
Rancho Murieta

Community Services District

Serving the community for over 30 years.



Water Supply Augmentation Fee
and
Facilities Capital Improvement Fee Study Update

November 8, 2017



Prepared by



COASTLAND

CIVIL ENGINEERING - CONSTRUCTION MANAGEMENT - BUILDING DEPARTMENT SERVICES

SECTION I. INTRODUCTION

Rancho Murieta is an unincorporated community located in southeastern Sacramento County. The community is generally bounded by Stonehouse Road to the west, Highway 16 to the south, Latrobe Road to the north, and Michigan Bar Road to the east. A portion of the community is located south of Highway 16 and in this area is bounded to the south by the Cosumnes River.

Rancho Murieta Community Services District (District) was formed in 1982 to provide essential services within the community. The District is an independent special district that provides essential services to an area of 3,500 acres, with a current population within the District of approximately 5,600 people. Figure 1 presents the boundaries of the District along with a general vicinity map of the area.

The essential services provided by the District consist of the following:

- Security
- Water treatment, storage, and distribution
- Wastewater collection, treatment, and reuse
- Storm drainage collection and disposal
- Solid waste collection

State law authorizes the District to charge new development for capital facilities, conditioned upon the requirement that the charges imposed on new development bear a reasonable and defensible relationship to the needs created by and the benefits accruing to that development. This authority is granted to the District by Government Code Sections 61115, 61123, and 66013 and other laws. Excerpts of the pertinent sections of Government Code are included in Appendix A.

In order to provide funding for the logical expansion of infrastructure needed to provide these essential services to new development, the District currently collects a Water Supply Augmentation Fee and a Community Facilities Fee. The District relies upon water rights from the Cosumnes River to meet the water demands of the service area. The District's Board of Directors (Board) recognized that existing raw water supplies are inadequate to accommodate buildout of the District's service area and new water supply sources are needed. Consequently, a water supply augmentation fee was established to provide a funding mechanism to expand the existing raw water system to meet the build-out demands of the District. As originally planned, the augmentation fee would fund groundwater wells to augment the District's surface water supply.

In order to fund improvements necessary to provide the essential services to new development, the District adopted a Community Facilities Fee based on a list of facilities capital improvement projects and capital equipment identified as necessary to accommodate build-out of the service area at that time. The Community Facilities Fee actually will consist of four separate accounts or sub-fees: water, sewer, drainage, and security capital improvement fees.

The current fees are set forth in District Code, Chapter 8. Most recently, on July 7, 2014, the District adopted Ordinance 2014-02, adjusting the current Water Supply Augmentation fee at \$4,660 per equivalent dwelling unit (EDU) and the current Community Facilities Fee at \$1,180 per EDU. Over the years, fees have been collected by the District and a summary of funds collected by the District is provided in Section II of this report.

The service area of the District is not yet fully built out. The development projects that are planned to move forward within the service area of the District are discussed in more detail in Section III of this report.

Currently, the District delivers recycled water to the two Rancho Murieta golf courses as a supplemental water supply. Recently, the Board decided to expand the recycled water system within the community outside of the two golf courses, recognizing that expansion of recycled water use for landscape irrigation provided for a more reliable additional water supply source as a means of augmenting the existing raw water supply, in lieu of new groundwater wells. In order to implement this vision, the District embarked on a recycled water master planning effort. A new list of water supply augmentation projects, related to recycled water, originated from this effort and is presented in the Kennedy Jenks report titled "Recycled Water Program Preliminary Design Report" dated January 2017. More information on these water supply augmentation projects is provided in Section IV of this report.

The purpose of the water supply augmentation fee remains the same, which is to fund the development of an additional water supply to meet the water supply needs of new development. However, the means of attaining that objective have been changed from the development and installation of new groundwater supply wells to the development and construction of an expanded recycled water system. The delivery of recycled water to additional non-potable uses (made possible through the development of recycled water improvements) frees up additional treated water to serve the needs of new development.

The original facilities capital improvement projects and capital equipment list are such that many of the outstanding projects and equipment are no longer appropriate to serve build-out of the District. Therefore, an updated list of the facilities capital improvement projects and capital equipment needs was researched and prepared, to allow the District to provide for the orderly expansion of District facilities to accommodate the remaining growth planned within the District's service boundary. The new list of facilities capital improvement projects and equipment was approved by the Board at meetings held on May 17, 2017, and June 21, 2017. The new list of water capital improvement projects, sewer capital improvement projects, drainage capital improvement projects, and administration capital improvement projects is discussed in more detail in Section V of this report. Since the May 17 and June 21 Board meetings, District staff and Coastland have further evaluated the list of projects and cost estimates and Coastland has prepared a revised, updated Technical Memorandum dated August 29, 2017 (attached as Appendix D) providing additional information for the proposed capital improvement projects and equipment and supporting cost estimates.

While new groundwater wells no longer are being considered to supply water for new development, the District is planning to install an emergency groundwater well that would be on standby and used only in emergency situations and other exigent circumstances affecting the District's normal surface water supply. The emergency well will be funded through the water capital improvement fee and grants and the local costs of the well will be shared on a pro rata basis between the existing ratepayers and new development. This project, and others, that benefit both existing ratepayers and new development, are discussed in more detail in Section VI.

As this list of projects is being updated, the District must also revisit the current fee structure for the Water Supply Augmentation Fee and Community Facilities Fees to ensure that the fees are reasonable and based only on current identified needs and costs. There are a number of methodologies available to calculate fees. The most widely and legally defensible methodologies

used for calculating capital fees for future users are the system buy-in, incremental cost, and hybrid.

The system buy-in approach rests on the premise that new customers are entitled to service at the same price and quality as existing customers. This approach is commonly used in the following cases when:

- Existing customers have already developed the facilities that will serve new customers, including the costs associated with financing those services.
- The public agency doesn't have a comprehensive, long-term capital improvement plan.
- Buy-in rate is sufficient to cover future capital needs.

Under the incremental-cost approach, new customers pay for additional capacity requirements, which are typically tied directly to a Capital Improvement Master Plan. Future costs are spread over remaining users/demand. Any existing facilities with additional capacity are also included to ensure new development pays their fair share.

The hybrid is simply a combination of the system buy-in approach and incremental-cost approach.

There are multiple reasons to utilize the incremental cost approach to establish the modified water supply augmentation, water capital improvement, sewer capital improvement, drainage capital improvement, and security capital improvement fees. First, the District has identified a new list of water supply augmentation projects, facilities capital improvements projects, and facilities capital equipment to serve build-out of the District's service area and has identified the specific areas within the service area that will benefit. Second, prior projects constructed with excess capacity were all previously paid for by the new users that would receive benefit from the projects, meaning there are no projects that new users must buy into. The fee calculation methodology is discussed in Section VII.

Section VIII of this report provides a comparison of proposed fees to existing similar fees of nearby jurisdictions and districts. Section IX provides recommended actions pertaining to the proposed fees for the next five years.

SECTION II. EXISTING FEES AND BALANCES

In the past, the funds collected through the Community Facilities Fees have included an allocation toward administration facilities. To date, the District has collected \$559,835 in fees toward administration capital. The District has determined that the administration facilities proposed will serve as support facilities which benefit the other four capital improvement categories and that it is more appropriate to fund the administration facilities through the other four capital improvement fees. Consequently, the administration portion of the Community Facilities fee will no longer be collected, and the current administration facilities fund balance will be reallocated to the water, sewer, drainage, and security capital improvement fee accounts per the following percentages, consistent with District audited financial statements.

- Water: 38.9%
- Sewer: 29.7%
- Drainage: 6.3%
- Security: 25.1%

These administration capital fees are existing fees collected to date by the District and are not associated with funds needed for administration capital improvement projects and capital equipment discussed in Section V of this report.

Over the years, the District has been collecting fees from all new connections to cover the costs for new capital improvements to serve the needs of new development. Some of these funds have been temporarily loaned out to other District enterprise funds, in accordance with Board actions. As of May 31, 2017, the amount of cash on hand and loan balances to other funds, along with the distribution of administration capital funds currently on account with the District and current balance for the various fee accounts are as follows.

Table 1 – Current Balance Summary

Fee Account	Cash on Hand	Loan Balance	Administration Capital Fee Distribution	Current Balance
Water Supply Augmentation	\$1,698,790	\$382,964	\$0	\$2,081,754
Water Capital	-\$245,589	\$0	\$217,776	-\$27,813
Sewer Capital	-\$49,563	\$0	\$166,271	\$116,708
Drainage Capital	\$235,171	\$65,106	\$35,270	\$335,547
Security Capital	-\$136,350	\$0	\$140,518	\$4,168
TOTAL	\$1,502,459	\$448,070	\$559,835	\$2,510,364

There are upcoming costs for studies necessary to accommodate new growth that will be funded from these four fee accounts and the Water Supply Augmentation Fee that have not yet been expended by the District. In particular, the District is embarking on an Electronic Document Management System, at a total estimated cost of \$58,000. The District has determined that \$20,000 of this sum benefits new development. The \$20,000 therefore will be funded out the monies in the four Community Facilities Fee accounts, to be split at the Community Facilities Fee percentages identified above. No other expenditures of capital funds are envisioned during the existing fiscal year.

Further, the fee account funds will be used to pay costs for the Kennedy Jenks Recycled Water/Pre-design Report and Sewer Force Main Assessment and this Coastland fee report. The anticipated total remaining costs for the Kennedy Jenks studies are estimated at \$13,264, to be funded out of Water Supply Augmentation. The anticipated total remaining costs for the Coastland report is estimated at \$41,058, to be split 50% to Water Supply Augmentation Fee and 50% to the Community Facilities Fee percentages identified above. The District determined that the 50%/50% allocation is appropriate because the fee report was prepared to support and aid in the re-evaluation and adjustment of both fee categories. Lastly, revenue is needed to pay for an updated fee report to be prepared in five years. The cost of that report is estimated at \$60,000, to be split 50% to Water Supply Augmentation Fee and 50% to the Community Facilities Fee percentages identified above.

These anticipated costs will reduce the current balance of each fund. The costs and adjusted balances for each of the five fee accounts is as follows.

Table 2 – Adjusted Balance Summary

Fee Account	Current Balance	Anticipated Costs	Adjusted Balance
Water Supply Augmentation	\$2,081,754	\$63,793	\$2,017,961
Water Capital	-\$27,813	\$27,436	-\$55,249
Sewer Capital	\$116,708	\$20,947	\$95,761
Drainage Capital	\$335,547	\$4,443	\$331,104
Security Capital	\$4,168	\$17,703	-\$13,535
TOTAL	\$2,510,364	\$134,322	\$2,436,042

SECTION III. PROPOSED DEVELOPMENT PROJECTS

A number of development projects are proposed within the District's boundary. A map of the development projects is presented in Figure 2. These projects are in various stages of planning, from fully entitled and in development to planned, and consist of the remaining undeveloped areas within the District's service boundary. Table 3 provides a summary of these development projects, along with the estimated equivalent dwelling units (EDUs) for each project. Figure 2 and Table 3 are consistent with the County of Sacramento General Plan and master plan for Rancho Murieta.

The estimated total number of new EDUs is 1,718.1. Additional information on the proposed projects and the methodology employed to determine EDUs is presented in the Coastland technical memorandum dated September 8, 2017 titled "Development Projects and EDU Calculation Summary", included as Appendix B.

As discussed in the technical memorandum, the methodology for calculation of EDUs for non-residential projects is proposed to be changed. The District's current methodology equates EDUs to developed square footage, whereas the proposed methodology equates EDUs to water meter size, based on industry standards identified by American Water Works Association. Additional information to justify this changed methodology is also included in the technical memorandum cited above.

Table 3 – Development Project Summary

Name of Development	Status of Application	Total EDUs for Project
Riverview	Entitled	126.8
Lakeview	Entitled	89.1
Residences – East	Entitled	95.5
Residences – West	Entitled	89.1
Retreats West, North, and East ^a	Entitled	46.2
Murieta Gardens (commercial) ^b	Entitled	71.0
Murieta Gardens (residential)	Entitled	70.2
Industrial/Commercial/Residential 39 ^c	Pending	160.0
Village A (Terrace)	Pending	119.1
Village B (River Canyon)	Pending	136.0
Village C (Highlands)	Pending	61.2
Village D (Granlee)	Pending	70.0
Village E (The Village at Lake Jean)	Pending	57.5
Village F (Chesbro Square)	Pending	81.0
Village G (Calero East)	Pending	50.0
Village G (Calero West)	Pending	
Village G (Calero North)	Pending	
Village H (Calero South)	Pending	88.4
Parks ^d	Constructed/Pending	246.0
Others ^e	Future	10.0
Apartment 17 ^f	Anticipated	51.0

- a. 84 Total EDUs; 18 EDUs of fees already paid.
- b. EDU count based on allocation in Financing and Services Agreement.
- c. Industrial/Commercial/Residential 36: EDU count based on Recycled Water PDR.
- d. Parks are on-line and fees to be paid at a later date per agreement with District.
- e. For projects with minimal information, such as Lookout Hill and FAA Commercial.
- f. Dwelling unit count based on Recycled Water PDR.

SECTION IV. PROPOSED WATER SUPPLY AUGMENTATION PROJECTS

As discussed in Section I, the list of water supply augmentation projects to be funded by the Water Supply Augmentation fee is based on the Kennedy Jenks report titled “Recycled Water Program Preliminary Design Report” dated January 2017 and the Coastland Technical Memorandum

dated June 27, 2017. A list of the eighteen projects and estimated overall cost for each project is presented in Table 4 below.

Table 4 – Water Supply Augmentation Project Summary

Project Number	Project Name	Project Estimate
17-5-01	Recycled Water SCADA Control System	\$331,250
17-5-02	Equalization Basin Potable Water Air Gap	\$100,700
17-5-03	Recycled Water Pumping Station	\$1,384,625
17-5-04	District Headquarters Conversion	\$26,500
17-5-05	Northwest Recycled Water Transmission Main	\$1,909,325
17-5-06	Lookout Hill Booster Pump Station	\$810,900
17-5-07	Escuela Park Conversion	\$21,200
17-5-08	Stonehouse Park Conversion	\$47,700
17-5-09	Lookout Hill Water Storage Tank	\$722,125
17-5-10	North Main Gate Conversion	\$23,850
17-5-11	Commercial Loop Conversion	\$33,125
17-5-12	SCADA Upgrades	\$108,650
17-5-13	Disinfection Facility Upgrade	\$881,125
17-5-14	North Golf Course Conveyance System	\$2,146,500
17-5-15	Bass Lake Tank	\$1,611,200
17-5-16	Bass Lake Booster Pump Station	\$828,125
17-5-17	Seasonal Storage Reservoir Expansion	\$1,099,750
17-5-18	Tertiary Pump Station Pump Replacement	\$132,500
Project Total		\$12,219,150

Additional information on the proposed Water Supply Augmentation Projects is presented in the Coastland technical memorandum dated June 27, 2017, titled “Water Supply Augmentation Project – Recycled Water Program”, included as Appendix C.

The January 2017 Recycled Water Program Preliminary Design Report includes the Van Vleck/Anderson Spray Field 4 project (CIP 17-2-15) as one of the water supply augmentation projects. For purposes of this fee report, that project has been moved from the water supply augmentation fee list of projects to the sewer capacity charge list of projects, because based on subsequent analysis District staff and Coastland determined that the spray field improvements are more closely related to wastewater disposal and therefore should be funded through the sewer capital improvement fee. The updated Coastland technical memorandum reflects this change.

The water supply augmentation projects listed above will improve and expand the capacity of the District’s recycled water system and will allow the District to significantly expand its use of recycled water. The effect of these improvements will be to reduce the use of the treated water supply and make more of that water supply available to serve new development, essentially augmenting the District’s water supply. These improvements are not necessary to provide on-going water service

to existing users and ratepayers. Consequently, the costs of the water supply augmentation projects are allocated 100% to new development.

SECTION V. PROPOSED FACILITY CAPITAL IMPROVEMENT PROJECTS AND COSTS

As discussed in Section I, the District revisited the individual facility capital improvement projects and capital equipment. A list of these items and estimated overall cost for each individual item are presented in Tables 5 through 8 below.

Table 5 – Water Capital Improvement Project and Capital Equipment Project Summary

Project No.	Project Name	Project Est.
17-1-01	Rio Oso Hydropneumatic Station Air Compressor	\$29,120
17-1-02	Booster Pump Building at Rio Oso	\$508,200
17-1-03	Rio Oso Hydropneumatic Tank	\$213,500
17-1-04	Culvert Crossing at Water Treatment Plant	\$159,880
17-1-05	Dam Road Grading and Resurfacing	\$1,227,600
17-1-06	Chlorine Gas to Bleach Conversion - Water Treatment Plant	\$352,940
17-1-07	Maintenance Shed (20' x 40') at Water Treatment Plant	\$67,480
17-1-08	Emergency Water Supply Well	\$1,043,200
Water Capital Improvement Project and Capital Equipment Total		\$3,601,920

Table 6 – Sewer Capital Improvement Project and Capital Equipment Project Summary

Project No.	Project Name	Project Est.
17-2-01	Sewer/Drainage Hydro Cleaning Truck (Split 50/50 Sewer & Drainage)	\$168,000
17-2-02	Material and Equipment Warehouse	\$147,840
17-2-03	Drying Bed and Access Road Improvements	\$605,500
17-2-04	Chlorine Gas to Bleach Conversion - Wastewater Treatment Plant	\$266,140
17-2-05	WWTP SCADA Monitoring	\$225,400
17-2-06	Lift Station Capacity Improvements	\$997,920
17-2-07	Fiber Optic Connection - Wastewater Treatment Plant to Admin Building	\$136,780
17-2-08	Piping Connection - Sludge Discharge to Drying Beds	\$380,660
17-2-09	Sludge Dredge & Filter Skid for Ponds	\$471,240
17-2-10	Headworks	\$641,200
17-2-13	Motor Actuated Valve for Sludge Drying Bed	\$60,000
17-2-14	Yellow Bridge Sewer Force Main Improvements	\$167,000
17-2-15	Anderson Ranch Spray Field 4	\$1,179,250
Sewer Capital Improvement Project and Capital Equipment Total		\$5,446,930

Table 7 – Drainage Capital Improvement Project and Capital Equipment Project Summary

Project No.	Project Name	Project Est.
17-2-01	Sewer/Drainage Hydro Cleaning Truck (Split 50/50 Sewer & Drainage)	\$168,000
17-2-11	Commercial Area Drainage Slide Gate Automation	\$55,440
17-2-12	Stormwater Monitoring Testing Equipment	\$43,680
17-2-16	Trash Containment Structures	\$115,000
Drainage Capital Improvement Project and Capital Equipment Total		\$382,120

Table 8 – Administration Capital Improvement Project and Capital Equipment Project Summary

Project No.	Project Name	Project Est.
17-4-01	District Administration Building Remodel/Expansion	\$400,960
Administration Capital Improvement Project and Capital Equipment Total		\$400,960

While not currently identified as drainage capital improvement projects, there are several projects which are currently being vetted by the District and may be added to the drainage capital improvement project list once additional information is obtained to confirm that new development will receive benefit from these projects. These projects include:

1. Laguna Joaquin Water Quality Enhancements
2. Inundation Studies for Calero, Chesbro, and Clementia reservoirs and Michigan Bar Levees #1 & #2
3. Expansion of drainage retention basins and culverts

Additional information on the individual facility capital improvement projects and capital equipment, specifically the type of capital improvement, justification, and individual and overall costs are summarized in the Coastland technical memorandum dated August 29, 2017, titled "Facility Capital Improvement Projects", included as Appendix D.

Administration capital costs for CIP 17-4-01 are proposed to be allocated amongst water capital, sewer capital, drainage capital, and security capital based upon the percentages identified in Section II. In summary, the estimated total cost for the administration capital improvement projects and capital equipment to each of the four capital improvement fee accounts is as follows:

- Water Capital Improvement: \$155,973
- Sewer Capital Improvement: \$119,085
- Drainage Capital Improvement: \$25,261
- Security Capital Improvement: \$100,641

SECTION VI. EXISTING AND FUTURE USER SHARED BENEFIT

State law requires that the District reasonably apportion the costs for the facilities capital improvement projects and capital equipment between existing users and new development. Of the 25 facilities capital improvement projects and capital equipment, a total of ten will benefit both existing users and new development. These are as follows:

- CIP 17-1-04: Culvert Crossing at Water Treatment Plant
- CIP 17-1-06: Chlorine Gas to Sodium Hypochlorite Conversion – Water Treatment Plant
- CIP 17-1-08: Emergency Water Supply Well
- CIP 17-2-01: Sewer/Drainage Hydro Cleaning Truck
- CIP 17-2-04: Chlorine Gas to Sodium Hypochlorite Conversion – Wastewater Treatment Plant
- CIP 17-2-08: Piping Connection – Sludge Discharge to Piping Beds
- CIP 17-2-09: Sludge Dredge and Filter Skid for Ponds
- CIP 17-2-11: Commercial Area Drainage Slide Gate Automation
- CIP 17-2-15: Anderson Ranch Spray Field 4
- CIP 17-2-16: Trash Containment Structures

In order to determine the portion of the project cost attributable to new development, an equitable methodology of allocating costs between existing and future users must be determined. For water and sewer capital improvement projects and capital equipment, the allocation is based on water usage as a proxy. For drainage capital improvement projects and capital equipment, the allocation was based on comparing the remaining undeveloped acreage to the total acreage in the District's service area.

Utilizing the adopted Water Supply Assessment for the Rancho North Project, existing water demand is estimated at 1,711 acre-feet, with usage of 750 gallons per EDU. This equates to 2,036.5 existing EDUs. As discussed in Section III, the proposed number of new EDUs is 1,718.1. Therefore, the percentage between existing users and future development for water and sewer capital improvement projects and capital equipment is determined to be 54% existing and 46% future.

Utilizing the Rancho Murieta North Infrastructure Master Plan, the total area of the District's service area is 3,500 acres, with 1,920 acres undeveloped. Therefore, the percentage between existing users and future development for drainage capital improvement projects and capital equipment is determined to be 45% existing and 55% future, except for CIP 17-2-11. The improvements identified by CIP 17-2-11 serve the commercial area only, and costs should be shared between existing users and new development. The percentage between existing users and future development for CIP 17-2-11 is determined to be 85% existing and 15% future.

Tables 9 through 11 below identify the cost allocation to new development for the water, sewer, and drainage capital improvement projects and capital equipment. The projects that are allocated amongst both new development and existing users are italicized, with the total cost reflective of the cost sharing borne by new development.

Table 9 – Water Capital Improvement Project and Capital Equipment Project New Development Cost Allocation Summary

Project No.	Project Name	Project Est.
17-1-01	Rio Oso Hydropneumatic Station Air Compressor	\$29,120
17-1-02	Booster Pump Building at Rio Oso	\$508,200
17-1-03	Rio Oso Hydropneumatic Tank	\$213,500
17-1-04	<i>Culvert Crossing at Water Treatment Plant</i>	\$73,545
17-1-05	Dam Road Grading and Resurfacing	\$1,227,600
17-1-06	<i>Chlorine Gas to Bleach Conversion - Water Treatment Plant</i>	\$162,352
17-1-07	Maintenance Shed (20' x 40') at Water Treatment Plant	\$67,480
17-1-08	<i>Emergency Water Supply Well</i>	\$479,872
Water Capital Improvement Project and Capital Equipment Total		\$2,761,699

Table 10 – Sewer Capital Improvement Project and Capital Equipment Project New Development Cost Allocation Summary

Project No.	Project Name	Project Est.
17-2-01	<i>Sewer/Drainage Hydro Cleaning Truck (Split 50/50 Sewer & Drainage)</i>	\$77,280
17-2-02	Material and Equipment Warehouse	\$147,840
17-2-03	Drying Bed and Access Road Improvements	\$605,500
17-2-04	<i>Chlorine Gas to Bleach Conversion - Wastewater Treatment Plant</i>	\$122,424
17-2-05	WWTP SCADA Monitoring	\$225,400
17-2-06	Lift Station Capacity Improvements	\$997,920
17-2-07	Fiber Optic Connection - Wastewater Treatment Plant to Admin Building	\$136,780
17-2-08	<i>Piping Connection - Sludge Discharge to Drying Beds</i>	\$175,104
17-2-09	<i>Sludge Dredge & Filter Skid for Ponds</i>	\$216,770
17-2-10	Headworks	\$641,200
17-2-13	Motor Actuated Valve for Sludge Drying Bed	\$60,000
17-2-14	Yellow Bridge Sewer Force Main Improvements	\$167,000
17-2-15	<i>Anderson Ranch Spray Field 4</i>	\$542,455
Sewer Capital Improvement Project and Capital Equipment Total		\$4,115,673

Table 11 – Drainage Capital Improvement Project and Capital Equipment Project New Development Cost Allocation Summary

Project No.	Project Name	Project Est.
17-2-01	<i>Sewer/Drainage Hydro Cleaning Truck (Split 50/50 Sewer & Drainage)</i>	\$92,400
17-2-11	<i>Commercial Area Drainage Slide Gate Automation</i>	\$6,552
17-2-12	Stormwater Monitoring Testing Equipment	\$43,680
17-2-16	<i>Trash Containment Structures</i>	\$63,250
Drainage Capital Improvement Project and Capital Equipment Total		\$205,882

The cost for CIP 17-2-11 applies only to those new development within the Commercial Area.

SECTION VII. PROPOSED FEES

The proposed Water Supply Augmentation Fee and the Community Facilities Fees are based on the total cost allocation to new development divided by the number of EDUs. The development share of project costs for the Community Facilities Fee components includes the allocation of administration capital costs identified in Section V. The final revenue need for each of the fee accounts is presented in Table 12 below.

Table 12 – Final Revenue Need Summary

Fee Account	Development Share of Project Costs	Adjusted Balance	Final Revenue Need
Water Supply Augmentation	\$12,219,150	\$2,017,961	\$10,201,189
Water Capital	\$2,917,672	-\$55,249	\$2,972,921
Sewer Capital	\$4,234,758	\$95,761	\$4,138,997
Drainage Capital	\$231,143	\$331,104	-\$99,961
Security Capital	\$100,641	-\$13,535	\$114,176

In order to determine the proposed fee for each of the five fee accounts, the final revenue need is divided by the number of EDUs (1,718.1). The proposed fee for each of the five fee accounts is as follows.

- Water Supply Augmentation Fee: \$5,938 per EDU
- Community Facilities Fees
 - Water Capital Improvement Fee: \$1,730 per EDU
 - Sewer Capital Improvement Fee: \$2,409 per EDU
 - Drainage Capital Improvement Fee: \$0 per EDU
 - Security Capital Improvement Fee: \$66 per EDU
 - Total Fee: \$4,205 per EDU

The proposed Security Capital Improvement fee is separate from the Security Impact Fee identified by Policy 2016-02, which summarizes the uses of revenue generated by security impact fees authorized per Financing and Service Agreements dated May 27, 2014 with Cosumnes River Land, LLC; Murieta Industrial Park, LLC; Murieta Lakeside Properties, LLC; and Murieta Highlands, LLC (termed “the Rancho North FSA”) and March 28, 2014 with CSGF Rancho Murieta, LLC; BBC Murieta Land, LLC; Murieta Retreats, LLC; Elk Grove Bilby Partners, LP; and PCCP CSGF RB Portfolio, LLC (termed “the 670 FSA”).

SECTION VIII. REGIONAL FEE COMPARISON

Fees for a number of local agencies (County of Sacramento, City of Folsom, City of Galt, and Amador Water Agency) were researched to provide a comparison with the proposed fees for the District. Below are the findings:

- City of Folsom (Water): \$3,105 per unit
- City of Folsom (Wastewater – City and Sacramento County Regional Sanitation District [SRCSD]): \$5,523 per unit
- City of Folsom (Drainage): \$958 per unit
- City of Folsom (Police): \$555 per unit
- City of Galt (Water, proposed): \$6,598 for 1” meter
- City of Galt (Wastewater, proposed): \$7,946 per EDU (at 250 gallons per day)
- City of Galt (Drainage, proposed): \$6,644 per acre
- Sacramento County (Water – Zone 40): \$16,104 per EDU
- Sacramento County (Wastewater – Sacramento Area Sewer District and SRCSD): \$22,657 per EDU
- Sacramento County (Drainage – Zone 11A): \$14,610 per EDU
- Amador Water Agency (Water): \$23,454 for 1” meter
- Amador Water Agency (Wastewater): \$9,380 per dwelling unit (at 200 gpd)

As identified above, the closest comparator is the City of Folsom. The total fees per unit for water, wastewater, drainage, and police within the City of Folsom equal \$10,141. The proposed fees (excluding Security Impact Fee) for the District equal \$10,143. Fees for all other agencies are notably higher.

SECTION IX. FUTURE RECOMMENDED ACTIONS

Coastland recommends that the District adjust both the Water Supply Augmentation Fee and the Capital Facilities Fee annually by the ENR Construction Cost Index, using either the 20-city index or the San Francisco specific index. In addition, Coastland recommends that the identified projects and equipment, fee calculation methodology, and fees be re-visited every five years to ensure that the fee reflects the current costs and the current needs of the District. If Districts needs change or construction costs increase or decrease drastically before the next fee study, the fee study and ordinance can be amended accordingly.

This report recognizes that some of the major recycled water infrastructure system that is identified in the technical memorandum titled “Water Supply Augmentation Project – Recycled Water Program” will likely be constructed by developers in conjunction with their projects. Similarly, there may be certain other water, sewer, or drainage improvements constructed by

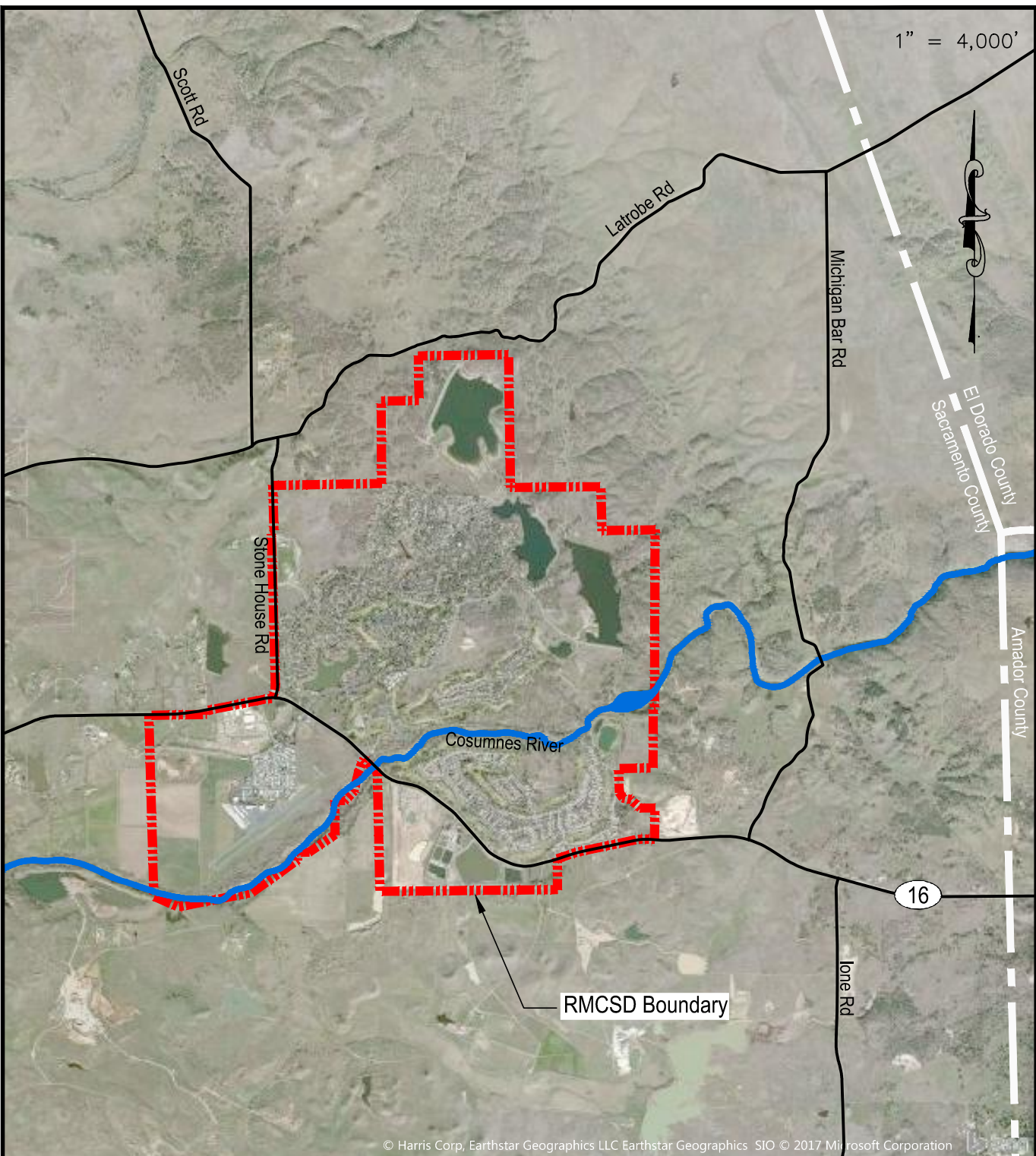
developers. Any appropriate fee credits will be given to developers, which will be applied against the impact fees due to the District at issuance of building permits or other timeframe as identified by the District. The exact amount of fee credits or reimbursements will be determined on a case-by-case basis, through development agreements, contract or a subsequent ordinance, and will be reflective of actual costs of those improvements identified in this report.

Lastly, as discussed in Section V, additional vetting is necessary to determine the merit of adding the following projects to the drainage capital improvement project list:

1. Laguna Joaquin Water Quality Enhancements
2. Inundation Studies for Calero, Chesbro, and Clementia reservoirs and Michigan Bar Levees #1 & #2
3. Expansion of drainage retention basins and culverts

ORIGINAL PLOT DATE: LOCATION MAP

1" = 4,000'



Images: Rancho Murieta.png; Xrefs: Path: F:\BMAP-STD\Rancho Murieta CSD\PM Fig 1 Vic Map.dwg Layout Name: Fig 1 Vic Map 8.5x11 Plot Date: Jul 07, 2017 at 05:31 pm

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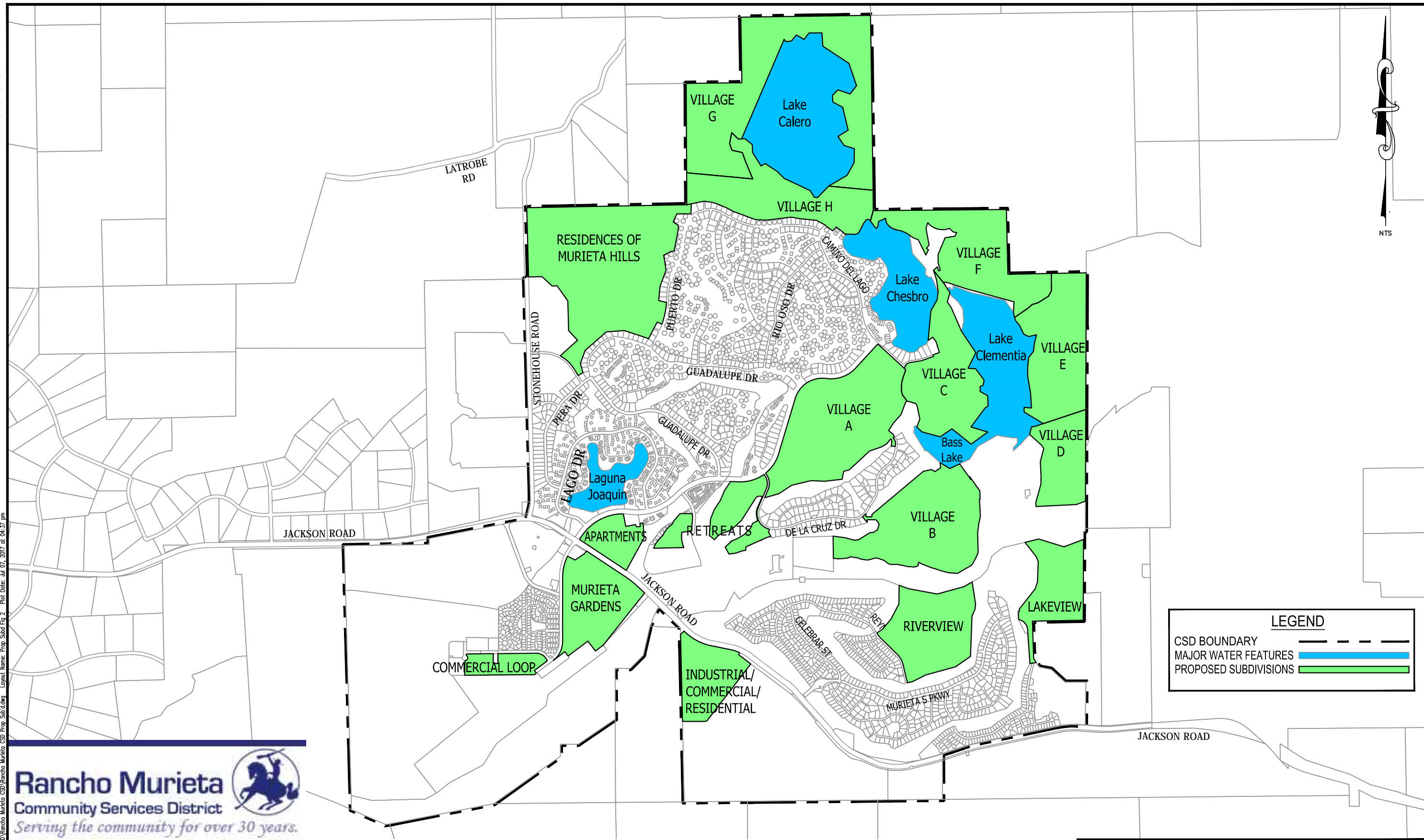



Coastland Civil Engineering, Inc.
 11865 Edgewood Road, Auburn, CA 95603
 530.888.9929 530.889.9979 Fax

RANCHO MURIETA CSD
 COMMUNITY SERVICES DISTRICT
 FIGURE 1 VICINITY MAP

ORIGINAL PLOT DATE:

Images: Rancho Murieta\Prop\Subdiv\Fig 2 - Yuris: Rancho Murieta CSD Baseplan.dwg
Plan: E:\MAP-STD\Rancho Murieta CSD Prop Sub\Subdiv Layout Name: Prop Sub\Fig 2 Plot Date: Jul 07, 2007 at 04:37 pm



LEGEND

- CSD BOUNDARY
- MAJOR WATER FEATURES
- PROPOSED SUBDIVISIONS

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RANCHO MURIETA CSD
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FIGURE 2 PROPOSED SUBDIVISIONS

Appendix A

**Government Code Sections 66013,
66016-66019, and 66022**

Appendix A – Government Code Sections 66013, 66016-66019, and 66022

Section 66013

(a) Notwithstanding any other provision of law, when a local agency imposes fees for water connections or sewer connections, or imposes capacity charges, those fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed, unless a question regarding the amount of the fee or charge imposed in excess of the estimated reasonable cost of providing the services or materials is submitted to, and approved by, a popular vote of two-thirds of those electors voting on the issue.

(b) As used in this section:

(1) "Sewer connection" means the connection of a structure or project to a public sewer system.

(2) "Water connection" means the connection of a structure or project to a public water system, as defined in subdivision (f) of Section 116275 of the Health and Safety Code.

(3) "Capacity charge" means a charge for public facilities in existence at the time a charge is imposed or charges for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged, including supply or capacity contracts for rights or entitlements, real property interests, and entitlements and other rights of the local agency involving capital expense relating to its use of existing or new public facilities. A "capacity charge" does not include a commodity charge.

(4) "Local agency" means a local agency as defined in Section 66000.

(5) "Fee" means a fee for the physical facilities necessary to make a water connection or sewer connection, including, but not limited to, meters, meter boxes, and pipelines from the structure or project to a water distribution line or sewer main, and that does not exceed the estimated reasonable cost of labor and materials for installation of those facilities.

(6) "Public facilities" means public facilities as defined in Section 66000.

(c) A local agency receiving payment of a charge as specified in paragraph (3) of subdivision (b) shall deposit it in a separate capital facilities fund with other charges received, and account for the charges in a manner to avoid any commingling with other moneys of the local agency, except for investments, and shall expend those charges solely for the purposes for which the charges were collected. Any interest income earned from the investment of moneys in the capital facilities fund shall be deposited in that fund.

(d) For a fund established pursuant to subdivision (c), a local agency shall make available to the public, within 180 days after the last day of each fiscal year, the following information for that fiscal year:

- (1) A description of the charges deposited in the fund.
- (2) The beginning and ending balance of the fund and the interest earned from investment of moneys in the fund.
- (3) The amount of charges collected in that fiscal year.
- (4) An identification of all of the following:
 - (A) Each public improvement on which charges were expended and the amount of the expenditure for each improvement, including the percentage of the total cost of the public improvement that was funded with those charges if more than one source of funding was used.
 - (B) Each public improvement on which charges were expended that was completed during that fiscal year.
 - (C) Each public improvement that is anticipated to be undertaken in the following fiscal year.
- (5) A description of each interfund transfer or loan made from the capital facilities fund. The information provided, in the case of an interfund transfer, shall identify the public improvements on which the transferred moneys are, or will be, expended. The information, in the case of an interfund loan, shall include the date on which the loan will be repaid, and the rate of interest that the fund will receive on the loan.
- (e) The information required pursuant to subdivision (d) may be included in the local agency's annual financial report.
- (f) The provisions of subdivisions (c) and (d) shall not apply to any of the following:
 - (1) Moneys received to construct public facilities pursuant to a contract between a local agency and a person or entity, including, but not limited to, a reimbursement agreement pursuant to Section 66003.
 - (2) Charges that are used to pay existing debt service or which are subject to a contract with a trustee for bondholders that requires a different accounting of the charges, or charges that are used to reimburse the local agency or to reimburse a person or entity who advanced funds under a reimbursement agreement or contract for facilities in existence at the time the charges are collected.
 - (3) Charges collected on or before December 31, 1998.
- (g) Any judicial action or proceeding to attack, review, set aside, void, or annul the ordinance, resolution, or motion imposing a fee or capacity charge subject to this section shall be brought pursuant to Section 66022.
- (h) Fees and charges subject to this section are not subject to the provisions of Chapter 5 (commencing with Section 66000), but are subject to the provisions of Sections 66016, 66022, and 66023.
- (i) The provisions of subdivisions (c) and (d) shall only apply to capacity charges levied pursuant to this section.

Section 66016

(a) Prior to levying a new fee or service charge, or prior to approving an increase in an existing fee or service charge, a local agency shall hold at least one open and public meeting, at which oral or written presentations can be made, as part of a regularly scheduled meeting. Notice of the time and place of the meeting, including a general explanation of the matter to be considered, and a statement that the data required by this section is available, shall be mailed at least 14 days prior to the meeting to any interested party who files a written request with the local agency for mailed notice of the meeting on new or increased fees or service charges. Any written request for mailed notices shall be valid for one year from the date on which it is filed unless a renewal request is filed. Renewal requests for mailed notices shall be filed on or before April 1 of each year. The legislative body may establish a reasonable annual charge for sending notices based on the estimated cost of providing the service. At least 10 days prior to the meeting, the local agency shall make available to the public data indicating the amount of cost, or estimated cost, required to provide the service for which the fee or service charge is levied and the revenue sources anticipated to provide the service, including General Fund revenues. Unless there has been voter approval, as prescribed by Section 66013 or 66014, no local agency shall levy a new fee or service charge or increase an existing fee or service charge to an amount which exceeds the estimated amount required to provide the service for which the fee or service charge is levied. If, however, the fees or service charges create revenues in excess of actual cost, those revenues shall be used to reduce the fee or service charge creating the excess.

(b) Any action by a local agency to levy a new fee or service charge or to approve an increase in an existing fee or service charge shall be taken only by ordinance or resolution. The legislative body of a local agency shall not delegate the authority to adopt a new fee or service charge, or to increase a fee or service charge.

(c) Any costs incurred by a local agency in conducting the meeting or meetings required pursuant to subdivision (a) may be recovered from fees charged for the services which were the subject of the meeting.

(d) This section shall apply only to fees and charges as described in Sections 51287, 56383, 65104, 65456, 65584.1, 65863.7, 65909.5, 66013, 66014, and 66451.2 of this code, Sections 17951, 19132.3, and 19852 of the Health and Safety Code, Section 41901 of the Public Resources Code, and Section 21671.5 of the Public Utilities Code.

(e) Any judicial action or proceeding to attack, review, set aside, void, or annul the ordinance, resolution, or motion levying a fee or service charge subject to this section shall be brought pursuant to Section 66022.

Section 66017

(a) Any action adopting a fee or charge, or increasing a fee or charge adopted, upon a development project, as defined in Section 66000, which applies to the filing, accepting, reviewing, approving, or issuing of an application, permit, or entitlement to use shall be enacted in accordance with the notice and public hearing procedures

specified in Section 54986 or 66016 and shall be effective no sooner than 60 days following the final action on the adoption of the fee or charge or increase in the fee or charge.

(b) Without following the procedure otherwise required for the adoption of a fee or charge, or increasing a fee or charge, the legislative body of a local agency may adopt an urgency measure as an interim authorization for a fee or charge, or increase in a fee or charge, to protect the public health, welfare and safety. The interim authorization shall require four-fifths vote of the legislative body for adoption. The interim authorization shall have no force or effect 30 days after its adoption. The interim authority shall contain findings describing the current and immediate threat to the public health, welfare, and safety. After notice and public hearing pursuant to Section 54986 or 66016, the legislative body may extend the interim authority for an additional 30 days. Not more than two extensions may be granted. Any extension shall also require a four-fifths vote of the legislative body.

Section 66018

(a) Prior to adopting an ordinance, resolution, or other legislative enactment adopting a new fee or approving an increase in an existing fee to which this section applies, a local agency shall hold a public hearing, at which oral or written presentations can be made, as part of a regularly scheduled meeting. Notice of the time and place of the meeting, including a general explanation of the matter to be considered, shall be published in accordance with Section 6062a.

(b) Any costs incurred by a local agency in conducting the hearing required pursuant to subdivision (a) may be recovered as part of the fees which were the subject of the hearing.

(c) This section applies only to the adopting or increasing of fees to which a specific statutory notice requirement, other than Section 54954.2, does not apply.

(d) As used in this section, "fees" do not include rates or charges for water, sewer, or electrical service.

Section 66018.5.

"Local agency," as used in this chapter, has the same meaning as provided in Section 66000.

Section 66019

(a) As used in this section:

(1) "Fee" means a fee as defined in Section 66000, but does not include any of the following:

(A) A fee authorized pursuant to Section 66013.

(B) A fee authorized pursuant to Section 17620 of the Education Code, or Sections 65995.5 and 65995.7.

(C) Rates or charges for water, sewer, or electrical services.

(D) Fees subject to Section 66016.

(2) "Party" means a person, entity, or organization representing a group of people or entities.

(3) "Public facility" means a public facility as defined in Section 66000.

(b) For any fee, notice of the time and place of the meeting, including a general explanation of the matter to be considered, and a statement that the data required by this subdivision is available shall be mailed at least 14 days prior to the first meeting to an interested party who files a written request with the city, county, or city and county for mailed notice of a meeting on a new or increased fee to be enacted by the city, county, or city and county. Any written request for mailed notices shall be valid for one year from the date on which it is filed unless a renewal request is filed. Renewal requests for mailed notices shall be filed on or before April 1 of each year. The legislative body of the city, county, or city and county may establish a reasonable annual charge for sending notices based on the estimated cost of providing the service. The legislative body may send the notice electronically. At least 10 days prior to the meeting, the city, county, or city and county shall make available to the public the data indicating the amount of cost, or the estimated cost, required to provide the public facilities and the revenue sources anticipated to fund those public facilities, including general fund revenues. The new or increased fee shall be effective no earlier than 60 days following the final action on the adoption or increase of the fee, unless the city, county, or city and county follows the procedures set forth in subdivision (b) of Section 66017.

(c) If a city, county, or city and county receives a request for mailed notice pursuant to this section, or a local agency receives a request for mailed notice pursuant to Section 66016, the city, county, or city and county or other local agency may provide the notice via electronic mail for those who specifically request electronic mail notification. A city, county, city or county, or other local agency that provides electronic mail notification pursuant to this subdivision shall send the electronic mail notification to the electronic mail address indicated in the request. The electronic mail notification authorized by this subdivision shall operate as an alternative to the mailed notice required by this section.

Section 66022.

(a) Any judicial action or proceeding to attack, review, set aside, void, or annul an ordinance, resolution, or motion adopting a new fee or service charge, or modifying or amending an existing fee or service charge, adopted by a local agency, as defined in Section 66000, shall be commenced within 120 days of the effective date of the ordinance, resolution, or motion.

If an ordinance, resolution, or motion provides for an automatic adjustment in a fee or service charge, and the automatic adjustment results in an increase in the amount

of a fee or service charge, any action or proceeding to attack, review, set aside, void, or annul the increase shall be commenced within 120 days of the effective date of the increase.

(b) Any action by a local agency or interested person under this section shall be brought pursuant to Chapter 9 (commencing with Section 860) of Title 10 of Part 2 of the Code of Civil Procedure.

(c) This section shall apply only to fees, capacity charges, and service charges described in and subject to Sections 66013, 66014, and 66016.

Appendix B

Development Projects and EDU Summary Calculation Technical Memorandum



COASTLAND

CIVIL ENGINEERING - CONSTRUCTION MANAGEMENT - BUILDING DEPARTMENT SERVICES

Final Technical Memorandum

Date: September 8, 2017

To: Rancho Murieta Community Services District

From: John Griffin
Marc Fernandez

Reviewed By: Dane Schilling

Subject: Development Projects and EDU Calculation Summary

In support of the Rancho Murieta Community Services District (District) Water Supply Augmentation Fee Update and Capital Improvement Fee Update, Coastland has prepared this Development Projects and Equivalent Dwelling Unit (EDU) Calculation Summary Technical Memorandum (Tech Memo) to summarize the various development projects within the District's service area that are in various stages of the entitlement process and will contribute funding toward the water supply augmentation and capital improvements projects identified in the Water Supply Augmentation Capital Improvements Program Tech Memo and the Facilities Capital Improvements Program Tech Memo. This Tech Memo also provides a summary of the overall methodology for determining water usage of the various land uses currently identified in the development projects and the calculations supporting the determination of EDUs for these various development projects.

BACKGROUND

The District was formed in 1982 by State Government Code 61000 to provide essential services in Rancho Murieta. The District provides essential services to an area of 3,500 acres located in eastern Sacramento County. Land use decisions within the District are governed by Sacramento County. The current population within the District is approximately 5,600 people.

DEVELOPMENT PROJECT SUMMARY

While a majority of the service area within the District is developed, there are a number of development projects that are either currently entitled or in the entitlement process with Sacramento County. Table 1 summarizes the name of each development project, identifies the current status of the project, identifies the number of residential dwelling units by land use

Santa Rosa
1400 Neotomas Avenue
Santa Rosa, CA 95403

Auburn
11865 Edgewood Road
Auburn, CA 95603
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category, EDU counts for each project, and overall EDU total. Additional information on the various residential land use categories is discussed later in this Tech Memo.

A map of the service area and the location of the various development projects is presented as Figure 1. Below is a brief summary of each development project. More information on each project can be found on the Sacramento County website - <http://www.per.saccounty.net/PlansandProjectsIn-Progress/Pages/default.aspx>.

Riverview

The Riverview subdivision will be located in the southerly part of Rancho Murieta, west of Lakes 10 and 11. Based on the approved tentative map, the Riverview subdivision encompasses approximately 57 acres proposed for development of 140 single family residential lots.

Lakeview

The Lakeview subdivision will be located in the southerly part of Rancho Murieta, east of Lakes 10 and 11. Based on the approved tentative map, the Riverview subdivision encompasses approximately 40 acres proposed for development of 99 single family residential lots.

Residences of Murieta Hills – East and West

The Residences at Murieta Hills will be located in the northwest corner of the District boundaries. This proposes the development of 198 residential homes on approximately 146 acres.

Retreats West, North, and East

This project proposes the development of 84 residential units on approximately 18 acres south of Murieta Parkway and west of De La Cruz Parkway. For the purposes of calculating EDUs for this project, the number of residential units has been reduced by 18 to reflect fees already paid to the District.

Murieta Gardens

This project is a mixed use commercial and residential development project located southeast of the intersection of Highway 16 and Murieta Drive.

The concept of the commercial component currently consists of a hotel, commercial pads, restaurants, and a self-storage facility. The hotel is currently under construction and is expected to be completed in Spring 2017. Construction of the other development phases and components are scheduled to be completed by Fall 2018.

Based on development agreements, the commercial component of the project is anticipated to equate to 71 equivalent dwelling units. The residential component consists of 78 residential units on approximately 16 acres.

Industrial/Commercial/Residential 39

This project consists of a 40 acre undeveloped commercial site located on the south side of Highway 16 just west of the District's Wastewater Treatment Plant (WWTP). The proposed specific uses for this project are undetermined by the developer at this time. According to the



Preliminary Sewer Study for Rancho Murieta North, the sewer demand is anticipated to be equivalent to approximately 160 residential units.

Rancho North

The proposed Rancho Murieta North project is on approximately 732 residential, recreational, and open space acres of land located easterly part of Rancho Murieta. The project consists of a total of eight villages and is currently in the entitlement process with Sacramento County. Various iterations of the project have been submitted to the County during the public review process. A brief description of the current plan for each of the eight villages is below.

- Village A will encompass a total of 215 lots of various sizes (ranging from estate lots between 12,000 and 24,000 square feet to cluster lots) on approximately 95 acres.
- Village B will encompass a total of 136 estate lots between 12,000 and 24,000 square feet on approximately 74 acres.
- Village C will encompass a total of 128 of various sizes (ranging from estate lots of less than 12,000 square feet to cluster lots) on approximately 63 acres.
- Village D will encompass a total of 28 estate lots greater than 24,000 square feet on approximately 38 acres.
- Village E will encompass a total of 32 lots of various sizes (ranging from estate lots greater than 24,000 square feet to estate lots between 12,000 and 24,000 square feet) on approximately 63 acres.
- Village F will encompass a total of 90 lots, primarily estate lots of less than 12,000 square feet on approximately 77 acres.
- Village G will encompass a total of 50 lots, estate lots between 12,000 and 24,000 square feet on approximately 112 acres.
- Village H will encompass a total of 116 lots of various sizes (ranging from estate lots of less than 12,000 square feet to cluster lots) on approximately 70 acres.

Parks

Although parks have been constructed and water service provided, prior policies adopted by the District's Board allowed these fees to be deferred.

Others

Projects that are currently undefined or with limited information, such as Lookout Hill and FAA Commercial, that are anticipated to develop at some point in the future.



Apartment 17

The proposed apartments will be located northeast of the intersection of Highway 16 and Murieta Drive encompassing approximately 18 acres proposed for the development of 170 residential units.

EDU CALCULATION SUMMARY

The District's current fee methodology utilizes a number of residential and non-residential land use designations in determination of the EDUs applicable to the calculation of water supply augmentation and capital improvement fees. Based on the development project descriptions above, a number of new designations have been added.

The applicable residential and non-residential land use designations along with the new EDU value are summarized in Table 2. Several residential land use designations remain unchanged. A discussion of the calculations for each land use type is provided below. Consistent with prior District fee studies and ordinances, for the purposes of calculating water usage per EDU, the assumption was unchanged (750 gallons per day equals 1 EDU).

Residential Land Use Designations

Three new residential land use categories were added, triggered by the current tentative maps for the Rancho North Project:

- Estate lots greater than 24,000 square feet
- Cluster 'B' lots
- Cluster 'A' lots

In order to determine the potable water demand for these three residential land use categories, assumptions from the Water Supply Assessment Report for the Rancho North Project were followed. The main assumptions are as follows:

- Cluster 'A' lots are similar to Sacramento County land use category RD-15.
- Cluster 'B' lots are similar to Sacramento County land use category RD-7.
- Three persons per household, each using 60.7 gallons indoor daily.
- Irrigated, landscaped area for estate lots greater than 24,000 square feet, Cluster 'A' lot, and Cluster 'B' lots is 33,000 square feet, 1,500 square feet and 2,600 square feet, respectively.
- Annual water demand for irrigated, landscaped area is 31.2 gallons per square foot, with 60% of annual demands met by potable water and 40% of annual demands met by recycled water.

The water demands for all other residential land use categories identified below were unchanged from prior studies.

- Estate lots between 12,000 and 24,000 square feet (previously estate lots equal to or greater than 12,000 square feet)
- Estate lots less than 12,000 square feet
- Cottage and circle lots



- Townhouse, duplex, and lodge lots
- Murieta Village lots

Commercial, Industrial, and Institutional Land Use Designations

The methodology to determine EDU for commercial, industrial, and institutional projects was revised. Prior methodology was based on type of project and equated to the overall developed square footage of the project. The new methodology is based on equating the project meter size to a standard one inch meter, utilizing the instantaneous demand and American Water Works Association (AWWA) standards. Below is a breakdown by meter size:

- 1" meter = 1 EDU
- 1.5" meter = 2 EDUs
- 2" meter = 3.2 EDUs
- 3" meter = 6.4 EDUs
- 4" meter = 10 EDUs
- 6" meter = 20 EDUs
- 8" meter = 32 EDUs

The methodology acknowledges that instantaneous demands from commercial, industrial, and institutional projects have a larger impact on the water system in comparison to a single-family residential connection. AWWA standards were used as these equate larger meters to a standard one-inch meter used for a single-family residential connection.

Table 1 – Development Projects EDU Calculations

Table 2 – Land Use Designation EDU Calculations

Figure 1 – Development Project Map



Table 1
Development Projects EDU Calculations
Development Projects and EDU Summary Technical Memorandum

Name of Development	Status of Application	Number of Dwelling Units by Residential Land Use Category								Non-Residential EDUs	Total EDUs for Project
		Estate >24,000 SF	Estate between 12,000 SF and 24,000 SF	Estate <12,000 SF	Cluster 'B' lots	Cluster 'A' lots	Cottage and circle lots	Townhouse, duplex, and lodge lot	Murieta Village lot		
Riverview	Entitled	0	8	132	0	0	0	0	0	0	126.8
Lakeview	Entitled	0	0	99	0	0	0	0	0	0	89.1
Residences – East	Entitled	4	0	95	0	0	0	0	0	0	95.5
Residences – West	Entitled	0	0	99	0	0	0	0	0	0	89.1
Retreats West, North, and East ^a	Entitled	0	0	0	0	0	66	0	0	0	46.2
Murieta Gardens (commercial) ^b	Entitled	0	0	0	0	0	0	0	0	71	71.0
Murieta Gardens (residential)	Entitled	0	0	78	0	0	0	0	0	0	70.2
Industrial/Commercial/Residential 39 ^c	Pending	0	0	0	0	0	0	0	0	160	160.0
Village A (Terrace)	Pending	0	20	51	28	116	0	0	0	0	119.1
Village B (River Canyon)	Pending	0	136	0	0	0	0	0	0	0	136.0
Village C (Highlands)	Pending	0	0	24	32	72	0	0	0	0	61.2
Village D (Granlee)	Pending	28	0	0	0	0	0	0	0	0	70.0
Village E (The Village at Lake Jean)	Pending	17	15	0	0	0	0	0	0	0	57.5
Village F (Chesbro Square)	Pending	0	0	90	0	0	0	0	0	0	81.0
Village G (Calero East)	Pending	0	50	0	0	0	0	0	0	0	50.0
Village G (Calero West)	Pending										
Village G (Calero North)	Pending										
Village H (Calero South)	Pending	0	0	84	16	16	0	0	0	0	88.4
Parks ^d	Constructed/Pending	0	0	0	0	0	0	0	0	246	246.0
Others ^e	Future	0	0	0	0	0	0	0	0	10	10.0
Apartment 17 ^f	Unknown	0	0	0	0	0	0	0	170	0	51.0
TOTAL											1,718.1

Notes

EDU = Equivalent Dwelling Unit

a = 84 total EDUs; however 18 EDUs of fees already paid.

b = EDU count based on allocation in Financing and Services Agreement.

c = Industrial/Commercial/Residential 39: EDU count based on Recycled Water PDR.

d = Parks are on-line and fees to be paid at a later date per agreement with District.

e = For projects with minimal information, such as Lookout Hill and FAA Commercial.

f = Dwelling unit count based on Recycled Water PDR.

Table 2
Land Use Designation EDU Calculations
Development Projects and EDU Summary Technical Memorandum

Land Use Designation	EDUs - Current	GPD - Current	EDUs - Proposed	GPD - Calculated	Notes
RESIDENTIAL					
Estate lot greater than 24,000 SF	-	-	2.5	1,875	New service type. Consumption based on data from WSA.
Cluster 'B' lot	-	-	0.45	325	New service type. Consumption based on data from WSA.
Cluster 'A' lot	-	-	0.35	265	New service type. Consumption based on data from WSA.
Estate lot between 12,000 SF & 24,000 SF	1.0 EDU/lot	750	1	750	Existing, unchanged
Estate lot less than 12,000 SF	0.9 EDU/lot	675	0.9	675	Existing, unchanged
Cottage and circle lots	0.7 EDU/lot	525	0.7	525	Existing, unchanged
Townhouse and duplex	0.5 EDU/lot	375	0.5	375	Existing, unchanged
Villas and Murieta Village lot	0.3 EDU/lot	225	0.3	225	Existing, unchanged
COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL					
Business & Professional Office	0.1 EDU/1,000 SF	1,500	Methodology changed to meter size. See CII EDU Breakdown in notes below.		
Airport and Light Industrial	0.1 EDU/1,000 SF	1,500			
Retail & Commercial	0.2 EDU/1,000 SF	3,000			
Clubhouse and Community Buildings	0.5 EDU/1,000 SF	7,500			
Hotel/Motel	0.5 EDU/1,000 SF	7,500			
Restaurants	2.0 EDU/1,000 SF	6,000			
Parks (not irrigated with reclaimed water)	3.5 EDUs/acre	5,250	4 EDUs/acre	6,000	Based on 33,000 SF irrigated per acre

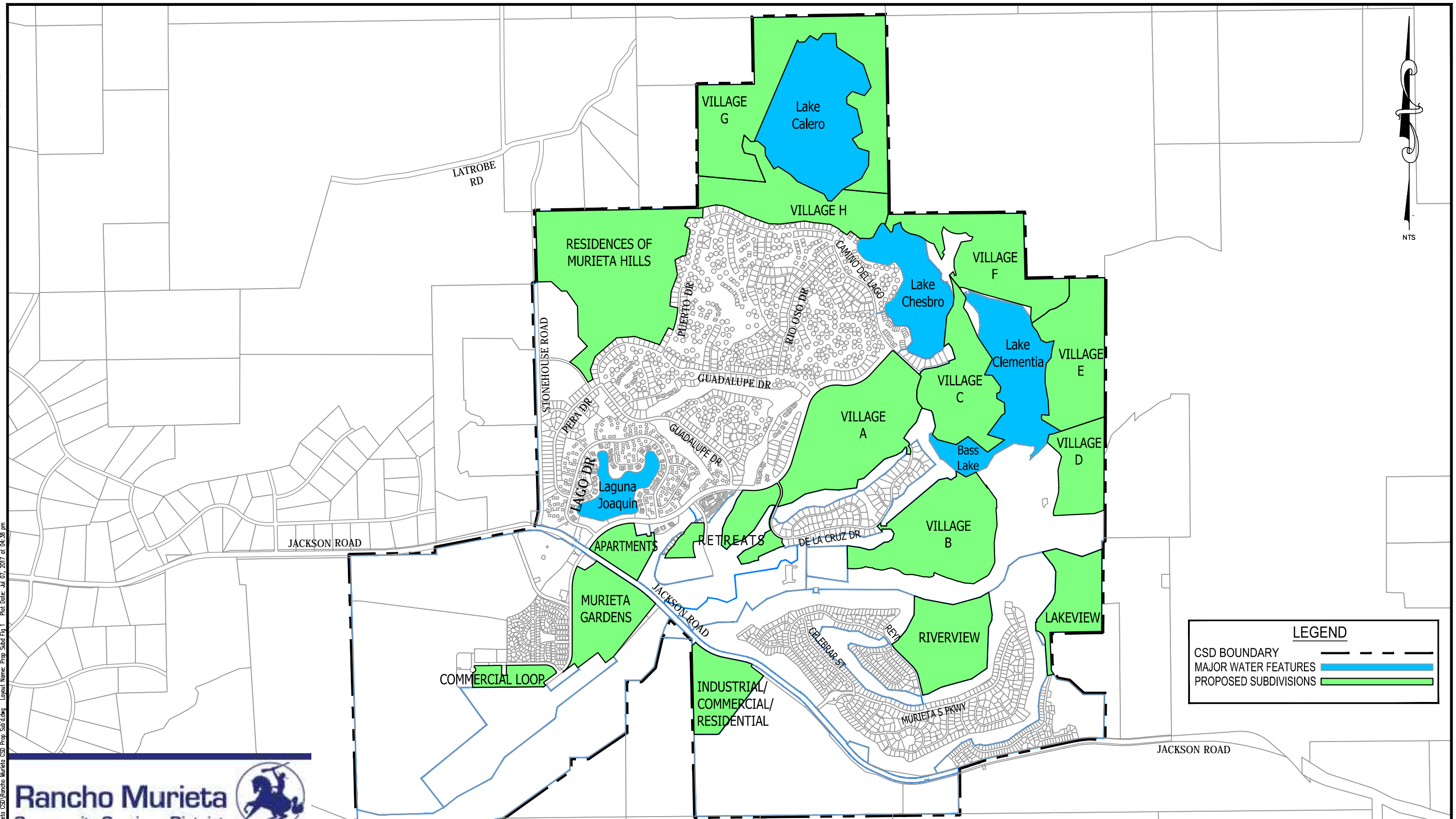
Notes

1 EDU = 750 gpd, consistent with current District methodology.

Proposed EDUs are rounded to nearest tenth.

ORIGINAL PLOT DATE:

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LEGEND

- CSD BOUNDARY
- MAJOR WATER FEATURES
- PROPOSED SUBDIVISIONS

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FIGURE 1
RANCHO MURIETA CSD
COMMUNITY SERVICES DISTRICT
PROPOSED SUBDIVISIONS

Appendix C

Water Supply Augmentation Project – Recycled Water Program Technical Memorandum



Technical Memorandum

Date: June 27, 2017

To: Rancho Murieta Community Services District

From: John Griffin
Marc Fernandez

Reviewed By: Dane Schilling

Subject: Water Supply Augmentation Project – Recycled Water Program

In support of the Rancho Murieta Community Services District (District) Water Supply Augmentation Fee Update, Coastland has prepared this technical memorandum to summarize the various recycled water projects that are necessary for the Phase 1 - Initial Buildout and Phase 2 – Complete Buildout of the District’s Recycled Water Program. As a result of the January 2016 Water Supply Assessment report, the District is recommending that the Recycled Water Program be identified / defined as the Water Supply Augmentation project moving forward. The Water Supply Assessment report identified that with the reduction in potable water demands afforded by the implementation of the Recycled Water Program the augmentation well, which is currently defined as the Water Supply Augmentation project, is no longer necessary to augment water supply during periods of extreme drought.

Below is a brief summary of each recycled water project. More detail is provided in the report titled “Recycled Water Program, Preliminary Design Report” by Kennedy/Jenks Consultants, January 2017, and the attached CIP Data Sheets. It should be noted, that estimated costs contained in the CIP Sheets are representative of current construction costs and do not reflect adjustments for construction in future years.

Phase 1 - Initial Buildout:

Recycled Water SCADA Control System (CIP 17-5-01)

Located at the wastewater treatment plant, SCADA (Supervisory Control and Data Acquisition) is a combination of hardware and software that monitors systems operations, collects data, and programs controls to the District’s recycled water distribution network.

Equalization Basin Potable Water Air Gap (CIP 17-5-02)

This improvement requires connection to the existing 8-inch (in) potable water pipeline located immediately north of the equalization basin at the wastewater treatment plant, installing an 8-in extension to the equalization basin, and installing an 8-in air gap connection to deliver potable water to the equalization basin for periods of peak demand.

Recycled Water Pumping Station (CIP 17-5-03)

The improvement is to provide adequate pumping capabilities to the North Golf Course Transmission Main through the rehabilitation of the existing Recycled Water Pumping Station.

District Headquarters Conversion (CIP 17-5-04)

This improvement will disconnect two existing potable water irrigation services associated with the District's Administration Building and connect to the Recycled Water Pumping Station for irrigation supply.

Northwest Recycled Water Transmission Main (CIP 17-5-05)

The Northwest Recycled Water Transmission Main will convey recycled water from the Yellow Bridge to Stonehouse and Escuela Parks. The transmission main consists of four components: Highway 16 undercrossing and connection to existing 12" recycled water line, extension of the 12" recycled water line on Legacy Lane, possible renovation or replacement of an existing abandoned 12" force main, and interconnection of piping between the existing booster pump station and active force main.

Lookout Hill Booster Pump Station (CIP 17-5-06)

This improvement will construct a booster pump station will be located downstream of the Lookout Hill storage tank, and will be used to support delivery of recycled water to western portion of the District, in tandem with the Lookout Hill Water Storage Tank project.

Escuela Park Conversion (CIP 17-5-07)

This improvement will disconnect the existing potable water irrigation service associated with Escuela Park and connect to the Northwest Recycled Water transmission main for irrigation supply.

Stonehouse Park Conversion (CIP 17-5-08)

This improvement will disconnect the existing potable water irrigation service associated with the Rancho Murieta North community and connect to the Northwest Recycled Water transmission main for irrigation supply.

Lookout Hill Water Storage Tank (CIP 17-5-09)

The existing tank located near the top of Lookout Hill will be demolished and a new 200,000 gallon bolted steel tank made of bolted panels with powder coated finish will be erected in its place or next to the existing tank.



North Main Gate Conversion (CIP 17-5-10)

This improvement will disconnect the existing potable water irrigation service associated with the Rancho Murieta North community entrance and connect to the Northwest Recycled Water transmission main for irrigation supply.

Commercial Loop Conversion (CIP 17-5-11)

This improvement will disconnect the existing potable water irrigation service associated with the Murieta Plaza Commercial area and connect to the Lone Pine drive Recycled Water transmission main for irrigation supply and connect on Cantova Drive to supply the southern commercial (Operating Engineers to FAA) areas.

Phase 2 - Complete Buildout:

SCADA Upgrades (CIP 17-5-12)

This improvement will modify and upgrade the existing SCADA system to allow for level monitoring and control of valves at Bass Lake.

Disinfection Facility Upgrade (CIP 17-5-13)

This improvement will remove a chlorine contact pipe and construct a chlorine contact chamber to increase disinfection facilities capacity from 2.3 to 3.0 MGD.

North Golf Course Conveyance System (CIP 17-5-14)

This improvement consists of rehabilitation of the existing 12" and 8" recycled water conveyance pipelines that serve the north golf course. Approximately 5,700 linear feet of 8" pipe is need of replacement or repair. A condition assessment is required to determine additional rehabilitation needs for the 12" pipeline.

Bass Lake Tank (CIP 17-5-15)

This improvement will construct a 500,000 gallon storage tank at Bass Lake to supplement recycled water production and storage capacities.

Bass Lake Booster Pump Station (CIP 17-5-16)

This improvement will construct a booster pump station will be located downstream of the Bass Lake storage tank, and will be used to support delivery of recycled water.

Seasonal Storage Reservoir Expansion (CIP 17-5-17)

This improvement consists of modification to the existing reservoir to provide additional storage for secondary effluent.

Tertiary Pump Station Pump Replacement (CIP 17-5-18)

This improvement will replace the third tertiary pump station feed pump to the dissolved air flotation units. This improvement is required for wastewater treatment plant production capacity.



TABLE 1 - WATER SUPPLY AUGMENTATION PROJECT SUMMARY

Project Number	Project Name	Project Estimate
Recycled Water Projects		
17-5-01	Recycled Water SCADA Control System	\$331,250
17-5-02	Equalization Basin Potable Water Air Gap	\$100,700
17-5-03	Recycled Water Pumping Station	\$1,384,625
17-5-04	District Headquarters Conversion	\$26,500
17-5-05	Northwest Recycled Water Transmission Main	\$1,909,325
17-5-06	Lookout Hill Booster Pump Station	\$810,900
17-5-07	Escuela Park Conversion	\$21,200
17-5-08	Stonehouse Park Conversion	\$47,700
17-5-09	Lookout Hill Water Storage Tank	\$722,125
17-5-10	North Main Gate Conversion	\$23,850
17-5-11	Commercial Loop Conversion	\$33,125
17-5-12	SCADA Upgrades	\$108,650
17-5-13	Disinfection Facility Upgrade	\$881,125
17-5-14	North Golf Course Conveyance System	\$2,146,500
17-5-15	Bass Lake Tank	\$1,611,200
17-5-16	Bass Lake Booster Pump Station	\$828,125
17-5-17	Seasonal Storage Reservoir Expansion	\$1,099,750
17-5-18	Tertiary Pump Station Pump Replacement	\$132,500
Recycled Water Project Total		\$12,219,150

Attachment A – Project Data Forms



**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

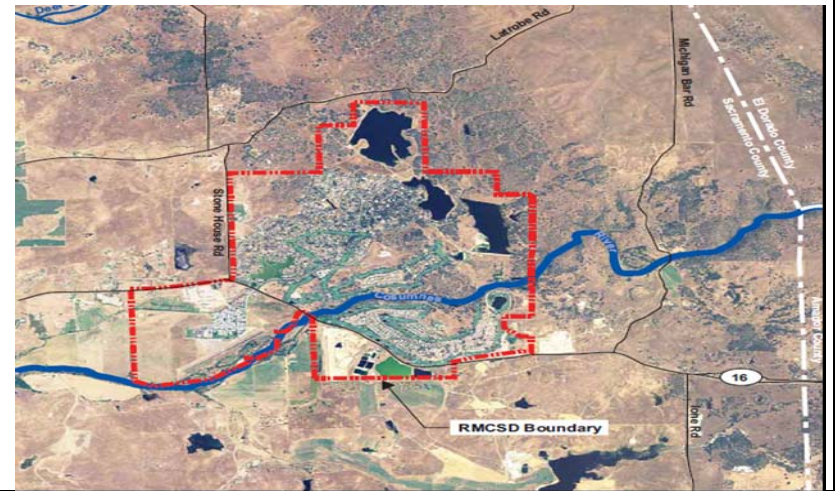
Project Number:	17-5-01	Project Name:	Recycled Water SCADA Control System
Location:	Wastewater Treatment Plant	Project Type:	Recycled Water

Description: Hardware and Software Purchase and Integration

Wastewater Treatment Plant

Justification: Administrative

Notes:



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Project Administration		\$12,500	\$12,500
	Planning/Environmental		\$12,500	\$12,500
	Engineering		\$25,000	\$25,000
	Construction		\$250,000	\$250,000
	Construction Management/Inspection		\$31,250	\$31,250
	Total	\$0	\$331,250	\$331,250

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

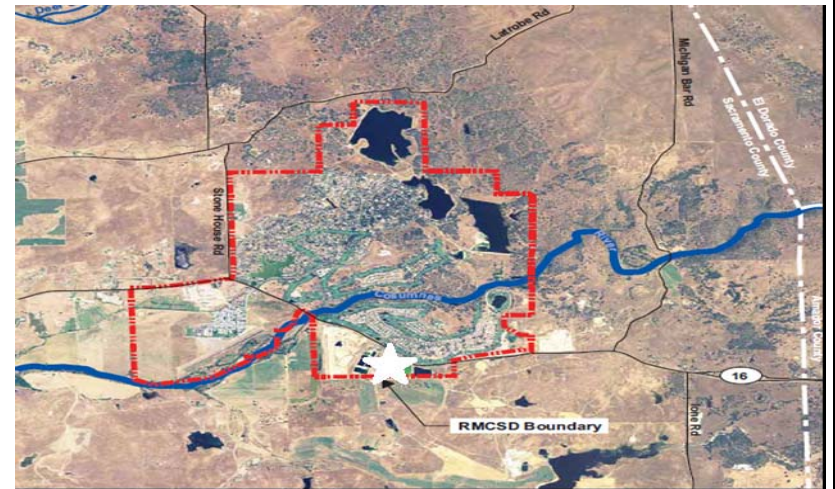
Project Number:	17-5-02	Project Name:	Equalization Basin Potable Water Air Gap
Location:	Wastewater Treatment Plant	Project Type:	Recycled Water

Description: Various Piping Connections to Equalization Basin

Wastewater Treatment Plant

Justification: Facility Improvement

Notes:



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Project Administration		\$3,800	\$3,800
	Planning/Environmental		\$3,800	\$3,800
	Engineering		\$7,600	\$7,600
	Construction		\$76,000	\$76,000
	Construction Management/Inspection		\$9,500	\$9,500
	Total	\$0	\$100,700	\$100,700

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

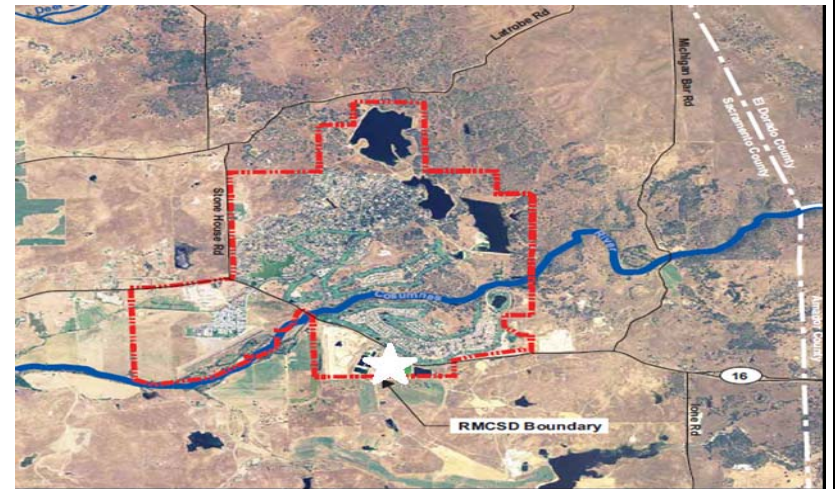
Project Number:	17-5-03	Project Name:	Recycled Water Pumping Station
Location:	Wastewater Treatment Plant	Project Type:	Recycled Water

Description: Rehabilitation of Existing Recycled Water Pumping Station

Wastewater Treatment Plant

Justification: Facility Improvement

Notes:



	<i>Item</i>	<i>Previous Expenditures</i>	<i>Cost Estimate</i>	<i>Total</i>
PROJECT COST	Project Administration		\$52,250	\$52,250
	Planning/Environmental		\$52,250	\$52,250
	Engineering		\$104,500	\$104,500
	Construction		\$1,045,000	\$1,045,000
	Construction Management/Inspection		\$130,625	\$130,625
	Total	\$0	\$1,384,625	\$1,384,625

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

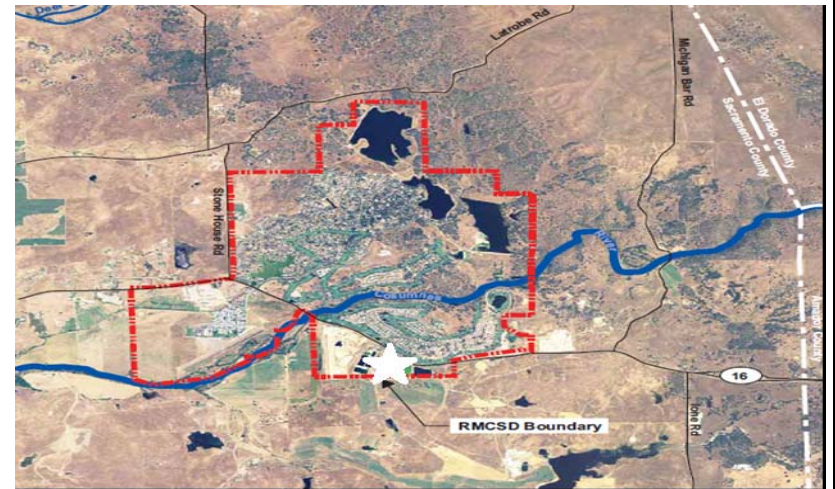
Project Number:	17-5-04	Project Name:	District Headquarters Conversion
Location:	District Headquarters	Project Type:	Recycled Water

Description: Conversion of District Headquarters Irrigation to Recycled Water

Rancho Murieta Community Services District

Justification: Facility Improvement

Notes:



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Project Administration		\$1,000	\$1,000
	Planning/Environmental		\$1,000	\$1,000
	Engineering		\$2,000	\$2,000
	Construction		\$20,000	\$20,000
	Construction Management/Inspection		\$2,500	\$2,500
	Total	\$0	\$26,500	\$26,500

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

Project Number:	17-5-05	Project Name:	Northwest Recycled Water Transmission Main
Location:	District Headquarters to Escuela	Project Type:	Recycled Water

Description: Construction of Recycled Water Transmission Main

Rancho Murieta Community Services District

Justification: Facility Improvement

Notes:

	<i>Item</i>	<i>Previous Expenditures</i>	<i>Cost Estimate</i>	<i>Total</i>
PROJECT	Project Administration		\$72,050	\$72,050
COST	Planning/Environmental		\$72,050	\$72,050
	Engineering		\$144,100	\$144,100
	Construction		\$1,441,000	\$1,441,000
	Construction Management/Inspection		\$180,125	\$180,125
	Total	\$0	\$1,909,325	\$1,909,325

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

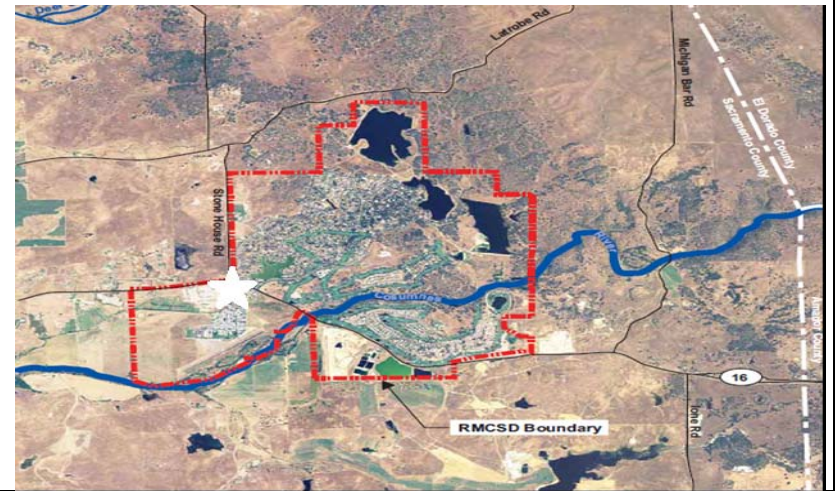
Project Number:	17-5-06	Project Name:	Lookout Hill Booster Pump Station
Location:	Lookout Hill	Project Type:	Recycled Water

Description: Construction of Booster Pump Station at Lookout Hill

Rancho Murieta Community Services District

Justification: Facility Improvement

Notes:



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Project Administration		\$30,600	\$30,600
	Planning/Environmental		\$30,600	\$30,600
	Engineering		\$61,200	\$61,200
	Construction		\$612,000	\$612,000
	Construction Management/Inspection		\$76,500	\$76,500
	Total	\$0	\$810,900	\$810,900

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

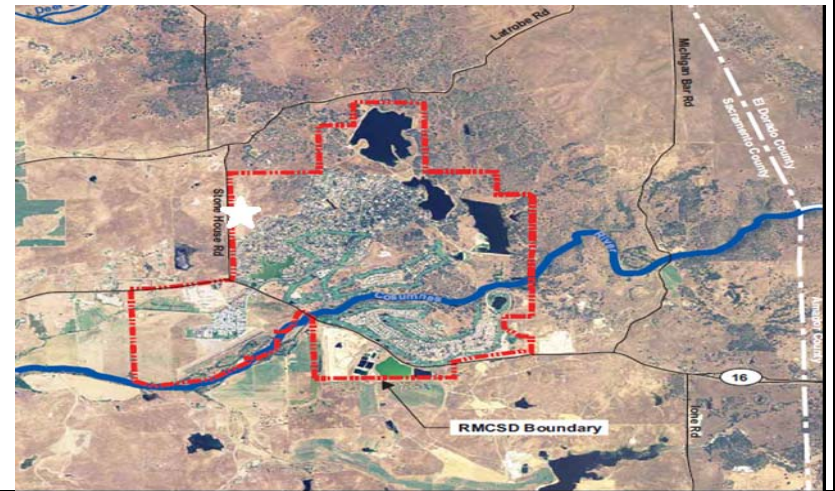
Project Number:	17-5-07	Project Name:	Escuela Park Conversion
Location:	Escuela Park	Project Type:	Recycled Water

Description: Conversion of Escuela Park Irrigation to Recycled Water

Escuela Park

Justification: Facility Improvement

Notes:



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Project Administration		\$800	\$800
	Planning/Environmental		\$800	\$800
	Engineering		\$1,600	\$1,600
	Construction		\$16,000	\$16,000
	Construction Management/Inspection		\$2,000	\$2,000
	Total	\$0	\$21,200	\$21,200

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

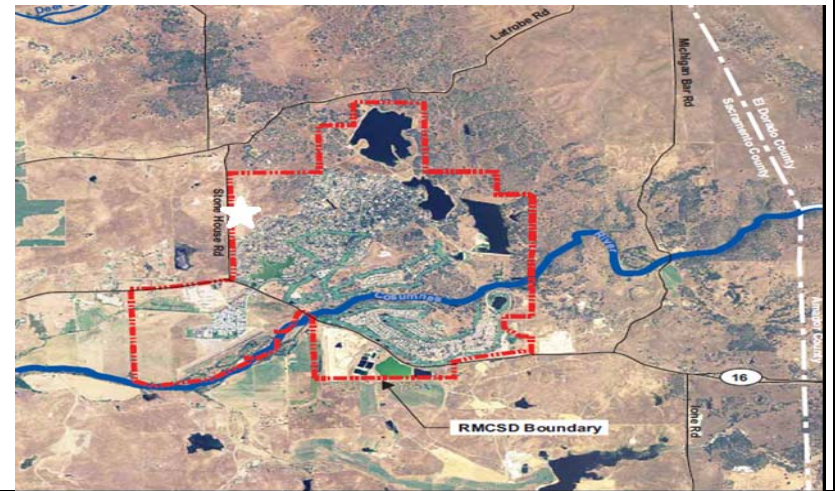
Project Number:	17-5-08	Project Name:	Stonehouse Park Conversion
Location:	Stonehouse Park	Project Type:	Recycled Water

Description: Conversion of Stonehouse Park Irrigation to Recycled Water

Stonehouse Park

Justification: Facility Improvement

Notes:



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Project Administration		\$1,800	\$1,800
	Planning/Environmental		\$1,800	\$1,800
	Engineering		\$3,600	\$3,600
	Construction		\$36,000	\$36,000
	Construction Management/Inspection		\$4,500	\$4,500
	Total	\$0	\$47,700	\$47,700

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

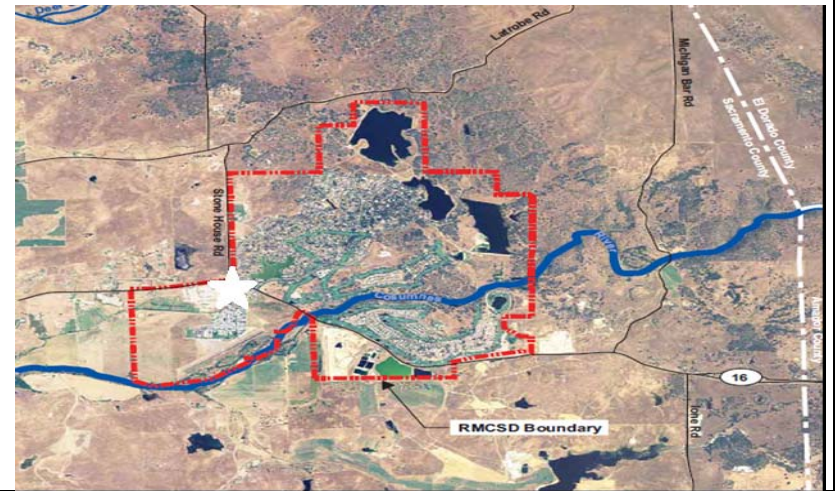
Project Number:	17-5-09	Project Name:	Lookout Hill Water Storage Tank
Location:	Lookout Hill	Project Type:	Recycled Water

Description: Replacement of Existing Water Storage Tank

Rancho Murieta Community Services District

Justification: Facility Improvement

Notes:



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Project Administration		\$27,250	\$27,250
	Planning/Environmental		\$27,250	\$27,250
	Engineering		\$54,500	\$54,500
	Construction		\$545,000	\$545,000
	Construction Management/Inspection		\$68,125	\$68,125
	Total	\$0	\$722,125	\$722,125

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

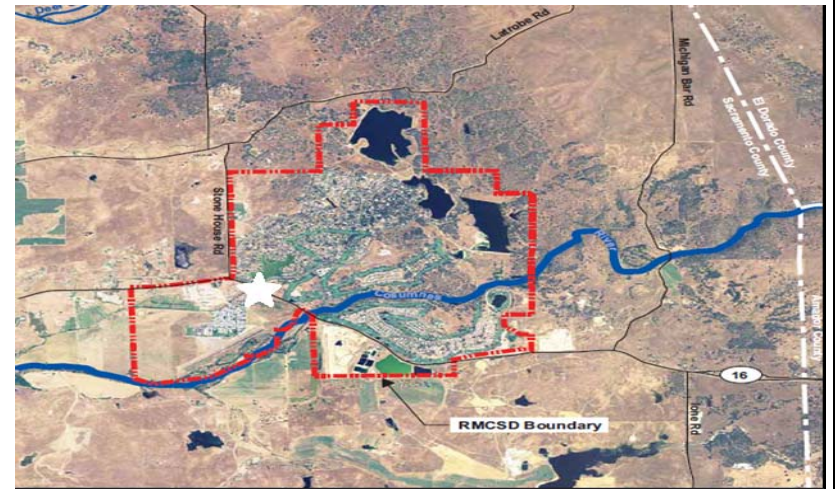
Project Number:	17-5-10	Project Name:	North Main Gate Conversion
Location:	North Main Gate	Project Type:	Recycled Water

Description: Conversion of North Main Gate Irrigation to Recycled Water

North Gate

Justification: Facility Improvement

Notes:



	<i>Item</i>	<i>Previous Expenditures</i>	<i>Cost Estimate</i>	<i>Total</i>
PROJECT COST	Project Administration		\$900	\$900
	Planning/Environmental		\$900	\$900
	Engineering		\$1,800	\$1,800
	Construction		\$18,000	\$18,000
	Construction Management/Inspection		\$2,250	\$2,250
	Total	\$0	\$23,850	\$23,850

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

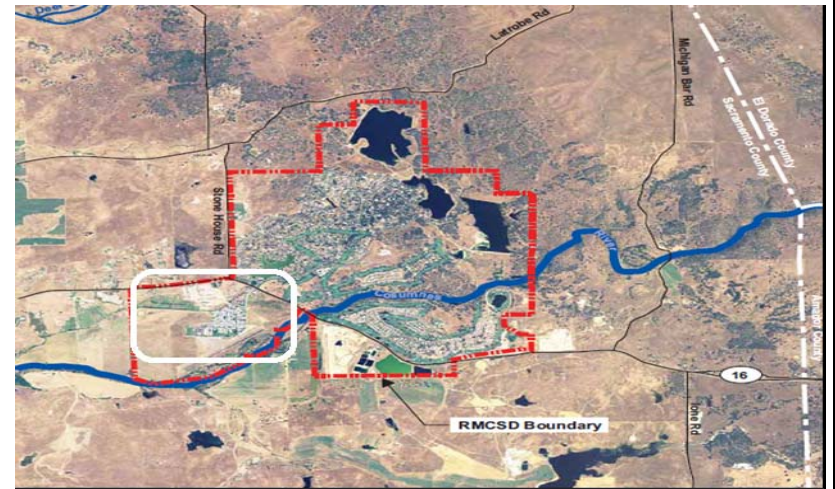
Project Number:	17-5-11	Project Name:	Commercial Loop Conversion
Location:	Commercial District	Project Type:	Recycled Water

Description: Conversion of Irrigation Service to Recycled Water

Rancho Murieta Community Services District

Justification: Facility Improvement

Notes:



	<i>Item</i>	<i>Previous Expenditures</i>	<i>Cost Estimate</i>	<i>Total</i>
PROJECT COST	Project Administration		\$1,250	\$1,250
	Planning/Environmental		\$1,250	\$1,250
	Engineering		\$2,500	\$2,500
	Construction		\$25,000	\$25,000
	Construction Management/Inspection		\$3,125	\$3,125
	Total	\$0	\$33,125	\$33,125

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

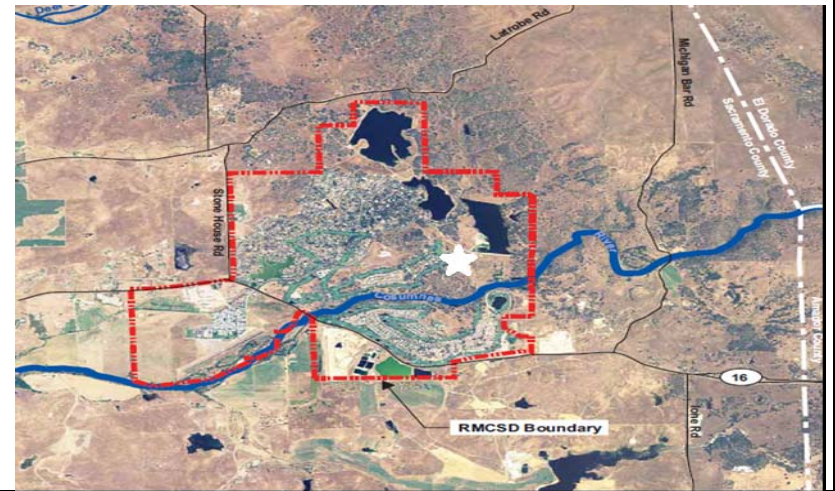
Project Number:	17-5-12	Project Name:	SCADA Upgrades
Location:	Bass Lake	Project Type:	Recycled Water

Description: Hardware and Software Equipment Purchase

Bass Lake

Justification: Administrative

Notes:



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Project Administration		\$4,100	\$4,100
	Planning/Environmental		\$4,100	\$4,100
	Engineering		\$8,200	\$8,200
	Construction		\$82,000	\$82,000
	Construction Management/Inspection		\$10,250	\$10,250
	Total	\$0	\$108,650	\$108,650

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

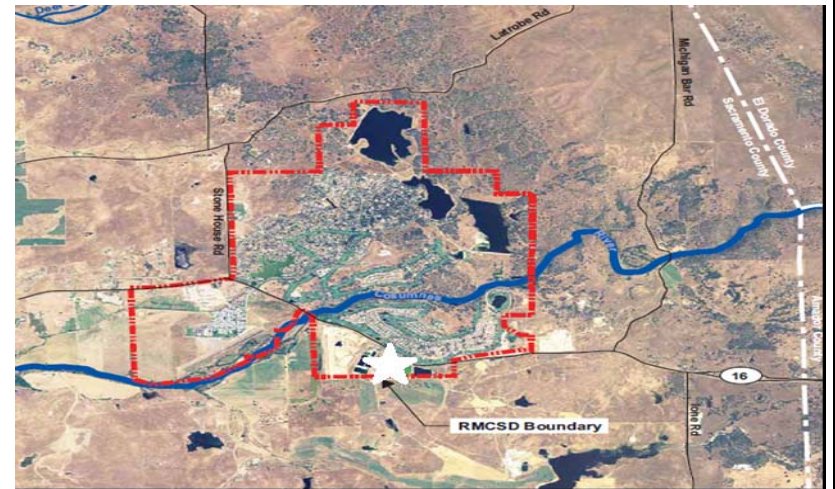
Project Number:	17-5-13	Project Name:	Disinfection Facility Upgrade
Location:	Wastewater Treatment Plant	Project Type:	Recycled Water

Description: Construction of Chlorine Contact Chamber

Wastewater Treatment Plant

Justification: Facility Improvement

Notes:



	<i>Item</i>	<i>Previous Expenditures</i>	<i>Cost Estimate</i>	<i>Total</i>
PROJECT COST	Project Administration		\$33,250	\$33,250
	Planning/Environmental		\$33,250	\$33,250
	Engineering		\$66,500	\$66,500
	Construction		\$665,000	\$665,000
	Construction Management/Inspection		\$83,125	\$83,125
	Total	\$0	\$881,125	\$881,125

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

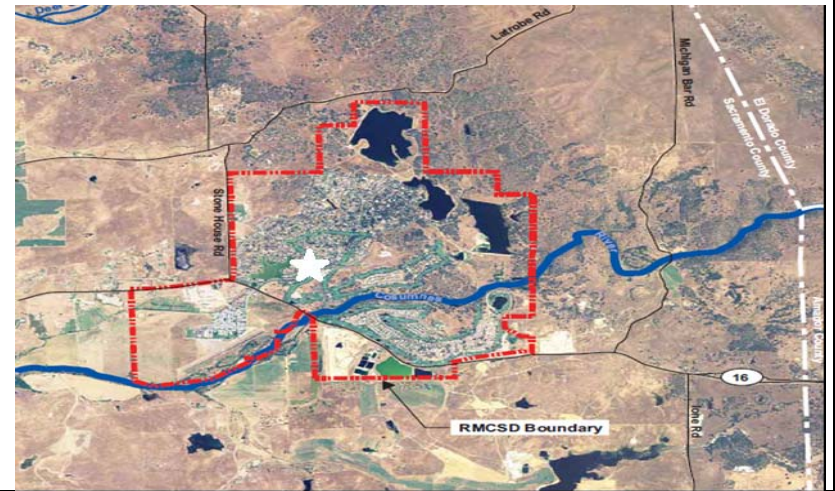
Project Number:	17-5-14	Project Name:	North Golf Course Conveyance System
Location:	RM Country Club	Project Type:	Recycled Water

Description: Construction of Recycled Water Mains

Rancho Murieta Country Club

Justification: Facility Improvement

Notes:



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Project Administration		\$81,000	\$81,000
	Planning/Environmental		\$81,000	\$81,000
	Engineering		\$162,000	\$162,000
	Construction		\$1,620,000	\$1,620,000
	Construction Management/Inspection		\$202,500	\$202,500
	Total	\$0	\$2,146,500	\$2,146,500

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

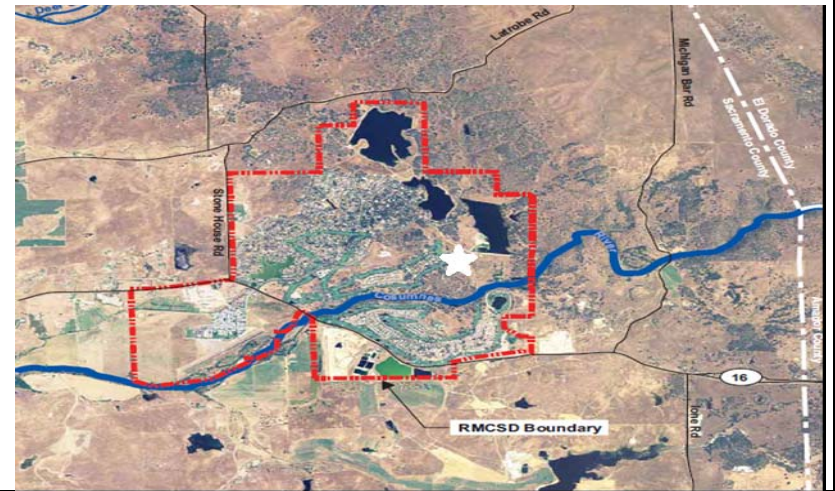
Project Number:	17-5-15	Project Name:	Bass Lake Tank
Location:	Bass Lake	Project Type:	Recycled Water

Description: Construction of Recycled Water Storage Tank

Bass Lake

Justification: Facility Improvement

Notes:



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Project Administration		\$60,800	\$60,800
	Planning/Environmental		\$60,800	\$60,800
	Engineering		\$121,600	\$121,600
	Construction		\$1,216,000	\$1,216,000
	Construction Management/Inspection		\$152,000	\$152,000
	Total	\$0	\$1,611,200	\$1,611,200

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

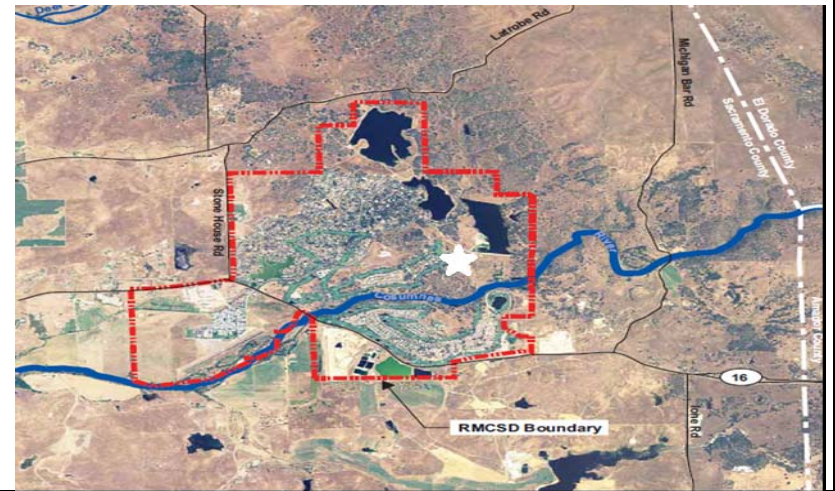
Project Number:	17-5-16	Project Name:	Bass Lake Booster Pump Station
Location:	Bass Lake	Project Type:	Recycled Water

Description: Construction of Booster Pump Station at Bass Lake

Bass Lake

Justification: Facility Improvement

Notes:



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Project Administration		\$31,250	\$31,250
	Planning/Environmental		\$31,250	\$31,250
	Engineering		\$62,500	\$62,500
	Construction		\$625,000	\$625,000
	Construction Management/Inspection		\$78,125	\$78,125
	Total	\$0	\$828,125	\$828,125

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

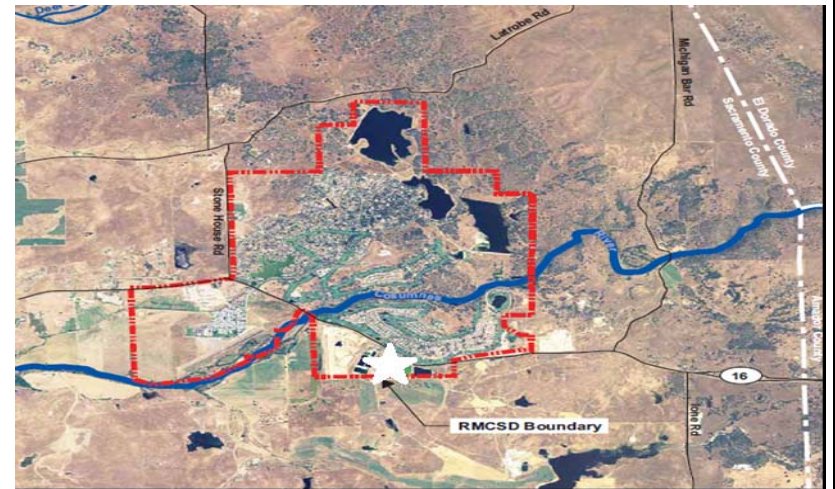
Project Number:	17-5-17	Project Name:	Seasonal Storage Reservoir Expansion
Location:	Wastewater Treatment Plant	Project Type:	Recycled Water

Description: Expansion of Existing Reservoir

Wastewater Treatment Plant

Justification: Facility Improvement

Notes:



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Project Administration		\$41,500	\$41,500
	Planning/Environmental		\$41,500	\$41,500
	Engineering		\$83,000	\$83,000
	Construction		\$830,000	\$830,000
	Construction Management/Inspection		\$103,750	\$103,750
	Total	\$0	\$1,099,750	\$1,099,750

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

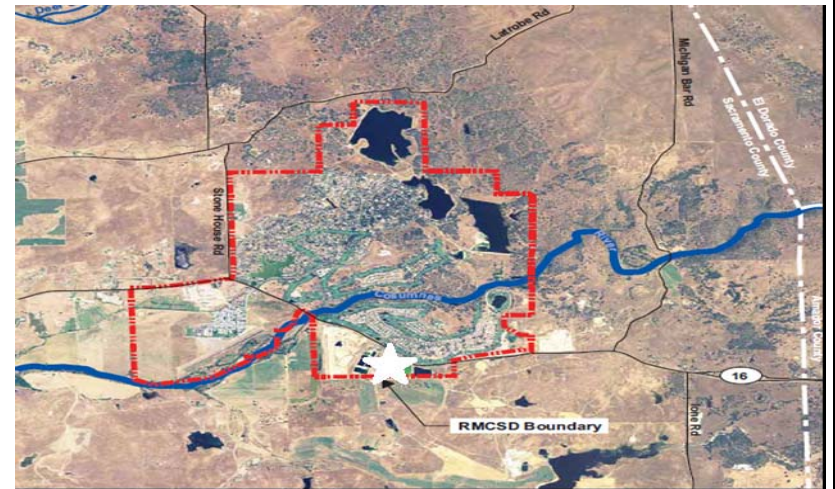
Project Number:	17-5-18	Project Name:	Tertiary Pump Station Pump Replacement
Location:	Wastewater Treatment Plant	Project Type:	Recycled Water

Description: Replacement of Tertiary Pump to Dissolved Air Flootation Units

Rancho Murieta Community Services District

Justification: Facility Improvement

Notes:



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Project Administration		\$5,000	\$5,000
	Planning/Environmental		\$5,000	\$5,000
	Engineering		\$10,000	\$10,000
	Construction		\$100,000	\$100,000
	Construction Management/Inspection		\$12,500	\$12,500
	Total	\$0	\$132,500	\$132,500

Appendix D

Facility Capital Improvement Projects Technical Memorandum



COASTLAND

CIVIL ENGINEERING - CONSTRUCTION MANAGEMENT - BUILDING DEPARTMENT SERVICES

Technical Memorandum

Date: August 29, 2017

To: Rancho Murieta Community Services District

From: John Griffin
Marc Fernandez

Reviewed By: Dane Schilling

Subject: Facility Capital Improvement Projects

In support of the Rancho Murieta Community Services District (District) Facility Capital Improvement Fee Update, Coastland has prepared this technical memorandum (Tech Memo) to summarize the various District facility capital improvement projects.

This Tech Memo also provides Project Data Forms that provide basic information about each project and a breakdown of cost by component:

- Administration/Management
- Planning/Environmental
- Engineering
- Construction
- Construction Management/Inspection

Planning level summary sheets of updated construction cost estimates for each of the facility capital improvement projects are provided in support of the construction costs presented in the Project Data Forms. The project components are established as a percentage of construction.

Project data forms and supporting construction cost estimates are incorporated as Attachment A.

BACKGROUND

The District was formed in 1982 by State Government Code 61000 to provide essential services in Rancho Murieta. The District provides essential services to an area of 3,500 acres located in eastern Sacramento County. Land use decisions within the District are governed by Sacramento County. The current population within the District is approximately 5,600 people.

Santa Rosa
1400 Neotomas Avenue
Santa Rosa, CA 95403

Auburn
11865 Edgewood Road
Auburn, CA 95603
www.coastlandcivil.com

FACILITIES CAPITAL IMPROVEMENT PROJECTS SUMMARY

A master list of District facility capital improvement projects has existed and been utilized in the calculation of the capital improvement fee since the mid 1980's. Over the years, the District has completed a number of projects and also added others, completely driven by growth and expansion of the customer base within the service area. As part of the analysis in preparation of this Tech Memo, Coastland and District staff conducted a review of the existing list, eliminating projects that no longer were applicable to serve the District's needs. Coastland and District staff also identified new projects deemed necessary to serve growth and expansion of the customer base within the service area.

Below is a brief summary of each facility capital improvement project.

Water Projects:

Rio Oso Hydropneumatic Station Air Compressor (CIP 17-1-01)

In tandem with CIP 17-1-02 and 17-1-03, this project consists of construction of a turbine (piston-less) air compressor and miscellaneous piping improvements to pressurize the hydropneumatic tank at Rio Oso. Continued growth in the area will place a greater daily and hourly demand on the Rio Oso site, necessitating improvements to the water delivery equipment at the site. This improvement is necessary to control delivery of water serving an increased customer base, mitigating impacts to the system caused by growth and maintaining the existing level of service for the community.

Booster Pump Building at Rio Oso (CIP 17-1-02)

In tandem with CIP 17-1-01 and 17-1-03, this project consists of construction of a new concrete masonry unit (CMU) building with a removable steel roof for the existing booster pumps at the Rio Oso tank site. Miscellaneous site improvements for underground pipes and electrical conduits will be required to accommodate the building at the tank site. Due to the increased water flow demands from development nearby the Rio Oso site and increased levels and duration of noise generated by the equipment to meet the increased demand, the building will mitigate these noise impacts that would otherwise affect existing residents nearby the facility.

Rio Oso Hydropneumatic Tank (CIP 17-1-03)

In tandem with CIP 17-1-01 and 17-1-02, this project consists of installation of a hydropneumatic tank and minor miscellaneous piping improvements at the Rio Oso Tank site. The hydropneumatic tank will help regulate proper system pressure ranges and fluctuations associated with starting and stopping of additional pumps that will be online to meet future development's demands. It will also help to avoid pressure fluctuations which may damage future installation infrastructure, both necessary for the efficient operation of a water supply system. This improvement is necessary to control delivery of water serving an increased customer base mitigating impacts to the system caused by growth and maintaining the existing level of service for the community.

Culvert Crossing at Water Treatment Plant (CIP 17-1-04)

This project consists of drainage improvements to the recently expanded water treatment plant. The new membrane segment of the water treatment plant requires a number of new chemicals to



operate and maintain these membranes to achieve full-life expectancy. These improvements consist of installation of a 4'x6' box culvert and construction of a 20' wide access road for a permanent creek crossing into the water treatment plant, which provides a safer and more reliable route for chemical delivery and maintenance vehicles at the water treatment plant while also complying with stormwater regulations. Without this improvement, chemical deliveries to the facility would be affected at times when the existing creek crossing is flooded.

Dam Road Grading and Resurfacing (CIP 17-1-05)

This project consists of grading and paving of the existing gravel dam roads of Lake Chesbro and Lake Clementia. Paved access roads will receive a roadway structural section of 3" of asphalt on 4" of aggregate base to a width of up to 20'. The structural section is less than residential standards due to the lower anticipated average daily trips. The width may be adjusted during the entitlement process for Rancho North. At Lake Chesbro, access road paving will begin at the northerly end of Camino Del Lago Drive, continue around the eastern side of the lake to the water treatment plant, and terminate at the existing paved portion of the lake access road at the southern end of the lake. At Lake Clementia, access road paving will begin at the intersection of Camino Del Lago Drive and Clementia Circle to the easterly end of the Lake Clementia dam road. Some tree removal is anticipated and mitigation is expected should this occur. These improvements are required due to an increase in the number of trips to the lakes to conduct maintenance and operational inspections and efficiency of water delivery to an increase in its customer base. Growth in the area will also create a larger base of customers using the trails and dam roads for recreational purposes.

Chlorine Gas to Bleach Conversion – Water Treatment Plant (CIP 17-1-06)

This project consists of modifications to the water treatment plant disinfection processes from chlorine gas to sodium hypochlorite (bleach). Due to the heightened security and safety concerns of storing and feeding chlorine gas, increased demand in the use of chlorine gas due to the growth experienced by the District and anticipated increased flows through the water treatment plant created by build-out of the service area, planned development in close proximity to the water plant, and the required transportation of this chemical through the community to the water treatment plant, the District plans to convert from chlorine gas to bleach as the disinfection process. The use of chlorine gas as a disinfection method has declined in the municipal water treatment industry due to risk. This process for treatment is more cost effective, and safer to deliver, store and feed than chlorine gas. The water treatment plant process controls will be modified with new chemical feed pumps and installation of a new 5,000-gallon tank, and piping modification for liquid sodium hypochlorite (bleach), along with demolition of existing equipment and a temporary chlorination system during construction. This conversion will allow the District to more safely and efficiently disinfect its water supply while accommodating additional water treatment demands from a larger customer base. In addition, mitigation of risks associated with growth infringing around the water treatment plant triggers the need for increased safety of the community.

Maintenance Shed at Water Treatment Plant (CIP 17-1-07)

This project consists of construction of prefabricated 20'x40' steel maintenance shed building with rollup door at the water treatment plant for material and equipment storage. Water treatment plant expansion and changes due to increased flows from an expanding customer base create the need to store additional materials and new maintenance equipment that are necessary to accommodate an increase in demands and services placed on the system by build-out of the



service area. This improvement will allow the District staff to operate in an efficient manner due to the various planned improvements to serve a larger customer base, maintaining the existing level of service and mitigating impacts to the system caused by growth.

Emergency Water Supply Well (CIP 17-1-08)

This project consists of a new water supply well located near an unused portion at the south end of Anderson Ranch and drilled to an estimated depth of three hundred feet below ground surface to provide for a secondary, backup water supply for build-out of the service area. The project will also construct pipeline improvements to connect the well to the existing water distribution system. It should be noted that the District has been awarded a RWA grant in the amount of \$494,000 to supplement project costs. Supplementary data and cost estimates are provided in detail in the Technical Memorandum Production Water Well Assessment by Dunn Environmental, Inc., dated December 12, 2013. Costs include pipeline and easement for the pipeline, but do not include treatment, except for chlorine injection.

Sewer Projects:

Sewer/Drainage Hydro Cleaning Truck (CIP 17-2-01)

This project consists of purchasing of a vac-con truck. As growth within the District's service area occurs, the District requires additional equipment that will allow the District to maintain the new infrastructure constructed to support growth in good condition and achieve its full-life expectancy. Vac-Con trucks can be used for multiple applications such as sewer and drainage line cleaning. Purchase of this truck makes these types of operations for the District more efficient when serving a larger customer base.

Material and Equipment Warehouse (CIP 17-2-02)

This project consists of construction of prefabricated 40'x60' steel warehouse building with rollup doors at the wastewater treatment plant between aeration pond 3 and aeration pond 5 for material and equipment storage. Wastewater treatment plant expansion and changes due to increased flows from an expanding customer base create the need to store for materials and new maintenance equipment that are necessary to accommodate an increase in demands and services placed on the system by build-out of the service area. This improvement will allow the wastewater system to operate in an efficient manner due to the various planned improvements that will accommodate additional wastewater treatment flows from a larger customer base.

Drying Bed and Access Road Improvements (CIP 17-2-03)

This project consists of modification of a sludge drying bed located at the southern end of the wastewater treatment plant between Reservoir 1 and Aeration Pond 4. Construction will also include a paved access to the drying beds versus the existing clay roadway, new 80'x80' concrete pad for storing dried solids, modifications to existing piping, constructing new underground piping improvements, installing underdrain cleanouts, and modifying the drying bed design to allow for safer access. The improvements are required for the wastewater treatment plant to accommodate and handle a higher volume of sludge and increased trips generated by an expanding customer base.



Chlorine Gas to Bleach Conversion – Wastewater Treatment Plant (CIP 17-2-04)

This project consists of modifications to the wastewater treatment plant disinfection processes. Due to the heightened security and safety concerns of storing and feeding chlorine gas, increased demand in use of chlorine gas due to the growth experienced by the District and anticipated increased flows to the wastewater treatment plant created at build-out of the service area, and the required transportation of this chemical through the community to the wastewater treatment plant, the District plans to convert the chlorine gas to bleach as the disinfection process. The use of chlorine gas as a disinfection method has declined in the municipal waste treatment industry due to risk. This process for treatment is more cost effective, and safer to deliver, store and feed than chlorine gas. The wastewater treatment plant process controls will be modified with new chemical feed pumps and installation of a new 5,000-gallon tank for liquid sodium hypochlorite (bleach). Improvements will be constructed outside, near the existing chlorine contact chamber. This conversion will allow the District to more safely and efficiently disinfect while accommodating additional wastewater treatment flows from a larger customer base. In addition, mitigation of risks associated with potential growth infringing around the wastewater treatment plant triggers the need for increased safety of the community.

WWTP SCADA Monitoring (CIP 17-2-05)

This project consists of expansion to the wastewater Supervisor Control and Data Acquisition (SCADA) monitoring and control system, compatible with existing and proposed SCADA software and hardware in use by the District. The existing hardware of radio transmission units (RTU's) and programmable logic controls (PLC's) are not sized to handle increased communications that would be generated by system expansion, necessary to serve build-out of the community. The existing components will be replaced with equipment capable of monitoring and controlling the entire filtration and disinfection process at the wastewater treatment plant and various control processes outside of the plant. The project also consists of minor improvements/replacements to flow sensors, valves, and sensor transmitters for the various processes at the wastewater treatment plant. The project also requires purchase of new SCADA software and supporting hardware, along with SCADA workstations to control the upgraded hardware improvements. SCADA system expansion is required to keep the wastewater treatment plant operating in an efficient manner with the various planned improvements that are required to accommodate additional wastewater treatment flows from a larger customer base.

Lift Station Capacity Improvement (CIP 17-2-06)

This project consists of expansion to two existing lift stations; Main North Lift Station and 6B Lift Station to accommodate increased flows from a larger customer base and provide for continued system reliability due to increased flows to minimize the risk of spills. Each of the lift stations will receive upgrades to the wastewater SCADA monitoring and control system. This consists of purchase and installation of RTU's and PLC's. The project also consists of improvements to the lift station flow sensors, valves, and sensor transmitters to be compatible with the SCADA hardware. The Main North Lift Station will also require upsizing of odor control, a new comminutor and pump for the third dry pit/wet pit system, and coatings/lining for concrete. The 6B Lift station will require a third pump, generator, new electrical panel, and minor piping improvements.

Fiber Optic Connection – Wastewater Treatment Plant to Admin. (CIP 17-2-07)

This project consists of installation of approximately one thousand eight hundred (1,800') linear feet of conduit and fiber optic cable between the wastewater treatment plant and District



administration building and minor electrical/telecommunications improvements to the District headquarters and wastewater treatment plant buildings. The current wireless network and wireless repeaters used for communications purposes is outdated and slow. This problem will be exacerbated when future plant expansions occur, as additional communications bandwidth is necessary for increased traffic. This project will replace the existing wireless network that will be unable to keep up with increased network traffic triggered by growth with a fiber optic communication cable and network, allowing the existing system to remain in place in case of emergency. The fiber optic connection is required to accommodate the additional data collection, needed bandwidth for CCTV monitoring, data transfers required to operate the wastewater treatment plant, and enhance the security of the system to allow the District to maintain a high level of customer service when serving a larger customer base.

Piping Connection – Sludge Discharge to Drying Beds (CIP 17-2-08)

This project consists of installation of approximately one thousand linear feet (1,000') of 14" pipe and minor valve improvements. The pipeline will be installed from the wastewater plant's pond drain system at a point near the tertiary pump station to the sludge drying beds adjacent to the drying bed access road. Improvements include a new pump station, which will be confirmed based on elevations of existing underground pipelines. These piping modifications are required to keep the wastewater treatment plant operating in an efficient manner with the various planned improvements that will accommodate additional wastewater flows from a larger customer base and expand the handling capability of the solids dewatering system.

Sludge Dredge and Filter Skids for Ponds (CIP 17-2-09)

This project consists of purchase of a remote controlled flump dredge and a filter skid for the sludge drying beds located at the southern end of the wastewater treatment plant. A flump dredge is used for sludge collection and removal of sludge from the wastewater treatment plant ponds. The filter skid is a mobile filtration system that combines a self-cleaning filter with required pumps, manifolds, and controllers. The skid offers a mobile and easy to install industrial water filter station for the wastewater pumped by the flump dredge. Continued growth within the community will create increased volume of solids at the wastewater treatment plant. This purchase is required to increase handling capacity, minimize maintenance operations, and lower operational costs at the wastewater treatment plant when serving a larger customer base due to increased production of solids caused by increased flows to the Wastewater Treatment Plant.

Headworks (CIP 17-2-10)

This project consists of construction of expanded headworks and odor control systems at the wastewater treatment plant to accommodate additional flows from build-out of the service area. The headworks of a wastewater treatment plant is the initial stage of a complex process. The new headworks will consist of self-cleaning screens with solids compactions and disposal, and odor control unit to be located north of Aeration Pond 1. This will also then be the centralized site that will tie together the north and south force main influent pipelines and provide a single metering point for District inflows, which is necessary as flows increase into the Wastewater Treatment Plant. The headworks will channelize the influent into an open channel to flow through a drum screen and bar screen to effectively remove plastic and non-degradable solids, grit, and other debris from the wastewater instead of flowing into wastewater treatment ponds. Influent will then pass through the odor control unit to neutralize any noxious odors, prior to discharging into Aeration Pond 1. This improvement is required to provide expanded primary screening and treatment capacity at the wastewater treatment plant caused by the increased customer base. It



should be noted, the District previously contracted with Hydrosience Engineer's, Inc. in 2009 to design the headworks. In February 2010, the District suspended the design contract for the engineering design at approximately 50% completed.

Motor Actuated Valve for Sludge Drying Bed (CIP 17-2-13)

This project consists of installation of a motor actuated valve for controlling operations of the sludge drying beds. As growth within the District's service area occurs and flows increase, the District requires mechanical equipment that facilitate operation of the existing infrastructure. The new valve is required to keep the wastewater treatment plant operating in an efficient manner with the various planned improvements that will accommodate additional wastewater flows from a larger customer base and expand the handling capability of the solids dewatering system.

Yellow Bridge Sewer Force Main Improvements (CIP 17-2-14)

This project consists of improvements to the sewer force main on the Yellow Bridge. Increases in flows into the upstream sewer lift stations and increased number of pumping cycles will lead to premature failure of existing exposed sewer infrastructure located on the Yellow Bridge. New mechanical equipment to be installed includes plug valves, air release valves, and containment vault. This new equipment will trigger the need to realign two small segments of the reclaimed water main on the Yellow Bridge. Both mains will need to be dewatered during construction. This improvement will allow the wastewater force main system to operate in an efficient manner due to the various planned improvements that will accommodate additional wastewater treatment flows from a larger customer base.

Anderson Ranch Spray Field 4 (CIP 17-2-15)

This improvement consists of various transmission, distribution and irrigation system improvements at the Anderson Ranch Spray Field. The expansion of reclamation capacity is necessary to comply with existing permit conditions, as the existing reclamation capacity is unable to accommodate increased flows while still complying with the permit conditions during wet weather events.

Drainage Projects:

Commercial Area Drainage Slide Gate Automation (CIP 17-2-11)

This project consists of installation of an automated motor operated valve, float switch, minor electrical controls and an autodialer alarm system on the slide drainage gate in the commercial loop area, with phone service (either wireless or wired), but not incorporated into the District's SCADA system. The intended use of the slide gate is to provide flood protection from the Cosumnes River flows during peak storm rain events. The gate is currently operated manually and must be visually inspected during rain events to determine the need to lower the gate. This project is intended to provide an automated motor control and flow sensors to automatically lower the gate when the Cosumnes River reaches predetermined flood elevations. These improvements will provide flood protection for current and future developments in the commercial loop area while improving District operations for flood protection during storm events.



Stormwater Monitoring Testing Equipment (CIP 17-2-12)

This project consists of purchasing water quality testing equipment. The equipment includes a portable sampling device, portable turbidity meter, portable chemical analyzer, and various miscellaneous appurtenances to monitor and record stormwater quality. This equipment purchase will allow the District to maintain compliance with current National Pollutant Discharge Elimination System (NPDES) requirements and lower operational costs for water quality sampling during storm events. Further, an increased population base will trigger additional monitoring requirements, which the use of these new pieces of equipment will provide.

Trash Containment Structures (CIP 17-2-16)

This project consists of installation of ten trash racks in various locations in the District's drainage shed. The District's MS4 NPDES permit requires collection and removal of trash from the drainage system before runoff enters the Cosumnes River. Instead of requiring each new subdivision to construct de-centralized systems, several centralized systems will be constructed to serve larger regional drainage sheds and water bodies, allowing for a better planned system that meets these regulatory requirements.

Administrative Projects:

District Administration Building Remodel/Expansion (CIP 17-4-01)

This project consists of constructing a 40'x100' addition to the existing District Administration Building. The addition and remodel of eastern half of the building will create additional offices for staff, provide additional storage area for District records and expand the public meeting room for the District's Board of Director's and Committee meetings. Additional support staff will be required to maintain efficiency in District administrative, accounting, and field operations when serving an expanded customer base.

ACTIVE PROJECTS

The projects listed below are currently part of the overall facilities capital improvement program and are currently underway. These costs are not factored into the overall program.

Sewer Projects:

Easement Hydro-Jetter [In Process]

This project consists of purchasing of a trailer mounted hydro-jetting machine to be used for sewer and storm drain maintenance applications, where access to facilities lies within a small width easement with limited vehicular access, typically in common areas around homes in the Rancho Murieta North. Purchase of this trailer makes these types of maintenance operations for the District more efficient, thus decreasing maintenance costs when serving a larger customer base.

Water Projects:

Granlees Site Restriction [In Process]

This project consists of site security improvement such as fencing, gates, guardrails, and signs at the Granlees Dam, Granlees fish ladder, and raw water pump station. Supplementary data and



cost estimates are provided in detail in the Granlees Dam Accessibility Restriction Predesign Alternatives Study and Type Selection Report by HDR, Inc., dated December 2005.

Administrative Projects:

Records Storage [In Process]

This project consists of purchase of an electronic document management system and scanning hardware. The district is faced with new challenges from its customer base as demands for instant access to electronic government documents online, such as public records, and heightened security and regulations continue to grow. This system will allow the District to maintain a high level of service for an expanded customer base.

ELIMINATED PROJECTS

The projects listed below were removed from the prior overall Facilities Capital Improvement Program. These costs are not factored into the overall program.

District Radio Transmitter Station	\$15,000
Facilities Triangulation Control System	\$51,000
Security Gates Video Operations Link	\$76,000
Automated Equipment Identification System	\$60,000
Stonehouse Wastewater Plant Closeout	\$60,000
Hydroelectric Generation Facility	\$335,000
North Gate Security Improvements	\$485,000
Chesbro Air Injection System	\$60,000
Capital Improvement Fee Software	\$20,000
Granlees Raw Water Pump Station Electrical	\$60,000
Telemetry and Central Control System	\$500,000
Laguna Joaquin Drainage Channel Lining	\$850,000
Ditch Maintenance Tractor/Mower	\$40,000
Lake Algae Induction System	\$35,000
Drainage Dich Cleaning from Hay Barn to River	\$80,000
Wireless Cloud Costs	\$285,000
CMMS/Websoft	\$200,000
Wireless Network	\$100,000



TABLE 1 - FACILITIES CAPITAL IMPROVEMENT PROGRAM PROJECT SUMMARY

Project Number	Project Name	Project Estimate
Water Projects		
17-1-01	Rio Oso Hydropneumatic Station Air Compressor	\$29,120
17-1-02	Booster Pump Building at Rio Oso	\$508,200
17-1-03	Rio Oso Hydropneumatic Tank	\$213,500
17-1-04	Culvert Crossing at Water Treatment Plant	\$159,880
17-1-05	Dam Road Grading and Resurfacing	\$1,227,600
17-1-06	Chlorine Gas to Bleach Conversion - Water Treatment Plant	\$352,940
17-1-07	Maintenance Shed (20' x 40') at Water Treatment Plant	\$67,480
17-1-08	Emergency Water Supply Well	\$1,043,200
Water Project Total		\$3,601,920
Sewer Projects		
17-2-01	Sewer/Drainage Hydro Cleaning Truck	\$168,000
17-2-02	Material and Equipment Warehouse	\$147,840
17-2-03	Drying Bed and Access Road Improvements	\$605,500
17-2-04	Chlorine Gas to Bleach Conversion - Wastewater Treatment Plant	\$266,140
17-2-05	WWTP SCADA Monitoring	\$225,400
17-2-06	Lift Station Capacity Improvements	\$997,920
17-2-07	Fiber Optic Connection - Wastewater Treatment Plant to Administration Building	\$136,780
17-2-08	Piping Connection - Sludge Discharge to Drying Beds	\$380,660
17-2-09	Sludge Dredge & Filter Skid for Ponds	\$471,240
17-2-10	Headworks	\$641,200
17-2-13	Motor Actuated Valve for Sludge Drying Bed	\$60,000
17-2-14	Yellow Bridge Sewer Force Main Improvements	\$167,000
17-2-15	Anderson Ranch Spray Field 4	\$1,179,250
Sewer Project Total		\$5,446,930
Drainage Projects		
17-2-01	Sewer/Drainage Hydro Cleaning Truck	\$168,000
17-2-11	Commercial Area Drainage Slide Gate Automation	\$55,440
17-2-12	Stormwater Monitoring Testing Equipment	\$43,680
17-2-16	Trash Containment Structures	\$115,000
Drainage Project Total		\$382,120
Administrative Projects		
17-4-01	District Administration Building Remodel/Expansion	\$400,960
Administrative Project Total		\$400,960
Capital Improvement Project Total		\$9,831,930

ATTACHMENT A - PROJECT DATA FORMS

Rancho Murieta Community Services District
Project Name: Rio Oso Hydropneumatic Station Air Compressor
Job Number: 17-1-01

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	Air Compressor	1	LS	\$7,500.00	\$7,500.00
2	Misc. Appurtenances	1	LS	\$3,750.00	\$3,750.00
3	230V Service	1	LS	\$4,500.00	\$4,500.00
4	Mobilization (10%)	1	LS	\$1,575.00	\$1,575.00

Subtotal \$17,325.00

20% Contingency \$3,465.00

Total Construction Cost \$20,790.00

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

Project Number:	17-1-02	Project Name:	Booster Pump Building at Rio Oso
Location:	Rio Oso	Project Type:	Water

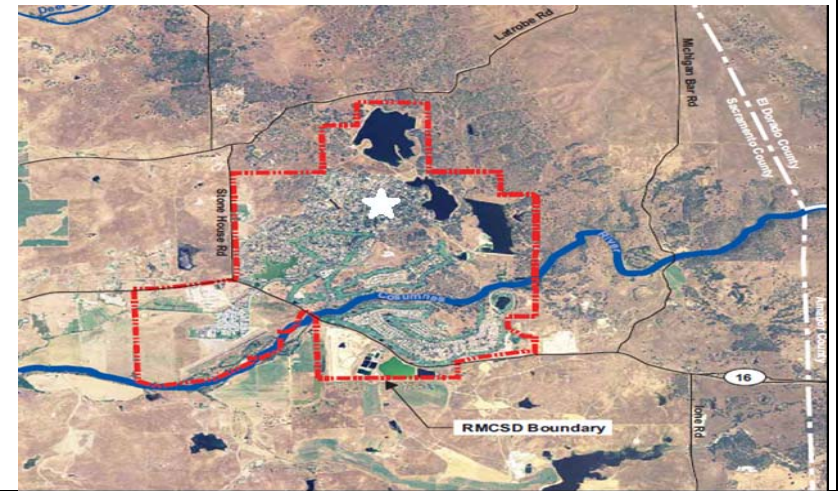
Description: Construction of Booster Pump Station Building

Rio Oso

Justification: Facility Improvement

Notes: Reduce Noise Generation

	<i>Item</i>	<i>Previous Expenditures</i>	<i>Cost Estimate</i>	<i>Total</i>
PROJECT COST	Administration/Management		\$18,150	\$18,150
	Planning/Environmental		\$18,150	\$18,150
	Engineering		\$54,450	\$54,450
	Construction		\$363,000	\$363,000
	Construction Management/Inspection		\$54,450	\$54,450
	Total	\$0	\$508,200	\$508,200



Rancho Murieta Community Services District
Project Name: Booster Pump Station Building at Rio Oso
Job Number: 17-1-02

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
1	(25'x25') CMU Building w/removable steel roof	1	LS	\$250,000.00	\$250,000.00
2	Site Work	1	LS	\$25,000.00	\$25,000.00
3	Mobilization (10%)	1	LS	\$27,500.00	\$27,500.00
				Subtotal	\$302,500.00
				20% Contingency	\$60,500.00
				Total Construction Cost	<u>\$363,000.00</u>

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

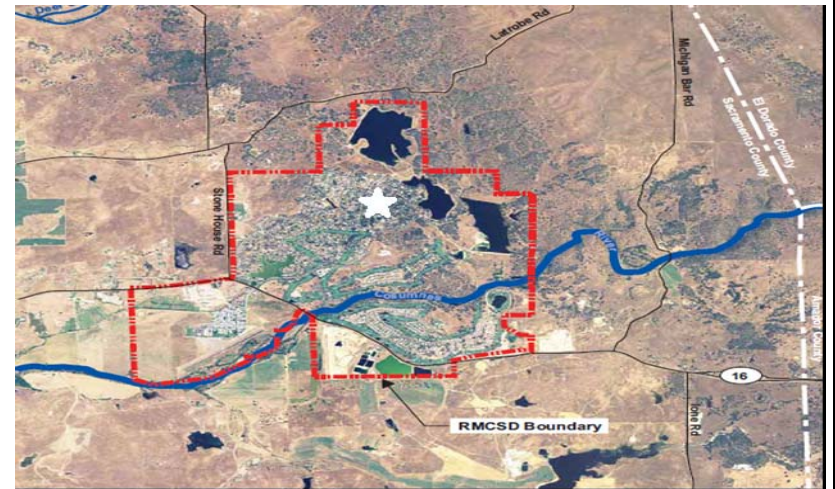
Project Number:	17-1-03	Project Name:	Rio Oso Hydropneumatic Tank
Location:	Rio Oso	Project Type:	Water

Description: Construction of Hydropneumatic Tank at Rio Oso

Rio Oso

Justification: Facility Improvement

Notes: Water System Reliability/Regulation and Noise Reduction



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Administration/Management		\$7,625	\$7,625
	Planning/Environmental		\$7,625	\$7,625
	Engineering		\$22,875	\$22,875
	Construction		\$152,500	\$152,500
	Construction Management/Inspection		\$22,875	\$22,875
	Total	\$0	\$213,500	\$213,500

Rancho Murieta Community Services District
Project Name: Rio Oso Hydropneumatic Tank
Job Number: 17-1-03

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	Hydropneumatic Tank (Tank & Foundation)	1	LS	\$50,000.00	\$50,000.00
2	Valves, Appurtanences, Controls	1	LS	\$25,000.00	\$25,000.00
3	4" - 6" PVC Pipe	100	LF	\$180.00	\$18,000.00
4	Site Work (Electrical, BMPs, Misc. Items)	1	LS	\$15,000.00	\$15,000.00
5	Disinfection & Startup	1	LS	\$7,500.00	\$7,500.00
6	Mobilization (10%)	1	LS	\$11,550.00	\$11,550.00

Subtotal	\$127,050.00
20% Contingency	\$25,410.00
Total Construction Cost	\$152,460.00

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

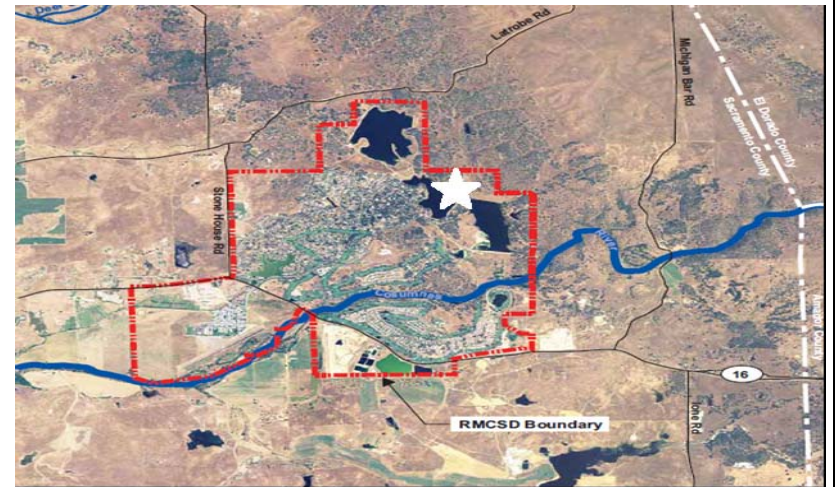
Project Number:	17-1-04	Project Name:	Culvert Crossing at Water Treatment Plant
Location:	Water Treatment Plant	Project Type:	Water

Description: Construction of Drainage Culvert at Water Treatment Plant

Water Treatment Plant

Justification: Facility Improvement

Notes: Water Treatment Plant Operational Efficiency - Vehicle, Chemical Delivery, Maintenance, and Stormwater Quality



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Administration/Management		\$5,710	\$5,710
	Planning/Environmental		\$5,710	\$5,710
	Engineering		\$17,130	\$17,130
	Construction		\$114,200	\$114,200
	Construction Management/Inspection		\$17,130	\$17,130
	Total	\$0	\$159,880	\$159,880

Rancho Murieta Community Services District
Project Name: Culvert Crossing at Water Treatment Plant
Job Number: 17-1-04

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
1	Pre-Cast Concrete Culvert (4' x 6' x 20')	1	LS	\$23,000.00	\$23,000.00
2	Headwall	1	LS	\$8,000.00	\$8,000.00
3	Roadway Improvements*	1	LS	\$48,000.00	\$48,000.00
4	Streambed Alteration Permit	1	LS	\$1,500.00	\$1,500.00
5	Stormwater Best Management Practices	1	LS	\$6,000.00	\$6,000.00
6	Mobilization (10%)	1	LS	\$8,650.00	\$8,650.00

Subtotal \$95,150.00

20% Contingency \$19,030.00

Total Construction Cost \$114,180.00

- * Assumes a 4" AC / 3" AB, 20' wide (300 LF)
- 4" x 20' x 300' = 145 Tons
- 3" x 20' x 300' = 56 CY
- Grading & Base Compaction

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

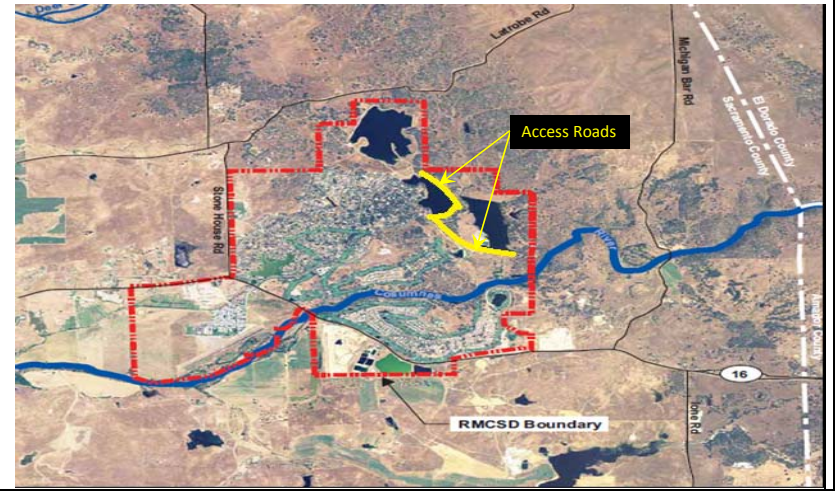
Project Number:	17-1-05	Project Name:	Dam Road Grading and Resurfacing
Location:	Lake Clementia & Lake Chesbro	Project Type:	Water

Description: Upgrade of Existing Dam Roads

Lake Clementia and Lake Chesbro Dam Roads

Justification: Facility Improvement

Notes: Increased Lake Inspections, Customer Recreational Use



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Administration/Management		\$40,920	\$40,920
	Planning/Environmental		\$122,760	\$122,760
	Engineering		\$122,760	\$122,760
	Construction		\$818,400	\$818,400
	Construction Management/Inspection		\$122,760	\$122,760
	Total	\$0	\$1,227,600	\$1,227,600

Rancho Murieta Community Services District
Project Name: Dam Road Grading and Resurfacing
Job Number: 17-1-05

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
1	Roadway Improvements*	1	LS	\$600,000.00	\$600,000.00
2	Clearing and Grubbing	1	LS	\$10,000.00	\$10,000.00
3	Tree Mitigation	1	LS	\$10,000.00	\$10,000.00
4	Mobilization (10%)	1	LS	\$62,000.00	\$62,000.00
					\$0.00

Subtotal \$682,000.00

20% Contingency \$136,400.00

Total Construction Cost \$818,400.00

- * Assumes a 3" AC /4" AB, 20' wide
- 3,400 LF Lake Clamentia
- 4,700 LF Lake Chesbro
- Grading & Base Compaction

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

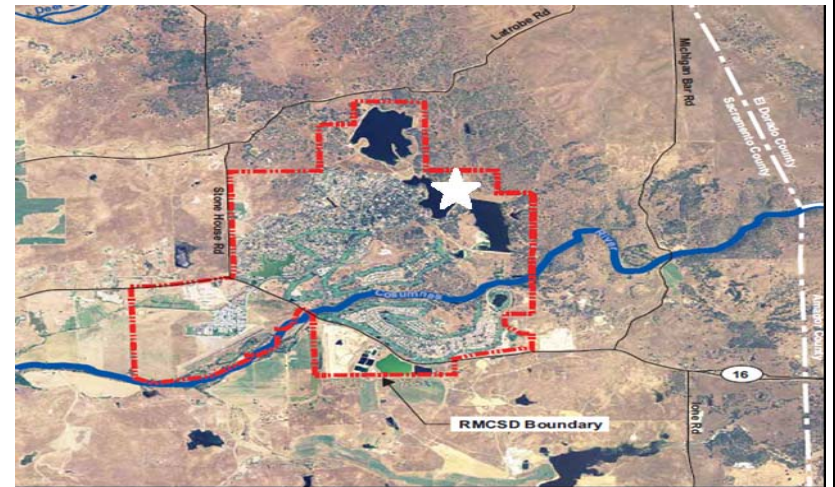
Project Number:	17-1-06	Project Name:	Chlorine Gas to Bleach Conversion - Water Treatment Plant
Location:	Water Treatment Plant	Project Type:	Water

Description: Conversion of Treatment Systems from Chlorine Gas to Bleach

Water Treatment Plant

Justification: Facility Improvement

Notes: Increased Safety due to growth encroachment and Disinfection Process



	<i>Item</i>	<i>Previous Expenditures</i>	<i>Cost Estimate</i>	<i>Total</i>
PROJECT COST	Adminstration/Management		\$12,605	\$12,605
	Planning/Environmental		\$12,605	\$12,605
	Engineering		\$37,815	\$37,815
	Construction		\$252,100	\$252,100
	Construction Management/Inspection		\$37,815	\$37,815
	Total	\$0	\$352,940	\$352,940

Rancho Murieta Community Services District
Project Name: Chlorine Gas to Bleach Conversion - Water Treatment Plant
Job Number: 17-1-06

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
1	Equipment & Appurtanences	1	LS	\$32,000.00	\$32,000.00
2	Site/Facility Improvements (Tank, Chemical Feed Pumps)	1	LS	\$30,000.00	\$30,000.00
3	Systems Conversion and Telemetry	1	LS	\$16,000.00	\$16,000.00
4	Building Modification (Demolition, Foundation)	1	LS	\$40,000.00	\$40,000.00
5	Temporary Chlorination during Construction	1	LS	\$50,000.00	\$50,000.00
6	Permit Modifications	1	LS	\$8,000.00	\$8,000.00
7	Field Startup and Training	1	LS	\$15,000.00	\$15,000.00
8	Mobilization (10%)	1	LS	\$19,100.00	\$19,100.00

Subtotal	\$210,100.00
20% Contingency	\$42,020.00
Total Construction Cost	<u><u>\$252,120.00</u></u>

* Hopkins Technical Products Quote 2/6/17
5100 Gallon Tank
Chemical Feed Pumps

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

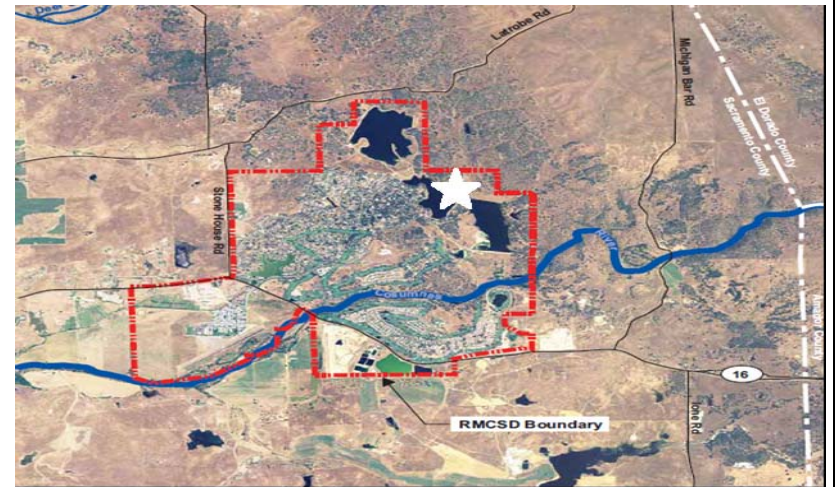
Project Number:	17-1-07	Project Name:	Maintenance Shed (20' x 40') at Water Treatment Plant
Location:	Water Treatment Plant	Project Type:	Water

Description: Purchase and installation of pre-fabricated shed

Water Treatment Plant

Justification: Facility Improvement

Notes: Additional Materials and Equipment Storage - Water Treatment Plant Maintenance



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Administration/Management		\$2,410	\$2,410
	Planning/Environmental		\$2,410	\$2,410
	Engineering		\$7,230	\$7,230
	Construction		\$48,200	\$48,200
	Construction Management/Inspection		\$7,230	\$7,230
	Total	\$0	\$67,480	\$67,480

Rancho Murieta Community Services District
Project Name: Maintenance Shed (20' x 40') at Water Treatment Plant
Job Number: 17-1-07

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	20'x40' Maintenance Shed (Pre-Manufactured)	1	LS	\$32,000.00	\$32,000.00
2	Site Preparation/Foundation/Electrical	1	LS	\$4,500.00	\$4,500.00
3	Mobilization (10%)	1	LS	\$3,650.00	\$3,650.00
					\$0.00

Subtotal \$40,150.00

20% Contingency \$8,030.00

Total Construction Cost \$48,180.00

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

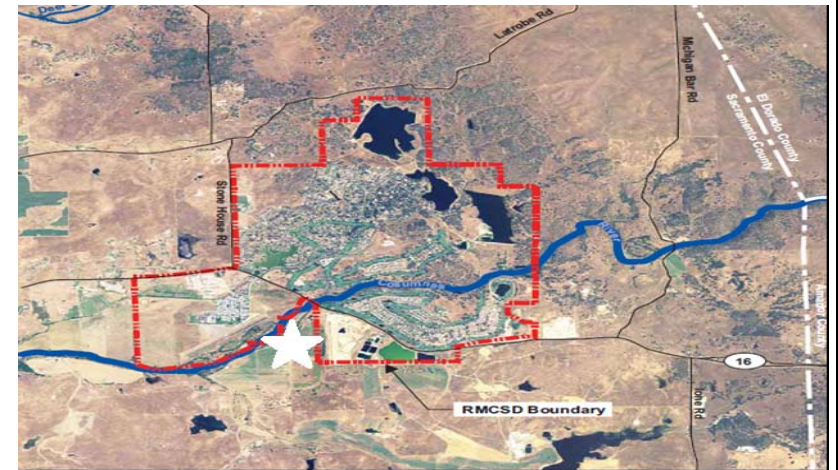
Project Number:	17-1-08	Project Name:	Emergency Water Supply Well
Location:	Anderson Ranch Spray Fields	Project Type:	Water

Description: Construction of Water Well

Justification: Facility Improvement

Notes: Backup Water Supply

Rancho Murieta Community Services District



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Administration/Management		\$54,900	\$54,900
	Planning/Environmental		\$54,900	\$54,900
	Engineering/Right-of-Way		\$164,700	\$164,700
	Construction		\$1,098,000	\$1,098,000
	Construction Management/Inspection		\$164,700	\$164,700
	RWA Grant		(\$494,000)	
	Total	\$0	\$1,043,200	\$1,043,200

Rancho Murieta Community Services District
Project Name: Emergency Water Supply Well
Job Number: 17-1-08

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	Estimate By Dunn Environmental	1	LS	\$900,000.00	\$900,000.00
2	Permit Modifications	1	LS	\$15,000.00	\$15,000.00

	Subtotal	\$915,000.00
	20% Contingency	\$183,000.00
	Total Construction Cost	<u>\$1,098,000.00</u>

*

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

Project Number:	17-2-01	Project Name:	Sewer/Drainage Hydro Cleaning Truck
Location:	Maintenance Equipment	Project Type:	Sewer/Drainage

Description: Purchase of Vac-Con Truck

Vac Con Truck

Justification: Preventative Maintenance

Notes: Achieve full life expectancy of sewer and drainage system infrastructure.



	<i>Item</i>	<i>Previous Expenditures</i>	<i>Cost Estimate</i>	<i>Total</i>
PROJECT COST	Administration/Management		\$12,000	\$12,000
	Planning/Environmental		\$12,000	\$12,000
	Engineering		\$36,000	\$36,000
	Construction		\$240,000	\$240,000
	Construction Management/Inspection		\$36,000	\$36,000
	Total	\$0	\$336,000	\$336,000

Rancho Murieta Community Services District

Project Name: Sewer/Drainage Hydro Cleaning Truck

Job Number: 17-2-01

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	9 Yard Combination Sewer Cleaner (Vac-Con) Purchase	1	LS	\$200,000.00	\$200,000.00

Subtotal \$200,000.00

20% Contingency \$40,000.00

Total Construction Cost \$240,000.00

[http://www.vac-con.com/combinaton sewer cleaning truck.html#3](http://www.vac-con.com/combinaton_sewer_cleaning_truck.html#3)

Rancho Murieta Community Services District

Project Name: Material and Equipment Warehouse

Job Number: 17-2-02

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	40'x60' Warehouse (Pre-Manufactured)	1	LS	\$50,000.00	\$50,000.00
2	Site Preparation/Foundation/Electrical	1	LS	\$30,000.00	\$30,000.00
3	Mobilization (10%)	1	LS	\$8,000.00	\$8,000.00
					\$0.00

Subtotal \$88,000.00

20% Contingency \$17,600.00

Total Construction Cost \$105,600.00

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

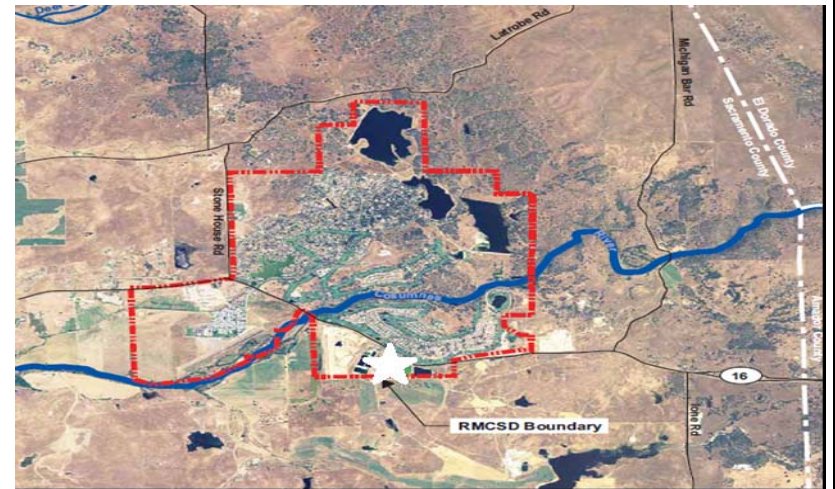
Project Number:	17-2-03	Project Name:	Drying Bed and Access Road Improvements
Location:	Wastewater Treatment Plant	Project Type:	Sewer

Description: Construction of additional drying bed

Sewer Treatment Plant

Justification: Facility Improvement

Notes: Increased Solids - Larger Customer Base



	<i>Item</i>	<i>Previous Expenditures</i>	<i>Cost Estimate</i>	<i>Total</i>
PROJECT COST	Administration/Management		\$21,625	\$21,625
	Planning/Environmental		\$21,625	\$21,625
	Engineering		\$64,875	\$64,875
	Construction		\$432,500	\$432,500
	Construction Management/Inspection		\$64,875	\$64,875
	Total	\$0	\$605,500	\$605,500

Rancho Murieta Community Services District
Project Name: Drying Bed and Access Road Improvements
Job Number: 17-2-03

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
1	Drying Bed Improvements*	280	CY	\$450.00	\$126,000.00
2	Piping & Appurtanences	1	LS	\$12,000.00	\$12,000.00
3	Access Road Improvements (6" AC / 8" AB)	1	LS	\$75,000.00	\$75,000.00
4	Dried Sludge Storage Pad (80'x80'x12")	237	CY	\$450.00	\$106,650.00
5	Permit Modifications	1	LS	\$8,000.00	\$8,000.00
6	Mobilization (10%)	1	LS	\$32,765.00	\$32,765.00

	Subtotal	\$360,415.00
	20% Contingency	\$72,083.00
	Total Construction Cost	\$432,498.00

* Additional Drying Bed for Sludge Storage
- Excavation & Grading

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

Project Number: 17-2-04 **Project Name:** Chlorine Gas to Bleach Conversion - Wastewater Treatment Plant

Location: Wastewater Treatment Plant **Project Type:** Sewer

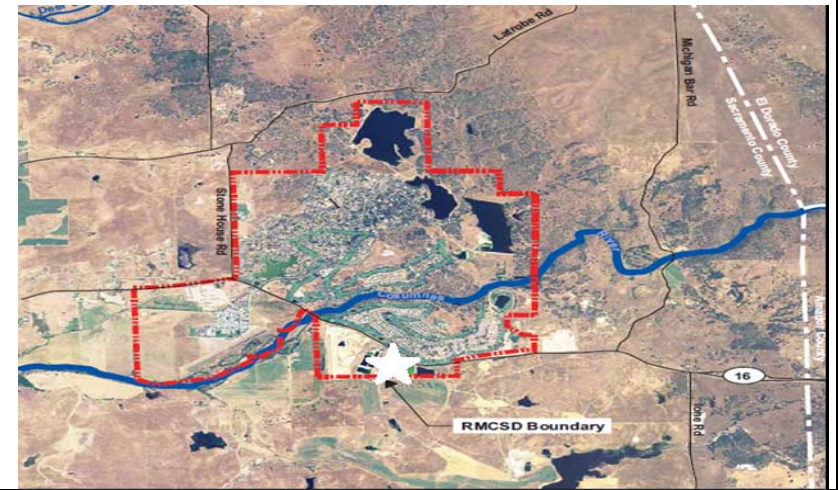
Description: Conversion of Treatment Systems from Chlorine Gas to Bleach

Sewer Treatment Plant

Justification: Facility Improvement

Notes: Increased Safety due to growth encroachment and Disinfection Process

	<i>Item</i>	<i>Previous Expenditures</i>	<i>Cost Estimate</i>	<i>Total</i>
PROJECT COST	Administration/Management		\$9,505	\$9,505
	Planning/Environmental		\$9,505	\$9,505
	Engineering		\$28,515	\$28,515
	Construction		\$190,100	\$190,100
	Construction Management/Inspection		\$28,515	\$28,515
	Total	\$0	\$266,140	\$266,140



Rancho Murieta Community Services District

Project Name: Chlorine Gas to Bleach Conversion - Wastewater Treatment Plant

Job Number: 17-2-04

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	Equipment* (Piping, Chemical Feed Pumps, Control Panel)	1	LS	\$52,000.00	\$52,000.00
2	Site/Facility Conversion	1	LS	\$35,000.00	\$35,000.00
3	Systems Conversion and Telemetry	1	LS	\$16,000.00	\$16,000.00
4	Field Startup	1	LS	\$10,000.00	\$10,000.00
5	Staff Training	1	LS	\$5,000.00	\$5,000.00
6	Enclosure & Screening	1	LS	\$18,000.00	\$18,000.00
7	Permit Modifications	1	LS	\$8,000.00	\$8,000.00
8	Mobilization (10%)	1	LS	\$14,400.00	\$14,400.00

Subtotal \$158,400.00

20% Contingency \$31,680.00

Total Construction Cost \$190,080.00

* Hopkins Technical Products Quote 2/6/17
5100 Gallon Tank
Chemical Feed Pumps

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

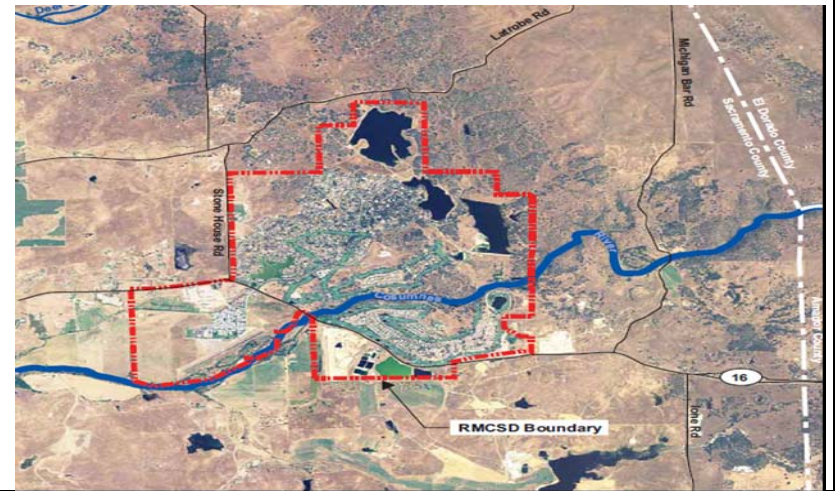
Project Number:	17-2-05	Project Name:	WWTP SCADA Monitoring
Location:	Hardware/Software	Project Type:	Sewer

Description: Hardware and Software Equipment Purchase

Rancho Murieta Community Services District

Justification: Administrative

Notes: Wastewater Treatment Plant Reliability due to system expansion triggered by growth



	<i>Item</i>	<i>Previous Expenditures</i>	<i>Cost Estimate</i>	<i>Total</i>
PROJECT COST	Administration/Management		\$8,050	\$8,050
	Planning/Environmental		\$8,050	\$8,050
	Engineering		\$24,150	\$24,150
	Construction		\$161,000	\$161,000
	Construction Management/Inspection		\$24,150	\$24,150
	Total	\$0	\$225,400	\$225,400

Rancho Murieta Community Services District

Project Name: WWTP SCADA Monitoring

Job Number: 17-2-05

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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	Supervisory Control And Data Acquisition (SCADA)				
1	SCADA Hardware & Installation. RTU/PLC's	1	LS	\$30,000.00	\$30,000.00
2	SCADA Network Server & Workstations	1	LS	\$12,000.00	\$12,000.00
3	SCADA Software Purchase	1	LS	\$20,000.00	\$20,000.00
4	System Programming & Integration	1	LS	\$60,000.00	\$60,000.00
5	Mobilization (10%)	1	LS	\$12,200.00	\$12,200.00

Subtotal \$134,200.00

20% Contingency \$26,840.00

Total Construction Cost \$161,040.00

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

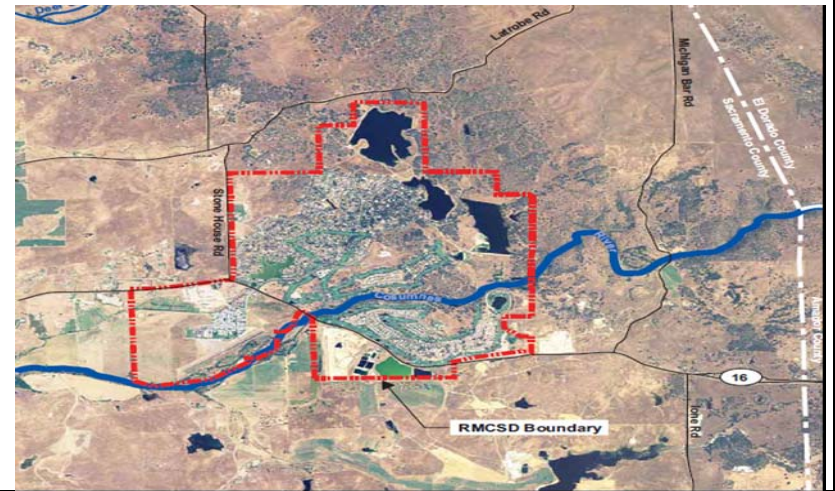
Project Number:	17-2-06	Project Name:	Lift Station Capacity Improvements
Location:	Collection System	Project Type:	Sewer

Description: Sewer Lift Station Collection System Expansion

Rancho Murieta Community Services District

Justification: Administrative

Notes: Add pumps, odor control, and other equipment to accommodate planned growth



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Administration/Management		\$35,640	\$35,640
	Planning/Environmental		\$35,640	\$35,640
	Engineering		\$106,920	\$106,920
	Construction		\$712,800	\$712,800
	Construction Management/Inspection		\$106,920	\$106,920
	Total	\$0	\$997,920	\$997,920

Rancho Murieta Community Services District

Project Name: Lift Station Capacity Improvements

Job Number: 17-2-06

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
1	Supervisory Control And Data Acquisition (SCADA)	1	LS	\$200,000.00	\$200,000.00
2	Main Lift North (Pump, Piping, Odor Control, Concrete, Liner)	1	LS	\$175,000.00	\$175,000.00
3	6B Lift (Pumps, Generator, Piping, and Panel)	1	LS	\$165,000.00	\$165,000.00
4	Mobilization (10%)	1	LS	\$54,000.00	\$54,000.00

Subtotal \$594,000.00

20% Contingency \$118,800.00

Total Construction Cost \$712,800.00

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

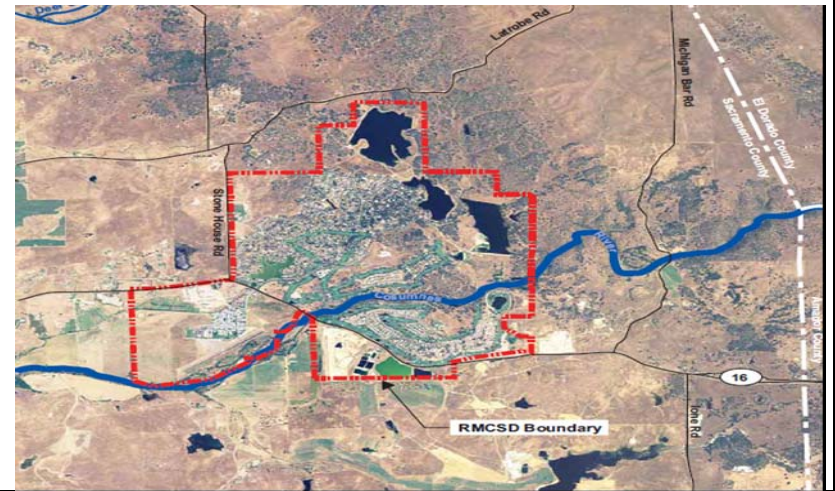
Project Number:	17-2-07	Project Name:	Fiber Optic Connection - Wastewater Treatment Plant to Administration Building
Location:	Hardware/Software	Project Type:	Sewer

Description: Installation of Fiber Optic Telecommunications

Rancho Murieta Community Services District

Justification: Facility Improvement

Notes: Bandwidth - Data Collection, CCTV Monitoring, System Security



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Adminstration/Management		\$4,885	\$4,885
	Planning/Environmental		\$4,885	\$4,885
	Engineering		\$14,655	\$14,655
	Construction		\$97,700	\$97,700
	Construction Management/Inspection		\$14,655	\$14,655
	Total	\$0	\$136,780	\$136,780

Rancho Murieta Community Services District

Project Name: Fiber Optic Connection -- Wastewater Treatment Plant to Admin Building

Job Number: 17-2-07

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	Service Installation / Service Agreement	1	LS	\$8,000.00	\$8,000.00
2	Conduit Installation & Trench Repair	1,800	LF	\$35.00	\$63,000.00
3	Misc. Facility Modifications	1	LS	\$3,000.00	\$3,000.00
4	Mobilization	1	LS	\$7,400.00	\$7,400.00

Subtotal \$81,400.00

20% Contingency \$16,280.00

Total Construction Cost \$97,680.00

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

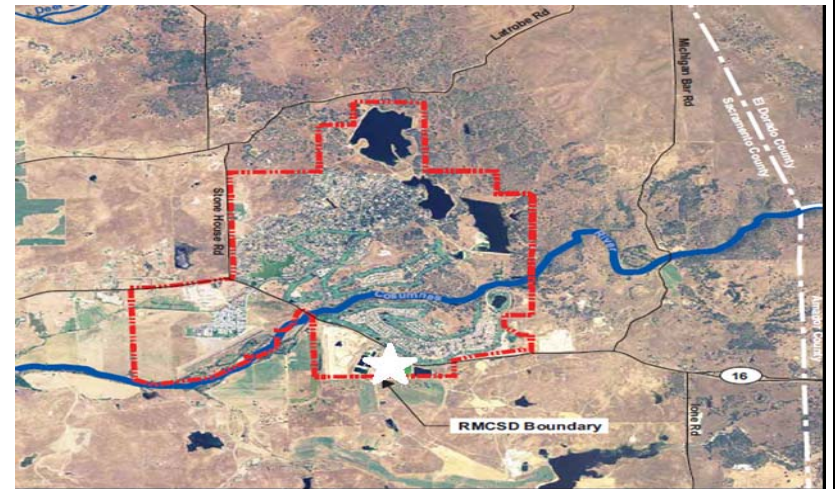
Project Number:	17-2-08	Project Name:	Piping Connection - Sludge Discharge to Drying Beds
Location:	Wastewater Treatment Plant	Project Type:	Sewer

Description: Reconfiguration of Drying Bed Discharge Piping

Wastewater Treatment Plant

Justification: Facility Improvement

Notes: Wastewater Treatment Plant increased distribution capacity



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Administration/Management		\$13,595	\$13,595
	Planning/Environmental		\$13,595	\$13,595
	Engineering		\$40,785	\$40,785
	Construction		\$271,900	\$271,900
	Construction Management/Inspection		\$40,785	\$40,785
	Total	\$0	\$380,660	\$380,660

Rancho Murieta Community Services District
Project Name: Piping Connection - Sludge Discharge to Drying Beds
Job Number: 17-2-08

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	14" Pipe	1,000	LF	\$130.00	\$130,000.00
2	Valves and Appurtenances	1	LS	\$15,000.00	\$15,000.00
3	Minor Grading	1	LS	\$3,000.00	\$3,000.00
4	Permit Modifications	1	LS	\$8,000.00	\$8,000.00
5	Pump Station	1	LS	\$50,000.00	\$50,000.00
6	Mobilization (10%)	1	LS	\$20,600.00	\$20,600.00

Subtotal \$226,600.00

20% Contingency \$45,320.00

Total Construction Cost \$271,920.00

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

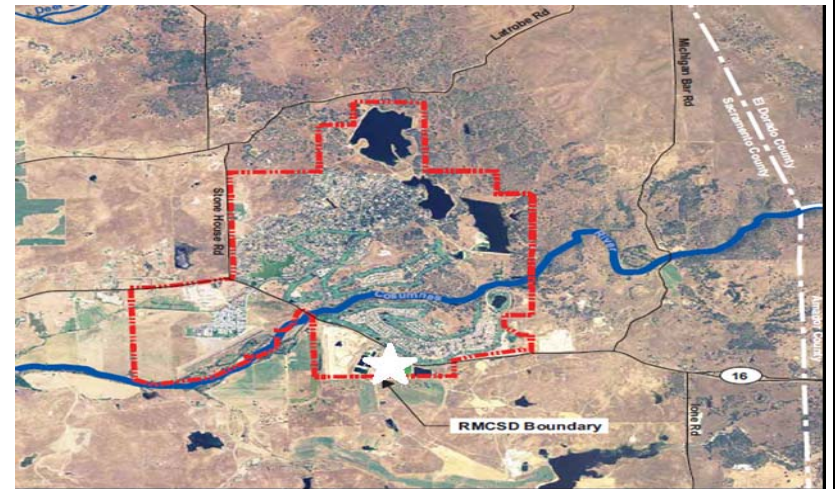
Project Number:	17-2-09	Project Name:	Sludge Dredge & Filter Skid for Ponds
Location:	Wastewater Treatment Plant	Project Type:	Sewer

Description: Purchase of Sludge Dredge and Filter Skids

Wastewater Treatment Plant

Justification: Preventative Maintenance

Notes: Expanded solids handling process in ponds at Wastewater Treatment Plant



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Administration/Management		\$16,830	\$16,830
	Planning/Environmental		\$16,830	\$16,830
	Engineering		\$50,490	\$50,490
	Construction		\$336,600	\$336,600
	Construction Management/Inspection		\$50,490	\$50,490
	Total	\$0	\$471,240	\$471,240

Rancho Murieta Community Services District

Project Name: Sludge Dredge & Filter Skid for Ponds

Job Number: 17-2-09

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	Flump Dredge (Crisafulli)	1	LS	\$110,000.00	\$110,000.00
2	Filter Skids	1	LS	\$135,000.00	\$135,000.00
3	Site Modifications for Dredge	1	LS	\$10,000.00	\$10,000.00
4	Mobilization (10%)	1	LS	\$25,500.00	\$25,500.00

Subtotal \$280,500.00

20% Contingency \$56,100.00

Total Construction Cost \$336,600.00

<http://www.crisafullipumps.com/dredges/flump>

3" Standard Duty

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

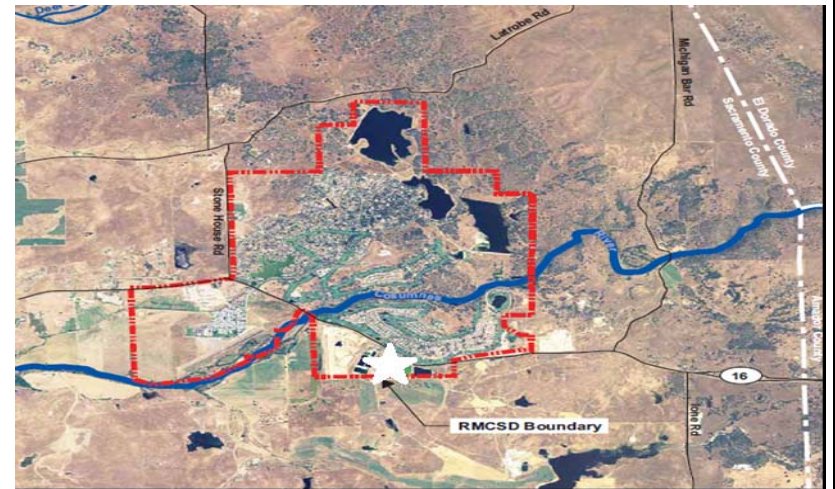
Project Number:	17-2-10	Project Name:	Headworks
Location:	Wastewater Treatment Plant	Project Type:	Sewer

Description: Construction of Headworks at Wastewater Treatment Plant

Wastewater Treatment Plant

Justification: Facility Improvement, Regulatory

Notes: Regulatory Improvement - Primary Screening and Treatment



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Administration/Management		\$22,900	\$22,900
	Planning/Environmental		\$22,900	\$22,900
	Engineering		\$68,700	\$68,700
	Construction		\$458,000	\$458,000
	Construction Management/Inspection		\$68,700	\$68,700
	Total	\$0	\$641,200	\$641,200

Rancho Murieta Community Services District

Project Name: Headworks

Job Number: 17-2-10

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
1	Hydroscience Estimate* (50% Design)	1	LS	\$450,000.00	\$450,000.00
2	Permit Modifications	1	LS	\$8,000.00	\$8,000.00

Subtotal \$458,000.00

Total Construction Cost \$458,000.00

* Estimate completed in 2010. Updated to 2017 unit pricing.

Rancho Murieta Community Services District

Project Name: Sludge Drying Bed Motorized Valve

Job Number: 17-2-13

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	Demo	1	LS	\$2,000.00	\$2,000.00
2	Materials	1	LS	\$30,000.00	\$30,000.00
3	Mobilization (10%)	1	LS	\$3,200.00	\$3,200.00

Subtotal \$35,200.00

20% Contingency \$7,040.00

Total Construction Cost \$42,240.00

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

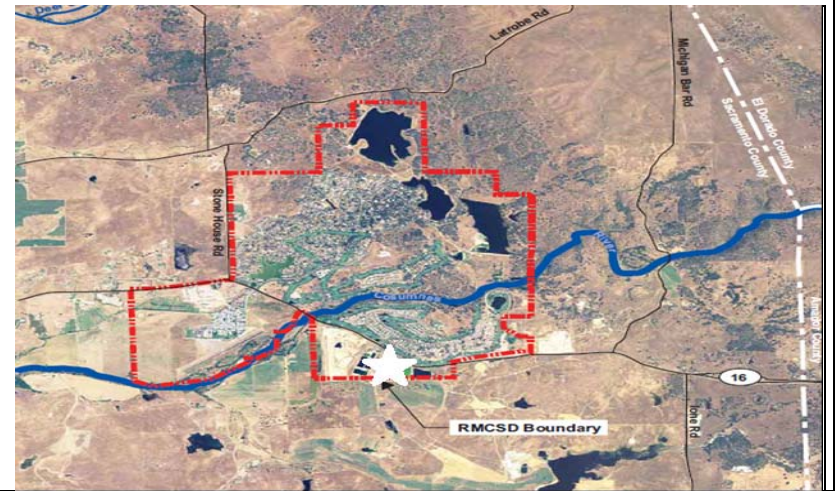
Project Number:	17-2-14	Project Name:	Yellow Bridge Sewer Force Main Improvements
Location:	Yellow Bridge	Project Type:	Wastewater

Description: Mechanical Plumbing Modifications

Yellow Bridge

Justification: Facility Improvement

Notes: Sewer collection system reliability due to system expansion triggered by growth



	<i>Item</i>	<i>Previous Expenditures</i>	<i>Cost Estimate</i>	<i>Total</i>
PROJECT COST	Project Administration		\$5,940	\$5,940
	Planning/Environmental		\$5,940	\$5,940
	Engineering		\$17,820	\$17,820
	Construction		\$118,800	\$118,800
	Construction Management/Inspection		\$17,820	\$17,820
	Total	\$0	\$167,000	\$167,000

Rancho Murieta Community Services District

Project Name: Force Main Modification

Job Number: 17-2-14

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
1	Demolition	1	LS	\$5,000.00	\$5,000.00
2	Vault	1	LS	\$10,000.00	\$10,000.00
3	Sewer Force Main Modifications	1	LS	\$45,000.00	\$45,000.00
4	Recycled Water Line Modifications	1	LS	\$30,000.00	\$30,000.00
5	Mobilization (10%)	1	LS	\$9,000.00	\$9,000.00

Subtotal \$99,000.00

20% Contingency \$19,800.00

Total Construction Cost \$118,800.00

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

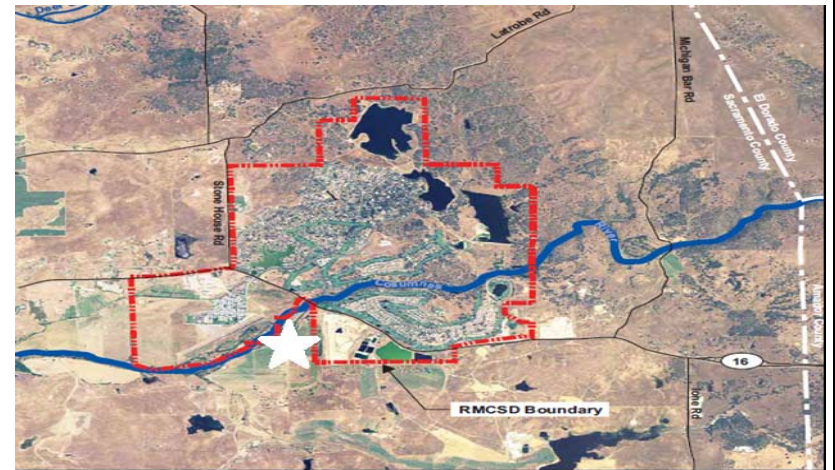
Project Number:	17-2-15	Project Name:	Anderson Ranch Spray Field 4
Location:	Anderson Ranch Fields	Project Type:	Sewer

Description: Wastewater Disposal Capacity for Peak Year Flows

Justification: Facility Expansion

Notes:

Rancho Murieta Community Services District



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Administration/Management		\$44,500	\$44,500
	Planning/Environmental		\$44,500	\$44,500
	Engineering/Right-of-Way		\$89,000	\$89,000
	Construction		\$890,000	\$890,000
	Construction Management/Inspection		\$111,250	\$111,250
	Total	\$0	\$1,179,250	\$1,179,250

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

Project Number:	17-2-11	Project Name:	Commercial Area Drainage Slide Gate Automation
Location:	Commercial District	Project Type:	Drainage

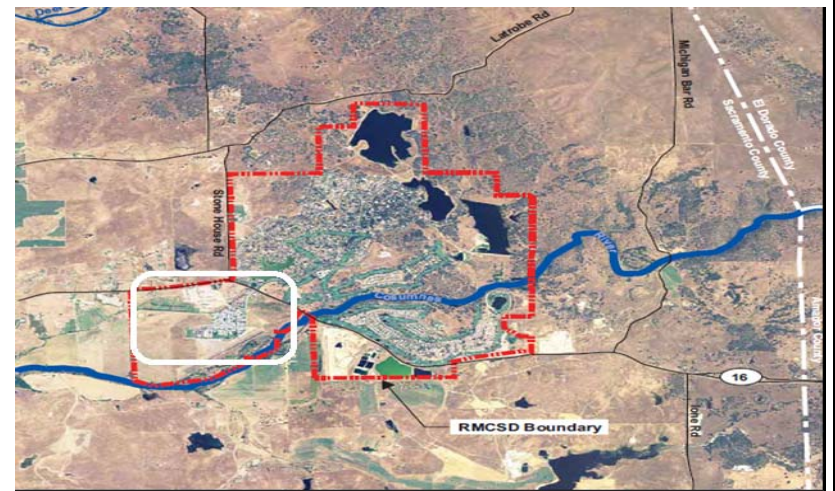
Description: Construction/Installation of an Automated Slide Gate

Commercial District

Justification: Regulatory

Notes: Flood Protection

	<i>Item</i>	<i>Previous Expenditures</i>	<i>Cost Estimate</i>	<i>Total</i>
PROJECT COST	Adminstration/Management		\$1,980	\$1,980
	Planning/Environmental		\$1,980	\$1,980
	Engineering		\$5,940	\$5,940
	Construction		\$39,600	\$39,600
	Construction Management/Inspection		\$5,940	\$5,940
	Total	\$0	\$55,440	\$55,440



Rancho Murieta Community Services District
Project Name: Commercial Area Drainage Slide Gate Automation
Job Number: 17-2-11

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	Lift Motor	1	LS	\$5,000.00	\$5,000.00
2	Electrical Controls & Autodialer	1	LS	\$5,000.00	\$5,000.00
3	Electrical Service and Service Conduits	1	LS	\$20,000.00	\$20,000.00
4	Mobilization (10%)	1	LS	\$3,000.00	\$3,000.00

Subtotal	\$33,000.00
20% Contingency	\$6,600.00
Total Construction Cost	\$39,600.00

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

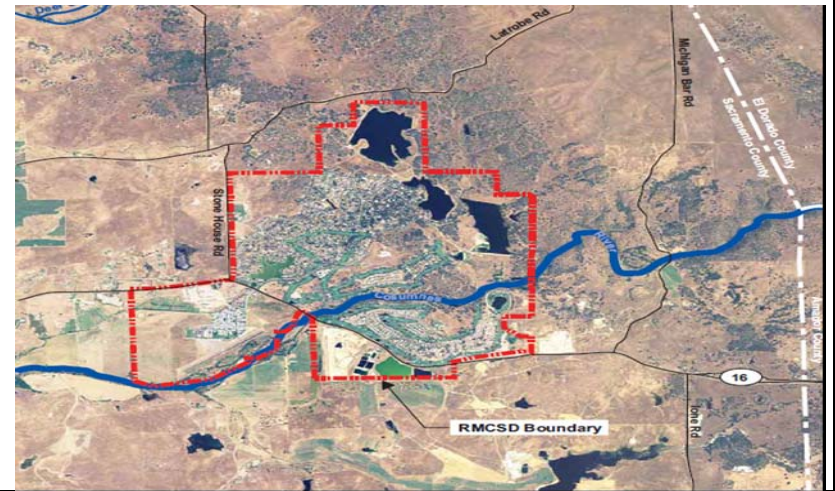
Project Number:	17-2-12	Project Name:	Stormwater Monitoring Testing Equipment
Location:	Maintenance Equipment	Project Type:	Drainage

Description: Purchase of Stormwater Monitoring and Testing Equipment

Rancho Murieta Community Services District

Justification: Regulatory

Notes: Regulatory - NPDES Stormwater Quality Monitoring



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Administration/Management		\$1,560	\$1,560
	Planning/Environmental		\$1,560	\$1,560
	Engineering		\$4,680	\$4,680
	Construction		\$31,200	\$31,200
	Construction Management/Inspection		\$4,680	\$4,680
	Total	\$0	\$43,680	\$43,680

Rancho Murieta Community Services District

Project Name: Stormwater Monitoring Testing Equipment

Job Number: 17-2-12

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	Portable Sampling Device	1	LS	\$4,000.00	\$4,000.00
2	Portable Turbidity Meter	1	LS	\$5,000.00	\$5,000.00
3	Portable Chemical Analyzer	1	LS	\$8,000.00	\$8,000.00
4	Misc. Apurtenances	1	LS	\$5,000.00	\$5,000.00
5	Staff Training	2	EA	\$2,000.00	\$4,000.00

Subtotal \$26,000.00

20% Contingency \$5,200.00

Total Construction Cost \$31,200.00

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

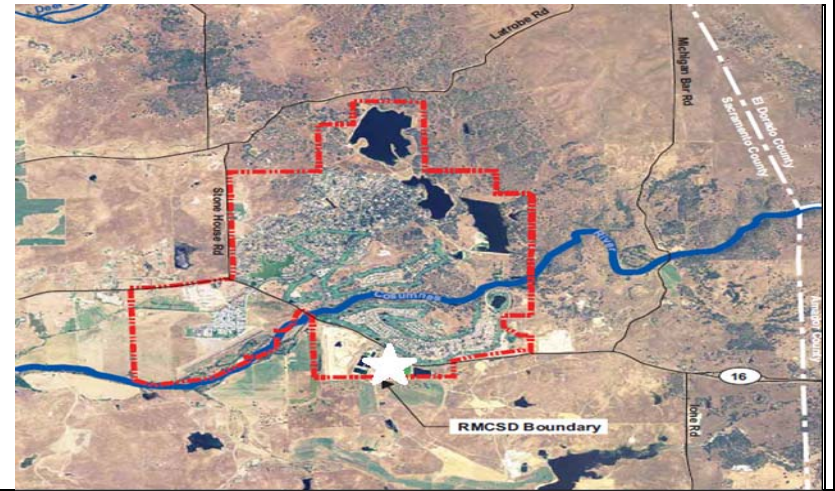
Project Number:	17-2-16	Project Name:	Trash Containment Structures
Location:	Throughout District	Project Type:	Drainage

Description: Screening Structures

Throughout District

Justification: Regulatory

Notes: Regulatory - NPDES Stormwater



	<i>Item</i>	<i>Previous Expenditures</i>	<i>Cost Estimate</i>	<i>Total</i>
PROJECT COST	Project Administration		\$4,090	\$4,090
	Planning/Environmental		\$4,090	\$4,090
	Engineering		\$12,270	\$12,270
	Construction		\$81,800	\$81,800
	Construction Management/Inspection		\$12,270	\$12,270
	Total	\$0	\$115,000	\$115,000

Rancho Murieta Community Services District

Project Name: Trash Containment Structures

Job Number: 17-2-16

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	Structures	10	EA	\$5,000.00	\$50,000.00
2	Mechanical Plumbing Modifications	10	EA	\$1,200.00	\$12,000.00
3	Mobilization (10%)	1	LS	\$6,200.00	\$6,200.00

Subtotal \$68,200.00

20% Contingency \$13,640.00

Total Construction Cost \$81,840.00

**Rancho Murieta Community Services District
Capital Improvement Program**

PROJECT DATA FORM

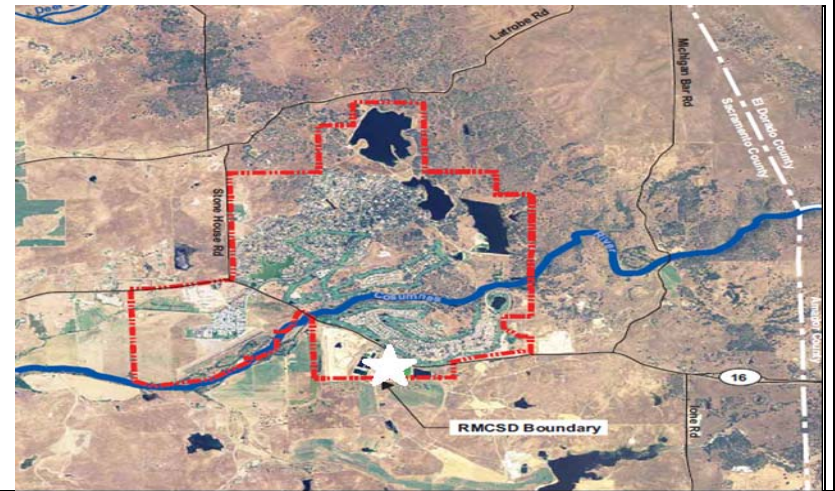
Project Number:	17-4-01	Project Name:	District Administration Building Remodel/Expansion
Location:	District Administration Building	Project Type:	Administrative

Description: Construction of New District Headquarters

District Headquarters

Justification: Facility Improvement

Notes: Additional Support Staff & Expanded Meeting Room



	Item	Previous Expenditures	Cost Estimate	Total
PROJECT COST	Project Administration		\$14,320	\$14,320
	Planning/Environmental		\$14,320	\$14,320
	Engineering		\$42,960	\$42,960
	Construction		\$286,400	\$286,400
	Construction Management/Inspection		\$42,960	\$42,960
	Total	\$0	\$400,960	\$400,960

Rancho Murieta Community Services District
Project Name: District Administration Building Remodel/Expansion
Job Number: 17-4-01

Engineer's Estimate of Probable Cost

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total
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1	Building Expansion	4,000	SF	\$35.00	\$140,000.00
2	Electrical/Mechanical Plumbing Modifications	1	LS	\$50,000.00	\$50,000.00
3	Site Work	1	LS	\$15,000.00	\$15,000.00
4	Furniture	1	LS	\$12,000.00	\$12,000.00
5	Mobilization (10%)	1	LS	\$21,700.00	\$21,700.00

Subtotal \$238,700.00

20% Contingency \$47,740.00

Total Construction Cost \$286,440.00