San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

BOARD OF DIRECTORS MEETING AGENDA
Wednesday, January 12, 2022 – 1:30 p.m.

All in-person attendees shall be required to wear masks covering both their nose and mouths at all times within the meeting room, at all times that social distance spacing requirements cannot be met. Masks will be made available for in-person attendees who do not have them. The District's meeting facilities have limited space, and in-person attendees may be requested to leave the room, or participate via internet or telephone, until the number of any unmasked attendees at the District's facility can be accommodated consistent with social distancing guidelines.

Any member of the public wishing to listen to or participate in the meeting can join via Zoom:
Call in (669) 900-6833, Meeting ID: 828 2351 1711_
To join the Zoom Meeting on https://us02web.zoom.us/j/82823511711

While the District makes every attempt to follow all guidance re COVID-19 safety protocols, the District cannot assure in-person attendees that they will not be exposed to COVID-19 or persons who have been so exposed, and attendees are advised to exercise caution in limiting their own incidences of exposure, particularly those who may be in groups at higher risk of infection, or serious symptoms of COVID-19 if infected.

Note: Copies of staff reports and other documents relating to the items on this agenda are on file at the District office and are available for public review during normal District business hours. New information relating to agenda topics listed, received, or generated by the District after the posting of this agenda, but before the meeting, will be made available upon request at the District office and in the Agenda Package on the District's website. It is the intention of the San Bernardino Valley Water Conservation District to comply with the Americans with Disabilities Act (ADA) in all respects. If you need special assistance with respect to the agenda or other written materials forwarded to the members of the Board for consideration at the public meeting, or if as a participant at this meeting you will need special assistance, the District will attempt to accommodate you in every reasonable manner. Please contact Athena Lokelani at (909) 793-2503 at least 48 hours prior to the meeting to inform her of your particular needs and to determine if accommodation is feasible. Please advise us at that time if you will need accommodations to attend or participate in meetings on a regular basis.

CALL TO ORDER
PLEDGE OF ALLEGIANCE
ROLL CALL

1. **PUBLIC PARTICIPATION**

Members of the public may address the Board of Directors on any item that is within the jurisdiction of the Board; however, no action may be taken on any item not appearing on the agenda unless the action is otherwise authorized by Subdivision (b) Section 54954.2 of the Government Code.

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Redlands, CA 92373
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2. **ADDITIONS/DELETIONS TO AGENDA**

Section 54954.2 provides that a legislative body may take action on items of business not appearing on the posted agenda under the following conditions: (1) an emergency situation exists, as defined in Section 54956.5; (2) a need to take immediate action and the need for action came to the attention of the District subsequent to the agenda being posted; and (3) the item was posted for a prior meeting occurring not more than five calendar days prior to the date action is taken on the item, and at the prior meeting the item was continued to the meeting at which action is being taken.

3. **GUEST RECOGNITION/SELF INTRODUCTIONS**

4. **DISTRICT STANDING COMMITTEE APPOINTMENTS**

A. BOARD PRESIDENT APPOINTMENTS

5. **CONSENT CALENDAR**

6. **COMMITTEE REPORTS /ACTION ITEMS**

Committee Reports

A. 1st QUARTER UNAUDITED FINANCIALS REVIEW 2021-2022 - 5 minutes (M#1822) 29
Presenter: *Daniel Cozad*
Recommendation: The Finance & Administration Committee recommends approval of the first quarter unaudited financials for FY 2021-2022 as presented.

Action Items

B. UNAUDITED FINANCIAL REPORTS, December 2021 - 5 minutes (M#1823) 34
Presenter: *Daniel Cozad*
Recommendation: Review and approve the unaudited financials for December 2021.

C. ACTIVE RECHARGE TRANSFER PROJECTS AWARD OF CONTRACT WATERMAN, LYNWOOD BASINS AND TWIN CREEK SPREADING GROUNDS FEASIBILITY STUDY SUPPORT PROFESSIONAL SERVICES AWARD OF CONTRACT– 5 minutes (M#1824) 40
Presenter: *Erwin Fogerson*
Recommendation: Staff recommends the Board accept the proposal of Tetra Tech, authorize the General Manager to complete the negotiation of services and fees, and execute a professional consultant services agreement in an amount not to exceed $1,530,615 as show in Attachment 1.

D. NEPA SERVICES TO SUPPORT BUREAU OF LAND MANAGEMENT RIGHT OF WAY PROFESSIONAL SERVICES CONTRACT AWARD – 5 minutes (M#1825) 97
Presenter: *Betsy Miller*
Recommendation: Staff recommends that the Board accept Dudek's proposal to conduct NEPA services to support the District's Bureau of Land Management Right of Way application and

authorize the General Manager and General Counsel to prepare and execute the professional consultant services agreement included as Attachment 1, not to exceed $39,670.

E. WILDLAND TRAILS MOU WITH THE CITY OF HIGHLAND AND CITY OF REDLANDS – 10 minutes (M#1826).....113
Presenter: *Daniel Cozad/David Cosgrove*
Recommendation: Review and approve the "Memorandum of Understanding Regarding Planning and Funding of Santa Ana Wash Wildland Trails by and between the City of Highland, the City of Redlands, and the San Bernardino Valley Water Conservation District." ("Trails MOU") including non-substantive edits acceptable to District Counsel and General Manager.

F. DISTRICT BOARD PRIORITIES FOR 2022 – 20 minutes (M#1827).....124
Presenter: *Daniel Cozad*
Recommendation: Review, provide new or revised priorities, feedback and ranking or consider approval of the 2022 District Board Priorities.

G. STATEMENT OF INVESTMENT POLICY 2022 – 5 minutes (M#1828) 128
Presenter: *Daniel Cozad*
Recommendation: Staff recommends no changes to the Statement of Investment Policy and recommends the Board reapprove the existing Policy for calendar year 2022.

H. REDISTRICTING UPDATE- 5 minutes (M#1829).....139
Presenter: *David Cosgrove*
Recommendation: Review preliminary realignment scenarios for the District's required realignment of divisions, consistent with the 2020 census, and provide direction to staff for refinement of scenarios to be brought forward for a public hearing in February 2022, for ultimate adoption by March 2022. Direct staff on refinements of initially studied scenarios, as appropriate to review and analyze 2020 census data, with an eye toward possible adjustment to the District's five constituent voter divisions, in such a way as to conform to Federal and California Voting Rights Acts.

7. **INFORMATION ITEMS:**

A. Wash Plan Implementation Update – 5 Minutes
B. Mentone Shop Improvements Verbal Report – 5 Minutes
C. General Manager's Report and Monthly Recharge Report – 5 Minutes ……..……144
D. Future Agenda Items & Staff Tasks

8. **MONTHLY BOARD MEMBER MEETING REPORTS, AND/OR BOARD MEMBER COMMENTS**

A. Board Member Meeting Reports – 15 minutes

9. **UPCOMING MEETINGS:**

***Please note: All future District meetings may be held remotely via zoom. See Agendas for detailed information.**

A. January 13, 2022	San Bernardino Valley Municipal Water District Policy Committee Workshop, 2:00 p.m. at Valley Municipal
B. January 17, 2022	Offices Closed in Observance of Martin Luther King Jr. Birthday
C. January 18, 2022	San Bernardino Valley Municipal Water District Board Meeting, 2:00 p.m. at Valley Municipal
D. January 18, 2022	Big Bear Watermaster Meeting, 10:00 a.m. via Zoom (*Zoom Meeting ID: 857 6925 9037*)
E. January 24, 2022	Association of San Bernardino County Special Districts Dinner, 6:30 p.m. at Cara Mia Italian Restaurant, Rancho Cucamonga hosted by Cucamonga Valley Water District
F. January 26, 2022	WIFIA Meeting, 8:30 a.m. via Teleconference
G. January 26, 2022	Finance & Administration Committee, 1:30 p.m. via In-person/Zoom (*Zoom Meeting ID: 822 3989 9907)*
H. February 4, 2022	Operations Committee, 9:00 a.m. via In-person/Zoom (*Zoom Meeting ID: 847 7398 9126)*
I. February 9, 2021	Board of Directors Meeting, 1:30 p.m. at Conservation District
J. March 9, 2022	Redlands Installation Dinner, 6:00 p.m. at University of Redlands Orton Center
K. March 17-20, 2022	Local Government Commission Yosemite Policymakers Conference, Yosemite National Park ***(Board Approval Required)***
L. March 18, 2022	Form 700's Due to District
M. May 3-May 6, 2022	ACWA Spring Conference, Sacramento ***(Board Approval Required)***

10. **CLOSED SESSION**

1. The Board will meet in Closed Session under authority of Government Code §54956.9 (a), in order to discuss existing litigation, Endangered Habitats League et al. vs. U.S. Army Corps of Engineers, Central District Court Case no. Case No.: 2:16-cv-09178-MWF-E.

2. The Board will meet in closed session under authority of Government Code §54956.9 (a), and (d) (4) regarding anticipated litigation. Pursuant to Government Code §54956.9€(2), the facts and circumstances concern a potential trespass onto District property in connection with the Dr. Horton and Slater Construction.

3. The Board will meet in Closed Session under authority of Government Code §54956.9 (a), in order to discuss existing litigation, San Bernardino Valley Water Conservation Dsitrict v. Mark J. Bacher dba Red Dragonfly Spa, SBCSC Case No. LLTVA 2103055.

4. The Board may convene in Closed Session for Conference to discuss Real Property Negotiations pursuant to Government Code §54956.8; Owner: Southern California Edison East End Hydroelectric Generation Plant property located on various parcels and easements in Mill Creek and Santa Ana River Canyons, Negotiator: Daniel Cozad and David Cosgrove Owner: Southern California Edison Negotiators Allison, Bahen, Property Manager and Steven Powell, Vice President.

5. The Board will meet in closed session under authority of Government Code section 54957(b)(1) to consider the appointment of a public employee-General Manager.

11. **ADJOURN MEETING.** The next regularly scheduled Board of Directors Meeting will be on February 9, 2022 at 1:30 p.m., at District Headquarters, 1630 W. Redlands Blvd., Redlands, CA and via In-Person and Zoom Meeting ID: 828 2351 1711/teleconference.

ACWA - Committees or Board by Region

Filter Summary

Region	Board/Committee Name	First Name	Last Name	Agency
9				
	2022-2023 ACWA - Legal Affairs Committee			
		Joanna	Smith Hoff	Imperial Irrigation District
	2022-2023 ACWA - Agriculture Committee			
		Jason	Martin	Rancho California Water District
		Justin	Haessly	Rancho California Water District
		Luis	Cetina	Cucamonga Valley Water District
		Randy	Record	Eastern Municipal Water District
		Zoe	Rodriguez del Rey	Coachella Valley Water District
		Nicholas	Schneider	Mojave Water Agency
	2022-2023 ACWA - Business Development Committee			
		Angel	Garcia	Rancho California Water District
		Gil	Botello	San Bernardino Valley Municipal Water District
	2022-2023 ACWA - Communication Committee			
		Lorraine	Garcia	Coachella Valley Water District
		Sarah	MacDonald	Western Municipal Water District
		Eric	Grubb	Cucamonga Valley Water District
		Bonnie	Woodrome	Elsinore Valley Municipal Water District
		Carol Lee	Gonzales-Brady	Rancho California Water District
		Kristeen	Farlow	San Bernardino Valley Municipal Water District
		April	Coady	Eastern Municipal Water District
	2022-2023 ACWA - Energy Committee			
		Richard	Ottolini	Rancho California Water District
		David	Crohn	Riverside Public Utilities
		Robert	Ennis	Riverside Public Utilities
		Paul	Rugge	Western Municipal Water District
		Randall	Reed	Cucamonga Valley Water District
		Dan	Howell	Eastern Municipal Water District
		Samuel	Robinson	Eastern Municipal Water District
		Pietro	Cambiaso	Inland Empire Utilities Agency
		William	Plummer	Rancho California Water District
		Brian	Brady	Rancho California Water District
	2022-2023 ACWA - Federal Affairs Committee			
		John	Rossi	Rancho California Water District
		Kathy	Besser	Inland Empire Utilities Agency
		Harvey	Ryan	Elsinore Valley Municipal Water District
		Jolene	Walsh	Eastern Municipal Water District
		Victoria	Llort	Coachella Valley Water District
	2022-2023 ACWA - Finance Committee			
		Robert	Hartwig	Elsinore Valley Municipal Water District

	G. Patrick	O'Dowd	Salton Sea Authority
2022-2023 ACWA - Groundwater Committee			
	Tony	Winkel	Mojave Water Agency
	Leo	Havener	Idyllwild Water District
	Rachel	Gray	Eastern Municipal Water District
	LEIGHANNE	KIRK	Eastern Municipal Water District
	Craig	Miller	Western Municipal Water District
	Josh	Aguilar	Inland Empire Utilities Agency
	Richard	Ottolini	Rancho California Water District
	Chuck	Krieger	Desert Water Agency
	Peter	Kavounas	Chino Basin Watermaster
	Eduardo	Espinoza	Cucamonga Valley Water District
	John	Hoagland	Rancho California Water District
	Richard	Corneille	San Bernardino Valley Water Conservation District
	Zoe	Rodriguez del Rey	Coachella Valley Water District
	Chris	Berch	Jurupa Community Services District
	Jeffrey	Mosher	Santa Ana Watershed Project Authority
	Gildardo	Oceguera	Riverside Public Utilities
	Gil	Botello	San Bernardino Valley Municipal Water District
	Paul	Kielhold	San Bernardino Valley Municipal Water District
	T. Milford	Harrison	San Bernardino Valley Municipal Water District
	Parag	Kalaria	Elsinore Valley Municipal Water District
	Ganesh	Krishnamurthy	Elsinore Valley Municipal Water District
2022-2023 ACWA - Local Government Committee			
	Leo	Havener	Idyllwild Water District
	T. Milford	Harrison	San Bernardino Valley Municipal Water District
2022-2023 ACWA - Membership Committee			
	Carol Lee	Gonzales-Brady	Rancho California Water District
	Michael	Hadley	Western Municipal Water District
2022-2023 ACWA - State Legislative Committee			
	Nicholas	Schneider	Mojave Water Agency
	Meggan	Valencia	Rancho California Water District
	Socorro	Pantaleon	Cucamonga Valley Water District
	Greg	Morrison	Elsinore Valley Municipal Water District
2022-2023 ACWA - Water Management Committee			
	Ashley	Metzger	Desert Water Agency
	Ryan	Shaw	Western Municipal Water District
	Allison	Febbo	Mojave Water Agency
	Joe	Mouawad, P.E.	Eastern Municipal Water District
2022-2023 ACWA - Water Quality Committee			
	Robert	Bowcock	Chino Basin Watermaster
	Jordan	Farrell	Rancho California Water District
	Eva	Plajzer	Rancho California Water District
	Jeffrey	Mosher	Santa Ana Watershed Project Authority
	David	Scriven	Desert Water Agency
	Steve	Bigley	Coachella Valley Water District
	Tony	Winkel	Mojave Water Agency

June	Hayes	San Bernardino Valley Municipal Water District
Mike	Ali	Elsinore Valley Municipal Water District
Melody	McDonald	San Bernardino Valley Water Conservation District
Luis	Cetina	Cucamonga Valley Water District
Bonita	Fan	Inland Empire Utilities Agency

APPENDIX "B"
BOARD COMMITTEES

STANDING COMMITTEES	COMMITTEE CHARTER
FINANCE/ADMINISTRATION **Chair –** David E. Raley **Member -** John Longville **Alternate –** Robert Stewart	The Finance and Administration Committee may review or be referred items by the Board or General Manager in the areas of Finance, Budget, Investments and Reporting, Staffing and Human Resources, Benefits, Board and Employee Administrative Policies and Procedures, and other issues designated by the Board.
OPERATIONS (formerly Resources) **Chair –** Richard Corneille **Member –** Robert Stewart **Alternate –** Melody McDonald	The Operations Committee may review or be referred items by the Board or General Manager in the areas of Water Management, Land and Habitat Resource Planning, Groundwater Recharge Monitoring and Reporting, Engineering Investigation, Groundwater Charge Rates. Facilities Operation, Maintenance and Development, Regulatory Compliance, Mineral Lease Oversight or other issues designated by the Board.
OUTREACH AND COMMUNICATIONS **Chair –** John Longville **Member –** Robert Stewart **Alternate – Richard Corneille**	The Outreach and Communications Committee may review or be referred items by the Board or General Manager in the areas of Public Information, Outreach Programs, Conservation and Landscape Education, District Legislative Monitoring, Intergovernmental Press and Media Coordination or other issues designated by the Board.

AD HOC COMMITTEES

Ad Hoc Committees are informal, temporarily formed advisory committees to investigate or address situation specific occurrences, and are created by appointment of the President of the Board of Directors. For example, an Ad Hoc Audit committee is formed in the spring each year to oversee the District's Annual Audit.

APPENDIX "C"

Roster of Organizations and Committees with Assigned Representatives

District Requested Meetings

District Requested Meetings are organizations that the Board has determined as essential for participation. The Board designates a primary and alternate; the alternate only attends if the primary indicates they are unavailable to attend. Included are all District Board meetings and Standing and Ad Hoc committees the member is appointed to, and those meetings or events a member is required to attend as a part of his or her role as a member of any other committee, board, or organization to which the member was appointed by the entire Board, or whose appointment was solicited or approved by the entire Board. If service on a committee requires travel or other costs such costs must be disclosed prior to appointment. Attendance by another Board member, other than the primary or alternate designee, may only be eligible for per diem compensation as a Director Selected meeting. Travel costs include conference registration, airfare car rental, hotel or similar reimbursable costs. Meeting Expenses include local mileage, meals, and parking. A cost estimate (Travel and Per Diem) must be presented to the Board in advance at its regularly scheduled Board meeting for approval for meetings listed as "Set by Board Action". Once "Set by Board Action" meetings are approved by the Board they may be claimed as District Requested meetings. Any District Requested or Director Selected meetings beyond ten per month are eligible for reimbursement of Expenses only. California Government Code § 53232.3 requires Board members to report on each compensated meeting outside of meetings District Board or Committee meetings at the next regular Board Meeting as designated in the Agenda. The reports may be made verbally or provided in writing at the discretion of the director.

	Organization/Committee	Primary/Alternate
1.	Association of California Water Agencies/JPIA	McDonald/Raley
2.	Association of California Water Agencies (Spring/Fall Conferences)	Set by Board Action
3.	California Special Districts Association Annual Conference **	Set by Board Action
4.	Association of San Bernardino County Special Districts	McDonald/Stewart
5.	Special Presentations [only one per month per director]	All Board Limited
6.	ACWA Region 9 Meetings	All Board Limited
7.	Basin Technical Advisory Committee	McDonald/Stewart

8.	SBVMWD Advisory Commission on Water Policy	Corneille/Raley
9.	SBVMWD Board Meetings 9A. Engineering Workshop*** 9B. Policy Workshop*** 9C. Resources Workshop***	McDonald/Raley McDonald/Corneille (To be appointed) Raley/McDonald
10.	Wash Plan Task Force	Raley/Longville
11.	Big Bear Watermaster Committee (Court Appointed Attendee-Cozad)	Raley/Stewart
12.	San Bernardino Valley Conservation Trust	Raley & Longville
13.	Partnership Agreement Policy Committee	Corneille/McDonald
14.	Meeting(s) Requested by the General Manager and/or Board President	All Board Limited
15.	Any District Required/Mandated Training	All Board Limited

Organization/Committee's selected by Outside Organization subject to Board Approval

Other Activities:

Organization/Committee		Primary/Alternate
a.	Sacramento Legislative Forums	Set by Board Action
b.	Washington DC Legislative Forum	Set by Board Action
c.	ACWA Committees	When appointed**
d.	CSDA Committees	When appointed**
e.	Local Government Commission	Longville/No Alternate

*Only one member should attend meeting on behalf of the District

** If appointed and while appointed.

***Both appointed members may attend as primary.

Director Selected Meetings - Maximum of 3

The Director Selected meetings are pre-approved; discretionary meetings that each Director may attend, in a number not to exceed three (3) per month, and are eligible for meeting per diem compensation and eligible Expense (local mileage, meals, and parking) reimbursement. Directors may attend more than three (3) Director Selected meetings in a single month; such attendance will be eligible only for reimbursement of Expenses, and ineligible for meeting per diem reimbursement. Reimbursement for Travel expenses (conference registration, airfare car rental, hotel or etc.) for any Director Selected meeting shall be paid only upon prior approval of the Board. A cost estimate must be presented to the Board in advance at a regularly scheduled Board meeting for approval. Expenses are subject to limitations provided for in the Board Policy Handbook Section 4025.1 for all Director Selected meeting.

Organization

A. Redlands Chamber of Commerce	Director Selected
B. Highland Area Chamber of Commerce	Director Selected
C. Loma Linda Chamber of Commerce	Director Selected
D. Mentone Chamber of Commerce	Director Selected
E. San Bernardino Chamber of Commerce	Director Selected
F. Various Water Related Meetings	Director Selected

SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT
BOARD OF DIRECTORS MEETING

MINUTES OF DECEMBER 8, 2021
9:30 am

President McDonald called the Board of Directors meeting to order at 9:35 am by in-person, teleconference, and Zoom meeting; all those in attendance stood for the pledge of allegiance led by President McDonald.

ROLL CALL:

BOARD MEMBERS PRESENT:

Melody McDonald, President
David E. Raley, Director
Robert Stewart, Director
Richard Corneille, Vice President
John Longville, Director (Arrival 9:48 am)

BOARD MEMBERS ABSENT:

None

GENERAL COUNSEL PRESENT:

Dave Cosgrove, District Counsel

STAFF PRESENT:

Daniel Cozad, General Manager
Betsy Miller, Land Resources Manager/Assistant General Manager
Erwin Fogerson, Senior Engineer/Project Manager
Katelyn Scholte, Assistant Engineer
Athena Lokelani, Administrative Specialist
Angie Quiroga, Administrative Analyst
Christiana Kent, Intern
Anna Frey, Intern

GUESTS PRESENT:

T. Milford Harrison, San Bernardino Valley Municipal Water District
Tatiana Moiseeva, Tetra Tech
Paul Kielhold, San Bernardino Valley Municipal Water District
Ernie Wong
Bill Hemsley, American Public Works Association
Brian Dickinson, City of Colton

1. PUBLIC PARTICIPATION

President McDonald announced that any persons present, who so desired, may make an oral presentation to the Board of Directors. There being none, the meeting continued with the posted agenda items.

Mr. Cosgrove stated that the District is conducting a hybrid meeting consistent with applicable government codes and Resolution No. 592, adopted by the Board on November 10, 2021. He noted that for those that are in attendance are masked and the District is observing heightened Covid-19 protocols with social distancing.

Bill Hemsley of the American Public Works Association (APWA) presented an award to the District for Project of the Year for its Plunge Creek Conservation Project. The projects were evaluated based on their service to the community, environmental enhancement, sustainability, unique design and planning, cost effectiveness, and improvement of public safety awareness. The AWPA selection committee found the Plunge Creek project to excel in all of these criteria. Mr. Cozad presented on the project at the APWA luncheon, and Ms. Scholte and Field Operations Specialists Mr. Purvis and Mr. Guizar provided a field tour to APWA of the project submitted. Mr. Hemsley said that this project is an example of how public works organizations and projects improves the lives of our communities and he commended staff on their efforts to make this project successful. President McDonald thanked the APWA and staff. Mr. Cozad thanked the City of Highland that suggested the District apply for this award. Mr. Wong, former Board member of APWA and former staff member of City of Highland, also spoke in favor of the project and spoke highly of the Board and staff. He indicated that this is an amazing accomplishment.

2. ADDITIONS/DELETIONS TO AGENDA

There were none.

3. GUEST RECOGNITIONS/SELF INTRODUCTIONS

The guests listed above made self-introductions.

4. CONSENT CALENDAR

President McDonald introduced this item for discussion.

It was moved by Vice President Corneille and seconded by Director Raley to approve the Consent Calendar: Item A: Special Board Minutes, November 3, 2021; Item B: Board Minutes, November 10, 2021; and Item C: Expenditure Report, November 2021, with minor revisions on Item A. The motion carried 4-0, with all Board members present voting in the affirmative. Director Longville was absent from the vote.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Absent
Director Raley: Yes
Director Stewart: Yes

5. COMMITTEE REPORTS/ACTION ITEMS

A. FINANCE & ADMINISTRATION COMMITTEE VERBAL UPDATE

Mr. Cozad provided a verbal update of the Finance & Administration Committee meeting held on November 15. The first quarter unaudited financial reports were reviewed and will be brought back in January for review and approval by the Board. The Personnel Manual was also discussed and will be presented later in this agenda. This item was received and filed.

B. UNAUDITED FINANCIAL REPORT, NOVEMBER 2021

Mr. Cozad introduced this item for discussion, noting its inclusion on package page 24. The revenues are above budget and most expenses are on budget. General administration costs have been higher, but are expected to even out at the end of the year. Vice President Corneille asked about the negative interest number shown on package page 27 under ordinary income and expenses. Mr. Cozad said that current market is lower than what we estimated. Ms. Quiroga said that these reflect unrealized loss from CD investments. Vice President Corneille asked if the GL 4021-Assessment – Ag will be removed from GLs since the District is going to one unitary rate. Staff responded that this is the last year it will be reported separately. Vice President Corneille asked why GL 4065-Redlands Plaza is under budget. Mr. Cozad said that it is early in the year, and that there are arrears based primarily on the Board's decision to allow tenants to defer part of their rent due to the pandemic.

It was moved by Vice President Corneille and seconded by Director Longville to approve the Unaudited Financial Reports from November 2021. The motion carried 5-0, with all Board members present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

C. 2022 PER DIEM RATE

President McDonald introduced this item for discussion, noting its inclusion on package page 30. She stated that the law allows for an annual increase of up to 5%. Director Raley said that the reason for the increase is due to inflation, and if the increase doesn't reflect inflation, then Board per diem will fall behind. Mr. Cozad noted that the current CPI-U is at 6% but the District is limited in its annual increases by the Water Code.

It was moved by Director Raley and seconded by Director Longville to approve Resolution No. 594 increasing the per diem rate from $235 to $246 for calendar year 2022. The motion carried 5-0, with all Board members present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

D. GENERAL AND COVID RELATED REVISION TO THE PERSONNEL MANUAL

This item was reviewed beginning on package page 32. The Finance & Administration Committee reviewed revisions in detail at the November 15 meeting and recommend approval of the Personnel Manual as presented. Mr. Cozad said that this item was prepared by staff and reviewed by ACWA/JPIA who provided feedback. The changes incorporated suggested revisions from ACWA/JPIA and District Counsel. Mr. Cosgrove highlighted the primary changes as noted within the Board memo. ACWA/JPIA said that the District's Personnel Manual is well written and thorough. Mr. Cosgrove noted that there is an increase in sick hours from 240 hours to 300 hours due to the pandemic, and recommended Board changes. There is currently no employee with over 220 hours of sick leave.

It was moved by Director Raley and seconded by Director Longville to approve the 2022 Personnel Manual as presented. The motion carried 5-0, with all Board members present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

6. INFORMATION ITEMS

A. WASH PLAN IMPLEMENTATION

Ms. Miller provided a verbal update. The District provided comments on the draft California Natural and Working Lands Climate Smart Strategy related to compatibilities with groundwater recharge and habitat conservation plans. Ms. Miller said that the District received a draft permit from the California Department of Fish and Wildlife (CDFW) for its streambed alteration agreement for its maintenance project covered under the Wash Plan on November 1. She said that the draft permit included standard language that did not appear to be modified for our specific projects and thus would result in unnecessary burdens to District operations. Staff worked with AECOM to provide edits to the draft permit back to CDFW. Staff received a second round of draft comments on the District's 2081 application, noting that eleven of the twelve sections were deemed complete by CDFW. The 404 permit is moving forward, and AECOM is updating the jurisdictional delineation in response to agency comments. The 401 permit will not require mitigation for basin operations. Vice President Corneille asked if the 401 permit mentioned only covered the basin operations in Santa Ana River. He asked about the permitting for Mill Creek and that staff update the Board monthly on this item. Ms. Miller said that the agreements for the Mill Creek basins were approved at the last meeting, and there was a kickoff meeting for one of the three contracts on Monday. She presented a PowerPoint on the San Bernardino kangaroo rat (SBKR) monitoring for the Wash Plan's first year of implementation. One hundred plots were surveyed based on specific protocol that was developed by USGS for our area. This was done by USGS and Mikael Romich over a span of twenty-five days. There were 178 unique individuals documented. The data collected will be used to estimate occupancy along with vegetation data. Ninety six percent of the plots that were mapped as high-quality habitat had SBKR in them. These baseline data will allow the District to track changes over time. Director Stewart asked if staff has high confidence that the protocol fulfilled its duty. Ms. Miller said that the protocol has been used in previous years by USGS and believes the methodology has been proven. It has been used on WSPA and the Western Riverside HCP.

Mr. Cosgrove provided a verbal update on the Bureau of Land Management (BLM) land exchange. He stated that the property inspection has been scheduled for December 20. He has been answering inquiries from appraisers. This item was received and filed.

B. WASH PLAN TRAIL STATUS REPORT

The Wash Plan Trails Status Report is included on package page 61. Mr. Cosgrove included the draft MOU with the cities of Highland and Redlands on package page 83. He indicated that this will be considered for approval in January by the City of Highland and City of Redlands in February. Ms. Miller noted that the schedule is included on package page 82. Vice President Corneille said that the funding for the cities seems to be coming from the sand and gravel operations. Mr. Cozad confirmed that as the source of funding. He discussed related conditional use permits for mining in brief. This item was received and filed.

C. MENTONE SHOP IMPROVEMENT STATUS REPORT

Mr. Fogerson reviewed this item, included on package page 91. The field geotechnical investigation was performed last month, resulting in a change to the proposed building location. Staff is currently waiting on soils report and that will be incorporated into the bid package which will go out next month. This item was received and filed.

D. ACTIVE RECHARGE TRANSFER PROJECTS VERBAL UPDATE

Mr. Fogerson provided a verbal update. He noted that he is continuing to work with Tetra Tech on the contract for the Waterman, Lynwood Basins and Twin Creek Spreading Grounds Feasibility Study Support Services, including a detailed scope of work. The hydrologic model includes over three hundred models to analyze the basins for both flood control and groundwater recharge purposes. The contract is estimated at $1.5 million dollars. The extensive scope will ensure final design will be what staff intends it to be and costs are in line with costs estimated in the study. The scope of work includes extensive hydrologic analyses and estimation of quantities. The hydrologic modeling will include storm flow modeling and estimate recharge along with analyzing flood control aspects. Two additional RFPs, for the Mill and City Creek Feasibility Study Support Services contract and the Plunge and Oak Creek Feasibility Study Support Services, have been posted with proposals due tomorrow. The Mill Creek facility includes nearly seventy existing basins, potential new basins, existing and new channels and all existing and new diversions. City Creek has been removed from the project list at the request of Valley Municipal, with two new potential projects being considered in its place. Vice President Corneille suggested that Director Stewart be brought up to speed on these projects and that an Operations Committee be held so that they can review these projects prior to contract approval. He also suggested an Operations Committee meeting to discuss progress on the ARTP projects prior to the quarterly ARTP Policy Committee meetings. Mr. Fogerson recommended that the Operations Committee schedule a field tour to view the ARTP and other project sites. President McDonald said that Director Stewart should listen in on the ARTP Policy Committee meetings. Director Raley asked why staff is abandoning City Creek. Mr. Fogerson stated that the initial feasibility analysis indicates that the risks and costs of the projects outweigh potential benefits. This item was received and filed.

E. GENERAL MANAGER'S REPORT AND MONTHLY RECHARGE REPORT

Mr. Cozad indicated that the written General Manager's Report was included in the Board package on pages 92 through 95. He said that the SWP allocation is currently zero. The annual accomplishments report was provided as a handout. The map of the 2012 division boundaries compared to 2020 census population was reviewed. The population for 2020 is 317,472 while in 2012 it was 227,938. Discussion ensued on redistricting. The Monthly Recharge Report was included on package page 97. This item was received and filed.

F. FUTURE AGENDA ITEMS AND STAFF TASKS

Director Stewart asked for a monthly recharge comparison against BTAC numbers. Director Raley asked for an update on the groundwater replenishment fees for producers outside of the basin.

7. MONTHLY BOARD MEMBER MEETING REPORTS AND/OR BOARD MEMBER COMMENTS

Director Longville attended the Special Board Meeting on November 3 and Finance & Administration Committee on November 15. He stated that of all the various elected offices he has held, this job is the easiest because of its extraordinary staff and Board. He thanked the Board and Staff for their efficiency.

Director Raley attended the Board meeting on November 10, Finance & Administration Committee on November 15 and signed expenditures on November 30. He attended the Redlands Rise N Shine on December 3.

Vice President Corneille attended the ACWA Fall Conference from November 30 to December 3. He commended President McDonald on her appointment as ACWA/JPIA Vice President which was announced at the conference. He attended the Groundwater Committee, the Water Management Committee meeting and the general and specific sessions at the Conference. He noted an article in the CSDA magazine on our District helping the homeless and the Steps 4 Life organization. Vice President Corneille thanked staff and the outreach consultants for their efforts and publications. He attended the Redlands Rise N Shine on December 3.

Director Stewart attended the Finance & Administration Committee on November 15, todays Board meeting and BTAC on December 6.

President McDonald attended the ACWA Fall Conference from November 30 to December 3, Association of San Bernardino County Special District dinner on November 15, Valley Municipal Board meeting on November 16 and a demo on how to vote on November 22. She attended the Valley Municipal Board meeting on December 7.

Director Longville's travel request to attend the Local Government Commission Policymakers Conference was reviewed. He provided a brief explanation of what the conference will entail.

It was moved by President McDonald and seconded by Vice President Corneille to approve Director Longville's travel request in the amount of $3,630.15, to attend the Local Government Commission Policymakers Conference. The motion carried 5-0, with all Board members present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

Vice President Corneille's travel expenses to attend the ACWA Fall Conference was reviewed.

It was moved by Director Raley and seconded by President McDonald to approve Director Corneille's travel request in the amount of $2,063.99, to attend the ACWA Fall Conference. The motion carried 5-0, with all Board members present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

8. UPCOMING MEETINGS

The annual luncheon will be held December 8 at 12 noon, at Greensleeves in Redlands.

9. CLOSED SESSION

It was moved by Director Raley and seconded by Director Longville to adjourn to Closed Session. The motion carried 5-0, with all Directors present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes
Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

General Counsel announced that the meeting would adjourn to a closed session under posted agenda items.

At 11:35 am, the meeting reconvened into open session. Mr. Cosgrove noted that there was no reportable action.

10. ADJOURN MEETING

It was moved by Vice President Corneille and seconded by Director Longville to adjourn. The motion carried 5-0, with all Directors present voting in the affirmative.

President McDonald: Yes
Vice President Corneille: Yes

Director Longville: Yes
Director Raley: Yes
Director Stewart: Yes

At 11:45 am, the meeting adjourned to the Board meeting scheduled for 1:30 pm on January 12, 2022, in-person, teleconference, and Zoom meeting.

_____
Daniel B. Cozad
General Manager

San Bernardino Valley Water Conservation District
Expenditure Report
December 2021

Num	Date	Name	Account	Class	Original Amount
Online Pymt	**12/20/2021**	**WEX Bank-Valero**	**1012 · Citizens Busine...**		**-614.47**
	11/23/2021		5320 · Fuel	1-Groundwater Ent.	614.47
TOTAL					614.47
PC 12.01.21	**12/01/2021**	**Paychex**	**1012 · Citizens Busine...**		**-118.88**
			6042 · Payroll Processing	4-General Fund Ent.	118.88
TOTAL					118.88
23223	**12/01/2021**	**CA Dept of Tax & Fee A...**	**1012 · Citizens Busine...**		**-18.81**
	11/12/2021		6009 · Licenses 6009 · Licenses	4-General Fund Ent. 1-Groundwater Ent.	3.76 15.05
TOTAL					18.81
23224	**12/07/2021**	**Aaron Pederson**	**1012 · Citizens Busine...**		**-35.00**
	12/04/2021		6018 · Janitorial Services	4-General Fund Ent.	35.00
TOTAL					35.00
23225	**12/07/2021**	**Assoc. San Bernardino...**	**1012 · Citizens Busine...**		**-150.00**
	12/01/2021		6093 · Memberships	4-General Fund Ent.	150.00
TOTAL					150.00
23226	**12/07/2021**	**Beach Boyz Auto Service**	**1012 · Citizens Busine...**		**-237.95**
	11/30/2021		5310 · Vehicle Mainten...	1-Groundwater Ent.	237.95
TOTAL					237.95
23227	**12/07/2021**	**Castro Landscaping Se...**	**1012 · Citizens Busine...**		**-250.00**
	11/30/2021		6026 · Redlands Plaza ...	2-Redlands Plaza/...	250.00
TOTAL					250.00
23228	**12/07/2021**	**Compass Consulting E...**	**1012 · Citizens Busine...**		**-486.00**
	12/03/2021		1700 · Work in Progress	1-Groundwater Ent.	486.00
TOTAL					486.00
23229	**12/07/2021**	**Edison - 6256 (Redland...**	**1012 · Citizens Busine...**		**-197.34**
	12/01/2021		6026 · Redlands Plaza ...	2-Redlands Plaza/...	197.34
TOTAL					197.34

San Bernardino Valley Water Conservation District
Expenditure Report
December 2021

Num	Date	Name	Account	Class	Original Amount
23230	**12/07/2021**	**Edison - 9779**	**1012 · Citizens Busine...**		**-277.65**
	12/01/2021		5420 · Electricity	4-General Fund Ent.	77.74
			5420 · Electricity	1-Groundwater Ent.	55.53
			5420 · Electricity	2-Redlands Plaza/...	144.38
TOTAL					277.65
23231	**12/07/2021**	**Empire Disposal**	**1012 · Citizens Busine...**		**-173.39**
	11/30/2021		5460 · Water / Trash / ...	4-General Fund Ent.	86.70
			5460 · Water / Trash / ...	1-Groundwater Ent.	69.35
			5460 · Water / Trash / ...	3-Land Resources	17.34
TOTAL					173.39
23232	**12/07/2021**	**Erwin Fogerson**	**1012 · Citizens Busine...**		**-154.00**
	11/30/2021		6510 · Mileage	4-General Fund Ent.	61.60
			6510 · Mileage	1-Groundwater Ent.	38.50
			6510 · Mileage	3-Land Resources	15.40
			6510 · Mileage	6-Active Recharge ...	38.50
TOTAL					154.00
23233	**12/07/2021**	**Frontier-4860**	**1012 · Citizens Busine...**		**-393.13**
	11/28/2021		5440 · Telephone	4-General Fund Ent.	208.70
			5440 · Telephone	1-Groundwater Ent.	89.45
			5470 · Internet Services	4-General Fund Ent.	47.49
			5470 · Internet Services	1-Groundwater Ent.	28.49
			5470 · Internet Services	2-Redlands Plaza/...	4.75
			5470 · Internet Services	3-Land Resources	14.25
TOTAL					393.13
23234	**12/07/2021**	**Frontier-7275**	**1012 · Citizens Busine...**		**-118.13**
	11/19/2021		5440 · Telephone	4-General Fund Ent.	30.20
			5440 · Telephone	1-Groundwater Ent.	12.94
			5470 · Internet Services	4-General Fund Ent.	37.50
			5470 · Internet Services	1-Groundwater Ent.	22.50
			5470 · Internet Services	2-Redlands Plaza/...	3.75
			5470 · Internet Services	3-Land Resources	11.24
TOTAL					118.13
23235	**12/07/2021**	**JAN-PRO Cleaning Sys...**	**1012 · Citizens Busine...**		**-700.00**
	12/01/2021		6018 · Janitorial Services	4-General Fund Ent.	700.00
TOTAL					700.00
23236	**12/07/2021**	**Lowe's Companies, Inc.**	**1012 · Citizens Busine...**		**-152.36**
	11/25/2021		5210 · Equipment Maint...	1-Groundwater Ent.	83.35
			5215 · Property Mainte...	1-Groundwater Ent.	38.69
			5215 · Property Mainte...	3-Land Resources	9.67
			6016 · Redlands Plaza ...	2-Redlands Plaza/...	20.65
TOTAL					152.36

San Bernardino Valley Water Conservation District
Expenditure Report
December 2021

Num	Date	Name	Account	Class	Original Amount
23237	**12/07/2021**	**Netsteller**	**1012 · Citizens Busine...**		**-792.25**
	12/01/2021		5160 · IT Support	4-General Fund Ent.	180.00
			5160 · IT Support	1-Groundwater Ent.	225.00
			5160 · IT Support	3-Land Resources	45.00
			6030 · Office Supplies	4-General Fund Ent.	108.00
			6030 · Office Supplies	1-Groundwater Ent.	6.75
			6030 · Office Supplies	2-Redlands Plaza/...	13.50
			6030 · Office Supplies	3-Land Resources	6.75
	12/01/2021		6027 · Computer Softw...	4-General Fund Ent.	155.43
			6027 · Computer Softw...	1-Groundwater Ent.	10.36
			6027 · Computer Softw...	2-Redlands Plaza/...	20.73
			6027 · Computer Softw...	3-Land Resources	20.73
TOTAL					792.25
23238	**12/07/2021**	**O'Reilly**	**1012 · Citizens Busine...**		**-3.67**
	11/23/2021		5310 · Vehicle Mainten...	1-Groundwater Ent.	11.94
TOTAL					11.94
23239	**12/07/2021**	**ReadyRefresh by Nestle**	**1012 · Citizens Busine...**		**-106.69**
	11/24/2021		5460 · Water / Trash / ...	4-General Fund Ent.	53.34
			5460 · Water / Trash / ...	1-Groundwater Ent.	42.68
			5460 · Water / Trash / ...	3-Land Resources	10.67
TOTAL					106.69
23240	**12/07/2021**	**Smart & Final**	**1012 · Citizens Busine...**		**-151.62**
	12/06/2021		6019 · Janitorial Supplies	4-General Fund Ent.	16.94
			6019 · Janitorial Supplies	1-Groundwater Ent.	11.29
			6030 · Office Supplies	4-General Fund Ent.	16.59
			6030 · Office Supplies	1-Groundwater Ent.	1.04
			6030 · Office Supplies	2-Redlands Plaza/...	2.07
			6030 · Office Supplies	3-Land Resources	1.04
			6004 · Meeting Expenses	4-General Fund Ent.	51.32
			6004 · Meeting Expenses	1-Groundwater Ent.	51.33
TOTAL					151.62
23241	**12/07/2021**	**Valero Marketing & Su...**	**1012 · Citizens Busine...**		**0.00**
TOTAL					0.00
23242	**12/07/2021**	**WEX Bank-Shell**	**1012 · Citizens Busine...**		**-715.68**
	12/06/2021		5320 · Fuel	1-Groundwater Ent.	715.68
TOTAL					715.68
23243	**12/07/2021**	**Wilbur's**	**1012 · Citizens Busine...**		**-188.08**
	11/08/2021		5210 · Equipment Maint...	1-Groundwater Ent.	188.08
TOTAL					188.08

San Bernardino Valley Water Conservation District
Expenditure Report
December 2021

Num	Date	Name	Account	Class	Original Amount
23244	**12/21/2021**	**AAA Alarm Systems, Inc.**	**1012 · Citizens Busine...**		**-129.00**
	01/01/2022		5410 · Alarm Service	4-General Fund Ent.	64.50
			5410 · Alarm Service	1-Groundwater Ent.	64.50
TOTAL					129.00
23245	**12/21/2021**	**ACWA/JPIA-Health**	**1012 · Citizens Busine...**		**-19,557.94**
	12/09/2021		6110 · Vision Insurance	4-General Fund Ent.	30.76
			6110 · Vision Insurance	1-Groundwater Ent.	106.47
			6110 · Vision Insurance	2-Redlands Plaza/...	9.46
			6110 · Vision Insurance	3-Land Resources	23.66
			6110 · Vision Insurance	5-Wash Plan	16.56
			6110 · Vision Insurance	6-Active Recharge ...	49.69
			6130 · Dental Insurance	4-General Fund Ent.	110.42
			6130 · Dental Insurance	1-Groundwater Ent.	382.23
			6130 · Dental Insurance	2-Redlands Plaza/...	33.98
			6130 · Dental Insurance	3-Land Resources	84.94
			6130 · Dental Insurance	5-Wash Plan	59.46
			6130 · Dental Insurance	6-Active Recharge ...	178.37
			6150 · Medical Insurance	4-General Fund Ent.	2,401.35
			6150 · Medical Insurance	1-Groundwater Ent.	8,312.37
			6150 · Medical Insurance	2-Redlands Plaza/...	738.88
			6150 · Medical Insurance	3-Land Resources	1,847.19
			6150 · Medical Insurance	5-Wash Plan	1,293.04
			6150 · Medical Insurance	6-Active Recharge ...	3,879.11
TOTAL					19,557.94
23246	**12/21/2021**	**Brownstein Hyatt Farb...**	**1012 · Citizens Busine...**		**-15,375.00**
	12/06/2021		5122 · Wash Plan Profe...	5-Wash Plan	15,375.00
TOTAL					15,375.00
23247	**12/21/2021**	**City of Redlands -Muni...**	**1012 · Citizens Busine...**		**-5,054.44**
	12/09/2021		6026 · Redlands Plaza ...	2-Redlands Plaza/...	5,054.44
TOTAL					5,054.44
23248	**12/21/2021**	**Corneille, Richard**	**1012 · Citizens Busine...**		**-348.14**
	11/30/2021		6410 · Mileage	4-General Fund Ent.	34.72
			6525 · Meals	4-General Fund Ent.	57.40
			6530 · Lodging	4-General Fund Ent.	256.02
TOTAL					348.14
23249	**12/21/2021**	**Cozad, Daniel B**	**1012 · Citizens Busine...**		**-3,996.35**
	12/23/2021		6510 · Mileage	4-General Fund Ent.	49.50
			6510 · Mileage	1-Groundwater Ent.	30.94
			6510 · Mileage	3-Land Resources	12.38
			6510 · Mileage	6-Active Recharge ...	30.94
			6525 · Meals	4-General Fund Ent.	1,193.69
			6525 · Meals	1-Groundwater Ent.	928.43
			6525 · Meals	3-Land Resources	530.53
			6425 · Meals	4-General Fund Ent.	1,193.69
			6425 · Meals	4-General Fund Ent.	100.00
TOTAL					4,070.10

San Bernardino Valley Water Conservation District
Expenditure Report
December 2021

Num	Date	Name	Account	Class	Original Amount
23250	**12/21/2021**	**Day Lite Maintenance, I...**	**1012 · Citizens Busine...**		**-26.99**
	12/01/2021		6026 · Redlands Plaza ...	2-Redlands Plaza/...	26.99
TOTAL					26.99
23251	**12/21/2021**	**Diamond Environment...**	**1012 · Citizens Busine...**		**-88.78**
	12/06/2021		5460 · Water / Trash / ...	4-General Fund Ent.	44.39
			5460 · Water / Trash / ...	1-Groundwater Ent.	35.51
			5460 · Water / Trash / ...	3-Land Resources	8.88
TOTAL					88.78
23252	**12/21/2021**	**Edison - 6493**	**1012 · Citizens Busine...**		**-63.57**
	12/14/2021		5420 · Electricity	4-General Fund Ent.	17.80
			5420 · Electricity	1-Groundwater Ent.	12.71
			5420 · Electricity	2-Redlands Plaza/...	33.06
TOTAL					63.57
23253	**12/21/2021**	**Edison - 8958**	**1012 · Citizens Busine...**		**-434.78**
	12/08/2021		5420 · Electricity	4-General Fund Ent.	121.74
			5420 · Electricity	1-Groundwater Ent.	86.96
			5420 · Electricity	2-Redlands Plaza/...	226.08
TOTAL					434.78
23254	**12/21/2021**	**Hilltop Geotechnical, Inc.**	**1012 · Citizens Busine...**		**-7,600.00**
	12/09/2021		7140 · Mentone Propert...	1-Groundwater Ent.	7,600.00
TOTAL					7,600.00
23255	**12/21/2021**	**Home Depot Credit Ser...**	**1012 · Citizens Busine...**		**-165.74**
	11/28/2021		5210 · Equipment Maint...	1-Groundwater Ent.	108.19
			5215 · Property Mainte...	1-Groundwater Ent.	46.04
			5215 · Property Mainte...	3-Land Resources	11.51
TOTAL					165.74
23256	**12/21/2021**	**Manuel Colunga**	**1012 · Citizens Busine...**		**-145.59**
	12/10/2021		5215 · Property Mainte...	1-Groundwater Ent.	16.00
			5215 · Property Mainte...	3-Land Resources	4.00
			6150.01 · Medical Empl...	4-General Fund Ent.	16.33
			6150.01 · Medical Empl...	1-Groundwater Ent.	56.52
			6150.01 · Medical Empl...	2-Redlands Plaza/...	5.02
			6150.01 · Medical Empl...	3-Land Resources	12.56
			6150.01 · Medical Empl...	5-Wash Plan	8.79
			6150.01 · Medical Empl...	6-Active Recharge ...	26.37
TOTAL					145.59

San Bernardino Valley Water Conservation District
Expenditure Report
December 2021

Num	Date	Name	Account	Class	Original Amount
23257	**12/21/2021**	**Panoramic**	**1012 · Citizens Busine...**		**-1,600.00**
	12/06/2021		5120 · Misc. Profession...	4-General Fund Ent.	160.00
			5120 · Misc. Profession...	1-Groundwater Ent.	400.00
			5120 · Misc. Profession...	3-Land Resources	320.00
			5120 · Misc. Profession...	6-Active Recharge ...	720.00
TOTAL					1,600.00
23258	**12/21/2021**	**Quill Corporation**	**1012 · Citizens Busine...**		**-95.20**
	12/01/2021		6030 · Office Supplies	4-General Fund Ent.	61.72
			6030 · Office Supplies	1-Groundwater Ent.	3.86
			6030 · Office Supplies	2-Redlands Plaza/...	7.72
			6030 · Office Supplies	3-Land Resources	3.86
	12/09/2021		6030 · Office Supplies	4-General Fund Ent.	14.43
			6030 · Office Supplies	1-Groundwater Ent.	0.90
			6030 · Office Supplies	2-Redlands Plaza/...	1.81
			6030 · Office Supplies	3-Land Resources	0.90
TOTAL					95.20
23259	**12/21/2021**	**Sonsray Machinery**	**1012 · Citizens Busine...**		**-21.82**
	12/13/2021		5210 · Equipment Maint...	1-Groundwater Ent.	21.82
TOTAL					21.82
23260	**12/21/2021**	**Stewart Handling**	**1012 · Citizens Busine...**		**-10,925.13**
	12/13/2021		7140 · Mentone Propert...	1-Groundwater Ent.	10,925.13
TOTAL					10,925.13
23261	**12/21/2021**	**Terminix**	**1012 · Citizens Busine...**		**-86.00**
	11/15/2021		6026 · Redlands Plaza ...	2-Redlands Plaza/...	86.00
TOTAL					86.00
23262	**12/21/2021**	**The Gas Company**	**1012 · Citizens Busine...**		**-84.54**
	12/16/2021		5450 · Natural Gas	4-General Fund Ent.	50.72
			5450 · Natural Gas	1-Groundwater Ent.	33.82
TOTAL					84.54
23263	**12/21/2021**	**Wilbur's**	**1012 · Citizens Busine...**		**-454.68**
	11/17/2021		5215 · Property Mainte...	1-Groundwater Ent.	363.74
			5215 · Property Mainte...	3-Land Resources	90.94
TOTAL					454.68

San Bernardino Valley Water Conservation District
Expenditure Report
December 2021

Num	Date	Name	Account	Class	Original Amount
100292N	**12/07/2021**	**PERS**	**1012 · Citizens Busine...**		**-10,296.68**
			6170 · PERS Retirement	4-General Fund Ent.	1,338.56
			6170 · PERS Retirement	1-Groundwater Ent.	4,633.51
			6170 · PERS Retirement	2-Redlands Plaza/...	411.87
			6170 · PERS Retirement	3-Land Resources	1,029.67
			6170 · PERS Retirement	5-Wash Plan	720.77
			6170 · PERS Retirement	6-Active Recharge ...	2,162.30
TOTAL					10,296.68

San Bernardino Valley Water Conservation District

Director Fees Expenditure Payroll Report

December 2021

Pay Date	Name	For Period	Director Fees	Taxes Withheld	Check Amt
12/15/2021	McDonald, M	Nov-21	$ 940.00	$ 83.19	$ 856.81
12/15/2021	Corneille, R	Nov-21	$ 705.00	$ 62.39	$ 642.61
12/15/2021	Raley, D	Sept-Nov 21	$ 4,465.00	$ 1,964.37	$ 2,500.63
12/29/2021	Stewart	Aug-Nov 21	$ 2,820.00	$ 617.69	$ 2,202.31
12/29/2021	McDonald, M	Dec-21	$ 1,410.00	$ 124.79	$ 1,285.21

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1822

To: **Board of Directors**

From: **Finance & Administration Committee/General Manager,Daniel Cozad**

Date: **January 12, 2022**

Subject: **1st Quarter Unaudited Financial Reports for FY 2021-2022**

RECOMMENDATION

The Finance & Administration Committee recommends approval of the first quarter unaudited financials for FY 2021-2022 as presented.

BACKGROUND AND COMMITTEE DISCUSSION

The Finance and Administration Committee met on November 15, 2021, to review the First Quarter Unaudited Financials and did not recommend any changes.

Interest income continues to be very low. Staff is working with our investment advisor PFM Asset Management to find other, more beneficial investment options for the Active Recharge Transfer Project funds to increase interest income. LAIF is an investment option as their yields are currently higher than in the investment pool with CAMP. Total groundwater revenue is expected to be in line with the budget. Mining revenue continues to be higher with projects such as the 210 FWY requiring additional aggregate. Expenses are as expected.

FISCAL IMPACT

There is no fiscal impact from reporting the financial status of the District.

POTENTIAL MOTIONS

1. Move approval of the First Quarter Unaudited Financials for FY 2021-2022 as Committee recommended.
2. Move to request this item be tabled and referred to the Finance & Administration Committee to reconsider specific issues discussed.

ATTACHMENTS OR MATERIALS

2021-2022 1st Quarter Rolled Up Budget Worksheet
SBVWCD Quarterly Investment Report

1630 W. Redlands Blvd, Suite A
Redlands, CA 92373
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GL ACCT:	GL DESCRIPTION:	Approved 2021-2022 Budget	Expended/ Received to Date as of 9/30/21	Actual Over/Under Budget	Projected Annual Costs (7/1/21-6/30/22)	GENERAL FUND			GROUNDWATER RECHARGE ENTERPRISE			REDLANDS PLAZA & LEASED PROPERTY- MENTONE HOUSE			LAND RESOURCE			ACTIVE RECHARGE TRANSFER PROJECTS			WASH PLAN and TRUST SUPPORT		
	Approved 2021-2022 Budget					2021 BUDGET:	% BUDGET	BASIS:	2021 BUDGET:	% BUDGET	BASIS:	2021 BUDGET:	% BUDGET	BASIS:	2021 BUDGET:	% BUDGET	BASIS:	2021 Budget	% BUDGET	BASIS:	2021 BUDGET:	% BUDGET	BASIS:
	INCOME:																						
4012-15	***INTEREST INCOME***	273,460.00	3,469.49	-269,990.51	273,460.00	111,460.00			0.00			0.00			0.00			162,000.00			0.00		
2017	ARTP CAPITAL INCOME	615,000.00	0.00	-615,000.00	461,250.00	61,500.00	10.00%		0.00	0.00%		0.00	0.00%		0.00	0.00%		553,500.00	90%		0.00		
4021-24	**GROUNDWATER**	1,263,295.07	972,619.82	-290,675.25	1,263,295.07	0.00			1,263,295.07			0.00			0.00			0.00			0.00		
4022	GROUNDWATER CHARGE	549,681.07	275,817.82	-273,863.25	549,681.07	0.00			549,681.07	100.00%	PROPOSED	0.00			0.00			0.00			0.00		
4024	GROUNDWATER COUNCIL REVENUE	696,800.00	696,802.00	2.00	696,800.00	0.00		5% increase	696,800.00	100.00%	PROPOSED	0.00			0.00			0.00			0.00		
4026	GW SUSTAINABILITY/REPLENISHMENT	16,814.00	0.00	-16,814.00	16,814.00	0.00			16,814.00	100.00%		0.00			0.00			0.00			0.00		
4031-34	**MINING**	648,000.00	212,310.39	-435,689.61	648,000.00	0.00			0.00			0.00			648,000.00			0.00			0.00		
4036,40,8(	**MISCELLANEOUS**	70,000.00	20,737.23	-49,262.77	90,000.00	7,500.00			30,000.00			0.00			62,500.00			0.00			0.00		
4036	AGGREGATE MAINTENANCE	60,000.00	19,306.23	-40,693.77	60,000.00	0.00			0.00			0.00			60,000.00	100.00%	EST FROM 2010	0.00			0.00		
4050	**PROPERTY TAX**	130,817.65	0.00	-130,817.65	130,817.65	130,817.65	100.00%	+5%	0.00			0.00			0.00			0.00			0.00		
4055	**SBVMWD LEASE AGREEMENT**	421,846.12	0.00	-421,846.12	421,846.12	189,830.75	45.00%	+1.6% CPI	232,015.36	55.00%		0.00			0.00		Land Lease Cost	0.00			0.00		
4062-66	**RENTALS**	263,042.69	11,825.11	-251,217.58	263,042.69	0.00			0.00			263,042.69			0.00			0.00			0.00		
4080	EXCHANGE PLAN	30,000.00	0.00	-30,000.00	30,000.00	0.00			30,000.00	100.00%	HISTORIC	0.00			0.00			0.00			0.00		
4025	WASH PLAN REVENUE * from Reserves	220,000.00	133,773.06	-86,226.94	220,000.00	0.00		State and Waters done	0.00			0.00			0.00			0.00			220,000.00	100.00%	Inc. State Permittin
4086	PLUNGE CREEK IRWMP Grant	0.00	0.00	0.00	0.00	0.00			0.00			0.00			0.00	100.00%		0.00			0.00		
	TOTAL INCOME:	4,527,961.52	1,354,735.10	-3,173,226.42	4,394,211.52	501,108.40			1,525,310.43			263,042.69			710,500.00			715,500.00			812,500.00		
	EXPENSES:																						
5000	**MISCELLANEOUS**	302,418.94	42,866.56	-259,552.38	302,418.94	32,418.94			75,000.00			0.00			60,000.00			135,000.00			0.00		
5100	**PROFESSIONAL SERVICES**	810,664.00	93,273.88	-717,390.12	810,664.00	46,870.00			141,009.00			4,035.00			104,411.00			145,850.00			351,675.00		
5120	MISC. PROFESSIONAL SERVICES	300,000.00	40,447.62	-259,552.38	300,000.00	30,000.00	10.00%	Includes GSC Support	75,000.00	25.00%	GSC and Bio Support	0.00	0.00%		60,000.00	20.00%		135,000.00	45%		0.00		
5122	**WASH PLAN PROFESSIONAL SERVICES**	245,000.00	92,752.15	-152,247.85	245,000.00	0.00		Per Wash Plan Budget	0.00			0.00						0.00			245,000.00	100.00%	Per WP Budget
52-53	**FIELD OPERATIONS**	190,325.00	29,969.06	-160,355.94	190,325.00	0.00			158,325.00			0.00			32,000.00			0.00			0.00		
5400	**UTILITIES**	27,993.62	7,951.47	-20,042.15	27,993.62	12,037.27			10,843.87			4,070.48			1,042.01			0.00			0.00		
6000	**GENERAL ADMINISTRATION**	331,002.73	62,837.01	-268,165.72	331,002.73	115,987.79			59,853.15			85,061.79			52,550.00			16,500.00			4,050.00		
6100	**BENEFITS**	592,263.29	124,489.32	-467,773.97	592,263.29	76,994.23			332,722.34			29,575.32			73,938.30			155,270.42			51,756.81		
6160	PAYROLL TAXES - EMPLOYER	102,949.70	16,178.27	-86,771.43	102,949.70	13,383.46	13%	Consolidated costs 2014	56,519.39	45%	Based on percent of hours	5,023.95	4%		12,559.86	10%		26,375.71	21%		8,791.90	7%	
6170	PERS RETIREMENT	296,477.60	88,129.36	-208,348.24	296,477.60	38,542.09	13%	Noticed Increase	162,766.20	45%	Based on percent of hours	14,468.11	4%		36,170.27	10%		75,957.56	21%		25,319.19	7%	
6170.01	PERS EMPLOYEE CONTRIBUTION	-45,326.73	-32,753.89	12,572.84	-45,326.73	-5,892.47	13%		-20,397.03	45%		-1,813.07	4%		-4,532.67	10%		-9,518.61	21%		-3,172.87	7%	
	SALARIES:							Overhead Offset 22%															
6200	**SALARIES**	1,422,210.29	268,317.45	-1,153,892.84	1,422,210.29	192,617.90			664,482.46			65,078.74			194,793.97			404,556.85			171,190.70		
6300	**INSURANCE**	38,071.87	15,174.48	-22,897.39	38,071.87	1,903.59			28,553.90			5,710.78			1,903.59			0.00			0.00		
6400	**DIRECTOR EXPENSES**	132,401.20	17,894.63	-114,506.57	132,401.20	132,401.20	8.00	0.00	0.00			0.00			0.00			0.00			0.00		
6500	**ADMINSTRATIVE/STAFF EXPENSES**	18,285.00	3,265.99	-15,019.01	18,285.00	7,428.25			4,874.75			0.00			3,737.00			2,245.00			0.00		
8010	**Capital Reserve GWE/Rate Stabilization**	0.00	0.00	0.00	0.00	0.00	0.00%		0.00	100.00%	Use not contribution	0.00			0.00			0.00			0.00		
	TOTAL EXPENSES:	4,089,257.86	718,344.38	-3,370,913.48	4,089,257.86	588,659.17			1,529,286.39			193,532.11			614,375.86			724,422.28			823,672.50		
	Operating Revenue	4,527,961.52	1,354,735.10	-3,173,226.42	4,394,211.52	501,108.40			1,525,310.43			263,042.69			710,500.00			715,500.00			812,500.00		
	NET OPERATING REVENUE	438,703.66	636,390.72	197,687.06		-87,550.76			-3,975.95			69,510.58			96,124.14			(8,922.28)			-11,172.50		Significant Carryover
	OVERHEAD																						From Prior year
	NET GENERAL FUND ANNUAL																						

GL ACCT:	GL DESCRIPTION:	Approved 2021-2022 Budget	Expended/ Received to Date as of 9/30/21	Actual Over/Under Budget	Projected Annual Costs (7/1/21-6/30/22)	GENERAL FUND			GROUNDWATER RECHARGE ENTERPRISE			REDLANDS PLAZA & LEASED PROPERTY- MENTONE HOUSE			LAND RESOURCE			ACTIVE RECHARGE TRANSFER PROJECTS			WASH PLAN and TRUST SUPPORT		
Approved 2021-2022 Budget						2021 BUDGET:	% BUDGET	BASIS:	2021 BUDGET:	% BUDGET	BASIS:	2021 BUDGET:	% BUDGET	BASIS:	2021 BUDGET:	% BUDGET	BASIS:	2021 Budget	% BUDGET	BASIS:	2021 BUDGET:	% BUDGET	BASIS:
	Multiyear Capital projects																						
7010	MATERIALS	12,000.00	0.00	-12,000.00	12,000.00	0.00			6,000.00	50.00%	Field Security Changes	0.00			6,000.00	50.00%		0.00			0.00		
	LAND & BUILDINGS																						
7100	**CAPITAL REPAIRS**		0.00	-1,048,971.00	829,722.32	0.00			736,971.00			25,000.00			287,000.00			0.00			0.00		
7110	PROPERTY - CAPITAL REPAIRS	511,971.00	0.00	-511,971.00	315,000.00	0.00			361,971.00	70.70%	CIP #11 #15				150,000.00	29.30%	CIP #14 #34	0.00			0.00		
7120	PROPERTY - LAND PURCHASE	0.00	0.00	0.00	22,722.32													0.00			0.00		
7130	MENTONE PROPERTY (HOUSE) CAPITAL F	25,000.00	0.00	-25,000.00	25,000.00	0.00			0.00			25,000.00	100.00%	curb/driveway	0.00			0.00			0.00		
7140	MENTONE PROPERTY (SHOP) CIP #3 b&	375,000.00	0.00	-375,000.00	330,000.00	0.00			375,000.00	100.00%		0.00			0.00			0.00			0.00		
7160	MENDOZA PROPERTY CIP\ #12	137,000.00	0.00	-137,000.00	137,000.00										137,000.00	100.00%		0.00					
	EQUIPMENT & VEHICLES																						
7200	**EQUIPMENT & VEHICLES**		24,532.49	6,428.05	89,000.00	7,250.00			5,533.55			0.00			4,320.89			0.00			1,000.00		
7126	ARTP ENGR/PROF SERVICES *#23 #31*	500,000.00	0.00	-500,000.00	500,000.00	0.00			0.00	0.00%		0.00	0.00%		0.00	0.00%		600,000.00	100%		0.00		
7150	MILL CREEK DIVERSION PROJECT CIP #1	1,100,000.00	0.00	-1,100,000.00	1,100,000.00	0.00		MultiYear Total Comtmt	1,100,000.00	100.00%	In WIP Acct until completi	0.00			0.00			0.00			0.00		
7438	ENGINEERING SERVICES-OTHER	125,000.00	0.00	-125,000.00	125,000.00	0.00		CIP #7	20,000.00	16.00%	Mill Creek O&M Plans	0.00			87,500.00	70.00%	Mill Creek O&M Plans	17,500.00	14%		0.00		
	CAPITAL EXPENSE	2,804,075.44	24,532.49	-2,779,542.95	2,655,722.32	7,250.00			1,868,504.55			25,000.00			384,820.89			617,500.00			1,000.00		
	CAPTIAL REVENUE	278,621.92				0.00			128,621.92			0.00			150,000.00			0.00			0.00		
	CAPITAL SUBTOTAL ANNUAL NET	-2,618,203.52				-7,250.00			-1,739,882.63			-25,000.00			-234,820.89			-617,500.00			-1,000.00		
	RESERVE CONTRIBUTION OR (-USE)	**-2,179,499.86**				**-94,800.76**			**-1,743,858.58**		**tal Multi year Pay Go Capital Projec**	**44,510.58**			**-138,696.75**			**-626,422.28**	FROM CAPITAL Reserve ARTP		**-12,172.50**		

Investment Instruments	Beginning Balance as of Jul 1, 2021	1st Quarter Balance ending Sept 30, 2021	Yield	Cumulative Unrealized Gain (Loss)
Pooled Money Investment Accounts				
LAIF	$ 430,623.48	$ 430,975.07	0.38%	$ -
CalTRUST				
Short-Term Fund	$ 3,222,408.78	$ 3,223,728.33	0.33%	$ 23,340.48
Investment Accounts				
UBS Financial Services				
CDs	$ 500,681.82	$ 747,016.12	2.08%	$ 4,005.97
Cash Dep Acct	$ -	$ 3,402.65		
California Credit Union				
24 Mo. CD cashed out	$ -	$ -		
CAMP				
Investment Pool	$ 18,754,702.89	$ 18,757,115.88	0.05%	$ -
OPEB-Other Postemployment Benefits				
CERBT-CA Employers' Retiree Benefit Trust	$ 639,697.80	$ 637,035.88	-0.43%	$ (2,610.05)
TOTAL	**$ 23,548,114.77**	**$ 23,799,273.93**		**$ 24,736.40**
Net Change		**$ 251,159.16**		
		1.06%		

Banking Institutions	Beginning Balance as o f July 1, 2021	1st Quarter Balance ending Sept 30, 2021
Citizen's Business Bank	$ 2,306,531.33	$ 2,608,204.26
Cash and Cash Equivalents	$ 2,306,531.33	$ 2,608,204.26
Change in Value		$ 301,672.93

Description		NAV	Annual Yield	Average Maturity	Shares
LAIF		N/A	0.38%	.87 years (317.55 days)	
CalTrust Short-Term Fund		$10.09	0.33%	.91 years (332.15 days)	319,366.579
CERBT		$22.12			28,795.870
UBS-CD's	see below				

UBS Investments

Certificates of Deposit (CDs)	Price	Rate	Maturity	Shares		Purchase Price	Market Value as of 09/30/21	CD Length
1. Ally Bank UT US RT	$1.023	3.20%	12/13/2021	245,000		$245,000.00	$246,560.65	3 yr
fixed rate CD (ZVIBY)								
2. Morgan Stanley Bank UT	$1.026	2.80%	2/28/2022	245,000		$245,000.00	$247,805.25	3 yr
fixed rate CD (Cusip: 61690UEV8)								
3. FHLB Bond Step-Up 0.300% Due 09/09/25	$1.000	0.30%	9/9/2025	250,000		$250,005.25	$249,645.00	3 yr
Callable 120921 (Cusip: 313OANRAO)								
							$3,005.22	accrued interest
Average	$1.02	3.00%	Total Interest Withdrawals	$14,098.58	TOTAL	$490,000.00	$747,016.12	

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1823

To: **Board of Directors**

From: **General Manager, Daniel Cozad**

Date: **January 12, 2021**

Subject: **Unaudited Financial Reports, December 2021**

RECOMMENDATION

Review and approve the unaudited financials for December 2021.

BACKGROUND

Each month staff presents the unaudited financials for the District. The reports submitted with this Board Letter have a closing date of December 31, 2021.

DISCUSSION

Interest income earned is below budget due to the market's extended low yields due to the COVID-19 pandemic. The remaining $128,564.60 of billed State Permitting costs for Wash Plan participants are expected soon, which offsets Wash Plan revenue/District loan. Increased Cemex mining has resulted in higher GL 4032 income due to royalty payments. Expenses are as expected. Salaries show below budget because of reimbursement from Community Mitigation and other chargeable external projects. A quarterly report spreadsheet will be presented to the Finance & Administration Committee at its January 26, 2022 meeting.

FISCAL IMPACT

There is no fiscal impact from reporting the financial status of the District.

POTENTIAL MOTIONS

1. Move approval of the Unaudited Financials for December 2021 as presented.
2. Move to request this item be tabled and referred to the Finance & Administration Committee to reconsider specific issues discussed.

ATTACHMENTS OR MATERIALS

Graph Financials for December 2021
Profit & Loss to Date vs. Annual Budget

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Redlands, CA 92373
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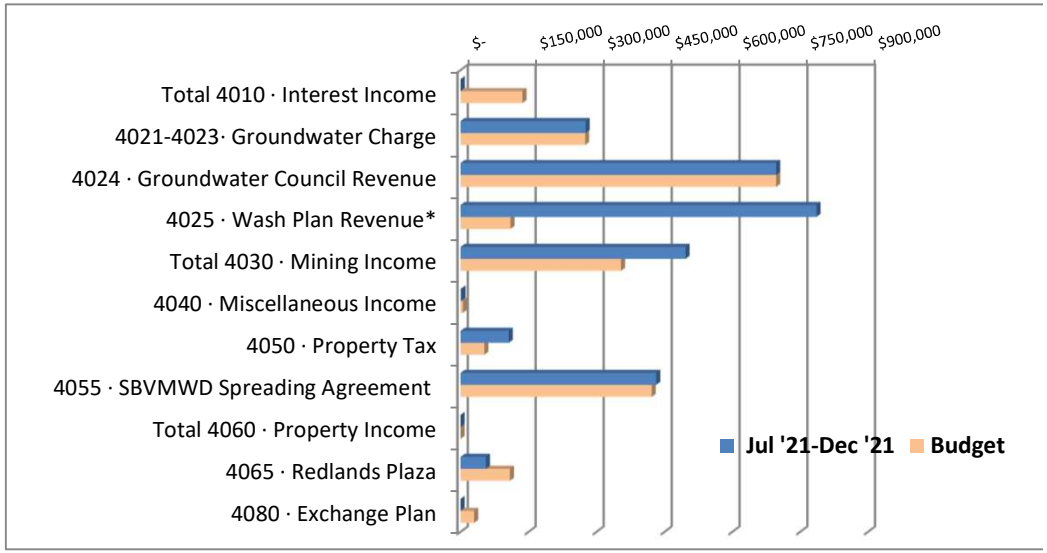
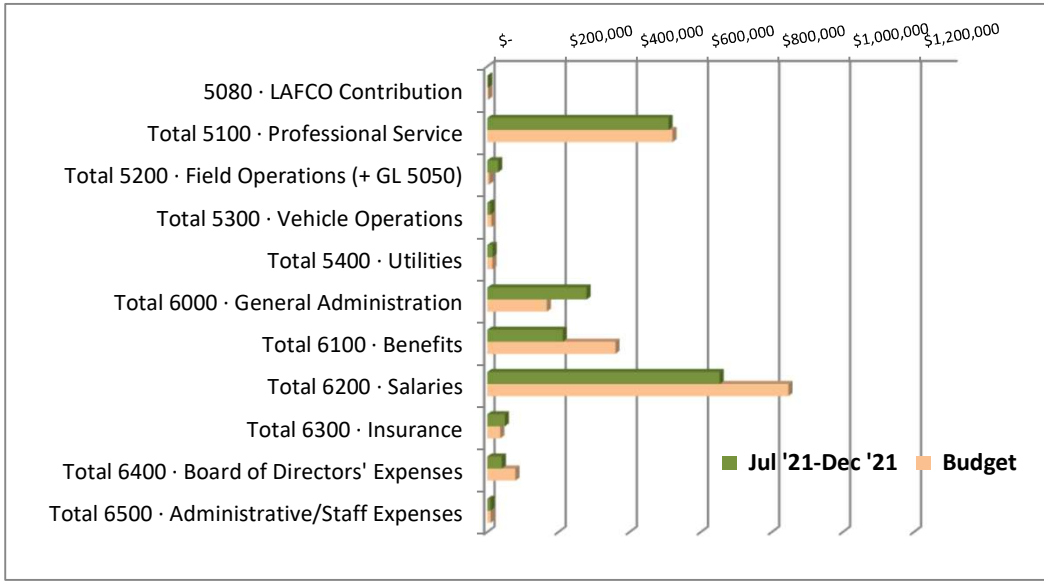
SBVWCD - All Enterprises Budget and Actual **December 2021**

REVENUE	Jul '21-Dec '21	Budget
Total 4010 · Interest Income	$ 248	$ 136,730
4021-4023· Groundwater Charge	$ 275,818	$ 274,841
4024 · Groundwater Council Revenue	$ 696,802	$ 696,800
4025 · Wash Plan Revenue*	$ 786,005	$ 110,000
Total 4030 · Mining Income	$ 496,486	$ 354,000
4040 · Miscellaneous Income	$ 2,034	$ 5,000
4050 · Property Tax	$ 106,283	$ 52,327
4055 · SBVMWD Spreading Agreement	$ 431,811	$ 421,846
Total 4060 · Property Income	$ -	$ 100
4065 · Redlands Plaza	$ 55,932	$ 109,018
4080 · Exchange Plan	$ -	$ 30,000
Total Revenue	**$ 2,851,418**	**$ 2,190,662**

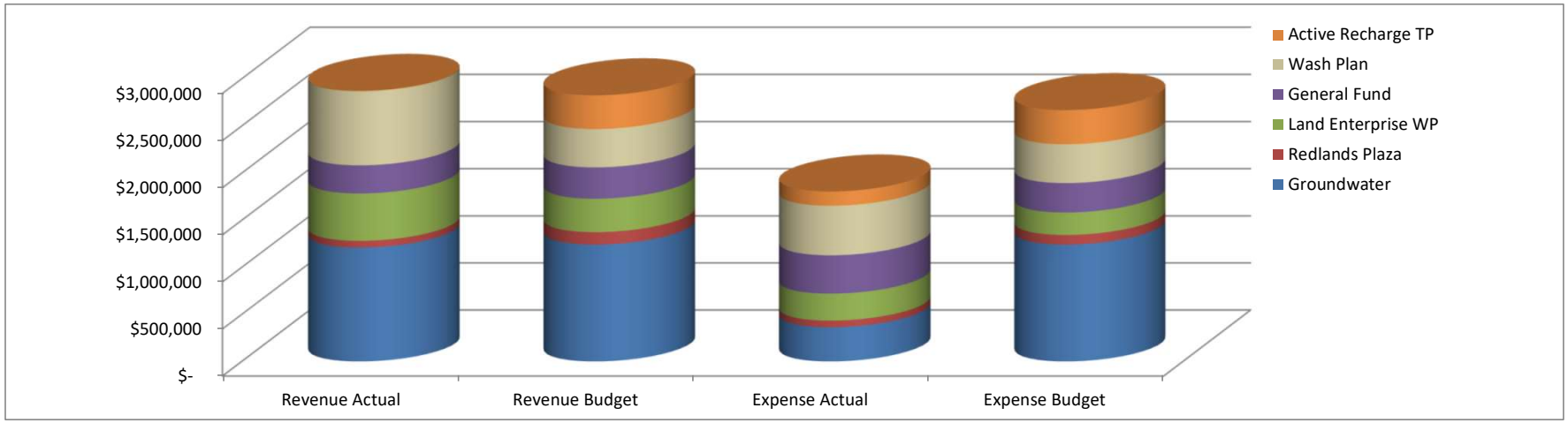
*District loans to the WP & State Permitting payments



EXPENSES Operating and Capital	Jul '21-Dec '21	Budget
5080 · LAFCO Contribution	$ 2,419	$ 2,419
Total 5100 · Professional Service	$ 508,909	$ 520,375
Total 5200 · Field Operations (+ GL 5050)	$ 30,017	$ 5,000
Total 5300 · Vehicle Operations	$ 8,737	$ 11,566
Total 5400 · Utilities	$ 14,707	$ 13,997
Total 6000 · General Administration	$ 278,523	$ 167,207
Total 6100 · Benefits	$ 211,769	$ 360,129
Total 6200 · Salaries	$ 652,931	$ 846,360
Total 6300 · Insurance	$ 48,992	$ 36,168
Total 6400 · Board of Directors' Expenses	$ 40,370	$ 78,701
Total 6500 · Administrative/Staff Expenses	$ 8,358	$ 9,141
Total Expense	**$ 1,805,733**	**$ 2,051,062**



Enterprises to Date (December 2021)



Enterprise	Actual	Budget	% of Budget
Groundwater Revenue	$ 1,210,116	$ 1,242,063	97%
Groundwater Expense	$ 363,828	$ 728,237	50%
Revenue -Expense	$ 846,288	$ 513,826	
Redlands Plaza Revenue	$ 71,419	$ 131,571	54%
Redlands Plaza Expense	$ 70,304	$ 101,639	69%
Revenue -Expense	$ 1,115	$ 29,933	
Land Enterprise Revenue	$ 502,973	$ 355,250	142%
Land Enterprise Expense	$ 286,678	$ 238,814	120%
Revenue -Expense	$ 216,295	$ 116,436	
General Fund Revenue *	$ 298,134	$ 332,388	90%
General Fund Expense	$ 407,198	$ 311,925	131%
Revenue -Expense	$ (109,064)	$ 20,463	
Wash Plan Revenue	$ 786,005	$ 406,250	193%
Wash Plan Expense	$ 526,520	$ 411,836	128%
Revenue-Expense	259,484	(5,586)	
Active Recharge TP Revenue	$ 3,608	$ 357,750	1%
Active Recharge TP Expense	$ 151,316	$ 362,211	42%
Revenue-Expense	$ (147,709)	$ (4,461)	
Total All Revenue - Expense	$ 1,066,409	$ 670,610	

Cash Status	As of 7/1/2021	As of 12/31/2021
LAIF	$ 430,623.48	$ 431,237.50
Cal Trust	$ 3,222,408.78	$ 3,218,535.92
Citizens Bank	$ 2,306,531.33	$ 2,357,890.09
UBS Financial Services	$ 500,681.82	$ 99,729.95
US Bank-CAMP	$ 18,754,702.89	$ 18,759,512.91
Total Cash	$ 25,214,948.30	$ 24,866,906.37
Less Prepaid Royalty	$ (5,000,000.00)	$ (5,000,000.00)
Less ARTP Obligation	$ (18,437,500.00)	$ (18,232,599.86)
Cash Position	$ 1,777,448.30	$ 1,634,306.51

Increase (decrease) of	-$143,141.79
Percent Increase	-8.1%

** General Fund Revenue shown here does not include overhead*

San Bernardino Valley Water Conservation District
Profit & Loss To Date vs. Annual Budget

	Jul - Dec 21	Budget	$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
4010 · Interest Income		4,000.00		
4012 · LAIF	262.43	25,600.00	-25,337.57	1.03%
4013 · Caltrust Investment Income	-3,872.86	0.00	-3,872.86	100.0%
4014 · CalCredit Union Interest Income	0.00	27,860.00	-27,860.00	0.0%
4015 · UBS Interest Income	-951.87	216,000.00	-216,951.87	-0.44%
4016 · Interest Income ARTP	4,810.02	0.00	4,810.02	100.0%
Total 4010 · Interest Income	247.72	273,460.00	-273,212.28	0.09%
4017 · ARTP Capital Income	0.00	615,000.00	-615,000.00	0.0%
4020 · Groundwater Charge				
4021 · Assessments - Ag	56,479.22	0.00	56,479.22	100.0%
4022 · Groundwater Charge	662.64	549,681.07	-549,018.43	0.12%
4023 · Assessments - Non-Ag	218,675.96	0.00	218,675.96	100.0%
4024 · Groundwater Council Revenue	696,802.00	696,800.00	2.00	100.0%
4026 · GW Sustainability/Replenishment	0.00	16,814.00	-16,814.00	0.0%
Total 4020 · Groundwater Charge	972,619.82	1,263,295.07	-290,675.25	76.99%
4025 · Wash Plan Revenue	786,004.66	220,000.00	566,004.66	357.28%
4030 · Mining Income				
4031 · Plant Site - CEMEX	20,000.00	48,000.00	-28,000.00	41.67%
4032 · Cemex - Royalty / Lease	433,739.22	600,000.00	-166,260.78	72.29%
4036 · Aggregate Maintenance	42,746.68	60,000.00	-17,253.32	71.24%
Total 4030 · Mining Income	496,485.90	708,000.00	-211,514.10	70.13%
4040 · Miscellaneous Income				
4041 · Reimbursed Expenses	193.80	0.00	193.80	100.0%
4040 · Miscellaneous Income - Other	1,839.89	10,000.00	-8,160.11	18.4%
Total 4040 · Miscellaneous Income	2,033.69	10,000.00	-7,966.31	20.34%
4043 · Project Salary Reimbursement	5,486.67			
4050 · Property Tax	106,282.93	130,817.65	-24,534.72	81.25%
4055 · SBVMWD Spreading Agreement Reim	431,810.98	421,846.11	9,964.87	102.36%
4060 · Property Income				
4062 · Mentone Property	0.00	100.00	-100.00	0.0%
Total 4060 · Property Income	0.00	100.00	-100.00	0.0%
4065 · Redlands Plaza	55,932.49	218,036.34	-162,103.85	25.65%
4066 · Redlands Plaza CAM	15,348.02	44,906.35	-29,558.33	34.18%
4080 · Exchange Plan	0.00	30,000.00	-30,000.00	0.0%
4086 · Plunge Creek IRWMP	0.00	0.00	0.00	0.0%
4999 · Trust Reimbursement-Wash Plan	0.00	592,500.00	-592,500.00	0.0%
Total Income	2,872,252.88	4,527,961.52	-1,655,708.64	63.43%
Gross Profit	2,872,252.88	4,527,961.52	-1,655,708.64	63.43%
Expense				
5040 · Regional Programs				
5080 · LAFCO Contribution	2,418.94	2,418.94	0.00	100.0%
Total 5040 · Regional Programs	2,418.94	2,418.94	0.00	100.0%
5050 · Basin Cleaning	0.00	50,000.00	-50,000.00	0.0%
5100 · Professional Service				
5120 · Misc. Professional Services	52,952.20	300,000.00	-247,047.80	17.65%
5122 · Wash Plan Professional Services	352,099.65	245,000.00	107,099.65	143.71%
5123 · Habitat Management-WP	15,876.26	346,250.00	-330,373.74	4.59%
5124 · Plunge Creek Prof Services	0.00	0.00	0.00	0.0%
5125 · Engineering Services	0.00	30,000.00	-30,000.00	0.0%
5130 · Aerial Photography & Surveying	0.00	2,200.00	-2,200.00	0.0%
5145 · Environmental Services (WP)	45,693.25			
5155 · WP Trails Professional Services	0.00	25,000.00	-25,000.00	0.0%
5160 · IT Support	2,250.00	8,500.00	-6,250.00	26.47%
5170 · Audit	24,500.00	26,900.00	-2,400.00	91.08%
5175 · Legal - Wash Plan	13,387.50	5,000.00	8,387.50	267.75%
5180 · Legal	2,150.00	25,000.00	-22,850.00	8.6%
Total 5100 · Professional Service	508,908.86	1,013,850.00	-504,941.14	50.2%
5133 · Regional River HCP Contribution	0.00	25,000.00	-25,000.00	0.0%
5200 · Field Operations				
5210 · Equipment Maintenance	5,088.78	7,200.00	-2,111.22	70.68%
5215 · Property Maintenance	1,906.69	40,000.00	-38,093.31	4.77%
5225 · Field Clean Up-Illegal dumping	23,021.81	60,000.00	-36,978.19	38.37%
Total 5200 · Field Operations	30,017.28	107,200.00	-77,182.72	28.0%
5223 · Temp. Field Labor	110.81	10,000.00	-9,889.19	1.11%

San Bernardino Valley Water Conservation District
Profit & Loss To Date vs. Annual Budget

	Jul - Dec 21	Budget	$ Over Budget	% of Budget
5300 · Vehicle Operations				
5310 · Vehicle Maintenance	869.61	8,000.00	-7,130.39	10.87%
5320 · Fuel	7,867.34	15,125.00	-7,257.66	52.02%
Total 5300 · Vehicle Operations	8,736.95	23,125.00	-14,388.05	37.78%
5400 · Utilities				
5410 · Alarm Service	916.50	1,545.00	-628.50	59.32%
5420 · Electricity	5,719.77	7,563.42	-1,843.65	75.62%
5430 · Mobile Phone	2,655.00	5,370.31	-2,715.31	49.44%
5440 · Telephone	2,400.36	6,000.00	-3,599.64	40.01%
5450 · Natural Gas	104.09	1,155.00	-1,050.91	9.01%
5460 · Water / Trash / Sewer	1,796.71	3,609.90	-1,813.19	49.77%
5470 · Internet Services	1,114.80	2,750.00	-1,635.20	40.54%
Total 5400 · Utilities	14,707.23	27,993.63	-13,286.40	52.54%
6000 · General Administration				
6001 · General Administration - Other	1,605.02	4,500.00	-2,894.98	35.67%
6002 · Website Administration	2,366.94	6,000.00	-3,633.06	39.45%
6004 · Meeting Expenses	1,406.69	2,060.00	-653.31	68.29%
6006 · Permits	170,098.33	45,000.00	125,098.33	378.0%
6007 · Inter District Costs	0.00	10,000.00	-10,000.00	0.0%
6009 · Licenses	1,627.62	1,712.06	-84.44	95.07%
6010 · Surety Bond	1,210.00	1,900.00	-690.00	63.68%
6012 · Office Maintenance	84.59	2,550.80	-2,466.21	3.32%
6013 · Office Lease Payment	25,000.02	50,000.00	-24,999.98	50.0%
6015 · Mentone House Maintenance	408.00	3,500.00	-3,092.00	11.66%
6016 · Redlands Plaza Maintenance	1,798.93	35,000.00	-33,201.07	5.14%
6018 · Janitorial Services	4,375.00	10,400.00	-6,025.00	42.07%
6019 · Janitorial Supplies	153.70	515.00	-361.30	29.85%
6020 · Vacancy Marketing-Redlands Plaz	0.00	5,000.00	-5,000.00	0.0%
6026 · Redlands Plaza CAM expenses	21,973.27	32,936.31	-10,963.04	66.71%
6027 · Computer Software	1,877.40	2,000.00	-122.60	93.87%
6030 · Office Supplies	4,915.89	3,500.00	1,415.89	140.45%
6033 · Office Equipment Rental	2,755.21	9,500.00	-6,744.79	29.0%
6036 · Printing	1,848.75	2,000.00	-151.25	92.44%
6039 · Postage and Overnight Delivery	474.62	1,200.00	-725.38	39.55%
6042 · Payroll Processing	1,541.50	2,859.13	-1,317.63	53.92%
6045 · Bank Service Charges	0.00	1,000.00	-1,000.00	0.0%
6051 · Uniforms	1,262.48	3,025.00	-1,762.52	41.74%
6060 · Outreach	0.00	63,000.00	-63,000.00	0.0%
6087 · Educational Reimbursement	0.00	5,000.00	-5,000.00	0.0%
6090 · Subscriptions/Publications	1,698.93	1,355.20	343.73	125.36%
6091 · Public Notices	0.00	3,200.00	-3,200.00	0.0%
6093 · Memberships	30,040.33	25,289.23	4,751.10	118.79%
Total 6000 · General Administration	278,523.22	334,002.73	-55,479.51	83.39%
6100 · Benefits				
6110 · Vision Insurance	1,395.94	3,433.34	-2,037.40	40.66%
6120 · Workers' Comp. Insurance	4,623.62	19,735.34	-15,111.72	23.43%
6130 · Dental Insurance	5,153.96	12,567.32	-7,413.36	41.01%
6150 · Medical Insurance				
6150.01 · Medical Employee Contribution	-13,937.73	-31,135.80	17,198.07	44.76%
6150 · Medical Insurance - Other	111,553.18	285,106.20	-173,553.02	39.13%
Total 6150 · Medical Insurance	97,615.45	253,970.40	-156,354.95	38.44%
6160 · Payroll Taxes-Employer	35,122.16	122,654.27	-87,532.11	28.64%
6170 · PERS Retirement				
6170.01 · PERS Employee Contributions	-86,164.48	-45,326.72	-40,837.76	190.1%
6170 · PERS Retirement - Other	154,022.75	353,223.42	-199,200.67	43.61%
Total 6170 · PERS Retirement	67,858.27	307,896.70	-240,038.43	22.04%
Total 6100 · Benefits	211,769.40	720,257.37	-508,487.97	29.4%
6200 · Salaries				
6230 · Regular Salaries	652,930.51	1,692,720.61	-1,039,790.10	38.57%
6200 · Salaries - Other	0.00	0.00	0.00	0.0%
Total 6200 · Salaries	652,930.51	1,692,720.61	-1,039,790.10	38.57%
6300 · Insurance				
6310 · Property/ Auto Insurance	4,828.74	4,420.14	408.60	109.24%
6320 · General Liability Insurance	44,163.41	33,651.74	10,511.67	131.24%
Total 6300 · Insurance	48,992.15	38,071.88	10,920.27	128.68%

San Bernardino Valley Water Conservation District
Profit & Loss To Date vs. Annual Budget

	Jul - Dec 21	Budget	$ Over Budget	% of Budget
6400 · Board of Directors' Expenses				
6401 · Directors' Fees				
6401.5 · Payroll Taxes-Directors	5,593.54	0.00	5,593.54	100.0%
6401 · Directors' Fees - Other	31,020.00	87,901.20	-56,881.20	35.29%
Total 6401 · Directors' Fees	36,613.54	87,901.20	-51,287.66	41.65%
6410 · Mileage	256.93	4,000.00	-3,743.07	6.42%
6415 · Air Fare	0.00	2,500.00	-2,500.00	0.0%
6420 · Other Travel	0.00	500.00	-500.00	0.0%
6425 · Meals	1,560.61	3,500.00	-1,939.39	44.59%
6430 · Lodging	588.69	4,000.00	-3,411.31	14.72%
6435 · Conf/Seminar Registrations	1,350.00	5,000.00	-3,650.00	27.0%
6440 · Election Fees / Re-Districting	0.00	25,000.00	-25,000.00	0.0%
Total 6400 · Board of Directors' Expenses	40,369.77	132,401.20	-92,031.43	30.49%
6500 · Administrative/Staff Expenses				
6510 · Mileage	820.40	2,500.00	-1,679.60	32.82%
6515 · Air Fare	369.17	4,500.00	-4,130.83	8.2%
6520 · Travel, Other (rental car, taxi	368.79	1,500.00	-1,131.21	24.59%
6525 · Meals	3,055.34	2,035.00	1,020.34	150.14%
6530 · Lodging	2,409.75	3,750.00	-1,340.25	64.26%
6535 · Conf/Seminar Registrations	1,335.00	4,000.00	-2,665.00	33.38%
Total 6500 · Administrative/Staff Expenses	8,358.45	18,285.00	-9,926.55	45.71%
9999 · Contribution to Capital Maint.	0.00	278,621.92	-278,621.92	0.0%
Total Expense	1,805,843.57	4,473,948.28	-2,668,104.71	40.36%
Net Ordinary Income	1,066,409.31	54,013.24	1,012,396.07	1,974.35%
Other Income/Expense				
Other Expense				
7000 · Construction				
7010 · Materials	0.00	12,000.00	-12,000.00	0.0%
7055 · Plunge Creek Expansion	0.00	0.00	0.00	0.0%
Total 7000 · Construction	0.00	12,000.00	-12,000.00	0.0%
7100 · Land & Buildings				
7110 · Property Capital Repairs	0.00	511,971.00	-511,971.00	0.0%
7120 · Property-Land Purchase	0.00	0.00	0.00	0.0%
7126 · ARTP Engr/Prof Services	0.00	600,000.00	-600,000.00	0.0%
7130 · Mentone Property (House)-CapRep	0.00	25,000.00	-25,000.00	0.0%
7140 · Mentone Property (Shop)-CapRep	18,525.13	375,000.00	-356,474.87	4.94%
7150 · Mill Creek Diversion	0.00	1,100,000.00	-1,100,000.00	0.0%
7160 · Mendoza Property	0.00	137,000.00	-137,000.00	0.0%
Total 7100 · Land & Buildings	18,525.13	2,748,971.00	-2,730,445.87	0.67%
7200 · Equipment & Vehicles				
7210 · Computer Hardware-Capital Purch	11,578.47	5,000.00	6,578.47	231.57%
7220 · Computer Software	18,448.21	10,000.00	8,448.21	184.48%
7230 · Field Equipment / Vehicles	0.00	1,604.44	-1,604.44	0.0%
7240 · Office Equipment	3,265.38	1,500.00	1,765.38	217.69%
Total 7200 · Equipment & Vehicles	33,292.06	18,104.44	15,187.62	183.89%
7400 · Professional Services Capital				
7438 · Engineering Services-Other	0.00	125,000.00	-125,000.00	0.0%
Total 7400 · Professional Services Capital	0.00	125,000.00	-125,000.00	0.0%
Total Other Expense	51,817.19	2,904,075.44	-2,852,258.25	1.78%
Net Other Income	-51,817.19	-2,904,075.44	2,852,258.25	1.78%
Net Income	**1,014,592.12**	**-2,850,062.20**	**3,864,654.32**	**-35.6%**

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1824

To: **Board of Directors**

From: **Daniel Cozad, General Manager**

Date: **January 12, 2022**

Subject: **Waterman, Lynwood Basins and Twin Creek Spreading Grounds Feasibility Study Support Professional Services Award of Contract**

RECOMMENDATION

Staff recommends the Board accept the proposal of Tetra Tech, authorize the General Manager to complete the negotiation of services and fees, and execute a professional consultant services agreement in an amount not to exceed $1,530,615 as show in Attachment 1.

BACKGROUND AND DISCUSSION

On December 9, 2020, the Board approved and executed a Planning Memorandum of Understanding (MOU) with the San Bernardino County Flood Control District (SBCFCD) to cooperatively plan and evaluate the practical, environmental, and financial feasibility of using SBCFCD's facilities for both flood control and groundwater recharge. Potential projects were selected through previous regional groundwater supply planning efforts that identified a number of SBCFCD's facilities into which storm flows may be diverted into or from for water recharge purposes.

A major component of the MOU is undertaking investigation and feasibility studies for each project site in order to allow SBCFCD to evaluate and approve recharge activities within their facilities. Per the MOU, the Conservation District is required to "submit to SBCFCD a preliminary report that includes the anticipated amount of storm water to be captured and diverted to that facility and an assessment of the secondary impacts such recharge might have on groundwater levels, migration of contaminant plumes, sand and gravel extraction or other land uses in the vicinity, subsidence protection, endangered and sensitive species habitat preservation, and related concerns." Conservation District staff have titled this preliminary report "Feasibility Study".

Conservation District staff will author the Feasibility Study with support from a consulting firm to complete the required analysis for each project. The analyses to be completed by the consulting firm include:

- Hydrology Studies
- Hydraulic Studies
- Sediment Transport Analysis

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Redlands, CA 92373
Phone: 909.793.2503
Fax: 909.793.0188
www.sbvwcd.org Email: info@sbvwcd.org

- Geotechnical Site Investigation
- Field Surveys
- Basin Routing
- Recharge Estimates
- Verification of resultant analyses compliance to SBCFCD and United States Army Corps of Engineers (USACE) design standards and FEMA Levee Certification requirements (where applicable)
- Quantity Calculations (District staff will estimate costs)
- Value Engineering
- New focused Groundwater Model based upon the Upper Santa Ana River Integrated (SAR) Model and the estimated recharge amounts
- Preparation of exhibits and compilation of data for use in the Feasibility Study

The Feasibility Study for the seven ARTP projects was divided into three separate Requests for Proposals (RFPs) based on inclusion of projects in the Planning MOU with SBCFCD, the presence/absence of USACE constructed levees, and FEMA Levee certifications. On September 2, 2021, the first RFP was issued for Waterman and Lynwood basins and Twin Creek Spreading Grounds. These three projects are all included in the MOU with SBCFCD and have both USACE constructed facilities and FEMA certified levees. The RFP was only released to consulting firms on the ARTP Consultant's List who have previous experience with Corps and FEMA certified levees.

Two (2) firms, Kleinfelder and Terra Tech, submitted proposals. Both proposals were comprehensive, well thought out, and well organized. The District staff recommendation of award is based upon an extensive review of the proposals and a Zoom meeting question and answer session with each firm. The proposals and modeling methodology were also reviewed by SBCFCD staff, SBVMWD staff and the ARTP Policy Committee. Based on these reviews, staff recommends entering into an Agreement with Tetra Tech.

FISCAL IMPACT

The cost to enter into the Agreement is $1,530,615. These costs will be funded through the ARTP budget and no additional costs are obligated by the Agreement.

POTENTIAL MOTIONS

1. Accept the proposal of Tetra Tech and authorize the General Manager and General Counsel to complete the negotiation of services and fees and execute a professional consultant services agreement in an amount not to exceed $1,530,615.
2. Move to table the item to a future meeting of the Board or the Operations Committee.
3. Table the item to a future meeting for consideration, noting the project delays.

ATTACHMENTS OR MATERIALS

Draft Professional Services Contract with Tetra Tech for Waterman, Lynwood Basins and Twin Creek Spreading Grounds Feasibility Study Support Professional Services
Tetra Tech Proposal

APPROVALS

District Counsel

CONTRACT SERVICES AGREEMENT
FOR PROFESSIONAL SERVICES
FOR FEASIBILITY STUDY SUPPORT

THIS CONTRACT SERVICES AGREEMENT FOR PROFESSIONAL SERVICES FOR THE ACTIVE RECHARGE TRANSFER PROJECTS (ARTP) WATERMAN, LYNWOOD BASINS AND TWIN CREEK SPREADING GROUNDS FEASIBILITY STUDY SUPPORT (“Agreement”) is entered into by and between the **SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT,** a special district (“District”), and **TETRA TECH.** a California corporation (“Consultant”), is effective upon signature by District and Consultant (“Effective Date”).

NOW THEREFORE, the parties hereto agree as follows:

1.0 SERVICES OF CONSULTANT

1.1 Scope of Services. In compliance with all of the terms and conditions of this Agreement, the Consultant shall provide and assist the District with providing expert technical assistance by analyzing potential impacts of certain proposed Active Recharge Transfer Project (ARTP) sites. Services to be performed include hydrological analyses, survey, geotechnical investigations, groundwater analyses, and constructability review. The scope does not include design-related tasks. Consultant shall perform all work according to the contract Scope of Work, schedule of performance, and schedule of compensation shown as Attachments A, B, and C to this Agreement, all of which are incorporated herein by reference.

1.2 Authorization to Begin and Schedule of Performance. Consultant's term to begin work or services, shall initiate upon receipt of a Notice to Proceed by District. Further, no work or services other than that described in the Scope of Work shall be initiated by the Consultant without express authorization of the District and documented as a Change Order to this Agreement. Consultant shall complete the Tasks specified in the Scope of Work in the time frames indicated in Attachment B, the Schedule of Performance.

1.3 Compliance With Law and Professional Competency. All work and services rendered hereunder shall be provided in accordance with applicable ordinances, resolutions, statutes, rules, and regulations of the District and any Federal, State, or local governmental agency of competent jurisdiction, and to a standard of care and professionalism consistent with no less than the level of skill and care ordinarily exercised by professionals in Consultant’s field performing permitting assistance consulting work such as covered by this Agreement.

1.4 Licenses, Permits, Fees and Assessments. Consultant shall obtain at its sole cost and expense such licenses, permits, and approvals as may be required by law for the performance of the services required by this Agreement, unless otherwise noted in the Scope of Work.

2.0 COMPENSATION

2.1 Contract Sum. For the services rendered pursuant to this Agreement, the Consultant shall be paid pursuant to the pricing specified in the Fee Schedule specified in Attachment C, for completion of each Task specified in the Scope of Work. Consultant shall invoice for work done to accomplish such tasks monthly, at the "Billable Rate" specified for Team Members performing the work, as set forth in Attachment C. Total compensation for each Task specified in the Scope of Work shall not exceed the fee specified for such Task in Attachment C, without prior written approval of the District. District may, in its sole discretion, authorize the transfer of portions of compensation from one Task to another, to account for variability in costs incurred to accomplish such Tasks, but in no event shall the total sum to be paid to Consultant for completion of all Tasks in the Scope of Work exceed the sum of One Million ($1,000,000.00) Dollars.

2.2 Method of Payment. Provided that Consultant is not in default under the terms of the Agreement, the Consultant shall be paid upon receipt of a detailed record of services performed and time spent. Prior to payment of the final invoice, all work authorized by the District shall be completed. No later than the 15th of each month Consultant shall furnish to District an original invoice for all work performed and expenses incurred during the preceding month, which may be at the hourly rates specified in the "Schedule of Fees" appended to Attachment C. Notwithstanding footnote 1 of Attachment "C," the hourly rates provided in Attachment "C" shall not increase for a period of two (2) years following the Effective Date. The invoice shall detail charges with reference to the Tasks specified in the Scope of Work, specifying the work performed, the person or team member performing the work, hourly rates, and a detailed description of the services performed. District shall independently review each invoice submitted by the Consultant to determine whether the work performed, and expenses incurred, comply with the provisions of this Agreement. If no charges or expenses are disputed, District will cause Consultant to be paid within thirty (30) days of receipt of Consultant's invoice. Payment to Consultant for work performed pursuant to this Agreement shall not be deemed to waive any defects in work performed by Consultant, nor to constitute any waiver of any type of relief or remedy, legal or equitable, arising out of any breach or nonperformance of any aspect of the Agreement by Consultant.

3.0 COORDINATION OF WORK

3.1 Representative of Consultant. Ike Pace is hereby designated as the principal-in-charge by the Consultant, authorized to act in its behalf with respect to the work and services specified herein and to make all decisions in connection therewith. Aric Torreyson has been designated by the Consultant as the Project Manager for the Project. Any substitution of these designated representatives must be approved in advance and in writing by the District.

3.2 Contract Officer. The Assistant General Manager, Betsy Miller, is hereby designated as the representative of the District, authorized to act in its behalf with respect to the work and services specified herein and make all decisions in connection therewith ("Contract Officer"). The District also designates Erwin Fogerson, PE, as Project Manager, who is authorized to direct work of the Consultant.

3.3 Prohibition Against Subcontracting or Assignment. Consultant shall not contract with any entity to perform in whole or in part the work and services required of Consultant herein without the prior express written approval of the District. Neither this Agreement nor any interest herein may be assigned or transferred, voluntarily or by operation of law, without the prior written approval of the District. Any such prohibited assignment or transfer shall be void. Notwithstanding the foregoing, the District approves in advance Geoscience, Keystone Aerial Surveys, 2R Drilling Inc., ABC Liovin Drilling,Inc., Belshire Environmental Services, Inc., American Backhoe and Silva Backhoe Services, Inc. as subcontractors for the provision of work under various tasks as listed in Attachment A, Scope of Work. Additional subcontractors maybe required for field exploration, drilling, and other activities required to complete the scope of work, qualifications for these consultants will be submitted prior to the use for District approval.

3.4 Independent Consultant. Consultant shall perform all work and services required herein as an independent contractor of the District and shall remain under only such obligations as are consistent with that role. Consultant shall not at any time or in any manner represent that it or any of its agents or employees are agents or employees of the District.

4.0 INSURANCE AND INDEMNIFICATION

4.1 Insurance. The Consultant shall procure and maintain, at its sole cost and expense, in a form and content satisfactory to District, during the entire term of this Agreement including any extension thereof, the following policies of insurance:

4.1-01 Workers' Compensation Insurance. By signature hereunder, Consultant certifies that Consultant is aware of the provisions of Section 3700 of the Labor Code, which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and Consultant will
Agreement.

4.1-02 Workers' Compensation and Employer's Liability Insurance. Consultant and all sub-consultants shall cover or insure under the applicable laws relating to workers' compensation insurance, all of their employees employed directly by them or through sub-consultants in carrying out the work contemplated under this Agreement, all in accordance with the Workers' Compensation and Insurance Act, Division IV of the Labor Code of the State of California and any Acts amendatory thereof. Consultant shall provide employer's liability insurance in the amount of, at least, $1,000,000 per accident for bodily injury and disease.

4.1-03 Liability Insurance. The Consultant shall provide and maintain at all times during the performance of this Agreement, the following commercial general liability insurance:

4.1-03.01 Coverage. Coverage shall be at least as broad as the following:

Commercial General Liability. Commercial General Liability coverage (Occurrence Form CG 0001) in the amount of one million dollars ($1,000,000) per occurrence for bodily injury, personal injury, and property damage. If Commercial General Liability

Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the project/location (with the ISO CG 2501 or insurer's equivalent endorsement provided to the District) or the general aggregate limit shall be twice the required occurrence limit.

Professional Liability. Professional Liability appropriate to the Consultant's profession covering Consultant's wrongful acts, negligent actions, errors or omissions in the amount of one million dollars ($1,000,000) per claim and annual aggregate.

4.1-03.02 Required Provisions. The policies specified in Section 4.1-03.01 are to state or be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days (10 days for nonpayment of premium) prior written notice by U.S. mail has been given to the District.

4.1-03.03 Required Format. All of the liability insurance shall be provided on policy forms satisfactory to the District. All insurance correspondence, notations, certificates, or other documents from the insurance carrier or agent/broker shall each separately reference the District project number.

4.1-03.04 Deductibles and Self-Insured Retention. Any deductible or self-insurance retention must be declared to and approved by the District. At the option of the District, the insurer shall reduce or eliminate such deductibles or self-insured retention.

4.1-03.05 Acceptability of Insurers. Insurance is to be placed with insurers having a current A.M. Best's rating of no less than A-:VII or equivalent or as otherwise approved by the District.

4.1-03.06 Evidences and Cancellation of Insurance. Prior to execution of this Agreement, the Consultants shall file with the District evidence of insurance satisfactory to the District. The insurer will give by U.S. mail written notice to the District at least thirty (30) days prior to the effective date of any cancellation, except for nonpayment of premium for which ten (10) days prior written notice will be given. The Consultant shall, upon demand of the District, make available to the District all such policy or policies of insurance and the receipts for payment of premiums thereon, redacted to remove any proprietary or confidential information.

4.1-03.07 Errors and Omissions/Professional Negligence. Consultant shall procure and maintain errors and omissions insurance, or professional liability insurance, at all times this Agreement is in effect, covering the services to be provided hereunder in the amount of one million dollars per claim and annual aggregate.

4.1-03.08 Sub-Consultants. In the event that the Consultant employs other consultants as part of the services covered by this Agreement, consistent with Section 3.3 above, it shall be the Consultant's responsibility to confirm that each sub-consultant meets the minimum insurance requirements specified above.

4.2 Indemnification. To the fullest extent permitted by law, Consultant shall

indemnify and hold harmless the District, and defend its directors, officers, employees or designated volunteers, and each of them from and against:

4.2-01 Any and all claims, demands, causes of action, damages, costs, expenses, losses, or liabilities, in law or in equity, of every kind of nature whatsoever for, but not limited to, injury to or death of any person including District and/or Consultant, or any directors, officers, employees or designated volunteers of District or Consultant, and damages to or destruction of property of any person, including but not limited to, District and/or Consultant and their directors, officers, employees or designated volunteers, arising out of or in any manner directly or indirectly connected with the work to be performed under this Agreement, due to the Consultant's negligent acts, errors, or omissions committed or alleged to have been committed, except in those cases where the District is liable.

4.2-02 Any and all actions, proceedings, damages, costs, expenses, penalties or liabilities, in law or equity, of every kind of nature whatsoever, arising out of, resulting from,

or on account of the violation of any governmental law or regulation, compliance with which is the responsibility of Consultant, except in those cases where the District is liable.

4.2-03 Consultant shall defend, at its own cost, expense and risk, with Counsel of District's choice, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against District or District's directors, officers, employees or designated volunteers.

4.2-04 Consultant shall pay and satisfy any judgment, award or decree that may be rendered against District or its directors, officers, employees or designated volunteers, in any and all such aforesaid suits, actions or other legal proceeding.

4.2-05 Consultant shall reimburse District and its directors, officers, employees or designated volunteers, for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided.

4.2-06 Consultant's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by the District, or its directors, officers, employees or designated volunteers.

4.3 Laws, Regulations and Permits. The Consultant shall give all notices required by law and comply with all laws, ordinances, rules, and regulations pertaining to the conduct of the work. The Consultant shall be liable for all violations of the law in connection with work furnished by the Consultant.

4.4 Safety. The Consultant shall execute and maintain Consultant's work so as to avoid injury or damage to any person or property. In carrying out the work, the Consultant shall at all times, exercise all necessary precautions for the safety of employees appropriate to the nature of the work and the conditions under which the work is to be performed, and be in compliance with all federal, state and local statutory and regulatory requirements including State

of California, Division of Industrial Safety (Cal/OSHA) regulations, and the U.S. Department of Transportation Omnibus Transportation Employee Testing Act (as applicable).

5.0 TERM OF AGREEMENT

5.1 Term. This Agreement shall be effective from date of signature of both parties and shall continue in full force and effect until completion and approval of the work and services described hereunder, unless extended by mutual consent, or until otherwise terminated under Section 6.11 below.

6.0 MISCELLANEOUS

6.1 Covenant Against Discrimination. The Consultant covenants that, by and for itself, its heirs, executors, assigns and all persons claiming under or through them, that there shall be no discrimination against, or segregation of, any person or group of persons on account of race, color, creed, religion, sex, marital status, national origin, or ancestry in the performance of this Agreement.

6.2 Non-liability of District Officers and Employees. No officer or employee of the District shall be personally liable to the Consultant, or any successor in interest, in the event of any default or breach by the District or for any amount that may become due to the Consultant or to its successor, or for breach of any obligation of the terms of this Agreement.

6.3 Conflict of Interest. No officer or employee of the District shall have any financial interest, direct or indirect, in this Agreement, nor shall any such officer or employee participate in any decision relating to the Agreement which affects his or her financial interest or the financial interest of any corporation, partnership or association in which he or she is, directly or indirectly, interested, in violation of any State statute or regulation. The Consultant warrants that it has not paid or given and will not pay or give, any third party any money or other consideration for obtaining this Agreement.

6.4 Notice. Any notice, demand, request, document, consent, approval, or communication either party desires or is required to give to the other party or any other person shall be in writing and either served personally or sent by prepaid, first-class mail, in the case of the District, to the General Manager and to the attention of the Contract Officer, San Bernardino Valley Water Conservation District, 1630 W. Redlands Boulevard, Suite A, Redlands, CA 92373-0581, and in the case of the Consultant, to the person at the address designated on the execution page of this Agreement.

6.5 Interpretation. The terms of this Agreement shall be construed in accordance with the meaning of the language used and shall not be construed for or against either party by reason of the authorship of this Agreement.

6.6 Integration; Amendment. It is understood that there are no oral agreements between the parties hereto affecting this Agreement and this Agreement supersedes and cancels any and all previous negotiations, arrangements, agreements and understandings, if any, between the parties, and none shall be used to interpret this Agreement.

This Agreement may be amended at any time only by the mutual consent of the parties and only by an instrument in writing.

6.7 Severability. In the event that part of this Agreement shall be declared invalid or unenforceable by a valid judgment or decree of a court of competent jurisdiction, such invalidity or inability to enforce shall not affect any of the remaining portions of this Agreement which are hereby declared as severable and shall be interpreted to carry out the intent of the parties hereunder unless the invalid provision is so material that its invalidity deprives either party of the basic benefit of their bargain or renders this Agreement meaningless.

6.8 Waiver. No delay or omission in the exercise of any right or remedy by a non-defaulting party on any default shall impair such right or remedy or be construed as a waiver. A party's consent to or approval of any act by the other party requiring the party's consent or approval shall not be deemed to waive or render unnecessary the other party's consent to or approval of any subsequent act. Any waiver by either party of any default must be in writing and shall not be a waiver of any other default concerning the same or any other provision of this Agreement.

6.9 Attorney's Fees. If either party to this Agreement is required to initiate or defend or made a party to any action or proceeding in any way connected with this Agreement, the prevailing party in such action or proceeding, in addition to any other relief which may be granted, whether legal or equitable, shall be entitled to reasonable attorney's fees, whether or not the matter proceeds to judgment.

6.10 Ownership of Work. All work performed and all work product generated by the Consultant hereunder shall be the exclusive property of the District. The Consultant shall provide to the District all notes, maps, graphs, worksheets, reports, computer databases and programs, or any other analysis or analytical tools created or produced by the Consultant in connection with its work performed hereunder ("work"), no later than the time of the completion of the Consultant's work or earlier termination of this Agreement under Section 6.11 below. The Consultant shall not disclose or utilize its work under this Contract in any other assignment or for any other purpose, or otherwise disclose or utilize such work, without the prior written consent of the District, which consent shall not be unreasonably withheld.

6.11 Termination. This Agreement may be terminated by either party giving ninety (90) days' notice in writing to the other party and sent by registered mail to the principal place of business that such notice is addressed. The right, duties, and responsibilities of the Consultant shall continue in full force during the period of this 90-day notice, unless otherwise directed by District. After the expiration of the 90-day interval following notice, no rights or liabilities shall arise out of this relationship, except that the indemnification provisions of Section 4.2 above shall survive termination, and any task undertaken by Consultant on written District authorization, and still uncompleted at the expiration of the notice period, shall be carried to completion by Consultant and paid for by District at rates provided hereunder, unless mutually agreed in writing to the contrary, in accordance with the provisions herein.

6.12 Mediation. In the event of disagreement arising under this Agreement,

the Consultant and District shall meet and confer in an attempt to resolve the issue. If the meet and confer process fails to resolve any controversy or claim arising out of or related to work performed under this Agreement, within 10 business days after written notice by one party to the other identifying the nature of the dispute and requesting a meet and confer conference, such claim or controversy shall be submitted to non-binding mediation unless the parties mutually agree otherwise. The submission to non-binding mediation shall be upon such terms, conditions, and procedures as the parties might mutually agree, and shall not preclude the initiation or exercise of any other remedy, legal, equitable, or otherwise, available to any party. The mediation proceedings shall take place in San Bernardino County, California.

6.13 Corporate Authority. The persons executing this Agreement on behalf of the parties hereto warrant that (i) such party is duly organized and existing, (ii) they are duly authorized to execute and deliver this Agreement on behalf of said party, (iii) by so executing this Agreement, such party is formally bound to the provisions of this Agreement, and (iv) the entering into this Agreement does not violate any provision of any other Agreement to which said party is bound.

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement and affirm same by signature below:

CONSULTANT	DISTRICT
TETRA TECH,	SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT
17885 Von Karman Avenue	1630 West Redlands Blvd
Irvine, CA 92614	Redlands, CA 92373
Aric.Torreyson@tetratech.com	dcozad@sbvwcd.org
By: _____	By: _____
Aric Torreyson, P.E.	Daniel B. Cozad
Sr. Program Manager	General Manager
Date: _____	Date: _____

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Attachment A – Scope of Services

Active Recharge Transfer Projects Waterman, Lynwood Basins and Twin Creek Spreading Grounds Feasibility Study Support Professional Services

December 22, 2021

TETRA TECH

SCOPE OF SERVICES

Active Recharge Transfer Projects –
Waterman, Lynwood Basins and Twin Creek Spreading Grounds
Feasibility Study Support Professional Services

Description of Project

According to the October 2019 Update to the *Operational Management Manual of the San Bernardino Valley Water Conservation District*:

> In 2019 the San Bernardino Valley Water Conservation District (Conservation District) and San Bernardino Valley Municipal Water District (Water District) entered into a partnership agreement to build a portion of the Active Recharge Transfer Projects (ARTP), which are a series of stormwater capture projects located on tributaries along the base of the San Bernardino Mountains. Proposed improvements to the Waterman Basins include constructing an inflatable armored dam diversion across the west branch of the Waterman Creek bypass channel, refurbishing existing radial gates, refurbishing three inner-basin surface transfer structures, and regrading to remove silt and clay deposits. Proposed improvements at the Twin Creek Spreading Grounds include reconstructing and armoring berms currently in disrepair between each basin, adding low flow outlets and drains to each basin, and regrading to remove silt and clay deposits. The Conservation District is working under a Planning Memo of Understanding with the San Bernardino County Flood Control District (Flood Control District) to complete a feasibility study of conceptual designs for the ARTP in the Waterman Basins, Twin Creek Spreading Grounds, and Lynwood Basins to both analyze potential impacts to the Flood Control District's facilities and to facilitate potential adaptive or joint use.

In September 2021 the Conservation District requested proposals to provide professional services for completing the feasibility study of the Conservation District's conceptual designs for the ARTP in the Waterman Basins, Twin Creek Spreading Grounds, and the Lynwood Basins. In October 2021 the Conservation District selected the Tetra Tech team's proposal and requested a refinement of the proposed scope of work.

SCOPE OF WORK

The following tasks present the Tetra Tech team's refined scope of work for professional services that are necessary to complete the feasibility study.

Task 1: Project Management

Task 1.1: General (contracting, staffing, scheduling, and invoicing)

Tetra Tech will provide general project management services including contract management, project setup, staffing, scheduling, budget control, invoice preparation, general oversight of the project, and coordination with the Conservation District. The Tetra Tech team includes multi-discipline engineers and a subcontractor. Tetra Tech shall maintain effective and efficient management of the project between the team members through coordination and communication so as to meet the project schedule.

Task 1.2: Meetings

Tetra Tech will conduct monthly meetings until the end of contract to update the Conservation District on project status and activities.

Upon receipt of a written Notice to Proceed, the Tetra Tech team will hold a kickoff meeting with the Conservation District to coordinate work, review the Project Schedule, and clarify project requirements and deliverables. Tetra Tech will prepare written meeting minutes summarizing the meeting discussions, focusing on decisions made and agreements reached.

Tetra Tech will also conduct three submittal review meetings: a baseline submittal, a draft alternatives submittal and final alternatives submittal. The purpose of the meetings will be to go over the general findings and review the Conservation District's comments and reach resolutions prior to updating the project documents.

All non-field meetings will be conducted online using MS Teams or Zoom except for the first meeting involving SBCFCD.

Task 1.3: Site Reconnaissance and Sediment Sampling

A site reconnaissance is required to accurately evaluate the existing conditions within the Waterman Basin and Twin Creek Spreading Grounds as well as the Lynwood Basin. During the site visit, the Tetra Tech team will perform visual assessment and photo documentation of the facilities. The Tetra Tech team will confirm where geotechnical testing is required to better characterize infiltration rates.

Tetra Tech's fluvial geomorphologists and hydraulic engineers will complete a field reconnaissance to evaluate existing patterns of sedimentation in the basins, and the characteristics of the deposited sediment. Soil sampling of deposits and bed material in the creek channels will be completed to support the sediment transport analysis and inform infiltration rates. The Scope of Work includes up to 52 samples (calculated at 2 per basin), and the sampling sites will be dry or wadeable. The samples will be of sufficient quantity for determining grain size distributions using sieve analyses for sand and gravel and hydrometer analyses for silt and clay.

Deliverables

Meeting minutes will be prepared for the meetings with the Conservation District, including a kickoff meeting and monthly progress meetings. The draft meeting minutes will be submitted to the Conservation District within 7 days of the meetings for review and approval.

The exhibits showing patterns of sedimentation, locations of samples, and grain size distributions will be prepared and submitted.

Task 2: Refine Modeling Scenarios

During negotiation of the scope, it became evident that the number of modeling scenarios required was dependent on many variables that could not be accurately predicted during the negotiation process. Two key uncertainties were (1) the floodplain permitting considerations for the proposed alternative improvements, and (2) applicable modeling requirements of the Flood Control District. The purpose of this task is to resolve as many of the uncertainties as possible though development of a modeling plan that refines the modeling scenarios. This scope assumes a number of modeling scenarios (hydrology, hydraulic, sediment transport, and groundwater recharge), and the accompanying fee includes levels of effort by labor category for the different modeling scenarios. This approach establishes a clear basis for evaluating contract changes that may arise for different modeling scenarios and different levels of effort per scenario.

Task 2.1: Floodplain Permitting Considerations

FEMA FIRMs 0671C7942H and 06071C7944H (effective 8/28/08) show the facilities under analysis are in a Zone A special flood hazard area (SFHA), meaning they are subject to inundation by the 1-percent annual chance exceedance flood, but no base flood elevations are determined. Because the proposed alternative improvements will be within these FEMA-regulated floodplains, Tetra Tech's Certified Floodplain Managers will be critical in ensuring compliance with local, state, and federal floodplain regulations. Notably 44 CFR 60.3 requires that until a regulatory floodway is designated, such as a Zone A SFHA, development shall not be permitted unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water-surface elevation of the base flood more than one foot. To the extent that proposed alternative improvements within Zone A SFHAs can be certified to cause no- rise in base flood elevations, this will save considerable time in the floodplain permitting process relative to a CLOMR-driven process. Thus, the floodplain permitting considerations may influence the number of modeling scenarios.

Task 2.2: Meeting with Conservation District and Flood Control District

In 2009 Tetra Tech certified the County's levees along Twin Creek and the Waterman Basins; in 2015 FEMA approved the certification and accredited the levees. To facilitate potential adaptive or joint use of the facilities, the Conservation District will need to ensure the proposed alternative improvements can be operated in compliance with applicable Flood Control District regulations. This is a primary reason why the Tetra Tech team proposes to meet jointly with the Conservation District and the Flood Control District. The meeting, up to a full day in length attended virtually, will focus on identifying how operation of the facilities can satisfy the Flood Control District's regulations and the Conservation District's objectives, while also ensuring consistency with applicable local, state, and federal floodplain regulations. Prior to the meeting, the Tetra Tech team will outline and deliver to the Conservation District a memo detailing key aspects of the modeling plan for the Flood Control District to consider ahead of the meeting.

Task 2.3: Modeling Plan

Following completion of Tasks 2.1 and 2.2 and building on the modeling plan outline drafted for Task 2.2, the Tetra Tech team will prepare a modeling plan in memo form that presents the refined modeling scenarios needed to evaluate the proposed alternative improvements. The plan will detail the hydrology, hydraulics, sediment transport, and groundwater recharge modeling scenarios required and agreed upon with the Flood Control District for each of the three facilities. The plan for each facility will be driven by the hydraulics, and the hydraulic modeling scenarios will be organized to logically proceed through the following analyses:

1. Water-surface profiles of existing conditions and proposed conditions to evaluate changes in freeboard and base flood elevations.
2. Water-surface analyses in the Waterman Creek diversion structure to analyze wall/berm heights to maximize diversion volumes without raising water-surface elevations in the nearby creek channel.
3. Using maximized diversion volumes to size spillways in the basins and spreading grounds.
4. Simulating drain times to size low-flow outlets.
5. Routing diverted flood hydrographs through the basins with the sized spillways and low-flow outlets to set gate openings to enhance infiltration/recharge. Infiltration hydrographs calculated in the hydraulic analyses will be used as hydrologic inputs to the groundwater recharge model.

The hydraulic modeling scenarios will inform hydrologic modeling scenarios required to fill gaps in available hydrologic information. The sediment transport modeling scenarios will be used to evaluate bulking factors that may need to be considered in the hydraulic analyses, and then following hydraulic analyses, the sediment transport modeling will be used to quantify sedimentation volumes in various basins so the hydraulics can be re-evaluated to analyze the influence of the reduced basin storage. The groundwater recharge modeling scenarios will target identifying proposed alternatives improvements with substantial enhancements in recharge volume. The plan will also include a revised fee that breaks out the agreed-upon modeling scenarios and specifies levels of effort by labor category. This will provide a clear basis for evaluating whether contracting changes are warranted.

Tetra Tech will present a draft modeling plan to the Conservation District, resolve a single round of compiled comments on the draft, and submit a final modeling plan to the Conservation District.

Deliverables

For Task 2.2, prior to the meeting, the Tetra Tech team will outline in a memo key aspects of the modeling plan for the Flood Control District to consider ahead of the meeting and submit it to the Conservation District.

Task 3: Field Survey

Tetra Tech will provide topographic mapping of the project site using a combination of airborne LiDAR, photogrammetry and traditional ground survey. This task will begin with a review of available information. The limit of the project site is presented in Exhibit 1, Aerial Survey Limit, at the end of this document. The prevailing wage will

be paid to the surveyors while working in the field. All field work would be performed in accordance with the current California Prevailing Wage requirements.

Task 3.1: Obtain and Review Available Survey Information

Tetra Tech will perform a town hall and internet search to obtain and review deeds, easements, previous surveys of the project area, and other record information required to perform the surveys in accordance with the Local, State, and Federal guidelines.

Task 3.2: Aerial Survey

Survey crews will establish a control network on the ground that will be used to control the aerial survey and can be used in the future for additional design survey or for construction control and layout. Airborne LiDAR data collected will be used to generate a point cloud of the bare earth surface at a density of 16 points per square meter. Aerial collected imagery will be orthorectified and used to map topographic features. The limits of the aerial survey will be provided as Attachment 1.

Task 3.3: Ground Survey

Survey crews will also perform a ground survey and collect accurate locations and elevations on certain existing features within the limits of the project, such as diversion structures, storm drainpipes and outlet structures, spillways, and other hard structures.

The three data sets from the LiDAR, photogrammetry and ground collected mapping will be merged into a single mapping deliverable that covers the entire site.

Access coordination at the project sites will be handled by the Conservation District.

Subcontractor Used

For Task 3.2, Aerial Survey, a subcontractor for flight data acquisition provider will be Keystone Aerial Surveys.

Deliverables

The three data sets from the aerial survey (LiDAR and photogrammetry) and ground survey will be merged into a single mapping deliverable that covers the entire site.

Tetra Tech will prepare a Civil 3D base file with 1-foot interval contours, above-ground features, overlaid aerial imagery, and 3-D surface model information. The base file will also include breaklines, spot elevations, and other information used to create the existing condition 3-D surface. Also provided are field notes and information on survey controls.

Task 4: Geotechnical Site Investigation

From a geotechnical standpoint, the key issues for the project are as follows:

- Obtaining reliable estimates of infiltration rates for the various basin locations.
- Estimating thicknesses of recent sediment deposits in the basins.
- Evaluating the impact of the proposed project on perimeter levee systems regarding FEMA certification requirements.
- Assessing the seepage, slope stability, and foundation conditions for internal embankment/dikes, spillways, and diversion structures.

Task 4.1: Data Review, Field Reconnaissance, Planning, & Field Investigation

Tetra Tech will research and review all geotechnical available data for the project site, including the geotechnical report and subsurface exploration information from the 2007 Levee Certification Report. Tetra Tech will perform both

test pits and hollow stem auger borings to obtain field data and soil samples for laboratory testing. It is anticipated that approximately 14 test pits/percolation tests and 23 exploratory borings will be performed. All field work, including exploratory borings and excavation work would be performed in accordance with the current California Prevailing Wage requirements.

Test pits are proposed where the bottoms of the subject basins are accessible. The test pits will be excavated with a backhoe to evaluate the depth of recent sediment and to assess the condition of the underlying alluvial soils. Those exploration test pits shall be 5 to 12 feet in depth, unless otherwise agreed in writing by the Conservation District. Infiltration tests using the falling head test method will be performed at selected locations in test pits varying in plan size from 2-foot by 2-foot to 5-foot by 5-foot. The depth of each infiltration test pit shall be 1 to 3 feet, unless otherwise agreed in writing by the Conservation District. Testing procedures will be in general accordance with the *County of Los Angeles Guidelines for Geotechnical Investigation and Reporting, Low Impact Development Stormwater Infiltration GS 200.1 (2021*). The selected infiltration pit dimension will be based on the gradation of the alluvium encountered during excavation.

Hollow stem auger borings will be performed in areas of proposed culverts, spillways, and embankment/dike improvements. The depths of these borings shall range from 25 to 50 feet, unless otherwise agreed in writing by the Conservation District. Tetra Tech has already performed geotechnical explorations of the perimeter levees as part of a previous FEMA certification program (Tetra Tech 2009), and consequently there is an extensive existing data base that can be used to supplement the data to be obtained from the proposed exploration described herein.




Based on the available data that Tetra Tech possesses as part of past FEMA certification work, it is anticipated that additional geotechnical exploration will not be required within the federally constructed levees bordering the Waterman and Twin Creek basins. Consequently, it is not anticipated that a 408 permit will be required for the geotechnical exploration work.

A summary of the tentative locations for the exploratory borings and test pits/percolation tests are presented in the following table.

Summary of Proposed Geotechnical Field Exploration

Project Location	Number of Borings	Number of Test Pit / Percolation Tests	Purpose
Diversions Upstream of Waterman Basins 1A and 1B	1	--	Boring for diversion structures
Waterman Basin 1A	2	1	Borings for low flow outlets, spillways and slope evaluation
Waterman Basin 1B	2	1	Borings for low flow outlets, spillways and slope evaluation
Waterman Basin 1C	1	1	Boring for 1C-2W spillway
Waterman Basin 2W	2	1	Boring for slope evaluation for Basins 2W and 3. Boring for 2W-2E spillway.
Waterman Basin 2E	1	1	Evaluation of slope grading for Basins 2E & 2A
Waterman Basin 3	1	2	Evaluation of slope grading for Basins 3 & 3D
Waterman Basin 3A	1	--	Evaluation of slope grading for Basins 3A & 3C

Project Location	Number of Borings	Number of Test Pit / Percolation Tests	Purpose
Twin Creek Basin 1	--	1	Boring for downstream spillway and berm
Twin Creel Basin 2	1	--	Boring for downstream spillway and berm
Twin Creek Basin 3	1	1	Boring for downstream spillway and berm
Twin Creek Basin 4	1	--	Boring for downstream spillway and berm
Twin Creek Basin 5	1	--	Boring for downstream spillway and berm
Twin Creek Basin 6	1	1	Boring for downstream spillway and berm
Lynwood Basin 1A	2	--	Borings for slope evaluation and downstream spillway and berm
Lynwood Basin 1B	1	1	Boring for slope evaluation
Lynwood Basin 2	1	1	Boring for slope evaluation and emergency spillway
Lynwood Basin 3	2	1	Boring for slope evaluation and emergency spillway
Lynwood Basin 4	1	1	Boring for slope evaluation and emergency spillway

Task 4.2: Laboratory testing

Selected samples taken during the field exploration will be tested to evaluate pertinent engineering properties including:

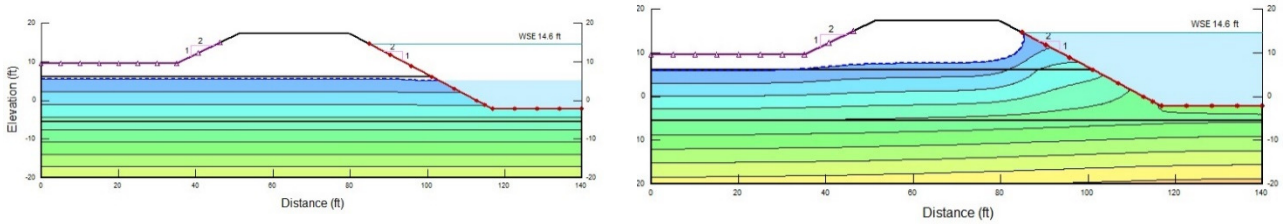
- Dry density and moisture content
- Atterberg Limits
- Gradation
- Maximum dry density/optimum moisture content
- Shear strength
- Consolidation potential
- Saturated hydraulic conductivity.
- Soil corrosion.

Task 4.3: Engineering Analysis, Exhibits, and Findings Report

The geotechnical analysis will include the following:

- Evaluation of field infiltration rates and design infiltration rates including factors for subsurface variability and future siltation/plugging.
- Evaluation of foundation conditions for proposed embankments and diversion structures including allowable vertical and lateral bearing capacity and potential settlement.
- Evaluation of seepage conditions within proposed embankments and existing levees. This evaluation will be performed using the software SEEP/W which is a finite element modeling program that can simulate both unsaturated and saturated flow and can be used to model both transient and steady state seepage conditions.

- Slope stability analysis of embankment and levee slopes under various hydraulic loading conditions. The stability analysis will be performed using SLOPE/W a powerful software that can develop stability models for numerous limit equilibrium methods including Bishop, Morgenstern and Price, Spencer, and Janbu. Seepage conditions modeled by SEEP/W can be directly input into the SLOPE/W so that slope stability under transient conditions (basin filling or rapid drawdown) can be effectively modeled.



- Both the seepage and slope stability analyses will be performed in tandem with the storm water routing and design alternative evaluations. It is anticipated that this will entail assessing various water levels within different basin configurations as well as differential water levels between adjacent basins. Using steady state seepage analysis to assess these various conditions may be quite conservative and could indicate adverse seepage or stability impacts that are unrealistic. In these cases, the use of transient seepage analysis, utilizing appropriately conservative hydraulic loading durations, provide more robust and accurate model. Tetra Tech has extensive experience in transient seepage modeling and has successfully utilized these techniques on numerous levee FEMA certification projects.
- Tetra Tech shall prepare a report that summarizes all the field and lab testing, engineering analysis, conclusions, and recommendations regarding the geotechnical aspects of the project.

Limitations and Assumptions

- The Conservation District will obtain all necessary permits to perform the field work including access and encroachment permits from the San Bernardino County Flood Control District, well permits from San Bernardino County Environmental Health, USACE 404 permit, and any other environmental permitting that may be required. Tetra Tech will assist the permitting process by producing maps, descriptions, and exhibits of the proposed work.
- No traffic control will be needed.
- The site is accessible with a truck-mounted drill rig.
- Field work will only be performed when the basins are dry.
- The field scope of the project will be performed during one mobilization.
- The borings will be backfilled with cement grout as required by the County.
- The test pits will be backfilled with the excavated soils.
- Any remaining drill cuttings will be disposed of at the site.
- Tetra Tech's exploration will not include sampling, testing, or assessment of toxic or hazardous substances, or evaluation of other environmental issues. If during the performance of the subsurface exploration, foreign or odorous materials are encountered, drilling will be terminated at that location and the client will be notified of the condition.
- Tetra Tech will not be responsible for utilities encountered during drilling that have not been marked out by Underground Service Alert (USA), shown on provided plans, or physically indicated in the field by the Client. If requested, third party utility location services can be provided at an additional cost.

Subcontractor Used

For Task 4.1, anticipated subcontractors for field work include 2R Drilling, Inc., ABC Liovin Drilling,Inc., Belshire Environmental Services, Inc., and/or Silva Backhoe Services, Inc.

Deliverables

A Geotechnical Analysis Report will be prepared to summarize the analyses results and findings. The report will be included in the Findings Report as an appendix (Task 13).

Task 4.A (Optional): Supplemental Test Pit / Infiltration Test (per test unit)

As an optional task, a supplemental test pit/ infiltration test will be performed at the Conservation District's written request. The details of each supplemental test will be negotiated between the Conservation District and Tetra Tech prior to commencement of field work.

Task 5: Value Engineering (Grading Alternatives)

Task 5.1: Value Engineering (Grading Alternatives)

Completing parts of Tasks 1 through 4 will allow the Tetra Tech team to consider the Conservation District's proposed grading alternatives through a value engineering perspective. Tetra Tech will identify up to one additional alternative for each of the Conservation District's proposed grading alternatives at each facility (a total of up to six additional grading alternatives). The additional alternatives will be derived from the alternatives presented in the RFP using information produced in Tasks 1 through 4 with a goal of providing notable construction cost savings, increasing the efficiency of the system, or substantially decreasing impacts to the facility or the environment.

Deliverables

Deliverables will be exhibits presenting conceptual components of the additional alternatives that the Conservation District can use to prepare additional alternative design plans.

Task 6: Hydrologic Analyses

Task 6.1: Obtain and Review Available Hydrologic Information

Completion of Task 2 will provide the modeling plan that will guide what hydrologic analyses are required to develop required inputs for the hydraulic analyses (Task 7), sediment transport analyses (Task 8), groundwater recharge analyses (Task 9), and value engineering to develop a construction phasing plan (Task 10). The joint meeting with the Conservation District and the Flood Control District (Task 2.2) will be a key step in identifying what available hydrologic information can be directly used or built upon. Using the modeling plan as a guide, Tetra Tech will obtain the available hydrologic information and review it for applicability.

In 2009 Tetra Tech prepared the FEMA Levee Certification of the East Twin Creek and Waterman Levees for the Flood Control District. Hydrologic analyses are documented in the *Levee Certification Report*, including the Standard Project Flood (SPF) hydrographs the USACE developed in the mid- to late-1950s for design of the levees. Because the Flood Control District has accepted these hydrographs, Tetra Tech shall directly use these SPF hydrographs. For the sediment transport analyses supporting the 2009 levee certification Tetra Tech scaled the SPF hydrographs to 100-yr. hydrographs using the ratios of peak discharges. Tetra Tech shall compare these 100-yr. hydrographs to 100-yr. hydrographs synthesized from flood frequency analyses of gaging station records, and then consult with the Conservation District (and the Flood Control District if beneficial) to determine which version to use for hydraulic analyses. Deliverables will be exhibits presenting the previously accepted hydrographs.

Task 6.2: Develop Flood Hydrographs

Tetra Tech shall compile previously accepted flood hydrographs and use flood frequency analyses of gaging station records compiled over different durations (e.g., 15-minute, 1-, 3-, 6-, 24-, 48-, and 72-hours) to synthesize remaining hydrographs.

Task 6.2.1: Streamflow Gaging Records Analyses

The USGS operates gages with long-term records on Waterman Canyon Creek (Gage No. 11058600, approximately 85 years of records since 1912) and East Twin Creek (Gage No. 11058500, about 100 years of records since 1920).

Tetra Tech shall compile and scale these gaging station records for use in statistical flood frequency analyses. The results of the statistical analyses of peak flows will be compared to the adopted peak flow frequencies in Tetra Tech's 2009 *Levee Certification Report*. The flood frequency analyses will consider aggregating streamflow gaging records over longer durations (e.g., 1-, 3-, 6-, 24-, 48-, and 72-hours) to synthesize hydrographs with average annual return frequencies of 2-, 5-, 10-, 25-, and 100-years. Only a portion of the watershed is gaged, so the synthesized hydrographs will be scaled by unit discharge and drainage area – the methodology Tetra Tech used for the levee certification. Deliverables will be exhibits presenting the hydrographs.

Task 6.2.2: Unit Hydrograph Analyses

A limitation of scaling runoff hydrographs is that the gaged watersheds are mostly undeveloped but some major inlets to the facilities are ungaged and drain developed areas (e.g., the main inlet to the Lynwood Basins). For these ungaged drainages, the SPF and Q100 hydrographs are needed, and both have regulatory significance to the Flood Control District, so the Hydrology Manual techniques will be implemented in either AES or HEC-HMS software. Hyetographs will be based on precipitation depths from the updated NOAAs NWS Volume 6 of Atlas 14. Deliverables will include exhibits presenting the runoff hydrographs.

Task 6.3: Develop, Test, and Apply Numerical Rainfall-Runoff Models

These rainfall-runoff models developed in Task 6.2.2 will also be used to simulate runoff hydrographs for storms with average annual recurrence intervals of 2-, 5-, 10-, and 25-years. Historical rainfall data compiled in the *Upper Santa Ana River Integrated Model Summary Report* will be used to inform the average annual storm, and the rainfall-runoff models will use this precipitation to simulate the average annual flood hydrograph. Regional regression equations (Gotvald et al. 2012) and the Flood Control District's curve will be used to check simulated peak flows for ungaged major inlets.

Only existing land cover conditions will be simulated, because the parties expect they are representative of future land cover. Hydrologic impacts of climate change and fires are beyond this scope. The simulated hydrographs for the specified design event storms (average annual, Q2, Q5, Q10, Q25, and Q100) will be used to drive the hydraulic models.

Task 6.4: Hydrology Exhibits and Findings Memos

As noted in the previous hydrology analyses tasks, Tetra Tech shall prepare exhibits to present results to the Water Conservation District. Tetra Tech shall prepare findings memos that accompany exhibits presenting the developed flood hydrographs. The memos will summarize the methods, data sources evaluated, and findings. The memos will be included as part of the Findings Report (Task 13).

Task 7: Hydraulic Analyses

Task 7.1: Obtain and Review Available Hydraulic Information

Completion of Task 2 will provide the modeling plan that will guide what hydraulic analyses are required to evaluate the proposed grading alternatives and proposed modifications to the facilities, to support groundwater recharge analyses (Task 9), and value engineering to develop a construction phasing plan (Task 10). The joint meeting with the Conservation District and the Flood Control District (Task 2.2) will be a key step in identifying what available hydraulic information can be directly used or built upon. Using the modeling plan as a guide, we will obtain the available hydraulic information and review it for applicability.

Task 7.2: Simulate Water-Surface Profiles through the Three Facilities

The proposed alternative improvements will likely induce complex flow patterns through the spreading grounds and basins, so a 2D HEC-RAS model will be used for hydraulic analyses. The spatial extent of the model will encompass all basins within the three facilities, from locations upstream of project boundaries on both East Twin Creek and Waterman Creek downstream to the concrete channel inlet area at the outlet of the Twin Creek Spreading Grounds, and also including the Lynwood Basins. While separate models were considered, and may be required to manage computation times, the parties have determined a single model may best accommodate out-of-bank flows during rare floods that exceed channel capacities. The 2D model will inform the refinement of existing 1D HEC-RAS models Tetra Tech prepared in 2009 for the FEMA Levee Certification of the East Twin Creek and Waterman Levees. The

Flood Control District will want to see water-surface profiles for existing and proposed conditions using the 1D HEC-RAS models.

The required input geometry for both 2D and 1D HEC-RAS models will be based on the latest-available LiDAR mapping to ensure appropriate routing (i.e., translation and attenuation) of the simulated flood hydrographs into and through each basin, including the influence of existing and proposed diversion structures (gates, connecting pipes, and berms and spillways) and the influence of tailwater. These simulations will establish water-surface profiles under existing and proposed conditions to ensure proposed conditions do not increase base flood elevations or violate levee freeboard requirements during the Q100. Under existing conditions one simulation will represent all gates open through all basins and diversions; the other simulation will represent all gates closed through all basins and diversions. The same two simulations will be carried out for the proposed grading alternatives (four in each of the three facilities). To establish "baseline" water-surface elevations, Tetra Tech will refine the 1D HEC-RAS levee certification model with the latest-available LiDAR mapping, and then will review ineffective flow areas, bank stations, obstructions, and levees, assuming no structures – inline or lateral – require updating. The 1D water-surface profiles will be compared to the 2D profiles and the 1D model adjusted to target the 2D results. Tetra Tech shall then update the models for 12 simulations of proposed conditions (i.e., four grading alternatives (2 District provided and 2 value engineered) per each of the three facilities), although this may change following the completion of Task 2. Tetra Tech shall will present exhibits to the District that compare water-surface profiles, and the modeling will be documented in a findings memo.

Further, the 2D hydraulic models will also be used for calculating the drain time for each basin, including the effect of infiltration. HEC-RAS does not explicitly simulate infiltration, but storage areas with controlled inlets will be used to effectively simulate infiltration. The drain time will vary for proposed conditions depending in part on whether ponding depth can be maximized for available storage in each basin.

Task 7.3: Waterman Basins

Task 7.3.1: Hydraulic Analyses of the Waterman Creek Diversion Structure

The Waterman Basins are connected to Waterman Creek at the diversion structure that contains three gated diversions into existing Basins 1A, 1B, and 1C. Because the diversion channel is in a Zone A SFHA on the effective firm (8/28/2008), Tetra Tech shall establish Existing Conditions BFEs for comparison to BFEs under the proposed design concepts (Proposed Conditions). The parties understand there is no operating plan for the existing diversion structure, so the operational criteria will be agreed upon with the Flood Control District as documented in the modeling plan (Task 2.3). The following proposal represents the parties' expectations for agreements that will be reached with the Flood Control District; these aspects of the proposal may change in coordination with the Conservation District pending the completion of the modeling plan (Task 2.3). For analyses of Existing Conditions water surfaces needed to evaluate the hydraulic performance of the Flood Control District's levees along the Twin Creek Spreading Grounds, gates at the three diversion structures will be assumed closed; Tetra Tech shall use simulations of fully open diversion gates to analyze water surfaces at the Flood Control District's levee along the Waterman Basins. Tetra Tech shall use constant peak discharge hydrology for analyses of proposed modifications to the diversion structure. Tetra Tech shall evaluate the SPF and Q100, with diversion gates open, to demonstrate that proposed modifications do not cause violations of hydraulic design/performance criteria for the Waterman levee; Tetra Tech shall repeat these analyses with the diversion gates shut to demonstrate the proposed modifications do not cause violations of the hydraulic design/performance criteria for the Twin Creek levees. The most conservative condition will also be used to evaluate increases in water-surface elevations along Waterman Creek near the diversion structure. Tetra Tech shall evaluate the average annual flood with diversion gates open to identify which of the proposed modifications diverts the most runoff into the Waterman Spreading Grounds. Tetra Tech shall present results to the Conservation District to select their preferred modification to the diversion structure.

1. The water surfaces will be analyzed for the Q100 and the SPF under existing conditions with gates either all open or all closed. The average annual hydrograph will be modeled with the gates open to establish the diversion volumes under existing conditions. Completion of these analyses requires 5 simulations of the hydraulic model.

2. The Conservation District is considering alternatives to the diversion structure, including the two concept configurations presented in the RFP and one TBD alternative to each concept configuration. Tetra Tech's

understanding is that the hydraulic analyses of the various configurations will identify the wall/berm height that maximizes diversion without impacting the water surface in the area immediately upstream and downstream of the diversion structure. Thus, hydraulic analyses of these four configurations will evaluate water-surface elevations for the Q100 and SPF, for comparison to existing conditions, with closed diversion gates, using a series of up to three heights for the diversion walls and up to three heights for the diversion berms. Tetra Tech shall model the average annual flood in each configuration with diversion gates open to identify diversion volumes. Completion of these analyses requires up to 36 simulations of the hydraulic model. Tetra Tech shall present the results to the Conservation District to guide its selection of the preferred proposed configuration.

3. Diversion hydrographs will be simulated with diversion gates fully open for the mean annual flood, Q2, Q5, Q10, Q25, Q100, and SPF under Existing Conditions and the Conservation District's selected proposed configuration. The resulting diversion hydrographs will serve as inflow boundary conditions for analyses of the Waterman Basins. Completion of these analyses requires 14 simulations of the hydraulic model.

Task 7.3.2: Waterman Basins Routing and Drain Time Analyses

1. The diversion hydrographs for the Conservation District's selected preferred proposed configuration (Task 3.3.1 bullet 3) will be used to represent flows diverted into the Waterman Basins during the average annual flood, Q2, Q5, Q10, Q25, Q100, and SPF. Because the parties understand there is no operating plan for the Waterman Basins, Tetra Tech shall evaluate the Q100 and SPF assuming full basins and the other floods assuming empty basins.

2. Based on the Q100 diversion hydrographs under existing conditions and under the District's selected proposed configuration of the diversion structure, Tetra Tech shall run simulations to help the Conservation District evaluate whether spillways between basins require modification. To be conservative, Tetra Tech shall not simulate infiltration and Tetra Tech shall assume gates on low-flow outlets are closed. Tetra Tech shall model the existing grading of the Waterman Basins with the existing conditions Q100 diversion hydrographs and the Q100 diversion hydrographs for the District's selected proposed configuration of the diversion structure. The first simulation will identify whether the existing spillways are functioning as intended; the second simulation will identify whether spillway sizing modifications are needed if the District implements the selected proposed configuration of the diversion structure. Tetra Tech shall also model up to two Conservation District-supplied alternative grading plans. Tetra Tech shall only evaluate the Q100 diversion hydrographs for the District's selected proposed configuration of the diversion structure. Tetra Tech shall present results to the Conservation District to design and supply up to 2 spillways sized to convey the Q100. Completion of these analyses requires up to 8 simulations of the hydraulic model. The Conservation District will select preferred sizing of spillways under each alternative grading.

3. After the Conservation District selects the spillway sizes for the grading alternatives, Tetra Tech shall size low-flow outlets. As a first step, Tetra Tech shall evaluate the existing diversion hydrographs for the average annual flood, without infiltration, and with the existing low-flow outlet gates open; this will provide a baseline for comparison. The Conservation District may be interested in using the SUSTAIN software to optimize the pipe sizes for the grading alternatives that maximize the ponding depth for the available storage volume and drain time. Assuming SUSTAIN is not pursued, up to three variations in pipe size will be evaluated by simulating in the hydraulic model the average annual flood diversion hydrographs from the District's selected proposed configuration of the diversion structure with low-flow outlet gates open to maximize ponding depth for the available storage volume and drain time requirements. Infiltration will not be considered in these analyses. For the alternative gradings, the existing diversion hydrographs will not be considered. Completion of these analyses requires up to 7 simulations of the hydraulic model. Tetra Tech shall present the results to the Conservation District to select the preferred sizing of the low-flow outlets.

4. After the Conservation District selects the low-flow outlet sizes for the grading alternatives, Tetra Tech shall evaluate infiltration using the average annual flood hydrograph. Tetra Tech shall evaluate existing grading, existing spillways and low-flow outlets, and average annual diversion hydrographs for the District's selected proposed configuration of the diversion structure using infiltration rates based on testing of existing conditions. For the alternative grading, we will evaluate no-clogging and clogged infiltration rates. For all grading configurations, only the average annual diversion hydrographs for the Conservation District's selected proposed configuration of the diversion structure will be evaluated. For these analyses the parties assume mounding does not cause groundwater recharge rejection. One round of analyses will use open

gates on low-flow outlets; a second round of analyses will use closed gates on the low-flow outlets. Completion of these analyses requires 10 simulations of the hydraulic model.

5. After the Conservation District selects the low-flow outlet sizes for the grading alternatives, Tetra Tech shall evaluate routing and drain times for the Q2, Q5, Q10, Q25, and Q100 (the parties assume infiltration will not meaningfully influence the SPF). These analyses will use the Conservations District's selected (1) proposed configuration of the diversion structure for diversion hydrographs, (2) spillway sizes, and (3) low-flow outlet sizes. The routing and drain times will be evaluated for a single District-selected infiltration rate and low-flow outlet gates open. Completion of these analyses requires 15 simulations of the hydraulic model.

Task 7.4: Twin Creek Spreading Grounds

Task 7.4.1: Hydraulic Analyses of the Twin Creek Spreading Grounds

The parties assume the conservative case for hydraulics in the Twin Creek Spreading Grounds is (1) when the Waterman diversion structure gates are closed so that the modifications to the Waterman Spreading Grounds will not affect the peak inflow to the Twin Creek Spreading Grounds, and (2) assuming the modifications to the Waterman diversion structure will not increase peak inflows to the Twin Creek Spreading Grounds. Thus, Tetra Tech shall use directly the SPF and Q100 hydrographs from Tetra Tech's analyses for levee certification at 40th Street as the upstream hydrologic boundary for hydraulic analyses of the Twin Creek Spreading Grounds. Like for the Waterman Basins, our hydraulic analysis approach for the Twin Creek Spreading Grounds starts with evaluating hydraulic performance of the levees (SPF and Q100) for proposed grading modifications to the basins, then evaluating whether spillway changes are required (Q100), then sizing low-flow outlets (average annual flood), and then evaluating basin routing with infiltration (average annual flood).

1. In the RFP the Conservation District presents two grading alternatives for the basins in the Twin Creek Spreading Grounds. Tetra Tech shall evaluate the SPF and Q100 assuming full basins and the other floods assuming empty basins. The hydraulic model will be used to simulate Q100 and SPF water-surface profiles for both grading alternatives with the Waterman diversion structure gates closed. Up to two simulations that vary spillway widths will be completed for each alternative to avoid compromising hydraulic performance of the levees relative to the Flood Control District's final levee certification documents. Tetra Tech suggests also simulating the existing conditions water-surface elevations (maintaining breached berms) to eliminate potential for confounding factors when comparing existing conditions and proposed conditions water-surface elevations (e.g., different modeling platforms and assumptions). Infiltration will not be included in these analyses. Completion of these analyses requires up to 10 simulations of the hydraulic model.

2. After the Conservation District selects the spillway sizes for the grading alternatives, Tetra Tech shall size low-flow outlets. The Conservation District may be interested in using the SUSTAIN software to optimize the pipe sizes that maximize the ponding depth for the available storage volume and drain time. Assuming SUSTAIN is not pursued, up to three variations will be evaluated by simulating the average annual flood hydrograph in the hydraulic model with low-flow outlet gates open to maximize ponding depth for the available storage volume and drain time requirements. Infiltration will not be considered in these analyses. Completion of these analyses requires up to 6 simulations of the hydraulic model. Tetra Tech shall present the results to the Conservation District to select the preferred sizing of the low-flow outlets.

Tasks 7.4.2: Twin Creek Spreading Grounds Drain Time Analyses

1. The Conservation District will select the spillway sizes and low-flow outlet sizes for each grading alternative. Using the selected sizes, drain times for each basin under existing conditions and both grading alternatives will be calculated based on the basins being full. Because this time will be affected by infiltration, the drain times will be calculated under existing conditions using tested infiltration rates and under proposed grading alternatives for no clogging and clogged infiltration conditions. For all analyses the parties assume mounding does not cause rejection of infiltration/groundwater recharge. The drain times will also be calculated for the average annual flood and the Q100 with no diversion into the Waterman Basins, or for a single configuration the Conservation District specifies. Tetra Tech shall analyze drain time for existing conditions using tested infiltration rates (assuming mounding does not reject infiltration) based on the basins being full, and for the

Q100 and average annual flood. Completion of these analyses requires 15 simulations of the hydraulic model.

2. After the Conservation District selects the low-flow outlet sizes for the grading alternatives, Tetra Tech shall evaluate routing and drain times for the Q2, Q5, Q10, Q25, and Q100 (the parties assume infiltration will not meaningfully influence the SPF). These analyses will use the Conservations District's selected spillway sizes and low-flow outlet sizes. The routing and drain times will be evaluated for a single District-selected infiltration rate and low-flow outlet gates open. Completion of these analyses requires 15 simulations of the hydraulic model.

Task 7.5: Lynwood Basins

Task 7.5.1: Hydraulic Analyses of the Lynwood Basins

1. In the RFP the Conservation District presents two grading alternatives for the Lynwood Basins. The hydraulic model will be used to simulate Q100 water-surface profiles for both alternatives. Q100 hydrology will reflect maximum inflow and diverted flow from the Twin Creek Spreading Grounds and peak inflows from local drains. Tetra Tech shall simulate the water-surface profile for existing conditions as a basis of comparison. Completion of these analyses requires 3 simulations of the hydraulic model.

Tasks 7.5.2: Lynwood Basins Drain Time Analyses

1. Drain times for each basin under both alternatives will be calculated based on the basins being full. Because this time will be affected by infiltration, the drain times will be calculated for no clogging and clogged conditions, assuming mounding does not cause rejection of infiltration. The drain times will also be calculated for the average annual flood and the Q100 with and without inflow from the Twin Creek Spreading Grounds. Tetra Tech shall simulate existing conditions with tested infiltration rates as a basis of comparison. Completion of these analyses requires 30 simulations of the hydraulic model.

2. After the Conservation District selects the low-flow outlet sizes for the grading alternatives, we will evaluate routing and drain times for the Q2, Q5, Q10, Q25, and Q100 (the parties assume infiltration will not meaningfully influence the SPF). These analyses will use the Conservations District's selected spillway sizes and low-flow outlet sizes. The routing and drain times will be evaluated for a single District-selected infiltration rate and low-flow outlet gates open. Completion of these analyses requires 15 simulations of the hydraulic model.

Task 7.6: Hydraulic Exhibits and Findings Memos – Hydraulics and Basin Routing

Throughout the hydraulic analyses, exhibits will be used to communicate incremental findings to the Conservation District. Findings memos will be prepared at key points in the analyses, or to accompany certain exhibits. Summaries of hydraulic results for the modeling scenarios will be included in the findings memos.

Task 7.7: Develop and Test 1D Hydraulic Model for Sediment Transport Analyses

Tetra Tech shall develop a 1D HEC-RAS model to be used for the sediment transport analyses (Task 8). A reliable hydraulic model is the foundation of a mobile-boundary, sediment routing model. Tetra Tech shall use the 2D model results to inform the development of a 1D model geometry and will test the 1D hydraulic simulations using the 2D hydraulic results as the target.

Deliverables

Findings memos will be prepared to summarize the evaluation results and findings from the Hydraulics and Basin Routing Analyses. The memos will ultimately be included as part of the Findings Report (Task 13).

Exclusions

Levee Re-certification: Within the scope of the feasibility study of the Conservation District's conceptual designs for the ARTP, the parties do not expect that the designs will be refined enough to complete re-certification of the Flood Control District's levees. If re-certification turns out to be required within the feasibility study, Tetra Tech shall consult

with the Conservation District and Flood Control District to determine the scope of work, associated fee, and accompanying schedule.

Task 8: Sediment Transport Analyses

There are two key considerations relative to sediment transport that warrant analysis. First, as runoff is diverted into the spreading grounds and recharge basins, bed material load and wash load will be diverted with the flow. These transported loads increase the volume of the diverted runoff, so a bulking factor may be warranted to increase the peak flows of clear-water runoff. The sediment transport analysis will characterize the total sediment load as a basis for calculating bulking factors. Second, the diverted sediment may deposit in the basins, both reducing storage volume and causing infiltration rates to decay because of clogging. While a simple spreadsheet-based mass balance was considered for the sediment transport analysis, the parties are concerned that the dynamic feedback between deposition and hydraulics and future erosion or sedimentation requires a mobile-boundary numerical model. For example, as deposition fills a basin, the storage volume drops and flow-through velocity increases, which could re-entrain deposited sediment. We propose a USLE model to simulate sediment delivery to the facilities and a 1D HEC-RAS model for simulating the sediment loads diverted into, transported through, and deposited in the basins.

Task 8.1: Obtain and Review Available Sediment Transport Information

Completion of Task 2 will provide the modeling plan that will guide sediment transport simulations required to evaluate the sedimentation impacts on the proposed grading alternatives and proposed modifications to the facilities to support groundwater recharge analyses (Task 9). The joint meeting with the Conservation District and the Flood Control District (Task 2.2) will be a key step in identifying what available sediment transport information can be directly used or built upon. Using the modeling plan as a guide, Tetra Tech shall obtain the available sediment transport information and review it for applicability.

The parties anticipate obtaining and reviewing as-built surveys of the basins along with record of sediment dredging. Historical LiDAR mapping and surveys will be targeted. Expecting historical topographic information will be obtained and judged useful, Tetra Tech shall obtain contemporary historical flow records to help inform rates of sedimentation/topographic change. Information about the gradation of historical sedimentation will also be useful for understanding the sizes of sediment delivered into various basins; this information may be available with sediment dredging records.

Task 8.2: Develop Modeling Testing/Calibration Datasets

Using results of the previous task, Tetra Tech shall assemble information into datasets to be used for testing and then calibrating the parameterization of the 1D, mobile-boundary, sediment routing model. These datasets are expected to encompass combinations of geomorphic changes (surveys, sedimentation gradations, dredging records) and hydrology (flows records covering the period of geomorphic change). Ideally the timing, duration, and hydrology of the dataset will differ to confirm the model can reasonably simulate sediment mobilization, transport, and deposition over the range of conditions expected for analyzing the proposed grading alternatives and associated structure modifications.

The Universal Soil Loss Equation (USLE) was developed to predict soil loss from field scale agricultural plots. The USDA's ARS led the development, and continues to maintain, the Revised Universal Soil Loss Equation (RUSLE) to compute the annual sediment yield from a watershed caused by rainfall and associated overland flow. The RUSLE represents how climate, soil, topography, and land cover affect rill and interrill soil erosion caused by raindrop impact and surface runoff. The Modified Universal Soil Loss Equation (MUSLE) was developed to represent sediment yield from individual storm events instead of average annual sediment yield. Tetra Tech shall use a GIS to implement either the RUSLE or the MUSLE to simulate watershed sediment yields. Tetra Tech shall estimate sediment delivery ratios to convert the sediment yields to sediment delivery into the Waterman Basins and the Twin Creek Spreading Grounds.

Task 8.3: Develop, Test, and Calibrate 1D Sediment Transport Models

Tetra Tech shall use the 1D HEC-RAS model developed and tested in Task 7.7 as the foundation for adding mobile-boundary and sediment routing capabilities. The required hydrologic boundary conditions and required upstream sediment supplies at the boundaries of the 1D HEC-RAS model will be informed by the gaging station records and results of Tasks 7.1 through 7.3. Long-term hydrographs and sediment loading (primarily wash load, perhaps with

some sand) from the RUSLE/MUSLE will illustrate how annual variability in the frequency, magnitude, and duration of flood hydrographs influences rates of sedimentation and decay of infiltration caused by clogging. The RUSLE/MUSLE simulations do not include most bed material load, so estimates will be based on calculations of transport capacity using results from the hydraulic analysis and gradations of sand and gravel deposited in the basins (sampled during the field investigations). Bed material rating curves will be developed using a suitable transport formula such that these rating curves can be integrated over runoff/diversion hydrographs to characterize bed material supplies. The 1D HEC-RAS model can then simulate the mobilization, transport, and deposition of the bed material along with the wash load supplies from the RUSLE/MUSLE.

The datasets developed in the previous task will be used to test the applicability of the sediment routing parameters in the 1D HEC-RAS model. The model will be tested to confirm geometry and hydraulics provide reasonable inputs to the sediment transport calculations. Simulations of sedimentation will be calibrated, to the extent possible, by comparing topographic changes between historical LiDAR mappings and the recorded hydrology during the time between mappings. Calibration provides confidence that results from the simulations are appropriate for the basis of making decisions about proposed alternative grading and structure modifications.

Task 8.4: Sediment Transport Simulations

The 1D mobile-boundary HEC-RAS model is well-suited to evaluating differences between existing conditions and proposed conditions, and it will be valuable for informing understanding of operation and maintenance actions that may be needed. This model will simulate sedimentation during design floods (Q2, Q5, Q10, Q25, Q100, and the average annual flood) to support estimates of bulking factors and estimates of storage volume filled with sedimentation. We suggest simulating a long-term flow series from the gaging records to guide estimates of sedimentation depths and volumes that will impact infiltration rates.

Task 8.4.1: Waterman Basins

Three series of flood simulations will focus on the Waterman Creek diversion channel: existing conditions with Waterman Creek diversion structure gates open and shut, and the District's selected proposed diversion structure configuration with gates open (assuming gates shut is essentially the same as existing conditions with gates shut). Four series of flood simulations will focus on the Waterman Basins: existing conditions with the low-flow outlets and gates open and shut, proposed conditions for both grading alternatives each with the District's selected spillway and low-flow outlet sizing and gate settings.

Task 8.4.2: Twin Creek Spreading Grounds

Three series of flood simulations will focus on the Twin Creek Spreading Grounds. The series include existing conditions, and both grading alternatives with the District's selected spillway and low-flow outlet sizing and gate settings.

Task 8.4.3: Lynwood Basins

Three series of flood simulations will focus on the Lynwood Basins. The series include existing conditions, and both grading alternatives each with the District's selected spillway and low-flow outlet sizing and gate settings.

Task 8.5: Sediment Transport Exhibits and Findings Memos

Throughout the sediment transport analyses, exhibits will be used to communicate incremental findings to the Conservation District. Tetra Tech shall prepare a findings memo that accompanies exhibits presenting the bulking factors; sedimentation volumes, rates, gradations, and locations; and, estimated decay/clogging effects on infiltration.

Deliverables

A memo will be prepared to summarize the evaluation results and findings from the Sediment Transport Analyses. The memo will be included as part of the Findings Report (Task 13).

Task 9: Groundwater Recharge Analyses

The main objectives of this task are (1) to predict groundwater recharge volumes for different hydrologic scenarios and grading alternatives, and (2) to provide necessary information for both the assessment of levee and basin berm stability and liquefaction potential for the surrounding area. The impacts on the existing development will be included in the mounding (or groundwater level elevation or depth to water) and potential liquefaction in the surrounding area.

Task 9.1: Refine a New Focused Groundwater Model

The Tetra Tech team will simulate groundwater recharge using a MODFLOW model driven by infiltration hydrographs computed from the basin routing analyses. Geoscience suggests using a new focused MODFLOW model refined from the existing Integrated Santa Ana River Model. Geoscience will refine the existing model with newly collected geohydrologic data from the current project (e.g., LiDAR mapping, land surface surveys, and lithology from borings) to simulate groundwater levels for analyses of recharge capacity (e.g., any rejected recharge). Computation increments will be decreased to an appropriate value for the average annual flood infiltration hydrographs, and the new focused model will be recalibrated to ensure that the calibration performance meets industry standards.

Task 9.2: Existing Conditions Recharge Analyses

One set of simulations using the new focused groundwater model will reflect existing conditions using tested infiltration rates. Geoscience anticipates that the low infiltration volume during the average annual flood relative to less frequent floods, coupled with the relatively short duration of the average annual flood, means recharge at any facility is unlikely to measurably affect, or be measurably affected by, recharge at either of the other facilities. Thus, completion of the existing conditions analyses will require a single simulation of the new focused groundwater model.

Task 9.3: Proposed Conditions Recharge Analyses

Four additional sets of simulations will reflect the two grading alternatives, each alternative with infiltration hydrographs based on either no clogging or clogged conditions. Geoscience anticipates that the low infiltration volume during the average annual flood relative to less frequent floods, coupled with the relatively short duration of the average annual flood, means recharge at any facility is unlikely to measurably affect, or be measurably affected by, recharge at either of the other facilities. Thus, completion of the proposed conditions analyses will require four simulations of the new focused groundwater model for the two grading alternatives, with each alternative under both no clogging and clogged infiltration rates.

The Tetra Tech team will run the existing Integrated Santa Ana River Model to simulate the highest estimated amount of groundwater recharge for Waterman Basins, Twin Creek Spreading Grounds, and Lynwood Basins based on results of the recharge volume analysis discussed above. The modeling results (i.e., estimated depth to groundwater under the project conditions) will be used for an evaluation of the stability of site features as well as potential liquefaction in the adjacent areas. If the maximum estimated groundwater recharge is projected to cause negative impacts on slope stability or exceeds the potential liquefaction threshold, an evaluation using the second-highest estimated amount of groundwater recharge will be made. This iterative process will continue until no negative impacts from the groundwater recharge are anticipated.

Task 9.4: Groundwater Recharge Exhibits and Findings Memos

Throughout the groundwater recharge analyses, exhibits will be used to communicate incremental findings to the Conservation District. A memo will be prepared to summarize the evaluation results and findings. The memo will be included as part of the Findings Report (Task 13).

If the optional task (Task 9.5) is approved by the Conservation District, the additional memo will be prepared and included as part of the Findings Report (Task 13).

Subcontractor Used

GEOSCIENCE Support Services, Inc. will provide technical support in developing a groundwater recharge model.

Task 9.A (OPTIONAL): Groundwater Recharge Analysis (up to 3 simulations)

Task 9.A: OPTIONAL - Groundwater Recharge Analysis (up to 3 simulations)

As an optional task, the Tetra Tech team offers additional simulations of the groundwater model to be exercised at the Conservation District's discretion. For a fee estimate purpose, a total of 3 simulations were assumed. A simulation includes (1) running the new focused MODFLOW groundwater model for one set of boundary conditions and modeling parameters for up to all three facilities (Waterman Basins, Twin Creek Spreading Grounds, and Lynwood Basins), (2) analysis of groundwater recharge, and (3) preparation of exhibits and documentation of results in a findings memo, Conservation District will advise Tetra Tech in writing if it chooses to proceed with this optional task.

Task 10: Value Engineering (SUSTAIN Modeling)

The value engineering in Task 5 seeks to identify additional grading alternatives and structural modifications that enhance the performance of the groundwater recharge facilities; the value engineering in this task targets identifying the most valuable implementation of preferred alternatives and modifications. The parties understand the Conservation District will implement final design and construction of preferred alternatives and modifications consistent with available budget (among other considerations). In the RFP the Conservation District seeks consultant suggestions for additional concepts to include in the scope of work. The Tetra Tech team shall provide an optimization analysis to prioritize preferred alternative improvements to the diversion structure, basins, and conveyances (spillways and low-flow outlets) considering different infiltration rates and construction costs.

Task 10.1: SUSTAIN Simulations

Following recent successes on similar projects, Tetra Tech shall apply the EPA's System for Urban Stormwater Treatment and Analysis Integration (SUSTAIN) software to develop a construction phasing plan that prioritizes preferred alternatives and modifications for implementation. SUSTAIN allows for development, evaluation, and selection of optimal combinations of proposed alternative improvements based on cost and effectiveness. In the suggested application, the effectiveness will be quantified in terms of infiltrated runoff over approximately a decadal time scale (using recorded hydrology for required inflow boundary conditions, see Task 6) and the cost will reflect estimated construction cost. The parties envision the infiltration area, volumetric storage capacity, and both inflow and outflow rates as key variables for the optimization analysis. The optimization analysis will include numerous combinations of these variables using estimated no clogging and clogged infiltration rates based on site-verified conditions.

Task 10.2: Construction Phasing Plan

The parties shall coordinate to identify the number of optimal combinations in each of the Waterman Basins, the Twin Creek Spreading Grounds, and the Lynwood Basins for evaluation of hydraulics and sediment transport. This approach is suggested to provide an informed basis for prioritizing combinations of proposed improvements for further evaluation

Deliverables

Throughout the SUSTAIN analyses, exhibits will be used to communicate incremental findings to the Conservation District. A memo will be prepared to summarize the evaluation results and findings. The memo will be included as part of the Findings Report (Task 13).

Task 11: Quantity Calculations

Task 11.1: Obtain, Review, and Evaluation of Conservation District Design CAD Files

For the Conservation District-provided design alternatives, rough construction quantities of major construction items will be developed for a planning-level estimate. The information on the design plans, titled "Preliminary Site Plans for Lynwood Basins, Twin Creek Spreading Grounds and Waterman Spreading Grounds" (Exhibit 1 of the RFP), will be

reviewed and used as a basis for the proposed design layouts. The quantities will be broken down into the following alternatives:

- 2 Lynwood Basin Alternatives
- 2 Twin Creek Spreading Grounds Alternatives
- 2 Waterman Spreading Grounds Alternatives
- 2 Diversions Alternatives for Waterman Spreading Grounds

Task 11.2: Create a Proposed Condition Surface

For grading quantities, the SBVWCD-provided 2-D AutoCAD base files that were used to create the Exhibit will be used. The proposed condition 3-D surface will be created using the 2-D lineworks, provided by the Conservation District, using Civil 3D software (version 2020). The elevations will be assigned to the 2-D lineworks, based on the information on the Conservation District-provided design plans, titled "Preliminary Site Plans for Lynwood Basins, Twin Creek Spreading Grounds and Waterman Spreading Grounds" (Exhibit 1 of the RFP). A corridor and templates will be used in Civil 3D to create parts of the 3-D surface, as appropriate. The 3-D surface will only utilize the District's linework, and no additional designing/modeling efforts will be performed. Adjustment to the proposed lineworks may be performed to fit into the new project topographic survey map (Task 5) and to allow smoother Civil 3D operation.

Task 11.3: Quantity Calculations

Once the new proposed condition surface is completed, the grading quantities will be determined based on the difference between the proposed condition 3-D surface and existing condition survey mapping (Task 3).

Where appropriate, typical sections of existing and proposed condition gradings will be developed in 2-D as necessary based on the Exhibit and applied over distances to determine the quantities. In this case, MS Excel will be used to create a spreadsheet to determine approximate quantities of major design components as shown on the Exhibit.

Task 11.4: Life Cycle Analysis

Tetra Tech will work with the Conservation District to determine yearly maintenance and construction cost for the selected alternatives. Tetra Tech will utilize these costs to determine the 50-year life cycle cost of each alternative.

Deliverables

A memo will be prepared to summarize the quantities of each major design components. Any backup calculations, including hand calculations, will be scanned and included. The memo will be included as part of the Findings Report (Task 13).

Task 12: Evaluation of the Results of the Preliminary Design Analyses in relation to SBCFCD, USACE Design Standards, and FEMA Guidelines

Task 12.1: Evaluation of the Results of the Preliminary Design Analyses in relation to SBCFCD, USACE Design Standards, and FEMA Guidelines

Once the preliminary analyses are completed, those results will be evaluated in relation to the design requirements and guidelines of the Flood Control District, USACE, and FEMA.

.

Tetra Tech will review the analyses results from the previous tasks in terms of their use as the design parameters and evaluate how the Conservation District's preliminary designs comply with the aforementioned agencies' design standards, requirements, and guidelines for the calculated design parameters.

Deliverables

A memo will be prepared to summarize the evaluation results and findings. The memo will be included as part of the Findings Report (Task 13).

Task 13: Findings Report and Exhibits

Tetra Tech will submit a Findings Report and Exhibits in two phases: Draft and Final Submittals.

Task 13.1: Exhibits and Findings Report (Draft)

Tetra Tech will prepare a draft report that summarizes the major findings and results from Tasks 4 and 6 through 12. The reports prepared in those Tasks will be included in this Findings Report as appendices. The report will also summarize the findings and analyses that are needed to update the *Upper Santa Ana River Integrated Model Summary Report*, previously prepared by GEOSCIENCE.

Tetra Tech will prepare exhibits of the followings:

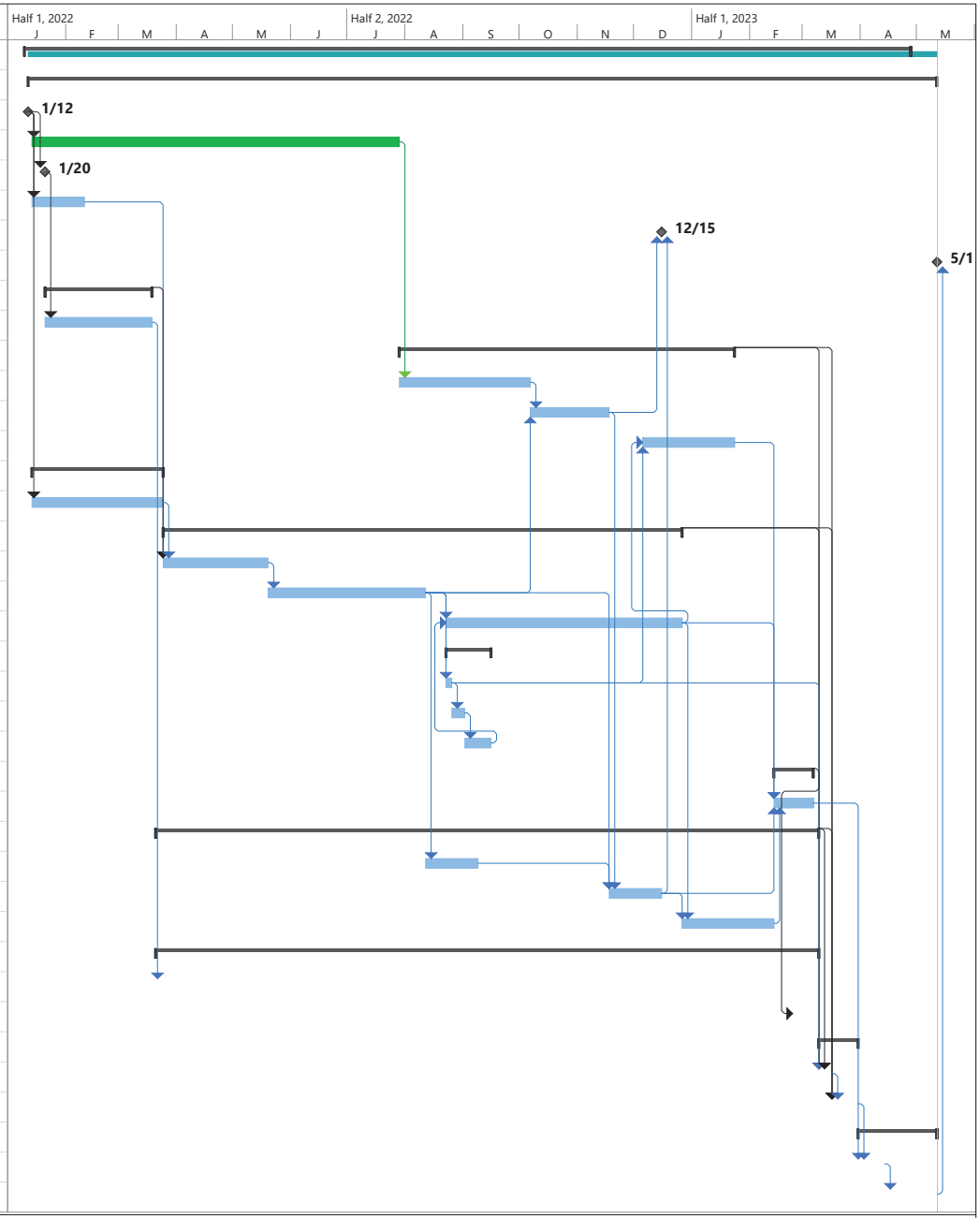
- Existing topographic mapping from the project survey
- Schematic layouts of all studied alternatives overlaid on existing topographic mapping
- The limits of potential wetted areas under the existing topographic condition and various hydrological conditions. The inundation boundaries will be based on a model output (a shapefile) exported from the HEC-RAS Mapper from Task 7. The limits will be overlaid on the existing topographic mapping.
- The limits of potential wetted areas under the proposed topographic condition and various hydrological conditions. The inundation boundaries will be based on a model output (a shapefile) exported from the HEC-RAS Mapper from Task 7. The limits will be overlaid on the proposed condition mapping.

The exhibits will be prepared using Civil 3D software (version 2020). The digital files used in preparation of the exhibits will be submitted to the Conservation District for future use.

Task 13.2: Exhibits and Findings Report (Final)

After the Draft Submittal review comments are received from the Conservation District, the review conference will be held between the Conservation District and Tetra Tech team to review and reach concurrence on how the comments should be addressed (Task 1). Final Submittal will be submitted to address the Draft Submittal comments.

ID	Task Name	Duration	Start	Finish
1	**Waterman and Lynwood Project**	**339 days**	**Mon 1/10/22**	**Thu 4/27/23**
2	**Project Management**	**347 days**	**Wed 1/12/22**	**Thu 5/11/23**
3	NTP	0 days	Wed 1/12/22	Wed 1/12/22
4	**Environmental Permit by the Conservation District**	28 wks	Fri 1/14/22	Thu 7/28/22
5	Kickoff Meeting	0 wks	Thu 1/20/22	Thu 1/20/22
6	Site Visit and Soil Sampling	4 wks	Fri 1/14/22	Thu 2/10/22
7	Baseline Analysis Meeting	0 wks	Thu 12/15/22	Thu 12/15/22
8	Draft Submittal Meeting	0 wks	Thu 5/11/23	Thu 5/11/23
9	**Field Survey**	**41 days**	**Fri 1/21/22**	**Fri 3/18/22**
10	Survey Control LiDAR	41 days	Fri 1/21/22	Fri 3/18/22
11	**Geotechnical Site Investigation**	**127 days**	**Fri 7/29/22**	**Mon 1/23/23**
12	Infiltration Test,Trenching, and Borings	10 wks	Fri 7/29/22	Thu 10/6/22
13	Baseline Analysis	6 wks	Fri 10/7/22	Thu 11/17/22
14	Alternative Analysis	7 wks	Tue 12/6/22	Mon 1/23/23
15	**Hydrology**	**50 days**	**Fri 1/14/22**	**Thu 3/24/22**
16	Develop Hydrology	10 wks	Fri 1/14/22	Thu 3/24/22
17	**Hydraulics and Basin Routing and Sediment Transport Analysis**	**197 days**	**Fri 3/25/22**	**Mon 12/26/22**
18	Develop RAS 2-D / Sediment Model	8 wks	Fri 3/25/22	Thu 5/19/22
19	Baseline Analysis	12 wks	Fri 5/20/22	Thu 8/11/22
20	Alternatives Analysis	18 wks	Tue 8/23/22	Mon 12/26/22
21	**VE Alternatives**	**18 days**	**Tue 8/23/22**	**Thu 9/15/22**
22	Value Engineering Alternatives	3 days	Tue 8/23/22	Thu 8/25/22
23	SBVWCD Preparation on Alternative	5 days	Fri 8/26/22	Thu 9/1/22
24	Drafting and Analysis of Selected Alternative	10 days	Fri 9/2/22	Thu 9/15/22
25	**Evaluation of the Results (SBCFCD, USACE, and FEMA)**	**15 days**	**Tue 2/14/23**	**Mon 3/6/23**
26	Evaluations of Analyses Results	3 wks	Tue 2/14/23	Mon 3/6/23
27	**Groundwater Analysis**	**254 days**	**Mon 3/21/22**	**Thu 3/9/23**
28	Develop Groundwater Model	4 wks	Fri 8/12/22	Thu 9/8/22
29	Baseline Condition Update	4 wks	Fri 11/18/22	Thu 12/15/22
30	Alternative Condition Update	7 wks	Tue 12/27/22	Mon 2/13/23
31	**Quantity Calculations**	**254 days**	**Mon 3/21/22**	**Thu 3/9/23**
32	Review and Evaluation of Conservation District Design CAD files	1 wk	Mon 3/21/22	Fri 3/25/22
33	Quantity Calculations	2 wks	Fri 2/24/23	Thu 3/9/23
34	**Constructability and Life Cycle**	**15 days**	**Fri 3/10/23**	**Thu 3/30/23**
35	Constructability of Alternatives	1 wk	Fri 3/10/23	Thu 3/16/23
36	Life Cycle Analysis	2 wks	Fri 3/17/23	Thu 3/30/23
37	**Exhibits and Findings Reports**	**30 days**	**Fri 3/31/23**	**Thu 5/11/23**
38	Review of Alterntives and Refinement	2 wks	Fri 3/31/23	Thu 4/13/23
39	Findings Report and Exhibits (Draft) and Submittal	4 wks	Fri 4/14/23	Thu 5/11/23



Project: SBVWD_Waterman_Lyn
Date: Thu 12/30/21

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

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Attachment C - Fee Schedule for ARTP (Waterman, Lynwood Basins, and Twin Creek Spreading Grounds)

Description of Work	Estimated Hours by Position or Rate per Fee Schedule																Task Total Hours	Task Fee
	Program Manager	Sr. Project Manger	Sr. Engineer 3	Sr. Engineer 2 / Geo Senior Engineer	Sr. Engineer 1	Project Engineer 1 / Survey Crew Chief	Engineer 3	Engineer 2 / Project Surveyor	Engineer 1 / LiDAR Analyst	Sr. Scientist 4 / Senior Geologist	Sr. Scientist 2 / Geologist	CAD Designer 1	Two Person Crew - Prevailing	Two Person Crew - Travel	Certified Photogramm etrist	Remote Sensing Specialist	Subconsultants/ ODC	
	$ 297.00	$ 265.00	$ 210.00	$ 195.00	$ 180.00	$ 155.00	$ 146.00	$ 136.00	$ 126.00	$ 242.00	$ 170.00	$ 125.00	$ 380.00	$ 282.00	$ 233.00	$ 310.00		
1. Project Management																		
1.1 General (contracting, staffing, scheduling, invoicing)		40		10													50	$12,550.00
1.2 Meetings	2	48	30	40	32			12									164	$34,806.00
1.3 Site Reconnaissance and Sediment Sampling [3]		8	20	8	24	8				6		4					$15,948.00	86 $36,792.00
Subtotal:																		$84,148.00
2. Refine Modeling Scenarios																		
2.1 Floodplain Permitting Considerations		4	4	2	8	12						4						34 $6,090.00
2.2 Meeting with SBVWCD and SBCFCD		4	20	8	40							4						76 $14,520.00
2.3 Modeling Plan		2	12	4	32							8						58 $10,590.00
Subtotal:																		$31,200.00
3. Field Survey																		
3.1 Obtain and Review Available Survey Information		2		4		8		8										22 $3,638.00
3.2 Aerial Survey							2		24						16	4	$12,600	46 $22,184.00
3.3 Ground Survey		4				16		24					40	12			$255	96 $25,643.20
Subtotal:																		$51,465.20
4. Geotechnical Site Investigation																		
4.1 Data Review, Field Reconnassaince, Planning & Field Investigation		46		34						8	378						$187,408	466 $291,164.80
4.2 Laboratory Testing		3		8						0	12						$31,138	23 $35,533.02
4.3 Engineering Analysis, Exhibits, and Findings Report	12	58		168						20	381							639 $121,304.00
Subtotal:																		$448,001.82
4.A (OPTIONAL) - Supplemental Test Pit / Infiltration Test (Per Test Unit)																		
4.A OPTIONAL - Supplemental Test Pit / Infiltration Test (Per Test Unit)		1									22						$8,600	23 $13,465.00
Subtotal:																		$13,465.00
5. Value Engineering (Grading Alternatives)																		
5.1 Value Engineering (Grading Alternatives)	1	4	16	8	16					8		16						69 $13,093.00
Subtotal:																		$13,093.00
6. Hydrologic Analyses																		
6.1 Obtain and Review Available Hydrologic Information		4	4	2	12							8						30 $5,450.00
6.2 Develop Flood Hydrographs																		
6.2.1 Streamflow Gaging Records Analyses		4	12	6	40	84						12						158 $26,470.00
6.2.2 Unit Hydrograph Analyses		1	2	2	8	24						8						45 $7,235.00
6.3 Develop, Test, and Apply Numerical Rainfall-Runoff Models		2	4	4	12	40						16						78 $12,510.00
6.4 Hydrology Exhibits and Findings Memos		2	4	4	16	40						16						82 $13,230.00
Subtotal:																		$64,895.00
7. Hydraulics Analyses																		
7.1 Obtain and Review Available Hydraulic Information		4	12	4	20	32						16						88 $14,920.00
7.2 Simulate Water-Surface Profiles through the Three Facilities																		
7.2.1 2D HEC-RAS		9	18	18	34	132						44						255 $41,755.00
7.2.2 1D HEC-RAS		3	5	10	23	100						39						180 $28,310.00
7.3 Waterman Basins																		
7.3.1 Hydraulic Analyses		8	16	12	30	284						99						449 $69,615.00
7.3.2 Routing and Drain Time Analyses		4	9	6	20	160						40						239 $37,520.00
7.4 Twin Creek Spreading Grounds																		
7.4.1 Hydraulic Analyses		4	8	4	24	64						32						136 $21,760.00
7.4.2 Drain Time Analyses		2	5	4	15	90						30						146 $22,760.00
7.5 Lynwood Basins																		
7.5.1 Hydraulic Analyses		1	4	2	8	24						12						51 $8,155.00
7.5.2 Drain Time Analyses		2	11	4	22.5	133.5						30						203 $32,112.50
7.6 Hydraulic Exhibits and Findings Memos		8	24	12	48	134						124						350 $54,410.00
7.7 Develop and Test 1D Hydraulic Model for Sediment Transport Analyses		1	4	4	16	48						20						93 $14,705.00
Subtotal:																		$346,022.50

Submitted December 17, 2021

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Description of Work	Estimated Hours by Position or Rate per Fee Schedule																Subconsultants/ ODC	Task Total Hours	Task Fee
	Program Manager	Sr. Project Manger	Sr. Engineer 3	Sr. Engineer 2 / Geo Senior Engineer	Sr. Engineer 1	Project Engineer 1 / Survey Crew Chief	Engineer 3	Engineer 2 / Project Surveyor	Engineer 1 / LIDAR Analyst	Sr. Scientist 4 / Senior Geologist	Sr. Scientist 2 / Geologist	CAD Designer 1	Two Person Crew - Prevailing	Two Person Crew - Travel	Certified Photogrammetrist	Remote Sensing Specialist			
	$ 297.00	$ 265.00	$ 210.00	$ 195.00	$ 180.00	$ 155.00	$ 146.00	$ 136.00	$ 126.00	$ 242.00	$ 170.00	$ 125.00	$ 380.00	$ 282.00	$ 233.00	$ 310.00			
8. Sediment Transport Analyses																			
8.1 Obtain and Review Available Sediment Transport Information		2	6	6	12	24						40						90	$13,840.00
8.2 Develop Modeling Testing/Calibration Datasets		2	5	3	14	88						60						172	$25,825.00
8.3 Develop, Test, and Calibrate 1D Sediment Transport Models		1	4	4	28	56						8						101	$16,605.00
8.4 Sediment Transport Simulations																			
8.4.1 Waterman Basins		2	8	4	21	84						26						145	$23,040.00
8.4.2 Twin Creek Spreading Grounds		1	2	2	12	48						18						83	$12,925.00
8.4.3 Lynwood Basins		1	2	2	12	48						18						83	$12,925.00
8.5 Sediment Transport Exhibits and Findings Memos		4	12	4	40	40						32						132	$21,760.00
Subtotal:																			$126,920.00
9. Groundwater Recharge Analyses																			
9.1 Refine a New Focused Groundwater Model		2		2	8							8					$37,238.00	20	$ 44,360.00
9.2 Existing Conditions Recharge Analyses		2		2	1	2						1					$10,331.00	8	$ 12,935.00
9.3 Proposed Conditions Recharge Analyses		2	1	4	2	10						8					$38,876.00	27	$ 47,230.00
9.4 Groundwater Exhibits and Findings Report																	$47,116.00	0	$ 51,800.00
Subtotal:																			$156,325.00
9A. (OPTIONAL) - Groundwater Recharge Analysis (up to 3 simulations)																			
9.A OPTIONAL - Groundwater Recharge Analysis (up to 3 simulations)		3		9	12	12						6					$54,193.80	42	$ 66,920.00
Subtotal:																			$66,920.00
10. Value Engineering (SUSTAIN)																			
10.1 SUSTAIN Simulations	4	4	12	2	40	80				2		16						160	$27,242.00
10.2 Construction Phasing Plan		8	16	12	40					8		16						100	$18,956.00
Subtotal:																			$46,198.00
11. Quantity Calculations																			
11.1 Obtain, Review, and Evaluation of Conservation District Design CAD files		1		5	8			8										22	$3,768.00
11.2 Create a Proposed Condition Surface		1		16	16							20						53	$8,765.00
11.3 Quantity Calculations		1		32	32			24										89	$15,529.00
11.4 Life Cycle Analysis		2		24	24			24										74	$12,794.00
Subtotal:																			$40,856.00
12. Evaluation of the Results of the Preliminary Design Analyses in relation to SBCFCD, USACE Design Standards, and FEMA Guidelines																			
12.1 Evaluation of the Results of the Preliminary Design Analyses in relation to SBCFCD, USACE Design Standards, and FEMA Guidelines	4	8		16	16			8		8								60	$12,332.00
Subtotal:																			$12,332.00
13. Exhibits and Summary Findings Report																			
13.1 Exhibits and Findings Report (Draft)	4	16		20	40			16										96	$18,704.00
13.2 Exhibits and Findings Report (Final)	2	8		16	16			10										52	$10,074.00
Subtotal:																			$28,778.00
Total Estimated Budget (excluding Optional Tasks):	$ 8,613	$ 92,750	$ 65,520	$ 110,760	$ 158,850	$ 296,593	$ 292	$ 18,224	$ 3,024	$ 14,520	$ 131,070	$ 106,625	$ 15,200	$ 3,384	$ 3,728	$ 1,240		**5979**	**$1,450,230**
Optional Tasks 4A (per test unit)	$ -	$ 265	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,740	$ -	$ -	$ -	$ -	$ -			**$13,465**
Optional Tasks 9A (up to 3 simulations)	$ -	$ 795	$ -	$ 1,755	$ 2,160	$ 1,860	$ -	$ -	$ -	$ -	$ -	$ 750	$ -	$ -	$ -	$ -			**$66,920**

Note:
1) The rate schedules are fixed for 2 years from January 2021 and may be escalated yearly starting in January 2023 per the signed contract.
2) Subconsultants fee includes 10% markup. ODC; includes 10% profit and 13.42% GNA.
3) ODC for Task 1.3, Site Reconnaissance and Sediment Sampling, includes the cost for soil sampling (a total of up to 52 samples) and grain size analysis. It was assumed that each analysis costs $300, resulting in $15,600 (= 52 x $300).

STATEMENT OF QUALIFICATIONS

San Bernardino Valley Water Conservation District

Helping Nature Store Our Water

Request for Proposal

Active Recharge Transfer Projects Waterman, Lynwood Basins and Twin Creek Spreading Grounds Feasibility Study Support Professional Services

September 16, 2021

TETRA TECH

TETRA TECH

09/16/2021

San Bernardino Valley Water Conservation District
Attn: Erwin Fogerson / Angie Quiroga
1630 W. Redlands Blvd., Ste. A
Redlands, CA 92373-0581

RE: Request for Proposal for Active Recharge Transfer Projects – Waterman, Lynwood Basins and Twin Creek Spreading Grounds Feasibility Study Support Professional Services

Dear Mr. Fogerson,

Thank you for inviting Tetra Tech to provide a proposal to support services in connection with a proposed Active Recharge Transfer Project (ARTP) at Waterman, Lynnwood Basins and Twin Creek Spreading Grounds. This proposal describes Tetra Tech's experience, project approach, and scope of work to evaluate the feasibility design alternatives formulated by the Conservation District. Tetra Tech has a long history of performing work within San Bernardino County and significant experience with flood control design including recharging basins, engineering analyses, permitting requirements, and working with local stakeholders and regulatory agencies that are needed to perform this work successfully and efficiently. Tetra Tech offers a "one stop shop", with the ability to perform all technical work associated with the project with our qualified local staff. To complement our team, Tetra Tech added **GEOSCIENCE** to assist with the groundwater modeling and infiltration analysis.

Qualities we offer the Conservation District:

- **Familiarity with the Conservation District and San Bernardino County Flood Control** – Tetra Tech recently worked on the Santa Ana River Enhanced Recharge (SARER) Project as well as the Flood Control District's Waterman and Twin Creek Levee Certifications, Mill Creek Levee Certification, and Etiwanda Debris Basin. Through our working knowledge of design standards, requirements, and procedures of the agencies as well as a thorough understanding of project area conditions, we are equipped to identify critical project constraints, provide efficient analysis, and efficient solutions.

- **Experience with USACE Los Angeles District** – Through our Design and Geotechnical IDIQ contracts with USACE Los Angeles District, Tetra Tech has undertaken numerous analysis and design projects, 408 Permit applications, and inspections throughout Southern California. In San Bernardino County, Tetra Tech recently completed the Periodic Levee Inspections for Waterman and Twin Creek Levees, which provide Tetra Tech with specific insight to the current levee conditions and critical issues needing resolution with this project.

- **Experience with FEMA** – Tetra Tech has a long working history with FEMA throughout Southern California and achieved significant expertise and experiences in the agency's policies, regulations, and design requirements. The Tetra Tech team has inspected, certified, or rehabilitated over 30 levee systems in southern California. In San Bernardino County, Tetra Tech successfully completed Flood Insurance Rate Map revision (LOMRs and CLOMRs), assisted local agencies with FEMA Grants, and the levee certification for Waterman and East Twin Creek levee systems.

- **Experience and Knowledge of Local Groundwater Basin** – Tetra Tech is teaming up with GEOSCIENCE Support Services, Inc. to perform the groundwater modeling. GEOSCIENCE, worked on numerous projects throughout Southern California over the last 40 years. They are deeply involved in the modeling of the local groundwater basin that covers the project area and are the author of the 2020 Upper Santa Ana River Integrated Model Summary Report. GEOSCIENCE will bring unmatched hands-on knowledge of the project groundwater basin.

We are confident that your review of the attached proposal will convey to you that the Tetra Tech team has the precise blend of qualifications and experience to support the Conservation District in the successful completion of the proposed work. We look forward to the opportunity to further discuss our team's qualifications with you. If you have any questions, please do not hesitate to contact me at (951) 662-0788.

Sincerely,

Aric Torreyson, PE
Project Manager

17885 Von Karman Avenue, Suite 500, Irvine, CA 92614 USA
Tel 949.809.5000 Fax 949.809.5010 tetratech.com

Table of Contents

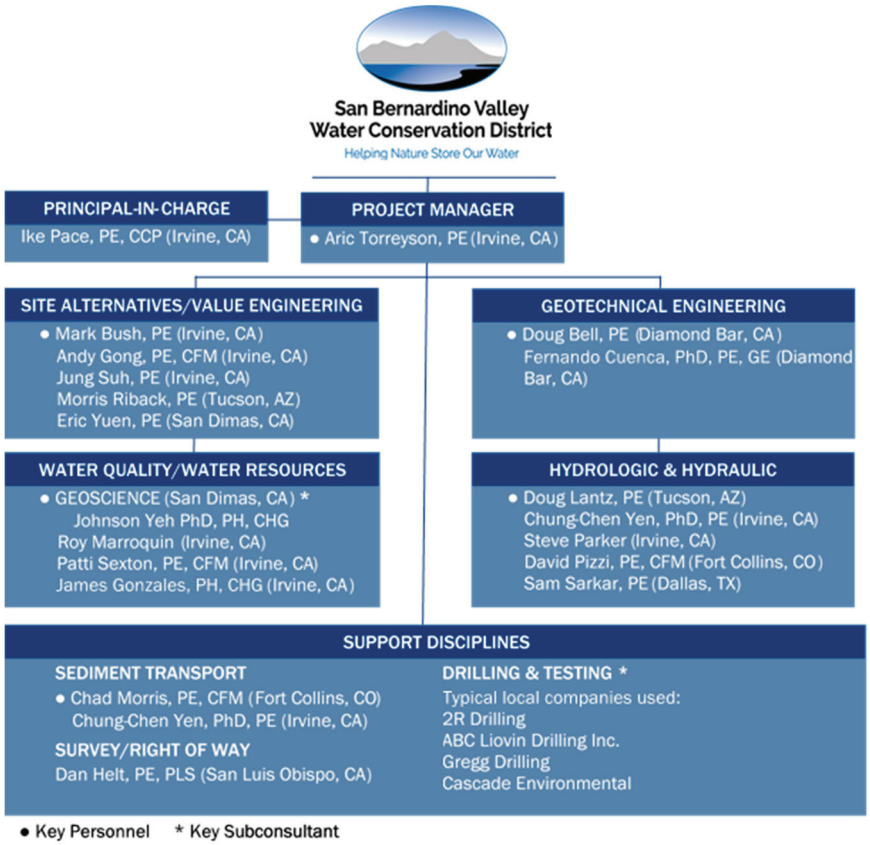
Exhibit

- Fee Schedule (Included in a separate sealed envelope)

A. Tetra Tech's Approach to Managing the Team for the Project

A.1 Putting Together Best Project Team with Right Key Members

The Tetra Tech team is made of very capable members with years of experience in their respective fields as demonstrated in the resumes provided in the Statement of Qualification (SOQ) and this Proposal. The project will include multidisciplinary efforts in various engineering fields and a subcontractor. Therefore, designating right key members to lead each discipline and manage the tasks is critical for successful completion of the project. The key members have been selected not only for their experiences and knowledge in their respective fields and management, but also their experience in the local area (San Bernardino County) and direct knowledge and familiarities on the project sites.



Organizational Chart

The key members are as follows. The important notes on the key members with the emphasis on their local and direction knowledges on the project sites are summarized below. Additional information is provided in the resumes.

- Aric Torreyson, P.E. – Project Manager for this project. He is currently, Tetra Tech's **Design** Indefinite Delivery Indefinite Quantity (IDIQ) Contractor manager for U.S. Army Corps of Engineers (USACE), Los Angeles District. He has been involved with many design and hydrology and hydraulics projects with the San Bernardino County Flood Control District (SBCFCD). Additionally, He has processed multiple USACE 408 permits for modifications to levees and channels.
- Doug Bell, P.E. G.E. – Project Lead for geotechnical engineering. He was the geotechnical Engineer of the Record for the San Bernardino Levee FEMA Certification, including the Waterman and Twin Creek levee systems, and USACE's Periodic Inspection (PI), also including the said levee systems. He is currently, Tetra Tech's **Geotechnical** Indefinite Delivery Indefinite Quantity (IDIQ) Contractor manager for U.S. Army Corps of Engineers (USACE), Los Angeles District.
- Mark Bush, P.E. – Project Lead for site alternatives/value engineering. He is a project manager for the Santa Ana River Enhanced Recharge (SARER) Program, led by the San Bernardino Valley Water District, Western Municipal District, and

City of Riverside Public Utilities. The SARER project, located approximately 9 miles southeast of this Project, has the similar project goal of increasing groundwater recharge conditions through construction of basin improvements.

- Doug Lantz, PhD, P.E., PH – Project Lead for Hydraulics and Hydrology. He is the lead hydraulic engineer for the SARER Program. As a lead, he oversaw development of the hydraulic modeling, using USACE's HEC-RAS, for design of the proposed improvement designs. He also prepared hydraulic designs, as necessary, using FHWA and USACE methods.
- David Pizzi, P.E., CFM – Project Lead for Hydraulics and Hydrology. He was a lead hydrology and hydraulic engineer for many of Tetra Tech projects in Southern California. He was involved in hydraulic modeling, using USACE's HEC-RAS 1D and2D, under the guidelines and modeling requirements of USACE, FEMA, and other local agencies.
- Chad Morris, P.E., CFM – Project Lead for sediment transport. He is the sediment transport engineer on the SARER Program. As a lead, he provided guidance on appropriate hydraulic modeling techniques and sediment transport aspects of the design.
- GEOSCIENCE Support Services, Inc. (GEOSCIENCE) – Groundwater modeling specialist. GEOSCIENCE prepared the *Upper Santa Ana River Integrated Model Summary Report* for San Bernardino Valley Municipal Water District in 2020 and performed all groundwater modeling for the report which extends beyond our project area. The findings from this Proposal tasks will be used to update GEOSCIENCE's 2020 groundwater model.

A.2 Management of Project Tasks

Project management and Coordination

Project management and coordination will be performed to ensure that the project is run efficiently and that all team members, including subcontractors, are progressing together on the project efficiently. An important aspect of this task is the close coordination with the Conservation District and our team members with constant communication and meetings. The team will include multidisciplinary efforts in civil, hydrology and hydraulics, water quality, geotechnical, and groundwater fields. To accomplish this, the team proposes regular scheduled project meetings at least once a month in addition to specific project related issue meetings to discuss key decisions and issues. This communication will occur through the project life and Tetra Tech will maintain this documentation by creating a **Microsoft Team Site** were updated project schedules, project data, Risk Registry, and change order log and tracking (to document issues and changes in direction). These documents will be shared with the Conservation District at the monthly meetings to ensure not only that the Conservation District is aware of any major development for the project, but also that the Conservation District is involved in all critical decision-making processes, so their concerns and inputs are properly addressed prior to making final decisions.

Cost Control

Tetra Tech has had an excellent record of controlling cost growth on its projects. We frequently work under contracts where well-defined scopes and careful project management result in no changes to the overall fee of the project. Our internal cost budgeting systems provides the Project Manager with weekly information on the costs that have been incurred on the project. Our management system of regular checks on the amount of money spent on a project and the progress made ensure solid budget management. Our Project Manager will utilize MS Projects scheduling software to keep this project on target with milestone completion and project updates.

QA/QC

This section briefly describes the proposed QA/QC process for this contract. Ike Pace, PE will serve as the Quality Assurance Manager (QAM). The QAM, in conjunction with the Project Manager, Aric Torreyson, PE, is responsible for ensuring that all company resources are made available to the quality assurance and technical teams, overseeing financial performance of the project and ultimate review of technical work products. The Project Manager will serve as the point of contact for the project team and will be directly responsible to the Conservation District for project quality and successful completion of the contract.

Tetra Tech has standard institutional project delivery and quality management procedures and controls that are employed for all projects. The Tetra Tech Quality Management Program is modeled after ISO 9000 guidance documents. The Tetra Tech team will use the corporate program as the basis for our Design Quality Management Program. Quality begins at the highest management level and will be maintained throughout all levels of the Team. The DQMP is designed to be transparent, complete, auditable, and measurable to allow for continuous quality advancement.

Tetra Tech will prepare and maintain a specific quality control plan (QCP) for the project identifying the Technical Development (TD) team members, the Independent Technical Review (ITR) team members and the QAM. Tetra Tech's QCP requires that subcontractors provide their own Independent Technical Review (ITR) of their products, for which Tetra Tech provides QA reviews. When Tetra Tech provides the Quality Control Certificate, it includes any work performed by subcontractors.

Our group's Quality Control Manual provides our PMs with a standard and flexible DQCP template to apply to each project to ensure adherence to all standard company procedures and ensure delivery of quality work products. Moreover, it contains separate chapters covering roles, standards, and documentation requirements for each civil works discipline. The QAM for each project will work directly with the PM to ensure appropriate documentation, procedures, and reviews are identified, scheduled, communicated, applied, and strictly adhered to by all project delivery team members. Our goal is early and frequent reviews to ensure constructive input on methods and designs is obtained early in the project delivery process. At the conclusion of the project, Tetra Tech will provide a signed Quality Control Certificate.

B. Tetra Tech's Understanding of the Work Being Requested

B.1 Previous Work Conducted on the Project Sites

Tetra Tech believes one of the important ways to understand the current scope of work being requested is to know the history of the project sites and have the direct knowledge and familiarity on the facilities. The lead engineers who were involved in these previous Tetra Tech projects will also lead their respective fields on this project.

FEMA Certification

Under a contract with SBCFCD in 2009, Tetra Tech prepared and submitted to FEMA the FEMA levee certification package for accreditation. Tetra Tech performed Phase 1 (field inspection and data collection) and Phase 2 (engineering analyses) for all 22 USACE-built levees within the County boundaries. The task included Waterman Levees (FEMA ID No. 80A and 80B) and East Twin Creek Levees (FEMA ID No. 52) that were located at the perimeters of Waterman Basin and Twin Creek Spreading Grounds, respectively. Currently, the levees are accredited by FEMA to provide flood protection against a 100-year level flood. See Section E, Experience Working with FEMA Levee Certifications, of this Proposal for more details on the work performed for the FEMA certification effort.

Key team members shown on the project organization chart worked on this project and Tetra Tech has vast amount of existing data from the certification project including geotechnical subsurface information and other engineering analyses performed, which will be used as references and will give Tetra Tech one step ahead in understanding the project systems.

Tetra Tech will work in anticipation of a potential levee certification with the Conservation District's final design phase in mind. We will work with the Conservation District to identify if FEMA Levee Certification requirements can be met with each alternatives and conformance to these requirements. All analysis will be performed with the consideration that it will be reviewed by FEMA for Levee Accreditation.

USACE Periodic Inspection (PI)

USACE's Periodic Inspection (PI) is intended to identify deficiencies and issues with flood control facilities to facilitate future studies and associated repairs as appropriate and to reduce the potential for flooding. A PI is conducted in accordance with USACE Engineering Regulation (ER) 1110-2-100, the Levee Inspection System User Manual, Version 3.2. A PI includes verification of proper operation and maintenance, evaluation of operational adequacy and structural stability, review of design criteria to identify changes in current design standards, identification of features to monitor over time, and improvement of the ability to communicate the overall condition to the local sponsor.

In December 2020, under a contract with USACE, Tetra Tech performed a periodic inspection of ETC 1 (western and southern levees of Waterman Basin and western levee of Twin Creek Spreading Grounds) and ETC 2 (eastern levee of Waterman Basin and eastern levee of Twin Creek Spreading Grounds). The inspection was performed by Tetra Tech inspectors, accompanied by staff from USACE and County. The inspection included physically walking the alignment and inspecting areas along the levee crown and both the riverside and landside of the levee. An inspection checklist was used to assist in the collection and reporting of observed deficiencies. The inspectors noted physical condition of each system component, as outlined by the levee-inspection checklists and collected geo-referenced digital photographs.

In the PI reports, submitted to USACE, in April 2021, the levee systems received various ratings concerning the levee condition. The reports are currently being finalized by USACE Dam and Levee Safety group. Issues associated with the ratings included unacceptable vegetation conditions (trees, shrubs, or undesirable weeds within the vegetation-free zone), unacceptable encroachments (including existing utilities, ramps, and access paths) that were not part of the original levee design and were not permitted by USACE, and encroachment by soil material (likely pushed-up material from adjacent spreading grounds), that prevented inspection of the levee prism and revetment. Where appropriate, Tetra Tech will assist with the identification of these items and how they may affect the Conservation District's feasibility project.

B.2 Scope of this Proposal

The Conservation District is seeking technical assistance in performing a feasibility-level study by analyzing potential impacts of the proposed conceptual designs, prepared by Conservation District, as part of the proposed Active Recharge Transfer Project (ARTP) in Waterman and Lynwood basins and Twin Creek Spreading Grounds. The analyses will include, but not limited to, a hydrologic study for various frequencies, hydraulic analysis and basin routings for existing conditions and proposed conditions, sediment transport analysis, infiltration testing and soil sampling analysis, geotechnical field exploration and analysis, groundwater level analysis, quantity calculation, and value engineering of the proposed conceptual designs.

The levees at the perimeter of the spreading grounds were designed and constructed by USACE in 1960 with either grouted or ungrouted stone revetment on the side slopes. Just south of Twin Creek levee and north of 210 Freeway, Lynwood Basin was constructed by SBCFCD. Over the years, to provide an opportunity to recharge the local groundwater system through infiltration, the San Bernardino County has constructed a series of internal dikes between the levees, creating multiple spreading grounds.

Currently, the existing Waterman Basin, located north of East 40th Street, and Twin Creek Spreading Grounds, south of East 40th Street, have their internal dikes and spillways partially washed away and damaged during previous storms or experiencing mounding from sediment. The basins between the internal dikes are likely not to have desired storage due to sediment deposition from upstream over time. The proposed conceptual design by the Conservation District will address the current repair needs and improve the water management at the spreading grounds by optimizing groundwater infiltration. Tetra Tech's analyses will be used to support the conceptual designs and preparation of a Feasibility Report of the designs, which is to be prepared by the Conservation District. The findings of the analyses will be used to help the selection between the design alternatives, augment and improve the current design components, or formulate an alternative that can optimize the existing and proposed conditions.

The findings and results of the project will also be used to update the 2020 report, *Upper Santa Ana River Integrated Model Summary Report*, prepared by GEOSCIENCE, a subconsultant to the Tetra Tech team.

B.3 Looking Ahead – USACE Section 408 Permit

The design alternatives being evaluated in this proposal include potential modifications to the current levee systems. Any modification to a completed federally authorized public works projects, such as the Waterman and Twin Creek Levee systems, is likely to require a Section 408 permit through USACE per Engineering Circular 1165-2-216. The modifications that are likely to impact the levee systems, include installing a proposed low flow drainpipe through the Twin Creek levee embankment between the Twin Creek Spreading Grounds and Lynwood Basin; grading on the landside slope of the Twin Creek levee as part of the proposed Lynwood Basin improvement; and improvement of internal dikes that may impact the levee embankments.

The Los Angeles District USACE has the authority to approve most of minor, low impact modifications or alterations to public works facilities; however, significant modifications, certain raisings and realignments, and changes that affect the functionality of a project would need to be approved at the level of either the USACE South Pacific Division (SPD) in San Francisco or their Headquarters in Washington, D.C.

Tetra Tech has prepared Section 408 Permits for numerous projects and is very familiar with the permit preparation/processing requirements and efforts. For this project, Tetra Tech will work in anticipation of potential Section 408 Permit requirements with the Conservation Districts final design phase in mind. We will work with the Conservation District to identify 408 Permit requirements with each alternatives and conformance of the alternative with USACE design and analysis ERs, EM's, and EC's. All analysis will be performed with the consideration that it will be reviewed by USACE for approval of a 408 Permit. One critical item for Section 408 permit approval is the ability to maintain the existing flood capacity for the SPF flood event. This issue will be reviewed when evaluating the spillway elevations and configurations for Twin Creek basins.

C. Project Approaches

The Tetra Tech team will ensure that all project goals are maintained by close coordination within the team and with the Conservation District, evaluating every project decision to make sure it meets all objectives of the project. As the proposed engineering consultant for this project, the Tetra Tech team will utilize licensed professional engineers with considerable experience and expertise for each discipline of the project to assess the current conditions and determine the most feasible approaches for each task.

To assist the Conservation District in reaching their project goals, Tetra Tech will utilize a stepped study process which systematically and efficiently determines the optimal project solutions in an organized and logical manner. These steps include Data Acquisition and Review, Baseline Analysis, Alternatives Analysis, Evaluation of Alternatives, and Plan Selection. By following these steps, all project issues will be identified, analyzed, and accounted for.

Data Acquisition and Baseline Analysis

Building upon Tetra Tech's existing depth of project site knowledge, Tetra Tech will obtain supplemental data to fill in the gaps. The additional data acquisition includes; updated topographic mapping and field survey of the structures, site visits, infiltration test, geotechnical borings along the interior berms, water quality sampling, maintenance records, and stream gage data at a minimum. With this updated data, Tetra Tech will provide an overview of the project and issues to the Conservation District, including the project approach, initial project issues, anticipated problems, initial watershed evaluation, and components of the storm conveyance systems relative to the flood control facilities (Waterman, Lynnwood Basins and Twin Creek Spreading Grounds and Levees).

With the assistance of the Conservation District, a baseline hydrology analysis will be performed which will be utilized by the project team to perform an Existing Conditions Hydraulic and Sediment Transport Analysis. This will establish the existing or baseline condition and verify the associated project issues previously identified. The baseline condition will identify the major issues currently impacting the project area and issues that may develop or become worse. Important results to review consist of existing Waterman Diversion Structure Capacity including freeboard, diversion flowrates, maximum ponded depths within the basins, infiltration volumes, sediment transport, Base Flood Elevations (100-yr and SPF), basin drain times, etc. Also, the additional geotechnical investigation and analysis will review stability and seepage of the existing embankments to confirm their use in the various alternatives proposed. The results from these analyses will assist in the confirmation of the design alternatives prepared by the Conservation District and determine if the Conservation District will need to explore additional alternatives to mitigate the identified issues and impacts. The results from these models will provide further insight to the team on understand the current project issues and opportunities.

Alternatives Analysis

Working with the Conservation District, the project team will analyze the full array of alternatives to measures performance of the flood control facilities. A constraints and issues exhibit will be prepared to assist in the identification of critical and problem areas and show existing right-of-way, existing infrastructure improvements, and environmentally impacted areas. Important results to review consist of the proposed Waterman Diversion Structure Capacity including freeboard, diversion flowrates, maximum ponded depths within the basins, infiltration volumes, sediment transport and drain times. The geotechnical investigation and analysis will review stability and seepage of the proposed embankments under proposed conditions.

The analysis as performed in the **Data Acquisition and Baseline Analysis** phase will be utilized to review the required improvements/replacement of the basin inlets and outlets, sediment management approach, additional erosion prevention requirements, and confirmation that the individual basins remain below DSOD permitting limits.

At this time a value engineering review will occur with the District to optimize and confirm constructability of the proposed alternatives. It is assumed that a "SUGGESTED" refinement will be generated with the assistance of the Conservation District for each basin, which will be modeled and included in the Evaluation of Alternatives. If major changes to the alternatives occurs, additional modeling will be performed to determine the performance of the value engineered alternatives.

Evaluation of Alternatives

Tetra Tech will screen the alternatives taking into consideration potential project benefits and costs, constraints such as environmental processing issues, maintenance issues, life cycle cost, project phasing, preliminary permit analysis (conformance to SBCFCD, FEMA, and USACE requirements), groundwater replenishment, and right-of-way constraints. Quantities for the

alternatives will be developed for the Conservation District to prepare estimated construction cost. Utilization of the SUSTAIN program will be performed to optimize the alternatives for cost efficiency and possible cost savings.

The results will be reviewed with the District to further refine the alternatives. With input from the project team, Tetra Tech will refine the alternatives with selected modifications made based upon the Conservation Districts input and final analysis performed.

Plan Selection

Upon completion of the Evaluation of Alternatives, Tetra Tech work with the Conservation District to select the recommended plan, which will be the most cost effective, environmentally sound, and technically feasible alternative. It should be noted that the recommended plan should also be socially and politically acceptable to avoid issues with implementation through the final design approval process. A report will be prepared documenting the selected plan, providing a summary of the modeling analysis, and all analysis and data as appendices.

SCOPE OF WORK

The following tasks present Tetra Tech's scope of work for professional services that we believe are necessary in order to complete the project

Task 1: Project Management

Project Oversight and Meetings

Tetra Tech will provide project management services including project setup, scheduling, budget control, invoice preparation, general oversight of the project, and coordination with the Conservation District. The Tetra Tech team includes multi-discipline engineers and subcontractor. Management of the project between the team members through coordination and communication is critical in successfully completing the project goals while meeting the project schedule. Tetra Tech will conduct monthly meetings to update the Conservation District on project status and activities. Additional meetings with the District will be scheduled as needed to discuss project specific issues.

Upon receipt of a written Notice to Proceed (NTP), a kickoff meeting will be conducted with the Conservation District staff to coordinate work, review Project Schedule, and to clarify project requirements and deliverables. Tetra Tech will prepare written meeting minutes summarizing the meeting discussions.

We have assumed three submittal review meetings: a baseline submittal, a draft alternatives submittal and final alternatives submittal. The purpose of the meetings will be to go over the general findings and review comments provided by SBVWCD and reach resolutions prior to updating the project documents.

Field Visit

Field visits are required to accurately evaluate the existing conditions within the Waterman Basin and Twin Creek Spreading Grounds as well as the Lynwood Basin. During the field visit, the Tetra Tech team will perform visual assessment and photo documentation of the projects site. The Tetra Tech team will identify where geotechnical testing is required to better characterize infiltration rates.

Tetra Tech's fluvial geomorphologists and hydraulic engineers will complete a field reconnaissance to evaluate existing patterns of sedimentation, and the characteristics of the deposited sediment. Soil sampling of deposits and bed material in the channels will be completed to support the sediment transport analysis and inform infiltration rates. It is assumed that up to 2 samples per basin may be collected (up to a total of 52) and the sampling sites will be dry or wadeable. The samples will be of sufficient quantity for determining grain size distributions using sieve analyses for sand and gravel and hydrometer analyses for silt and clay. Expected deliverables include exhibits showing patterns of sedimentation, locations of samples, and grain size distributions.

Task 2: Hydrology

Task 2.1: SUGGESTED Optimization Analyses

Recognizing the three sites are positioned in series, modifications to the Waterman Basins may affect the downstream Twin Creek Spreading Grounds, which may affect the Lynwood Basins. Further, proposed modifications to the diversion structure in

Waterman Creek may affect not only the runoff diverted into the Waterman Spreading Grounds, but also the bypassed flow into the Twin Creek Spreading Grounds. This opens hundreds of possible alternatives that could be evaluated. In the RFP the Conservation District seeks consultant suggestions for additional concepts to include in the scope of work. The Tetra Tech Team suggests an optimization analysis to screen and prioritize potential proposed alternative improvements to the diversion structure, basins, and conveyances (pipes and spillways), considering different gate operations and infiltration rates. Based on recent successes on similar projects, Tetra Tech proposes to apply the EPA's System for Urban Stormwater Treatment and Analysis Integration (SUSTAIN) software. SUSTAIN allows for development, evaluation, and selection of optimal combinations of proposed alternative improvements based on cost and effectiveness.

In the suggested application, the effectiveness will be quantified in terms of infiltrated runoff over approximately a decadal time scale (using simulated and measured hydrology for required inflow boundary conditions) and the cost will represent estimated construction cost. Tetra Tech envisions the infiltration area, volumetric capacity, and both inflow and outflow rates as key variables for the optimization analysis. The optimization analysis will be performed for numerous combinations of these variables using estimated no clogging and clogged infiltration rates based on site-verified conditions.

Tetra Tech recommends coordinating with the Conservation District to identify the number of optimal combinations in each of the Waterman Spreading Grounds, the Twin Creek Spreading Grounds, and the Lynwood Basins for evaluation of hydraulics and sediment transport. This approach is suggested to provide an informed basis for prioritizing combinations of proposed alternative improvements that warrant further evaluation.

Task 2.2: Numerical Rainfall Runoff Modeling

The *San Bernardino County Hydrology Manual* (1983, revised 1986, 2010 addendum) provides computational techniques and criteria for estimating design storm event-based runoff volumes and peak discharges. Given the drainage area to the Waterman Spreading Grounds, the Twin Creek Spreading Grounds, and the Lynwood Basins is about 16 mi^2, the techniques in the Manual for SCS methods will likely be more applicable relative to the Rational Method or unit hydrographs. Tetra Tech suggests discussing with SBCFCD the proposed watershed modeling methods. This meeting will allow SBCFCD to confirm the proposed modeling approaches conforms to the Hydrology Manual.

Task 2.2.1: Compilation and Analysis of Flow Gaging Records

The USGS operates gages with long-term records on Waterman Canyon Creek (Gage No. 11058600, approximately 85 years of records since 1912) and East Twin Creek (Gage No. 118058500, about 100 years of records since 1920), so statistical analyses of measured peak flows can serve to check the reasonableness of simulated design flood peak flows. Further, an existing HSPF model of the Upper Santa Ana River watershed was calibrated to streamflow records, and this model includes the Waterman Creek watershed. Consistent with the intention in section E.10 in the SBC Hydrology Manual, the streamflow records and calibrated HSPF model provide technical bases for (a) calibrating design storm event-based models, and (b) diverging from the techniques and criteria in the *Manual*, if needed to align simulated results with records. Deliverables will be exhibits presenting the results.

Task 2.2.2: Development, Testing, and Application of Numerical Models

Upscaling gage records by drainage area was considered to estimate needed peak flows and hydrographs, but differences in the topography and land cover between the gaged watersheds and the ungaged watersheds raised doubt about the reasonableness of expecting accurate scaling. Thus, the numerical rainfall-runoff models will be used to simulate runoff hydrographs for targeted design storms (average annual, Q2, Q5, Q10, Q25, Q100, and SPF). The USACE's HEC-HMS software is recommended for the Q100 and SPF as these floods will be the primary checks on hydraulic performance of the Flood Control District's facilities at the three sites; thus, the simulation of these floods should align with the Flood Control District's methods presented in the Hydrology Manual. The existing HSPF model of the Upper Santa Ana River watershed will be extended to cover all drainage area to the three sites and refined as needed to simulate runoff for the average annual, Q2, Q5, Q10, Q25, and Q100 design storms.

For both modeling platforms, Tetra Tech assumes that developable areas within the watershed are fully developed, so only existing land cover conditions will be simulated, expecting they will be representative of future runoff conditions. Required precipitation inputs will be assessed using NOAA Atlas 14, and if available, California Department of Water Resources estimates as well as other rain gage data. The historical rainfall data compiled in the Upper Santa Ana River Integrated Model Summary Report will be used to estimate the average annual storm and its annual frequency of occurrence. The Upper Santa Ana River HSPF model will be useful for informing estimates in the HEC-HMS model of precipitation losses, infiltration, and lag times, and its simulated hydrographs will be used to fill the gap in the record of measurements at the USGS's gaging station on Waterman

Creek. HEC-HMS simulated hydrographs will be compared to stream gaging records to evaluate performance of the HEC-HMS model and to guide any needed refinements for model calibration. Regional regression equations (Gotvald et al. 2012) will be used to confirm simulated peak flows for major inlets that do not have gaging records of flow. Both models will include major inlets to each facility, not just the named streams. The simulated hydrographs for the specified design event storms (average annual, Q2, Q5, Q10, Q25, Q100, and SPF) will be used to drive the hydraulic models. Additionally, the long-term hydrographs available in gaging records and simulated using the HSPF model will provide hydrologic boundary conditions for optional optimization analyses and hillslope sediment yields for the sediment transport analyses.

As noted in the previous paragraph, as part of the hydrologic analysis Tetra Tech will expand the HSPF model to cover currently unmodeled areas in the East Twin Creek watershed and to ungaged major inlets to the spreading grounds and basins. The HSPF simulated runoff for the drainage area upstream of the USGS gage on East Twin Creek will be calibrated against daily streamflow recorded at the gage. Hydrology calibration will also consist of ensuring a reasonable simulation of the overall water balance including comparisons of evapotranspiration against satellite-derived products such as the SSEBop and MOD16.

Task 2.3: Findings Memo Preparation - Hydrology

Deliverables for the Hydrology Analyses will include findings memos that accompany exhibits presenting the hydrographs simulated using both HSPF and HEC-HMS.

Task 3: Hydraulics and Basin Routing including Drain Time and Recharge Analyses

Task 3.1: SUGGESTED Floodplain Permitting Considerations

FEMA FIRMs 0671C7942H and 06071C7944H (effective 8/28/08) show the facilities under analysis are in a Zone A special flood hazard area (SFHA), meaning they are subject to inundation by the 1-percent annual chance exceedance flood, but no base flood elevations are determined. Because the proposed alternative improvements will be within these FEMA-regulated floodplains, Tetra Tech's Certified Floodplain Managers will be critical in ensuring compliance with local, state, and federal floodplain regulations. Notably 44 CFR 60.3 requires that until a regulatory floodway is designated, such as a Zone A SFHA, development shall not be permitted unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water-surface elevation of the base flood more than one foot. To the extent that proposed alternative improvements within Zone A SFHAs can be certified to cause less than one foot of rise in base flood elevations, this will save considerable time in the floodplain permitting process relative to a CLOMR-driven process.

Task 3.2 Hydraulic Model Development and Testing

The proposed alternative improvements will likely induce complex flow patterns through the spreading grounds and basins, so a 2D HEC-RAS model is envisioned for hydraulic analyses. The spatial extent of the model will encompass all basins within the three facilities, from locations upstream of project boundaries on both East Twin Creek and Waterman Creek downstream to the concrete channel inlet area at the outlet of the Twin Creek Spreading Grounds, and also including the Lynwood Basins. While separate models were considered, and may be required to manage computation times, a single model may best accommodate out-of-bank flows during rare floods that exceed channel capacities. The 2D platform is likely the most appropriate for the Waterman Spreading Grounds, but pending, in part, observations during the field reconnaissance, a 1D platform may be advantageous for the diversion gate improvement alternatives, the Twin Creek Basins, and the Lynwood Basins.

The required input geometry will be based on the latest-available LiDAR mapping to ensure appropriate routing (i.e., translation and attenuation) of the simulated flood hydrographs into and through each basin, including the influence of existing and proposed diversion structures (gates, connecting pipes, and berms and spillways). These simulations will establish water-surfaces under existing and proposed conditions to ensure proposed conditions do not increase base flood elevations or reduce levee freeboard during the Q100 and SPF. Further, the model will allow for calculating the drain time for each basin, including the effect of infiltration. HEC-RAS does not explicitly simulate infiltration, but storage areas with controlled inlets will be used to effectively simulate infiltration. The drain time will vary for proposed conditions depending in part on whether ponding depth can be maximized for available storage in each basin.

Task 3.3: Waterman Basin

Task 3.3.1: Hydraulic Analyses of the Waterman Creek Diversion Structure

1. The Waterman Spreading Grounds are connected to Waterman Creek at the diversion channel that contains three diversion structures into existing Basins 1A, 1B, and 1C. For analyses of existing conditions water surfaces to evaluate the hydraulic performance of the Flood Control District's levees along the Twin Creek Spreading Grounds, gates at the three diversion structures will be closed; Tetra Tech suggests using simulations of fully open diversion gates to analyze water surfaces at the Flood Control District's levee along the Waterman Spreading Grounds. The water surfaces will be analyzed for the average annual flood, the Q100, and the SPF. Hydrographs diverted through open gates into the Waterman Spreading Grounds will be evaluated for the mean annual flood, Q2, Q5, Q10, Q25, Q100, and SPF to establish baselines for comparing to diversion hydrographs simulated for proposed modifications (See next bullet 2); such baselines are needed for meaningful comparisons between proposed modifications. These hydrographs are also needed for the basin routing analyses. Completion of these analyses requires 10 simulations of the hydraulic model.

2. The Conservation District is considering alternatives to these diversion structures, including the two concept configurations presented in the RFP and one TBD alternative to each concept configuration. Tetra Tech's understanding is that the hydraulic analyses of the various configurations will identify the wall/berm height that maximizes diversion without impacting the water surface in the area immediately upstream and downstream of the diversion structures. Thus, hydraulic analyses of these four configurations will evaluate water-surface elevations for the Q100 and SPF, as well as the average annual flood for comparison to existing conditions, with closed diversion gates using a series of up to three heights for the diversion walls and diversion berms. Completion of these analyses requires up to 36 simulations of the hydraulic model.

3. The diversion hydrographs will be simulated for the four diversion structure alternatives and three wall/berm height configuration with diversion gates fully open for the mean annual flood, Q2, Q5, Q10, Q25, Q100, and SPF. These results will guide the Conservation District's selection of the preferred configuration that Tetra Tech suggests should be used for remaining hydraulic analyses of proposed conditions. Completion of these analyses requires 84 simulations of the hydraulic model.

Tasks 3.3.2: Waterman Basins Routing, Drain Time, and Recharge Analyses

1. The diversion hydrographs for the Conservation District's single preferred configuration will be used to represent flows diverted into the Waterman Spreading Grounds during the average annual flood, Q2, Q5, Q10, Q25, Q100, and SPF.

2. Using the existing conditions diversion hydrographs from Task 3.3.1, bullet 1, a routing analysis through all basins in the Waterman Spreading Grounds will be completed for each flood under existing conditions. Each flood will be routed under two conditions: with all existing connecting pipes and gates fully open, and with all pipes and gates closed. Infiltration rates will be based on infiltration testing of existing conditions. These analyses will assume no mounding that could cause rejection of infiltration/groundwater recharge. Completion of these analyses requires 14 simulations of the hydraulic model.

3. Using the Conservation District's single preferred configuration of diversion hydrographs (Task 3.3.1, bullet 3), a routing analysis through all basins in the Waterman Spreading Grounds will be completed for each flood under the two proposed alternatives of the spreading grounds presented in the RFP. Each flood will be routed under two conditions: with the proposed connecting pipes and gates fully open, and with the proposed pipes and gates closed. The Conservation District will supply the size of spillways that convey the Q100 peak flow assuming all gates are closed. The Conservation District may be interested in using the SUSTAIN software to optimize the pipe sizes that maximize the ponding depth for the available storage volume and drain time. If SUSTAIN is not pursued, up to three variations on the sizes of connecting pipes and gates will be simulated for the condition where the connecting pipes and gates are fully open. These variations will be modeled for the average annual flood. The RFP does not specify the infiltration conditions, so Tetra Tech suggests evaluating both the no clogging and clogged conditions, assuming mounding does not cause rejection of groundwater recharge. Completion of these analyses requires up to 68 simulations of the hydraulic model.

4. Drain times of the basins under each alternative, including variations on the sizes of connecting pipes and gates, will be influenced by rates of infiltration, which can vary in response to sedimentation that clogs basin surfaces. The drain time for the average annual flood, assuming mounding does not cause groundwater recharge rejection, and the Q100 will be calculated for a no clogging condition and for a clogged condition. Tetra Tech suggests calculating the drain time for the existing conditions using infiltration rates based on testing of existing conditions. Completion of these analyses requires 26 simulations of the hydraulic model.

5. The Conservation District will select the preferred size of pipes and recharge will be computed using a MODFLOW model driven by infiltration rates for no clogging and clogged conditions for both basin alternatives during the average annual flood. Recharge will also be calculated during the average annual flood for the existing condition using infiltration rates based on testing of existing conditions. Geoscience suggests using a new focused model refined from the existing Integrated Santa Ana River Model to assess groundwater recharge. Geoscience will construct the new focused model that refines the existing model with newly collected geohydrologic data from the current project (e.g., LiDAR mapping, land surface surveys, and lithology from borings) to simulate groundwater levels for analyses of recharge capacity (e.g., any rejected recharge). The new focused model will be recalibrated to ensure that the calibration performance meets industry standards. Completion of these analyses requires 5 simulations of the new focused groundwater model.

Task 3.4: Twin Creek Spreading Grounds

Task 3.4.1: Hydraulic Analyses of the Twin Creek Spreading Grounds

1. In the RFP the Conservation District presents two alternatives for the basins in the Twin Creek Spreading Grounds. The hydraulic model will be used to simulate Q100 and SPF water-surface profiles for both alternatives with the Waterman diversion gates closed. Up to five simulations that vary spillway widths will be completed for each alternative to avoid increasing water-surface elevations relative to the Flood Control District's final levee certification documents. Tetra Tech suggests also comparing to the existing conditions water-surface elevations to eliminate potential for confounding factors (e.g., different modeling platforms and assumptions). The water-surface profiles under existing conditions for the Q100 and SPF (assuming Waterman diversion structure gates are closed) are available from Task 3.3.1, bullet 1. Completion of these analyses requires up to 20 simulations of the hydraulic model.

Tasks 3.4.2: Twin Creek Basins Drain Time and Recharge Analyses

1. The Conservation District will select the spillway sizes for each alternative. Using the selected spillway sizes, drain times for each basin under both alternatives will be calculated based on the basins being full. Because this time will be affected by infiltration, the drain times will be calculated for no clogging and clogged infiltration conditions assuming mounding does not cause rejection of infiltration/groundwater recharge. The drain times will also be calculated for the average annual flood and the Q100 with no diversion into the Waterman Spreading Grounds, or a single configuration the Conservation District specifies. Tetra Tech suggests analyzing drain time for existing conditions using tested infiltration rates (assuming mounding does not reject infiltration) based on the basins being full, and for the Q100 and average annual flood. Completion of these analyses requires 15 simulations of the hydraulic model.

2. The infiltration hydrographs in each basin simulated for both alternatives from the average annual flood (Task 3.4.1, bullet 1) using the Conservation District's preferred diversion channel configuration (Task 3.3.1, bullet 2), using both no clogging and clogged infiltration conditions, will be input to the MODFLOW model to simulate recharge. Tetra Tech suggests computing recharge under existing conditions using tested infiltration rates as a basis of comparison. Geoscience suggests using a new focused model refined from the existing Integrated Santa Ana River Model to assess groundwater recharge. Geoscience will construct the new focused model that refines the existing model with newly collected geohydrologic data from the current project (e.g., LiDAR mapping, land surface surveys, and lithology from borings) to simulate groundwater levels for analyses of recharge capacity (e.g., any rejected recharge). The new focused model will be recalibrated to ensure that the calibration performance meets industry standards. Completion of these analyses requires 5 simulations of the groundwater model.

Task 3.5: Lynwood Basin

Task 3.5.1: Hydraulic Analyses of the Lynwood Basins

1. In the RFP the Conservation District presents two alternatives for the Lynwood Basins. The hydraulic model will be used to simulate Q100 water-surface profiles for both alternatives. Q100 hydrology will reflect maximum inflow and diverted flow from the Twin Creek Spreading Grounds and peak inflows from local drains. Tetra Tech suggests simulating the water-surface profile for existing conditions as a basis of comparison. Completion of these analyses requires 3 simulations of the hydraulic model.

Tasks 3.5.2: Lynwood Basins Drain Time and Recharge Analyses

1. Drain times for each basin under both alternatives will be calculated based on the basins being full. Because this time will be affected by infiltration, the drain times will be calculated for no clogging and clogged conditions, assuming mounding does not cause rejection of infiltration. The drain times will also be calculated for the average annual flood and the Q100 with and without inflow from the Twin Creek Spreading Grounds. Tetra Tech suggests simulating existing conditions with tested infiltration rates as a basis of comparison. Completion of these analyses requires 30 simulations of the hydraulic model.

2. The infiltration hydrographs in each basin simulated for both alternatives from the average annual flood, using both no clogging and clogged infiltration conditions, will be input to the MODFLOW model to simulate recharge. Tetra Tech suggests computing recharge under existing conditions using tested infiltration rates as a basis of comparison. Geoscience suggests using a new focused model refined from the existing Integrated Santa Ana River Model to assess groundwater recharge. Geoscience will construct the new focused model that refines the existing model with newly collected geohydrologic data from the current project (e.g., LiDAR mapping, land surface surveys, and lithology from borings) to simulate groundwater levels for analyses of recharge capacity (e.g., any rejected recharge). The new focused model will be recalibrated to ensure that the calibration performance meets industry standards. Completion of these analyses requires 5 simulations of the groundwater model.

Task 3.6: Findings Memo Preparation – Hydraulics and Basin Routing

Deliverables for the hydraulics analyses will include a findings memo that accompanies exhibits presenting the hydraulic analyses of water surfaces, routed hydrographs and drain times, and groundwater recharge.

Task 4: (Combined with Task 3)

Task 5: Field Survey

Tetra Tech will provide topographic mapping of the site using a combination of airborne LiDAR, photogrammetry and traditional ground survey. Survey crews will establish a control network on the ground that will be used to control the aerial collected data and can be used in the future for additional design survey or for construction control and layout. Airborne LidAR data collected will be used to generate a point cloud of the bare earth surface at a density of 16 points per square meter. Aerial collected imagery will be orthorecfied and used to map topographic features. Survey crews will also collect more precise ground data on certain existing features within the limits of the project. The three data sets from the LiDAR, photogrammetry and ground collected mapping will be merged into a single mapping deliverable that covers the entire site.

As part of the deliverables, Tetra Tech will prepare a Civil 3D base file with 1-foot interval contours, above-ground features, overlaid aerial imagery, and 3-D surface information. The base file will also include breaklines, spot elevations, and other information used to create the existing condition 3-D surface.

It is assumed that any access coordination at the project sites will be handled by the Conservation District.

Task 6: Geotechnical Site Investigation

From a geotechnical standpoint, the key issues for the project are as follows:

- Obtaining reliable estimates of infiltration rates for the various basin locations.
- Estimating thicknesses of recent sediment deposits in the basins.
- Evaluating the impact of the proposed project on perimeter levee systems regarding FEMA certification requirements.
- Assessing the seepage, slope stability, and foundation conditions for internal embankment/dikes, spillways, and diversion structures.

Field Investigation

Tetra Tech will perform both test pits and hollow stem auger borings to obtain field data and soil samples for laboratory testing. It is anticipated that approximately 10 test pits and 18 to 22 test borings will be performed.

Test pits are proposed where the bottoms of the subject basins are accessible. The test pits will be excavated with a backhoe to evaluate the depth of recent sediment and to assess the condition of the underlying alluvial soils. Large scale infiltration tests using the falling head test method will be performed at selected locations in test pits varying in size from 2-foot by 2-foot to 5-foot by 5-foot. Testing procedures will be in general accordance with the *County of Los Angeles Guidelines for Geotechnical*

Investigation and Reporting, *Low Impact Development Stormwater Infiltration GS 200.1 (2021*). The selected infiltration pit dimension will be based on the gradation of the alluvium encountered during excavation.

Hollow stem auger borings will be performed in areas of proposed embankment/dike improvements. Tetra Tech has already performed geotechnical explorations of the perimeter levees as part of a previous FEMA certification program (Tetra Tech 2009), and consequently there is an extensive existing data base that can be used supplement the data to be obtained from the proposed exploration described herein for the proposed project.




Laboratory testing

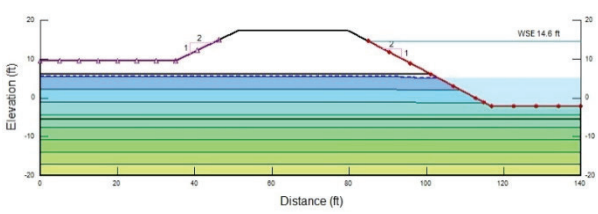
Selected samples taken during the field exploration will be tested to evaluate pertinent engineering properties including:

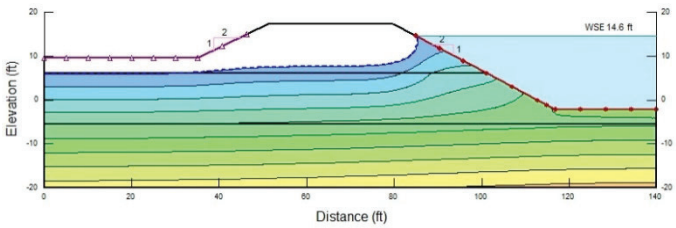
- Dry density and moisture content
- Atterberg Limits
- Gradation
- Maximum dry density/optimum moisture content
- Shear strength
- Consolidation potential
- Saturated hydraulic conductivity.

Engineering Analysis and Report Preparation

The geotechnical analysis will include the following:

- Evaluation of field infiltration rates and design infiltration rates including factors for subsurface variability and future siltation/plugging.
- Evaluation of foundation conditions for proposed embankments and diversion structures including allowable vertical and lateral bearing capacity and potential settlement.
- Evaluation of seepage conditions within proposed embankments and existing levees. This evaluation will be performed using the software SEEP/W which is a finite element modeling program that can simulate both unsaturated and saturated flow and can be used to model both transient and steady state seepage conditions.
- Slope stability analysis of embankment and levee slopes under various hydraulic loading conditions. The stability analysis will be performed using SLOPE/W a powerful software that can develop stability models for numerous limit equilibrium methods including Bishop, Morgenstern and Price, Spencer, and Janbu. Seepage conditions modeled by SEEP/W can be directly input into the SLOPE/W so that slope stability under transient conditions (basin filling or rapid drawdown) can be effectively modeled.





- Both the seepage and slope stability analyses will be performed in tandem with the storm water routing and design alternative evaluations. It is anticipated that this will entail assessing various water levels within different basin configurations as well as differential water levels between adjacent basins. Using steady state seepage analysis to

assess these various conditions may be quite conservative and could indicate adverse seepage or stability impacts that are unrealistic. In these cases, the use of transient seepage analysis, utilizing appropriately conservative hydraulic loading durations, provide more robust and accurate model. Tetra Tech has extensive experience in transient seepage modeling and has successfully utilized these techniques on numerous levee FEMA certification projects.

- A report will be prepared that summarizes all the field and lab testing, engineering analysis, conclusions, and recommendations regarding the geotechnical aspects of the project.

Limitations and Assumptions

- The Conservation District will obtain all necessary permits to perform the field work including access and encroachment permits from the San Bernardino County Flood Control District, well permits from San Bernardino County Environmental Health, USACE 404 and 408 permits, if necessary, and any other environmental permitting that may be required. Tetra Tech will assist the permitting process by producing maps and exhibits of the proposed work.
- No traffic control will be needed.
- The site is accessible with a truck-mounted drill rig.
- The field scope of the project will be performed during one mobilization.
- The borings will be backfilled with cement grout as required by the County.
- The test pits will be backfilled with the excavated soils
- Any remaining drill cuttings will be disposed of at the site.
- Our exploration will not include sampling, testing, or assessment of toxic or hazardous substances, or evaluation of other environmental issues. If during the performance of the subsurface exploration, foreign or odorous materials are encountered, drilling will be terminated at that location and the client will be notified of the condition.
- Tetra Tech will not be responsible for utilities encountered during drilling that have not been marked out by Underground Service Alert (USA), shown on provided plans, or physically indicated in the field by the Client. If requested, third party utility location services can be provided at an additional cost.

Task 7: Sediment Transport Analysis

There are two key considerations relative to sediment transport that warrant sediment transport analysis. First, as runoff is diverted into the spreading grounds and basins, bed material load and wash load will be diverted with the flow. The addition of these sediments increases the volume of the diverted mixture, so a bulking factor may be warranted to increase the volume of clear-water runoff. The sediment transport analysis will characterize the total sediment load as a basis for calculating bulking factors. Second, the diverted sediment may deposit in the basins, both reducing storage volume and causing infiltration rates to decay because of clogging. While a simple spreadsheet-based mass balance was considered for the sediment transport analysis, there is concern that the dynamic feedback between deposition and hydraulics and future erosion or sedimentation requires a mobile-boundary numerical model. For example, as deposition fills a basin, the storage volume drops and flow-through velocity increases, which could re-entrain deposited sediment. Thus, a 1D HEC-RAS model will be used to simulate the sediment loads diverted into, transported through, and deposited in the basins. As stated in the *HEC-RAS Two-Dimensional Sediment Transport User's Manual* (Sanchez and Gibson 2020) the 2D sediment transport feature in HEC-RAS ver. 6.0 is a beta feature and **should not be used for design purposes**. Simulating sediment mobilization, transport, and deposition in a 2D HEC-RAS model could appear to provide value to the Conservation District by leveraging the recommended hydraulic model, but the Corps' directive copied above makes clear the state of the science as implemented in HEC-RAS's 2D sediment transport routines isn't yet reliable enough for design purposes (the ultimate objective of the feasibility analyses the Conservation District seeks through this RFP). For this reason, a 1D HEC-RAS model will be used, and the 2D HEC-RAS hydraulic model will inform the setup and calibration of the 1D model.

Task 7.1: Add Sediment Modeling Capability to Upper Santa Ana River Watershed HSPF Model

As noted in Task 2.2.2, Tetra Tech will modify the HSPF model to provide long-term hillslope sediment yields for the sediment transport analyses. These yields will target the silt, clay, and sand size fractions because the yield is limited by the watershed supply and not the sediment transport capacity of the runoff.

Task 7.2: Compile As-Built Surveys, LiDAR, and Maintenance Records

Tetra Tech suggests compiling as-built surveys of the basins along with records of sediment dredging/removal maintenance. Historical LiDAR mapping will also be compiled. Depending on the dates of the historical information, flow records will be compiled from gaging records and the HSPF simulations to characterize the temporal distribution of sedimentation. This information is needed estimate volumes and rates of sedimentation.

Task 7.3: Estimate Volumes and Rates of Sedimentation

Using the information compiled in Task 7.2, Tetra Tech will estimate volumes and rates of recent historical sedimentation. This information will be useful in testing and calibrating the sediment transport model.

Task 7.4: Develop 1D Mobile-Boundary HEC-RAS Models

The required hydrologic boundary conditions and required upstream sediment supplies at the boundaries in a 1D HEC-RAS model will be informed by the buildup/wash off routine Tetra Tech will add to the existing HSPF model. The long-term hydrographs and sediment loading (primarily wash load, perhaps with some sand) from HSPF will illustrate how annual variability in the frequency, magnitude, and duration of flood hydrographs influences rates of sedimentation and decay of infiltration caused by clogging. Specifically, sheet and rill, inter-rill, and gully erosion will be simulated using the HSPF model. The robustness of the calibration of the HSPF model for sediment yields will be limited by the availability of observed data such as landuse-specific sediment loading rates and estimates of sediment accumulation in basins in the project area. HSPF simulations do not accurately simulate bedload, so estimates will be based on calculations of bedload transport capacity using results from the hydraulic analysis and gradations of sand and gravel deposited in the basins (sampled during the field investigations). Bedload rating curves will be developed using a suitable transport formula such that these rating curves can be integrated over runoff/diversion hydrographs to characterize bedload supplies. The 1D HEC-RAS model can then simulate the transport of the bedload along with the wash load supplies based on the HSPF results.

Task 7.5: Test and Calibrate Models

The model will be tested to confirm geometry and hydraulics provide reasonable inputs to the sediment transport calculations. Simulations of sedimentation will be calibrated, to the extent possible, by comparing topographic changes between historical LiDAR mappings and the recorded hydrology during the time between mappings.

Task 7.6: Apply Models

The 1D model is well-suited to evaluating differences between existing conditions and proposed conditions, and it will be valuable for informing understanding of operation and maintenance actions that may be needed. This model will simulate sedimentation during design floods (Q2, Q5, Q10, Q25, Q100, and the average annual flood) to support estimates of bulking factors and estimates of storage volume filled with sedimentation. Tetra Tech suggests simulating a long-term series produced using the HSPF model to guide estimates of sedimentation depths and volumes that will impact infiltration rates.

Task 7.6.1: Waterman Basins

Three series of flood simulations will focus on the Waterman Creek diversion channel: existing conditions with diversion gates open and shut, and proposed conditions of the preferred configuration with gates open. Ten series of flood simulations will focus on the Waterman Basins: existing conditions with the connecting pipes and gates open and shut, proposed conditions for both alternatives for each of four variations on connecting pipe sizes.

Task 7.6.2: Twin Creek Spreading Grounds

Three series of flood simulations will focus on the Twin Creek Spreading Grounds. The series include existing conditions, and both alternatives for proposed conditions.

Task 7.6.3: Lynwood Basins

Three series of flood simulations will focus on the Lynwood Basins. The series include existing conditions, and both alternatives for proposed conditions.

Task 7.7: Findings Memo Preparation – Sediment Transport Analysis

Deliverables for the sediment transport analysis will include a findings memo that accompanies exhibits presenting: bulking factors; sedimentation volumes, rates, gradations, and locations; and, estimated decay/clogging effects on infiltration.

Task 8: Evaluation of the Results of the Preliminary Design analyses in relation to SBCFCD, USACE Design Standards, and FEMA guidelines

Once the preliminary analyses are completed, those results will be evaluated in relation to the design requirements and guidelines of SBCFCD, USACE, and FEMA.

Tetra Tech has a long history of working for and successfully completing, to the clients' satisfaction, various previous and on-going design projects and engineering studies with SBCFCD, USACE, and FEMA. Therefore, we are very familiar with the design standards, requirements, and guidelines of these agencies and expected approach to complete the projects. This is important because of potential future involvement of these agencies as this project progresses into a construction-level design.

Tetra Tech will review the analyses results from the previous tasks in terms of their use as the design parameters and evaluate how the Conservation District's preliminary designs comply with the aforementioned agencies' design standards, requirements, and guidelines for the calculated design parameters.

Task 9: Quantity Calculations

For the Conservation District-provided design alternatives, rough construction quantities of major construction items will be developed for a planning-level estimate. The information on the design plans, titled "Preliminary Site Plans for Lynwood Basins, Twin Creek Spreading Grounds and Waterman Spreading Grounds" (Exhibit 1 of the RFP), will be used as a basis for the proposed design layouts. The quantities will be broken down into the following alternatives:

- 2 Lynwood Basin Alternatives
- 2 Twin Creek Spreading Grounds Alternatives
- 2 Waterman Spreading Grounds Alternatives
- 2 Diversions Alternatives for Waterman Spreading Grounds

For grading quantities, the Conservation District's AutoCAD base files that were used to create the Exhibit will be used to create a rough 3-D surface in Civil 3D Software and adjust, as necessary, to fit the new project topographic survey map. The 3-D surface will only utilize the District's linework, and no additional designing/modeling efforts will be performed. For other quantities, typical sections will be developed as necessary based on the Exhibit to determine the quantities. MS Excel will be used to create a spreadsheet to determine approximate quantities of major design components as shown on the Exhibit.

Assumption

- Tetra Tech will use the Conservation District-provided AutoCAD files (*.dwg) to develop the preliminary design exhibit in the RFP, including the proposed design linework.

Task 10: Value Engineering

Tetra Tech will perform Value Engineering (VE) of the Conservation District-provided design alternatives in the RFP. The VE review team consists of the lead engineers who participated in all previous tasks and experts in their respective fields. Structural and mechanical engineers will also participate to provide their expertise on the structural and mechanical components of the diversion structures and spillways, as necessary. The design alternatives to be reviewed are 6 alternatives, listed in the RFP, and Task 8 of this proposal. Their constructability will be evaluated not only as stand-alone alternatives, but also in terms of how they are interconnected especially between the Twin Creek alternatives and Lynwood alternatives, as they are hydraulically and structurally connected with a low flow pipe and a shared embankment, respectively.

Task 11: Groundwater Analysis

The main objective of this task is to predict groundwater recharge volume for different hydrologic scenarios and to provide necessary information for the assessment of levee and basin berm stability and liquefaction potential for the surrounding area.

Tetra Tech will run the existing Integrated Santa Ana River Model to simulate the highest estimated amount of groundwater recharge for Waterman Basins, Twin Creek Spreading Grounds, and Lynwood Basins based on results of the recharge volume analysis discussed above. The modeling results (i.e., estimated depth to groundwater under the project conditions) will be used for an evaluation of the stability of site features as well as potential liquefaction in the adjacent areas. If the maximum estimated groundwater recharge is projected to cause negative impacts on slope stability or exceeds the potential liquefaction threshold, an evaluation using the second-highest estimated amount of groundwater recharge will be made. This iterative process will continue until no negative impacts from the groundwater recharge are anticipated.

SUGGESTED model run will use a new focused model to assess groundwater recharge for each basin and hydraulic scenario, as described above. Tetra Tech will construct the new focused model using data from the existing Integrated Santa Ana River Model as well as newly collected geohydrologic data from this Project (e.g., land surface surveys and lithology from borings) to simulate groundwater levels for the analysis of slope stability, potential liquefaction, and recharge capacity (e.g., any rejected

recharge). This new focused model will be recalibrated to ensure that the calibration performance in the Waterman Basins, Twin Creek Spreading Grounds, and Lynwood Basins area meets industry standards.

Task 12: Findings Report and Exhibits

Tetra Tech will prepare a report that summarizes the major findings and results from Tasks 2 through 10. The reports prepared in those Tasks will be included in this Findings Report as appendices. The report will also summarize the findings and analyses that are needed to update the *Upper Santa Ana River Integrated Model Summary Report*, previously prepared by GEOSCIENCE.

Tetra Tech will prepare exhibits of the followings:

- Existing topographic mapping from the project survey
- Schematic layouts of all studied alternatives overlaid on existing topographic mapping
- The limits of potential wetted areas under the existing topographic condition and various hydrological conditions. The inundation boundaries will be based on a model output (a shapefile) exported from the HEC-RAS Mapper from Task 3. The limits will be overlaid on the existing topographic mapping.
- The limits of potential wetted areas under the proposed topographic condition and various hydrological conditions. The inundation boundaries will be based on a model output (a shapefile) exported from the HEC-RAS Mapper from Task 3. The limits will be overlaid on the proposed condition mapping.

The exhibits will be prepared using Civil 3D software (version 2020). The digital files used in preparation of the exhibits will be submitted to the Conservation District for future use.

Deliverables

Tetra Tech will submit a Findings Report and Exhibits in two phases: Draft and Final Submittals. After the Draft Submittal review comments are received from the Conservation District, the review conference will be held between the Conservation District and Tetra Tech team to review and reach concurrence on how the comments should be addressed (Task 1). Final Submittal will be submitted to address the Draft Submittal comments.

D. List of Subconsultants

As a subconsultant, GEOSCIENCE Support Services, Inc. (GEOSCIENCE) will join the Tetra Tech team to provide their expertise in groundwater component of the project services. GEOSCIENCE is a leading groundwater-focused consulting firm in Southern California with more than 40 years of experience in the field. The firm was involved in many local projects, including constructing a groundwater flow model for the Upper Santa Ana Valley Groundwater Basin for the Conservation District in 2020. The report from the 2020 study, *Upper Santa Ana River Integrated Model Summary Report*, is an integral part of this proposal, and the results and findings from the proposed tasks will be used to update the 2020 study.

E. Experience working with FEMA levee certifications

Tetra Tech has a long history of working with FEMA and achieved significant expertise and experiences in FEMA's policies and regulatory and design requirements through various projects, such as levee certification, Flood Insurance Rate Map (FIRM) revisions through LOMR, CLOMR, and appeal process, and general coordination with the agency as part of projects. For FEMA levee certification, Tetra Tech worked with various government agencies to develop the analyses and provide FEMA certification documentation for levees constructed by the U.S. Army Corps of Engineers (USACE) or counties throughout the United States. The local counties that Tetra Tech worked with for FEMA levee certification for accreditation include San Bernardino County, Riverside County, Orange County, and Ventura County.

FEMA has established a Levee Coordination Committee to address levees throughout the United States with respect to the challenge of maintaining information on the location, structural integrity, and certification. This committee examined current levee regulations and developed a long-term levee policy. As interim guidance, FEMA issued Procedure Memorandum 34 (PM 34) on August 22, 2005, and the counties signed Provisionally Accredited Levee (PAL) agreement with FEMA for their levee systems.

PM 34 established guidance for inventorying the levee system and establishing levee review protocol. As part of the levee review protocol, FEMA provided an inventory of the levee systems. However, an agency requesting accreditation of the levee on the FEMA maps would be responsible for providing the levee certification and supporting analyses. San Bernardino was

provided with their inventory in 2007, and Tetra Tech was contracted by the San Bernardino County Flood Control District to provide certification for USACE-built levee systems within the County boundaries. In addition to experience with FEMA, Tetra Tech was selected for its working relationship with USACE and its familiarity and knowledge in USACE facilities and design requirements.

The certification process was based on FEMA's regulatory requirements as identified in Title 44 of the Code of Federal Regulations (CFR), Section 65.10 (44 CFR 65.10) and was divided into 3 phases. Phase 1 includes data collection, site inspections, and assessment of work needed to obtain certification. Phase 2 includes the following tasks: Hydrologic and Hydraulic analyses; Erosion and sedimentation analyses; Interior drainage analyses; Risk and Uncertainty analyses; Structural and system evaluations; Preparation of O&M Manual; Geotechnical field exploration and embankment stability, settlement, and seepage evaluations; Assembly of the certification package. Phase 3 consists of the design and construction of deficiencies found during Phases 1 and 2. As part of Phase 3, in case of Ventura County, Tetra Tech prepared a full design documents, including plans, specifications, and cost estimates, to improve the identified deficiencies and, after completion of construction, repackaged and submitted to FEFMA in full support of certification.

From the list of levees located within the San Bernardino limits, Tetra Tech provided FEMA certification services to all 22 USACE-built levee systems, including Waterman Levees (FEMA ID No. 80A and 80B) and East Twin Creek Levees (FEMA ID No. 52 and 65). Lynwood Basin was not constructed by USACE and, therefore, was not part of Tetra Tech's certification efforts. The Waterman and East Twin Creek levee systems were originally designed and constructed by USACE and turned over to the county to operate and maintain. The certification effort included 2 phases (Phases 1 and 2) to support certification for all Category 1 and Category 2 levees. Ultimately, out of 22 USACE-built levee systems, Tetra Tech provided final levee certification for 17 of those levee systems, including Waterman Levees and East Twin Creek Levees. For the remaining 5 levee systems, PAL Response Reports were provided to support delisting the system as a levee for the 100-year flood. In these delisted systems, long-term degradation of the channel bed has resulted in a system that behaves like a channel rather than a levee during a 100-year flood.

The levee (FEMA ID No. 55) that surrounds east, south, and west boundaries of the Lynwood Basin (Lynwood Basin No.1) were certified by FEMA through the certification effort by HDR Engineering, Inc., as a non USACE-built levee system in 2010. Currently, the Waterman, East Twin Creek, and Lynwood Basin levee systems are certified by FEMA to provide flood protection against a 100-year level flood.

F. Experience working with the San Bernardino County Flood Control District.

Tetra Tech has 20+ years of experience working in the County of San Bernardino. This experience provides us with extensive knowledge of the local and regional geomorphic, hydraulic, and environmental characteristics of the various creeks, dams, and existing groundwater basins in San Bernardino County. The team's depth of experience with the various local agencies, municipalities, state, and federal entities includes a clear understanding of the rules, regulations, and policies affecting activities and management in the County.

Successfully completed projects in the County include:

- Levee Certification for San Bernardino County Including the project levees, County of San Bernardino
- Etiwanda Debris Basin and Channel Improvements, County of San Bernardino
- Santa Ana River Enhanced Recharge (SARER) Project Phase 1A & 1B, San Bernardino Valley Municipal Water District
- Lake Gregory Dam, County of San Bernardino Special Districts
- Covington Wash CLOMR Package for Wastewater Treatment & Water Reclamation Project, Hi-Desert Water District
- Initial Eligibility & Continuing Eligibility Inspection Reports (PL84-99) for San Bernardino County, USACE Los Angeles District
- City of San Bernardino On-Call Engineering Services, City of San Bernardino
- Lytle Creek Quarry in the City of Rialto, Cemex

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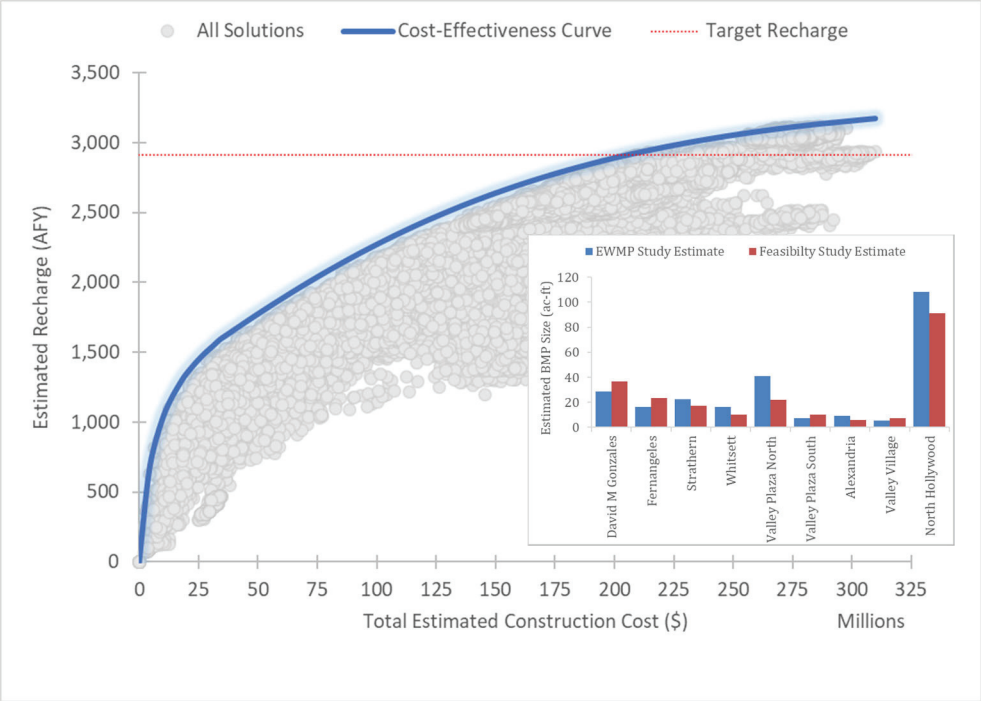


City of Los Angeles Stormwater Capture Parks Program

The Los Angeles Department of Water and Power and the Los Angeles Department of Public Works Bureau of Engineering are committed to pursuing the Stormwater Capture Parks Program. The goal of the program is to alleviate local flooding, increase water supplies through stormwater capture, improve water quality, and provide recreational, social, and economic benefits. The program will incorporate innovative techniques and emerging technologies to capture and infiltrate stormwater with the goal to capture up to 2,912 acre-feet of stormwater and urban runoff per year from a 5,686-acre drainage area. Runoff will be diverted into subterranean infiltration galleries or other stormwater capture and infiltration infrastructure located under the City of Los Angeles parks for infiltration into the underlying groundwater basin. The program consists of nine projects located in the San Fernando Valley.

Tetra Tech performed a feasibility study to address project suitability with respect to three site's implementation and operations. The implementation components include expected design flows, water quality, potential for infiltration, identification of major components and equipment, and basic site plans. The study also included estimates for operations and maintenance needs and costs, as well as monitoring plans, for each of the proposed sites.

Tetra Tech used elements of WMMS and EPA SUSTAIN models to apply a "state of the science" modeling approach to evaluate several thousand combinations of potential diversion rates and BMP footprints and capacities simultaneously at each of the nine locations to determine the stormwater capture and water quality benefits for the overall watershed. This "nested" analysis approach provides the most accurate representation of several interdependent drainage networks within the watershed drainage area and optimizes the cumulative volume capture and pollutant load reduction for the overall watershed by considering the impacts of the performance of BMPs located upstream and downstream of each location.

This approach accurately predicts the performance for the overall watershed allowing the City of Los Angles to strategically invest where impacts are highest. The analysis shows that the same amount of stormwater capture, and water quality treatment could be achieved with smaller BMPs with cumulative capacities up to 31 acre-feet less than initial estimates.

CLIENT

Prop O Clean Water Division, Bureau of Engineering, Department of Public Works

Bryan T Powell, PE, Project Manager

1149 S. Broadway, Suite 630 Los Angeles, CA 90015

(213) 485-5908

bryan.powell@lacity.org

PROJECT DATES

January 2020 – Present

COST

$187,164

PROJECT TEAM

Jason Wright, PE, Feasibility Lead

Sam Sarkar, PE, Modeling Lead

Maureen Harris, PE, Environmental Engineer

KEY SERVICES

Regional structural BMP design

BMP feasibility study

Concept design

Cost estimates

BMP optimization

Doug Bell PE, GE

Geotechnical Engineer

EDUCATION

BS Civil Engineering, McGill University, 1980

REGISTRATION/CERTIFICATION

California Civil Engineer No. C40516 (Expires March 31, 2023)

California Geotechnical Engineer No. GE2140 (Expires March 31, 2023)

OFFICE LOCATION

Diamond Bar, CA

YEARS OF EXPERIENCE

40 Years

YEARS WITH FIRM

11 Year

AREAS OF EXPERTISE

Geotechnical Management

Geotechnical Engineering

Steady state and transient seepage conditions

CONTACT

(909) 860-7777
Doug.Bell@tetratech.com

Mr. Bell has been involved with geotechnical engineering for numerous flood control projects including open channels, culverts, drop structures, retention basins, levees, and dams. He has performed and overseen analysis of steady state and transient seepage conditions for dams and flood control levees. His projects have included both new and modified dam projects that required approval from the California Division of Safety of Dams (DSOD). Mr. Bell has also provided geotechnical management of several levee projects for Federal Emergency Management Agency (FEMA) certification.

San Bernardino County FEMA Levee Certification Program, San Bernardino County Flood Control District, Various Locations, San Bernardino County, California
Mr. Bell served as Project Manager for geotechnical studies performed to obtain FEMA certification of flood control levees throughout the county. The project involves fifteen levees located in the San Bernardino Valley and Coachella Valley: City Creek Levee; Demens Basin Creek Levee; Devil Creek Levee; Island Levee; Warm Creek; Lower Devore Levee; Lytle Creek Levee; Twin Creek; Quail Wash Levee; Riverside Groins; Waterman Creek; Mill Creek Levee; Muscoy Groins; Muscoy Levee; and Devil Creek Diversion Channel. All the levees were originally constructed by the Corps of Engineers – Los Angeles District, some dating back to the 1940's. The levees are earthen embankments generally protected by grouted or non-grouted rip rap. Levees heights vary from approximately 10 to 20 feet, and levees lengths range from less than half a mile to over three miles. The services included geotechnical field investigation, laboratory testing, evaluation of geologic hazards, seepage analysis, slope stability analysis, and settlement analysis.

Etiwanda Debris Basin and Dam Embankment Periodic Inspection of Federal Levees, United States Army Corps of Engineers, Los Angeles District
Mr. Bell has served as the geotechnical lead for periodic inspection of numerous levees systems in San Bernardino, Riverside, Orange, and Los Angeles Counties. The initial work included review of as-built plans, existing geotechnical studies, maintenance reports and other pertinent data. Mr. Bell assisted in the preparation of the Pre-Inspection Packets which included a summary of foundation conditions for each levee as well as a geotechnical design criteria review. His work also included the field inspection of several levees which involved visual evaluation of factors that could impact the levee such as excessive vegetation, erosion, surficial or deep-seated slope instability, seepage, settlement, cracking, and animal burrows.

Periodic Inspection of Federal Levees, United States Army Corps of Engineers, Los Angeles District
Mr. Bell has served as the geotechnical lead for periodic inspection of numerous levees systems in San Bernardino, Riverside, Orange, and Los Angeles Counties. The initial work included review of as-built plans, existing geotechnical studies, maintenance reports and other pertinent data. Mr. Bell assisted in the preparation of the Pre-Inspection Packets which included a summary of foundation conditions for each levee as well as a geotechnical design criteria review. His work also included the field inspection of several levees which involved visual evaluation of factors that could impact the levee such as excessive vegetation, erosion, surficial or deep-seated slope instability, seepage, settlement, cracking, and animal burrows.

Riverside Levees 1 and 2, Santa Ana River, Riverside, California
Mr. Bell is currently serving as Geotechnical Project Manager for the levee rehabilitation project of Levees 1 and 2 on the Santa Ana River in Riverside, California. The project involved the construction of grouted stone protection along the landside slope of the existing levees. The protection extends to the design scour depth which is up to approximately 20 feet below the channel invert. The construction will involve extensive dewatering to install the grouted stone. The geotechnical investigation included drilling of 10 rotary wash borings along the levee and within the channel and performance of 10 Cone Penetration Tests. Field permeability of the subsurface soils was evaluated by slug testing in selected wells installed in some of the exploratory borings. Recommendations were provided for dewatering, including estimated extraction rates, shoring and temporary slopes. In addition, recommendations were provided for slurry trench excavation in one of the bridge crossings.

F. Contract Agreement and Insurance Requirements

Tetra Tech reviewed the sample contract agreement and insurance requirements, specified in the RFP. Tetra Tech will meet the insurance requirements and execute the contract, if selected, with a minor edit to the Conservation District's Standard Terms and Conditions.

Tetra Tech requests the following minor edit to the Terms and Conditions set forth in this RFP:

"4.2 Indemnification. To the fullest extent permitted by law, Consultant shall indemnify and hold harmless ~~and defend~~ the District, its directors, officers, employees, or designated volunteers, and each of them from and against....."

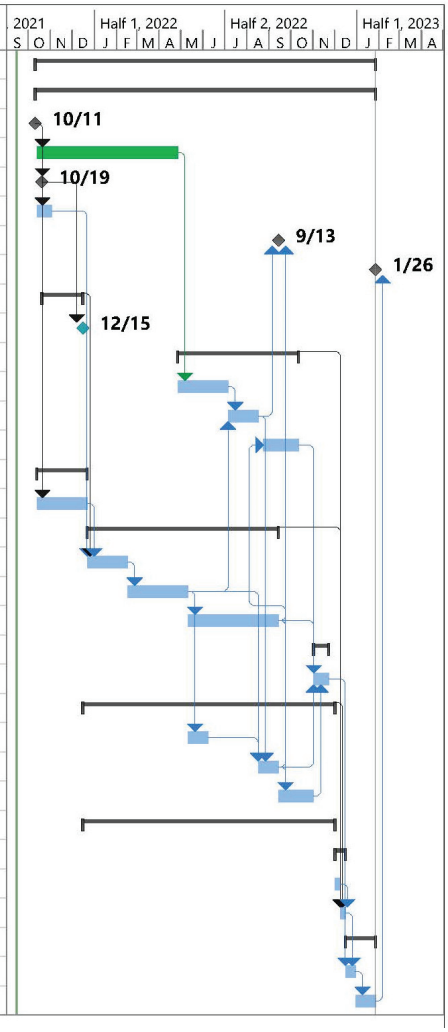
Tetra Tech affirms the ability to execute the Conservation District's Professional Services Agreement and maintain insurance at levels appropriated for the services being provided.

G. Project Schedule

Tetra Tech proposes a following Project Schedule to successfully complete the Tasks, listed this proposal. Project Schedule assumes the followings:

- The Conservation District will obtain environmental permits required for the field testing and borings prior to mobilization in the field.
- Tetra Tech performs bi-monthly load leveling to ensure resource availability and adequate project staffing. Members shown on the organization chart will be available to respond to comments from Conservation District and SBCFCD.

Task Name	Duration	Start
Waterman and Lynwood Project	**339 days**	**Mon 10/11/21**
Project Management	**339 days**	**Mon 10/11/21**
NTP	0 days	Mon 10/11/21
Environmental Permit by the Conservation District	28 wks	Wed 10/13/21
Kickoff Meeting	0 wks	Tue 10/19/21
Site Visit and Soil Sampling	3 wks	Wed 10/13/21
Baseline Analysis Meeting	0 wks	Tue 9/13/22
Draft Submittal Meeting	0 wks	Thu 1/26/23
Field Survey	**41 days**	**Wed 10/20/21**
Survey Control LiDAR	0 days	Wed 10/20/21
Geotechnical Site Investigation	**120 days**	**Wed 4/27/22**
Infiltration Test,Trenching, and Borings	10 wks	Wed 4/27/22
Baseline Analysis	6 wks	Wed 7/6/22
Alternative Analysis	7 wks	Wed 8/24/22
Hydrology	**50 days**	**Wed 10/13/21**
Develop Hydrology	10 wks	Wed 10/13/21
Hydraulics and Basin Routing and Sediment Transport Analysis	**190 days**	**Wed 12/22/21**
Develop RAS 2-D / Sediment Model	8 wks	Wed 12/22/21
Baseline Analysis	12 wks	Wed 2/16/22
Alternatives Analysis	18 wks	Wed 5/11/22
Evaluation of the Results (SBCFCD, USACE, and FEMA)	**15 days**	**Wed 11/2/22**
Evaluations of Analyses Results	3 wks	Wed 11/2/22
Groundwater Analysis	**251 days**	**Thu 12/16/21**
Develop Groundwater Model	4 wks	Wed 5/11/22
Baseline Condition Update	4 wks	Wed 8/17/22
Alternative Condition Update	7 wks	Wed 9/14/22
Quantity Calculations	**251 days**	**Thu 12/16/21**
VE including Evaluation of Constructability of Alternative	**10 days**	**Fri 12/2/22**
Constructability of Alternatives	1 wk	Fri 12/2/22
Life Cycle Analysis	1 wk	Fri 12/9/22
Exhibits and Findings Reports	**30 days**	**Fri 12/16/22**
Review of Alterntives and Refinement	2 wks	Fri 12/16/22
Findings Report and Exhibits (Draft) and Submittal	4 wks	Fri 12/30/22



TETRA TECH

1788 5 Von Karman Avenue, Suite 500, Irvine, CA 92614

Tel 949.809.5000 **Fax** 909.809.5010 | tetratech.com

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1825

To: **Board of Directors**

From: **Betsy Miller, Land Resources Manager/Assistant General Manager**

Date: **January 12, 2022**

Subject: **NEPA Services to Support Bureau of Land Management Right of Way Professional Services Contract Award**

RECOMMENDATION

Staff recommends that the Board accept Dudek's proposal to conduct NEPA services to support the District's Bureau of Land Management Right of Way application and authorize the General Manager and General Counsel to prepare and execute the professional consultant services agreement included as Attachment 1, not to exceed $39,670.

BACKGROUND AND DISCUSSION

The Upper Santa Ana River Wash Habitat Conservation Plan (Wash Plan), adopted by the Board on July 8, 2020, is a federal Habitat Conservation Plan that provides permitting for Covered Activities under the Federal Endangered Species Act. To support a successful implementation, the Wash Plan includes a transfer of lands between the Bureau of Land Management and the Conservation District, which Congress directed as part of the Natural Resources Management Act (Pub. L. No. 116-9) approved by President Trump on March 12, 2019. As part of the land exchanges, the District will be granted a right of way (ROW) from the Bureau of Land Management to continue to conduct Wash Plan Covered Activities on land transferred to the Bureau of Land Management. Staff has been working with them on the content and terms of the ROW.

For the Bureau of Land Management to approve the ROW, the National Environmental Policy Act (NEPA) requirements must be met and included in the ROW submittal. The Conservation District received two responsive proposals, which were reviewed based on demonstrated experience with preparing NEPA documents for the Bureau of Land Management and cost. Based on these factors, we recommend Dudek be selected for this contract.

The contract includes the following tasks: project management; preparation of an administrative draft Environmental Assessment (EA), draft EA, administrative final EA, and final EA; preparation of a Finding of No Significant Impact (FONSI); and preparation of a Decision Record. In addition, the contract includes an optional task to support the Bureau of Land Management in government-to-

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Redlands, CA 92373
Phone: 909.793.2503
Fax: 909.793.0188
www.sbvwcd.org Email: info@sbvwcd.org

government consultation with tribes, as required by NEPA. The tasks are described in detail in Attachment 1.

FISCAL IMPACT

The recommended action would result in the expenditure of up to $39,670.00 of District funds from the Land Management Professional Services Budget, including $4,560.00 of optional tasks.

ATTACHMENTS OR MATERIALS

Contract Services Agreement for Expert Consultant Services for NEPA Services to Support Bureau of Land Management Right of Way Application

CONTRACT SERVICES AGREEMENT
FOR EXPERT CONSULTANT SERVICES FOR
NEPA SERVICES TO SUPPORT
BUREAU OF LAND MANAGEMENT RIGHT OF WAY APPLICATION

THIS CONTRACT SERVICES AGREEMENT FOR EXPERT CONSULTANT SERVICES FOR NEPA SERVICES TO SUPPORT BUREAU OF LAND MANAGEMENT RIGHT OF WAY ("Agreement") is entered into by and between the **SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT,** a special district ("District"), and **DUDEK**, a California Corporation ("Consultant"), is effective upon signature by District and Consultant.

NOW THEREFORE, the parties hereto agree as follows:

1.0 SERVICES OF CONSULTANT

1.1 Scope of Services. In compliance with all of the terms and conditions of this Agreement, the Consultant shall provide and assist the District with technical and other professional services to analyze the environmental impacts of certain Upper Santa Ana River Wash Habitat Conservation Plan ("HCP") Covered Activities in accordance with the requirements of the National Environmental Policy Act (NEPA) in support of the District's application for a BLM ROW ("Project"), as part of the District's ongoing efforts to implement the "HCP", and to secure and comply with permits from federal agencies in connection with same. Consultant shall perform all work according to the contract scope of work, budget, and schedule; shown as Attachments A, B, and C to this Agreement. Consultant warrants that all work and services will be performed in a competent, professional, and satisfactory manner, consistent with no less than the level of skill and care ordinarily exercised by professionals in Consultant's field within the industry.

1.2 Authorization to Begin and Schedule of Performance. Consultant's term to begin work or services, shall initiate upon receipt of a Notice to Proceed by District. Further, no work or services other than that described in the Scope of Work shall be initiated by the Consultant without express authorization of the District, and documented as a Change Order to this Agreement. Consultant shall complete the Tasks specified in the Scope of Work in the time frames indicated in Attachment C, the Schedule of Performance. Pricing set out in Attachment B shall not vary, however, provided qualifying levels of precipitation occur within a period of three (3) years from the date the District provides Consultant a Notice to Proceed.

1.3 Compliance With Law. All work and services rendered hereunder shall be provided in accordance with applicable ordinances, resolutions, statutes, rules, and regulations of the District and any Federal, State, or local governmental agency of competent jurisdiction, and to a standard of care and professionalism consistent with no less than the level of skill and care ordinarily exercised by professionals in Consultant's field performing biological consulting work such as covered by this Agreement.

1.4 Licenses, Permits, Fees and Assessments. Consultant shall obtain at its sole cost and expense such licenses, permits, and approvals as may be required by law for the

performance of the services required by this Agreement.

2.0 COMPENSATION

2.1 Contract Sum. For the services rendered pursuant to this Agreement, the Consultant shall be paid pursuant to the pricing specified in the Fee Schedule specified in Attachment B, for completion of each Task specified in the Scope of Work. Consultant shall invoice for work done to accomplish such tasks monthly, at the "Billable Rate" specified for Team Members performing the work, as set forth in Attachment B. Total compensation for each Task specified in the Scope of Work shall not exceed the "Total Fee" specified for such Task in Attachment B, without prior written approval of the District. In no event shall the amount paid to Consultant for all work under this Agreement exceed Thirty-Nine Thousand Six Hundred Seventy Dollars ($39,670.00.)

2.2 Method of Payment. Provided that Consultant is not in default under the terms of the Agreement, the Consultant shall be paid upon receipt of a detailed record of services performed and time spent. Prior to payment of the final invoice, all work authorized by the District shall be completed. No later than the 15th of each month Consultant shall furnish to District an original invoice for all work performed and expenses incurred during the preceding month. The invoice shall detail charges with reference to the Tasks specified in the Scope of Work, specifying the work performed, the person or Team Member performing the work, and a detailed description of the services performed. District shall independently review each invoice submitted by the Consultant to determine whether the work performed, and expenses incurred, are in compliance with the provisions of this Agreement. If no charges or expenses are disputed, District will use its best efforts to cause Consultant to be paid within thirty (30) days of receipt of Consultant's invoice. Payment to Consultant for work performed pursuant to this Agreement shall not be deemed to waive any defects in work performed by Consultant, nor to constitute any waiver of any type of relief or remedy, legal or equitable, arising out of any breach or nonperformance of any aspect of the Agreement by Consultant.

3.0 COORDINATION OF WORK

3.1 Representative of Consultant. Jonathan Rigg is hereby designated as the principal representative of the Consultant, authorized to act in its behalf with respect to the work and services specified herein and to make all decisions in connection therewith. Any substitution of the designated representative must be approved in advance and in writing by the District.

3.2 Contract Officer. The Assistant General Manager, Betsy Miller, is hereby designated as the representative of the District, authorized to act in its behalf with respect to the work and services specified herein and make all decisions in connection therewith ("Contract Officer"). The District also designates Betsy Miller as Project Manager, who is authorized to direct work of the Consultant.

3.3 Prohibition Against Subcontracting or Assignment. Consultant shall not contract with any entity to perform in whole or in part the work and services required of Consultant herein without the prior express written approval of the District. Neither this Agreement nor any interest herein may be assigned or transferred, voluntarily or by operation of law, without the prior written approval of the District. Any such prohibited assignment or

transfer shall be void.

3.4 Independent Consultant. Consultant shall perform all work and services required herein as an independent contractor of the District, and shall remain under only such obligations as are consistent with that role. Consultant shall not at any time or in any manner represent that it or any of its agents or employees are agents or employees of the District.

4.0 INSURANCE AND INDEMNIFICATION

4.1 Insurance. The Consultant shall procure and maintain, at its sole cost and expense, in a form and content satisfactory to District, during the entire term of this Agreement including any extension thereof, the following policies of insurance:

4.1-01 Workers' Compensation Insurance. By signature hereunder, Consultant certifies that Consultant is aware of the provisions of Section 3700 of the Labor Code, which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and Consultant will Agreement.

4.1-02 Workers' Compensation and Employer's Liability Insurance. Consultant and all sub-consultants shall cover or insure under the applicable laws relating to workers' compensation insurance, all of their employees employed directly by them or through sub-consultants in carrying out the work contemplated under this Agreement, all in accordance with the Workers' Compensation and Insurance Act, Division IV of the Labor Code of the State of California and any Acts amendatory thereof. Consultant shall provide employer's liability insurance in the amount of, at least, $1,000,000 per accident for bodily injury and disease.

4.1-03 Liability Insurance. The Consultant shall provide and maintain at all times during the performance of this Agreement, the following commercial general liability insurance:

4.1-03.01 Coverage. Coverage shall be at least as broad as the following:

Commercial General Liability. Commercial General Liability coverage (Occurrence Form CG 0001) in the amount of one million dollars ($1,000,000) per occurrence for bodily injury, personal injury, and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the project/location (with the ISO CG 2501 or insurer's equivalent endorsement provided to the District) or the general aggregate limit shall be twice the required occurrence limit.

Professional Liability. Professional Liability appropriate to the Consultant's profession covering Consultant's wrongful acts, negligent actions, errors or omissions in the amount of one million dollars ($1,000,000) per claim and annual aggregate.

4.1-03.02 Required Provisions. The policies specified in Section 4.1-03.01 are to state or be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days (10 days for nonpayment of premium) prior written notice by U.S. mail has been

given to the District.

4.1-03.03 Required Format. All of the liability insurance shall be provided on policy forms satisfactory to the District. All insurance correspondence, notations, certificates, or other documents from the insurance carrier or agent/broker shall each separately reference the District project number.

4.1-03.04 Deductibles and Self-Insured Retention. Any deductible or self-insurance retention must be declared to and approved by the District. At the option of the District, the insurer shall reduce or eliminate such deductibles or self-insured retention.

4.1-03.05 Acceptability of Insurers. Insurance is to be placed with insurers having a current A.M. Best's rating of no less than A-:VII or equivalent or as otherwise approved by the District.

4.1-03.06 Evidences and Cancellation of Insurance. Prior to execution of this Agreement, the Consultants shall file with the District evidence of insurance satisfactory to the District. The insurer will give by U.S. mail written notice to the District at least thirty (30) days prior to the effective date of any cancellation, except for nonpayment of premium for which ten (10) days prior written notice will be given. The Consultant shall, upon demand of the District, deliver to the District all such policy or policies of insurance and the receipts for payment of premiums thereon.

4.1-03.07 Errors and Omissions/Professional Negligence. Consultant shall procure and maintain errors and omissions insurance, or professional liability insurance, at all times this Agreement is in effect, covering the services to be provided hereunder in the amount of one million dollars per claim and annual aggregate.

4.1-03.08 Sub-Consultants. In the event that the Consultant employs other consultants as part of the services covered by this Agreement, consistent with Section 3.3 above, it shall be the Consultant's responsibility to confirm that each sub-consultant meets the minimum insurance requirements specified above.

4.2 Indemnification. To the fullest extent permitted by law, Consultant shall indemnify and hold harmless and defend the District, its directors, officers, employees or designated volunteers, and each of them from and against:

4.2-01 Any and all claims, demands, causes of action, damages, costs, expenses, losses, or liabilities, in law or in equity, of every kind of nature whatsoever for, but not limited to, injury to or death of any person including District and/or Consultant, or any directors, officers, employees or designated volunteers of District or Consultant, and damages to or destruction of property of any person, including but not limited to, District and/or Consultant and their directors, officers, employees or designated volunteers, arising out of or in any manner directly or indirectly connected with the work to be performed under this Agreement, due to the Consultant's negligent acts, errors, or omissions committed or alleged to have been committed, except in those cases where the District is liable.

4.2-02 Any and all actions, proceedings, damages, costs, expenses, penalties or liabilities, in

law or equity, of every kind of nature whatsoever, arising out of, resulting from, or on account of the violation of any governmental law or regulation, compliance with which is the responsibility of Consultant, except in those cases where the District is liable.

4.2-03 Consultant shall defend, at its own cost, expense and risk, with Counsel of District's choice, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against District or District's directors, officers, employees or designated volunteers. Notwithstanding the foregoing, with respect to any professional liability claim or lawsuit, this indemnity does not include providing the primary defense of District, provided, however, Consultant shall be responsible for District's defense costs to the extent such costs are incurred as a result of Consultant's negligence, recklessness or willful misconduct.

4.2-04 Consultant shall pay and satisfy any judgment, award or decree that may be rendered against District or its directors, officers, employees or designated volunteers, in any and all such aforesaid suits, actions or other legal proceeding.

4.2-05 Consultant shall reimburse District and its directors, officers, employees or designated volunteers, for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided.

4.2-06 Consultant's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by the District, or its directors, officers, employees or designated volunteers.

4.3 Laws, Regulations and Permits. The Consultant shall give all notices required by law and comply with all laws, ordinances, rules, and regulations pertaining to the conduct of the work. The Consultant shall be liable for all violations of the law in connection with work furnished by the Consultant.

4.4 Safety. The Consultant shall execute and maintain Consultant's work so as to avoid injury or damage to any person or property. In carrying out the work, the Consultant shall at all times, exercise all necessary precautions for the safety of employees appropriate to the nature of the work and the conditions under which the work is to be performed, and be in compliance with all federal, state and local statutory and regulatory requirements including State of California, Division of Industrial Safety (Cal/OSHA) regulations, and the U.S. Department of Transportation Omnibus Transportation Employee Testing Act (as applicable).

5.0 TERM OF AGREEMENT

5.1 Term. This Agreement shall be effective from date of signature of both parties and shall continue in full force and effect until completion and approval of the work and services described hereunder, unless extended by mutual consent, or until otherwise terminated under Section 6.11 below.

6.0 MISCELLANEOUS

6.1 Covenant Against Discrimination. The Consultant covenants that, by and

for itself, its heirs, executors, assigns and all persons claiming under or through them, that there shall be no discrimination against, or segregation of, any person or group of persons on account of race, color, creed, religion, sex, marital status, national origin, or ancestry in the performance of this Agreement.

6.2 Non-liability of District Officers and Employees. No officer or employee of the District shall be personally liable to the Consultant, or any successor in interest, in the event of any default or breach by the District or for any amount that may become due to the Consultant or to its successor, or for breach of any obligation of the terms of this Agreement.

6.3 Conflict of Interest. No officer or employee of the District shall have any financial interest, direct or indirect, in this Agreement, nor shall any such officer or employee participate in any decision relating to the Agreement which affects his or her financial interest or the financial interest of any corporation, partnership or association in which he or she is, directly or indirectly, interested, in violation of any State statute or regulation. The Consultant warrants that it has not paid or given and will not pay or give, any third party any money or other consideration for obtaining this Agreement.

6.4 Notice. Any notice, demand, request, document, consent, approval, or communication either party desires or is required to give to the other party or any other person shall be in writing and either served personally or sent by prepaid, first-class mail, in the case of the District, to the General Manager and to the attention of the Contract Officer, San Bernardino Valley Water Conservation District, 1630 W. Redlands Boulevard, Suite A, Redlands, CA 92373-0581, and in the case of the Consultant, to the person at the address designated on the execution page of this Agreement.

6.5 Interpretation. The terms of this Agreement shall be construed in accordance with the meaning of the language used and shall not be construed for or against either party by reason of the authorship of this Agreement.

6.6 Integration; Amendment. It is understood that there are no oral agreements between the parties hereto affecting this Agreement and this Agreement supersedes and cancels any and all previous negotiations, arrangements, agreements and understandings, if any, between the parties, and none shall be used to interpret this Agreement. This Agreement may be amended at any time only by the mutual consent of the parties and only by an instrument in writing.

6.7 Severability. In the event that part of this Agreement shall be declared invalid or unenforceable by a valid judgment or decree of a court of competent jurisdiction, such invalidity or inability to enforce shall not affect any of the remaining portions of this Agreement which are hereby declared as severable and shall be interpreted to carry out the intent of the parties hereunder unless the invalid provision is so material that its invalidity deprives either party of the basic benefit of their bargain or renders this Agreement meaningless.

6.8 Waiver. No delay or omission in the exercise of any right or remedy by a non-defaulting party on any default shall impair such right or remedy or be construed as a waiver. A party's consent to or approval of any act by the other party requiring the party's consent or approval shall not be deemed to waive or render unnecessary the other party's consent to or approval of any subsequent act. Any waiver by either party of any default must be in

writing and shall not be a waiver of any other default concerning the same or any other provision of this Agreement.

6.9 Attorney's Fees. If either party to this Agreement is required to initiate or defend or made a party to any action or proceeding in any way connected with this Agreement, the prevailing party in such action or proceeding, in addition to any other relief which may be granted, whether legal or equitable, shall be entitled to reasonable attorney's fees, whether or not the matter proceeds to judgment.

6.10 Ownership of Work. All work performed and all work product generated by the Consultant hereunder shall be the exclusive property of the District. The Consultant shall provide to the District all notes, maps, graphs, worksheets, reports, computer databases and programs, or any other analysis or analytical tools created or produced by the Consultant in connection with its work performed hereunder ("work"), no later than the time of the completion of the Consultant's work or earlier termination of this Agreement under Section 6.11 below. The Consultant shall not disclose or utilize its work under this Contract in any other assignment or for any other purpose, or otherwise disclose or utilize such work, without the prior written consent of the District, which consent shall not be unreasonably withheld.

6.11 Termination. This Agreement may be terminated by either party giving 30 days' notice in writing to the other party and sent by registered mail to the principal place of business that such notice is addressed. The right, duties, and responsibilities of the Consultant shall continue in full force during the period of this 30-day notice, unless otherwise directed by District. After the expiration of the 30-day interval following notice, no rights or liabilities shall arise out of this relationship, except that the indemnification provisions of Section 4.2 above shall survive termination, and any task undertaken by Consultant on written District authorization, and still uncompleted at the expiration of the notice period, shall be carried to completion by Consultant and paid for by District at rates provided hereunder, unless mutually agreed in writing to the contrary, in accordance with the provisions herein.

6.12 Mediation. In the event of disagreement as to termination procedures, the Consultant and District shall meet and confer in an attempt to resolve the issue. If the meet and confer process fails to resolve any controversy or claim arising out of or related to work performed under this Agreement, within 10 business days after written notice by one party to the other identifying the nature of the dispute and requesting a meet and confer conference, such claim or controversy shall be submitted to non-binding mediation unless the parties mutually agree otherwise. The submission to non-binding mediation shall be upon such terms, conditions, and procedures as the parties might mutually agree, and shall not preclude the initiation or exercise of any other remedy, legal, equitable, or otherwise, available to any party. The mediation proceedings shall take place in San Bernardino County, California.

6.13 Corporate Authority. The persons executing this Agreement on behalf of the parties hereto warrant that (i) such party is duly organized and existing, (ii) they are duly authorized to execute and deliver this Agreement on behalf of said party, (iii) by so executing this Agreement, such party is formally bound to the provisions of this Agreement, and (iv) the entering into this Agreement does not violate any provision of any other Agreement to which said party is bound.

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement and by signature below:

CONSULTANT

DUDEK

By:_____

Date: _____

SAN BERNARDINO VALLEY
WATER CONSERVATION DISTRICT

By:_____
Daniel Cozad, General Manager

Date: _____

ATTACHMENT A

SCOPE OF WORK

Project Tasks

Task 1: Project Management and Meetings

Upon execution of a contract, Dudek will prepare for and attend a project kickoff meeting with SBVWCD and BLM anticipated to occur via online video conference due to the current COVID-19 restrictions. The kickoff meeting will be used to establish communication protocols; develop an understanding of the project schedule and milestones; define on-site survey and data collection efforts; and provide SBVWCD and BLM the opportunity to identify known concerns, issues, stakeholders, and other important factors. The kickoff meeting will provide the opportunity for Dudek to present our approach preparing the EA, including anticipated resource issues to be covered in the document, planning public involvement efforts to meet NEPA requirements, and to obtain BLM buy-in on the overall NEPA schedule and approach.

In the interest of keeping the project on schedule and within budget, Dudek will establish a regular reporting and communication process for project status, budget and schedule updates, and problem/resolution identification. Including the kickoff meeting, Dudek anticipates that up to six 1-hour teleconference status meetings with SBVWCD will be required during the duration of the project.

Deliverables: Meeting agendas and meeting minutes

Task 2: NEPA Environmental Assessment

Dudek will prepare the EA and follow NEPA implementing guidance in accordance with BLM NEPA Handbook 1790-1 and 43 Code of Federal Regulations (CFR) Section 46 for the US Department of Interior NEPA Implementation. Dudek assumes that the BLM has determined that the Proposed Action (grant of ROWs) is a non-controversial project due to the legislative mandate for the exchange and due to the prior existing uses and covered activities and will therefore not require public scoping (43 CFR 46.305(c)). However, Dudek also assumes that the BLM Palm Springs South Coast Field Office will conduct internal scoping with its interdisciplinary team and provide a summary of that meeting. Internal scoping will aid in formulating purpose and need; identify connected, similar, and cumulative actions associated with the Proposed Action; and focus on issues to be discussed in the EA.

The NEPA process can be summarized as preparation of a Draft EA, a 30-day public comment on the Draft EA, and preparation of the Final EA that addresses substantive public comments received. Should analysis find that the project does not have a significant impact, Dudek will prepare a Finding of No Significant Impact (FONSI) for signature of the BLM Responsible Official.

Administrative Draft EA and Draft EA: Dudek will prepare and submit an Administrative Draft EA to SBVWCD for review. The EA will follow a BLM standard outline and/or a recent example EA provided by the BLM. The level of detail in the Draft EA will follow guidance found in BLM NEPA Handbook 1790-by using clear and concise text that minimizes the use of long narratives and uses maps, illustrations, and figures to efficiently convey information. Because a Draft EIS and Final Supplemental EIR have been prepared for the HCP and its "covered activities" pursuant to NEPA and CEQA, Dudek's approach will be to incorporate analysis in this document by reference to the maximum extent practicable in accordance with 40 Code of Federal Regulations Section 1502.21. The incorporated material will be cited in the statement and its content briefly described.

Chapter 1 of the Draft EA will identify both purpose and need for the project, and a detailed project description of the proposed ROW for the covered facilities and activities. Chapter 2 will identify the proposed action (the project) and the No Action Alternative that will be analyzed in detail in the EA, as determined during the project kickoff meeting and subsequent correspondence with the BLM. Dudek assumes that the BLM will determine that only the Proposed Action and No Action Alternative will be analyzed in the EA (i.e. no other action alternatives will be required for analysis).

The affected environment will be presented in Chapter 3. Resource descriptions will be quantitative wherever possible and of sufficient detail to serve as a baseline against which to measure the potential effects of implementing the proposed action. Relevant information from the Draft EIS and Final Supplemental EIR for the HCP will be used to create the affected environment, representative of the baseline/existing conditions. This information will then be used to assess potential direct, indirect, and cumulative impacts of the proposed action and no action alternative on each resource in the environmental consequences section of the Draft EA.

For a more reader-friendly format, Dudek assumes that environmental consequences analysis will also be in Chapter 3. Resource impact analysis will describe the known and predicted effects of the project related to the resources and other project issues. To help decision makers understand how a resource will be affected by the project, the EA will focus on characterizing effects in terms of context (e.g., adverse or beneficial), intensity (e.g., negligible, minor, moderate, or major), and duration (e.g., short- or long-term). The effects analysis must demonstrate that the BLM took a "hard look" at the impacts of the action. The level of detail will support reasoned conclusions by comparing the amount and degree of change. This will include a description of the analysis methodology by resource topic, as agreed upon with SBVWCD and BLM staff, so that readers can sufficiently understand how the analysis was conducted. Chapter 3 will also identify appropriate mitigation measures that will be necessary to avoid or minimize adverse environmental effects.

Cumulative effects—the potential effects of the proposed project when combined with the effects of reasonably foreseeable future actions—will be analyzed in Chapter 4. Dudek will consult with SBVWCD , the BLM, and other publicly available sources for determining the relevant reasonably foreseeable future actions.

Chapter 5 will summarize the public and agency coordination efforts that were undertaken for preparing the EA, and include copies of any pertinent, non-confidential correspondence that supports decisions and determinations made by the BLM. The final chapters of the EA will include a full list of references cited (Chapter 6) and a list of all preparers that contributed to the EA (Chapter 7).

Dudek will submit an Administrative Draft EA to SBVWCD and BLM for one round of review and comment. Upon receipt of comments, Dudek will revise the document and submit the Draft EA for public review. Dudek will employ a rigorous internal quality assurance/quality control process that includes reviews for NEPA and scientific adequacy, consistency, and technical editing to provide deliverables of the highest quality. Dudek assumes that only one round of review from SBVWCD and BLM will be necessary to prepare the Draft EA, and that the documents will be submitted electronically for review (no hard copies). If the BLM requests publication of the Draft EA on its website, Dudek will make sure that the document complies with Section 508 of the Rehabilitation Act of 1973, which requires federal agencies to make electronic and information technology accessible to people with disabilities.

After the BLM has approved the Draft EA for public review, it is assumed that the BLM will post the Draft EA and unsigned FONSI available online on its e-planning website (www. https://www.blm.gov/programs/planning-and-nepa/eplanning), and hard copies will be available for review at the SBVWCD and BLM offices. In accordance with BLM's NEPA Handbook, a standalone FONSI (with EA referenced) may be made available to the public for a 30-day review period, but at this time, Dudek assumes that both documents will be made fully available for 30

days. Public comments will be directed to the BLM for review through its e-planning website. Upon the completion of the public review period, SBVWCD and BLM will coordinate with Dudek to make any appropriate changes to the EA based on public comment.

Dudek assumes no public meetings, mailings, or other public outreach will be required for prior to the preparation of the Draft EA, nor post-publication of the Draft EA. In the unlikely event that BLM does require additional public outreach, a separate scope of work for those tasks will be prepared.

Administrative Final EA, Final EA, and FONSI: Dudek will revise the Public Review Draft EA based on analysis of public comments and will submit an Administrative Final EA and FONSI to SBVWCD and BLM for review. Upon receiving the SBVWCD and BLM comments on the Administrative Final EA and FONSI, Dudek will make any necessary revisions and submit the Final EA and FONSI to SBVWCD and BLM. Dudek assumes that only one round of review of the Administrative Final EA and FONSI by SBVWCD and BLM will be necessary for preparing the Final EA and FONSI.

Deliverables: Administrative Draft EA, Draft EA, Administrative Final EA, Final EA, and FONSI (electronic and up to two hard copies)

Task 3: Decision Record

Dudek will assist in the preparation of the Decision Record in the event that no significant impacts are found. The structure of the Decision Record would follow the guidelines in BLM's NEPA handbook and would include, a discussion of compliance with major laws pertinent to the decision, identification of the selected alternative, a reference to the FONSI, summary of public involvement, decision rationale, and protest and appeals opportunities (updated language to be provided by BLM). Dudek will prepare one administrative draft for one round of SBVWCD and BLM review/comment and will prepare a final of the Decision Record based on internal comment.

Deliverables: Administrative Draft Decision Record, Final Decision Record (electronic format only).

Task 4: Section 106/Government to Government Consultation Support (Optional)

To date, the BLM has not confirmed whether or not "covered activities" proposed in the ROW would be covered under previous consultation for "covered activities" in the HCP. Should BLM elect to engage in consultation with the State Historic Resource Preservation Officer (SHPO), Dudek would draft this letter for BLM. Because of previous consultation that occurred with the Upper Santa Ana River Wash HCP, it is not anticipated that correspondence with the Native American Heritage Commission would be required to obtain a list of interested Tribes; SBVWCD and BLM would already have that list on file and provide it to Dudek. Dudek would draft letters for the BLM to send to interested Tribes.

Deliverables: Letter to SHPO and Tribes for BLM to sign and mail.

ATTACHMENT B

FEE SCHEDULE

Fee Schedule

Project Tasks and Fee Schedule		
NEPA Milestone	Corresponding Request for Proposal Task Number	Cost Estimate
Project Management and Meetings	Task 1	$6,400.00
NEPA		-
Administrative Draft EA, Draft EA	Task 2	$ 27,020.00
Administrative Final EA/Final EA and FONSI	Task 2	
Decision Record	Task 3	$ 1,690.00
Total Cost (Time and Materials, Not-to-Exceed)		**$35,110.00**
Section 106/Government to Government Consultation	Task 4 (Optional)	$ 4,560.00
Total Cost with Optional Task (Time and Materials, Not-to-Exceed)		**$39,670.00**

ATTACHMENT C

SCHEDULE OF PERFORMANCE

Input and direction from BLM are critical to achieving a successful work product. Within one week of receipt of the Notice to Proceed, Dudek will coordinate with SBVWCD to establish a kick-off meeting with BLM. Following that meeting, a schedule with NEPA milestones will be prepared and submitted to SBVWCD and BLM for approval. The anticipated submittal of the draft EA is January 30, dependent upon BLM's availability for a project kick-off meeting and BLM's internal scoping process timeline.

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1826

To: **Board of Directors**

From: **David B. Cosgrove, General Counsel/Daniel Cozad, General Manager**

Date: **January 12, 2022**

Subject: **Wildland Wash Plan Trails MOU**

RECOMMENDATION

Review and approve the "Memorandum of Understanding Regarding Planning and Funding of Santa Ana Wash Wildland Trails by and between the City of Highland, the City of Redlands, and the San Bernardino Valley Water Conservation District." ("Trails MOU") including non-substantive edits acceptable to District Counsel and General Manager.

BACKGROUND AND DISCUSSION

The Conservation District is implementing the Wash Plan HCP to allow development, expansion, and maintenance of facilities for both public and commercial entities within the Wash, while providing protected habitat for multiple Federal and State protected species that occur within the Wash Plan area. The 4,500-acre Santa Ana River Wash provides a large, unique open space area supporting both natural habitat and recreational opportunities to residents of the region. The HCP has received federal approval and is in process for permits from the California Department of Fish and Wildlife.

One of the Wash Plan's "Covered Activities" is the development of a paved and unpaved trail system for pedestrians, street cyclists, mountain bikers and equestrian users within the Wash Plan Preserve. The trails system is located north of the Santa Ana River, on lands primarily owned by the District, with portions in the Cities of Highland and Redland. Toward this end the Conservation District, the City of Highland, and the City of Redlands in all considered, and approved of, The Wash Plan Trails Master Plan (November 2016) ("Trails Plan"), which describes a network of expanded trails and recreational opportunities, including:

1. The addition of approximately twenty-three (23) miles of trails, including Class 1, 1-B, 2 and 4 segments, joining the existing trail networks in Highlands and Redlands;
2. Seven (7) miles of trails along existing, unpaved access roads;
3. 13 miles of paved trails, to be developed by Highland, Redlands, the Conservation District, and perhaps other entities within existing or future public rights of way;
4. Approximately 2.5 miles of trails on existing and legally accessible public ROW (e.g. bike lanes on paved roadways); and
5. A trail segment across the river.

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Redlands, CA 92373
Phone: 909.793.2503
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Both Highland and Redlands support development of the wildland trail system described in the Trails Plan, to augment existing trail systems for residents.

The District's implementation of the Wash Plan is now proceeding to a point where trails development can begin. Toward that end, the District has prepared, and circulated to the two partner cities, the Trails MOU, attached hereto. The General Manager reviewed the draft agreement with the Board in December 2021. The Trails MOU is scheduled to be reviewed and approved by the City of Highland City Council on January 11, 2022. It is now submitted to the District Board for approval. The same document will be considered by, and is expected to be approved by, the Redlands City Council in February or March of this year.

The Trails MOU effectively designates the Conservation District as the implementing arm of the Trails Plan Facilities located on District property, under the respective cities' powers to establish public recreational facilities. Trails within existing rights of way owned and maintained by the cities will remain under their auspices.

The Trails MOU is proposed as a twenty-year document and defines the respective parties' roles in bringing the Trails Plan facilities online, over time. It designates the Conservation District as the lead agency for any environmental review or permitting that may be required apart from that already completed for the Wash Plan. It specifies that rights of way and funding for trails on District lands will come from deposits secured from the mining companies, as a condition of approval for CUPs for mining areas contemplated to be permitted for mining under the Wash Plan. Funds for trails on City lands will come from the respective Cities based on their budget priorities.

The MOU also creates a three-member Trails Oversight Committee, consisting of one representative from each of the parties, to guide maintenance and operations issues, and to consider potential future integration of trails with other regional public recreational facilities, as those develop.

FISCAL IMPACT

Trails establishment and maintenance costs as specified in the Trails Plan and incorporated into the budgeting and mitigation requirements for the Wash Plan. The initial costs are expected to be approximately $200,000 which may be spread over more than one year and the annual cost are expected to range from $89,000 to $125,000 per year depending on the number of trails open and other factors. One third of this cost is the responsibility of the District with the remaining two thirds from the mining entities via the respective Cities CUPs.

POTENTIAL MOTIONS

1. Move to approve the Trails MOU and authorize the Board president to sign it on behalf of the District.
2. Continue the item until City of Redlands has reviewed and approved the Trails MOU or taken other action.
3. Provide other direction to Staff.
4. Table the item to a future meeting for consideration.

Memorandum of Understanding Regarding Planning and Funding of Santa Ana Wash Wildland Trails

by and between the City of Highland, the City of Redlands, and the San Bernardino Valley Water Conservation District

RECITALS

This "MEMORANDUM OF UNDERSTANDING REGARDING PLANNING AND FUNDING OF SANTA ANA WASH WILDLAND TRAILS" ("MOU") is entered into this ___ day of ____ 2022, by and between the CITY OF HIGHLAND, ("Highland"), the CITY OF REDLANDS ("Redlands"), and the SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT ("District"). Highland and Redlands are sometimes referred to collectively hereunder as "Cities" and Highland, Redlands and District are referred to collectively as "the Parties." This MOU is entered into in consideration of all the following:

RECITALS:

WHEREAS, Cities are both municipal corporations, and general law cities in the State of California. As such, Cities have the statutory authority to set aside, improve, operate, and maintain property for public recreational purposes, including trails. This authority draws from, *inter alia,* Government code section 66477, and common law municipal powers.

WHEREAS, District is a California Water Conservation District duly formed and existing under Water Code sections 74000 et seq. District has as its primary purpose the capture, spread, and recharge of water, both native and imported, over groundwater recharge facilities it owns, operates, and leases, and the stewardship of lands for compatible water supply and quality, mineral production, and the preservation of sensitive habitats.

WHEREAS, District owns substantial holdings of land within the Santa Ana River Wash. The 4,500-acre Santa Ana River Wash provides a large, unique open space area supporting both natural habitat and recreational opportunities to residents of the rapidly urbanizing East Valley. The District has initiated, and is now implementing, the Upper Santa Ana River Wash Habitat Conservation Plan ("Wash Plan") to allow development, expansion, and maintenance of facilities for both municipal and commercial entities within the Wash, including those of the District and Cities, while providing protected habitat for multiple Federal and State protected species that are found within the Wash. District has obtained an Incidental Take Permit for the Wash Plan, which includes as one of the covered activities the establishment of trails.

WHEREAS, The Trust for Public Lands ("TFPL") recommends that parks, trails, and other outdoor recreational amenities be sited to maximize the number of community members living ten minutes or less away, by foot. With currently available trails, TFPL shows that 26% of Highland residents are within a ten-minute walk while 51% of Redlands residents are within a 10-minute walk.

WHEREAS, the Parties, in collaboration with each other, formulated the Wash Plan Trails Master Plan (November 2016) (which was approved by the City of Highland Community Trails Committee) ("Trails Plan") to combine the Cities' legal authority to establish trails, with the District's land and conservation area management authority and existing permits, in order to expand public recreational trails as part of the long-term land uses for the Santa Ana River Wash. The Trails Plan is incorporated into, and was reviewed with the same EIR/EIS, as the Wash Plan. The Trails Plan describes a paved and unpaved trail system for pedestrians, street cyclists, mountain bikers and equestrian users within and adjacent to the Wash Plan Preserve located north of the Santa Ana River, within the jurisdictional boundaries of the Cities.

WHEREAS, implementation of the Trails Master Plan would substantially expand and improve the scope and range of recreational opportunities available in the Wash Plan area, and extend to all residents of the region the economic, educational, health, heritage, transportation, community involvement, and quality of life benefits that such trail systems can provide. Specifically, the Trails Master Plan proposes an interconnected system of 23.1 miles of trails, including Class 1, 1-B, 2 and 4 segments, to the existing trail networks in Highlands and Redlands. A map of such proposed trails from the Trails Plan is attached as Exhibit "A." These trails would provide legal access for pedestrians, street cyclists, mountain bikers and equestrian users within and adjacent to the Wash Plan Preserve. Approximately 2.5 miles of trails are already built and legally accessible via public rights of way (e.g. bike lanes on paved roadways), 7 miles of trails would be opened along existing, unpaved access roads, and an additional 13 miles of paved trails would be developed by Highland, Redlands, San Bernardino County Transportation Authority, or other entities within existing or future public rights of way.

WHEREAS, some funding for the realization of the Trails Plan is already in place, and some is the subject of existing funding commitments, that have come from issuance of conditional use permits for mining activities under the Wash Plan, or from conditions of approval from other discretionary permits previously issued by the Cities, or others. However, such funding is not currently expected to be sufficient to cover all expected right of way, construction, and maintenance and operation costs of the trails network, as envisioned in the Trails Plan.

WHEREAS, the Parties therefore now wish to collaborate on the final design, implementation, funding, and operation and maintenance of that portion of the trails system proposed in the Trails Plan located upon property owned by the District, or owned by the BLM but over which the District has rights including trail establishment and maintenance. These trails include Borrow Pit South, Cone Camp Road, Old Rail Line, Pole Line, and Weaver, as identified in the Trails Plan ("MOU Trails"). Such MOU Trails consist of 7.3 miles of trails, and are depicted on Exhibit "B." The Parties therefore enter this MOU to define their respective roles and responsibilities, and assure the cooperative development of a regional recreational resource for trails activity in the Santa Ana River Wash area.

NOW, THEREFORE, in consideration of all the foregoing, it is agreed among the Parties as follows:

1. **Recitals**.

The recitals set forth above are true and correct and incorporated herein.

2. **Term.**

This MOU shall have a term of twenty (20) years from the date on which the last party executes this MOU, unless earlier terminated as set forth herein. This MOU may be extended by the Parties for up to two (2) subsequent five (5) year periods, pursuant to written amendment signed by all parties. Any party may terminate its participation in this MOU by providing the other Parties with one hundred eighty (180) days' written notice, provided, however, that termination of this MOU shall not terminate any trail funding or operating agreements the Parties, or any of them, may have entered into as of the date this MOU itself is terminated, and any such agreements shall be governed by their own termination provisions, if any. To clarify, a party's termination of the MOU shall terminate that party's funding agreement set forth in this MOU, but shall not automatically terminate any separately executed trail funding or operating agreements that the party entered into.

3. **Trails Master Plan Implementation.**

3.1 Role of the Parties in Trails Plan Implementation, and Trails Establishment. The Parties intend to proceed immediately with implementation of the MOU Trails portion of the Trails Plan. This will require the establishment of trails by the respective Cities within their own jurisdictional boundaries, in part on property that will be made available for such purposes by the District. Cities shall be solely responsible for planning, permitting, construction, and implementation of the trail segments located on existing public right of way, with the exception of permits associated with Wash Plan Covered Activities, which are being pursued by the District on behalf of the Wash Plan Task Force. For MOU Trails, District will (1) contribute land and appropriate public access rights, (2) provide the permitting from any third-party agency not a party to this Agreement required for the establishment and operation of MOU Trails, (3) assist with funding for the establishment of MOU Trails, and (4) assist in MOU Trails operations and maintenance oversight. District will develop, update, and make available to Cities a GIS-based trail mapping system, with appropriate parcel information, so Cities can integrate such MOU Trails mapping with their own property and parcel map information, and so Cities can assess any third-party rights of way, or additional permitting, that may be needed for trails or MOU Trails implementation.

3.2 Funding. Two thirds of the implementation costs for the MOU Trails will be provided by the Cities, and one third will come from the District. The Parties will, as needed, provide additional design of the trails and any appurtenances or attendant improvements, and shall update cost estimates as may be appropriate for the costs listed in the Trails Plan for the contemplated trails

facilities, from which the Parties will establish a budget and work plan for the MOU Trails implementation. Unless the Cities obtain grant funds or endowments to fund the MOU Trails, the Cities' contribution will be solely funded from those payments and deposits the Cities required be paid by holders of conditional use permits for mining activities, which funds were made a condition of approval for the purpose of development, implementation, and maintenance of trails or other public recreational activities. For the City of Highland, this was done by way of Conditional Use Permit CUP-007-004 (Robertson's Ready Mix) and CUP-007-005 (Cemex). The Cities shall provide an accounting of all such funds, and the District will identify funding it has available to contribute to establishment of MOU Trails and appropriate MOU Trails appurtenances and improvements. The Parties may consider potential pooling of such funds into a single account for ease of coordination and administration of the MOU Trails.

3.3 CEQA and Other Environmental Review. The Parties understand and expect that the MOU Trails contemplated by the Trails Plan have been environmentally reviewed and approved in connection with the Incidental Take Permit obtained by the Wash Plan, and apart from certification that no additional environmental review is required under 14 CCR section 15162, and do not anticipate that additional environmental review will be necessary for MOU Trails implementation. To the extent that additional review or permitting may become necessary, however, the District shall undertake lead agency responsibilities for any such additional CEQA or other environmental review for MOU Trails, unless one of the Cities requests to do so, based upon the location of the MOU Trail within their respective jurisdictions. To the extent such additional environmental processing is undertaken by the District, the Cities shall each reimburse the District for one third of such costs, either through direct invoicing, or as Issuance Costs under the Wash Plan MOU in connection with the development of the MOU Trails as a Covered Activity under the Wash Plan, provided that Highland's MOU Trials costs shall not exceed the funds it collects from Cemex and Robertson's Ready Mix pursuant to the conditional use permits referenced above. For any required future permits, the Parties presently contemplate that District will be the lead agency in connection with preparing, presenting, and procuring of such permits to completion, but agree that they will prospectively determine, on a case-by-case basis, which party is most appropriate for any given specific MOU Trails implementing project, based on its scope, timing, and staffing and budgetary matters. To the extent either of the Cities is the permitting authority for such permits, the applicable municipality shall be the applicant, and shall not charge District application, hearing, or process fees in connection with pursuit or issuance of the permit.

4. **Individual Trails Project Approval Procedures.**

Prior to construction of any of the MOU Trails included in the Trails Plan, to the extent any such construction is required, and to the extent not already approved by the Cities' approval of the Trails Plan, all MOU Trail and appurtenant facilities must be approved by Redlands or Highland, depending upon whose jurisdictional boundaries the proposed project lies within. For projects that lie within both, the approval of both Cites shall be required. Such approvals shall be presented to the City Council of each of the respective Cities for consideration as a City-initiated application, and District shall not be responsible for payment of any application fees, hearing costs, or other costs ordinarily incidental to whatever form such approval usually takes under the procedures of the applicable municipality.

5. Trail Operation and Maintenance Responsibilities.

For those Trails Plan trails located within existing streets or other dedicated public rights of way (e.g., the Alabama Street Trail, Greenspot Road Trail, and Boulder Avenue/Orange Street Trail) the municipality having jurisdiction over the portion of the public right of way in which the trail is situated shall assume all costs and responsibility for trail operation, monitoring, oversight, signage, and maintenance. Such activity will be performed by the municipality in conjunction with its other street or public right of way responsibilities, with such eligible funding as the Cities may have to devote to such purposes, including potentially grants or endowment funds. For the MOU Trails, the Cities hereby contract with District as their agent for trail operation, monitoring, oversight, signage, and maintenance, and District shall assume responsibility therefor. The District shall pay for one third of the annual cost of MOU Trail maintenance activities, provided that the remaining two thirds is paid to the District by Robertson's Ready Mix and CEMEX under the terms of their existing Conditional Use Permits for mining, or paid by the Cities from deposits previously made by such parties. The District shall prepare an annual budget in accordance with the Wash Plan Wildland Trails Masterplan for review by all Parties, and such budget shall be invoiced by the District to the Mining entities unless any party objects or requests modification. Such changes may be moderated by the Oversight Committee (as defined in Section 6). The District will be responsible for patrol and monitoring of all MOU Trails located on District-owned or operated lands, and will establish a procedure to coordinate enforcement activity on trails with the public safety or police/fire services of the Cities, to ensure safety, and to enforce applicable laws and ordinances on District-owned and operated lands.

6. Trails Oversight Committee.

Each of the Parties shall appoint one staff member representative to a Trails Oversight Committee. The Trails Oversight Committee shall coordinate, promulgate rules and regulations for trails usage, and shall review the proposed annual budget for trails maintenance and operation if an objection is raised. It shall also address operational issues or coordination among the Parties. The Oversight Committee will coordinate on efforts needed to establish new trail facilities, make recommendations for public outreach or educational opportunities in connection with trails,

promote trail use and safety, seek additional grant or other funding for trail maintenance and operation, consistent with the Trails Plan. The Trails Oversight Committee shall meet at least annually, and the notices for such meetings, calendaring, preparation of agenda topics, and meeting venue shall be provided by the District. The Trails Oversight Committee shall have decision-making authority for trails maintenance and operational issues, and may make recommendations to the legislative bodies of any or all parties, and shall serve as a discussion forum among the Parties for trails establishment, management and use. Notwithstanding the foregoing, the final decision-making authority as to how each party funds its share of costs, shall rest with the governing body of that party. The Trails Oversight Committee shall not commit any party to expend any additional funds than what is set forth in this MOU.

7. Expansion of Trails Amenities.

The Parties intend that the Trails Plan serve as a foundational network for recreational trails in the Wash Plan area. The Parties shall jointly, and over time, pursue a strategy for exploring expansion of trail amenities supporting the Trails Plan trail network to include trailhead, parking and other amenities, provided that no such amenity shall harm or threaten the Wash Plan Preserve, or the Wash Plan Conservation Strategy, under the Wash Plan HCP and its implementing permits and agreements. The Parties, through the Trails Oversight Committee will explore partnership opportunities for trails with other public and private agencies, assess the supporting facilities necessary or convenient to support the active and safe use of all regional trails, and generate cost estimates and feasibility analyses for project to expand the scope, geographic extent, and level of use of trails. The Committee shall also assess the funding sources available for, or able to be committed to, implementation of such new trails or other facilities, and formulate plans for pursuing such grant or other funding that may be available for such uses.

8. Indemnification.

Each party shall, at is sole cost and expense, defend, hold harmless, and indemnify the others and their elected officials, officers, agents, employees, volunteers, successors, assigns and those agents serving as independent contractors in the role of public officials (collectively "Indemnitees"), from and against any and all claims, demands, damages, costs, expenses, or liability, causes of action, proceedings, expenses, judgments, penalties, liens, and losses of any nature whatsoever, including fees of accountants, attorneys, or other professionals and all costs associated therewith and the payment of all foreseeable consequential damages (collectively "Liabilities) in law or equity, whether actual, alleged or threatened, which are determined to arise out of, pertain to, or relate to the acts or omissions of indemnifying party, its officers, agents, servants, employees, subcontractors, materialmen, consultants or their officers, agents, servants or employees (or any entity or individual that indemnifying party shall bear the legal liability thereof) in the performance of this Agreement. Indemnifying party shall defend the Indemnitees in any action or actions filed in connection with any Liabilities with counsel approved by the Indemnitee, and shall pay, proportionate to the indemnifying party's liability, all costs and expenses, including all attorneys' fees and experts' costs actually incurred in connection with such defense. The indemnifying party

shall reimburse the Indemnitees for such proportionate share of any and all legal expenses and costs incurred by Indemnitees in connection therewith.

9. No Implied Covenants.
The Parties acknowledge and agree that except as specifically agreed in this MOU, no implied covenants attach to this MOU. Nothing set forth herein shall be deemed to bind any party's legislative body to approve any specific trail facility or implementing agreement. Each party retains the sole discretion to authorize the use of its own funding or other resources in connection with the planning, construction, and maintenance and operation of public recreational trails.

10. Assignment.

This MOU may not be assigned by any party without the written consent of the other Parties.

11. Jurisdiction.

This MOU shall be governed by the laws of the State of California. If a court of competent jurisdiction declares any portion of this MOU invalid, illegal, or otherwise unenforceable, the remaining provisions shall continue in full force and effect, to the extent possible consistent with the finding of invalidity. Any dispute or action to enforce any obligation under this MOU shall be filed and resolved in a Superior Court in San Bernardino County, California. In the event of litigation arising from this MOU, each party to the MOU shall bear its own costs, including attorneys' fees.

12. Signatures.

This MOU may be signed in counterparts, each of which shall constitute an original, and such counterparts shall together constitute one and the same agreement. The Parties shall be entitled to sign and transmit an electronic signature of this MOU (whether by facsimile, PDF or other email transmission), which signature shall be binding on the party whose name is contained therein. Each party providing an electronic signature agrees to promptly execute and deliver to the other party an original signed MOU upon request.

13. Amendments; Entire Agreement.

Any amendment to this MOU shall be set forth in a writing signed by all Parties. This MOU contains the entire agreement of the Parties with respect to the subject matter hereof, and supersedes all other prior negotiations, understandings or contracts.

IN WITNESS WHEREOF, the Parties have caused this MOU to be executed by their duly authorized officers or representatives as of the day and year first written above.

CITY OF HIGHLAND ("HIGHLAND")

By:_____

Mayor

APPROVED AS TO LEGAL FORM:

By: _____
City Attorney

CITY OF REDLANDS ("REDLANDS")

By:_____

Mayor

APPROVED AS TO LEGAL FORM:

By: _____
City Attorney

SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT ("DISTRICT")

By:_____

President, Board of Directors

APPROVED AS TO LEGAL FORM:

By: _____
General Counsel

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1827

To: **Board of Directors**

From: **Daniel Cozad, General Manager**

Date: **January 12, 2022**

Subject: **District Board Priority Tasks for 2022**

RECOMMENDATION

Review, provide new or revised priorities, feedback, and ranking or consider approval of the 2022 District Board Priorities.

BACKGROUND

The Board has set annual priorities since 2012. This process provides an opportunity for Board Members to discuss and prioritize District projects, tasks and set goals based on staffing and other constraints. Since 2012, the Board has reviewed its priorities in January to incorporate into District resource planning and budgets. The priorities are derived from the Board's Community Strategic Plan (CSP). Staff will present the updated priorities and status from 2021.

POLICY CONSIDERATION

For consideration, staff prepared a draft priorities matrix for 2022 for the Board's review discussion and ranking. Staffing and resources are limitations to existing and new priority tasks; however, many efforts await other entities or permit agencies to act. Staff proposes continuing some priorities from the 2017 CSP Goals. The 2022 matrix includes projected completion dates for discussion purposes. As the Board has supported staff focusing on larger strategic tasks, many are completed outside the calendar year. Consequently, many tasks from 2021 remain on the 2022 priority list. The matrix also estimates resource needs and links to CSP Goal numbers.

ALTERNATIVES

Potential Board Actions include:

- Approve the 2022 priorities for incorporation into District budgets and plans.
- Provide specific feedback for staff to revise the plan
- Table the issue to a future meeting of the Board for review

FISCAL IMPACT

The approved 2021-22 budget includes planning efforts and staff costs. Additional efforts may be included in the 2022-2023 budget planning. Costs for the prioritized elements are included in the District budget to the extent possible.

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POTENTIAL MOTIONS

1. Move to approve the priorities as listed or with specified changes.
2. Move to direct staff on specific changes to incorporate into the matrix and place it on the February agenda for approval.
3. Move to table the item to a future meeting of the Board.

ATTACHMENTS OR MATERIALS

2021 Final Priorities Report
Draft 2022 Priority Task Matrix

SBVWCD Board Priorities 2021

Priorities are special efforts or emphasis items for the General Manager and staff. These are in addition to core mission elements such as water spreading, conservation, and policy principals such as collaboration, transparency, sustainability and safety.*

No.	Area or Item	Current Status as of 12/31/21	Board Priority	Early Completion	Likely Completion	Resource Needs	Links to	Plan Goal #
1	Active Recharge Transfer Projects Concept Design	Substantally Complete	1	Jun-21	Oct-21	✋✋✋ $$$	⇨	1
2	ARTP Initiate Final Design	Procurement	1	Nov-21	Feb-22	✋✋✋ $$$	NEW	2
3	Mill Creek Diversion Permitted (**408**, **404**, 1600, ESA)	Ongoing	1	Ongoing	Apr-22	✋✋ $$$	⇨	1
4	Mill Creek Diversion Procurement	Awaiting Permits	1	Apr-22	Jun-22	✋✋✋ $$	NEW	1
5	Wash Plan Permit State and Waters Permits Round 1	Negotations	1	Apr-21	Feb-22	✋✋✋ $$	⇨	4
6	Wash Plan - Land Exchange MOU Appraisal	Ongoing	1	Jun-21	Feb-22	✋✋✋ $	⇨	4
7	Mentone Shop Study Approved, Design, Permitting	Spec for DB Bids	2	Aug-21	Feb-22	✋✋ $$	⇨	1
8	Wash Plan Trails Progress	MOU Approval	2	Ongoing	Mar-22	✋✋✋ $	⇨	3
9	Mentone Shop Bids/Construction	Awaiting Design	3	Dec-21	Jun-22	✋✋ $$	⇨	1
10	Community Mitigation Conservation Easements	Submitted to CDFW	3	Ongoing	Ongoing	✋✋ $$	⇨	4
11	Plan and develop collaborative project opportunities	Ongoing	3	Ongoing	Ongoing	✋✋? $?	⇨	2

Priority Key		Staffing and Program Key			
1	Must Do in 2021/22 *as noted*	**Relative Staffing Need**	✋ -- ✋✋✋	✋ -- ✋✋✋	Groundwater
2	Do based on resources	**Relative Financial Cost**	$ -- $$$	$ -- $$$	Land/Wash Plan
3	If possible, as needed	**Ongoing or New Links**	⇨ or NEW	⇨ or NEW	District/GFE

** District Mission and Policy Principles are shown on the District website, boardroom and offices.*

SBVWCD Board Priorities 2022

Priorities are special efforts or emphasis items for the General Manager and staff. These are in addition to core mission elements such as water spreading, conservation, and policy principals such as collaboration, transparency, sustainability and safety.*

No.	Area or Item	Board Priority	Projected Completion	Resource Needs	Links to	Plan Goal #
1	**Existing Groundwater Recharge Operations**	**1**	**Ongoing**	🖐🖐🖐 $$$	⇨	**1**
2	Active Recharge Transfer Projects Feasibility Studies	1	Jun-23	🖐🖐🖐 $$$	⇨	1
3	ARTP Final Design (selected site)	1	Nov-23	🖐🖐🖐 $$$	⇨	1
4	Mill Creek Diversion Permits (**408**, **401**, **404**, **1600**, ESA)	1	Apr-22	🖐🖐 $$$	⇨	1
5	Mill Creek Diversion Construction	1	Dec-22	🖐🖐🖐 $$	NEW	1
6	Wash Plan Permit State and Waters Permits Issued	1	Mar-22	🖐🖐🖐 $$	⇨	4
7	Wash Plan - Land Exchange MOU Appraisal and ROW	1	May-22	🖐🖐🖐 $	⇨	4
8	2020 Census Based Redistricting	1	Mar-22	🖐 $	⇨	2
9	Wash Plan Natural Resources Management Plan	1	Jul-22	🖐 $	NEW	4
10	Mentone Shop Study Approved, Design, Permitting	2	Jul-22	🖐🖐 $$	⇨	1
11	Mentone Shop Construction	2	Jul-23	🖐🖐 $$	⇨	1
12	Mill Creek Operations Permitting	2	Apr-23	🖐🖐 $$	⇨	1
13	Wash Plan Trails MOU Approval	2	Mar-22	🖐🖐🖐 $	⇨	3
14	Community Mitigation Conservation Easements	3	Dec-22	🖐🖐 $$	⇨	4
15	ARTP Final Design (remaining sites)	3	Dec-25	🖐🖐🖐 $$$	NEW	1/2

Priority Key		Staffing and Program Key		
1	Must Do in 2022/23 *as noted*	**Relative Staffing Need**	🖐 -- 🖐🖐🖐	Groundwater
2	Do based on resources	**Relative Financial Cost**	$ -- $$$	Land/Wash Plan
3	If possible, as needed	**Ongoing or New Links**	⇨ or NEW	District/GFE

** District Mission and Policy Principles are shown on the District website, boardroom and offices.*

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1828

To: **Board of Directors**

From: **Daniel Cozad, General Manager**

Date: **January 12, 2022**

Subject: **Statement of Investment Policy 2022**

RECOMMENDATION

Staff recommends no changes to the Statement of Investment Policy and recommends the Board reapprove the existing Policy for calendar year 2022.

BACKGROUND

In December 2019, PFM Asset Management LLC (PFM) reviewed the 2019 policy and recommended revisions to accommodate Active Recharge Transfer Project (ARTP) Funding. The policy changes implemented in 2019 to accommodate ARTP investments are performing well given general rates. The Board reviewed this item in January 2021 and made no changes to the existing Policy.

DISCUSSION

The investments are performing as expected despite low yield conditions, and the Board receives a quarterly report on investments in accordance with the Policy. The Statement of Investment Policy calls for the Board to review the delegation of authority of the General Manager annually and consider the renewal of that delegation. The Board updated that delegation in April 2019. Staff is implementing the existing Policy and is not recommending revisions for 2022. If the Board does not have any recommended revisions to the attached Policy, staff is requesting approval as presented, renewing the Policy and General Manager's delegation of authority for the calendar year 2022.

FISCAL IMPACT

There is no significant cost to review and approve the Statement of Investment Policy for 2022.

POTENTIAL MOTIONS

1. Move to approve the Statement of Investment Policy for 2022.
2. Move to refer Statement of Investment Policy to the Finance & Administration Committee to discuss potential revisions needed to Policy.

ATTACHMENTS OR MATERIALS

Policy 0005-19-2 Statement of Investment Policy

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SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT
STATEMENT OF INVESTMENT POLICY
Originally Approved: April 24, 2019

POLICY

This Investment Policy (the "Policy") of the San Bernardino Valley Water Conservation District (the "District") provides delegation and guidelines for the investment of the District's surplus cash and reserves that are not required for near-term operational needs of the District. The District will invest these funds in such a manner as to comply with applicable state laws, including California Government Code Sections 53600, et seq. and Sections 53630 – 53686.

No investment shall be made unless authorized under California Government Code Sections 53600, et seq. and Sections 53630 – 53686. The District shall utilize conservative investment vehicles consistent with its objectives and investment strategies identified and listed in this document.

1. SCOPE

The Investment Policy applies to all surplus cash and reserves that are not required for near-term operational needs of the District and all investment activities of the District except for the investment of bond proceeds, which are governed by the appropriate bond documents, and any pension, other post-employment benefit funds, or any other funds held in a trust that has a separate Investment Policy.

2. PRUDENCE

The standard of prudence to be used by those authorized to invest on behalf of the District will be the "prudent investor" standard and will be applied in the context of managing an overall portfolio. The "prudent investor" standard states that:

> *"When investing, reinvesting, purchasing, acquiring, exchanging, selling, or managing public funds, a trustee shall act with care, skill, prudence, and diligence under the circumstances then prevailing, including, but not limited to, the general economic conditions and the anticipated needs of the agency, that a prudent person acting in a like capacity and familiarity with those matters would use in the conduct of funds of a like character and with like aims, to safeguard the principal and maintain the liquidity needs of the agency."*

3. OBJECTIVES

The primary objectives, in priority order, of the investment activities of the District are:

1. Safety—Safety of principal is the foremost objective of the investment program. Investments will be undertaken in a manner that seeks to ensure preservation of capital in the portfolio.
2. Liquidity—The investment portfolio will remain sufficiently liquid to enable the District to meet its cash flow requirements.
3. Return on Investment—The investment portfolio will be designed with the objective of attaining a market rate of return throughout budgetary and economic cycles, taking into consideration the investment risk constraints of safety and liquidity needs.

4. DELEGATION OF AUTHORITY

In accordance with Government Code Section §53607, the Board of Directors hereby delegates investment management responsibility for the investment program to the General Manager, for a one-year period. Subject to review, the Board of Directors may renew the delegation of authority pursuant to this section each year. The General Manager, and the General Manager's designees, will monitor and review all investments for consistency with this Investment Policy. The General Manager may delegate day-to-day investment decision making and execution authority to an Investment Advisor. Eligible Investment Advisors must be registered with the Securities and Exchange Commission (SEC) under the Investment Advisors Act of 1940. The Advisor will follow the Policy and such other written instructions as are provided.

Investments shall be limited to investments listed in this Policy or investments added to California Government Code with the approval of the Board. Further, any significant changes in investment strategy will be brought forth by the General Manager and/or Investment Advisor for consideration at a meeting of the Finance and Administration Committee (the "Committee"). If it is deemed necessary by the Committee, such changes in investment strategy may also be taken to the Board of Directors for approval.

5. ETHICS AND CONFLICTS OF INTEREST

Officers and employees involved in the investment process will refrain from personal business activities that could conflict with proper execution of the investment program, or which could impair their ability to make impartial decisions. Employees and investment officials will disclose to the General Manager any material financial interests in financial institutions that conduct business within their jurisdiction, and they will further disclose any large personal financial/investment positions that could be related to the performance of the District's portfolio.

6. AUTHORIZED FINANCIAL DEALERS AND INSTITUTIONS

The General Manager, or his/her designee, will maintain a list of financial dealers and institutions qualified and authorized to transact business with the District.

The purchase by the District of any investment other than those purchased directly from the issuer, will be purchased either from an institution licensed by the State as a broker-dealer, as defined in Section 25004 of the Corporations Code, who is a member of Financial Industry Regulatory Authority (FINRA), or a member of a Federally-regulated securities exchange, a National- or State-Chartered Bank, a Federal or State Association (as defined by Section 5102 of the Financial Code), or a brokerage firm designated as a Primary Government Dealer by the Federal Reserve Bank.

The General Manager, or his/her designee, will investigate all institutions that wish to do business with the District, in order to determine if they are adequately capitalized, make markets in securities appropriate to the District's needs, and agree to abide by the conditions set forth in the District's Investment Policy and any other guidelines that may be provided. This will be done annually by requiring the financial institutions to submit in writing that they have read and will abide by the District's Investment Policy and submit its most recent Audited Financial Statement within 120 days of the institution's fiscal year-end.

If the District has retained the services of an Investment Advisor, the Investment Advisor may use its own list of authorized broker/dealers to conduct transactions on behalf of the District.

Purchase and sale of securities will be made on the basis of competitive bids and offers with a minimum of three quotes being obtained, whenever possible.

7. AUTHORIZED AND SUITABLE INVESTMENTS

The District will limit investments in any one issuer, except for U.S. Treasuries, federal agencies, U.S. instrumentalities, and pooled funds (i.e., money market funds, local government investment pools, and LAIF), to no more than 5% regardless of security type.

Where this section specifies a percentage limitation for a particular security type, that percentage is applicable only at the date of purchase. Credit criteria listed in this section refers to the credit rating category (inclusive of modifiers) at the time the security is purchased. If an investment's credit rating falls below the minimum rating required at the time of purchase, the General Manager, or his/her designee, will perform a timely review and decide whether to sell or hold the investment. If the District has retained the services of an Investment Advisor, the Investment Advisor will notify the General Manager of such a downgrade and will recommend a plan of action.

The following instruments are hereby authorized for investment by the District. If a type of instrument is not specifically authorized by this Policy, it is not a permitted investment.

1. **U.S. Treasuries.** United States Treasury notes, bonds, bills, or certificates of indebtedness, or those for which the full faith and credit of the United States are pledged for the payment of principal and interest.
2. **U.S. Federal Agency Obligations.** Federal agency or United States government-sponsored enterprise obligations, participations, or other instruments, including those issued by or fully guaranteed as to principal and interest by federal agencies or United States government-sponsored enterprises.
3. **California State and Local Agency Obligations.** Obligations of the State of California or any local agency within the state, including bonds payable solely out of revenues from a revenue-producing property owned, controlled or operated by the state or any local agency or by a department, board, agency or authority of the state or any local agency. Obligations eligible for investment under this subdivision with maturities in excess of one year must be rated "A," its equivalent, or better by two Nationally Recognized Statistical Rating Organizations ("NRSROs"). Obligations eligible for investment under this subdivision with maturities under one year must be rated at least "A-1," its equivalent, or better by an NRSRO. No more than 30% of the District's portfolio may be invested in municipal obligations (combined with other state obligations, as described in section 8.4).
4. **Other State Obligations.** Registered treasury notes or bonds of any of the other 49 United States in addition to California, including bonds payable solely out of the revenues from a revenue-producing property owned, controlled, or operated by a state or by a department, board, agency, or authority of any of the other 49 United States, in addition to California. Obligations eligible for investment under this subdivision with maturities in excess of one year must be rated "A," its equivalent, or better by an NRSRO. Obligations eligible for investment under this subdivision with maturities under one year must be rated at least "A-1," its equivalent, or better by an NRSRO. No more than 30% of the District's portfolio may be invested in municipal obligations (combined with California state and local agency obligations, described in section 8.3).

5. **Bankers' Acceptances**. Purchases of bankers' acceptances will have a maximum maturity of 180 days. No more than 30% of the District's portfolio may be invested in bankers' acceptances. Eligible bankers' acceptances must be rated at least "A-1," its equivalent, or better by an NRSRO.

6. **Commercial Paper**. Commercial paper of "prime" quality of the highest ranking or of the highest letter and number rating as provided for by two NRSROs. The entity that issues the commercial paper will meet all of the following conditions in either paragraph a or paragraph b:

    a. The entity meets the following criteria: (i) Is organized and operating in the United States as a general corporation. (ii) Has total assets in excess of five hundred million dollars ($500,000,000). (iii) Has debt other than commercial paper, if any, that is rated "A" or higher by an NRSRO.

    b. The entity meets the following criteria: (i) Is organized within the United States as a special purpose corporation, trust, or limited liability company. (ii) Has program wide credit enhancements including, but not limited to, over collateralization, letters of credit, or surety bond. (iii) Has commercial paper that is rated "A-1" or higher, or the equivalent, by an NRSRO.

    Eligible commercial paper will have a maximum maturity of 270 days or less. No more than 25% of the District's portfolio may be invested in commercial paper. The City may purchase no more than 10% of the outstanding commercial paper of any single issuer.

7. **Medium-Term Notes.** Medium-term notes, defined as all corporate and depository institution debt securities with a maximum remaining maturity of five years or less, issued by corporations organized and operating within the United States or by depository institutions licensed by the U.S. or any state, and operating within the U.S. medium-term notes must be rated "A," its equivalent, or better by an NRSRO. No more than 30% of the District's portfolio may be invested in medium-term notes.

8. **Bank Deposits.** Funds may be deposited in federally-insured or collateralized bank deposits to include, but not limited to, demand deposit accounts, savings accounts, market rate accounts, and time deposits. To be eligible to receive District deposits, the financial institution must be located in California and comply with the requirements listed in Government Code Section 53630 et. seq. The General Manager, at his/her discretion, may waive the collateralization requirements for any portion that is insured by the Federal Deposit Insurance Corporation or by the National Credit Union Administration. The District shall have a signed agreement with any depository accepting District funds per Government Code Section 53649. The final maturity of time deposits may not exceed five years. There is no limit on the percentage of the portfolio that may be invested in bank deposits. However, a maximum of 50 percent of the portfolio may be invested in time deposits.

9. **Deposit Placement Services.** The District may invest a portion of its portfolio in deposits at a commercial bank, savings bank, savings and loan association, or credit union in the State of California (the selected depository) that uses a private sector entity that assists in the placement of deposits in the United States. The full amount of each deposit placed and the interest that may accrue on each such deposit will at all times be insured by the Federal Deposit Insurance Corporation (FDIC) or the National Credit Union Administration (NCUA). Additional required criteria for this investment type can be found in California Government Code Section 53601.8.

If the District also uses negotiable certificates of deposit ("CDs") (described in section 8.10), the 30% limit applies to the combined total invested in negotiable CDs and with deposit placement services. The maximum maturity of these instruments may not exceed five years.

The District will monitor the financial institutions selected by deposit placement services to ensure that the District does not deposit more than the amount eligible for FDIC insurance in a single financial institution through non-negotiable CDs and deposit placement services. California Government Code Section 53601.8 expires January 1, 2021 unless legislation is enacted to extend the expiration date.

10. **Negotiable Certificates of Deposit.** Negotiable certificates of deposit issued by a nationally- or state-chartered bank, a savings association or a federal association (as defined by Section 5102 of the Financial Code), a state or federal credit union, or by a federally- or state-licensed branch of a foreign bank. Eligible negotiable CDs with maturities in excess of one year must be rated "A," its equivalent, or better by an NRSRO. Eligible negotiable CDs with maturities under one year must be rated at least "A-1," its equivalent, or better by an NRSRO. No more than 30% of the District's investment portfolio may be invested in negotiable CDs. If the District also uses a deposit placement service (described in section 8.9), the 30% limit applies to the combined total invested in negotiable CDs and with deposit placement services.

11. **State of California's Local Agency Investment Fund (LAIF).** The State Treasurer established LAIF for the benefit of local agencies. The District can invest up to the maximum amount permitted by the State Treasurer.

12. **Money Market Funds.** Shares of beneficial interest issued by diversified management companies that are money market funds registered with the Securities and Exchange Commission under the Investment Company Act of 1940 (15 U.S.C. Sec. 80a-1, et seq.). To be eligible for investment pursuant to this subdivision these companies will either:

    a. Attain the highest ranking letter or numerical rating provided by not less than two of the three largest NRSROs or

    b. Have an Investment Advisor registered or exempt from registration with the Securities and Exchange Commission with not less than five years experience managing money market mutual funds and with assets under management in excess of $500,000,000.

    No more than 20% of the District's portfolio may be invested in money market funds.

13. **Local Government Investment Pools (LGIPs).** Shares of beneficial interest issued by a joint powers authority organized pursuant to Government Code Section 6509.7 that invests in the securities and obligations authorized in subdivisions (a) to (q), inclusive, of Government Code Section 53601. Each share will represent an equal proportional interest in the underlying pool of securities owned by the joint powers authority. To be eligible under this section, the joint powers authority issuing the shares will have retained an investment adviser that meets all of the following criteria:

    a. The adviser is registered or exempt from registration with the Securities and Exchange Commission.

    b. The adviser has not less than five years of experience investing in the securities and obligations authorized in subdivisions (a) to (q), inclusive of California Government Code Section 53601.

c. The adviser has assets under management in excess of five hundred million dollars ($500,000,000).

14. **U.S. Instrumentalities.** United States dollar denominated senior unsecured unsubordinated obligations issued or unconditionally guaranteed by the International Bank for Reconstruction and Development (IBRD), International Finance Corporation (IFC), or Inter-American Development Bank (IADB), with a maximum remaining maturity of five years or less, and eligible for purchase and sale within the United States. Investments under this subdivision must be rated at least "AA" by an NRSRO. No more than 30% of the District's portfolio may be invested in these obligations.

15. **Asset-Backed Securities (ABS).** A mortgage pass-through security, collateralized mortgage obligation, mortgage-backed or other pay-through bond, equipment lease-back certificate, consumer receivable pass-through certificate, or consumer receivable-backed bond of a maximum of five years maturity. Securities eligible for investment under this subdivision shall be issued by an issuer having an "A" or higher rating for the issuer's debt as provided by an NRSRO and rated in a rating category of "AA" or its equivalent or better by an NRSRO. No more than 20% of the District's portfolio may be invested in ABS with a maturity duration of no more than five (5) years.

8. PROHIBITED INVESTMENTS

Investments not described herein, including but not limited to stocks, inverse floaters, range notes, mortgage-derived, interest-only strips, or any security that could result in zero interest accrual if held to maturity are prohibited for purchased by the District. The District will not leverage or borrow money for the purpose of investing.

9. INVESTMENT POOLS

The District will complete due diligence for any pooled investments the District invests in. The General Manager will collect and evaluate the following information for each pool/fund:

- Permitted investments and objectives
- Description of interest calculations
- Method/frequency of interest distribution
- Treatment of gains and losses
- Method/frequency of audits
- Description of eligible investors
- Limits/minimum account sizes, type of assets, transaction sizes, and number of transactions
- Limits on withdrawals
- Frequency of statements and reporting of underlying investments
- Reserves or retained earnings
- Fee schedules

10. COLLATERALIZATION

Collateralization is required for deposits. Deposits must be collateralized as specified under Government Code Section 53630, et seq. The District, at its discretion, may waive the collateralization requirements for any portion that is covered by federal deposit insurance. Funds

may be deposited in active or inactive accounts, but may not exceed the total paid-up capital and surplus in any depository.

11. SAFEKEEPING AND CUSTODY

All deliverable securities owned by the District will be kept in safekeeping/custody by a third-party bank's trust department. All trades of marketable securities will be executed (cleared and settled) on a delivery vs. payment (DVP) basis to ensure that securities are deposited in the District's safekeeping/custody bank prior to the release of funds.

12. MAXIMUM MATURITIES

Maturities will be based on a review of cash flow forecasts. Maturities will be scheduled to permit the District to meet all projected obligations.

The purchase of U.S. Treasuries, Federal Agencies and Municipals with maturities in excess of five years is permitted, subject to the following constraints: U.S. Treasuries, Federal Agencies and Municipals shall have a maximum maturity at time of purchase of eleven years or less. This change to the investment policy approved by the Board of Directors on April 24, 2019.

13. INTERNAL CONTROLS

The General Manager will establish an annual process of independent review by an external auditor. This review will provide internal control by assuring compliance with policies and procedures.

14. PERFORMANCE STANDARDS

The District will establish a performance benchmark consistent with its investment strategy and supportive of its investment objectives.

15. REPORTING REQUIREMENTS

The General Manager shall submit a monthly report of investment transactions, if any, that is in accordance with California Government Code §53607. In addition, on a regular basis, the General Manager may provide the Board of Directors with a report that shall disclose, at a minimum, the following information about the risk characteristics of District's portfolio: A listing of District assets showing par value, cost, and market value of each security, type of investment, issuer name, credit quality, coupon rate, and yield to maturity at cost. This report may also include a statement of compliance with the Investment Policy, including a schedule of any transactions or holdings which do not comply with this Policy or with the California Government Code, if any, including a justification for their presence in the portfolio and a timetable for resolution, and a statement that the District has adequate funds to meet its cash flow requirements for the next six months.

These reports shall also contain any additional information as is requested by the Board of Directors.

16. INVESTMENT POLICY ADOPTION AND REVIEW

The District's Investment Policy is hereby adopted by the District's Board of Directors. This Policy will be reviewed annually by the Board of Directors and any modifications made thereto must be approved by the Board of Directors.

17. GLOSSARY

See attached **Appendix A.**

APPENDIX A
GLOSSARY

AGENCIES: Federal agency securities and/or Government-sponsored enterprises.

BENCHMARK: A comparative base for measuring the performance or risk tolerance of the investment portfolio. A benchmark should represent a close correlation to the level of risk and the average duration of the portfolio's investments.

BROKER: A broker brings buyers and sellers together for a commission.

CERTIFICATE OF DEPOSIT (CD): A deposit with a specific maturity evidenced by a Certificate. Large-denomination CDs are typically negotiable.

COLLATERAL: Securities, evidence of deposit or other property, which a borrower pledges to secure repayment of a loan. Also refers to securities pledged by a bank to secure deposits of public monies. California Government Code Sections 53630 – 53686 et seq. mandate the collateral requirements for public funds in the state of California.

DEALER: A dealer, as opposed to a broker, acts as a principal in all transactions, buying and selling for his own account.

DELIVERY VERSUS PAYMENT: There are two methods of delivery of securities: delivery versus payment and delivery versus receipt. Delivery versus payment is delivery of securities with an exchange of money for the securities. Delivery versus receipt is delivery of securities with an exchange of a signed receipt for the securities.

FEDERAL DEPOSIT INSURANCE CORPORATION (FDIC): A federal agency that insures bank deposits, currently up to $250,000 per entity.

LIQUIDITY: A liquid asset is one that can be converted easily and rapidly into cash without a substantial loss of value. In the money market, a security is said to be liquid if the spread between bid and asked prices is narrow and reasonable size can be done at those quotes.

MATURITY: The date upon which the principal or stated value of an investment becomes due and payable.

MONEY MARKET: The market in which short-term debt instruments (bills, commercial paper, bankers' acceptances, etc.) are issued and traded.

PORTFOLIO: Collection of securities held by an investor.

PRIMARY DEALER: A group of government securities dealers who submit daily reports of market activity and positions and monthly financial statements to the Federal Reserve Bank of New York and are subject to its informal oversight. Primary dealers include Securities and Exchange Commission (SEC)-registered securities broker-dealers, banks, and a few unregulated firms.

RATE OF RETURN: The yield obtainable on a security based on its purchase price or its current market price. This may be the amortized yield to maturity on a bond the current income return.

SAFEKEEPING: A service to customers rendered by banks for a fee whereby securities and valuables of all types and descriptions are held in the bank's vaults for protection.

SECURITIES & EXCHANGE COMMISSION: Agency created by Congress to protect investors in securities transactions by administering securities legislation.

SEC RULE 15(C)3-1: See Uniform Net Capital Rule.

UNIFORM NET CAPITAL RULE: Securities and Exchange Commission requirement that member firms as well as nonmember broker-dealers in securities maintain a maximum ratio of indebtedness to liquid capital of 15 to 1; also called net capital rule and net capital ratio. Indebtedness covers all money owed to a firm, including margin loans and commitments to purchase securities, one reason new public issues are spread among members of underwriting syndicates. Liquid capital includes cash and assets easily converted into cash.

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1829

To: **Board of Directors**

From: **David B. Cosgrove, General Counsel**

Date: **January 12, 2022**

Subject: **Realignment of Component District Divisions**

RECOMMENDATION

Review preliminary realignment scenarios for the District's required realignment of divisions, consistent with the 2020 census, and provide direction to staff for refinement of scenarios to be brought forward for a public hearing in February 2022, for ultimate adoption by March 2022. Direct staff on refinements of initially studied scenarios, as appropriate to review and analyze 2020 census data, with an eye toward possible adjustment to the District's five constituent voter divisions, in such a way as to conform to Federal and California Voting Rights Acts.

BACKGROUND AND DISCUSSION

The Board in October 2021 reviewed the legal requirements and timetables for realignment of the District's five divisions, as required by Elections Code section 22000. The Board then provided direction to staff on having population and demographic analyses implicated in the division boundary analysis done in-house, and received an overview on timing which, under new legislation, will require the District's divisions to be realigned, after at least one public hearing, at its regularly scheduled meeting for March 2022.

By way of review, Elections Code section 22000 requires the District, after each decennial census, and using that census as a basis, to adjust the boundaries of any component divisions so that the divisions are, as far as practicable, equal in population and in accord with requirements of 52 U.S.C. Section 10301. That section prohibits any voting qualification, prerequisite, standard, practice, or procedure which results in the denial or abridgement of the right to vote, based on race or color.

Effectively, this means that the District must review and analyze any demographic changes in population indicated by the 2020 census, and redraw its division boundaries in such a way as to evenly distribute its population (generally, variances under five (5%) percent are permissible), and to assure that standards of the Federal And California Voting Rights Act are not violated.

Staff has undertaken its preliminary review of the census data, and begun analyzing the distribution of population among the divisions, and the demographics implicated. Attached hereto are three preliminary division alignment scenarios. The first is the current alignment, showing the shifts in population reflected in the most recent census. As is evident, population changes among divisions have been significant, and material realignment will be required to meet legal requirements.

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The second scenario is a realignment based upon zip code areas, as the Board specifically requested. As shown, the zip code basis alone still results in substantial disparity of population, beyond legal tolerances. Staff is not recommending further pursuit of this scenario.

The third scenario is one based on City boundaries. This scenario holds significantly more promise. Population equality among the divisions in this scenario rests well below the five (5%) percent rule of thumb. Staff has not completed demographic analysis of the diversity of populations among the redrawn divisions' realignment, but will proceed to do so as its next step. Staff continues to work on additional scenarios and may present them if completed in time for the meeting.

No action is proposed on realignment at this time, and today's report is simply a status review of staff's efforts to date, and an additional input for direction from the Board. Staff invites the Board's input on potential additional scenarios, applicable communities of interest to be mindful of as division boundaries are redrawn, and process/timing issues.

As reported in October 2021, we are required to have at least one public hearing on the applicable scenarios brought forward for consideration before our March 2022 deadline for completing this process. Currently, staff proposes a single public hearing in February at its regular meeting, with final consideration to occur in March. To the extent the Board desires additional workshops or hearings, staff seeks this direction as well.

FISCAL IMPACT

The District is completing the demographic analyses in house, saving from $15,000-$50,000 of otherwise required consultant costs. There are no fiscal impacts, other than staff and intern costs expected from the required review of component voter district boundaries.

POTENTIAL ACTIONS

1. Direct Staff to continue review census data for redistricting and return in February with refined alternative scenarios for consideration at a February public hearing.
2. Provide direction to Staff on scheduling of any workshops or public outreach, beyond statutory requirements, that it may want to provide in the redrawing of division boundaries.
3. Provide other direction to Staff.
4. Table the item to a future meeting for consideration.

ATTACHMENTS OR MATERIALS

Redistricting Scenario Map

Re-Districting Scenario
2012 Divisions

Coordinate System:
NAD 1983 StatePlane California V FIPS 0405 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Source: SBVWCD. US Census
GIS Contact: Anna Frey
M:\Boundary Redistricting\2020\Maps
January 4, 2022

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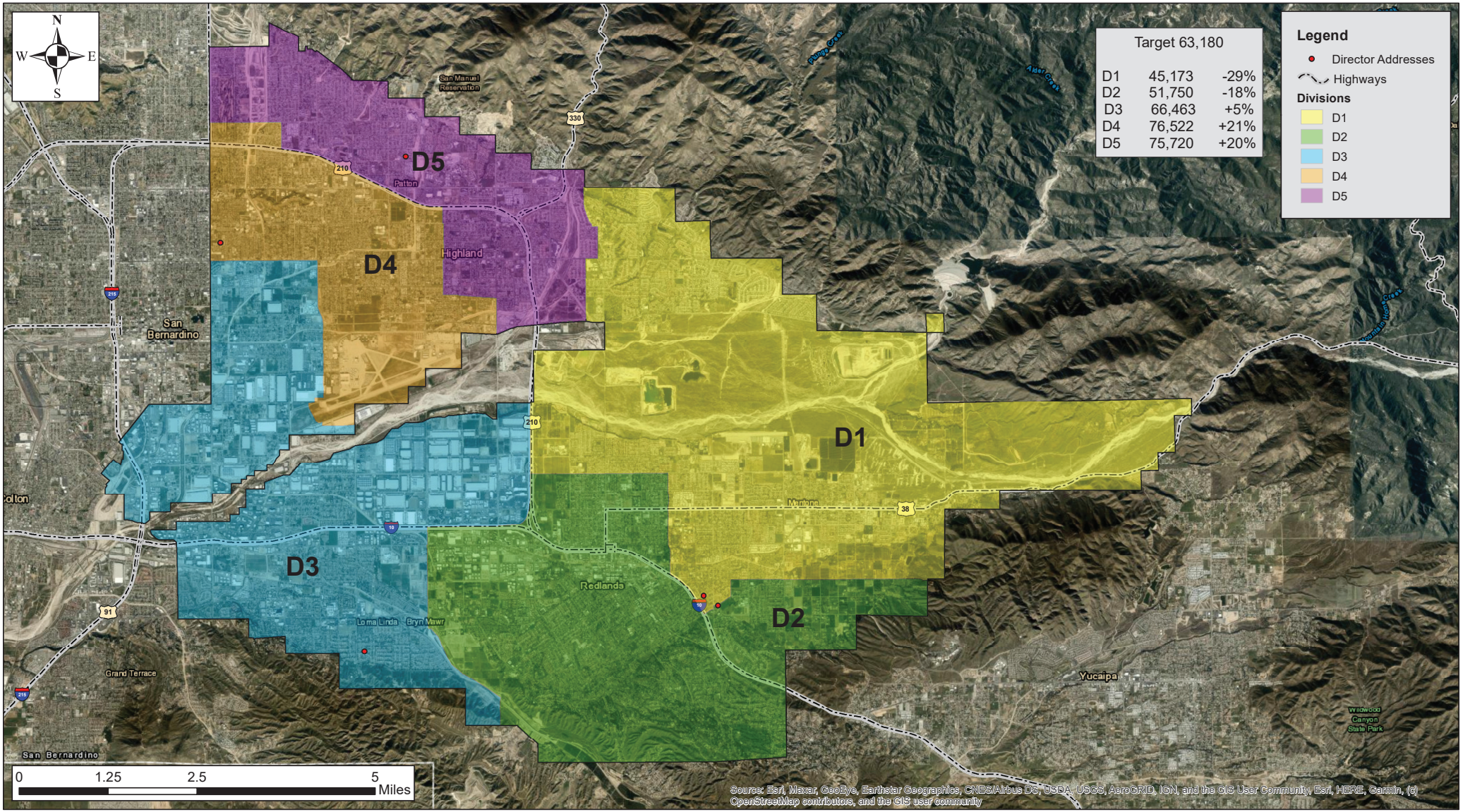

Re-Districting Scenario
Consideration of City Boundaries

Coordinate System:
NAD 1983 StatePlane California V FIPS 0405 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Source: SBVWCD. US Census
GIS Contact: Anna Frey
M:\Boundary Redistricting\2020\Maps
January 4, 2022

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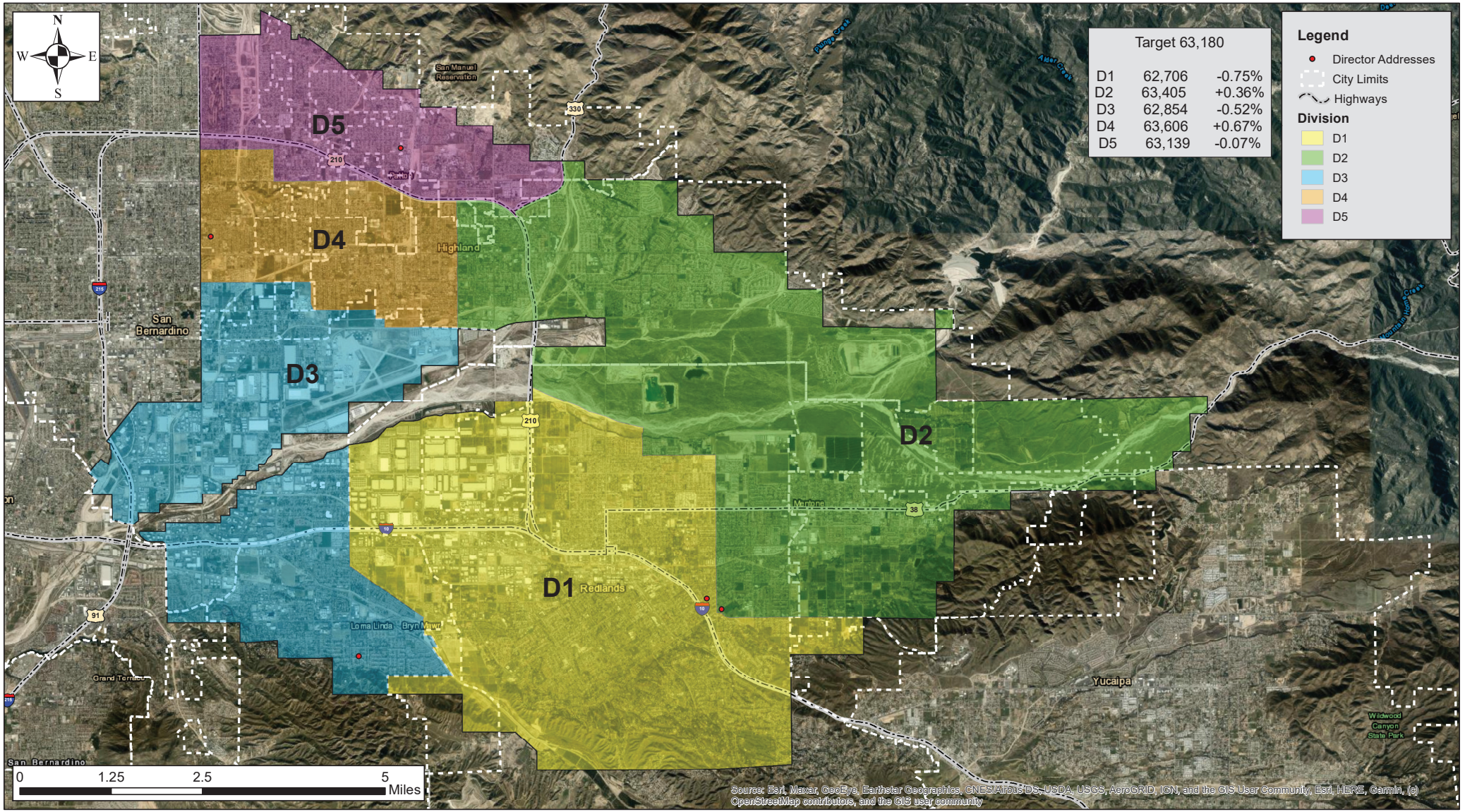

Re-Districting Scenario
Consideration of Zip Code Boundaries

Coordinate System:
NAD 1983 StatePlane California V FIPS 0405 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Source: SBVWCD. US Census
GIS Contact: Anna Frey
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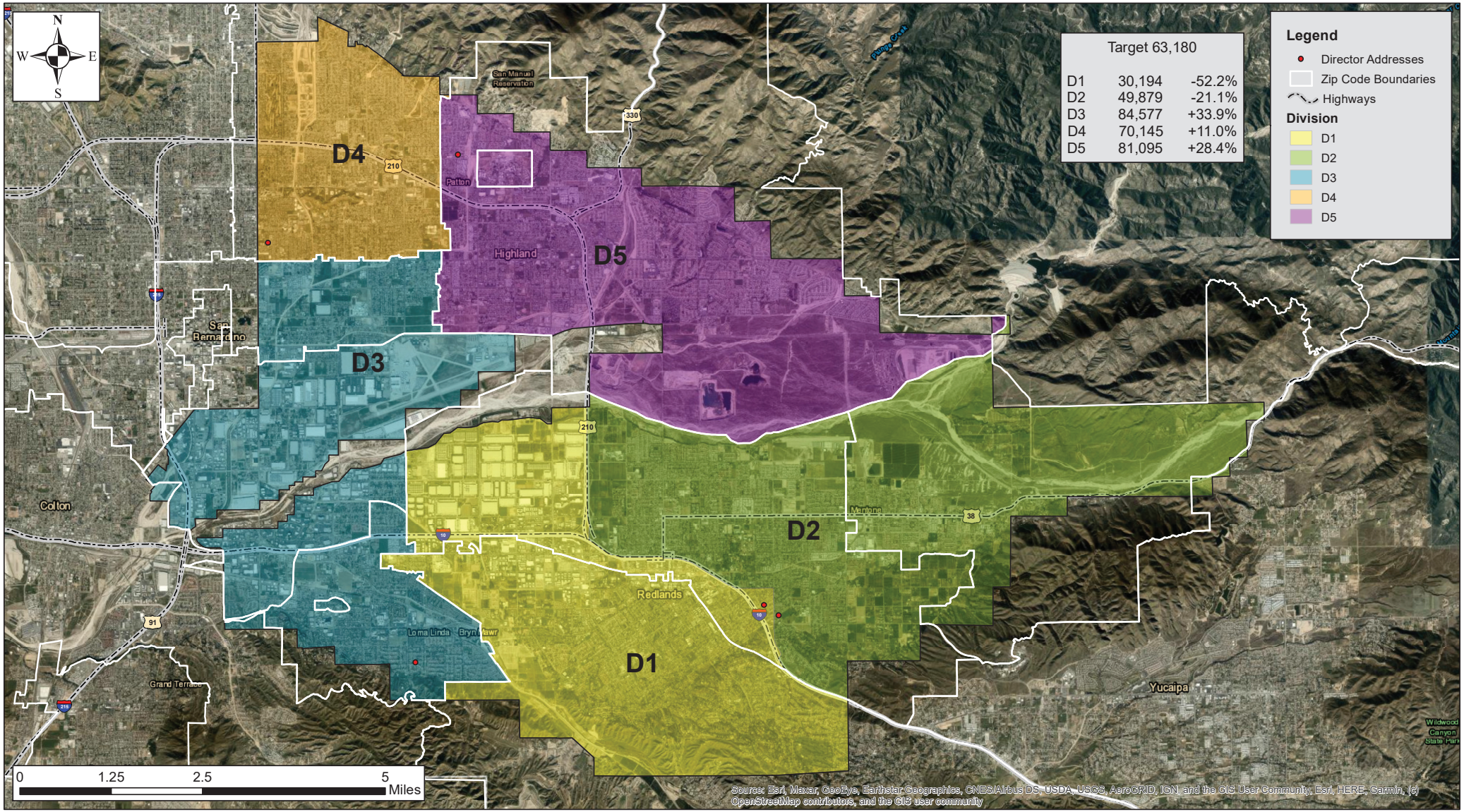


General Manager's Report

From December 4, 2021, to January 6, 2022
Daniel B. Cozad

San Bernardino Valley Water Conservation District
Helping Nature Store Our Water

The District currently remains at Phase 2 COVID 19 response level; however, several staff are working from home after potential contacts. CalOSHA Standards for COVID require masks in the office's common areas by unvaccinated or undocumented staff. San Bernardino County and California cases and transmission rates are rapidly increasing. Staff will notice all Board meetings as in-person/hybrid as allowed by the Brown Act or health guidance allows.

The following report covers the weeks between meetings and the efforts and activities during the reporting period.

1. **Water Conservation** – *Plan Goal 1* – Santa Ana River, Mill, and Plunge Creeks were dry for several months. December storms added significant flow and some fire-related sediment. Mill Creek's total recharge for the Water Year is nearly 775 AF. The Santa Ana River recharge is projected to be nearly 1875 AF for the Water year beginning in October. Plunge Creek recharge is the early star with almost 575 AF, about 20% of total recharge projected to be more than 3,225 AF.

2. **Facility Maintenance and Cleanout** – *Plan Goal 1* – Normal field maintenance and vegetation management are completed, and water operations take center stage. All facilities are in operation.

3. **Aggregate Management** – *Plan Goal 1* – Upland Rock continues screening and selling sand and rock from District basin cleaning efforts and supporting land management efforts and costs.

4. **Personnel/Administration/Staff** – Staff continues to monitor and implement the District Extreme Flu/COVID19 plan. Staff is using the modified work program to increase effectiveness and maintain office occupation limits. No new organizational cases have occurred. The Board approved revisions to the personnel manual for work-from-home policies and other updates. The Land Manager position was advertised, and interviews will be held later in January.

5. **Finance/Budget/Audit** – Support for the Board's financial reporting and standard accounting efforts were completed. Staff is implementing the annual budget. Staff began developing the 2022-2023 budget. Staff will update and release the auditor RFP later this month to allow the new District auditor selection.

6. **Mill Creek Diversion Engineering** – *Plan Goals 1/4* – Erwin reports on the engineering and construction projects at meetings when updates are not included in agenda items. Staff continues to provide the additional requested information for environmental and engineering questions in the hopes of having permits in time to construct in mid-2022.

7. **Plunge Creek Conservation Project** – *Plan Goals 1/4* – Both operations and habitat management and monitoring efforts are ongoing. Recharge for this water has been limited, but high flows in December made significant changes in the project and expanded the footprint of the waters area by about eight acres.



8. **Enhanced Recharge Project** – *Plan Goal 1* – The Enhanced Recharge Phase 1A is completed. Engineering design is nearing completion for the new basins scheduled for construction in 2022. State and Waters permitting are needed to proceed and being processed by SBVMWD.

9. **Active Recharge Transfer Project Partnership** – *Plan Goals 1, 2, and 4* – The Committee met on October 11, 2021. Staff has negotiated proposals for design support, and these agreements are on the agenda for Board consideration. Additional proposals were received and will be on future agendas. Staff is coordinate the remaining payment for Conservation Easements with SBVMWD.

10. **Edison Divestiture to Water Users** – *Plan Goals 1/4* – The Committee held a meeting on January 6, 2022, updating the group on SCE feedback.

11. **Groundwater Council** – *Plan Goal 1* – The Groundwater Council meets on February 14, 2022, to continue discussing the draft budget, credits, and other issues.

12. **Shop Facilities for Field Staff** – *Plan Goals - 1* – Geotechnical fieldwork for the Design-Build delivery method was completed in November. Staff received direction to rewrite the RFP with specifications and finish that work incorporating the geotechnical results. Staff released the package for bids on January 4, 2022. A separate report is prepared for the agenda.

13. **Wildland Trails** – *Plan Goal 3* – Developing and opening Wildland Trails on District property is a Board priority and now has a separate report listed on the agenda. The Highland City Council will have this agreement on the consent calendar for consideration at its January 11, 2022, meeting. Comments from Redlands have not yet been received. This agreement is on the agenda for the Board's consideration.

14. **Wash Plan** – *Plan Goal 4* – The Wash Plan has a separate report listed on the agenda. First-year reporting is underway, and field trapping of SBKR was completed under the new protocol. Staff continues to work with AECOM on permitting, and staff working with CDFW staff on the 1602 permit and with the Regional Board to review the permits and negotiate terms. Staff submitted the second revised 2081 application in December. Staff will be working on the terms of the permits in January.

15. **Santa Ana River Wash Plan Land Exchange Act Implementation –** *Plan Goal 4* **–** S.-47 was passed and signed by the President, becoming PL 119-6. Staff, District Counsel, and special legal counsel worked on and issued an RFP, awarded a contract, and the selected contractor is working on the Appraisal. The appraiser did the Field assessment on December 20, 2021. Staff and the BLM are working on the description of work needed in the Right of Way to support the District's activities under the land transferred to BLM.

16. **Conservation Trust –** *Plan Goal 4* **–** The Conservation Trust Board of Directors met on January 5, and staff has met with entities with which a deposit agreement is on file. The District and Trust have been reimbursed for services and funding for conservation easements and contributions to the endowment. Most projects continue to move forward slowly with the SBCTA efforts in the lead.

17. **Property/Redlands Plaza** – Staff continues to manage Redlands Plaza tenants and maintenance issues. All units are now fully leased, with the church is working with the City on permitting the changes needed for the CUP. Many tenants utilizing the Board's payment plan to weather the COVID 19 downturn have begun repayment schedules for these deferrals. Staff executed an access permit to D. R. Horton related to the trespass on District lands and the need to restore nearly half an acre; a preliminary plan was received in December, and we are awaiting the proposed plan. Staff is working with Red Dragonfly Spa to vacate the suite as their lease has expired.

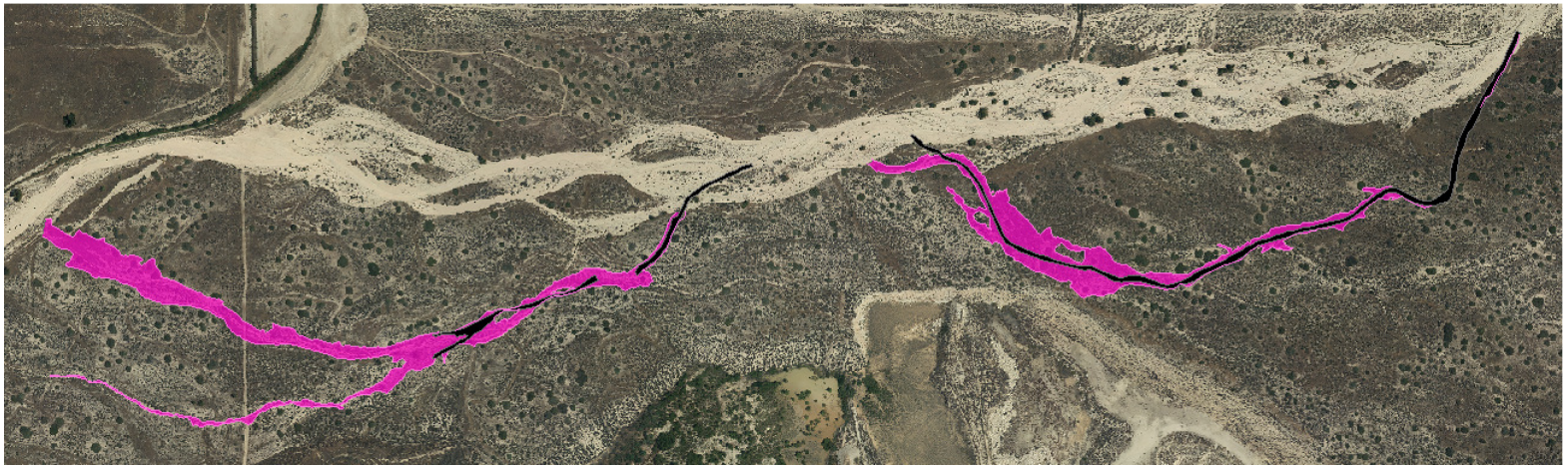
18. **Mining** – Mining efforts by CEMEX contractors continue at the Plant Site quarry. Mining above the guaranteed minimum continues resulting in additional revenue to the Land Enterprise and large stockpiles for ongoing freeway and construction projects.

19. **Public Outreach and Legislative** – *Plan Goal 5* Staff worked with consultants to coordinate outreach and award applications. The Accomplishments Year in Review was completed in December, and several press releases and posts have been provided in addition to the 90th Anniversary of the District's founding.

20. **Current Board Action Implementation** – Many priority efforts have separate sections of the General Manager's Report or independent Board requested reports. Staff and District Counsel worked closely on EHL/CBD v. USACOE settlement-related studies. Trails MOU with Redlands and Highland set on agenda but still awaiting feedback from Redlands.

21. **Future Board Activities** – Expected short-term items for consideration or note
    - Exchange Plan Amendment – the Task Force reviewed in provided legal and other comments, and after the resolution, Board consideration is planned for early 2022.
    - BLM Land MOU/ROW working with regional manager to complete in early/mid-2022
    - Alliance JPA for River HCP when completed

22. **District Successes**
    - Staff managed winter flows with excellent results. After high flows, all facilities are in good order, and significant recharge was accomplished. We hope for more rain in the new year.
    - Plunge Creek Conservation got its first large flows and performed as expected, increasing to at least eight acres of new habitat and over 500 AF of new groundwater recharge. Here is a photo near the Redlands Ag North Berm with the silt pond in the distance. On the following page is the new wetted area, and increase of 9.4 acres.



San Bernardino Valley Water Conservation District

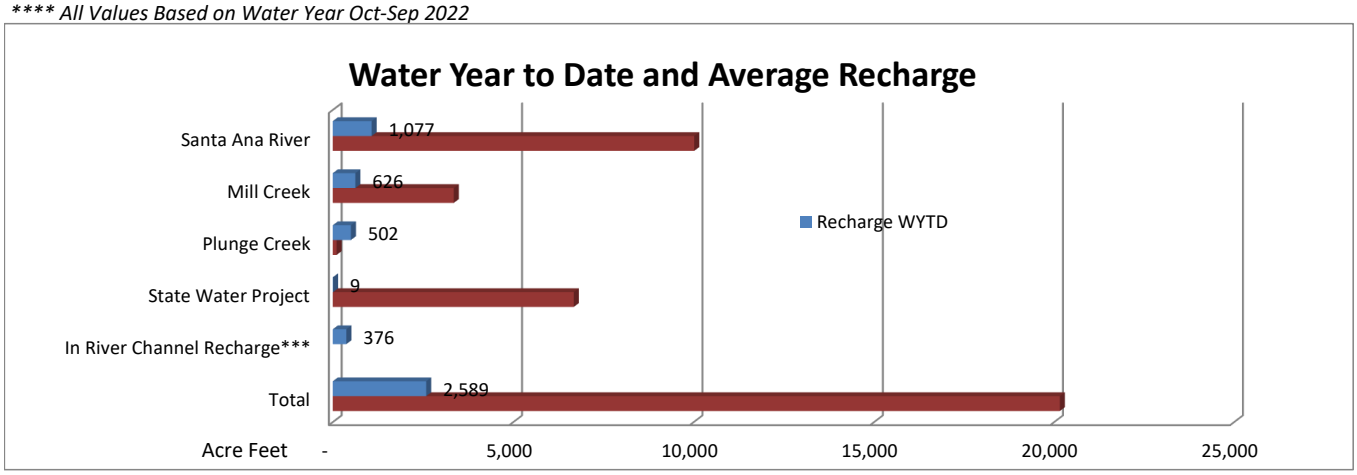
Monthly Recharge Report

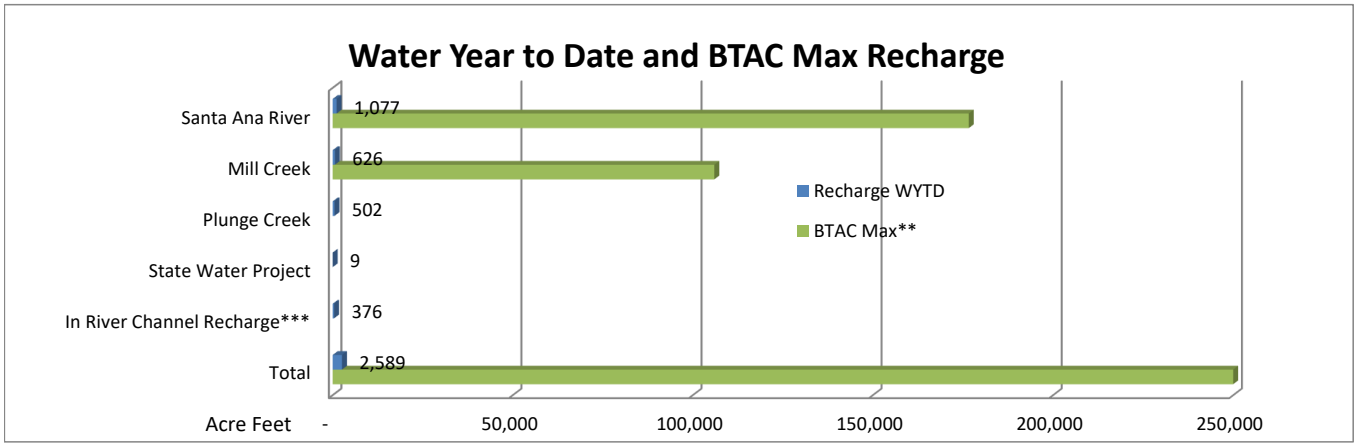
From: 12/1/2021
To: 12/31/2021

San Bernardino Valley Water Conservation District
Helping Nature Store Our Water

	December				
	Avg Daily Recharge	**Monthly Recharge**	**Recharge WYTD**	**10yr Avg Recharge***	**BTAC Max****
Santa Ana River	18.4	571	1,077	10,018	176,625
Mill Creek	9.7	302	626	3,354	105,975
Plunge Creek	16.2	502.3	502	107	#N/A
State Water Project	0.0	-	9	6,681	#N/A
In River Channel Recharge***	12.1	376	376	#N/A	#N/A
Total	**56**	**1751**	**2,589**	**20,160**	**282,600**

Values in Acre Feet
** Plunge Creek only has 1 year of available data*
***BTAC Revised Max in December 2021*
****Monitoring began in Mid-April 2011*
***** All Values Based on Water Year Oct-Sep 2022*





San Bernardino Valley Water Conservation District
Helping Nature Store Our Water

2022 Board Calendar - San Bernardino Valley Water Conservation District

JANUARY						
S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Jan. 12 Board Meeting
Jan. 26 2nd Qtr. Finance & Admin Mtg.

FEBRUARY						
S	M	T	W	Th	F	S
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20	21	22	23	24	25	26
27	28					

Feb. 9 Board Meeting

MARCH						
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20	21	22	23	24	25	26
27	28	29	30	31		

Mar. 9 Board Meeting
Engineering Investigation Report Presentation
Mar.23 3rd Qtr. Finance & Admin Mtg.

APRIL						
S	M	T	W	Th	F	S
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17	18	19	20	21	22	23
24	25	26	27	28	29	30

Apr. 13 Board Meeting
Public Meeting/Groundwater Charge
Apr. 27 Board Meeting
Public Hearing/Groundwater Charge

MAY						
S	M	T	W	Th	F	S
1	2	3	4	5	6	7
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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

May 18 Board Meeting

JUNE						
S	M	T	W	Th	F	S
			1	2	3	4
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12	13	14	15	16	17	18
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26	27	28	29	30		

Jun. 8 Board Meeting

JULY						
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31						

Jul. 13 Board Meeting
Jul. 27 4th Qtr. Finance & Admin Mtg.

AUGUST						
S	M	T	W	Th	F	S
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21	22	23	24	25	26	27
28	29	30	31			

Aug. 10 Board Meeting

SEPTEMBER						
S	M	T	W	Th	F	S
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Sept. 14 Board Meeting

OCTOBER						
S	M	T	W	Th	F	S
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23	24	25	26	27	28	29
30	31					

Oct. 12 Board Meeting

NOVEMBER						
S	M	T	W	Th	F	S
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6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

Nov. 9 Board Meeting
Nov. 23 1st Qtr. Finance & Admin Mtg.

DECEMBER						
S	M	T	W	Th	F	S
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Dec. 14 Board Meeting
(@ 9:30 a.m.)
Annual Luncheon