Borrego Water District Board of Directors
Regular Meeting
November 15, 2017 @ 9:00 a.m.
806 Palm Canyon Drive
Borrego Springs, CA 92004

I. OPENING PROCEDURES

- **A.** Call to Order
- **B.** Pledge of Allegiance
- **C.** Roll Call
- **D.** Approval of Agenda
- **E.** Approval of Minutes
  1. October 17, 2017 Special Meeting Minutes (3-6)
  2. October 25, 2017 Regular Board Meeting Minutes (7-11)
- **F.** Comments from the Public & Requests for Future Agenda Items (may be limited to 3 min)
- **G.** Correspondence from the Public
  1. Sponsor Group Response from BWD (12-13)
  2. Considine Response from BWD (14-15)
  3. Tom Bunn Water Rights Letter to Ray Shindler (16-18)
- **H.** Comments from Directors

II. ITEMS FOR BOARD CONSIDERATION AND POSSIBLE ACTION

A. Waste Water Treatment Plant Tertiary Study: Dudek Engineering – G Poole (19-86)
B. Contract with Dynamic Engineering for Plans and Specifications on Wilcox Diesel Motor and 3 Reservoir Replacement Projects – G Poole (87-89)
C. Bond and Disclosure Counsel Agreement with Best, Best and Krieger – G Poole (90-94)
D. Endorsement of Water Supply and Water Quality Act of 2018 – G Poole (95-97)

III. BOARD COMMITTEE REPORTS

A. Standing
   1. Operations and Infrastructure – Tatusko & Delahay (99)
B. Ad Hoc
   1. GSP Preparation Ad Hoc – Hart & Brecht
      a. Metering, Baseline and Reduction Period Update - VERBAL
      b. Proposition One SDAC Grant Application - VERBAL
   2. Bond Financing Ad Hoc Committee – Brecht & Ehrlich
   3. Rams Hill Long Term Operating Agreement - Delahay & Ehrlich

All Documents for public review on file with the District's secretary located at 806 Palm Canyon Drive, Borrego Springs CA 92004
Any public record provided to a majority of the Board of Directors less than 72 hours prior to the meeting, regarding any item on the open session portion of this agenda, is available for public inspection during normal business hours at the Office of the Board Secretary, located at 806 Palm Canyon Drive, Borrego Springs CA 92004.
The Borrego Springs Water District complies with the Americans with Disabilities Act. Persons with special needs should call Geoff Poole – Board Secretary at (760) 767 – 5806 at least 48 hours in advance of the start of this meeting, in order to enable the District to make reasonable arrangements to ensure accessibility.
If you challenge any action of the Board of Directors in court, you may be limited to raising only those issues you or someone else raised at the public hearing, or in written correspondence delivered to the Board of Directors (c/o the Board Secretary) at, or prior to, the public hearing.

IV. STAFF REPORTS

A. Financial Reports (101-113)
   September 2017
B. Water and Wastewater Operations Report
   September 2017 (115)
C. Water Production/Use Records
   September 2017 (117)
D. General Manager - VERBAL (118)
   1. Ray Burnand Fallowing Request
   2. ID 5, Well 5 Repairs
   3. District Engineer Search
   4. Water Quality Testing of BWD Production Wells
   5. Rams Hill Aquaponics Project

V. CLOSED SESSION: C

Conference with legal counsel-anticipated litigation: Initiation of litigation pursuant to subdivision (d) (4) of Government Code Section 54956.9: two (2) cases

VI. CLOSING PROCEDURE

A. Suggested Items for Next/Future Agenda
B. The next Meeting of the Board of Directors is scheduled for December 20, 2017 at the Borrego Water District

AGENDA: November 15, 2017
All Documents for public review on file with the District's secretary located at 806 Palm Canyon Drive, Borrego Springs CA 92004
Any public record provided to a majority of the Board of Directors less than 72 hours prior to the meeting, regarding any item on the open session portion of this agenda, is available for public inspection during normal business hours at the Office of the Board Secretary, located at 806 Palm Canyon Drive, Borrego Springs CA 92004.
The Borrego Springs Water District complies with the Americans with Disabilities Act. Persons with special needs should call Geoff Poole – Board Secretary at (760) 767 – 5806 at least 48 hours in advance of the start of this meeting, in order to enable the District to make reasonable arrangements to ensure accessibility.
If you challenge any action of the Board of Directors in court, you may be limited to raising only those issues you or someone else raised at the public hearing, or in written correspondence delivered to the Board of Directors (c/o the Board Secretary) at, or prior to, the public hearing.

Borrego Water District
MINUTES
Special Meeting of the Board of Directors
Tuesday, October 17, 2017
9:00 AM
806 Palm Canyon Drive
Borrego Springs, CA 92004

I. OPENING PROCEDURES

A. Call to Order: President Hart called the meeting to order at 9:00 a.m.

B. Pledge of Allegiance: Those present stood for the Pledge of Allegiance.

C. Roll Call:

Directors: Present: President Hart, Vice-President Brecht, Secretary/Treasurer Tatusko, Delahay, Ehrlich

Staff: Geoff Poole, General Manager; Steve Anderson, Best, Best & Krieger; Wendy Quinn, Recording Secretary

Public: Susan Percival, Club Circle East HOA; Dave Duncan, AC-GSP; Rebecca Falk, Sponsor Group/AC-GSP; Michael Sadler, *Borrego Sun*; Paul Pender, Fieldman/ Rolapp & Assoc.; Ray Shindler, Independent Ratepayers; Diane Johnson, Stewardship Council; Julian Peabody; Dick Walker; Robert Porr, Fieldman/ Rolapp & Assoc.; Kevin Kostiuk, Raftelis (via teleconference, Item II.B only)

D. Approval of Agenda: Director Brecht requested flexibility in the order of the items in section II (Items for Board Consideration and Possible Action), so that when the representatives of Fieldman/Rolapp arrive they could make their presentation and then leave. ***MSC: Ehrlich/Tatusko approving the Agenda as amended.***

E. Comments from Directors: Director Tatusko reported that there had been six claims for excessive water bill forgiveness since January. The maximum amount was $1,000, and a customer is entitled to one forgiveness every five years, subject to the General Manager's discretion. He asked that it be included in the next Agenda.

F. Comments from the Public and Requests for Future Agenda Items: None

II. ITEMS FOR BOARD CONSIDERATION AND POSSIBLE ACTION

A. Request from Borrego Springs Sponsor Group Chair to support a request to the County to consider water availability and affordability in their land use decisions: Director Brecht invited the Board's attention to his draft letter to Rebecca Falk, Chair of the Borrego Springs Community Sponsor Group, expressing support for her request that the County consider water availability and affordability in its land use decisions. Ms. Falk expressed concern that in recent Project Facilities Availability forms submitted to the Sponsor Group, the question of whether water facilities would be available in the next

five years had not been answered. The County is interpreting this as a "yes." President Hart explained that the question wasn't answered because the District doesn't know how much water will be available in five years. Director Brecht pointed out that there is nothing in SGMA requiring the County to consider water availability in land use decisions. He urged discussion with the County before they approve any new EDUs. President Hart pointed out that the two developments approved by the District last month were extensions of previously approved projects. Ms. Falk suggested that the District write a letter to the Sponsor Group supporting the consideration of water availability and affordability in its land use decisions. The Sponsor Group could then attach this letter to its recommendations to the County Planning Department. Steve Anderson was surprised there hadn't been a CEQA challenge to new development approvals in light of the water shortage, and Director Brecht suggested including a reference to CEQA in the letter to the Sponsor Group. Ray Shindler suggested approaching the Board of Supervisors with these issues, rather than the Planning Department. President Hart asked Geoff Poole to work with Mr. Anderson and Director Brecht on a letter to the Sponsor Group and develop appropriate points and a recommendation for further discussion next week.

E. Long Term Financing Plan, Fieldman, Rolapp and Assoc.: Director Ehrlich introduced Robert Porr and Paul Pender of Fieldman, Rolapp and Associates, the District's municipal consultants. Mr. Porr explained their approach, focusing on reserves analysis, credit review and funding options. An overview of the financial model showed $23 million in capital needs over the next ten years, $9.5 million of which are groundwater supply costs. Mr. Porr explained that he had reviewed the Raftelis report, the District's 2017-18 budget, and its revenue and expenses. He considered the District's financial goals, funding the CIP through 2027 and maintaining reserves of at least $4.2 million, while minimizing rate increases.

Mr. Porr presented two scenarios, the first contemplating paying for the CIP without borrowing money and without rate increases. The District would deplete its reserves by 2019. He therefore concluded a combination of borrowing and rate increases would be necessary. The second scenario would provide full funding of the CIP each year and maintain the reserves. He suggested a debt of up to $19 million over nine years, with no rate increases until 2021 other than those contemplated by the recent rate study.

Mr. Porr suggested bond financing, and explained that considerations would include legal covenants and credit rating. There is an option to select a public offering or private placement (typically a bank loan). The public offering is more costly but provides increased flexibility, a longer term and lower interest. He recommended a public offering. Fieldman/Rolapp would report directly to the District and coordinate the other team members (bond counsel, disclosure counsel, investment bank/underwriter, rating agency and trustee). Mr. Pender recommended paying off the District's current bond and rolling the balance into the new one. ***MSC: Brecht/Ehrlich directing staff to move forward with a debt issuance of up to $8.1 million during 2018, consisting of a 30-year public bond issuance.***

President Hart declared a recess at 10:30 a.m., and the Board reconvened at 10:40 a.m.

B. Water Rate Affordability Study, Raftelis Consultants: Mr. Poole reported that the Board had commissioned Raftelis to investigate what water rates the ratepayers could afford. Kevin Kostiuk of Raftelis explained that this is a currently popular question which depends on the character of the community, geography and other factors. The study included average income, average water use, and who is being adversely affected by water rates now and potentially in the future. They looked at essential indoor water needs for health and sanitation. The typical use is seven units per month. There are three metrics: essential, efficient and target use. At minimum wage, it would take 5.8 hours of work

to pay a monthly water bill. Director Brecht suggested adding another tier to the rate schedule. President Hart brought up the pending legislation which would allow a lower rate for the disadvantaged. Mr. Anderson reported that it had failed during the current legislative session but may resurface next year. Director Brecht suggested looking at Santa Barbara's rate structure. All agreed we need to start planning ahead now.

C. California's Proposition One Grant Application Resolution and BWD Priorities: Mr. Poole reported that he had been working with Directors Tatusko and Ehrlich, the County, LaSar Development Consultants and local residents to identify and prioritize projects for the Proposition 1 grant application. A detailed report will be presented at the next meeting. The application may be combined with the County's. Director Tatusko reported that projects under consideration include the LaSar socioeconomic study, purchase and installation of meters and an assessment by Dudek of potential sites for new wells. Director Ehrlich felt that the LaSar study should be the first priority. Ms. Falk urged continued citizen involvement in the decisions.

D. BWD Board Committee Structure Revisions: President Hart reported that Mr. Anderson had recommended that instead of monthly reports from the ad hoc committees, the committee names be altered to reflect the current task. He also recommended that the Operations and Infrastructure Committee, which meets regularly and is ongoing, become a standing committee. ***MSC: Brecht/Delahay dissolving the existing ad hoc committees.*** The following new ad hoc committees were established: Bond Financing (Directors Brecht and Ehrlich), Prop One Bond Application (Directors Ehrlich and Tatusko), GSP Preparation (President Hart and Director Brecht), and Rams Hill Long Term Operating Agreement (Directors Delahay and Ehrlich). Director Brecht asked whether Board members who are not members of the Operations and Infrastructure Committee could attend the meetings. Mr. Anderson replied that they could, but they should not participate in the discussions. ***MSC: Brecht/Delahay forming the Operations and Infrastructure Standing Committee (Directors Delahay and Tatusko).***

F. Presentation on Aquaponics Project, Bill Berkley: Mr. Berkley invited that Board's attention to written information in the Board package. He explained that he had fallowed farmland on the former Fortiner property on De Giorgio Road and would like to develop a hydroponic farm on 50 acres. He is limited to one acre-foot per year of water pursuant to the fallowing agreement and easement, and requested Board approval to increase it to five acre-feet per year. He explained that hydroponic farming uses much less water, uses solar energy and LED lighting, and creates jobs. The crops are grown in pods, similar to shipping containers. The County originally limited him to ten pods, but subsequently determined they were equivalent to greenhouses and would not limit the number. Mr. Berkley explained that he could begin the first phase of the project with the one acre-foot per year, but would eventually need the five. President Hart brought up the easement and the MOA with the County regarding water credits. Mr. Poole reported that the MOA allows discretionary use as long as the appropriate credits are offered. President Hart directed staff to continue to work with counsel and Mr. Berkley, and asked Mr. Berkley to update his written information by next week's meeting, including how many pods are anticipated and how many solar panels. Director Brecht suggested including a bond in the event the operation ceases. President Hart asked Mr. Poole to give Mr. Anderson copies of the MOA and the easement.

G. Considerations for Allocating Safe Yield: Mr. Shindler reported that he had consulted water law attorney Tom Bunn and believed there were errors in the SGMA Questions and Answers prepared by the District. He opined that metering could be required prior to GSP adoption and sustainability could be achieved sooner than 20 years after GSP adoption. Citing Water Code sections 106, 106.3 and 106.5, he felt that parties with prescriptive water rights should not lose them; i.e., all categories of users

should not have to reduce their water consumption equally. Municipal and domestic users should be subject to a lower reduction level than irrigation users. Mr. Shindler had submitted a letter summarizing his position, and Director Brecht asked to see the complete justification package.

III. INFORMATIONAL ITEMS

A. 900 Tank Inspection Report: Mr. Poole reported that Dudek performed a site inspection last week. Director Delahay reported that he had inspected it today. The project should be completed within a week, and it is hoped that pumping will begin in two weeks.

IV. CLOSED SESSION

A. Conference with legal counsel – anticipated litigation: Initiation of litigation pursuant to subdivision (d)(4) of Government Code Section 54956.9: one (1) case: The Board adjourned to closed session at 12:10 p.m., and the open session reconvened at 12:50 p.m. There was no reportable action.

V. CLOSING PROCEDURE

A. Suggested Items for Next/Future Agenda: Future Agenda items were discussed earlier in the meeting.

B. The next Meeting of the Board of Directors is scheduled for 9:00 a.m., October 25, 2017 at the Borrego Water District: There being no further business, the Board adjourned at 12:50 p.m.

Borrego Water District Board of Directors
MINUTES
Regular Meeting
Wednesday, October 25, 2017 @ 9:00 AM
806 Palm Canyon Drive
Borrego Springs, CA 92004

I. OPENING PROCEDURES

A. Call to Order: President Hart called the meeting to order at 9:00 a.m.

B. Pledge of Allegiance: Those present stood for the Pledge of Allegiance.

C. Roll Call:

Directors:	Present:	President Hart, Vice-President Brecht, Secretary/Treasurer Tatusko, Delahay
	Absent:	Ehrlich
Staff:		Geoff Poole, General Manager
		Kim Pitman, Administration Manager
		Steve Anderson, Best Best & Krieger (via videoconference)
		Jeff Ballinger, Best Best & Krieger (via videoconference)
		Wendy Quinn, Recording Secretary

Public:	Tom Hall	J.C. Bambach, Borrego Springs Resort
	Gary Otto	Susan Percival, Club Circle East HOA
	Bill Berkley, Rams Hill	Cathy Milkey, Rams Hill
	Greg Guillen, Dudek (via teleconference, Item II.D only)	Brian Tran, Dudek (via teleconference, Item II.D only)
		Rachel Ralston, LeSar Development (via teleconference, Item II.A only)
	Diane Johnson, Stewardship Council	Suzanne Lawrence, Stewardship Council

D. Approval of Agenda: Geoff Poole reported that yesterday a project alternative for Item II.C (Draft Tertiary Treatment Study) was introduced, plus Director Ehrlich was absent and had input to the report. Mr. Poole asked that this item be deferred to the next meeting. After discussion, the Board agreed to request an overview from Dudek on Item II.D (Draft Hydrogen Sulfide Odor Study) today, but because of the volume of the Agenda, consider a more detailed report at the next meeting. President Hart requested that Item II.H (Excessive Water Use: Gary Otto) be moved to the first item in Section II (Items for Board Consideration and Possible Action), so that Mr. Otto could leave if he so chose. Director Tatusko requested that Item II.K (Acceptance of nomination of Diane Johnson as Borrego Valley Stewardship Council Representative on the Borrego Valley Groundwater Plan Advisory Committee), be moved to the second item in Section II, for the same reason as to Ms. Johnson. ***MSC: Delahay/Brecht approving the Agenda as amended.***

E. Approval of Minutes:

1. September 19, 2017 Special Board Meeting Minutes

MSC: Brecht/Tatusko approving the Minutes of the Special Meeting of September 19, 2017 as written.

2. September 27, 2017 Regular Board Meeting Minutes

MSC: Brecht/Delahay approving the Minutes of the Regular Meeting of September 27, 2017 as written

F. Comments from the Public and Requests for Future Agenda Items: Tom Hall commended and thanked the Board for the time they expend on District business and service to the community.

Suzanne Lawrence suggested a review of the relationship between Integrated Regional Water Management and SGMA.

Mr. Poole invited the Board's attention to a letter from Terry Considine, one of the owners of Rams Hill, in the Board package. Discussion was deferred to closed session

G. Comments from Directors: None.

.

II. ITEMS FOR BOARD CONSIDERATION AND POSSIBLE ACTION

H. Excessive Water Use: Gary Otto: Kim Pitman explained that Mr. Otto had a problem with his water meter, so the District replaced it. In the following month, his water use was excessive, but no one was able to determine the cause. The forgiveness requested exceeds the recommended limit of $2,500, so it was before the Board. Mr. Otto pointed out that his bill was $5,200 for one million gallons of water. ***MSC: Brecht/Delahay authorizing a reduction of $4,800 in Mr. Otto's water bill.***

K. Acceptance of nomination of Diane Johnson as Borrego Valley Stewardship Council Representative on the Borrego Valley Groundwater Plan Advisory Committee: ***MSC: Brecht/Delahay endorsing the nomination of Diane Johnson as Borrego Valley Stewardship Council Representative on the Borrego Valley Groundwater Plan Advisory Committee.*** Mr. Poole will inform the County.

A. Proposition One Grant Application Priorities/Budget: Mr. Poole reported that the Prop One Bond Application Ad Hoc Committee had been meeting to identify and prioritize projects for the upcoming grant application. It is anticipated that the District will combine its application with the County's. Three projects have been identified for the District: a Severely Disadvantaged Community (SDAC) socioeconomic study by LeSar Development Consultants, well metering, and a feasibility study for the location of new potable water wells. Director Tatusko discussed the proposal with DWR and they said the projects met their requirements. Rachel Ralston of LeSar summarized their proposal, which aims to maximize the benefit of Borrego's SDAC classification by looking at water availability and quality and socioeconomic changes over time with SGMA implementation. She hoped to engage community members and establish baseline data on its characteristics. There will also be an education component. Task 1 will include data collection regarding wages, the work force and the seasonal aspects. Tasks 2 and 3 will include modeling rate structure scenarios to determine impacts on the community and will also look at health and environmental issues. A reference document would be produced to assist the GSA in its decision-making.

Director Tatusko noted that the community and the Core Team support this project. He also expressed approval for the well metering, which has been proposed since the inception of Proposition 1 grant discussions. Meters for 17 wells are contemplated, based on the 12 positive

responses to the District's inquiry as to interest in voluntary monitoring with 5 more added for pumpers who might volunteer later. Director Tatusko went on to explain the proposed new well location study, which consists of Dudek's study of three locations followed by drilling a test well in one.

Mr. Poole explained that the County would take the lead in writing the grant application, with the District's input regarding the details of its three projects. This work is already underway. Director Brecht pointed out that both agencies have a better chance of grant approval by combining their applications.

Suzanne Lawrence of the Borrego Valley Stewardship Council expressed concern that the community members were not able to share sufficiently in the decision-making leading up to these grant application recommendations. President Hart pointed out that there would be more grant opportunities in the future, and the Proposition 1 deadline is soon. Mr. Poole explained that there had been e-mail communication problems in some of the efforts to meet with community members. Diane Johnson discussed the term "capacity building," believing it was vague. She believed it includes education and networking, and is an important part of SGMA.

The Board agreed with the proposed grant application projects and concurred that the Committee should pass them on to the Core Team. Director Tatusko suggested asking for a $600,000 share of the joint application. Director Brecht asked that the BWD Board have an opportunity to sign off on the application once it is finalized.

B. Proposition One Resolution Authorizing GM to Submit Application: ***MSC: Brecht/Delahay adopting a Resolution authorizing the General Manager to submit the application for a Proposition 1 grant.*** Steve Anderson pointed out that the date of adoption needs to be changed in two places, and President Hart asked Mr. Poole to have Esmeralda Garcia do so. Mr. Poole will arrange a Core Team meeting tomorrow prior to the Advisory Committee meeting.

C. Draft Tertiary Treatment Study: Dudek Engineering: This item was deferred to the next meeting.

D. Draft Hydrogen Sulfide Odor Study: Dudek Engineering: This item was deferred until the Dudek representatives could be reached for teleconference.

E. State Water Resources Board Discharge Permit 2017 Application: Mr. Poole reported that District staff had been working with the State Water Resources Control Board and consultant Joe Cornejo of JC Labs to renew the discharge permit for the wastewater treatment plant. Mr. Conejo has offered to complete the technical requirements and coordinate the overall effort at an estimated cost of $7,500. ***MSC: Brecht/Delahay authorizing staff to enter into an agreement with Joe Cornejo for assistance with development of BWD's wastewater discharge permit with the State Water Resources Control Board.***

F. FY 2017-18 Professional Services Assistance from Jerry Rolwing: Mr. Poole reported that former General Manager Jerry Rolwing had assisted the District with the California State Groundwater Elevation Monitoring (CASGEM) reporting and other matters during the past year. He requested Board approval to continue his services for the next fiscal year, at least for CASGEM. Other projects will be brought to the Board as needed. Director Tatusko recommended that someone on the District staff be trained in what Mr. Rolwing is doing. ***MSC: Brecht/Delahay authorizing staff to enter into an agreement with Jerry Rolwing for assistance with CASGEM and possible other projects during FY 2017-18.***

G. Excessive Use Forgiveness Policy: Mr. Poole reported he had continued discussions with Ms. Pitman and Greg Holloway regarding revisions to the District's excessive water use

forgiveness policy. They decided to base adjustments on the average water use for the prior 12 months, set the maximum adjustment at $2,500 and allow one adjustment every five years. Exceptions are in the General Manager's discretion. ***MSC: Brecht/Tatusko approving the excessive water use forgiveness policy as amended.***

I. Sponsor Group Support Letter Regarding Groundwater Issues and Land Use Decisions: President Hart invited the Board's attention to a proposed letter to the Sponsor Group regarding groundwater issues and land use decisions. Mr. Anderson had reviewed it, and she planned to sign and send it subject to Board concurrence. Director Brecht submitted some suggested amendments, and all Board members concurred subject to those amendments. Discussion followed regarding whether the intent of the letter was to apply to existing EDUs or future developments. J.C. Bambach of Borrego Springs Resort suggested it be spelled out more clearly, and President Hart agreed to discuss it with legal counsel. Ms. Johnson brought up the possible applicability of the Human Right to Water Act. Mr. Anderson explained that the courts have not yet interpreted the Act, so its impact is uncertain.

J. Resolution for November 2017 and December 2017 Board Meeting Dates: ***MSC: Brecht/Delahay adopting Resolution No. 2017-10-01, Resolution of the Board of Directors of the Borrego Water District Revising the Schedule of Regular Meetings.*** There will be one regular meeting in November (the 15th) and one in December (the 20th).

D. Draft Hydrogen Sulfide Odor Study: Dudek Engineering (continued): Brian Tran of Dudek reported on his study of hydrogen sulfide formation and other potential problems at the wastewater treatment plant. He explained that there are problems with the force main, but there is no way to take it off line, drain and clean it. It generates significant odor, and the chemicals currently being used have mixed results. Force mains generally slope upwards, but this one goes up and down. The discharge point is lower than the highest point, which creates odor problems. One way to mitigate this would be to install a weir. Mr. Tran explained that there are also access and maintenance issues with a pipeline running through La Casa Del Zorro resort. He looked at moving it out of the resort and down Borrego Springs Road. The team also reviewed videos of the system, and determined most of the pipes are in good condition, but there were a few defective sections. Some of the manholes have deteriorated, and Mr. Tran recommended rehabilitation. Suggested projects were prioritized, and cost estimates provided. The highest priority is the force main. President Hart recommended further discussion at the next meeting, and asked the Dudek representatives to be present. Director Tatusko will arrange an Operations and Infrastructure meeting next week, and asked members and affected staff to send Mr. Poole their availability. He further inquired about a USDA grant for this project as an emergency situation, and Mr. Tran agreed to look into it. Director Brecht suggested considering replacing the wastewater treatment plant with several package plants, and Mr. Poole agreed to make sure this option was included in the Tertiary Treatment Study. Director Delahay added that JC Labs' work on the discharge permit might also provide pertinent information, and President Hart recommended discussing this with Mr. Cornejo.

III. STAFF REPORTS

A. General Manager:

1. Well Drilling Legislation. Mr. Anderson reported that SB 252 was recently signed by the Governor. It deals with drilling new wells in critically overdrafted basins, and covers the period from now until the GSP is submitted to DWR. The Bill requires disclosure of information on the proposed location, capacity, extraction volume and more. Replacement of an

existing well is exempt, unless the new well will be larger, as are wells owned by municipal agencies (e.g. BWD). Approval of new wells is a ministerial function of the County, and as long as the required information is provided, their authority to deny is limited. The GSP can include guidelines, but well approval will not be a GSA function. President Hart agreed to discuss this Bill with the Core Team.

2. Borrego Springs Resort and Santiago Estates Stand by Fees. Mr. Poole reported he had been working with counsel on the history, documentation, responsibilities and liabilities associated with the Community Facilities District fees at Santiago Estates and Club Circle and the standby fees at the Borrego Springs Resort. He hoped to have a preliminary assessment within a week or so.

3. Ray Burnand Fallowing Request Status Update. Mr. Poole reported he had been meeting with Mr. Burnand and discussing his fallowing request with Jeff Ballinger. The request is currently being reviewed by County Counsel and other County staff.

4. With the exception of the General Manager's Report all others will be deferred one month in order to present a more complete Board Package.

IV. CLOSED SESSION: Conference with legal counsel – anticipated litigation: Initiation of litigation pursuant to subdivision (d)(4) of Government Code Section 54956.9: two (2) cases

The Board adjourned to closed session at 11:15 a.m., and the open session reconvened at 12:30 p.m. The General Manager was directed to evaluate possible Water Transfer Mechanisms for GSP Implementation.

V. CLOSING PROCEDURE

A. Suggested Items for Next Agenda: Future Agenda items were discussed earlier in the meeting.

B. The next Meeting of the Board of Directors is scheduled for November 15, 2017 at the Borrego Water District. There being no further business, the Board adjourned at 12:30.

BORREGO WATER DISTRICT

October 30, 2017

Borrego Springs Community Sponsor Group
Delivered by email:
Bill Haneline - desertwrx15@gmail.com
Bonnie Petrach - bonniepetrach@ymail.com
Clint Brandin - moochsd@aol.com
David Farley - dtfarley@aol.com
Judy Haldeman - jhaldeman@coldwellbankerborrego.com
Linda Haddock - lhaddock@bscvb.com
Rebecca Falk - rebfalk7@gmail.com

This is in response to requests from various members of the Community that the Borrego Water District (BWD) comment on whether the County of San Diego Department of Planning and Development Services (PDS) should consider future groundwater supply availability and affordability in its land use decisions within the District's municipal service boundaries of the Borrego Springs Subbasin (Borrego Basin) of the Borrego Valley Groundwater Basin.

An overdraft in the Borrego Basin is well established. In the early 1980's, a US Geological Survey (USGS) study funded by San Diego County found that the basin was in overdraft and presented a serious economic, social, and environmental threat to the future of the Borrego Valley. In 2015, the USGS concluded a second study funded by the Borrego Water District that confirmed and expanded on the 1980's study, finding that the overdraft is more severe than had been established in the early 1980's.

Current estimates of average annual withdrawals from the basin are: agricultural uses approximately 70%, recreational uses (primarily golf courses) approximately 20% and municipal uses approximately 10%. The USGS estimated that annual withdrawals equal approximately 19,000 AFY, while average annual recharge is approximately 5,700 AFY based on 66 years of historic data. Thus, the current rate of groundwater pumping produces an average annual overdraft of about 13,300 AFY (for additional information please see the District's website at borregowd.org).

On January 1, 2015, the Sustainable Groundwater Management Act (SGMA) went into effect requiring Groundwater Sustainability Agencies (GSAs) to bring basins into sustainability by taking various actions, including potentially limiting extractions, imposing fees and penalties, and requiring metering and water quality monitoring in overdrafted basins. The Borrego Basin is defined by the Department of Water Resources (DWR) as a basin in "critical" overdraft. In 2015/16, the District and San Diego County entered into a Memorandum of Agreement (MOA) to become a multi-agency GSA for the basin. The GSA is charged with developing and adopting a Groundwater Sustainability Plan (GSP) that produces basin sustainability in no more

than twenty (20) years from 2020. The target date for GSP adoption is before January 1, 2020 (for additional information refer to the County's or DWR's websites).

We assume that PDS is carefully reviewing the availability of water supply and the potential environmental impacts of serving Borrego Basin groundwater to new EDU's under the California Environmental Quality Act (CEQA) as required under California law in all its deliberations concerning new development and the potential future water supply constraints in the Basin. Yet, we understand that currently the County takes the position that there is no specific statutory requirement that it consider SGMA's sustainability mandates when making its land use decisions within the District's municipal service area of the Borrego Basin. To support the continued economic growth of our area and the protection of the Basin, we want to ensure that such land use decisions are not, inadvertently, made open to challenge under CEQA or SGMA due to any allegation that Basin conditions and water availability have not been fully addressed before discretionary action is taken by the land use agency.

Practically speaking establishing sustainability will directly and permanently affect the water supply within the Borrego Basin, straining BWD's capacity to provide an affordable supply of potable water in our severely disadvantaged community for current municipal uses, the approximately 3,000 County approved, but currently unbuilt EDUs, in addition to any newly created EDUs. Accordingly, the District strongly recommends that PDS's land use decisions must consider the future availability and affordability of municipal water supply for the Borrego Springs community.

Sincerely,

Beth A Hart

Beth A Hart
President
Borrego Water District

cc: Mark Wardlaw, Director, mark.wardlaw@sdcounty.ca.gov
Kevin Johnston, kevin.johnston@sdcounty.ca.gov

BORREGO WATER DISTRICT

November 6, 2017

Terry Considine
4582 S Ulster St;
Denver, Colorado 80237

Dear Mr. Considine,

Thank you for your correspondence to the Borrego Water District (District) and the thoughtful questions you present. Your letter was published in the Board Package of the Board's Regular Business Meeting on October 25th. At this meeting, the Board reviewed your letter and assigned an ad-hoc committee of the Board consisting of Directors Beth Hart and Lyle Brecht to research and respond to the questions you asked in your letter.

Based on the Committee's work to date:

All of your questions are being considered as part of the groundwater sustainability plan development process between the District and San Diego County (County) as the Groundwater Sustainability Agency (GSA) for the Borrego Springs Subbasin (Borrego Basin) of the Borrego Valley Groundwater Basin from which the Rams Hill Development obtains all its municipal and irrigation water.

Thus, it is in that Sustainable Groundwater Sustainability Act (SGMA) mandated process that the issues you have discussed in your letter will be most appropriately reviewed and examined. Having the District address those issues separately could, in some sense, be viewed as undermining that SGMA process and the County's role in groundwater sustainability plan development.

However, to your letter's specific concerns:

(1) Fee Assessment. The California Supreme Court recently heard arguments as to whether the imposition of such a fee requires compliance with Proposition 218. A related issue is whether an agency may impose such a fee prior to the completion of a groundwater sustainability plan. Until the Supreme Court issues a ruling, which should come by the end of the year, it would be premature to take any action. Accelerating the development of the plan is probably the most prudent course of action. SGMA is clear that, especially with a Proposition 218 election, a groundwater sustainability agency may impose the type of pumping fee that is being suggested only after the groundwater sustainability plan has been approved by the County Supervisors and the District's Board. With respect to pumping fees for any lawful purpose, it is likely that such fees would apply to all pumpers in the basin.

(2) Rules re Water Availability. The purpose of the groundwater sustainability plan is to provide such business guidance for the future. As a practical matter, the District and the County will need to have an almost-complete groundwater sustainability plan in early 2019 so as to meet the schedule established in SGMA. In the interim, the District and the County could commit by resolution to three simple principles intended to guide groundwater sustainability planning. First, total extractions from the groundwater basin are to be reduced to about 5,700 AFY no later than 2040 and, depending on the results of technical studies, perhaps earlier. Second, the groundwater sustainability plan will recognize all pumping and all credits that have been issued, while also making allowances for existing County-approved subdivisions (which is to be determined). Third, the groundwater sustainability plan intends to use markets and/or market mechanisms to allow for the free transfer of SGMA-compliant pumping allowances, consistent with the ramp-down to 5,700 AFY by no later than 2040.

(3) Future Service by BWD. The second principle identified in #2 above would recognize all of the existing approved EDU's in view of the District's provision of water service, with the intent to utilize. a base period that is relatively long (say the last ten years) to ensure that no pumper is penalized due to the Great Recession or the drought. Under a market system of the type proposed in the third principle above, the District will need to seek to convert agricultural lands currently being farmed and encourage the implementation of additional water conservation landscapes and residential water use conservation approaches. At present, the GSA is working to identify the least-cost solutions but it is likely that such a path forward will become clearer closer to the adoption of the groundwater sustainability plan.

As the District and the Committee proceeds in the above work, we anticipate keeping you in the loop and would hope that you are willing to provide feedback on any proposed District actions that may impact your investments in Borrego.

Sincerely,

Geoff Poole
General Manager

Lagerlof Senecal Gosney & Kruse LLP

301 North Lake Avenue
10th Floor
Pasadena, CA 91101-5123
Phone: 626.793.9400
Fax: 626.793.5900
www.lagerlof.com

Established 1908

To: Borrego Springs Basin Advisory Committee

From: Thomas S. Bunn III

Date: October 24, 2017

Re: Response to Agricultural Representatives Agenda Paper #1

This is a response to the Agricultural Representatives Agenda Paper #1, dated September 21, 2017. The paper contains a number of omissions and incorrect statements. This memo does not attempt a line-by-line rebuttal, but points out the most significant issues.

The paper ignores the prescriptive right of the Water District

The paper repeatedly makes the point that the groundwater rights of overlying landowners have priority over municipal water rights. It fails to mention, however, that this is only true if the municipal water rights are appropriative rights, not if they are prescriptive rights. Overlying rights do not have priority over prescriptive rights. "Acquisition of a prescriptive right in groundwater rearranges water rights priorities among water users, elevating the right of the one acquiring it above that of an appropriator to a right equivalent in priority to that of a landowner." (*City of Santa Maria v. Adam* (2012) 211 Cal.App.4th 266, 297.)

The prescriptive right of the Water District is not acknowledged anywhere in the paper. Yet the Water District clearly has acquired a prescriptive right by pumping water in an overdrafted basin for a continuous period of five years, where there was knowledge of the overdraft and where the pumping was actual, open and notorious, hostile and adverse to the overlying users, and under claim of right. (*City of Santa Maria v. Adam* (2012) 211 Cal.App.4th 266, 291.)

"The effect of a prescriptive right [is] to give to the party acquiring it [the Water District] and take away from the private defendant against whom it was acquired [overlying landowners] either (1) enough water to make the ratio of the prescriptive right to the remaining rights of the private defendant as favorable to the former in time of subsequent shortage as it was throughout the prescriptive period or (2) the amount of the prescriptive taking, whichever is less." (*City of Los Angeles v. City of San Fernando* (1975) 14 Cal.3d 199, 293.) In other words, the pumping during the prescriptive period is reduced pro rata to the safe yield.

Thus, the argument in the paper that agricultural water use cannot be reduced without agreement on an agricultural fallowing and landowner pumping rights transfer program is incorrect.

The paper ignores the priority for domestic use in Water Code sections 106, 106.3, and 106.5

Water Code section 106 states that the domestic use of water is a higher use than irrigation. Water Code section 106.3 declares that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes, and state agencies must take that into account in policies, regulations, and grant criteria. Water Code section 106.5 provides for the protection of the right of a municipality to acquire and hold rights to the use of water for existing and future uses.

It is routinely argued in groundwater adjudications that these statutes mean that domestic and municipal uses should get priority in times of shortage. Because adjudications are generally resolved by settlement, no appellate court has yet considered the nature and extent of this priority. But in the recent Santa Maria groundwater adjudication, the court did use these statutes to support its conclusion that parties with prescriptive rights (who are generally domestic and municipal users) do not lose their rights during times of surplus. (*City of Santa Maria v. Adam* (2012) 211 Cal.App.4th 266, 297.)

For purposes of groundwater allocations under SGMA, Water Code sections 106, 106.3, and 106.5 furnish a powerful argument that domestic and municipal uses should not suffer the same reductions as irrigation.

Even if the Water District did not have a prescriptive right, the landowners would still have to reduce their pumping

The paper does not acknowledge that landowners, who represent the vast majority of pumping, would have to reduce their pumping by almost the same amount, even if no allocation were made to the Water District at all. As among overlying users, the rights are correlative: each may use only their reasonable share [of the safe yield] when water is insufficient to meet the needs of all. (*City of Santa Maria v. Adam* (2012) 211 Cal.App.4th 266, 279.)

The paper incorrectly cites *Mojave* and other cases

The paper cites the *Mojave* case (*City of Barstow v. Mojave Water Agency*[1] (2000) 23 Cal.4th 1224) for the proposition that groundwater rights of overlying landowners have priority over municipal water rights. But, as previously stated, that is only true if there are no prescriptive rights, as was the case in *Mojave*. (23 Cal.4th at p. 1241.)

The paper also cites *Mojave* for the following proposition: "[A]n across-the-board reduction of groundwater production by all sectors is contrary to California water law, except in the rare situation where an entire city's economy is built entirely on junior appropriations in excess of overdraft, which situation does not exist here." The "situation" described in the *Mojave*

[1] The paper uses the incorrect name of *City of Barstow v. Adelanto*.

case, however, was not that at all, but where a "restriction to safe yield on a strict priority basis might have deprived parties who had been using substantial quantities of ground water for many years of all further access to such water." (23 Cal.4th at pp. 1246-47.) That is exactly the situation here.

Finally, the paper says that overlying water rights need to be based on the highest year of production during the period of overdraft. It cites three adjudications for this, but the formula used in those adjudications was based on stipulation, not a judicial ruling. It goes on to say the California Supreme Court has upheld use of the highest year of production, citing *Hi-Desert County Water Dist. v. Blue Skies Country Club, Inc.* (1994) 23 Cal.App.4th 1723, 1727. First, the case was not a Supreme Court case, but a court of appeal case. Second, and more significantly, the formula in the case was again based on a stipulation and was not an issue before the court. It is incorrect to say the formula was "upheld" by the court.

Conclusion

Groundwater sustainability agencies are given the authority to determine groundwater extraction allocations. (Wat. Code 10726.4(a).) A reasonable approach would be to allocate the Water District its historical use, and allocate the remainder of the safe yield to overlying users, without any compensation to those users. This approach would be consistent with SGMA and California water rights law.

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – NOVEMBER 15, 2017

AGENDA BILL 2.A

November 8, 2017

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: Waste Water Treatment Plant Tertiary Study: Dudek Engineering – G Poole

RECOMMENDED ACTION:

Discuss Study, next steps and direct staff accordingly

ITEM EXPLANATION:

Dudek Engineering has completed the attached Draft Tertiary Treatment Study. The Operations and Infrastructure Committee will be meeting on November 8th to review and discuss. The Prime Consultant on the Project will be available via telephone at the Board Meeting to present the Study and answer any questions.

FISCAL IMPACT:

TBD

ATTACHMENTS:

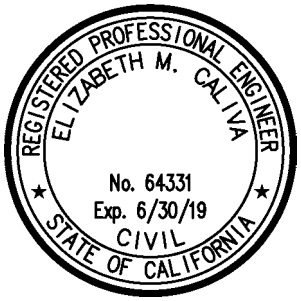
1. Draft BWD Tertiary Waste Water Treatment Plant Study

DRAFT

PROPOSITION 1
BORREGO WATER DISTRICT TERTIARY TREATMENT CONVERSION PROJECT
FEASABILITY STUDY

Prepared for:

Borrego Water District
806 Palm Canyon Drive
Borrego Springs, CA 92004
Contact: Geoff Poole, General Manager



Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Contact: Elizabeth Caliva, P.E.

NOVEMBER 2017

STATEMENT OF LIMITATIONS

Funding for this plan has been provided in full or in part through an agreement with the State Water Resources Control Board. The contents of this document do not necessarily reflect the views and policies of the State Water Resources Control Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

TABLE OF CONTENTS

Section **Page No.**

APPENDICES

FIGURES

TABLES

ABBREVIATIONS

AF	acre-feet
AFY	acre-feet per year
BVGB	Borrego Valley Groundwater Basin
BWD	Borrego Water District
CA	California
CC	Country Club
D	Duty
d/D	depth over diameter ratio
De Anza GC	De Anza Country Club and Gold Course
EDU	equivalent dwelling unit
FOG	fats, oils and grease
fps	foot per second
gpd	gallons per day
GSP	Groundwater Sustainability Plan
HP	horsepower
hrs	hours
ID	Improvement District
KW	kilowatt
kWh	kilowatt per hour
kWh/d	kilowatt per hour per day
LF	lineal feet
MCL	maximum contaminant level
MG	million gallons
MGD	million gallons per day
mg/l	milligrams per liter
NTU	Nephelometric Turbidity Unit
psi	pounds per square inch

Ram Hills GC	Ram Hills Golf Course
RV	recreational vehicle
RWQCB	Regional Water Quality Control Board
S	standby
SanGIS	San Diego Geographic Information Source
TDS	Total dissolved solids
ug/l	micrograms per liter
USBR	United States Bureau of Reclamation
USGS	United States Geological Survey
WQCP	Water Quality Control Plan
WWTF	Wastewater Treatment Facility

EXECUTIVE SUMMARY

Study Area Characteristics

The community of Borrego Springs is completely surrounded by the Anza-Borrego Desert State Park and plays host to hundreds of thousands of park visitors throughout the year. The community's residential population ranges from less than 3,000 in summer months to over 8,000 in the height of the winter season. The northern portion of the community is primarily dedicated to agricultural production. Approximately 4,000 acres are actively involved in the production of citrus and nursery stock, such as date palms.

The Borrego Water District (District or BWD) provides water and wastewater services to the rural unincorporated community of Borrego Springs. The community's sole source of water supply is the Borrego Springs Subbasin of the Borrego Valley Groundwater Basin (BVGB), which has been determined by the California Department of Water Resources to be in a "critical overdraft" status. The District is in the process of developing a Groundwater Sustainability Plan (GSP) under provisions outlined in the Sustainable Groundwater Management Act of 2014. In accordance with this new law, the BVGB will be required to reduce groundwater extractions by approximately 70% to achieve sustainability. It is anticipated that reductions will come from a variety of conservation measures, including the potential for water reuse.

Water Supply Characteristics and Facilities

Borrego Water District is the only retail water purveyor to Borrego Springs. Water supply for BWD is from groundwater pumping of the Borrego Springs Subbasin.

The District is currently comprised of five (5) Improvement Districts (IDs). The distribution system consists of four pressure zones.

Wastewater Characteristics and Facilities

The District has operated the Rams Hill Wastewater Treatment Facility (WWTF) since the early 1980's. This plant, originally designed to treat effluent to tertiary levels with a capacity of 0.25 million gallons per day (MGD), has never had sufficient flow to justify the increased expense of engaging the tertiary portion of the original plant design. Instead, the average daily flow of approximately 0.07 MGD has been treated to secondary standards and the resulting effluent is presently discharged into two adjacent evaporation-percolation ponds. Only 20 percent of BWD's customers are connected to the sewer collection system. The remainder utilize septic systems.

Recycled Water Market

Borrego Springs is a "snow bird" community, meaning that most residents spend the winter months in the town (typically November through March) but leave before temperatures rise in the

summer. The District estimates that the community's population ranges from less than 3,000 in summer months to over 8,000 in the height of the winter season.

The majority of irrigation within the District is for agriculture and golf course turf irrigation. As the agricultural fields are located a significant distance from a potential recycled water source, they were excluded from consideration due to the prohibitive cost to construct a dedicated recycled water pipeline when large alternative recycled water users are located significantly closer to a recycled water source. Golf courses were determined as having the most significant and viable recycled water use potential for the area. There are six golf courses within District boundaries and each were investigated to potentially receive recycled water.

Two potential users were identified as part of the market assessment—the Rams Hill Golf Club (Rams Hill GC) and the De Anza Country Club and Golf Course (De Anza GC). Both potential users would use recycled water for irrigation of golf course turf. Both currently use groundwater for turf irrigation but could replace a portion of their groundwater usage with recycled water if and when available. The estimated annual and peak recycled water use for the golf courses would be the total amount produced at the treatment plants (based on the alternatives outlined below), since the recycled water produced will only supply a small portion of their total water needs.

On-site irrigation ponds exist on both golf courses; it is assumed groundwater and recycled water would both discharge into the lake via dedicated pipelines with air gaps prior to distribution into the irrigation systems. Given recycled water would blend with groundwater in the on-site irrigation ponds, which are lined, water quality issues (total dissolved solids [TDS] and boron) are not anticipated to be a concern for either golf course.

Alternative Analysis and Selected Project

Three alternatives were evaluated to produce and distribute recycled water.

- Alternative 1 includes expanding the District's sewer collection system and upgrading their existing tertiary facilities at the existing Rams Hill WWTF to produce recycled water for delivery to Rams Hill GC.
- Alternative 2 includes connecting residents at the De Anza Country Club, currently on septic, to a sewer collection system and conveying water to a new tertiary package plant for recycled water production and delivery the recycled water to the De Anza GC. Additionally, Rams Hill WWTF would be upgraded to produce tertiary recycled water with no additional expansion of the existing sewer collection system then the recycled water would be delivered via existing recycled water pipeline to Rams Hill GC.
- Alternative 3 includes upgrading the existing tertiary facilities at the existing Rams Hill WWTF to produce recycled water for delivery to Rams Hill GC. No collection system expansion was included with this alternative.

Descriptions of alternatives, by sewage collection, treatment and recycled water distribution, are provided below.

Alternative 1: Expanded Collection System and Tertiary Upgrades at Rams Hill WWTF

This alternative was based on the total volume of flow that could cost effectively be collected and transported to the Rams Hill WWTF. Developments currently on septic tanks were evaluated for potential connection to the sewer collection system. De Anza Country Club and the one development south of it (located north of Granada Drive) were determined to be potential options based on being denser concentrations of septic properties and their proximity to existing collection system facilities. Total annual average recycled water production was estimated to be 156 AFY.

Collection System: This alternative includes the expansion of the sewage collection system north into these areas by 71,000 LF of pipe. Due to the increased sanitary sewer flows to the Rams Hill WWTF, a sewage lift station expansion as well as a forcemain upsizing would also be required.

Treatment: Rams Hill WWTF is a 0.25 MGD tertiary treatment plant built in the early 1980s. The tertiary and disinfection facilities of the Rams Hill WWTF have never been operated or maintained and the system is not capable of producing recycled water. The anticipated improvements required for producing Title 22 recycled water at the Rams Hill WWTF include:

- Installation of construction of coagulant dosing system and mixer
- Construction of flocculation chamber
- Installation of new above grade filter system skids (e.g. disk filters) and piping
- Construction of additional pass in chlorine contact chamber and piping modifications.
- Installation of new sodium hypochlorite storage tanks and dosing equipment.
- Installation of new recycled water pumps.
- Installation of new electrical and instrumentation system for tertiary and disinfection facilities.

Recycled Water Distribution: When the Rams Hill WWTF was constructed in the early 1980s, the distribution line to convey recycled water to the Rams Hill GC was also constructed. Non-potable wells currently pump into this pipeline and discharge to the Rams Hills GC on-site irrigation ponds with a total change in elevation of 700 feet. For the purposes of this recycled water feasibility analysis, it was assumed the recycled water distribution pipeline would not need any improvements.

Alternative 2: Decentralized Treatment at De Anza Country Club and Golf Course and Upgraded Rams Hill WWTF

Alternative 2 considered a decentralized option to avoid the cost of constructing long lengths of gravity main (approximately 30,000 LF) to connect disparate areas to the centralized collection system. De Anza Country Club is the only septic golf course community in the area that currently has a considerable amount of existing homes.

Collection System: Approximately 300 existing homes in the De Anza Country Club could be connected to a local collection system to carry sewage flows to a small tertiary package treatment plant that would produce Title 22 recycled water for De Anza GC irrigation. One sewer lift station

has been determined to be necessary to convey flows to the tertiary package plant due to topography of the site.

Treatment: Production of recycled water would occur in two locations—at a small tertiary package treatment plant in the De Anza Country Club and from the upgraded facilities at the existing Rams Hill WWTF without any additional collection system flow to Rams Hills WWTF.

Based on the existing number of homes and number of existing empty lots that can potentially be developed at De Anza Country Club, a total high season (winter) sewage flow of 49,250 gallons per day (gpd) could be conveyed to a small tertiary package treatment plant (membrane bioreactor) for production of recycled water to offset existing groundwater pumping for irrigation of the De Anza GC.

Sizing of the package plant would be based on the high season, or maximum month, flow rate. The resulting total average annual recycled water production from both water recycling plants was estimated at 145 AFY (30 AFY from De Anza package plant and 115 AFY from Rams Hill WWTF).

Recycled Water Distribution: A short (less than 1,000 LF) recycled water distribution line would be required to convey recycled water to an existing on-site irrigation ponds within the De Anza GC. The recycled water would be discharged into the on-site irrigation pond through an air gap. As with Alternative 1, no improvements are assumed necessary with the existing Rams Hill WWTF tertiary effluent pipeline feeding Rams Hill GC.

Alternative 3: Tertiary Upgrades at Rams Hill WWTF Only

This alternative was based on minimizing the cost to produce tertiary recycled water at Rams Hill WWTF. Costs increase substantially when collection system expansion is proposed, as in Alternative 1. This alternative looked at the cost to produce recycled water with the existing sewer collection system infrastructure.

Collection System: No expansion of the District's existing sewer collection system is proposed for this alternative. Sewer flow to the Rams Hill WWTP would increase predominantly with the expanded development of Rams Hill Golf Club.

Assuming buildout conditions of the new developments converted from septic to sewer as well as the Rams Hill County Club community, a total estimated ultimate plant average flow rate of 174,000 gpd and a high season "maximum month" flow rate of 235,000 gpd were estimated, as presented in the table below. A sewer generation factor of 125 gpd/EDU was assumed for all developments based on existing WWTF flow data. (Note that actual water deliveries at the De Anza Country Club development may actually be lower than the District average.) A sewer generation factor of 60 gpd/room was assumed for the proposed 350-room Rams Hill hotel.

Treatment: Rams Hill WWTF is a 0.25 MGD tertiary treatment plant built in the early 1980s. The current plant annual average flow rate is 74,000 gpd. The tertiary and disinfection facilities of the Rams Hill WWTF have never been operated or maintained and the system is not capable of

producing recycled water. The existing sand filters do not meet current Title 22 requirements, there are no flocculation facilities, the chlorine contact basin is not anticipated to have sufficient modal contact time, and the equipment has not been maintained and requires replacement. The upgraded tertiary facilities would be sized and constructed to handle the high season, or maximum month, flow rate. The annual average Title 22 recycled water production for this alternative is estimated at 114 AFY at buildout of Rams Hill Golf Club.

The anticipated improvements required for producing recycled water at the Rams Hill WWTF include:

- Installation of construction of coagulant dosing system and mixer
- Construction of flocculation chamber
- Installation of new above grade filter system skids (e.g. disk filters) and piping
- Construction of additional pass in chlorine contact chamber and piping modifications.
- Installation of new sodium hypochlorite storage tanks and dosing equipment.
- Installation of new recycled water pumps.
- Installation of new electrical and instrumentation system for tertiary and disinfection facilities.

Recycled Water Distribution: When the Rams Hill WWTF was constructed in the early 1980s, the distribution line to convey recycled water to the Rams Hill GC was also constructed. Non-potable wells currently pump into this pipeline and discharge to the Rams Hills GC on-site irrigation ponds with a total change in elevation of 700 feet via an air gap. For the purposes of this recycled water feasibility analysis, it was assumed the recycled water distribution pipeline would not need any improvements.

Economic Analysis and Selected Project

The cost per acre-foot (AF) of recycled water produced for the four alternatives analyzed is summarized in **Table 1**.

Table 1. Estimated Cost per Acre-Foot of Recycled Water Produced

Alternative	Alternative 1	Alternative 2	Alternative 3 (Existing Flows)	Alternative 3 (Buildout Flows)
Cost/AF	$8,500	$6,100	$2,600	$2,200

Economic Factors: Costs for water vary based on their source (e.g. pumped groundwater, imported State Water Project water, desalination, Title 22 recycled water). For this analysis, costs were compared against Title 22 recycled water production from the City of San Diego's 2012 Recycled Water Study. The City of San Diego's study estimated gross costs for recycled water ranging from $1,700 to $1,900 per AF, with an average cost of $1,800 per AF. Taking into account various savings (e.g. avoided water facilities improvements), net costs for City of San Diego were

reduced to between $600 and $1,300 per AF, with an average net cost of $1,020. These net costs were comparable to the cost of imported water, which is on the order of $1,300 per AF.

The development of recycled water in BWD would not offset water facilities improvements, so the net costs of producing recycled water are essentially the gross costs presented in Section 7.7.1. Comparing estimated costs from this analysis to those estimated by the City of San Diego, results in costs for recycled water production in BWD being between 4.0 and 4.9 times the net cost for Alternatives 1 and 2. For Alternative 3, the cost of producing water today, of $2,600/AF is approximately 2.5 times the net cost of City of San Diego recycled water or twice the cost of imported water. If the District were to wait to produce recycled water until the Rams Hill GC was fully developed, would reduce the multiplier to 2.1 times the City of San Diego recycled water cost, or 1.6 times the cost of imported water.

Non-Economic Factors: The greatest possible supplemental volume of recycled water produced in this analysis was 156 AF for Alternative 1. This equates to an 9% reduction in overall District water demand (based on the 2016 District groundwater production value of 1,645 AF) and an approximate 1% reduction in overall groundwater basin reduction required (based on the estimated 70 percent reduction required, or 13,400 AFY). Independent of cost, due to the proportionally low sources of wastewater available for treatment and production of recycled water, producing recycled water would only result in very small fraction of reduction in overall groundwater usage.

As a result of these economic and non-economic factors, it is concluded that the production of recycled water in Borrego Water District is not feasible at this time and the No Project Alternative is recommended.

Water Conservation/Reduction Analysis

While water conservation/reduction at agricultural fields in the area could potentially have a very significant impact on groundwater use in the basin, e.g. through improved irrigation techniques, fallowing of land or change of agricultural product to less water-intensive option, these alternatives were not considered for this recycled water feasibility analysis.

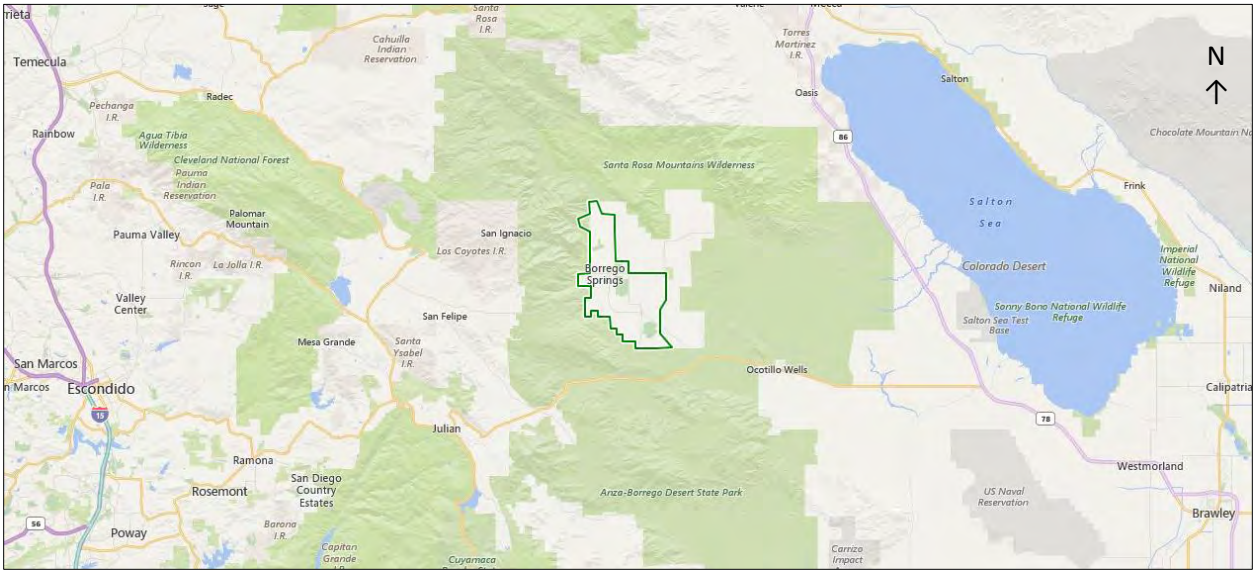
Recycled water production offsets groundwater pumping by up to 156 AFY (Alternative 1), 145 AFY (Alternative 2) or 114 AFY (Alternative 3 Future). However, this treated wastewater was previously sent as treated secondary effluent to evaporation-percolation ponds (from existing collection system flow) or to septic tanks. It is estimated that 80% of secondary effluent sent to evaporation-percolation ponds is evaporated; therefore, if used for recycled water, more water would be put to beneficial use and decrease groundwater pumping.

FACILITIES PLAN / PROJECT REPORT

1.0 MAPS AND DIAGRAMS

1.1 Vicinity Map

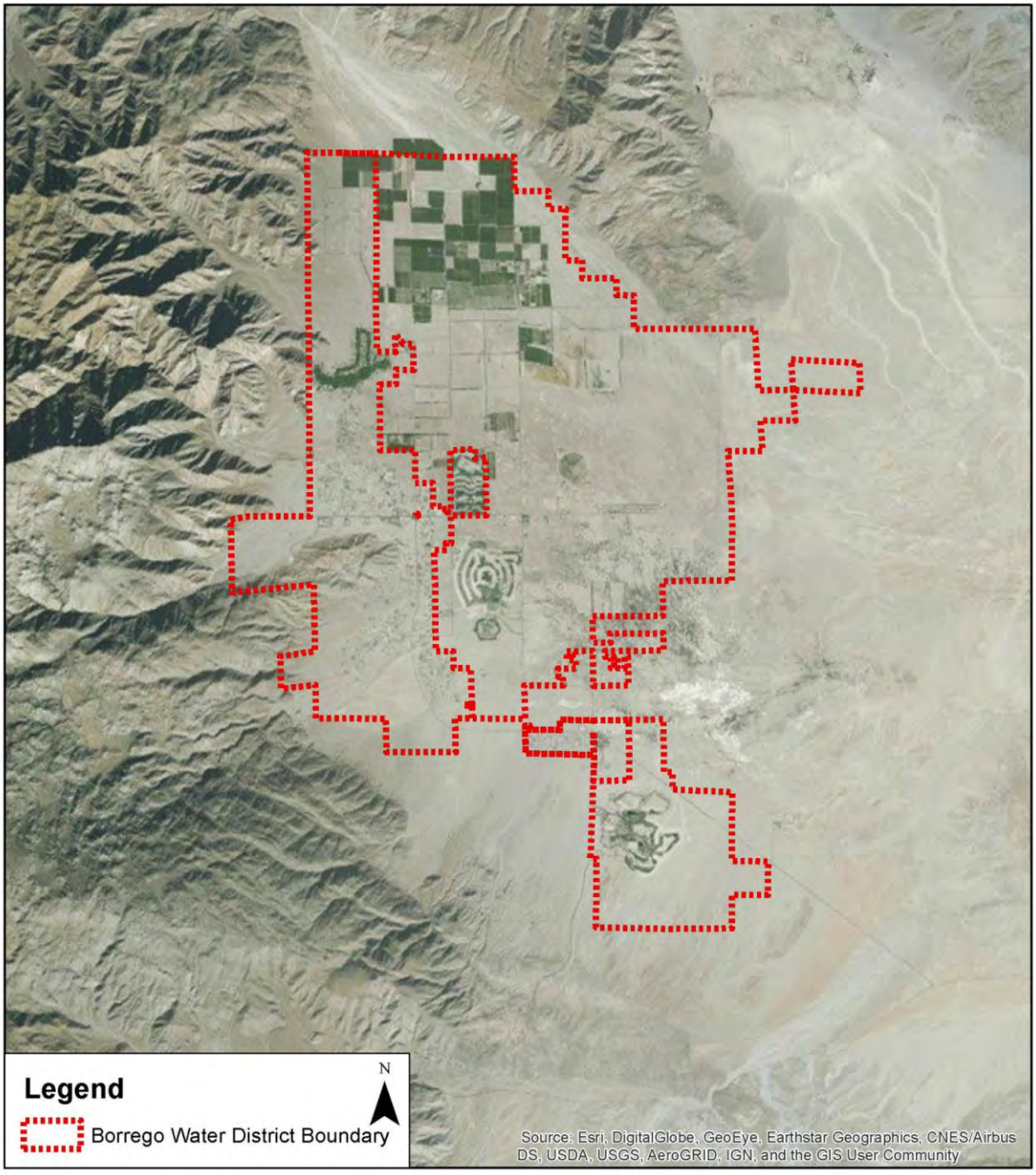
Figure 1. Vicinity Map



1.2 Detailed Map of Study Area Boundaries

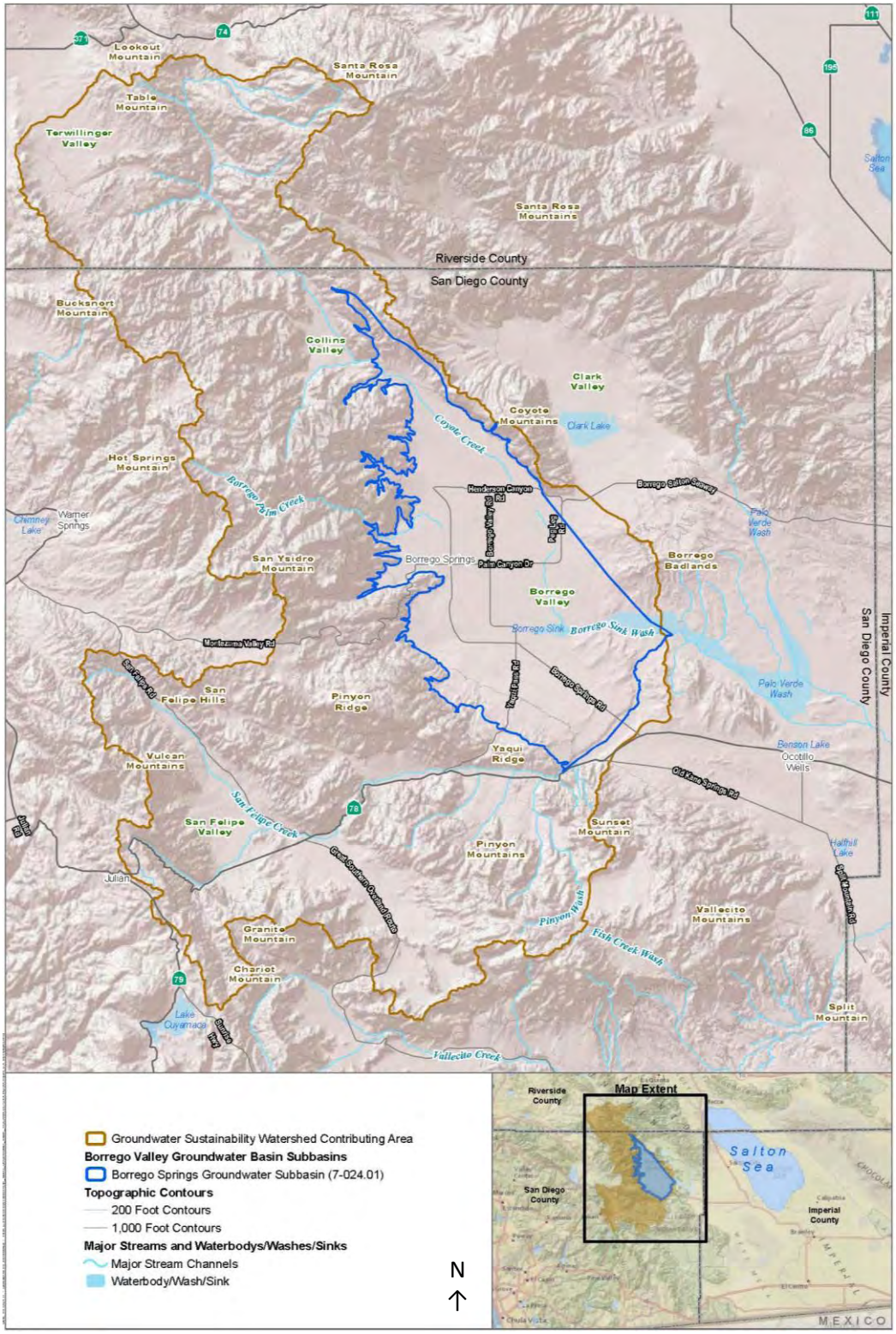
The Study Area is the Borrego Water District (District or BWD); thus, the BWD boundary is the Study Area boundary. The BWD is within the County of San Diego.

Figure 2. Detailed Map of Study Area Boundaries



1.3 Topographic Map

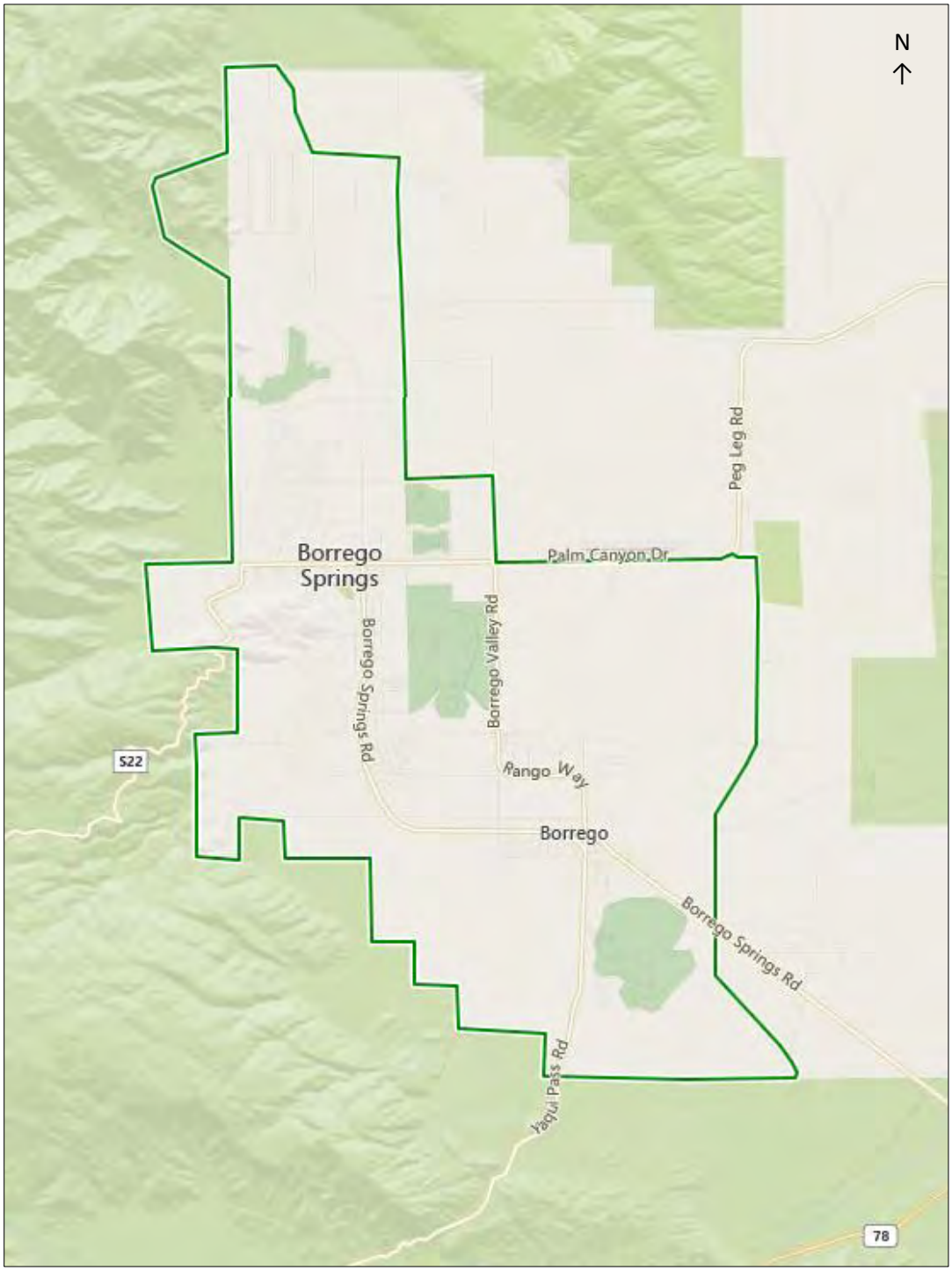
Figure 3. Topographic Map



1.4 City Boundaries

Borrego Springs is an unincorporated community in County of San Diego.

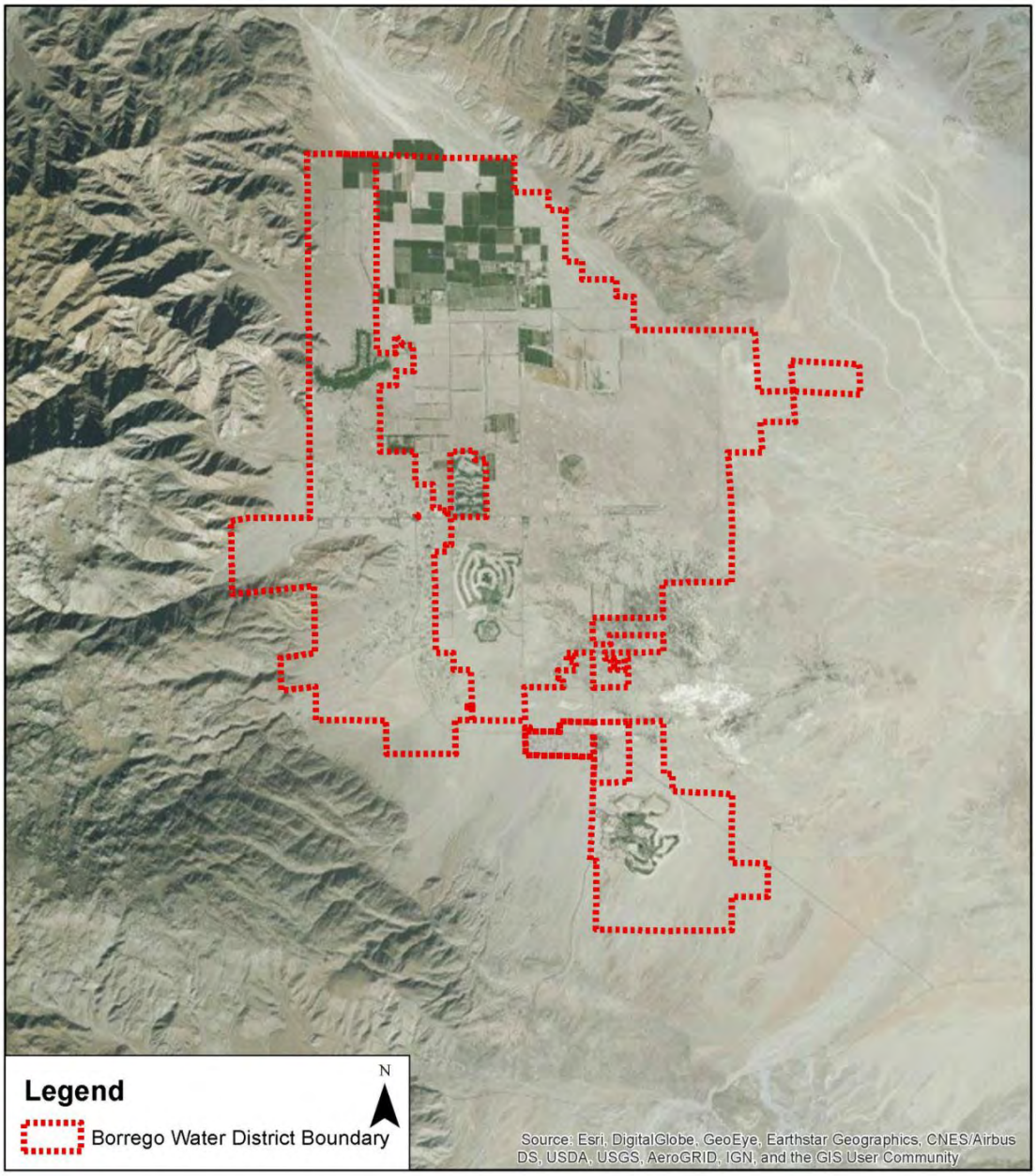
Figure 4. Unincorporated Community Boundary for Borrego Springs



1.5 Wholesale and Retail Water Supply Entity Boundaries within Study Area and Adjacent to Study Area

BWD is the retail water supply entity within the Study Area. There are no wholesale entities within the Study Area.

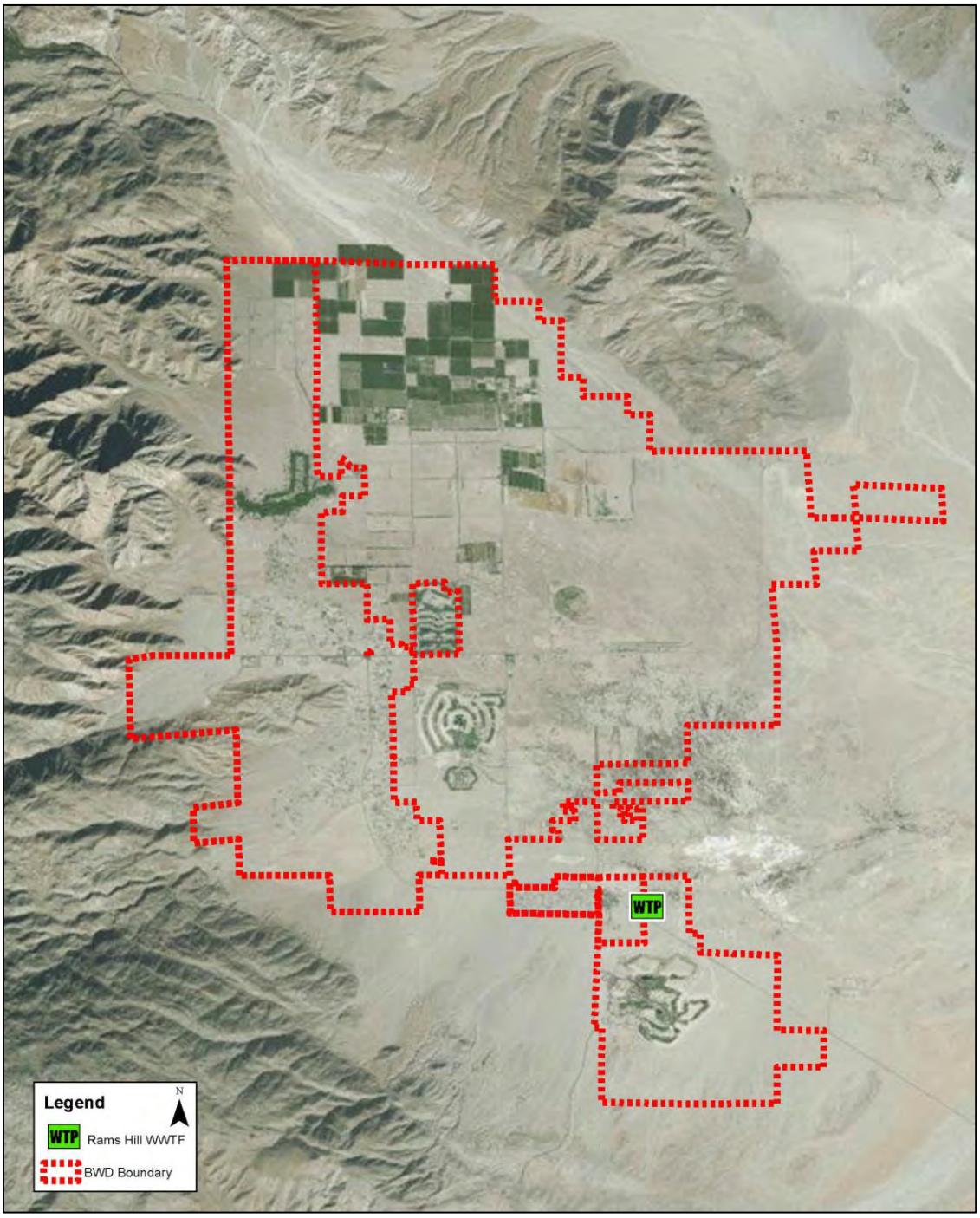
Figure 5. Wholesale and Retail Water Supply Entity Boundaries



1.6 Wastewater Agency Boundaries within and Adjacent to Study Area

BWD is the wastewater agency within the Study Area.

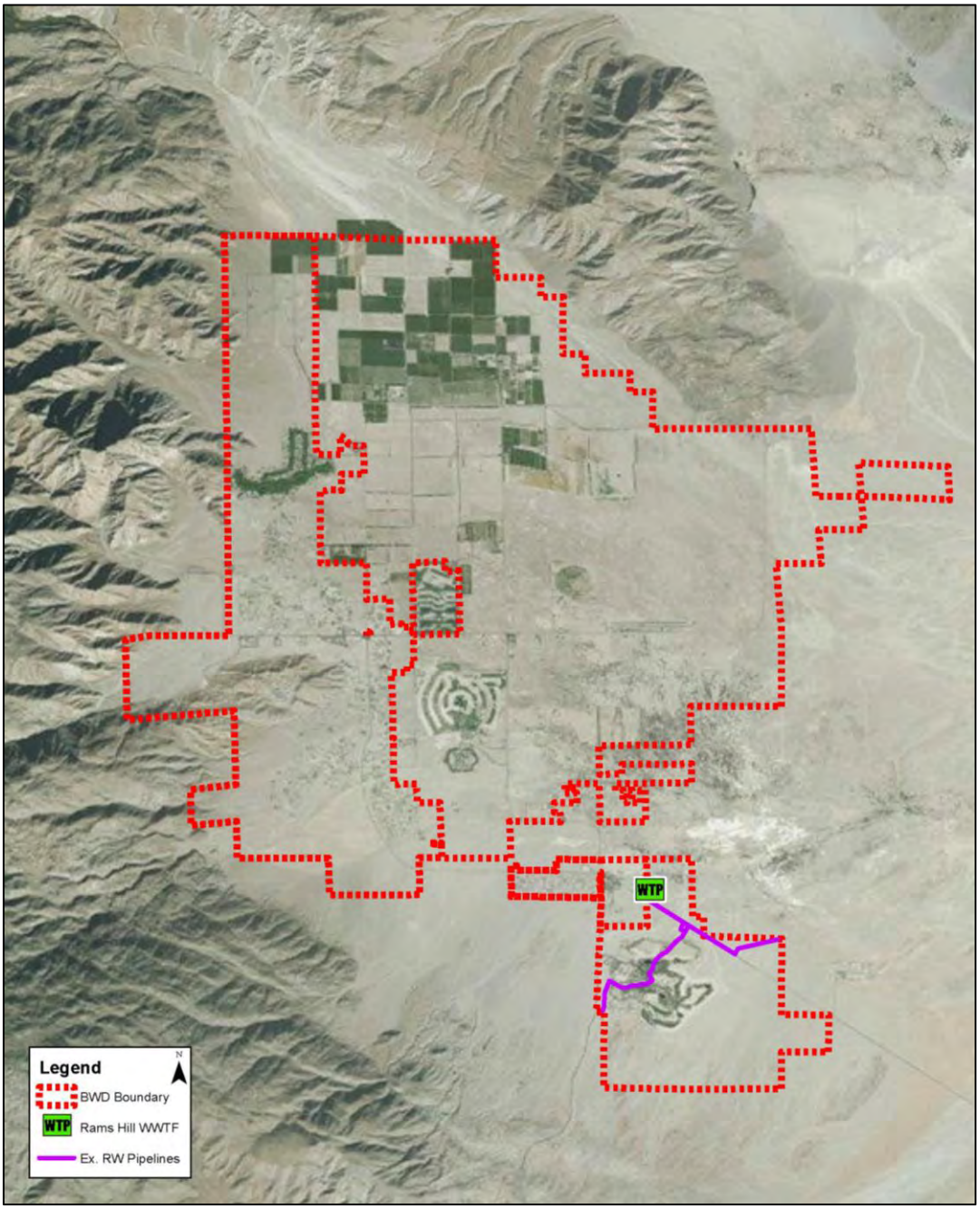
Figure 6. Borrego Water District Boundary



1.7 Existing Recycled Water Distribution Pipelines, Storage, and Customers

No recycled water service exists within the District boundaries, though a recycled water distribution pipeline was installed with the construction of Rams Hill WWTF, which currently supplies non-potable well water to the Rams Hill GC for irrigation.

Figure 7. Borrego Water District Recycled Water Facilities



1.8 Ground Water Basin Boundaries, Major Streams, Streams Receiving Waste Discharges

Figure 8. Groundwater Basin Boundaries and Major Streams – Map 1

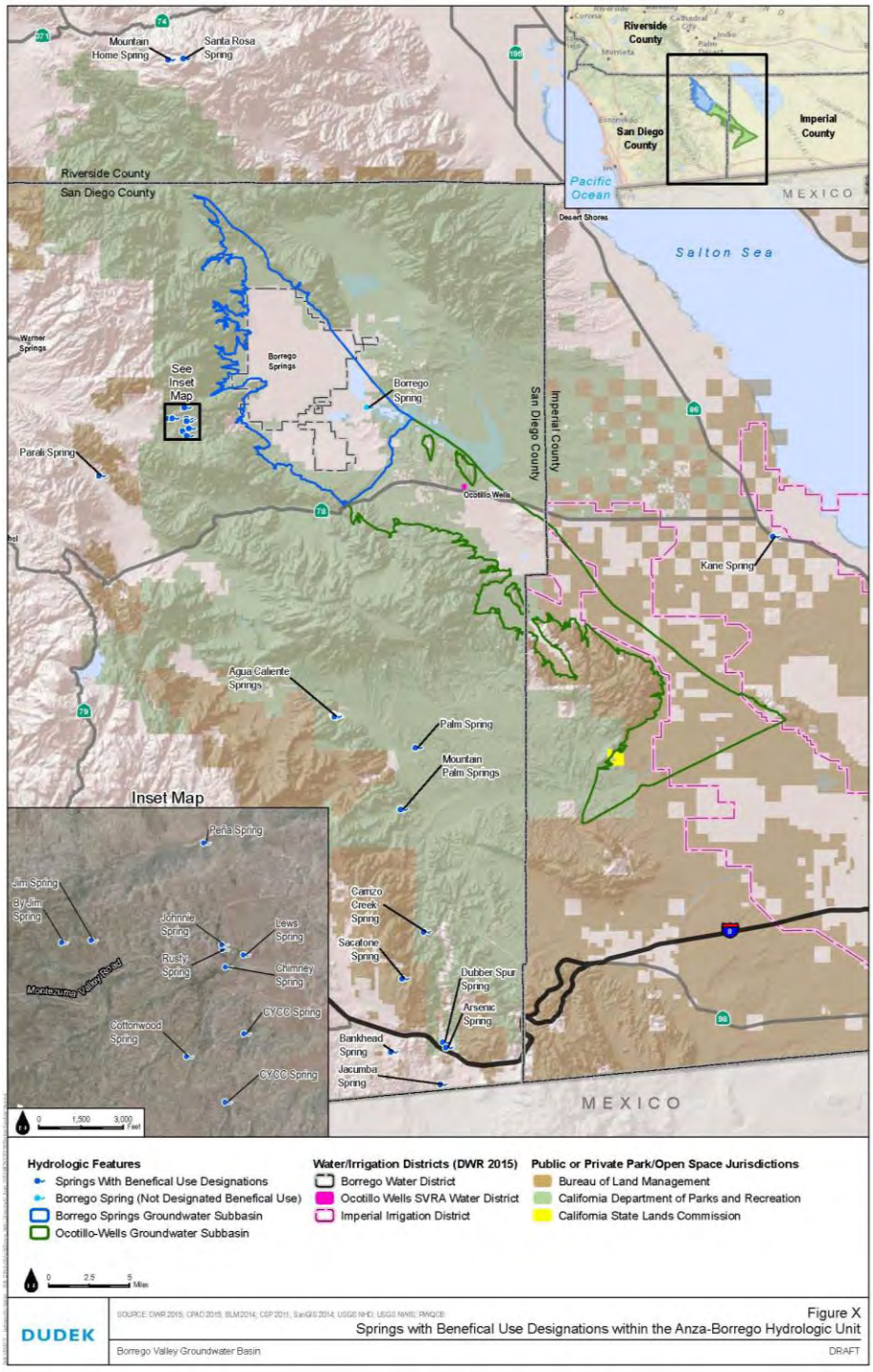
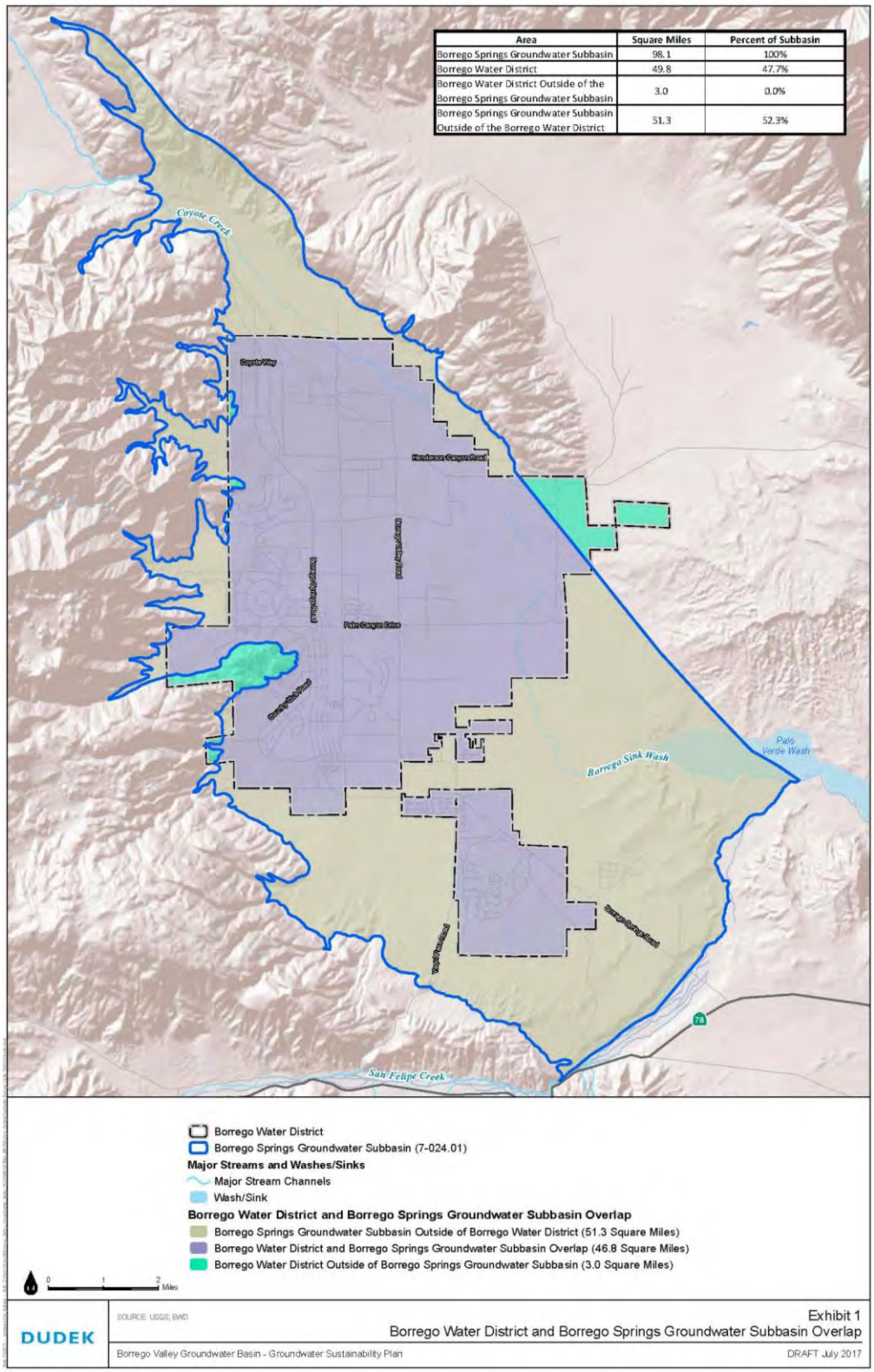


Figure 9. Groundwater Basin Boundaries and Major Streams – Map 2



1.9 Present and Projected Land Use

Figure 10. Current Land Use

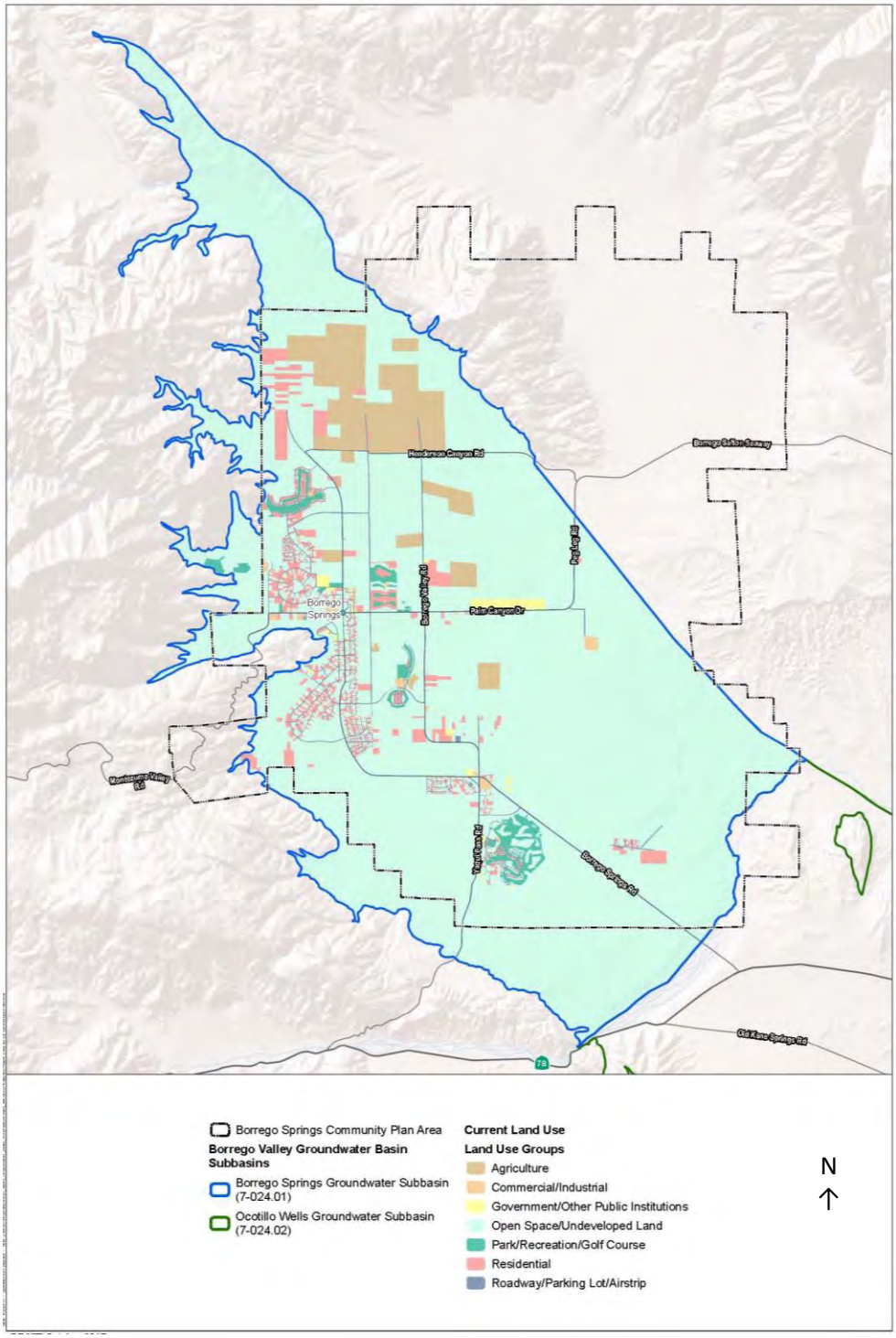
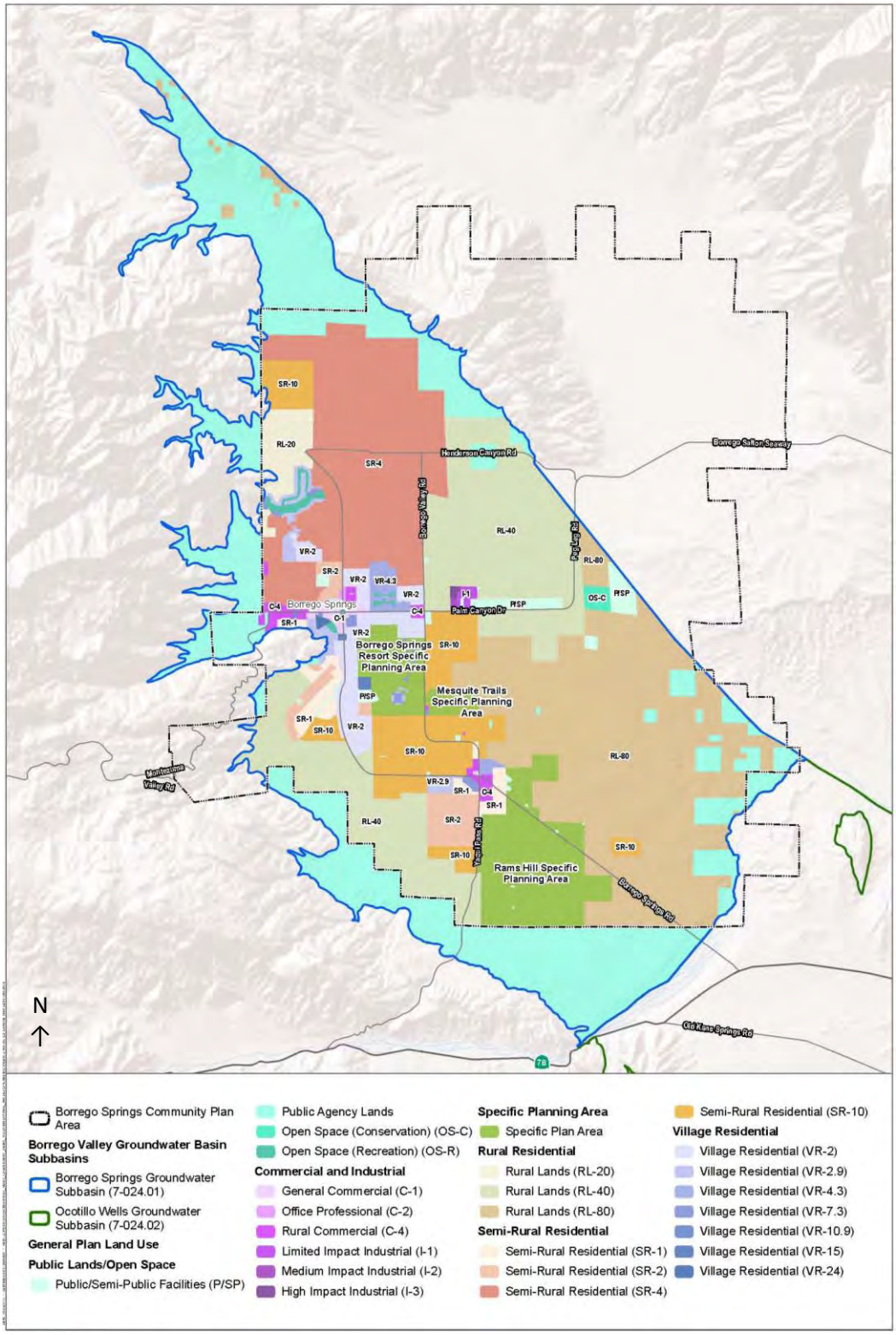


Figure 11. General Plan Land Use

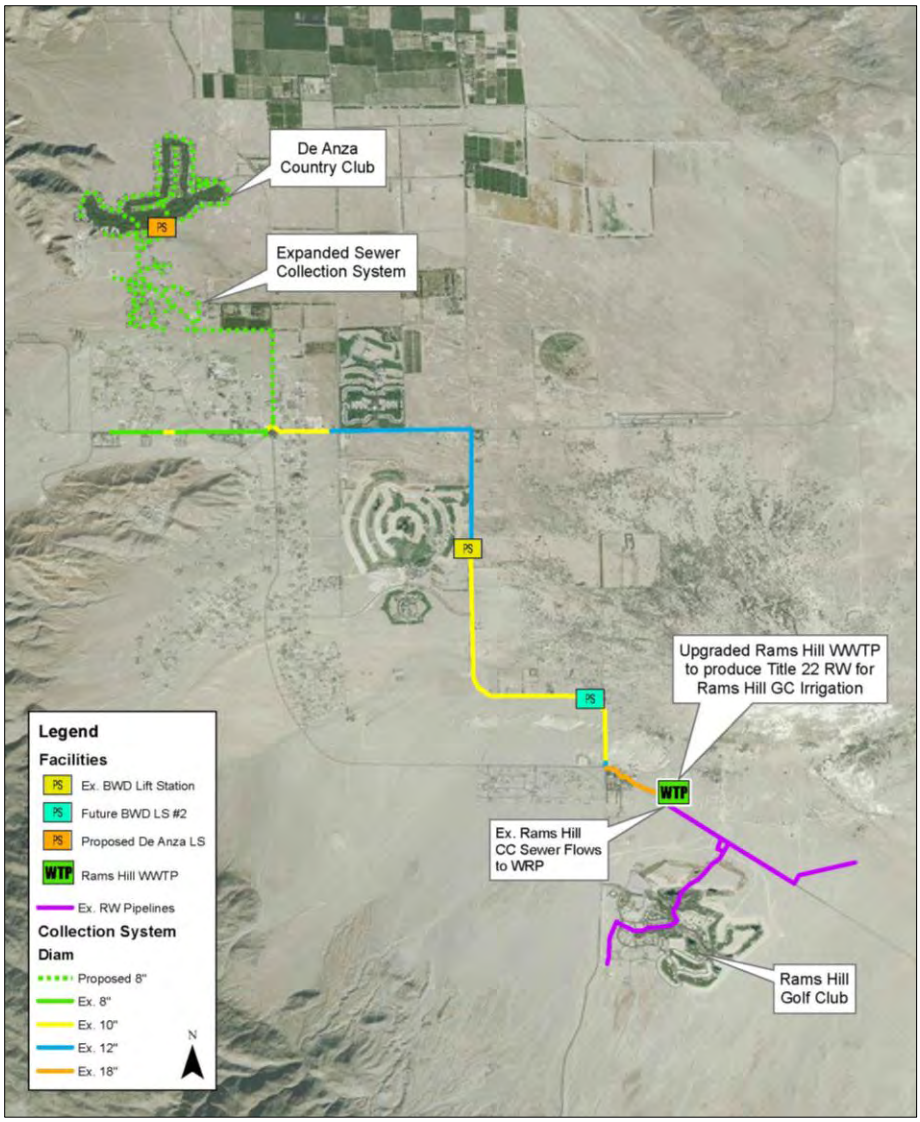


1.10 Each Recycled Water Facilities Alternative (including Recommended Project), showing locations of potential customers and approximate pipeline routes

Alternative 1: Expanded Collection System and Tertiary Upgrades at Rams Hill WWTF

Alternative 1 includes expanding the District's sewer collection system and upgrading their existing tertiary process at Rams Hill WWTF, to produce Title 22 recycled water for delivery to Rams Hill GC. Refer to Section 7.2.1 for further description of this alternative.

Figure 12. Alternative 1 Facilities Map



Alternative 2: Decentralized Treatment at De Anza Country Club and Golf Course and Upgraded Rams Hill WWTF

Alternative 2 includes connecting residents at the De Anza Country Club, currently on septic, to a new sewer collection system and conveying water to a new tertiary package treatment plant for recycled water production and recycled water delivery to the De Anza GC. Additionally, Rams Hill WWTF would be upgraded to produce tertiary recycled water and recycled water would be delivered to Rams Hill GC with no additional expansion of the existing sewer collection system. Refer to Section 7.2.1 for further description of this alternative.

Figure 13. Alternative 2 Facilities Map

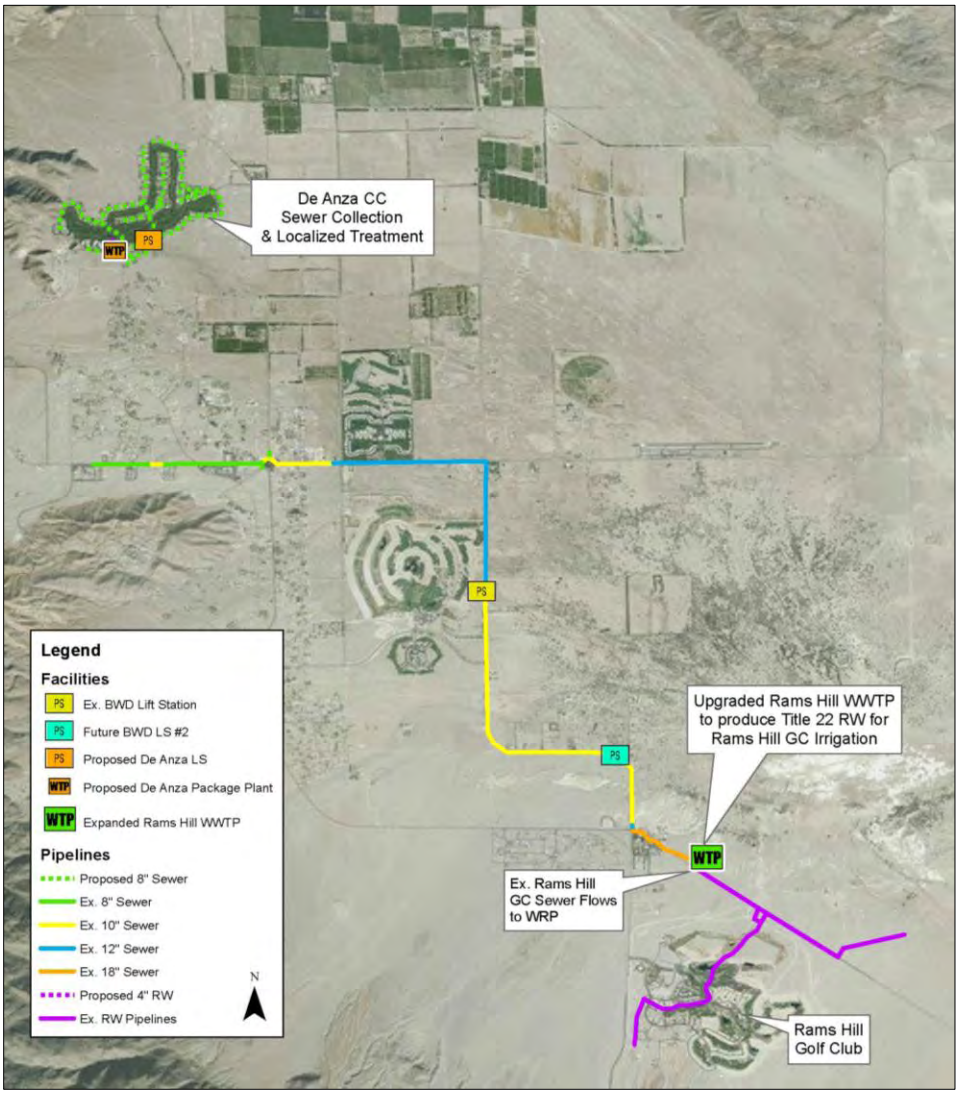


Figure 14. Alternative 2 Facilities Map – De Anza Facilities Only

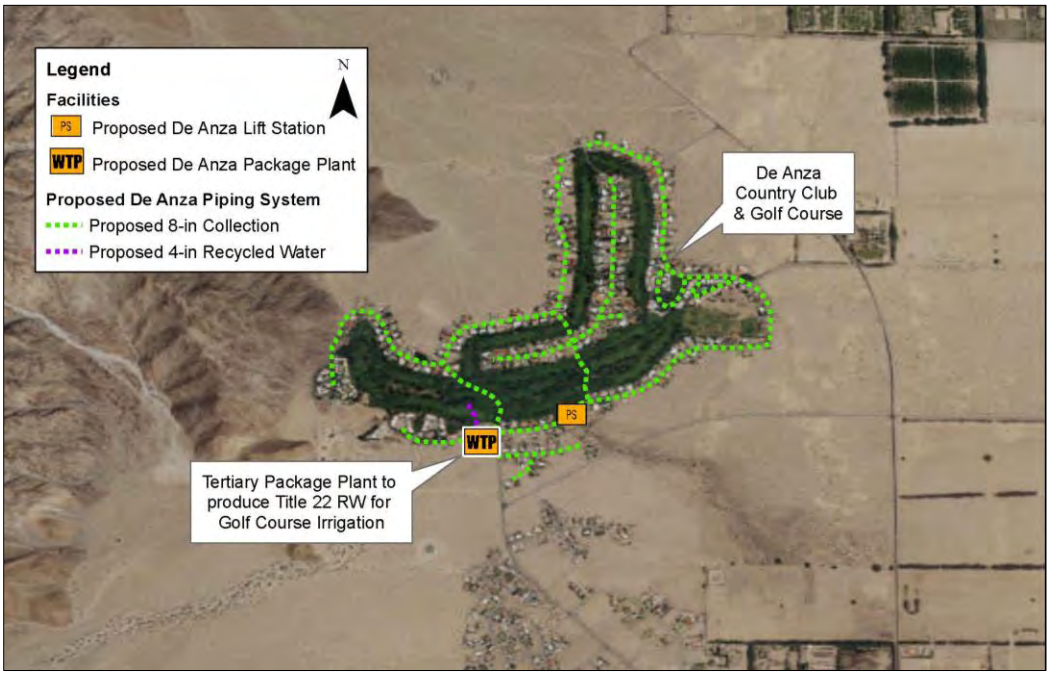
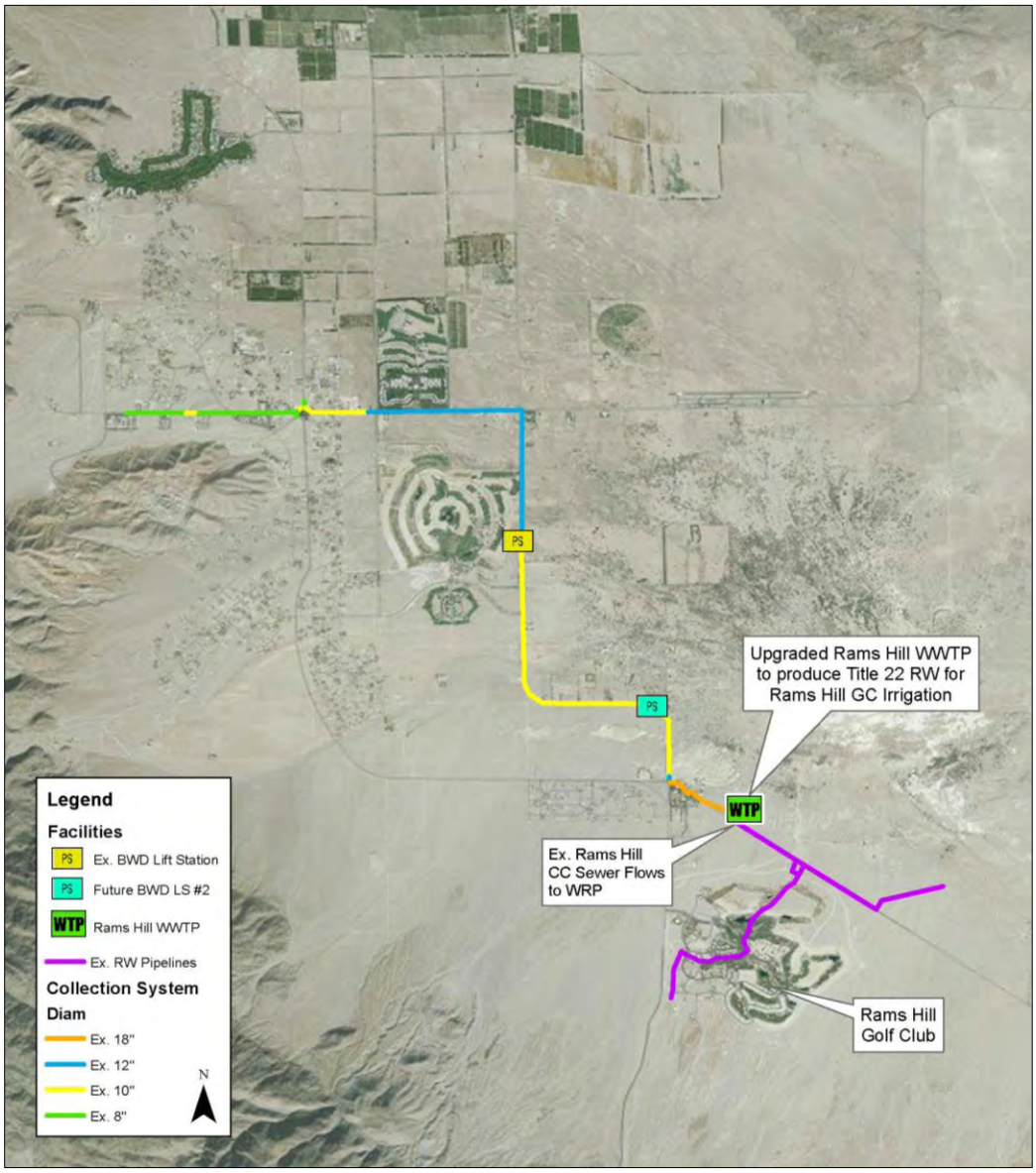


Figure 15. Alternative 3 Facilities Map



1.11 Wastewater Treatment Schematic – Existing and Proposed

Refer to the process schematic in **Appendix A**.

2.0 STUDY AREA CHARACTERISTICS

The community of Borrego Springs is surrounded by the Anza-Borrego Desert State Park and plays host to hundreds of thousands of park visitors throughout the year. The community's residential population ranges from less than 3,000 in summer months to over 8,000 in the height of the winter season. The northern portion of the community is primarily dedicated to agricultural production. Approximately 4,000 acres are actively involved in the production of citrus and nursery stock, such as date palms.

The Borrego Water District (BWD or District) provides water and wastewater services to the rural unincorporated community of Borrego Springs. The community is supplied domestic water service from the Borrego Springs Subbasin of the Borrego Valley Groundwater Basin (BVGB) which has been determined by the California Department of Water Resources to be in a "critical overdraft" status. The District is in the process of developing a Groundwater Sustainability Plan (GSP) under provisions outlined in the Sustainable Groundwater Management Act of 2014. In accordance with this new law, the BVGB will be required to reduce groundwater extractions by approximately 70% to achieve sustainability. It is anticipated that these reductions will come from a variety of conservation measures, including water reuse.

2.1 Hydrologic Features

The Study Area includes the BVGB, the Borrego Springs Groundwater Subbasin, the Borrego Sink Wash and Coyote Creek, as shown in the maps in Section 1.8 above.

2.2 Ground Water Basins

The Borrego Springs Groundwater Subbasin is the groundwater basin supplying potable and non-potable water for the Study Area.

2.2.1 Natural and Artificial Recharge:

According to the 2009 Integrated Water Resources Management Plan, the groundwater basin is recharged by surface runoff from rainfall in the watershed area to the north and west that enters and percolates through the valley floor through canyons via intermittent streams. This runoff is the main water supply to the groundwater basin. The annual rainfall in the mountains is approximately16 inches. The valley floor receives three to six inches of rainfall and is generally lost to evaporation.

According to the Scientific Investigations Report 2015-5150, *Hydrogeology, Hydrologic Effects of Development, and Simulation of Groundwater Flow in the Borrego Valley, San Diego, County California*, estimates groundwater recharges averages from 3,300 to 11,000 acre-feet per year (AFY).

2.2.2 Losses by Evapotranspiration:

According to the Scientific Investigations Report 2015-5150, *Hydrogeology, Hydrologic Effects of Development, and Simulation of Groundwater Flow in the Borrego Valley, San Diego, County California*, the estimated loss by evapotranspiration in year 2000 was 132 AFY.

2.2.3 Quantities Extracted by All Users, Inflow and Outflow of Basin and Safe Yield or Overdraft:

The Borrego Springs Subbasin of the BVGB has been determined to be in "overdraft". Recent studies estimate that water users within the Borrego Springs Subbasin currently withdraw approximately 19,000 AFY and that the *sustainable yield* of the Borrego Springs Subbasin is approximately 5,700 AFY based on averaging 66 years of historical annual recharge data.[1] The current estimated overdraft is approximately 13,300 AFY. The withdrawal value of 19,000 AFY is the assumed baseline on which the state-required Groundwater Sustainability Plan (GSP) is established, and the *sustainable yield* value of 5,700 AFY is the maximum water use target at the end of the prescribed 20-year water reduction period.[2]

2.3 Water Quality – Ground Water and Surface Water

2016 water quality data for active groundwater wells is presented in **Table 2**. Surface water quality data is unavailable.

[1] The overdraft of the BVGB was established by the U.S. Geological Survey (USGS) work conducted in 1982 for San Diego County. Since 1982, the overdraft has more than doubled. See http://www.borregowd.org/uploads/BWD_Report_USGS_1982.pdf. See also, USGS Scientific Investigation Report 2015-5150, *Hydrogeology, Hydrologic Effects of Development, and Simulation of Groundwater Flow in the Borrego Valley, San Diego County, California*, available at https://pubs.er.usgs.gov/publication/sir20155150.

[2] The 20-year water reduction period is promulgated in California Water Code Section 10727.2(b)(1).

Table 2. Select Water Quality Data for Active Wells

Well	Status	TDS (mg/L)	Turbidity (NTU)	Arsenic (ug/L)	Total Chromium (ug/L)	Nitrate Nitrogen (mg/L)
Drinking Water MCL		***N/A***	***5.0***	***10***	***50***	***10***
ID1-1[1]	Active	1,400	0.42	0	0	0.96
ID1-2[1]	Active	270	0.33	9	0	3.1
ID1-8	Active	490	0.3	5.3	1.5	2.0
ID1-10	Active	340	0.44	4	1.1	1.4
ID1-12	Active	300	0.1	3.1	0	0.38
ID1-16	Active	300	1.4	3.2	0	0.95
ID4-4	Active	310	0.11	2.9	0	0.56
ID4-11	Active	320	0	0	2.0	0.66
ID4-18	Active	610	0.22	0	1.5	0.5
ID5-5	Active	350	0.14	0	0	0.44
RH-3[1]	Active	290	0.86	15	0	1.3
RH-4[1]	Active	360	0.15	18	0	0.43
RH-5[1]	Active	510	0.17	16	0	3.8
RH-6[1]	Active	300	0.26	15	0	3.3
Jack Crosby[1]	Active	450	0.1	13	0	0.32

Notes:
[1] Non-potable well owned by Rams Hill GC

2.4 Land Use and Land Use Trends

Figures 10 and 11 present the current and proposed General Plan land use information for the area. Tables 3 and 4 summarize land ownership and land use percentages for the Borrego Springs Subbasin.

Table 3. Summary of Land Ownership in the Borrego Springs Subbasin

Ownership Type	Agency	Description	Acres / % of Total
Private	Private	Urban/developed land, rural residential, agriculture, and open space under San Diego County jurisdiction	42,022 / 67%
State	California Department of Parks and Recreation	Anza-Borrego Desert State Park	17,072 / 27%
Non-Profit	Anza-Borrego Foundation	The foundation purchases land from willing sellers for addition to Anza-Borrego Desert State Park	3,190 / 5%
County	San Diego, County of	Old Springs Road Open Space Preserve, Borrego Springs Park Site Dedication	335 / <1%
Special District	Borrego Water District	Borrego Water District	158 / < 1%
		Grand Total	**62,776**

Source: California Protected Areas Database, 2016 (http://www.calands.org/)

Table 4. Land Uses as Percent of Borrego Springs Subbasin By Year

Land Use Category	1990	1995	2000	2008	2015	1990 - 2015 Change	
						Change in Acreage	Percent Increase/ Decrease
Open Space/Undeveloped Land	91.0%	88.7%	88.7%	87.7%	87.0%	-2,632	-4.6%
Agriculture	3.7%	5.8%	5.7%	5.7%	5.5%	1,131	48.3%
Residential	1.8%	2.1%	2.2%	2.9%	3.7%	1,220	106.1%
Roadway/Parking Lot/Airstrip	1.7%	1.7%	1.7%	1.7%	1.7%	-1	-0.1%
Park/Recreation/Golf Course	0.9%	0.9%	1.0%	1.2%	1.2%	270	47.6%
Government/Other Public Institutions	0.5%	0.5%	0.3%	0.5%	0.5%	40	13.2%
Commercial/Industrial	0.4%	0.4%	0.4%	0.3%	0.3%	-27	-11.7%

Source: SanGIS 2017

2.5 Population Projections of Study Area

According to the Borrego Springs Community Plan within the 2011 County of San Diego General Plan, a maximum full-time, permanent population projection of 8,000 was estimated. According to the Community Plan, the "population estimate was generated by the Community Plan study group based on the status of current development patterns balanced with the currently estimated groundwater resources available for development, along with an estimate of population necessary to generate a critical mass to encourage community economic development."

2.6 Beneficial Uses of Receiving Waters and Degree of Use, Portion of Flow that is Effluent

According to the 2006 Water Quality Control Plan (WQCP) for the Colorado River Basin Region 7, beneficial uses for San Felipe Creek (shown in Figures 3 and 9) include agriculture, fresh water replenishment, groundwater recharge, water contact and non-water contact recreation, warm freshwater habitat, wildlife habitat and preservation of rare, threatened or endangered species.

The Palo Verde Wash and Borrego Sink Wash, as ephemeral streams, are listed in the WQCP as having intermittent beneficial uses of fresh water replenishment, groundwater recharge, non-water contact recreation, and wildlife habitat.

3.0 WATER SUPPLY CHARACTERISTICS AND FACILITIES

3.1 Description of All Wholesale and Retail Entities

Borrego Water District is the only retail entity within the project area. Water supply for BWD is solely from groundwater pumping. There are no wholesale water suppliers to the area.

3.2 All Sources of Water for Study Area and Major Facilities, their Costs (Fixed and Variable), Subsidies, and Customer Prices

Water supply for the Study Area is solely provided by groundwater extraction. Costs incurred by for groundwater extraction include the variable costs of power and maintenance. According to the District, fixed costs for water sources are $50,000 per year. Variable costs for water are $300,000 per year for all water supply wells combined. BWD does not receive subsidies for groundwater. The current potable water rate is $2.21 per unit (one unit equals one hundred cubic feet) for Tier 1 (up to seven units) and $2.44 per unit for Tier 2 (seven units and above).

The existing, active water production wells and their production capacities are shown in **Table 5**. The location of the District's wells are shown in **Figure 16**.

Table 5. Active Study Area Groundwater Extraction Well Production Data

Local Well Name	Well Owner	Status	Current (2016) Production[1] (AFY)
ID1-1	BWD	Active	19
ID1-2	BWD	Active	79
ID1-8	BWD	Active	64
ID1-10	BWD	Active	10
ID1-12	BWD	Active	289
ID1-16	BWD	Active	2
ID4-4	BWD	Active	429
ID4-11	BWD	Active	564
ID4-18	BWD	Active	34
ID5-5	BWD	Active	213
RH-3	Rams Hill Golf Club	Active	128
RH-4	Rams Hill Golf Club	Active	170
RH-5	Rams Hill Golf Club	Active	316
RH-6	Rams Hill Golf Club	Active	278
La Casa[2]	The Casa Del Zorro Resort	Active	40

Table 5. Active Study Area Groundwater Extraction Well Production Data

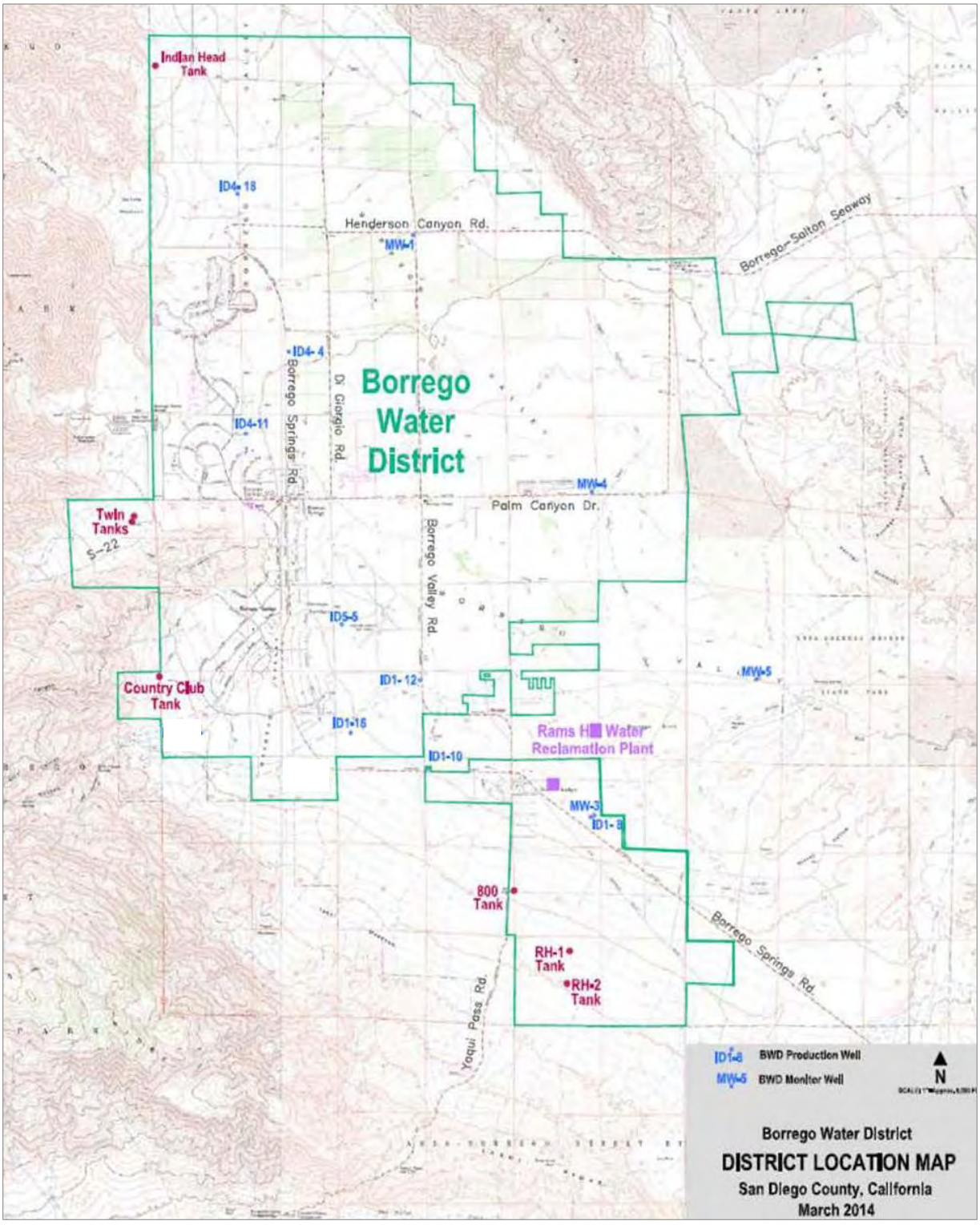
Local Well Name	Well Owner	Status	Current (2016) Production[1] (AFY)
BSCCGC Well #2[2]	Borrego Springs Country Club	Active	273
BSCCGC Well #3[2]	Borrego Springs Country Club	Active	247
BSCCGC Well #6[2]	Borrego Springs Country Club	Active	169

Notes:
Source: BWD 2017
[1] Well production data includes all available production records from the BWD. Additional sources of groundwater extraction well production may be included in the study area, but were not available for this report.
[2] Water quality data not available for this well; therefore, well was not included in Table 1.

Water is served to four (4) pressure zones:

1. 800 feet – Includes the Deep Well Trail subdivision, the Rancho Borrego area, and La Casa del Zorro Resort.
2. 880 feet – Includes the previous Borrego Springs Water Company, the majority of the Borrego Springs community, and the newly incorporated Borrego Springs Park Community Services District area.
3. 900 feet – Includes the Rams Hill subdivision.
4. 1,000 feet – Includes the Rams Hill subdivision.

Figure 16. District Well and Tank Location Map



3.3 Capacities of Present Facilities, Existing Flows, Estimated Years When Capacities to be Reached for Major Components (Water Treatment Plants, Major Transmission and Storage Facilities)

3.3.1 Water Treatment Plants

No water treatment plants exist within BWD. Disinfection of groundwater is performed using calcium hypochlorite feeders at the well sites.

3.3.2 Major Water Transmission Mains

No specific information on major water transmission mains is available.

3.3.3 Potable Reservoirs

A list of storage facilities currently in service are presented in **Table 6**. The locations of the reservoirs are shown in Figure 15 above.

Table 6. Storage Facilities Currently in Service

Tank	Capacity (MG)	Type	Area Served
Rams Hill #1	1.25	Bolted Steel	ID-1
Rams Hill #2	0.4	Galvanized bolted steel	ID-1
Indian Head	0.44	Galvanized bolted steel	ID-4
Country Club	1.0	Bolted steel	ID-4
Twin Tank #1	0.22	Galvanized bolted steel	ID-4
Twin Tank #2	0.22	Galvanized bolted steel	ID-4
900 Tank[1]	0.5	Bolted Steel	ID-1

Notes:
[1] Tank currently under construction replacing 800 Tank (shown in Figure 15); completion estimated in late 2017.

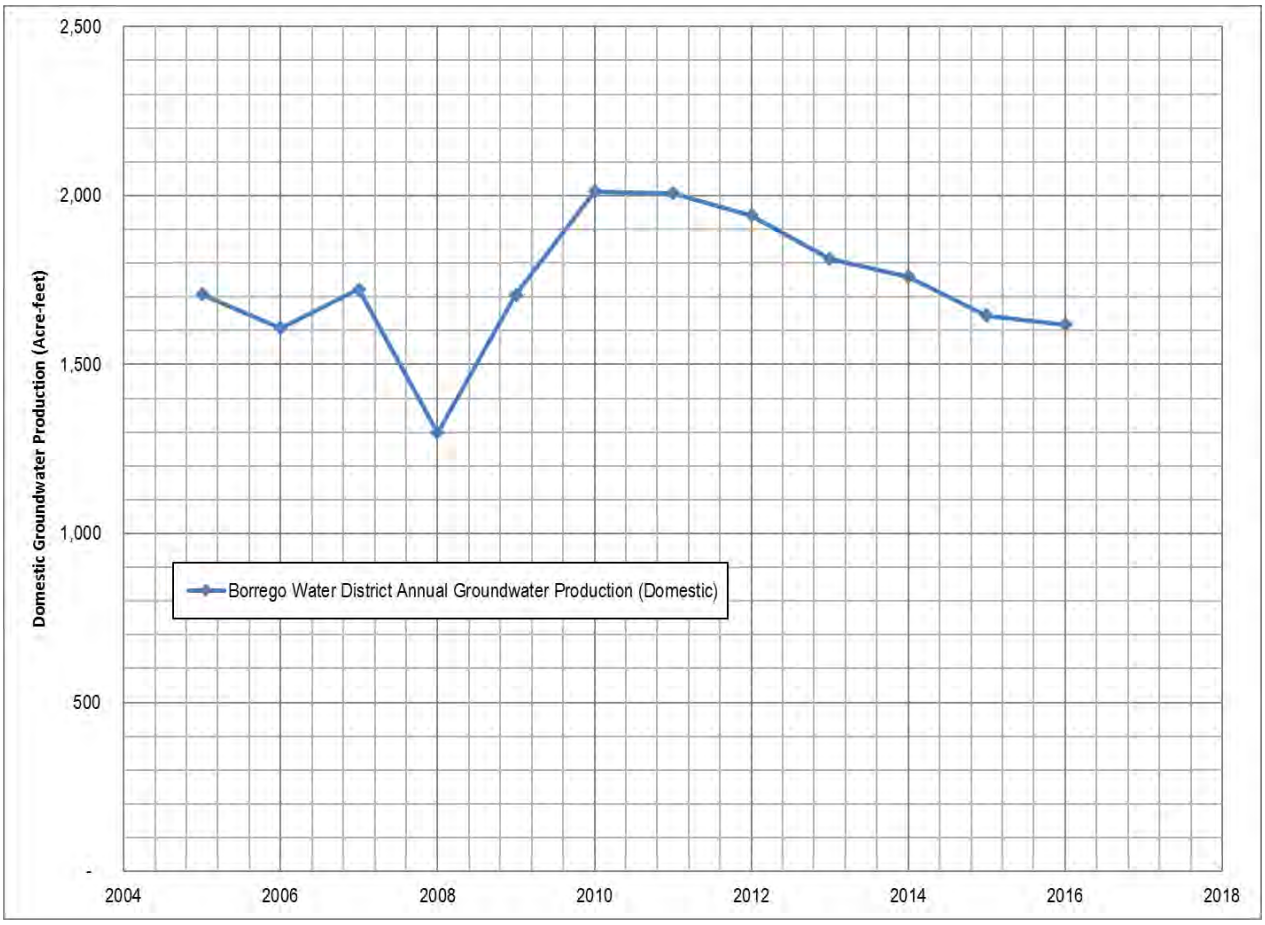
3.4 Ground Water Management and Recharge, Overdraft Problems

Refer to Section 2.2 above.

3.5 Water Use Trends and Future Demands, Prices and Costs

Figure 17 presents the District's domestic water usage between 2005 and 2016. As indicated in the chart, water usage has been in steady decline since 2010. It is anticipated that water usage will continue to decline. The District is in the middle of a five year Prop 218 rate cycle (through 2021) with 6% annual increases in water and 4% in sewer rates and charges. The rate increases are anticipated to be a conservation-forcing mechanism.

Figure 17. Domestic Water Usage (2005-2016)



3.6 Quality of Water Supplies

2016 water quality data for active water supply wells is presented in **Table 1** in Section 2.3 above. District water supply wells meet Title 22 primary and secondary drinking water standards.

3.7 Sources for Additional Water and Plans for New Facilities

Refer to **Appendix B** for the District's 2017-2025 Capital Improvement Program summary, which includes plans for new facilities and sources of additional water. As listed in Appendix B, the District plans on replacing up to three wells in the next eight years due to existing wells reaching their useful lives and falling groundwater levels. Note that the U.S. Department of the Interior Bureau of Reclamation studied alternative sources of supply from outside the basin and determined they were not economically feasible (USBR 2015).

4.0 WASTEWATER CHARACTERISTICS AND FACILITIES

4.1 Description of Entities

The Borrego Water District (District or BWD) provides wastewater service in the Study Area. The District has operated the Rams Hill Wastewater Treatment Facility (WWTF) since the early 1980's. This plant, originally designed to treat effluent to tertiary levels with a capacity of 0.25 million gallons per day (MGD), has never had sufficient flow to justify the increased expense of engaging the tertiary portion of the original plant design. Instead, the average daily flow of approximately 0.07 MGD has been treated to secondary standards and the resulting effluent is presently discharged into the two adjacent evaporation ponds. Only 20 percent of homes in the service area are connected to the sewer collection system. The remainder of homes utilize septic systems.

4.2 Description of Major Facilities including capacities, present flows, plans for new facilities, description of treatment processes, design criteria

4.2.1 Treatment Plant

Rams Hill WWTF is the single treatment plant within the District and is located near the south end of the community. The Rams Hill WWTF has a total average design treatment capacity of 250,000 gpd and peak capacity of 750,000 gpd. The existing average annual flow rate of the plant is 74,000 gpd (0.074 MGD) with a summer-time (low season) average of approximately 47,000 gpd (0.047 MGD).

The treatment processes include influent screening, grit removal, oxidation ditch, secondary clarifier, flow equalization, pressure filters, chlorine contact tank, effluent pump station and storage. Tertiary facilities have never been used. Secondary effluent is directed to evaporation-percolation ponds.

Key design criteria for the plant is presented in **Table 7**. A full list of Rams Hill WWTF design criteria for all processes is included in **Appendix C**.

Table 7. Rams Hill WWTF Design Criteria

Criteria	Design Value	Units
Flow		
Average[1]	0.25	MGD
Peak	0.75	MGD
Plant Hydraulic Capacity	2.0	MGD
Ultimate Plant Capacity	0.5	MGD
Wastewater Concentration		
5-Day BOD	275	mg/L
Suspended Solids	275	mg/L
[1] Current average flow is 0.074 MGD.		

4.2.2 Collection System

The District owns and operates a sewer collection system, including gravity mains, one lift station and forcemains. The specific length of gravity mains and forcemains is not available, though it is on the order of 10 to 12 miles.

4.2.3 New Facilities

The District is currently planning four wastewater projects in its current 2017-2025 capital improvement program, including forcemain replacement, sewer main replacement, a lift station aeration and odor removal system and a new grit removal system at the Rams Hill WWTF headworks. Refer to **Appendix B** for more detailed information on these projects.

4.3 Water Quality of Effluent and Any Seasonal Variation

Refer to **Appendix D** for effluent water quality and seasonal variation for fiscal years 2014-2017.

4.4 Additional Facilities Needed to Comply with Waste Discharge Requirements

Rams Hill WWTF is currently in compliance with existing waste discharge permit (WDR) requirements.

4.5 Sources of Industrial or Other Problem Constituents and Control Measures

Fats, oils and greases (FOG) have historically been problem constituents in the wastewater system. The District has a FOG prevention program in place.

4.6 Existing Recycling (Including users, quantities, contractual and pricing arrangements)

Recycled water is not currently being produced or distributed by the District.

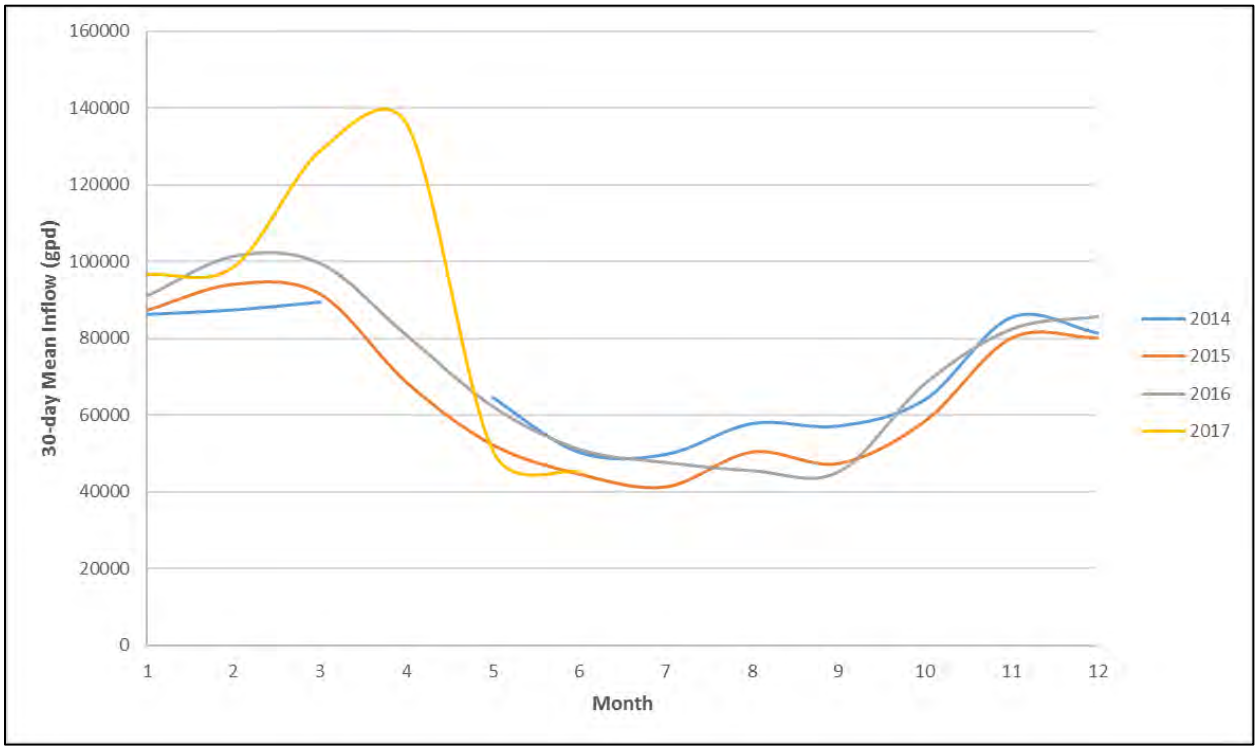
4.7 Existing Rights to Use Treated Effluent after Discharge

The Rams Hill WWTF's current waste discharge permit (Order No. R7-2007-0053) states that treated effluent from the Rams Hill WWTF is discharged into three evaporation-percolation ponds. Given the desert location and dry, hot conditions a portion of the treated effluent is evaporated and a portion percolates into the aquifer. Groundwater level monitoring at a 15 minute frequency using a pressure transducer installed in the WWTP-1 monitoring well indicates that treated effluent discharged into the percolation ponds does recharge the basin.

4.8 Wastewater Flow Variations (Hourly and Seasonal)

Monthly Rams Hill WWTF influent flows for fiscal years 2014-2017 are presented in the figure blow. Refer to **Appendix D** for additional wastewater seasonal flow variations for fiscal years 2014-2017. Hourly flow variations are not available.

Figure 18. Rams Hill WWTF Historical Monthly Influent Flows (Fiscal 2014-2017)



5.0 TREATMENT REQUIREMENTS FOR DISCHARGE AND REUSE

5.1 Required Water Qualities for Potential Uses

Recycled water produced within the Study Area would be used for the irrigation of unrestricted golf courses, specifically Rams Hill GC via Alternative 1. Required treatment is disinfected tertiary recycled water.

5.2 Required Health-Related Water Qualities or Treatment Requirements for Potential Uses including Operational and On-site Requirements, such as Backflow Prevention or Buffer Zones

Title 22 disinfected tertiary is required for irrigation of golf courses in Borrego Springs. No other users are available other than golf course irrigation.

5.3 Wastewater Discharge Requirements (anticipated changes in requirements)

The District's waste discharge permit, listing their discharge requirements, is included in **Appendix E**. The development of recycled water within the District would require a modification to the discharge permit to allow for tertiary treated recycled water to be used for the irrigation of the Rams Hill GC.

5.4 Water Quality-Related Requirements of the RWQCB to Protect Surface or Ground Water from Problems Resulting from Recycled Water Use

No water quality-related requirements of the RWQCB exist at this time though may be required in the future.

6.0 RECYCLED WATER MARKET

6.1 Description of Market Assessment Procedures

The service area contains two primary markets for utilization of treated recycled water: golf courses and commercial agricultural irrigation.

There are six (6) golf courses in the service area that are irrigated with groundwater, as shown in **Table 8**. Based whether sewer flows could be collected and treated to produced tertiary recycled water in the vicinity of the golf course, recycled water could be used to offset water demands used for golf course irrigation.

Commercial agricultural lands are concentrated in the northern region of the distribution system. Recycled water could be used to supplement groundwater based irrigation. However, due to their location it is unfeasible to supply commercial agricultural land with recycled water.

Based on the above discussion, the market for recycled water use is focused on supplying golf courses only. No further consideration for supplying recycled water to commercial agricultural irrigation customers is warranted.

Table 8. Irrigation Demand Data for Potential Golf Course Recycled Water Users

Potential Irrigation User[1]	Type	Water Use (AFY)	Irrigated Area (Acres)	Average Water Use (AFY/ac)	Distance from RW Source[2] (miles)	Source
Borrego Springs Resort – Golf Club & Spa	18 holes	589	110	5.4	4.0	2015 Groundwater Monitoring Report, Borrego Springs CC Permit #SPA9001
Club Circle Resort	Par 3 course with 18 holes	66	28	2.4	3.9	2015 Groundwater Monitoring Report, Borrego Springs CC Permit #SPA9001
De Anza Country Club and Golf Course	18 holes	773	137	5.6	8.7	12 months meter reads; Holloway, pers. comm. 2016
Rams Hill GC[3]	18 holes	998	175	5.7	0.0	Metered 2015 production records
The Springs at Borrego RV Resort and Golf Course	9 holes	175	84	2.1	6.0	2014 report to County
Roadrunner Golf and Country Club	Par 3 course with 18 holes	252	45	5.6	5.7	Assumption: 45 irrigated acres @ est. 5.35 AF per acre
	Totals	**2,853**	**579**	**--**		

Notes:

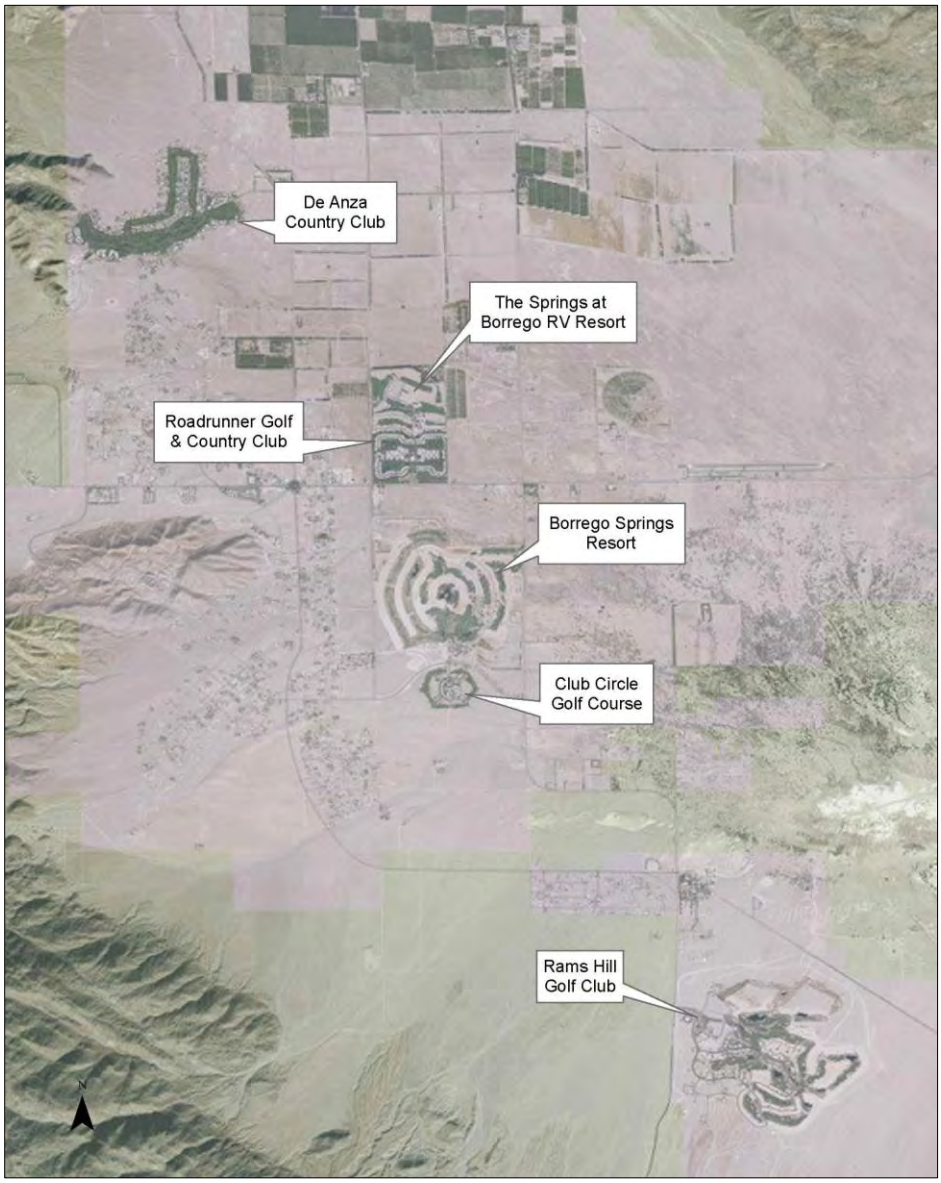
[1] The agricultural fields also exist as potential recycled water irrigation users; however, given any recycled water produced could be used by any of the golf courses, which are closer to the source, the agricultural fields were not considered as potential users in this analysis.

[2] Assumes Rams Hill WWTF would be source of recycled water for all locations.

[3] Includes water demand for 91.7 acres of fairways/rough, 6.5 acres greens/tees, 76.6 acres of landscaping and evaporation loss from 11 acres of lakes. Source: BWD 2015; Dudek 2016; Holloway pers. Comm. 2016, Rams Hill 2016.

There are six golf courses within District boundaries, as shown in **Figure 19**, and each were investigated to potentially receive recycled water to reduce the groundwater pumping for irrigation.

Figure 19. Golf Course Location Map



De Anza Country Club

The De Anza Country Club community is currently on septic, as shown in Table 8, and therefore provides an opportunity to collect wastewater for localized treatment and delivery to the golf course to offset groundwater pumping for irrigation. This community was evaluated and found to be sufficiently developed for the potential collection and treatment of wastewater for golf course irrigation and was considered a viable market for this study.

The Springs at Borrego RV Resort

This community is currently on the sewer collection system with sewage flows being sent to the Rams Hill WWTF; therefore, this site was not investigated further for this study.

Roadrunner Golf and Country Club

The newer portion of this community is currently sewered with wastewater flows being sent to Rams Hill WWTF. The original portion of Roadrunner Golf & Country Club is on septic, though it has a permitted septic leach field that discharges under the golf course, which supplements turf irrigation for that course; therefore, this site was not investigated further for this study.

Borrego Springs Resort

Borrego Springs Resort is currently on septic and therefore does provide an opportunity to collect wastewater for localized treatment and delivery to the golf course to offset groundwater pumping for irrigation. However, this community was estimated to have wastewater flows less than 10,000 gpd; therefore it was determined this location would not be a viable option for a package treatment plant.

Club Circle Golf Course

Club Circle is currently on septic and therefore does provide an opportunity to collect wastewater for localized treatment and delivery to the golf course to offset groundwater pumping for irrigation. However, this community was estimated to have wastewater flows less than 10,000 gpd; therefore it was determined this location would not be a viable option for a package treatment plant.

Rams Hill GC

Rams Hill GC was originally planned to receive recycled water from the Rams Hill WWTF once recycled water was produced and therefore recycled water transmission facilities were previously constructed. This site is considered a viable market for this study.

Note that Borrego Springs is a “snow bird” community, meaning that most residents spend the winter months in the town (typically November through March) but leave before temperatures rise in the summer. The District estimates that the community’s population ranges from less than 3,000 in summer months to over 8,000 in the height of the winter season. Only 20 percent of the District’s water customers are connected to the sewer system, with the remainder utilizing septic systems. For the purposes of this analysis, an across the board reduction in population of 37.5 percent (3,000/8,000) was assumed for estimating low season potential wastewater supply.

Table 9. Golf Course Community Summary of Waste Generation

Golf Course Community	No. Homes / Est. % Buildout	Sewer Status	Potential New High Season Wastewater Supply (gpd)[1]	Potential New Low Season Wastewater Supply (gpd)[2]
Rams Hill	280 / 30%	Sewered[3]	N/A	N/A
Club Circle[4]	62 / 50%	Septic	7,750	775
Borrego Springs Resort	35 / 5%	Septic	4,100	1,540
Roadrunner Golf & Country Club: Original	335 / 100%	95% Septic	N/A[5]	N/A[5]
Roadrunner Golf & Country Club: New	20 / 15%	Sewered[3]	N/A	N/A
The Springs at Borrego RV Resort	N/A (RVs)	Sewered[3]	N/A	N/A
De Anza Country Club	304 / 77%	Septic	38,000	14,250

Notes:
[1] Assumes 125 gpd/EDU at full occupancy.
[2] Assumes 125 gpd/EDU at low season occupancy (37.5%).
[3] Flows sent to Rams Hill WWTP.
[4] According to Club Circle staff, the community has a low season occupancy of approximately 10%.
[5] The original Road Runner Country Club has a permitted leach field under the golf course. Due to the wastewater generated in this community already being used for golf course irrigation via a leach field, this site was not investigated further as a potential source of wastewater for production of Title 22 recycled water for golf course irrigation.

6.2 Descriptions of All Users or Categories of Potential Users

Two potential users were identified as part of the market assessment—the Rams Hill GC and the De Anza GC. Both potential users would use recycled water for irrigation of golf course turf. Both currently use groundwater for turf irrigation but could replace a portion of their groundwater usage with recycled water if and when available. The estimated annual and peak recycled water use for the golf course will be the total amount produced at the treatment plants (Rams Hill WWTF for the Rams Hill GC and a package tertiary plant at the De Anza GC), as the recycled water produced will only supply a small portion of their total water needs. Onsite irrigation ponds exist on both golf courses; it is assumed groundwater and recycled water would discharge via pipelines with and air gap into the lakes prior to distribution into the irrigation systems. Given recycled water would blend with groundwater, water quality issues (TDS and boron) are not anticipated to be a concern for either golf course. Groundwater would be the backup source of golf course turf irrigation water and recycled water would be the primary source.

More information for each potential user is provided in **Table 10**.

Table 10. Potential Recycled Water Users and Estimated Use

Site	Type of Use	Ex. Water Usage (AFY)	Expected Annual RW Use (AFY)[1]	Estimated Peak RW Use (AFY) [1]	Desire to Use RW	Est. Onsite Conversion Costs
Rams Hill GC	Golf course irrigation	800	91	116	Good	$10,000
De Anza GC	Golf course irrigation	773	30	44	Unknown	$25,000

Notes:
[1] Estimates based on 125 gpd/EDU, full occupancy during high (winter) season and 37.5% occupancy during low (summer) season.

6.3 Summary Tables of Potential Users and Related Data

Refer to Table 10 above.

6.4 Definition of Logical Service Area Based on Results of Market Assessment

Based on the market assessment conducted as a part of this Study, area including the De Anza GC and Rams Hill GC, have been identified for the potential recycled water alternatives. The list of potential recycled water customers within the BWD service area is found in Table 8.

7.0 PROJECT ALTERNATIVE ANALYSIS

7.1 Planning and Design Assumptions

The following subsections define the planning and design assumptions used in this analysis.

7.1.1 Delivery and System Pressure Criteria

Recycled water would be delivered to golf course on-site irrigation ponds via pipelines with an air gap; therefore, delivery and system pressures will be low, estimated at 10-20 psi for the purposes of this analysis.

7.1.2 Peak Delivery Criteria

Maximum depth over diameter ratio (d/D) of 0.5 for gravity sewerlines less than 12-inches in diameter. Maximum d/D of 0.75 for gravity sewer lines 12-inches in diameter and greater.

Maximum velocity of 15 fps in sewer forcemains and recycled water distribution pipes.

The peak delivery of the recycled water is not applicable as recycled water cannot supply enough recycled water for the two golf courses and has to be supplemented by groundwater. At both locations the combined groundwater/recycled water is pumped by on-site irrigation pumps and the on-site irrigation ponds are sized such that the peak required by the golf courses can be met.

7.1.3 Storage Criteria

Because recycled water will be offsetting groundwater pumping at the golf courses, the existing on-site irrigation ponds are considered sufficient. Users will boost pressure onsite via existing irrigation pump station. No other recycled water storage will be necessary by the golf course or BWD.

7.1.4 Cost Basis (Cost Index, Discount Rate, Useful Lives, Etc.)

The following lists the assumptions of the cost basics:

- Cost Index – Engineering News Record Cost Index for Los Angeles, CA
- Discount Rate – 3%
- Useful Lives
    - Pumps and Equipment: 30 years
    - Chemical Dosing and Storage Systems: 20 years
    - Civil/Piping Work: 75 years
    - Tanks and Structures: 50 years
    - Electrical/Instrumentation: 20 years

7.1.5 Planning Period

Planning period assumed was 50 years.

7.2 Water Recycling Alternatives to be Evaluated

7.2.1 Treatment Alternatives

Three alternatives were evaluated to produce and distribute recycled water.

- Alternative 1 includes expanding the District's collection system and upgrading their existing tertiary Rams Hill WWTF to produce recycled water for delivery to Rams Hill GC.
- Alternative 2 includes new sanitary sewer connection system s to existing residents at the De Anza Country Club, abandoning existing septic system and conveying wastewater to a new tertiary package treatment plant to produce Title 22 recycled water and delivery the recycled water to the De Anza GC. Additionally, Rams Hill WWTF would be upgraded to produce tertiary recycled water with no additional expansion of the existing sewer collection system then be delivered to Rams Hill GC.
- Alternative 3 includes upgrading the existing tertiary Rams Hill WWTF to produce recycled water for delivery to Rams Hill GC without any expansion of the District's collection system.

Alternatives 1 and 2 focused on maximizing recycled water production for the area. Alternative 3 focused on minimizing the cost to produce recycled water. Descriptions of alternatives, broken up by sewage collection, treatment and recycled water distribution, are described as follows:

<u>Alternative 1: Expanded Collection System and Tertiary Upgrades at Rams Hill WWTF</u>

This alternative was based on the total volume of flow that could cost effectively be collected and transported to the Rams Hill WWTF. Developments currently on septic were evaluated for potential connection to new sewer collection system. De Anza Country Club and the one development south of it (located north of Granada Drive) were determined to be potential options based on being denser concentrations of septic properties and their proximity to existing collection system facilities.

Collection System: This alternative includes the expansion of the sewage collection system north into these areas by 71,000 LF of pipe, as shown in Figure 12 in Section 1.10. Due to the increased sanitary sewer flows to the Rams Hill WWTF, a sewage lift station expansion as well as a forcemain upsizing would also be required.

Assuming buildout conditions of the new developments converted from septic to sewer as well as the Rams Hill Golf Club community, a total estimated ultimate plant average flow rate of 174,000 gpd and a high season "maximum month" flow rate of 235,000 gpd were estimated, as presented in the table below. A sewer generation factor of 125 gpd/EDU was assumed for all developments based on existing WWTF flow data. (Note that actual water deliveries at the De Anza Country

Club development may actually be lower than the District average.) A sewer generation factor of 60 gpd/room was assumed for the proposed 350-room Rams Hill hotel.

Table 11. Alternative 1 Recycled Water Production Estimates

Source of Flow	No. EDUs	High Season Flow[1] (gpd)	Low Season Flow[2] (gpd)	Annual Average Flow[3] (gpd)
Existing Rams Hill WWTF Flow	~720	90,000	47,000	74,000
Additional Sources Proposed:				
Buildout of Rams Hill Golf Club	455	56,900	21,300	39,100
Rams Hill Hotel (350-room)[4]	350 rooms	21,000	7,875	14,440
Homes on Septic North of Granada Drive	138	17,250	6,500	11,875
Existing De Anza Country Club Homes on Septic	304	38,000	14,300	26,150
Buildout of De Anza Country Club	90	11,250	4,200	7,725
Total Wastewater Flow to Rams Hill WWTF		**235,000**	**102,000**	**174,000**
Total Est. Recycled Water Produced[5]		**188,000 (211 AFY)**	**82,000 (91 AFY)**	**139,000 (156 AFY)**

Notes:

[1] Estimates based on 125 gpd/EDU and full occupancy during high (winter) season at buildout.

[2] Estimates based on 125 gpd/EDU and 37.5% occupancy during low (summer) season at buildout.

[3] Estimates based on 125 gpd/EDU with average flow being based on average occupancy of 68.75% at buildout.

[4] Estimates based on 60 gpd/room with 100% occupancy during high (winter) season and 37.5% occupancy during low (summer) season at buildout.

[5] Estimated at 80% of plant inflow to account for loses, including evaporation in the oxidation ditch, pressure filter backwash water losses, solids removal, etc.

Treatment: Rams Hill WWTF is a 0.25 MGD tertiary treatment plant built in the early 1980s. The current plant annual average flow rate is 74,000 gpd. The tertiary and disinfection facilities of the Rams Hill WWTF have never been operated or maintained and the system is not capable of producing recycled water. The existing sand filters do not meet current Title 22 requirements, there are no flocculation facilities, the chlorine contact basin is not anticipated to have sufficient modal contact time, and the equipment has not been maintained and requires replacement. The upgraded tertiary facilities would be sized and constructed to handle the high season, or maximum month, flow rate listed in **Table 11**. The annual average Title 22 recycled water production for this alternative is estimated at 156 AFY.

The anticipated improvements required for producing recycled water at the Rams Hill WWTF include:

- Installation of construction of coagulant dosing system and mixer
- Construction of flocculation chamber

- Installation of new above grade filter system skids (e.g. disk filters) and piping
- Construction of additional pass in chlorine contact chamber and piping modifications.
- Installation of new sodium hypochlorite storage tanks and dosing equipment.
- Installation of new recycled water pumps.
- Installation of new electrical and instrumentation system for tertiary and disinfection facilities.

Recycled Water Distribution: When the Rams Hill WWTF was constructed in the early 1980s, the distribution line to convey recycled water to the Rams Hill GC was also constructed. Non-potable wells currently pump into this pipeline and discharge to the Rams Hills GC on-site irrigation ponds with a total change in elevation of 700 feet via an air gap. For the purposes of this recycled water feasibility analysis, it was assumed the recycled water distribution pipeline would not need any improvements.

Alternative 2: Decentralized Treatment at De Anza Country Club and Golf Course and Upgraded Rams Hill WWTF

Alternative 2 considered a decentralized option to avoid the cost of constructing long lengths of gravity main to connect disparate areas to the centralized collection system. De Anza Country Club is the only septic golf course community in the area that currently has a considerable amount of existing homes.

Collection System: Approximately 300 existing homes in the De Anza Country Club could be connected to a local collection system to carry sewage flows to a small tertiary package treatment plant that would produce Title 22 recycled water for De Anza GC golf course irrigation. One sewer lift station has been determined to be necessary to convey flows to the tertiary package plant due to topography of the site.

Treatment: Production of recycled water would occur in two locations—at a small tertiary package treatment plant in the De Anza Country Club and from the upgraded facilities at the existing Rams Hill WWTF without any additional collection system flow to Rams Hills WWTF.

Based on the existing number of homes and number of existing empty lots that can potentially be developed at De Anza Country Club, a total high season (winter) sewage flow of 49,250 gpd could be conveyed to a tertiary package treatment plant (membrane bioreactor) for production of recycled water to offset existing groundwater pumping for irrigation of the De Anza GC.

As presented in **Table 12**, low (summer) season wastewater flow rates were estimated based on 37.5% occupancy. The annual average wastewater flow was estimated based on an average occupancy of 68.75% at buildout conditions (all empty lots developed). As with Alternative 1, a sewer generation factor of 125 gpd/EDU was assumed. Sizing of the package plant would be based on the high season, or maximum month, flow rate listed in Table 11. This results in a total average annual recycled water production from both plants of 145 AFY.

Table 12. Alternative 2 Recycled Water Production Estimates

Source of Flow	No. New EDUs Connected	High Season Flow[1] (gpd)	Low Season Flow[2] (gpd)	Annual Average Flow[3] (gpd)
De Anza Package Plant				
Existing De Anza Country Club Homes on Septic	304	38,000	14,300	26,150
Buildout of De Anza Country Club	90	11,250	4,200	7,725
Total Projected Wastewater Flow to De Anza Package Plant		**49,250**	**18,500**	**33,900**
Upgraded Rams Hill WWTF				
Existing Rams Hill WWTF Flow	~720	90,000	47,000	74,000
Buildout of Rams Hill Golf Club	455	56,900	21,300	39,100
Rams Hill Hotel (350-room)[4]	350 rooms	21,000	7,875	14,440
Total Projected Wastewater Flow to Upgrade Rams Hill WWTF		**167,900**	**76,200**	**127,540**
Total Est. Combined Recycled Water Produced at Both Plants[5]		**174,000 (195 AFY)**	**76,000 (85 AFY)**	**129,000 (145 AFY)**

Notes:

[1] Estimates based on 125 gpd/EDU and full occupancy during high (winter) season at buildout.

[2] Estimates based on 125 gpd/EDU and 37.5% occupancy during low (summer) season at buildout.

[3] Estimates based on 125 gpd/EDU with average flow being based on average occupancy of 68.75% at buildout.

[4] Estimates based on 60 gpd/room with 100% occupancy during high (winter) season and 37.5% occupancy during low (summer) season at buildout.

[5] Estimated at 80% of plant inflow to account for loses, including membrane backwash water losses, solids removal, etc.

Recycled Water Distribution: A short (less than 1,000 LF) recycled water distribution line would be required to convey recycled water to an existing on-site irrigation pond at De Anza GC. The recycled water would be discharged into the on-site irrigation pond through an air gap. As with Alternative 1, no improvements were assumed necessary with the existing Rams Hill WWTF tertiary effluent pipeline feeding Rams Hill GC.

Refer to Figure 13 in Section 1.10 above for a map of the proposed facilities for this alternative.

Alternative 3: Tertiary Upgrades at Rams Hill WWTF Only

This alternative was based on minimizing the cost to produce tertiary recycled water at Rams Hill WWTF. Costs increase substantially when collection system expansion is proposed, as in Alternative 1. This alternative looked at the cost to produce recycled water with the existing sewer collection system infrastructure.

Collection System: No expansion of the District's existing sewer collection system is proposed for this alternative. Sewer flow to the Rams Hill WWTP would increase predominantly with the expanded development of Rams Hill Golf Club.

Assuming buildout conditions of the new developments converted from septic to sewer as well as the Rams Hill County Club community, a total estimated ultimate plant average flow rate of 174,000 gpd and a high season "maximum month" flow rate of 235,000 gpd were estimated, as presented in the table below. A sewer generation factor of 125 gpd/EDU was assumed for all developments based on existing WWTF flow data. (Note that actual water deliveries at the De Anza Country Club development may actually be lower than the District average.) A sewer generation factor of 60 gpd/room was assumed for the proposed 350-room Rams Hill hotel.

Table 13. Alternative 3 Existing and Ultimate Recycled Water Production Estimates

Source of Flow	No. EDUs	High Season Flow[1] (gpd)	Low Season Flow[2] (gpd)	Annual Average Flow[3] (gpd)
Existing Rams Hill WWTF Flow	~720	90,000	47,000	74,000
Total Est. Recycled Water Produced—Existing[4]		**72,000 (81 AFY)**	**37,600 (42 AFY)**	**59,200 (66 AFY)**
Ultimate Rams Hill WWTP Flow (additional sources of supply):				
Buildout of Rams Hill Golf Club	455	56,900	21,300	39,100
Rams Hill Hotel (350-room)[5]	350 rooms	21,000	7,875	14,440
Total Wastewater Flow to Rams Hill WWTF		**167,900**	**76,175**	**127,540**
Total Est. Recycled Water Produced—Ultimate[4]		**134,320 (150 AFY)**	**60,940 (68 AFY)**	**102,030 (114 AFY)**

Notes:

[1] Estimates based on 125 gpd/EDU and full occupancy during high (winter) season at buildout.

[2] Estimates based on 125 gpd/EDU and 37.5% occupancy during low (summer) season at buildout.

[3] Estimates based on 125 gpd/EDU with average flow being based on average occupancy of 68.75% at buildout.

[4] Estimated at 80% of plant inflow to account for loses, including evaporation in the oxidation ditch, pressure filter backwash water losses, solids removal, etc.

[5] Estimates based on 60 gpd/room with 100% occupancy during high (winter) season and 37.5% occupancy during low (summer) season at buildout.

Treatment: Rams Hill WWTF is a 0.25 MGD tertiary treatment plant built in the early 1980s. The current plant annual average flow rate is 74,000 gpd. The tertiary and disinfection facilities of the Rams Hill WWTF have never been operated or maintained and the system is not capable of producing recycled water. The existing sand filters do not meet current Title 22 requirements, there are no flocculation facilities, the chlorine contact basin is not anticipated to have sufficient modal contact time, and the equipment has not been maintained and requires replacement. The upgraded tertiary facilities would be sized and constructed to handle the high season, or maximum month, flow rate listed in **Table 13**. The annual average Title 22 recycled water production for this alternative is estimated at 114 AFY at buildout of Rams Hill Golf Club.

The anticipated improvements required for producing recycled water at the Rams Hill WWTF include:

- Installation of construction of coagulant dosing system and mixer
- Construction of flocculation chamber
- Installation of new above grade filter system skids (e.g. disk filters) and piping
- Construction of additional pass in chlorine contact chamber and piping modifications.
- Installation of new sodium hypochlorite storage tanks and dosing equipment.
- Installation of new recycled water pumps.
- Installation of new electrical and instrumentation system for tertiary and disinfection facilities.

Recycled Water Distribution: When the Rams Hill WWTF was constructed in the early 1980s, the distribution line to convey recycled water to the Rams Hill GC was also constructed. Non-potable wells currently pump into this pipeline and discharge to the Rams Hills GC on-site irrigation ponds with a total change in elevation of 700 feet via an air gap. For the purposes of this recycled water feasibility analysis, it was assumed the recycled water distribution pipeline would not need any improvements.

Refer to Figure 15 in Section 1.10 above for a map of the proposed facilities for this alternative.

7.2.1.1 Alternative Levels of Treatment

Under all three alternatives, wastewater would be treated to disinfected Title 22 tertiary levels.

7.2.1.2 Alternative Unit Processes to Achieve a Given Level of Treatment

No alternative unit processes were considered for each alternative.

7.2.2 Pipeline Route Alternatives

No pipeline route alternatives were considered in this analysis as Alternative 1 recycled water pipeline route would need to be coordinated with De Anza GC and Alternative 2 does not require any recycled water pipeline route as it currently has an existing pipeline.

7.2.3 Alternative Markets:

No alternative markets were used in this analysis. Only golf courses were considered given their high potential for usage in a single location.

7.2.3.1 Based on Different Levels of Treatment

Not applicable.

7.2.3.2 Geographical Areas

Not applicable.

7.2.4 Alternative Storage Locations

No alternative storage locations were considered nor required for this analysis.

7.2.5 Sub alternatives of Selected Alternative:

Not used.

7.2.5.1 Marginal Analysis for Selected Alternative for certain categories of users or certain geographic areas

Not used.

7.2.5.2 Varying Storage, Pump Rates, and Pipeline Diameters

Not used.

7.2.5.3 Use of Water Blending during Peak Irrigation Months

Water blending would occur within golf course on-site irrigation ponds where recycled water would be delivered as recycled water supply requires to be supplemented by groundwater which will then create blending. No blending is necessary to comply with any regulations.

7.3 Non-Recycled Water Alternatives

No non-recycled water alternatives were included in this feasibility analysis.

7.3.1 Discussion of Other Potentially Viable New Sources of Water

Not applicable.

7.3.2 Provide Economic Costs

Not applicable.

7.4 Water Conservation/Reduction Analysis

While water conservation/reduction at agricultural fields in the area could potentially have a very significant impact on groundwater use in the basin, e.g. through improved irrigation techniques, fallowing of land or change of agricultural product to less water-intensive option, these alternatives were not considered for this recycled water feasibility analysis.

Recycled water production offsets groundwater pumping by up to 156 AFY (Alternative 1), 145 AFY (Alternative 2) or 114 AFY (Alternative 3 Future). However, this treated wastewater was previously sent as treated secondary effluent to evaporation-percolation ponds (from existing collection system flow) or to septic tanks. It is estimated that 80% of secondary effluent sent to

evaporation-percolation ponds is evaporated; therefore, if used for recycled water, more water would be put to beneficial use and decrease groundwater pumping.

7.4.1 Analysis

Not applicable.

7.4.2 Impact on Recycling, If Any

Not applicable.

7.4.3 Recommendation

Not applicable.

7.4.4 Implementation

Not applicable.

7.5 Pollution Control Alternatives

Not Applicable

7.6 No Project Alternative

A No Project Alternative was included in this analysis. Under the No Project Alternative, no recycled water would be produced. Treated secondary effluent from the Rams Hill WWTF would continue to be sent to the existing evaporation-percolation ponds. The Rams Hill and De Anza GCs would continue to supply 100% of their irrigation from pumped groundwater.

7.7 Information Supplied for Each Alternative

See below.

7.7.1 Cost Tables

Refer to **Appendix F** for detailed cost tables. A summary of project costs broken up treatment, collection system and recycled water distribution, is provided in **Tables 14, 15** and **16** below.

Table 14. Alternative 1 Estimated Project Costs

Facility	Cost
Treatment Plant Upgrades (Tertiary Facilities)	$2,652,000
Collection System Upgrades/Expansion	$13,409,000
Subtotal	**$16,061,000**
Contingency (30%)	$4,819,000
Subtotal	**$20,880,000**
Insurance, Profit, Bond	$2,604,000
Escalation to Midpoint	$1,253,000
Total Estimated Construction Cost	**$24,737,000**
Design, CM, Permitting/Environmental, Admin	$6,680,000
Total Estimated Project Cost	**$31,417,000**
Annualized Project Cost (3%, 50 Years)	$1,222,000
Annual O&M Costs (Tertiary Facilities Only)	$102,000
Total Annual Costs	**$1,324,000**
Estimated Average Annual RW Projection (AFY)	156
Cost per Acre-Foot ($/AF)	**$8,500**

Table 15. Alternative 2 Estimated Project Costs

Facility	Cost
Treatment Plant Upgrades (Tertiary Facilities and De Anza GC Package Plant)	$4,587,000
Collection System Upgrades/Expansion (De Anza GC)	$5,064,000
Recycled Water Distribution (De Anza GC)	$80,000
Subtotal	**$9,731,000**
Contingency (30%)	$2,920,000
Subtotal	**$12,651,000**
Insurance, Profit, Bond	$1,579,000
Escalation to Midpoint	$760,000
Total Estimated Construction Cost	**$14,990,000**
Design, CM, Permitting/Environmental, Admin	$4,048,000
Total Estimated Project Cost	**$19,038,000**
Annualized Project Cost (3%, 50 Years)	$740,000
Annual O&M Costs (Treatment Plants Only)	$150,000
Total Annual Costs	**$890,000**
Estimated Average Annual RW Projection (AFY)	145
Cost per Acre-Foot ($/AF)	**$6,100**

Table 16. Alternative 3 Estimated Project Costs

Facility	Cost (Existing)[1]	Cost (Ultimate)[2]
Treatment Plant Upgrades (Tertiary Facilities)	$1,441,000	$2,087,000
Subtotal	**$1,441,000**	**$2,087,000**
Contingency (30%)	$433,000	$627,000
Subtotal	**$1,874,000**	**$2,714,000**
Insurance, Profit, Bond	$235,000	$340,000
Escalation to Midpoint	$113,000	$408,000
Total Estimated Construction Cost	**$2,222,000**	**$3,462,000**
Design, CM, Permitting/Environmental, Admin	$603,000	$938,000
Total Estimated Project Cost	**$2,825,000**	**$4,400,000**
Annualized Project Cost (3%, 50 Years)	$110,000	$172,000
Annual O&M Costs (Tertiary Facilities Only)	$60,000	$78,000
Total Annual Costs	**$170,000**	**$250,000**
Estimated Average Annual RW Projection (AFY)	66	114
Cost per Acre-Foot ($/AF)	**$2,600**	**$2,200**

Notes:
[1] Estimated cost for upgrading Rams Hill WWTP at existing flow rates (66 AFY recycled water produced).
[2] Estimated cost for upgrading Rams Hill WWTP at projected ultimate flow rates (114 AFY recycled water produced.

7.7.2 Lists of Potential Users Assumed for Each Alternative

The potential user for Alternatives 1 and 3 is Rams Hill GC. The potential users for Alternative 2 are De Anza GC and Rams Hill GC.

7.7.3 Economic Analysis

Costs for water vary based on their source (e.g. pumped groundwater, imported State Water Project water, desalination, Title 22 recycled water). For this analysis, costs were compared against Title 22 recycled water production from the City of San Diego's 2012 Recycled Water Study. The City of San Diego's study estimated gross costs for recycled water at between $1,700 to $1,900 per AF, with an average cost of $1,800 per AF. Taking into account various savings (e.g. avoided water facilities improvements), net costs for City of San Diego were reduced to between $600 and $1300 per AF, with an average net cost of $1,020. These net costs were comparable to the cost of imported water, which is on the order of $1,300 per AF.

The development of recycled water in BWD would not offset water facilities improvements, so the net costs of producing recycled water are essentially the gross costs presented in Section 7.7.1. Comparing estimated costs from this analysis to those estimated by the City of San Diego, results

in costs for recycled water production in BWD being between 4.0 and 4.9 times the net cost for Alternatives 1 and 2. For Alternative 3, the cost of producing water today, of $2,600/AF is approximately 2.5 times the net cost of City of San Diego recycled water or twice the cost of imported water. If the District were to wait to produce recycled water until the Rams Hill GC was fully developed, would reduce the multiplier to 2.1 times the City of San Diego recycled water cost or 1.6 times the cost of imported water.

7.7.4 Energy Analysis for Each Alternative, Including Direct and Construction Energy

A direct and construction energy analysis was performed for each alternative and the results presented in the following tables.

Table 17. Alternative 1 Direct Energy Estimate

Equipment Item	Duty / Standby	Nameplate HP	Brake HP	Operating KW	Runtime	hrs/day	kwh/day
Coagulant Feed Pump	D	0.1	0.1	0.0746	Intermittent	24	1.8
Coagulant Feed Pump	S	0.1	0.1	0.0746	Intermittent	0	0.0
Flocculator - Stage 1	D	1	1	0.746	Intermittent	24	17.9
Flocculator - Stage 2	D	1	1	0.746	Intermittent	24	17.9
Tertiary Disk Filter	D	1	1	0.746	Continuous	24	17.9
Tertiary Disk Filter	S	1	1	0.746	Intermittent	0	0.0
Filter Backwash Pump	D	5	5	3.73	Intermittent	2.4	9.0
Filter Backwash Pump	S	5	5	3.73	Intermittent	0	0.0
Chlorine Feed Pump	D	0.1	0.1	0.1	Continuous	24	1.8
Chlorine Feed Pump	S	0.1	0.1	0.1	Continuous	0	0.0
Recycled Water Pump	D	40.0	40.0	29.8	Intermittent	24	716.2
Recycled Water Pump	D	40.0	40.0	29.8	Intermittent	12	358.1
Recycled Water Pump	S	40.0	40.0	29.8	Intermittent	0	0.0
Totals		**134.4**	**134.4**				**1,140**

Table 18. Alternative 2 Direct Energy Estimate

	Annual Energy Estimate (kWh/d)
De Anza Package Plant	
Secondary plant power	211
Tertiary and disinfection	37
De Anza Package Plant Totals	**248**
Rams Hill WWTF[1]	**910**
COMBINED TOTAL	**1,158**

Note:
[1] Estimated based on 70% of energy estimate from Alternative 1 (Table 11).

Table 19. Alternative 3 Direct Energy Estimate (Rams Hill GC Buildout)

Equipment Item	Duty / Standby	Nameplate HP	Brake HP	Operating KW	Runtime	hrs/day	kwh/day
Coagulant Feed Pump	D	0.1	0.1	0.0746	Intermittent	24	1.8
Coagulant Feed Pump	S	0.1	0.1	0.0746	Intermittent	0	0.0
Flocculator - Stage 1	D	1	1	0.746	Intermittent	24	17.9
Flocculator - Stage 2	D	1	1	0.746	Intermittent	24	17.9
Tertiary Disk Filter	D	1	1	0.746	Continuous	24	17.9
Tertiary Disk Filter	S	1	1	0.746	Intermittent	0	0.0
Filter Backwash Pump	D	5	5	3.73	Intermittent	2.4	9.0
Filter Backwash Pump	S	5	5	3.73	Intermittent	0	0.0
Chlorine Feed Pump	D	0.1	0.1	0.1	Continuous	24	1.8
Chlorine Feed Pump	S	0.1	0.1	0.1	Continuous	0	0.0
Recycled Water Pump	D	40.0	40.0	29.8	Intermittent	24	716.2
Recycled Water Pump	D	40.0	40.0	29.8	Intermittent	12	358.1
Recycled Water Pump	S	40.0	40.0	29.8	Intermittent	0	0.0
Totals		**134.4**	**134.4**				**1,140**

Table 20. Alternative 1 Construction Energy Estimate (Treatment Only)

Equipment	HP[1]	Load Factor[1]	Months	hrs/day	Total HP-hr
Air Compressor	78	0.48	4	6	19,255
Concrete Mixer	9	0.56	0.25	8	216
Cranes	231	0.29	1	4	5,742
Excavators	158	0.38	1	4	5,146
Forklifts	89	0.2	3	6	6,866
Rubber Tired Dozers	247	0.4	0	8	0
Tractors/Loaders	97	0.37	2	8	12,305
TOTAL CONSTRUCTION ENERGY[2]					**50,000**

Notes:
1. Horsepower and load factors based on CalEEMod Appendix D.
2. Estimated for tertiary and disinfection only at design capacity of 200,000 gpd.

Table 21. Alternative 2 Construction Energy Estimate (Treatment Only)

Equipment	HP[1]	Load Factor[1]	Months	hrs/day	Total HP-hr
De Anza Package Plant[2]					
Air Compressor	78	0.48	3	6	14,441
Concrete Mixer	9	0.56	0.5	8	432
Cranes	231	0.29	2	4	11,484
Excavators	158	0.38	2	4	10,293
Forklifts	89	0.2	2	6	4,577
Rubber Tired Dozers	247	0.4	1	8	16,937
Tractors/Loaders	97	0.37	3	8	18,458
De Anza Package Plant Construction Energy					**77,000**
Rams Hill WWTF Tertiary Construction Energy[3]					**35,000**
TOTAL CONSTRUCTION ENERGY					**112,000**

Notes:
1. Horsepower and load factors based on CalEEMod Appendix D.
2. Estimated for design plant capacity of 49,000 gpd.
3. Estimated as 70% of construction energy calculated for Alternative 1 (Table 13) based on proportion of plant flows for each alternative

Table 22. Alternative 3 Construction Energy Estimate (Treatment Only)

Equipment	HP[1]	Load Factor[1]	Months	hrs/day	Total HP-hr
Air Compressor	78	0.48	4	6	19,255
Concrete Mixer	9	0.56	0.25	8	216
Cranes	231	0.29	1	4	5,742
Excavators	158	0.38	1	4	5,146
Forklifts	89	0.2	3	6	6,866
Rubber Tired Dozers	247	0.4	0	8	0
Tractors/Loaders	97	0.37	2	8	12,305
				TOTAL CONSTRUCTION ENERGY[2]	**50,000**

Notes:
1. Horsepower and load factors based on CalEEMod Appendix D.
2. Estimated for tertiary and disinfection only at design capacity of 200,000 gpd.

7.7.5 Water Quality Impacts:

Because recycled water will be supplying only a portion of the total irrigation demand of each golf course and because recycled water will be blended with groundwater in the golf course on-site irrigation ponds, no negative water quality impacts are anticipated.

7.7.5.1 Effect on Receiving Water

Not applicable. Current effluent is not discharged to receiving waters but rather evaporated in evaporation-percolation ponds.

7.7.5.2 Ground Water Impacts

Recycled water production offsets groundwater pumping by up to 156 AFY (Alternative 1), 145 AFY (Alternative 2) or 114 AFY (Alternative 3 Future). However, this treated wastewater was previously sent as treated secondary effluent to evaporation-percolation ponds (from existing collection system flow) or to septic tanks. It is estimated that 80% of secondary effluent sent to evaporation-percolation ponds is evaporated; therefore, if used for recycled water, more water would be put to beneficial use and decrease groundwater pumping.

7.8 Comparison of Above Alternatives and Recommendation of Specific Alternative

As stated above, the costs estimated for the three recycled water alternatives included in this analysis are several times the estimated cost of the production of recycled water elsewhere in the County of San Diego. As a result, it is concluded that the production of recycled water in Borrego Water District is not cost effective at this time and recommend the No Project Alternative. It is

recommended the District re-evaluate the feasibility of producing recycled water when the Rams Hill GC community is further developed.

8.0 RECOMMENDED FACILITIES PROJECT PLAN

The No Project Alternative has been recommended; therefore, this section is not applicable.

8.1 Description of All Proposed Facilities and Basis for Selection

Not applicable.

8.2 Preliminary Design Criteria and Refined Pipeline Routes

Not applicable.

8.3 Cost Estimate Based on Time of Construction

Not applicable.

8.4 List of All Potential Users, Quantity of Recycled Water Use, Peak Demand, and Commitments Obtained

Not applicable.

8.5 Reliability of Facilities as Compared to User Requirements

Not applicable.

8.6 Implementation Plan

Not applicable.

8.6.1 Coordination with Water Suppliers

(determination of recycled water supplier and needed agreements or ordinances)

Not applicable.

8.6.2 Ability and Timing of Users to Join System and Make On-site Investments

Not applicable.

8.6.3 Tentative Water Recycling Requirements of RWQCB

Not applicable.

8.6.4 Commitments from Potential Users

Not applicable.

8.6.5 Water Rights Impact

Not applicable.

8.6.6 Permits, Right-of-way, Design Construction

Not applicable.

8.6.7 Detailed Schedule

Not applicable.

8.7 Operational Plan (Responsible People, Equipment, Monitoring, Irrigation Scheduling, etc.)

Not applicable.

9.0 CONSTRUCTION FINANCING PLAN AND REVENUE PROGRAM

The No Project Alternative has been recommended; therefore, this section is not applicable.

9.1 Sources and Timing of Funds for Design and Construction

Not applicable.

9.2 Pricing Policy for Recycled Water

Not applicable.

9.3 Costs that can be Allocated to Water Pollution Control

Not applicable.

9.4 Annual Projections

Not applicable.

9.4.1 Water Prices for Each User or Category of Users

Not applicable.

9.4.2 Recycled Water Used by Each User

Not applicable.

9.4.3 Annual Costs

((required revenue) of recycling project)

Not applicable.

9.4.4 Allocation of Costs to Users

Not applicable.

9.4.5 Unit Costs to Serve Each User or Category of Users

Not applicable.

9.4.6 Unit Price of Recycled Water for Each User or Category of Users

Not applicable.

9.4.7 Sensitivity Analysis

(assuming portion of potential user fail to use recycled water)

Not applicable.

9.5 Sunk Costs and Indebtedness

Not applicable.

REFERENCES

City of San Diego. 2012. *Recycled Water Study*. Project No. 137921. Retrieved from: https://www.sandiego.gov/sites/default/files/legacy/water/pdf/purewater/2012/recycledfinaldraft120510.pdf

County of San Diego. 2014. *Borrego Springs Community Plan, San Diego County General Plan, A Plan for Growth, Conservation and Sustainability*. August 2011. Amended June 18, 2014. Retrieved from: http://www.sandiegocounty.gov/pds/docs/CP/Borrego_Springs_CP.pdf

USBR. 2015. *Summary Report – Southwest California Regional Basin Study.* Retrieved from: https://www.usbr.gov/watersmart/bsp/docs/finalreport/secalifornia/secabasinstudy.pdf

USGS. 2015. *Hydrogeology, Hydrologic Effects of Development, and Simulation of Groundwater Flow in the Borrego Valley, San Diego County, California*. Scientific Investigations Report 2015-5150. https://pubs.usgs.gov/sir/2015/5150/sir20155150.pdf

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – NOVEMBER 15, 2017

AGENDA BILL 2.B

November 8, 2017

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: Contract with Dynamic Engineering for Plans and Specifications on Wilcox Diesel Motor and 3 Reservoir Replacement Projects – G Poole

RECOMMENDED ACTION:

Authorize staff to enter into an Agreement with Dynamic Engineering for development of Plans and Specifications for projects identified above

ITEM EXPLANATION:

The proposed improvements are part of a $1.2 million Grant Application and one of the last steps in the Grant Application process is the development of Plans and Specifications for the improvements. Following the departure of David Dale, the Operations and Infrastructure Committee has been working on this issue and is recommending Dynamic Engineering of El Centro for the work on this project. Dynamic and David Dale were partners for many years and Dynamic has extensive background of doing water and surveying work around Borrego and the Imperial Valley, including large agencies such as Coachella WD and IID.

FISCAL IMPACT:

Grant Application Total = $1.22 M

ATTACHMENTS:

1. Dynamic Engineering Cost Estimate

October 19, 2017

Borrego Water District
806 Palm Canyon Drive
Borrego Springs, CA 92004

Attn: Geoff Poole, General Manager

RE: PROPOSAL FOR THE PREPARATION OF PLANS, SPECIFICATIONS AND BID DOCUMENTS FOR THE BORREGO WATER DISRICT EMERGENCY WATER PUMP DIESEL ENGINE UPGRADE AND TANK REHABILITATION.

Dynamic Consulting Engineers, Inc (DCE) appreciates the opportunity to present this cost proposal to prepare plans, specifications and bid documents for the Borrego Water District Emergency Water Pump Diesel Engine Upgrade and Tank Rehabilitation project. The project includes plans and specifications for the replacement of the existing Wilcox Diesel Engine with an approved San Diego Air Pollution Control District (ACPD) Tier 4 emissions standard diesel engine. The project also includes the preparation of plans and specifications for the demolition and replacement of the Twin Tanks and the Indian Head Tank, and the rehabilitation of the Rams Hill # 2 tank. DCE will follow the recommendations of the Preliminary Engineering Report dated April 2017.

SCOPE OF WORK AND PROPOSED FEES:

1.1	DCE will perform field topographic survey and identify project site existing conditions including existing improvements for all four sites. DCE will set vertical and horizontal control. DCE will prepare topographic base map showing site topography, existing conditions and improvements.	$9,200.00
1.2	DCE will prepare demolition plan for all tanks to be replaced.	$8,500.00
1.3	DCE will prepare engineering drawings for the replacement of the tanks including foundation details and pipe appurtenances. Plans will include replacement of existing diesel engine. Plans will also include specifications and details for tank rehabilitation.	$48,700.00
1.4	DCE will prepare specifications and bid documents.	$5,200.00
1.5	DCE will prepare construction engineer's estimate.	$1,200.00

Total = 72,800.00

DCE PROPOSES TO COMPLETE THE ABOVE MENTIONED SCOPE OF WORK FOR A LUMP SUM FEE OF: **$72,800.00**

Permitting Fees if required by any governing agency are not included in this cost proposal.

Thank you for giving Dynamic Consulting Engineers, Inc the opportunity to serve you. If you have any question please feel free to call me at (760) 545-0162.

Sincerely,

Carlos Beltran, P.E.
Principal Engineer
Dynamic Consulting Engineers, Inc.

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – NOVEMBER 15, 2017

AGENDA BILL 2.C

November 8, 2017

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: Bond & Disclosure Counsel Agreements with Best, Best & Krieger – G Poole

RECOMMENDED ACTION:

Approve Agreements with BBK

ITEM EXPLANATION:

At the October 17th Board Meeting, the Directors authorized initiation of the process to finance a portion of the Capital Improvement Plan. To accomplish this goal, BWD will need Bond and Disclosure Counsel.

- Bond Counsel is an attorney for the issuer of municipal securities who renders the legal opinion as to the tax status of interest payments and as to the authority of the issuer to sell the bonds.

- Disclosure Counsel is an attorney retained by the issuer to provide advice on issuer disclosure obligations and to prepare the Official Statement and/or Continuing Disclosure Agreement.

The attached Proposal has been developed by BBK for this purpose.

FISCAL IMPACT:

TBD

ATTACHMENTS:

Agreement from BBK

Indian Wells
(760) 568-2611
Irvine
(949) 263-2600
Los Angeles
(213) 617-8100
Ontario
(909) 989-8584

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW

655 West Broadway, 15th Floor, San Diego, CA 92101
Phone: (619) 525-1300 | Fax: (619) 233-6118 | www.bbklaw.com

Riverside
(951) 686-1450
Sacramento
(916) 325-4000
Walnut Creek
(925) 977-3300
Washington, DC
(202) 785-0600

Warren B. Diven
(619) 525-1337
warren.diven@bbklaw.com

Memorandum

To: President and Board of Directors, Borrego Water District

From: Warren B. Diven

Date: November 8, 2017

Re: Proposal to Provide Bond and Disclosure Counsel Services -

Best Best & Krieger LLP ("BBK") is pleased to provide this proposal to provide bond counsel and disclosure counsel services to the Borrego Water District (the "District") for the issuance of revenue bonds of the District (the "Bonds") to finance capital improvements identified in the District's FY 2017-18 Budget and Capital Improvement Plan.

Scope of Services.

Bond Counsel Services.

BBK will provide the following services in its capacity as bond counsel:

1. Confer and consult with the District's staff and the District's financing team, including, but not limited to, the District's general counsel, municipal advisor, and disclosure counsel, underwriter and underwriter's counsel, as to the legal sufficiency of the proceedings and, in addition, the timing, terms and structure of the proposed financing and considerations of state law and general public finance law. As the structure of the proposed financing develops, advise District regarding legal considerations related to, and limitations on, the proposed structure.

2. Preparation of all legal proceedings for the authorization, issuance and delivery of the Bonds by the District; including (a) preparation of a resolution of the governing board of the District authorizing the issuance and sale of the Bonds and approving related documents and actions, (b) preparation of all financing documents, (c) preparation of all

documents required for the closing of the Bonds, (d) supervising the closing, and (e) preparation of all other proceedings incidental to or in connection with the issuance and sale of the Bonds.

3. Upon request by District, attend all meetings of the Board of Directors (the "Board") or other public or private meetings which are necessary to initiate, conduct or complete the proceedings, including without limitation, meetings with rating agencies, bond insurers and credit enhancers.

4. Review and provide comments on the bond purchase agreement for the Bonds. Advise District regarding the terms of the purchase agreement.

.5. Review and advise District regarding the terms of any bond insurance or reserve policy any other credit enhancement arrangements, such as letters of credit, if such credit enhancement is desired by the District. Provide comments as may be necessary on the terms of the bond insurance or any other credit enhancement arrangements.

6. Review, and as necessary provide comments on, any financial analyses related to the issuance of the Bonds. BBK will not be responsible for the preparation or content of such analyses.

7. Review those sections of the official statement or other form of offering or disclosure document to be disseminated in connection with the sale of the Bonds involving summary descriptions of the Bonds, the legal proceedings leading to the authorization and sale of the Bonds and the legal documents under which the Bonds will be issued, as to completeness and accuracy.

8. Assist the District in presenting information to bond rating organizations and providers of credit enhancement relating to legal issues affecting the issuance of the Bonds.

9. Provide a final approving legal opinion as to the validity of the Bonds and exemption of interest on the Bonds from state income taxes in substantially the form customarily given by bond counsel and appropriate supplemental opinions and certificates as may be necessary or appropriate.

10. Provide such other legal services as may be incidental to the foregoing

Disclosure Counsel Services.

BBK will provide the following services in its capacity as disclosure counsel:

1. Confer with the City and other financing team members regarding the financing and the scope of due diligence inquiry to be conducted;

2. Prepare the drafts of a Preliminary Official Statement relating to the sale of the Bonds;

3. Advise the City as to the scope of disclosure, the sources of all information, and its compliance with applicable securities laws;

4. Attend District financing team meetings at which the financing is discussed when requested to attend or when attendance is deemed necessary;

5. Facilitate the printing of the Preliminary and Final Official Statements;

6. Provide any additional support or documentation related to the role of Disclosure Counsel and required for closing; and

7. Provide ongoing advice on continuing disclosure requirements and prepare certificates and agreements to comply with applicable securities laws.

8. Provide such other legal services as may be incidental to the foregoing.

Proposed Fees and Expenses.

Bond Counsel and Disclosure Counsel Fees.

Based upon our understanding that the principal amount of the financing will be approximately $8,000,000, BBK's fee for bond counsel services will be $35,000 and for Disclosure Counsel services will be $20,000 which fees will be payable upon the successful completion of the financing.

If the financing differs significantly from BBK's understanding thereof, BBK will be paid a fee that the District and BBK mutually agree would reflect reasonable compensation for legal services rendered considering the risk undertaken and the level of expertise required to undertake such legal service. Additionally, if the financing is not completed and Refunding Bonds are issued BBK will be paid a fee that District and BBK mutually agree would reflect reasonable compensation based upon the above considerations for legal services rendered to the date of termination.

Reimbursement of Costs

Our fees include all routine word processing, secretarial and office costs associated with the provision of legal services, including facsimile transmittals and telephone charges.

Reimbursement of costs advanced by us on behalf of the District, as well as other expenses, will be billed in addition to the amount billed for fees. These currently include, but are not limited to, automobile mileage at the IRS rate, actual expenses away from our office on District business, extraordinary photocopy charges at $0.25/page, producing or reproducing photographs, documents, and other items necessary for legal representation. Additionally, costs advanced include costs of acquiring tables prepared by CalMuni for inclusion in the Prelimianry and Final Official Statements and the preparation of transcript books and CD ROMs for each transaction. Costs will be payable upon the completion of the financing. The reimbursement of costs will be capped at $2,000.

cc: Geoff Poole, General Manager

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – NOVEMBER 15, 2017

AGENDA BILL 2.D

November 8, 2017

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: Endorsement of Water Supply and Water Quality Act of 2018 – G Poole

RECOMMENDED ACTION:

Approve Resolution of Endorsement for Water Supply and Water Quality Act of 2018.

ITEM EXPLANATION:

Approximately one year ago, BWD was contacted by Gerald Meral about his efforts to initiate a Water Bond for November 2018. Signature gathering has begun and that effort has been partially funded from Borrego Springs stakeholders, other than BWD. Mr Meral has requested an Endorsement from BWD.

FISCAL IMPACT:

BWD could receive $35 M if the Bond is approved.

ATTACHMENTS:

Draft Resolution and List of Endorsements

RESOLUTION NO. 2017-11-01

BORREGO WATER DISTRICT

WHEREAS, throughout the State of California, water shortages will have an increasing impact on its environmental and economy viability, and

WHEREAS, a hydrologic model of the Borrego Basin completed in 2015 using data thru 2010 by the United States Geological Service concluded reductions in demand of approximately 70% is needed for sustainability, and

WHEREAS, climate change creates a new variability in estimating reliable inflows into the Borrego groundwater basins

WHEREAS, a ballot initiative has been drafted that would authorize the sale of bonds and add a new Division 38 to the California Water Code entitled the "Water Supply and Water Quality Act of 2018" which would govern how the proceeds of the bonds would be used to provide water needs on a wide array of projects throughout California, and

WHEREAS, if approved by the voters, the measure would appropriate from the bonds issued and sold the sum of $35,000,000 to the Department of Water Resources for a grant to the Borrego Water District for Groundwater Sustainability Plan implementation and water system improvements.

NOW THEREFORE, BE IT RESOLVED that the Board of Directors of the Borrego Water District formally supports the ballot initiative that would place the "Water Supply and Water Quality Act of 2018" on the November 2018 ballot.

I, Joseph Tatusko, Secretary of the Board of Directors of the Borrego Water District, do hereby certify that the foregoing resolution was duly adopted by the Board of Directors of said District at a regular meeting held on the 15th day of November, 2017, and that it was so adopted by the following vote:

AYES: DIRECTORS:

NOES: DIRECTORS:

ABSENT: DIRECTORS:

ABSTAIN: DIRECTORS:

_____

Secretary of the Board of Directors of Borrego Water District

STATE OF CALIFORNIA)
) ss.
COUNTY OF SAN DIEGO)

I, Joseph Tatusko, Secretary of the Board of Directors of the Borrego Water District, do hereby certify that the above and foregoing is a full, true and correct copy of RESOLUTION NO. 2017-11-01, of said Board, and that the same has not been amended or repealed.

Dated: _____

_____

Secretary of the Board of Directors of Borrego Water District

III

AD HOC COMMITTEES

AGENDA
Borrego Water District
Operations and Infrastructure Committee
Special Meeting
November 8, 2017 1:00 p.m.
806 Palm Canyon Drive
Borrego Springs, CA 92004

I. OPENING PROCEDURES

- **A.** Call to Order
- **B.** Pledge of Allegiance
- **C.** Roll Call
- **D.** Approval of Agenda
- **E.** Comments from Committee Members and Requests for Future Agenda Items
- **F.** Comments from the Public and Requests for Future Agenda Items (comments will be limited to 3 minutes)
- **G.** Correspondence from the Public:

II. CLOSED SESSION: Conference with legal counsel-anticipated litigation: Initiation of litigation pursuant to subdivision (d) (4) of Government Code Section 54956.9: one (1) case

III. ITEMS FOR COMMITTEE CONSIDERATION AN POSSIBLE RECOMMENDATION

- **A.** Creation of Plans and Specifications for Wilcox Diesel Motor and Three (3) Reservoir Replacements Projects
- **B.** Selection of Consulting District Engineer
- **C.** Review of Dudek Odor Study
- **D.** Review of Dudek Tertiary Study
- **E.** Initiation of Town Center Sewerline Cleaning
- D. Impacts of Rams Hill Cottage Construction upon BWD
- E. Creation of ID5 Well 5 Work Plan

IV. STAFF REPORTS

IV. ADJOURNMENT

* All Documents for public review on file with the District's secretary located at 806 Palm Canyon Drive, Borrego Springs CA 92004
* Any public record provided to a majority of the Board of Directors less than 72 hours prior to the meeting, regarding any item on the open session portion of this agenda, is available for public inspection during normal business hours at the Office of the Board Secretary, located at 806 Palm Canyon Drive, Borrego Springs CA 92004.
* The Borrego Springs Water District complies with the Americans with Disabilities Act. Persons with special needs should call Geoff Poole – Board Secretary at (760) 767 – 5806 at least 48 hours in advance of the start of this meeting, in order to enable the District to make reasonable arrangements to ensure accessibility.
* If you challenge any action of the Board of Directors in court, you may be limited to raising only those issues you or someone else raised at the public hearing, or in written correspondence delivered to the Board of Directors (c/o the Board Secretary) at, or prior to, the public hearing.

IVA FINANACIALS REPORT

	C	CO	CP	CQ	CR	CS
1	**BWD**	5/23/2017				
2	**CASH FLOW**	ADOPTED	Actual	Projected	Actual	Actual YTD
3	**2017-2018**	BUDGET	September	September	YTD	and Projected
4		FY 2018	2017	2017	2017-2018	2017-2018
5						
6	**REVENUE**					
7	WATER REVENUE					
8	Residential Water Sales	949,885	92,717	95,000	289,412	964,012
9	Commercial Water Sales	302,856	32,001	32,000	113,291	357,752
10	Irrigation Water Sales	210,597	24,977	23,000	73,186	224,682
11	GWM Surcharge	160,274	16,522	16,000	52,192	164,266
12	Water Sales Power Portion	457,206	45,670	49,000	145,273	467,886
13	**TOTAL WATER COMMODITY REVENUE:**	2,080,818	211,888	215,000	673,354	2,178,597
14						
15	Readiness Water Charge	1,114,240	90,658	92,040	266,578	1,091,895
18	Meter Install/Reconnect Fees	1,360	1,604	-	10,300	11,320
19	Backflow Testing/installation	7,000	100	-	50	7,050
20	Bulk Water Sales	600	729	-	1,936	2,513
21	Penalty & Interest Water Collection	19,000	7,168	1,666	21,922	34,609
22	**TOTAL WATER REVENUE:**	3,223,018	312,147	308,706	974,140	3,325,984
23						
24	PROPERTY ASSESSMENTS/AVAILABILITY CHARGES					
25	641500 1% Property Assessments	62,303	521	354	1,592	63,870
26	641502 Property Assess wtr/swr/fld	106,212	149	-	149	108,439
28	641501 Water avail Standby	82,445	3,391	263	4,618	89,846
30	641504 ID 3 Water Standby (La Casa)	33,722	478	133	478	35,272
31	641503 Pest standby	17,882	409	37	543	18,680
32	**TOTAL PROPERTY ASSES/AVAIL CHARGES:**	302,563	4,947	787	7,379	316,307
33						
34	SEWER SERVICE CHARGES					
35	Town Center Sewer Holder fees	226,391	18,926	18,927	56,051	226,394
36	Town Center Sewer User Fees	85,015	7,106	7,107	21,047	85,010
37	Sewer user Fees	267,460	22,334	22,360	67,576	268,816
39	Penalty Interest-Sewer	3,000	0	250	-	2,250
40	Sewer Capacity Fees	0	0	-	-	-
41						
42	**TOTAL SEWER SERVICE CHARGES:**	581,866	48,367	48,644	144,674	582,470
43						
44	OTHER INCOME					
49	Water Credits income	0		-	11,000	11,000
53	Interest Income	6,600	1,522	1,600	4,745	19,145
54	**TOTAL OTHER INCOME:**	6,600	1,522	1,600	15,745	30,145
55						
56	**TOTAL INCOME:**	4,114,047	366,983	359,736	1,141,938	4,254,906
57						
58	CASH BASIS ADJUSTMENTS					
59	Decrease (Increase) in Accounts Receivable		31,598		(48,477)	(48,477)
61	Deposits		8,625		8,625	8,625
62	Other Cash Basis Adjustments				-	-
63	**TOTAL CASH BASIS ADJUSTMENTS:**		40,223		(39,852)	(39,852)
64						
65	**TOTAL INCOME RECEIVED:**	4,114,047	407,206	359,736	1,102,087	4,215,054

	C	CO	CU	CV	CW	CX
1	**BWD**	5/23/2017				
2	**CASH FLOW**	ADOPTED	Projected	Projected	Projected	Projected
3	**2017-2018**	BUDGET	October	November	December	January
4		FY 2018	2017	2017	2017	2018
5						
6	**REVENUE**					
7	WATER REVENUE					
8	Residential Water Sales	949,885	93,000	82,000	78,000	75,000
9	Commercial Water Sales	302,856	29,000	29,000	28,000	22,000
10	Irrigation Water Sales	210,597	23,000	21,000	18,000	15,000
11	GWM Surcharge	160,274	15,000	15,478	12,344	7,000
12	Water Sales Power Portion	457,206	40,000	43,675	34,816	20,000
13	**TOTAL WATER COMMODITY REVENUE:**	2,080,818	200,000	191,153	171,160	139,000
14						
15	Readiness Water Charge	1,114,240	92,039	91,959	92,196	91,782
18	Meter Install/Reconnect Fees	1,360	340	-	-	-
19	Backflow Testing/installation	7,000	-	-	-	-
20	Bulk Water Sales	600	34	287	134	-
21	Penalty & Interest Water Collection	19,000	2,500	2,725	972	500
22	**TOTAL WATER REVENUE:**	3,223,018	294,913	286,123	264,462	231,282
23						
24	PROPERTY ASSESSMENTS/AVAILABILITY CHARGES					
25	641500 1% Property Assessments	62,303	836	3,264	19,080	10,616
26	641502 Property Assess wtr/swr/fld	106,212	-	3,064	5,709	50,292
28	641501 Water avail Standby	82,445	377	7,507	24,795	25,486
30	641504 ID 3 Water Standby (La Casa)	33,722	267	1,491	3,738	14,633
31	641503 Pest standby	17,882	59	611	3,184	6,954
32	**TOTAL PROPERTY ASSES/AVAIL CHARGES:**	302,563	1,539	15,938	56,506	107,981
33						
34	SEWER SERVICE CHARGES					
35	Town Center Sewer Holder fees	226,391	18,927	18,927	18,927	18,927
36	Town Center Sewer User Fees	85,015	7,107	7,107	7,107	7,107
37	Sewer user Fees	267,460	22,360	22,360	22,360	22,360
39	Penalty Interest-Sewer	3,000	250	250	250	250
40	Sewer Capacity Fees	0	-	-	-	-
41						
42	**TOTAL SEWER SERVICE CHARGES:**	581,866	48,644	48,644	48,644	48,644
43						
44	OTHER INCOME					
49	Water Credits income	0	-	-	-	-
53	Interest Income	6,600	1,600	1,600	1,600	1,600
54	**TOTAL OTHER INCOME:**	6,600	1,600	1,600	1,600	1,600
55						
56	**TOTAL INCOME:**	4,114,047	346,696	352,305	371,212	389,507
57						
58	CASH BASIS ADJUSTMENTS					
59	Decrease (Increase) in Accounts Receivable					
61	Deposits					
62	Other Cash Basis Adjustments					
63	**TOTAL CASH BASIS ADJUSTMENTS:**					
64						
65	**TOTAL INCOME RECEIVED:**	4,114,047	346,696	352,305	371,212	389,507

	C	CO	CP	CQ	CR	CS
1	**BWD**	5/23/2017				
2	**CASH FLOW**	ADOPTED	Actual	Projected	Actual	Actual YTD
3	**2017-2018**	BUDGET	September	September	YTD	and Projected
4		FY 2018	2017	2017	2017-2018	2017-2018
66	**EXPENSES**					
67						
68	MAINTENANCE EXPENSE					
69	R & M Buildings & Equipment	185,000	17,110	15,500	45,098	183,598
70	R & M - WWTP	185,000	6,503	15,500	28,709	167,209
71	Telemetry	8,000	0	1,100	2,606	6,900
72	Trash Removal	4,200	298	350	895	4,045
73	Vehicle Expense	18,000	2,328	1,215	5,431	18,098
74	Fuel & Oil	23,000	6,926	2,183	8,837	24,360
75	**TOTAL MAINTENANCE EXPENSE:**	423,200	33,166	35,848	91,575	404,210
76						
77	PROFESSIONAL SERVICES EXPENSE					
78	Tax Accounting (Taussig)	3,000	0	1,350	1,453	2,453
79	Administrative Services (ADP/Bank Fees)	3,000	200	250	925	3,175
80	Audit Fees (Squarmilner)	15,995	0	5,332	10,664	15,996
81	Computer billing (Accela/Parker)	13,500	1,001	100	13,044	14,399
82	Financial/Technical Consulting (Raftelis) (Municipal Advisor)	41,000	0	3,416	8,661	37,584
83	Engineering (Dale/Dudek)	50,000	11,763	4,500	14,126	50,000
84	District Legal Services (Downey Brand/McDougal)	20,000	34,232	1,500	36,095	52,595
85	Testing/lab work (Babcock Lab)	8,400	80	700	1,410	7,710
86	Regulatory Permit Fees (SWRB/DEH/Dig alerts/APCD)	27,160	637	-	5,759	28,594
87	**TOTAL PROFESSIONAL SERVICES EXPENSE:**	182,055	47,913	17,148	92,137	212,506
88						
89	INSURANCE EXPENSE					
90	ACWA/JPIA Program Insurance	57,000	22,118	26,000	22,118	53,118
91	ACWA/JPIA Workers Comp	16,000	3,749	4,000	3,749	15,749
92	**TOTAL INSURANCE EXPENSE:**	73,000	25,867	30,000	25,867	68,867
93						
94	DEBT EXPENSE					
95	Citizens Bank-COP 2008 Debt Payment	251,475	202,425	202,425	202,425	251,475
96	BBVA-Viking Ranch Debt Payment	143,312	0	-	35,796	143,280
97	**TOTAL DEBT EXPENSE:**	394,787	202,425	202,425	238,221	394,755
98						
99	PERSONNEL EXPENSE					
100	Board Meeting Expense (board stipend/board secretary)	22,000	1,394	1,770	3,282	21,742
101	Salaries & Wages (gross)	826,000	66,068	67,475	197,374	817,380
102	Salaries & Wages offset account (board stipends/staff project salaries)	(55,000)	(3,697)	(5,000)	(12,766)	(57,766)
103	Consulting services/Contract Labor	24,000	1,440	2,000	5,344	23,344
104	Taxes on Payroll	22,000	991	1,134	3,067	21,065
105	Medical Insurance Benefits	220,100	18,544	17,965	72,240	220,448
106	Calpers Retirement Benefits	179,200	6,134	8,232	96,033	170,121
107	Conference/Conventions/Training/Seminars	8,000	5,200	500	11,671	15,999
108	**TOTAL PERSONNEL EXPENSE:**	1,246,300	96,075	94,075	376,446	1,232,333
109						
110	OFFICE EXPENSE					
111	Office Supplies	18,000	1,578	1,500	4,869	18,000
112	Office Equipment/ Rental/Maintenance Agreements	35,000	5,782	3,600	12,228	35,000
113	Postage & Freight	15,000	0	187	2,150	15,000
114	Taxes on Property	2,331	0	51	-	2,331
115	Telephone/Answering Service/Cell	19,000	1,360	1,583	4,308	19,000
116	Dues & Subscriptions (ACWA/CSDA)	21,526	363	750	1,834	21,526
117	Printing, Publications & Notices	3,000	111	250	278	3,000
118	Uniforms	5,400	568	500	1,587	5,400
119	OSHA Requirements/Emergency preparedness	4,000	1,103	400	1,461	4,000
120	**TOTAL OFFICE EXPENSE:**	123,257	10,867	8,821	28,714	123,256
121						
122	UTILITIES EXPENSE					
123	Pumping-Electricity	300,000	33,272	28,500	94,645	307,739
124	Office/Shop Utilities	20,000	62	2,100	3,995	17,595
126	**TOTAL UTILITIES EXPENSE:**	320,000	33,334	30,600	98,640	325,334
127						
128	GROUNDWATER MANAGEMENT EXPENSE					
129	GWM -legal/Misc.-prop 1 grant/USGS	120,000	25,786	10,000	45,050	135,050
130	Conservation incentive program	30,000		2,500	-	30,000
131	District portion of GSP	120,000		10,000	-	90,334
132	**TOTAL GWM EXPENSE:**	270,000	25,786	22,500	45,050	255,384
133						
134	**TOTAL EXPENSES:**	3,032,600	475,432	441,417	996,652	3,016,646
135						
136	CASH BASIS ADJUSTMENTS					
137	Decrease (Increase) in Accounts Payable		(194,017)		(125,942)	(125,942)
138	Increase (Decrease) in Inventory		1,697		1,208	1,208
139	Other Cash Basis Adjustments-loss on asset 800 tank				-	-
140	**TOTAL CASH BASIS ADJUSTMENTS:**		(192,321)		(124,734)	(124,734)
141						
142	**TOTAL EXPENSES PAID:**	3,032,600	283,112	441,417	871,918	2,891,911
143						
144	**NET CASH FLOW (O&M)**	1,081,447	124,095	(81,681)	230,169	1,323,143

	C	CO	CU	CV	CW	CX
1	**BWD**	5/23/2017				
2	**CASH FLOW**	ADOPTED	Projected	Projected	Projected	Projected
3	**2017-2018**	BUDGET	October	November	December	January
4		FY 2018	2017	2017	2017	2018
66	**EXPENSES**					
67						
68	MAINTENANCE EXPENSE					
69	R & M Buildings & Equipment	185,000	15,500	15,500	15,500	15,500
70	R & M - WWTP	185,000	15,500	15,500	15,500	15,500
71	Telemetry	8,000	-	1,000	-	1,200
72	Trash Removal	4,200	350	350	350	350
73	Vehicle Expense	18,000	1,200	1,200	1,200	2,000
74	Fuel & Oil	23,000	1,000	1,800	1,660	1,077
75	**TOTAL MAINTENANCE EXPENSE:**	423,200	33,550	35,350	34,210	35,627
76						
77	PROFESSIONAL SERVICES EXPENSE					
78	Tax Accounting (Taussig)	3,000	-	-	-	-
79	Administrative Services (ADP/Bank Fees)	3,000	250	250	250	250
80	Audit Fees (Squarmilner)	15,995	-	5,332	-	-
81	Computer billing (Accela/Parker)	13,500	100	200	150	200
82	Financial/Technical Consulting (Raftelis) (Municipal Advisor)	41,000	3,417	3,417	3,417	3,417
83	Engineering (Dale/Dudek)	50,000	3,874	4,000	4,000	4,000
84	District Legal Services (Downey Brand/McDougal)	20,000	2,000	2,000	2,000	2,000
85	Testing/lab work (Babcock Lab)	8,400	700	700	700	700
86	Regulatory Permit Fees (SWRB/DEH/Dig alerts/APCD)	27,160	400	135	8,500	7,000
87	**TOTAL PROFESSIONAL SERVICES EXPENSE:**	182,055	10,741	16,034	19,017	17,567
88						
89	INSURANCE EXPENSE					
90	ACWA/JPIA Program Insurance	57,000	-	-	-	-
91	ACWA/JPIA Workers Comp	16,000	-	-	4,000	-
92	**TOTAL INSURANCE EXPENSE:**	73,000	-	-	4,000	-
93						
94	DEBT EXPENSE					
95	Citizens Bank-COP 2008 Debt Payment	251,475	-	-	-	-
96	BBVA-Viking Ranch Debt Payment	143,312	-	35,828	-	-
97	**TOTAL DEBT EXPENSE:**	394,787	-	35,828	-	-
98						
99	PERSONNEL EXPENSE					
100	Board Meeting Expense (board stipend/board secretary)	22,000	1,770	1,770	1,770	1,770
101	Salaries & Wages (gross)	826,000	69,104	74,324	67,475	70,734
102	Salaries & Wages offset account (board stipends/staff project salaries)	(55,000)	(5,000)	(5,000)	(5,000)	(5,000)
103	Consulting services/Contract Labor	24,000	2,000	2,000	2,000	2,000
104	Taxes on Payroll	22,000	1,133	1,334	933	4,928
105	Medical Insurance Benefits	220,100	17,965	17,965	17,965	18,863
106	Calpers Retirement Benefits	179,200	8,232	8,232	8,232	8,232
107	Conference/Conventions/Training/Seminars	8,000	100	103	150	648
108	**TOTAL PERSONNEL EXPENSE:**	1,246,300	95,304	100,728	93,525	102,175
109						
110	OFFICE EXPENSE					
111	Office Supplies	18,000	1,600	1,000	1,500	1,500
112	Office Equipment/ Rental/Maintenance Agreements	35,000	1,000	2,200	2,000	3,150
113	Postage & Freight	15,000	2,100	2,000	2,100	100
114	Taxes on Property	2,331	2,331	-	-	-
115	Telephone/Answering Service/Cell	19,000	1,583	1,583	1,583	1,657
116	Dues & Subscriptions (ACWA/CSDA)	21,526	114	-	11,384	6,400
117	Printing, Publications & Notices	3,000	300	350	250	250
118	Uniforms	5,400	500	420	420	420
119	OSHA Requirements/Emergency preparedness	4,000	-	400	300	300
120	**TOTAL OFFICE EXPENSE:**	123,257	9,528	7,953	19,537	13,777
121						
122	UTILITIES EXPENSE					
123	Pumping-Electricity	300,000	28,000	24,475	22,895	21,335
124	Office/Shop Utilities	20,000	2,000	1,500	1,200	1,000
126	**TOTAL UTILITIES EXPENSE:**	320,000	30,000	25,975	24,095	22,335
127						
128	GROUNDWATER MANAGEMENT EXPENSE					
129	GWM -legal/Misc.-prop 1 grant/USGS	120,000	10,000	10,000	10,000	10,000
130	Conservation incentive program	30,000	3,334	3,334	3,334	3,334
131	District portion of GSP	120,000	10,334	10,000	10,000	10,000
132	**TOTAL GWM EXPENSE:**	270,000	23,668	23,334	23,334	23,334
133						
134	**TOTAL EXPENSES:**	3,032,600	202,791	245,202	217,717	214,814
135						
136	CASH BASIS ADJUSTMENTS					
137	Decrease (Increase) in Accounts Payable					
138	Increase (Decrease) in Inventory					
139	Other Cash Basis Adjustments-loss on asset 800 tank					
140	**TOTAL CASH BASIS ADJUSTMENTS:**					
141						
142	**TOTAL EXPENSES PAID:**	3,032,600	202,791	245,202	217,717	214,814
143						
144	**NET CASH FLOW (O&M)**	1,081,447	143,905	107,103	153,495	174,693

	C	CO	CP	CQ	CR	CS
1	**BWD**	5/23/2017				
2	**CASH FLOW**	ADOPTED	Actual	Projected	Actual	Actual YTD
3	**2017-2018**	BUDGET	September	September	YTD	and Projected
4		FY 2018	2017	2017	2017-2018	2017-2018
145	**CIP PROJECTS**					
146	**Water**					
147	Pickup	50,000	0		39,555	39,555
151	New 900 Reservoir	525,000	18,260		109,031	525,000
155	Replace Twin Tanks-(prop 1 grant)	579,000			-	579,000
156	Replace Wilcox Diesel Motor-(Prop 1 grant)	59,000			-	59,000
157	Replace Indianhead Reservoir-(Prop 1 grant)	294,000			-	294,000
158	Rams Hill#2, 1980 balv. 0.44 MG recoating-(Prop 1 grant)	161,000			-	161,000
159	Rebuild Rams hill booster station pump 3				25,218	25,218
160	Emergency water pipeline repairs	25,000		5,000	-	25,000
161	10" Bypass at ID 1 Booster Station 2	15,000	16,140		16,140	16,140
162	Transmission line to convey Well 5 water to C.C. Reservoir (pipeline 2)	83,000			-	83,000
163	T Anchor Dr., Frying Pan Rd. to Double O Rd. (Pipeline 6)	34,000			-	34,000
164	Weathervane Dr., Frying Pan Road to Double O Road (Pipeline7)	34,000			-	34,000
169	ID 5-5, 200 HP	80,000			-	80,000
170	Well 12 pump and casing cleaning	50,000			90,849	90,849
172	Emergency Generator Mobile Trailer	12,000			-	12,000
174	Mail machine inserter		10,548		10,548	10,548
175	**TOTAL WATER CIP:**	2,001,000	44,949	5,000	291,342	2,068,311
176	**Sewer**					
184	Plant-Grit removal at the headworks-(Prop 1 grant)	100,000			-	100,000
188	WTF-Rehab Clarifier (Prop 1 grant)	118,500		15,000	-	118,500
194	**TOTAL SEWER CIP:**	218,500	0	15,000	-	218,500
228						
229	**TOTAL CIP EXPENSES:**	2,219,500	44,949	20,000	291,342	2,286,811
230						
231	**CASH RECAP**					
232	Cash beginning of period	4,589,663	4,009,338	4,009,338	4,149,656	4,589,663
233	Net Cash Flow (O&M)	1,081,447	124,095	(81,681)	230,169	1,323,143
234	Total Non O&M Expenses	(2,219,500)	(44,949)	(20,000)	(291,342)	(2,286,811)
235	**CASH AT END OF PERIOD**	3,451,611	4,088,485	3,907,658	4,088,485	3,625,995
236						
237	**RESERVES**					
238	Working Capital-Water (4 months)	(1,000,000)	(1,000,000)	(1,000,000)	(1,000,000)	(1,000,000)
239	R & R Reserves	(532,000)	(532,000)	(532,000)	(532,000)	(532,000)
240	Contingency Reserves (8.% O&M)	(240,000)	(240,000)	(240,000)	(240,000)	(240,000)
241	Rate Stabilization Reserves	(800,000)	(800,000)	(800,000)	(800,000)	(800,000)
242	Available for Emergency Reserves	1,411,611	1,516,485	1,335,658	1,516,485	1,053,995
243	**Target Emergency Reserves**	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
244	**Emergency Reserves Deficit**	(588,389)	(483,515)	(664,342)	(483,515)	(946,005)
245						
246	**EXPLANATION**					
247						
248	**Fuel & Oil**		6,926	2,183	Paid two fuel bills	
249	**Engineering**		11,763	4,500	Paid two engineering bills	
250	**Legal Services**		34,232	1,500	Budget item blown out of the water	

	C	CO	CU	CV	CW	CX
1	**BWD**	5/23/2017				
2	**CASH FLOW**	ADOPTED	Projected	Projected	Projected	Projected
3	**2017-2018**	BUDGET	October	November	December	January
4		FY 2018	2017	2017	2017	2018
145	**CIP PROJECTS**					
146	**Water**					
147	Pickup	50,000				
151	New 900 Reservoir	525,000	250,000	165,969		
155	Replace Twin Tanks-(prop 1 grant)	579,000				
156	Replace Wilcox Diesel Motor-(Prop 1 grant)	59,000				
157	Replace Indianhead Reservoir-(Prop 1 grant)	294,000				
158	Rams Hill#2, 1980 balv. 0.44 MG recoating-(Prop 1 grant)	161,000				
159	Rebuild Rams hill booster station pump 3					
160	Emergency water pipeline repairs	25,000			5,000	
161	10" Bypass at ID 1 Booster Station 2	15,000				
162	Transmission line to convey Well 5 water to C.C. Reservoir (pipeline 2)	83,000			41,500	
163	T Anchor Dr., Frying Pan Rd. to Double O Rd. (Pipeline 6)	34,000				34,000
164	Weathervane Dr., Frying Pan Road to Double O Road (Pipeline7)	34,000				
169	ID 5-5, 200 HP	80,000				
170	Well 12 pump and casing cleaning	50,000				
172	Emergency Generator Mobile Trailer	12,000				12,000
174	Mail machine inserter					
175	**TOTAL WATER CIP:**	2,001,000	250,000	165,969	46,500	46,000
176	**Sewer**					
184	Plant-Grit removal at the headworks-(Prop 1 grant)	100,000				
188	WTF-Rehab Clarifier (Prop 1 grant)	118,500				25,000
194	**TOTAL SEWER CIP:**	218,500	-	-	-	25,000
228						
229	**TOTAL CIP EXPENSES:**	2,219,500	250,000	165,969	46,500	71,000
230						
231	**CASH RECAP**					
232	Cash beginning of period	4,589,663	4,088,485	3,982,390	3,923,524	4,030,519
233	Net Cash Flow (O&M)	1,081,447	143,905	107,103	153,495	174,693
234	Total Non O&M Expenses	(2,219,500)	(250,000)	(165,969)	(46,500)	(71,000)
235	**CASH AT END OF PERIOD**	3,451,611	3,982,390	3,923,524	4,030,519	4,134,212
236						
237	**RESERVES**					
238	Working Capital-Water (4 months)	(1,000,000)	(1,000,000)	(1,000,000)	(1,000,000)	(1,000,000)
239	R & R Reserves	(532,000)	(532,000)	(532,000)	(532,000)	(532,000)
240	Contingency Reserves (8.% O&M)	(240,000)	(240,000)	(240,000)	(240,000)	(240,000)
241	Rate Stabilization Reserves	(800,000)	(800,000)	(800,000)	(800,000)	(800,000)
242	Available for Emergency Reserves	1,411,611	1,410,390	1,351,524	1,458,519	1,562,212
243	**Target Emergency Reserves**	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
244	Emergency Reserves Deficit	(588,389)	(589,610)	(648,476)	(541,481)	(437,788)
245						
246	**EXPLANATION**					
247						
248	**Fuel & Oil**					
249	**Engineering**					
250	**Legal Services**					

	G	H	I	J	K	L
115						
116						
117						
118						
119						
120				BALANCE SHEET	BALANCE SHEET	MONTHLY
121				September 30, 2017	August 31, 2017	CHANGE
122				(unaudited)	(unaudited)	(unaudited)
123		ASSETS				
124						
125						
126	*CURRENT ASSETS*					
127	Cash and cash equivalents			$ 4,088,483.47	$ 4,049,815.46	$ 38,668.01
128	Accounts receivable from water sales and sewer charges			$ 473,830.16	$ 505,428.09	$ (31,597.93)
130	Inventory			$ 129,422.13	$ 127,725.43	$ 1,696.70
134	Prepaid expenses			$ 30,655.73	$ 30,655.73	$ -
136						
137		**TOTAL CURRENT ASSETS**		**$ 4,722,391.49**	**$ 4,713,624.71**	$ 8,766.78
138						
139	*RESTRICTED ASSETS*					
140	Debt Service:					
141	Deferred amount of COP Refunding			$ 112,546.17	$ 112,546.17	$ -
144	Deferred Outflow of Resources-calPERS			$ 244,883.00	$ 244,883.00	$ -
145	Total Debt service			$ 357,429.17	$ 357,429.17	$ -
146						
147	Trust fund:					
148	Investments with fiscal agent -CFD 2007-1			$ 9,673.82	$ 10,938.76	$ (1,264.94)
149	Total Trust fund			$ 9,673.82	$ 10,938.76	$ (1,264.94)
150						
151		**TOTAL RESTRICTED ASSETS**		**$ 367,102.99**	**$ 368,367.93**	
152						
153	*UTILITY PLANT IN SERVICE*					
154	Land			$ 2,309,413.65	$ 2,309,413.65	$ -
155	Flood Control Facilities			$ 4,287,340.00	$ 4,287,340.00	$ -
156	Capital Improvement Projects			$ 349,903.53	$ 331,643.29	$ 18,260.24
157	Sewer Facilities			$ 5,992,778.56	$ 5,992,778.56	$ -
158	Water facilities			$ 11,010,716.48	$ 10,994,576.21	$ 16,140.27
159	General facilities			$ 1,017,429.37	$ 1,006,881.07	$ 10,548.30
160	Equipment and furniture			$ 574,974.27	$ 574,974.27	$ -
161	Vehicles			$ 622,357.41	$ 622,357.41	$ -
162	Accumulated depreciation			$ (12,838,917.47)	$ (12,838,917.47)	$ -
163						$ -
164		**NET UTILITY PLANT IN SERVICE**		**$ 13,325,995.80**	**$ 13,281,046.99**	$ 44,948.81
165						
166	*OTHER ASSETS*					
167	Water rights -ID4			$ 185,000.00	$ 185,000.00	$ -
168						
169		**TOTAL OTHER ASSETS**		**$ 185,000.00**	**$ 185,000.00**	
170						
171		**TOTAL ASSETS**		**$ 18,600,490.28**	**$ 18,548,039.63**	$ 52,450.65
172						
173						
174						
175						
176						

	G	H	I	J	K	L
177						
178						
179						
180						
181						
182						
183						
184	Balance sheet continued					
185				BALANCE SHEET	BALANCE SHEET	MONTHLY
186				September 30, 2017	August 31, 2017	CHANGE
187				(unaudited)	(unaudited)	(unaudited)
188		**LIABILITIES**				
189						
190						
191	***CURRENT LIABILITIES PAYABLE FROM CURRENT ASSETS***					
192	Accounts Payable			$ 226,447.19	$ 32,429.99	$ 194,017.20
193	Accrued expenses			$ 123,110.45	$ 123,110.45	$ -
195	Deposits			$ 13,625.00	$ 5,000.00	$ 8,625.00
196						
197		**TOTAL CURRENT LIABILITIES PAYABLE**				
198		**FROM CURRENT ASSETS**		**$ 363,182.64**	**$ 160,540.44**	$ 202,642.20
199						
200	***CURRENT LIABILITIES PAYABLE FOM RESTRICTED ASSETS***					
201	Debt Service					
202	Accounts Payable to CFD 2007-1			$ 9,673.82	$ 10,938.76	$ (1,264.94)
204						
205		**TOTAL CURRENT LIABILITIES PAYABLE**				
206		**FROM RESTRICTED ASSETS**		**$ 9,673.82**	**$ 10,938.76**	$ (1,264.94)
207						
208	***LONG TERM LIABILITIES***					
209	2008 Certificates of participation			$ 2,180,000.00	$ 2,330,000.00	$ (150,000.00)
210	BBVA Compass Bank Loan			$ 918,919.86	$ 918,919.86	$ -
211	Net Pension Liability-calPERS			$ 693,352.00	$ 693,352.00	$ -
212	Deferred Inflow of Resources-calPERS			$ 246,389.00	$ 246,389.00	
213						
214		**TOTAL LONG TERM LIABILITIES**		**$ 4,038,660.86**	**$ 4,188,660.86**	$ (150,000.00)
215						
216		**TOTAL LIABILITIES**		**$ 4,411,517.32**	**$ 4,360,140.06**	$ 51,377.26
217						
218	***FUND EQUITY***					
219	Contributed equity			$ 9,611,814.35	$ 9,611,814.35	$ -
220						
221	Retained Earnings					
222	Unrestricted Reserves/Retained Earnings			$ 4,577,158.61	$ 4,576,085.22	$ 1,073.39
223						
224	Total retained earnings			$ 4,577,158.61	$ 4,576,085.22	$ 1,073.39
225						
226	**TOTAL FUND EQUITY**			**$ 14,188,972.96**	**$ 14,187,899.57**	$ 1,073.39
227						
228		**TOTAL LIABILITIES AND FUND EQUITY**		**$ 18,600,490.28**	**$ 18,548,039.63**	$ 52,450.65

TREASURER'S REPORT
September, 2017

	Bank Balance	Carrying Value	Fair Value	% of Portfolio Current Actual	Rate of Interest	Maturity	Valuation Source
Cash and Cash Equivalents:							
Demand Accounts at UB/LAIF							
General Account/Petty Cash	$ 1,889,855	$ 1,883,040	$ 1,883,040	46.06%	0.00%	N/A	UB
Payroll Account	$ 77,882	$ 77,731	$ 77,731	1.90%	0.00%	N/A	UB
MMA	$ 2,106,484	$ 2,106,484	$ 2,106,484	51.52%	0.88%	N/A	UB
LAIF	$ 21,228	$ 21,228	$ 21,228	0.52%	0.92%	N/A	LAIF
Total Cash and Cash Equivalents	**$ 4,095,449**	**$ 4,088,483**	**$ 4,088,483**	**100.00%**			
Facilities District No. 2017-1							
Special Tax Bond- Rams Hill -US BANK	$ 9,674	$ 9,674	$ 9,674				
Total Cash,Cash Equivalents & Investments	**$ 4,105,123**	**$ 4,098,157**	**$ 4,098,157**				

Cash and investments conform to the District's Investment Policy statement filed with the Board of Directors on July 26, 2017

Cash, investments and future cash flows are sufficient to meet the needs of the District for the next six months.

Sources of valuations are Umpqua Bank, LAIF and US Trust Bank.

Kim Pitman, Administration Manager

To: BWD Board of Directors

From: Kim Pitman

Subject: Consideration of the Disbursements and Claims Paid
Month Ending September, 2017

Vendor disbursements paid during this period:			**$ 462,636.15**
Significant items:			
San Diego Gas & Electric		$	33,333.72
Medical Health Benefits (two months)		$	37,880.62
Property Program Insurance		$	25,867.17
Citizens Business Bank-Debt Payment		$	202,425.00
Capital Projects/Fixed Asset Outlays:			
Hidden Valley Pump-Rebuild booster pumps		$	16,140.27
Neopost USA Inc.-Mailer Inserter/Postage machine		$	14,020.60
Superior Tank-900 Tank		$	14,350.00
Total Professional Services for this Period:			
Best Best & Krieger (two months)	Legal-general	$	17,347.51
One Eleven Water Services-Jerry Rolwing	GWM Support	$	3,135.00
Lesar Development Consultants	GWM	$	20,000.00
CSC Engineering	Remove 800 tank		
Downey Brand, Attorneys	GWM	$	3,962.25
Dudek Professional Services	Odor Control Study RHGC Prepare Grants	$	11,233.75
Payroll for this Period:			
Gross Payroll		$	66,068.15
Employer Payroll Taxes and ADP Fee		$	1,241.00
Total		**$**	**67,309.15**

Accounts Payable

Checks by Date - Summary by Vendor Number

Vendor No	Vendor Name	Check Amount
1109	ABILITY ANSWERING/PAGING SER	270.03
3035	ACWA/JPIA PROGRAM INSURANCE	25.867.17
1266	AFLAC	867.32
1001	AMERICAN LINEN INC.	568.48
61	AT&T MOBILITY	604.61
9529	AT&T-CALNET 3	371.54
83	AUTOMATED WATER TREATMENT	10.615.56
1481	BAY CITY ELECTRIC WORKS	1.495.33
10884	BEST BEST & KRIEGER ATTORNEYS AT LAW	17.347.51
88	BORREGO AUTO PARTS. INC.	910.97
1003	BORREGO SPRINGS BOTTLED WATER	84.82
1037	BORREGO SUN	111.00
1196	CASH	700.00
9339	CEB	175.96
9418	CITIZENS BUSINESS BANK	202.425.00
56	CMS BUSINESS FORMS. INC.	649.36
9395	COMMERCIAL VAN INTERIORS	1.101.58
48	COUNTY OF SAN DIEGO DEPT OF PUBLIC WORKS	637.20
39	DAVID TAUSSIG & ASSOCIATES.INC	529.61
1222	DEBBIE MORETTI	122.00
1455	DIANA DEL BONO	1.440.00
96	DISH	73.95
9535	DOWNEY BRAND	3.962.25
9474	DOWNSTREAM SERVICES. INC.	4.921.74
9640	DUDEK	11.233.75
1094	EMPIRE SOUTHWEST	1.650.22
9012	ESCONDIDO METAL SUPPLY	43.53
10887	FRIENDS OF THE BORREGO SPRINGS LIBRARY	1.000.00
10890	FRONTIER FENCE	96.97
9579	GREEN DESERT LANDSCAPE	4.770.00
1012	HIDDEN VALLEY PUMP SYSTEMS INC	16.140.27
10888	HIGHWAY SAFTEY	1.103.47
1136	HOME DEPOT CREDIT SERVICES	782.88
9614	HYDROTEX	2.172.49
1022	JAMES HORMUTH DE ANZA TRUE VALUE	39.48
65	JC LABS & MONITORING SERVICE	1.500.00
10873	KESSLINGS KITCHEN	314.36
10889	LESAR DEVELOPMENT CONSULTANTS	20.000.00
1066	MANUEL RODRIGUEZ DE ANZA READY MI	1.239.62
9549	McDOUGAL LOVE ECKIS	20.95
1000	MEDICAL ACWA-JPIA	37.880.62
1016	NAPA AUTO PARTS INC	43.81
10891	NEOPOST USA INC	14.020.60
10852	ONE ELEVEN WATER SERVICES. LLC.	3.135.00
1208	PACIFIC PIPELINE SUPPLY INC	5.486.16
3015	PITNEY BOWES INC	201.49
9633	RAMONA DISPOSAL SERVICE	3.311.88

10886	SAN DIEGO COUNTY LIBRARY	2.000.00
1065	SAN DIEGO GAS & ELECTRIC	33.333.72
1059	STAPLES CREDIT PLAN	364.85
10877	SUPERIOR TANK COMPANY INC.	14.350.00
10885	THE SOCO GROUP. INC.	4.753.88
9581	TRAVIS PARKER	961.00
3000	U.S.BANK CORPORATE PAYMENT SYS	3.761.37
1023	UNDERGROUND SERVICE ALERT	16.60
10847	USA COMMUNICATIONS	100.44
1100	VERIZON WIRELESS	114.25
1623	WENDY OUINN	462.50
92	XEROX FINANCIAL SERVICES	377.00
Report Total (65 checks):		462,636.15

	A	B	D	E	F	G	H	I	J	K	L
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15			Wendy Quinn	Town Hall/	One Eleven	Lesar			Water Advisory Committee-Lunches	Monthly	FYE 2018
16	Month	Downey Brand	Minutes	Advertising/Postage	Water Services	Development	Staff Allocation	Ellen Wehr	Recording/Minutes	Total	Total
17											
18	Jul-17						3,415.68	9,645.00	480.88	13,541.56	13,541.56
19	Aug-17				1,710.00		4,002.75		9.99	5,722.74	19,264.30
20	Sep-17	1,115.25	262.50	100.90	760.00	20,000.00	3,202.20		345.20	25,786.05	45,050.35
21	Oct-17										
22	Nov-17										
23	Dec-17										
24	Jan-17										
25	Feb-17										
26	Mar-17										
27	Apr-17										
28	May-17										
29	Jun-17										
30											
31	Total	1,115.25	262.50	100.90	2,470.00	20,000.00	10,620.63	9,645.00	836.07	45,050.35	45,050.35

GROUNDWATER MANAGEMENT
ACCOUNTING
FY 2018
Acct #10154800

IVB

WATER & WASTE WATER OPERATIONS REPORT

BORREGO WATER DISTRICT

September 2017

WATER OPERATIONS REPORT

WELL	TYPE	FLOW RATE	STATUS	COMMENT
ID1-8	Production	350	In Use	
ID1-10	Production	300	In Use	
ID1-12	Production	900	In Use	
ID1-16	Production	750	In Use	
Wilcox	Production	80	In Use	Diesel backup well for ID-4
ID4-4	Production	400	In Use	
ID4-11	Production	900	In Use	Diesel engine drive exercised monthly
ID4-18	Production	150	In Use	
ID5-5	Production	850	In Use	

System Problems: All production wells are in service. All reservoirs are in operating condition.

WASTEWATER OPERATIONS REPORT

Rams Hill Wastewater Treatment Facility serving ID-1, ID-2 and ID-5 Total Cap. 0.25 MGD (million gallons per day):

Average flow: 64,623 (gallons per day)

Peak flow: 197,400 gpd Friday September 29, 2017

IVC WATER PRODUCTION/ USE RECORDS

BORREGO WATER DISTRICT

WATER PRODUCTION SUMMARY

SEPTEMBER 2017

DATE	WATER USE	WATER PROD	WATER %UNACC	ID4 USE	ID4 PROD	ID4 %UNACC	TOTAL USE	TOTAL PROD
Sep-15	35.46	38.80	8.61	108.92	108.89	-0.03	144.38	147.69
Oct-15	39.19	42.11	6.93	117.32	113.56	-3.31	156.51	155.67
Nov-15	31.25	33.51	6.74	94.66	132.96	28.81	125.91	166.47
Dec-15	22.37	24.64	9.23	83.23	99.01	15.94	105.60	123.66
Jan-16	18.80	20.96	10.29	58.73	72.07	18.51	77.53	93.03
Feb-16	19.61	20.00	1.94	74.06	91.40	18.97	93.67	111.40
Mar-16	18.98	20.38	6.86	73.79	86.65	14.84	92.77	107.03
Apr-16	23.53	25.03	5.98	78.79	94.30	16.45	102.32	119.33
May-16	22.54	22.99	1.96	78.02	92.54	15.69	100.56	115.53
Jun-16	30.90	33.34	7.31	96.77	114.10	15.19	127.67	147.44
Jul-16	35.02	35.74	2.01	97.17	115.18	15.63	132.19	150.91
Aug-16	41.77	43.61	4.21	115.77	141.88	18.40	157.54	185.48
Sep-16	43.67	46.58	6.25	119.76	118.50	-1.06	163.43	165.09
Oct-16	34.51	37.64	8.31	102.51	122.73	16.48	137.02	160.37
Nov-16	31.55	31.58	0.10	102.59	112.11	8.50	134.14	143.70
Dec-16	27.15	27.95	2.87	73.25	82.85	11.59	100.40	110.81
Jan-17	17.49	16.18	-8.10	51.59	59.32	13.02	69.08	75.50
Feb-17	11.72	14.64	19.93	63.23	73.40	13.85	74.95	88.04
Mar-17	17.15	18.48	7.17	63.65	68.34	6.86	80.81	86.82
Apr-17	25.02	26.02	3.83	90.17	99.02	8.94	115.18	125.03
May-17	28.18	29.45	4.30	98.06	113.48	13.58	126.25	142.93
Jun-17	29.25	33.42	12.48	96.28	106.02	9.19	125.52	139.44
Jul-17	32.84	34.17	3.90	107.37	122.38	12.26	140.21	156.55
Aug-17	35.64	40.65	12.32	127.56	141.43	9.81	163.19	182.07
Sep-17	40.98	43.11	4.93	102.46	114.72	10.69	143.44	157.83
12 Mo. TOTAL	375.15	399.86	6.02	1198.48	1334.31	10.29	1573.63	1734.16

Totals reflect Water (ID1 & ID3) and ID4 (ID4 & ID5) . Interties to SA3 are no longer needs to be separated. ID4 and SA5 are combined because all water production is pumped from ID4.
All figures are in Acre Feet of water pumped.

WATER LOSS SUMMARY (%)

PROGRAM DID NOT CALCULATE WATER LOSS FOR JANUARY IN TIME FOR THIS REPORT

DATE	WATER	ID-4	ID-5	DISTRICT-WIDE AVERAGE
Aug-17	4.93	10.69	N/A	7.81
12 Mo. Average	6.02	10.29	N/A	8.15

IVD

GENERAL MANAGER REPORT

VERBAL REPORT

1. Ray Burnand Fallowing Request
2. ID 5, Well 5 Repairs
3. District Engineer Search
4. Water Quality Testing of BWD Production Wells
5. Rams Hill Aquaponics Project