United States Department of Interior's Bureau of Reclamation for a potential \$1.0 Million grant for water and energy efficiency. The grant deadline is January 23, 2015.

Project Photos:



Aerial of Victoria Basin



Aerial of CSI Basin





LOWER DAY RMPU IMPROVEMENTS PROJECT NO. RW15004 STATUS UPDATE: DECEMBER 31, 2014

This project will modify the existing intake structure and install pneumatic gates in the channel. The pneumatic gates will monitor and self-adjust to maintain a water level or rate of discharge over the gate structure in accordance with an established programmable logic controller. The basin's existing embankment will be evaluated and reconstructed to meet the requirements of a dam embankment with the Division of Safety of Dams. Improvement on the embankment may include excavation and keying to prevent piping and seepage.

The potential increase in recharge with the inlet is 789 acre-feet per year as per 2010 RMPU.

Schedule:

	<u>Project Bud</u> \$2,480,0		Actual Cost \$3,04		
<u>Phase</u>	<u>Start</u>	<u>Finish</u>	<u>Status</u>	Projected Cost	Actual Cost
Project Development	07/01/14	12/17/14	Completed	\$5,000	\$3,043
Pre-Design	12/18/14	04/10/15	In Progress	\$50,000	-
Design	04/13/15	02/10/16	Not Started	\$145,275	-
Environmental Impact	07/08/15	02/09/16	Not Started	\$76,200	-
Permits	07/08/15	02/02/16	Not Started	\$66,000	-
Bid and Award	02/11/16	04/20/16	Not Started	9,000	-
Construction	04/21/16	05/31/17	Not Started	\$2,128,525	
				\$2,480,000	\$3,043

Cost Sharing Document: Task Order No. 2 of the Master Agreement of 2014

Project Update:

A preliminary design kick-off with the Consultant, Scheevel Engineering, was held on December 18, 2014 at IEUA. The schedule is to complete the pre-design on March 2015 and begin design in April 2015.

Project Photos:



Aerial photo of the project site



Field photo showing the location of the proposed improvement to the existing channel to increase storm water capture