Board of Directors

Brian Brennan, Director
Richard Hajas, Director
Neil Cole, Director

Mary Bergen, Director
Pete Kaiser, Director

CASITAS MUNICIPAL WATER DISTRICT
Meeting to be held at the

The meeting will be conducted via Zoom.

Join Zoom Meeting https://zoom.us/j/91094478837?pwd=VnNOQTZyQVk4K2pnaWpjYVl1TkpRdz09
Meeting ID: 910 9447 8837 Passcode: 736519

To join via telephone please call (888) 788-0099 or (877) 853-5247
enter Meeting ID: 910 9447 8837# Passcode: 736519#

September 08, 2021 @ 5:00 PM

Right to be heard: Members of the public have a right to address the Board directly on any item of interest to the public which is within the subject matter jurisdiction of the Board. The request to be heard should be made immediately before the Board's consideration of the item. No action shall be taken on any item not appearing on the agenda unless the action is otherwise authorized by subdivision (b) of ¶54954.2 of the Government Code and except that members of a legislative body or its staff may briefly respond to statements made or questions posed by persons exercising their public testimony rights under section 54954.3 of the Government Code.
Special Accommodations: If you require special accommodations for attendance at or participation in this meeting, please notify our office 24 hours in advance at (805) 649-2251, ext. 113. (Govt. Code Section 54954.1 and 54954.2(a)).

1. CALL TO ORDER

2. ROLL CALL

3. AGENDA CONFIRMATION

4. PUBLIC COMMENTS - Presentation on District related items that are not on the agenda - three minute limit.

5. CONSENT AGENDA

5.a. Accounts Payable Report.
Accounts Payable Report.pdf

5.b. Minutes of the August 11, 2021 Board Meeting.
8 11 2021 Min.pdf

6. ACTION ITEMS

6.a. Approve, and Authorize Board President to sign, an Agreement with GHD, Inc. for Engineering Services for Emergency Generators at Rincon, Avenue 1, and Avenue 2 Pump Plants for a not to exceed amount of $243,066.
Board Memo_Emergency Generators 20210908.pdf

6.b. Grant Support Services for Fiscal Year 2021-22.

6.b.i Authorize the General Manager to execute a Task Order to Kennedy/Jenks Consultants, Inc. for Grant Support Services for Fiscal Year 2021-22 in the amount of $33,180.00.

6.b.ii. Authorize the General Manager to execute a Task Order to Kennedy/Jenks Consultants, Inc. to prepare an application for the United States Bureau of Reclamation (USBR) WaterSMART Drought Response Program Drought Resiliency Projects (DRP) for the Ventura-Santa Barbara Counties Intertie project in the amount of $16,135.

6.b.iii. Approve Resolution No. 21-22 supporting the District's application for the USBR DRP for the Ventura-Santa Barbara Counties Intertie project.
Board Memo_Grant Support 20210908.pdf

6.c. Award a contract to Union Engineering Company, Inc. in the amount of $247,675.00 for the Robles Forebay Restoration, Specification No. 21-440.
210908 - Board Award Memo Robles - Union.pdf

6.d. Robles Diversion Canal Panel Replacement Specification No. 21-442.

6.d.i. Deem the bid from JTEC Corporation for Robles Diversion Canal Panel Replacement, Specification No. 21-442 in the amount of $21,000 non-responsive; and

6.d.ii. Waive a minor irregularity in the bid proposal and award a contract to BSN Construction in the amount of $57,210.00 for the Robles Diversion Canal Panel Replacement, Specification No. 21-442.

6.d.iii. Increase the budget for Robles Diversion Canal Panel Replacement, Specification No. 21-442 by $15,000 to $65,000.

Board Award Memo Robles Diversion Canal Panel.pdf

6.e. Award contract for Mutual Well #7 Well Equipment and Site Work, Specification No. 20-438.

6.e.i. Award the contract for the Mutual Well #7 Well Equipment and Site Work, Specification No. 20-438, to Travis Agricultural Construction, Inc. in the amount of $1,232,667, and the President of the Board execute an agreement for said work;

6.e.ii. Authorize the General Manager to issue a Task Order to Michael K. Nunley and Associates, Inc. (MKN) for engineering services during construction for a not-to-exceed amount of $39,815; and

6.e.iii. Authorize an additional $795,000 from CFD 2013-1 for FY 21-22.
Board Memo for Mutual Well 7 Well Equipment and SIte Work Award.pdf

7. INFORMATION ITEMS

7.a. Annual Hydrology Report Water Year 2020.
Board Memo_Hydrology WY2020_20210908.pdf

7.b. State Water Project Intertie as of 8/31/21.
SWP Intertie Project Cost 8-31-21.pdf

7.c. Non-budgeted Item Log as of FY22.
Non-Budgeted Items Log.pdf

7.d. Adjudication Report as of 8/31/21.
Adjudication Charges YTD 8.31.21.pdf

7.e. CFD 2013-1 Project Report as of 8/31/2021.
CFD 2013-1 Project Cost 8-31-2021.pdf

7.f. Investment Report as of 8/31/2021.
Investment Report 8.31.2021.pdf

7.g. Recreation Committee Minutes.
Rec Minutes 081721.pdf

8. GENERAL MANAGER COMMENTS

9. BOARD OF DIRECTOR REPORTS ON MEETINGS ATTENDED

10. BOARD OF DIRECTOR COMMENTS PER GOVERNMENT CODE SECTION 54954.2(a).

11. CLOSED SESSION

11.a. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION (Government Code Section 54956.9(a) Santa Barbara Channelkeeper v. State Water Resources Control Board, City of San Buenaventura, et al.; and City of San Buenaventura v Duncan Abbott, et al., Cross Complaint; Superior Court of the State of California, County of Los Angeles, Case No. 19STCP01176.

11.b. Conference with Labor Negotiators (Govt. Code Sec. 54957.6)
Agency Designated Representatives: Diana Impeartrice
Employee Organization: Supervisory & Professional, General Unit and Recreation Unit.

11.c. CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION (Government Code Section 54956.9(a) Nancy Duffy McCarron v. County of Ventura et al, United States District Court, Central District of California, Case No. 2:21-cv-05234-MWF-PD.

12. ADJOURNMENT

CASITAS MUNICIPAL WATER DISTRICT
General Fund Check Authorization
Checks Dated 08/05/21 - 09/01/21
Presented to the Board of Directors For Approval September 08, 2021

Check	Payee			Description		Amount
001063	Payables Fund Account	#	9759651478	Accounts Payable Batch 081121	$	386,013.42
001064	Payables Fund Account	#	9759651478	Accounts Payable Batch 081821	$	372,069.64
001066	Payables Fund Account	#	9759651478	Accounts Payable Batch 082521	$	1,466,598.94
001067	Payables Fund Account	#	9759651478	Accounts Payable Batch 090121	$	277,546.92
					$	2,502,228.92
001065	Payroll Fund Account	#	9469730919	Estimated Payroll 09/09/21	$	234,000.00
001068	Payroll Fund Account	#	9469730919	Estimated Payroll 09/23/21	$	234,000.00
				Total	$	2,970,228.92

Publication of check register is in compliance with Section 53065.6 of the Government Code which requires the District to disclose reimbursements to employees and/or directors.

The above numbered checks,
001063-001068
have been duly audited is hereby certified as correct.

Janyne Brown, Chief Financial Officer

A/P Fund

Publication of check register is in compliance with Section 53065.6 of the Government Code which requires the District to disclose reimbursements to employees and/or directors.

001063	A/P Checks:	043813-043895
	A/P Draft	000192-000196
	Voids:	
	043851 - J.W. Enterprises - Continuation of detail of check 043850	
	043855 - Meiners Oaks Ace Hardware - Continuation of detail of check 043854	
	043856 - Meiners Oaks Ace Hardware - Continuation of detail of check 043854	
001064	A/P Checks:	043896-043961
	A/P Draft	
	Voids:	
	043938 - Meiners Oaks Ace Hardware - Continuation of detail of check 043937	
001066	A/P Checks:	043962-044039
	A/P Draft	000197-000202
	Voids:	
	043999 - Meiners Oaks Ace Hardware - Continuation of detail of check 043998	
001067	A/P Checks:	044040-044111
	A/P Draft	
	Voids:	
	044045 - Amazon Capital Service - Continuation of detail of check 044044	
	044078 - Meiners Oaks Ace Hardware - Continuation of detail of check 044077	

Janyne Brown , Chief Financial Officer

CERTIFICATION

Payroll disbursements for the pay period ending 08/07/21
Pay Date 08/12/21
have been duly audited and are
hereby certified as correct.

Signed: Janyne Brown

Janyne Brown

CERTIFICATION

Payroll disbursements for the pay period ending 08/21/21
Pay Date 08/26/21
have been duly audited and are
hereby certified as correct.

Signed: Janyne Brown

Janyne Brown

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VENDOR SET: 01 Casitas Municipal Water D
BANK: * ALL BANKS
DATE RANGE: 8/05/2021 THRU 9/01/2021

VENDOR I.D.	NAME	STATUS	CHECK DATE	INVOICE AMOUNT	DISCOUNT	CHECK NO	CHECK STATUS	CHECK AMOUNT
C-CHECK	VOID CHECK	V	8/11/2021			043851		
C-CHECK	VOID CHECK	V	8/11/2021			043855		
C-CHECK	VOID CHECK	V	8/11/2021			043856		
C-CHECK	VOID CHECK	V	8/18/2021			043938		
C-CHECK	VOID CHECK	V	8/25/2021			043999		
C-CHECK	VOID CHECK	V	9/01/2021			044045		
C-CHECK	VOID CHECK	V	9/01/2021			044078		

* * T O T A L S * *	NO			INVOICE AMOUNT	DISCOUNTS	CHECK AMOUNT
REGULAR CHECKS:	0			0.00	0.00	0.00
HAND CHECKS:	0			0.00	0.00	0.00
DRAFTS:	0			0.00	0.00	0.00
EFT:	0			0.00	0.00	0.00
NON CHECKS:	0			0.00	0.00	0.00
VOID CHECKS:	7	VOID DEBITS	0.00			
		VOID CREDITS	0.00	0.00	0.00	

TOTAL ERRORS: 0

	NO	INVOICE AMOUNT	DISCOUNTS	CHECK AMOUNT
VENDOR SET: 01 BANK: TOTALS:	7	0.00	0.00	0.00
BANK: TOTALS:	7	0.00	0.00	0.00

VENDOR SET: 01 Casitas Municipal Water D
BANK: AP ACCOUNTS PAYABLE
DATE RANGE: 8/05/2021 THRU 9/01/2021

VENDOR	I.D.	NAME	STATUS	CHECK DATE	INVOICE AMOUNT	DISCOUNT	CHECK NO	CHECK STATUS	CHECK AMOUNT
00128		INTERNAL REVENUE SERVICE							
	I-T1 202108091914	Federal Withholding	D	8/11/2021	41,368.72		000192		
	I-T3 202108091914	SS Withholding	D	8/11/2021	41,770.36		000192		
	I-T4 202108091914	Medicare Withholding	D	8/11/2021	9,947.12		000192		93,086.20
00187		CALPERS							
	C-PEB202108091915	PEPRA EMPLOYEES PORTION	D	8/11/2021	612.74CR		000193		
	C-PRB202108091915	PEBRA EMPLOYER PORTION	D	8/11/2021	688.99CR		000193		
	I-PBB202108091914	PERS BUY BACK	D	8/11/2021	130.46		000193		
	I-PBP202108091914	PERS BUY BACK	D	8/11/2021	161.96		000193		
	I-PEB202108091914	PEPRA EMPLOYEES PORTION	D	8/11/2021	11,748.18		000193		
	I-PEM202108091914	PERS EMPLOYEE PORTION MGMT	D	8/11/2021	1,774.91		000193		
	I-PER202108091914	PERS EMPLOYEE PORTION	D	8/11/2021	7,072.71		000193		
	I-PRB202108091914	PEBRA EMPLOYER PORTION	D	8/11/2021	13,210.19		000193		
	I-PRR202108091914	PERS EMPLOYER PORTION	D	8/11/2021	11,690.25		000193		44,486.93
00180		S.E.I.U. - LOCAL 721							
	I-COP202108091914	SEIU 721 COPE	D	8/11/2021	27.50		000194		
	I-UND202108091914	UNION DUES	D	8/11/2021	790.75		000194		818.25
00049		STATE OF CALIFORNIA							
	I-T2 202108091914	STATE WITHHOLDING (CA)	D	8/11/2021	15,661.38		000195		15,661.38
05790		STATE OF OREGON							
	I-OST202108091914	OR STATE TRANSIT TAX	D	8/11/2021	5.63		000196		
	I-T2 202108091914	STATE WITHHOLDING (OR)	D	8/11/2021	417.59		000196		423.22
03206		U.S. Bank Global Corporate Tru							
	I-1818820	CFD 2019 Series C	D	8/20/2021	355,500.00		000197		355,500.00
00128		INTERNAL REVENUE SERVICE							
	I-T1 202108231917	Federal Withholding	D	8/25/2021	40,719.25		000198		
	I-T3 202108231917	SS Withholding	D	8/25/2021	40,342.06		000198		
	I-T4 202108231917	Medicare Withholding	D	8/25/2021	9,721.98		000198		90,783.29
00187		CALPERS							
	I-PBB202108231917	PERS BUY BACK	D	8/25/2021	130.46		000199		
	I-PBP202108231917	PERS BUY BACK	D	8/25/2021	161.96		000199		
	I-PEB202108231917	PEPRA EMPLOYEES PORTION	D	8/25/2021	10,887.49		000199		
	I-PEM202108231917	PERS EMPLOYEE PORTION MGMT	D	8/25/2021	1,774.91		000199		
	I-PER202108231917	PERS EMPLOYEE PORTION	D	8/25/2021	6,922.52		000199		
	I-PRB202108231917	PEBRA EMPLOYER PORTION	D	8/25/2021	12,242.36		000199		
	I-PRR202108231917	PERS EMPLOYER PORTION	D	8/25/2021	11,494.34		000199		43,614.04

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00180		S.E.I.U. - LOCAL 721							
	I-COP202108231917	SEIU 721 COPE	D	8/25/2021	27.50		000200		
	I-UND202108231917	UNION DUES	D	8/25/2021	790.75		000200		818.25
00049		STATE OF CALIFORNIA							
	I-T2 202108231917	STATE WITHHOLDING (CA)	D	8/25/2021	15,514.35		000201		15,514.35
05790		STATE OF OREGON							
	I-OST202108231917	OR STATE TRANSIT TAX	D	8/25/2021	5.58		000202		
	I-T2 202108231917	STATE WITHHOLDING (OR)	D	8/25/2021	412.56		000202		418.14
02587		A&M LAWNMOWER SHOP							
	I-50845	Oil - MAINT	R	8/11/2021	187.06		043813		
	I-50846	A/C Filter - UT	R	8/11/2021	96.89		043813		283.95
00010		AIRGAS USA LLC							
	I-9115624896	Oxygen Industrial - PL	R	8/11/2021	147.29		043814		
	I-9981820127	Gas Cylinder Rental - PL	R	8/11/2021	348.12		043814		495.41
04705		Anthony Albanez							
	I-080921	Safety Boot Stipend	R	8/11/2021	170.00		043815		170.00
03044		Amazon Capital Services							
	I-19X4-N46X-MKVW	Bearings - LCRA	R	8/11/2021	21.34		043816		
	I-1JKG-WGRM-6M9M	Carbide Trencher Cup Teeth-LCR	R	8/11/2021	115.94		043816		
	I-1JRV-4W3G-THC6	Plotter Paper - ENG	R	8/11/2021	75.03		043816		
	I-1N1C-L4MP-1NVQ	Lavatory Foucet - LCRA	R	8/11/2021	129.76		043816		
	I-1RYN-C6QG-H439	Cable Tester - LCRA	R	8/11/2021	21.22		043816		
	I-1TV9-GX6N-XFTX	Wire Terminal Crimping Cone-EM	R	8/11/2021	35.38		043816		398.67
00836		AMERICAN RED CROSS							
	I-22364488	First Aid/CPR/AED Training-SAF	R	8/11/2021	96.00		043817		96.00
00029		AMERICAN TOWER CORP							
	I-3663116	Tower Rent - Red Mountain	R	8/11/2021	1,035.62		043818		1,035.62
00417		APPLIED INDUSTRIAL TECHNOLOGY							
	I-7022159723	Cartridge Grease Tube - EM	R	8/11/2021	69.62		043819		69.62
00014		AQUA-FLO SUPPLY							
	I-SI1770424	2' Superior 950 Repair Kit -WP	R	8/11/2021	153.56		043820		
	I-SI1773413	950 Repair Kit - WP	R	8/11/2021	104.08		043820		
	I-SI1774117	Fire Hose Nozzle - PL	R	8/11/2021	36.18		043820		
	I-SI1783531	IPS Coupling & SCH 40 PVC - PL	R	8/11/2021	302.36		043820		596.18

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00840		AQUA-METRIC SALES COMPANY							
	I-INV0083904	Omni Meters - UT	R	8/11/2021	29,013.44		043821		
	I-INV0083948	Command Link - PO	R	8/11/2021	19,132.99		043821		48,146.43
03429		AT&T							
	I-3130022115	Acct#80030939773	R	8/11/2021	12.98		043822		12.98
00021		AWA OF VENTURA COUNTY							
	I-06-13554	CCWUC Education Training-ENG/T	R	8/11/2021	125.00		043823		125.00
00030		B&R TOOL AND SUPPLY CO							
	I-1900961495	Saw Blades & Water Soluble Oil	R	8/11/2021	195.93		043824		
	I-1900962135	Tools - UT	R	8/11/2021	1,656.41		043824		1,852.34
05861		Bend Genetics, LLC							
	I-CS2101	Microscopy & QPCR - LAB	R	8/11/2021	165.00		043825		
	I-CS2102	Total Cylindrospermopsin - LAB	R	8/11/2021	335.00		043825		500.00
00463		Cal-Coast Machinery							
	I-703460	Snap Ring & Bushing - Unit 114	R	8/11/2021	39.02		043826		
	I-705488	Heat Shiel & Panel - Unit 112	R	8/11/2021	427.59		043826		466.61
09182		CalPERS							
	I-100000016506152	Unfunded Accrued Liab. 08/21	R	8/11/2021	60,562.33		043827		60,562.33
03702		Cannon Corporation							
	I-77229	Grand Ave. PL Design - ENG	R	8/11/2021	1,704.00		043828		
	I-77238	Lion St and Fariview Design-EN	R	8/11/2021	852.00		043828		2,556.00
01068		CAPIO							
	I-13230	Membership Renewal - PR	R	8/11/2021	275.00		043829		275.00
02836		Gonzalo Carbajal-Ramirez							
	I-080921	Safety Boot Stipend	R	8/11/2021	170.00		043830		170.00
00055		CASITAS BOAT RENTALS							
	I-July 21	Gas for Boats - LCRA	R	8/11/2021	495.00		043831		495.00
00062		CONSOLIDATED ELECTRICAL							
	I-9009-1008603	Allen Bradley Software - EM	R	8/11/2021	6,920.00		043832		
	I-9009-1009231	AC Volt Tmng Rly - EM	R	8/11/2021	127.72		043832		7,047.72
04535		Container Alliance Co.							
	I-i-109636	Conex Box - UT	R	8/11/2021	6,304.50		043833		6,304.50

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00719		CORELOGIC INFORMATION SOLUTION							
	I-82093010	Realquest Subscription	R	8/11/2021	137.50		043834		137.50
00064		CROWDER BACKFLOW SERVICES, INC							
	I-31918	Backflow Testing TP - TP	R	8/11/2021	160.00		043835		160.00
01764		DataProse, LLC							
	I-DP2102844	UB Mailing 06/21	R	8/11/2021	3,845.05		043836		3,845.05
00081		DELTA LIQUID ENERGY							
	I-094133	Propane - LCRA	R	8/11/2021	697.75		043837		697.75
02765		Demaria Electric Motor Service							
	I-22099	30 HP Motor - TP	R	8/11/2021	1,953.02		043838		1,953.02
05154		Dex YP							
	I-080121	Yellow Pages - LCRA/DO	R	8/11/2021	25.34		043839		25.34
00095		FAMCON PIPE & SUPPLY							
	I-S100053036.001	12" Check Valve - PL	R	8/11/2021	3,308.66		043840		
	I-S100058787.001	Nuts, Bolts & Washers - UT	R	8/11/2021	2,198.63		043840		5,507.29
00093		FEDERAL EXPRESS							
	I-7-460-11826	Shipping - LAB	R	8/11/2021	48.25		043841		48.25
03886		Ramiro Garcia							
	I-080921	Safety Boot Stipend	R	8/11/2021	170.00		043842		170.00
02720		Garda CL West, Inc.							
	I-10648592	Armored Truck Service	R	8/11/2021	396.09		043843		396.09
02755		Vincent Godinez							
	I-080921	Safety Boot Stipend	R	8/11/2021	170.00		043844		170.00
00115		GRAINGER, INC							
	I-9002845064	Shaft Seal Nitrile RBR - LCRA	R	8/11/2021	6.23		043845		
	I-9007374490	Safety Sign - UT	R	8/11/2021	11.02		043845		17.25
00121		HACH COMPANY							
	I-12569682	Gel-Filled Probe - LAB	R	8/11/2021	332.71		043846		
	I-12575441	Total Chlorine Chemkey - LAB	R	8/11/2021	22.26		043846		
	I-12577209	Total Chemkeys - TP	R	8/11/2021	22.26		043846		377.23

VENDOR SET: 01 Casitas Municipal Water D
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DATE RANGE: 8/05/2021 THRU 9/01/2021

VENDOR	I.D.	NAME	STATUS	CHECK DATE	INVOICE AMOUNT	DISCOUNT	CHECK NO	CHECK STATUS	CHECK AMOUNT
05674		Spencer Hair							
	I-080921	Safety Boot Stipend	R	8/11/2021	170.00		043847		170.00
05746		Hasa Inc.							
	I-767827	Chlorine for Ojai Sys. - TP	R	8/11/2021	1,874.56		043848		1,874.56
01186		GERARDO M HERRERA							
	I-080921	Safety Boot Stipend	R	8/11/2021	170.00		043849		170.00
09910		J.W. ENTERPRISES							
	I-340008	CT Pumping - AVE 1PP	R	8/11/2021	78.75		043850		
	I-340009	CT Pumping - VILLANOVA	R	8/11/2021	78.75		043850		
	I-340010	CT Pumping - OVPP	R	8/11/2021	78.75		043850		
	I-340011	CT Pumping - 4M PP	R	8/11/2021	78.75		043850		
	I-340012	CT Pumping - GRAND AVE.	R	8/11/2021	78.75		043850		
	I-340013	CT Pumping - 4M RES.	R	8/11/2021	78.75		043850		
	I-340014	CT Pumping - SA PLANT	R	8/11/2021	157.50		043850		
	I-340015	CT Pumping - UPPER OJAI RES.	R	8/11/2021	78.75		043850		
	I-340016	CT Pumping - 3M PUMP	R	8/11/2021	78.75		043850		
	I-340017	CT Pumping - SIGNAL RES.	R	8/11/2021	78.75		043850		
	I-340018	CT Pumping - FAIRVIEW RES.	R	8/11/2021	78.75		043850		
	I-340019	CT Pumping - CASITAS DAM	R	8/11/2021	78.75		043850		
	I-340020	CT Pumping - RINCON TANK	R	8/11/2021	78.75		043850		
	I-340021	CT Pumping - BATES RES.	R	8/11/2021	78.75		043850		1,181.25
03888		Eric Lara							
	I-080921	Safety Boot Stipend	R	8/11/2021	170.00		043852		170.00
03484		Mario Mariscal							
	I-080921	Safety Boot Stipend	R	8/11/2021	170.00		043853		170.00
00151		MEINERS OAKS ACE HARDWARE							
	I-975269	Marker Sharpi - PL	R	8/11/2021	7.05		043854		
	I-975501	Wire & Adapter - LCRA	R	8/11/2021	118.62		043854		
	I-975505	Plywood - LCRA	R	8/11/2021	46.54		043854		
	I-975556	PVC Cement & Str Douglas -LCRA	R	8/11/2021	35.53		043854		
	I-976059	Mesh Sheets & Batteries - LCRA	R	8/11/2021	72.24		043854		
	I-976081	Poultry Staple - LCRA	R	8/11/2021	3.74		043854		
	I-976089	Box Screw Cover - LCRA	R	8/11/2021	141.46		043854		
	I-976134	Conduit Connector & Adapter-LC	R	8/11/2021	23.57		043854		
	I-976153	Batteries - MAINT	R	8/11/2021	15.04		043854		
	I-976192	Wilco Squirrel Bait - WP	R	8/11/2021	71.96		043854		
	I-976248	Bolts & Screws - LCRA	R	8/11/2021	5.11		043854		
	I-976252	Screw Extractor - LCRA	R	8/11/2021	3.41		043854		
	I-976810	Toilet Seats & Paint - LCRA	R	8/11/2021	75.00		043854		
	I-976842	Wilco Squirrel Bait - WP	R	8/11/2021	85.68		043854		
	I-976945	Caulk - LCRA	R	8/11/2021	8.77		043854		
	I-976962	Lock Entry Bell & Cut Key-MAIN	R	8/11/2021	58.55		043854		

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	I-976983	Keyed Deadbolts - LCRA	R	8/11/2021	51.75		043854		
	I-976986	Air Filters - LCRA	R	8/11/2021	16.06		043854		
	I-976994	Trash Can & Bags - UT	R	8/11/2021	25.10		043854		
	I-977003	Blades, Bolts & Screws - EM	R	8/11/2021	11.67		043854		
	I-977010	Bolts & Screws - LCRA	R	8/11/2021	2.02		043854		
	I-977113	Chalk & Scissors - UT	R	8/11/2021	25.35		043854		
	I-977138	Gloves & Saw Blade - TP	R	8/11/2021	76.14		043854		
	I-977176	Spray Paint - LCRA	R	8/11/2021	12.17		043854		
	I-977196	Cleaning Supplies - UT	R	8/11/2021	22.98		043854		
	I-977201	Spray Paint - LCRA	R	8/11/2021	4.39		043854		1,019.90
03815		Luis Mejia							
	I-080921	Safety Boot Stipend	R	8/11/2021	170.00		043857		170.00
03724		Michael K. Nunley & Associates							
	I-9389	West Ojai PL Eng Svcs - ENG	R	8/11/2021	2,413.55		043858		
	I-9390	OWS-Casitas System Integration	R	8/11/2021	482.04		043858		
	I-9400	El Toro Watermain Ext - ENG	R	8/11/2021	3,402.75		043858		6,298.34
03444		Mission Linen Supply							
	I-515254436	Uniform Pants - PL	R	8/11/2021	33.71		043859		
	I-515254437	Uniform Pants - MAINT	R	8/11/2021	35.31		043859		
	I-515254440	Uniform Pants - TP	R	8/11/2021	39.05		043859		
	I-515297848	Uniform Pants - PL	R	8/11/2021	33.71		043859		
	I-515297849	Uniform Pants - MAINT	R	8/11/2021	27.11		043859		
	I-515297853	Uniform Pants - TP	R	8/11/2021	39.05		043859		207.94
05864		Bruce Norris							
	I-959675	Trailer Storage Refund - LCRA	R	8/11/2021	105.00		043860		105.00
03845		Oakridge Geoscience, Inc.							
	I-048.014-05	Sand & Asphalt Testing - ENG	R	8/11/2021	2,865.00		043861		
	I-048.015-04	Grand Ave Geotech Service -ENG	R	8/11/2021	5,045.00		043861		7,910.00
00163		OFFICE DEPOT							
	I-2510619475	Office Supplies - DO	R	8/11/2021	90.85		043862		90.85
01570		Ojai Auto Supply							
	I-524677	Napa 10W40 QT - Unit 32	R	8/11/2021	13.13		043863		
	I-524841	Gear Oil - LCRA	R	8/11/2021	29.91		043863		
	I-525233	Taillight Bulb - Unit 31	R	8/11/2021	2.36		043863		45.40
00912		OJAI BUSINESS CENTER, INC							
	I-16180	Laminating & Binder - EM/ENG	R	8/11/2021	64.94		043864		64.94

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00165		OJAI LUMBER CO, INC							
	I-2107-644132	Pliers & Nutaetter - WP	R	8/11/2021	93.37		043865		
	I-2107-644832	Lumber - LCRA	R	8/11/2021	86.90		043865		
	I-2107-645647	Trex Select Decking - LCRA	R	8/11/2021	64.25		043865		
	I-2108-646713	Mortar - LCRA	R	8/11/2021	59.80		043865		304.32
00602		OJAI TRUE VALUE							
	I-52949	Mig Wire & Gasket Sealer -LCRA	R	8/11/2021	24.43		043866		24.43
00169		OJAI VALLEY SANITARY DISTRICT							
	I-23320	Cust #20594	R	8/11/2021	299.60		043867		299.60
00169		OJAI VALLEY SANITARY DISTRICT							
	I-23397	Cust #52921	R	8/11/2021	59.92		043868		59.92
05865		Corina Olivares							
	I-991952	Camping Cancellation - LCRA	R	8/11/2021	40.00		043869		40.00
00188		PETTY CASH							
	I-081121	Replenish Petty Cash - DO	R	8/11/2021	419.25		043870		419.25
02637		David Pope							
	I-080921	Safety Boot Stipend	R	8/11/2021	170.00		043871		170.00
05713		Pops Auto Repair							
	I-0102	Oil Service - Unit 73	R	8/11/2021	300.03		043872		
	I-0103	Engine Oil Filter - Unit 43	R	8/11/2021	2,498.80		043872		
	I-0105	Trasmission Oil Pan - Unit 14	R	8/11/2021	645.38		043872		
	I-096	AC Service - Unit 20	R	8/11/2021	694.71		043872		
	I-097	Radiator Hose Repair - Unit 39	R	8/11/2021	1,653.78		043872		
	I-098	Water Pump Repair - Unit 28	R	8/11/2021	2,092.62		043872		
	I-099	Starter Assembly - Unit 95	R	8/11/2021	389.73		043872		
	I-100	Water Pump - Unit 38	R	8/11/2021	1,480.18		043872		
	I-101	Oil Service & Wipers Blades-31	R	8/11/2021	270.42		043872		
	I-106	Service Repair - Unit 95	R	8/11/2021	3,801.77		043872		13,827.42
00627		PORT SUPPLY							
	I-04280	Rain Gear - MAINT	R	8/11/2021	292.30		043873		292.30
00790		PROFORMA							
	I-BI85004831A	Livescan Forms - LCRA	R	8/11/2021	161.63		043874		161.63
10042		PSR ENVIRONMENTAL SERVICE, INC							
	I-10426	Gas Tank Inspection - DO	R	8/11/2021	230.00		043875		
	I-10427	Gas Tank Inspection - LCRA	R	8/11/2021	230.00		043875		
	I-10445	Annual Leak Detection - DO	R	8/11/2021	1,585.00		043875		2,045.00

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03979		Edgar Ramos Jr.							
	I-080921	Safety Boot Stipend	R	8/11/2021	170.00		043876		170.00
03887		Michael Robles							
	I-080921	Safety Boot Stipend	R	8/11/2021	170.00		043877		170.00
05673		Jose Ruiz							
	I-080921	Safety Boot Stipend	R	8/11/2021	170.00		043878		170.00
05862		Diana Sinsun							
	I-994956	Camping Cancellation - LCRA	R	8/11/2021	499.00		043879		499.00
00872		Smart Rain							
	I-INV-SR480	Weather Station Signal	R	8/11/2021	79.00		043880		79.00
00215		SOUTHERN CALIFORNIA EDISON							
	I-080421a	Acct#700009638309	R	8/11/2021	26.16		043881		
	I-080421b	Acct#700598317666	R	8/11/2021	34.95		043881		
	I-080621a	Acct#700028735181	R	8/11/2021	18,516.96		043881		
	I-080621b	Acct#700030209177	R	8/11/2021	15,830.83		043881		
	I-081021	Acct#700030209177	R	8/11/2021	73.68		043881		34,482.58
02703		Sunbelt Rentals							
	I-115743903-0001	Excavator Rental - PL	R	8/11/2021	1,015.66		043882		1,015.66
02643		Take Care by WageWorks							
	I-12982179	Reimburse Med/Dep Care	R	8/11/2021	110.00		043883		110.00
00498		BRIAN TAYLOR							
	I-080921	Safety Boot Stipend	R	8/11/2021	170.00		043884		170.00
02778		Traffic Management, Inc.							
	I-38454	.040 Alum - MAINT	R	8/11/2021	49.71		043885		49.71
00825		USA BLUEBOOK							
	I-680251	Boston Round I-Chem - LAB	R	8/11/2021	42.45		043886		42.45
09955		VENTURA WHOLESALE ELECTRIC							
	I-273533	Wire - LCRA	R	8/11/2021	5.17		043887		5.17
00247		County of Ventura							
	I-318365	Encroachment Permit PE21-0322	R	8/11/2021	170.00		043888		
	I-318422	Encroachment Permit PE21-0556	R	8/11/2021	370.00		043888		
	I-319012	Encroachment Permit PE21-0333	R	8/11/2021	170.00		043888		
	I-319603	Encroachment Permit PE21-0616	R	8/11/2021	740.00		043888		1,450.00

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05863		Robert Walker							
	I-1002055	Camping Cancelation - LCRA	R	8/11/2021	270.00		043889		270.00
1		BONILLA, VANESSA AND							
	I-000202108091912	AR REFUND	R	8/11/2021	97.00		043890		97.00
1		NELSON, SCOTT A							
	I-000202108091913	Refu AR REFUND	R	8/11/2021	12.00		043891		12.00
04010		CALIFORNIA STATE DISBURSEMENT							
	I-CS5202108091914	200000001181291	R	8/11/2021	386.30		043892		386.30
02823		Franchise Tax Board							
	I-G08202108091914	STATE TAX GARNISHMENT	R	8/11/2021	500.00		043893		500.00
00124		ICMA RETIREMENT TRUST - 457							
	I-DCI202108091914	DEFERRED COMP FLAT	R	8/11/2021	550.00		043894		
	I-DI%202108091914	DEFERRED COMP PERCENT	R	8/11/2021	102.00		043894		652.00
00985		NATIONWIDE RETIREMENT SOLUTION							
	I-CUN202108091914	457 CATCH UP	R	8/11/2021	480.77		043895		
	I-DCN202108091914	DEFERRED COMP FLAT	R	8/11/2021	7,868.57		043895		
	I-DN%202108091914	DEFERRED COMP PERCENT	R	8/11/2021	401.05		043895		8,750.39
00026		AERA ENERGY LLC							
	I-100304	Cathodic Protection FY 21-22	R	8/18/2021	200.00		043896		200.00
00012		ALL-PHASE ELECTRIC SUPPLY CO.							
	C-5665-1009929	Circuit Braker Return - EM	R	8/18/2021	92.79CR		043897		
	I-5665-1009534	Wallplate & Circ. Breaker - EM	R	8/18/2021	93.46		043897		
	I-5665-1009930	Circuite Breaker - EM	R	8/18/2021	279.51		043897		280.18
04307		ALLIED INDUSTRIES INC.							
	I-8220	Marker Balls - ENG	R	8/18/2021	2,471.71		043898		2,471.71
03044		Amazon Capital Services							
	I-1CTW-DRFC-DY93	Light Bulbs - MAINT	R	8/18/2021	55.27		043899		
	I-1K6C-LX3F-3R4L	Industrial Boots - MAINT	R	8/18/2021	134.01		043899		
	I-1LHG-DN16-9CHH	USB Car Charger - WH	R	8/18/2021	15.43		043899		
	I-1NNK-64WJ-6MRN	Canopy - UT	R	8/18/2021	69.70		043899		
	I-1PHN-PKP6-6LD6	Yellowjacket Traps - MAINT	R	8/18/2021	53.36		043899		
	I-1QYD-NKXR-WTMV	Monitor - PR	R	8/18/2021	437.57		043899		
	I-1XCK-4JCW-CPTD	Digital Coax Cable - EM	R	8/18/2021	102.94		043899		868.28

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00836		AMERICAN RED CROSS							
	I-22367818	Lifeguarding-BL - WP	R	8/18/2021	168.00		043900		168.00
05867		Gerald Andrews							
	I-960169	Trailer Storage - Removal-LCRA	R	8/18/2021	168.00		043901		168.00
00014		AQUA-FLO SUPPLY							
	I-SI1783637	Shovel - TP	R	8/18/2021	14.79		043902		
	I-SI1785504	Coupling & 90 Ell - LCRA	R	8/18/2021	19.95		043902		
	I-SI1785529	Coupling - EM	R	8/18/2021	0.87		043902		35.61
00380		ARCADE GLASS CO.							
	I-17462A	Wood Door & Install - MAINT	R	8/18/2021	120.77		043903		120.77
01703		ARNOLD LAROCHELLE MATTHEWS							
	I-3783	Metter # 5088-001	R	8/18/2021	4,618.80		043904		
	I-3784	Metter #5088-022	R	8/18/2021	30.00		043904		
	I-3872	Metter #88	R	8/18/2021	3,853.00		043904		8,501.80
01666		AT & T							
	I-000016875763	Local, Regional, Long Distance	R	8/18/2021	2,637.53		043905		2,637.53
00018		AT & T MOBILITY							
	I-2872904679410821	Acct#287290467941	R	8/18/2021	245.42		043906		
	I-2872942564310821	Acct#287294256431	R	8/18/2021	1,047.47		043906		
	I-287299383384X0821	Acct#287299383384	R	8/18/2021	77.76		043906		1,370.65
00021		AWA OF VENTURA COUNTY							
	I-06-13537	Water Wise Training - BOARD/MG	R	8/18/2021	50.00		043907		50.00
00030		B&R TOOL AND SUPPLY CO							
	I-1900962344	Butterfly Valve - EM	R	8/18/2021	81.60		043908		
	I-1900962371	Sawzall Bld & Cutoff Wheel -UT	R	8/18/2021	593.17		043908		
	I-1900962489	Bungee Cord Set - UT	R	8/18/2021	161.63		043908		836.40
02818		Bay City Fab							
	I-10547	8" SS Pipe SS Disc - EM	R	8/18/2021	323.25		043909		
	I-10549	Aluminum Angle - EM	R	8/18/2021	53.88		043909		377.13
03207		BMI PacWest Inc.							
	I-015710	AC Maint. - LCRA	R	8/18/2021	1,185.00		043910		1,185.00
00511		Centers for Family Health							
	I-101890	Drug Screening - LCRA	R	8/18/2021	45.00		043911		45.00

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03021		Central Communications							
	I-000022-119-561	Call Center 07/21	R	8/18/2021	144.50		043912		144.50
00060		COASTLINE EQUIPMENT							
	I-827877	AR73144 Relay - Unit 114	R	8/18/2021	39.70		043913		39.70
00062		CONSOLIDATED ELECTRICAL							
	C-9009-1009622	Shipping - EM	R	8/18/2021	427.60CR		043914		
	I-9009-1008426	Air Conditioner - EM	R	8/18/2021	4,150.80		043914		3,723.20
00086		E.J. Harrison & Sons Inc							
	I-1639a	Acct#500546088	R	8/18/2021	1,792.74		043915		1,792.74
00086		E.J. Harrison & Sons Inc							
	I-1649	Acct#500766090	R	8/18/2021	2,100.80		043916		2,100.80
00091		ERNST & YOUNG LLP							
	I-US01U000751651	Client#0012205436	R	8/18/2021	1,984.00		043917		1,984.00
02487		Eurofins Abraxis, Inc							
	I-249918	Algal Toxin Test Kits - LAB	R	8/18/2021	739.93		043918		739.93
00095		FAMCON PIPE & SUPPLY							
	I-S100058763.002	Romac Clamps - PL	R	8/18/2021	230.59		043919		
	I-S100059677.002	Gate Valves - PL	R	8/18/2021	4,525.95		043919		
	I-S100060428.001	Ball Valves - PL	R	8/18/2021	900.90		043919		5,657.44
00093		FEDERAL EXPRESS							
	I-7-466-83722	Shipping - LAB	R	8/18/2021	62.18		043920		62.18
00101		FISHER SCIENTIFIC							
	I-8066537	Serological Pipets - LAB	R	8/18/2021	58.87		043921		
	I-8797361	Lab Supplies - LAB	R	8/18/2021	166.43		043921		225.30
00104		FRED'S TIRE MAN							
	I-134185	Tires - Unit 40	R	8/18/2021	782.64		043922		
	I-134224	Carlisle Turf - LCRA	R	8/18/2021	41.10		043922		823.74
00115		GRAINGER, INC							
	I-9017231508	Sheet Stock - TP	R	8/18/2021	36.85		043923		36.85
02217		Greg Rents							
	I-29510	Concrete & Cart Mixer - LCRA	R	8/18/2021	271.72		043924		271.72

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00121		HACH COMPANY							
	I-12583037	Chemkey Reagents - UT	R	8/18/2021	618.74		043925		
	I-12589295	Chemkey Reagents - UT	R	8/18/2021	827.97		043925		1,446.71
01186		GERARDO M HERRERA							
	I-081221	Reimburse Expenses 08/21	R	8/18/2021	168.00		043926		168.00
00596		HOME DEPOT							
	I-5903665	Countertop - MAINT	R	8/18/2021	281.87		043927		
	I-5904535	Vinyl Planks - MAINT	R	8/18/2021	411.97		043927		
	I-900003	Shelving Unit - UT	R	8/18/2021	426.86		043927		1,120.70
00894		HOSE-MAN, INC.							
	I-5288181-0001-05	Highline Fittings - UT	R	8/18/2021	705.83		043928		705.83
00125		IDEXX DISTRIBUTION CORP							
	I-3089887580	Lab Material - LAB	R	8/18/2021	489.01		043929		489.01
02565		Industrial Networking Solution							
	I-INV-1606696	Parsec Antenna - EM	R	8/18/2021	726.45		043930		726.45
00131		JCI JONES CHEMICALS, INC							
	I-863414	Chlorine - TP, CM 863510	R	8/18/2021	1,875.00		043931		
	I-863541	Chlorine - TP, CM 863560	R	8/18/2021	1,969.64		043931		3,844.64
04200		Lauterbach & Associates, Inc.							
	I-15079	San Antonio Bldg Cons - ENG	R	8/18/2021	5,078.75		043932		5,078.75
03082		Teri Mabry							
	I-945897	Camping Cancellation - LCRA	R	8/18/2021	965.00		043933		965.00
00329		MCMASTER-CARR SUPPLY CO.							
	I-63227717	Brass Valve & Fittings - EM	R	8/18/2021	64.53		043934		64.53
04689		MDJ Management							
	I-CAS 1008.2	Ojai East Residual Mgmt - LAB	R	8/18/2021	3,871.29		043935		3,871.29
02129		Tracy Medeiros							
	I-081821	1102W180000001 08/07-08/20/21	R	8/18/2021	580.00		043936		580.00
00151		MEINERS OAKS ACE HARDWARE							
	I-974409	Bolts & Screws - TP	R	8/18/2021	19.20		043937		
	I-977052	CLR Baseshoe & Knife - MAINT	R	8/18/2021	73.10		043937		
	I-977186	Markers & Trowel - MAINT	R	8/18/2021	10.32		043937		
	I-977551	Clamp & Square - MAINT	R	8/18/2021	28.23		043937		
	I-977580	Bracket Shelf & Screws - MAINT	R	8/18/2021	39.23		043937		
	I-977589	Ladder & Rubber Paste - UT	R	8/18/2021	119.09		043937		
	I-977619	Caulk - EM	R	8/18/2021	10.73		043937		

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	I-977637	Plug Drain Test - FISH	R	8/18/2021	7.80		043937		
	I-977696	Pipe & Fittings - LCRA	R	8/18/2021	589.16		043937		
	I-977700	Wire 8 Thhn & Conduit - LCRA	R	8/18/2021	2,252.25		043937		
	I-977728	Couplings & PVC Pipe - LCRA	R	8/18/2021	39.41		043937		
	I-977745	LED Buld - TP	R	8/18/2021	15.60		043937		
	I-977878	Batteries - UT	R	8/18/2021	13.60		043937		
	I-977904	Bolts & Screws - LCRA	R	8/18/2021	19.53		043937		
	I-977953	Tape - SAFE	R	8/18/2021	27.85		043937		
	I-977966	Brass Hex Bushing - PL	R	8/18/2021	4.27		043937		
	I-978028	Tie Wire & Sealer - LCRA	R	8/18/2021	13.10		043937		
	I-978235	Saw Hole - LCRA	R	8/18/2021	16.58		043937		3,299.05
03444		Mission Linen Supply							
	I-515341462	Uniform Pants - PL	R	8/18/2021	33.71		043939		
	I-515341463	Uniform Pants - MAINT	R	8/18/2021	27.11		043939		
	I-515341466	Uniform Pants - TP	R	8/18/2021	39.05		043939		99.87
01570		Ojai Auto Supply							
	I-525704	Napa Motor Oil - GARAGE	R	8/18/2021	30.76		043940		30.76
00165		OJAI LUMBER CO, INC							
	I-2108-647745	SLTD Flat Plate - EM	R	8/18/2021	16.39		043941		16.39
00884		OJAI TERMITE & PEST CONTROL, I							
	I-218423	Monthly Rodent Service - MAINT	R	8/18/2021	75.00		043942		75.00
00194		City of Ojai							
	I-3110	Permit - 111 Bristol Rd - ENG	R	8/18/2021	75.00		043943		75.00
00194		City of Ojai							
	I-3121	Permit - 219 Palomar Rd - ENG	R	8/18/2021	75.00		043944		75.00
00194		City of Ojai							
	I-3122	Permit - 104 Cuyama Rd - ENG	R	8/18/2021	75.00		043945		75.00
00383		ON DUTY UNIFORMS & EQUIPMENT							
	I-4829	Ballistic Vest - LCRA	R	8/18/2021	932.04		043946		932.04
05713		Pops Auto Repair							
	I-0107	Oil Service - Unit 11	R	8/18/2021	181.17		043947		
	I-0108	Repairs - Unit 52	R	8/18/2021	2,402.85		043947		
	I-0109	Oil Service - Unit 74	R	8/18/2021	295.65		043947		2,879.67

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00788		QUINN COMPANY							
	I-WO110103449	Tires - Unit 287	R	8/18/2021	2,251.44		043948		
	I-WO110103459	Inspect & Rpair Hydraulic-U287	R	8/18/2021	396.00		043948		
	I-WO110103460	Service Lift Truck - Unit 287	R	8/18/2021	299.75		043948		2,947.19
00306		Rincon Consultants, Inc.							
	I-32480	Grand Ave Env Services - ENG	R	8/18/2021	20,014.73		043949		20,014.73
01109		SALVADOR LOERA TRANSPORTATION							
	I-13079	Fill Sand - PL	R	8/18/2021	468.05		043950		
	I-13080	Fill Sand - PL	R	8/18/2021	434.00		043950		
	I-15948	Fill Sand - PL	R	8/18/2021	469.79		043950		
	I-15949	Gravel - TP	R	8/18/2021	825.00		043950		2,196.84
03669		Sierra Traffic Service, Inc.							
	I-35472	Emergency Traffic Control - PL	R	8/18/2021	1,659.35		043951		1,659.35
04304		Signa Mechanical							
	I-210569	Annual Sentry Advisor - LCRA	R	8/18/2021	125.00		043952		125.00
02850		Sintra Group							
	I-2021132	Background Investigation -LCRA	R	8/18/2021	1,740.00		043953		1,740.00
02643		Take Care by WageWorks							
	I-13017573	Reimburse Med/Dep Care	R	8/18/2021	81.80		043954		
	I-13043331	Reimburse Med/Dep Care	R	8/18/2021	169.00		043954		250.80
00317		TIERRA CONTRACTING INC							
	I-073121	West Ojai PL Repl. - ENG	R	8/18/2021	271,934.65		043955		271,934.65
02527		Traffic Technologies LLC							
	I-38484	Measuring Wheel - PL	R	8/18/2021	158.41		043956		158.41
00825		USA BLUEBOOK							
	I-690496	Lab Supplies - LAB	R	8/18/2021	94.85		043957		
	I-692179	Lab Materials - LAB	R	8/18/2021	467.21		043957		562.06
09955		VENTURA WHOLESALE ELECTRIC							
	I-274287	Electrical, UT, Containers -UT	R	8/18/2021	1,021.64		043958		
	I-274633	Encore Thhn-8 - LCRA	R	8/18/2021	365.42		043958		1,387.06
01283		Verizon Wireless							
	I-9885492169	Monthly Cell Charges - DO	R	8/18/2021	3,817.21		043959		
	I-9885492617	Monthly Cell Charges - LCRA	R	8/18/2021	376.24		043959		4,193.45

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02583		WageWorks							
	I-INV2983244	FSA Monthly Admin Fee	R	8/18/2021	175.00		043960		175.00
00663		WAXIE SANITARY SUPPLY							
	I-80200467	Janitorial Supplies - DO	R	8/18/2021	1,188.25		043961		1,188.25
00004		ACWA JOINT POWERS INSURANCE AU							
	I-0671784	Health Insurance 09/21	R	8/25/2021	179,475.36		043962		179,475.36
03044		Amazon Capital Services							
	I-1CYV-64QF-1RCM	Canopy - UT	R	8/25/2021	71.85		043963		
	I-1L9X-1V4M-4Y67	Travel Bag - UT	R	8/25/2021	107.20		043963		
	I-1P6J-GDDM-6W63	Folding Table - PR	R	8/25/2021	101.89		043963		
	I-1TVY-WYQ6-Q4R6	Desinfecring Wipes - DO	R	8/25/2021	61.11		043963		
	I-1VTN-GMY6-4V94	Tape Measure - EM	R	8/25/2021	16.08		043963		
	I-1X3K-6M9X-CWNP	Respirator & Filters - MAINT	R	8/25/2021	115.92		043963		474.05
02695		AMS Global Inc.							
	I-14201731	Rotor & Key - LCRA	R	8/25/2021	558.73		043964		558.73
00014		AQUA-FLO SUPPLY							
	C-SCM0151848	2' Repair Kit Return - WP	R	8/25/2021	78.53CR		043965		
	I-SI1788184	Ball Valve & Brass Nipple - PL	R	8/25/2021	68.16		043965		
	I-SI1788207	Clamp - PL	R	8/25/2021	118.80		043965		
	I-SI1788213	Jumbo ICV - LCRA	R	8/25/2021	52.67		043965		
	I-SI1789400	Nylon Cables - UT	R	8/25/2021	14.59		043965		175.69
01323		ARGO CHEMICAL INC							
	I-2108095	Ammonia Solution - TP	R	8/25/2021	3,106.52		043966		3,106.52
01666		AT & T							
	I-000016929489	Acct#9391035541	R	8/25/2021	176.29		043967		176.29
03429		AT&T							
	I-2872444606	Acct#8310009376326	R	8/25/2021	1,302.40		043968		1,302.40
03429		AT&T							
	I-3664773609	Acct#8310009376372	R	8/25/2021	1,302.40		043969		1,302.40
00030		B&R TOOL AND SUPPLY CO							
	I-1900962343	Heat Gun - EM	R	8/25/2021	214.24		043970		
	I-1900962443	Combo Wrench & Socket - PL	R	8/25/2021	96.01		043970		
	I-1900962819	Gloves - EM	R	8/25/2021	60.34		043970		
	I-1900962820	Turbine Oil - TP	R	8/25/2021	340.49		043970		711.08

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00679		BAKERSFIELD PIPE & SUPPLY INC							
	I-S2844450.002	Parts for Rincon Compressor-TP	R	8/25/2021	211.89		043971		
	I-S2844955.001	Fittings - EM	R	8/25/2021	27.38		043971		239.27
02922		Bartel Associates, LLC							
	I-21-454	2021 GASBS 75 Acct Info - ADM	R	8/25/2021	3,621.00		043972		3,621.00
04111		Roadpost, Inc.							
	I-BU01362862	Sat Phone Service - TP	R	8/25/2021	54.54		043973		54.54
03207		BMI PacWest Inc.							
	I-015402	AC Maintenance - DO	R	8/25/2021	1,782.00		043974		1,782.00
00463		Cal-Coast Machinery							
	I-710532	Mower Blades - MAINT	R	8/25/2021	176.97		043975		176.97
09907		CARUS PHOSPHATES, INC.							
	I-SLS 10094560	Blended Phosphate - TP	R	8/25/2021	26,274.28		043976		26,274.28
05871		Brandon Chan							
	I-968719	Camping Cancellation - LCRA	R	8/25/2021	25.00		043977		25.00
01843		COASTAL COPY							
	I-970921	Copier Usage - LCRA	R	8/25/2021	146.84		043978		146.84
00059		COASTAL PIPCO							
	I-S2151952.001	Clamp - PL	R	8/25/2021	133.04		043979		133.04
05857		Data Weighing Systems, Inc							
	I-332314	Dynomoter Repair - FISH	R	8/25/2021	1,584.59		043980		1,584.59
02480		David Taussig & Associates, In							
	I-2107171	D21-00115 CFD Tax Admin	R	8/25/2021	2,317.50		043981		2,317.50
02544		Department of Justice							
	I-527170	Fingerprinting - LCRA	R	8/25/2021	130.00		043982		130.00
00086		E.J. Harrison & Sons Inc							
	I-7104	Acct#1C00114748	R	8/25/2021	60.00		043983		60.00
00086		E.J. Harrison & Sons Inc							
	I-7304	Acct#1C00053370	R	8/25/2021	271.77		043984		271.77

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00086		E.J. Harrison & Sons Inc							
	I-7323	Acct#1C00054230	R	8/25/2021	5,892.03		043985		5,892.03
00086		E.J. Harrison & Sons Inc							
	I-7324	Acct#1C00054240	R	8/25/2021	424.98		043986		424.98
00395		Endress & Hauser Inc							
	I-6002262439	Robles Div. Radar Sensors -ENG	R	8/25/2021	1,364.69		043987		1,364.69
00095		FAMCON PIPE & SUPPLY							
	I-S100060362.001	Gasket - PL	R	8/25/2021	150.15		043988		
	I-S100060953.001	Clamp - PL	R	8/25/2021	96.53		043988		246.68
00099		FGL ENVIRONMENTAL							
	I-109377A	Nitrate Monitoring 07/13/21	R	8/25/2021	43.00		043989		
	I-109786A	Nitrate Monitoring 07/20/21	R	8/25/2021	43.00		043989		86.00
00115		GRAINGER, INC							
	I-9019267641	Ball Valve - TP	R	8/25/2021	124.20		043990		
	I-9022855150	Tube Bender - TP	R	8/25/2021	168.35		043990		292.55
05849		Hill Brothers Chemical Co							
	C-07104937	INV 07101209	R	8/25/2021	12,634.61CR		043991		
	I-07101209	CM#07104937	R	8/25/2021	12,634.61		043991		
	I-07104939	Liquid Ammonia Sulfate - TP	R	8/25/2021	1,253.10		043991		1,253.10
00596		HOME DEPOT							
	C-1904251	Inv 1904251	R	8/25/2021	434.82CR		043992		
	C-3900159	Inv 1171057	R	8/25/2021	357.25CR		043992		
	I-1171057	CM 3900159	R	8/25/2021	357.25		043992		
	I-1904245	CM 1904251	R	8/25/2021	434.82		043992		
	I-816119	Mini Refrigerator - LAB	R	8/25/2021	140.93		043992		140.93
02598		Konecranes, Inc.							
	I-154532174	Load Testing on Hoist & Gantry	R	8/25/2021	5,822.95		043993		5,822.95
01270		SCOTT LEWIS							
	I-July 21	Reimburse Expenses 07/21	R	8/25/2021	70.97		043994		70.97
05872		Jodi Lyle							
	I-944716	Camping Cancelation - LCRA	R	8/25/2021	109.00		043995		109.00
05873		Dena McLean							
	I-992179	Camping Cancellation - LCRA	R	8/25/2021	284.00		043996		284.00

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00329		MCMASTER-CARR SUPPLY CO.							
	I-63310327	Parts for Mutual 6 Drip Doser	R	8/25/2021	463.33		043997		
	I-63472521	ASME - Code Fast-Acting - EM	R	8/25/2021	159.05		043997		622.38
00151		MEINERS OAKS ACE HARDWARE							
	I-977876	Blade Frame & Brush - MAINT	R	8/25/2021	58.28		043998		
	I-977968	Cleaning Supplies - PL	R	8/25/2021	30.34		043998		
	I-977997	Bolts & Screws - UT	R	8/25/2021	12.16		043998		
	I-978179	Screw Driver & Switches - UT	R	8/25/2021	19.02		043998		
	I-978238	Sockets - UT	R	8/25/2021	19.51		043998		
	I-978243	Plywood - UT	R	8/25/2021	649.41		043998		
	I-978326	Gloves - TP	R	8/25/2021	41.71		043998		
	I-978384	Circuit Braker & Fittings-LCRA	R	8/25/2021	69.72		043998		
	I-978415	Cotton Swabs - TP	R	8/25/2021	1.61		043998		
	I-978440	Nut Driver & Tape - UT	R	8/25/2021	56.56		043998		
	I-978461	Spray Paint & Contact Tip Copp	R	8/25/2021	14.61		043998		
	I-978569	1/2" Rebar - LCRA	R	8/25/2021	29.25		043998		
	I-978570	Cable & Gloves - MAINT	R	8/25/2021	57.80		043998		
	I-978619	1/2' Rebar - LCRA	R	8/25/2021	10.73		043998		
	I-978621	Swimming Pool Chemicals - LCRA	R	8/25/2021	16.28		043998		
	I-978660	Chisel Set & Ear Plugs - FISH	R	8/25/2021	32.01		043998		
	I-978721	Paint - WP	R	8/25/2021	6.44		043998		
	I-979135	Silicone - FISH	R	8/25/2021	5.85		043998		1,131.29
05425		MP Environmental Service, Inc							
	I-21436153	Filter Media #8 - TP	R	8/25/2021	87,552.00		044000		87,552.00
00163		OFFICE DEPOT							
	C-188698400001	Folders Return - DO	R	8/25/2021	62.72CR		044001		
	I-186507855001	Office Supplies - DO	R	8/25/2021	290.01		044001		
	I-186596940001	Office Supplie - DO	R	8/25/2021	340.58		044001		
	I-187891538001	Office Chairs - MAINT	R	8/25/2021	853.12		044001		
	I-188686684001	Folders - ADM	R	8/25/2021	241.27		044001		1,662.26
00347		Ojai Recreation Department							
	I-082421	Ojai Day Booth Fees - PR	R	8/25/2021	90.00		044002		90.00
00168		OJAI VALLEY NEWS							
	I-300041062	Ad 08/20/21	R	8/25/2021	150.00		044003		150.00
01627		OSCAR'S TREE SERVICE							
	I-15710	Tree Trimming - MAINT	R	8/25/2021	1,400.00		044004		1,400.00

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00941		PARK RANGERS ASSOCIATION							
	I-082521	PRAC Membership 3 Years - LCRA	R	8/25/2021	110.00		044005		110.00
02637		David Pope							
	I-082421	Reimburse Expenses 08/21	R	8/25/2021	95.00		044006		95.00
05713		Pops Auto Repair							
	I-0104	Service Repair - Unit 16	R	8/25/2021	795.43		044007		
	I-0110	Battery - Unit 10	R	8/25/2021	297.33		044007		1,092.76
00627		PORT SUPPLY							
	I-0005417	Rain Gear - MAINT	R	8/25/2021	292.30		044008		292.30
00306		Rincon Consultants, Inc.							
	I-32937	West Ojai PL Replacement - ENG	R	8/25/2021	20,435.71		044009		
	I-32938	Environmental Monitoring - ENG	R	8/25/2021	1,323.50		044009		21,759.21
01107		SAWYER PETROLEUM							
	I-S138727	Gas & Diesel - LCRA	R	8/25/2021	4,536.33		044010		4,536.33
02756		SC Fuels							
	I-1936698-IN	Diesel for TP Generator - TP	R	8/25/2021	708.55		044011		708.55
00725		SMART & FINAL							
	I-183722	Coffe Cups - TP	R	8/25/2021	18.71		044012		18.71
01944		Luke Soholt							
	I-082321	Reimburse Expenses 08/21	R	8/25/2021	386.26		044013		386.26
00215		SOUTHERN CALIFORNIA EDISON							
	I-081121	Acct#700028645962	R	8/25/2021	107,229.13		044014		
	I-082021	Acct#700625798978	R	8/25/2021	249.02		044014		107,478.15
00216		Southern California Gas Co.							
	I-082521a	Acct#00801443003	R	8/25/2021	197.84		044015		
	I-082521b	Acct#18231433006	R	8/25/2021	40.03		044015		237.87
00048		STATE OF CALIFORNIA							
	I-082021	State Water Plan Payment	R	8/25/2021	221,268.00		044016		221,268.00
02703		Sunbelt Rentals							
	I-116648734-0001	Plate Tamper - PL	R	8/25/2021	78.63		044017		
	I-116676713-0001	Generator Rental - EM	R	8/25/2021	2,313.05		044017		2,391.68

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01147		SUPERIOR GATE SYSTEMS							
	I-4569	New Battery in Canal Gate	R	8/25/2021	285.00		044018		285.00
02643		Take Care by WageWorks							
	I-13057164	Reimburse Med/Dep Care	R	8/25/2021	87.35		044019		87.35
02163		Toro Enterprises, Inc.							
	I-14835	Grand Ave. PL Replacement -ENG	R	8/25/2021	222,565.48		044020		222,565.48
02778		Traffic Management, Inc.							
	C-043885	Check 043885	R	8/25/2021	49.71CR		044021		
	I-767159	CMS Traffic Control - ENG	R	8/25/2021	2,760.00		044021		
	I-769677	Traffic Sign - ENG	R	8/25/2021	1,300.00		044021		4,010.29
02527		Traffic Technologies LLC							
	I-38454	.040 Alum - MAINT	R	8/25/2021	49.71		044022		49.71
00825		USA BLUEBOOK							
	I-692232	Lab Thermometer - LAB	R	8/25/2021	124.36		044023		124.36
00254		VENTURA LOCKSMITHS							
	I-D 629214	Duplicate Key - WP	R	8/25/2021	37.71		044024		
	I-OM081721-1	Duplicate Key - EM	R	8/25/2021	13.45		044024		51.16
00258		VENTURA STEEL, INC							
	I-257729	U.M Plate & S/S Angle - TP	R	8/25/2021	150.15		044025		150.15
09955		VENTURA WHOLESALE ELECTRIC							
	I-273869	Electric Parts Garage Office	R	8/25/2021	676.25		044026		
	I-273889	Clamp & Tubing - EM	R	8/25/2021	115.09		044026		
	I-273933	Stem & Swivel Mount - LCRA	R	8/25/2021	60.54		044026		851.88
00663		WAXIE SANITARY SUPPLY							
	I-80197276	Janitorial Supplies - LCRA	R	8/25/2021	136.42		044027		
	I-80200474	Janitorial Supplies - LCRA	R	8/25/2021	1,587.65		044027		
	I-80206736	Janitorial Supplies - LCRA	R	8/25/2021	77.73		044027		
	I-80230885	Janitorial Supplies - DO	R	8/25/2021	111.45		044027		1,913.25
05868		Kevin Wayne Fink							
	I-1023828	Camping Cancellation - LCRA	R	8/25/2021	648.00		044028		648.00
00270		Wells Fargo Bank							
	I-081121a	Lunch Casitas-CalleguasMeeting	R	8/25/2021	128.44		044029		
	I-081121b	Medeca Cylinder - LCRA	R	8/25/2021	507.56		044029		
	I-081121c	Aluminum NFPA Placard Kit - UT	R	8/25/2021	75.29		044029		
	I-081121d	HazMat Spill Kit - UT	R	8/25/2021	389.51		044029		
	I-081121f	Water Education Seminar - UT	R	8/25/2021	175.00		044029		
	I-081121g	Water Education Seminar - UT	R	8/25/2021	175.00		044029		
	I-081121h	Scaltrol Water Tret Syst - GAR	R	8/25/2021	264.53		044029		1,715.33

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00630		WESCO							
	I-386673	Fittings - EM	R	8/25/2021	72.62		044030		72.62
00330		WHITE CAP CONSTRUCTION SUPPLY							
	I-10014714745	Safetry Fence - PL	R	8/25/2021	109.15		044031		109.15
05629		Cynthia Williams							
	I-998726	Camping Cancellation - LCRA	R	8/25/2021	386.00		044032		386.00
05869		Wingate Earthworks							
	I-082321	Asphalt Patching - ENG	R	8/25/2021	21,287.60		044033		21,287.60
10048		WORLD WATERPARK ASSOCIATION							
	I-082521	WWA Anual Symposium - WP	R	8/25/2021	947.00		044034		947.00
00270		Wells Fargo Bank							
	I-081121i	Adobe Subscription - PR	R	8/25/2021	23.88		044035		
	I-081121j	Enviro Safety Product - TP	R	8/25/2021	1,314.93		044035		1,338.81
04010		CALIFORNIA STATE DISBURSEMENT							
	I-CS5202108231917	200000001181291	R	8/25/2021	386.30		044036		386.30
02823		Franchise Tax Board							
	I-G08202108231917	STATE TAX GARNISHMENT	R	8/25/2021	500.00		044037		500.00
00124		ICMA RETIREMENT TRUST - 457							
	I-DCI202108231917	DEFERRED COMP FLAT	R	8/25/2021	550.00		044038		
	I-DI%202108231917	DEFERRED COMP PERCENT	R	8/25/2021	103.34		044038		653.34
00985		NATIONWIDE RETIREMENT SOLUTION							
	I-CUN202108231917	457 CATCH UP	R	8/25/2021	480.77		044039		
	I-DCN202108231917	DEFERRED COMP FLAT	R	8/25/2021	7,868.57		044039		
	I-DN%202108231917	DEFERRED COMP PERCENT	R	8/25/2021	398.80		044039		8,748.14
1		AERA ENERGY LLC							
	I-000202108271918	US REFUND	R	8/30/2021	3,639.83		044040		3,639.83
02587		A&M LAWNMOWER SHOP							
	I-50921	Filters - MAINT	R	9/01/2021	43.83		044041		43.83
05687		Wilhelmina Ackart							
	I-1004246	Camping Cancellation - LCRA	R	9/01/2021	568.00		044042		568.00

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00012		ALL-PHASE ELECTRIC SUPPLY CO.							
	I-5665-1008201	Panel - EM	R	9/01/2021	35.51		044043		
	I-5665-1010446	Pad Rubber - EM	R	9/01/2021	103.67		044043		
	I-5665-1010604	Fork Terminal & Wire Conector	R	9/01/2021	143.48		044043		282.66
03044		Amazon Capital Services							
	I-14GH-H7ML-JVVL	Caps - MAINT	R	9/01/2021	72.88		044044		
	I-1694-QWRY-FG6C	White Board & Markers - MAINT	R	9/01/2021	80.49		044044		
	I-1D4L-KLWD-DHPY	Desktop WiFi Bridge - MAINT	R	9/01/2021	37.53		044044		
	I-1D67-TPNR-NM4X	Computer Desks - UT	R	9/01/2021	509.40		044044		
	I-1F96-97YC-74MQ	Pliers - IT	R	9/01/2021	24.27		044044		
	I-1G6T-9H74-GQMP	Microwave Cables - EM	R	9/01/2021	331.33		044044		
	I-1JTQ-X1X4-GQLT	Respirator Filters - MAINT	R	9/01/2021	94.60		044044		
	I-1KDL-VRKT-FMF7	Welding Supplies - LCRA	R	9/01/2021	84.48		044044		
	I-1LYL-M4GJ-33L9	Garbage Can - MAINT	R	9/01/2021	116.61		044044		
	I-1NLM-MJFL-1XCG	Desk Chair Mats - TP	R	9/01/2021	157.62		044044		
	I-1NLM-MJFL-MTD9	Printing Calculator - ADM	R	9/01/2021	55.03		044044		
	I-1Q63-NPY6-97N4	Gloves - MAINT	R	9/01/2021	129.28		044044		
	I-1W6R-NHN3-4XNQ	Headphones & Keyboards - UT	R	9/01/2021	455.65		044044		2,149.17
00014		AQUA-FLO SUPPLY							
	I-SI1770446	Pressure Regulator - WP	R	9/01/2021	616.62		044046		
	I-SI1792337	PVC Plug - TP	R	9/01/2021	10.63		044046		
	I-SI1793042	Teflon Paste - EM	R	9/01/2021	15.96		044046		
	I-SI1793746	PVC Cement & Coupling - PL	R	9/01/2021	32.94		044046		676.15
01666		AT & T							
	I-000016954899	Acct#9391064013	R	9/01/2021	23.28		044047		23.28
05140		Annette Ayala							
	I-62	Lion St Native American Mo-ENG	R	9/01/2021	2,635.00		044048		2,635.00
00030		B&R TOOL AND SUPPLY CO							
	I-1900962766	Gas Can & Socket Impact - PL	R	9/01/2021	103.92		044049		
	I-1900962937	S PT AR-10 883 - EM	R	9/01/2021	31.55		044049		
	I-1900962990	Weed Trimmer - MAINT	R	9/01/2021	1,380.28		044049		
	I-1900963132	Blue Akrobin - UT	R	9/01/2021	1,106.29		044049		2,622.04
00679		BAKERSFIELD PIPE & SUPPLY INC							
	I-S2846364.001	Bf Valve & Pipe Fittings - EM	R	9/01/2021	164.21		044050		164.21
03207		BMI PacWest Inc.							
	I-015516	AC Repair - DO	R	9/01/2021	908.04		044051		908.04

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05875		Sue Burr							
	I-083121	Meter Relocation - ENG	R	9/01/2021	7,985.00		044052		7,985.00
09182		CalPERS							
	I-100000016511507	GASB-68	R	9/01/2021	700.00		044053		700.00
02787		Lindsay Cao							
	I-July 21	Reimburse Expenses 07/21	R	9/01/2021	39.76		044054		39.76
00055		CASITAS BOAT RENTALS							
	I-001601	Battery - LCRA	R	9/01/2021	113.56		044055		113.56
05876		Lynn Connor							
	I-083121	Meter Relocation - ENG	R	9/01/2021	12,000.00		044056		12,000.00
00501		CRUMP & COMPANY							
	I-38232	Surge Buster Check Valve - EM	R	9/01/2021	14,075.72		044057		14,075.72
00740		DELL MARKETING L.P.							
	I-10515225180	IT Computer - IT	R	9/01/2021	2,533.96		044058		2,533.96
00081		DELTA LIQUID ENERGY							
	I-18724	Propane - LCRA	R	9/01/2021	347.38		044059		347.38
03910		DoiT International USA, INC							
	I-IN214003336	Google Apps 08/21	R	9/01/2021	1,599.48		044060		1,599.48
00095		FAMCON PIPE & SUPPLY							
	I-S100060531.001	CLA-VAL Parts - EM	R	9/01/2021	1,847.92		044061		
	I-S100060955.001	Cap, FIPT SCH40 2" - PL	R	9/01/2021	381.27		044061		
	I-S100061153.001	Romac Coupling & Mega Lung -PL	R	9/01/2021	784.00		044061		
	I-S100061266.001	4"X2" Saddle - PL	R	9/01/2021	165.17		044061		
	I-S100061735.001	Romac Coupling & Valve - PL	R	9/01/2021	2,779.92		044061		5,958.28
03640		Famcon Utility Supply, Inc.							
	I-S100061337.001	36"X60"X36" Strongwell - PL	R	9/01/2021	3,753.75		044062		3,753.75
00093		FEDERAL EXPRESS							
	I-7-482-59865	Shipping - EM	R	9/01/2021	12.75		044063		12.75
00099		FGL ENVIRONMENTAL							
	I-108669A	Lake Nutrient Monitoring 06/25	R	9/01/2021	3,439.00		044064		
	I-110136A	Nitrate Monitoring 07/27/21	R	9/01/2021	43.00		044064		3,482.00

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04257		Geiger Enterprises, Inc.							
	I-21-1320	Fuel Test Labor - EM	R	9/01/2021	389.18		044065		389.18
00115		GRAINGER, INC							
	I-9022855143	Sport Drink Mix - EM	R	9/01/2021	27.14		044066		27.14
02217		Greg Rents							
	I-30206	Concrete Mix - LCRA	R	9/01/2021	774.73		044067		
	I-30377	Concrete Mix - PL	R	9/01/2021	119.58		044067		894.31
00121		HACH COMPANY							
	I-12597461	Lab Materials - LAB	R	9/01/2021	622.96		044068		
	I-12597475	Conductivity Soln & Sodium-LAB	R	9/01/2021	240.21		044068		
	I-12602049	Chlorine Std. - LAB	R	9/01/2021	59.09		044068		
	I-12607995	Mono-Chlor Chemkey - LAB	R	9/01/2021	578.45		044068		
	I-12608013	Renovo Solution - LAB	R	9/01/2021	105.96		044068		
	I-12609720	Gel-Filled Probe - LAB	R	9/01/2021	278.85		044068		1,885.52
05746		Hasa Inc.							
	I-772383	Chlorine for Ojai Sys. - TP	R	9/01/2021	2,343.20		044069		2,343.20
00596		HOME DEPOT							
	I-2629564	Backtop Sealer - LCRA	R	9/01/2021	731.77		044070		731.77
02288		Hopkins Technical Products, In							
	I-3621300925	Chemical Dosing Repair Kit- TP	R	9/01/2021	735.66		044071		735.66
01177		ICON SAFETY COMPANY INC.							
	I-3160117133	O2 Sensor - TP	R	9/01/2021	370.35		044072		370.35
00127		INDUSTRIAL BOLT & SUPPLY							
	I-224697-1	Hex Cap & Flat Washer - EM	R	9/01/2021	27.00		044073		27.00
05775		Ksen Sku Mu							
	I-276	Native American Monitoring-ENG	R	9/01/2021	3,169.85		044074		3,169.85
00329		MCMASTER-CARR SUPPLY CO.							
	I-64013692	Elbow Adapter - EM	R	9/01/2021	23.23		044075		23.23
02129		Tracy Medeiros							
	I-090121	1102WC180000001 08/21-09/03/21	R	9/01/2021	580.00		044076		580.00
00151		MEINERS OAKS ACE HARDWARE							
	I-978515	Outlet Box - LCRA	R	9/01/2021	1.53		044077		
	I-978605	Plywood, Bolts & Screws - UT	R	9/01/2021	83.43		044077		
	I-978693	Bit Drill - TP	R	9/01/2021	14.63		044077		
	I-978974	Toilet Seat - MAINT	R	9/01/2021	26.32		044077		
	I-979084	Spray Paint & Brush - PL	R	9/01/2021	46.11		044077		

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	I-979129	Cord Extension, Bolts & Screws	R	9/01/2021	17.25		044077		
	I-979139	PP Interior - LCRA	R	9/01/2021	22.51		044077		
	I-979159	Toilet Seat - LCRA	R	9/01/2021	100.73		044077		
	I-979223	Paint & Hat - MAINT	R	9/01/2021	55.24		044077		
	I-979233	Knife & Paint Brush - EM	R	9/01/2021	8.86		044077		
	I-979251	Hammet & Extension cord - UT	R	9/01/2021	62.60		044077		
	I-979261	Fittings - PL	R	9/01/2021	64.77		044077		
	I-979293	Sandbelt & Disc - LCRA	R	9/01/2021	28.36		044077		
	I-979350	Link Chain, Bolts & Screws -UT	R	9/01/2021	40.87		044077		
	I-979384	Padlock & Fittings - UT	R	9/01/2021	34.24		044077		
	I-979405	Bolts & Screws - LCRA	R	9/01/2021	1.02		044077		
	I-979416	Painting Supplies - PL	R	9/01/2021	45.50		044077		
	I-979455	Fittings & Elbow - LCRA	R	9/01/2021	60.67		044077		
	I-979471	Bolts & Screws - UT	R	9/01/2021	4.15		044077		
	I-979495	Batteries - LCRA	R	9/01/2021	19.74		044077		
	I-979513	Wrench Comb & Duct Tape - PL	R	9/01/2021	42.30		044077		
	I-979794	Wire & Bit Insrt - LCRA	R	9/01/2021	110.16		044077		890.99
03444		Mission Linen Supply							
	I-515386176	Uniform Pants - PL	R	9/01/2021	37.71		044079		
	I-515386177	Uniform Pants - MAINT	R	9/01/2021	27.11		044079		
	I-515386181	Uniform Pants - TP	R	9/01/2021	39.05		044079		103.87
03508		NTT Industrial Supply, Inc.							
	I-8726	Hose Assemblies - EM	R	9/01/2021	85.36		044080		
	I-8744	Fittings - EM	R	9/01/2021	31.52		044080		
	I-8745	Mechanics Length Drills - EM	R	9/01/2021	19.98		044080		136.86
01570		Ojai Auto Supply							
	I-525954	Battery - Unit 15	R	9/01/2021	150.66		044081		
	I-526071	Antifreeze - GARAGE	R	9/01/2021	19.82		044081		170.48
00165		OJAI LUMBER CO, INC							
	I-2108-649718	Douglas Fir - LCRA	R	9/01/2021	232.27		044082		232.27
00884		OJAI TERMITE & PEST CONTROL, I							
	I-217613	Spray District Office - MAINT	R	9/01/2021	163.00		044083		
	I-218440	Monthly Rodent Service Reeves	R	9/01/2021	73.00		044083		236.00
00194		City of Ojai							
	I-3118	Permit - 111 Bristol Rd - ENG	R	9/01/2021	290.99		044084		290.99
00194		City of Ojai							
	I-3119	Permit - 219 Palomar Rd - ENG	R	9/01/2021	368.34		044085		368.34

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00194		City of Ojai							
	I-3120	Permit - 104 Cuyama Rd - ENG	R	9/01/2021	378.01		044086		378.01
10072		PERMACOLOR,INC							
	I-2107376	Power Coat Piping - PL	R	9/01/2021	312.09		044087		
	I-2108413	Small Oil Tank - EM	R	9/01/2021	218.00		044087		530.09
05713		Pops Auto Repair							
	I-0111	Oil Service - Unit 12	R	9/01/2021	178.30		044088		178.30
01439		PRECISION POWER EQUIPMENT							
	I-59667	PL 40 Pruner - MAINT	R	9/01/2021	107.74		044089		107.74
00790		PROFORMA							
	I-BI85005030A	Conserving Post Cards - PR	R	9/01/2021	102.36		044090		102.36
00313		ROCK LONG'S AUTOMOTIVE							
	I-32643	Battery & Labor - Unit 51	R	9/01/2021	332.50		044091		332.50
01107		SAWYER PETROLEUM							
	I-S138930	Gas & Diesel - LCRA	R	9/01/2021	4,439.83		044092		4,439.83
00215		SOUTHERN CALIFORNIA EDISON							
	I-082421a	Acct#700356078152	R	9/01/2021	211.54		044093		
	I-082421b	Acct#700237081885	R	9/01/2021	911.10		044093		
	I-082521a	Acct#700387230310	R	9/01/2021	18.81		044093		
	I-082521b	Acct#700533992421	R	9/01/2021	23,402.44		044093		24,543.89
00048		STATE OF CALIFORNIA							
	I-2110E53103	1988 Drinking Water Bond	R	9/01/2021	152,533.74		044094		152,533.74
02703		Sunbelt Rentals							
	I-105170290-0016	Emergency Generator - EM	R	9/01/2021	2,767.36		044095		
	I-116312309-0002	Excavator Rental - PL	R	9/01/2021	2,531.16		044095		
	I-116620978-0001	Jumping Jack Tamper - PL	R	9/01/2021	135.68		044095		5,434.20
01696		SUPERIOR MACHINE							
	I-4684	Coupling - EM	R	9/01/2021	59.26		044096		
	I-4685	Machine Shaft Hub - EM	R	9/01/2021	808.13		044096		867.39
02643		Take Care by WageWorks							
	I-13066563	Reimburse Med/Dep Care	R	9/01/2021	1,293.09		044097		
	I-13072686	Reimburse Med/Dep Care	R	9/01/2021	71.76		044097		
	I-13100148	Reimburse Med/Dep Care	R	9/01/2021	141.23		044097		
	I-13105677	Reimburse Med/Dep Care	R	9/01/2021	159.88		044097		1,665.96

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02527		Traffic Technologies LLC							
	I-38487	Traffic Signs - PL	R	9/01/2021	447.93		044098		447.93
01512		TRENCH SHORING COMPANY							
	I-RI20131534	Trench Plate Rental - PL	R	9/01/2021	397.60		044099		397.60
01662		TYLER TECHNOLOGIES, INC.							
	I-025-346308	UB Monthly Online Fees - 09/21	R	9/01/2021	128.00		044100		128.00
01268		ULINE							
	I-137863041	Spill Contaminent Workstation	R	9/01/2021	213.01		044101		213.01
00225		UNDERGROUND SERVICE ALERT							
	I-820210094	CAS01 New Ticket - ENG	R	9/01/2021	349.90		044102		
	I-dsb20204145	Regulatory Costs - ENG	R	9/01/2021	110.30		044102		460.20
00825		USA BLUEBOOK							
	I-700950	Traceable Condictivitystnd-LAB	R	9/01/2021	55.39		044103		55.39
00257		VENTURA RIVER WATER DISTRICT							
	I-083121	Acct#5-37500A	R	9/01/2021	245.45		044104		245.45
09955		VENTURA WHOLESALE ELECTRIC							
	I-270505	Fittings - MAINT	R	9/01/2021	13.47		044105		
	I-270544	Electric Supplies - WH	R	9/01/2021	167.66		044105		
	I-278208	Electric Parts for Garage-MAIN	R	9/01/2021	248.26		044105		
	I-278247	Str Copper Thhn - LCRA	R	9/01/2021	1,594.70		044105		2,024.09
01396		VULCAN CONSTRUCTION MATERIALS							
	I-73044643	Cold Mix - PL	R	9/01/2021	527.90		044106		527.90
00663		WAXIE SANITARY SUPPLY							
	I-80241455	Janitorial Supplies - LCRA	R	9/01/2021	1,560.36		044107		1,560.36
1		GADDIS CONSTRUCTION							
	I-000202109011920	US REFUND	R	9/01/2021	246.00		044108		246.00
1		LYNN, DAVE							
	I-000202109011921	US REFUND	R	9/01/2021	171.25		044109		171.25
1		PACIFIC RIM HOLDING							
	I-000202109011919	US REFUND	R	9/01/2021	7.59		044110		7.59

VENDOR SET: 01 Casitas Municipal Water D
BANK: AP ACCOUNTS PAYABLE
DATE RANGE: 8/05/2021 THRU 9/01/2021

VENDOR I.D.	NAME	STATUS	CHECK DATE	INVOICE AMOUNT	DISCOUNT	CHECK NO	CHECK STATUS	CHECK AMOUNT
1	R. NUGGET, LLC							
I-000202109011922	US REFUND	R	9/01/2021	27.28		044111		27.28

* * T O T A L S * *	NO		INVOICE AMOUNT	DISCOUNTS	CHECK AMOUNT
REGULAR CHECKS:	292		1,841,104.87	0.00	1,841,104.87
HAND CHECKS:	0		0.00	0.00	0.00
DRAFTS:	11		661,124.05	0.00	661,124.05
EFT:	0		0.00	0.00	0.00
NON CHECKS:	0		0.00	0.00	0.00
VOID CHECKS:	0	VOID DEBITS 0.00			
		VOID CREDITS 0.00	0.00	0.00	

TOTAL ERRORS: 0

	NO	INVOICE AMOUNT	DISCOUNTS	CHECK AMOUNT
VENDOR SET: 01 BANK: AP TOTALS:	303	2,502,228.92	0.00	2,502,228.92
BANK: AP TOTALS:	303	2,502,228.92	0.00	2,502,228.92
REPORT TOTALS:	303	2,502,228.92	0.00	2,502,228.92

Adjudication Charge Fund Account

Publication of check register is in compliance with Section 53065.6 of the Government Code which requires the District to disclose reimbursements to employees and/or directors.

Adj. Checks: 000026-000029

Voids:

Janyne Brown , Chief Financial Officer

VENDOR SET: 01 Casitas Municipal Water D
BANK: ADJ ADJUDICATION ACCOUNT
DATE RANGE: 8/05/2021 THRU 9/01/2021

VENDOR	I.D.	NAME	STATUS	CHECK DATE	INVOICE AMOUNT	DISCOUNT	CHECK NO	CHECK STATUS	CHECK AMOUNT
05782		GSI Water Solutions, Inc							
	I-0888.001-8	Hydrologic & Hydrogeologic Con	R	8/11/2021	10,107.46		000026		10,107.46
02475		Rutan & Tucker, LLP							
	I-902979	Adjudication Litigation 06/21	R	8/11/2021	10,079.27		000027		10,079.27
01703		ARNOLD LAROCHELLE MATTHEWS							
	I-3774	Adjudication Litigation 07/21	R	8/18/2021	1,908.00		000028		1,908.00
00270		Wells Fargo Bank							
	I-081121e	Court Remot Appearance - MGMT	R	8/25/2021	15.00		000029		15.00

* * T O T A L S * *	NO			INVOICE AMOUNT	DISCOUNTS	CHECK AMOUNT
REGULAR CHECKS:	4			22,109.73	0.00	22,109.73
HAND CHECKS:	0			0.00	0.00	0.00
DRAFTS:	0			0.00	0.00	0.00
EFT:	0			0.00	0.00	0.00
NON CHECKS:	0			0.00	0.00	0.00
VOID CHECKS:	0	VOID DEBITS	0.00			
		VOID CREDITS	0.00	0.00	0.00	

TOTAL ERRORS: 0

	NO	INVOICE AMOUNT	DISCOUNTS	CHECK AMOUNT
VENDOR SET: 01 BANK: ADJ TOTALS:	4	22,109.73	0.00	22,109.73
BANK: ADJ TOTALS:	4	22,109.73	0.00	22,109.73
REPORT TOTALS:	4	22,109.73	0.00	22,109.73

Casitas Municipal Water District
Reimbursement Disclosure Report (1)
Fiscal Year 2021/22
July 1, 2021-June 30, 2022

Date paid	Board of Director/Employee	Description	Amount Paid
7/14/2021	Scott Lewis	Fisheries Supplies	$ 222.44
7/14/2021	Scott Lewis	Car Rental 06/04-06/17	$ 1,217.44
7/14/2021	Scott Lewis	Hotel 06/06-06/16	$ 957.00
7/14/2021	Brian Taylor	Hotel 06/20-06/24	$ 858.94
7/14/2021	Aaron Wall	ARC Lifeguard Instructor Review	$ 120.00
7/21/2021	Jesus Garcia	Safety Boot Stipend	$ 170.00
7/21/2021	David Pope	Work T-Shirts	$ 204.85
7/28/2021	Corban Suggs	Tuition Reimbursement	$ 319.00
8/11/2021	Gonzalo Carbajal-Ramirez	Safety Boot Stipend	$ 170.00
8/11/2021	Ramiro Garcia	Safety Boot Stipend	$ 170.00
8/11/2021	Vincent Godinez	Safety Boot Stipend	$ 170.00
8/11/2021	Spencer Hair	Safety Boot Stipend	$ 170.00
8/11/2021	Gerardo M Herrera	Safety Boot Stipend	$ 170.00
8/11/2021	Eric Lara	Safety Boot Stipend	$ 170.00
8/11/2021	Mario Mariscal	Safety Boot Stipend	$ 170.00
8/11/2021	Luis Mejia	Safety Boot Stipend	$ 170.00
8/11/2021	David Pope	Safety Boot Stipend	$ 170.00
8/11/2021	Edgar Ramos Jr.	Safety Boot Stipend	$ 170.00
8/11/2021	Michael Robles	Safety Boot Stipend	$ 170.00
8/11/2021	Jose Ruiz	Safety Boot Stipend	$ 170.00
8/11/2021	Brian Taylor	Safety Boot Stipend	$ 170.00
8/18/2021	Gerardo M Herrera	Class Expenses	$ 168.00
8/25/2021	Luke Soholt	Property Taxes Damtender's Residence	$ 386.26

1) Reimbursement Disclosure Report prepared pursuant to California Government Code 53065.5

Minutes of the Casitas Municipal Water District
Board Meeting Held
August 11, 2021

A meeting of the Board of Directors was held August 11, 2021. The meeting was held via teleconference.

1. CALL TO ORDER

President Brennan called the meeting to order at 5:00 p.m.

2. ROLL CALL

Directors Bergen, Kaiser, Cole, Hajas and Brennan are present. Also present are GM Flood, AGM Dyer, EA Vieira and Counsel Mathews.

3. AGENDA CONFIRMATION

There were no changes to the agenda.

4. PUBLIC COMMENTS - Presentation on District related items that are not on the agenda - three minute limit.

Leo House spoke to the board on behalf of Steven Velkei who had concerns in July regarding water allocation and his phone calls were not returned. He made a request under the Public Records Act and received a response asking for additional time but has not received the requested records yet. He is asking that the district comply with their obligation to provide a response to the request. President Brennan apologized and said the district would move forward with your request.

5. CONSENT AGENDA

5.a. Accounts Payable Report.
Accounts Payable Report 08-11-21.pdf

5.b. Minutes of the July 28, 2021 Board Meeting.
7 28 2021 Min.pdf

5.c. Minutes of the July 27, 2021 Special Board Meeting.
7 27 2021 Min.pdf

5.d. Minutes of the July 14, 2021 Board Meeting.
7 14 2021 Min.pdf

The consent agenda was offered by Director Kaiser, seconded by Director Bergen and adopted by the following roll call vote:

AYES: Directors: Bergen, Kaiser, Cole, Hajas, Brennan

NOES: Directors: None
ABSENT: Directors: None

6. ACTION ITEMS

6.a. Adopt a Resolution transferring 250 Acre-Feet of Casitas MWD's 2021 State Water Project Table A Water Supply to the Central Coast Water Authority.
Board Memo on Table A Water Transfer to CCWA Resolution 081121.pdf
CMWD Resolution No 21- ATT1.pdf
VCWPD Draft Resolution No ATT2.pdf

The resolution was offered by Director Bergen, seconded by Director Cole and adopted by the following roll call vote:

AYES: Directors: Bergen, Kaiser, Cole, Hajas, Brennan
NOES: Directors: None
ABSENT: Directors: None

Resolution is numbered 2021-21

6.b. Adopt a Resolution regarding modifications to the Casitas MWD Rates and Regulations allowing water service accounts to be held in an approved tenants name. BoardMemo_SB998 081121.pdf
SB998Resolution2021 ATT1.pdf

The resolution was offered by Director Hajas, seconded by Director Cole and adopted by the following roll call vote:

AYES: Directors: Bergen, Kaiser, Cole, Hajas, Brennan
NOES: Directors: None
ABSENT: Directors: None

Resolution is numbered 2021-20

6.c. Approve a Memorandum of Understanding (MOU) between Casitas MWD and Senior Canyon Mutual Water Company for Water Allocation Assignment and Integrated Management of Local Water Supplies.
Board Memo on SCMWC MOU
081121.pdf Draft Resale MOU SCMWC
080421.pdf

On the motion of Director Cole, seconded by Director Bergen, the above recommendation to approve a MOU was approved by the following roll call vote:

AYES: Directors: Bergen, Kaiser, Cole, Hajas, Brennan
NOES: Directors: None
ABSENT: Directors: None

7. INFORMATION ITEMS

7.a. Casitas MWD Draft Comment letter on the Mound Basin Groundwater Sustainability Plan.
Casitas MWD Draft Comment Letter on Mound Basin GSP 081121.pdf

7.b. Investment Report as of 7/31/21.
Investment Report 7.31.2021.pdf

7.c. CFD 2013-1 Project Report as of 7/31/2021.
CFD 2013-1 Project Cost 7-31-2021.pdf

7.d. State Water Project Intertie as of 7/31/21.
SWP Intertie Project Cost 7-31-21.pdf

7.e. Non-budgeted Item Log as of FY21.
Non-budgeted Item Log FY21.pdf

7.f. Adjudication Report as of 7/31/21.
Adjudication Charges YTD 7.31.21.pdf

7.g. May Financial Summary.
Financial Statements 5-31-2021 Summary.pdf

On the motion of Director Kaiser, seconded by Director Hajas, the information items were approved by the following roll call vote:

AYES:	Directors:	Bergen, Kaiser, Cole, Hajas, Brennan
NOES:	Directors:	None
ABSENT:	Directors:	None

8. GENERAL MANAGER COMMENTS

Mr. Flood reported that there are no record of calls from the individual regarding allocations. We will check in on the PRA, it is a staff and attorney effort. Mr. Flood will follow up.

Mr. Flood then mentioned the approval of the $8.3 billion in western water infrastructure from the US Senate. We put an RFP out to our engineering firms we work with and others for a grant writer or grant writing services. We have several responses and staff will review. We anticipate coming back to the board next month in preparation for engaging someone for extensive and complex bills that find their way to the local level.

9. BOARD OF DIRECTOR REPORTS ON MEETINGS ATTENDED

President Brennan reported his attendance at the CSDA Ventura County meeting where there was a presentation on ransomware. President Brennan also listened in on the VRWC

meeting and met with the auditor for a pre-audit meeting.

Director Hajas attended the OBGMA meeting and they are moving forward on the sustainability plan.

10. BOARD OF DIRECTOR COMMENTS PER GOVERNMENT CODE SECTION 54954.2(a).

There were no comments.

President Brennan moved the meeting to closed session at 5:30 p.m. and stated that the board will come back into open session to report on the closed session.

11. CLOSED SESSSION

11.a. CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION (Government Code Section 54956.9(a) Nancy Duffy McCarron v. County of Ventura et al, United States District Court, Central District of California, Case No. 2:21-cv-05234-MWF-PD.

11.b. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION (Government Code Section 54956.9(a) Santa Barbara Channelkeeper v. State Water Resources Control Board, City of San Buenaventura, et al.; and City of San Buenaventura v Duncan Abbott, et al., Cross Complaint; Superior Court of the State of California, County of Los Angeles, Case No. 19STCP01176.

President Brennan moved the meeting from closed session at 6:57 p.m. with Mr. Mathews stating that the board met with general and special counsel on the matters. There is nothing to report on the first matter and on the second matter direction was given to counsel and there was no reportable action taken.

12. ADJOURNMENT

President Brennan adjourned the meeting at 6:58 p.m.

_____
Neil Cole, Secretary

CASITAS MUNICIPAL WATER DISTRICT
MEMORANDUM

TO:	BOARD OF DIRECTORS
FROM:	MICHAEL FLOOD, GENERAL MANAGER
SUBJECT:	ENGINEERING SERVICES FOR EMERGENCY GENERATORS AT RINCON, AVENUE 1, AND AVENUE 2 PUMP PLANTS
DATE:	09/08/2021

RECOMMENDATION:

- Approve, and Authorize Board President to sign, an Agreement with GHD, Inc. for Engineering Services for Emergency Generators at Rincon, Avenue 1, and Avenue 2 Pump Plants for a not to exceed amount of $243,066.

BACKGROUND:
The Emergency Generators at Rincon, Avenue 1, and Avenue 2 Pump Plants project allows the District to mitigate power loss at three critical pump plants during natural disasters or power outages. The District has received approval for a grant from the Federal Emergency Management Agency (FEMA) as a subapplicant to the California Office of Emergency Services (CalOES) through the Hazard Mitigation Grant Program (HMGP). The District has a three-year timeframe to complete the project.

A Request for Qualifications and Proposal for engineering services was issued July 13, 2021 and a mandatory site visit was held on July 27, 2021 to visit all three sites. Four proposals were received on August 12, 2021: 1) GHD, Inc, 2) Lee + Ro, Inc. 3) P2S and 4) Cannon. District Engineering and Operations and Maintenance staff evaluated the proposals and references were contacted for each of the firms. Based on the evaluation and reference check, GHD was the highest ranking firm. Services expected to be provided include:

- General civil, mechanical, structural, electrical, and instrumentation design engineering services related to installation of emergency generators at three existing pump plants
- Land surveying services including topographic survey
- Geotechnical engineering services including geotechnical investigations and recommendations
- Engineering support services during bidding and construction

GHD's fee proposal includes a not-to-exceed amount of $243,066.00 for engineering services.

FUNDING SOURCE:
The budget for fiscal year 2021-22 includes $1,500,000 for the project. FEMA reimbursement will be requested as the project progresses. The project will be phased to install one generator per fiscal year.

Attachment: Proposal from GHD, Inc. dated August 12, 2021
Preliminary Project Schedule

Statement of Qualifications Engineering Services for Emergency Generators at Rincon, Avenue 1, and Avenue 2 Pump Plants

Casitas Municipal Water District

12 August 2021

→ **The Power of Commitment**

320 Goddard Way, Suite 200
Irvine, CA 92618
USA
www.ghd.com

August 12, 2021

Lindsay Cao, PE, Senior Project Manager
Casitas Municipal Water District
1055 Ventura Avenue
Oak View, CA 93022

RE: Statement of Qualifications - Engineering Services for Emergency Generators at Rincon, Avenue 1, and Avenue 2 Pump Plants

Dear Ms. Cao,

GHD's proposal for design, bid phase, and construction support services for the Emergency Generators at Rincon, Avenue 1, and Avenue 2 Pump Plants Project is prepared based on items requested in the RFQ, the pre-SOQ meeting on July 21, 2021, and site visit on July 27, 2021. We look forward to assisting Casitas Municipal Water District (District) with this important project and our proposal presents our team's understanding of the projects, our anticipated deliverables, project team, preliminary schedule, and our cost to execute the project in a timely manner.

The District seeks to add emergency generators at the Rincon, Avenue 1, and Avenue 2 Pump Plants, which provide potable water to western Ventura County. In the past, there have been multiple occurrences of power loss at the pump plants from unplanned outages and natural disasters. By upgrading each pump plant with an emergency generator, the District will be able to minimize service loss during the unexpected events. GHD and our subconsultants, MNS Engineers, and Yeh & Associates, will provide engineering services and support to implement the emergency generator at each of the pump plants.

Recently, through GHD's Electrical Engineering On-Call Contract, members of our team, including our Lead Electrical Engineer, Mehdi Mardi, prepared a design to modify the existing switchboard at the District's main office to allow for connection to a stand-by generator. GHD also performed an electrical system study and provided arc flash labels at twelve District sites. Additionally, Mehdi is currently supporting the City of Oxnard as Lead Electrical Engineer for the design of an emergency generator at their wastewater treatment plant. ***In selecting GHD to support this project, the District benefits from a team that is familiar with District facilities and has successfully executed similar projects together as a team.***

GHD's proposed Project Manager, Ryan Kristensen, PE, has 10 years of experience and has worked closely with the proposed project team members as a project engineer, design coordinator, and resident engineer during construction for complex expansion and rehabilitation projects. Ryan, Mehdi, and the GHD team are excited for the opportunity to serve the District and bring this critical project to successful completion.

Regards,

Ryan Kristensen, PE
Project Manager
(562) 206-7981
Ryan.Kristensen@ghd.com

Paul Hermann, CPEng
Principal
(949) 585-5217
Paul.Hermann@ghd.com

Paul Hermann is a principal of the firm and is authorized to negotiate and contractually bind the company.
We have reviewed and agree to comply with the District's sample services agreement and insurance requirements.
GHD is committed to delivering this project for the District and sees no conflicts affecting our ability to perform the work.
This proposal is a firm offer for a period of 90 days from the date submitted.

Contents

Appendices

Project Understanding

The GHD team has reviewed the Request for Qualifications, Generator Submittals, As-Built Drawings, and Documentation provided the District. This information has provided the basis for our project understanding, as described in the following text.

There are three (3) critical pump plants, Rincon, Avenue 1, and Avenue 2, which require the addition of an emergency generator to mitigate the impact of power loss during natural disasters or power outages. The District has received approval for a grant from the Federal Emergency Management Agency (FEMA) as a subapplicant to the California Office of Emergency Services through the Hazard Mitigation Grant Program (HMGP). The District has a three-year timeframe to complete this project. All procurements must follow FEMA guidelines.

Generators will be placed outside at all three (3) locations included in this project. The Avenue 1 generator will require construction of a new retaining wall to decrease the noise of the generator and minimize disturbance of nearby livestock. The Avenue 2 generator will need to be housed within an enclosure as it is located in a residential area. Topographic surveys and geotechnical investigations will be completed to confirm the generators can be placed in their proposed locations. Proposed plans and generator submittals in the RFQ will be used for the basis of design. The power between utility and generator will be switched automatically using an Automatic Transfer Switch (ATS). For any modifications and additions to existing equipment, GHD will prepare the pertinent electrical drawings.

Each location will be completed as a separate project per schedule in the RFQ.

Rincon Pump Plant

Rincon was recently upgraded with the addtiion of an emergency generator in mind. Accordingly, there is an existing circuit breaker for the generator and relays for switching installed in the switchgear. Per RFQ documents, a 1 MW generator is proposed to be installed at this location to power the pumps during an outage. A new ATS needs to be installed for automatic switching between the utility power and the emergency generator.

Rincon Pump Plant Electrical Building

Proposed Generator Location at Rincon Pump Plant

Avenue 1 Pump Plant

Water from Rincon flows by gravity to the Avenue 1 Pump Plant. The Avenue 1 Pump Plant was last modified in 2016 and does not have a switchgear section dedicated for the generator circuit breaker. Per RFQ documents, a 1.5 MW generator is proposed to be installed at this location to power the pumps during an outage. Because the pump plant is located very close to a barn, a retaining wall will be required around the generator to reduce noise impacts.

Avenue 1 Pump Plant Electrical Building and Proposed Generator Location

Avenue 2 Pump Plant

From the Avenue 1 Pump Plant, water is pumped up to the Avenue 2 Pump Plant, and the Avenue 2 Pump Plant distributes water to customers. The Avenue 2 Pump Plant was last modified in 2015 and does not have a switchgear section dedicated for the generator circuit breaker. Per RFQ documents, a 1.5 MW generator is proposed to be installted at this location to power the Avenue 2 Pump Plant during an outage. Because the pump plant is located in a neighborhood, the generator will need to be installed within a soundproof enclosure to dampen noise levels and avoid disturbing surrounding residences.

Avenue 2 Pump Plant Electrical Building

Proposed Generator Location At Avenue 2 Pump Plant

Scope of Work

Task 1 – Project Management, QA/QC, and Meetings

GHD shall provide project management services for the entire project, including coordination with subcontractors. Quality Assurance and Quality Control shall be performed for each submittal produced as part of this project. The GHD Project Manager will be the primary point of contact and will maintain close communication with the District throughout the project.

Task 1.1. – Project Management

Our Project Manager, Ryan Kristensen, will be responsible for monitoring and maintaining the schedule and budget for the project. GHD will prepare monthly invoices and status updates indicating project progress.

Task 1.2. – QA/QC

QA/QC will be completed throughout the project, through the design phase and for each submittal. Our QA/QC manager will review plans, specifications, and other documentation prior to finalization.

Task 1.3. – Monthly Meetings

GHD will regularly attend the monthly meetings planned and conference call as required by the District. This task includes meeting with the Board, grant funding agency, and utilities.

Task 2 – Design Phase

GHD and our sub-contractors will produce plans, specifications, and construction cost estimates in this design phase.

Task 2.1. – Topographic Survey

MNS will prepare a Topographic Survey for each of the three (3) sites to confirm current elevations and contours. The Topographic Surveys produced will be used as base maps for the final design. Surveys will be completed using NAVD83 coordinate system.

Task 2.2. – Geotechnical Investigation

Yeh and Associates will perform a geotechnical investigation at each site. A boring will be completed at each site to determine soil characteristics for designing the concrete pads for the stationary generators. The geotechnical report will include recommendations for excavation, backfill, and concrete strength.

Task 2.3. – Design Documents – 60%

GHD will prepare the 60% design drawings and technical specifications. The 30% design package will be modified to include site specific information including the following:

- Laydown areas
- Schedule constraints
- Record drawing information for the existing facility
- Relevant information critical to successful delivery of the project

The cost estimate and construction schedule from the 30% design will be updated. The table on the following page displays our anticipated plan sheets to be prepared for each of the separate sites. The Rincon, Avenue 1, and Avenue 2 Pump Plants will each have their own set of drawings.

Our Scope of Work meets the District's objectives and will result in increased operational reliability at the Rincon, Avenue 1, and Avenue 2 Pump Plants

Anticipated Drawing List		
Sheet No.	Drawing No.	Description
1	G-01	Title Sheet, Vicinity Map, Location Map
2	G-02	Survey Information, Abbreviation, and General Notes
3	C-01	Civil Symbols, Legends, Abbreviations, and General Notes
4	C-02	Civil Site Improvements
5	C-03	Civil Details
6	S-01	Structural Symbols, Legends, Abbreviations, and General Notes
7	S-02	Foundation Plan (and Retaining Wall at Avenue 1 PP)
8	S-03	Structural Details
9	E-01	Electrical Title Sheet and Vicinity Map
10	E-02	Electrical Legends, Abbreviations, and General Notes
11	E-03	Electrical Site Plan
12	E-04	New Electrical Service Plan
13	E-05	Switchgear Elevation
14	E-06	Electrical Single Line Diagram
15	E-07	Low Voltage Panel Schedule
16	E-08	Electrical Section Modifications
17	E-09	Electrical Details – 1
18	E-10	Electrical Details – 2

Task 2.4. – Design Documents – 90%

Comments received on the 60% design package will be incorporated into our 90% design pacakge, which will include specific dates for the pre-bid meeting and bid due date. The construction cost estimate and anticipated construction schedule will be updated as necessary. ***GHD suggests that the District explores the option of removing the 90% design phase and proceeding from 60% Design to Final Design for schedule and bugetary benefits.***

Task 2.5. – Design Documents – Final

The Final Design package will incorporate all front-end bidding documents, plans, specifications, forms, and anticipated construction schedule. Final documents will be stamped and signed by our Professional Engineers registered in the State of California.

Task 3 – Bidding Phase

GHD will attend the pre-bid meeting and tour and will clarify questions received during the bid period.

Task 4 – Construction Phase

Task 4.1. – Construction Management

Task 4.1.1 – Pre-Construction and Progress Meeting

GHD will attend a pre-construction meeting with the selected contractor and any subcontractors to discuss the project schedule, plan of work, equipment lead times, invoicing, and contract requirements.

Task 4.1.2 – Submittal Review

GHD will review submittals for conformance with plans and specifications. Anticipated submittals include concrete, concrete reinforcing, concrete masonary units, electrical conduit, conductors, wiring, generators, and switchgears.

Task 4.1.3 – Requests for Information

GHD will provide assistance and support to respond to Requests for Information (RFIs) received from the Contractor to clarify the design intent and provide direction to the Contractor.

Task 4.1.4 – Southern California Edison Coordination

GHD will coordinate work with SCE as needed over the course of the project and arrange field visits or meetings with the District as appropriate.

Task 4.1.5 – Project Closeout

During project closeout, GHD will perform a walk-through of the project with the District, Inspector, and Contractor. Punchlist of items for the Contract to resolve will be provided by the District.

Task 4.1.6 – Record Drawings

Based on red-line drawings provided by the Contractor, GHD will prepare record drawings for record-keeping purposes. Drawings will be provided in AutoCAD 2018 format and Adobe Acrobat (pdf) format.

Our project approach is based on the GHD Team's recent experiences successfully delivering similar projects

Previous Similar projects

GHD has recent experience delivering emergency generator and power generation projects similar to the District's important project. The challenges and lessons learned from these projects will provide tangible benefits as we support the District.

City of Anaheim Lenain Water Treatment Plant Experience:

This project involved significant expansion and rehabilitation of the water treatment plant and the electrical scope of work included design of a new 800 kW standby Diesel Generator and modifying the existing 1200A main switch board to include a new ATS.

Aerial Photo of the Lenain Water Treatment Plant Generator Set

Electrical Design Challenge: The existing switchgear was aged and GHD investigated the possibility of modifying the switchgear to add the new ATS. However, GHD came to the conclusion adding a new ATS to the existing switchgear was not posible. In discussions with the client, GHD presented an alternative that was accepted by the client. The proposed design was to install a new switchboard with combination of two (2) circuit breakers that performs the job of the ATS, something similar to what has been done for Rincon Pump station. The proposed alternative slightly increased the cost of construction, however the entire switchboard was replaced and increased service life by thirty plus years.

Structural Design Challenges: Site constraints and limited space for installing the Gen-set required creativity for the structural design of the generator foundation and generator retaining wall. There was limited space to install the new generator on a steep slope, between two roads with approximately 20' difference in elevation. Existing conditions required design of a foundation combined with retaining wall together. Additionally the design of the foundation and retaining wall was designed to protect existing underground conduits in place.

***City of Rialto Bioenergy Facility Experience*:**

This project was for the design of a new Bioenergy facility and GHD's scope of the services included process, mechanical, civil, structural, electrical, and automation design for the new facility.

The Electrical design included four (4) CHP generators, two (2) 1650kW and two (2) 800kW. The design of these Generators involved the whole line of step up transformers, 480VAC / 12KV, and a medium voltage switchgear with synchronizing option for capability of providing power and exporting electricity to SCE during high demand.

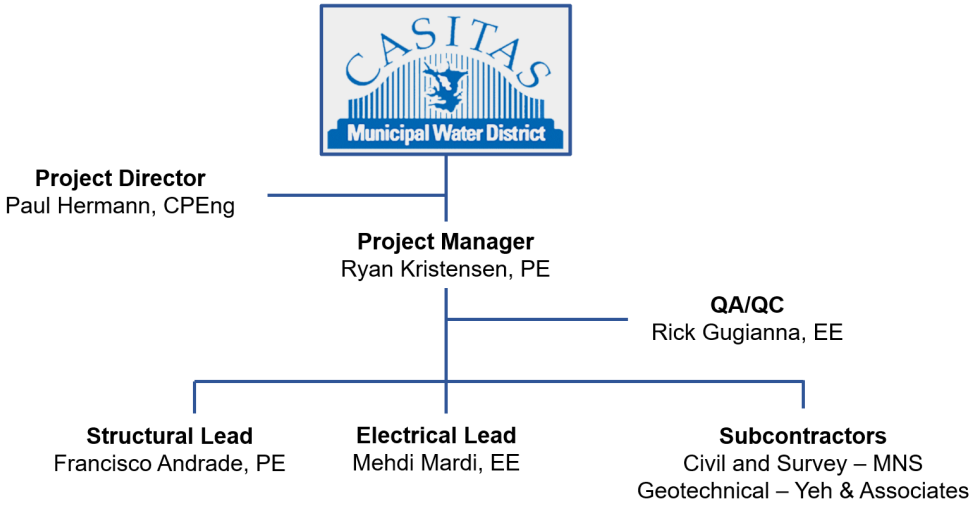
The total power generation of these generators was about 5MVA, and the generators are capable of powering the entire plant without utility power. Additionally, there is extra capacity at night to export power to SCE in compliance with Rule 21. GHD's design was completed in 1.5 years and we supported the client to address changing requests to meet all project objectives. GHD also provided construction services for two years through project completion and plant commissioning. More detail and challenges of design and construction can be provided in a face to face interview.

Aerial Photo of the Rialto Bioenergy Facility

Project Team

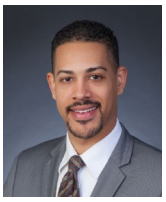
GHD Team Structure and Members

Based on our understanding of your project needs, we propose a team structure that spans the anticipated needed services. The organizational chart below details our proposed team, including disciplinary-based roles tailored to your project. Many of our team members have worked together on other projects, including those highlighted above, and additional staff may be called on if needed/desired.



Key Team Members

GHD has chosen this team based on matching skill sets to meet the projects needs, experience delivering projects together as a team, and familiarity working with the District. We have also provided full, detailed resumes for key staff only in Appendix A.



CA/PE/CIVIL

RYAN KRISTENSEN, PE | Project Manager

Mr. Kristensen has 10 years of experience, has served as the project engineer during design on multiple projects, and has acted as the resident engineer during construction for rehabilitation and expansion projects. Ryan has led design coordination with the proposed project team on similar projects and has recently coordinated additional testing and training for generator and ATS equipment to provide continued support to one of our clients following construction. Ryan emphasizes close coordination with clients at the beginning of projects to capture preferences within basis of design criteria and he has led efforts to document preferences and organizational lessons learned for each client during design to support consistency in project delivery

CA/EE/ELEC

MEHDI MARDI, PE | Lead Electrical and Automation Engineer

Mehdi is a Professional electrical engineer with over 30 years of experience in the Electrical, Instrumentation and Control (I&C) fields in various type of industry like as Water and Wastewater, Oil & Gas, Petrochemical, Cryogenic and Industrial Gases. Mehdi has been involved in Electrical and I&C design, construction and commissioning on various projects including pump stations, desalination and water and wastewater treatment plants, Industrial Gas production, Hydro Power Generation, Land Field Gas, Oil and Gas field projects. Mehdi led the recent design of switchboard modifications at the District's main office to allow connection to an emergency generator and conducted the electrical system study and provided arc flash labels at District sites.

CA/SE/STRUC

FRANCISCO ANDRADE, SE | Lead Structural Engineer

Francisco possesses over 10 years of experience in civil and structural design, engineering, and project management for numerous complex projects and has the ability to professionally and effectively interact with clients, contractors, and other professionals. Francisco is knowledgeable in planning, code design standards, and construction inspection. Francisco has significant experience in the design of seismic retrofits and modifications to existing structures, and electrical and mechanical equipment foundations required for expansions and improvements at existing facilities.

CA/EE/ELEC

RICHARD GUGGIANA, PE | Electrical and Automation Engineer

Rick Guggiana is a licensed electrical engineer with over 29 years of experience in the electrical, controls, and instrumentation fields, for Federal, military, municipal, and private industrial clients. He has extensive experience with water treatment, storage, and pumping systems, wastewater collection and treatment systems, pumping controls, SCADA systems, low and medium-voltage power generation, microgrids, and waterfront electrical distribution. Rick served as Electrical Engineer of Record for the ongoing IRWD Newport Coast Lift Station project. He is currently providing QA/QC for the design of a 250 kW standby generator for the City of Oxnard and provided QA/QC for the District switchboard modifications and the electrical system study for provision of arc flash labels at twelve District Pump Plant sites.

CPENG

PAUL HERMANN, CPENG| Project Director

Mr. Hermann is the lead water/wastewater engineering and Principal for GHD's southern California operation. He has extensive design experience in water and wastewater infrastructure, including large conveyance pipelines, pumping stations, and treatment facilities. He has been a design lead engineer for wastewater treatment plant projects that required augmentation and upgrading. Paul is currently the Owner Engineer/Project Manager for the $115M WRD GRIP AWTF Progressive Design Build project and has played a key role in the successful delivery of the Carlsbad Desalination Plant and is currently the Project Director on several civil, process, and electrical projects in the City of Oxnard.

CA/PE/CIVIL

NICK PANOFSKY, PE, QSD| Lead Civil Manager

Mr. Panofsky has over 15 years of professional consulting experience in the water resources industry. Nick has advanced his expertise through a variety of municipal infrastructure design projects including potable water, recycled water, wastewater, and stormwater. He has been involved in every stage of the design process, including planning, analysis, design, construction management, and operational assistance. He actively manages projects to meet both technical and financial goals.

Subconsultants

To strategically augment the strength and efficiency of our team, GHD will be joined by the following subconsultants: MNS for Civil and Survey, and Yeh and Associates for Geotechnical services. We have long-term relationships with the consultant firms on this team and they will bring the most appropriate, qualified staff and experience to your project.

Experience

About GHD

GHD provides full service water and wastewater planning and engineering, environmental, advisory, digital, and construction services to private and public sector clients. Operating globally and delivering services locally, we offer clients the ability to develop a working relationship with our local staff while having access to our global experience base. Put simply, we work where our clients work.

Firm Information

Established in 1928, GHD is a wholly-owned subsidiary - a privately held international engineering firm owned by our people and operating across five continents. We are one of the world's leading professional services companies operating in the global markets of Water, Transportation, Energy & Resources, Environment, and Property & Buildings. Our people offer decades of knowledge, as well as a deep understanding of the challenges facing businesses and communities today. We deliver projects with high standards of safety, quality, and ethics across the entire asset value chain. Driven by a client service-led culture, we connect the knowledge, skill, and experience of our people with innovative practices, technical capabilities, and robust systems to create lasting community benefits.

GHD California Office Locations

- Irvine
- Long Beach
- Los Angeles
- Cameron Park
- Concord
- Emeryville
- Eureka
- Fresno
- Redding
- Roseville
- San Luis Obispo
- Sacramento
- San Diego
- San Francisco
- Santa Rosa

Committed to You

GHD is dedicated to understanding and helping our clients achieve their goals. We are committed to sustainable development, safety, and innovation. We care for the well-being of our people, assist communities in need, and conduct business in an ethical and environmentally responsible manner. We can also offer our clients the confidence and peace of mind that comes from the fact that GHD is ranked 26th in the top 150 design firms by Engineering News-Record in 2020. The cornerstone of our business is our client-centered culture and teamwork-based approach known as "One GHD". We are proud of our long tradition of repeat, local government clients. A full 90% of our clients are municipal agencies or government entities, and 75% of our work comes from repeat clients. We believe this illustrates not only our knowledge of specialized engineering disciplines, but also our willingness to listen and respond to individual client needs. Each of our project managers is an advocate for his or her client through the design, permitting, and construction process.

Relevant Project Experience

The projects highlighted in the following pages are diverse in their disciplines, illustrate our ability to address complex issues, and demonstrate our history of working as a collaborative team. Please find client references included with the detailed project descriptions.

Lenain Water Treatment Plant Rehabilitation and Expansion Project

Anaheim, CA

GHD developed a comprehensive Facility Master Plan for the Lenain Water Treatment Plant (LWTP) that outlined a 15 to 20 mgd expansion at LWTP and replacement and rehabilitation of existing facilities. As part of this work, GHD performed significant treatment optimization studies, including Jar Testing for various coagulants and hydraulic assessments of the plant and distribution system. Additionally, GHD established an Asset Management Framework for the City of Anaheim (City) and has implemented the framework at the LWTP. The work completed as part of the Facility Master Plan provided the basis of design for the subsequent work GHD produced as the design engineer for the Rehabilitation and Expansion Project.

GHD completed the design for upgrades at LWTP and the Walnut Canyon Reservoir (WCR). The improvements were recommended to maintain regulatory compliance and safety, water quality, plant reliability, and flexibility for plant expansion. Construction of the improvements was completed in early 2021.

The major improvements for the LWTP expansion project included:

- New reservoir bypass pipeline and North Inlet flow improvements
- Reservoir Boat Ramp Rehabilitation
- Reservoir Outlet Structure rehab and New Reservoir Outlet Structure Building
- New 36-inch CML&C Steel Influent and Effluent Pipelines
- Bypass Structure Valve replacement and reconfiguration
- Treatment Plant Process Improvements including new plate settlers, ozone generation and feed rehab/ replacement, valve and actuator replacements, and rehab of the chemical storage and feed facilities
- Washwater Recovery Facility Improvements
- Upgrade of Secondary Access Road for chemical truck deliveries
- Slopes restoration and drainage modifications

Select electrical equipment at LWTP and WCR was upgraded to comply with current standards and a new 800-kW backup generator, new switchboard, and new ATS were designed and installed as part of this project. Two electrical vehicle charging stations were constructed to support the City's goal to make it easier to recharge electric vehicles throughout the City.

GHD provided bid assistance and engineering services during construction (ESDC) to support the improvements at LWTP and WCR. Construction sequencing and minimizing plant shutdowns plus site constraints were significant were significant challenges during construction.

Client

City of Anaheim Public Utilities, 201 S Anaheim Blvd. Anaheim, CA 92805

Reference

Mike Jouhari Water Field Operations Manager | mjouhari@anaheim.net | (714) 765-4129

Dates

2015 - 2021

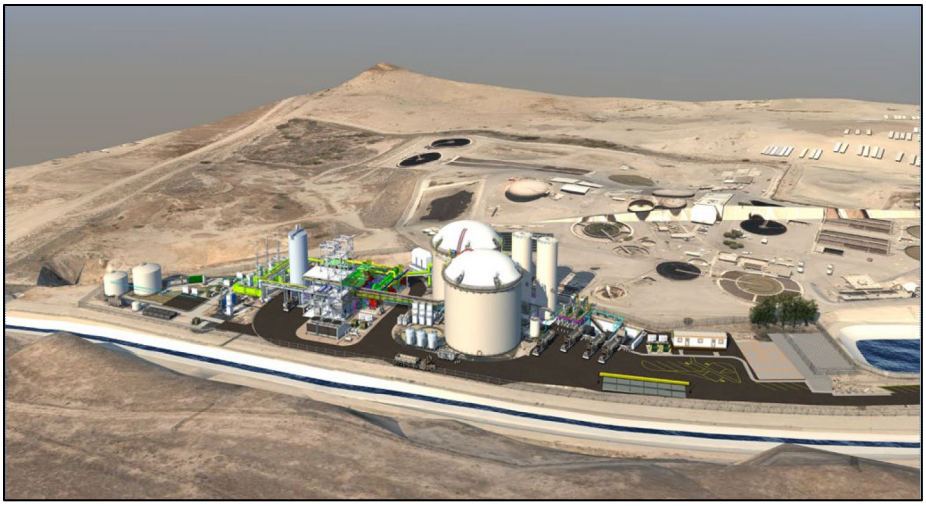
Fee

$2.65M

Rialto Bioenergy Facility Project

Rialto, CA

GHD provided significant electrical engineering design services for this project, including the design of four (4) CHP (Combined Heat and Power) generator skids that produce 5 MW of power – enough power to supply the facility and export power to SCE during off-peak hours. Additionally, the power distribution design involved five (5) 2.5 MVA transformers and distribution to MCP and MCCs for five (5) sections of the plant. 300KW of battery banks were provided as part of the renewable design added to the plant.



In addition to the notable electrical design services listed above, GHD provided the following services for this project:

- Site design development – In coordination with the client and owner, GHD is developed a compact site plan (5.7 acres) that accounts for and utilizes existing heavy industrial structures from the former biosolids drying facility.
- Construction documents and permits – GHD is prepared the plans, specifications, and supporting engineering documents necessary for construction and permitting, including temporary power, demolition, fire department clearance, rough grading, site plan, precise grading, and building permits.
- Structural engineering – GHD provided structural design and foundation testing for new and salvaged features, including tanks, receiving bunker, silos, subterranean stormwater detention system, and support racks.
- ***Electrical and instrumentation and control (I&C) – GHD developed the electrical design for the site, including alignment with electrical interconnection requirements from Southern California Edison (SCE). The control philosophy was generated for programmable logic controller (PLC) and supervisory control and data acquisition (SCADA) programming, as well as specifications for the microgrid controller system and the incorporation of programming into the plant controls system.***
- Equipment procurement – GHD provided procurement assistance, including mechanical specifications for equipment outside of owner-specified equipment.
- Cybersecurity and network design – GHD supported the client with machine, virtual server, and hosting applications, including RFID (Radio Frequency Identification) systems and database management (material tracking, weigh bridges/tickets)

Client

W. M. Lyles Co., on behalf of Rialto Bioenergy Facility, LLC (a wholly owned subsidiary of Anaergia Services, LLC)

Reference

Andrew Dale Senior Project Executive | (760) 436-8870 ext 106

Dates

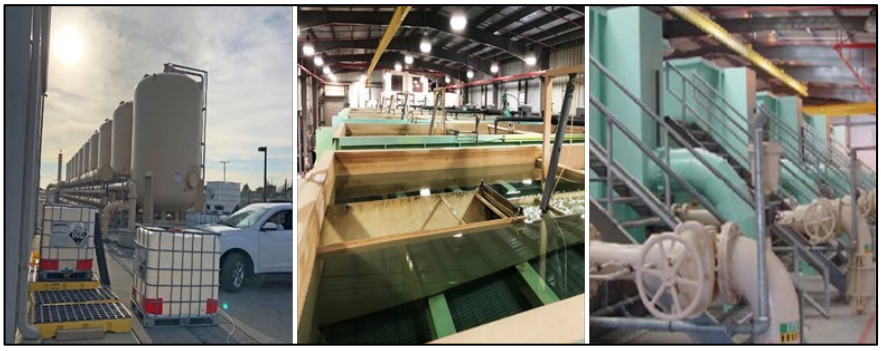
2017 - 2021

Fee

$5.2M

Oliver P. Roemer WFF Expansion Project

Rialto, CA



GHD is providing Owner Engineering Design Services for the $40M 16 MGD Roemer WFF Expansion Project. The Project will add capacity to accommodate projected population growth. The Progressive Design-Build (PDB) project will utilize an integrated team to develop the design and construct the facility. GHD has a substantial role in setting the design definition, evaluating alternatives, developing 30% design documents, and driving the PDB process. Factors to be considered in developing the recommended treatment approach include taste and odor, pretreatment turbidity, filter turbidity, TOC removal, disinfection byproducts, pathogen reduction, operation and maintenance flexibility/ease, future regulations, scalability, and reliability. GHD is supported by a blue-ribbon panel of experts that will assist in guiding the project team to maximize existing process capacities and establish the most reliable and cost effective plan for the treatment plant expansion.

GHD evaluated multiple expansion alternatives based on cost, reliability, and meeting regulatory requirements and developed several concepts including:

1. Replacing existing Trojan UV reactors with new, more efficient units. GHD confirmed this creative upgrade of the UV process with Trojan and received a conceptual bid for the new equipment models. The existing Trojan UV SWIFT 6L24 reactors will be replaced by the new 4L24 reactors that have the same physical dimensions and achieve the expansion treatment capacity.
2. Operate the GAC filtration adsorbers in parallel mode. Because the GAC replacement frequency for the existing adsorbers is considerably low, GHD recommended a change from in series to in parallel mode operation without reducing process efficiency. This doubled their capacity, without any additional capital investment.
3. Expansion with similar WFF treatment technology or incorporate MF/UF technology. GHD performed a conceptual cost comparison between the two alternatives and established that implementing MF/UF instead of continuing with the Trident packaged system, would be almost 3 times the cost. Additionally, operator knowledge of operation allows for a smoother transition as well as a simplified overall treatment process.
4. Capacity stress testing of existing Preliminary Treatment process. The Preliminary Treatments indicates a current extra capacity of 7.2 MGD, constructed in anticipation of the previously planned expansion. Running the three parallel treatment trains at their design capacity of 21.6 MGD would be critical to establish the extent of any additional needed infrastructure. This process includes hydraulic modeling.
5. Evaluation of Sludge and Backwash Recycling Pond operation for maximizing settling efficiency and optimizing capacity. Includes a jar test evaluation of different polymers for settling and solids thickening treatment processes.
6. ***Preliminary Design Criteria for new Emergency Generator and sequencing requirements for abandoning existing generator for minimal downtime without standby power during construction.***

During the DB phase of the project, GHD will be responsible to review all of the DB work product and oversee construction, commissioning, post construction, and warranty phase.

Client

West Valley Water District 855 W Baseline Rd, Rialto, CA 92376

Reference

Linda Jadeski Engineering Services Manager | ljadeski@wvwd.org | (909) 820-3713

Dates

2019 - 2021

Fee

$2.8M

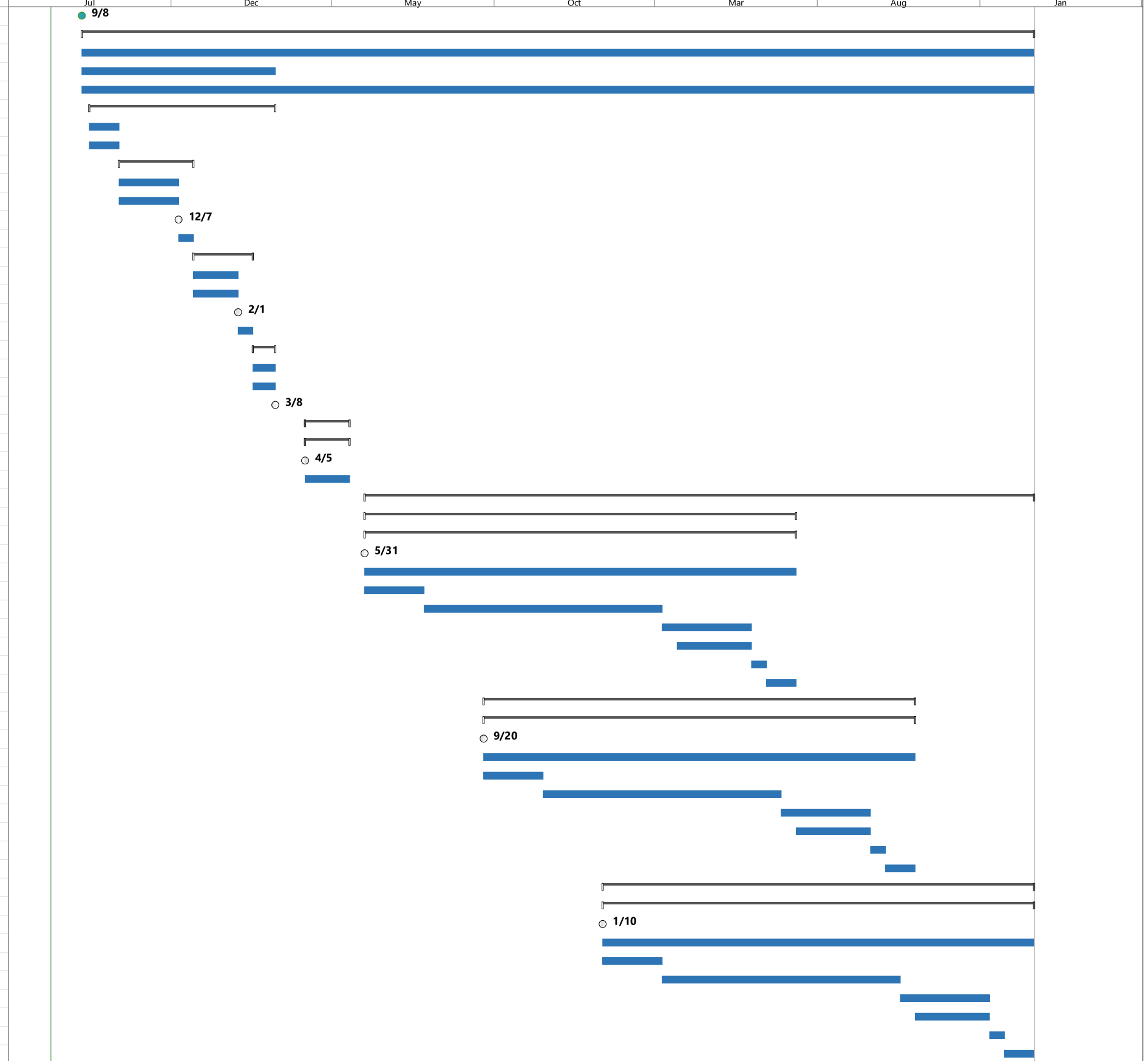
Project Schedule

GHD is capable of delivering the project per the proposed schedule included in the RFQ. Alternatively, GHD has prepared a project schedule for completing the 60%, 90%, and Final Design Packages for Rincon, Avenue 1, and Avenue 2 Pump Plant Emergency Generators in parallel. Construction for each site would be staggered, making use of the time during equipment procurement to commence the construction for the subsequent project.

The Alternative Project Schedule is included on the following page.

Casitas Municipal Water District
Engineering Services for Emergency Generators at Rincon, Avenue 1, and Avenue 2 Pump Plants
Project Schedule

ID	Task Name	Duration	Start	Finish
1	Notice to Proceed	0 days	Wed 9/8/21	Wed 9/8/21
2	**Task 1 - Project Management, QA/QC, and Meetings**	**640 days**	**Wed 9/8/21**	**Tue 2/20/24**
3	Task 1.1 - Project Management	640 days	Wed 9/8/21	Tue 2/20/24
4	Task 1.2 - QA/QC	130 days	Wed 9/8/21	Tue 3/8/22
5	Task 1.3 - Monthly Meetings	640 days	Wed 9/8/21	Tue 2/20/24
6	**Task 2 - Design Phase**	**125 days**	**Wed 9/15/21**	**Tue 3/8/22**
7	Task 2.1 - Topographic Survey	20 days	Wed 9/15/21	Tue 10/12/21
8	Task 2.2 - Geotechnical Investigation	20 days	Wed 9/15/21	Tue 10/12/21
9	Task 2.3 - Design Documentation - 60%	50 days	Wed 10/13/21	Tue 12/21/21
10	Prepare 60% Design Drawings	40 days	Wed 10/13/21	Tue 12/7/21
11	Prepare 60% Design Specifications	40 days	Wed 10/13/21	Tue 12/7/21
12	Submit 60% Design Documentation to District	0 days	Tue 12/7/21	Tue 12/7/21
13	District Review of 60% Design Documentation	10 days	Wed 12/8/21	Tue 12/21/21
14	Task 2.4 - Design Documentation - 90%	40 days	Wed 12/22/21	Tue 2/15/22
15	Prepare 90% Design Drawings	30 days	Wed 12/22/21	Tue 2/1/22
16	Prepare 90% Design Specifications	30 days	Wed 12/22/21	Tue 2/1/22
17	Submit 90% Design Documentation to District	0 days	Tue 2/1/22	Tue 2/1/22
18	District Review of 90% Design Documentation	10 days	Wed 2/2/22	Tue 2/15/22
19	Task 2.5 - Design Documentation - Final	15 days	Wed 2/16/22	Tue 3/8/22
20	Prepare Final Design Drawings	15 days	Wed 2/16/22	Tue 3/8/22
21	Prepare Final Design Specifications	15 days	Wed 2/16/22	Tue 3/8/22
22	Submit Final Design Documentation to District	0 days	Tue 3/8/22	Tue 3/8/22
23	**Task 3 - Bidding Phase**	**30 days**	**Tue 4/5/22**	**Tue 5/17/22**
24	Task 3.1 - Pre-Bid Meeting and Bid Support	30 days	Tue 4/5/22	Tue 5/17/22
25	Pre-Bid Meeting	0 days	Tue 4/5/22	Tue 4/5/22
26	Bid Support	30 days	Wed 4/6/22	Tue 5/17/22
27	**Task 4 - Construction Phase**	**450 days**	**Tue 5/31/22**	**Tue 2/20/24**
28	***Rincon Pump Plant***	**290 days**	**Tue 5/31/22**	**Tue 7/11/23**
29	Task 4.1 - Pre-Construction Meeting and Progress Meetings	290 days	Tue 5/31/22	Tue 7/11/23
30	Pre-Construction Meeting	0 days	Tue 5/31/22	Tue 5/31/22
31	Progress Meetings	290 days	Wed 6/1/22	Tue 7/11/23
32	Task 4.2 - Submittal Reviews	40 days	Wed 6/1/22	Tue 7/26/22
33	Material Procurement	32 wks	Wed 7/27/22	Tue 3/7/23
34	Task 4.3 - RFI Reviews	60 days	Wed 3/8/23	Tue 5/30/23
35	Task 4.4 - SCE Coordination	50 days	Wed 3/22/23	Tue 5/30/23
36	Task 4.5 - Project Closeout	10 days	Wed 5/31/23	Tue 6/13/23
37	Task 4.6 - Record Drawings	20 days	Wed 6/14/23	Tue 7/11/23
38	***Avenue 1 Pump Plant***	**290 days**	**Tue 9/20/22**	**Tue 10/31/23**
39	Task 4.1 - Pre-Construction Meeting and Progress Meetings	290 days	Tue 9/20/22	Tue 10/31/23
40	Pre-Construction Meeting	0 days	Tue 9/20/22	Tue 9/20/22
41	Progress Meetings	290 days	Wed 9/21/22	Tue 10/31/23
42	Task 4.2 - Submittal Reviews	40 days	Wed 9/21/22	Tue 11/15/22
43	Material Procurement	32 wks	Wed 11/16/22	Tue 6/27/23
44	Task 4.3 - RFI Reviews	60 days	Wed 6/28/23	Tue 9/19/23
45	Task 4.4 - SCE Coordination	50 days	Wed 7/12/23	Tue 9/19/23
46	Task 4.5 - Project Closeout	10 days	Wed 9/20/23	Tue 10/3/23
47	Task 4.6 - Record Drawings	20 days	Wed 10/4/23	Tue 10/31/23
48	***Avenue 2 Pump Plant***	**290 days**	**Tue 1/10/23**	**Tue 2/20/24**
49	Task 4.1 - Pre-Construction Meeting and Progress Meetings	290 days	Tue 1/10/23	Tue 2/20/24
50	Pre-Construction Meeting	0 days	Tue 1/10/23	Tue 1/10/23
51	Progress Meetings	290 days	Wed 1/11/23	Tue 2/20/24
52	Task 4.2 - Submittal Reviews	40 days	Wed 1/11/23	Tue 3/7/23
53	Material Procurement	32 wks	Wed 3/8/23	Tue 10/17/23
54	Task 4.3 - RFI Reviews	60 days	Wed 10/18/23	Tue 1/9/24
55	Task 4.4 - SCE Coordination	50 days	Wed 11/1/23	Tue 1/9/24
56	Task 4.5 - Project Closeout	10 days	Wed 1/10/24	Tue 1/23/24
57	Task 4.6 - Record Drawings	20 days	Wed 1/24/24	Tue 2/20/24



Appendix A

Resumes

Paul Hermann, CPEng
Project Director

Qualified: Bachelor of Engineering – Civil, Queensland University of Technology, Australia

Connected: CalDesal, CASA, CA WateReuse, Institution of Engineers, Australia

Professional Summary: Paul is a lead water/wastewater engineer and Principal for GHD's southern California operation. He has extensive design experience in water and wastewater infrastructure, including large conveyance pipelines, pumping stations, and wastewater treatment, water treatment and ocean desalination facilities.

Paul is currently the Owner Engineer/Project Manager for the $115M WRD ARC AWTF Progressive Design Build project and has played a key role in the successful delivery of the Carlsbad Desalination Plant and Western Corridor Recycled Water Project.

Project Director

Oxnard Wastewater Treatment Plant, Peer Review Package CP-7, and Primary Clarifiers and Activated Sludge Basins Improvement Project #PW-21-17

Project Director for GHD for both projects undertaken at the Oxnard Wastewater Treatment Plant. The focus on these multi-disciplinary projects is the optimization of the existing facilities and incorporating / checking design elements to be cost effective and durable; while achieving the design purpose.

Owner Engineer/Project Manager
ARC AWTF | Water Replenishment District of Southern California | Lakewood, CA

Owner's Engineer and Project Manager for the Water Replenishment District of Southern California's (WRD) Albert Robles Center (ARC) $115-million advanced water treatment facility (AWTF). The Progressive Design-Build (DB) delivery of the project has very unique aspects including a collaborative process to select the DB Entity and establish a Guaranteed Maximum Price (GMP). Paul led the development of the project design criteria which communicated all technical requirements to the DB Entities in a creative format to facilitate submittals of proposals, the collaborative discussions, and the evaluations of the proposals.

Deputy Project Manager – Owner's Engineer for Arcadia Water Treatment Plant Expansion | City of Santa Monica | Santa Monica, CA

The City of Santa Monica recently engaged GHD to serve as the Owner's Engineer for the Progressive Design Build Project to expand their existing groundwater RO Arcadia Water Treatment Plant. As the Deputy Project Manager, Paul assists GHD's Project Manager in all technical and contractual aspects of the project. This includes the evaluation project risks, evaluation and selection of winning DB team, pilot system support, technical design submittal review, and future construction support.

Project Manager

Charles E. Meyer Desalination Plant, Kiewit Infrastructure West | Santa Barbara, CA

Paul led GHD's team on the analysis of the intake system; determining issues apparent with the existing system, commissioning concerns, and providing solutions to enable intake system and plant operation. This work in the marine environment required a special team, which was led by Paul.

Lead Design Engineer
Coffs Harbour WWTP | Coffs Harbour, NSW, Australia

Paul is the Civil Design Lead Engineer for the new 15 MGD WWTP which comprised new Inlet Works, Aeration Basins, Oxidations Ditches, Clarifiers, Filters, UVAOP, and an ocean discharge. Primary responsibilities included the hydraulic design, durability requirements, CAPEX and OPEX optimizations / enhancements, and Operator Safety infrastructure.

Project Director / Project Manager

Desalination Plant | Poseidon Water | Carlsbad, CA

Paul was the Project Manager for the Owner's Engineering Team for this project, which comprised the engineering, procurement, and construction (EPC) of both the 50 million gallons per day (MGD) seawater reverse osmosis desalination facility, in addition to approximately 10 miles of new 54-inch steel conveyance pipeline. He was the primary contact for the owner's team with respect to technical services and has and continues to provide

general oversight and independent assessment of various aspects of the project. Some of the tasks include project and site coordination activities, scope book and specification development and reviews, drawing and design reviews, materials/durability/ asset life reviews, consultation with local authorities and utilities, and providing general project management and technical assistance to the client. Works include the coordination and development of compliance documentation with the California Department of Public Health, and Pilot Plant development, compliance and oversight.

With the Plant now operational, Paul still provides support to the client with future infrastructure changes necessitated by regulatory advancements, including modifications to the Plant's outfall pipeline configuration; necessitated by Ocean Plan Amendment requirements.

Project Director
Huntington Beach Desalination Plant | Poseidon Water | Huntington Beach, CA

Currently performing the Owner's Engineer role for the project, which comprises the engineering, procurement, and construction (EPC) for the 50 MGD seawater reverse osmosis desalination facility. Part of the team which continues to provide technical services, as well as providing general oversight and independent assessment of various aspects of the project, including water quality sampling and associated analysis.

Of late, Paul has led GHD's team in condition assessment works on the existing intake and outfall systems, and undertaken studies on the outfall modification required to promoted the necessary brine diffusion, while optimizing the elevation and length of the outfall to optimize efficiency and minimize potential impacts.

Project Director
Western Corridor Recycled Water Project | Department of Infrastructure, Queensland Government | Queensland, Australia

Performed the role of Owner's Engineer for both the Eastern Pipeline Alliance and Western Pipeline Alliance. The system, at a cost of ~AU$2.4B, involved the construction of three advanced water treatment plants (AWTP) (Bundamba, Luggage Point, and Gibson Island), which provide purified recycled water to Swanbank and Tarong Power Stations whilst enabling excess to be discharged to Wivenhoe Dam. The combined conveyance system was approximately 125 miles of up to 60-inch diameter pipeline and 9 pumping stations with capacities ranging between 1.85 to 45 MGD. The primary role was to ensure that the owner/client had involvement in the design process; ensuring compliance occurs with the scope of work and technical criteria and that best engineering and construction practice was implemented and maintained. Another significant role was to ensure that the interfaces between all five Alliances occurred fluently as both of the pipeline Alliances had significant interfaces with all three AWTPs. Eastern Pipeline Alliance provide the pump stations and transfer pipe work between the AWTPs whilst Western Pipeline Alliance has interfaces with all five Alliances as it is responsible for the communications network in addition to providing pump stations and transfer pipe work.

Technical Services Lead
Doheny Desalination Project | South Coast Water District | Dana Point, CA

GHD is currently the Program Manager/Owner's Engineer (OE) for South Coast Water District for this 5 -15 mgd ocean desalination project. GHD's role for the current planning stages of the project includes preparation of the Preliminary Design, managing and preparing the Environmental Impact Report and numerous supporting technical studies, managing the Permitting process, evaluation of Project Delivery Methods including development of the financial model and Value for Money Analysis, and managing the Public Outreach process. Once the project moves into the execution phase, GHD will prepare bid documents, and perform CM and OE duties on behalf of the District.

Project Director
100 MGD Seawater Reserve Osmosis Desalination Plant | Private Client | North America

GHD provided our client with project planning, project strategy, and procurement advice, and with the concept development and concept design for a Seawater Reverse Osmosis Desalination Plant with an ultimate capacity of 100 MGD. This included associated infrastructure including the intake and outfall, power supply, etc. The end product was production of a documentation package suitable for financing, signing and executing an Engineering, Procurement and Construction (EPC) Project.

Project Manager - Owner Engineer

Seawater Desalination Plant, Confidential Client | Texas

Currently performing the Owner's Engineer role for a 25 MGD seawater desalination project, which will be delivered under an EPC/Alternative Delivery contract. Paul is currently managing the development of contract documents, preliminary cost estimating, and project scheduling.

Paul is also leading the intake and brine line alignment studies and concept design.

Ryan Kristensen, PE
Project Manager

Education: MS, Civil Engineering – Hydrology and Water Resources Engineering, University of California, Los Angeles, 2013; BS, Earth and Environmental Engineering, Columbia University, 2012; BA Management-Engineering, Claremont McKenna College, 2010

Professional Registration: Professional Civil Engineer (CA – C85173)

Professional Qualifications: Mr. Kristensen has served as a project engineer for feasibility assessments and conceptual studies, facility master plans and capital improvement programs, preliminary and final design drawings, engineering services during construction, and has obtained compliance with regulations and permitting requirements. Through his involvement with the execution of multiple projects with IEUA, Mr. Kristensen has developed an understanding of IEUA's processes and has obtained and synthesized input from various departments within IEUA's organization. Mr. Kristensen has led the coordination of multiple stakeholders and has acted as the point of contact to identify GHD's technical resources.

Project Engineer, Contract Management, On-Call Engineering Services | IEUA | Chino, CA
Supporting the execution of multiple task orders for on-call contract with Inland Empire Utilities Agency including:

1. Technical review of valve submittal for specification compliance (Completed)
2. Asset Management Gap Analysis for IEUA (Ongoing)
3. Training of IEUA Project Managers on Engineering Design Guidelines and updated Front End Documents (Ongoing)
4. CCWRF HVAC Upgrades (Completed)
5. IEUA Engineering Standard Details development (Ongoing)
6. Development and Implementation of Asset Management Strategy and AM Ready Specifications at RP-5 (Ongoing)
7. RP-1 modifications to hypochlorite feed facilities (Ongoing)

The scope of the task orders encompasses the preparation of design, plans, specifications, cost estimates, and contract documents for capital projects including electrical/instrumentation, process controls, structural design, sewer improvements, water & recycled water improvements and wastewater improvements, constructability reviews, and Asset Management. Cost and schedule controls, invoicing and status reporting for each task order for tracking and QA/QC purposes.

Project Engineer, Carbon Canyon Water Recycling Facility Asset Management and Improvements Package III | Inland Empire Utilities Agency | Chino, CA
Serving as Project Engineer for the CCWRF Asset Management and Improvements Project. This project consists of Site Drainage improvements, Improvement at the CCWRF Emergency Storage Lagoon, and Tertiary Treatment improvements. This project also includes a Feasibility Analysis for adding Covers to the Chlorine Contact Basins and an Investigation on Grading, Drainage, and Differential Settlement Issues at CCWRF.

Resident Engineer, Lenain Water Treatment Plant Expansion and Rehabilitation | Anaheim Public Utilities Department | Anaheim, CA
Serving as Resident Engineer during the Construction phase of the Rehabilitation and Expansion of the Lenain Water Treatment Plant. Facilitated the resolution of comments from Anaheim's Public Utility Department, Public Works Department, and Building Department. Leading review of Submittals and RFIs, Engineering Services During Construction, and coordination with the City of Anaheim Building Department, DDW, Anaheim Environmental Services, and the Anaheim Hills Golf Course. Weekly construction meetings and daily interaction with Contractors, City, and Construction Management firm. Managing GHD resources to provide as-needed design services during construction.

Deputy Project Manager, Owner's Engineering Services for the Olympic Wellfield and Arcadia WTP Project | City of Santa Monica | Santa Monica, CA
GHD is providing Owner's Engineering Services to support the expansion of the City of Santa Monica's Olympic Wellfield and Arcadia Water Treatment Plant. As the Deputy PM, Mr. Kristensen acts as a point of contact for GHD, identifying and coordinating resources to provide specialty support on contract and technical issues. Currently maintaining a running issues list and managing a project risk register to identify and mitigate any risks to support successful execution of the three (3) separate contracts covered under this project. Services provided on this project include Environmental Document Review, RO Piloting Support, Selection of DB Entity Support, Review and Analysis of the Design-Build Entity's Schedule and Budget, definition of Asset Management and CMMS specifications, Documentation and Communication of

Operator Preferences, and additional as-needed support for the City of Santa Monica.

Project Engineer, Well No. 37, 39, and 50 Treatment Facility | Ontario Municipal Utilities Company | Ontario, CA
Serving as Project Engineer for the design of IX treatment facilities for perchlorate removal from three (3) existing wells for the City of Ontario Municipal Utilities Company (OMUC). Currently coordinating with subconsultants to complete site surveys and to drill borings to support the preliminary design. Working with the client to identify and document OMUC engineering operator preferences (Engineering Design Guidelines) based on the client's lessons learned for incorporation into the preliminary design report and ultimately into the final bid documents. Acting as point of contact for GHD resources and GHD subconsultants to identify personnel to provide expertise to the client as needed.

Project Engineer, Owner Engineering Support Services for the MNWD 3A Water Recycling Plant Improvement Projects | Moulton Niguel Water District | Laguna Niguel, CA
Served as Project Engineer for MNWD Plant 3A Water Recycling Plant Improvement Projects. GHD provided engineering support services for plant rehabilitation and replacement projects required to reliably meet the plant's rated capacity of 6 mgd. Efforts focused on facility condition, project definitions, CIP cost estimations, and improvement prioritization. GHD defined scope and developed RFPs for improvements to the solids and liquid treatment train processes. GHD's efforts also included technology assessments and evaluations of alternatives to better define design efforts for the required improvements. GHD also established contracts for routine laboratory analyses performed at Plant 3A.

Project Engineer, One Water LA 2040 Plan | Los Angeles Bureau of Sanitation | Los Angeles, CA
Served as a project engineer for the Wastewater and Recycled Water portions of the One Water LA 2040 Plan. This plan serves as a Facilities Master Plan, outlining the existing facilities owned and operated by the City of Los Angeles and their current capacities for accepting and treating wastewater flows and producing high quality effluent. This plan develops and provides an overview of both the in-progress capital improvement projects, upcoming improvement projects, and conceptual projects that will assist the City of Los Angeles in achieving full beneficial use and reuse of its water resources.

Project Engineer, Weymouth and Jensen Water Treatment Plant Solar Facilities, Metropolitan Water District of Southern California | Los Angeles, CA
Developed civil design drawings for the Metropolitan Water District of Southern California's Weymouth and Jensen Treatment Plant Solar facilities, filed the LADWP Solar Incentive Program Reservation Request and Solar-Powered Customer Generation Interconnection Agreement for a 1MW solar facility at the Jensen Treatment Plant. Completed the SCE California Solar Initiative Reservation Request, Exporting Generating Facility Interconnection Request, and Renewable Energy Self-Generation Bill Credit Transfer Interconnection Agreement for a solar facility at the Weymouth Treatment Plant. Provided engineering services during construction and reviewed and responded to RFI's and Shop Drawing submittals during the construction of the Weymouth Water Treatment Plant Solar Facility.

Project Engineer, Santa Monica Bay Enhanced Watershed Management Program (EWMP), Los Angeles Bureau of Sanitation | Los Angeles, CA
Completed the Santa Monica Bay Enhanced Watershed Management Plan (EWMP) which outlines a plan to comply with the Municipal Separate Stormwater Sewer System (MS4) Permit (Order No. R4-2012-0175). The Santa Monica Bay EWMP identifies institutional and structural best management practices (BMPs) to manage stormwater discharges for compliance with TMDLs established for Jurisdiction 2 and 3 of the Santa Monica Bay Watershed. Completed outfall assessments in Jurisdiction 2 and 3, coordinated with teaming partners for completion of watershed modelling for Reasonable Assurance Analysis, and supported the GIS screening process to identify locations favorable for siting BMPs. Site selection was based on ownership, topography, subsurface geology, contributing drainage area, and capture capability. Evaluated alternative BMPs for technical and economic feasibility.

Recognized (Certifications/Training)

- CA Professional Engineer – C85173

Mehdi Mardi, PE

Lead Electrical Engineer

Qualified: BS, Electrical Engineering (Control & Power), Tehran Sharif University, Tehran, Iran; Civil Engineer, CA #20033

Professional Summary: Mehdi Mardi is a professional electrical engineer with over 25 years of experience in the electrical, Instrumentation and Control (I&C) fields in various types of industries, such as water and wastewater, oil & gas, petrochemical, cryogenic and industrial gases. Mehdi has been involved in electrical and I&C design, construction, and commissioning on various projects, including pump stations, desalination and water, and wastewater treatment plants, industrial gas production, hydro power generation, land field gas, oil and gas field projects. Mehdi also has experience in medium and low-voltage motor controls and distribution, as well as instrumentation design.

Electrical Engineer
Anaheim – Lenain Water Treatment Plant | City of Anaheim | Anaheim, CA | 2015 - Ongoing

The scope of project at this job site is to improve the plant reliability and water quality, increase the capacity and regulatory compliance. The electrical and instrumentation scope of work is detailed design and engineering related to replacement of the portable generator with a stationary generator, modify the existing switchboard and adding ATS, enhance the area lighting, HVAC and CCTV. Replacing some control panels and control valves and instruments, and integration into SCADA system. This project is due to be in construction shortly and GHD is going to be helping with construction support.

Electrical Project Engineer
Ground Water Recovery Improvement Program | Water Replenishment District | Pico Rivera, CA | 2015 - Ongoing

The scope of project at this job site is to be the client's engineer for a design-build project. Review of the drawings and specifications during the design period, and during the construction to review contractor submittals for conformance with drawings and specifications and respond to RFI's and site visit are part of weekly task. The project involved process building and Administration building plus visitor center. The project is currently in construction.

Electrical Engineer
Well Nos. 37 & 39 Treatment Facility and Well No. 50 Treatment Facility | City of Ontario | Ontario, CA | 2019 - Ongoing

Electrical Engineer for the equipment preselection, preliminary and final design, and permitting of the 8.6-mgd IX facilities for groundwater treatment. The one-pass IX system consists of 4 skid-mounted pairs of vessels (8 vessels in total), with flow and control measurement on each skid. The design includes a small building to house the onsite hypochlorite generators (1+1), salt storage, brine and hypochlorite storage tanks, chemical metering pump skids, and a backup electrical generator with imbedded fuel tank. The treatment facilities has significant instrumentation and control, connected to the City SCADA system. The engineering services cover environmental, planning, and water quality permitting for the treatment facilities including CEQA documentation, City Planning Department, and DDW. The project also include the development of Engineering Design Guidelines for IX treatment facilities to establish water quality performance requirements, material and equipment standardization, and City's O&M knowledge capture. The Guidelines establish the basis of design for future IX treatment systems.

Project Manager
Ojai Water System Arc Flash Study | Casitas Municipal District | Ojai, CA | 2019 - Ongoing

This project's scope of work was to provide the electrical hazard, Arc-Flash Hazard Analysis, providing single-line diagram, labels, and short circuit study for nine job sites for Ojai Casitas Water District. It involved job site investigation and evaluation of existing electrical. Complete report was provided with list of deficiency in design and recommendation to address them. The project was completed in early 2019.

Electrical Engineer
Philadelphia Force Main Improvement | IEUA | San Bernardino, CA | 2018 - Ongoing

This project scope of work is to modify the existing lift station and add VFD to the third pump and prepare the electrical and instrumentation packages. Make recommendations for improving the electrical design and operation. The project is still in progress.

This project was increasing the capacity of existing water treatment units and addition a Desalination unit to the existing units.

The scope of work was detailed Electrical and control design and engineering related to installation of new GE RO unit, installing new Transformer and metering unit, New MCC and PLC Panel.

Construction support, start up and commissioning were added to the scope of work later.

Electrical Engineer

Oil Transfer Pump | CRC- Freeman and Chaffee Island, Long Beach, CA

This projects were increasing the capacity of existing Oil Transfer Pump from Freeman and Chaffee Island by replacing the existing Oil Transfer Pump with larger Pumps.

The scope of work was detailed Electrical and control design and engineering related to installation of new OTP pumps. It required adding new Switch board, MCC and VFDs. Updating the Etap Model and preparing Short circuit study Report and the Arc Flash labels were part of Scope of work.

After completion of the design, Construction support, start up and commissioning were added to the scope of work.

Electrical Engineer

Hose Room | P66- Lube Oil, Los Angeles, CA

This project involved Modifying all the piping in Hose Room, adding new metering skid and adding new pumps to each product Tank.

Scope of work was detailed Electrical and control design and engineering related to installation of new pumps, modifying MCCs, preparing the conduit routing and cable and conduit schedules, preparing the I/O list and control panels.

Updating the Etap Model and preparing Short circuit study Report and the Arc Flash label was part of Scope of work.

Electrical Engineer

Vapor Recovery Booster Compressor | CRC- Freeman Island, Long Beach, CA

This projects was increasing Efficiency of Vapory Recovery system by adding a Booster compressor to Existing Vapor Recovery System.

The scope of work was detailed Electrical and control design and engineering related to installation of new Booster Compressors. It required adding new feeders to existing MCC and Modifying the PLC panels.

Electrical Engineer

Upgrading the Oil Field Power Distribution Switchyard | CHEVRON, Bakersfield, CA

This projects was improving the quality of the existing Power distribution switchyard by replacing the 115KV Disconnect switches with no protection with ABB Circuit breaker and providing the Protection relays for these feeders by SEL.

The scope of work was detailed Electrical and control design and engineering related to installation of these two new ABB low oil Circuit Breakers and SEL feeder protection Relay and protection Relays.

It was also included Commissioning and Startup of the Switchyard after installation.

Francisco Andrade, PE, SE

Lead Structural Engineer

Qualified: BS, Civil Engineering, Long Beach State University, Long Beach, CA; MS, Structural Engineering, Long Beach State University, Long Beach, CA; Civil Engineer, CA #76742; Structural Engineer, CA #6345

Connected: American Society of Civil Engineers; Structural Engineers Association of Southern California; American Concrete Institute; American Institute of Steel Construction

Professional Summary: Francisco Andrade has over 13 years of experience in civil and structural design, engineering, and project management for numerous complex projects and the ability to professionally and effectively interact with clients, contractors and other professionals. He is knowledgeable in planning, code design standards, and construction inspection, as well as responsible for supervising, overseeing, and coordinating lead project engineers and designers. Francisco serves as an engineer of record and engineer in charge for multiple national and international projects.

Structural Engineer
Well Nos. 37 & 39 Treatment Facility and Well No. 50 Treatment Facility | City of Ontario | Ontario, CA

Responsible for the design and review for the equipment foundations, structural components, and new building as part of the 8.6-mgd IX facilities for groundwater treatment. The one-pass IX system project consists of new vessels, storage tanks, pump skids, electrical generators, and an operator's CMU (concrete masonry unit) building. Engineer in charge of structural design of:

- Foundations and anchorage for vessels, electrical, and mechanical equipment.
- Review and coordination for design of new CMU building
- Design of new piping system supports/foundations
- Materials Specifications

Structural Engineer of Record
Converted Title 22 Filter Feed | West Basin Municipal Water District | Carson, CA

Responsible for analyzing existing structural conditions and structures to efficiently design new booster pumps, mechanical, and electrical equipment foundations and their anchorage, piping system supports, and the retrofit of existing structures required for the modification of an existing clarifier in order to increase the clarified effluent in the system. Engineer in charge of structural design of:

- Foundations and anchorage for booster pumps, electrical and mechanical equipment.
- Mmodification to existing structures
- Design of new piping system supports/foundations
- Coordination with mechanical and electrical engineers
- Material Specifications

Engineer of Record
Kinder Morgan Expansion | Kinder Morgan | Long Beach, CA

Served as Civil/Structural Engineer of Record of project. Scope consisted of the expansion of an existing facility to increase its oil storage capacity. In addition, structural/civil design and construction support was provided for modifications to the existing piping system and storm water collection system. Engineer in charge of structural design of:

- Ring foundation for 15,000 BBL above ground storage tank
- Design of new piping system supports/foundations and modifications to existing
- Steel platforms for access and maintenance for storage tank and piping systems
- Protection systems for existing underground utilities due to new access roads
- Concrete structures for modification to existing storm water collection system

Project Engineer

Rehabilitation and Expansion of Lenain Water Treatment Plant | City of Anaheim | Anaheim, CA

Acted as a project engineer by assisting during the construction phase of City of Anaheim's water treatment plant rehabilitation project The scope of work for the project included new facility buildings, underground and above ground concrete and steel structures, chemical storage facilities, seismic retrofit and modifications to existing structures, and electrical and mechanical equipment foundations required for the expansion of the existing water treatment plant. Structural Engineer in charge of:

- Design of concrete, steel, and CMU structures and buildings, retaining walls, concrete foundations, retrofit of existing structures, and modifications to the

approved structural design required during the construction phase of the project.

- Provided support during permitting phase to expedite building department project approval
- Structural Observations/Inspections during construction phase
- Structural RFI Responses
- Shop Drawings Review

Structural Engineer of Record
BP Cherry Palm Springs Terminal | British Petroleum | Palm Springs, CA

Served as Civil/Structural Engineer of Record for a new oil facility terminal. Scope of project included regrading of the site, including an earthen secondary spill containment system for above ground storage tanks, new drainage system, new office buildings, and new loading and offloading terminal areas. Engineer in charge of structural design of:

- Foundations for above and below ground storage tanks
- Multiple office buildings' foundations
- Steel racks and bridges for piping systems
- Mechanical, electrical, and piping equipment foundations and supports
- Retaining walls to divert floodwater due to site being located in flood zone area

Engineer of Record

So Cal Gas Rehabilitation Projects | So Cal Gas | Various Locations in Southern California |

Engineer of record responsible for the design of the structural components required for the rehabilitation of various So Cal Gas facilities. In addition, assisted during the construction bidding and construction phase of the project. Engineer in charge of structural design of:

- Mechanical, electrical, and piping equipment foundations and supports, including foundations for horizontal and vertical vessels.
- Retaining walls
- Coordination between disciplines such as: mechanical, civil, and electrical
- Materials Specifications
- Shop drawings review
- Structural RFI Responses

Lead Engineer
Pier A West | Tidelands | Port of LA,CA |

Lead engineer responsible for the design and coordination of a 35 acre industrial development project that included: regrading of entire site, a new drainage system to collect storm water and pump it out to adjacent channel, and new office buildings on deep pile foundations. In addition, performed Structural Observations during construction phase and provided support to facilitate construction and reduce cost. Engineer in charge of structural design of:

- 40 feet long x 35 feet wide x 30 feet deep below grade concrete retention/treatment basin
- Catch basins and manholes of different sizes and depths
- Deep Pile foundation system for buildings
- Energy dissipater structure at drainage system outlet
- Review of underground utility lines for compliance with traffic loads
- Specifications for Prefabricated Office Building
- Shop drawings review
- Coordination between disciplines such as: mechanical, civil, and electrical

Lead Engineer
Valero Terminal | Valero| Fontana, CA

Lead engineer responsible for the design of a new fuel terminal. Scope consisted of the design of Pier/Mat type foundations for electrical, mechanical, and prefabricated metal buildings for structural support and to mitigate static and dynamic settlements due to on site soils, steel canopies for the support of piping systems and retaining walls. Structural support was also provided during the construction phase of the project. Engineer in charge of structural design of:

- Pier and mat foundations for electrical and mechanical equipment.
- Pier foundation system for prefabricated metal buildings
- Steel canopies and foundations for piping systems support for loading and offloading of fuel tank semi-trailers
- Retaining walls
- Shop drawings review
- Coordination with mechanical and electrical engineers
- Specifications for Prefabricated Metal Buildings

Richard P. Guggiana, EE, LEED AP

QA/QC - Senior Electrical Engineer/I&C

Qualified. B.S./Electrical Engineering Technology/ California State Polytechnic University, Pomona/1983; Electrical Engineer, CA #15580; LEED AP

Connected. Institute of Electrical and Electronics Engineers (IEEE) – Member.

Relevance to project. Rick Guggiana is a licensed electrical engineer with over 29 years of experience in the electrical, controls, and instrumentation fields, for Federal, military, municipal, and private industrial clients. He has extensive experience with water treatment, storage, and pumping systems, wastewater collection and treatment systems, pumping controls, Supervisory Control and Data Acquisition (SCADA) systems, low and medium-voltage power generation, microgrids, and waterfront electrical distribution. Rick has led large-scale coordination and arc flash studies, desk-top radio path modeling, photometric analyses, forensic studies, feasibility studies, condition assessments, construction cost estimates, and engineering services during construction. He has also written design-build RFPs and has served as the client's representative, as well has served as lead electrical engineer on contractor-led design-build teams.

Rick was involved in the design and construction management of a 115-kV substation project which won a merit award from the Consulting Engineers and Land Surveyors of California (CELSOC).

Electrical Engineer
Carlsbad Desalination Plant | Poseidon Water | Carlsbad, CA, USA

Lead electrical engineer to provide Owner's Engineering services for the development, construction and commissioning of the 50 MGD Carlsbad Seawater RO Desalination Plant. The plant is a 50 mgd plant built adjacent to Encina Power Station, with four incoming 12 kV feeders from SDG&E, four soft start 7700 hp 12 kV RO High Pressure Pumps and over 400 instruments. Reviewed electrical and I&C drawing submittals for Code compliance, value engineering, and O&M issues.

Lead Electrical Engineer
Reverse Osmosis Treatment Plant Rehabilitation | City of Beverly Hills | Beverly Hills, CA, USA

Lead electrical engineer for project to improve reliability and performance of a municipal reverse osmosis water treatment plant. Electrical design included addition of motorized valve operators, level transducers, chemical leak detectors, chlorine analyzer, and hydrogen sulfide gas detection system. In addition, the project provided additional PLC input and output (I/O) to accommodate the expanded control needs of the additional valve operators and instruments. Wrote control descriptions to integrate the new control schemes into the City's existing PLC and SCADA HMI programming.

Electrical Engineer
Newport Coast Sewer Lift Station Rehabilitation Project | Irvine Ranch Water District | Newport Beach, CA

Electrical Engineer for the complete rehabilitation design of the 500-gpm regional Newport Coast sewer lift station that includes the replacement of the existing electrical distribution system, including new service entrance switchboard, motor control center, pump controls, instrumentation, SCADA, and lighting. The project also includes constructing a new CMU block electrical control building with the new PLC and MCC equipment, and a new chemical odor control system.

Electrical Engineer
Buena Creek Pump Station Electrical Improvements | City of Vista | Vista, CA, USA

Electrical engineer for project to provide upgrades to existing pump station. Improvements included replacing wet well lighting and the hazardous gas detection system, as well as adding site lighting and a security/access control system.

Electrical Engineer
USCG Training Center WWTP Project Proposal Report | US Coast Guard | Petaluma, CA, USA

Electrical engineer for a report to study the conversion of an undersized secondary treatment process to a tertiary treatment process with expanded flow, storage, and disposal capacity. The existing plant consisted of a simple headworks structure, three aeration ponds (one with floating aerators), a chlorination facility, an irrigation pump station, and a minimal SCADA system for monitoring. The proposed new plant facilities would include screening and headworks, grit removal, aeration/clarification/digestion, filtration, ultraviolet disinfection, sludge dewatering, chemical injection, and various effluent pumping systems. This would require a new electrical distribution system, process instrumentation, and expanded SCADA system for process control and monitoring.

Lead Electrical Engineer
USCG Training Center WWTP | US Coast Guard | Petaluma, CA, USA

Lead electrical engineer for design of a 4.8 mgd tertiary wastewater treatment plant to replace an existing, smaller secondary treatment plant. Plant systems included screening and headworks, grit removal, aeration/clarification/digestion, filtration, ultraviolet disinfection, sludge dewatering, chemical injection, various effluent pumping systems, process instrumentation, and SCADA system. Electrical design included new 12kV circuit extension from the Base distribution system and 480V electrical service to the Plant, distribution switchboards, motor control centers, and variable frequency drive lineups for pumps and packaged process equipment, and site lighting. Pump stations included 3x40hp and 4x100hp variable speed systems.

Electrical Engineer
Programmable Control Panel Upgrade | Orange County Sanitation District | Fountain Valley, CA, USA

Electrical engineer for project to migrate existing PLCs from proprietary Modbus Plus to Ethernet IP networks. The design included modifications to 43 Modicon Quantum PLCs located in two wastewater treatment plants. Modifications ranged from adding Ethernet communication modules to existing backplanes, to installing larger backplanes to accommodate the new comm modules. In some cases, PLCs were relocated to new enclosures because existing enclosures did not have enough space for larger backplanes and new Ethernet switches, and included conversion of local I/O to remote I/O. Wrote procedures to minimize PLC downtime and its impacts to treatment plant processes.

Electrical Engineer
Sewage Grinder System Upgrade, Richard J Donovan Correctional Facility | California Department of Corrections and Rehabilitation | San Diego, California, USA

Provided electrical, controls and instrumentation design associated with the upgrades for the wastewater system improvements. The project consisted of a new sewage grinding and screening facility comprised of a dual channel concrete structure, in-channel grinder and screening auger, electrical and control equipment.

Electrical Engineer
Asset Management Program, Infrastructure Inventory and Assessment Project | Vallejo Sanitation and Flood Control District | Vallejo, CA, USA

Senior electrical engineer for project to evaluate asset condition and performance requirements for the Solids Handling Facility at the District's wastewater treatment plant. Systems and system components were evaluated per the US EPA's Asset Management Framework. Electrical equipment reviewed included motors, pumps, motor control centers, variable frequency drives, control panels, instruments, transformers, and conduit systems.

Electrical/Controls Engineer
Wastewater Treatment and Reclamation Plant Improvement Feasibility Study | St Helena Public Works Department | Saint Helena, CA, USA

Electrical engineer for feasibility study and master plan for improvements to a 3 mgd (peak wet weather flow) secondary wastewater treatment plant. Scope included qualitative assessment of current conditions of electrical equipment, mechanical equipment, buildings, and irrigation systems. The study included recommendations and a schedule for implementation of the recommendations to refurbish existing equipment and facilities, as well as assessment and recommendations for additional improvements to meet future capacity, treatment, storage, and disposal requirements.

Project Manager/Electrical Engineer
Laguna Treatment Plant Power Master Plan | City of Santa Rosa Utilities Department | Santa Rosa, CA, USA

Electrical engineer and project manager for this project to study various options replace an existing cogeneration facility at a regional wastewater treatment plant.

The master plan included evaluation of refurbishing various combinations of existing engines, exhaust systems, cooling systems, fuel delivery and fuel treatment systems, and upgrades to the existing generator building. The study evaluated the costs of simply continuing on with the existing equipment and facilities vs new internal combustion engines vs fuel cells vs exporting the digester gas to the utility. The master plan also addressed the siting of the cogeneration plant to better take advantage proximity to fuel, power, and hot water loop connections.

The Master Plan included a 10% Concept Design that was then funded for further design development and construction in a separate project phase.

Nick Panofsky, PE, QSD

Project Manager

Firm
- MNS Engineers, Inc.

Areas of Expertise
- Water/wastewater infrastructure rehabilitation and improvements
- Stormwater Management Plans
- Water resources planning
- Project management

Years of Experience
- 15

Licensing
- Professional Civil Engineer, CA No. 75006

Certification
- Qualified SWPPP Developer, CA No. 75006

Education
- MBA, Shidler College of Business, University of Hawaii, HI
- BS, Environmental Engineering, California Polytechnic State University, San Luis Obispo, CA

Affiliations
- American Public Works Association
- American Society of Civil Engineers
- American Water Works Association
- Water Environment Federation

Mr. Panofsky has over 15 years of professional consulting experience in the water resources industry. Nick has advanced his expertise through a variety of municipal infrastructure design projects including potable water, recycled water, wastewater, and stormwater. He has been involved in every stage of the design process, including planning, analysis, design, construction management, and operational assistance. He actively manages projects to meet both technical and financial goals. His experience includes:

Wastewater Treatment Plant Main Switchgear and Standby Power Replacement, City of Watsonville, CA. *QA/QC Manager.* MNS is providing civil engineering design and ancillary support services for replacement of the backbone electrical distribution infrastructure consisting of two new exterior mounted 2,000 kilowatt backup generators, five new electrical buildings housing process area motor control centers (MCCs) and automatic transfer switches (ATCs), approximately 1,500 linear feet of new conduit duct banks, and associated improvements.

Sunset Place Pipeline Replacement, Casitas Municipal Water District, CA. *Project Manager.* The existing 4-inch cast iron pipe along Sunset Place is undersized and approaching the end of its service life. This project will replace approximately 1,850 linear feet of existing 4-inch cast iron pipe with 8-inch polyvinyl chloride (PVC) in accordance with Casitas standards. The pipeline extends from the intersection of Sunset Place and Mountain View Avenue to the northern intersection of Sunset Place and Grandview Avenue. The goal of the project is to improve fire flow and replace aging water mains. The existing water main will be abandoned in place.

Wastewater Treatment Plant Influent Pump Station Rehabilitation, Goleta Sanitary District, CA. *Project Manager.* Involved in pre-design and design activities for rehabilitation of the Goleta Sanitary District (GSD) Influent Pump Station (IPS) a 17.2 MGD wastewater lift station located at the GSD's treatment plant. The project includes replacement of the station's Motor Control Center (MCC) F and MCC FA with new single MCC unit, replacement of the lift station Automatic Transfer Switch (ATS), rehabilitation of the pumps and motors and building shell, roof replacement, replacement and upgrade of the station Heating Ventilation Air Conditioning (HVAC) system, replacement of the lift station level controls and upgrade of the station gas

monitoring and alarm system. Other significant elements of the project included repair of the influent junction structure and manhole to the lift station and full flow bypassing of the lift station required for construction.

New Dewatering System Upgrades and Site Improvements, Camrosa Water District, CA. *Project Manager.* This project included planning design for a new belt filter press biosolid dewatering facility to transition the plants drying process from drying beds to an enclosed controlled process. Additional improvements included a new pre-engineered steel building, site improvements, site piping, electrical, instrumentation, and controls.

Effluent Storage Basins Improvements, Camrosa Water District, CA. *Project Manager.* This project included planning and design services to re-grade two onsite effluent ponds to balance storage capacity for treated effluent while accommodating a reduced volume available for equalization storage. Pond re-lining accommodated the use of mechanized equipment/tractors for ease of maintenance and clean-out.

Advanced Water Purification System Feasibility Study, City of Palo Alto, CA. *Project Engineer*. This project developed a planning study on strategies to improve recycled water quality produced at the City's wastewater treatment plant. Critical elements included an evaluation of alternatives to reduce salinity, treatment process siting, and civil site improvements.

On-Call Engineering Services, Carmel Area Wastewater District, CA. *Project Engineer*. This contract involved a variety of field and office tasks in support of on-call engineering activities. Responsibilities included advancing a variety of projects including a vactor truck dumping station, reroofing multiple buildings at the wastewater treatment plant, design of chemical storage facilities at the wastewater treatment plant, and other improvements.

Engineering Design Services for Gibraltar Reservoir Flume, City of Santa Barbara, CA. *Project Manager.* This project developed detailed design plans for a new flow monitoring facility. The new facility is designed around a fiberglass H-flume, which will be installed outside the existing valve house. New 30-inch piping and appurtenances will convey water at up to 10 million gallons per day (mgd) from the existing weir, through the wall of the valve house, to the new flume. The new flume will discharge to the existing gravity conveyance pipeline and be installed in a new concrete and masonry building. Due to the remote location of the project site, the design includes provisions for cell phone use, high fire hazard areas, restroom availability, and temporary residence at the project site. Responsibilities include managing the design of the new flow measuring flume, and flume building; additional improvements at the existing valve house at the Gibraltar Reservoir Dam; and finalization of construction plans and detailed cost estimates.

El Estero Wastewater Treatment Plant Sodium Hypochlorite Line Replacement Project, City of Santa Barbara, CA. *Project Engineer*. This project replaced an existing chemical feed line at the Santa Barbara Wastewater Treatment Plant. The project included development of complete project plans and specifications to install approximately 600 linear feet of two ¾-inch chemical feed lines double contained in 4-inch conduit, as well as a chlorine dosing regulation station to allow chlorination of multiple areas within the treatment plant.

El Estero Wastewater Treatment Plant Tertiary Filtration Plant Replacement, City of Santa Barbara, CA. *Project Manager/Lead Project Engineer.* Responsibilities included all aspects of the civil design improvements associated with replacing an existing two million-gallons-per-day wastewater filtration facility. The project involved roadway design, site grading, paving, stormwater design, and pipeline design.

Critical Water Supply Improvements for Pajaro, Pajaro/Sunny Mesa Community Services District, CA. *Senior Project Engineer*. This project involved planning, design, and construction management services for the construction of water storage improvements for a disadvantaged community in northern Monterey County. The project included a new 600,000-gallon bolted steel potable water storage tank, system integration, controls, and a variety of site improvements to transform a greenfield site to a municipal facility. Responsibilities included leading the planning and design effort.

Title 22 Filter Booster Pump Station, West Basin Municipal Water District, CA. *Project Manager*. Planning and design for the construction of a new 10 MGD booster pump station at the Edward C. Little Water Recycling Facility. The original design for Title 22 Filter Train No. 2 was to receive effluent from the plants high rate clarifiers, however, the high rate clarifiers have not been able to deliver the design flows to Title 22 Filter Train No. 2 due to hydraulic deficiencies. Project includes evaluation of the hydraulic deficiencies and improvement alternatives to correct the deficiency. The selected alternative is a 10 MGD pump station which is currently in the design phase.

Casitas Municipal Water District

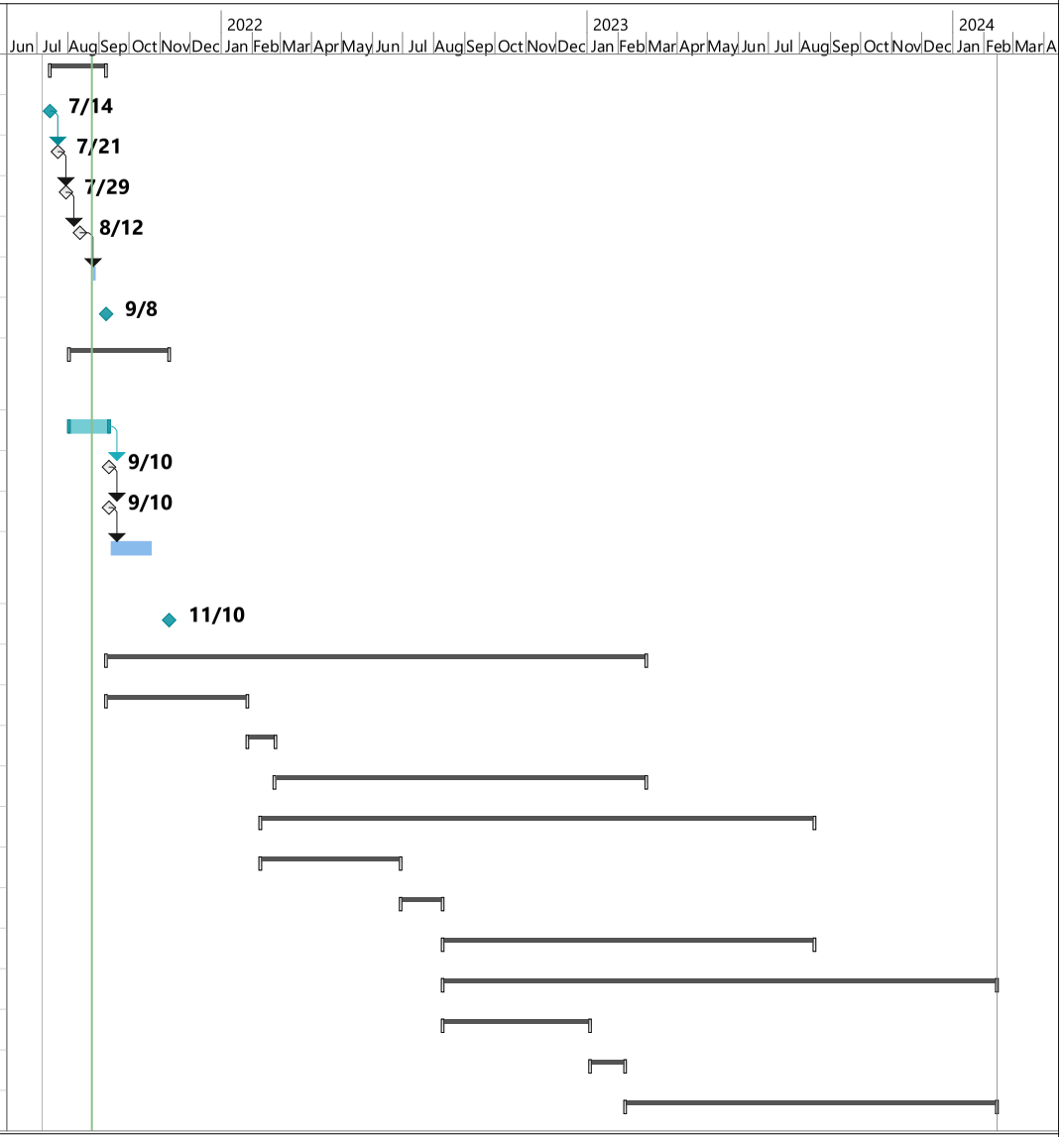
Engineering Services for

Emergency Generators at Rincon, Avenue 1, and Avenue 2 Pump Plants

Description		Paul Hermann *Project Director* $260	Ryan Kristensen *Project Manager Project Engineer* $175	Mehdi Mardi *Lead Electrical* $225	Francisco Andrade *Lead Structural* $225	Tomoki Masui *Electrical CAD* $125	Vincent Cruz *Structural CAD* $175	Rick Guggiana *QA/QC* $225	Emily Soneja *Project Admin* $90	Total Hours	Labor Total	MNS	Yeh & Associates	Subs Markup	Total Subs	Rate Increase	Estimated Project Total
Task1	***Project Management, QA/QC, and Meetings***	***0***	***24***	***16***	***3***	***0***	***0***	***4***	***6***	***53***	***$9,915***	***$7,615***	***$0***	***$609***	***$8,224***	***$0***	***$18,139***
Subtask 1.1	Project Management	0	10	0	0	0	0	0	6	16	$2,290	$3,500	$0	$280	$3,780	$0	$6,070
Subtask 1.2	QA/QC	0	2	0	2	0	0	4	0	8	$1,700	$2,500	$0	$200	$2,700	$0	$4,400
Subtask 1.3	Monthly Meetings	0	12	16	1	0	0	0	0	29	$5,925	$1,615	$0	$129	$1,744	$0	$7,669
Task2	***Design Phase***	***0***	***40***	***136***	***43***	***80***	***52***	***0***	***0***	***351***	***$66,375***	***$38,361***	***$22,497***	***$4,869***	***$65,727***	***$0***	***$132,102***
Subtask 2.1	Topographic Survey	0	1	0	0	0	0	0	0	1	$175	$11,160	$0	$893	$12,053	$0	$12,228
Subtask 2.2	Geotechnical Investigation	0	1	0	1	0	0	0	0	2	$400	$2,250	$22,497	$1,980	$26,727	$0	$27,127
Subtask 2.3	Design Documents - 60%	0	20	72	24	40	32	0	0	188	$35,700	$10,000	$0	$800	$10,800	$0	$46,500
Subtask 2.4	Design Documents - 90%	0	10	40	10	24	12	0	0	96	$18,100	$8,000	$0	$640	$8,640	$0	$26,740
Subtask 2.5	Design Documents - Final	0	8	24	8	16	8	0	0	64	$12,000	$6,951	$0	$556	$7,507	$0	$19,507
Task3	***Bidding Phase***	***0***	***4***	***4***	***4***	***0***	***0***	***0***	***0***	***12***	***$2,500***	***$3,700***	***$0***	***$296***	***$3,996***	***$0***	***$6,496***
Subtask 3.1	Pre-Bid Meeting and Bid Support	0	4	4	4	0	0	0	0	12	$2,500	$3,700	$0	$296	$3,996	$0	$6,496
Task4	***Construction Phase - Rincon***	***0***	***35***	***36***	***18***	***11***	***9***	***0***	***0***	***109***	***$21,225***	***$6,200***	***$0***	***$496***	***$6,696***	***$637***	***$28,558***
Subtask 4.1	Pre-Construction Meeting and Progress Meetings	0	22	8	2	0	0	0	0	32	$6,100	$700	$0	$56	$756	$183	$7,039
Subtask 4.1.1	Site Visits	0	4	8	4	0	0	0	0	16	$3,400	$1,650	$0	$132	$1,782	$102	$5,284
Subtask 4.2	Submittal Reviews	0	2	6	4	2	2	0	0	16	$3,200	$800	$0	$64	$864	$96	$4,160
Subtask 4.3	RFI Reviews	0	2	6	4	2	2	0	0	16	$3,200	$800	$0	$64	$864	$96	$4,160
Subtask 4.4	SCE Coordination	0	1	3	0	2	0	0	0	6	$1,100	$0	$0	$0	$0	$33	$1,133
Subtask 4.5	Project Closeout	0	2	2	2	1	1	0	0	8	$1,550	$750	$0	$60	$810	$47	$2,407
Subtask 4.6	Record Drawings	0	2	3	2	4	4	0	0	15	$2,675	$1,500	$0	$120	$1,620	$80	$4,375
Task5	***Construction Phase - Avenue 1***	***0***	***35***	***36***	***18***	***11***	***9***	***0***	***0***	***109***	***$21,225***	***$6,200***	***$0***	***$496***	***$6,696***	***$637***	***$28,558***
Subtask 5.1	Pre-Construction Meeting and Progress Meetings	0	22	8	2	0	0	0	0	32	$6,100	$700	$0	$56	$756	$183	$7,039
Subtask 5.1.1	Site Visits	0	4	8	4	0	0	0	0	16	$3,400	$1,650	$0	$132	$1,782	$102	$5,284
Subtask 5.2	Submittal Reviews	0	2	6	4	2	2	0	0	16	$3,200	$800	$0	$64	$864	$96	$4,160
Subtask 5.3	RFI Reviews	0	2	6	4	2	2	0	0	16	$3,200	$800	$0	$64	$864	$96	$4,160
Subtask 5.4	SCE Coordination	0	1	3	0	2	0	0	0	6	$1,100	$0	$0	$0	$0	$33	$1,133
Subtask 5.5	Project Closeout	0	2	2	2	1	1	0	0	8	$1,550	$750	$0	$60	$810	$47	$2,407
Subtask 5.6	Record Drawings	0	2	3	2	4	4	0	0	15	$2,675	$1,500	$0	$120	$1,620	$80	$4,375
Task6	***Construction Phase - Avenue 2***	***0***	***35***	***36***	***18***	***11***	***9***	***0***	***0***	***109***	***$21,225***	***$6,200***	***$0***	***$496***	***$6,696***	***$1,293***	***$29,214***
Subtask 6.1	Pre-Construction Meeting and Progress Meetings	0	22	8	2	0	0	0	0	32	$6,100	$700	$0	$56	$756	$371	$7,227
Subtask 6.1.1	Site Visits	0	4	8	4	0	0	0	0	16	$3,400	$1,650	$0	$132	$1,782	$207	$5,389
Subtask 6.2	Submittal Reviews	0	2	6	4	2	2	0	0	16	$3,200	$800	$0	$64	$864	$195	$4,259
Subtask 6.3	RFI Reviews	0	2	6	4	2	2	0	0	16	$3,200	$800	$0	$64	$864	$195	$4,259
Subtask 6.4	SCE Coordination	0	1	3	0	2	0	0	0	6	$1,100	$0	$0	$0	$0	$67	$1,167
Subtask 6.5	Project Closeout	0	2	2	2	1	1	0	0	8	$1,550	$750	$0	$60	$810	$94	$2,454
Subtask 6.6	Record Drawings	0	2	3	2	4	4	0	0	15	$2,675	$1,500	$0	$120	$1,620	$163	$4,458
	Total Labor Hours	*0*	*173*	*264*	*104*	*113*	*79*	*4*	*6*								
	Estimated Project Total	**$0**	**$30,275**	**$59,400**	**$23,400**	**$14,125**	**$13,825**	**$900**	**$540**	**743**	**$142,465**	**$68,276**	**$22,497**	**$7,262**	**$98,035**	**$2,566**	**$243,066**

CASITAS MUNICIPAL WATER DISTRICT
EMERGENCY GENERATORS AT RINCON, AVENUE 1 AND AVENUE 2 PUMP PLANTS

ID	Task Name	Duration	Start	Finish
1	**RFQ/P**	**40 days**	**Wed 7/14/21**	**Wed 9/8/21**
2	Advertise	0 days	Wed 7/14/21	Wed 7/14/21
3	Pre-RFQ Meeting	0 days	Wed 7/21/21	Wed 7/21/21
4	Questions Due	0 days	Thu 7/29/21	Thu 7/29/21
5	Proposals Due	0 days	Thu 8/12/21	Thu 8/12/21
6	Interviews	2 days	Thu 8/26/21	Fri 8/27/21
7	Board Award	0 days	Wed 9/8/21	Wed 9/8/21
8	**Initial Study/Negative Declaration**	**72 days**	**Mon 8/2/21**	**Wed 11/10/21**
9	Revise Draft IS/ND	30 days	Mon 8/2/21	Fri 9/10/21
10	AB52 Compliance Letters	0 days	Fri 9/10/21	Fri 9/10/21
11	Post/Distribute	0 days	Fri 9/10/21	Fri 9/10/21
12	30-day Public Review Period	30 days	Mon 9/13/21	Fri 10/22/21
13	Board Adopt IS/ND	0 days	Wed 11/10/21	Wed 11/10/21
14	**Rincon PP**	**385 days**	**Wed 9/8/21**	**Tue 2/28/23**
15	**Design**	**101 days**	**Wed 9/8/21**	**Wed 1/26/22**
24	**Bidding**	**20 days**	**Wed 1/26/22**	**Wed 2/23/22**
30	**Construction**	**265 days**	**Tue 2/22/22**	**Tue 2/28/23**
42	**Avenue 1 PP**	**395 days**	**Wed 2/9/22**	**Tue 8/15/23**
43	**Design**	**100 days**	**Wed 2/9/22**	**Tue 6/28/22**
52	**Bidding**	**30 days**	**Tue 6/28/22**	**Wed 8/10/22**
58	**Construction**	**265 days**	**Wed 8/10/22**	**Tue 8/15/23**
70	**Avenue 2 PP**	**395 days**	**Wed 8/10/22**	**Tue 2/13/24**
71	**Design**	**105 days**	**Wed 8/10/22**	**Tue 1/3/23**
80	**Bidding**	**25 days**	**Tue 1/3/23**	**Wed 2/8/23**
86	**Construction**	**265 days**	**Wed 2/8/23**	**Tue 2/13/24**



Project: Emergency Generators
Date: Wed 8/25/21

Task	Inactive Task	Manual Summary Rollup	External Milestone
Split	Inactive Milestone	Manual Summary	Deadline
Milestone	Inactive Summary	Start-only	Progress
Summary	Manual Task	Finish-only	Manual Progress
Project Summary	Duration-only	External Tasks	

CASITAS MUNICIPAL WATER DISTRICT
MEMORANDUM

TO:	BOARD OF DIRECTORS
FROM:	MICHAEL FLOOD, GENERAL MANAGER
SUBJECT:	GRANT SUPPORT SERVICES FOR FISCAL YEAR 2021-22
DATE:	09/08/2021

RECOMMENDATION:

- Authorize the General Manager to execute a Task Order to Kennedy/Jenks Consultants, Inc. for Grant Support Services for Fiscal Year 2021-22 in the amount of $33,180.00.
- Authorize the General Manager to execute a Task Order to Kennedy/Jenks Consultants, Inc. to prepare an application for the United States Bureau of Reclamation (USBR) WaterSMART Drought Response Program Drought Resiliency Projects (DRP) for the Ventura-Santa Barbara Counties Intertie project in the amount of $16,135.
- Approve Resolution No. 21-22 supporting the District's application for the USBR DRP for the Ventura-Santa Barbara Counties Intertie project

BACKGROUND:
Casitas' 10-year Capital Improvement Program includes a number of projects for which outside funding is needed, including rehabilitation/replacements projects and water supply/resiliency projects. These include, but are not limited to:

- Ventura-Santa Barbara Counties Intertie
- Matilija Formation Deep Vertical Bore
- Casitas-Ventura SWP Interconnection
- Robles Diversion Fish Passage Improvements
- Storage Reservoir Seismic Upgrades
- Lake Casitas Vegetation Management
- Rincon 2(M) Pipeline Replacement
- Lake Casitas Recreation Area Sewer Implementation
- Lake Casitas Recreation Area Water Adventure Playground Structure Replacement

The District is interested in exploring federal and state grant and loan opportunities to partially fund these projects. The Request for Qualifications for the District's On-Call Engineering for FY21-22 included preparation of grant/loan applications for local, state and federal funding opportunities as a potential task. In early July 2021, a Request for Proposal was distributed to the five on-call engineering firms requesting assistance with monitoring of grant and loan opportunities. Three proposals were received: 1) Kennedy/Jenks Consultants, 2) MKN and Associates, Inc., and 3) MNS Engineers. Kennedy/Jenks and MNS were interviewed by the General Manager, Assistant General Manager, Public Outreach and Water Conservation Manager, and Engineering Manager. Kennedy/Jenks Consultants was selected to provide grant monitoring services as they have the most relevant experience and expertise. Kennedy/Jenks proposal includes a fee of $33,180 for these services. Additional grant opportunities may arise

during the year for which either Kennedy/Jenks or MNS Engineers may be requested to provide grant application services.

On August 19, 2021, the United States Bureau of Reclamation issued a Notice of Funding Opportunity for the WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2022 with an application due date of October 5, 2021. The grant is intended to fund projects that will increase water supply reliability. The Ventura-Santa Barbara Counties Intertie project is a strong candidate for this grant opportunity. A proposal was requested from Kennedy/Jenks to assist with preparation of the grant application and submit it on the District's behalf to USBR. Kennedy/Jenks' not-to-exceed fee for this effort is $16,135.

To support the WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2022 grant application, the Board must pass the attached Resolution which is then submitted as part of the application package.

FUNDING SOURCE:
The budget for fiscal year 2021-22 did not include specific line items for grant support services or grant pursuits. A budget of $75,000 is requested to fund the two task orders and at least one additional grant pursuit to be determined.

Attachments:

- Proposal for Grant Support Services from Kennedy/Jenks Consultants dated August 24, 2021
- Proposal for Preparation of an application for the United States Bureau of Reclamation (USBR) Drought Resiliency Projects (DRP) Program for the Ventura-Santa Barbara Counties Intertie project from Kennedy/Jenks Consultants dated August 27, 2021
- Resolution No. 21-22

CASITAS MUNICIPAL WATER DISTRICT

FY 2021-2022 Grant Support Services

Kennedy Jenks

August 4, 2021

Kennedy Jenks

Julia Aranda, P.E. | Engineering Manager
Casitas Municipal Water District
1055 Ventura Ave.
Oak View, CA 93022

Subject: Proposal to Provide FY 2021-22 Grant Support Services

Dear Ms. Aranda:

Casitas Municipal Water District (Casitas) serves residential, commercial, agricultural customers, including those of the former Golden State Water Company-Ojai, and plays a significant role as a wholesale water district in Western Ventura County with resale customers including the City of Ventura and twenty-three other smaller water purveyors. Water supply sources for Casitas include Lake Casitas and water from the Ojai Groundwater Basin, both of which are dependent on precipitation and runoff from the Ventura River watershed. Challenges faced by Casitas include a limited water supply portfolio, persistent drought in the region, long-term climate change, growth in demand, and difficulties in operating the Robles Diversion, which reduces potential flows to Lake Casitas, and aging infrastructure.

Kennedy Jenks (KJ) has been a longstanding technical resource in Ventura County, including for Casitas. KJ stays familiar with the water resources of Ventura County, and has partnered in the planning, funding, design, and construction of local projects. In the past, KJ has assisted Casitas with Casitas-Ventura State Water Project Preliminary Design, the Calleguas-Ventura State Water Project Alignment Study and Environmental Impact Report, and a successful grant application to the Department of Water Resources for the Lake Casitas Aeration System.

Recently, Casitas completed several planning exercises, including the Comprehensive Water Resources Plan, Urban Water Management Plan, and Capital Improvement Plan. Casitas has identified, among others, the following projects:

Projects with Water Supply/Drought Response/ Expansion of Water Portfolio Benefits:

- Matilija Formation Deep Vertical Bore
- Casitas-Ventura SWP Interconnection
- Robles Diversion Fish Passage Improvements

Projects with Safety/System Reliability Related Benefits:

- Ventura-Santa Barbara Counties Intertie
- Storage Reservoir Seismic Upgrades
- Rincon 2(M) Pipeline Replacement
- Lake Casitas Recreation Area Sewer Implementation

Projects with Water Quality Related Benefits:

- Lake Casitas Vegetation Management
- Lake Casitas Recreation Area Sewer Implementation

Projects with Parks and Recreation Related Benefits:

- Lake Casitas Recreation Area Water Adventure Playground Structure Replacement
- Lake Casitas Recreation Area Sewer Implementation

In the above list, the projects have been organized by **benefit**, which is crucial to finding and tracking potential funding.

Both the State of California and Federal Government are planning unprecedented amounts of funding, not only for drought response, but for infrastructure, economic development and provision of services to traditionally underserved communities. The adopted California State Budget includes $1 billion for wildfire management, $3.48 billion for water and drought resiliency, $1 billion for COVID-19 related debt relief, $60 million for implementation of groundwater sustainability plans, and $200 million for multi-benefit watershed management projects. However, the final budget was passed subject to the pressures of the constitutional deadline, and details about specific grant programs will be settled in trailer bills that will be discussed after the state legislature returns from summer break.

KJ follows various funding opportunities and will help Casitas find funding sources for specific projects, tailor projects to align with funding agencies priorities and prepare applications where a project and a funding program are a good fit.

Our local team is uniquely suited to this work, and KJ is pleased to present this proposal to Casitas to assist in researching; and applying for funding when appropriate. KJ has secured over $520 million in grants and loans from state and federal agencies and has actively managed grants totaling over $186 million for various clients. We understand grant and loan programs and will leverage our experience to prepare high-scoring applications.

Proven funding successes to maximize financial support of future implementation needs. Our team will be led by Meredith Clement, who is experienced with preparing successful applications for a wide variety of potential projects. She has contributed to applications totaling over $168 million in authorized State and federal funding and currently serves as the grant administrator for over $57 million in grant funds. She will be able to apply her experience to assist with your funding needs. Meredith has extensive experience with the distinctive funding requirements of the California Office of Emergency Services (CalOES) and Federal Emergency Management Agency (FEMA), US Bureau of Reclamation (Reclamation), US Environmental Protection Agency (EPA), State Water Resources Control Board (SWRCB), and California Department of Water Resources (DWR), which directly relate to funding for water supply and water reliability. In addition, Meredith has experience with grants related to parks and recreation, including grants from the Wildlife Conservation Board and California State Parks. This experience will be useful in finding funding for projects at the Lake Casitas Recreation Area.

The KJ Team includes a deep bench of in-house planners, funding specialists and engineers to address the complex requirements of the funding agencies. Our Oxnard office includes dedicated grant specialists Lauren Everett, Catrina Paez, and Marina Magaña. These team members are supplemented with KJ staff throughout California and the western US. These team members will be dedicated to finding funding strategies that capitalize on the strengths of the Districts various Casitas projects.

KJ has ongoing working relationships with Casitas as well as other local agencies. These relationships keep us abreast of local funding opportunities and opportunities for regional partnerships. It also keeps KJ appraised of local conditions, local needs, and local challenges so that these needs and project benefits can be articulated in grant applications. These relationships also facilitate getting letters of support for project grant applications.

We understand the importance of securing state and federal funding and we have the knowledge and expertise to track and match projects to funding opportunities. We look forward to continuing our successful working relationship. Please do not hesitate to contact Meredith Clement at 805-973-5718 or MeredithClement@KennedyJenks.com if you have questions.

Very truly yours,

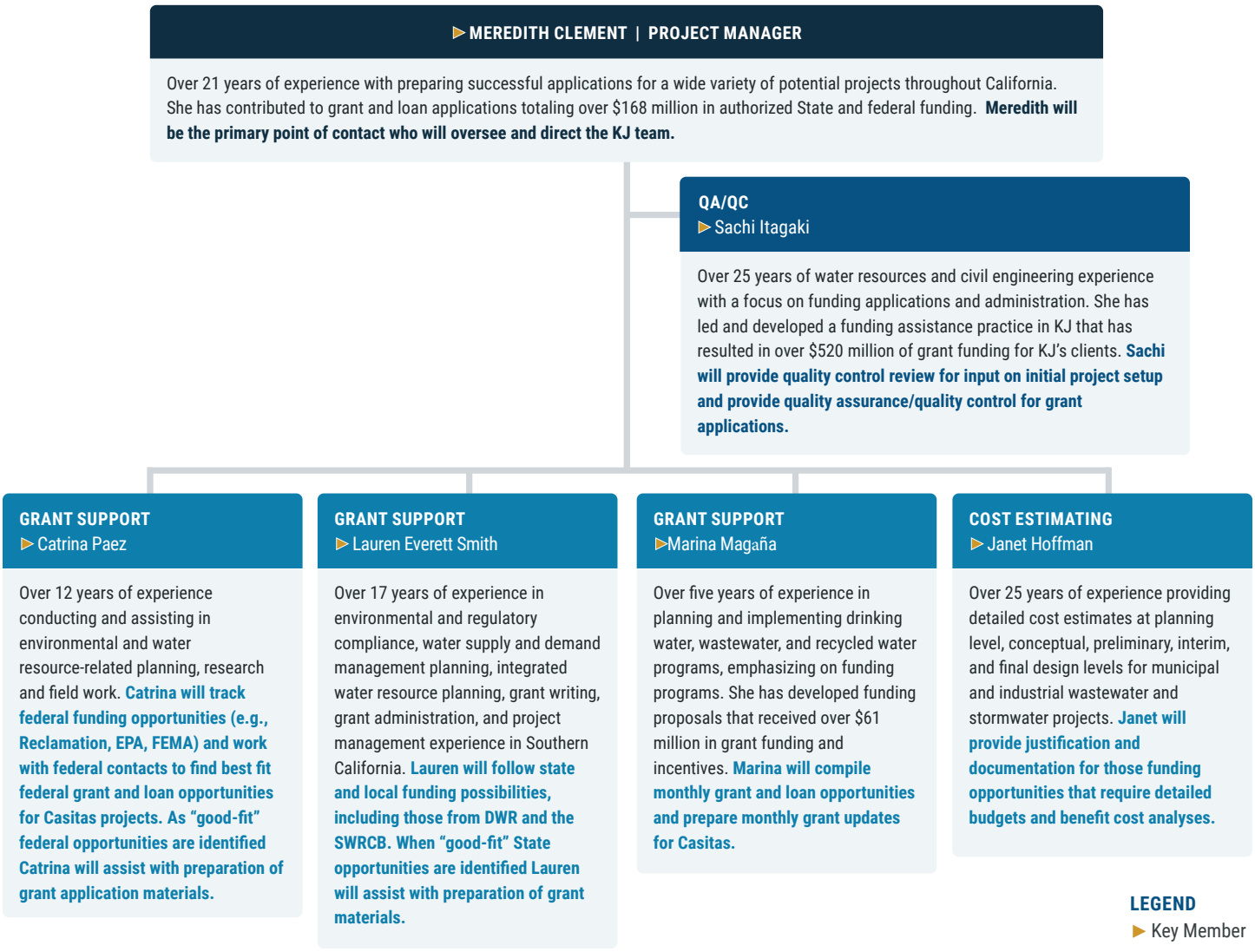
Kennedy/Jenks Consultants, Inc.

Jeff Savard, P.E.
Vice-President

Meredith Clement
Water Resources Planner

A Cohesive Local Team of Experts with Previous Experience Working Together on Similar Projects Translates Into Efficient Project Execution

The KJ team is committed to providing Casitas with dedicated, responsive, and proven expertise for grant support services. Each project team member shares a strong commitment to individual accountability, taking responsibility for cost-effectively providing solutions contributing to our level of technical excellence, and performing ethically and professionally. Full resumes of our key team members are included in **Appendix A.**



WHY THE KJ TEAM?

- Extensive practical experience and expertise in the administration of large-scale State and federal grant agreements, a proven track record of successful grant applications, and long-term working relationships with funding agency program managers.
- Knowledge of the individual grant projects contained within the grant will help streamline communication and identify early and often where a project may be straying from its scope and budget, saving Casitas time and reducing costs.
- Our longstanding and very positive relationship with grantor agencies will be helpful in understanding funding agency priorities, schedules, and funding levels.

Approach to Grant and Loan Opportunity Monitoring with Federal and State Agencies

KJ takes a four-pronged approach to finding grant and loan opportunities:

1. **Follow the legislative process.** Following the legislative process allows us to understand what funding sources may come on-line in the future, what past funding programs will be replenished or retired, and the various priorities for those programs. As an example, the Bureau of Reclamation has funded drought resiliency projects for many years. By following the legislative progress we were aware of new priorities Reclamation has related to reducing energy use and serving disadvantaged communities. We not only follow the legislative process, but the input to the legislation from necessary infrastructure and water interest groups, such as the Association of California Water Agencies, the American Public Works Association, the California Association of Counties, California League of Cities, California Special Districts Association, and Water Reuse Foundation.

2. **Follow the rules and regulations in development by the funding agencies.** In grants, sometimes the devil is in the details. It is essential to understand the limitations of a given grant program (e.g., only cities eligible, only projects with approved Hazard Mitigation Plans eligible). Understanding of these requirements allows us to position and prepare in advanced of a grant opportunity opening for applications. Many grant opportunities open and close within six weeks, which leaves little time to coordinate with stakeholder agencies, boards of directors and to put together a good application. It is crucial to understand if a potential project is a good fit before the funding program starts accepting applications. On a monthly basis, KJ reviews the funding schedules, rules, and regulations of programs, including those offered by FEMA, Reclamation, EPA, US Economic Development Administration, State Parks, DWR, SWRCB, and Wildlife Conservation Board.

3. **Talk to grant contacts at funding agencies.** It's a good practice to talk to contacts at grantor agencies. They may be aware of more obscure funding sources. Still, more importantly, it provides an informal way to express the mission of an agency, the need for a given project and provides a way to get feedback ahead of a grant application.

4. **Understand the projects seeking funding.** As a part of our grant work, KJ typically works with the agency to understand the projects, the issue addressed by a project, the anticipated benefits, and the project status (e.g., feasibility done, costs understood, environmental review done). An initial grant outlook is put together, matching projects with anticipated funding sources in a Technical Memorandum. An example Technical Memorandum is provided in **Appendix B.** As opportunities are identified, but no less than monthly, the list of projects are reviewed and potential grants identified. Any good-fit opportunities would be immediately raised with Casitas.

Our proposed scope, provided in Section 9, illustrates how KJ would track grants and loans for Casitas projects and identify near-term funding opportunities for Casitas projects.

Project Implementation Following Successful Grant Application by KJ

Providing Rancho Californiat Water District grant application services since 2016.

Approach/Methodology to Coordinating with Clients/Agencies During the Grant Application Process

Our proposed scope, provided in Section 9, demonstrates how KJ would work with Casitas to apply to 'best-fit' funding programs and is summarized below.

1. KJ will identify potential good-fit grant opportunities and hold a call/meeting to discuss the current project status. We then-identify what description, benefits, and costs exist for the project. We determine if the application is worth pursuing. KJ prepares the scope of work for grant applications for approval before proceeding with the grant application.

2. KJ and the client attend a kick-off call to discuss the grant project's clarifications and make sure responsibilities of KJ and the client are clear. Typically, some tasks that have to be handled by the agency seeking funding, such as getting approval from the Board to submit the application, opening/maintaining Grants.gov and FAAST accounts (these are the accounts used by federal and state agencies for grant submittal), and providing signatures on necessary forms. State forms include self-certification that the agency will comply with Urban Water Management Act and water metering requirements. Federal forms require disclosure of lobbying activities and compliance with federal laws such as the Endangered Species Act.

3. KJ completes the project descriptions and sends them to the client for review.

4. KJ and the client have weekly or bi-weekly calls to resolve any questions that arise.

5. KJ will provide a draft of the entire application, including all forms, for client review.

6. KJ and the client hold a call to make final edits to the grant application.

Approach Example: Construction Work on Aeration System

KJ prepared the successful grant that lead to construction of the Hypolimnetic Aeration System at Lake Casitas.

Proven Grant Funding Success Demonstrates In-Depth Knowledge Resulting in Efficiencies and Cost Savings for Casitas

KJ has been involved in water supply and related planning and funding activities in California for more than 100 years. As a multi-disciplinary and award-winning consulting engineering firm, KJ has a long history of combining planning, engineering, and funding services for its clients (**Figure 1**). KJ has developed numerous conservation programs, water supply plans, urban water management plans, integrated regional water management (IRWM) plans, water and wastewater master plans, and conjunctive use plans. In addition, the firm has extensive experience in significant grant applications as well as in administering grant programs for a broad range of water-related projects.

KJ's Proven Grant Funding Success ($million)

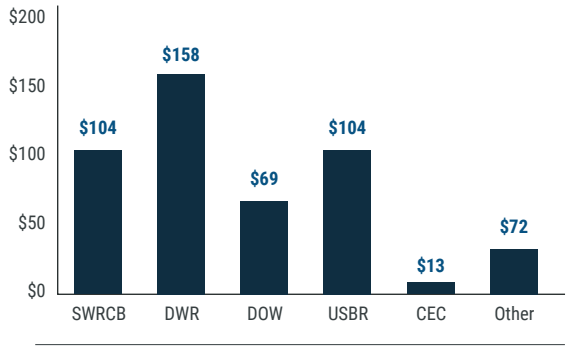


Figure 1. KJ has secured over $520 million in grants and loans from State and Federal agencies and has actively managed grants totaling over $186 million for various clients. We understand grant and loan programs and will leverage our experience to streamline the grant implementation process.

Grant/Loan Successes Within the Last Five Years

Client Name	Project Name	Funding Agency	Funding Program	Application Cost*	Funded Amount
Arroyo Santa Rosa Groundwater Sustainability Agency	Arroyo Santa Rosa Subbasin GSP - *2017*	CA Department of Water Resources	Proposition 1, Groundwater Sustainability Program Grant	$13K	$200K
Bedford Coldwater Groundwater Sustainability Agency	Bedford Coldwater Subbasin GSP- *2017*	CA Department of Water Resources	Proposition 1, Groundwater Sustainability Program Grant	$28K	$1M
California Waste Water Treatment Plants	Improved Biofiltration - *2017*	California Energy Commission	Water Energy Nexus Grant Program	$13K	$3.4M
Chino Basin Desalter Authority	Local Water Supply Restoration Granular Activated Carbon Treatment Facility Project - *2019*	U.S. Bureau of Reclamation	WaterSMART 2020	$12K	$750K
City of Calistoga	Feige Reservoir Replacement - *2016*	CalOES/FEMA	Pre Disaster Mitigation	$24K	$1.32M
City of Calistoga	Riverside Ponds and Headworks Repair - *2016*	CalOES/FEMA	Pre Disaster Mitigation	$44K	$2M
City of Newman	Chromium 6 Compliance - *2016*	CA State Water Resources Control Board	Drinking Water SRF Planning Grant for Disadvantage Communities	$5K	$497K
City of Thousand Oaks	Los Robles Golf Course Desalter Pilot - *2017*	CA Department of Water Resources	Desalination Grant Program	$4K	$420K
City of Thousand Oaks	Los Robles Golf Course Desalter Pilot - *2017*	Metropolitan Water District of Southern California	Future Supply Actions Funding Program	$4K	$300K
County of Ventura	Watersheds Coalition of Ventura County - *2019*	CA Department of Water Resources	Proposition 1, IRWMP Implementation Grant	$52K	$11M
Elsinore Valley Municipal Water District	Elsinore Subbasing Groundwater Sustainability Plan - *2017*	CA Department of Water Resources	Proposition 1, Groundwater Sustainability Program Grant	$29K	$1M
Fillmore Piru Groundwater Sustainability Agency	Fillmore Piru GSP - *2017*	CA Department of Water Resources	Proposition 1, Groundwater Sustainability Program Grant	$18K	$1M

**Application Cost is for the funding application portion of the project.*

Client Name	Project Name	Funding Agency	Funding Program	Application Cost*	Funded Amount
Linda County Water District	Well Project - *2017*	CA Department of Water Resources	Proposition 1, Groundwater Sustainability Program Grant	$24K	$1M
Mojave Water Agency	Colorado River and Lahontan Funding Areas - *2019*	CA Department of Water Resources	Proposition 1, IRWMP Implementation Grant	$83K	$4.6M
Mojave Water Agency	Long-Term Water Banking Strategy - *2018*	US Bureau of Reclamation	Water Marketing Strategies Grant Program	$19K	$300K
Monterey Regional Water Pollution Control Agency	Pure Water Monterey Groundwater Replenishment Project - *2016*	CA State Water Resources Control Board	Proposition 1 Round 1 Stormwater Grant	$40K	$10M
Rancho California Water District	Accelerated Recycled Water Retrofit - *2019*	U.S. Bureau of Reclamation	WaterSMART Title XVI	$10K	$1.5M
Rancho California Water District	IRMP Implementation - *2018*	Department of Water Resources	Integrated Regional Water Management Plan Implementation	$19K	$1.7M
Rancho California Water District	Pre-Disaster Mitigation Program - *2019*	FEMA/CalOES	Vail Dam Replacement	$50K	$49.5M
Rancho California Water Distritct	Upper Santa Margarita IRWMP Implementation - *2019*	CA Department of Water Resources	Proposition 1, IRWMP Implementation Grant	$51K	$1.6M
San Bernardino Valley Municipal Water District	Central-Feeder East Branch Extension - *2016*	U.S. Bureau of Reclamation	WaterSMART Drought Resiliency	$12K	$750K
San Gabriel Valley Municipal Water District	Emerald and Azusa Hydroelectric Facilities - *2016*	U.S. Bureau of Reclamation	Water Conservation Field Services Grant	$100K	$10M
San Gabriel Valley Municipal Water District	Regional AMI/AMR Program - *2016*	U.S. Bureau of Reclamation	Water Use Efficiency	$300K	$3.3M
Santa Clarita Valley Water Agency (Castaic Lake Water Agency)	Upper Santa Clara River IRWMP Implementation - *2019*	CA Department of Water Resources	Proposition 1, IRWMP Implementation Grant	$76K	$10.6M
Santa Clarita Valley Water Agency (Castaic Lake Water Agency)	Santa Clara Groundwater Sustainability Plan - *2019*	CA Department of Water Resources	Proposition 1, Groundwater Sustainability Program Grant	$28K	$1M
Santa Clarita Valley Water Agency (Castaic Lake Water Agency)	Groundwater Management Plan Preparation Phase 1- *2017*	CA Department of Water Resources	Sustainable Groundwater Management Grant	$28K	$416K
Santa Clarita Valley Water Agency (Castaic Lake Water Agency)	Groundwater Management Plan Preparation Phase 2 - *2019*	CA Department of Water Resources	Sustainable Groundwater Management Grant	$27K	$891K
Santa Cruz Water Department	Brackney Pipeline Landslide Mitigation - *2017*	FEMA/CalOES	Hazard Mitigation Grant Program	$55K	$3M
Santa Cruz Water Department	Regional Recycled Water Facilities Planning Study - *2017*	CA State Water Resources Control Board	Recycled Water Planning Grant	$10K	$75K
SBVMWD, Yucaipa GSP	Yucaipa Groundwater Sustainability Plan - *2016*	CA Department of Water Resources	Proposition 1, Groundwater Sustainability Program Grant	$20K	$1M
Silicon Valley Clean Water	BASF Membrane Study - *2016*	California Energy Commision	Water Energy Nexus Grant Program	$14K	$1.4M
Solano County Water Agency for Solano Collaborative	Solano Subbasin Groundwater Sustainability Plan - *2017*	CA Department of Water Resources	Proposition 1, Groundwater Sustainability Program Grant	$18K	$1M
South Tahoe Public Utilities Department	South Y Engineering Feasibility Study - *2016*	CA State Water Resources Control Board	Proposition 1 Groundwater Planning Grant	$35K	$504K

**Application Cost is for the funding application portion of the project.*

Client Name	Project Name	Funding Agency	Funding Program	Application Cost*	Funded Amount
Tuolumne Utilities District	Wastewater Treatment and Disposal Feasibility Study - *2016*	CA State Water Resources Control Board	Small Communities Grant	$24K	$150K
United Water Conservation District	Iron and Manganese Treatment - *2018*	U.S. Bureau of Reclamation	WaterSMART Drought Resiliency	$18K	$300K
Ventura County Public Works	Piru Spreading Grounds Stormwater Retrofit - *2016*	CA State Water Resources Control Board	Proposition 1 Round 1 Stormwater Grant	$28K	$1M
Western Municipal Water District	Riverside Arlington Subbasin Groundwater Sustainability Plan - *2017*	CA Department of Water Resources	Proposition 1, Groundwater Sustainability Program Grant	$15K	$1M
Yolo County - Knights Landing CSD	Well Replacement - *2017*	USDA, DWR, SWRCB	Various	$8K	$1.3M
Yolo County Flood Control and Water Conservation District/ Water Resources Association of Yolo County	Storm Water Resource Management Plan - *2016*	CA State Water Resources Control Board	Proposition 1 Round 1 Stormwater Resource Plan Planning Grant	$23K	$350K

**Application Cost is for the funding application portion of the project.*

6 REFERENCES

Proven Success With Early Preparation of Grants and Loans Will Provide Peace of Mind for Existing/Upcoming Grant and Loan Opportunities

The following client references have used our grant services. They can attest to our prompt responsiveness, quality of work, adherence to budget and schedule, accurate reporting, and why they trust us to deliver their projects successfully.

Rancho California Water District | Justin Haessly, Water Use Efficiency & Grants Manager, (951) 296-6942, Haesslyj@ranchowater.com | Grant Services: 2016 - Onoing

Team Members Involved: Meredith Clement, Catrina Paez, Lauren Everett Smith, Marina Magana

Since 2016, KJ has provided grant application assistance to Rancho California Water District on an ongoing basis. KJ recently prepared and submitted CalOES/FEMA Hazard Mitigation Grant Program application with a grant request totaling $50 million. Activities included completing application forms, preparing technical memos, and conducting a Benefit-Cost Analysis using FEMA BCA software. KJ has also been provide ongoing assistance with application materials for a request under the Water Infrastructure Investment for the Nation (WIIN) Act totaling $16 million. Activities have included the preparation of technical memos and benefit-cost analyses to supplement the application. Over the last 5 years KJ has prepared two successful Reclamation Grants ($3M) as well as a Proposition 1 IRWMP grant covering three separate regional projects. KJ has been assisting Rancho California Water District with the management of 10 State and federal grant agreements, including, but not limited to, Prop 84 IRWM Implementation and Planning, Local Groundwater Assistance, Prop 1 Water Use Efficiency, and Bureau of Reclamation Water Conservation Field Service Program grants. Regular administration activities include preparation, review, and submittal of quarterly or semi-annual invoice and report materials, preparation of project completion reports and retention invoices, and prepa¬ration and submittal of post-performance monitoring reports. KJ is the primary contact with the grant managers and coordinates all submittals.

County of Ventura | Susan Hughes, Deputy Executive Officer, (805) 654-3836, Susan.Hughes@ventura.com | Grant Services: 2015 - Onoing

Team Members Involved: Meredith Clement, Catrina Paez, Lauren Everett Smith

KJ has provided grant assistance for the County of Ventura's Watersheds Coalition of Ventura County Integrated Regional Water Management (IRWM) Program grants for over a decade starting with the administration of the Proposition 50 Implementation Grant and continuing with administration and successful applications for all four rounds of Proposition 84 Implementation Grants: Round 1, Round 2, Drought, and 2015 and the recent Proposition 1 Round 1 grant application. KJ led the coordination, preparation and submittal of applications for all four Proposition 84 IRWM Implementation grants for the Watersheds Coalition of Ventura County which resulted in award of 100% of grant requests made. KJ now actively leads the administration of the awarded Propsition 84 Implementation grants, which span a total of 26 individual projects, 15 different entities including Ventura Water, and a total grant allocation of over $93 million. Regular administration activities include quarterly collection, review and timely submittal of invoice and report materials; assistance with completion reports; and general coordination with project sponsors to ensure compliance with grant agreement requirements. During this time, KJ has developed close working relationships with the Department of Water Resources (DWR) grant managers to ensure timely and sometimes expedited reimbursement payments; coordinate preparation and approval of grant agreement amendments including work plan modifications, time extensions and project removal; and maximize the use of grant allocation by each project sponsor. KJ has also organized and led numerous project site visits with DWR staff, County representatives, and project sponsors. Additional activities have included assistance with the recent Department of Finance County Proposition 84 grant audit, including responding to requests for information, developing responses to findings and facilitating final close out of the audit activity. Relationships built through management of grants are invaluable in understanding grant agency priorities and funding deadlines.

City of Thousand Oaks | Cliff Finley, Public Works Director, (805) 449-2399, Cfinley@toaks.org | Grant Services: 2017 - Onoing

Team Members Involved: Meredith Clement, Catrina Paez

In addition to the design and engineering services that KJ has been providing to the City of Thousand Oaks concerning its Los Robles Golf Course Groundwater Utilization Program, KJ has also been providing ongoing grant-related assistance. Potential funding opportuni¬ties for the piloting and full-scale implementation of the project were researched, identified and summarized for inclusion in the Preliminary Draft Report. KJ then recently assisted with preparing and submitting two successful grant applications to fund the design pilot. Grant funding of nearly $720,000 was awarded under the Metropolitan Water District of Southern California Future Supply Actions Funding Program and the Department of Wa¬ter Resources Desalination Grant Program. Assistance has been provided for finalizing the Metropolitan funding agreement. KJ also assisted the City with the preparation of application materials for the Watersheds Coalition of Ventura County Prop 1 Round 1 IRWM grant. KJ has been providing ongoing assistance with research and consultation on additional funding opportunities.

Santa Clarita Valley Water Agency | Dirk Marks, Water Resource Manager, (661) 297-1600, Dmarks@scvwa.org | Grant Services: 2015 - Onoing

Team Members Involved: Meredith Clement, Catrina Paez, Lauren Everett Smith

KJ has provided funding services to Santa Clarita Valley Water Agency (SCV Water) since 2010. KJ prepared the successful grant applications for the IRWM Round 1 and Round 2 Implementation Grants, the IRWM Drought Grant, 2017 Sustainable Groundwater Planning Grant, and the Proposition IRWM Implementation grant providing over $34 million to the SCV Water and Local Project Sponsors (LPS) for projects benefiting water resource management in the Santa Clarita Valley. KJ is currently assisting SCV Water with administration of the implementation grant funding regularly monitoring project scope, schedule, and budgets; preparing reimbursement documentation to DWR; negotiating multiple grant amendments and ensuring compliance with overall grant agreement requirements.

7 EXAMPLE DELIVERABLE

Appendix B provides an example Technical Memorandum. KJ is providing this example with the approval of the City of Santa Rosa. The Technical Memorandum provides an overview of content and services KJ could provide Casitas.

Past Successes Will Enhance Grant Services to Casitas

It is understood that the near-term work is for developing a grant strategy and tracking grant opportunities applicable to Casitas projects. As good-fit grant opportunities are identified, KJ will work with Casitas to prepare competitive grant applications.

Having grant writers positioned within a full-service engineering firm has many benefits during the grant writing and application process:

- **Ability to round out a project.** KJ has the skill set to fill in any information gaps before a potential project is presented to the grant agencies. Grant agencies often want a grant project reasonably defined, including a breakdown of how a project will be implemented (e.g., pilot study, equipment selection, mobilization, well testing, well equipping). These are details that an engineering firm can lay out. Several members of the KJ staff, including Janet Hoffman, PE, are familiar with the costing principles used by grant agencies, and **KJ will structure grant application budgets to assure grantor agencies that Casitas projects are well thought out and will align with their budget expectations.**

  The Western Municipal Water District (Western) Arlington Basin Water Quality Improvement Project is an example of KJ's Engineers and Scientists skills to define the project and the tasks necessary to implement the project. At the time of grant application Western had feasibility studies documenting the benefit of recharge on the water quality produced by the Arlington Desalter. A specific recharge location had been identified just as the grant application was due. KJ Engineers prepared a basic layout for the site, specified unit quantities for the significant elements, and assigned costs consistent with federal cost principles. The project was awarded $1 million in federal grants and another $1 million in state grants.

- **Ability to demonstrate project benefits.** Documenting project benefits is critical in a grant application. KJ has worked on a wide range of projects, not just as engineers but as grant writers, and has a "library" of project benefits that can be documented for different types of projects. **Examples include demonstrating the efficacy of a treatment process, improved energy efficiency, reduced operational costs, reduced greenhouse gas reductions, and job creation.**

  The recent Proposition 1 Round 1 Integrated Regional Water Management Implementation Grant for Calleguas Municipal Water District is an example where broad experience with projects and project benefits benefit a KJ client. In the Proposition 1 Round 1 grant application, it was necessary to not only document benefits related to climate change, greenhouse gas emissions and water quality but to provide justification and calculations for all the project benefit claims. Having a library of other, similar, local projects and their performance made it possible for KJ to prepare a persuasive application.

Arlington Basin Water Quality Improvement Project | Western Municipal Water District

Relationships for Broad and Unique Grant Application Needs

KJ has relationships with other firms that can handle unique grant circumstances. For example, KJ has a Master Services Agreement with Corona Environmental. Corona Environmental includes a dedicated team of economists specializing in triple-bottom-line economic analyses. Corona's economists can quantify and assign value to benefits such as public health, recreational opportunities, water quality, and habitat preservation. KJ and Corona Environmental have teamed on grant applications that require extensive benefit, cost analyses, such as those used by California Office of Emergency Services and the Federal Emergency Management Agency and the California Water Commission.

Work for the Vail Dam Replacement Project is an example of the services provided by KJ to get funding for challenging projects. Vail Dam, constructed in 1948, impounds the Vail Lake reservoir, which has a storage capacity of approximately 46,000 acre-feet and serves as an essential source of recharge water to the Rancho California Water District (RCWD). In 2012, The California Division of Safety of Dams (DSOD) conducted a seismic evaluation of Vail Dam and concluded that the seventy-year-old dam is deficient based on seismic stability. DSOD now categorizes the hazard downstream of the dam as "Extremely High" and expects that failure of the structure during an earthquake would result in catastrophic flood conditions and significant adverse impacts to property and critical infrastructure. To minimize the risk, DSOD has required that RCWD reduces the amount of water stored in the lake, which has significantly impaired RCWD's water supply.

KJ put together a grant strategy for the project that involved applying to FEMA for the necessary seismic upgrades and concurrently prepared an applications to the California Water Commission for water storage. By combining grants from different sources, RCWD put together over $48 million (~74% of project costs) toward the project and started construction. KJ prepared the FEMA application and teamed with Corona Environmental to document recreational and habitat benefits of dam replacement for the California Water Commission.

Vail Dam Replacement Project | Rancho California Water District

Proposal Fee Estimate

Kennedy/Jenks Consultants

CLIENT Name: Casitas Municipal Water District

PROJECT Description: FY21-22 Grant Support Services

Proposal/Job Number: _____ **Date:** 8/2/2021

Custom Classification:	Eng-Sci-7	Eng-Sci-6	Eng-Sci-5	Eng-Sci-4	Eng-Sci-3	Eng-Sci-2	Project Assistant	Admin. Assist.	Aide	Total	KJ Labor	KJ ODCs Markup	Total Labor	Total Subs	Total Expenses	Total Labor + Subs + Expenses
Hourly Rate:	$265	$240	$215	$195	$180	$160	$125	$105	$80	Hours	Fees	10%				Fees
Funding Strategy/Project Management	20				58		2			80	$15,990	$0	$15,990	$0	$0	$15,990
Grant and Loan Updates	24				56		6			86	$17,190	$0	$17,190	$0	$0	$17,190
All Phases Total	**44**	**0**	**0**	**0**	**114**	**0**	**8**	**0**	**0**	**166**	**$33,180**	**$0**	**$33,180**	**$0**	**$0**	**$33,180**

Kennedy Jenks

Client/Address: Casitas Municipal Water District
1055 Ventura Avenue
Oak View, CA 93022

Contract/Proposal Date: FY 2021-22 Grant Support Services

Custom Schedule of Charges

Date: August 4, 2021

PERSONNEL COMPENSATION

Classification	Hourly Rate
CAD-Technician	$115
Senior CAD-Technician	$130
CAD-Designer	$150
Senior CAD-Designer	$170
Construction Inspector	$185
Senior Construction Inspector	$190
Construction Manager	$205
Senior Construction Manager	$230
Engineer-Scientist-Specialist 1	$130
Engineer-Scientist-Specialist 2	$160
Engineer-Scientist-Specialist 3	$180
Engineer-Scientist-Specialist 4	$195
Engineer-Scientist-Specialist 5	$215
Engineer-Scientist-Specialist 6	$240
Engineer-Scientist-Specialist 7	$265
Engineer-Scientist-Specialist 8	$280
Engineer-Scientist-Specialist 9	$295
Project Administrator	$125
Administrative Assistant	$105
Aide	$80

Direct Expenses

Reimbursement for direct expenses, as listed below, incurred in connection with the work, will be at cost plus ten percent for items such as:

a. Maps, photographs, 3rd party reproductions, 3rd party printing, equipment rental, and special supplies related to the work.
b. Consultants, soils engineers, surveyors, contractors, materials testing, specialty inspection firms and other outside services.
c. Rented vehicles, local public transportation and taxis, travel, accommodations and subsistence.
d. Project specific telecommunications and delivery charges.
e. Special fees, insurance, permits, and licenses applicable to the work.
f. Outside computer processing, computation, and proprietary programs purchased for the work.

Nominal field labor multiplier which covers overhead and profit is 2.8.

Reimbursement for vehicles used in connection with the work will be at the federally approved mileage rates or at a negotiated monthly rate.

If prevailing wage rates apply, the above billing rates will be adjusted as appropriate.

Overtime for Construction Inspectors and non-exempt employees will be billed at one and a half times the Hourly Rates specified above.

Rates for professional staff for legal proceedings or as expert witnesses will be at rates one and one-half times the Hourly Rates specified above.

Excise and gross receipts taxes, if any, will be added as a direct expense.

The foregoing Schedule of Charges is incorporated into the agreement for the services provided, effective July 1, 2021 through June 30, 2022. After June 30, 2022, invoices will reflect the Schedule of Charges currently in effect.

Proposed Scope

TASK 1 – FUNDING STRATEGY AND PROJECT MANAGEMENT

1A: DEVELOPMENT OF THE FUNDING STRATEGY

We propose a 3-step approach to identify and vet funding opportunities based on grant eligibility requirements and funding constraints. Each step poses a question that will help to match projects with funding opportunities.

- What are the Funding Opportunities?
- Which Project is a Good Fit?
- How to Implement the Strategy?

What are the Funding Opportunities

There are several resources available to find funding opportunities. Our team regularly searches these sites and communicates with funding agency representatives to find opportunities for our clients throughout California. The first step in this phase would be to update our existing list of all potentially viable grant and funding opportunities that may apply to Casitas projects.

Our team will provide a brief description of the grant requirements and funding constraints for those opportunities that seem most promising for Casitas projects.

Identify Best Fit Projects

KJ proposes holding a meeting or workshop to identify Casitas projects and gather information about each project. To facilitate broad participation, KJ suggests holding this meeting "virtually" using MS Teams. However, in-person meetings are also a possibility and can be held at Casitas headquarters or KJ's office in Oxnard.

Based on the opportunities identified and the meeting with Casitas, each Casitas project will be screened against each grant by asking the following questions:

- Is Casitas an eligible entity?
- What are eligible activities?
- Is there an aspect to the project that would make it ineligible?
- Is regional plan participation required?
- What amounts of money are available?
- What are the match requirements?
- How long does it take to get reimbursed?

Those projects that make it through this first screening will be presented to Casitas in a Draft Funding Matrix that includes potentially applicable current and future funding opportunities. Funding specifics and constraints will be listed. Our team will participate in a vetting workshop with Casitas to present the matrix and prioritize further investigation into the more favorable opportunities.

Implementing the Strategy

Preparation of a grant application takes money and sometimes a lot of information. There is typically less than 60 days to complete a grant application from announcement to the due date. Preparing your decision makers and gathering resources in advance will start the process in motion and make for a smoother application process. This step considers some of the internal decisions and actions that Casitas would require to be grant-ready. The responses to these questions will assist in prioritizing which grants may be pursued for a given project.

- ✓ Can we tell a good story that shows that a project is a good fit for the funding program?
- ✓ What studies need to be conducted to support the application?
- ✓ What is our internal approval process and schedule for decision makers?
- ✓ Do we have the time to develop a good application?
- ✓ Do we have relationships with the granting agency and/or the staff contact?
- ✓ Do we know what the competition is for this grant?

As part of this step, we would produce a list of recommended additional studies and actions that Casitas should complete to competitively position-specific projects (i.e. rigorous cost-benefit analyses, permitting, environmental clearances, etc.). This knowledge can provide a basis for estimating the effort needed to prepare for and competitively position for grants, and ultimately the probability of winning a grant.

For this final step, we would provide Casitas a list of items and actions that Casitas should instigated once projects and grant pursuits have been selected. We would have a final conference call to present the Final Funding Matrix, discuss the outcomes of this exercise and the next steps for moving forward.

Task 1a. Deliverables:

- Draft Funding Matrix; vetting workshop agenda; materials and meeting minutes; Funding Strategy Memorandum including funding matrix, discussion of recommended actions to be taken by Casitas to be grant-ready.

1B: PROJECT MANAGEMENT

KJ will conduct project management, including managing internal project setup, invoice review and quality assurance/ quality control review of deliverables.

TASK 2 – PREPARE GRANT AND LOAN UPDATE

Under this Task, KJ will monitor local, state, and federal grant programs such as those administered by the California Department of Water Resources (DWR); California State Water Resources Control Board; Division of Drinking Water; California Wildlife Conservation Board, California State Parks; U.S. Bureau of Reclamation; the U.S. Environmental Protection Agency, U.S. Economic Development Agency, and Federal Emergency Management. The research will be based on current knowledge of Casitas' project priorities. This task also includes evaluating whether priority projects are eligible for the grant funding opportunities. KJ will provide a summary matrix of grant opportunities applicable to priority projects monthly, July 2021 to July 2022.

Up to two KJ staff will attend monthly strategy meetings from July 2021 to July 2022 with Casitas staff and relevant stakeholders to discuss funding opportunities. The objective of the meetings will be to:

1. Narrow the focus on funding opportunities that Casitas should consider pursuing given highest priority needs.
2. Discuss project applicability and application requirements, including deadlines.
3. Tailoring and integrating projects to be competitive in grant applications.

Following each strategy meeting KJ will prepare a memo to summarize the meeting discussions, highlight the funding opportunities identified and suggest next steps. The memo will be provided to Casitas within one week of the meeting.

Task 2. Deliverables:

- Updated funding matrix, minutes from monthly strategy meetings.

Optional/Future Services

Grant Application Preparation and Grant Agreement Development

If and when grant programs are identified that Casitas would like to pursue, KJ will prepare a proposal to prepare the grant application. Upon acceptance of the proposal by Casitas, KJ will prepare grant applications. This task includes the development of the grant application with applicable project information and the grant submittal (hardcopy or electronic) as required by the individual grant. This task also includes assisting Casitas with developing materials needed to enter into assistance agreements with grant agencies.

Grant opportunities that may be of interest to Casitas and are anticipated soon include the following:

- **WaterSMART Drought Resiliency Projects:** Funding to implement projects that build long-term resiliency to drought and reduce the need for emergency response actions. Eligible activities include projects that increase the reliability of water supplies, improve water management, and provide benefits for fish and wildlife and the environment. Water meters alone are not eligible, but may be eligible if coupled with other suitable activities. Water reclamation, reuse and desalination are not eligible.
- **WaterSMART Environmental Water Resources Projects:** Funding for projects that result in quantifiable and sustained water savings, benefit ecological values, improve watershed management, and infrastructure improvements (including fish screens and ladders) that mitigate water supply impacts due to drought.
- **Building Resilient Infrastructure Communities:** The Building Resilient Infrastructure and Communities (BRIC) program makes federal funds available to states, U.S territories, Indian tribal governments, and local communities for pre-disaster mitigation activities. The guiding principles of the program are to (1) support state and local governments, tribes, and territories through capability and capacity-building to enable them to identify mitigation actions and implement projects that reduce risks posed by natural hazards; (2) encourage and enable innovation while allowing flexibility, consistency, and effectiveness; (3) promote partnerships and enable high-impact investments to reduce risk from natural

hazards with a focus on critical services and facilities, public infrastructure, public safety, public health, and communities; (4) provide a significant opportunity to reduce future losses and minimize impacts on the Disaster Relief Fund; and (5) support the adoption and enforcement of building codes, standards, and policies that will protect the health, safety, and general welfare of the public. Replacement of aging infrastructure and infrastructure needed to combat drought are eligible.

- **Proposition 1 Round 2 of the Integrated Regional Water Management (IRWM) Grant Program:** This funding is designed to encourage integrated regional strategies for management of water resources. The IRWM grants can be used to fund a broad range of project, including water reuse and recycling, water efficiency, water storage, stormwater projects, decisions support tools, water desalination. A portfolio of projects is put together to compete for IRWM funds and within the overall proposal projects must include activities to adapt to climate change and improve regional water self-reliance.
- **Regional Parks Program, California. State Parks:** Grant funding is provided to create or renovate a recreation feature, including acquisition of land, new or enhanced public access and use, development of trails and sports facilities, and more. Approximately $23 million is available; grant requests can range between $200,000 to $3 million. There is no match requirement.
- **Sustainable Groundwater Management Grant Program:** the California Department of Water Resources anticipates awarding $77 million in Proposition 68 funds in competitive grants to fund implementation projects that address drought and groundwater challenges to achieve regional sustainability for investments in groundwater recharge projects with surface water, stormwater, recycled water, and other conjunctive use projects; prevent or clean up contamination of groundwater that serves as a source of drinking water; that support water supply reliability, water conservation, and water use efficiency; and support water banking, exchange, and reclamation. Previous funding rounds have been focused on critically over drafted basins, future rounds will provide funding for medium- and high-priority basins.

Based on experience in preparing applications, we estimate costs for preparing single-agency grant applications between $10,000 to $22,000. In addition to the complexity of a grant application, grant application costs are also highly depend on the status of a project to be proposed and the level of information available. If a grant application involves a multi-agency effort with extensive review and input occurring by multiple stakeholders, the cost would increase per the increased level of effort.

Casitas Municipal Water District

APPENDIX A: KEY TEAM MEMBER RESUMES

Meredith Clement

Project Manager

Education
BS, Environmental Policy, Analysis and Planning, University of California at Davis, 1996
MS, City and Regional Planning, California Polytechnic State University, 2000
MS, Transportation Engineering, California Polytechnic State University, 2000

Memberships/Affiliations
American Public Works Association
American Water Works Association
Association of Environmental Professionals

Years of Experience
22 years

Professional Summary

Meredith has 22 years of environmental consulting experience on projects throughout California, particularly Southern California. Meredith has particular expertise with water planning projects, urban planning, grant and loan funding for infrastructure, and environmental compliance documentation, including the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). Meredith has applied these skills to helping clients acquire funds for water resources planning and implementation through grant and loan programs such as the Bureau of Reclamation WaterSMART, Department of Water Resources Integrated Regional Water Management Grant Program, State Water Resources Control Board Stormwater Grant Program, Federal Emergency Management Agency Hazard Mitigation Program, US Environmental Protection Agency, and the California State Revolving Fund.

Project Experience

GRANT PREPARATION, VAIL DAM REPLACEMENT PROJECT, RIVERSIDE COUNTY, CA | GRANT MANAGER | Led grant preparation of a California Office of Emergency Services/Federal Emergency Management Agency grant for replacement of Vail Dam in Riverside County, CA. This was a multiple step application involving technical analysis of benefits and costs. Ultimately project was awarded $58 million in grant funds.

GRANT PREPARATION, WATERSHEDS COALITION OF VENTURA COUNTY, INTEGRATED REGIONAL WATER MANAGEMENT PLAN GRANT APPLICATION, VENTURA, CA | GRANT MANAGER | Led the development of an Integrated Regional Water Management Plan grant application for funding under Proposition 84. Prepared the work plans, budgets, schedules, and cost-benefit analyses for six separate projects. The application was awarded $18 million in grant funds.

CHINO DESALTER PHASE 3 EXPANSION, CHINO BASIN DESALTER AUTHORITY, CHINO HILLS, CA – | GRANT MANAGER | Oversaw review and revisions to the applicable Reclamation Feasibility Study to cover evolving priorities and needs of the Phase 3 Expansion Project. After update of the Feasibility Study, proceeded to assist Chino Desalter Authority in applying for and receiving $26 million in funding.

SRF APPLICATION AND MANAGEMENT OF FUNDS, WESTERN MUNICIPAL WATER DISTRICT, RIVERSIDE, CA | PROJECT MANAGER | Prepared a SRF application for a non-point source pollution cleanup and abatement program being implemented by a multi-agency joint powers authority in the Inland Empire. Assisting with management of SRF funds, including developing language to be included in bid documentation, Buy American Iron and Steel and prevailing wage requirements.

Sachi Itagaki, P.E.

QA/QC

Education
BS, Ocean Engineering, Stanford University, 1984
MS, Civil Engineering, Water Resources, Stanford University, 2001

Registrations
Professional Civil Engineer, California (50221)

Certifications
Qualified SWPPP Developer, Certification Issuer

Memberships/Affiliations
American Public Works Association
California Stormwater Quality Association
Groundwater Resource Association of California
Peninsula Water Works Association

Years of Experience
29 years

Professional Summary

Sachi Itagaki has over 29 years of water resources and civil engineering experience, specifically in conducting water resource planning and management programs including surface water and groundwater investigations; utility (water, recycled water, wastewater, and stormwater) infrastructure management, master planning, modeling, and design studies; water quality and hazardous waste investigations; and supporting the preparation of CEQA Compliance documents and obtaining project permits. Since 2001, she has led and developed a funding assistance practice in Kennedy/ Jenks resulting in over $520 million of grant funding for Kennedy Jenks' clients. Sachi has worked on Ventura County planning and funding projects since 2001.

Project Experience

INTEGRATED REGIONAL WATER MANAGEMENT FUNDING:

- Calleguas Municipal Water District/ Watersheds Coalition of Ventura County
- Western Municipal Water District,
- San Bernardino Valley Municipal Water District
- South Tahoe Public Utility District
- Tuolumne Stanislaus IRWM
- Yosemite-Mariposa IRWM
- Westside Sacramento IRWM

- **DRINKING WATER FUNDING:**

- Calleguas Municipal Water District
- City of Calistoga
- City of Santa Cruz
- Knights Landing Community Services District
- Mckinleyville Community Services District

- **OTHER GRANT FUNDING**

Stormwater Funding for Monterey One Water, Yolo County Flood Control and Water Conservation District, South Tahoe Public Utility District

Groundwater Funding for Elsinore Valley Municipal Water District, Scotts Valley Water District, Solano County Water Agency, City of Salinas, South Tahoe Public Utility District

Catrina Paez

Grant Writing/Grant Preparation (Grant Support)

Education
BS, Environmental Sciences, University of California at Riverside, 2009
MS, Environmental Science and Management, University of California Santa Barbara, 2011

Years of Experience
12 years

Professional Summary

Catrina is a Water Resources Specialist with more than 12 years of experience conducting and assisting in environmental and water resource-related planning, research, and field work. Catrina provides consulting services for urban water management planning, supply and demand forecasting, and grant and loan funding. Catrina has successfully contributed to various funding applications for public works projects that have resulted in over $162 million in authorized State and federal grant funding and nearly $170 million in pending loan funding. She also currently conducts grant administration for over $71 million in grant funding, including Proposition (Prop) 84, Prop 1, and WaterSMART grants. Catrina also provides permitting assistance for National Pollution Discharge Elimination (NPDES) permits and has provided fieldwork assistance on tracer studies and pilot tests.

Project Experience

GRANT WRITING AND GRANT MANAGEMENT, CITY OF VENTURA, VENTURA, CA | GRANT WRITER & ADMINISTRATOR | Provide ongoing assistance to the City of Ventura for researching funding opportunities, preparing grant applications, and managing funding agreements. Prepared successful WIFIA Letter of Interest for nearly $120 million in loan funding and prepared FY21 Title XVI WaterSMART grant application for potential $2.5 million in grant funding. Conducting ongoing funding program monitoring and administration for existing Title XVI WaterSMART grant agreement.

WATERSHEDS COALITION OF VENTURA COUNTY (WCVC), GRANT APPLICATION SUPPORT AND ADMINISTRATION, COUNTY OF VENTURA, VENTURA, CA | GRANT WRITER & ADMINISTRATOR | Prepared successful applications for Prop 84 IRWM Round 2 Planning, Round 2 Implementation, 2014 Drought and 2015 Implementation grants for WCVC projects. Application tasks included preparing and editing project justification, workplan, budget, schedule, and DAC applicability, and completing online application using DWR's Grants Review and Tracking System (GRanTS). Ongoing administration of all four Prop 84 Implementation grant agreements totaling over $56 million. Tasks include quarterly invoicing and reporting, assistance with project completion reports and close-out, preparation and negotiation of grant agreement amendment requests, and regular coordination with DWR, project proponents and the County to ensure grant compliance.

AS-NEEDED GRANT SUPPORT SERVICES, RANCHO CALIFORNIA WATER DISTRICT, TEMECULA, CA | GRANT WRITER | Prepared CalOES/FEMA Hazard Mitigation Grant application for the Vail Dam Hazard Mitigation Project which was awarded $53.8 million. Grant application activities included preparation of all application components, including Benefit Cost Analysis. Provided administration assistance for the District's Prop 50, 84, 1 and Bureau of Reclamation grants, including regular invoicing and progress report preparation, coordination with funding agency, grant close-out assistance, post-performance report coordination, and general consultation.

Lauren Everett Smith

Grant Writing/Grant Preparation (Grant Support)

Education
BS, Environmental Studies, University of California, Santa Barbara, 1999
MS, Environmental Science and Management, University of California, Santa Barbara, 2001

Years of Experience
18 years

Professional Summary

Lauren is a Water Resources Planner with over 18 years of experience in environmental and regulatory compliance, water supply and demand management planning, integrated water resource planning, grant writing, grant administration, and project management experience in Southern California. She has a strong working knowledge of local, state, and federal laws pertaining to the management of water resources, including new legislation; specialized focus and demonstrated success in the implementation of Department of Water Resources (DWR's) Integrated Regional Water Management (IRWM) Grant Program, writing successful grant applications, and associated IRWM plan development and grant administration.

Project Experience

SANTA CLARITA VALLEY WATER AGENCY 2019 PROPOSITION 1 INTEGRATED REGIONAL WATER MANAGEMENT (IRWM) GRANT APPLICATION | PROJECT MANAGER | Currently managing the region's Prop 1 grant application that is requesting $7 million for projects in the Santa Clarita Valley.

MOJAVE WATER AGENCY – LAHONTAN REGION 2019 PROPOSITION 1 INTEGRATED REGIONAL WATER MANAGEMENT (IRWM) GRANT APPLICATION | PROJECT MANAGER | Currently managing the region's Prop 1 grant application that is requesting $4.1 million for projects in the Mojave IRWM Region.

SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT 2017 BUREAU OF RECLAMATION WATER CONSERVATION FIELD SERVICES GRANT | PROJECT MANAGER | Managed successful grant application and was awarded $100,000.

SANTA CLARITA VALLEY GROUNDWATER SUSTAINABILITY AGENCY 2017 SUSTAINABLE GROUNDWATER PLANNING GRANT PROGRAM, SANTA CLARITA VALLEY WATER AGENCY, SANTA CLARITA, CA | PROJECT MANAGER | Managed successful grant application and was awarded $416,106 for development of a Groundwater Sustainability Plan.

UPPER SANTA CLARA RIVER IRWMP PROPOSITION 84 ROUND 2 IMPLEMENTATION GRANT APPLICATION AND GRANT ADMINISTRATION, SANTA CLARITA VALLEY WATER AGENCY, SANTA CLARITA, CA | PROJECT MANAGER | Managed successful grant application and was awarded $7,006,481.

UPPER SANTA CLARA RIVER IRWMP PROPOSITION 84 ROUND 2 PLANNING GRANT APPLICATION AND GRANT ADMINISTRATION, SANTA CLARITA VALLEY WATER AGENCY, SANTA CLARITA, CA | PROJECT MANAGER | Managed successful grant application and was awarded $734,000.

Marina Magaña

Grant Writing/Grant Preparation (Grant Support)

Education
BA, Environmental Studies, minor in G.I.S.
University of California, Los Angeles, 2014

Memberships/Affiliations
American Water Works Association, Member

Years of Experience
6 years

Professional Summary

Marina is a Water Resources Specialist with more than six years' experience in providing consulting services for grant and loan funding. Marina has developed dozens of funding proposals for water resources projects throughout Southern California, resulting in over $63 million in grant funding and $245 million in loan funding. Marina has experience acting as a liaison with state and federal funding agencies on behalf of clients. Marina will provide grant support, including assisting with regular deliverables, submittals, and general coordination.

Project Experience

CWSRF CONSTRUCTION APPLICATION, CITY OF VENTURA, VENTURA, CA | GRANT SUPPORT | Responsible for preparing loan application to the Clean Water State Revolving Fund for a water recycling project.

WIFIA LOAN APPLICATION, CITY OF VENTURA, VENTURA, CA | GRANT SUPPORT | Briefly assisted with the preparation of financial information of a complete application to the WIFIA program for a water recycling project.

WILDLIFE CONSERVATION BOARD PUBLIC ACCESS GRANT APPLICATION, SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT, JURUPA VALLEY, CA | GRANT SUPPORT| Assisted with the preparation of a Public Access Program concept application for a wildlife habitat recreation project.

2020 URBAN WATER MANAGEMENT PLAN, VENTURA WATER, VENTURA, CA | TECHNICAL SUPPORT | Assisted with preparation and submittal of the 2020 Urban Water Management Plan for Ventura Water. Drafted and conducted analyses for priliminary report sections including but not limited to demand management measures, and water efficiency plan.

2020 URBAN WATER MANAGEMENT PLAN, JOSHUA BASIN WATER DISTRICT, JOSHUA TREE, CA | TECHNICAL SUPPORT | Assisted with preparation and submittal of the 2020 Urban Water Management Plan for Joshua Basin Water District. Drafted and conducted analyses for primary report sections, including supply and demand projections, water supply reliability, water use reduction targets, and water quality.

2020 URBAN WATER MANAGEMENT PLAN, PALMDALE WATER DISTRICT, PALMDALE, CA | TECHNICAL SUPPORT | Assisted with preparation and submittal of the 2020 Urban Water Management Plan for Palmdale Water District. Drafted and conducted analyses for primary report sections, including supply and demand projections, water supply reliability, water use reduction targets, and demand management measures.

Janet Hoffman, P.E., CEP

Cost Estimating

Education
BS, Mechanical Engineering, University of Southern California, 1994

Registrations
Professional Mechanical Engineer, Washington (36133)

Certifications
AACE International / Certified Estimating Professional (CEP), AACE International

Memberships/Affiliations
AACE International

Years of Experience
25 years

Professional Summary

Janet Hoffman is a mechanical engineer and Certified Estimating Professional (CEP) with experience in the design and construction of public, industrial, and institutional facilities. She regularly provides detailed construction cost estimates at planning level, conceptual, preliminary, interim, and final design levels for municipal and industrial wastewater, stormwater, and railroad fueling projects. She can provide clear Basis of Estimate reports and assessment, and include an appropriate level of detail for allowances and contingency factors at differing design levels. Janet also has extensive experience in the construction industry, leading the mechanical work on various of building, process, and industrial projects. Her construction experience includes preparing bids, scheduling, budgeting and cost forecasting, piping layouts, coordinating subcontractors, preparing submittals and O&M manuals, negotiating change orders and disputes, and starting up and commissioning systems using both the traditional design-bid-build and GC/CM contracting methods and has the unique perspective of having experience working both on the side of the contractor and as the engineer.

Project Experience

CHROMIUM-6 (CR6) COMPLIANCE DESIGN, NEWMAN, CITY OF, NEWMAN, CA | COST ENGINEER/ESTIMATOR | Provided cost estimating services for the predesign and design of a new groundwater well, storage tank, booster tank, chlorine disinfection, security, masonry wall, and transmission piping for the City of Newman. The initial well testing shows the ability to construct a 2,500 gallon per minute well to avoid the necessity of constructing groundwater treatment for Cr6. This project is being completed using the Drinking Water SRF Planning Grant for the predesign and design.

PURE WATER PROJECT TITLE XVI FEASIBILITY STUDY, LAS VIRGENES MUNICIPAL WATER DISTRICT, CALABASAS, CA | COST ENGINEER/ESTIMATOR | Project involves performing a Feasibility Study (FS) under at US Bureau of Reclamation WaterSMART grant for Pure Water Las Virgenes, a potable reuse project to further treat available recycled water from the Tapia Water Reclamation Facility at a new Advance Water Treatment Plant (AWP) and convey purified water to Las Virgenes Reservoir for later use as drinking water. The purpose of the Title XVI FS is to identify and investigate opportunities and determine the feasibility of the JPA to reuse wastewater. The focus of the study is to present the preferred alternative for the future potential indirect potable reuse (IPR) effort describing the quantities, treatment processes, conveyance system, brine discharge, and reservoir augmentation system in accordance with the USBR reporting requirements.

Casitas Municipal Water District

APPENDIX B: DELIVERABLE EXAMPLE

31 May 2013

Final Memorandum

To: Mike Prinz, City of Santa Rosa

From: Dawn Taffler, PE LEED® and Madison Casserly, EIT

Reviewer: Craig Lichty, PE and Meredith Clement

Subject: Laguna Treatment Plant Capital Improvement Program Granting Funding Assistance

[Project Order No. A010060-2011-07]

K/J 1368002*01

This memorandum documents work performed by Kennedy/Jenks Consultants to provide grant funding assistance for the City of Santa Rosa's Subregional Laguna Treatment Plant (LTP) Capital Improvement Program (CIP). The objective of this study is to identify potential grant opportunities for Subregional CIP Projects to potentially reduce the magnitude of the planned bond sale in 2013/2014 and minimize the burden on rate payers.

A 3-step approach was applied to identify and vet funding opportunities for the list of currently identified Subregional LTP CIP Projects. This memorandum summarizes the findings from this 3-step process, providing information on current and future funding programs, the level of effort required to pursue grants, the probability of success and the overal potential to maximize the offset of the next potential bond sale.

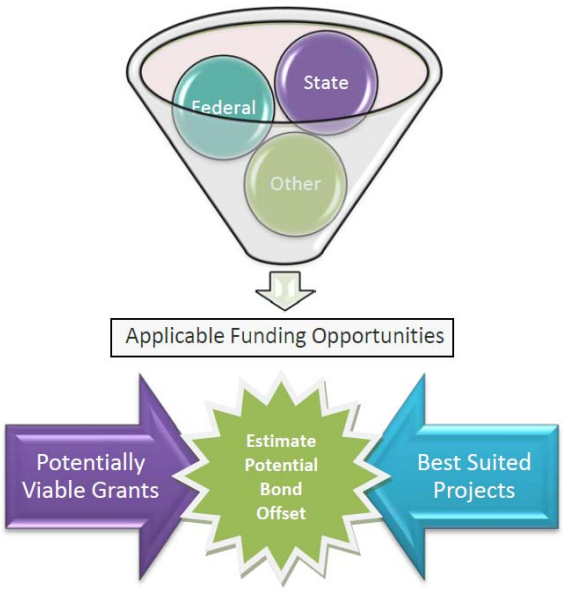
Understanding of Grant Funding

The outlook for 2013 infrastructure funding is good. There are a variety of sources available, and projects at the Subregional Plant have the added benefit of being able to demonstrate environmental protection alongside of infrastructure improvements. Many of the Subregional CIP projects can be shown to produce a relatively low cost, high impact solution to protecting vital infrastructure while providing major environmental and community benefits, such as protecting endangered species (steelhead and salmon) and habitat in the Laguna de Santa Rosa (Laguna). This is critical, as the granting agencies do not necessarily care about what you want to do; they care about meeting their program objectives. The more objectives your project meets, the more likely they are to get selected for funding.

Pursuing and implementing grants should be part of a long-term financial strategy for the City. It is critical to recognize that (1) grants are not guaranteed and (2) to get grants, the City will have to demonstrate that they have matching funds in place. Planning grants to provide a bond offset should be done so cautiously; to account for the worst-case scenario (not winning any grants) as well as the best-case scenario (resulting in early bond payback as grant funds are received).

Understanding the true costs of grants is important. There are varying levels of costs associated with applying for and managing grants, and only a small percentage of all grants are funded. Cities and agencies must be willing to commit internal resources or bring in outside consultants to execute high quality applications in order to be competitive. Some grant applications could cost tens of thousands of dollars, requiring detailed cost:benefit analyses or complex evaluations. The internal costs of managing a grant are also critical to factor in the decision to pursue a grant. Administrative requirements may deter the pursuit of grants for smaller projects, where the effort to maintain the grant exceeds the potential money that would be received. Fulfilling grant management commitments is important to maintaining a good reputation among granting entites and positioning for future grants.

Initiating a funding strategy typically begins with a funnel approach; investigating the world of potential funding sources to identify applicable funding opportunities for your projects. Potentially viable grants can then be vetted against a laundry list of projects to identify those that are best suited to meet specific grant objectives. The amount of grant funds available and chance of success can then be estimated to quantify the potential funds that may be received to help offset a bond or support an alternative long-term funding strategy.



Step 1: What are the Funding Opportunities?

A high-level evaluation of a comprehensive list of funding opportunities was performed to identify potentially viable grant opportunities for your CIP projects and to eliminate those that are clearly not applicable.

Table 1 identifies potentially viable grant and loan opportunities and provides a brief description of each; including a program description, summary of available funding, and implementation requirements. Grant and loan opportunities that appear to be more applicable for Santa Rosa LTP CIP projects are highlighted in grey and yellow, respectively. Funding agencies that may initiate future programs that could match with your CIP objectives for nutrient management and digester rehabilitation, such as future US Department of Agriculture and Department of Energy, respectively, are included in Table 1 for future tracking.

Table 2 lists other funding opportunities considered, but found not to be viable due to various considerations. Many grants state that existing agency mandates and O&M are not applicable for grant funding, thus many of the rehabilitation components of your CIP would not qualify. Several of the funding opportunities reviewed were clearly not well suited for consideration as the grant program objectives are unrelated to your CIP projects. Additional research was conducted for funding opportunities that had elements that could be eligible for your CIP projects; examples of these borderline opportunities include:

- **Flood Protection Corridor Program** - Excluded because the funding requirements include projects that install non-structural flood management facilities. The flood control projects in your CIP list include construction of levees, which would not qualify under this grant.
- **Hazard Mitigation Grant Program** - FEMA only provides funding to projects following a Presidential-declared major disaster and cannot apply grant funds retroactively.
- **US Bureau of Reclamation WaterSMART grant program** - Objectives address water focused projects rather than wastewater.
- **California Department of Public Health Prop 50** – Demonstration projects of treatment technologies for contaminant removal and disinfection are only eligible for treatment of water destined to be a potable water source.

The funding opportunities in Table 2 were ultimately deemed unsuited for further consideration due to the funding requirements and/or unrelated objectives, and are therefore not evaluated in Step 2.

TABLE 1: Potential Funding Opportunities

This table represents a list of potentially viable grant and funding opportunities that may apply for Santa Rosa LTP CIP projects.
Grant opportunities that appear to be more applicable for Santa Rosa LTP CIP projects.
Potentially viable loans

Funding Opportunity						Funding			Implementation		
Granting Agency	**Funding Opportunity**		**Type**	**Program Description**	**Eligible Project/ Applicants**	**Total $ Available**	**Max Potential Grant $**	**Min Required Match by Grantee[1]**	**Deadlines**	**Potentially Viable**	**Comments**
DWR	Prop 1E	Stormwater Flood Management Grant Program	Grant	This program is designed for projects that manage stormwater runoff to reduce **flooding damages** and are ready, or nearly ready, to proceed to implementation.	Adopted IRWMP	$92M	$30M	50%	Application due Feb 1, 2013	No	Continue to track for future opportunities.
	Prop 84 (Round 2)	IRWM Implementation Grant Program	Grant	Implementation Grants are intended for **projects that are ready for or nearly ready to proceed to implementation**, that assist local public agencies in meeting long term water needs of the state including the delivery of safe drinking water and the **protection of water quality and the environment.**	Adopted IRWMP	~$131M (state) $5.4M(NCIRWMP)	$30M Determined by each IRWM Funding Area.	25%	Application due March 29, 2013	No	Continue to track for future opportunities.
	Prop 84 (Round 3)					~$300M (state) ~$24M (NCIRWMP)	Determined by each IRWM Funding Area.	25%	Application due Fall 2014	Yes	Get project "shovel ready" - including CEQA approvals and prelim design
	Flood Control Subventions Program		Grant	This grant provides financial assistance to local agencies cooperating in the construction of **federally authorized flood control projects.**	Army Corps or NRCS approved projects authorized in Water Code Sections 12570, 12750, or 12850	TBD	TBD	30%	TBD	TBD	Flood control project would need to be federally authorized or authorized by NRCS. Furman group is not aware of funding authorized for Santa Rosa under this. Continue to track for future opportunities.
	Prop 84	Urban Streams Restoration Program	Grant	Grants to local communities for projects to **reduce flooding** and erosion and **associated property damages**; restore, enhance, or **protect** the natural ecological values of **streams**; and promote community involvement, education, and stewardship.	Separate from IRWM	$9M	$1M	0%	Proposal Solicitation Spring 2013	No	Project must fit the definition of "Urban Stream". Historical projects have favored streambed/creek restorations, erosion control, bank stabilization, etc. type projects. Backlog of projects from 2008 are first in line.
CDPH	Prop 50	Pilot & Demonstration Projects for Contaminant Removal Technologies	Grant	Funding for pilot and demonstration projects for **treatment or removal technologies** for the following contaminants: Petroleum products, Radionuclides, Pesticides and herbicides, Heavy metals, Pharmaceuticals and endocrine disrupters.	Public Water Systems under DPH regulation	$35M	$5M	50%	Proposal Solicitations anticipated in near future.	Yes	These Prop 50 grants are only eligible for treatment of water destined to be a potable water source. CDPH/DWR confirmed that wastewater from the LTP that is discharged or used for non-potable recycled water use would not be applicable. Continue to track for future opportunities related to wastewater treatment.
	Prop 50	Ultraviolet and Ozone Treatment		Projects must address a **Maximum Contaminant Level compliance** violation, surface water treatment microbial requirements, or other mandatory disinfection that can only be met by UV or ozone.			$5M	50%	Proposal Solicitations anticipated in near future.	Yes	
	Safe Drinking Water SRF		Loan	Low interest loans for eligible projects that promote economic development, attract, create and sustain long-term employment opportunities.	Water Treatment Plant projects.	-	$30M / yr / entity	0%	4/5/2013	No	Loan only available to eligible water treatment plant projects.
SWRCB	Clean Water SRF		Loan	Low interest loans for eligible projects that promote economic development, attract, create and sustain long-term employment opportunities.	Wastewater treatment, nonpoint source pollution control , and watershed and estuary mgmt.	$200-300M annually	$50M / yr / agency	0%	Ongoing	Depends on loan vs bond economics and City preference	Projects must be on Project Priority List (PPL) and are focused on cleaning up a point source. Requires CEQA+. Administrative requirements and City long-term financial strategy must be considered.
	Water Recycling Funding Program	Facilities Planning Grant Program	Grant	Planning studies for water recycling using treated wastewater and/or treated groundwater. Grants provided for studies to determine feasibility of using recycled water to offset the use of fresh/potable water.		$7.7M	-	50%	Ongoing	No	Projects must offset fresh or potable water supply. Pollution control studies cannot be funded
		Construction Funding Program	Grant	Construction of water recycling facilities. Grants available to projects that directly benefit State Water Supply and the Delta, State Water Supply, Local Water Supply, or Local Groundwater Reclamation.	SWRCB's CPL list and/or SRF priority list.	-	$5M	75%	Ongoing	Yes	Typically associated with new recycled water facilities, however a combined stormwater/recycled water facility may be considered.
I-bank	Infrastructure SRF		Loan	Low interest loans for eligible projects that promote economic development, attract, create and sustain long-term employment opportunities.	Drainage, water supply & flood control, environmental mitigation, sewage collection and treatment.	-	$10M	0%	Ongoing	Depends on loan vs bond economics and City preference	2-step application process. Administrative requirements and City long-term financial strategy must be considered.

TABLE 1: Potential Funding Opportunities

This table represents a list of potentially viable grant and funding opportunities that may apply for Santa Rosa LTP CIP projects.
Grant opportunities that appear to be more applicable for Santa Rosa LTP CIP projects.
Potentially viable loans

Funding Opportunity						Funding			Implementation		
Granting Agency	**Funding Opportunity**		**Type**	**Program Description**	**Eligible Project/ Applicants**	**Total $ Available**	**Max Potential Grant $**	**Min Required Match by Grantee[1]**	**Deadlines**	**Potentially Viable**	**Comments**
US ACOE	Environmental Infrastructure	Water Resources Development Act of 2007	Grant	**Design and construction of water related infrastructure.**	Requires federal authorization	TBD	TBD	25%	Ongoing	TBD	City is not included in WRDA 2007 Authorization. WRDA 2013 authorization in progress, unsure if earmarks will be allowed.
US Department of Agriculture - NRCS	Conservation Innovation Grants		Grant	Development and adoption of innovative conservation approaches and technologies, while leveraging the Federal investment in environmental enhancement and protection in conjunction with agricultural production.	non-Federal governmental organizations	$25M	TBD	50%	Ongoing	TBD	Future programs may match with your CIP objectives for nutrient management. Initiate discussions with nutrient management team and Furman Group as appropriate.
	California Conservation Innovation Grant Program (CIG)		Grant	Program Outreach Nutrient Management, Energy Conservation, Soil Health, Wildlife, Economics, Co-Management for Food Safety and CIG Projects Assessment	non-Federal governmental organizations	TBD	TBD	50%	Pre-proposal applications is March 22, 2013	No	
FEMA	Predisaster Mitigation Program (PDM)		Grant	Assist in cost-effective mitigation activities that complement comprehensive mitigation programs, **reduce injuries, loss of life, and damage and destruction of property**.	Requires a FEMA accepted hazard mitigation program.	TBD	$3M	25%	ASAP	Yes	Sonoma County Hazard Mitigation Plan. 1st - City submits a Notice of Interest (NOI) to CalEMA (1-page description), which groups applications by County. 2nd - submittal to FEMA (intensive application)
US Department of Energy	Specific opportunity not identified at this time		TBD	Specific opportunity not identified at this time	TBD	TBD	TBD	TBD	TBD	TBD	Future programs may match with your future digester rehabilitation strategy. Initiate discussions with Furman Group as appropriate.
CA Energy Commission	Self-Generation Incentive Program (SGIP)		State Rebate Program	Eligible efficiency technologies such as Combined Heat and Power (CHP) and Cogeneration. Eligible Renewable/Other Technologies include : Wind, Fuel Cells, CHP/Cogeneration, Advanced Energy Storage Technologies, Pressure Reduction Turbine, Biogas, Waste heat to power/Bottoming-Cycle CHP, Fuel Cells using Renewable Fuels	Commercial, Industrial, Residential, Nonprofit, Schools, Local , State and Fed. Government, Institutional	$33.5M	$5M	40%	1/1/2016	Yes	The City is currently pursuing the SCIP for the Combined Heat and Power Project through PG&E. The driving factor is the 1MW of digester gas that we are using in the new engines.
	Renewable Energy Secure Communities (RESCO)		Grant	no current opportunities, last 2012 opportunity - Community Scale Renewable Energy Development, Deployment and Integration		TBD	TBD	TBD	TBD	TBD	Energy efficiency grants may apply to future digester projects, energy efficiency improvement, and other projects that reduce the amount of 'traditional' energy imbedded in treatment process.

[1] Refers to the minimum amount the grantee is expected to provide relative to the total project cost. The actual match by Grantee may be greater depending on the project cost, max potential grants available per projects, and total available funds for the grant opportunity

Table 2: Other Opportunities Considered

The following list funding opportunities were reviewed but not included in table above due to obvious inapplicability to list of projects. More information can be provided if requested.

	Funding Opportunity	*Reasons not applicable for LTP CIP Projects*
1	2013 Water Desalination Program (DWR)	Supports brackish water and seawater desalination as a water supply or quality option.
2	Five Star and Urban Waters Restoration Program (EPA)	Competitive projects will meet overall program elements that include: on the ground restoration, meaningful environmental education, diverse partnerships, and measurable ecological and educational/social benefits. Competitive projects focus on one or more of the following: urban forest restoration, education, outreach & training, stormwater management, monitoring, and outdoor recreation.
3	The Orphan Site Cleanup Fund (SWRCB)	Projects that address brownfields sites contaminated by leaking petroleum underground storage tanks.
4	The Cleanup and Abatement Account (SWRCB)	Grants for the cleanup or abatement of a condition of pollution when there are no viable responsible parties available to undertake the work.
5	Clean Beaches Initiative (SWRCB)	Funding for projects that restore and protect water quality and the environment of coastal waters, estuaries, bays, and near shore waters. Priority to projects that reduce bacterial contamination on public beaches. Further, the only beach in Sonoma County noted in the 2012 list is Campbell Cove State Park Beach.
6	Desalination and Water Purification Research and Development (USBR)	Projects intended to augment the supply of usable water, understand environmental impacts of desalination and develop approaches to minimize those impacts, and develop approaches to limit financial costs of desalination.
7	Water Conservation Field Services Program – Southern California Area (USBR)	Projects/activities that make more efficient use of existing water supplies through water conservation and efficiency in the Southern California Area Office of USBR.
8	Flood Protection Corridor Program (DWR)	Non-structural flood management projects that include wildlife habitat enhancement and/or agricultural land preservation components.
9	Federal CWA 319(h) Nonpoint Source Grant Program (SWRCB)	Projects that reduce, eliminate, or prevent water pollution resulting from polluted runoff and that enhance water quality in impaired waters.
10	Public Works and Economic Adjustment Assistance Programs (Economic Development Assistance Programs of the Economic Development Administration)	This program can fund water and energy efficiency, water recycling, renewable energy production and energy and water audits as long as job creation criteria is met by the project. Deadline was 11/26/12. Projects are funded by the Economic Development Act - development of economically distressed areas.
11	Urban Greening Grant Program (Natural Resources Agency)	Projects that preserve, enhance, increase or establish community green areas such as forests, open spaces, wetlands, and community spaces.
12	Planning and Local Technical Assistance Programs	Creating regional economic development plans designed to stimulate and guide the economic development efforts of a community or region, particularly in economically distressed regions.
13	Seawater Intrusion Control Loan Program (SWRCB)	Design and construction of publicly owned facilities necessary to protect groundwater quality in basins threatened by seawater intrusion.
14	Local Water Supply Project Construction Loan (DWR)	Construction and feasibility study loans for the development of local water supplies. Eligible projects include a canal, dam, reservoir, desalination facility, groundwater extraction facility, or other construction or improvement, including rehab of a dam for water supply purposes which will remedy existing water supply problems.
15	USDA Rural Development Grant Assistance Programs (includes the Rural Business Enterprise Grants (RBEG) Program, Rural Energy for America - Renewable Energy System and Energy Efficiency Improvement Guaranteed Loan and Grant Program, and Water and Waste Disposal Direct Loans and Grants)	In general, the Rural Development Grant Assistance Programs are for projects that serve small/rural businesses and communities (populations up to 10,000).
16	Community Facility Grants	Development of essential community facilities in rural areas and towns of up to 20,000 in population.
17	Hazard Mitigation Grant Program	Provides grants to implement long-term hazard mitigation measures after a major disaster declaration.
18	CDBG Infrastructure Financing (Dept of Housing & Community Development)	Grants and technical assistance available to develop livable urban communities by expanding economic opportunities and providing housing and suitable living environments.
19	Prop 204: Drainage Reuse Program	Develop methods for drainage water reduction and reuse, reducing or removing toxic trace elements, concentrating drainage salts, utilizing accumulated salts.
20	USBR: WaterSMART	When FY2013 appropriations are made, USBR will determine if WaterSMART will grant funds for Advanced Water Treatment Pilot & Demonstration Project Grants. Else, appears to be Water focused, rather than wastewater.
21	USBR: Title XVI	Santa Rosa projects are not listed on Title XVI legislation.
22	DWR Urban Streams Restoration Program	Project must fit the definition of "Urban Stream". Urban stream means a creek which crosses built-up residential, commercial, or industrial property, or which crosses land where, in the near future, the land will be residential, commercial, or industrial.
23	CDPH Prop 50: Demonstration Pilot Program and UV/Ozone Treatment Grants	These Prop 50 grants are only eligible for treatment of water destined to be a potable water source. CDPH/DWR confirmed that wastewater from the LTP that is discharged or used for non-potable recycled water use would not be applicable.

Step 2: Which Project is a Good Fit?

Considering the opportunities identified in Step 1, the list of 25 Subregional CIP projects was screened against the viable funding opportunities based on eligibility and appropriateness of financing. Table 3 provides a brief description of each project and potential project benefits. The check marks, which indicate project benefits, visually highlight those projects that have the potential to meet multiple grant objectives. As previously noted, funding agencies pay particular attention to a project's ability to meet that agency's objectives when reviewing applications. Therefore, those projects which have the potential to meet multiple objectives correspond to multiple potential grant opportunities.

The last columns in Table 3 provide a high-level estimate of funding amounts that could be available for each project, based the maximum percent matching from the grant, the maximum amount that could be funded for each project, and an estimate of the success rate. For the purpose of this high-level analysis, the estimated success rate is based 75 percent on how well the project meets the grant criteria and 25 percent on how competitive the grant program is.

Table 4 compares loans versus bonds. A simplified compounded interest calculation was performed to compare the cost of a State Revolving Fund (SRF) loan versus an AA rated bond if $20 million was issued in a lump sum based on interest rates available on 21 March 2013. Table 4 also includes a summary of additional considerations associated with a SRF loan and bond. The decision to pursue a SRF loan is part of the long-term financial strategy for the City and is beyond the scope of this memorandum.

Step 3: How to Implement the Strategy?

Preparation of a grant application requires money and sometimes a lot of information. From announcement to due date, there is typically less than 60 days to complete a grant application. Preparing your decision makers and gathering resources in advance will start the process in motion and make for a smoother application process. The following section outlines activities and considerations to prepare for grant pursuits now and in the future.

Near-Term Internal Preparation

To start the process in motion, the following internal decisions, materials and activities should be initiated by the City in the near-term:

- **Identify the decision making process** - know who will be involved in making a go/no go decision, develop statements with signatures from department heads responsible for final approval and estimate the schedule/timeline required to get those approvals.
    - Commonly grant agencies require that applicants provide, on letterhead, information documenting that they are a local public agency (date of incorporation,

Table 3: Potential Grants for Each Project

Subregional CIP			Supporting Information from City		Project Benefits							Grant Funding Potential					
Project	**Project Cost Estimate**	**City Priority**	**Description**	**Level of Work Performed to Date**	**Prevent Infrastructure Failure**	**Prevent Loss of Life**	**Seismic Mitigation**	**Flood Mgmnt**	**Improve Env/ Habitat**	**Improve Water Quality**	**Energy Reduction/ Production**	Funding Opportunity	Maximum Percent Matching from Grant[1]	Maximum Grant Potential for Project[2]	Estimated Success Rate[3]	Estimated Bond Offset[4]	Comments
Flood Berm	$8,400,000	high	Construct a flood berm around East, South and West sides of Plant to prevent flooding of Plant as occurred in 2006. Recently updated FEMA flood mapping shows the southern half of the Treatment Plant is in the 100-year Flood Plain. Flood berm will help prevent discharges to the Laguna in extreme flood events and will protect the treatment process for sewer flows from Santa Rosa, Sebastopol, Rohnert Park and portions of Sonoma County.	Got into IRWMP 1/16/2013, cost includes design, planning, permitting, CTS compensatory mitigation	☑			☑	☑	☑		DWR Prop 84 (Round 3)	50%	$4,200,000	20%	$840,000	Get project "shovel ready" - including CEQA approvals and prelim design
												DWR Flood control Subventions Program	70%	$5,880,000	TBD	TBD	Requires earmark appropriation. Discuss potential to lobby with Furman Group.
												FEMA Predisaster Mitigation Program	75%	$3,000,000	25%	$750,000	Dry Flood proofing - sealing the structure to keep floodwaters out of non-residential structures (NFIP). Minor Localized Flood Reduction Projects - decrease predicted flood damages
Superstructure Removal	$3,900,000	high	Remove majority of above-ground (floor level) structure around Primary Sed Tanks to prevent failure in seismic event. A condition assessment of all structural facilities at the Subregional Plant was completed and this was one of the more critical items that could cause loss of life and damage of property. In addition, failure of this structure could upset the treatment process.	Got into IRWMP 1/16/2013, cost includes design, planning, permitting	☑	☑	☑		☑	☑		DWR Prop 84 (Round 3)	50%	$1,950,000	10%	$195,000	Structure retrofitting of existing buildings through modification of structural elements to reduce or eliminate the risk of future damage and to protect inhabitants. Infrastructure Retrofit - to reduce risk to existing utility systems.
												FEMA Predisaster Mitigation Program	75%	$2,925,000	15%	$440,000	Project represents a cost-effective mitigation activities that reduce potential for injuries, loss of life, and damage and destruction of property.
Disinfection Expansion	$10,000,000	high	A modification of the existing UV system is needed to increase disinfection capacity to establish adequate capacity during peak wet weather flows. Current UV system is being de-rated in capacity due to recent CDPH regulations. Alternatives include the use of Ozone to preterit the flows prior to the UV resulting in a reduction in energy use and a decrease in GHG production.	ballpark cost, evaluation of existing efficacy, potential options (e.g. ozone) ongoing					☑	☑							
Nutrient Removal Process Changes	$10,000,000	high	An analysis is being conducted to evaluate potential physical process changes at the Treatment Plant that would improve nutrient removal and harvesting. A reduction in nutrients will assist in the compliance with the current NPDES Permit requirement of zero, no net loading to the Laguna until a TMDL is developed.	ballpark cost, evaluation of process enhancements ongoing, needs to make economic sense relative to nutrient offset program and portion of year that the enhancements will make a difference					☑	☑		US Department of Agriculture (USDA) and Natural Resource Conservation Service (NRCS)	TBD	TBD	TBD	TBD	Coordinate with Dave Smith and Jennifer Burke regarding potential nexus with nutrient credit trading program. Discuss potential federal opportunities with Furman Group.
Compost Building Coatings	$1,000,000	high	Rehabilitation of widespread existing coating deficiencies on structural steel in the Compost Facility. A condition assessment of all structural facilities at the Subregional Plant was completed and this was one of the more critical items that was identified to be addressed to prevent premature failure.		☑	☑											
Influent Discharge Boxes	$763,000	high	Due to the high corrosive condition of the influent, a repair and coating of the concrete at the Influent structure, in addition to replacing the concrete slab over the channel, is needed. A condition assessment of all structural facilities at the Subregional Plant was completed and this was one of the more critical items that could cause loss of life and damage of property. In addition, failure of this structure could upset the treatment process.	planning level cost	☑	☑			☑	☑							
Primary Influent & Effluent Channels	$341,000	high	Due to the high corrosive condition of the influent, surface mortar repair and epoxy coating of the interior surface are needed. A condition assessment of all structural facilities at the Subregional Plant was completed and this was one of the more critical items identified.	planning level cost	☑				☑								
Pond leakage study	$1,000,000	high	A study is needed to evaluate the water quality of any water that could potentially be leaving the reclaimed water storage ponds and entering the Laguna de Santa Rosa.	estimate from Jennifer B.					☑	☑							

Table 3: Potential Grants for Each Project

Subregional CIP			Supporting Information from City		Project Benefits							Grant Funding Potential					
Project	**Project Cost Estimate**	**City Priority**	**Description**	**Level of Work Performed to Date**	**Prevent Infrastructure Failure**	**Prevent Loss of Life**	**Seismic Mitigation**	**Flood Mgmnt**	**Improve Env/ Habitat**	**Improve Water Quality**	**Energy Reduction/ Production**	Funding Opportunity	Maximum Percent Matching from Grant[1]	Maximum Grant Potential for Project[2]	Estimated Success Rate[3]	Estimated Bond Offset[4]	Comments
Pond 1 Berm	$2,000,000	high	To address water quality of the recycled water used to provide irrigation water to Santa Rosa customers, a modification of the storage pond is needed. In addition, this modification will allow for additional wet weather storage to help manage peak storm events reducing overflows and impacts to the Treatment Plant.	estimate from Jennifer B.	☑			☑	☑	☑		DWR Prop 84 (Round 3)	50%	$1,000,000	20%	$200,000	Submit project description to North Coast IRWMP. Get project "shovel ready" - including CEQA approvals and prelim design
												FEMA Predisaster Mitigation Program	75%	$1,500,000	30%	$450,000	Minor Localized Flood Reduction Projects - decrease predicted flood damages through stormwater management activities such as creating retention/detention basins
												DWR Flood control Subventions Program	70%	$1,400,000	TBD	TBD	Requires earmark appropriation. Discuss potential to lobby with Furman Group.
												SWRCB Water Recycling Construction Funding	25%	$500,000	25%	$125,000	Combination stormwater retention-RW storage may qualify under either Water Recycling or as a CWSRF 212 project. Further discussion with SWRCB warranted
Filter valve actuators and valves	$900,000	high	To address aging infrastructure, this project will procure and install new actuators and refurbish valves that control backwash for tertiary filtration.	see TM from CH2MHill	☑												
Natural Gas Engine Conversion	$1,300,000	high	This project would convert two Combined Heat and Power engines to run on 100% natural gas and satisfy all Air Board requirements. Currently, they are only used to run on digester gas and can be used with natural gas in emergency situations. Conversion of two of the engines will allow for the Plant to reduce the impact to the power grid during peak usage times.	see TM from B&C							☑	Department of Energy or CA Energy Commission	TBD	TBD	TBD	TBD	Potential energy grant funding opportunities may arise as the philosophy for digester rehabilitation evolves. There may be the potential to bundle multiple projects together to tell a story that shows energy savings. Embarking on an energy master plan or implementing alternative energy projects would likely increase the success of grant pursuits in the energy arena. A specific funding opportunity and estimated offset could be added in the future once a project strategy is confirmed.
Digester Roof Replacement	$5,000,000	medium	To address aging infrastructure and increase gas capture, this project would replace floating roofs with fixed roofs on two Digesters to promote additional methane capture, increasing the amount of energy from new cogeneration project.	planning level cost, potential scope and/or priority change contingent on biosolids mgmnt strategic plan	☑						☑		TBD	TBD	TBD	TBD	
Digester 4 Rehabilitation	$117,000	medium	As part of a facility-wide condition assessment, this project was identified to address corrosion of the columns by coating, replacing aging pressure relief valves, associated pipe and recoating the upper portion of the structure to prevent corrosion and premature failure.	planning level cost, potential scope and/or priority change contingent on biosolids mgmnt strategic plan	☑								TBD	TBD	TBD	TBD	
Digester 3 Rehabilitation	$300,000	medium	As part of a facility-wide condition assessment, this project was identified to conduct concrete rehabilitation and recoating for the upper portion of the structure to prevent additional corrosion and premature failure of the Digester.	planning level cost	☑								TBD	TBD	TBD	TBD	

Table 3: Potential Grants for Each Project

Subregional CIP			Supporting Information from City		Project Benefits							Grant Funding Potential					
Project	**Project Cost Estimate**	**City Priority**	**Description**	**Level of Work Performed to Date**	**Prevent Infrastructure Failure**	**Prevent Loss of Life**	**Seismic Mitigation**	**Flood Mgmnt**	**Improve Env/ Habitat**	**Improve Water Quality**	**Energy Reduction/ Production**	Funding Opportunity	Maximum Percent Matching from Grant[1]	Maximum Grant Potential for Project[2]	Estimated Success Rate[3]	Estimated Bond Offset[4]	Comments
Warehouse/Mechanical Tech Office Expansion, incl seismic issues	$1,000,000	medium	Increase square footage to accommodate existing staff workspaces, address seismic problems with existing building	planning level cost, need to coordinate with seismic improvements to the overall building	☑	☑	☑					FEMA Predisaster Mitigation Program	TBD	TBD	TBD	TBD	These projects include seismic non-structural retrofitting to reduce the risk of death, serious injury, and property damage during a future earthquake event. Additional information is needed to identify the cost of those portions of the project that are related to seismic upgrades. May be beneficial to create a new project that focuses solely on seismic upgrades for the entire plant rather than bundling multiple projects together that include non-seismic related upgrades.
Primary Treatment Structure / Headworks Enclosure	$2,000,000	low	As part of a facility-wide condition assessment, this project was identified to remove part of the superstructure, rehab/replace concrete decking and perforated concrete walls of headworks, replace the concrete roof deck with galvanized to prevent premature failure in a seismic event.	planning level cost $2M-$5M, MDP adjusted cost to exclude primary superstructure demo - verify w/Carollo	☑	☑	☑		☑				TBD	TBD	TBD	TBD	
Maintenance Building	$158,000	low	As part of a facility-wide condition assessment, this project was identified to add shear walls and collector beams, modify precast panel and roof connections to prevent property loss in the event of a seismic event.	planning level cost	☑	☑	☑						TBD	TBD	TBD	TBD	
Annex Building & Primary Clarifier	$555,000	low	As part of a facility-wide condition assessment, this project was identified to replace concrete and masonry walls with non-load bearing walls, modify concrete moment frames and isolate precast infill walls to prevent loss of life, damage of property and disruption of the treatment process in the event of a seismic event.	planning level cost	☑	☑	☑		☑				TBD	TBD	TBD	TBD	
Settled Sewage, RAS, & Mixed Liquor Channels	$1,310,000	medium	As part of a facility-wide condition assessment, this project was identified to address surface mortar repairs and epoxy coating the interior surface area where needed to prevent premature failure and impacts to the treatment process.	planning level cost	☑				☑								
Exterior RAS Pipe Evaluation	$8,000	medium	As part of a facility-wide condition assessment, this project was identified to determine if a minimum thickness of 12-inch RAS pipe with pitting is sufficient.	planning level cost	☑												
Cathodic Protection System	$85,000	medium	As part of a facility-wide condition assessment, this project was identified to conduct geotechnical soil analysis to confirm results of in situ testing. Based on results, prioritize systems for Cathodic Protection.	planning level cost	☑												
Secondary Effluent Channel	$14,000	medium	As part of a facility-wide condition assessment, this project was identified to replace sealants and monitor the concrete carbonation.	planning level cost	☑												
Final Effluent Channel	$49,000	medium	As part of a facility-wide condition assessment, this project was identified to inject epoxy into cracks, reapply expansion joint sealant, repair concrete, and coat the concrete to prevent premature failure of the channel.	planning level cost	☑				☑								
Chemical Building	$140,000	low	As part of a facility-wide condition assessment, this project was identified to modify connections of the piping, replace tinted glass with laminate and add flexible couplings for W3 pipe.	planning level cost													
Cathodic Protection	TBD	low	As part of a facility-wide condition assessment, this project was identified to replace components or upgrade systems throughout the Treatment Plant to prevent further corrosion.	planning level cost	☑												
TOTAL	**$50,340,000**																
Probable Funding																**$3,000,000**	

[1] Refers to the maximum percent the grantor is expected to provide relative to the total project cost.

[2] The maximum grant potential is calculated as the minimum of (1) the max percent matching from the grant times the project cost estimate, and (2) the maximum potential grant for each project. The actual grant potential could also be less depending on the total available funds and number of applicants awarded for each grant opportunity.

[3] The estimated success rate depends how well the project meets the grant criteria and how competitive the grant program is.

[4] The estimated bond offset is calculated as the maximum grant potential for the project multiplied by the estimated success rate. This value does not include costs incurred to apply for and manage grants.

Table 4: Simplified Debt Issuance Comparison

Example of CWSRF Loan Vs Bond

Borrowing	**CWSRF[1]**	**AA Bond[2]**	
Term	*20-year*	*20-year*	*30-year*
Amount of Issue	**$20,000,000**	**$20,000,000**	**$20,000,000**
Bond Interest Rate	**1.9%**	**3.5%**	**3.7%**
Bond Term	**20**	**20**	**30**
Equal Annual Debt Service	$1,211,400	$1,400,900	$1,108,000
payment over life of loan	**24,228,000**	**28,018,000**	**33,240,000**
cost of loan	4,228,000	8,018,000	13,240,000
increase over CWSRF		90%	213%
Other Expenses[3]			
Bond Issuance Costs	$	$$	$$
Administrative costs	$$		

[1] CWSRF rate provided by Per David Balgobin (SWRCB Financing Division) on 3/21/2013

[2] Bond Market Yield for AA rated City per website http://www.fmsbonds.com

[3] Other expenses not quantified for this level of analysis

Other Considerations	
CWSRF	**Typical Bond**
lower interest rate	higher interest rate
more administrative effort	less administrative effort
20-year payback	optional payback periods
increased time required to get loan	less time required to get loan
funds may not be availabile (higher risk)	funds likley availabile (lower risk)
cannot be used for grant matching $	can be used to match grant $
don't start repayment until construction begins	immediate repayment
requirement to “Buy American Steel"	potential for prepayment penalties
debit service ratio requirement of 1:1	
cannot be junior to any other debt	
requires a CEQA/CEQA +	

description of whether they are a common law or charter city). In addition this letter should also document that the applicant (City) has the legal authority to enter into agreements with the State of California and the U.S. Federal Government.

- Grant agencies also ask for a Resolution from the City Council giving a Department Head or City Manager the authority to prepare grant application and to enter into grant agreements with the State or Federal government. Often these letters have to specifically mention the project that is subject of the application and the grant program. However, it can be very difficult to get these Resolutions through Council in the limited timeframe given by the grant. In this case having a general resolution is useful as the general resolution can be provided with the grant application with the specific Resolution to follow as soon as possible.

- **Prepare stock language** - to support the application process, line up technical writers and graphics support to craft general information. This includes but is not limited to:
  - Overview of City of Santa Rosa
  - Specific Information on the Laguna Subregional Treatment Plant
  - Geographic Specific Information
  - Information on City's Capacity to Implement Projects
  - Information on City's Capacity to Manage Grants
  - Secured Funding for Match Portion of Grant Projects – typically from user fees, past/future bond sale or other revenue source.
  - Documentation of any funding partner agreements
  - Letters of support for projects from relevant stakeholders (other users, regulatory agencies)

- **Documentation of compliance** – with those State laws that are a pre-requisite for grant funds. Several agencies of the State of California cannot provide funds to agencies unless these agencies:
  - Are in compliance with the Urban Water Management Plan Act (here the City should provide documentation of submittal of plan to Dept. of Water Resources and Letter of Completeness from the Dept. of Water Resources).
  - Are in compliance with water mater requirements of Cal. Water Code Section 529.5.
  - Are in compliance with Assembly Bill 1420 (this documentation was probably completed along with the Urban Water Management Plan and should be readily at hand).
  - For projects that directly affect groundwater, a description of the status of the applicable Groundwater Management Plan or applicable adjudication. If there is not a Groundwater Management Plan consistent with Cal Water Code Section 10753.7 or adjudication, an applicant pursuing a groundwater project will have to commit to preparing a Groundwater Management Plan.

- If a surface water diverter, an applicant must document compliance with surface water diversion reporting requirements of Part 5.1 Section 5100 Diversion 2 of the California Water Code.

- **Build relationships with funding agencies** - particularly the staff contact for specific grants that are being considered for the CIP projects. These individuals can be your coaches and answer questions. Based on the funding opportunities identified in Table 3, we recommend that the following contacts are initiated:

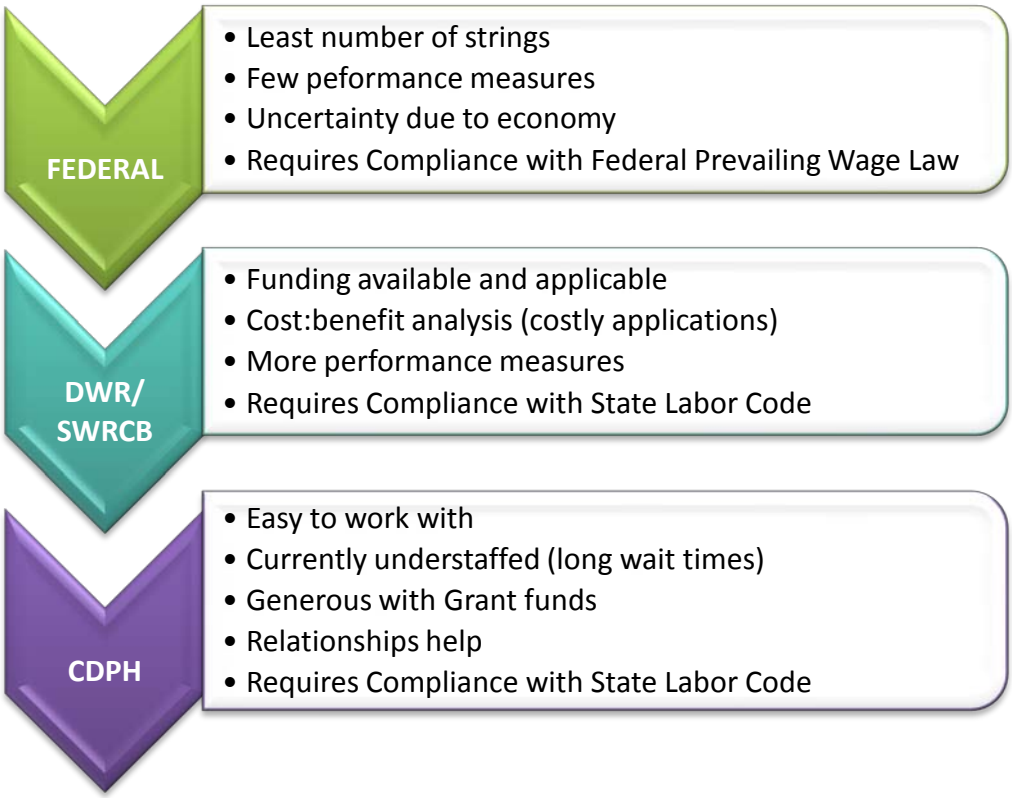
  - DWR Prop 84 Round 3
  - DWR Flood Control Subventions Program
  - FEMA Predisaster Mitigation Program
  - SWRCB Water Recycling Construction Funding
  - SWRCB Clean Water SRF Loans
  - California Infrastructure and Economic Development Bank (iBank) loans
  - US Department of Agriculture (USDA) and Natural Resource Conservation Service (NRCS)
  - Department of Energy or CA Energy Commission

  A list of potential contacts follows.

Agency/ Funding Opportunity	Potential Point of Contact
DWR Prop 84 Round 3	**Division of Integrated Regional Water Management** Ms. Tracie Billington - Chief, Financial Assistance Branch Phone: (916) 651-9226 / Fax: (916) 651-9290 email: Tracie.Billington@water.ca.gov Ms. Chris McCready - Chief, Regional Planning Branch Phone: (916) 651-9298 email: Chris.McCready@water.ca.gov **North Coast IRWMP** Katherine Gledhill PO Box 262, Healdsburg, CA 95448-0262 phone (direct): 707.795.1235, cell phone: 707.583.6737 email: kgledhill@westcoastwatershed.com
DWR Flood Control Subventions Program	Mr. Mahyar (Michael) Sabbaghian Division of Flood Management - Acting Chief, Flood Projects Office Phone: (916) 574-1404 Mahyar.Sabbaghian@water.ca.gov
FEMA Predisaster Mitigation Program	Kirby Everhart - State Hazard Mitigation Officer Phone: (916) 845-8150
CalEMA Predisaster Mitigation Program	Gina Buccieri-Harrington - Grants Program Assistant Director Phone: (916) 845-8513 Brendan Murphy - Grants Program Assistant Secretary Phone: (916) 845-8506 http://hazardmitigation.calema.ca.gov/grant_programs/pre-disaster_mitigation_program_pdm
SWRCB Water Recycling Construction Funding	Mr. Dan Newton Phone: 916-324-8408 email: dnewton@waterboards.ca.gov www.waterboards.ca.gov/water_issues/programs/grants_loans/water_recycling
SWRCB Clean Water State Revolving Fund (SRF) Loans	Mr. Robert Pontureri Phone: 916-341-5828-3613, email: rpontureri@waterboards.ca.gov www.waterboards.ca.gov/water_issues/programs/grants_loans/srf
CA Infrastructure and Economic Development Bank (iBank) loans	Ms. Roma Cristia-Plant - Assistant Executive Director Phone: (916)-324-8942 email: roma.cristia@ibank.ca.gov Mr. Carlos Nakata - ISRF Program Manager Phone: (916) 322-5217 email: carlos.nakata@ibank.ca.gov
USDA/NRCS	Check with Furman Group for Federal Contacts
Department of Energy (DOE) or CA Energy Commission	Check with Furman Group for Federal Contacts

- **Recognize and Prepare for Cost of Grant Application and Grant Management Effort**- as indicated in the figure below, the level of effort for implementing a grant can vary by granting agency and application. In general, the first grant will take the most effort, and subsequent grants will be able to build on standard language and lessons learned. Applications that require a formal cost benefit analysis are more involved and more expensive. The City should allocate funds for grant preparation costs. Depending on how far advanced a project is (conceptual stage, versus project with design and feasibility studies complete) a grant application can cost as little as a few thousand dollars up to $50,000 or more depending on the complexity of the project and requirements of the grant application.

General Level of Effort for Grant Implementation



- **Establish the Process and Commit Resources** - the City should also plan to have processes in place and people committed to manage a grant application if received. This would include having the following:
  - a system to track staff time on a grant funded project,
  - a means to establish staff rates,
  - a staff person or consultant available to prepare regular progress reports and reimbursement requests, and

- a staff person or consultant familiar with State Labor Code and Department of Industrial Relations registration as well as Federal Prevailing Wage law.

In addition, the City can anticipate that grant management will require 1% to 2% of grant funds. The Contractor Monitoring Unit of the Department of Industrial Relations can also charge 0.25% of grant funds for monitoring construction projects receiving State grant funds.

The City should also prepare for potential schedule delays when using grant funds. There can be delays in executing the grant agreement. There can be delays to starting construction while the State or Federal agency completes their actions under the California Environmental Quality Act and National Environmental Policy Act.

Preparation for Specific Grants

For each application, it is critical to follow requirements and be factual. Bring together your technical, financial and economic team and provide graphics to help tell your story. As previously stated, the more objectives your project meets, the more likely they are to get selected for funding. Soliciting local and political support is another way improve your chances of success (the Furman group may be able to help with this).

Breaking or bundling projects can have advantages and disadvantages. If you can demonstrate that multiple objectives would be met, the application may be more competitive. In this case, the intent of bundling would be to package the project to best meet the objectives of the grant. Be aware that bundling can also be disadvantegous if the combined projects amass too many components that do not fit with the grant criteria or if the granting agency perceives the approach as "tacking-on" projects without adding value. Bunding also has the potential to dilute potential grant funds, by adding to the total project cost without increasing the amount of potential grant funds, especially if the project is already up against the grant ceiling.

- For seismic elemants of your LTP CIP, it may be beneficial to create a new project that focuses solely on seismic upgrades for the entire plant rather than bundling multiple projects together that include non-seismic related upgrades. This may be a beneficial approach for submitting to an agency giving grants for earthquake safety, which would not look favorably on an application that has only a small connection to seismic improvements
- The IRWM Implementation Grant is another exmples where bundling may be favorable; as the program seeks projects that meet a broad range of objectives, including but not limited to: water supply/ water quality improvements, , stomwater capture, invasive species removal, wetland enhancement, open space protection, groundwater recharge, and watershed protection. For your LTP CIP, if bundling the berm improvement project with another project would add elements that benefit invasive species removal or stormwater capture and recharge, this bundled project would likley score more points under the IRWM program than the berm improvement project alone.

The following list describes more specific activities to pursue identified grants:

FEMA Pre-Disaster Mitigation Program (PDM)

- Prepare a Notice of Interest (NOI) for each potentially eligible projects as soon as possible, including;
  (1) Flood Berm,
  (2) Superstructure Removal,
  (3) Pond 1 Berm, and
  (4) Seismic Retrofit Projects – based on bundling the seismic upgrades associated with the Warehouse/Mechanical Tech Office Expansion, Primary Treatment Structure/Headworks Enclosure, Maintenance Building and Annex Building/Clarifier.
- Submit NOI(s) to local CalEMA.
- CalEMA will select projects for the California application for FEMA funding (only after appropriations have been made by Congress).
- If a project from the City's NOI is selected, CalEMA will invite the City to complete Step 2 (includes a detailed cost:benefit analysis) of the application.

DWR Prop 84 IRWM Implementation Grant – Round 3 Funding

- Continue to participate in the North Coast IRWMP, its planning process and project selection process.
- The City could improve a project's chance of being selected by the North Coast IRWMP group by initiating the following:
  - Prepare a Work Plan and Schedule, which demonstrate that the project is ready for implementation.
  - Provide documentation illustrating the technical justifications for the project(s) with respect to the claimed physical benefits. Documentation may include: technical reports, feasibility studies, needs assessments, expert opinion or local knowledge, etc.

SWRCB Water Recycling Construction Funding Program and Clean Water State Revolving Fund Loan

- Apply for the SRF priority list
- Initiate informal consultation with the SWRCB
- Submit a complete Financial Assistance Application package.
  - Includes CEQA and CEQA plus documentation
  - Provide an Authorized Representative Resolution from the City's governing body (likely the City Council) authorizing an individual to act on their behalf regarding the application for financial assistance and ability to enter into contracts

- Provide a Water Conservation Plan complying with the SWRCB program's Water Conservation Plan requirement.
- Submit Recycled Water Market Assurances, documenting the commitment of user participation in the project.

The City is currently pursuing the Self-Generation Incentive Program (SGIP) state rebate program for the Combined Heat and Power Project through PG&E. Since this effort is already in progress, additional guidance for preparation of this grant is not provided herein.

Long-Term Future Opportunities

As previously noted, several potential future funding opportunities were identified in Step 1 and Step 2. Although detailed information for these funding opportunities may not be available at this time, the City should track developments and potential funding announcements, for the following:

- The **US Department of Agriculture** may provide funding for conservation innovation grants, which the City may be able to apply for when considering future nutrient management at LTP.
- As the digester rehabilitation strategy becomes more defined, the City may consider implementing a FOG/Food Waste program in conjunction with the cover replacement, which would likely increase the digester gas production. This type of project bundling may prove eligible for future **California Energy Commission or Department of Energy** grants for offsetting LTP's dependence on the energy grid.

Coordination with the Furman Group in Washington D.C, who is currently providing the City with Federal Funding assistance for your Urban Reuse Phase 1 Project, may also provide benefits in understanding the status of federal financing, obtaining letters of support from your political representatives, leveraging relationships with granting agencies and seeking authorization as appropriate.

Summary of Funding Strategy Investigation

Table 5 summarizes the findings from the work described in this memorandum and provides a list of near-term activities the City may embark on to pursue potentially viable grant opportunities and long-term activities that may identify potential grant opportunities in the future.

- If the City is successful in winning grants for all of the near-term projects listed (not including the bundling of seismic projects), the maximum near-term bond offset could be as high as $15 million. However, it would be unwise to plan for 100 percent success based on the limited amount of available funds and considerable competition for each grant.
- A more conservative estimate of the potential bond offset is $3 million; based on a calculated success rate derived from how well the project meets the grant criteria and how competitive the grant program is.

Table 5: Summary of Findings for CIP Grant Funding Investigation

Funding Opportunity	Subregional CIP		Grant Funding Potential			Next Steps
	Project	Priority	Project Cost Estimate $mil	Maximum Grant Potential for Project[1]	Estimated Bond Offset[2]	
Near-Term Activities						
FEMA Predisaster Mitigation Program	Flood Berm	High	$8.4	$3.0	$0.8	Build on NOI initiated by Asset Management Group (Steve Allen) and submit to CalEMA.
	Superstructure Removal	High	$3.9	$2.9	$0.4	
	Pond 1 Berm	High	$2.0	$1.5	$0.5	Develop NOI and submit to CalEMA
	Bundle LTP Seismic Upgrades	Medium - Low	TBD	TBD	TBD	Create a new project that focuses solely on seismic upgrades for the entire plant and estimate costs. Develop NOI and submit to CalEMA
DWR Prop 84 (Round 3)	Flood Berm	High	$8.4	$4.2	$0.8	Continue to participate in North Coast IRWMP. Prepare work plan and schedule for the projects. Initiate next steps to get project ready for implementation, such as; feasibility study, preliminary design and environmental work.
	Superstructure Removal	High	$3.9	$2.0	$0.2	
	Pond 1 berm	High	$2.0	$1.0	$0.2	Develop project description to submit to North Coast IRWMP. See Above
SWRCB Water Recycling Construction Funding	Pond 1 berm	High	$2.0	$0.5	$0.1	Set up meeting with SWRCB funding division (David Balgobin) to discuss funding potential for this mixed recycled water/stormwater project.
Clean Water or I-Bank State Revolving Fund (SRF) Loans	Various	High - Low	TBD	TBD	TBD	Decision to pursue a SRF loan should be discussed with a debt financing expert as part of the long-term financial strategy for the City.
Long-Term Activities						
US Department of Agriculture / Natural Resource Conservation Service	Nutrient Removal Process Changes	High	$10.0	TBD	TBD	Coordinate with Dave Smith and Jennifer Burke regarding potential nexus with nutrient credit trading program. Track potential funding opportunities and initiate discussion with Furman Group for federal funding opportunities.
Department of Energy / CA Energy Commission	Natural Gas Engine Conversion	High	$1.3	TBD	TBD	Consider embarking on an energy master plan or implementing alternative energy projects that would likely increase the success of grant pursuits in the energy arena. Track potential funding opportunities and initiate discussion with Furman Group for federal funding opportunities.
	Digester Rehabilitation Projects	Medium	TBD	TBD	TBD	Develop philosophy for digester rehabilitation and identify potential energy savings. Track potential funding opportunities and initiate discussion with Furman Group for federal funding opportunities.
NOTE: *Planning grants to provide a bond offset should be done so cautiously, as (1) grants are not guaranteed and (2) matching funds are required. The City's long-term financial strategy should account for the worst-case scenario (not winning any grants) as well as the best-case scenario (resulting in early bond payback as grant funds are received).*					**$3.0**	**= Total Estimated Bond Offset[3]**

[1] The maximum grant potential is calculated as the minimum of (1) the max percent matching from the grant times the project cost estimate, and (2) the maximum potential grant for each project. The actual grant potential could also be less depending on the total available funds and number of applicants awarded for each grant opportunity.

[2] The estimated bond offset to be calculated as the maximum grant potential for the project multiplied by the estimated success rate. The estimated success rate depends how well the project meets the grant criteria and how competitive the grant program is.

[3] Does not include costs incurred to apply for grants (applications can cost as little as a few thousand dollars up to $50,000 or more depending on the complexity of the project and grant application requirements) and manage grants (could require 1% to 2.5% of grant funds for management time and agency monitroing)

- The application costs for the eight projects listed for FEMA, DWR, and SWRCB grants could range from approximately $50,000 to over $250,000. The higher end of the range would depend on how many projects make it through the initial FEMA screening process, since Step 2 of the FEMA application will be more costly. The application costs do not include the costs for additional studies, engineering and environmental work to get a project "shovel-ready".
- If $3 million of grant funds are secured; additional costs incurred for management of the grants could range from $30,000 to $75,000. The lower end is based on an assumed management effort equal to 1% of grant funds received and the higher end is based on an assumed management effort plus potential agency monitoring costs of 2.5% of grant funds received. Management costs would increase or decrease proportionally to the amount of grant funds received.

Kennedy Jenks

Contact Information

Meredith Clement
Project Manager
(805) 973-5718

Oxnard Office
2775 North Ventura Road, Suite 202
Oxnard, CA 93036

Kennedy Jenks

25 August 2021

Ms. Julia Aranda, P.E.
Engineering Manager
Casitas Municipal Water District
1055 Ventura Avenue
Oak View, CA 93022

Subject: Proposal for Professional Services to Assist with Preparation of a Bureau of Reclamation FY2022 Water SMART Drought Resiliency Grant Application

Dear Ms. Aranda:

As requested, Kennedy/Jenks Consultants (Kennedy Jenks) is providing this proposal to assist Casitas Municipal Water District (Casitas) in preparing a grant application to the Bureau of Reclamation WaterSMART Drought Response Program for Drought Resiliency Projects. Casitas is interested in applying to the Drought Resiliency Program for the Ventura-Santa Barbara Counties Intertie.

Project Understanding

Casitas is seeking funding for construction of a 6,100-foot pipeline and two booster pump stations to connect Casitas' transmission system with that of Carpinteria Valley Water District. The project would allow Casitas to access its State Water Project (SWP) allocation and other supplemental water through a wheeling arrangement with Santa Barbara County agencies. This project provides physical delivery of water to Casitas' system to mitigate droughts and emergencies.

This project would fall within Funding Group II of the grant program, for which up to $2,000,000 is available per agreement for projects that can be completed within three years.

Scope of Services

Kennedy Jenks will assist Casitas in preparing the application for the funding opportunity described above. It is assumed that Casitas has, or will establish, an account on Grants.gov for uploading the grant application and associated forms.

The scope of services to be provided by Kennedy Jenks is detailed below.

Task 1. Information Collection

Kennedy Jenks will provide a Request for Information to Casitas that identifies information needed to complete the application. A kick-off conference call is proposed to discuss the project, review the request for information, answer questions, and review the proposed schedule for completion.

Task 2. WaterSMART Drought Resiliency Projects

The tasks outlined below are based on the Bureau of Reclamation Funding Opportunity Announcement (FOA) No. R22AS00020, for Drought Resiliency Projects. The major application components are listed below:

- Mandatory Federal Forms
- Technical Proposal:
    - Executive Summary
    - Background Data
    - Project Description
    - Performance Measures
    - Evaluation Criteria
- Project Budget
    - Funding Plan
    - Budget Proposal
    - Budget Narrative
- Environmental and Cultural Resources Compliance
- Required Permits or Approvals
- Letters of Support
- Official Resolutions

Task 2.1 Mandatory Federal Forms

Three federal (SF-424) forms are required to be submitted with the application and include: Application for Federal Assistance, Budget Information, and Assurances for Construction Programs. If Casitas has been involved in lobbying activities related to the project, it is also necessary to provide the SF-LLL form (disclosure of lobbying activities). Kennedy Jenks will fill out these forms, to the extent possible, based on information available. Casitas will receive the draft forms for review and completion, and will upload the forms via Grants.gov.

Task 2.2 Technical Proposal

The Technical Proposal section of the application consists of background information on the proposed project, description of specific activities to be performed to complete the project, quantification of project benefits, and additional evaluation criteria.

Kennedy Jenks will use information gathered from Task 1 to address all required components of the technical proposal and evaluation criteria. A maximum of 20 pages will be prepared. Information on performance measures for quantifying benefits of the proposed project will be requested from Casitas and discussed as necessary prior to preparation of this section.

Kennedy Jenks will provide a full draft of the technical proposal to Casitas for review and comment. It is assumed that all Casitas comments will be compiled into one file for incorporation by Kennedy Jenks. Upon incorporation of all comments, a final technical proposal will be prepared. Casitas will have another opportunity to review the final and provide final comments, as necessary.

Task 2.3 Project Budget

The project budget component of the application requires a detailed budget proposal with accompanying narrative explaining each budget item. In addition, a funding plan is required to describe how the non-Federal share of projects costs will be obtained, and if funding will be provided by a source other than Casitas (the applicant), letters of commitment will need to be submitted with the application.

It is assumed that Casitas will provide information on the budget and budget components, including staff time and rates. Kennedy Jenks will prepare the narrative based on the budget amounts and details provided by Casitas. Kennedy Jenks will provide commitment letter templates that can be used by Casitas, as needed.

Task 2.4 Environmental and Cultural Resources Compliance

A discussion on potential environmental and cultural impacts is a required component of the application. Kennedy Jenks will address questions related to environmental and cultural resources compliance, based on information gathered in Task 1.

Task 2.5 Required Permits and Approvals

Kennedy Jenks will prepare a discussion on required permits and approvals and the plans for obtaining the permits.

Task 2.6 Existing Drought Contingency Plan

Kennedy Jenks intends to summarize the drought planning conducted in recent years by Casitas, including the Comprehensive Water Resources Report, the Water Shortage Contingency Plan, and Watershed's Coalition Ventura County Integrated Plan and demonstrate how these efforts resulted in the proposed project.

Task 2.7 Letters of Support

Kennedy Jenks will prepare a draft letter of support that can be used by Casitas to solicit written support for the project from interested stakeholders. Finalized letters will be included with the application.

Task 2.8 Official Resolution

An official resolution adopted by the Casitas Board of Directors is required to be included with the application. Kennedy Jenks will prepare a draft resolution for use by Casitas. The resolution must be submitted within 30 days after the application deadline, however, submittal with the application is preferred. It is assumed Casitas will include this item on the Board agenda as soon as possible.

Task 2.9 Gather Miscellaneous Grant Information

In the grant application it is required that information be provided on the following:

- Casitas' registration in the System for Award Management. It is assumed Casitas has a current registration, or will in the near-term register with the SAM system. Maintaining an active SAM

registration is necessary for receiving federal awards. Its assumed Casitas will provide a screenshot demonstrating its SAM registration.

Task 2.10 Final Application Package and Submittal

Kennedy Jenks will prepare a cover page and, upon final review and comments by Casitas, will compile all information and documentation for submittal. Electronic submittal via Grants.gov is encouraged, but requires prior registration. Kennedy/Jenks will provide application documents in a format that will facilitate upload to Grants.gov, but Casitas will perform the final submittal.

The submission deadline is October 5, 2021. All final files will be ready for submittal by October 4, 2021.

Task 3. Project Management and QA/QC

Kennedy Jenks will provide quality assurance/quality control (QA/QC) review of the draft and final work products under Tasks 1 and 2 to ensure that they meet our quality standards and maintains consistency with the Bureau of Reclamation Funding Opportunity Announcements prior to submittal.

Kennedy Jenks will provide project management and maintain regular communication to obtain Casitas input during the preparation of the grant application. Project Management activities will also include coordination of Kennedy Jenks staff and internal project setup and management.

Schedule

Kennedy/Jenks will initiate work on this project immediately following receipt of a written Notice to Proceed (NTP) from Casitas, based on the schedule below. The proposed schedule assumes authorization by September 9, 2021.

Schedule

Item	Timeline/Draft Due (by KJ)	Review Period (District)	Final Due
Notice to Proceed	9/9/21		
Task 1. Information Collection, including Kickoff Meeting	9/9/21-9/17/21		
Task 2. Drought Resiliency Projects Application			
Task 2.1 Mandatory Federal Forms	9/29/21	9/29/21-9/30/21	10/4/21
Task 2.2 Technical Proposal	9/27/21	9/27/21-9/30/21	10/4/21
Task 2.3 Project Budget (together with Technical Proposal)	9/27/21	9/27/21-9/30/21	10/4/21
Task 2.4 Environmental and Cultural Resources Compliance (together with Technical Proposal)	9/28/21	9/27/21-9/30/21	10/4/21
Task 2.5 Required Permits and Approvals	9/28/21	9/27/21-9/30/21	10/4/21
Task 2.6 Existing Drought Contingency Plan	9/28/21	9/27/21-9/30/21	10/4/21
Task 2.7 Letters of Support	9/14/21	9/14/21-9/30/21	9/30/21
Task 2.8 Official Resolution	9/9/21	9/9/21	9/9/21
Task 2.10 Final Application Package and Submittal	9/30/21-10/4/21	10/4/21	10/5/21

Budget

Kennedy Jenks proposes to provide the scope of services on a time and materials basis for an estimated fee of $16,135 in accordance with the enclosed fee spreadsheet and our Custom Schedule of Charges included in our Grant Services Proposal dated August 4, 2021.

Project Team

Meredith Clement will serve as the Project Manager with support from Marina Magaña. Sachi Itagaki will serve as Technical Advisor and will perform Quality Assurance/Quality Control review.

Please contact Meredith Clement at 805-973-5718 if you have any questions. We look forward to assisting Casitas in obtaining grant funds.

Very truly yours,

KENNEDY/JENKS CONULTANTS

Jeff Savard
Vice President

Enclosure

cc: Meredith Clement, K/J

Proposal Fee Estimate

Kennedy/Jenks Consultants

CLIENT Name: Casitas Municipal Water District

PROJECT Description: Drought Resiliency Program Grant Application

Proposal/Job Number: _____ **Date:** 8/25/2021

Classification:	Eng-Sci-7	Eng-Sci-6	Eng-Sci-5	Eng-Sci-4	Eng-Sci-3	Project Administrator	Admin. Assist.	Aide	Total	KJ Labor	KJ Assoc. Proj. Costs	KJ ODCs	KJ ODCs Markup	Total Labor	Total Subs	Total Expenses	Total Labor + Subs + Expenses
Hourly Rate:	$265	$240	$215	$195	$175	$125	$105	$80	Hours	Fees	$0.00	Fees	0%				Fees
Task 1 - Information Collection																	
RFI	1				3				4	$790	$0		$0	$790	$0	$0	$790
Email Correspondence/Conference Call	2	2			3				7	$1,535	$0		$0	$1,535	$0	$0	$1,535
Task 1 - Subtotal	3	2	0	0	6	0	0	0	11	$2,325	$0	$0	$0	$2,325	$0	$0	$2,325
Task 2 - Drought Resiliency Project																	
Task 2.1 Mandatory Federal Forms		1			2				3	$590	$0		$0	$590	$0	$0	$590
Task 2.2 Technical Proposal	4			4	14				22	$4,290	$0		$0	$4,290	$0	$0	$4,290
Task 2.3 Project Budget	3				4				7	$1,495	$0		$0	$1,495	$0	$0	$1,495
Tasks 2.4 and 2.5 Environmental Compliance and Permits	1				4				5	$965	$0		$0	$965	$0	$0	$965
Task 2.6 Drought Contingency Plan	3								3	$795	$0		$0	$795	$0	$0	$795
Task 2.7 Letters of Support					2				2	$350	$0		$0	$350	$0	$0	$350
Task 2.8 Official Resolution					2				2	$350	$0		$0	$350	$0	$0	$350
Tasks 2.9-2.10 Final Application Package and Submittal					5				5	$875	$0		$0	$875	$0	$0	$875
Task 2 - Subtotal	11	1	0	4	33	0	0	0	49	$9,710	$0	$0	$0	$9,710	$0	$0	$9,710
Task 3 - Project Management and QA/QC																	
Project Management	4			4			4		12	$2,260	$0	$0	$0	$2,260	$0	$0	$2,260
QA/QC	4			4					8	$1,840	$0		$0	$1,840	$0	$0	$1,840
Task 3 - Subtotal	8	0	0	8	0	0	4	0	20	$4,100	$0	$0	$0	$4,100	$0	$0	$4,100
All Phases Total	**22**	**3**	**0**	**12**	**39**	**0**	**4**	**0**	**80**	**$16,135**	**$0**	**$0**	**$0**	**$16,135**	**$0**	**$0**	**$16,135**

CASITAS MUNICIPAL WATER DISTRICT

RESOLUTION NO. 21-22

RESOLUTION AUTHORIZING THE DISTRICT'S APPLICATION, AND APPROVING NEGOTIATION AND EXECUTION OF A COOPERATIVE AGREEMENT WITH THE UNITED STATES BUREAU OF RECLAMATION FOR A WATERSMART DROUGHT RESILIENCY GRANT (FUNDING OPPORTUNITY NO. 22AS00020) FOR THE VENTURA-SANTA BARBARA COUNTIES INTERTIE

WHEREAS, the Casitas Municipal Water District ("Casitas") is organized and operates pursuant to the Municipal Water District Act of 1911 commencing with Section 71000 of the California Water Code; and

WHEREAS, Casitas seeks to match local funds with federal funds provided by the United States Department of the Interior Bureau of Reclamation to increase drought resiliency of Casitas and its customers; and

WHEREAS, the Board of Directors of Casitas has reviewed and approves of the application to the Reclamation WaterSMART Drought Response Program; and

WHEREAS, Casitas agrees to the administration and cost sharing requirements of the WaterSMART Grant;

NOW, THEREFORE, be it resolved, determined and ordered by the Board of Directors of the Casitas Municipal Water District, as follows:

Section 1. Casitas is hereby authorized to receive, if awarded, the WaterSMART Drought Response Program: Drought Resiliency Projects Grant funding in the amount of $2,000,000 and to enter into an agreement with the Bureau of Reclamation for the receipt and administration of said grant funds.

Section 2. If awarded, the General Manager, or their designee, is hereby authorized to take any and all action which may be necessary for the completion and execution of the project agreement and to take any and all other action which may be necessary for the receipt and administration of the grant funding in accordance with the requirements of the Bureau of Reclamation.

Section 3. This resolution officially becomes a component part of Casitas' grant application.

Section 4. If any section, subsection, clause or phrase in this Resolution is for any reason held invalid, the validity of the remainder of this Resolution shall not be affected thereby. The Board of Directors hereby declares that it would have passed this Resolution and each section, subsection, sentence, clause, or phrase thereof, irrespective of the fact that one or more sections, subsections, sentences, clauses or phrases or the application thereof be held invalid.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Casitas Municipal Water District held on September 8, 2021.

_____
President, Board of Directors

ATTEST:

_____
Secretary

CASITAS MUNICIPAL WATER DISTRICT
MEMORANDUM

TO:	BOARD OF DIRECTORS
FROM:	MICHAEL FLOOD, GENERAL MANAGER
SUBJECT:	AWARD OF CONTRACT FOR ROBLES FOREBAY RESTORATION, SPECIFICATION NO. 21-440
DATE:	SEPTEMBER 8, 2021

RECOMMENDATION:

- Award a contract to Union Engineering Company, Inc. in the amount of $247,675.00 for the Robles Forebay Restoration, Specification No. 21-440.

BACKGROUND:

The Thomas Fire and winter storms in 2018/19 combined to fill the Robles Forebay with rock, sediment and debris, 35,000 cubic yards (cy) of which was removed in 2019. The environmental permitting in 2019 allowed for the restoration of the Forebay capacity by relocating 50,000 cy of material, which was placed immediately downstream of the timber cutoff wall. The proposed work for 2021 includes removal of approximately 15,000 cy of sediment and debris, some of which will be placed downstream of the timber cutoff wall and the majority in a deposition area on District's property west of the Forebay.

The project is under the jurisdiction of several permitting agencies:

- Los Angeles Regional Water Quality Control Board (LARWQCB), Section Clean Water Act Section 401 Water Quality Certification
- California Department of Fish and Wildlife (CDFW), Lake and Streambed Alteration Agreement
- US Army Corps of Engineers (USACE), Nationwide Section 3 Permit

The 2019 permits from LARWQCB and CDFW are still valid. The District is coordinating with USACE for a new Nationwide Section 3 Permit, which also requires coordination with the US Bureau of Reclamation (USBR), US Fish and Wildlife Service, and National Marine Fisheries Service (NMFS). The anticipated construction period is between October 1 and October 31, 2021, assuming the USACE Section 3 permit is received.

The project was released for bidding on August 5, 2021. One addendum was issued during the bid period. The District held a mandatory job walk attended by nine potential bidders. Bids were opened on August 26, 2021.

A detailed bid analysis is provided as an attachment. A bid summary is shown in Table 1.

Table 1 – Bid Summary

Bidder	Total Bid
Damar Construction, Inc.	$280,225.00
CD Lyon, Inc.	$341,746.00
BSN Construction, Inc.	$420,020.00
Summer Construction, Inc.	$344,715.00
Union Engineering Company, Inc.	$247,675.00

MNS Engineers (MNS) and Rincon Consultants, Inc. (Rincon) are providing services to support implementation including engineering and environmental services, under their existing on-call contracts.

FINANCIAL IMPACT:

The budget for fiscal year 2021-22 did not include funds for the Robles Forebay Restoration. A budget authorization of $800,000 from funds available in the Storm Damage account was approved at the July 28, 2021 Board Meeting. The project budget was revised to a total of $320,475 as shown in Table 2.

Table 2 – Budget Summary

Item	Firm	Amount
Engineering Design Services	MNS	$24,800
Construction	Union Engineering	$247,675
Permitting and Environmental Monitoring	Rincon	$28,000
Engineering Services During Construction	MNS	$20,000
	Total	**$320,475**

Attachment: Detailed Bid Analysis

CASITAS MUNICIPAL WATER DISTRICT
1055 VENTURA AVENUE
Oak View, CA 93022
(805) 649-2251
SPEC 21-440
Project: Robles Forebay Restoration
Bid: 8/26/21 11:00 AM

ITEM#	DESCRIPTION	APROX. QTY	UNIT	Damar Construction, Inc. Lic.#722632; 4773 Ortega Street Ventura, CA 93003		CD Lyon, Inc. Lic.#974335; P.O. Box 1386 Ventura, CA 93002		BSN Construction, Inc. Lic.#806551; P.O Box 6714 Ventura, CA 93006		Summer Construction, Inc. Lic.#597494; P.O. Box 30 Santa Paula, CA 93061		Union Engineering Company, Inc. Lic.#212942; P.O. Box 1000 Ventura, CA 93002	
				BID UNIT PRICE	TOTAL AMOUNT	BID UNIT PRICE	TOTAL AMOUNT	BID UNIT PRICE	TOTAL AMOUNT	BID UNIT PRICE	TOTAL AMOUNT	BID UNIT PRICE	TOTAL AMOUNT
1	Mobilization/Demobilization	1	LS	$ 12,700.00	$ 12,700.00	$ 19,780.00	$ 19,780.00	$ 35,000.00	$ 35,000.00	$ 60,900.00	$ 60,900.00	$ 22,000.00	$ 22,000.00
2	Excavate 15,300 CY	15,300	CY	$ 10.45	$ 159,885.00	$ 14.62	$ 223,686.00	$ 14.00	$ 214,200.00	$ 10.75	$ 164,475.00	$ 9.55	$ 146,115.00
3	Removed Vegetated Area	234,000	SF	$ 0.46	$ 107,640.00	$ 0.42	$ 98,280.00	$ 0.73	$ 170,820.00	$ 0.51	$ 119,340.00	$ 0.34	$ 79,560.00
	BASE BID TOTAL AMOUNT FOR BID ITEMS 1 THROUGH 3			**$**	**280,225.00**	**$**	**341,746.00**	**$**	**420,020.00**	**$**	**344,715.00**	**$**	**247,675.00**
	DIVISION OF WORK OR TRADE			**SUBCONTRACTOR**		**SUBCONTRACTOR**		**SUBCONTRACTOR**		**SUBCONTRACTOR**		**SUBCONTRACTOR**	
				Benner and Carpenter						Benner and Carpenter			

CASITAS MUNICIPAL WATER DISTRICT
MEMORANDUM

TO:	BOARD OF DIRECTORS
FROM:	MICHAEL FLOOD, GENERAL MANAGER
SUBJECT:	AWARD OF CONTRACT FOR ROBLES DIVERSION CANAL PANEL REPLACEMENT, SPECIFICATION NO. 21-442
DATE:	09/08/2021

RECOMMENDATION:

- Deem the bid from JTEC Corporation for Robles Diversion Canal Panel Replacement, Specification No. 21-442 in the amount of $21,000 non-responsive; and
- Waive a minor irregularity in the bid proposal and award a contract to BSN Construction in the amount of $57,210.00 for the Robles Diversion Canal Panel Replacement, Specification No. 21-442.
- Increase the budget for Robles Diversion Canal Panel Replacement, Specification No. 21-442 by $15,000 to $65,000.

BACKGROUND AND DISCUSSION:

The Robles Diversion Canal is designed to provide water from the Ventura River to Lake Casitas and is constructed of unreinforced concrete. Over time, the Diversion Canal encounters damage and loses integrity. Canal replacement is a recurring activity, usually annually. The Robles Diversion Canal was assessed to determine the condition and integrity of the concrete panels. The eight most severe were chosen to be replaced in fiscal year 2021-22.

Four bids were received at the bid opening on September 2, 2021. Table 1 shows a summary of the bids received. A detailed bid summary is attached.

Table 1 – Bid Summary

Bidder	Total Bid
Southwest General Engineering, Inc	$59,800
JTEC Corporation	$21,000
BSN Construction	$57,210
Bosco Constructors Inc	$197,260

The apparent low bid of $21,000 from JTEC is considered non-responsive for the following reasons:

- Bids from the 2019 canal replacement were reviewed for comparison. The 2019 line item was for individual 12 x 15 foot unreinforced concrete panels and the two unit prices in bids received were $4,000 and $3,950.
- The bid line item for 2021 is for a pair of 12 x 15 foot reinforced concrete panels. JTEC's price of $4,000 for this line item is not realistic.

BSN Construction, the second low bidder, had different unit prices written in words versus figures. Per the contract documents, the price written in words governs and yields a lower overall bid price than the one written in figures. This is considered a minor irregularity which can be waived. BSN has a Contractor's license in good standing and has satisfactory references.

FINANCIAL IMPACT:

The fiscal year 2021-22 budget includes $50,000.00 for Robles Diversion Canal Panel Replacement. An additional $15,000 is requested to complete the project, which covers the construction contract and concrete testing, for a total of $65,000.

Attachments: Detailed Bid Analysis

CASITAS MUNICIPAL WATER DISTRICT
1055 VENTURA AVENUE
Oak View, CA 93022
(805) 649-2251
SPEC 21-442
Project: Robles Canal Panel Replacement
Bid: 9/2/21 2:00 P.M.

ITEM#	DESCRIPTION	APROX. QTY	UNIT	Southwest General Engineering, Inc, 3625 Placentia Lane Riverside CA 92501		JTEC Corporation, 5776-D Lindero Canyon Rd #156 Weestlake Village CA 91362		BSN Construction, PO Box 6714, Ventura CA 93006		Bosco Constructors, Inc, 21353 Mayall St, Chatsworth CA 91311	
				BID UNIT PRICE	TOTAL AMOUNT	BID UNIT PRICE	TOTAL AMOUNT	BID UNIT PRICE	TOTAL AMOUNT	BID UNIT PRICE	TOTAL AMOUNT
1	Pair of Panels	4	PR	$ 13,700.00	$ 54,800.00	$ 4,000.00	$ 16,000.00	$ 12,820.00	$ 51,280.00	$ 48,440.00	$ 193,760.00
2	Import and compaction of soil	10	CY	$ 500.00	$ 5,000.00	$ 500.00	$ 5,000.00	$ 593.00	$ 5,930.00	$ 350.00	$ 3,500.00
	BASE BID TOTAL AMOUNT FOR BID ITEMS 1 THROUGH 2			**$ 59,800.00**		**$ 21,000.00**		**$ 57,210.00**		**$ 197,260.00**	
DIVISION OF WORK OR TRADE				**SUBCONTRACTOR**		**SUBCONTRACTOR**		**SUBCONTRACTOR**		**SUBCONTRACTOR**	

CASITAS MUNICIPAL WATER DISTRICT
MEMORANDUM

TO:	BOARD OF DIRECTORS
FROM:	MICHAEL FLOOD, GENERAL MANAGER
SUBJECT:	MUTUAL WELL #7 WELL EQUIPMENT AND SITE WORK, SPECIFICATION NO. 20-438
DATE:	09/08/2021

RECOMMENDATION:

- Award the contract for the Mutual Well #7 Well Equipment and Site Work, Specification No. 20-438, to Travis Agricultural Construction, Inc. in the amount of $1,232,667, and the President of the Board execute an agreement for said work;

- Authorize the General Manager to issue a Task Order to Michael K. Nunley and Associates, Inc. (MKN) for engineering services during construction for a not-to-exceed amount of $39,815; and

- Authorize an additional $795,000 from CFD 2013-1 for FY 21-22.

BACKGROUND AND DISCUSSION:

The District's wellfield on Grand Avenue, adjacent to San Antonio Creek, provides groundwater to the residents of the Ojai. Production of the wellfield has diminished as the existing wells have aged. To restore previous water production rates, a new well was drilled at the Mutual Wellfield in 2020. This was the first phase of well construction. The second phase of construction involves equipping the well by performing site improvements, above-grade piping, electrical, and instrumentation. Production of this well is needed to meet the demands of the Ojai System before next summer.

One bid was received on September 1, 2021 as shown in Table 1. Bids were received via email and opened via conference call/Google Meet.

Table 1 – Bid Summary

Bidder	Total
Travis Agricultural Construction, Inc.	$1,232,667.00

Travis Agricultural Construction, Inc.'s bid is considered responsive and responsible and is recommended for award. A detailed bid evaluation compared to the Engineer's estimate is attached.

MKN provided engineering design services for these system improvements. MKN submitted a proposal to provide engineering services during construction including pre-construction meeting,

RFI and Change Orders, submittal review, field visits and record drawings. The not-to-exceed fee is $39,815.

BUDGET IMPACT:

The fiscal year (FY) 2021-22 budget includes $605,000 from CFD 2013-1 for the Mutual Well #7 Construction. This funding is not sufficient for anticipated expenditures as shown in Table 2. An additional $795,000 is requested for FY 21-22 for a total budget of $1,400,000.

Table 2 – Estimated Project Budget

Description	Total
Construction Contract	$1,232,667
Engineering Services During Construction	$39,815
Contingency (10%)	$127,518
TOTAL	**$1,400,000**

Attachments: Detailed Bid Evaluation
Proposal from MKN dated August 10, 2021

CASITAS MUNICIPAL WATER DISTRICT
1055 VENTURA AVENUE
Oak View, CA 93022
(805) 649-2251
SPEC 20-438
Project: Mutual Well #7 Well Equipment and Site Work
Bid: 9/1/21 2:00 PM

				Engineer's Estimate		Travis Agricultural Construction, Inc. Lic.#588676; P.O. Box 4666 Ventura, CA 93007	
ITEM#	DESCRIPTION	APROX. QTY	UNIT	BID UNIT PRICE	TOTAL AMT	BID UNIT PRICE	TOTAL AMOUNT
1	Mobilization	1	LS	$ 51,250.00	$ 51,250.00	$ 50,078.00	$ 50,078.00
2	SWPPP	1	LS	$ 6,250.00	$ 6,250.00	$ 19,925.00	$ 19,925.00
3	Gravel Road	5650	SF	$ 3.75	$ 21,187.50	$ 3.38	$ 19,097.00
4	Pedestrian Gate	1	EA	$ 1,875.00	$ 1,875.00	$ 3,149.00	$ 3,149.00
5	Waste Line	200	LF	$ 147.50	$ 29,500.00	$ 173.00	$ 34,600.00
6	Raw Water Line	277	LF	$ 147.50	$ 40,857.50	$ 173.00	$ 47,921.00
7	Pipeline Connection at 3+77	1	LS	$ 3,125.00	$ 3,125.00	$ 15,307.00	$ 15,307.00
8	Pipeline Connection at 6+99	1	LS	$ 3,125.00	$ 3,125.00	$ 15,496.00	$ 15,496.00
9	4" Blowoff Assemblies	2	EA	$ 5,062.50	$ 10,125.00	$ 12,739.00	$ 25,478.00
10	Concrete and Flatwork	1	LS	$ 11,625.00	$ 11,625.00	$ 72,689.00	$ 72,689.00
11	Well Pump and Motor	1	LS	$ 143,750.00	$ 143,750.00	$ 222,585.00	$ 222,585.00
12	FBEL&C Steel Discharge Piping	1	LS	$ 48,000.00	$ 48,000.00	$ 66,175.00	$ 66,175.00
13	Shade Structure	1	LS	$ 53,000.00	$ 53,000.00	$ 132,825.00	$ 132,825.00
14	Misc Electrical and Instrumentation	1	LS			$ 54,120.00	$ 54,120.00
15	Distribution Switchboard	1	LS			$ 26,100.00	$ 26,100.00
16	Motor Switchboard	1	LS	$ 500,000.00	$ 500,000.00	$ 24,425.00	$ 24,425.00
17	Active Harmonics Filter	1	LS			$ 31,100.00	$ 31,100.00
18	Fiber Optic Cable and Conduit*	309	LF			$ 865.00	$ 262,285.00
19	VFD	1	LS			$ 25,535.00	$ 25,535.00
20	SCADA Panel and PLC	1	LS	$ 145,875.00	$ 145,875.00	$ 50,577.00	$ 50,577.00
21	Well Junction Panel	1	LS			$ 17,200.00	$ 17,200.00
22	Disinfection and Pressure Test	1	LS	$ 4,875.00	$ 4,875.00	$ 8,500.00	$ 8,500.00
23	Disinfection of Well	1	LS	$ 2,500.00	$ 2,500.00	$ 7,500.00	$ 7,500.00
	BASE BID TOTAL AMOUNT FOR BID ITEMS 1 THROUGH 23			**$**	**1,076,920.00**	**$**	**1,232,667.00**

*** Travis Agricultural Construction, Inc. Wrote Incorrect Total(s)**

DIVISION OF WORK OR TRADE	SUBCONTRACTOR	SUBCONTRACTOR
Survey		Benner and Carpenter
Fence		CW Construction Specialties
Concrete		Custom Contour Construction
Painting		National Coating and Lining
Building Structure		FCP General Contracting
Well Pump		General Pump Company
Chlorination		Aquatech Services
Drilling		Terra Firma Drilling
Electrical		Moreland Thompson

121N Fir Street, Ste G
Ventura, CA 93001
805.947.4971 PHONE

August 10, 2021

Virgil Clary, PE
Project Manager
Casitas Municipal Water District
(Submitted Electronically)

RE: Proposal to Provide Office Engineering Services During Construction for the Mutual Well #7 Project

Dear Lindsay,

Michael K. Nunley & Associates, Inc., (MKN) is pleased to submit this proposal to the Casitas Municipal Water District (District) to provide office engineering during construction for the District's Mutual Well #7 Project. We have prepared this proposal based on experience during the design and conversations with you.

PROJECT UNDERSTANDING

The Casitas Municipal Water District (District) owns and operates the Mutual Wellfield. The District has stated a goal of increasing the combined capacity of the Ojai Wellfield by a minimum of 25 percent. To accomplish this, the District intends to construct a new well (Mutual Well #7) on the east side of San Antonio Creek.

The proposed Mutual Well #7 is to be located on the Mutual Wellfield site south of the discharge pond. Pueblo Water Resources, Inc. (Pueblo) has provided a well design, and MNS Engineers has designed and sized the combined discharge pipe that currently ends at Mutual Well #6. The current project entails connections to the existing discharge pipe, the well pump, electrical facilities, and specifying requirements for integration into the existing SCADA system.

MKN prepared the final bid documents and the District is currently bidding the project. This proposal summarizes engineering services for bid phase services and office engineering during construction to assist the District in the next phases of the project.

SCOPE OF WORK

MKN proposes to perform the following scope of work for this project. Assumptions are included as the basis for the budget.

TASK GROUP 100 OFFICE ENGINEERING SERVICES DURING CONSTRUCTION

Task 101 Preconstruction Meeting

MKN will attend the pre-construction meeting with the District and the Contractor to review the project status, discuss schedule and project requirements, and establish lines of communication. It is assumed the District will conduct the meeting.

Task 102 RFIs and Change Orders

MKN shall review, coordinate with District staff, and respond to contractor's Request for Information (RFIs). When appropriate, suggestions and alternatives will be provided to the Contractor and/or District staff. Up to six (6) RFIs are assumed for budgeting purposes.

As directed by District staff, MKN shall analyze and make recommendation to District staff regarding contract change orders and plan revisions requested during construction. Change orders will be evaluated from an engineering perspective. Budget has been included for review of up to three (3) change orders.

Task 103 Submittal Review

MKN will receive and review technical submittals for general conformance to the Contract Documents. Our recommended budget assumes an average of 3 hours review per submittal for up to thirty (30) submittals.

Task 104 Engineer's Observation of Work in Progress

MKN will perform technical field observation at the District's direction to review work progress for general conformance with the plans and specifications and to assess construction issues or conflicts. For budgeting purposes, we have assumed MKN staff will make up to six site visits, averaging 4 hours each. MKN will provide a written summary of the field visits and construction progress and will contact the District immediately if nonconformance issues are identified. An additional six hours (total) is budgeted for developing the observation reports.

Task 105 Record Drawings

MKN will prepare construction record drawings (AutoCAD) based on information (redline markups) supplied by the Contractor.

Overall level of effort for engineering services during construction can vary greatly. If additional effort beyond our assumed budget is necessary, MKN will alert the District promptly with a recommendation on how to proceed.

ASSUMPTIONS

- This proposal includes Construction Phase services for Electrical and Instrumentations and Controls sub consultants to provide submittal reviews, responses to RFIs and site observations.
- MKN shall be entitled to rely reasonably upon the accuracy of data and information provided by or through the District and will use good professional judgment in reviewing and evaluating such information. If MKN identifies any error or inaccuracy in data or information provided by or through the District, or determines that additional data or information is needed to perform the services, MKN shall promptly notify the District.
- MKN will provide data requests to the District as needs arise.

SERVICES NOT INCLUDED

- Construction management
- Bid distribution
- Permitting
- Construction survey or staking
- Job walk, development of punch list
- Services beyond those specifically listed in the Scope of Work above

ANTICIPATED SCHEDULE

This proposal assumes the project will bid in August 2021 and a construction contract will be awarded in September 2021 or October 2021. It is assumed the construction will be completed by April 2022.

PROPOSED PROJECT BUDGET

MKN proposes to complete this work on a time and materials basis with a budget not to exceed $39,815 for engineering services through construction per our standard 2021 rate sheet (attached), subconsultant's proposals, and the attached budget spreadsheet, which details the proposed budget for engineering services. Hourly rates may be revised annually, if the construction extends beyond April 2022.

Thank you for providing MKN with the opportunity to provide professional services for your project. If you have any questions regarding this proposal, please contact me by email or at (805) 947-4971. We hope this proposal meets your expectations and look forward to continuing to work with you on this important project.

Sincerely,

Becca K Bugielski

Becca Bugielski, PE
Project Manager

Attachments:
Budget
2021 Fee Schedule

Casitas Municipal Water District
Mutual Well #7 Project Construction Phase Services

	Principal Engineer	Senior Project Engineer	Assistant Engineer II	Supervising Drafter	Total Hours (MKN)	Labor (MKN)	ODCs (MKN)	Sub1 (MSO)	Sub2 (IRJ)	Non-Labor Costs	Total Fee
Hourly Rates	214	201	156	151							
Task Group 200: Office Engineering Services During Construction											
Task 201 Preconstruction Meeting		2	2		4	$714	$ 21	$ -	$ -	$21	$ 735
Task 202 RFIs and Change Orders		4	8	4	16	$2,656	$ 80	$ 3,476	$ 1,925	$5,481	$ 8,137
Task 203 Submittal Review	4	26	45		75	$13,102	$ 393	$ 3,476	$ 1,375	$5,244	$ 18,346
Task 204 Engineer's Observation of Work in Progress		10	20		30	$5,130	$ 154	$ 1,958	$ 1,375	$3,487	$ 8,617
Task 205 Record Drawings		4	8	12	24	$3,864	$ 116	$ -	$ -	$116	$ 3,980
TOTAL BUDGET	4	46	83	16	149	$25,466	$ 764	$ 8,910	$ 4,675	$14,349	$ 39,815

2021 SUMMARY RATE SCHEDULE

Billing Title	Hourly Billing Rates
Project Director/Operations Manager	$230.00
Principal	$214.00
Senior Project Engineer	$201.00
Project Engineer/Senior Scientist	$175.00
Senior Water Resources Planner	$175.00
Water Resources Planner	$165.00
GIS Specialist	$154.00
Assistant Engineer II	$156.00
Assistant Engineer I	$140.00
Supervising Drafter	$151.00
Drafting/Design Technician II	$140.00
Drafting/Design Technician I	$125.00
Administrative Assistant	$103.00

Routine office expenses such as computer usage, software licenses and fees, telephone charges, office equipment and supplies, incidental postage, copying, and faxes are included as a 3% fee on labor cost.

Professional Reimbursement

Where charges are associated with MKN employees, the hourly billing rates include the cost of salaries, fringe benefits, indirect overhead costs and fee. Rates for categories of services not identified above shall be as negotiated with the Client and included in the professional services agreement. Not-to-Exceed amounts identified in the Agreement with Client do not include overtime hours as defined by State specific and Federal wage and hour laws. Labor will be billed at 1½ times billing rates for non-exempt employees for overtime hours requested by the Client.

Direct Expenses

Reimbursement for direct expenses incurred in connection with the work, will be at cost plus ten percent (10%) for items such as:

a. Maps, photographs, reproductions, printing, equipment rental and special supplies related to the work.
b. Consultants, contractors and other outside services.
c. Rented vehicles, local public transportation, taxis, air/train fare, travel and subsistence (non-GSA rates).
d. Special fees, insurance, permits, and licenses applicable to the work.

Reimbursement for employee-owned vehicles used in connection with the work will be at the rate per mile equal to the Privately Owned Vehicle (POV) Mileage Reimbursement Rate as established by the United States General Services Administration for the dates the POV is in use. Travel and subsistence (other than mileage) will be billed at cost.

Other in-house charges will be at standard company rates. The foregoing Billing Rate Schedule is effective through **December 31, 2021** and will be adjusted each year after at a rate of 2 to 5%.

CASITAS MUNICIPAL WATER DISTRICT
MEMORANDUM

TO:	BOARD OF DIRECTORS
FROM:	MICHAEL FLOOD, GENERAL MANAGER
SUBJECT:	HYDROLOGY REPORT, WATER YEAR 2020
DATE:	09/08/2021

RECOMMENDATION:

- Receive the Hydrology Report for Water Year 2020

BACKGROUND:
Casitas prepares an annual hydrology report for the Ventura River Watershed which documents rainfall, stream flow, lake storage and deliveries, and ambient temperature data. Water Year 2020 (October 1, 2019 to September 30, 2020) was a generally dry year. Key date is included in the following table.

Data	WY2020
Rainfall	21.83 inches[1]
Diversions to Lake Casitas	6,019 acre-feet
Direct Inflow to Lake Casitas	3,637 acre-feet
Storage in Lake Casitas at End of WY	99,920 acre-feet
Change in Storage at End of WY	-2,082 acre-feet

Notes: 1) average of four rainfall gages; long-term average is 24.15 inches

FUNDING SOURCE:
The annual hydrology report was prepared by Casitas staff.

Attachment: Hydrology Report, Water Year 2020

CASITAS MUNICIPAL WATER DISTRICT

HYDROLOGY REPORT

WATER YEAR 2020

August 2021

Prepared by Virgil Clary, PE, Project Manager

TABLE OFCONTENTS

Tables

Figures

1. INTRODUCTION

Casitas Municipal Water District (CMWD or Casitas), in cooperation with the Ventura County Watershed Protection District (VCWPD) and the U.S. Geological Service (USGS), collects hydrology data on the Ventura River system. Figure 1-1 shows the watershed boundaries including drainage areas, stream gaging stations, and weather stations. The hydrology data is a valuable asset for developing an understanding of the water resources of the Ventura River system. Since 1981, CMWD has summarized the data into a series of annual reports. This report presents information and data for the 2019–2020 Water Year (WY 2020). Data is also presented for Calendar Year 2020 for comparison to historical data.

Casitas acquired the Ojai Water System in June 2017 which serves a population of 6,712 as of December 31, 2020. The main water source for this system is a wellfield which draws from the Ojai Valley Groundwater Basin, located within the San Antonio Creek Watershed, a sub-basin to the Ventura River Watershed. The Ojai Water System is supplemented by surface water deliveries from Casitas Reservoir (also referred to as Lake Casitas herein), particularly in times of drought and/or high demand when aquifers are typically depleted and well production is reduced or limited.

Ventura County experienced a major fire (the Thomas Fire) in WY 2018 which burned nearly the entire watershed, as shown in Figure 1-2. Hydrologic impacts from the Thomas Fire are subsiding with less impacts observed in WY 2020 than WY 2019, however, WY 2020 had less rainfall in both intensity and total than 2019.

Following the Thomas Fire, loss of vegetation and diminished rainfall infiltration resulted in steep, amplified-magnitude hydrographs with heavy debris and sediment loads from slope erosion and streambed mobilization. Heavy debris loads continued to impact diversion capabilities in WY 2020 necessitating turnouts to manually clean the screens and replace brush motor sheave belts. Sediment loads appear to be decreasing as the screenbay and forebay accumulated minimal sediment in WY 2020. The forebay ponding capacity remains similar to conditions following the November 2019 removal of approximately 50,000 cubic yards of sediment. Additionally, the April 6, 2020 storm event produced naturally scouring flows, returning the reach directly downstream of Robles to near pre-fire Conditions.

Post-fire run-off deposited fine sediment in the stream channels which appears to have reduced streambed percolation, resulting in prolonged spring and summer time streamflow, and an increased duration of surface connection between the upper portions of the Ventura River watershed and the Pacific Ocean. Historically, Robles does not experience surface flow during the summer and fall in all but well above-average rainfall years. Surface flow was present at Robles since the first storm event following the Thomas Fire through WY 2020.

Streamflow monitoring was also impacted by the Thomas Fire as minimal scouring occurred in WY 2020 at Santa Ana/Coyote Creeks. Data from gaging stations continue to be impacted by heavy sediment loads deposited during post-fire storm events. Further discussion of the impacts and corrective actions taken is included in Section 2.2 herein.

Data from an additional rainfall station located on Ojai's East End and a San Antonio Creek gaging station are included in this report to reflect hydrologic conditions within the San Antonio Creek Watershed. Ojai Water System Sources and Deliveries are also included in this report. Reporting of the hydrologic aspects of this system may be expanded in the future as more data become available.

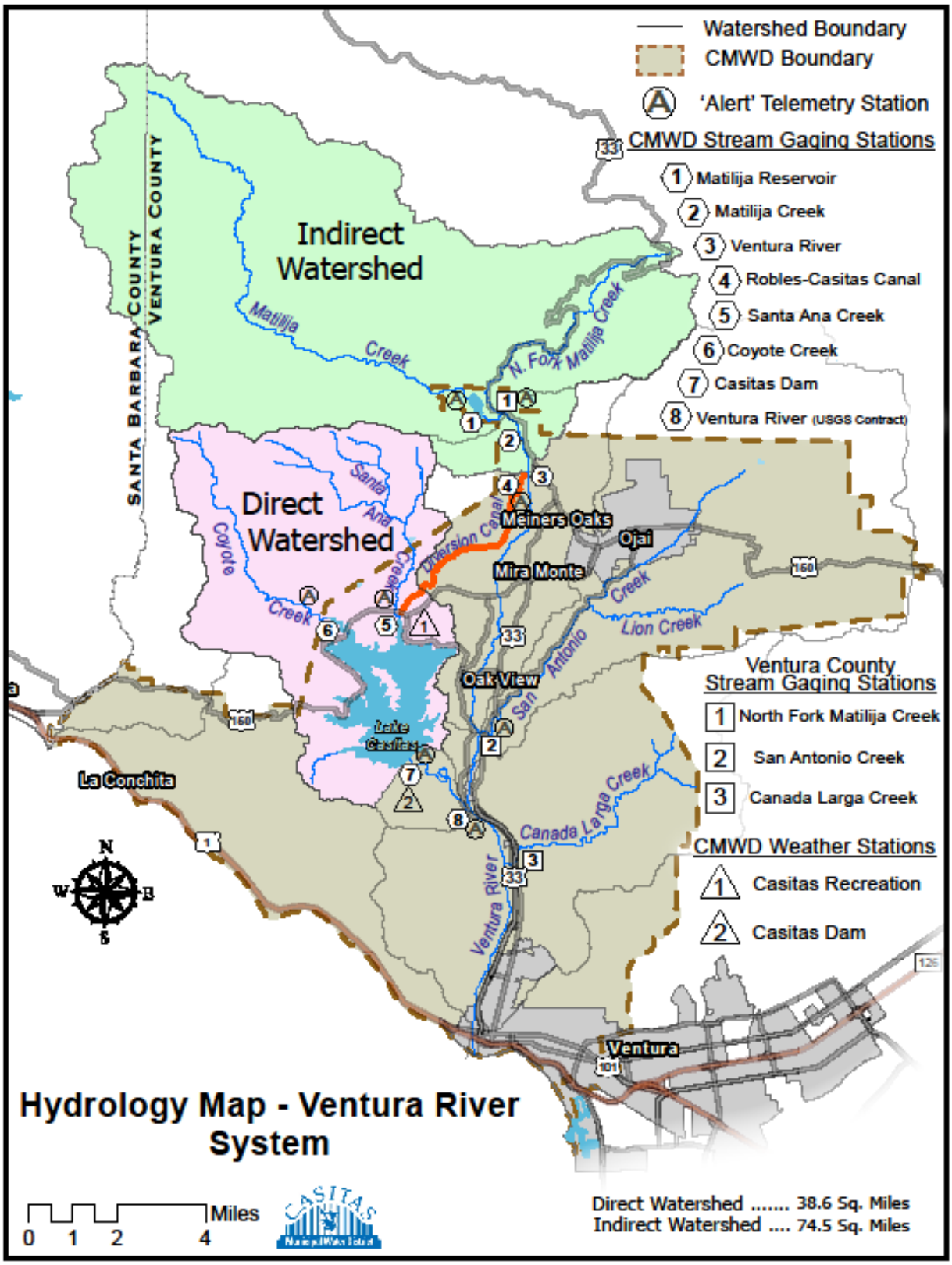


FIGURE 1-1 – Watershed of Lake Casitas

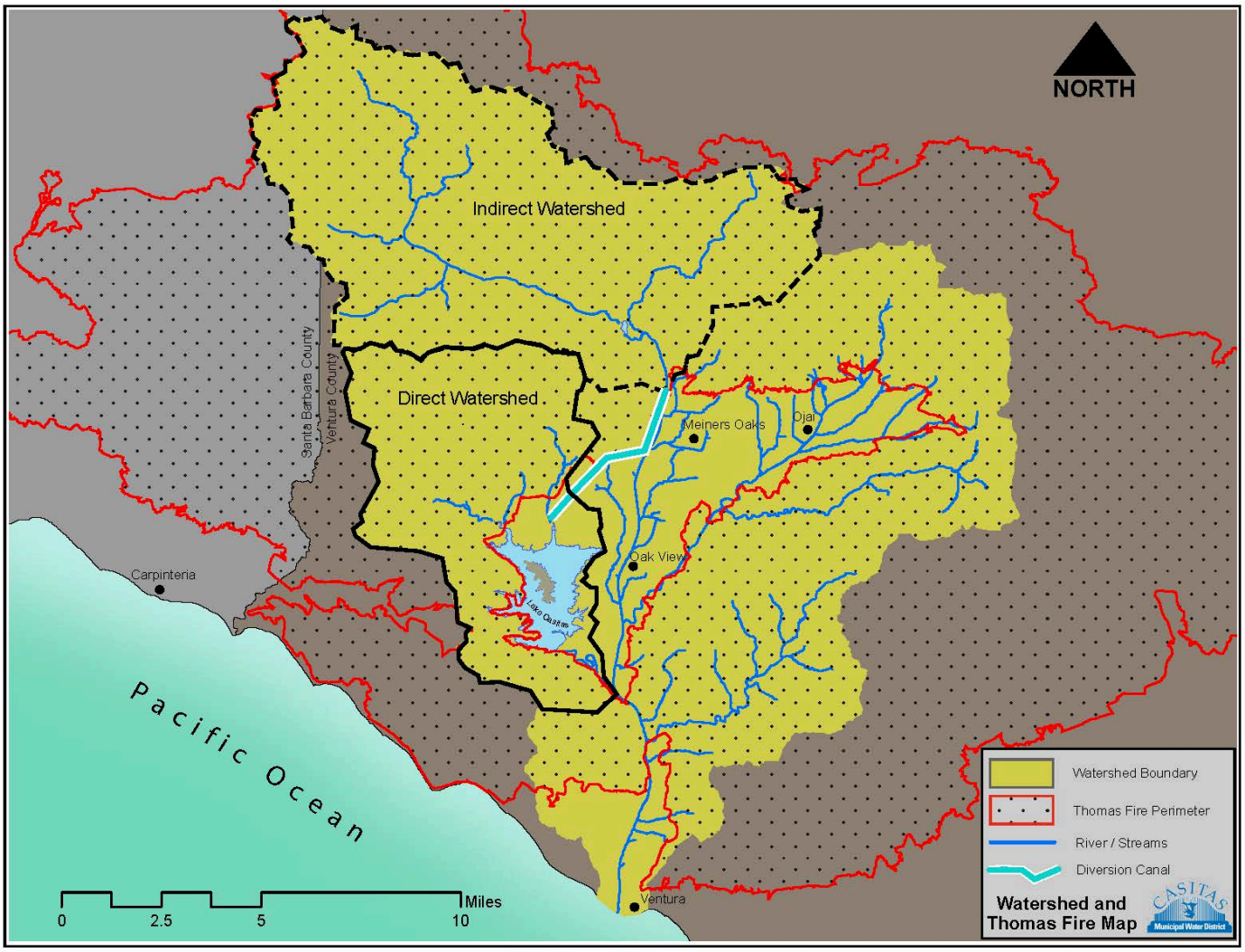


FIGURE 1-2 – Thomas Fire Boundary

2. WATER YEAR 2020 SUMMARY

The Water Year (WY) is a standard used for reporting hydrological cycles. It begins on October 1 of the preceding year and ends September 30 of the named water year. For this report:

- WY 2020 began on October 1, 2019 and ended September 30, 2020

There are four key elements of collected data evaluated this report: 1) rainfall, 2) streamflow conditions, 3) lake storage and system deliveries and 4) ambient air temperatures. Each of these elements are monitored and recorded by CMWD on a daily basis. The following subsections are summaries of the hydrologic characteristics of WY 2020.

2.1.Rainfall

Rainfall and evaporation data are collected on a daily basis by Casitas at two stations, one at the Casitas Dam and one at the Lake Casitas Recreational Area (LCRA). The methods for data collection are standardized for consistency. Rainfall data for Matilija Dam and Thacher School are obtained from VCWPD. Raw data is provided in Appendix A.

2.1.1. WY 2020

The average of the four rainfall stations was 21.83 inches for WY 2020. This is below the long-term average of 24.15 inches. Casitas Dam received 19.30 inches while Matilija Dam received 29.91 inches.

The bulk of precipitation at Casitas Dam fell in the months of December, March, and April when cumulative monthly rainfall was 6.93, 4.97, and 4.46 inches, respectively. The highest daily rainfall was recorded on April 6, 2020 with 5.51 inches of rainfall measured at Matilija Dam.

2.2.Streamflow Conditions

Streamflow conditions are assessed by collecting data at key points in the Ventura River system. Gage station locations are shown in Figure 1-1. Mean daily stream flow data is included in Appendix B.

2.2.1. WY 2020

Due to the ongoing drought, streamflow conditions were below average across the basin. Preliminary data provided by VCWPD indicates discharge from North Fork Matilija Creek totaled 4,398 acre-feet (AF) between October 1, 2019 and September 30, 2020. Discharge from Matilija Dam measured at the Matilija Hot Springs gage totaled 17,280 AF with a peak mean daily flow of approximately 638 cubic feet per second (cfs) on April 6, 2020[1].

Surface flow at the measurement weir at Robles was present October 1, 2019 and lasted the entire WY. During that period, 13,838 AF was released downstream[2]. Sediment transfer following the Thomas Fire has impacted percolation and caused elevated surface flow to occur and continue longer than it would have otherwise for WY 2020.

[1] Matilija Dam measurement from data compiled by CMWD based on instantaneous readings shown as an average daily flow in Appendix B.
[2] Robles weir measurement from data compiled by CMWD based on instantaneous readings shown as an average daily flow in Appendix B.

Diversions to the Casitas Reservoir began on December 4, 2019. Prior to December 4, all inflow was released downstream to allow for aquifer levels to rise to the extent that would be expected under natural conditions for the time of year and type of year (*Trial Operating Criteria for Robles Casitas Diversion Facilities, 1959*). The diversion canal was operated for 78 days and 6,019 AF was diverted during WY 2020 as shown in Table 2-1[3].

Table 2-1
WY 2020 Diversions

Month	Days	Volume Diverted (AF)
October 2019	0	0
November 2019	0	0
December 2019	12	539
January 2020	0	0
February 2020	0	0
March 2020	19	1,175
April 2020	30	4,101
May 2020	16	202
June 2020	0	0
July 2020	1	2
August 2020	0	0
September 2020	0	0
TOTAL	**78**	**6,019**

There were three storm peaks that met the Biological Opinion parameters to initiate supplemental downstream releases for fish passage as shown in Table 2-2. Downstream release requirements were met when Robles inflow was sufficient to do so. All flow was released downstream when inflow was less than the required supplemental release[4].

Table 2-2
WY 2020 Storm Peaks

Date	Peak Storm Flow Rate (cfs)
March 17, 2020	1,640
March 24, 2020	332
April 7, 2020	3,331

Coyote Creek and Santa Ana Creek drainage areas contribute directly to Lake Casitas storage. Coyote Creek and to a lesser extent Santa Ana Creek gaging station continues to be impacted by sediment transport and re-channelization following the Thomas Fire, rendering poor quality flow data. Direct inflow into Lake Casitas, which is reported in the Casitas Reservoir Operation data (Appendix C), was used as a surrogate for Coyote and Santa Ana creeks as the major tributaries, but also accounts for other direct runoff including smaller tributaries such as Ayers, Chismahoo, Willow, and Poplin Creeks. Direct inflow is a zero sum calculation and accounts for change in Lake Casitas storage

[3] Robles canal measurement from data compiled by CMWD based on instantaneous readings shown as an average in Appendix B.
[4] Storm peak flows can be found in Appendix C.

not accounted for by precipitation, Ventura River Diversions, evaporation, precipitation, and releases to the Marion Walker Water Treatment Plant. This value may be negative at times which is attributed to approximation in evaporation coefficients and water loss to infiltration. Only months with a positive direct inflow values are considered as a surrogate for true direct inflow into Lake Casitas and totaled 3,637 AF for WY 2020 with April 2020 accounting for 2,199 AF of total direct inflow as shown in Table 2-3[5].

Table 2-3
WY 2020 Casitas Reservoir Direct Inflow

Month	Direct Flow Volume (AF) [6]
October 2019	N/A
November 2019	N/A
December 2019	304
January 2020	216
February 2020	110
March 2020	831
April 2020	2,199
May 2020	205
June 2020	130
July 2020	92
August 2020	146
September 2020	N/A
TOTAL	**3,637**

2.3.Lake Storage and System Deliveries

Water storage volumes for system reservoirs, Casitas Dam and Matilija Dam, were ascertained by the daily recording of the reservoir elevation and applying the elevation number to a storage table for each reservoir. Casitas Reservoir data is included in Appendix C and Matilija Reservoir Data is provided in Appendix E. System delivery data for Mira Monte Well and the Ojai Water System can be found in Appendix F.

2.3.1. WY 2020

Lake Casitas Reservoir had a net decrease in water storage for WY 2020. Lake elevation was 502.33 feet above mean sea level (MSL) on October 1, 2019 and ended on September 30, 2020 at 500.21 feet above MSL, corresponding to 97,838 AF of storage in Lake Casitas at the end of the WY. The reservoir's 2.12-foot decrease in elevation resulted in a net loss of 3,283 AF. Storage increased by 8,632 AF during the five-month period of December through April; net monthly storage losses occurred outside of that period.

A new Casitas Reservoir storage rating table was adopted after completion of a LIDAR and bathymetric study resulting in a re-calculated reservoir capacity of 237,760 acre-feet (down from 254,000 acre-feet). This table was implemented on October 1, 2017 (start of WY 2018) and Casitas Reservoir storage reported from that date forward will reflect this adjustment.

[5] Direct inflow into Lake Casitas is shown in Appendix D.
[6] N/A indicates the month is not applicable because the value was negative.

Water deliveries from the reservoir to the main conveyance system totaled 10,820 AF for the Calendar Year. This is up 41 percent from 2019 and down 27 percent from the average deliveries during the previous ten years. Mira Monte well production was 154 AF during WY 2020. Deliveries within the Ojai Water System totaled 1,607 AF during WY 2020; 1,339 AF of which was sourced from the Ojai Water System Wellfield with the additional 267 AF coming from Lake Casitas.

Casitas exercised water rights to divert water released from Matilija Dam. Water rights were not exercised for several years due to National Marine Fisheries Services (NMFS) concerns related to downstream biological-impacts. The County of Ventura is the owner of Matilija Dam. As part of the critical drought protection measures (CDPM) Casitas downloaded 102 AF starting on March 17, 2020 and ending on March 18, 2020. Later in the year, at the request of the State of California Department of Water Resources Division of Safety of Dams (DSOD), the valves were operated in July 2020. Casitas conducted controlled releases from Matilija Dam at the dam on March 17-18 and July 2, 2020 which totaled 104 AF of diversion at Robles.

2.4.Ambient Air Temperatures

Data was recorded by CMWD staff at two locations, Casitas Dam and LCRA. These measurements are made on a daily basis and include the maximum and minimum ambient air temperatures and wind speed. This data is included in Appendix G.

2.4.1. WY 2020

A temperature record dating back to 1960 was broken during the 2020 calendar year: highest monthly maximum (September for Casitas Dam). Temperature collected at LCRA during 2020 was limited by camping restrictions and reduced staffing during the COVID-19 Pandemic.

3. HYDROLOGY STATIONS

Table 3-1 shows responsible agencies for various hydrology stations throughout the watershed.

Table 3-1
Hydrology Stations

Type	Location	Agency
Reservoir	Casitas Dam	Casitas
Reservoir	Matilija Dam	VCWPD
Rainfall and Evaporation	LCRA	Casitas
Rainfall and Evaporation	Casitas Dam	Casitas
Rainfall	Matilija Dam	VCWPD
Rainfall	Thacher School	VCWPD
Streamflow	Matilija Creek at Matilija Hot Springs	Casitas/VCWPD
Streamflow	Ventura River Near Meiners Oaks	Casitas
Streamflow	Robles-Casitas Canal	Casitas
Streamflow	Ventura River near Ventura (Foster Park)	USGS
Streamflow	North Fork Matilija at Matilija Hot Springs	VCWPD
Streamflow	San Antonio Creek at Old Creek Road	VCWPD
Streamflow	Santa Ana Creek near Oak View	Casitas/VCWPD
Streamflow	Coyote Creek near Oak View	Casitas/VCWPD

3.1.Historical Hydrology Period 1959 through 2020

The historical data was updated for the reporting period and is presented in Figure 3-1 for the period from 1959 through 2020. The historical data includes summaries for the Casitas Reservoir operation, Robles Diversion, rainfall, and ambient air temperature. Storage volume, represented by a solid line, is reservoir storage at the start of each calendar year (elevation measured on last day of previous calendar year). Rainfall, represented by data points with drop lines, is the three-station water year average for Casitas Dam, LCRA, and Matilija Dam rain gages. Reservoir volume prior to 1970 (not shown) represents initial filling period after Casitas Dam completion in 1959[7].

The change in Casitas Reservoir capacity was made due to performance of a bathymetric survey in 2017 which decreased the previously used 254,000 AF to 237,760 AF. Calendar year 2020 provided a net decrease in the storage volume as shown in Figure 3-1.

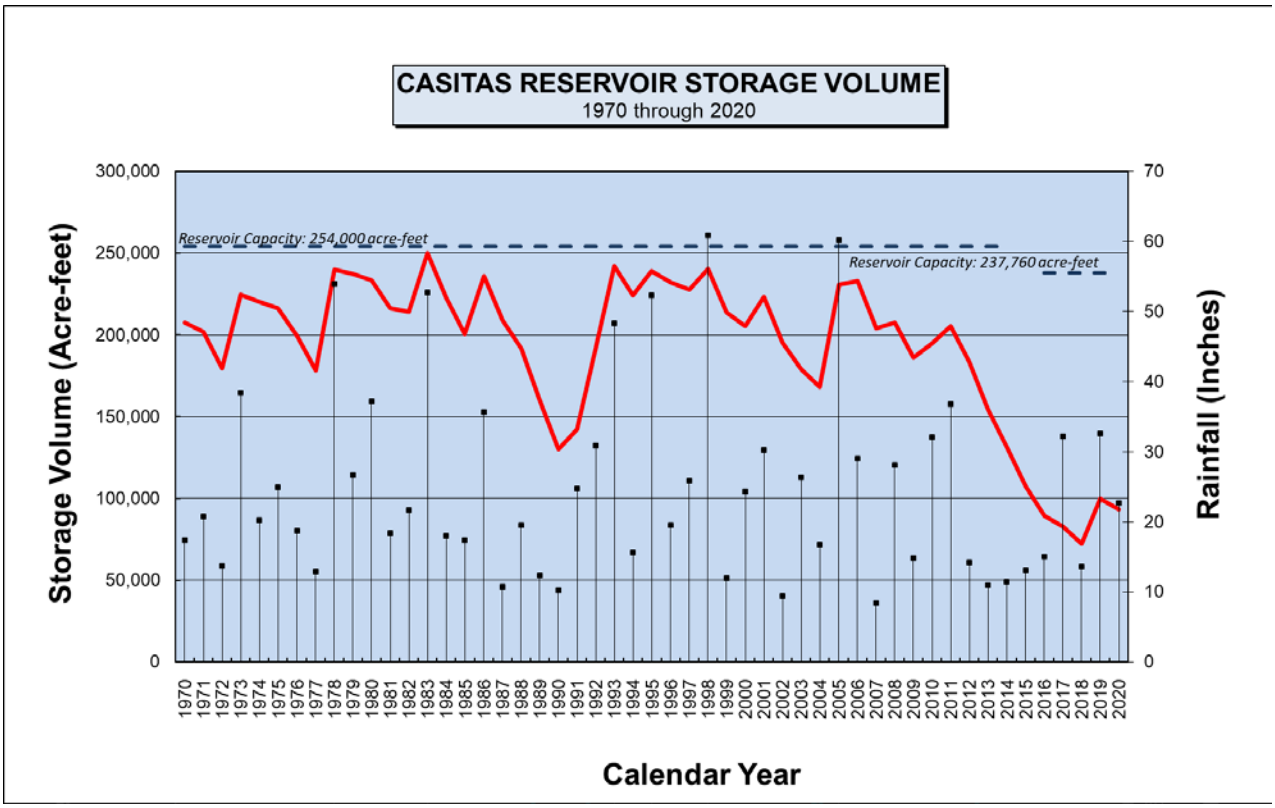


FIGURE 3-1 – Casitas Reservoir Storage Volume 1970-2020

3.2.Trends

The historical section of this summary report contains data tables and figures to illustrate trends experienced by CMWD pertaining to rainfall and water use.

[7] Historical hydrology data is provided in Appendix H.

3.2.1. Ten-Year Moving Average of Mean Precipitation

The trend presented in Figure 3-2 is a ten-year moving average of precipitation from 1880 to present and was created by calculating an average of a water year's three-station average rainfall combined with the previous nine years. The ten-year moving average is represented by the solid line traversing across the overall average for the period (24.4 inches). Rainfall data for all three stations are available since 1959, rainfall prior to 1959 was assembled using comparable nearby stations and/or correlation factors with other available stations within the watershed. The trend has resulted in what appears to be a somewhat sinusoidal curve, illustrating reoccurring periods of wet and dry conditions.

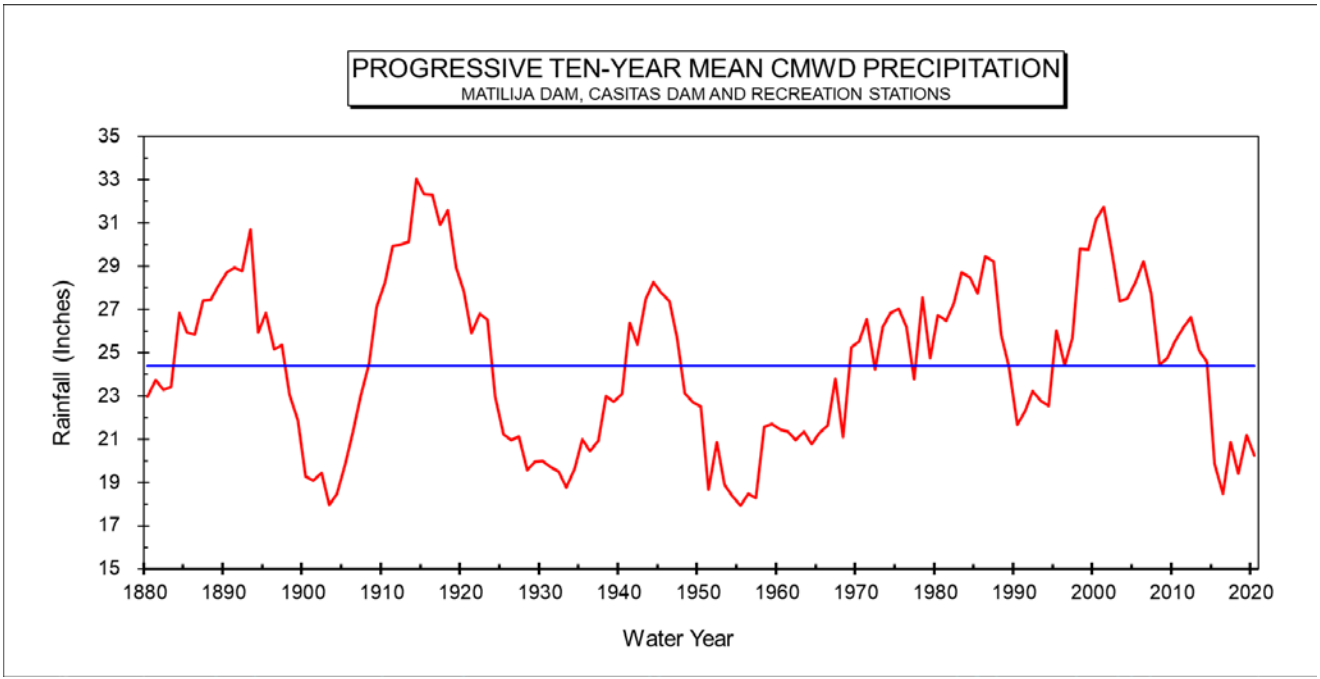


FIGURE 3-2 – Progressive Ten-Year Mean Precipitation

Appendix A

Rainfall Data

VENTURA COUNTY, CALIFORNIA

WATER SURVEY

DAILY RAINFALL RECORD

STATION:	Casitas Dam	NUMBER:	4
OBSERVER:	CMWD Damtender	OBSER. TIME:	0800
AUTHORITY;	Casitas Municipal Water District	LATITUDE:	34d22m
ADDRESS:	P.O. Box 37, Oak View, CA 93022	LONGITUDE:	119d20m
COMPILED:	V. Clary	ELEV:	

2019-2020

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.23									
2												
3												
4			1.14									
5			0.23				0.03		0.01			
6							3.02					
7			0.49				0.06					
8			0.35			0.03	0.26					
9			0.27		0.03		0.52					
10			0.02			0.01	0.57					
11						0.13						
12												
13						0.38						
14			0.03			0.20						
15						0.18						
16						0.29						
17				0.72		2.63						
18						0.12		0.08				
19						0.03						
20												
21		0.04		0.10								
22					0.03							
23			2.3		0.11	0.80						
24			0.17									
25						0.03						
26			1.7									
27		0.83				0.13						
28		0.78										
29		0.20										
30		0.01				0.01						
31												
Mo Total	0.00	1.86	6.93	0.82	0.17	4.97	4.46	0.08	0.01	0.00	0.00	0.00
Yr Total	0.00	1.86	8.79	9.61	9.78	14.75	19.21	19.29	19.30	19.30	19.30	19.30

Rainfall in inches

Z:\Shared drives\Hydrology\Rainfall\Daily\[DailyRain2019-20.xlsx]CASITAS DAM

VENTURA COUNTY, CALIFORNIA

WATER SURVEY

DAILY RAINFALL RECORD

STATION:	Lake Casitas Recreation Area	NUMBER:	204
OBSERVER:	CMWD Recreation staff	OBSER. TIME:	0800
AUTHORITY;	Casitas Municipal Water District	LATITUDE:	34d25m
ADDRESS:	P.O. Box 37, Oak View, CA 93022	LONGITUDE:	119d20m
COMPILED:	V. Clary	ELEV:	592

2019-2020

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.28									
2												
3												
4			1.38									
5			0.12				0.03		0.01			
6							3.02					
7			0.40				0.06					
8			0.48				0.26					
9			0.31		0.14		0.52					
10						0.04	0.57					
11						0.58						
12						0.17						
13						0.41						
14						0.17						
15						0.22						
16						1.05						
17				0.48		1.47						
18						0.13		0.08				
19												
20												
21		0.02		0.09								
22					0.05							
23			2.20		0.48	0.88						
24			0.27									
25			0.02									
26			0.61									
27		0.67				0.12						
28		0.65										
29		0.19										
30		0.06				0.01						
31												
Mo Total	0	1.59	6.07	0.57	0.67	5.25	4.46	0.08	0.01	0	0	0
Yr Total	0	1.59	7.66	8.23	8.9	14.15	18.61	18.69	18.7	18.7	18.7	18.7

Casitas Dam data used as a surrogate due to missing data

Rainfall in inches

D:\Shared drives\Hydrology\Casitas Dam\Annual\[CasitasReservoir2021.xlsx]Sept 2020

VENTURA COUNTY, CALIFORNIA

WATER SURVEY

DAILY RAINFALL RECORD

STATION:	Matilija Dam	NUMBER:	134
OBSERVER:	Automated	OBSER. TIME:	0800
AUTHORITY:	Ventura County Watershed Protection District	LATITUDE:	34°29' N
ADDRESS:	800 S. Victoria Ave, Ventura, CA 93009	LONGITUDE:	119°18' W
COMPILED:	Hydrologist	ELEV:	1060 ft

2019-20

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.40									
2												
3												
4			2.28									
5			0.83				0.06					
6							5.51					
7			0.81				0.05					
8			0.55			0.04	0.31					
9			0.24			0.01	0.62					
10						0.14	0.44					
11						0.86						
12						0.20						
13						0.35	0.04					
14						0.13						
15						0.17						
16						1.62						
17				0.56		3.05						
18						0.01		0.05				
19						0.01						
20						0.01						
21		0.02		0.09								
22					0.24							
23			2.71		0.14	1.81						
24			0.76			0.02						
25												
26			2.25									
27		0.95				0.17						
28		0.93										
29		0.44							0.01			
30		0.01										
31						0.01						
Mo Total	0.00	2.35	10.83	0.65	0.38	8.61	7.03	0.05	0.01	0.00	0.00	0.00
Yr Total	0.00	2.35	13.18	13.83	14.21	22.82	29.85	29.90	29.91	29.91	29.91	29.91

Rainfall in inches

**Data is preliminary and subject to revision - VCWPD*

VENTURA COUNTY, CALIFORNIA

WATER SURVEY

DAILY RAINFALL RECORD

STATION:	Ojai - Thacher School	NUMBER:	059
OBSERVER:	Automated	OBSER. TIME:	0800
AUTHORITY:	Ventura County Watershed Protection District	LATITUDE:	34°28' N
ADDRESS:	800 S. Victoria Ave, Ventura, CA 93009	LONGITUDE:	119°10' W
COMPILED:	Hydrologist	ELEV:	1440 ft

2019-20

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.33									
2												
3												
4			1.02									
5			0.19						0.10			
6			0.01				2.92		0.03			
7			0.57				0.07					
8			0.50				0.57					
9			0.39				0.49					
10						0.06	0.44					
11						0.11	0.01					
12						0.03						
13						0.80	0.30					
14						0.40	0.01					
15						0.08						
16						0.21						
17				0.47		1.60						
18				0.01		0.07		0.26				
19						0.01		0.01				
20						0.01						
21		0.06		0.04								
22				0.01	0.05	0.03						
23		0.01	1.55		0.14	0.93						
24			0.14			0.09						
25			0.01									
26			1.95			0.05						
27		0.70				0.14						
28		1.03				0.01						
29		0.20							0.18			
30		0.01										
31												
Mo Total	0.00	2.01	6.66	0.53	0.19	4.63	4.81	0.27	0.31	0.00	0.00	0.00
Yr Total	0.00	2.01	8.67	9.20	9.39	14.02	18.83	19.10	19.41	19.41	19.41	19.41

Rainfall in inches

**Data is preliminary and subject to revision - VCWPD*

Appendix B

Streamflow Gaging Station Data

Matilija Creek at Matilija Hot Springs

USGS #:	11115500	LATITUDE:	34°28'58" N
VCWPD #:	602	LONGITUDE:	119°18'7" W
DATE INSTALLED:	10/1927	ELEVATION:	900 ft
MAINTAINED BY:	CMWD/VCWPD	DRAINAGE AREA:	54 sq mi

WATER YEAR OCTOBER 2019 TO SEPTEMBER 2020

Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8	4	11	24	12	11	42	38	22	41	6	4
2	8	4	12	25	11	9	34	38	21	52	6	4
3	8	4	15	23	11	9	25	38	20	14	5	4
4	8	4	42	21	11	9	29	36	19	12	5	3
5	8	5	55	19	11	11	53	33	16	12	5	3
6	8	5	24	16	12	10	638	33	18	12	5	3
7	7	5	23	18	11	8	198	33	17	10	5	3
8	7	6	21	20	11	12	154	33	17	11	5	3
9	7	5	17	20	10	13	190	33	17	10	5	4
10	7	6	18	20	11	15	182	31	18	10	5	4
11	7	6	18	19	13	16	160	32	19	9	4	4
12	7	7	17	19	13	18	147	31	20	10	4	4
13	6	8	13	20	13	17	138	31	18	10	4	4
14	6	8	12	19	12	17	126	31	16	10	4	4
15	6	8	14	18	12	20	117	31	15	9	4	4
16	6	9	15	18	11	295	109	29	15	9	4	4
17	6	10	16	20	11	139	98	28	15	8	4	4
18	5	10	17	18	10	52	88	29	16	8	4	3
19	5	10	19	19	11	31	77	28	15	8	4	3
20	5	9	20	18	12	27	71	27	18	8	3	3
21	5	9	19	16	12	28	69	26	19	7	3	4
22	5	9	29	16	13	26	65	26	15	7	3	4
23	5	9	34	17	14	163	60	24	12	7	4	3
24	5	9	22	17	13	88	57	24	11	7	4	3
25	5	8	25	17	13	77	54	24	13	7	4	3
26	4	7	97	15	11	68	53	24	15	7	3	3
27	4	7	39	14	11	58	50	24	15	7	3	4
28	4	8	34	14	11	48	46	24	16	7	3	3
29	4	10	31	15	11	53	44	23	15	7	3	3
30	4	11	27	14		48	40	21	14	7	4	3
31	4		25	13		44		22		6	4	
TOTAL	183	217	781	562	338	1440	3214	905	497	348	126	103
MEAN	6	7	25	18	12	46	107	29	17	11.21	4	3
MAX	8	11	97	25	14	295	638	38	22	52	6	4
MIN	4	4	11	13	10	8	25	21	11	6	3	3
ACRE FT	363	431	1549	1115	670	2857	6375	1795	986	689	250	205

Estimated daily data

These data are preliminary and subject to change until checked and evaluated by Ventura County. Unverified data may contain errors that have not been checked by Hydrology staff. Ventura County does not guarantee the accuracy of these data; please note that flows may vary considerably during each day and from day to day.

North Fork Matilija Creek at Matilija Hot Springs

USGS #:	11116000	LATITUDE:	34°29'34" N
VCWPD #:	604	LONGITUDE:	119°18'23" W
DATE INSTALLED:	01/1934	ELEVATION:	1142 ft
MAINTAINED BY:	VCWPD	DRAINAGE AREA:	15.8 sq mi

WATER YEAR OCTOBER 2019 TO SEPTEMBER 2020

Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4	5	7	7	4	3	8	9	3	2	2	2
2	4	5	6	7	4	3	8	9	3	2	2	2
3	4	5	6	7	4	3	8	8	3	2	2	2
4	4	5	14	7	4	3	8	8	3	2	2	2
5	4	5	6	6	4	3	19	8	3	2	2	2
6	4	5	5	6	4	3	191	8	2	2	2	2
7	5	5	8	6	4	3	35	8	2	2	2	2
8	5	5	11	6	4	3	26	8	2	2	2	2
9	5	6	8	7	4	3	29	7	2	2	2	2
10	5	6	7	7	3	3	27	7	2	2	2	2
11	5	6	6	6	3	4	22	7	2	2	2	2
12	5	6	5	7	3	4	20	7	2	2	2	2
13	5	6	5	6	3	4	19	7	2	2	2	2
14	5	7	4	6	3	4	18	7	2	2	2	2
15	5	7	6	6	3	4	17	7	2	2	2	2
16	5	6	7	6	3	60	16	7	2	2	2	2
17	5	6	7	7	3	20	16	7	3	2	2	2
18	5	6	7	6	3	11	15	7	3	2	2	2
19	5	7	7	6	3	9	15	7	3	2	2	2
20	5	7	7	6	3	8	14	7	3	2	2	2
21	5	7	7	5	3	8	13	6	3	2	2	2
22	5	7	9	5	3	11	13	6	3	2	2	2
23	5	6	13	5	3	25	13	6	3	2	2	2
24	5	6	10	5	3	13	12	5	3	2	2	2
25	6	6	12	5	3	11	12	5	2	2	2	2
26	6	6	25	5	3	10	11	5	2	2	2	2
27	7	6	12	5	3	9	11	4	2	2	2	2
28	7	7	10	5	3	9	10	4	2	2	2	2
29	6	7	9	4	3	9	10	4	2	2	2	2
30	6	7	8	4	---	8	9	3	2	2	2	2
31	6	---	8	4	---	8	---	3	---	2	2	---
TOTAL	159	181	259	179	91	275	644	200	72	55	53	51
MEAN	5	6	8	6	3	9	21	6	2	2	2	2
MAX	7	7	25	7	4	60	191	9	3	2	2	2
MIN	4	5	4	4	3	3	8	3	2	2	2	2
ACRE FT	315	359	514	355	180	545	1277	397	143	108	104	101

Estimated daily data

These data are preliminary and subject to change until checked and evaluated by Ventura County. Unverified data may contain errors that have not been checked by Hydrology staff. Ventura County does not guarantee the accuracy of these data; please note that flows may vary considerably during each day and from day to day.

Ventura River near Meiners Oaks (Robles)

USGS #:	11116550	LATITUDE:	34°27'49" N
VCWPD #:	607	LONGITUDE:	119°17'26" W
DATE INSTALLED:	05/1959	ELEVATION:	740 ft
MAINTAINED BY:	CMWD	DRAINAGE AREA:	74 sq mi

WATER YEAR OCTOBER 2019 TO SEPTEMBER 2020

Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	8	15	34	14	9	25	29	22	26	8	3
2	9	8	13	30	14	9	27	29	23	51	8	3
3	9	8	12	25	14	8	26	29	15	25	7	3
4	9	8	26	24	14	8	25	28	17	13	7	3
5	9	8	30	23	15	7	27	28	17	19	7	2
6	8	8	23	22	15	7	754	28	18	27	8	2
7	8	8	30	22	13	7	57	29	18	23	8	2
8	8	8	32	21	11	8	69	28	17	10	8	2
9	8	8	30	21	11	7	62	28	16	11	8	3
10	8	8	26	20	11	8	57	27	15	12	6	2
11	7	8	24	20	11	21	53	29	15	11	4	4
12	7	8	22	20	11	31	50	31	14	10	4	4
13	8	8	18	20	11	26	47	30	13	10	4	3
14	8	8	16	19	11	14	45	30	13	10	4	3
15	8	9	15	19	11	14	45	29	13	10	3	3
16	8	9	16	18	11	276	45	28	14	10	3	4
17	8	8	16	21	11	35	40	28	14	10	3	4
18	7	8	15	18	11	40	32	27	16	10	3	3
19	7	6	15	18	11	36	28	28	17	10	3	3
20	7	8	14	18	10	26	28	27	17	10	2	3
21	7	8	14	18	11	23	29	25	17	9	2	4
22	7	8	16	17	12	22	29	24	16	10	3	4
23	6	8	23	17	12	24	29	24	15	10	3	4
24	6	8	22	17	11	32	30	23	14	10	3	4
25	6	8	22	16	11	39	30	24	14	11	3	4
26	6	7	81	16	10	41	30	23	14	10	3	4
27	7	12	27	16	10	41	30	23	14	10	2	4
28	7	17	36	16	9	42	31	22	14	9	2	3
29	7	16	42	24	9	40	30	22	15	9	2	2
30	7	13	39	14	---	35	30	23	14	9	3	2
31	7	---	36	15	---	28	---	23	---	8	3	---
TOTAL	233	264	766	619	337	963	1840	824	473	427	139	92
MEAN	8	9	25	20	12	31	61	27	16	14	4	3
MAX	11	17	81	34	15	276	754	31	23	51	8	4
MIN	6	6	12	14	9	7	25	22	13	8	2	2
ACRE FT	462	523	1518	1228	669	1911	3649	1634	939	847	276	182

Data is provisional and subject to revision

Rating table not validated at high flows.

Robles-Casitas Canal (First Bridge)

USGS #:	N/A	LATITUDE:	34°27'43" N
VCWPD #:	N/A	LONGITUDE:	119°17'34" W
DATE INSTALLED:	1958	ELEVATION:	770 ft
MAINTAINED BY:	CMWD	DRAINAGE AREA:	N/A

WATER YEAR OCTOBER 2019 TO SEPTEMBER 2020

Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	7	17	0	0.76	0	0
2	0	0	0	0	0	0	6	15	0	0	0	0
3	0	0	0	0	0	0	4	13	0	0	0	0
4	0	0	49	0	0	0	4	10	0	0	0	0
5	0	0	8	0	0	0	9	9	0	0	0	0
6	0	0	0	0	0	0	338	8	0	0	0	0
7	0	0	2	0	0	0	206	6	0	0	0	0
8	0	0	18	0	0	0	119	5	0	0	0	0
9	0	0	4	0	0	0	156	5	0	0	0	0
10	0	0	0	0	0	0	159	5	0	0	0	0
11	0	0	0	0	0	12	135	5	0	0	0	0
12	0	0	0	0	0	3	112	0.86	0	0	0	0
13	0	0	0	0	0	0.68	93	1	0	0	0	0
14	0	0	0	0	0	0	77	1	0	0	0	0
15	0	0	0	0	0	0	63	0.25	0	0	0	0
16	0	0	0	0	0	104	57	0	0	0	0	0
17	0	0	0	0	0	148	57	0	0	0	0	0
18	0	0	0	0	0	56	59	0.95	0	0	0	0
19	0	0	0	0	0	2	58	0	0	0	0	0
20	0	0	0	0	0	12	53	0	0	0	0	0
21	0	0	0	0	0	10	47	0	0	0	0	0
22	0	0	4	0	0	2	41	0	0	0	0	0
23	0	0	47	0	0	132	37	0	0	0	0	0
24	0	0	13	0	0	47	32	0	0	0	0	0
25	0	0	5	0	0	24	29	0	0	0	0	0
26	0	0	75	0	0	16	26	0	0	0	0	0
27	0	0	36	0	0	9	24	0	0	0	0	0
28	0	0	11	0	0	3	21	0	0	0	0	0
29	0	0	0	0	0	0.69	20	0	0	0	0	0
30	0	0	0	0	---	3	19	0	0	0	0	0
31	0	---	0	0	---	7	---	0	---	0	0	---
TOTAL	0	0	272	0	0	593	2067	102	0	0.76	0	0
MEAN	0	0	9	0	0	19	69	3	0	0.02	0	0
MAX	0	0	75	0	0	148	338	17	0	0.76	0	0
MIN	0	0	0	0	0	0	4	0	0	0	0	0
ACRE FT	0	0	539	0	0	1176	4100	202	0	2	0	0

Data is provisional and subject to revision.

Ventura River near Ventura (Foster Park)

USGS #:	11118500	LATITUDE:	34°21'09" N
VCWPD #:	608	LONGITUDE:	119°18'29" W
DATE INSTALLED:	10/1929	ELEVATION:	205 ft
MAINTAINED BY:	USGS, Water Resources Division	DRAINAGE AREA:	187 sq mi

WATER YEAR OCTOBER 2019 TO SEPTEMBER 2020

Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8	6	5	24	14	11	23	22	20	11	10	5
2	7	6	5	23	14	11	23	25	19	25	9	5
3	8	6	5	22	15	11	23	26	19	23	8	5
4	8	6	31	21	15	11	23	27	17	14	8	5
5	8	6	3	20	15	10	24	27	18	11	8	4
6	8	6	3	19	14	11	1280	27	19	10	8	4
7	7	5	3	19	14	11	108	28	19	10	7	4
8	7	5	16	19	14	11	100	30	17	9	7	5
9	7	5	10	19	14	11	111	32	17	9	7	5
10	7	5	7	19	14	11	96	33	16	9	7	5
11	7	5	7	19	13	12	67	33	14	9	7	5
12	7	5	7	19	14	14	54	35	15	9	7	5
13	7	5	7	18	13	14	50	35	15	9	8	4
14	7	5	7	18	13	13	42	34	14	9	8	4
15	7	5	7	18	13	13	41	33	13	10	8	3
16	7	5	7	18	13	451	39	31	14	11	7	3
17	7	5	7	23	13	68	36	29	14	11	7	3
18	6	5	7	19	12	43	30	27	14	11	7	3
19	7	5	7	19	12	36	26	27	14	10	7	3
20	7	5	7	18	12	28	25	27	14	10	8	3
21	6	5	8	18	12	23	24	25	14	10	8	3
22	6	5	34	17	12	23	23	24	14	10	8	3
23	6	5	51	16	13	32	22	24	13	11	7	3
24	6	5	26	16	12	28	22	24	12	10	6	3
25	6	5	47	16	12	33	22	23	12	10	6	3
26	6	5	185	15	11	35	22	22	12	10	6	3
27	6	6	33	15	11	35	22	21	11	10	6	4
28	6	7	31	15	11	33	22	20	11	11	6	4
29	6	6	35	14	11	33	22	20	12	11	6	4
30	6	6	30	15	---	30	22	20	12	11	6	4
31	6	---	27	14	---	26	---	21	---	10	6	---
TOTAL	211	159	665	563	373	1131	2443	833	446	345	224	118
MEAN	7	5	21	18	13	36	81	27	15	11	7	4
MAX	8	7	185	24	15	451	1280	35	20	25	10	5
MIN	6	5	3	14	11	10	22	20	11	9	6	3
ACRE FT	418	315	1319	1117	739	2243	4845	1652	884	685	444	234

Estimated daily data. (USGS)

San Antonio Creek at Old Creek Rd

USGS #:	11117500	LATITUDE:	34°22'57" N
VCWPD #:	605A	LONGITUDE:	119°18'10" W
DATE INSTALLED:	10/1949	ELEVATION:	312 ft
MAINTAINED BY:	VCWPD	DRAINAGE AREA:	51.2 sq mi

WATER YEAR OCTOBER 2019 THROUGH SEPTEMBER 2020

Daily Mean Discharge, cubic feet per second

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.08	0.61	1	0.05	0	2	0.01	0	0	0	0	0
2	0.41	0.56	1	0.15	0.61	1	0.05	0	0	0	0	0
3	0.34	0.64	1	0	2	1	0.15	0	0	0	0	0
4	0.38	0.54	21	0	2	1	0.59	0	0	0	0	0
5	0.45	0.52	0.39	0	0.73	1	2	0	0	0	0	0
6	0.56	0.42	0	0	0.44	2	269	0	0	0	0	0
7	0.44	0.20	0.71	0	0.43	2	27	0	0	0	0	0
8	0.28	0.32	5	0	0.48	2	18	0	0	0	0	0
9	0.37	0.28	1	0	0.62	2	22	0	0	0	0	0
10	0.19	0.27	0.49	0	1	2	21	0	0	0	0	0
11	0.11	0.20	0.64	0	2	2	15	0	0	0	0	0
12	0.09	0.20	0.98	0	2	3	11	0	0	0	0	0
13	0.03	0.25	1	0	1	3	9	0	0	0	0	0
14	0.03	0.31	1	0	0.48	2	6	0	0	0	0	0
15	0.12	0.59	1	0	0.60	1	4	0	0	0	0	0
16	0.18	0.49	2	0.08	0.92	50	4	0	0	0	0	0
17	0.07	0.53	2	0.78	2	9	3	0	0	0	0	0
18	0.11	0.53	2	0	2	2	3	0	0	0	0	0
19	0.15	0.45	0.99	0	2	0.03	3	0	0	0	0	0
20	0.19	0.74	1	0	2	0	3	0	0	0	0	0
21	0.21	0.69	1	0	1	0	2	0	0	0	0	0
22	0.23	0.80	10	0	2	0.80	1	0	0	0	0	0
23	0.34	1	5	0	0.51	4	0.40	0	0	0	0	0
24	0.40	2	0.22	0	1	2	0.09	0	0	0	0	0
25	0.41	2	35	0	1	0.08	0	0	0	0	0	0
26	0.30	1	72	0	2	2	0	0	0	0	0	0
27	0.29	1	3	0	1	1	0	0	0	0	0	0
28	0.51	3	0.87	0	1	0.80	0	0	0	0	0	0
29	0.63	2	0.17	0.05	1	0.34	0	0	0	0	0	0
30	0.69	1	0.44	0.04	------	0.18	0	0	0	0	0	0
31	0.67	------	0	0	------	0.15	------	0	------	0	0	-
TOTAL	9	23	171	1	34	97	424	0	0	0	0	0
MEAN	0.30	0.78	6	0.04	1	3	14	0	0	0	0	0
MAX	0.69	3	72	0.78	2	50	269	0	0	0	0	0
MIN	0.03	0.20	0	0	0	0	0	0	0	0	0	0
ACRE FT	18	46	339	2	67	192	840	0	0	0	0	0

These data are preliminary and subject to change until checked and evaluated by Ventura County. Unverified data may contain errors that have not been checked by Hydrology Staff. Ventura County does not guarantee the accuracy of these data; please note that flows may vary considerably during each day and from day to day.

Appendix C

Fisheries Storm Peak Logs

Flow Assessment at Robles Diversion and Fish Passage Facility
Critical Drought Protection Measures (Stage 3-4, 100k - 65k af)

Date: 3-17-20 Time: 9:00 Prepared by: Scott Lewis

Storm Peak Discharge

	date	time	cfs
North Fork Matilija Cr	3-16	16:29	452
Matlija Cr above dam		12:45	280
Matlija Dam		16:25	1,640
Matilija Cr at Hot Spr.		16:25	1,213
Robles Canal			
Robles Weir		17:54	1,640
Total Robles Inflow		17:54	1,640

BO Defined Storm Event: (Y) / N
BO Defined Overlapping Event: Y / (N)

Santa Ana Br. 2,134 @ 17:15
Foster 2,246 @ 17:45
San Antonio 324 @ 17:00

Date Matilija Reservior Filled: 2019
Count of Days: >30

Current Discharge (Day 1 after peak)

	time	cfs
North Fork Matilija Cr	8:59	54
Matlija Cr above Reservoir	8:30	12
Matlija Dam	8:25	384
Matilija Cr at Hot Springs	8:25	167
Robles Canal	9:06	135
Robles Weir	9:06	27
Total Robles Inflow	9:06	162

Lake Casitas volume 99,485 af @ 7:55

CDPM Method:

- ☐ <30 days - M4 - Modifed Overlapping Release
- ☒ ≥30 days - M9 - Matilija Download with Intial Release
- ☐ Standard Release
- ☐ Back-to-Back Release

			M9 - Matilija Download				
			Robles Inflow		Matilija	Matilija	Matilija
Day	Date	Robles Release	Canal	Weir	Inflow	Outflow	Elevation
1	3-17	50					
2	3-18	50					
3	3-19	50					
4	3-20	50					
5	3-21	50					
6	3-22	50					
7	3-23	50					
8	3-24	50					
9	3-25	50					
10	3-26	50					
11	3-27	40					
12	3-28	30					
13							
14							
15							
16							
17							
18							

Comments:

Flow Assessment at Robles Diversion and Fish Passage Facility
Critical Drought Protection Measures (Stage 3-4, 100k - 65k af)

Date: 3-24-20 Time: 08:00 Prepared by: Scott Lewis

Storm Peak Discharge

	date	time	cfs
North Fork Matilija Cr	3-23-20	01:49	123
Matlija Cr above dam		00:35	119 vc / 288 usgs
Matlija Dam		02:45	503
Matilija Cr at Hot Spr.		03:20	367
Robles Canal		03:40	302
Robles Weir		03:40	30
Total Robles Inflow			332

BO Defined Storm Event: (Y) / N
BO Defined Overlapping Event: (Y) / N

Santa Ana Br. 26 @ 2:45
Foster 32 @ 5:45
San Antonio 20 @ 9:00

Date Matilija Reservior Filled: 3-29-20
Count of Days: 1

Current Discharge (Day 1 after peak)

	time	cfs
North Fork Matilija Cr	7:00	34
Matlija Cr above Reservoir	7:40	9 vc / 80 usgs
Matlija Dam	7:15	249
Matilija Cr at Hot Springs	7:00	142
Robles Canal	8:00	66
Robles Weir	8:00	35
Total Robles Inflow	8:00	101

CDPM Method:
- ☐ <30 days - M4 - Modifed Overlapping Release
- ☐ ≥30 days - M9 - Matilija Download with Intial Release
- ☐ Standard Release
- ☒ Back-to-Back Release

			M9 - Matilija Download				
			Robles Inflow				
Day	Date	Robles Release	Canal	Weir	Matilija Inflow	Matilija Outflow	Matilija Elevation
1	3-24	50					
2	3-25						
3	3-26						
4	3-27						
5	3-28						
6	3-29						
7	3-30	↓					
8	3-31	50					
9	4-1	40					
10	4-2	30					
11							
12							
13							
14							
15							
16							
17							
18							

Comments:

Flow Assessment at Robles Diversion and Fish Passage Facility
Critical Drought Protection Measures (Stage 3-4, 100k - 65k af)

Date: 4-7-20 Time: 9:45 Prepared by: Scott Lewis

Storm Peak Discharge

	date	time	cfs
North Fork Matilija Cr	4-6	2:19	912
Matlija Cr above dam		2:15	390 VC/500 USGS
Matlija Dam		4:10	2051
Matilija Cr at Hot Spr.		4:25	1,731
Robles Canal		3:50	0
Robles Weir		3:50	3331
Total Robles Inflow		3:50	3,331

BO Defined Storm Event: (Y) / N
BO Defined Overlapping Event: Y / (N)

Current Discharge (Day 1 after peak)

	time	cfs
North Fork Matilija Cr	10:04	92
Matlija Cr above Reservoir	9:45	40 VC/* USGS
Matlija Dam	10:05	480
Matilija Cr at Hot Springs	9:35	247
Robles Canal	9:45	227
Robles Weir	9:45	34
Total Robles Inflow	9:45	261

* eq. mlf. or error

Date Matilija Reservior Filled: 3-23-20
Count of Days: 15

CDPM Method:
- ☐ <30 days - M4 - Modifed Overlapping Release
- ☐ ≥30 days - M9 - Matilija Download with Intial Release
- ☒ Standard Release
- ☐ Back-to-Back Release

M9 - Matilija Download

Day	Date	Robles Release	Robles Inflow: Canal	Robles Inflow: Weir	Matilija Inflow	Matilija Outflow	Matilija Elevation
1	4-7	82					
2	4-8	74					
3	4-9	68					
4	4-10	62					
5	4-11	56					
6	4-12	56					
7	4-13	50					
8	4-14	50					
9	4-15	50					
10	4-16	50					
11	4-17	40					
12	4-18	30					
13							
14							
15							
16							
17							
18							

Comments:

Appendix D

Casitas Reservoir Operational Data

CASITAS RESERVOIR WATER INVENTORY SUMMARY

2019 - 2020 WATER YEAR

figures in acre-feet except where otherwise noted

	RESERVOIR (last of previous month)		RESERVOIR INFLOW				RESERVOIR RELEASES			
MONTH	ELEV (ft)	STORAGE	DIRECT	VENTURA RIVER DIVERSIONS	TOTAL	PRECIP	EVAP	TO MAIN SYSTEM	SPILL	CHANGE IN STORAGE
OCT 2019	502.36	101168	-90	0	-90	0	557	1129	0	-1776
NOV 2019	501.22	99392	-146	0	-146	230	277	748	0	-941
DEC 2019	500.61	98451	304	539	843	868	122	245	0	1344
JAN 2020	501.48	99795	216	0	216	93	189	291	0	-170
FEB 2020	501.37	99625	110	0	110	56	309	575	0	-619
MAR 2020	500.97	99006	831	1175	2006	686	212	366	0	2100
APR 2020	502.35	101152	2199	4101	6300	611	515	303	0	6069
MAY 2020	506.14	107221	205	202	407	11	747	914	0	-1205
JUN 2020	505.40	106016	130	0	130	1	813	1076	0	-1757
JUL 2020	504.31	104259	92	2	94	0	935	1305	0	-2147
AUG 2020	502.96	102112	146	0	146	0	919	1420	0	-2192
SEP 2020	501.56	99920	-360	0	-360	0	328	1394	0	-2082
OCT 2020	500.21	97838	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL			3637	6018	9655	2557	5922	9765	0	-3376

reservoir capacity = 237,700 a.f. @ 567 ft.

D:\Shared drives\Hydrology\Casitas Dam\Annual\[CasitasReservoir2021.xlsx]Wtr Yr. 2019-20

CASITAS RESERVOIR OPERATION

OCTOBER 2019

*figures in acre-feet except where otherwise noted

	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			
		Sep 30th	Surface		Ventura		Pan	Pan		at	at		To			
	Elevation	*101168*	Area		River		@Dam	@Rec	Lake	Dam	Rec	Lake	Main	To		**STORAGE**
DATE	(ft MSL)	Storage	(acres)	Direct	Divers'n	Total	(in)	(in)	Total	(in)	(in)	Total	System	River	Spill	**CHANGE**
1	502.33	101121	1626	2	0	2	0.19	0.16	18	0	0	0	32	0	0	-47
2	502.29	101058	1624	-11	0	-11	0.19	0.13	16	0	0	0	36	0	0	-63
3	502.25	100996	1624	-12	0	-12	0.10	0.17	14	0	0	0	36	0	0	-62
4	502.21	100933	1624	-15	0	-15	0.26	0.21	24	0	0	0	24	0	0	-63
5	502.18	100886	1623	6	0	6	0.28	0.17	23	0	0	0	31	0	0	-47
6	502.16	100855	1623	7	0	7	0.21	0.17	19	0	0	0	19	0	0	-31
7	502.13	100808	1623	2	0	2	0.10	0.18	14	0	0	0	35	0	0	-47
8	502.09	100745	1621	-13	0	-13	0.12	0.09	11	0	0	0	39	0	0	-63
9	502.05	100683	1621	8	0	8	0.11	0.23	17	0	0	0	53	0	0	-62
10	502.01	100620	1621	5	0	5	0.20	0.10	15	0	0	0	53	0	0	-63
11	501.96	100542	1619	-22	0	-22	0.20	0.17	19	0	0	0	38	0	0	-78
12	501.92	100480	1619	7	0	7	0.42	0.19	31	0	0	0	38	0	0	-62
13	501.88	100418	1618	-17	0	-17	0.14	0.23	19	0	0	0	26	0	0	-62
14	501.85	100371	1618	2	0	2	0.13	0.14	14	0	0	0	35	0	0	-47
15	501.81	100308	1618	-15	0	-15	0.12	0.16	14	0	0	0	34	0	0	-63
16	501.79	100277	1616	20	0	20	0.16	0.19	18	0	0	0	33	0	0	-31
17	501.76	100231	1616	-1	0	-1	0.13	0.16	15	0	0	0	31	0	0	-46
18	501.71	100153	1616	-30	0	-30	0.12	0.18	15	0	0	0	32	0	0	-78
19	501.67	100090	1614	-14	0	-14	0.22	0.22	22	0	0	0	27	0	0	-63
20	501.66	100075	1614	18	0	18	0.13	0.13	13	0	0	0	20	0	0	-15
21	501.63	100028	1614	4	0	4	0.10	0.20	15	0	0	0	36	0	0	-47
22	501.60	99982	1614	33	0	33	0.25	0.39	32	0	0	0	47	0	0	-46
23	501.55	99904	1613	10	0	10	0.13	0.21	17	0	0	0	71	0	0	-78
24	501.51	99842	1613	8	0	8	0.13	0.19	16	0	0	0	54	0	0	-62
25	501.45	99749	1611	-10	0	-10	0.45	0.21	33	0	0	0	50	0	0	-93
26	501.41	99687	1611	-6	0	-6	0.25	0.21	23	0	0	0	32	0	0	-62
27	501.38	99640	1609	-7	0	-7	0.14	0.09	12	0	0	0	28	0	0	-47
28	501.36	99609	1609	16	0	16	0.15	0.10	13	0	0	0	34	0	0	-31
29	501.30	99516	1609	-44	0	-44	0.16	0.18	17	0	0	0	32	0	0	-93
30	501.27	99470	1607	8	0	8	0.19	0.14	17	0	0	0	38	0	0	-46
31	501.22	99392	1607	-30	0	-30	0.08	0.16	12	0	0	0	36	0	0	-78
TOTAL				-90	0	-90	6	5	557	0	0	0	1129	0	0	-1776

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to innaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81,Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION

NOVEMBER 2019

*figures in acre-feet except where otherwise noted

	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			
DATE	Elevation (ft MSL)	*Oct 31st 99392* Storage	Surface Area (acres)	Direct	Ventura River Divers'n	Total	Pan @Dam (in)	Pan @Rec (in)	Lake Total	at Dam (in)	at Rec (in)	Lake Total	To Main System	To River	Spill	**STORAGE CHANGE**
1	501.19	99346	1606	-6	0	-6	0.16	0.07	11	0	0	0	29	0	0	-46
2	501.16	99299	1606	10	0	10	0.25	0.25	24	0	0	0	33	0	0	-47
3	501.14	99268	1606	1	0	1	0.09	0.15	12	0	0	0	21	0	0	-31
4	501.10	99207	1606	-7	0	-7	0.13	0.15	13	0	0	0	40	0	0	-61
5	501.07	99160	1604	5	0	5	0.15	0.17	15	0	0	0	37	0	0	-47
6	501.04	99114	1604	-4	0	-4	0.13	0.08	10	0	0	0	32	0	0	-46
7	501.01	99067	1604	-4	0	-4	0.05	0.11	8	0	0	0	35	0	0	-47
8	500.98	99021	1602	-4	0	-4	0.07	0.13	10	0	0	0	33	0	0	-46
9	500.96	98990	1602	10	0	10	0.17	0.15	15	0	0	0	26	0	0	-31
10	500.93	98944	1602	-11	0	-11	0.13	0.20	16	0	0	0	19	0	0	-46
11	500.91	98913	1602	19	0	19	0.09	0.10	9	0	0	0	40	0	0	-31
12	500.88	98867	1601	-2	0	-2	0.02	0.08	5	0	0	0	39	0	0	-46
13	500.85	98821	1601	-2	0	-2	0.14	0.06	10	0	0	0	35	0	0	-46
14	500.82	98774	1601	-19	0	-19	0.05	0.07	6	0	0	0	22	0	0	-47
15	500.80	98744	1601	7	0	7	0.04	0.06	5	0	0	0	32	0	0	-30
16	500.78	98713	1599	-1	0	-1	0.08	0.07	7	0	0	0	23	0	0	-31
17	500.75	98667	1599	-12	0	-12	0.07	0.13	10	0	0	0	24	0	0	-46
18	500.73	98636	1599	18	0	18	0.12	0.15	13	0	0	0	36	0	0	-31
19	500.70	98590	1599	-16	0	-16	0.10	0.13	11	0	0	0	19	0	0	-46
20	500.68	98559	1598	17	0	17	0.24	0.09	16	0	0	0	32	0	0	-31
21	500.65	98513	1598	-16	0	-16	0.02	0.09	5	0.04	0.02	4	29	0	0	-46
22	500.63	98482	1598	-3	0	-3	0.09	0.07	8	0	0	0	20	0	0	-31
23	500.61	98451	1598	-4	0	-4	0.08	0.17	12	0	0	0	15	0	0	-31
24	500.59	98421	1596	-10	0	-10	0.06	0.10	8	0	0	0	13	0	0	-30
25	500.57	98390	1596	-8	0	-8	0.08	0.12	10	0	0	0	14	0	0	-31
26	500.53	98328	1596	-34	0	-34	0	0.20	10	0	0	0	18	0	0	-62
27	500.59	98421	1596	4	0	4	0	0	0	0.83	0.67	100	10	0	0	93
28	500.63	98482	1598	-25	0	-25	0	0	0	0.78	0.65	95	9	0	0	61
29	500.63	98482	1598	-20	0	-20	0	0	0	0.20	0.19	26	6	0	0	0
30	500.61	98451	1598	-30	0	-30	0	0	0	0.01	0.06	5	6	0	0	-31
TOTAL				-146	0	-146	3	3	277	2	2	230	748	0	0	-941

Reservoir capacity = 254,000 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to innaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81,Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION

DECEMBER 2019

*figures in acre-feet except where otherwise noted

	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			
DATE	Elevation (ft MSL)	*Nov 30th* *98451* Storage	Surface Area (acres)	Direct	Ventura River Divers'n	Total	Pan @Dam (in)	Pan @Rec (in)	Lake Total	at Dam (in)	at Rec (in)	Lake Total	To Main System	To River	Spill	**STORAGE CHANGE**
1	500.63	98482	1598	5	0	5	0	0	0	0.23	0.28	34	8	0	0	31
2	500.62	98467	1598	-1	0	-1	0	0.12	5	0	0	0	9	0	0	-15
3	500.60	98436	1598	-18	0	-18	0.05	0.06	5	0	0	0	8	0	0	-31
4	500.71	98605	1599	-88	97	9	0	0	0	1	1	168	8	0	0	169
5	500.76	98682	1599	45	17	62	0	0	0	0.23	0.12	23	8	0	0	77
6	500.76	98682	1599	16	0	16	0.06	0.13	8	0	0	0	8	0	0	0
7	500.80	98744	1601	6	4	11	0	0	0	0.49	0.40	59	8	0	0	62
8	500.83	98790	1601	-38	35	-2	0	0	0	0.35	0.48	55	7	0	0	46
9	500.87	98851	1601	26	8	33	0	0	0	0.27	0.31	39	11	0	0	61
10	500.86	98836	1601	-1	0	-1	0.05	0.10	7	0.02	0	1	9	0	0	-15
11	500.85	98821	1601	-4	0	-4	0.04	0.05	4	0	0	0	7	0	0	-15
12	500.86	98836	1601	25	0	25	0.03	0.02	2	0	0	0	8	0	0	15
13	500.85	98821	1601	-2	0	-2	0.05	0.06	5	0	0	0	8	0	0	-15
14	500.84	98805	1601	1	0	1	0.12	0.08	9	0.03	0	2	10	0	0	-16
15	500.82	98774	1601	-13	0	-13	0.12	0.10	10	0	0	0	8	0	0	-31
16	500.81	98759	1601	-4	0	-4	0.01	0.08	4	0	0	0	7	0	0	-15
17	500.80	98744	1601	6	0	6	0.10	0.10	9	0	0	0	12	0	0	-15
18	500.79	98728	1599	3	0	3	0.18	0.07	11	0	0	0	8	0	0	-16
19	500.78	98713	1599	-2	0	-2	0.08	0.06	6	0	0	0	7	0	0	-15
20	500.77	98697	1599	-2	0	-2	0.06	0.07	6	0	0	0	8	0	0	-16
21	500.75	98667	1599	-16	0	-16	0.08	0.07	7	0	0	0	8	0	0	-30
22	500.76	98682	1599	17	8	25	0	0.06	3	0	0	0	7	0	0	15
23	500.93	98944	1602	-126	94	-32	0	0	0	2	2	300	6	0	0	262
24	501.04	99114	1604	122	26	147	0	0	0	0.17	0.27	29	7	0	0	170
25	501.05	99129	1604	12	10	22	0	0	0	0	0.02	1	8	0	0	15
26	501.35	99594	1609	169	150	318	0	0	0	2	0.61	155	8	0	0	465
27	501.45	99749	1611	95	71	166	0	0.07	3	0	0	0	8	0	0	155
28	501.49	99811	1611	54	21	76	0.08	0.05	6	0	0	0	8	0	0	62
29	501.50	99826	1613	30	0	30	0.14	0.05	8	0	0	0	6	0	0	15
30	501.49	99811	1611	-6	0	-6	0.04	0.03	3	0	0	0	6	0	0	-15
31	501.48	99795	1611	-9	0	-9	0.02	0.04	3	0	0	0	5	0	0	-16
TOTAL				304	539	843	1	1	122	7	6	868	245	0	0	1344

Reservoir capacity = 254,000 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to innaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81,Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION

JANUARY 2020

*figures in acre-feet except where otherwise noted

	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			
DATE	Elevation	99795 Storage	Surface Area (acres)	Direct	Ventura River Divers'n	Total	Pan @Dam (in)	Pan @Rec (in)	Lake Total	at Dam (in)	at Rec (in)	Lake Total	To Main System	To River	Spill	STORAGE CHANGE
1	501.48	99795	1611	12	0	12	0.09	0.07	7	0	0	0	5	0	0	0
2	501.51	99842	1613	64	0	64	0.15	0.07	10	0	0	0	8	0	0	47
3	501.49	99811	1611	-23	0	-23	0.02	0.03	2	0	0	0	6	0	0	-31
4	501.47	99780	1611	-12	0	-12	0.18	0.07	11	0	0	0	8	0	0	-31
5	501.47	99780	1611	12	0	12	0.02	0.05	3	0	0	0	9	0	0	0
6	501.47	99780	1611	16	0	16	0.15	0.05	9	0	0	0	8	0	0	0
7	501.47	99780	1611	21	0	21	0.13	0.09	10	0	0	0	11	0	0	0
8	501.47	99780	1611	23	0	23	0.17	0.07	10	0	0	0	12	0	0	0
9	501.46	99764	1611	0.20	0	0.20	0.12	0.06	8	0	0	0	8	0	0	-16
10	501.44	99733	1611	-21	0	-21	0.03	0.06	4	0	0	0	6	0	0	-31
11	501.43	99718	1611	-3	0	-3	0.05	0.06	5	0	0	0	7	0	0	-15
12	501.44	99733	1611	30	0	30	0.15	0.04	8	0	0	0	7	0	0	15
13	501.43	99718	1611	-1	0	-1	0.08	0.03	5	0	0	0	9	0	0	-15
14	501.42	99702	1611	2	0	2	0.08	0.06	6	0	0	0	12	0	0	-16
15	501.41	99687	1611	-3	0	-3	0.03	0.05	3	0	0	0	8	0	0	-15
16	501.41	99687	1611	17	0	17	0.03	0.10	6	0	0	0	12	0	0	0
17	501.45	99749	1611	-7	0	-7	0	0	0	0.72	0.48	81	11	0	0	62
18	501.44	99733	1611	-1	0	-1	0.07	0.09	7	0	0	0	8	0	0	-16
19	501.43	99718	1611	-5	0	-5	0.02	0.06	3	0	0	0	7	0	0	-15
20	501.43	99718	1611	15	0	15	0.09	0.06	7	0	0	0	9	0	0	0
21	501.43	99718	1611	-4	0	-4	0	0	0	0.10	0.09	13	9	0	0	0
22	501.43	99718	1611	11	0	11	0.04	0.04	3	0	0	0	8	0	0	0
23	501.43	99718	1611	12	0	12	0.05	0.06	5	0	0	0	7	0	0	0
24	501.43	99718	1611	12	0	12	0.08	0.06	6	0	0	0	6	0	0	0
25	501.42	99702	1611	-3	0	-3	0.09	0.06	7	0	0	0	6	0	0	-16
26	501.42	99702	1611	12	0	12	0.04	0.06	4	0	0	0	7	0	0	0
27	501.39	99656	1609	-27	0	-27	0.09	0.06	7	0	0	0	13	0	0	-46
28	501.39	99656	1609	20	0	20	0.09	0.04	6	0	0	0	14	0	0	0
29	501.38	99640	1609	10	0	10	0.08	0.14	10	0	0	0	16	0	0	-16
30	501.38	99640	1609	28	0	28	0.14	0.09	10	0	0	0	18	0	0	0
31	501.37	99625	1609	8	0	8	0.11	0.08	8	0	0	0	15	0	0	-15
TOTAL				216	0	216	2	2	189	0.82	0.57	93	291	0	0	-170

Reservoir capacity = 254,000 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to innaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81,Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION

FEBRUARY 2020

*figures in acre-feet except where otherwise noted

	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			
DATE	Elevation (ft MSL)	*Jan 31st* *99625* Storage	Surface Area (acres)	Direct	Ventura River Divers'n	Total	Pan @Dam (in)	Pan @Rec (in)	Lake Total (af)	at Dam (in)	at Rec (in)	Lake Total (af)	To Main System	To River	Spill	**STORAGE CHANGE**
1	501.36	99609	1609	-90	0	-90	0.14	0.07	11	0	0	0	14	0	0	-16
2	501.35	99594	1609	4	0	4	0.03	0.13	8	0	0	0	11	0	0	-15
3	501.35	99594	1609	39	0	39	0.12	0.30	22	0	0	0	17	0	0	0
4	501.34	99578	1609	18	0	18	0.20	0.06	13	0	0	0	21	0	0	-16
5	501.33	99563	1609	13	0	13	0.06	0.10	8	0	0	0	20	0	0	-15
6	501.32	99547	1609	7	0	7	0.01	0.10	6	0	0	0	18	0	0	-16
7	501.30	99516	1609	4	0	4	0.15	0.14	15	0	0	0	20	0	0	-31
8	501.28	99485	1607	-7	0	-7	0.05	0.08	7	0	0	0	17	0	0	-31
9	501.28	99485	1607	0.65	0	0.65	0	0	0	0.03	0.14	11	12	0	0	0
10	501.27	99470	1607	14	0	14	0.16	0.09	13	0	0	0	16	0	0	-15
11	501.25	99439	1607	2	0	2	0.09	0.17	13	0	0	0	19	0	0	-31
12	501.23	99408	1607	-3	0	-3	0.08	0.13	11	0	0	0	17	0	0	-31
13	501.22	99392	1607	15	0	15	0.13	0.09	11	0	0	0	20	0	0	-16
14	501.20	99361	1607	-3	0	-3	0.05	0.09	7	0	0	0	20	0	0	-31
15	501.18	99330	1606	-4	0	-4	0.08	0.11	10	0	0	0	18	0	0	-31
16	501.17	99315	1606	5	0	5	0	0.08	4	0	0	0	16	0	0	-15
17	501.17	99315	1606	30	0	30	0.08	0.10	9	0	0	0	21	0	0	0
18	501.15	99284	1606	4	0	4	0.13	0.11	12	0	0	0	22	0	0	-31
19	501.13	99253	1606	11	0	11	0.10	0.09	10	0	0	0	32	0	0	-31
20	501.11	99222	1606	7	0	7	0.07	0.12	10	0	0	0	29	0	0	-31
21	501.08	99176	1604	-9	0	-9	0.11	0.12	12	0	0	0	25	0	0	-46
22	501.06	99145	1604	-13	0	-13	0	0	0	0.03	0.05	5	23	0	0	-31
23	501.07	99160	1604	-6	0	-6	0	0	0	0.11	0.48	39	18	0	0	15
24	501.05	99129	1604	21	0	21	0.14	0.25	20	0	0	0	32	0	0	-31
25	501.04	99114	1604	0	0	0	0.10	0.13	12	0	0	0	3	0	0	-15
26	501.03	99098	1604	10	0	10	0.13	0.16	15	0	0	0	11	0	0	-16
27	501.01	99067	1604	2	0	2	0.14	0.07	11	0	0	0	23	0	0	-31
28	501.00	99052	1604	36	0	36	0.19	0.20	20	0	0	0	31	0	0	-15
29	500.97	99006	1602	3	0	3	0.20	0.16	19	0	0	0	30	0	0	-46
TOTAL				110	0	110	3	3	309	0.17	0.67	56	575	0	0	-619

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to innaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81,Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION

MARCH 2020

*figures in acre-feet except where otherwise noted

	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			
		Feb 29th	Surface		Ventura		Pan	Pan	Lake	at	at	Lake	To			
	Elevation	*99006*	Area		River		@Dam	@Rec	Total	Dam	Rec	Total	Main	To		**STORAGE**
DATE	(ft MSL)	Storage	(acres)	Direct	Divers'n	Total	(in)	(in)	(af)	(in)	(in)	(af)	System	River	Spill	**CHANGE**
1	500.95	98975	1602	-7	0	-7	0.10	0.10	10	0	0	0	14	0	0	-31
2	500.94	98959	1602	15	0	15	0.10	0.10	10	0	0	0	21	0	0	-16
3	500.92	98929	1602	19	0	19	0.15	0.15	15	0	0	0	33	0	0	-30
4	500.89	98882	1601	-11	0	-11	0.08	0.08	8	0	0	0	28	0	0	-47
5	500.87	98851	1601	7	0	7	0.10	0.10	10	0	0	0	28	0	0	-31
6	500.85	98821	1601	6	0	6	0.08	0.08	8	0	0	0	28	0	0	-30
7	500.84	98805	1601	19	0	19	0.19	0.19	19	0	0	0	16	0	0	-16
8	500.82	98774	1601	-25	0	-25	0	0	0	0.03	0	2	8	0	0	-31
9	500.81	98759	1601	-2	0	-2	0.04	0.04	4	0	0	0	9	0	0	-15
10	500.80	98744	1601	-8	0	-8	0	0	0	0.01	0.04	3	10	0	0	-15
11	500.80	98744	1601	-35	0.10	-35	0	0	0	0.13	0.58	47	12	0	0	0
12	500.87	98851	1601	102	3	105	0	0	0	0	0.17	11	7	0	0	107
13	500.90	98898	1602	-1	27	26	0	0	0	0.38	0.41	53	8	0	0	47
14	500.91	98913	1602	-28	0	-28	0	0	0	0.20	0.17	25	8	0	0	15
15	500.92	98929	1602	1	0	1	0	0	0	0.18	0.22	27	12	0	0	16
16	500.94	98959	1602	-53	207	154	0	0	0	0.29	1	89	6	0	0	30
17	501.55	99904	1613	471	292	763	0	0	0	3	1	275	8	0	0	945
18	501.76	100231	1616	24	112	135	0	0	0	0.12	0.13	17	5	0	0	327
19	501.82	100324	1618	-14	4	-10	0	0	0	0.03	0	2	6	0	0	93
20	501.83	100340	1618	51	24	75	0.32	0.32	33	0	0	0	6	0	0	16
21	501.87	100402	1618	58	21	78	0.13	0.13	13	0	0	0	6	0	0	62
22	501.87	100402	1618	-7	3	-4	0.05	0.05	5	0	0	0	8	0	0	0
23	502.03	100652	1621	140	263	403	0	0	0	0.80	0.88	113	7	0	0	250
24	502.21	100933	1624	47	94	141	0.18	0.18	19	0	0	0	11	0	0	281
25	502.27	101027	1624	5	47	52	0	0	0	0.03	0	2	6	0	0	94
26	502.29	101058	1624	9	33	42	0.16	0.16	16	0	0	0	9	0	0	31
27	502.33	101121	1626	21	18	39	0	0	0	0.13	0.12	17	8	0	0	63
28	502.33	101121	1626	7	7	14	0.17	0.17	18	0	0	0	8	0	0	0
29	502.34	101137	1626	34	1	35	0.16	0.16	16	0	0	0	8	0	0	16
30	502.34	101137	1626	4	6	10	0	0	0	0.01	0.01	1	7	0	0	0
31	502.35	101152	1626	28	14	42	0.06	0.06	6	0	0	0	13	0	0	15
TOTAL				877	1175	2052	2	2	212	5	5	686	366	0	0	2146

*Evaporation and Precipitation data from LCRA not logged; Casitas Dam data substituted

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to innaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81,Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION

APRIL 2020

*figures in acre-feet except where otherwise noted

	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			
DATE	Elevation (ft MSL)	*Mar 31st* *101152* Storage	Surface Area (acres)	Direct	Ventura River Divers'n	Total	Pan @Dam (in)	Pan @Rec (in)	Lake Total (af)	at Dam (in)	at Rec (in)	Lake Total (af)	To Main System	To River	Spill	**STORAGE CHANGE**
1	502.36	101168	1626	24	14	38	0.08	0.08	9	0	0	0	14	0	0	16
2	502.37	101184	1626	35	12	47	0.22	0.22	24	0	0	0	9	0	0	16
3	502.37	101184	1626	23	8	31	0.25	0.25	27	0	0	0	7	0	0	0
4	502.37	101184	1626	19	8	27	0.20	0.20	22	0	0	0	6	0	0	0
5	502.38	101199	1626	9	18	26	0	0	0	0.03	0.03	4	6	0	0	15
6	503.03	102222	1638	598	671	1269	0	0	0	3	3	412	5	0	0	1023
7	503.76	103380	1651	485	407	892	0	0	0	0.06	0.06	8	6	0	0	1158
8	504.06	103859	1656	41	236	277	0	0	0	0.26	0.26	36	5	0	0	479
9	504.27	104195	1660	33	310	344	0	0	0	0.52	0.52	72	5	0	0	336
10	504.59	104708	1665	128	315	443	0	0	0	0.57	0.57	79	5	0	0	513
11	504.82	105078	1670	83	269	352	0.20	0.20	22	0	0	0	6	0	0	370
12	505.02	105401	1674	84	223	307	0.21	0.21	23	0	0	0	6	0	0	323
13	505.20	105692	1677	76	184	259	0.02	0.02	2	0	0	0	5	0	0	291
14	505.34	105919	1679	63	152	215	0.13	0.13	15	0	0	0	5	0	0	227
15	505.45	106097	1681	55	125	180	0.20	0.20	22	0	0	0	6	0	0	178
16	505.53	106227	1683	45	112	157	0.30	0.30	34	0	0	0	6	0	0	130
17	505.61	106357	1684	39	113	152	0.14	0.14	16	0	0	0	5	0	0	130
18	505.69	106487	1684	50	117	167	0.25	0.25	28	0	0	0	5	0	0	130
19	505.77	106617	1686	29	115	144	0.09	0.09	10	0	0	0	6	0	0	130
20	505.84	106731	1688	21	105	126	0.14	0.14	16	0	0	0	6	0	0	114
21	505.92	106862	1689	52	92	144	0.18	0.18	20	0	0	0	6	0	0	131
22	505.98	106959	1689	39	82	121	0.25	0.25	28	0	0	0	6	0	0	97
23	506.01	107008	1691	-1	73	72	0.18	0.18	20	0	0	0	12	0	0	49
24	506.04	107057	1691	21	64	85	0.27	0.27	30	0	0	0	14	0	0	49
25	506.07	107106	1691	45	58	102	0.32	0.32	36	0	0	0	24	0	0	49
26	506.09	107139	1691	20	52	72	0.21	0.21	24	0	0	0	21	0	0	33
27	506.11	107172	1693	31	47	78	0.29	0.29	33	0	0	0	17	0	0	33
28	506.13	107204	1693	8	42	50	0.05	0.05	6	0	0	0	18	0	0	32
29	506.14	107221	1693	23	40	63	0.24	0.24	27	0	0	0	20	0	0	17
30	506.14	107221	1693	21	38	59	0.19	0.19	21	0	0	0	40	0	0	0
TOTAL				2199	4101	6300	5	5	515	4	4	611	303	0	0	6069

*Evaporation and Precipitation data from LCRA not logged; Casitas Dam data substituted

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to innaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81,Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION

MAY 2020

*figures in acre-feet except where otherwise noted

	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			
DATE	Elevation (ft MSL)	*Apr 30th* *107221* Storage	Surface Area (acres)	Direct	Ventura River Divers'n	Total	Pan @Dam (in)	Pan @Rec (in)	Lake Total (af)	at Dam (in)	at Rec (in)	Lake Total (af)	To Main System	To River	Spill	**STORAGE CHANGE**
1	506.15	107237	1693	14	33	47	0	0	0	0	0	0	37	0	0	16
2	506.13	107204	1693	-3	29	26	0.38	0.38	43	0	0	0	20	0	0	-33
3	506.14	107221	1693	32	27	59	0.22	0.22	25	0	0	0	19	0	0	17
4	506.14	107221	1693	12	21	32	0.17	0.17	19	0	0	0	19	0	0	0
5	506.13	107204	1693	-7	17	10	0.07	0.07	8	0	0	0	23	0	0	-17
6	506.11	107172	1693	23	15	38	0.36	0.36	41	0	0	0	30	0	0	-32
7	506.09	107139	1691	0	11	11	0.14	0.14	16	0	0	0	32	0	0	-33
8	506.06	107090	1691	34	10	45	0.47	0.47	54	0	0	0	41	0	0	-49
9	506.03	107041	1691	5	10	15	0.22	0.22	25	0	0	0	39	0	0	-49
10	506.01	107008	1691	4	11	14	0.16	0.16	18	0	0	0	29	0	0	-33
11	506.00	106992	1691	20	10	30	0.22	0.22	25	0	0	0	22	0	0	-16
12	505.97	106943	1689	-18	2	-17	0.11	0.11	13	0	0	0	28	0	0	-49
13	505.94	106894	1689	17	3	20	0.20	0.20	23	0	0	0	45	0	0	-49
14	505.90	106829	1689	-18	2	-16	0.10	0.10	11	0	0	0	38	0	0	-65
15	505.88	106796	1688	33	0.50	33	0.30	0.30	34	0	0	0	34	0	0	-33
16	505.84	106731	1688	-3	0	-3	0.27	0.27	31	0	0	0	32	0	0	-65
17	505.82	106699	1688	30	0	30	0.29	0.29	33	0	0	0	29	0	0	-32
18	505.80	106666	1688	-27	2	-25	0	0	0	0.08	0.08	11	17	0	0	-33
19	505.77	106617	1686	-10	0	-10	0.19	0.19	22	0	0	0	19	0	0	-49
20	505.75	106585	1686	12	0	12	0.23	0.23	26	0	0	0	18	0	0	-32
21	505.72	106536	1686	2	0	2	0.24	0.24	27	0	0	0	24	0	0	-49
22	505.69	106487	1684	15	0	15	0.32	0.32	36	0	0	0	27	0	0	-49
23	505.65	106422	1684	-1	0	-1	0.20	0.20	23	0	0	0	41	0	0	-65
24	505.62	106373	1684	10	0	10	0.29	0.29	33	0	0	0	26	0	0	-49
25	505.60	106341	1684	15	0	15	0.20	0.20	23	0	0	0	24	0	0	-32
26	505.57	106292	1683	-12	0	-12	0.15	0.15	17	0	0	0	20	0	0	-49
27	505.54	106243	1683	7	0	7	0.16	0.16	18	0	0	0	38	0	0	-49
28	505.50	106178	1683	13	0	13	0.33	0.33	37	0	0	0	41	0	0	-65
29	505.47	106130	1681	23	0	23	0.26	0.26	29	0	0	0	41	0	0	-48
30	505.43	106065	1681	-18	0	-18	0.12	0.12	14	0	0	0	33	0	0	-65
31	505.40	106016	1681	0.57	0	0.57	0.19	0.19	22	0	0	0	28	0	0	-49
TOTAL				205	202	407	7	7	747	0.08	0.08	11	914	0	0	-1205

*Evaporation and Precipitation data from LCRA not logged; Casitas Dam data substituted

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to innaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81,Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION

JUNE 2020

*figures in acre-feet except where otherwise noted

	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			
DATE	Elevation (ft MSL)	*May 31st* *106016* Storage	Surface Area (acres)	Direct	Ventura River Divers'n	Total	Pan @Dam (in)	Pan @Rec (in)	Lake Total (af)	at Dam (in)	at Rec (in)	Lake Total (af)	To Main System	To River	Spill	**STORAGE CHANGE**
1	505.37	105967	1679	1	0	1	0.22	0.22	25	0	0	0	24	0	0	-49
2	505.34	105919	1679	-1	0	-1	0.15	0.15	17	0	0	0	30	0	0	-48
3	505.31	105870	1679	16	0	16	0.27	0.27	31	0	0	0	34	0	0	-49
4	505.26	105789	1677	12	0	12	0.38	0.38	44	0	0	0	49	0	0	-81
5	505.23	105741	1677	29	0	29	0.33	0.33	38	0.01	0.01	1	41	0	0	-48
6	505.20	105692	1677	5	0	5	0.10	0.10	11	0	0	0	42	0	0	-49
7	505.17	105643	1676	0	0	0	0.19	0.19	22	0	0	0	28	0	0	-49
8	505.12	105563	1676	-14	0	-14	0.43	0.43	49	0	0	0	17	0	0	-80
9	505.08	105498	1674	-17	0	-17	0.08	0.08	9	0	0	0	38	0	0	-65
10	505.04	105433	1674	23	0	23	0.38	0.38	43	0	0	0	44	0	0	-65
11	505.00	105369	1674	20	0	20	0.32	0.32	37	0	0	0	48	0	0	-64
12	504.94	105272	1672	8	0	8	0.51	0.51	58	0	0	0	47	0	0	-97
13	504.89	105191	1670	-7	0	-7	0.22	0.22	25	0	0	0	49	0	0	-81
14	504.86	105143	1670	20	0	20	0.21	0.21	24	0	0	0	44	0	0	-48
15	504.81	105062	1670	-29	0	-29	0.20	0.20	23	0	0	0	30	0	0	-81
16	504.78	105014	1669	23	0	23	0.29	0.29	33	0	0	0	38	0	0	-48
17	504.74	104950	1669	1	0	1	0.15	0.15	17	0	0	0	48	0	0	-64
18	504.70	104885	1669	15	0	15	0.34	0.34	39	0	0	0	41	0	0	-65
19	504.67	104837	1667	-3	0	-3	0.07	0.07	8	0	0	0	37	0	0	-48
20	504.63	104773	1667	-3	0	-3	0.19	0.19	22	0	0	0	40	0	0	-64
21	504.60	104724	1667	-3	0	-3	0.15	0.15	17	0	0	0	29	0	0	-49
22	504.58	104692	1665	11	0	11	0.20	0.20	23	0	0	0	20	0	0	-32
23	504.54	104628	1665	-16	0	-16	0.17	0.17	19	0	0	0	29	0	0	-64
24	504.51	104580	1665	8	0	8	0.17	0.17	19	0	0	0	37	0	0	-48
25	504.47	104515	1663	-10	0	-10	0.15	0.15	17	0	0	0	38	0	0	-65
26	504.44	104467	1663	25	0	25	0.32	0.32	36	0	0	0	37	0	0	-48
27	504.41	104419	1663	22	0	22	0.29	0.29	33	0	0	0	37	0	0	-48
28	504.38	104371	1661	7	0	7	0.20	0.20	23	0	0	0	32	0	0	-48
29	504.35	104323	1661	-11	0	-11	0.16	0.16	18	0	0	0	19	0	0	-48
30	504.31	104259	1661	-2	0	-2	0.28	0.28	32	0	0	0	31	0	0	-64
TOTAL				130	0	130	7.12	7.12	813	0.01	0.01	1	1076	0	0	-1757

*Evaporation and Precipitation data from LCRA not logged; Casitas Dam data substituted

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to innaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81,Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION

JULY 2020

*figures in acre-feet except where otherwise noted

	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			
DATE	Elevation (ft MSL)	*Jun 30th* *104259* Storage	Surface Area (acres)	Direct	Ventura River Divers'n	Total	Pan @Dam (in)	Pan @Rec (in)	Lake Total (af)	at Dam (in)	at Rec (in)	Lake Total (af)	To Main System	To River	Spill	**STORAGE CHANGE**
1	504.27	104195	1660	10	2	12	0.29	0.30	33	0	0	0	43	0	0	-64
2	504.23	104131	1660	-3	0	-3	0.20	0.15	20	0	0	0	42	0	0	-64
3	504.19	104067	1658	0.53	0	0.53	0.22	0.22	25	0	0	0	40	0	0	-64
4	504.14	103987	1658	-2	0	-2	0.31	0.31	35	0	0	0	43	0	0	-80
5	504.12	103955	1658	50	0	50	0.43	0.43	48	0	0	0	34	0	0	-32
6	504.08	103891	1656	-17	0	-17	0.20	0.20	22	0	0	0	25	0	0	-64
7	504.04	103827	1656	-4	0	-4	0.16	0.25	23	0	0	0	37	0	0	-64
8	503.99	103747	1654	-7	0	-7	0.26	0.30	31	0	0	0	42	0	0	-80
9	503.94	103667	1654	5	0	5	0.31	0.31	35	0	0	0	50	0	0	-80
10	503.89	103587	1652	-9	0	-9	0.18	0.18	20	0	0	0	51	0	0	-80
11	503.86	103539	1652	32	0	32	0.39	0.32	40	0	0	0	40	0	0	-48
12	503.82	103476	1652	21	0	21	0.40	0.40	45	0	0	0	40	0	0	-63
13	503.78	103412	1651	-10	0	-10	0.20	0.20	22	0	0	0	32	0	0	-64
14	503.74	103348	1651	14	0	14	0.29	0.37	37	0	0	0	41	0	0	-64
15	503.69	103269	1649	-25	0	-25	0.17	0	9	0	0	0	45	0	0	-79
16	503.64	103189	1649	-11	0	-11	0.19	0.25	24	0	0	0	44	0	0	-80
17	503.60	103126	1649	7	0	7	0.34	0.18	29	0	0	0	41	0	0	-63
18	503.55	103046	1647	-10	0	-10	0.32	0.16	27	0	0	0	43	0	0	-80
19	503.52	102998	1647	14	0	14	0.20	0.20	22	0	0	0	40	0	0	-48
20	503.49	102951	1645	1	0	1	0.22	0.22	24	0	0	0	24	0	0	-47
21	503.44	102871	1645	-2	0	-2	0.31	0.49	44	0	0	0	34	0	0	-80
22	503.40	102808	1645	15	0	15	0.18	0.38	31	0	0	0	46	0	0	-63
23	503.35	102729	1643	-1	0	-1	0.24	0.37	34	0	0	0	44	0	0	-79
24	503.31	102665	1643	4	0	4	0.18	0.39	32	0	0	0	37	0	0	-64
25	503.26	102586	1642	4	0	4	0.37	0.28	36	0	0	0	47	0	0	-79
26	503.22	102523	1642	24	0	24	0.20	0.54	41	0	0	0	46	0	0	-63
27	503.17	102444	1640	-11	0	-11	0.32	0.32	35	0	0	0	32	0	0	-79
28	503.13	102380	1640	14	0	14	0.11	0.39	28	0	0	0	50	0	0	-64
29	503.07	102286	1638	-16	0	-16	0.21	0.21	23	0	0	0	55	0	0	-94
30	503.03	102222	1638	19	0	19	0.26	0.13	22	0	0	0	62	0	0	-64
31	502.96	102112	1636	-17	0	-17	0.23	0.47	39	0	0	0	54	0	0	-110
TOTAL				92	2	94	8	9	935	0	0	0	1305	0	0	-2147

*Evaporation and Precipitation data from LCRA not logged; Casitas Dam data substituted

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to innaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81,Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION

August 2020

*figures in acre-feet except where otherwise noted

	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			
DATE	Elevation (ft MSL)	*Jul 31st* *102112* Storage	Surface Area (acres)	Direct	Ventura River Divers'n	Total	Pan @Dam (in)	Pan @Rec (in)	Lake Total (af)	at Dam (in)	at Rec (in)	Lake Total (af)	To Main System	To River	Spill	**STORAGE CHANGE**
1	502.91	102033	1636	16	0	16	0.36	0.22	32	0	0	0	63	0	0	-79
2	502.87	101970	1635	31	0	31	0.40	0.30	39	0	0	0	55	0	0	-63
3	502.82	101891	1635	-9	0	-9	0.30	0.27	31	0	0	0	38	0	0	-79
4	502.77	101812	1633	-19	0	-19	0.03	0.21	13	0	0	0	47	0	0	-79
5	502.73	101749	1633	20	0	20	0.34	0.38	40	0	0	0	44	0	0	-63
6	502.68	101671	1631	-8	0	-8	0.20	0.18	21	0	0	0	49	0	0	-78
7	502.63	101592	1631	-23	0	-23	0.16	0.18	19	0	0	0	37	0	0	-79
8	502.59	101529	1630	22	0	22	0.37	0.22	32	0	0	0	53	0	0	-63
9	502.55	101466	1630	-10	0	-10	0.20	0.22	23	0	0	0	30	0	0	-63
10	502.52	101419	1630	0	0	0	0.20	0.21	23	0	0	0	24	0	0	-47
11	502.47	101341	1628	-15	0	-15	0.13	0.40	29	0	0	0	34	0	0	-78
12	502.42	101262	1628	8	0	8	0.35	0.29	35	0	0	0	51	0	0	-79
13	502.38	101199	1626	13	0	13	0.22	0.27	27	0	0	0	49	0	0	-63
14	502.34	101137	1626	19	0	19	0.24	0.35	32	0	0	0	48	0	0	-62
15	502.29	101058	1624	24	0	24	0.46	0.39	47	0	0	0	56	0	0	-79
16	502.23	100964	1624	-13	0	-13	0.23	0.25	26	0	0	0	55	0	0	-94
17	502.20	100917	1624	26	0	26	0.30	0.30	33	0	0	0	40	0	0	-47
18	502.16	100855	1623	6	0	6	0.21	0.15	20	0	0	0	48	0	0	-62
19	502.11	100777	1623	13	0	13	0.27	0.28	30	0	0	0	61	0	0	-78
20	502.06	100699	1621	5	0	5	0.28	0.29	31	0	0	0	52	0	0	-78
21	502.00	100605	1621	-8	0	-8	0.25	0.29	30	0	0	0	56	0	0	-94
22	501.96	100542	1619	25	0	25	0.29	0.29	32	0	0	0	56	0	0	-63
23	501.92	100480	1619	18	0	18	0.30	0.30	33	0	0	0	47	0	0	-62
24	501.88	100418	1618	-15	0	-15	0.20	0.13	18	0	0	0	29	0	0	-62
25	501.83	100340	1618	-1	0	-1	0.26	0.33	32	0	0	0	45	0	0	-78
26	501.79	100277	1616	32	0	32	0.32	0.56	48	0	0	0	47	0	0	-63
27	501.74	100199	1616	4	0	4	0.29	0.34	34	0	0	0	48	0	0	-78
28	501.69	100122	1614	-10	0	-10	0.17	0.22	21	0	0	0	46	0	0	-77
29	501.63	100028	1614	-7	0	-7	0.32	0.32	35	0	0	0	52	0	0	-94
30	501.60	99982	1614	14	0	14	0.25	0.25	27	0	0	0	33	0	0	-46
31	501.56	99920	1613	-11	0	-11	0.28	0.19	26	0	0	0	25	0	0	-62
TOTAL				146	0	146	8	9	919	0	0	0	1420	0	0	-2192

*Evaporation and Precipitation data from LCRA not logged; Casitas Dam data substituted

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation.

Direct reservoir inflow values may be negative due to innaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81,Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

CASITAS RESERVOIR OPERATION

SEPTEMBER 2020

*figures in acre-feet except where otherwise noted

	RESERVOIR (@ 0800 hrs.)			INFLOW			EVAPORATION			PRECIPITATION			RELEASES			
DATE	Elevation (ft MSL)	*Aug 30th* *99920* Storage	Surface Area (acres)	Direct	Ventura River Divers'n	Total	Pan @Dam (in)	Pan @Rec (in)	Lake Total (af)	at Dam (in)	at Rec (in)	Lake Total (af)	To Main System	To River	Spill	STORAGE CHANGE
1	501.52	99857	1613	-1	0	-1	0.20	0.20	20	0	0	0	42	0	0	-63
2	501.47	99780	1611	-31	0	-31	0.04	0.04	4	0	0	0	42	0	0	-77
3	501.42	99702	1611	0.80	0	0.80	0.31	0.31	32	0	0	0	47	0	0	-78
4	501.37	99625	1609	-19	0	-19	0.11	0.11	11	0	0	0	47	0	0	-77
5	501.32	99547	1609	20	0	20	0.37	0.37	38	0	0	0	60	0	0	-78
6	501.27	99470	1607	19	0	19	0.35	0.35	36	0	0	0	60	0	0	-77
7	501.21	99377	1607	-7	0	-7	0.32	0.32	33	0	0	0	54	0	0	-93
8	501.16	99299	1606	-4	0	-4	0.18	0.18	18	0	0	0	55	0	0	-78
9	501.13	99253	1606	11	0	11	0.14	0.14	14	0	0	0	43	0	0	-46
10	501.07	99160	1604	-27	0	-27	0.20	0.20	20	0	0	0	46	0	0	-93
11	501.03	99098	1604	19	0	19	0.35	0.35	36	0	0	0	46	0	0	-62
12	500.99	99037	1602	-3	0	-3	0.22	0.22	22	0	0	0	36	0	0	-61
13	500.96	98990	1602	-1	0	-1	0.14	0.14	14	0	0	0	32	0	0	-47
14	500.93	98944	1602	-11	0	-11	0.13	0.13	13	0	0	0	22	0	0	-46
15	500.88	98867	1601	-13	0	-13	0.21	0.21	21	0	0	0	42	0	0	-77
16	500.83	98790	1601	-8	0	-8	0.14	0.14	14	0	0	0	54	0	0	-77
17	500.77	98697	1599	-1	0	-1	0.36	0.36	36	0	0	0	56	0	0	-93
18	500.72	98620	1599	25	0	25	0.31	0.31	31	0	0	0	70	0	0	-77
19	500.67	98543	1598	-9	0	-9	0.19	0.19	19	0	0	0	49	0	0	-77
20	500.63	98482	1598	-1	0	-1	0.20	0.20	20	0	0	0	40	0	0	-61
21	500.60	98436	1598	5	0	5	0.15	0.15	15	0	0	0	36	0	0	-46
22	500.54	98344	1596	-18	0	-18	0.24	0.24	24	0	0	0	50	0	0	-92
23	500.49	98267	1594	-1	0	-1	0.16	0.16	16	0	0	0	60	0	0	-77
24	500.44	98190	1594	3	0	3	0.19	0.19	19	0	0	0	61	0	0	-77
25	500.40	98129	1594	13	0	13	0.27	0.27	27	0	0	0	47	0	0	-61
26	500.35	98052	1593	-20	0	-20	0.15	0.15	15	0	0	0	42	0	0	-77
27	500.33	98022	1593	45	0	45	0.40	0.40	40	0	0	0	35	0	0	-30
28	500.30	97976	1593	-5	0	-5	0.15	0.15	15	0	0	0	26	0	0	-46
29	500.25	97899	1591	-23	0	-23	0.12	0.12	12	0	0	0	41	0	0	-77
30	500.21	97838	1591	9	0	9	0.17	0.17	17	0	0	0	53	0	0	-61
TOTAL				-32	0	-32	6	6	656	0	0	0	1394	0	0	-2082

*Evaporation and Precipitation data from LCRA not logged; Casitas Dam data substituted

Reservoir capacity = 237,761 acre-feet at 567 ft. elevation. e = estimate

Direct reservoir inflow values may be negative due to innaccuracies of the evaporation coefficients (supplied by the USBR)

Evaporation and precipitation readings taken at approximately 8 a.m.

Monthly Evaporation Coefficients: Jan=0.65, Feb=0.77, Mar=0.76, Apr=0.80, May=0.81, Jun=0.82, Jul= Aug=0.81,Sep=0.76, Oct=0.75, Nov=0.72, Dec=0.66

Appendix E

Reservoir Elevation Data

Matilija Reservoir Lake Elevation

WATER YEAR OCTOBER 2019 THROUGH SEPTEMBER 2020

Daily mean elevation, feet above mean sea level

SPILL OVER DAM @ 1095.35 ELEVATION

	2019			2020								
Day	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
1	1095.70	1095.70	1095.74	1095.82	1095.76	1095.74	1095.84	1095.88	1095.86	1095.15		
2	1095.70	1095.70	1095.72	1095.81	1095.76	1095.75	1095.84	1095.88	1095.85			
3	1095.70	1095.69	1095.72	1095.81	1095.76	1095.75	1095.84	1095.88	1095.84			
4	1095.70	1095.69	1095.90	1095.80	1095.77	1095.74	1095.84	1095.88	1095.83			
5	1095.70	1095.69	1095.79	1095.80	1095.78	1095.74	1095.89	1095.88	1095.85			
6	1095.69	1095.69	1095.76	1095.80	1095.77	1095.73	1096.58	1095.87	1095.85			
7	1095.69	1095.69	1095.79	1095.80	1095.76	1095.74	1096.18	1095.87	1095.85			
8	1095.69	1095.68	1095.80	1095.80	1095.75	1095.75	1096.10	1095.87	1095.84			
9	1095.69	1095.68	1095.78	1095.81	1095.75	1095.75	1096.14	1095.87	1095.83			
10	1095.69	1095.69	1095.77	1095.80	1095.76	1095.77	1096.14	1095.88	1095.82			
11	1095.69	1095.69	1095.76	1095.80	1095.76	1095.88	1096.11	1095.88	1095.81			
12	1095.69	1095.69	1095.75	1095.80	1095.76	1095.79	1096.07	1095.89	1095.81			
13	1095.69	1095.69	1095.74	1095.79	1095.75	1095.78	1096.05	1095.89	1095.81			
14	1095.69	1095.69	1095.74	1095.79	1095.75	1095.77	1096.02	1095.88	1095.81			
15	1095.69	1095.69	1095.74	1095.79	1095.75	1095.77	1096.00	1095.88	1095.81			
16	1095.68	1095.69	1095.75	1095.80	1095.75	1096.23	1095.99	1095.87	1095.81			
17	1095.68	1095.68	1095.75	1095.80	1095.74	1095.42	1095.98	1095.87	1095.81			
18	1095.68	1095.69	1095.76	1095.79	1095.74	1094.05	1095.98	1095.88	1095.81			
19	1095.68	1095.69	1095.75	1095.79	1095.75	1094.05	1095.97	1095.89	1095.81			
20	1095.67	1095.70	1095.75	1095.79	1095.75	1094.05	1095.96	1095.89	1095.80			
21	1095.67	1095.70	1095.74	1095.79	1095.75	1094.04	1095.94	1095.88	1095.80			
22	1095.66	1095.70	1095.81	1095.78	1095.76	1094.16	1095.92	1095.88	1095.80			
23	1095.67	1095.70	1095.90	1095.77	1095.75	1096.05	1095.91	1095.88	1095.79			
24	1095.66	1095.70	1095.82	1095.77	1095.74	1095.96	1095.90	1095.88	1095.79			
25	1095.66	1095.70	1095.82	1095.77	1095.74	1095.93	1095.89	1095.87	1095.79			
26	1095.67	1095.70	1096.01	1095.77	1095.74	1095.92	1095.89	1095.86	1095.79			
27	1095.68	1095.75	1095.88	1095.76	1095.75	1095.90	1095.89	1095.85	1095.78			
28	1095.69	1095.78	1095.85	1095.76	1095.74	1095.89	1095.88	1095.86	1095.80			
29	1095.69	1095.76	1095.84	1095.76	1095.74	1095.87	1095.88	1095.86	1095.80			
30	1095.69	1095.74	1095.83	1095.77	---	1095.86	1095.88	1095.86	1095.80			
31	1095.70	---	1095.83	1095.76	---	1095.85	---	1095.87	---			---

Data is provisional and subject to revision.

Water elevation lowered per Calilfornia Division of Safety of Dams. Water elevation at approximate sediment level.

Appendix F

System Delivery Data for Mire Monte Well and Ojai Water System

Mira Monte Well

Water Year 2019 – 2020

Month	Acre Feet
Oct – 19	18.32
Nov – 19	9.85
Dec – 19	1.56
Jan – 20	2.25
Feb – 20	8.21
Mar – 20	1.62
Apr – 20	5.97
May – 20	16.32
Jun – 20	17.39
Jul – 20	24.42
Aug – 20	24.52
Sep – 20	23.38
Total:	**153.81 AF**

OJAI WATER SYSTEM SOURCES AND DELIVERIES

2019 - 2020 WATER YEAR

figures in acre-feet except where otherwise noted

			SOURCE	
MONTH	YEAR	SYSTEM DELIVERIES	WELL - FIELD PRODUCTION	SURFACE WATER
OCT	2019	174	164	11
NOV	2019	142	140	2
DEC	2019	75	75	0
JAN	2020	77	77	0
FEB	2020	103	102	0
MAR	2020	86	85	1
APR	2020	81	81	0
MAY	2020	151	131	19
JUN	2020	161	126	35
JUL	2020	176	103	73
AUG	2020	197	131	66
SEP	2020	184	124	60
TOTAL		**1607**	**1339**	**267**

Appendix G

Ambient Air Temperature Data

HISTORICAL TEMPERATURES
CMWD CASITAS DAM WEATHER STATION
(Degrees F.)

YEAR	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE			JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg
1960	77	24	48	75	29	52	85	35	56	90	37	59	88	35	61	93	45	63	106	46	69	95	44	66	102	44	69	93	37	62	82	31	55	83	25	51
1961	88	26	54	85	30	54	84	31	54	99	33	52	88	35	57	104	40	62	97	47	68	95	39	68	99	37	65	103	37	62	90	31	55	81	30	52
1962	89	25	52	74	31	50	80	29	50	91	37	60	90	38	57	82	42	62	89	47	65	92	47	68	100	45	65	93	41	62	89	32	56	87	22	54
1963	78	16	50	90	39	60	84	30	54	83	33	54	78	39	60	85	42	62	87	45	66	91	44	68	109	48	72	90	43	65	88	33	58	85	30	54
1964	82	28	50	82	29	50	85	32	50	94	34	66	84	35	66	87	42	61	94	45	67	95	48	62	100	44	66	99	44	66	88	28	54	77	28	53
1965	82	29	54	85	29	68	81	35	54	92	31	57	88	37	59	83	40	61	90	47	65	103	49	70	95	45	65	99	40	66	83	34	58	80	28	51
1966	79	28	50	78	30	48	88	29	56	96	38	60	81	43	60	88	42	65	89	46	66	94	49	70	98	44	68	98	39	66	96	34	58	78	27	53
1967	81	29	52	86	30	55	79	31	54	71	33	50	98	37	61	88	39	61	93	52	68	108	54	74	98	51	70	98	40	65	88	33	60	80	26	50
1968	82	27	51	84	36	57	90	35	58	85	34	56	102	37	60	88	42	62	97	48	68	90	46	65	102	40	67	85	32	58	98	42	64	81	20	49
1969	86	28	52	71	30	49	86	31	53	83	36	58	87	42	60	90	42	62	90	49	67	104	47	70	96	48	67	91	37	62	91	33	58	80	24	54
1970	70	24	53	81	34	51	81	33	58	87	32	55	99	37	61	100	45	64	103	48	68	97	48	68	102	43	65	102	35	61	82	35	56	78	30	50
1971	87	23	52	91	30	53	80	24	54	90	35	55	85	38	57	91	39	62	99	48	68	98	50	72	111	41	68	103	25	60	89	31	54	71	24	46
1972	78	23	49	81	25	53	92	30	57	84	31	56	97	37	61	90	45	63	104	47	70	106	48	70	99	43	67	96	30	61	85	32	55	81	22	49
1973	79	24	48	75	33	53	73	31	51	81	36	56	94	39	61	104	42	66	96	44	66	98	46	67	99	45	64	96	39	63	81	31	54	82	30	53
1974	75	24	49	81	30	51	78	32	53	85	35	57	97	34	58	98	46	64	94	46	69	84	45	66	98	46	67	103	39	62	92	31	56	79	23	51
1975	86	31	52	79	27	51	74	31	52	79	32	52	78	35	58	88	42	61	91	45	66	94	45	66	104	46	68	98	35	72	92	25	55	90	23	52
1976	90	23	54	86	31	53	85	29	55	89	33	54	89	42	60	104	43	66	90	48	68	102	47	68	92	50	68	97	37	65	97	26	60	83	29	53
1977	80	29	52	88	30	56	80	29	51	87	34	58	77	37	57	88	43	64	104	64	68	90	49	70	94	43	66	92	38	62	94	32	61	83	32	56
1978	76	29	54	82	31	53	88	35	57	78	34	55	99	39	64	92	46	66	106	45	67	94	46	68	108	43	70	92	43	65	92	30	54	77	20	49
1979	70	24	49	77	28	55	86	32	55	81	34	58	97	38	62	104	44	67	99	46	67	92	44	68	109	47	72	86	38	64	84	27	57	89	26	55
1980	79	30	55	84	32	57	80	29	54	86	36	58	82	36	58	97	42	64	94	47	68	95	48	69	95	44	64	95	36	64	88	29	57	88	31	56
1981	82	32	55	88	29	56	80	35	54	94	36	59	87	41	62	105	50	70	99	47	70	104	47	70	95	45	67	95	32	60	91	33	58	81	32	55
1982	78	26	50	85	33	56	76	31	53	85	32	57	80	41	60	78	40	61	94	47	68	102	47	70	101	41	67	95	41	64	85	32	55	74	27	51
1983	89	28	54	81	32	54	85	35	56	85	34	56	92	39	62	82	47	64	101	48	70	105	49	74	106	51	73	97	45	68	90	29	57	76	29	53
1984	84	31	56	83	31	55	88	35	59	94	34	59	105	41	67	94	46	60	98	52	74	96	53	74	108	51	77	91	39	63	82	32	55	74	29	51
1985	76	28	51	88	26	54	84	31	55	91	40	61	85	38	57	98	44	67	105	52	73	101	49	71	94	40	68	99	34	65	88	30	55	82	25	55
1986	85	35	57	90	31	57	88	38	58	92	38	59	88	41	61	92	47	65	89	49	68	103	50	70	86	41	63	92	40	63	89	36	61	80	32	54
1987	82	24	50	82	29	54	81	30	56	93	38	62	92	42	64	91	47	65	92	46	66	101	47	69	101	49	69	107	49	68	87	31	57	80	24	50
1988	82	29	53	87	30	57	97	33	60	92	38	59	96	39	62	91	40	64	93	51	71	92	48	69	108	46	67	102	42	65	88	31	57	86	26	52
1989	84	26	51	86	28	51	89	32	59	103	38	63	84	40	61	99	46	66	100	50	70	93	48	68	100	46	68	95	35	62	94	29	60	87	28	55
1990	84	27	52	84	23	52	91	30	56	89	42	61	102	39	61	106	45	68	104	50	73	96	49	71	97	50	69	96	42	65	94	30	60	85	15	50
1991	83	28	54	85	35	58	77	31	52	88	37	59	91	40	59	83	44	62	85	50	67	96	48	68	95	48	69	105	36	66	93	33	60	79	28	53
1992	84	31	54	87	35	57	81	39	57	91	44	64	81	49	65	87	45	66	97	49	71	101	50	73	98	50	69	95	46	65	90	34	59	78	27	50
1993	80	28	52	76	36	52	85	36	59	89	41	61	92	40	63	94	43	67	89	52	68	93	52	70	103	45	68	100	44	65	95	32	57	81	29	52
1994	86	30	54	79	29	52	89	36	58	89	40	59	84	43	61	102	48	68	96	52	68	102	51	73	95	46	69	97	39	63	82	28	52	78	26	52
1995	83	32	53	91	41	61	82	36	**58**	89	38	59	78	40	59	90	43	65	106	50	70	103	47	71	101	46	70	97	40	65	88	40	61	81	34	56
1996	86	28	54	87	30	57	84	34	58	94	40	63	89	44	64	102	47	67	103	52	71	101	50	72	93	47	69	84	34	62	93	34	59	75	33	54
1997	80	33	54	87	35	56	95	33	60	94	36	61	98	45	68	84	50	67	99	50	70	110	51	74	104	50	75	102	37	66	100	40	60	81	26	52
1998	76	29	54	75	35	52	85	33	57	86	36	57	80	43	60	82	46	65	96	51	71	108	51	75	106	48	69	93	38	63	82	35	56	84	23	51
1999	81	30	54	83	29	55	82	34	54	93	30	57	89	40	61	84	42	67	95	48	71	98	47	69	103	43	67	100	43	68	88	33	59	85	31	56
2000	79	28	55	81	36	54	84	34	57	89	40	62	90	43	65	91	46	69	104	49	70	97	52	72	103	45	71	89	40	62	81	30	53	81	30	55
2001	67	35	51	64	39	52	71	46	58	71	44	57	77	55	66	82	54	68	82	56	69	85	55	70	85	54	70	79	51	65	69	46	58	65	37	51
2002	80	28	51	90	27	56	84	31	55	87	38	58	94	40	61	90	45	66	98	51	70	93	49	69	109	46	70	99	41	61	91	39	58	72	33	52
2003	91	34	59	76	30	54	90	36	59	87	37	63	95	43	62	87	49	65	97	50	73	101	37	74	101	50	69	100	45	68	83	30	55	76	27	51
2004	79	25	52	75	31	52	94	37	63	102	37	62	102	44	65	84	46	64	94	50	79	97	50	70	103	46	71	94	42	62	80	28	55	78	28	51
2005	84	33	54	77	37	50	83	38	58	87	40	59	95	44	65	92	45	65	97	51	71	100	50	71	101	46	67	99	44	63	89	32	60	79	30	54
2006	79	29	53	90	31	50	82	30	52	85	34	57	90	44	64	101	50	71	107	54	76	98	50	70	101	46	68	92	38	62	96	28	60	80	28	51
2007	85	21	50	89	32	55	94	32	59	84	37	59	98	41	63	89	45	66	97	51	72	102	51	73	110	45	68	100	39	64	92	32	58	82	27	50
2008	77	30	50	87	30	54	90	34	58	100	36	61	99	40	63	108	46	69	96	51	71	95	52	73	102	49	71	103	38	67	94	39	61	78	28	50
2009	84	29	57	84	31	53	85	33	56	101	33	58	98	43	65	88	47	66	96	50	71	106	46	71	103	47	73	99	36	64	87	33	57	72	28	57
2010	79	32	53	85	32	53	87	32	57	85	35	56	89	40	61	81	48	65	98	46	68	97	46	68	113	43	67	99	42	65	97	27	57	80	27	53
2011	85	32	56	84	30	51	97	30	56	93	31	60	93	38	61	89	42	63	96	43	69	99	45	69	103	48	67	102	39	65	83	33	55	74	26	49
2012	83	30	55	86	29	56	87	29	54	86	34	59	92	40	64	91	45	66	98	48	69	99	48	74	105	49	73	106	39	67	97	31	58	73	27	51
2013	83	23	51	84	28	53	88	34	59	89	37	61	99	44	65	96	48	68	93	50	71	105	49	71	104	45	71	96	39	62	93	35	59	83	23	53
2014	93	33	58	88	29	57	92	38	60	97	36	62	104	40	67	86	45	67	101	54	74	98	50	73	109	48	74	106	44	68	94	37	62	87	30	56
2015	87	26	58	90	37	59	96	33	63	96	35	61	90	43	61	93	47	68	95	51	72	103	51	74	109	52	76	107	47	72	92	30	57	89	25	52
2016	85	25	54	94	30	62	90	36	59	93	36	62	82	42	62	112	46	68	98	51	72	91	50	71	106	46	72	99	42	73	97	32	62	82	28	54
2017	84	30	53	82	30	56	88	33	61	95	39	63	96	42	64	101	43	69	98	51	73	108	53	74	104	43	71	106	41	69	100	35	63	88	27	58
2018	90	33	59	70	29	50	86	34	57	94	37	62	92	42	62	88	46	66	115	54	76	101	54	75	94	46	70	94	42	67	94	33	61	79	29	55
2019	81	26	54	70	29	50	86	34	57	89	42	62	80	42	61	92	47	66	101	51	70	94	52	70	104	43	71	101	28	65	95	29	59	77	30	54
2020	84	33	55	88	27	57	84	33	55	98	38	61	97	43	66	100	48	68	98	49	69	105	48	73	119	47	72	104	38	69	96	30	58	89	30	55
Records and Avg of month	94	16	53	94	23	54	97	24	56	103	30	59	105	34	62	112	39	65	115	43	70	110	37	70	119	37	69	107	25	65	100	25	58	90	15	53

NA *Daily values missing, accuracy limited*
Averages are averages of all max and min daily temperatures
NA = not available
g:\engr.wks\hydrology\temperatures\historicaltemps.xls

HISTORICAL TEMPERATURES
CMWD CASITAS RECREATION AREA WEATHER STATION
(Degrees F.)

YEAR	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE			JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg	max	min	avg
1960	75	22	48	73	29	51	84	34	56	89	33	59	92	35	62	99	43	66	107	46	72	98	44	69	107	41	71	92	35	62	84	33	56	81	27	52
1961	89	26	54	85	30	54	83	31	54	100	39	59	87	37	58	112	41	62	103	49	72	100	48	72	102	44	66	106	35	64	91	30	55	80	31	51
1962	88	24	50	75	25	50	79	28	50	92	34	60	87	39	58	94	43	63	95	45	67	101	45	72	99	43	68	96	40	61	87	31	57	84	19	53
1963	78	16	48	88	37	58	85	29	52	78	33	53	84	39	58	89	42	62	95	46	69	99	46	70	107	52	74	89	41	64	88	31	56	82	27	53
1964	80	25	49	82	27	50	82	27	49	83	32	54	82	34	57	10	42	62	97	46	70	94	46	69	98	41	66	100	43	62	85	27	54	75	25	52
1965	82	28	52	84	25	51	77	31	52	89	30	54	92	28	58	91	38	58	96	41	66	102	47	71	93	40	62	97	37	61	84	33	56	83	26	50
1966	80	26	49	76	28	48	95	27	55	92	37	59	85	41	60	96	42	65	93	41	68	94	50	72	97	42	62	96	37	64	95	32	56	79	25	52
1967	79	25	50	82	28	53	80	30	52	69	32	54	96	36	60	87	38	60	92	49	70	105	54	75	96	50	70	97	41	65	91	33	60	79	25	49
1968	80	25	50	85	35	56	84	32	56	86	31	57	99	34	60	93	35	62	95	36	72	96	42	62	98	38	62	96	40	62	87	27	56	87	21	48
1969	84	26	50	67	29	49	85	28	52	81	31	56	86	38	60	90	45	61	92	46	68	101	43	71	92	41	62	87	32	59	88	31	58	79	23	52
1970	68	20	52	76	32	50	79	31	56	87	30	47	96	35	60	97	44	67	100	48	71	102	42	69	102	42	66	99	34	62	86	33	55	76	29	49
1971	90	24	51	87	28	52	85	25	52	88	33	54	81	38	56	88	40	62	95	48	68	98	49	72	109	42	68	99	26	60	86	30	44	68	22	46
1972	77	24	43	82	26	54	90	30	58	85	30	58	96	31	62	93	38	65	100	40	71	103	44	71	95	32	67	92	33	60	83	33	55	80	23	51
1973	80	20	47	75	32	53	69	30	50	79	35	56	96	38	61	101	42	68	94	48	67	96	44	69	95	40	64	92	40	63	81	31	53	81	28	53
1974	75	23	49	79	28	51	78	32	54	87	35	56	97	35	58	96	41	65	95	48	70	89	46	68	95	45	68	97	41	60	90	30	56	79	24	49
1975	86	24	52	77	29	51	74	31	53	78	30	52	85	35	58	83	44	62	95	45	68	96	42	68	100	47	70	95	35	61	85	27	54	83	25	53
1976	87	21	53	79	32	51	82	28	54	86	35	54	94	43	61	104	42	67	96	49	67	102	49	67	92	50	69	94	36	63	95	28	59	82	27	52
1977	82	23	51	86	32	NA	78	28	50	84	32	57	81	39	57	85	39	63	100	47	69	94	49	70	96	44	65	90	38	62	92	31	58	78	33	56
1978	74	28	51	88	30	54	88	37	57	75	33	55	99	40	63	90	42	66	109	48	69	96	47	67	109	41	69	96	42	65	86	29	53	76	22	49
1979	69	26	48	76	28	50	84	35	54	79	35	57	95	40	60	102	44	66	98	45	69	89	48	68	105	44	72	90	37	63	82	25	56	87	25	54
1980	76	31	54	82	30	56	76	34	54	91	36	58	89	34	58	95	42	65	110	49	73	96	49	70	104	36	66	104	37	64	90	28	58	89	30	56
1981	82	33	56	88	30	57	79	36	55	94	36	59	88	40	62	102	42	72	93	49	71	102	47	73	95	48	68	93	34	60	89	34	58	84	25	54
1982	80	26	51	83	31	56	76	32	52	85	31	57	83	38	60	87	42	61	95	47	70	104	48	72	106	46	69	94	36	63	84	34	56	75	28	52
1983	90	29	55	79	32	55	82	31	55	79	32	55	89	21	59	86	39	64	96	43	68	99	40	73	103	41	72	93	33	62	86	NA	NA	75	NA	67
1984	80	30	53	80	28	52	81	34	56	86	34	57	100	40	65	94	48	65	96	52	73	94	52	72	101	50	74	90	37	60	78	30	53	71	28	50
1985	72	27	48	85	25	51	80	30	51	87	38	58	85	38	57	98	42	66	105	33	73	100	50	69	91	42	65	96	42	61	84	30	53	84	26	53
1986	84	33	57	85	30	55	82	38	57	87	35	57	88	39	59	88	49	65	89	50	68	94	53	71	87	42	61	88	38	61	86	33	59	76	28	52
1987	75	22	48	80	28	52	78	31	53	88	34	60	91	40	63	89	48	65	91	47	63	94	44	68	101	45	68	102	48	66	83	28	55	74	20	47
1988	80	26	50	80	28	54	93	30	57	89	34	58	94	36	61	87	40	64	91	52	70	92	49	68	104	44	66	96	41	63	86	28	55	82	26	50
1989	80	24	48	80	27	50	82	30	56	96	36	61	86	40	59	94	46	64	102	38	69	90	46	67	102	45	67	95	34	61	91	27	58	90	27	51
1990	84	24	50	81	20	50	86	31	54	86	39	59	98	37	58	110	41	67	98	48	71	96	44	69	99	46	68	92	38	62	89	25	56	82	8	45
1991	78	24	49	82	29	56	80	28	49	84	32	56	90	33	57	90	40	61	95	46	66	96	44	67	90	44	68	101	30	65	90	30	57	78	22	50
1992	80	24	50	82	30	53	76	32	53	90	36	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	98	50	73	NA	NA	NA	97	44	64	87	31	57	74	23	48
1993	79	24	49	78	31	50	**81**	32	56	**84**	38	59	NA	NA	NA	102	40	66	95	50	66	**90**	50	70	**100**	46	70	**97**	42	66	90	34	58	85	30	54
1994	89	32	56	82	30	52	**87**	35	59	**82**	39	59	**86**	43	61	100	48	68	**96**	52	70	100	53	75	**92**	46	70	95	40	64	88	30	55	85	28	54
1995	78	33	53	92	40	61	**78**	**34**	**56**	87	40	60	83	40	61	91	39	65	104	51	71	97	50	75	**100**	48	71	NA	NA	NA	87	42	62	84	36	56
1996	90	29	55	NA	NA	NA	84	33	57	92	41	62	92	46	64	96	48	67	97	54	73	99	52	74	92	49	69	99	38	64	95	38	60	71	43	57
1997	82	32	54	86	34	57	94	34	59	92	36	61	94	46	68	82	52	67	91	42	69	102	55	74	99	52	75	NA	NA	NA	100	41	60	84	29	54
1998	83	31	54	72	37	51	83	35	56	84	36	55	77	38	58	81	40	61	94	43	69	105	44	75	105	45	68	89	40	62	81	35	56	85	22	52
1999	81	30	55	78	27	53	81	33	52	32	88	56	38	86	58	86	42	63	97	50	69	100	49	69	100	44	65	100	43	68	90	34	58	83	31	55
2000	79	30	54	79	35	53	81	35	55	84	39	59	99	40	64	91	48	68	96	48	69	98	51	72	104	47	67	88	41	61	86	30	54	81	31	55
2001	82	28	49	89	30	49	82	35	56	78	36	55	90	42	64	92	48	67	89	50	69	95	51	70	96	46	68	99	43	64	80	32	59	81	31	52
2002	81	24	50	72	35	54	80	30	53	90	38	61	90	43	64	94	49	69	94	49	69	96	48	68	101	44	72	97	40	61	89	38	59	71	29	51
2003	84	32	57	81	28	52	87	31	55	86	31	53	92	39	60	62	38	61	96	43	72	98	50	71	99	38	69	99	43	67	82	28	53	78	24	51
2004	78	28	49	71	29	49	90	35	59	99	31	56	99	41	62	86	39	62	93	48	68	96	40	68	99	43	69	89	39	60	77	26	53	84	23	52
2005	84	30	49	74	33	53	94	33	56	82	35	54	90	42	55	87	43	62	91	42	69	94	41	69	97	43	64	95	38	60	89	30	59	79	30	57
2006	81	25	48	88	27	54	76	28	49	80	38	57	82	43	63	97	50	71	106	55	76	98	51	71	97	51	70	86	48	64	92	30	61	80	26	55
2007	82	20	47	86	30	53	88	36	56	90	38	57	94	40	60	84	46	65	92	38	71	100	50	72	106	46	68	92	40	63	88	34	58	64	35	49
2008	74	30	46	80	30	52	86	34	56	94	36	58	96	40	61	106	48	66	96	48	70	94	52	71	96	48	69	98	40	66	92	40	60	82	20	50
2009	88	28	52	82	30	51	82	34	54	94	34	57	98	40	64	90	42	63	98	42	72	106	46	71	101	42	72	97	32	60	87	28	55	62	31	47
2010	76	26	46	80	28	50	82	30	52	80	30	52	84	38	56	82	42	59	92	42	63	102	42	64	102	38	61	88	36	56	92	27	53	78	26	47
2011	88	26	47	72	20	42	78	22	47	93	31	60	93	38	61	84	42	62	90	52	69	103	52	70	102	50	69	100	38	64	84	34	55	67	34	50
2012	86	28	51	78	32	59	84	28	54	82	38	58	80	44	60	82	40	63	92	40	66	94	50	72	96	48	70	106	42	66	88	34	43	78	29	53
2013	82	25	48	82	29	52	83	38	56	78	40	59	100	44	64	102	52	69	101	54	72	99	55	71	100	49	73	88	40	63	88	38	60	83	25	53
2014	82	36	53	82	34	56	90	39	59	90	38	61	100	45	67	89	46	68	105	50	75	101	50	73	110	48	74	97	42	69	85	38	61	79	26	54
2015	84	32	58	95	30	59	98	30	62	96	35	62	97	47	66	93	52	70	89	51	71	99	56	75	102	52	79	104	48	72	85	34	58	77	26	53
2016	74	30	52	90	31	62	82	35	59	83	43	61	79	43	61	105	45	71	98	48	72	92	51	71	105	45	69	91	44	65	84	34	60	73	30	53
2017	74	30	51	72	31	53	85	32	59	78	44	59	95	38	64	104	42	71	110	55	78	112	56	78	112	44	75	112	42	72	104	34	66	94	27	59
2018	94	32	62	92	26	55	79	32	55	96	34	61	90	42	61	87	44	67	115	56	80	105	56	77	100	50	74	98	40	71	100	36	64	84	26	58
2019	84	26	57	74	30	52	88	35	57	92	38	63	84	42	62	104	52	71	106	52	77	103	52	76	110	50	77	104	32	68	100	32	64	84	32	56
2020	82	30	57	84	26	59	80	38	57	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Records and Avg of month	96	16	51	95	20	53	98	22	55	100	30	57	100	21	61	112	35	65	115	33	70	112	40	71	112	32	69	112	26	63	104	25	57	94	8	52

NA *Daily values missing, accuracy limited*
Averages are averages of all max and min daily temperatures
NA = not available
g:\engr.wks\hydrology\temperatures\historicaltemps.xls

Appendix H

Historical Hydrology Data

CASITAS RESERVOIR INVENTORY
ANNUAL SUMMARY

(CALENDAR YEAR - ALL VALUES IN ACRE-FEET UNLESS OTHERWISE NOTED)

	RESERVOIR DATA (START OF YEAR- Last Day of Previous Month)		INFLOW FOR YEAR			RELEASES FOR YEAR						STORAGE VOLUME	
YEAR	ELEVATION (FT ABOVE MSL)	STORAGE	DIRECT	VENTURA RIVER DIVERSION	TOTAL	TO CONV. SYSTEM	DOWN RIVER	TOTAL	SPILL FOR YEAR	EVAP FOR YEAR	RAINFALL ON LAKE SURFACE	MAXIMUM FOR YEAR	MINIMUM FOR YEAR
1959	350.00	-	2,305	5,105	7,410	586	72	658	-	728	59	7,022	574
1960	366.66	5,908	1,322	24	1,346	1,277	80	1,357	-	1,068	372	6,846	5,201
1961	363.28	5,201	967	32	999	1,625	18	1,643	-	819	133	5,201	3,642
1962	355.46	3,870	26,428	21,915	48,343	1,988	55	2,043	-	3,505	1,014	51,977	3,845
1963	477.68	47,679	2,114	2,939	5,053	4,445	72	4,517	-	3,498	1,664	51,524	46,381
1964	446.13	46,381	1,841	354	2,195	6,024	72	6,096	-	3,406	1,293	46,381	38,606
1965	438.57	40,373	15,279	21,439	36,718	7,631	72	7,703	-	2,957	2,421	68,851	39,718
1966	469.42	68,851	11,941	25,323	37,264	7,162	73	7,235	-	5,030	1,915	95,765	70,068
1967	490.62	95,765	12,961	35,172	48,133	8,759	72	8,831	-	6,214	3,840	138,996	108,511
1968	513.22	132,333	1,677	1,070	2,747	13,729	74	13,803	-	6,593	2,133	132,549	116,818
1969	504.25	116,818	55,379	50,349	105,728	14,040	73	14,113	-	8,413	7,625	216,790	116,418
1970	548.94	207,694	7,112	15,859	22,971	16,417	72	16,489	-	9,841	5,395	217,656	207,214
1971	549.78	207,729	3,758	10,957	14,715	16,392	24	16,416	-	9,552	3,433	214,692	193,686
1972	546.52	201,908	813	1,718	2,531	17,878	73	17,951	-	8,758	1,706	202,690	179,435
1973	536.70	179,435	22,262	39,588	61,850	13,963	33	13,996	-	8,937	4,520	239,330	224,519
1974	555.75	224,519	5,240	11,732	16,972	17,400	23	17,423	-	9,394	5,423	238,096	217,063
1975	553.99	220,096	5,352	12,988	18,340	15,937	73	16,010	-	8,870	2,813	235,437	216,370
1976	552.49	216,370	3,031	3,438	6,469	18,371	104	18,475	-	9,142	3,782	219,324	198,885
1977	545.29	199,003	1,590	1,094	2,684	18,035	70	18,105	-	8,821	3,352	200,062	175,359
1978	536.10	178,113	49,376	28,695	78,071	12,390	2,677	15,067	1,572	9,622	9,879	255,307	178,025
1979	561.68	239,802	7,584	8,845	16,429	13,072	32	13,104	1,193	9,963	5,395	255,116	237,183
1980	560.75	237,365	28,923	2,717	31,640	16,283	73	16,356	16,855	9,900	7,393	260,034	233,286
1981	559.18	233,286	3,112	5,772	8,884	20,242	73	20,315	-	9,412	4,002	240,222	216,395
1982	552.52	216,444	5,206	9,933	15,139	14,739	73	14,812	-	8,339	5,645	223,208	206,564
1983	551.56	214,078	44,548	22,131	66,679	15,757	73	15,830	17,877	8,844	11,699	259,264	213,562
1984	565.49	249,931	2,878	2,087	4,965	23,007	73	23,080	-	10,637	2,924	249,958	220,748
1985	555.15	223,006	4,220	3,015	7,235	20,219	73	20,292	-	9,149	2,637	223,208	196,404
1986	545.97	200,605	18,711	39,316	58,027	17,797	73	17,870	742	9,700	5,589	254,926	200,558
1987	560.16	235,828	-988	1,614	626	21,775	73	21,848	-	9,117	3,142	236,063	208,711
1988	549.35	208,687	1,431	9,154	10,585	21,974	73	22,047	-	9,005	3,715	216,543	191,890
1989	542.25	191,936	1,086	524	1,610	26,180	73	26,253	-	9,010	1,399	192,259	159,729
1990	527.43	159,688	-1,115	-	-1,115	21,494	73	21,567	-	8,353	1,447	159,688	130,141
1991	511.99	130,141	12,114	17,620	29,734	15,416	73	15,489	-	7,481	4,496	156,765	127,786
1992	518.58	142,203	20,483	44,202	64,685	12,042	73	12,114	-	8,704	5,620	201,197	142,203
1993	542.12	191,637	43,435	34,685	78,120	11,990	73	12,063	13,395	10,054	7,849	258,362	191,637
1994	562.58	242,177	1,806	3,504	5,310	16,345	73	16,418	-	10,347	3,458	245,810	224,141
1995	555.60	224,141	52,239	1,323	53,562	11,621	72	11,693	27,499	10,287	10,895	262,625	239,122
1996	561.42	239,122	6,883	5,371	12,254	15,902	23	15,925	-	10,489	6,897	244,346	224,898
1997	558.63	231,866	11,745	11,896	23,641	20,482	-	20,482	-	11,062	4,304	248,616	223,132
1998	557.06	227,839	51,727	6,338	58,065	13,411	-	13,411	34,907	9,503	12,632	267,542	227,743
1999	561.85	240,250	1,313	-	1,313	20,121	-	20,121	-	10,224	2,295	240,205	213,513
2000	551.33	213,513	13,541	4,482	18,023	21,506	-	21,506	-	9,801	5,134	227,132	205,434
2001	548.00	205,434	21,919	15,527	37,446	17,809	-	17,809	-	8,379	6,693	242,359	204,837
2002	555.24	223,233	-403	-	-403	22,092	-	22,092	-	8,286	2,718	223,183	194,359
2003	543.65	195,172	3,429	1,571	5,000	16,571	-	16,571	-	7,985	3,583	197,199	178,563
2004	536.62	179,219	9,006	2,853	11,859	20,214	-	20,214	-	7,783	4,897	182,113	157,595
2005	531.47	167,988	53,115	26,906	80,021	17,673	-	17,673	-	7,242	7,798	250,736	169,160
2006	558.25	230,891	9,382	12,091	21,473	17,253	-	17,253	-	7,649	5,534	252,651	231,585
2007	559.06	232,975	-1,450	-	-1,450	21,326	-	21,326	-	8,571	2,253	232,950	203,810
2008	547.35	203,882	15,470	9,927	25,397	18,325	-	18,325	-	8,753	5,538	231,071	203,595
2009	548.89	207,574	-580	506	-74	17,259	-	17,259	-	8,025	3,646	207,719	185,543
2010	539.59	185,881	12,419	10,926	23,345	14,637	-	14,637	-	6,898	7,051	199,945	182,049
2011	543.46	194,731	11,054	17,847	28,901	14,841	-	14,841	-	7,576	4,267	221,751	194,731
2012	548.02	205,482	-837	87	-750	16,244	-	16,244	-	8,263	3,165	205,482	183,746
2013	538.48	183,389	-1,649	-	-1,649	20,402	-	20,402	-	7,858	1,021	183,389	154,501
2014	524.88	154,501	217	1,018	1,235	18,811	-	18,811	-	7,678	2,353	154,501	131,511
2015	512.81	131,600	-1,810	-	-1,810	17,246	-	17,246	-	6,162	736	131,600	107,119
2016	498.22	107,119	-1,707	-	-1,707	14,151	-	14,151	-	4,311	2,394	107,759	89,317
2017**	486.02	89,344	14,074	6,091	20,165	12,214	-	12,214	-	5,435	3,020	111,640	82,919
2018	489.74	82,919	3,547	829	4,376	11,633	-	11,633	-	5,242	1,859	85,050	72,255
2019	481.10	72,278	15,366	21,230	36,596	7,668	-	7,668	-	5,434	4,023	107,663	72,149
2020	501.48	99,795	3,288	5,478	8,766	10,820	-	10,820	-	6,201	1,763	107,237	93,316
2021	497.29	93,449											
AVG:	522.27	167,277	11,701	10,600	22,301	15,042	82	15,124	1,839	7,714	4,123	187,155	159,158
MAX:	525.05	249,931	55,379	50,349	105,728	26,180	2,677	26,253	34,907	11,062	12,632	267,542	239,122
MIN:	350.00	-	-1,810	-	-1,810	586	-	658	-	728	59	5,201	574

*Total water supply delivered to Casitas System during 1991 includes 1240 a.f. state project water into system and 450 a.f. delivered to Santa Barbara out of system.

**Reservoir storage rating table updated and adopted 01 Oct, 2017. Storage volumes after this date reported using 2017 Rating Table.

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HISTORICAL RAINFALL
CASITAS MUNICIPAL WATER DISTRICT

WATER YEAR	CASITAS DAM	CASITAS RECREATION	MATILIJA DAM	3 - STATION MEAN	THACHER SCHOOL
1958-59	10.22	11.84	16.62	12.89	11.34
59-60	15.79	14.70	14.45	14.98	13.26
1960-61	8.77	8.42	13.24	10.14	9.48
61-62	37.75	33.96	39.21	36.97	28.74
62-63	18.70	17.54	20.07	18.77	16.87
63-64	13.62	12.04	16.13	13.93	12.79
64-65	23.26	22.77	22.83	22.95	17.42
65-66	25.23	25.23	30.30	26.92	24.59
66-67	34.43	32.30	44.78	37.17	31.14
67-68	16.61	16.44	15.20	16.08	12.62
68-69	46.57	47.55	69.94	54.69	46.93
69-70	16.70	16.52	18.98	17.40	N/A
1970-71	19.72	19.71	22.65	20.69	20.72
71-72	11.94	13.72	15.49	13.72	10.83
72-73	34.79	34.56	45.91	38.42	30.14
73-74	19.95	18.43	22.16	20.18	18.91
74-75	23.83	24.05	26.83	24.90	22.37
75-76	17.90	17.23	20.85	18.66	15.24
76-77	12.90	11.98	13.75	12.88	11.42
77-78	49.05	49.66	63.04	53.92	50.04
78-79	25.80	25.64	28.66	26.70	25.45
79-80	34.06	35.15	42.43	37.21	30.58
1980-81	16.24	16.99	21.88	18.37	15.53
81-82	19.35	20.34	25.35	21.68	21.44
82-83	51.14	48.22	58.65	52.67	52.17
83-84	17.91	16.63	19.34	17.96	14.83
84-85	17.30	15.93	19.00	17.41	12.68
85-86	33.49	32.20	41.32	35.67	27.27
86-87	10.86	9.83	11.44	10.71	9.01
87-88	18.62	18.40	21.58	19.53	20.87
88-89	11.73	11.85	13.65	12.41	12.27
89-90	9.46	8.86	12.48	10.27	8.61
1990-91	24.43	23.59	26.01	24.68	21.78
91-92	29.75	28.53	34.27	30.85	34.25
92-93	41.20	43.31	60.38	48.30	45.71
93-94	16.08	14.69	16.27	15.68	15.60
94-95	49.84	49.04	58.17	52.35	46.89
95-96	18.80	16.91	22.78	19.50	17.71
96-97	24.37	25.27	27.80	25.81	22.12
97-98	**59.54**	**58.78**	64.27	**60.86**	52.29
98-99	12.68	10.67	12.56	11.97	12.92
99-00	24.35	21.94	26.79	24.36	19.73
2000-01	29.36	27.86	33.45	30.22	30.55
01-02	9.28	8.77	10.10	9.38	8.27
02-03	24.83	23.69	30.58	26.37	21.35
03-04	17.03	14.33	18.84	16.73	13.04
04-05	54.66	51.28	**74.44**	60.13	**52.90**
05-06	26.52	25.84	34.58	28.98	26.00
06-07	**8.60**	**7.15**	**9.23**	**8.33**	**7.65**
07-08	26.19	24.58	33.62	28.13	23.89
08-09	14.82	12.91	16.56	14.76	13.62
09-10	31.13	28.48	36.54	32.05	24.35
2010-11	35.99	34.04	40.28	36.77	31.18
11-12	15.11	13.18	14.21	14.17	12.09
12-13	10.99	10.11	11.85	10.98	9.11
13-14	9.90	9.52	14.76	11.39	11.30
14-15	11.65	10.06	17.57	13.09	14.91
15-16	14.64	14.33	16.20	15.06	11.07
16-17	31.53	29.56	35.46	32.18	28.50
17-18	11.49	12.09	17.03	13.54	13.60
18-19	29.49	28.63	39.75	32.62	28.10
19-20	19.30	18.70	29.91	22.64	19.41
AVERAGE	23.50	22.69	28.27	24.82	21.70
MAXIMUM	59.54	58.78	74.44	60.86	52.90
MINIMUM	8.60	7.15	9.23	8.33	0.00

*RAINFALL IN INCHES, WATER YEAR OCTOBER 1 THRU SEPTEMBER 30
BOLD NUMBERS INDICATE RECORD MAX/MIN RAINFALL AMOUNTS FOR THE PERIOD
NOTE: Matilija Dam Rainfall records after 2005-06 season obtained from the Ventura County Watershed Protection District

HISTORICAL MONTHLY RAINFALL
LAKE CASITAS DAM

Note: This data is in combination with VCWPD data and may differ from what is reported for annual averages

W. YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1959/1960	0	0	1.18	5.61	4.78	0.65	3.57	0	0	0	0	0	15.79
1961	0.01	5.27	0.45	2.06	0	0.79	0.16	0	0	0	0	0.03	8.77
1962	0	5.62	1.89	3.07	25.49	1.61	0	0.07	0	0	0	0	37.75
1963	0.7	0.01	0.09	1.09	7.78	4.08	2.75	0.15	0.63	0	0	1.42	18.7
1964	0.73	4.83	0	3.11	0	2.5	2.1	0.07	0.18	0	0.1	0	13.62
1965	0.82	2.46	8.65	0.6	0.31	1.45	8.36	0.02	0	0	0	0.59	23.26
1966	0	14.37	7.04	2.43	1.19	0.12	0	0.03	0	0	0	0.05	25.23
1967	0	4.36	10.18	9.29	0.24	3.87	6.35	0	0	0	0	0.14	34.43
1968	0	5.62	1.4	1.75	1.68	5.01	1.13	0	0	0	0.02	0	16.61
1969	1.09	0.91	2.29	26.59	12.12	1.24	2.12	0	0	0.21	0	0	46.57
1969/1970	0	3.77	0.15	3.5	3.45	5.83	0	0	0	0	0	0	16.7
1971	0.03	7.74	6.18	1.56	1.31	0.99	0.83	1.08	0	0	0	0	19.72
1972	0.1	0.43	10.46	0.31	0.38	0	0.19	0.02	0	0	0	0.05	11.94
1973	0.27	6.31	1.23	8.94	14.86	3.17	0.01	0	0	0	0	0	34.79
1974	0.52	2.44	2.04	9.82	0	4.87	0.2	0	0	0	0	0	19.89
1975	0.74	0.15	10	0	4.95	6.5	1.48	0	0	0	0	0.01	23.83
1976	0.19	0	0.08	0	6.99	2.05	0.7	0	0.15	0.15	0	7.59	17.9
1977	0	0.53	0.95	6.11	0.25	1.93	0	2.7	0	0	0.43	0	12.9
1978	0	0.14	6.41	10.35	11.55	16.55	2.86	0	0	0	0.02	1.17	49.05
1979	0.06	2.77	2.28	5.86	5.35	8.39	0	0	0.01	0	0	0.63	25.35
1979/1980	0.61	1.1	2.02	8.89	15.92	4.62	0.62	0.22	0	0	0	0.06	34.06
1981	0.02	0	2.1	3.67	2.06	7.87	0.52	0	0	0	0	0	16.24
1982	0.59	2.99	0.76	3.38	1.03	6.74	2.86	0.02	0	0	0	0.98	19.35
1983	0.76	6.63	5.44	13.62	8.92	8.47	5.4	0.21	0	0	1.08	0.6	51.13
1984	4.94	6.02	4.85	0.12	0.01	0.49	0.08	0	0	0.25	0.13	1.06	17.95
1985	0.49	4.72	7.18	1.13	1.87	1.85	0	0	0	0.02	0	0.04	17.3
1986	0.64	7	0.99	3.51	10.71	6.96	1.96	0	0	0	0	1.33	33.1
1987	0	1.92	0.5	2.58	2.23	3.5	0.11	0	0.02	0.02	0	0	10.88
1988	1.5	1.48	4.05	3.6	2.57	1.45	3.82	0	0.15	0	0	0	18.62
1989	0	1.24	4.4	0.74	3.92	0.9	0.25	0.18	0	0	0	0.1	11.73
1989/1990	0.52	0.31	0	3.85	3.59	0.02	0.13	1.02	0	0	0	0.01	9.45
1991	0	0.33	0	2.1	3.5	18.3	0	0	0.18	0.01	0.01	0	24.43
1992	0.58	0.23	4.89	3.33	11.54	5.9	0.07	0.49	0	0.37	0	0	27.4
1993	1.43	0	6.91	14.02	11.59	6.44	0	0.17	0.64	0	0	0	41.2
1994	0.09	1.32	2.03	0.75	8.58	2.04	0.53	0.24	0	0	0	0.08	15.66
1995	0.9	1.81	1.22	29.05	2.17	12.3	0.44	1.47	0.48	0	0	0	49.84
1996	0	0.19	3.19	1.67	10.34	1.96	1.14	0.31	0	0	0	0	18.8
1997	4.58	3.04	9.13	7.54	0.08	0	0	0	0.12	0	0	0	24.49
1998	0.01	3.42	7.09	4.48	31.14	6.58	2.59	3.83	0.08	0	0	0.33	59.55
1999	0	1.36	0.86	2.77	1.12	3.46	2.49	0	0.15	0	0	0.18	12.39
1999/2000	0	1.17	0	2.77	12.27	3.77	4.22	0	0	0	0	0.09	24.29
2001	2.85	0	0.05	8.59	7.66	8.58	1.61	0	0	0.02	0	0	29.36
2002	0.42	4.18	2.22	1.15	0.44	0.49	0.08	0.19	0	0	0	0.11	9.28
2003	0	6.17	6.12	0	4.31	4.43	1.79	2.49	0.14	0	0	0	25.45
2004	0	3.4	2.96	0.96	9.07	0.64	0	0	0	0	0	0	17.03
2005	6.98	0.06	10.68	20.41	9.84	4.7	0.75	0.91	0	0	0	0.33	54.66
2006	0.95	0.78	1.46	5.46	3.51	4.52	8.51	1.33	0	0	0	0	26.52
2007	0.12	0.27	1.28	3.54	2.07	0.03	0.82	0	0	0	0	0.47	8.6
2008	0.51	0.09	4.46	18.24	2.74	0	0.06	0.03	0	0	0.06	0	26.19
2009	0.15	3.12	3.37	0.64	6.13	1.16	0.21	0	0.04	0	0	0	14.82
2009/2010	6	0	5.33	8.88	6.45	0.49	3.76	0.22	0	0	0	0	31.13
2011	2.25	1.91	15.79	0.79	5.4	8.39	0.04	1.21	0.21	0	0	0	35.99
2012	1.9	3.1	0.3	1.88	0.07	4.6	3.21	0	0	0.02	0.01	0.02	15.11
2013	0.06	3.5	3.86	2.07	0.28	1.22	0	0	0	0	0	0	10.99
2014	0.09	0.9	0.63	0	4.56	3.17	0.48	0.01	0	0	0.06	0	9.9
2015	0	1.28	5.51	2.12	0.77	0.46	0.38	0.25	0.19	0.37	0	0.32	11.65
2016	0.41	0.09	0.4	7.2	2.18	3.77	0.53	0.06	0	0	0	0	14.64
2017	0.71	0.83	4.15	10.88	12.91	1.27	0.53	0.14	0	0	0	0.11	31.53
2018	0	0.03	0	2.83	0.14	8.43	0.02	0.04	0	0	0	0	11.49
2019	0.14	3.11	1.16	9.07	9.56	4.37	0.06	2.02	0	0	0	0	29.49
2019/2020	0	1.86	6.93	0.82	0.17	4.97	4.46	0.08	0.01	0	0	0	19.3
AVG	0.76	2.44	3.56	5.26	5.51	3.95	1.43	0.35	0.06	0.02	0.03	0.29	23.67
MAX	6.98	14.37	15.79	29.05	31.14	18.30	8.51	3.83	0.64	0.37	1.08	7.59	59.55
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.60

Rainfall in inches, water year October 1 through September 30

HISTORICAL MONTHLY RAINFALL
LAKE CASITAS RECREATION AREA (STA #204)

W. YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1959/1960	0	0	1.25	5.40	4.29	0.78	2.98	0	0	0	0	0	14.70
1961	0	5.08	0.48	1.90	0	0.63	0.23	0.06	0	0	0	0.04	8.42
1962	0	5.47	1.78	2.56	22.65	1.45	0	0.05	0	0	0	0	33.96
1963	0.49	0.01	0.05	1.35	6.85	3.59	2.61	0.39	0.51	0	0	1.69	17.54
1964	0.48	4.57	0	2.53	0	1.84	2.17	0.11	0.13	0	0.21	0	12.04
1965	0.84	3.39	8.33	0.67	0.38	1.59	7.29	0.01	0.01	0	0	0.26	22.77
1966	0	**14.19**	7.07	2.51	1.11	0.04	0	0.10	0	0	0	0.21	25.23
1967	0.02	4.80	9.71	7.80	0.27	3.53	5.82	0	0	0	0	0.35	32.30
1968	0	5.03	1.15	1.53	1.51	4.76	1.13	0	0	0	0	0	15.11
1969	1.23	0.91	2.62	26.58	12.81	1.26	2.01	0.01	0	0.12	0	0	47.55
1969/1970	0	3.52	0.19	3.68	3.70	5.43	0	0	0	0	0	0	16.52
1971	0	6.36	6.94	1.51	0	0.71	0.55	0.03	0	0	0	0	16.10
1972	0.15	0.62	11.02	0.33	0.58	0	0.16	0	0.02	0	0	0.14	13.02
1973	0.13	6.75	1.20	9.14	14.17	3.16	0	0	0	0	0	0	34.55
1974	0.65	1.94	1.43	9.40	0	4.82	0.09	0	0	0	0	0	18.33
1975	0.67	0.12	10.26	0	4.96	6.50	1.54	0	0	0	0	0	24.05
1976	0.23	0	0.13	0	6.43	2.10	0.71	0	0.25	0	0.06	**7.32**	17.23
1977	0.01	0.63	0.71	4.96	0.25	2.27	0	2.76	0	0	0.39	0	11.98
1978	0.02	0.09	6.57	11.35	13.04	14.71	2.53	0	0	0	0	1.35	49.66
1979	0	2.57	2.48	6.00	5.90	7.83	0	0	0	0	0	0.86	25.64
1979/1980	0.64	0.95	1.96	9.56	16.93	4.04	0.75	0.32	0	0	0	0	35.15
1981	0	0	2.21	4.59	2.15	7.45	0.59	0	0	0	0	0	16.99
1982	0.67	2.64	0.78	4.20	0.90	6.85	2.81	0	0	0	0	1.49	20.34
1983	0.71	5.87	4.60	12.59	8.48	9.13	4.86	0.18	0	0	**1.18**	0.62	48.22
1984	4.88	5.57	5.14	0.09	0	0.55	0.05	0	0	0	0.08	1.06	17.42
1985	0.41	4.21	6.91	1.42	1.71	1.62	0.02	0	0	0	0	0	16.30
1986	0.55	6.28	1.15	3.97	11.09	6.26	1.74	0	0	0	0	1.25	32.29
1987	0	1.66	0.49	2.16	2.06	3.32	0.12	0	0.03	0	0	0	9.84
1988	1.52	1.14	4.10	3.53	2.63	1.75	3.08	0	0	0	0	0.07	17.82
1989	0	1.18	3.91	0.48	4.74	0.87	0.34	0.22	0	0	0	0.11	11.85
1989/1990	0.61	0.47	0	3.67	2.92	0.01	0.18	0.93	0.03	0	0	0.04	8.86
1991	0	0.36	0	2.03	3.85	**17.19**	0	0	0.16	0	0	0	23.59
1992	0.62	0.25	4.52	2.90	13.83	5.79	0.05	0.32	0	0.25	0	0	28.53
1993	1.53	0	7.58	14.97	11.88	6.22	0	0.19	**0.94**	0	0	0	43.31
1994	0.08	1.27	1.69	0.69	8.14	2.02	0.48	0.27	0	0	0	0.05	14.69
1995	0.69	1.48	0.96	**27.61**	2.29	14.03	0.29	1.29	0.40	0	0	0	49.04
1996	0.11	2.49	1.92	9.37	1.54	1.03	0.45	0	0	0	0	0	16.91
1997	4.06	2.92	7.99	10.21	0.09	0	0	0	0	0	0	0	25.27
1998	0	3.59	8.32	4.59	**30.12**	6.54	2.19	**3.21**	0.06	0	0	0.16	**58.78**
1999	0	1.27	0.84	2.74	0.81	2.38	2.19	0	0.17	0	0	0.27	10.67
1999/2000	0	1.00	0	2.34	11.96	3.24	3.28	0	0	0	0	0.12	21.94
2001	2.75	0	0.03	8.48	7.02	8.02	1.56	0	0	0	0	0	27.86
2002	0.41	4.37	1.60	1.10	0.36	0.53	0.08	0.23	0	0	0	0.02	8.70
2003	0	5.63	5.10	0	3.97	4.98	1.27	2.74	0	0	0	0	23.69
2004	0.05	2.68	2.13	0.79	8.08	0.60	0	0	0	0	0	0	14.33
2005	**7.09**	0.02	10.37	17.30	10.22	4.47	0.90	0.60	0	0	0	0.31	51.28
2006	0.97	0.87	0.79	4.93	3.73	4.87	**8.21**	1.47	0	0	0	0	25.84
2007	0.22	0.10	1.03	2.68	1.66	0.10	1.01	0	0	0	0	0.35	**7.15**
2008	0.46	0.04	3.40	17.93	2.49	0	0.09	0.06	0	0	0.11	0	24.58
2009	0.16	3.19	2.64	0.43	5.43	0.84	0.19	0	0	0	0	0	12.88
2009/2010	6.91	0	4.33	8.71	5.47	0.37	2.39	0.30	0	0	0	0	28.48
2011	2.14	1.91	**13.09**	0.90	5.32	9.42	0.11	0.94	0.21	0	0	0	34.04
2012	1.69	2.64	0.30	1.22	0.27	3.89	3.16	0	0	0	0	0.01	13.18
2013	0.15	3.74	3.15	1.91	0.10	0.81	0.25	0	0	0	0	0	10.11
2014	0.03	0.77	0.44	0	4.31	3.49	0.42	0	0	0	0.06	0	9.52
2015	0	0.96	5.41	1.44	0.82	0.25	0.2	0.3	0.14	**0.32**	0	0.22	10.06
2016	0.40	0	0.36	6.72	2.35	4.00	0.50	0	0	0	0	0	14.33
2017	0.71	1	3.79	10.45	11.75	1.30	0.48	0	0	0	0	0	29.56
2018	0	0.05	0	4.14	0.07	7.67	0.02	0.14	0	0	0	0	12.09
2019	0.11	2.47	1.73	8.12	10.64	3.66	0.02	1.88	0	0	0	0	28.63
2019/2020	0	1.59	6.07	0.57	0.67	5.25	4.46	0.08	0.01	0	0	0	18.70
AVG	0.76	2.33	3.35	5.26	5.27	3.80	1.29	0.32	0.05	0.01	0.03	0.30	22.78
MAX	7.09	14.19	13.09	27.61	30.12	17.19	8.21	3.21	0.94	0.32	1.18	7.32	58.78
MIN	0	0	0	0	0	0	0	0	0	0	0	0	7.15

Rainfall in inches, water year October 1 through September 30

Surrogate data used from Casitas Dam due missing data

ROBLES-CASITAS CANAL
MONTHLY DIVERSIONS

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		TOTAL		
YEAR	days	a.f.	days	a.f.	days	a.f.	days	a.f.	days	a.f.	days	a.f.	days	a.f.	days	a.f.	days	a.f.	days	a.f.	days	a.f.	days	a.f.	**days**	**a.f.**	**Avg. Rain**
1959	26	374	21	3645	23	928	3	158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73	5105	12.89
1960	0	0	2	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	24	14.98
1961	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	23	2	32	10.14
1962	0	0	20	13564	31	6882	30	1438	5	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86	21915	36.97
1963	0	0	23	2043	11	896	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	2939	18.77
1964	2	10	0	0	0	0	1	168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	176	5	354	13.93
1965	0	0	0	0	0	0	29	4955	4	79	0	0	0	0	0	0	0	0	0	0	14	**11676**	28	4729	75	21439	22.95
1966	31	11440	28	3754	12	418	0	0	0	0	0	0	0	0	0	0	0	0	3	**821**	2	108	28	**8782**	104	25323	26.92
1967	20	6284	16	1170	23	5023	30	**10488**	31	**8909**	30	1571	15	478	0	0	0	0	4	454	9	291	18	504	196	35172	37.17
1968	0	0	1	16	24	339	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	715	0	0	29	1070	16.08
1969	7	4924	20	11902	31	**16623**	30	8654	31	2685	30	1507	31	**2710**	5	360	0	0	0	0	5	76	10	908	200	**50349**	54.69
1970	13	312	14	988	31	7347	11	404	0	0	0	0	0	0	0	0	3	365	0	0	1	575	19	5868	92	15859	17.40
1971	31	3460	24	2011	3	24	0	0	0	0	9	861	0	0	0	0	0	0	0	0	4	550	7	4051	78	10957	20.69
1972	20	1093	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	**620**	0	0	1	5	0	0	25	1718	13.72
1973	15	3445	28	**15331**	31	14219	30	4274	23	1435	0	0	0	0	0	0	0	0	0	0	5	884	0	0	132	39588	38.42
1974	23	6431	8	501	19	2437	4	539	0	0	0	0	0	0	0	0	0	0	0	0	3	397	3	1427	60	11732	20.18
1975	0	0	7	1090	21	8876	17	1826	3	686	0	0	0	0	0	0	0	0	0	0	3	510	0	0	51	12988	24.90
1976	0	0	9	2855	0	0	0	0	0	0	0	0	0	0	0	0	2	583	0	0	0	0	0	0	11	3438	18.66
1977	0	0	0	0	0	0	0	0	1	50	0	0	0	0	0	0	0	0	0	0	0	0	4	1044	5	1094	12.88
1978	24	7290	28	13204	17	7034	0	0	0	0	4	1167	0	0	0	0	0	0	0	0	0	0	0	0	73	28695	53.92
1979	0	0	26	4712	16	1796	0	0	3	670	0	0	5	1667	0	0	0	0	0	0	0	0	0	0	50	8845	26.70
1980	20	1456	15	1127	2	134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	2717	37.21
1981	4	203	0	0	31	5018	2	551	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	5772	18.37
1982	3	599	0	0	11	1492	25	3582	28	494	15	74	0	0	0	0	0	0	0	0	7	657	14	3035	103	9933	21.68
1983	10	8994	28	8791	0	0	0	0	0	0	17	1138	20	1430	4	218	11	536	0	0	0	0	14	1024	104	22131	52.67
1984	0	0	8	1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	957	17	2087	17.96
1985	3	528	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1522	9	964	19	3015	17.41
1986	2	1385	28	14926	31	14415	30	5430	22	1418	27	**1742**	0	0	0	0	0	0	0	0	0	0	0	0	140	39316	35.67
1987	0	0	0	0	10	1034	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	580	12	1614	10.71
1988	10	1368	4	1533	15	4725	11	885	3	643	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	9154	19.53
1989	0	0	7	524	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	524	12.41
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10.27
1991	0	0	1	367	18	11776	30	4186	12	925	0	0	0	0	0	0	0	0	0	0	0	0	2	366	63	17620	24.68
1992	5	1026	23	14826	31	15898	30	7228	31	2460	9	413	0	0	4	**504**	0	0	0	0	0	0	6	1847	139	44202	30.85
1993	27	**21012**	16	10886	0	0	0	0	7	963	5	1039	4	785	0	0	0	0	0	0	0	0	0	0	59	34685	48.30
1994	0	0	13	1645	7	932	0	0	6	927	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	3504	15.68
1995	3	1323	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1323	52.35
1996	0	0	0	0	6	1291	0	0	4	371	0	0	0	0	0	0	0	0	0	0	2	354	9	3355	21	5371	19.50
1997	18	7134	6	1843	4	917	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2002	32	11896	25.81
1998	5	1366	6	4972	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	6338	60.86
1999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11.97
2000	0	0	4	1459	10	3023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	4482	24.36
2001	2	451	13	2140	28	11786	14	1039	1	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	15527	30.22
2002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.38
2003	0	0	0	0	5	982	5	264	5	325	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	1571	26.37
2004	0	0	3	1010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1843	10	2853	16.73
2005	31	12925	28	9297	22	4568	0	0	2	116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83	26906	60.13
2006	7	444	1	246	22	1283	30	8525	31	1593	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91	12091	28.98
2007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.33
2008	16	4137	29	4707	31	1083	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76	9927	28.13
2009	0	0	11	365	3	127	0	0	0	0	0	0	0	0	0	0	0	0	1	7	0	0	1	6	16	506	14.76
2010	13	3461	28	1954	31	685	18	368	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	4459	103	10926	32.05
2011	31	1739	26	714	31	8151	30	5548	31	1546	13	149	0	0	0	0	0	0	0	0	0	0	0	0	162	17847	36.77
2012	0	0	0	0	1	12	2	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	87	14.17
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10.98
2014	0	0	1	307	3	649	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	62	6	1018	11.39
2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13.09
2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15.06
2017	4	578	21	4482	27	1031	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	6091	32.18
2018	0	0	0	0	5	638	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	141	1	50	8	829	13.53
2019	19	1751	26	8506	31	8122	30	1523	30	788	1	1	0	0	0	0	0	0	0	0	0	0	12	539	149	21230	32.62
2020	0	0	0	0	19	1175	30	4101	16	202	0	0	1	2	0	0	0	0	0	0	0	0	0	0	66	5480	22.64
AVG	7	1886	10	2816	12	2803	8	1229	5	442	3	156	1	114	0	17	0	34	0	21	1	298	4	784	51	10600	24.82
MAX	31	21012	29	15331	31	16623	30	10488	31	8909	30	1742	31	2710	5	504	11	620	4	821	14	11676	28	8782	200	50349	60.86
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.33

Rain is average water year rainfall for Casitas Dam, Casitas Recreation Area and Matilija Dam rain gages in inches *a.f. : acre-feet*

Casitas Municipal Water District
State Water Project - Interconnect Project Costs
As of 8/31/2021

Project No:	Project Name:	Costs paid to date	Encumbered	Total Encumbered & Cost To Date
378	State Water Interconnect - Calleguas to Casitas	115,142	-	115,142
527	State Water Interconnect - Carpinteria to Casitas	384,346	678,133	1,062,479
606	State Water Interconnect - Ventura to Casitas	224,241	25,002	249,242
	Project(s) Cost To Date:			1,426,863

Non-Budgeted Items Log Sheet - FY 2022

Approval Date	Item	Budgeted Amount	Actual Amount	Notes	Grant Potential (Y or N)
28-Jul-21	Robles Forebay Restoration	$ 800,000.00	$ -		N
	Total	$ 800,000.00	$ -		

Casitas Municipal Water District
Adjudication Charge Summary Report

	2020 July	FY21 YTD	2021 July	2021 August	YTD
Revenue	(48,685)	(584,095)	(48,517)	76	(632,536)
Expenses		-			-
Legal	-	158,476	-	-	158,476
Other Pro Fees	-	125,175	-	12,030	137,206
Bank Fees	-	130	-	-	130
Net Total	(48,685)	(300,314)	(48,517)	12,106	(336,724)
Cash Collected	948	484,014	50,534	45,350	579,899
Cash Disbursed	-	(251,637)	(32,144)	(22,110)	(305,891)
Accounts Payable	-	(32,144)	32,144	10,079	10,079
Accounts Receivable	47,737	100,081	(2,017)	(45,426)	52,638
Net Total	48,685	300,314	48,517	(12,106)	336,725

Note: Data as of 8/31/2021

Casitas Municipal Water District
CFD 2013-1 Improvement Fund - Series B

		Bonds Proceeds Received (1)	Interest Earned (2)	Expense (3)	Balance Series B (1)+(2)+(3)	
	2017 Subtotal	42,658,223.98	24,046.16	(36,886,093.06)		
	TOTAL	42,658,223.98	24,046.16	(36,886,093.06)		5,796,177.08
	2018 Subtotal	-	77,279.16	-		
	TOTAL	42,658,223.98	101,325.32	(36,886,093.06)		5,873,456.24
	2019 Subtotal	-	102,268.61	(1,486,814.43)		
	TOTAL	42,658,223.98	203,593.93	(38,372,907.49)		4,488,910.42
2020	January		4,656.63			
	February		4,539.94			
	March		4,248.11			
	April		2,235.18			
	May		34.71			
	June		22.97	(4,000,000.00)	Project Reimbursement	
	July		8.39	(404,999.69)	Project Reimbursement	
	August		1.84			
	September		0.51			
	October		0.49			
	November		0.51			
	December		0.60			
	2020 Subtotal	-	15,749.88	(4,404,999.69)		
	TOTAL	42,658,223.98	219,343.81	(42,777,907.18)		99,660.61
2021	January		0.51			
	February		0.51			
	March		0.46			
	April		0.51	(92,272)	Project Reimbursement (Mar exp)	
	May		0.16	(7,390)	Project Reimbursement (Apr exp)	
	June		0.01			
	July		-			
	August		-			
	September					
	October					
	November					
	December					
	2021 Subtotal	-	2.16	(99,662.60)		
	TOTAL	42,658,223.98	219,345.97	(42,877,569.78)		0.17

Casitas Municipal Water District
CFD 2013-1 Improvement Fund - Series C

		Bonds Proceeds Received (1)	Interest Earned (2)	Expense (3)	Balance Series C (1)+(2)+(3)	
	2019 Subtotal	13,570,000.00	12,284.84	-		
	TOTAL	13,570,000.00	12,284.84	-		13,582,285
	2020 Subtotal	-	48,026.34	(1,362,971.53)		
	TOTAL	13,570,000.00	60,311.18	(1,362,971.53)		12,267,339.65
2021	January		62.37			
	February		62.37			
	March		57.01			
	April		62.37			
	May		60.36	(537,876)	Project Reimbursement (Apr exp)	
	June		60.16	(662,386)	Project Reimbursement (May exp)	
	July		54.67	(1,150,111)	Project Reimbursement (June exp)	
	August		51.74	(719,027.97)	Project Reimbursement (July exp)	
	September					
	October					
	November					
	December					
	2021 Subtotal	-	471.05	(3,069,401.06)		
	TOTAL	13,570,000.00	60,782.23	(4,432,372.59)		9,198,409.64

Summary of Expenses
CFD 2013-1 Improvement Fund - Series B&C

Purchase of Ojai System	34,481,628.00
Extension Contract	366,371.55
Meter Cost	2,038,093.51
Received Project reimbursements:	10,423,849.31
	47,309,942.37
	-

Total funds remaining for improvement Series B:	0.17
Total funds remaining for improvement Series C:	9,198,409.64
Total Funds Remaining	9,198,409.81
Received Project reimbursements:	10,423,849.31
Projects Cost YTD:	11,010,560.46
Projects Pending Reimbursement:	586,711.15
Total Funds Remaining less pending Reimbusement:	8,611,698.67

Casitas Municipal Water District
) 2013 - 1 Projects to be reimbursed to CMWD To Date
As of 8/31/2021

Project No:	Project Name:	Costs
400	Ojai System Masterplan	375,336.49
420	Sunset Place Pipeline Replacement	785,031.23
421	Cuyama, Palomar and El Paseo Roads Pipeline Replacement	1,896,235.33
422	South San Antonio Street and Crestview Drive Pipeline	89,258.17
423	West and East Ojai Avenue Pipeline Replacement	450,050.55
424	Running Ridge Zone Hydraulic Improvement	363,340.85
425	Well Rehabilation Replacement	1,230,329.71
426	Valve & Appurtenance Replacement	1,136,796.97
427	Fairview Pipeline Replacement	-
428	Mutual Wellfield Pipeline	136,439.57
429	Grand Ave Pipeline	56,650.86
430	Signal Booster Zone Hydraulic Improvements	239,728.08
431	Emily Street Pipeline Replacement	1,101,818.56
432	Casitas-Ojai System Interties	78,158.82
522	Ojai Arc Flash Study	119,839.00
611	Mutual Replacement Well	438,973.36
411	Replace San Antonio #3 Well	29,759.77
506	Ojai SCADA UPS Units	11,447.67
509	Hypochlorite Tanks OS	24,186.95
511	Ojai Wellfield Cla-Vals	4,273.91
512	Well Monitoring Upgrades 07/2018	1,520.76
514	Ojai Wellfield Mag Meters 07/2018	18,876.70
433	Ojai 12" pipeline replac	1,897,827.29
434	Heidelberger PP Ret. Wal	29,479.63
435	Plesant Ave/Daily Rd Pip	62,644.70
436	OWS Tank/Valt Fall Impro	23,262.21
437	Wellvield VFDs	338,022.02
438	Lion St PL/ Fairview Conn	25,461.01
646	OWS Arbolada Tank	45,810.29
	Project(s) Cost To Date:	**11,010,560.46**

CASITAS MUNICIPAL WATER DISTRICT
TREASURER'S MONTHLY REPORT OF INVESTMENTS
08/31/21

Type of Invest	Institution	CUSIP	Date of Maturity	Original Cost	Current Mkt Value	Rate of Interest	Date of Deposit	% of Portfolio	Days to Maturity
*TB	Federal Home Loan Bank	3130A0EN6	12/10/2021	$547,735	$503,835	2.875%	5/9/2016	4.51%	100
*TB	Federal Home Loan Bank	3130AIXJ2	6/14/2024	$941,144	$902,756	2.875%	8/2/2016	8.08%	1004
*TB	Federal Home Loan Bank	3130A5VW6	7/10/2025	$1,025,110	$1,080,140	2.700%	5/10/2017	9.67%	1390
*TB	Federal National Assn	31315P2J7	5/1/2024	$809,970	$781,202	3.300%	5/25/2016	6.99%	961
*TB	Farmer MAC	31315PYF0	5/2/2028	$512,355	$554,940	2.925%	11/20/2017	4.97%	2402
*TB	Federal Farm CR Bank	31331VWN2	4/13/2026	$940,311	$862,247	5.400%	5/9/2016	7.72%	1663
*TB	Federal Home Loan Bank	313383YJ4	9/8/2023	$476,582	$441,157	3.375%	7/14/2016	3.95%	728
*TB	Farmer MAC	3133EEPH7	2/12/2029	$480,251	$526,680	2.710%	11/20/2017	4.72%	2682
*TB	Federal National Assn	3135G0K36	4/24/2026	$2,532,940	$2,657,400	2.125%	7/6/2010	23.79%	1674
*TB	Federal National Assn	3135G0ZR7	9/6/2024	$1,488,050	$1,488,256	2.625%	5/25/2016	13.32%	1086
*TB	Federal Home Loan MTG Corp	3137EADB2	1/13/2022	$683,584	$669,445	2.375%	5/1/2016	5.99%	133
*TB	US Treasury Note	912828WE6	11/15/2023	$723,061	$701,422	2.750%	12/13/2013	6.28%	795
	Total in Gov't Sec. (11-00-1055-00&1065)			**$11,161,094**	**$11,169,479**			**99.97%**	
	Total Certificates of Deposit:			**$0**	**$0**			**0.00%**	
**	**LAIF as of 3/30/2021: (11-00-1050-00)**		N/A	**$482**	**$482**	1.36%	Estimated	**0.00%**	
***	**COVI as of 3/30/2021: (11-00-1060-00)**		N/A	**$3,059**	**$3,059**	1.50%	Estimated	**0.03%**	
	TOTAL FUNDS INVESTED			**$11,164,635**	**$11,173,020**			**100.00%**	
	Total Funds Invested last report			$11,164,635	$11,221,923				
	Total Funds Invested 1 Yr. Ago			$11,755,742	$12,082,495				
****	**CASH IN BANK (11-00-1000-00) EST.**			**$5,243,298**	**$5,243,298**				
	CASH IN Custody Money Market			**$566,479**	**566,479.36**	0.30%			
	TOTAL CASH & INVESTMENTS			**$16,974,413**	**$16,982,798**				
	TOTAL CASH & INVESTMENTS 1 YR AGO			$14,714,450	$15,041,203				

*CD CD - Certificate of Deposit
*TB TB - Federal Treasury Bonds or Bills
** Local Agency Investment Fund
*** County of Ventura Investment Fund
Estimated interest rate, actual not due at present time.
**** Cash in bank

No investments were made pursuant to subdivision (i) of Section 53601, Section 53601.1 and subdivision (i) Section 53635 of the Government Code.
All investments were made in accordance with the Treasurer's annual statement of investment policy.

CASITAS MUNICIPAL WATER DISTRICT

MINUTES
Special Recreation Committee
(this meeting was held telephonically)

DATE: September 2, 2021
TO: Board of Directors
FROM: General Manager, Michael Flood
Re: Special Recreation Committee Meeting of August 17, 2021, at 1000 hours.

RECOMMENDATION:

It is recommended that the Board of Directors receive and file this report.

BACKGROUND AND OVERVIEW:

1. **Roll Call**.
Director Brian Brennan
Director Pete Kaiser
General Manager, Michael Flood
Assistant General Manager, Kelley Dyer
Park Services Manager, Joe Martinez
Division Officer, Joe Evans

2. **Public Comments**.
Gary Wolfe made comments regarding advertising and promotion of concessions at the Lake.

Director Kaiser indicated that this is an important staff effort and wanted to see if shoreline cleanup efforts could be commenced in the future.

Director Brennan indicated that this support is important.

PSM Martinez provided details about current advertising and possibilities for the future.

DO Evans provided details regarding social media outreach and posting on park bulletin boards.

Burt Handy asked about buoy placement and navigation hazards.

3. **Review of the Ojai Raptor Center request for the donation of a Lake Casitas Recreation Area Frequent Visitor Decal (FVD) for the Ojai Raptor Center Auction.**
GM Flood introduced the item and covered the contents of the memo with the Committee including the in-kind services that are provided by the Raptor Center.

Director Brennan indicated that this was worthwhile.

Director Kaiser indicated his support of proceeding with this donation.

DO Evans made comments regarding the benefits of having the Ojai Raptor Center provide services and demonstrations at the LCRA.

4. **Review of the June 2021 Recreation Report**

PSM Martinez reviewed the report with the Committee including park maintenance, park attendance, revenues, COVID protocols, fishing tournaments, camping, water park evaluations, boat inspections and the likely increase in events at the LCRA. He also indicated that a report on the Casitas Water Adventure would be coming to the committee in the coming months.

Director Kaiser made comments regarding the number of visitor days and the overall good condition of park maintenance.

Director Brennan indicated that he looked forward to the reopening of the Casitas Water Adventure.

5. **Review of Incidents and Comments.**

DO Evans presented the LCRA incident statistics including customer service issues, medical situations, Sheriff contacts, violations, unattended fires, a stolen bicycle incident, fainting of a customer, fireworks violations, graffiti violations, SS relief maintenance, and a collision on Highway 150.

Director Kaiser complimented staff on a job well done including lighting at the trailer storage area.