

DATE: June 19, 2007
TO: Utilities Commission
FROM: Lonnie Thibodeaux, Water Utilities Director
SUBJECT: **RECOMMEND APPROVAL OF AMENDMENT 2 IN THE AMOUNT OF \$457,200 TO THE AGREEMENT WITH THE SAN DIEGO COUNTY WATER AUTHORITY FOR THE MISSION BASIN GROUNDWATER STORAGE AND RECOVERY PROJECT**

SYNOPSIS

Staff and the Water/Sewer Committee recommend that the Utilities Commission recommend that the City Council approve Amendment 2 in the amount of \$457,200 to the agreement between the City of Oceanside and the San Diego County Water Authority (SDCWA) for the Mission Basin Groundwater Storage and Recovery Project, and authorize the Mayor to execute the amendment.

BACKGROUND

On October 29, 1998, the City Council approved a joint participation agreement between the City of Oceanside, the Metropolitan Water District (MWD) and the San Diego County Water Authority (SDCWA) for participation in the Groundwater Recovery Program (GRP). The financial incentives included made it cost-effective for the City to expand groundwater resources. The agreement was signed December 4, 1998, and was for the design and construction of the expansion of the Mission Basin facility with compensation from the MWD through the SDCWA.

The City obtained a grant of \$2,230,000 from the United States Bureau of Reclamation budget for the planning, design and construction of the project. The City Council approved the expansion of the facility from 2.2 million gallons a day (mgd) to 6.37 mgd at its meeting of November 1, 2000. The expansion included three additional production wells, nine additional monitoring wells, a high- and low-lift pump station and other miscellaneous improvements. The expansion of the plant is now complete, but the new wells 6, 7 and 8 do not produce enough water to bring the plant to its full capacity of 6.37 mgd.

In 2002, the SDCWA directed the drilling of 11 exploratory wells to map the Basin for possible future use. As a part of the drilling project, Oceanside was granted the right to analyze up to five sites with an emphasis on three that can replace the poorly performing wells 6, 7 and 8. Oceanside's share of the drilling and analysis procedure was \$778,300.

On August 16, 2006, the City Council approved Amendment 1 extending the original agreement to June 30, 2007. Amendment 1 had previously been approved by City Council on November 19, 2003, but was re-approved on August 16, 2006; the SDCWA did not follow through with execution of the original amendment. Amendment 1 increased the contract \$600,000 for the drilling of Well No. 9.

ANALYSIS

This amendment will be for the drilling of Wells 10 and 11. These wells are at the northeast corner of Foussat Road and Mission Avenue which is also the site for new Fire Station 7 — all within one mile of the Mission Basin facility. These two sites will be enlarged to a 16-inch casing for maximum production capability, and are expected to produce enough water to bring the Mission Basin facility to its current maximum production capacity of 6.37 mgd or 18 percent of the City's average daily demand. The future goal is for Oceanside to become as independent as possible from imported water.

FISCAL IMPACT

\$11,600,000 had been appropriated for the Mission Basin Desalting (Groundwater Purification) Facility Expansion Project (715-85-7425) with \$2,230,000 received from the U.S. Bureau of Reclamation during the construction phase. Except for the production wells, the expansion project was completed at a cost of \$8,872,012. The in-depth analysis of the five sites was \$778,300 and resulted in the identification of three sites as production wells. The drilling of Well No. 9 was \$600,000. Drilling these two additional wells will require an additional \$457,200 to help cover the cost of the drilling, the hydro-analysis and the consultant overseeing the project. In the adopted budget for Fiscal Year 2006-2007, City Council approved an appropriation of \$4,720,709 for the Mission Basin Desalter Facility Expansion (715.857425). Therefore, adequate funds are available.

CITY ATTORNEY'S ANALYSIS

The referenced documents are being reviewed by the City Attorney's office.

INSURANCE REQUIREMENTS

The City's standard insurance requirements will be met.

COMMISSION OR COMMITTEE REPORT

The Water/Sewer Committee approved staff's recommendation at its regular scheduled meeting on June 12, 2007.

RECOMMENDATIONS

Staff and the Water/Sewer Committee recommend that the Utilities Commission recommend that the City Council approve Amendment 2 in the amount of \$457,200 to the agreement between the City of Oceanside and the San Diego County Water Authority (SDCWA) for the Mission Basin Groundwater Storage and Recovery Project, and authorize the Mayor to execute the amendment.

PREPARED BY:

Greg Blakely
Administration Manager

Exhibit A - Site Map

DATE: June 19, 2007

TO: Utilities Commission

FROM: Lonnie Thibodeaux, Water Utilities Director

SUBJECT: **RECOMMEND APPROVAL OF CLOSING CHANGE ORDER 1 IN AN AMOUNT NOT TO EXCEED \$35,398.54 AND ACCEPTANCE OF IMPROVEMENTS CONSTRUCTED BY WEST VALLEY CONSTRUCTION CO., INC., OF CAMPBELL, CALIFORNIA, FOR THE STEWART STREET WATERLINE REPLACEMENT PROJECT**

SYNOPSIS

Staff and the Water/Sewer Committee recommend that the Utilities Commission recommend that the City Council approve closing Change Order 1 in an amount not to exceed \$35,398.54 to the agreement with West Valley Construction Co., Inc., of Campbell, California, for the Stewart Street Waterline Replacement project; authorize the City Engineer to execute the change order; accept the improvements constructed by West Valley Construction for the project; and authorize the City Clerk to file a Notice of Completion with the San Diego County Recorder.

BACKGROUND

On July 12, 2006, the City Council approved a construction contract with West Valley Construction Co., Inc., of Campbell in the amount of \$266,029.20 for construction of the Stewart Street Waterline Replacement project.

The existing 12-inch cast-iron waterline was located in Stewart Street between Laguna Street and California Street (Exhibit A). This line was approximately 50 years old and extremely fatigued as evidenced by recent leaks. Approximately 950 linear feet of line in Stewart Street was replaced from the Laguna Street knuckle to approximately 30 feet north of the California Street intersection.

The project consisted of installing approximately 950 linear feet of 12-inch polyvinyl chloride (PVC) C-900 domestic waterline. The work generally included, but was not limited to, furnishing labor, equipment, materials, and services to construct the 12-inch waterline, water services, fire hydrants, and appurtenances.

ANALYSIS

Closing Change Order 1 included additional work requested by the City to add 2" air release and a 6" cap, thrust block to isolate an existing line and remove and replace paving at four locations. In addition, extra potholing was required to find existing underground utilities and tie-ins at Stewart and California streets and Stewart and Camellia streets were different than shown on the plans.

FISCAL IMPACT

In FY 2006-2007, Council approved an appropriation of \$975,000 for Miscellaneous Water (712.858240) Capital Improvement Projects. The West Valley Construction Co., Inc., bid was \$266,029.20, plus closing Change Order 1 of \$35,398.54, brings the project total to \$301,427.74, so adequate funds were available for the project.

COMMISSION OR COMMITTEE REPORT

The Utilities Commission recommended acceptance of the improvements at its regular meeting on April 17, 2007. Since this recommendation the contractor has submitted a closing change order for the additional work necessary to complete the project. The Water/Sewer Committee approved staff's recommendation at its regular scheduled meeting on June 12, 2007.

CITY ATTORNEY'S ANALYSIS

The referenced documents are being reviewed by the City Attorney's office.

RECOMMENDATIONS

Staff and the Water/Sewer Committee recommend that the Utilities Commission recommend that the City Council approve closing Change Order 1 in an amount not to exceed \$35,398.54 to the agreement with West Valley Construction Co., Inc., of Campbell, California, for the Stewart Street Waterline Replacement project; authorize the City Engineer to execute the change order; accept the improvements constructed by West Valley Construction for the project; and authorize the City Clerk to file a Notice of Completion with the San Diego County Recorder.

PREPARED BY:

Greg Blakely
Administration Manager

DATE: June 19, 2007

TO: Utilities Commission

FROM: Lonnie Thibodeaux, Water Utilities Director

SUBJECT: **RECOMMEND APPROVAL OF A UTILITY CONSTRUCTION AGREEMENT WITH THE COUNTY OF SAN DIEGO FOR THE OSBORNE-HUTCHISON SIGHT DISTANCE IMPROVEMENT PROJECT**

SYNOPSIS

Staff and the Water/Sewer Committee recommend that the Utilities Commission recommend that the City Council approve a utility construction agreement with the County of San Diego; for the second and third aqueducts relocations; and authorize the Mayor to execute the agreement.

BACKGROUND

San Diego County is conducting sight alignment improvements to enhance visibility on Osborne Street. At the intersection of Osborne Street and Hutchison Street, a hillside in the line of sight will be cut down five feet. The City's two 24-inch aqueduct pipelines are in the hill section that is being removed and each must be lowered twelve feet for approximately 450 feet on each line. (Exhibit A)

ANALYSIS

The project is out to bid by San Diego County. In a short period of time the water utilities department has designed the relocation of the second and third aqueducts. The County will notify the water utilities department when a contractor is selected.

On May 16, 2007, City Council approved a purchase order with Southland Pipe Corporation for the pre-purchase of the 24-inch aqueduct pipe and materials for the relocation project.

FISCAL IMPACT

In FY 2006-2007, Council approved an appropriation of \$975,000 for Miscellaneous Water (712.858240) Capital Improvement Projects. There are budgeted funds available for the request.

COMMISSION OR COMMITTEE REPORT

The Water/Sewer Committee approved staff's recommendation at its regular scheduled meeting on June 12, 2007.

CITY ATTORNEY'S ANALYSIS

The documents are being reviewed by the City Attorney's office.

INSURANCE REQUIREMENTS

The City's standard insurance requirements will be met.

RECOMMENDATIONS

Staff and the Water/Sewer Committee recommend that the Utilities Commission recommend that the City Council approve a utility construction agreement with the County of San Diego; for the second and third aqueducts relocations; and authorize the Mayor to execute the agreement.

PREPARED BY:

Greg Blakely
Administration Manager

Exhibit A - Site Map

DATE: June 19, 2007

TO: Utilities Commission

FROM: Lonnie Thibodeaux, Water Utilities Director

SUBJECT: **RECOMMEND APPROVAL OF A PROFESSIONAL SERVICES AGREEMENT WITH INFRASTRUCTURE ENGINEERING CORPORATION, OF OCEANSIDE FOR DESIGN, CONSTRUCTION MANAGEMENT AND INSPECTION SERVICES FOR THE MISSION SAN LUIS REY WATERLINE PROJECT**

SYNOPSIS

Staff and the Water/Sewer Committee recommend that the Utilities Commission recommend that the City Council approve a professional services agreement in an amount not to exceed \$261,720 with Infrastructure Engineering Corporation, of Oceanside for design, construction management, and inspection services for the Mission San Luis Rey Waterline project; and authorize the City Manager to execute the agreement.

BACKGROUND

The Mission San Luis Rey area currently has inadequate fire service. Water lines in Mission Avenue and El Camino Real are not connected, leaving the area in between dependent on wells to provide all water. Infrastructure improvements are needed to provide enough water volume to provide fire flow and to serve the area with water from the City's distribution system.

The Mission San Luis Rey Water Line project was submitted as part of the City of Oceanside's request for 2003 federal appropriations. The City's federal lobbyists, The Ferguson Group, in Washington, D.C., were instrumental in locating the appropriate funding source for this project. With their assistance, the City requested \$238,500 from the Environmental Protection Agency's (EPA) State and Tribal Assistance Grant in the FY 2003 VA-HUD-Independent Agencies Appropriation bill.

In April 2003, the EPA notified the City that the project had received funding from the EPA's FY 2003 appropriation of up to \$238,500, with a requirement of \$195,136 in matching funds from the City. In June 2003, the Water Utilities Department applied for the EPA appropriation grant for the design and construction of the waterline that would serve the Mission San Luis Rey area. Approval of the grant request was received in September 2003.

Since this time, the City has been in negotiations with the State Historic Preservation Office to complete the consultation for the project as required by Section 106 of the National Historic Preservation Act. This consultation is required before the Memorandum of Agreement (MOA) (Exhibit A) can be completed with all parties since the findings of the Section 106 consultation must be incorporated into the MOA. The consultation was completed in the fall of 2006.

ANALYSIS

The City received this grant as part of the 2002-2003 Federal Omnibus Appropriations bill. This grant provides full funding for 55 percent of the project for a maximum amount of \$238,500 and requires the City to provide 45 percent matching funds of \$195,136 for a total project cost of \$433,636.

The MOA has been executed so the City can begin work on the 1,570 linear-feet of 10-inch PVC waterline in front of the Mission in the parking area connecting Peyri Drive and the east side of the property. There are also three fire hydrants proposed to connect to this 10-inch line. In addition, 1,350 linear-feet of 10-inch PVC waterline is proposed along the east property boundary to loop the water system into the City's existing system.

Based on the information developed for this grant proposal and associated MOA a request for proposal was sent out last April to thirteen consultants, including eight in Oceanside (Exhibit A). The MOA required that the same archeological consulting firm is used for both design and inspection services. Therefore, the RFP was written to be inclusive of all services as dictated in the MOA. On April 26, 2007, proposals were received from four of the solicited consultants. The proposals were evaluated and the proposal in an amount not to exceed \$261,720 from Infrastructure Engineering Corporation was selected.

FISCAL IMPACT

The terms of the EPA grant require matching funds. The Water Utilities Department's matching share of \$195,136 will come from the Mission San Luis Rey Waterline adopted budget (712.857418) for fiscal year 2006-2007. Zero funds have been expended on the grant to date; therefore, adequate funds are available.

COMMISSION OR COMMITTEE REPORT

The Water/Sewer Committee approved staff's recommendation at its regular scheduled meeting on June 12, 2007.

CITY ATTORNEY'S ANALYSIS

The referenced documents are being reviewed by the City Attorney.

INSURANCE REQUIREMENTS

The City's standard insurance requirements will be met.

RECOMMENDATION

Staff and the Water/Sewer Committee recommend that the Utilities Commission recommend that the City Council approve a professional services agreement in an amount not to exceed \$261,720 with Infrastructure Engineering Corporation, of Oceanside for design, construction management, and inspection services for the Mission San Luis Rey Waterline project; and authorize the City Manager to execute the agreement.

PREPARED BY:

Greg Blakely
Administration Manager

Exhibit A - Request for proposal mailing list

DATE: June 19, 2007

TO: Utilities Commission

FROM: Lonnie Thibodeaux, Water Utilities Director

SUBJECT: **RECOMMEND AUTHORIZATION TO AWARD A CONTRACT FOR THE LEASE AND CONSTRUCTION OF A GRANULAR ACTIVATED CARBON SYSTEM FOR TCP REMOVAL FOR A COST OF \$859,020.08 AT THE MISSION BASIN GROUNDWATER PURIFICATION FACILITY AND APPROVAL OF A PROFESSIONAL SERVICES AGREEMENT IN AN AMOUNT NOT TO EXCEED \$35,060 WITH INFRASTRUCTURE ENGINEERING CORPORATION FOR ANCILLARY DESIGN SERVICES FOR THE GAC CARBON CONTACTORS**

SYNOPSIS

Staff and the Water/Sewer Committee recommend that the Utilities Commission recommend that the City Council award a contract in an amount not to exceed \$859,020.08 to Siemens Water Technologies Corp., of La Mirada for the Lease Agreement of Granular Activated Carbon System for TCP Removal at the Mission Basin Groundwater Purification Facility, and authorize the City Manager to execute the agreement upon receipt of all supporting documents; and approve a professional services agreement in an amount not to exceed \$35,060 with Infrastructure Engineering Corporation, of Oceanside for design services related to the project; and authorize the City Manager to execute the agreement.

BACKGROUND

McGuire Malcolm Pirnie Environmental Consultants, Inc. (McGuire) conducted a pilot study at the Mission Basin Groundwater Purification Facility that resulted in identifying a treatment technology to remove TCP from the source wells. The pilot testing was successful and McGuire prepared an Engineer's Report and submitted this to the California Department of Health Services (CDHS). CDHS sent a letter to the City for "temporary approval" until the operation of the GAC contactors pilot study is complete and the City is in the permit approval process.

CDHS regulations required monitoring for (TCP) in 2003 as part of the California Unregulated Contaminant Rule. It was first detected in early 2003 in wells 1, 2, and 3, which are located at the Mission Basin Groundwater Purification Facility. Subsequent sampling confirmed the presence of the contaminant. Wells 4 and 5, which are located

on the north side of the San Luis Rey River near College Boulevard, had no TCP detected.

TCP was formulated with dichloropropanes in the manufacture of a soil fumigant, D-D. Historically, the Mission Basin was a major agricultural area for tomatoes, corn and strawberries, so most likely the soil fumigant D-D was the source of the contaminant. TCP is also used as a solvent and extractive agent. As a solvent, it has commonly been used as a paint and varnish remover, a cleaning and degreasing agent and a cleaning and maintenance solvent.

The use of wells 1, 2, and 3 was discontinued while staff researched methods to remove TCP. During this period there was no threat to public safety. The facility is currently running at a reduced volume using wells 4 and 5. Production of the plant is slightly less than 2 million gallons per day (MGD). Before shutting down wells 1, 2, and 3, the flow was just above 3 MGD.

ANALYSIS

Since the City has received temporary approval for the GAC Contactors from CDHS, it was recommended to lease the equipment and treat the TCP in order to utilize the available well water.

Trichloropropane contamination of the three existing wells and one new well at the Mission Basin Groundwater Purification Facility is prohibiting the plant from running at full capacity. All four wells exceed the notification level set by CDHS and are not in use at this time. Knowledge of this contaminant is relatively new and the long-term effects are not known, but it is recognized as a carcinogen. As water demands increase, it is essential that the facility produce maximum capacity as soon as possible.

The Mission Basin Groundwater Purification Facility must also produce 6.3 MGD to comply with the City's groundwater recovery agreement with the Metropolitan Water District. To assist in ensuring that the facility can operate at full capacity, the San Diego County Water Authority is working with the Water Utilities Department to complete two additional wells: wells 10 and 11. These new wells, along with the existing wells, will provide enough water to produce 6.3 MGD when the TCP removal system is installed. All of these wells are essential for keeping the plant in operation while other wells are undergoing maintenance and repair. It is also important to have the plant produce as much potable water as possible because the City saves money by having this local resource.

On August 29, 2006, one bid was received and one letter of declining to bid was opened for the Lease Agreement of Granular Activated Carbon System for TCP Removal at the Mission Basin Groundwater Purification Facility. The apparent low bidder is Siemens Water Technologies Corp, of La Mirada, with a bid in the amount of \$859,020.08. Staff has reviewed the bid submitted by Siemens Water Technologies Corp. and finds that its bid bond and references are in accordance with City standards. The engineer's estimate to construct the project was \$2,028,000 (Exhibit A).

To properly construct the GAC Contactors and make them completely operational, the services of a design firm team are required. On March 28, 2007, staff solicited proposals from fourteen (14) engineering firms (Exhibit B) to provide construction management and inspection services during construction of this project. The firms were selected from a list compiled by the City of Oceanside's Engineering Division using the City's selection procedures for professional services. Included in the solicitation were all Oceanside firms that provide these services.

On April 23, 2007, five proposals were received by the Water Utilities Department. In accordance with the City's procedure, a panel was selected to evaluate the proposal. The panel unanimously recommended that Infrastructure Engineering Corporation be selected to provide the ancillary design services for the GAC Contactors in the amount of \$35,060.

Infrastructure Engineering Corporation's design duties will be to design the structural pad for the GAC contactors and the ancillary piping connections required for the GAC Contactor system to be operational. The design must occur concurrently with the GAC manufacturer being selected to ensure the concrete pad and piping are adequate for Siemens proposed system and be able to meet Siemens schedule to ensure the GAC construction maintains their schedule.

FISCAL IMPACT

In Fiscal Year 2006-2007, Council approved an appropriation of \$4,270,709 (712.857426 - \$1,174,514 and 715.857425 - \$3,546,195) to carry forward for the Mission Basin Groundwater Purification Facility Expansion Project. The engineer's estimate to lease the equipment for three years and construct the ancillary facilities for the project is \$2,028,000. The construction cost for the project is \$859,020.08 plus \$35,060 for ancillary design services related to the project bringing the total cost for the project to \$1,152,884, so adequate funds are available for the project.

COMMISSION OR COMMITTEE REPORT

The Water/Sewer Committee approved staff's recommendation at its regular scheduled meeting on June 12, 2007.

CITY ATTORNEY'S ANALYSIS

The referenced documents are being reviewed by the City Attorney.

INSURANCE REQUIREMENTS

The City's standard insurance requirements will be met.

RECOMMENDATIONS

Staff and the Water/Sewer Committee recommend that the Utilities Commission recommend that the City Council award a contract in an amount not to exceed \$859,020.08 to Siemens Water Technologies Corp., of La Mirada for the Lease Agreement of Granular Activated Carbon System for TCP Removal at the Mission Basin Groundwater Purification Facility, and authorize the City Manager to execute the agreement upon receipt of all supporting documents; and approve a professional services agreement in an amount not to exceed \$35,060 with Infrastructure Engineering Corporation, of Oceanside for design services related to the project; and authorize the City Manager to execute the agreement.

PREPARED BY:

Greg Blakely
Administrative Manager

Exhibit A - Engineers Cost Estimate
Exhibit B - RFP Mailing List

DATE: June 19, 2007
TO: Utilities Commission
FROM: Lonnie Thibodeaux, Water Utilities Director
SUBJECT: **RECOMMEND ADOPTION OF A RESOLUTION AUTHORIZING ENTERING INTO A PROPOSITION 50 CLEAN BEACH GRANT PROGRAM AGREEMENT WITH THE STATE OF CALIFORNIA AND DESIGNATING THE CITY MANAGER TO SIGN THE AGREEMENT, AND ANY AMENDMENTS THERETO, FOR THE LOWER SAN LUIS REY RIVER BACTERIA SOURCE TRACKING STUDY PROJECT AT THE LOWER SAN LUIS REY RIVER AND THE SAN LUIS REY RIVER MOUTH**

SYNOPSIS

Staff and the Water/Sewer Committee recommend that the Utilities Commission recommend that the City Council adopt a resolution authorizing entering into a Proposition 50 Clean Beach Grant Program Agreement with the State of California and designating the City Manager to sign the agreement, and any amendments thereto, for the Lower San Luis Rey River Bacteria Source Tracking Study Project at the Lower San Luis Rey River and the San Luis Rey River mouth.

BACKGROUND

The Lower San Luis Rey River and river mouth currently suffers from elevated bacterial levels negatively impacting water quality in the river mouth and the adjacent shoreline. In 2005, this beach area was posted due to bacterial exceedance 209 days; 186 days were during one consecutive stretch. The City of Oceanside has been sampling the San Luis Rey River since 1994 to determine the source or sources of the bacterial exceedance. Thus far, the results are inconclusive. One potential source is from birds that frequent a sand island in the river mouth. During low tides when the island is not submerged hundreds of birds are found on the island. When tidal influx causes the island to be submerged, the bird waste is washed from the island and is released into the river mouth flow. It is theorized that this may contribute to bacterial exceedance in the coastal mixing zone.

ANALYSIS

On January 30, 2007, the City of Oceanside, Water Utilities Department submitted a grant application to the State Water Resources Control Board (SWRCB), to partially fund a comprehensive bacteria source identification project along the San Luis Rey

River within the City of Oceanside. This project has been recommended for funding by the SWRCB, which is currently accepting documents from the City of Oceanside to finalize the grant agreement.

The Lower San Luis Rey River Bacteria Source Tracking Project proposes to use multi-tiered testing methods to “fingerprint” the types of bacteria that are collected and analyzed from seven locations along the river, including the river mouth. Oceanside currently collects bacterial samples at these seven sites. This grant will fund the multi-tiered analyses approach to determine the source of the bacteria. Once these sources are definitively established, methods to eliminate the input of these sources will be evaluated.

FISCAL IMPACT

The grant award is \$554,375 and the terms of the grant require matching funds. The Water Utilities Department’s cost matching share of \$25,000 will come from the Clean Water Program adopted budget (711.666771.5229) for fiscal year 2007-2008. The remaining \$116,750 will be in-kind services between the County of San Diego and the City of Oceanside for project development and oversight, for a project total of \$696,125. Funding of this grant does not take place until the agreement between SWRCB and the City of Oceanside is executed.

COMMISSION OR COMMITTEE REPORT

The Water/Sewer Committee approved staff’s recommendation at its regular scheduled meeting on June 12, 2007.

CITY ATTORNEY’S ANALYSIS

The referenced documents are being reviewed by the City Attorney’s office.

RECOMMENDATIONS

Staff and the Water/Sewer Committee recommend that the Utilities Commission recommend that the City Council adopt a resolution authorizing entering into a Proposition 50 Clean Beach Grant Program Agreement with the State of California and designating the City Manager to sign the agreement, and any amendments thereto, for the Lower San Luis Rey River Bacteria Source Tracking Study Project at the Lower San Luis Rey River and the San Luis Rey River mouth.

PREPARED BY:

Greg Blakely
Administration Manager