BEAUMONT-CHERRY VALLEY WATER DISTRICT

560 MAGNOLIA AVENUE

BEAUMONT, CALIFORNIA 92223

www.bcvwd.org

WATER SUPPLY ASSESSMENT

for

Beaumont Pointe

City of Beaumont, CA

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1. INTRODUCTION

The Beaumont Pointe development project (BP or "Project") (formerly known as and referred to in some exhibits herein as "Jack Rabbit Trail") is proposed to be constructed in the City of Beaumont, CA on a site with gross area of approximately 540 acres south of Highway 60 and northwest of the proposed Hidden Canyon Industrial site. Project development limits will result in a graded net area of approximately 276.4 net acres. The project will consist of (1) general commercial/retail land uses on approximately 30.2 acres, and (2) five large graded building pads with one building on each pad totaling approximately 5.0 million square feet of warehouse/office structures. Existing 4th Street is proposed to be extended from the proposed alignment in Hidden Canyon to the BP site. The Riverside County Fire Department has identified a fire flow requirement for the Project of 4,000 gpm for 4 hours. The Project site will be annexed into the Beaumont Cherry Valley Water District (BCVWD) service area.

The Project site was previously planned with a land use density of 2,000 equivalent dwelling units (EDUs) and was included in the BCVWD's 2015 Urban Water Management Plan (UWMP) with 2,000 EDUs (previously identified as Jack Rabbit Trail). Based on the District's adopted EDU usage factor of 0.546 AFY/EDU, this equates to an estimated water demand of 1,092 AFY. The new BP land use plan estimates a density of 360 EDUs, representing a reduced site density by 82 percent. The water demand estimate using specific factors developed for each of the land uses currently proposed for BP, provides an updated demand estimate of 197 AFY. As a result of the changed land use plan, the Water Supply Assessment (WSA) accounts for a vastly reduced water demand estimate from what the UWMP assumes for the site.

2. WATER SUPPLY ASSESSMENT (WSA) LEGISLATIVE REQUIREMENTS

Two Senate Bills passed in 2001 to advance water supply planning efforts in California and provide for developing comprehensive water policies to meet future water needs by integrating water supply and land use planning. These were Senate Bill 221 and Senate Bill 610, (SB 221 and SB 610, respectively). The intent was to provide additional assurance that new projects, as defined by the legislation, will have reliable water supply both now and 20 years into the future considering existing and other new development projects also under consideration. The legislation provides for evaluation of those common water sources in order to confirm their ability to continue supplying existing water users while concurrent projects come on line, as well as keep decisionmakers adequately informed of the proposed projects, and all concurrent development projects' water demands as a measure against current water supply entitlements.

2.1 Senate Bill 221 (SB 221)

SB 221 applies to residential subdivisions and chaptered in Government Code §65867.5 *et seq* which states:

> *(c) A development agreement that includes a subdivision, as defined in Government Code §666473.7, shall not be approved unless the agreement provides that any tentative map prepared for the subdivision will comply with the provisions of §666473.7.*

Government Code §666473.7 states:

> *(a) For purposes of this section, the following definitions apply:*

> *(1) "Subdivision" means a proposed residential development of more than 500 dwelling units, except that for a public water agency that has fewer than 5,000 service connections, "subdivision" means any proposed residential development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections.*
>
> *(b)(1) The legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove the tentative map, shall include as a condition in any tentative map that includes a subdivision, a requirement that a sufficient water supply shall be available. Proof of the availability of a sufficient water supply shall be requested by the subdivision applicant or local agency, and shall be based on written verification from the applicable water supply system within 90 days of a request.*
>
> *(i) Government Code §666473.7 shall not apply to any residential project proposed for a site that is within an urbanized area and has previously been developed for urban uses, or where the immediate contiguous properties surrounding the residential project site area, or previously have been, developed for urban uses, or housing projects that are exclusively for very low and low-income households.*
>
> *(a)(2) "Sufficient water supply" means the total water supplies available during normal, single-dry and multiple-dry years within a 20-year projection that will meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including but not limited to agricultural and industrial uses.*

This does not mean that 100 percent of the development's unrestricted water demand must be met 100 percent of the time, nor does it mean the new development may not have an impact on the service level of existing customers. A "sufficient water supply" may be found to exist for a proposed subdivision and for existing customers, even where a drought-induced shortage will be known to occur, as long as a minimum water supply can be estimated and planned for during a record drought.

2.2 Senate Bill 610 (SB 610)

SB 610, chaptered in Water Code §10910 *et seq*, requires a city or county that determines a "Project," as defined in Water Code §10912, is subject to the California Environmental Quality Act (CEQA), the city or county must identify any public water system that may supply water for the project and to request those public water systems to prepare a specified water supply assessment (WSA), except as otherwise specified. Water Code §10912 defines a "Project" as any of the following:

> *(1) A proposed residential development of more than 500 dwelling units.*
>
> *(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet (sf) of floor space.*
>
> *(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 sq. ft. of floor space.*
>
> *(4) A proposed hotel or motel, or both having more than 500 rooms.*

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 sq. ft. of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project.[1]

The basic question to be answered in the WSA is:

Will the water supplier's total projected water supplies during normal, dry, and multiple dry years during a 20-year projection meet the projected water demand of the proposed project, in addition the water supplier's existing and planned future uses, including agricultural and manufacturing uses?

The WSA, under SB 610, is to include the following, if applicable to the supply conditions:

1. Discussion regarding whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses.
2. Identification of existing water supply entitlements, water rights, or water service contracts secured by the purveying agency and water received in prior years pursuant to those entitlements, rights, and contracts.
3. Description of the quantities of water received in prior years by the public water system under the existing water supply entitlements, water rights or water service contracts.
4. Water supply entitlements, water rights or water service contracts shall be demonstrated by supporting documentation such as the following:
    a. Written contracts or other proof of entitlement to an identified water supply.
    b. Copies of capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.
    c. Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.
    d. Any necessary regulatory approvals that are required to be able to convey or deliver the water supply.
5. Identification of other public water systems or water service contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system.
6. If groundwater is included for the supply of a proposed project, the following additional information is required:
    a. Description of groundwater basin(s) from which the proposed project will be supplied. Adjudicated basins must have a copy of the court order or decree adopted and a description of the amount of groundwater the public water system

[1] The water use for one dwelling unit depends on regional climate and varies from agency to agency

has the legal right to pump. For non-adjudicated basins, information on whether the California Department of Water Resources has identified the basin as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the Department of Water Resources that characterizes the condition of the basin, and a detailed description of the efforts being undertaken in the basin to eliminate the long-term overdraft.

b. Description and analysis of the amount and location of groundwater pumped by the public water system for the past five (5) years from any groundwater basin from which the proposed project will be supplied. Analysis should be based on information that is reasonably available, including, but not limited to, historic use records.
c. Description and analysis of the amount and location of groundwater projected to be pumped by the public water system from any groundwater basin from which the proposed project will be supplied. Analysis should be based on information that is reasonably available, including, but not limited to, historic use records.
d. Analysis of sufficiency of the groundwater from the basin(s) from which the proposed project will be supplied.

7. The water supply assessment shall be included in any environmental document prepared for the project.

SB 610 prescribes a timeframe within which a public water system is required to submit the assessment to the city or county and authorizes the city or county to seek a writ of mandamus to compel the public water system to comply with requirements relating to the submission of the assessment.

SB 610 requires the public water system, or the city or county, as applicable, if that entity concludes that water supplies are, or will be, insufficient, to submit the plans for acquiring additional water supplies.

SB 610 requires the city or county to include the water supply assessment and certain other information in any environmental document prepared for the project pursuant to the act.

2.3 Summary

The Senate bills are quite similar; SB 221 applies to proposed residential subdivisions over 500 dwelling units or a subdivision project that proposes 10 percent of the number of existing agency water connections, whichever is smaller; SB 610 to other types of large projects or mixed use projects. Both require documentation of water supply and demand under normal, dry and multiple dry year scenarios to accommodate the project plus existing and known planned projects. Both rely on the agency's UWMP for support.

Based on the description in the introduction, the proposed **Beaumont Pointe development project requires a water supply assessment pursuant to SB 610 under Section 10912 (a) (2)**. The Project includes a proposed business establishment having more than 500,000 square feet of floor space. The Project proposes over 5,000,000 square feet of floor space.
For the Project, the water purveyor is the Beaumont-Cherry Valley Water District (BCVWD).

3. URBAN WATER MANAGEMENT PLANNING ACT

3.1 Background

The California Water Code requires that all urban water suppliers within the state, serving over 3,000 acre-feet (AF) of water (1 AF = 325,829 gallons) or having at least 3,000 service connections, to prepare Urban Water Management plans (UWMPs) on a five-year, ongoing basis demonstrating their continued ability to provide water supplies for current and future expected development under normal, single dry and multiple dry year scenarios. The Urban Water Management Planning Act was enacted in 1983 and amendments were made periodically since then. The Act also requires imported water suppliers to prepare UWMPs. Water Code sections §10610 through §10656 detail the information that must be included in the plans. These plans also require the assessment of urban water conservation measures and wastewater recycling as well as a water shortage contingency plan outlining how the municipal water provider will manage water shortages of up to 50 percent of their normal supplies in a given year.

An UWMP is a planning tool that provides general guidance to water management agencies. It provides managers and the public with past and current water supply issues facing the agency. It is not a substitute for project-specific planning documents, nor was it intended to be, when mandated by the State Legislature. When specific projects are chosen to be implemented, detailed project plans are prepared, environmental analysis (if required) is prepared, and financial and operational plans are developed.

"The UWMP is intended to function as a planning tool to guide broad-perspective decision-making" by water agency managers and directors.[2] It should not be viewed as an exact blueprint for supply and demand management. Water management in California is not a matter of certainty and planning projections and may change in response to a number of factors. "[L]ong-term water planning involves expectations and not certainties. The State Supreme Court has recognized the uncertainties inherent in long-term land use and water planning and observed that the generalized information required …in the early stages of the planning process are replaced by firm assurances of water supplies at later stages."[3] It is appropriate to look at the UWMP as a general planning framework, not a specific action plan. It is an effort to generally answer a series of planning questions including:

- What are the potential sources of supply and what is the reasonable probable yield from them?
- What is the probable demand, given a reasonable set of assumptions about growth and implementation of good water management practices?
- How well do supply and demand figures match up, assuming that the various probable supplies will be pursued by the implementing agency?

Based on the answers to these questions, the implementing agency will pursue feasible and cost-

[2] Sonoma County Water *Coalition v. Sonoma County Water Agency* (2010) 189 Cal. App. 4th 33, 39, taken from SGPWA 2015 UWMP.
[3] Ibid.

effective options and opportunities to meet demands.

The UWMP Act requires the supplier to document water supplies available during normal, single dry, and multiple dry water years over a 20-year projection and the existing and projected future water demand during the same 20-year period. The Act requires that the projected supplies and demands be presented in 5-year increments for the 20-year projection period.

Like SB 221 and SB 610, specific levels of supply reliability are not mandated (i.e., whether a specific level of demand can be met over a designated frequency); rather, the law provides that it is a local policy decision of the water provider as part of the planning process. As provided for in the law, the WSA can rely on the data in the latest UWMP in assessing the water demand of the proposed project relative to the overall increase in demands expected by BCVWD. The Beaumont Pointe development project site was included in Table 3-6 of BCVWD's 2015 UWMP (previously identified as Jack Rabbit Trail). The Project site was previously planned with a land use density of, and corresponding water demand for, 2,000 equivalent dwelling units (EDUs). The new BP land use plan estimates a significantly reduced density of 360 EDUs, representing a reduced site density by 82 percent and corresponding water demand estimate.

In late 2017 and 2018, BCVWD prepared a set of "White Papers" that evaluated the growth in demand within the SGPWA and the current and future water supply from the SGPWA on a regional basis. The White Papers determined that the rate of growth has reduced and refines the imported water supply accordingly. This is discussed later in this WSA.

3.2 San Gorgonio Pass Water Agency 2015 UWMP

The Beaumont Pointe project is located within the service area of the San Gorgonio Pass Water Agency (SGPWA or Pass Agency). BCVWD provided data to SGPWA on BCVWD's projected demands so the SGPWA could prepare their UWMP. Because the California Department of Water Resources (DWR) required the imported water suppliers to submit their UWMPs earlier than the retail agencies, BCVWD made some preliminary estimates of their demand over the 20-year projection period and provided the projections to SGPWA. These preliminary estimates deviated slightly from the actual demands in BCVWD's 2015 UWMP. Table 3-1 is taken from SGPWA 2015 UWMP (Table 2-4):

Table 3-1 - Projected Water Demands on SGPWA (AF)

Agency	2020	2025	2030	2035	2040
BCVWD	10,860	12,476	14,087	15,886	17,334
City of Banning	-	501	1,344	2,237	2,718
YVWD	1,809	1,967	2,162	2,391	2,644
Other	500	1,600	2,800	3,900	5,000
Total Water Demands	**13,169**	**16,544**	**20,393**	**24,414**	**27,696**

Note: San Gorgonio Pass Water Agency 2015 UWMP, Table 2-4.

SGPWA's 2015 UWMP states the "retail purveyor demands reflect reasonably anticipated supplies through the planning periods" and take into account non-SGPWA supplies available to the retail purveyors, such as local groundwater, recycled water, etc.

Since the Beaumont Pointe project site was included in the demands in BCVWD's 2015 UWMP,

it is considered to be included in the 2015 SGPWA UWMP, adopted by SGPWA Board of Directors as Resolution No. 2017-03, on March 20, 2017. "Other" demands in Table 3-1 reflect the demand from other agencies in SGPWA service area not currently receiving imported water from SGPWA.

In the introductory section of the SGPWA's 2015 UWMP, the SGPWA reviewed the water supply and demand requirements on a regional basis and did not focus on specific conditions within the service area of the retail water agencies.

"It is the stated goal of SGPWA to import supplemental water and to protect and enhance local water supplies for use by present and future water users and to sell imported water at wholesale to local retail water purveyors within its service area. Based on conservative water supply and demand assumptions over the next 25 years in combination with conservation of non-essential demand during certain dry years, the [Urban Water Management] Plan successfully achieves this goal. It is important to note that this document has been completed to address regional resource management and does not address the particular conditions of any specific retail water agency or entity within the SGPWA service area. The retail urban water suppliers within SGPWA service area are preparing separate UWMPs, but SGPWA has coordinated with the retailers during development of this Plan to ensure a level of consistency with the retailers to the extent possible.[4]

BCVWD recognizes and acknowledges the disclaimer statement within the 2015 Urban Water Management Plan prepared by the SGPWA related to regional planning. While the UWMP prepared by the SGPWA "…does not address the particular conditions of any specific retail water agency…" BCVWD relies upon the policies and practices of the SGPWA as a foundation for regional water supply solutions. In other words, while the SGPWA's regional planning document does not address local water conditions, BCVWD does rely upon the policies of the SGPWA to provide comprehensive regional solutions related to the use of imported water in the Pass area. As example of the policies and practices adopted by the SGPWA and relied upon by BCVWD include, but are not limited, to the following:

- San Gorgonio Pass Water Agency, Ordinance No. 8, An Ordinance Establishing Rules and Regulations for SGPWA Water Service, February 7, 2005;
- San Gorgonio Pass Water Agency Strategic Plan, May 2012;
- San Gorgonio Pass Water Agency, Resolution No. 2014-02, A Resolution of the San Gorgonio Pass Water Agency Establishing a Policy for Meeting Future Water Demands, February 18, 2014;
- San Gorgonio Pass Water Agency, Ordinance No. 10, Ordinance Establishing Water Shortage Plan, July 21, 2014;
- San Gorgonio Pass Water Agency, Resolution No. 2015-05, Resolution of the Board of Directors of the San Gorgonio Pass Water Agency to Adopt Facility Capacity Fees for Facilities and Water, July 27, 2015;
- San Gorgonio Pass Water Agency, State of the Supply PowerPoint Presentation, September 30, 2016;
- San Gorgonio Pass Water Agency, Ordinance No. 13, An Ordinance Amending Rules and Regulations Regarding Authorization for Service, June 5, 2017.

[4] SGPWA 2015 UWMP

3.3 BCVWD's 2015 UWMP

There were some minor differences between the projections in BCVWD's 2015 UWMP and the projections provided to SGPWA for their 2015 UWMP. These differences stemmed from the need for BCVWD to provide preliminary demand projections early on so the SGPWA could meet their prescribed deadline.

BCVWD's demands for imported water are presented in BCVWD's 2015 UWMP (Table 6-26) and are repeated in Table 3-2 below. Table 3-2 shows the actual imported water demand to meet the potable water demand plus the banking water demand to ensure drought-proofing of future development. If imported water is not available in a given year, no banking will occur. But when imported water is available, any deficiencies from previous years would be "carried over" and "made up." As can be seen, there is a slight difference between the demands in Table 3-2 versus those shown above in Table 3-1.

Table 3-2 - BCVWD Imported Water Needs from BCVWD 2015 UWMP

	2020	2025	2030	2035	2040
BCVWD Drinking Water Demand, AFY	10,313*	11,407*	12,503	13,843	15,362
Banking Demands, AFY	1,000	1,500	2,000	2,500	2,500
Total BCVWD Imported Water Demand	11,313	12,907	14,503	16,343	17,862

Note: Taken from BCVWD 2015 UWMP, Table 6-26. Equal to purchased imported water system for recharge plus make-up for non-potable system and water for banking.

*Includes imported water for non-potable water system since non-potable water system is supplied with potable groundwater.

4. BEAUMONT POINTE PROJECT DESCRIPTION

The Beaumont Pointe development project site is currently located outside of the District's service area, but within its sphere-of-influence adjacent to the District's southwest boundary. The Project consists of a gross area of approximately 540 acres (276.4 net acres). It is located within portions of Sections 1 and 2 of T3S, R2W, which is proposed to be incorporated into the City and annexed into the BCVWD service area as part of the entitlement process. The Project is located south of State Highway 60, and northwest of Jack Rabbit Trail Road and the proposed Hidden Canyon Industrial Park, as shown in Figure 1.

4.1 Project Description

The Beaumont Pointe project is proposed to include general commercial (GC), industrial distribution land uses, and open space. The GC land use will consist of a hotel and retail shopping center. The industrial uses are proposed to include a small self-storage facility and five (5) separate large warehouse 'big-box' structures totaling approximately 5.0 million square feet. Existing 4th Street will be extended northwesterly from its proposed west end within the adjacent Hidden Canyon project. Figure 1 shows the Project vicinity, and Figure 2 illustrates the Land Use Plan.

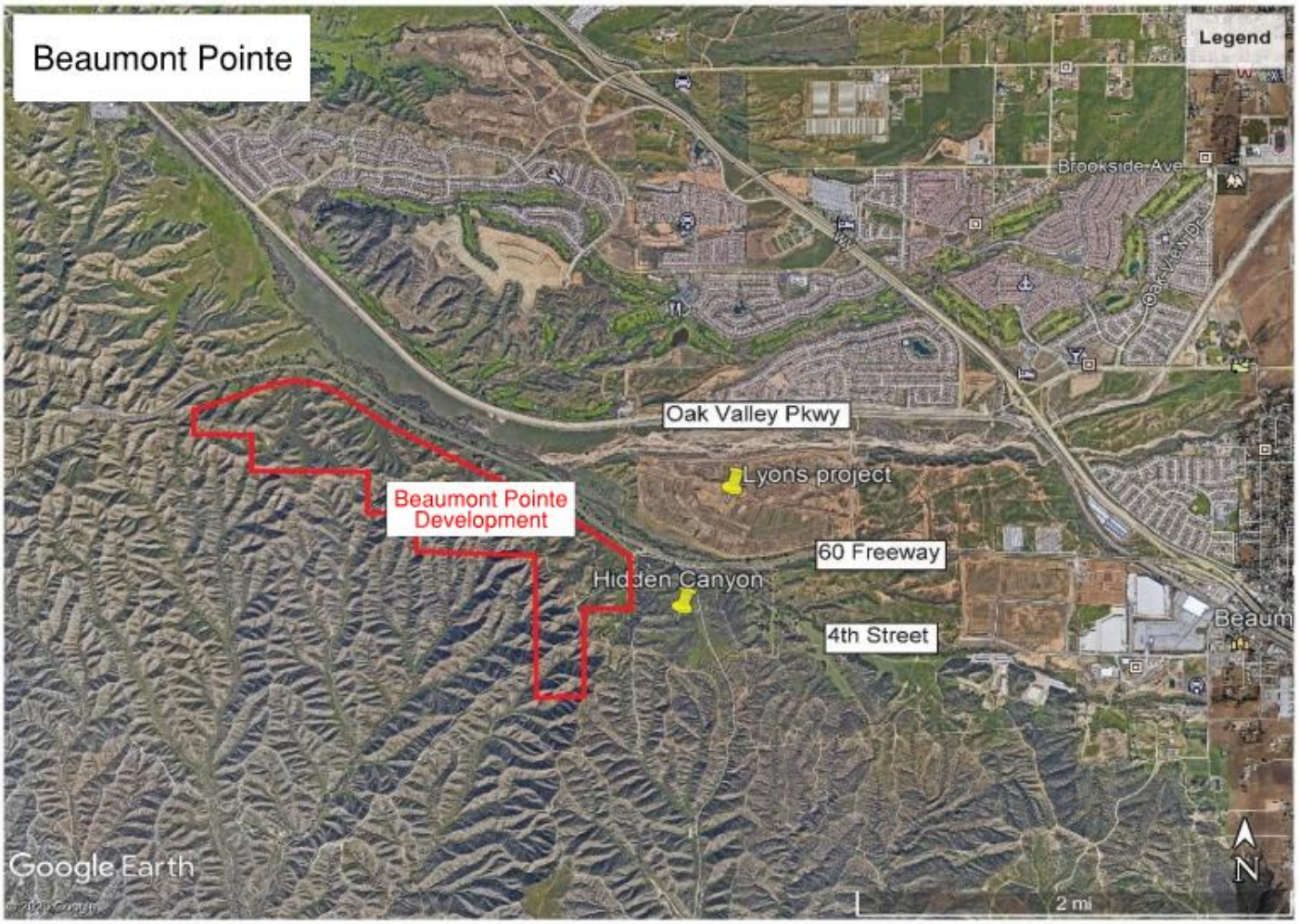

Figure 1 – Beaumont Pointe General Location

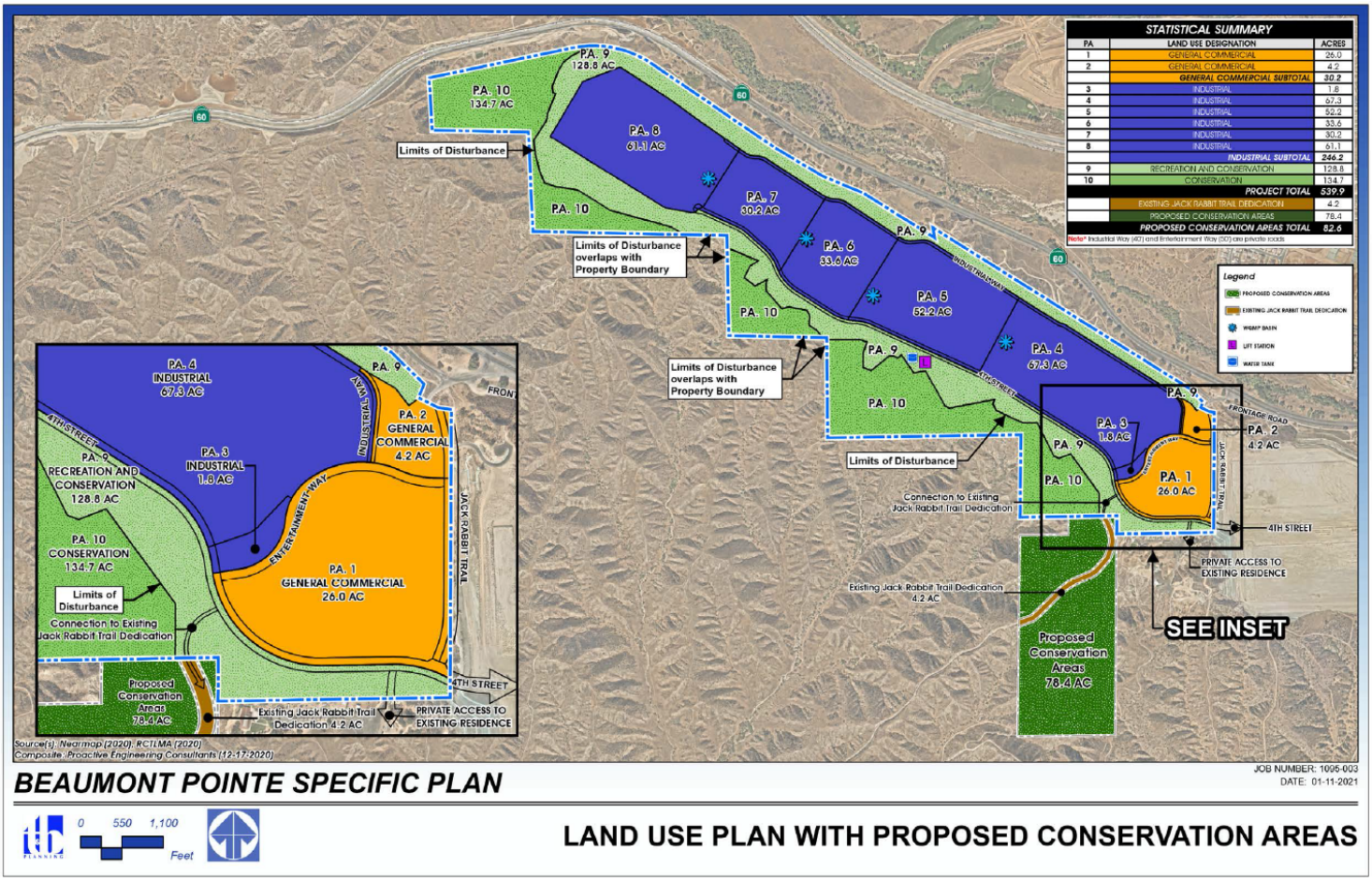

Figure 2 – Beaumont Pointe Land Use Plan

A summary of the land uses is included in Table 4-1:

Table 4-1 - Beaumont Pointe Land Uses [1]

Planning Area	Land Use	Acreage
1 thru 2	Hotel	30.2
	Restaurant	
	Entertainment	
	Landscape	
3 thru 8	Warehouse	246.2
	Office	
	Landscape	
9 and 10	Open Space	263.5
Total		**539.9**

[1] Based on proposed site plan, Alternative 11.

The project is required to adhere to the landscaping standards in "Guide to California Friendly Landscaping" and the City of Beaumont's Landscaping Ordinance which requires water efficient landscaping. Pursuant to BCVWD requirements, landscaping in non-turf areas shall be drought tolerant and irrigated with drip or bubbler type heads.

4.2 Estimated Water Demand

The estimated water demand for the Project is based on recent dialogue with District and the City of Beaumont staff. The total Project consists of approximately 30.2 acres of general commercial land uses and 5.0 million square feet (sf) of industrial distribution warehouse.

For Planning Areas 1 and 2 typical water usage factors used in the industry can range from 1,500 to 3,000 gallons per day (gpd) per acre. Major area water agencies that have published usage factors by land use category includes East Valley Water District (2014) and Eastern Municipal Water District. These agencies have adopted usage factors for general commercial developments at 2,050 and 2,000 gpd per acre to estimate general commercial water demands. Beaumont Pointe includes hotel uses which are typically grouped within the general commercial classification; however, usually exhibit much higher unit water demands. For the purpose of estimating water demands for the WSA, hotel uses are deemed similar to residential uses with a single occupant estimated at 100 gpd per room.

For Planning Areas 3 through 8, BCVWD recently reviewed the total water use for a nearby existing 720,000 sf industrial distribution center east of the Project site (Wolverine), and determined that the maximum water use for "big-box" warehouse distribution developments should be estimated using an employee density factor of one employee per 1,500 sf of warehouse/office space and 15 gpd per employee. This is supported by recent studies prepared by NAIOP [5] as described in the Hidden Canyon Water Supply Assessment. Therefore, because BP Planning Areas 3 through 8 development is virtually identical to the Wolverine "big-box" product this factor is appropriate for the WSA for BP. Thus, the total number of employees contributing to water demand at full buildout of Planning Areas 3 through 8 at BP is estimated to be 3,306h. These usage factors are consistent with the existing Wolverine project and completed planning studies for Hidden Canyon. Planning Areas 9 and 10 will remain open space. Tables 4-2 and 4-3 summarize the estimated BP Project indoor (potable) and outdoor (non-potable) water demands:

[5] NAIOP Research Foundation (2010). Logistics Trends and Specific Industries that Will Drive Warehouse and Distribution Growth and Demand for Space, L. Nicolas Ronderos, Director, Urban Development Programs Regional Plan Association, March

Table 4-2 - Planning Areas 1 and 2 - Beaumont Pointe General Commercial Water Demand Estimate

Planning Area	Land Use	Type [1] Quantity	units	Indoor Water Demand Factor [3]		Outdoor Water Demand Factor [4]		[5] Indoor Water Demand		[5] Outdoor Irrigation Demand [6]	
1	Restaurant	30,000	sf	1,000	gpd/ksf	670,000	gal/Ac/Yr	30,000	gpd		
	Entertainment	5.0	Ac[2]	1,500	gpd/Ac			7,438	gpd		
	Irrigation	3.9	Ac	-				-			
	Total Acres	26.0	Ac	-				-		7,159	gpd
2	Hotel	125	keys	100	gpd/key	670,000	gal/Ac/Yr	12,500	gpd		
	Irrigation	0.6	Ac	-				-			
	Total Acres	4.2	Ac	-				-		1,101	gpd
Total	-	**30.2**	**Acres**	**-**		**-**		**49,938**	**gpd**	**8,260**	**gpd**
	-										
Total								**55.9**	**AFY**	**9.3**	**AFY**

[1] Based on proposed site plan, Alt. 11; uses required 15% landscape irrigation.
[2] Total entertainment area = go-cart, rock climbing, trampoline park, bowling alley, and miniature golf = 216,000 sf = 4.96 acres.
[3] Based on typical water usage used by water agencies throughout southern California.
[4] Based on outdoor water demand factor used for Amazon Distribution Center.
[5] Represents demand on BCVWD potable (domestic) water sources until non-domestic water becomes available.
[6] Represents demand that could be served by non-domestic water sources.

Table 4-3 - Planning Areas 3 thru 8 - Beaumont Pointe Industrial Water Demand Estimate

Planning Area	Land Use	[1] Warehouse /Office Bldg Area	Employee count [2]	Project Site Acreage [1] total	Bldg	Irrig.	Indoor Water Demand Factor [2]		Outdoor Water Demand Factor [3]		[4] Indoor Water Demand		[4] Outdoor Irrigation Demand [5]	
3	Self-Storage	25,000	17	1.8	1.5	0.3	15	gpd/emp	670,000	gal/Ac/Yr	260	gpd	496	gpd
	office	1,000												
4	Ware-house	1,369,880	920	67.3	57.2	10.1	15	gpd/emp	670,000	gal/Ac/Yr	13,799	gpd	18,531	gpd
	office	10,000												
5	Ware-house	984,340	663	52.2	44.4	7.8	15	gpd/emp	670,000	gal/Ac/Yr	9,943	gpd	14,373	gpd
	office	10,000												
6	Ware-house	669,400	450	33.6	28.6	5.0	15	gpd/emp	670,000	gal/Ac/Yr	6,754	gpd	9,252	gpd
	office	6,000												
7	Ware-house	583,240	393	30.2	25.7	4.5	15	gpd/emp	670,000	gal/Ac/Yr	5,892	gpd	8,315	gpd
	office	6,000												
8	Ware-house	1,284,800	863	61.1	51.9	9.2	15	gpd/emp	670,000	AF/Ac/Yr	12,948	gpd	16,823	gpd
	office	10,000												
Total	**Ware-house**	**4,916,660**	**3,306**	**246.2**	**209.3**	**36.9**	**15**	**gpd/emp**	**670,000**	**AF/Ac/Yr**	**49,597**	**gpd**	**67,789**	**gpd**
	office	**43,000**												
Total		**4,959,660**									**55.6**	**AFY**	**75.9**	**AFY**

[1] Based on approved site plan and tabulation of proposed land uses, and landscape area required at 15% of total.
[2] Based on recent water demand prepared by BCVWD for similar warehouse development project (Hidden Canyon), which estimated 1 employee per 1500 sf of warehouse/office space.
[3] Based on outdoor water demand factor used for Amazon Distribution Center.
[4] Represents demand on BCVWD potable (domestic) water sources until non-domestic water becomes available.
[5] Represents demand that could be served by non-domestic water sources.

Table 4-2 and 4-3 calculate to a total estimated water demand at BP buildout of 175,584 gpd, or 197 AFY. Based on BCVWD equivalent dwelling unit usage of 0.546 AFY per equivalent dwelling unit, this equates to 360 EDUs. Of the total water demand, candidate non-potable water demand for outdoor irrigation is estimated to be 85.2 AFY, or approximately 43 percent of the total demands of the Project.

5. BCVWD WATER SYSTEM

BCVWD owns and operates the water system which would serve the Beaumont Pointe development project. BCVWD was first formed in April 1919, to provide domestic and irrigation water to the developing community of Beaumont and the surrounding area. BCVWD was originally named the Beaumont Irrigation District. In 1973, the name was changed to the Beaumont-Cherry Valley Water District. Sometime after that the hyphen was dropped from the name. However, even though the name has changed, the BCVWD's authority comes from the Irrigation District Law of the State of California.

BCVWD owns approximately 1,524 acres of watershed land north of Cherry Valley along the Little San Gorgonio Creek (also known as Edgar Canyon) and Noble Creek. There are two stream diversion locations within Little San Gorgonio Creek that are in the Department of Water Resources, Division of Water Rights, database. The diversions have pre-1914 recorded water rights amounting to 3,000 miners inch hours (MIH) or approximately 45,000 acre-feet per year (AFY) of right for diversion of water for domestic and irrigation uses. However, BCVWD has never had a demand that requires such large quantities of water supply; and the watersheds may not be capable of supplying such quantities during an average year. The creeks/canyons have been used for water development via diversions for irrigation and domestic service since the latter part of the 1800s. Currently, BCVWD diverts water from Little San Gorgonio Canyon Creek into a series of ponds adjacent to the creek where it percolates and recharges the shallow aquifers in the Canyon. BCVWD's wells located in Edgar Canyon provide a significant portion of BCVWD's water supply.

Figure 3 shows BCVWD's present Service Boundary and Sphere of Influence (SOI). BCVWD's present service area covers approximately 28 square miles, virtually all of which is in Riverside County and includes the City of Beaumont and the community of Cherry Valley. BCVWD-owned watershed land extends across Riverside County line into San Bernardino County where BCVWD operates a number of wells and several reservoirs.

BCVWD's SOI, or ultimate service planning area, encompasses an area of approximately 37.5 square miles (14.3 sq. mi. are in the City of Beaumont). This SOI was established by the Riverside and San Bernardino County Local Agency Formation Commissions (LAFCOs). SOIs are established as a planning tool and help establish agency boundaries and avoid problems in service, unnecessary duplication of costs, and inefficiencies associated with overlapping service.

BCVWD's SOI is bounded on the west and north by the Yucaipa Valley Water District (YVWD) and on the east by the City of Banning. The northerly boundary of Eastern Municipal Water District (EMWD) is one mile south of the BCVWD's southerly SOI boundary. The area between EMWD and the BCVWD's SOI is not within any SOI and could be annexed to either BCVWD or EMWD. BCVWD's SOI in Little San Gorgonio Canyon follows Oak Glen Road. The area west of Oak Glen

Road is within YVWD's SOI, and the area east of Oak Glen Road is within BCVWD's SOI.

The service area ranges in elevation from 2,300 feet above mean sea level in Fairway Canyon area of Beaumont on the southwestern boundary, to 2,900 feet in Cherry Valley, and to over 4,000 feet in the upper reaches of the SOI.

The area serves primarily as a "bedroom" community for the Riverside/San Bernardino Area and the communities east of Los Angeles County along the I-10 corridor.

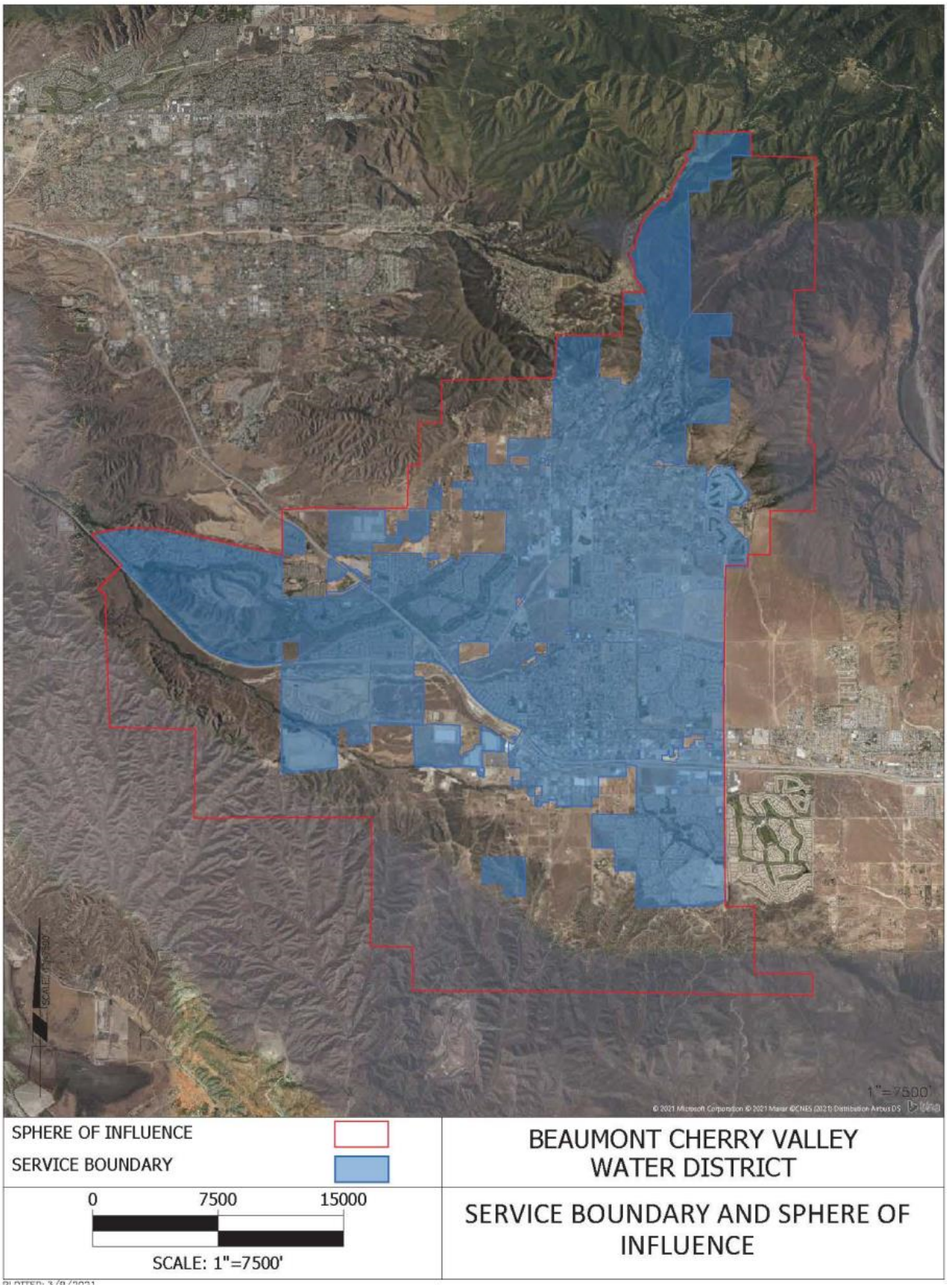

Figure 3 – BCVWD Boundary and Sphere of Influence

5.1 Overview of BCVWD's Water System and Operation

BCVWD owns and operates both a potable and a non-potable water distribution system. BCVWD provides potable water and scheduled irrigation water to users through the potable water system. BCVWD provides non-potable water for landscape irrigation of parks, playgrounds, school yards, street medians and common areas through its non-potable (recycled) water system.

Table 5-1 presents BCVWD 2019 potable and non-potable water connections and pumping amounts. The number of connections was 5,600 in year 2000, before the housing boom that encompassed Western Riverside County and particularly Beaumont.

Table 5-1 - BCVWD Potable and Non-potable Water Connections and Deliveries 2019

	Potable Water	Non-potable Water (Landscape)	Total
Number of Connections	19,339[(a)]	309	19,648
Water Pumped, AFY	11,447 [(b)]	1,547	12,994
Average Annual, mgd	10.2	1.4	11.6
Maximum Day, mgd	19.2[(c)]	4.3	NA

a) 45 of these connections are agricultural water connections on potable water system.
b) 260 AF was transferred into Non-potable System for make-up.
c) Historic maximum day demand was 22.1 mgd in 2009.

5.2 Potable Water System

BCVWD's potable water system is supplied by wells in Little San Gorgonio Creek (Edgar Canyon) and the Beaumont Groundwater Basin (sometimes called the Beaumont Storage Unit or the Beaumont Management Zone). BCVWD has a total of 24 wells; 1 well is a standby. Only 20 of the wells are used to any great extent. Twelve of the wells have auxiliary engine drives, a portable generator connection, or an in-place standby generator. BCVWD has three portable generators capable of operating 50, 350 and 500 horsepower (HP) motors. The Beaumont Groundwater Basin is adjudicated and managed by the Beaumont Basin Watermaster[6]. BCVWD augments its groundwater supply with imported State Project Water (SPW) from the SGPWA which is recharged at BCVWD's recharge facility at the intersection of Brookside Avenue and Beaumont Avenue. Overall, the water quality from BCVWD's wells is excellent. Total Dissolved Solids (TDS) is usually below 250 mg/L. Nitrates are only a sporadic problem in a few wells at present. BCVWD continues to monitor these wells per State Water Resources Control Board, (SWRCB) Division of Drinking Water (CDDW) requirements. No wells have had to be taken out of service because of water quality concerns.

[6] San Timoteo Watershed Management Authority vs. City of Banning et al, Superior Court of the State of California, for the County of Riverside, Riverside Court, Stipulation for Entry of Judgement Adjudicating Groundwater Rights in the Beaumont Basin, RIC 389197, February 4, 2004.

Wells in Edgar Canyon have limited yield, particularly in dry years, and take water from shallow alluvial and bedrock aquifers; wells in the Beaumont Basin are large capacity and pump from deep aquifers – some as deep as 1,500 feet below the ground surface. The Edgar Canyon wells are very inexpensive to operate and are the preferred source; however, those wells are not able to meet the average day demand and need to be supplemented with the Beaumont Basin wells. The Edgar Canyon wells pump to a gravity transmission main that extends the full length of the BCVWD-owned properties in Edgar Canyon. The transmission main connects to the distribution system in Cherry Valley. Water from the Edgar Canyon Wells, which is not used in the developed areas adjacent to Edgar Canyon or Cherry Valley, can be released to lower pressure zones, if needed.

During 2019, the Edgar Canyon Wells provided about 10.5 percent of BCVWD's total annual potable water supply; the rest is pumped from wells in the Beaumont Basin. BCVWD's total well capacity (Edgar Canyon and Beaumont Basin) is about 33 million gallons per day (mgd). BCVWD is easily able to meet the maximum day demand (historic maximum about 22 mgd) with the largest well out of service. Wells with auxiliary power can supply up to 21.4 mgd.

Because of the range of topographic elevations in the BCVWD's service area, 11 pressure zones are needed to provide reasonable operating pressures for customers.

BCVWD has 14 reservoirs ranging in size from 0.5 million gallons (MG) to 5 MG. Total storage is approximately 22 MG, slightly more than two (2) average days or one (1) maximum day. The reservoirs provide gravity supply to its respective pressure zones. BCVWD's system is constructed such that higher zone reservoirs can supply water on an emergency basis to lower zone reservoirs. Booster pumps in the system pump water from lower pressure zones to higher pressure zones. This provides flexibility in system operations. Sufficient reservoir redundancy exists permitting reservoirs to be taken out of service for maintenance.

The backbone transmission system in the main pressure zones is primarily 24-inch diameter though there are some 30-inch diameter pipelines leading to some reservoirs. The bulk of the backbone transmission and distribution pipe is ductile iron with cement mortar lining, that was installed in the last 10 to 15 years. A number of small, older, distribution lines in the system are gradually being replaced over time with minimum 8-inch diameter ductile iron pipe. The system is capable of providing over 4,000 gpm fire flow in the industrial/commercial areas of the service area.

5.3 Imported Water and Recharge Facilities

BCVWD imported and storm water recharge facility consists of a 78-acre site on the east side of Beaumont Avenue, between Brookside Avenue and Cherry Valley Boulevard, where imported water is currently recharged. The recharge project site was selected after extensive hydrogeologic studies and pilot testing over a multi-year period. Phase 1 of the recharge facility, located on the westerly half of the site, went on-line in late summer 2006. Phase 2 of the recharge facility was completed in 2014. To date, only imported water has been recharged at the site. Since its operation in 2006 through the end of 2018, 84,242 acre-feet (27.4 billion gallons) of imported water have been recharged. The capacity of the recharge site is conservatively estimated at 25,000 to 30,000 AFY, based on short term studies. With more aggressive

maintenance, the capacity may be as much as 35,000 AFY.

BCVWD and Riverside County Flood and Water Conservation District (RCFWCD) are jointly in design of Beaumont MDP-Line16, a large diameter storm drain in Grand Avenue, which drains a watershed area of 505 acres to BCVWD's recharge site. This project is planned to be operational by 2022. BCVWD also envisions recharging recycled water, not needed for irrigation, at the recharge site in the future, with appropriate treatment and permits.

The SGPWA imports State Project Water (SPW) through the East Branch Extension (EBX) of the California State Water Project (Governor Edmund G. Brown California Aqueduct). EBX Phase I was completed in 2003; EBX Phase II was completed in 2018. The completion of EBX Phase II improvements brings SGPWA's imported water delivery capacity to the Pass Area to 48 cubic feet per second (cfs) or 34,750 AFY if it was operational all year continuously.

BCVWD takes water from a 20-inch diameter turnout and metering station at the current end of the EBX at Orchard Avenue and Noble Creek in Cherry Valley. Design of an expansion of the turnout was recently completed and began the increased capacity recharge in 2019. Water from the turnout is metered by the Department of Water Resources (DWR) and then enters a 3,500-ft long, 24-inch diameter gravity pipeline, constructed by BCVWD, which conveys the water to BCVWD's groundwater recharge site.

The 24-inch diameter pipeline was constructed in 2006 and at 34 cfs would have a velocity of 10.8 feet per second – a reasonable velocity for a mortar-lined pipeline. If operated eleven months out of the year at that rate, the pipeline could convey 22,500 acre-feet per year. Higher velocities could be tolerated for short periods which would result in increased short-term delivery capacity.

5.4 Non-potable (Recycled) Water System

As of 2018, BCVWD has over 44 miles of non-potable water transmission and distribution system in place. The backbone transmission system forms a loop around the City of Beaumont and is comprised of primarily 24-in diameter cement mortar lined, ductile iron pipe, all installed after year 2000. The system includes a two (2) million-gallon recycled (non-potable) water reservoir which provides gravity storage for the system. As shown in Table 5-1, at the end of year 2019 approximately 309 connections delivered 1,547 AFY of non-potable water. The BCVWD system includes three major non-potable water pressure zones (2800 Zone, 2600 Zone and 2520 Zone) with plans to expand service to areas requiring two additional pressure zones (3040 Zone, 2370 Zone).

The 2 MG non-potable reservoir, (2800 Zone Non-potable Water Tank) constructed at the BCVWD Groundwater Recharge Site can directly receive potable water or untreated SPW through air-gap connections. The reservoir and non-potable water system can serve a blend of recycled water, imported, untreated SPW, and potable water.

The 2800 Non-potable Water Zone is currently separated from the 2600 and lower pressure zones. The 2800 Non-potable Water Zone is supplied with water from Well 26, supplemented with potable groundwater via air-gap at the 2800 Zone Non-potable water reservoir. The 2600 and lower non-potable water pressure zones can also be supplied with potable water through air-

gapped interconnections between the potable and non-potable water system. BCVWD has a capital project approved to provide fine screening to the SPW prior to entering the 2800 Zone Non-potable Water Reservoir. This project will be implemented when demands increase and/or the non-potable water system is tested and approved for recycled water use.

BCVWD is working with the City of Beaumont to secure recycled water for use in the non-potable water system. The City is currently constructing an expansion and upgrade to its existing wastewater treatment facility, which involves installing new membrane bioreactor (MBR) treatment units and additional reverse osmosis membrane treatment. Upon completion, the facility will have a capacity to deliver six (6) million gallons per day (mgd). A brine line from the treatment plant to the Inland Empire Brine Line (IEBL) in San Bernardino is also under construction. A memorandum of understanding (MOU) between BCVWD and the City for recycled water purchase and use was signed in July 2019 and the City and BCVWD are in the process of finalizing and agreement for purchase of recycled water through an ad-hoc committee of City Council members and BCVWD Board Members.

In order to have the ability to use recycled water for recharging when supply exceeds landscape irrigation demand, BCVWD plans to obtain recharge permits. Recycled water for this beneficial reuse could be supplied to BCVWD's groundwater recharge or other area facility. Recycled water use and recharge is permitted by the Adjudication.

6. UPDATED WATER DEMANDS IN SAN GORGONIO PASS AREA

In 2018, BCVWD developed a series of White Papers (White Papers No. 1 through 7) that evaluated water supply, water demands, current and future water supply costs, funding requirements and funding strategies considering both BCVWD's service area and the SGPWA as a whole. These White Papers were presented at BCVWD Board Meetings and elsewhere. The purpose of the White Papers was to assess the water supply situation vis-à-vis the growth in demand. The results of this series of White Papers indicated that the regional imported water demands in BCVWD's 2015 UWMP and the SGPWA 2015 UWMP may be overstated, primarily because of over-aggressive growth in demand, and limited consideration of recent state-mandated conservation and indoor water use requirements.

6.1 Regional Water Supply and Demand Spreadsheet Models

BCVWD, in cooperation with the other major retailers, developed a Regional Water Demand Spreadsheet or Workbook which included a separate worksheet for each of the three major retailers in the SGPWA service area: BCVWD, City of Banning, and Yucaipa Valley Water District (YVWD)/City of Calimesa. The other water supply agencies, e.g., Cabazon Water District, High Valleys Water District, etc. that are not currently receiving imported water from SGPWA were also included, based on data in SGPWA's 2015 UWMP.

The spreadsheet model allows the water agency to input (and adjust):

- New EDU Water Demand, AFY/EDU
- Existing EDU Water Demand, AFY/EDU
- Infill EDUs/year
- Commercial & Institutional EDUs/yr, %Residential EDUs
- Commercial & Institutional EDUs, Minimum EDUs/yr
- Water Conservation, % Reduction on Existing Demands
- Water Conservation, % Reduction on New Demands
- 2017 Year Ending Potable Water Demand, AF
- Beaumont Basin Groundwater Storage Account Maximum, AF
- Beaumont Basin Groundwater Storage Account 2017 Ending Balance, AF

The demand worksheets included the major development projects in each of the retailer's service areas, based on data in specific plans, water supply assessments, regional water resource planning studies, and other sources. The spreadsheets allow the water supply agencies to input their own development rates, on a year by year basis, to adjust anticipated housing startups, build-out years for large developments, and the amount of in-fill development and commercial/institution development; adjust unit water demands for new and existing housing, and account for any anticipated conservation for new and existing demands, among other items. Each water supplier could adjust their imported water banking requirements and evaluate the impact of their strategies on their own Beaumont Basin storage accounts over time.

The spreadsheet provides a graph of the agency's annual groundwater storage account balance which is automatically updated with any input change. The purpose is to allow the agencies to model, on a year by year basis, various imported water purchase and banking strategies vis-à-vis available imported water from SGPWA. Adjustments can be made to water demands using conservation factors on new and existing (older) housing units; water supply sources can include groundwater, recharged recycled water (indirect potable reuse), and captured storm water. Beaumont Basin Watermaster's redistribution of unused overlier rights and forbearance water are included in the model.

The worksheets were reviewed by the retail water agency managers for reasonableness of growth taking into account the housing market and absorption capacity of the SGPWA service area. These spreadsheets, and their criteria are described in detail in White Paper No. 6, and summarized below:

Separate spreadsheet models have been developed for:

- BCVWD
- City of Banning, including Banning Heights Mutual Water Company, High Valleys Water District
- YVWD (Summerwind Ranch and Mesa Verde Area)
- All combined

6.1.1 City of Banning

Major development projects in the City of Banning which are included in the Regional Spreadsheet Model are shown in Table 6-1.

Table 6-1 - Major Development Projects in City of Banning

Project Name	Projected EDUs	Estimated Start-up Year	Build-out Years
Butterfield Ranch (Atwell)	4,862	2020	30
Rancho San Gorgonio	3,385	2019	17
Diversified Pacific	98	2021	5
St. Boniface	171	2023	10

The data in Table 6-1 is taken from the water supply spreadsheets; these and other projects have been delayed. As a result, the water supply spreadsheets most likely overestimate the near-term water demands.

Butterfield Ranch (Atwell by Pardee) was projected to start in 2015 and extend for 30 years to buildout in 2045 per the Project's Water Supply Assessment (WSA). The project recently started grading operations and currently is selling homes to be occupied in 2020. Butterfield Ranch proposes 4,862 EDUs, calculating to an average of 160 EDUs per year over the 30-year build-out period. Rancho San Gorgonio is planned for 3,385 EDUs and was initially projected to start in 2017 and be fully built out by 2034 (17 years) per the Project's WSA (about 200 EDUs per year average over the build-out period). This project has not yet started and probably will not start until 2022 or later.

The spreadsheet for Banning included two other projects:

- Diversified Pacific (98 EDUs)
- St. Boniface (171 EDUs)

The developers have not yet published construction schedules for these. The spreadsheet assumes 2021 and 2023 for starting, and build out of 5 and 10 years, respectively, which may overestimate District demands over the next few years.

In the development of the spreadsheet model for the City of Banning, the San Gorgonio Integrated Regional Water Management Plan (SGIRWMP), May 2, 2018 (Revised August 1, 2018) was analyzed in addition to the City's 2015 UWMP. The SGIRWMP covered the SGPWA service area generally east of Highland Springs Avenue. The SGIRWMP integrated three separate studies:

- Water Supply Reliability Study
- San Gorgonio Region Recycled Water Study
- San Gorgonio Integrated Watershed and Groundwater Model Technical Memorandum

The City of Banning has firm groundwater supplies from the Banning Storage Unit, Banning Bench Storage Unit, Cabazon Storage Unit, and Banning Canyon Storage Unit totaling 9,675 AFY[7] .

In addition, in accordance with the Adjudication, the City of Banning is entitled to 31.43% of the unused overlier pumping rights in the Beaumont Storage Unit. Watermaster developed estimates for years 2018 through 2022 and are included in the spreadsheet. The amount of unused pumping rights varies from year to year, depending on hydrologic conditions and other factors, and is evaluated by Watermaster annually. The 2018 Annual Watermaster Report indicates that Banning's reallocated unused overlier pumping amount for 2021 is 1,497 AFY, slightly more than that reported in the City's 2015 UWMP. As some of the overlying parties develop their properties, the overlier rights will be used by the potable water and recycled water supplying agency and will no longer be available for reallocation. As a result, the total amount subject to reallocation will decrease over time. BCVWD made an estimate of the unused overlier pumping rights under a "developed" or "build-out" condition and estimated the total unused overlier amount would be 1,800 AFY under full buildout. The City of Banning's share (31.43%) would be 560 AFY (rounded) at buildout. The spreadsheet allows for the gradual reduction of the unused overlier pumping rights over time. It is projected by BCVWD to decrease to 560 AFY by 2030 or so as the overlying properties develop.

The City of Banning has 52,320 AF banked in their Beaumont Basin Storage account at the end of 2018 per Watermaster. For the period 2008 through 2017, the City of Banning has recharged an average of 1,294 AFY of SPW in BCVWD's recharge facility. The City can store up to 80,000 AF.

Table 6-2 presents a summary on the Supply-Demand Spreadsheet Model for the City of Banning. The year 2040 data was projected from previous years since the model currently only extends to 2035.

Table 6-2 was based on the following criteria:

- 2017 Ending Potable Water Demand: 7,500 AFY
- New EDU water demand: 0.52 AFY/EDU
- Existing EDU water demand: 0.62 AFY/EDU
- No demand reduction due to conservation on either existing or new EDUs

This was reviewed by the City of Banning. Table 6-2 indicates that the City of Banning has adequate local supply until 2035. Note that Banning's Beaumont Basin Groundwater Storage Account is full in 2030 (Per the spreadsheet model it actually fills in 2027). This indicates that the City of Banning has minimal imported water needs from SGPWA until 2040.

[7] Table 5-4 in Banning 2015 UWMP.

Table 6-2 - Summary of Spreadsheet Supply-Demand Model for City of Banning

Demand or Supply	Year				
	2020	2025	2030	2035	2040
Total New EDUs/year	218	388	706	220	220
Potable Water Demand, AFY	7,678	8,406	9,902	10,832	11,400
Banning/Cabazon Groundwater, AFY	9,675	9,675	9,675	9,675	9,675
Beaumont Reallocated Overlier Rights, AFY	1,450	1,100	600	560	560
Total Local Supply, AFY	11,125	10,775	10,275	10,235	10,235
Surplus/(Deficiency)	3,447	2,369	373	-597	-1,165
Imported Water, AFY					1,000
Groundwater Storage Account, AF	63,100	77,573	80,000	78,415	76,510

6.1.2 YVWD/City of Calimesa

Major development projects in the YVWD service area within SGPWA (principally the City of Calimesa) which are included in the Regional Spreadsheet Model are shown in Table 6-3.

Table 6-3 - Major Development Projects in YVWD in SGPWA (City of Calimesa)

Project Name	Projected EDUs	Estimated Start-up Year	Build-out Years
Summerwind Ranch	3,841	2019	20
Mesa Verde	3,650	2022	20
JP Ranch (a)	500	2025	10

(a) Per discussions with BCVWD.

To develop the spreadsheet for YVWD, several references were reviewed for YVWD's water supply and projected demands within their service area lying within the SGPWA boundaries:

- 2015 SGPWA UWMP
- 2015 San Bernardino Valley Regional UWMP
- Mesa Verde Water Supply Assessment (WSA) – Draft August 11, 2017
- YVWD Strategic Plan for Sustainable Future (Adopted August 20, 2008)

The EDUs for Summerwind Ranch and Mesa Verde were taken from the Specific Plans for these projects. First move-ins are scheduled to occur by 2019. Mesa Verde is estimated to start in 2022. An estimated 20-year build-out time for Summerwind Ranch and Mesa Verde was assumed, resulting in an average of 192 and 183 EDUs per year, respectively. Per YVWD, future phases of JP Ranch will likely not start until 2025 with a 10-year build-out period (about 50 EDUs

per year). It should be noted there will be additional EDUs associated with the developments for related commercial and retail developments, schools, parks, restaurants, etc.

Water supply sources for these projects are:

- Reallocated unused overlier pumping rights in the Beaumont Basin
- Oak Valley Partners' earmarked transfer right
- Banked groundwater from storage
- Imported Water from SGPWA
- Treated potable water from the YVWD's Regional Water Treatment Plant

In accordance with the Adjudication, YVWD's share (13.58%) of the reallocated unused overlier pumping right was determined by Watermaster for 2018 through 2022 and reported in the 2018 Watermaster annual report. To project the amount available under more long-term conditions, BCVWD made an evaluation of a fully developed condition of the developable overlier parcels as shown on the worksheet in the spreadsheet. BCVWD believes the total unused overlier right at build-out will be about 1,800 AFY; YVWD's share will be about 240 AFY (rounded).

Both Mesa Verde and Summerwind Ranch are part of the original Oak Valley Development that started with the Landmark Land Company of California in the 1980s. The original Landmark Project was a master planned golf/recreational development. Oak Valley Partners (OVP) took over the project and were involved in the Beaumont Basin Adjudication. OVP has overlying groundwater rights in the Beaumont Basin [originally 1,806 AFY but reduced to 1,398.9 AFY, (round to 1,399 AFY), after the safe yield was reduced in 2014]. These overlier groundwater rights will be transferred to YVWD to serve the Summerwind Ranch development only per YVWD.

YVWD uses 700 gal/day/EDU (0.78 AFY/EDU) for total water demand for existing EDUs; but requires all new development to be dual-plumbed and requires the use of recycled water outside. Potable water demands are estimated by YVWD to be 40% of the total water demand, i.e. 280 gal/day/EDU (0.37 AFY/EDU) with the remainder, i.e., 420 gal/day/EDU to be recycled water. It is BCVWD's opinion that the Adjudication requires OVP to forebear the pumping of their 1,399 AFY overlier pumping right, on an acre-ft by acre-ft basis, for both potable and recycled water.

YVWD has groundwater banked in the Beaumont Basin; at the end of 2018, per Watermaster, the amount in storage was 16,633 AF. YVWD has a 50,000 AF storage account.

The Mesa Verde WSA indicates 1,200 AFY is proposed to be recharged (banked) by YVWD from 2020 through 2040. YVWD developed a strategic plan entitled *The Integration and Preservation of Resources for a Sustainable Future* (adopted August 2008) which identified a groundwater banking program for future reliability for droughts and disruption in the SPW supply. The Plan indicates a Board policy of banking 15 percent of the total water supply used by the YVWD's customers. Data was not available to confirm the 1,200 AFY in Table 6-4, but 1,200 AFY is used in the spreadsheet model.

Table 6-4 - YVWD - SGPWA Imported Water Demands

Agency	2015	2020	2025	2030	2035	2040
Drinking Water Demands: Yucaipa Valley Water Filtration Facility	454	609	767	962	1,191	1,444
Conjunctive Use Demands - Local Water Banking	0	1,200	1,200	1,200	1,200	1,200
New Development Long-Term Supply - Sustainability Program	0	2,504	3,040	3,596	4,344	3,407
Purchase from SGPWA	**454**	**4,313**	**5,007**	**5,758**	**6,735**	**6,051**

Source: Mesa Verde Project WSA Draft August 11, 2017, page 25

The total of the drinking water demands for the Water Filtration Facility plus the Conjunctive Use Demands match with the projected imported water demands in the SGPWA 2015 UWMP as shown in Table 3-1.

Table 6-4 also identifies “New Development Long-Term Supply - Sustainability Program” which relates to YVWD’s Strategic Plan for a Sustainable Future. YVWD requires all new developments to provide funding to secure 7.0 AF of supplemental imported water per EDU. This amount of water is sufficient to meet the drinking water demands generated by each new EDU for a period of 20 years. YVWD also offers a Crystal Status Development Program whereby the developer provides funding for 15.68 AF of supplemental imported water per EDU which is sufficient to meet the potable and non-potable (recycled) water demands of the new EDU for 20 years. The difference between the two programs is that under the standard (7.0 AF/EDU) program, development will be restricted, (i.e., no grading or building permits will be issued), when a Stage 2 water shortage is declared (10% cutback). However, Crystal Status Development can continue through a Stage 4 Shortage (35% cutback). The 7.0 AF/EDU will not need to be replenished for 20 years. For this spreadsheet, the Standard 7.0 AF/EDU imported water purchase and storage is used, since it is difficult to determine how many new developments will purchase Crystal status. This is conservative.

The spreadsheet assumes that 7.0 AF/EDU will be applied to all new developments (Mesa Verde and JP Ranch) in YVWD, except for Summerwind Ranch, which has overlier pumping rights available to meet its projected demands.

Table 6-5 presents a summary on the Supply-Demand Spreadsheet Model for YVWD in the SGPWA service area, i.e., principally the City of Calimesa. Year 2040 data was projected from previous years since the model currently only extends to 2035.

Table 6-5 was based on the following criteria:

- 2017 Ending Potable Water Demand: 500 AFY
- New EDU water demand: 0.37 AFY/EDU
- Existing EDU water demand: 0.78 AFY/EDU
- Water demand reduction from conservation on new EDUs: 10%
- Water demand reduction from conservation on existing EDUs: none

Table 6-5 indicates that YVWD, in SGPWA service area has sufficient local supply to meet demands until 2025, at which time imported water will be needed unless YVWD plans on withdrawing water from their storage account. The YVWD Beaumont Basin Groundwater Storage Account is full in 2030 primarily because of the "Sustainability Water" which is banked.

Table 6-5 - Summary of Spreadsheet Supply-Demand Model for YVWD (City of Calimesa)

Demand or Supply	Year					
	2018	2020	2025	2030	2035	2040
Total New EDUs/year		83	464	551	551	500
Potable Water Demand, AFY	503	544	1,065	2,054	3,058	4,062
Oak Valley Partners Earmark Transfer, AFY	3	50	586	1,399	1,399	1,399
Beaumont Reallocated Overlier Rights, AFY	864	627	400	240	240	240
Total Local Supply, AFY	867	677	986	1,639	1,639	1,639
Surplus/(Deficiency)	364	133	(79)	(415)	(1,419)	(2,423)
Imported Water for Regional Filtration Facility, AFY (a)	500	609	767	962	1,191	1,444
Imported Water for Banking, AFY (a)		1,200	1,200	1,200	1,200	1,200
Imported Water for Sustainability, AFY	49	51	1,655	2,260	2,260	2,260
Total Imported Water, AFY	549	1,860	3,622	4,422	4,651	4,904
To (From) Storage, AFY	913	1,993	3,542	4,007	3,232	2,481
Groundwater Storage Account, AF	16,689	19,397	32,825	50,000	50,000	50,000

(a) Source: YVWD's Mesa Verde WSA, pg. 25, SGPWA SPW or equivalent used at Filtration Plant

6.1.3 BCVWD

6.1.3.1 City of Beaumont Development

Major development projects in the BCVWD service area, which are included in the Regional Spreadsheet Model, are shown in Table 6-6. The projected EDUs planned or yet to be built are estimated and may vary slightly from City of Beaumont Project Status Report estimates.

Table 6-6 - Major BCVWD Development Projects in Planning or Construction Stages

Project Name	Projected EDUs (Planned or Yet to be Built)	Estimated Start-up Year	Build-out Years
Tournament Hills Ph 4	281	2020	4
Sundance[(a)]	1,262	2018	5
Fairway Canyon[(a)]	1,810	2019	20
Heartland Olivewood[(a)]	1,081	2018	20
Four Seasons[(a)]	203	2018	3
Kirkwood Ranch	391	2022	12
Potrero Creek Estates	700	2025	10
Noble Creek Meadows	648	2021	15
Hidden Canyon Industrial[(a)]	82	2019	5
Sunny Cal Egg Ranch	529	2019	10
Beaumont Pointe (current proposed)	360	2022	2
The Preserve/Legacy Highlands	3,218	2025	25
Taurek	244	2022	20
TR 32950 Manzanita	95	2022	10
Other Projects on City of Beaumont's Project Status List (10/18/2018)			
Sundance Corporate Center[(b)]	---	2018	2019
Rolling Hills Ranch Industrial Ph 2	---	2020	2021
Centerpointe Commercial[(b)]	---	2018	2019
San Gorgonio Village Ph 2[(a)]	---	2020	2021
Total EDUs	***10,904***		

(a) Under construction
(b) Recently completed

Prior "proposed" projects equivalent dwelling units within the BCVWD service area were estimated at 12,544 (Legacy Highlands WSA, June 2020). The BP Project site was previously planned with a land use density of 2,000 equivalent dwelling units (EDUs). The new BP land use plan estimates a significantly reduced density of 360 EDUs, representing a reduced site density by 82 percent. The update presented in Table 6-6, as calculated in Section 4.2, is updated with this lower density for BP contributing to total EDU count of 10,904, and a reduction by 1,640 EDUs. Figure 4 shows the number of single-family home building permits issued in the City of Beaumont since year 2002. (Year 2018 was estimated based on data through September 2018.) Although not shown in the figure, the permit applications started to increase in 1999- 2000 and reached their peak in 2005 with 2,300 new home permits issued for that year. The number of

permits for new homes declined to a low of 169 in 2011. Over the last 10 years, permits averaged 396 per year, and 508 over the last 5 years. The 16-year average was 747 per year. Future growth will likely be in the range of 450 to 650 permits per year, although some developers have projected slightly higher amounts in their build-out forecasts.

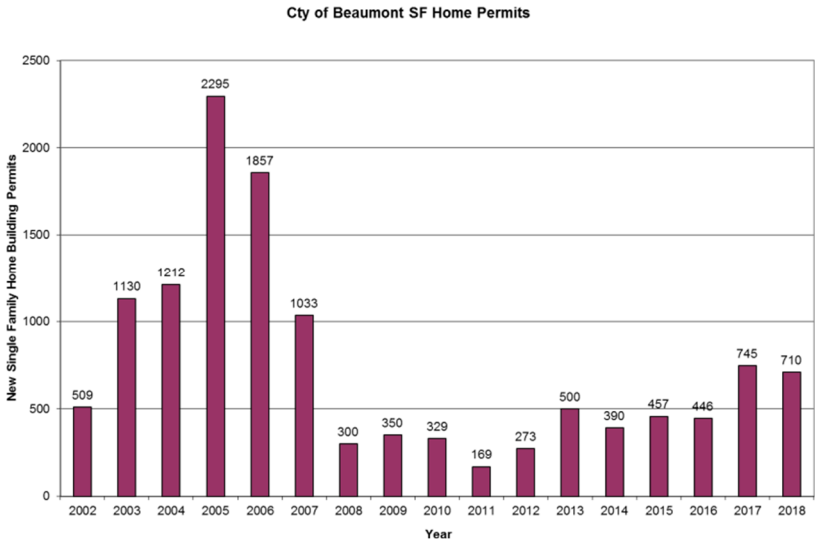

Figure 4
City of Beaumont Single Family Home Permits

6.1.3.2 Cherry Valley Growth and Development

The ultimate build-out population for that portion of Cherry Valley served by BCVWD, based on the Pass Area Land Use Plan[8,9] densities, was estimated to add a population of approximately 21,700, or about 7,750 EDUs. This was BCVWD's estimate in 2009 using GIS land use data from Riverside County and typical development densities for the various land uses in the General Plan. This estimate included a population growth of 6,736 in the City of Calimesa. BCVWD will not be serving the City of Calimesa as this is within YVWD's service area. Cherry Valley population is being reviewed as part of the 2020 UWMP update work in conjunction with the City of Beaumont's General Plan Update (2020). As a result, the increased population estimate to be served by BCVWD may be overestimated. BCVWD now believes it to be closer to 15,000 people at build-out, or about 5,350 EDUs. The build-out population is based on an increase from the current 2.43 persons per EDU to 2.8 persons per EDU projected at build-out.

The housing unit count within Cherry Valley was 2,874 in 2010 per the census data, but 26.6 percent of those are mobile homes. Adjusting for the reduced water use in mobile homes, the 2,874 housing units are equivalent to about 2,485 EDUs. The Sunny Cal Egg Ranch Development (529 EDUs from Table 6-6), is included with the City of Beaumont's development projects, but is actually within the current Cherry Valley census area. The Sunny Cal EDUs would have been included in the projected 2,865 EDU increase for Cherry Valley, (5,350 EDUs – 2,485 EDUs). To avoid "double counting EDUs," the Sunny Cal Egg Ranch EDUs were deducted from the 2,865 EDUs, resulting in a net projected 2,336 EDU increase for Cherry Valley to build-out.

[8] Pass Area Land Use Plan, October 7, 2003, Part of Riverside County General Plan.
[9] The Pass Area Plan, County of Riverside General Plan Amendment 960, Draft March 2014.

The buildout population and EDUs will be revised in future updates of the BCVWD Potable Water Master Plan and UWMP.

BCVWD believes Cherry Valley will be growing at a low rate keeping with its character of residential rural community, which is estimated to be less than 10 EDUs/year until the City of Beaumont's currently planned projects are developed. Once the City of Beaumont has developed, Cherry Valley will begin to be developed at a gradually increasing rate, perhaps increasing to 30 to 50 EDUs/year, but this is not expected to occur until after 2040.

6.1.3.3 Supply Demand Model for BCVWD

Table 6-7 presents a summary of the spreadsheet model for BCVWD's demand which was based on the following criteria:

- 2019 Ending Potable and Non-potable Water Demand: 13,337 AFY
- New EDU water demand: 0.546 AFY/EDU
- Existing EDU water demand: 0.62 AFY/EDU
- Water demand reduction from conservation on new EDUs: 5%
- Water demand reduction from conservation on existing EDUs: 5%

Table 6-7 - Summary of Spreadsheet Supply-Demand Model for BCVWD[12]

Demand or Supply	Year						
	2019	2020	2022	2025	2030	2035	2040
Total New EDUs/year	381	580	940 [1]	460	502 [1]	378 [1]	207 [1]
Potable and Non-potable Water Demand, AFY	13,337 [2]	13,668	14,498 [3]	15,188 [4]	16,584 [5]	17,772 [6]	18,337 [13]
Edgar Canyon, AFY	1,700	2,100	2,100	2,100	2,100	2,100	2,100
Beaumont Reallocated Overlier Rights, AFY	1,905 [11]	1,962 [11]	1,826 [11]	1,200	760	760	760
Forbearance Water (Sunny Cal Egg Ranch), AFY	0	50	100 [7]	200	340	340	340
Recycled Water City of Beaumont, AFY	0	1,556	1,808 [8]	2,188	2,840	3,487	3,930
Stormwater Capture, AFY	0	0	0	250	250	250	250
Other Local Water Resource Projects, AFY	0	0	0	250	250	250	250
Total Local Supply, AFY	3,605	5,668	5,834	6,188	6,540	7,187	7,630
Surplus/(Deficiency), AFY	-9,732	-8,000	-8,664 [9]	-9,000	-10,044	-10,585	-10,707
Imported Water for Replenishment, AFY	9,732	8,000	8,664 [9]	9,000	10,044	10,585	10,707
Imported Water for Drought proofing, AFY	1,000	1,000	1,000 [9]	2,000	2,500	2,500	2,500
Total Imported Water, AFY	10,732	9,000	9,664 [9]	11,000	12,544	13,085	13,207
To (From) Storage, AFY	1,000	1,000	0	2,000	2,500	2,500	2,500
Groundwater Storage Account, AF	34,794 [10]	35,794	35,794	41,794	52,294	64,794	77,294

[1] Previous BCVWD planning identified Years 2020 - 2024 with 580 EDU/yr, and old JRT starting in 2030 at 80 EDU/yr for 25 years (Hidden Canyon WSA, Table 8). BP (JRT) update proposes 360 EDUs and buildout in 2022; therefore, 2022 EDUs/yr = 580 + 360 = 940. As such, EDUs/year for 2030, 2035 and 2040 decrease by 50 EDUs/yr, 80 EDUs/yr, and 90 EDUs/yr, respectively. NOTE - 360 EDUs is the Project's Total Potable and Non-Potable Demands

[2] Adjusted for Year 2019, which was 13,129 AFY for 2018 (Legacy Highlands WSA, Table 12); 381 EDU/yr*0.546AFY/EDU = 208 AFY.

[3] Year 2022 adds 2 years at Year 2020 EDU rate at 0.546AFY/EDU plus 197 AFY for BP (updated demand estimate) = 14,498 AFY.

[4] Accounts for 423 EDU's in 2023, 381 EDU's in 2024, and 460 EDU's in 2025. The Project's 197 AF demand is accounted for in the 2022 column.

[5] Accounts for 500 EDUs in 2026, 525 EDUs in 2027, 519 EDUs in 2028, 510 EDUs in 2029, and 502 EDUs in 2030. The District's previous projection accounted for 50 EDUs in the first of year of construction (2030) of the orginal (residential) BP Project. The current Project's 197 AF demand is accounted for in the 2022 column.

[6] Accounts for 474 EDUs in 2031, 467 EDUs in 2032, 456 EDUs in 2033, 402 EDUs in 2034, and 368 EDUs in 2035. The District's previous demand projection accounted for 80 EDUs/yr from 2031-2033, and 90 EDUs/yr in 2034 and 2035 for the original (residential) BP Project. The current Project's 197 AF demand is accounted for in the 2022 column.

[7] Assumes forbearance water credit for Sunny Cal Egg Ranch will be 100 AFY by Year 2022.

[8] Based on proportionate deliveries of recycled water from Year 2020 (1,556 AFY) to 2025 (2,188 AFY), or 126.4 AFY x 2 yrs increase.

[9] For conservative analysis, assumes no increase from Year 2020.

[10] Per Beaumont Basin Watermaster 2018 Annual Report, Section 3.5.

[11] Per Beaumont Basin Watermaster 2018 Annual Report, Table 3-7.

[12] Demand data presented in Table 6-7 represents the most reasonable and accurate demand projections to date. It should be noted that the District is currently analyzing current and future projected demands to be included in its 2020 Urban Water Management Plan Update, which will be submitted to the Department of Water Resources around July 2021. Demands presented herein may be subject to change at the discretion of the District. Demand values currently presented are considered to be conservative.

[13] Assumes uniform 207 EDU/yr increase from 2036-2040; The District's previous demand projections did not extend to 2040. This is considered to be conservative. It is assumed that the 90 EDU/yr trend would continue from 2036-2040 for the original (residential) JRT Project. The current Project's 197 AF demand is accounted for in the 2022 column.

BCVWD's source of supply consists of:

- **Edgar Canyon (Little San Gorgonio Creek) Groundwater** – The annual yield for Edgar Canyon is based on 37 years of pumping records. The average annual production for the period 1983 – 2019 was 2,094 AFY, which was rounded to 2,100 AFY in the spreadsheet. However, for 2018, the production was reduced to 1,700 AFY to account for the reduced production in some wells due to reduced pump efficiency. These pumps have been refurbished and will be refurbished on a regular basis.

- **Beaumont Basin**
    - **Reallocated Unused Overlier Pumping Rights** – Watermaster provided the amount of reallocated overlier rights in the 2018 Annual Report for each year up to 2023. BCVWD was allocated 1,905 AF in 2019 and 1,962 AF in 2020. Thereafter, BCVWD made an estimate based on production and development of the overlier's property. BCVWD estimated the long-term, fully developed, unused overlying party pumping rights would be about 1,800 AFY. BCVWD gets 42.51% of the unused overlier pool each year. At full development, BCVWD estimates its share is 760 AFY.
    - **Forbearance Water** is credited to a water supplier by Watermaster for any potable and/or recycled water provided to an overlier when the overlier's property develops. The overlier forbears pumping the equivalent amount of water supplied. BCVWD will supply the Sunny Cal Egg Ranch Development with both potable and recycled water. Sunny Cal Egg Ranch and associated partners are overlying parties and have pumping rights. BCVWD estimates that fully developed demand from recycled and potable water is about 340 AFY. The amount of forbearance water will increase over time from zero (0) AFY to 340 AFY as the project develops to anticipated buildout in 2030.
    - **Water from Groundwater Storage** – BCVWD has an 80,000 AF storage account in the Beaumont Basin. As of the end of 2018, there were 34,794 AF in storage per Watermaster's 2018 Annual Report. BCVWD's plan, which is shown in BCVWD's 2015 UWMP, envisions banking from 1,000 AFY to 2,500 AFY to drought proof BCVWD. This is accounted for in the spreadsheet each year. Should there be a year when the projected amount cannot be delivered by SGPWA, any deficiency will be made up in successive years when adequate supply is available. Table 6-7 shows that for average water supply conditions, banking is anticipated every year and no water will be withdrawn from storage.
- **Recycled Water from the City of Beaumont** – The City of Beaumont is required by Regional Water Quality Control Board (RWQCB) Order No. R8 -2015-0026 to have recycled water put to beneficial reuse by March 1, 2020. The City started construction of the new wastewater treatment plant, reverse osmosis desalting unit, and the required brine line from the wastewater treatment plant to the Inland Empire Brine Line (IEBL), in San Bernardino. The City has completed and has an approved Title 22 Engineering Report for the Treatment Facilities. The City and BCVWD signed a Memorandum of Understanding (MOU) in 2019 which began the process of an agreement for purchase of recycled water by BCVWD from the new treatment plant. BCVWD and the City are working jointly on defining the pumping and storage requirements at the treatment plant. The City will be the recycled water producer; BCVWD the distributor. BCVWD is in process of completing their Title 22 Engineering Report for the Distribution and Reuse Applications. BCVWD has developed draft rules and regulation for recycled water use and developed a cross-connection testing and control plan which has been approved by the SWRCB Division of Drinking Water. In the future, as more recycled water becomes available during the late fall, winter, and early spring, BCVWD and the City will develop

an advanced treatment facility and secure permits for groundwater recharge of the surplus effluent. BCVWD and City will discuss providing recycled water to the Oak Valley Greens and/or Tukwet Canyon Golf Courses in exchange for forbearance water which will increase BCVWD's potable water supply.
The BCVWD spreadsheet model is based on 0.25 AFY/EDU (225 gallons/day/EDU) connected to the City's wastewater system. The City is obligated to maintain a 1.8 mgd discharge to Cooper's Creek for habitat maintenance; the available recycled water accounts for this 1.8 mgd "loss." A capacity factor of 75 percent is applied to the available wastewater to account for brine discharge, recycled water used on the plant site for maintenance, and water contained in the biosolids, hauled off-site.

- **Storm Water Capture** – BCVWD and Riverside County Flood and Water Conservation District (RCFWCD) are jointly working on a Santa Ana Watershed Project Authority (SAWPA) Grant Project to design and construct Beaumont MDP-Line 16 storm water capture project, also known as the Grand Avenue Storm Drain in Cherry Valley. The project is partially funded under the Integrated Regional Water Management Implementation Grant Program under Proposition 84. A detailed analysis of the runoff potential was performed using 77 years of daily rainfall records from the Beaumont Rain Gage with the runoff determined for each storm using the Natural Resources Conservation Service (NRCS) curve number method. An estimated 200 to 230 AFY can be captured with MDP-Line 16 project. Other projects, in and around the BCVWD recharge facility, will capture excess flow in both Brookside Ave and Beaumont Ave to increase the annual capture (long term average) to 250 AFY.
- **Other Local Water Resource Projects** – BCVWD has several other local water resource projects which can be implemented including:
    - High nitrate groundwater at the mouth of Edgar Canyon. This groundwater can supplement the recycled water/non-potable water system flow in the summer, high demand months, making well water available for potable water use. BCVWD believes as much as 300 AFY can be captured and reused.
    - San Timoteo Canyon Extraction Wells to capture groundwater from the Beaumont Basin flowing into San Timoteo Canyon and also to capture City of Beaumont wastewater flow discharged to Cooper's Creek once the water has percolated and is no longer available for habitat maintenance. It is estimated that 400 to 800 AFY can be captured and put into the recycled water/non-potable water system to meet summertime demands.
    - For purposes of this WSA, 250 AFY are assumed to be available with the initial phases of these projects.
- **Imported Water from SGPWA** -- The amount of imported water which BCVWD is able to purchase and recharge is only the amount left over after YVWD, the City of Banning, and others have purchased the amount each needs to meet their demands and banking. The amount available from the SGPWA collectively is discussed later in this WSA. BCVWD has entered into an agreement, and participated financially, with the SGPWA for a share of the yield from the Sites Reservoir Project. This is discussed later in this WSA.

6.2 Summary of Member Agency Imported Water Demands on SGPWA

Table 6-8 presents a summary of the spreadsheet model demands for the City of Banning, YVWD/Calimesa, and BCVWD from Tables 6-2, 6-5, and 6-7 presented previously. The imported water demands include from 3,816 to 7,912 AFY for banking and drought proofing. Table 6-8 also includes a projected amount of imported water for member agencies in SGPWA that are not currently taking SPW. These amounts were taken from SGPWA's 2015 UWMP. BCVWD believes these amounts are conservative considering the growth rates in the SGPWA Area.

Table 6-8 - Regional Summary of Spreadsheet Supply-Demand Model for SGPWA

Demand or Supply	Year					
	2018	2020	2025	2030	2035	2040
Potable Water Demand, Banning YVWD/Calimesa, BCVWD (Potable and Non-potable), AFY	21,135	21,890	24,659	28,540	31,662	33,799
Local Supply, Banning YVWD/Calimesa, BCVWD, AFY	16,949	17,470	17,949	18,454	19,061	19,504
Imported Water Demand, incl. drought proofing, etc., AFY	10,272	10,860	14,622	16,966	17,736	19,111
Total Imported and Local Supply, AFY	27,221	28,330	32,571	35,420	36,797	38,615
Total to (from) Regional Groundwater Storage, AF	6,085	6,440	7,912	6,880	5,135	3,816
Regional Groundwater Storage, not incl. SGPWA, AF	106,118	117,791	150,592	179,494	189,309	198,804
SGPWA Imported Water Demands for those agencies not currently taking imported water, from SGPWA 2015 UWMP, AFY		500	1,600	2,800	3,900	5,000
Total Imported Water Demand, AFY	10,272	11,360	16,222	19,766	21,636	24,087
Total Imported Water Demand, without banking or drought proofing, AFY	9,223	9,109	11,367	13,806	15,676	17,151

7. SGPWA AVAILABLE IMPORTED WATER

At the present time the "firm" supplies of imported water available to SGPWA, or in the final stages of being finalized, by Year 2040 are:

- Table A
- Yuba Accord Water
- SBVMWD (agreement is in final stages of development)
- AVEK (Nickel Water)
- Ventura/Casitas Water Lease/Purchase
- Delta Conveyance Project (DCP)
- Sites Reservoir (Sites)
- Purchase of State Water Project Contractors Incremental DCP Reliability Benefits
- Purchase or Leasing of Metropolitan's DCP Phase 2 Water
- Other Sources Available through SWP

These are discussed in White Paper No. 6, and reiterated in Table 6-8:

7.1 State Water Project (SWP) Table A

SGPWA's contract with the Department of Water Resources (DWR) states a Table A amount of 17,300 AFY. Table A is the maximum amount of water the SGPWA can convey through the SWP facilities. This amount of water is not available consistently every year. In fall of each year, DWR provides an initial delivery allocation as a percent of Table A depending on amount of water in reservoir storage and anticipated hydrologic conditions. The allocation can be increased or decreased depending on the precipitation during the winter; a final allocation is usually issued in spring and sets the amount of water available, as a percentage of Table A, from the SWP. Since 1992, the allocation has averaged about 65%. DWR has prepared a reliability study[10] which indicated the SWP can deliver only about 62% of Table A (10,726 AF to SGPWA) in any one year. Table B-5B, in DWR's Bulletin 132-17, forecasts the amount of SPW delivered to SGPWA in future years at 10,380 AFY.

In the discussions over the DCP, experts believe the current SWP reliability will decrease over time to 48%, or possibly even lower, due to anticipated additional regulatory constraints to protect threatened and endangered fish within the Delta. The length of time over which this decline in reliability will occur is not certain, but to be conservative, it is assumed that by 2035, the SWP reliability will decrease to 48%. Implementation of DCP by 2030 to 2035 is expected to restore reliability to above 60%.

For planning purposes in the WSA, the SWP delivery reliability is assumed to decline at a linear rate from 2020 to 2035. Therefore, by the Year 2035, with a delivery reliability of 48%, the SGPWA can expect only about 8,300 AFY from the SWP. Once the DCP is in place, the reliability will be restored, and possibly improved, over its current 62% reliability.

[10] DWR (2012). State Water Project Delivery Reliability Report 2011. State of California Dept. of Water Resources, June.

7.2 Yuba Accord Water

Through the Yuba Dry Year Transfer Program, the official name for Yuba Accord Water, SGPWA can purchase additional supplemental water from Yuba County Water District under an agreement.[11] The amount of water available from the Yuba Accord varies year to year depending on hydrologic conditions. Yuba Accord Water has only been available, for purchase by SWCs since about 2009. Delivery "loss" (termed "carriage cost" in DWR's Bulletin 132 series), in the Delta is typically assumed by DWR to be 20% of the delivered amount, adjusted as needed based on water quality considerations, plus an additional 2 to 3% Delta Conveyance "loss." Records in the Bulletin 132 series indicate that SGPWA purchased Yuba Accord Water in four years since 2009 although Yuba Accord Water was available every year from 2009 through 2015 except 2011. Purchases by SGPWA averaged 374 AFY, with deliveries averaging 280 AFY (25% loss).

The amount of Yuba Accord Water available depends on the calculated Sacramento Valley Water Year Index. Between 75,000 AFY (Dry Years) and 140,000 AFY may be available depending on the Water Year Index. If all 22 SWCs decide to participate in a given year, SGPWA's share of the Accord Water is 0.21%, based on the proportion of SGPWA's Table A and the Total Table A of all 22 participants. If some SWCs do not want to participate in a given year, the allocation to each SWC is adjusted upward. SGPWA would normally get 158 AFY during a dry year and a maximum of about 294 AFY.

The SGPWA estimates that about 300 AFY, on the average, of Yuba Accord Water can be obtained.[12] For purposes of this WSA, a conservative 30% total loss is assumed, which will reduce the amount that can be actually delivered to the Pass Area to 200 AFY. This is reasonable considering the past experience.

7.3 San Bernardino Valley Municipal Water District (SBVMWD Water)

The SGPWA Board of Directors authorized the General Manager to sign the Surplus Water Sale agreement with SBVMWD to purchase up to 5,000 AFY of SBVMWD's Table A water in years that SBVMWD's Board of Directors declares a surplus[13]. The availability of SBVMWD surplus water depends on hydrologic and groundwater conditions within SBVMWD's service area per SBVMWD Ordinance 79. SGPWA has the right of first refusal on the first 5,000 AFY of surplus water. Assuming SGPWA exercises the right, the agreement states that SBVMWD must first offer 50% of the available supply to one or both agencies that are in both SBVMWD and SGPWA, i.e. Yucaipa Valley WD and South Mesa Water Company. Fifty percent of the water and any additional water "left over," can be offered to other SGPWA retailers. The agreement is for a term of 15 years from the date of execution (terminates in 2033), but SGPWA intends to renegotiate the terms and extend to some point in the future. Execution of the agreement is anticipated soon.

SGPWA estimates, based on past hydrologic conditions, this is likely to occur about two years out of every five, or 40% of the time. This is equivalent to 2,000 AFY in any one year. The term

[11] DWR (2008). Agreement for the Supply and Conveyance of Water by the Department of Water Resources for the state of California to the Participating State Water Contractors under the Dry Year Water Purchase Program, March 31.
[12] Refer to Table 3-1 of SGPWA 2015 UWMP
[13] SGPWA Regular Board Meeting Minutes, October 16, 2017, page 4.

of this agreement will be at least 15 years from now or until about 2032.[14] For purposes of this WSA, the amount of water available from SBVMWD is 2,000 AFY until 2032.

7.4 AVEK-Nickel Water

In June 2017, SGPWA Board of Directors approved an agreement with the Antelope Valley-East Kern Water Agency (AVEK) for 1,700 AFY for 20 years (to 2037) with the right of first refusal to extend it for another 20 years. The water rights on the Kern River originally belonged to the Nickel Family, LLC that were sold to Kern County Water Agency (KCWA) and subsequently leased to other parties in various amounts. One portion (1,700 AFY) is under the control of AVEK, which offered the water to SGPWA. This water is not subject to the reliability issues of the SWP. Per the take-or-pay agreement, SGPWA must take all of the 1,700 AF each year or pay for 1,700 AF even if the SGPWA does not take all, or any portion, of it in any one year.

7.5 City of Ventura and Casitas Municipal Water District (Ventura Water)

The Ventura County Watershed Protection District is one of 29 State Water Contractors, but the agency lacks the infrastructure at present to be able to take its 20,000 AFY of Table A water. The County's Table A is allocated to three entities: City of Ventura (10,000 AFY), United Water Conservation District (5,000 AFY), and Casitas Municipal Water District (5,000 AFY). Up until 2018, these agencies sold their Table A water back to the "Turn-back Pool" (discussed later in this WSA). In 2018, the City of Ventura (Ventura) and Casitas Municipal Water District (Casitas MWD) entered into an agreement to exchange Table A water with SGPWA. BCVWD understands the SGPWA is also negotiating to enact an exchange of Table A water with Ventura (and possibly Casitas MWD) for year 2020.

The SGPWA may be considering extending it to a more long-term arrangement. The SGPWA Board of Directors, at the May 4, 2020 meeting, authorized the General Manager to sign the draft agreement presented at the board meeting and authorized staff to complete any and all actions required to document the CEQA exemption, including the filing of the Notice of Exemption, and develop and execute any agreements or documentation with DWR for the one-year deal.

Under the terms of the 2018 agreement, SGPWA received all of Ventura's and Casitas MWD's Table A water allocation for year 2018, or 5,250 AF considering the Department of Water Resources' 2018 final allocation at 35% (up from the original 30% in the draft agreement). SGPWA paid all of the Transportation Capital, Transportation Minimum, Conservation Capital and Conservation Minimum charges. Finally, each party to the agreement would be responsible for paying the variable costs for pumping the water to their respective service areas.

The SGPWA is obligated to return 40% of the Table A water taken from Ventura and Casitas MWD within 10-years, no later than the end of calendar year 2028. This amount would be from SGPWA's future Table A allocation, presumably during a "wet year". Ventura and Casitas MWD must initiate the request for return of the 40%, except they may not request return in any year that DWR has a Table A allocation of 30% or less. If the Table A allocation is between 30 and 50%, the two agencies will negotiate the delivery amount for that year. If there is any "balance"

[14] SGPWA 2015 UWMP

remaining after the 10-year period, the two agencies and SGPWA will negotiate alternative delivery methods which could include extension of the 10-year period by five years rolling the balance into a long-term exchange, should that develop.

The SGPWA is also considering a more long-term water transfer with a State Water Contractor for a portion of their unused SWP Table A allocation. Based on recent information published by SGPWA, it appears that supply would potentially start at approximately 6,000 AF on an average year in 2020 and might decline to 3,500 AF in 2040 as that potential partner agency utilizes more of their Table A supplies.

Currently, a one-year deal is in process, and it is believed that the SGPWA is pursuing a longer-term arrangement. For the purposes of this WSA, a conservative approach will be taken and no long-term arrangement will be in place.

7.6 Delta Conveyance Project (DCP), formerly California Water Fix (CWF)

The SWP was authorized in the Burns-Porter Act, also known as the California Water Resources Development Bond Act, passed by vote of the people in November 1960 (Proposition 1). Construction on most of the basic facilities of the SWP was completed by 1975. Due to cost considerations, and the fact that initial project water demands are lower than design capacity, a number of the originally planned facilities were "scaled down" or deferred. Many have not been constructed to date for various reasons. One of those projects was the Cross-delta Facility known as the Peripheral Canal. As a result of the scaling down and facility deferments/cancelations, the SWP is not able to live up to its original delivery capacity. A number of other facilities were scaled down, deferred, or not constructed.

The Sacramento-San Joaquin Delta levees are vulnerable to seismic shaking; the Delta ecosystem continues to decline; flooding and saline water intrusion into the Delta impacts the water quality delivered to municipal and agricultural users during dry years; climate change, whether short-term (50 or 100 years) or long term 500 or more years, will cause increased water levels in the Delta further stressing vulnerable levees. The SWP dams and reservoirs were designed about 50 years ago with the hydrology of the times. Climate change will impact the operation of the SWP. Precipitation, which used to fall as snow and be stored in snowpack, will be in the form of rain which the reservoirs were not designed to accommodate. More and more water will be lost to the ocean in future years because of increased runoff and less storage.

The Delta Conveyance Project (DCP), intended to address some of these issues, proposes a dual, gravity tunnel conveyance system from north of the Delta extending south to the Clifton Court Forebay. At the southerly end of the tunnels, a new Clifton Court Pumping Facility would lift water from the tunnels into Clifton Court Forebay. The water would be pumped from Clifton Court Forebay by the State and Federal Central Valley Project pumps as they now do. About 9,000 cfs would be diverted from the Sacramento River into the tunnels and around the Delta improving water supply reliability and export water quality TDS. The cost for the DCP was anticipated to be shared 55% by the State Water Contractors and 45% by federal Central Valley Project Contractors. This allocation share may change depending on the number of Central Valley Project Contractor participants.

Governor Newsom has stated his support for a "one-tunnel" DCP in his "State of the State"

address February 12, 2019. Originally planned as Phase 1 of the CWF.

The Delta Conveyance Project (DCP) is moving forward. On January 15, 2020 DWR issued a Notice of Preparation (NOP) for the environmental work on the reduced-size project which started the scoping comment phase. The scoping comment period ended April 17, 2020. DWR will be considering the comments when the Environmental Impact Report is prepared. The draft EIR is expected to be out for review and comment in early 2021.

The Delta Conveyance Project Authority has been established for the design and construction of the DCP. A Delta Conveyance Financing Authority has been established to develop the financing. The DCP is anticipated to be funded by revenue bonds issued by the State or a Jojnt Powers Financing Agency with payment by State Water Contractors south of the Delta through their existing contracts with the DWR – extended as needed into the future. In addition to other federal, State and local permits, DCP requires changes to the water rights permits for the State Water Project (SWP) Debt Service taxes. White Papers No. 3 and 6 provide more details on the funding, etc. The DCP is not expected to be operational until Year 2035. Until then, the reliability of the SWP would gradually degrade over time to 48% without the DCP due to a variety of reasons.

The original CWF with its two-tunnel approach was projected to increase the future reliability of the SWP by 14% (DWR study) to 17.62% (Metropolitan study) resulting in an increase of the overall reliability to 62% or, in the best case, 65.62%. This is at or slightly above the current reliability. It is not known to what amount of reliability increase will result from the new DCP but, to be conservative, it is assumed the reliability will be restored to 60 to 62%.

Without DCP, SGPWA's reliable Table A would be 8,300 AFY (rounded, based on 48% of 17,300 AFY). The reliable Table A supply for SGPWA would increase from 10,380 AFY to 10,726 AFY at 60% and 62% reliability, respectively.

7.7 Sites Reservoir

Sites Reservoir is a proposed reservoir that would be located at the site of a cattle ranch in the eastern foothills of the Central Valley about 78 miles northwest of Sacramento and north of the Sacramento-San Joaquin Delta near the Town of Maxwell, CA. Sites Reservoir is not on any major stream; all water must be pumped into the reservoir. Sites Reservoir was part of the original California Water Project, but was deferred. The reservoir in the original project proposal would have had a surface area of about 14,000 acres and store between 1.27 and 1.81 million acre-feet depending on final project. The estimated water yield would be between 470,000 to 640,000 acre-feet per year, depending on yearly rainfall and environmental regulations, according to DWR. The original project cost estimate was over $5 billion.

The Sites Project Authority, a Joint Powers Agency, was formed in 2010 to be a proponent and facilitator, to design and potentially acquire, construct, manage, govern, and operate Sites Reservoir and related facilities. Flood flows in the Sacramento River, over and above that needed to meet the demands of existing water rights holders, would be captured and pumped into Sites Reservoir. The Authority prepared a Value Planning Study in October 2019 to identify alternatives which would make the project more affordable. The Report was completed in April 2020 which scaled down the original project.

A preliminary analysis indicated that reservoir sizes of 1.3 to 1.5 million acre-feet (MAF) with assumed diversion criteria would be able to provide enough water to meet current participant demands. The Tehama-Colusa Canal and the Colusa Basin Drain would be used as the conveyance systems. The recommended project includes 1.5 MAF and 1,000 cfs of release capacity into the Sacramento River or to the Colusa Basin Drain at Dunnigan, and 243,000 AFY long term yield, was estimated at a cost of $3.0 billion.

The project Authority stated the 21 agencies put up $27 million for planning and studies with another $19 million due October 2020 to continue the process. Sites reservoir was approved by the California Water Commission (CWC) for $816 million of Proposition 1 funding on July 24, 2018. The CWC also agreed to provide $40.8 million in early funding to assist in completing the needed environmental analyses and obtain permits.

SGPWA has made a financial commitment of 10,000 AF and BCVWD has committed to 4,000 AF (total 14,000 AF) to the Sites Project Authority to fund Phase 1 of the Sites Reservoir Study. Reliability is between 65% (worst-case) and 100%[15]. The result is 9,100 AFY at 65% reliability.

Sites Reservoir will not produce water until about Year 2030; however, costs will be incurred by project participants moving forward. For the purposes of the WSA analysis it is assumed that water will not be available until 2035. The Authority's current plan will finance Phase 2 costs on a year-by-year basis.

The Sites Reservoir Project Authority is working closely with the federal Bureau of Reclamation to secure Bureau participation and funding which will reduce the cost to the participants. It is believed that the Authority would be responsible for 60% of the project cost, and the remainder from the State and federal agencies. This may change since the Authority anticipated slightly more Proposition 1 funding than the $816 million.

Although the Sites Reservoir is not expected to deliver water for another 15 years, currently the project is moving forward and is named in the Governor's Water Resiliency Plan. The project has been awarded a substantial CWC Proposition grant. The Sites Project Authority is continuing to refine its financing plan to fund the study phases. The reservoir is an "off-stream" reservoir giving it a reduced environmental footprint. Although there is some risk in the implementation, with each study phase completed the risk becomes less and the project is more certain.

7.8 Sale of State Water Project Contractors Restoration of DCP Reliability Benefits

All 'South of the Delta' SWP Contractors pay their proportionate share of the DCP costs. With the implementation of the DCP, there will be an increase in SWP reliability. Although all of the "South of the Delta" SWP Contractors will be paying their proportionate share of the DCP, for various reasons, a few SWP Contractors may not need the benefits of the increased yield and may be interested in transferring (selling) their incremental yield to other interested SWP Contractors, such as SGPWA. Currently, not enough is known about the sale of incremental yield and, therefore, will not be considered until it is better defined.

[15] See White Paper No. 1, Table 3

7.9 Purchase or Leasing of Metropolitan's Original CWF Phase 2 Water

With original CWF 2-tunnel, 2-phase concept, Metropolitan Water District of Southern California (Metropolitan) board of Directors voted to fund their share of the original CWF plus agreeing to fund the second phase of the CWF (second tunnel), i.e. the Central Valley Project share. This would have made water available for Metropolitan to sell/lease to other interested parties, e.g. SGPWA. With the DCP scaled down to one tunnel, this does not appear to be an option any longer.

7.10 Other Sources of Imported Water

There are other sources of water available through the SWP which include:

7.10.1 Article 21 Water

Article 21 Water is water that is offered for purchase by DWR resulting from reservoir releases needed to accommodate impending storm or snowmelt runoff when water is still available after operational requirements for SWP water deliveries, water quality and Sacramento-San Joaquin Delta requirements are met. This water is available only on short notice and must be taken immediately. BCVWD has capacity in its groundwater recharge facility to accommodate Article 21 Water. SGPWA is constructing their own Fiesta Recharge Facility which can be used for Article 21 Water. Article 21 Water is in addition to the State Water Contractor's Table A amount.

An analysis of Article 21 Water availability indicated the amount available is highly variable and there is competition for the water. If the requests for purchase are greater than the available amount, it is typically allocated on the basis of the requestors' Table A. A review of recent purchases from 2002 to 2015, with up to 17 "buyers," indicated that if SGPWA were a purchaser, their share would be about 0.5% of the total available. (The large agencies tend to dominate the purchases.) Table 7-2 presents an analysis of Article 21 Water availability to SGPWA based on DWR records from 1969 – 2015. Two periods of time were analyzed: total record and recent record.

Table 7-1 - Estimated Amount of Article 21 Water Available to SGPWA Based on 0.5% of Total Available AF

	1969-2015	2001- 2015
Average, AFY	939	824
Median, AFY	362	216
Maximum, AFY	4,542	3,655
75th Percentile, AFY	1,544	1,550

Article 21 water was available during the heavy snowfall year 2018-19 although the SGPWA was not able to take advantage of this since the BCVWD connection was out of service due to construction of the expanded turnout and the SGPWA's Fiesta Recharge Facility was not operational.

7.10.2 Turn-back Pool Water

Turn-back Pool Water is water that other State Water Contractors have ordered from DWR as part of their Table A entitlement, but decided they did not need the water that particular year and sold it back to DWR. DWR in-turn offers it for purchase at a relatively low set price to other State Water Contractors. Turn-back Pool Water has only been available since about 1996 following the Monterey Amendments to the State Water Contracts. Analysis of the data from 1997 through 2015, shows SWCs sold an average of 59,000 AFY of water back to the "pool" for purchase by other interested SWCs. (The median value was 29,770 AFY). Purchase of Turn-back pool water is also competitive, depending on hydrologic conditions. Assuming SGPWA's share is 0.5% based on the analysis of Article 21 Water, 295 AFY on the average could be purchased (149 AFY median). It would be reasonable that SGPWA could rely on about 200 AFY of Turn-back pool water.

7.10.3 Short-term or Long-term Water Transfers or Exchanges

Short-term or Long-term Water Transfers or Exchanges is water that can be obtained through exchanges and transfers from other State Water Contractors who do not need all of their Table A water in a given year or years. There are opportunities almost every year.

7.10.4 Recommendations for SGPWA

There is considerable competition for the Turn-back Pool and Article 21 Water and its availability is uncertain from year to year. SGPWA can take advantage of this water whenever it is available, and can consider short term transfers whenever available. Transfers of SWC Table A is subject to the SWP delivery reliability.

7.11 Summary of Available Imported Water Supplies

Table 7-2 summarizes the range of imported water supplies available to SGPWA based on the current and potential sources presented above. Agreements are in place for Ventura- Casitas, AVEK-Nickel Water, and SBVMWD Surplus Water. SGPWA is one of the 22 SWCs that has signed on to the Yuba Accord. Their share of the Yuba Accord Water is 0.21% of the available

water. In addition, through their State Water Contract, SGPWA can purchase Article 21 Water and Turn-back Pool Water.

The SGPWA has agreed to support the original CWF and participate in its funding, and it is assumed the SGPWA will support the DCP. BCVWD and SGPWA have made financial commitments to Sites Reservoir, and currently plan to contribute to future phases of the Sites Reservoir project.

Table 7-3 presents a summary of current and projected SGPWA imported water supplies, through 2040 in 5-year increments based on the yields in Table 7-2. Figure 5 shows the sources of imported water supply and the regional imported water demand with and without banking and drought proofing.

Table 7-2 - SGPWA Current and Projected Available Imported Water Supply through 2040

Source	Low Yield Case, Annual Amount, AFY	High Yield Case, Annual Amount, AFY	Comment
Existing Table A	8,300	10,380	17,300 AFY but only 60% reliable (10,380 AFY) per Bulletin 132; to degrade to approximately 48% (8,300 AFY) without Delta Conveyance Project (DCP) by 2035
Yuba Accord	200	200	When available, represents average per year
San Bernardino Valley MWD Surplus Table A Water (SBVMWD Water)	2,000	2,000	Up to 5,000 AFY available estimated 2 out of every 5 years (40%) of time = 2,000 AFY; agreement terminates in 2032, but can be extended.
Antelope Valley East Kern Water Agency (AVEK) Nickel Water, (AVEK Nickel Water)	1,700	1,700	20-year agreement terminates in 2037 with option for a 20-year extension
Additional Table A SGPWA Partner Agency	500	3,000	Looking at extended exchange agreement with Additional Table A SGPWA Partner Agency to utilize unused Table A. Estimated to be net 3,000 AFY initially to 500 AFY by 2040.
Article 21 Water Purchase	800	800	Variable, represents average per year
Turn-back Pool Purchases	200	200	Variable, represents average per year
Delta Conveyance Project (DCP)	0	0	Will increase reliability of State Water Project (SWP) back to 60 to 62%
Sites Reservoir	9,100	14,000	Worst case with 65% assumed reliability. (BCVWD has committed to 4,000 AFY of the 14,000 AFY)
Total Imported Water Potentially Available	22,800	32,280	

Table 7-3 - Regional Summary of SGPWA Imported Water Supply, AFY

Source	Year					
	2018	2020	2025	2030	2035	2040
Imported Water Demand Table 6-8	10,272	11,360	16,222	19,766	21,636	24,087
Imported Water Demand, Table 6-8, without banking or drought proofing	9,223	9,109	11,367	13,806	15,676	17,151
Table A	10,380	10,135	9,524	8,912	8,300	8,300
Yuba Accord	200	200	200	200	200	200
AVEK Nickel	1,700	1,700	1,700	1,700	1,700	
SBVMWD	2,000	2,000	2,000	2,000		
Ventura-Casitas	5,250		(2,100)			
Subtotal	19,530	14,035	11,324	12,812	10,200	8,500
Extension of SBVMWD Agreement (potential)					2,000	2,000
Extension of AVEK Nickel agreement						1,700
Article 21 Water Purchases		800	800	800	800	800
Turn-back Pool Water Purchases		200	200	200	200	200
Additional Table A SGPWA Partner Agency Side Deal		3,000	2,500	2,000	1,500	500
Subtotal	19,530	18,035	14,824	15,812	14,700	13,700
DCP Reliability Recovery to 60% (worst case)					2,080	2,080
Sites Reservoir (worst case)					9,100	9,100
Total Imported Water Supply	19,530	18,035	14,824	15,812	25,880	24,880

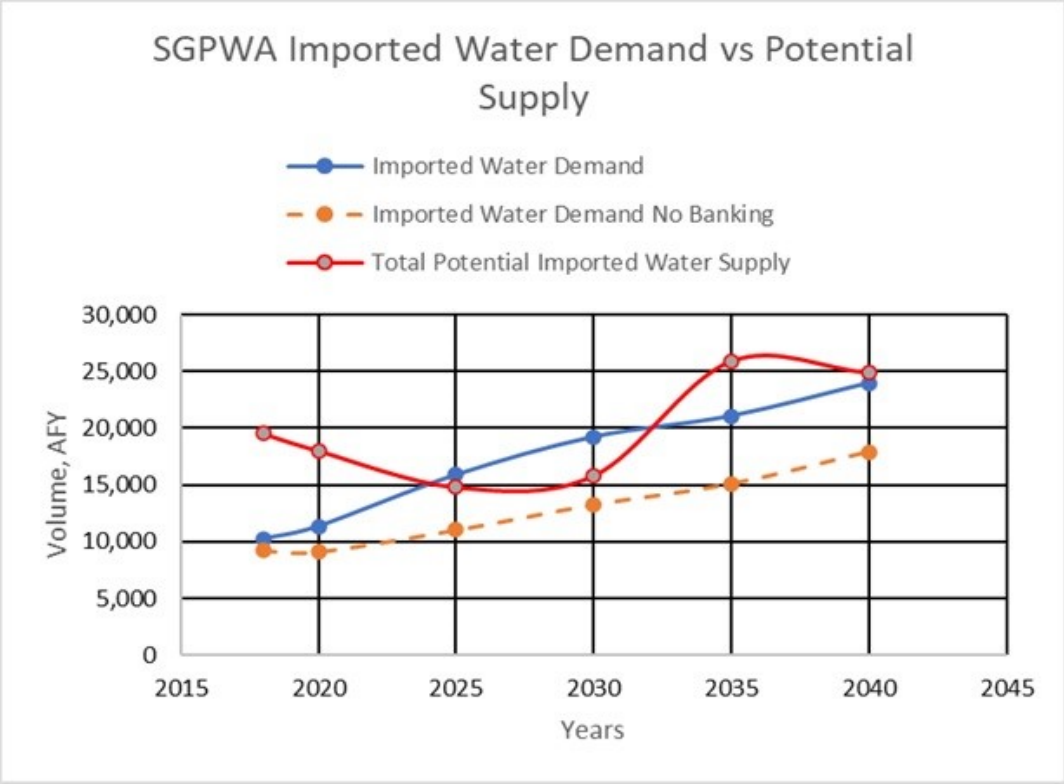

Figure 5
SGPWA Imported Water Sources and Demand to 2040 (Worst Case Conditions)

Until 2025, SGPWA has sufficient imported water to meet the demands of the City of Banning, BCVWD, YVWD/Calimesa as well as the demands from those SGPWA members currently not taking imported water. (Those agency total demands are shown in Table 6-8.) BCVWD has determined these are very conservative and it is unlikely that these areas will be developing to require those demands within the timeframe shown. It would be reasonable to believe that the Yucaipa/Calimesa to Banning area will develop more fully before moving into these outlying areas. Nevertheless, Table 6-8 shows that about 6,000 AFY will be banked regionally by the water suppliers between now (2020) and 2025, which is about 30,000 AF of additional water in storage for a total of 150,592 AF in storage by year 2025.

From 2025 to 2035 (when DCP and Sites Reservoir become operational), adequate imported water supply will be available to meet the imported water demands but with reduced amounts available for banking. The region's member agencies would still have nearly 145,000 AF in banked storage which could be used if needed. In a normal year, banking would continue in 2030, but at slightly reduced annual amounts until DCP and Sites Reservoir come on-line.

7.12 Contingency Plan

It is recognized that DCP and Sites could be delayed or perhaps reduced in size and capacity. But, as these projects go through the design and permitting process over the next few years, these risks will be assessed. SGPWA can take action to supplement its existing supply with short-term exchanges and transfers from other agencies. If it is evident that DCP and/or Sites

Reservoir will be delayed indefinitely, the short-term exchanges and transfers can be converted to long-term transfers. An option is to extend the AVEK-Nickel Water Agreement for another 20 years to 2057 as allowed in the existing agreement. Another option is participating with other local agencies in other water resource projects such as groundwater, brackish water, or sea water desalination projects with water exchanges.

8. WATER SUPPLY AND DEMAND FOR BCVWD

Section 6.1.3 presented the water demand and water supply requirements, including imported water, under average hydrologic conditions for BCVWD. Section 7 quantified the imported water demands on the SGPWA from BCVWD and the other member agencies of the SGPWA. As presented in Section 7 and Figure 5, SGPWA will have enough, or has made commitments for or taken steps to acquire, imported water supply to meet its needs to year 2040 and beyond. Since BCVWD's demands and imported water requirements are included in SGPWA's demands, including imported water, it can be concluded that BCVWD has sufficient supply and imported water to meet demands beyond 2040 under average demand and supply conditions.

It should be pointed out that 28.6% of the Sites Reservoir Project yield, (4,000 AFY/14,000 AFY) shown in Figure 5 above, is committed to BCVWD by virtue of BCVWD's financial commitment to the Sites Reservoir Project Phase 1 and Phase 2 - 2019. Figure 6 shows BCVWD's demand is less than the available supply. Figure 6 is based on the data in Table 6-7. Figure 7 shows the accumulated volume in BCVWD's Beaumont Basin groundwater storage account. By 2040, the storage account is almost full (77,294 AF in storage). Table 6-7 indicates that BCVWD's imported water demand will be 10,707 AFY in 2040; this means that BCVWD is projected to have 7.2 years of imported water demand in storage which can be used to supply water during drought periods even if no SPW is available.

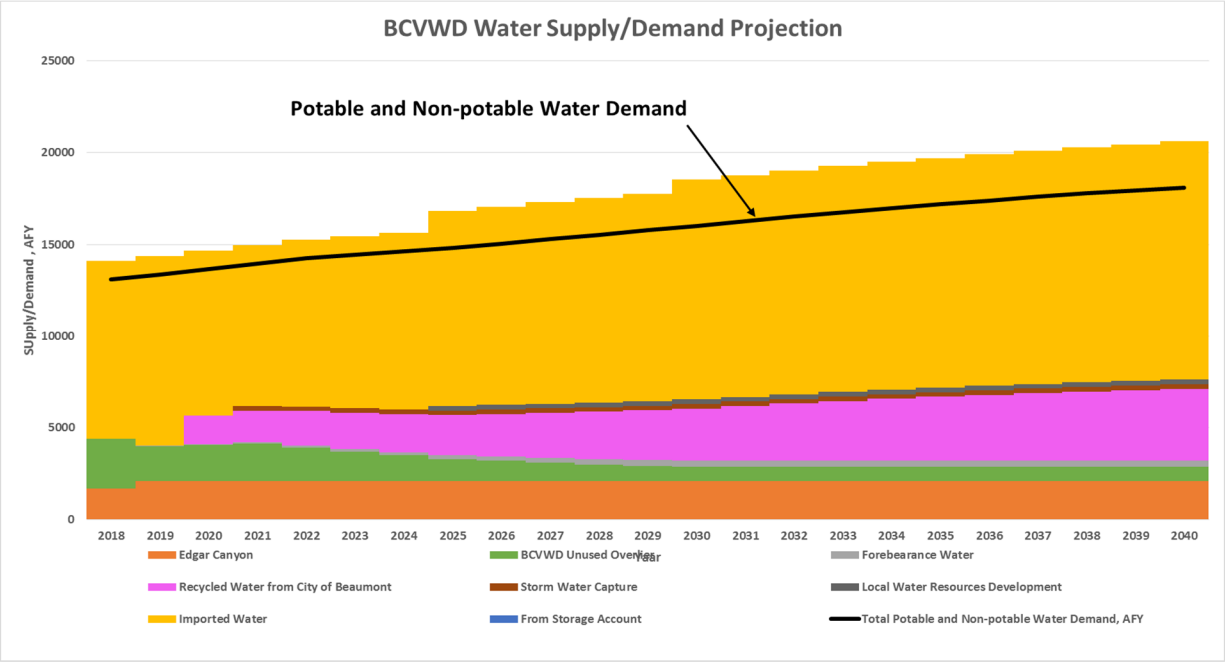

Figure 6
BCVWD's Water Supply and Demand Projection to 2040

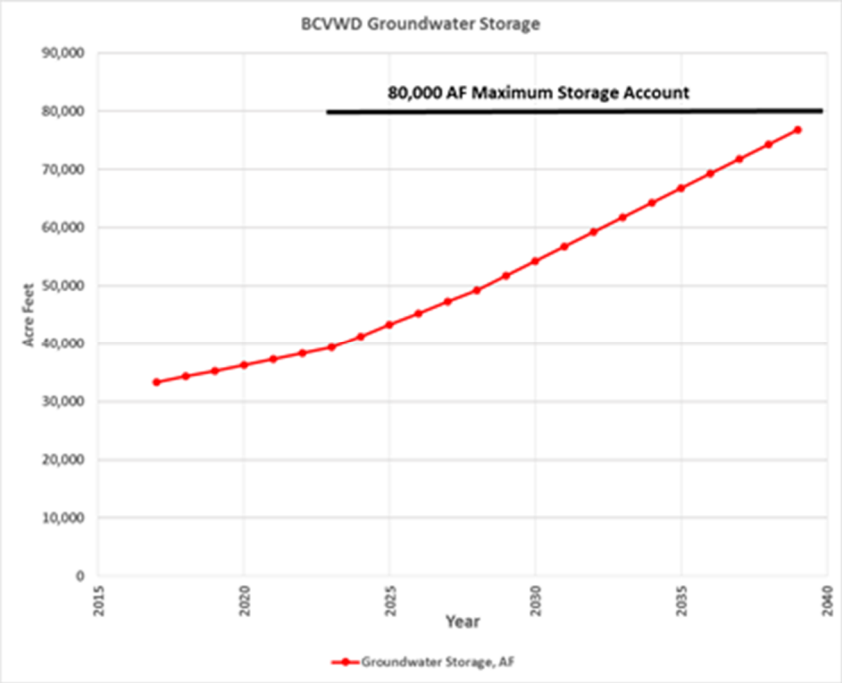

Figure 7
BCVWD's Groundwater Storage Balance to 2040

9. WATER SUPPLY SINGLE AND MULTIPLE DRY PERIOD ANALYSIS

The previous sections in this WSA analyzed a typical, normal or average, water supply year. The previous sections demonstrated there is adequate water supply both regionally and for BCVWD to meet the needs provided the projects and agreements identified are implemented. But, in addition to a "normal" year, the WSA requires a supply sufficiency analysis for critical dry year and multiple dry year conditions. The water supply conditions for these periods are presented in BCVWD's 2015 UWMP, Section 7, Water Supply Reliability Assessment. Key tables and information are extracted from the 2015 UWMP to support the analysis presented herein and updated. The scenarios evaluated in this section include:

- Single Critical Dry Year -- the lowest water supply available to BCVWD, a worst-case condition
- 2 Consecutive Dry Years -- the lowest average available water supply over a 2-year period
- 3 Consecutive Dry Years-- the lowest average available water supply over a 3-year period
- 6 Consecutive Dry Years-- the lowest average available water supply over a 6-year period

BCVWD will be relying on banked water to provide the major portion of the supply during these periods.

BCVWD enjoys the benefits of a groundwater basin (Beaumont Basin) with very large storage capacity. BCVWD and its neighboring agencies in the San Gorgonio Pass Area take advantage

of this by banking imported water during wet years for use during extended droughts. Complementing the large storage capacity is the fact that percolation and recharge occur at relatively high rates. It is very easy to "bank" water in the Beaumont Basin. It is retained in the Basin due to well-managed groundwater levels, and the ample storage capacity. Figure 8 shows the amount of water BCVWD has accumulated in its storage account since 2003. Imported water began to be spread in 2006. As of the end of 2018, there were 34,794 AF in storage. BCVWD's current maximum storage capacity is 80,000 AF. The figure shows the drop in storage in response to the drought in 2015 when there was very little imported water available for recharge and banking.

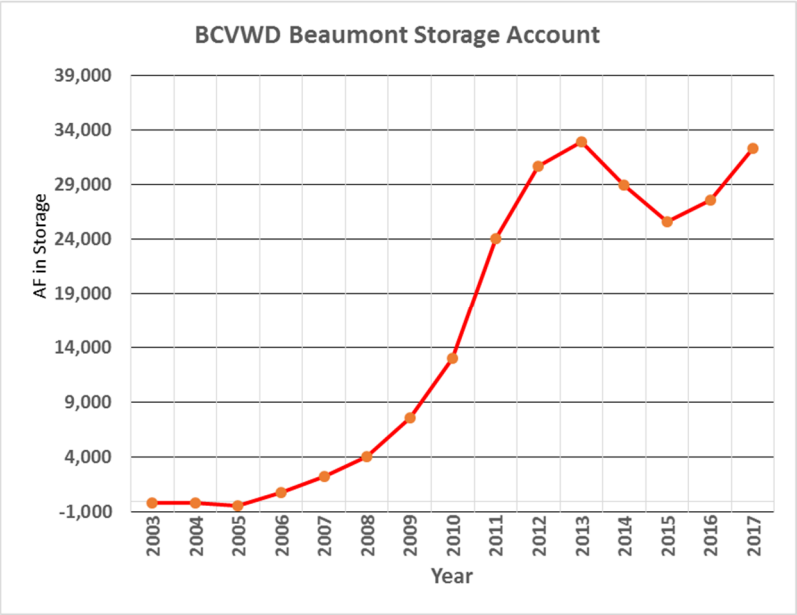

Figure 8
BCVWD Historic Beaumont Basin Groundwater Storage Account

9.1 Water Source Availability

The amount of water available during the dry periods from BCVWD's water sources are presented below.

9.1.1 Groundwater

9.1.1.1 Beaumont Basin

The Beaumont Basin is managed by the Beaumont Basin Watermaster under the principles of the Adjudication.

In any given year, BCVWD can pump out its stored (banked) water. The storage is replenished, at least partially, every year by forbearance water, reallocated unused Overlying Party pumping rights, and imported water when available. Recharge, using advanced treated recycled water from the City of Beaumont, will occur in the future. The amount of imported water that can be recharged in any year depends on DWR's SWP allocation. This varies from year to year.

The amount of unused Overlying Party rights is based on a 5-year moving average and could decrease slightly during drought periods as the Overlying Parties use more groundwater to compensate for the lack of rainfall. The forbearance water will decrease during dry periods as users reduce water consumption.

Table 9-1 shows the estimated amount of water credited to BCVWD by Watermaster for a single or multiple dry year analysis. For the dry year analysis, it was estimated that there would be a 15% conservation effect; in other words, for dry year analysis, only 85% of average annual forbearance, reallocated Overlying Party rights, etc. would be available. In Table 9-1 the 15% reduction factor is also applied to the recycled forbearance water to account for a potential reduction in treated wastewater due to water conservation effects.

Table 9-1 - Summary of BCVWD's Forbearance and Reallocated Overlier Pumping Rights

Item	2019	2020	2025	2030	2035	2040
Total Allocated Overlying Party Rights, and Forbearance Water from Table 6-7, AFY	1,905	2,012	1,400	1,100	1,100	1,100
Expected to be Available for Single and Multiple Dry Year Analysis, AFY	2,300	1,710	1,190	935	935	935

9.1.1.2 Edgar Canyon

Groundwater from Edgar Canyon is affected to some degree by climate. The average annual extraction from Edgar Canyon is 2,094 AFY (rounded to 2,100 AFY) based on records from 1983-2019. During that period of time the minimum extracted was 1,117 AFY, which occurred in 1991. This can be considered the "Single Dry Year Water Available." The 2-year, 3-year, and 6-year moving averages for the extractions from 1983-2019 were determined and are presented in Table 9-2 along with the Base Period for moving averages.

Table 9-2 - Groundwater Available from Edgar Canyon for Single and Multiple Dry Year Analysis

Drought Condition (Base Years)	Average Available over the Drought Period, AFY
Single Dry Year (1991)	1,117
2 Consecutive Dry Years (1990 – 91)	1,173
3 Consecutive Dry Years (1989 – 91)	1,230
6 Consecutive Dry Years (1987 – 92)	1,367

9.1.2 Imported Water

The amount of imported water available from the SGPWA via the State Water Project is climate dependent. A spreadsheet was developed using the 2015 DWR Delivery Capability Report simulation data (1922 to 2003) for SGPWA to develop an estimate of the delivery capability for the single dry year and multiple dry year reliability analysis. The 2-, 4-, and 6-year moving averages of annual estimated delivery allocations were determined for the period 1922-2003. A summary of the Table A delivery percentages is shown in Table 9-3.

Table 9-3 - SGPWA SWP Delivery Capability as Percent of Table A (Based on 2017 DWR SWP Delivery Capability Report)

Dry Year(s)	Single	2-year	4-year	6-year
Table A Annual Delivery Average Over the Drought Period, %	8	14	16	13

The percentages in Table 9-3 were compared to actual SWP delivery allocations for the period 1992 to 2020, a 28-year period:

Minimum year	5% (2014)
Minimum 2 consecutive years	12.5% (2014-15)
Minimum 3 consecutive years	20% (2013 – 15)
Minimum 6 consecutive years	40% (2013 – 18)

The actual minimum year and minimum 2 and 3 consecutive years allocation percentages are less than those reported in the 2017 DWR SWP Delivery Capability Report. The 2017 Report replaced the 3-year statistic with a 4-year statistic but is conservatively assumed to be an equivalent measure. Therefore, for the reliability analysis in the BP WSA, the lowest allocation percentages were used, as shown in Table 9-4:

Table 9-4 - SGPWA SWP Delivery Capability as Percent of Table A (Used for WSA Reliability Analysis)

Dry Year(s)	Single	2-year	3-year	6-year
Table A Annual Delivery Average Over the Drought Period, %	5	12.5	16	13

It should be noted that not all SGPWA imported water sources will be available during extended dry periods.

Yuba Accord Water is a dry-year program of which SGPWA can expect 200 AFY during dry years. AVEK-Nickel Water is “South of the Delta” water and is not affected by DWR’s SWP reliability

issues and is available every year until termination of the existing agreement in 2037. The Delta Conveyance Project reliability recovery water and the Delta Conveyance Project Side Deals would be available during extended dry periods but are subject to the average Table A delivery percentages as SPW in Table 9-4.

During dry periods San Bernardino Valley MWD Surplus Water, Article 21 water, and Turn-back Pool Water would likely not be available and should not be counted on for supply. Similarly, the availability of short and long term exchanges are unlikely, which would also include any additional Table A Water should SGPWA be able to secure a long-term exchange contract with the Additional Table A SGPWA Partner Agency.

The Sites Reservoir Project was designed to be a dry period flow augmentation project. Excess storm flows in the Sacramento River are diverted and pumped into Sites Reservoir, stored, and released back into the Sacramento River during dry periods. Data from the Sites Project Authority submitted with their application to the California Water Commission for Proposition 1 Funding was used to determine the amount of water which could be depended on during dry periods. Figure 9 (borrowed from Sites Reservoir Project Authority's Proposition 1 Application Executive Summary) shows the dry year benefits based on 82 years of hydrologic simulation using the CalSim II Model[16].

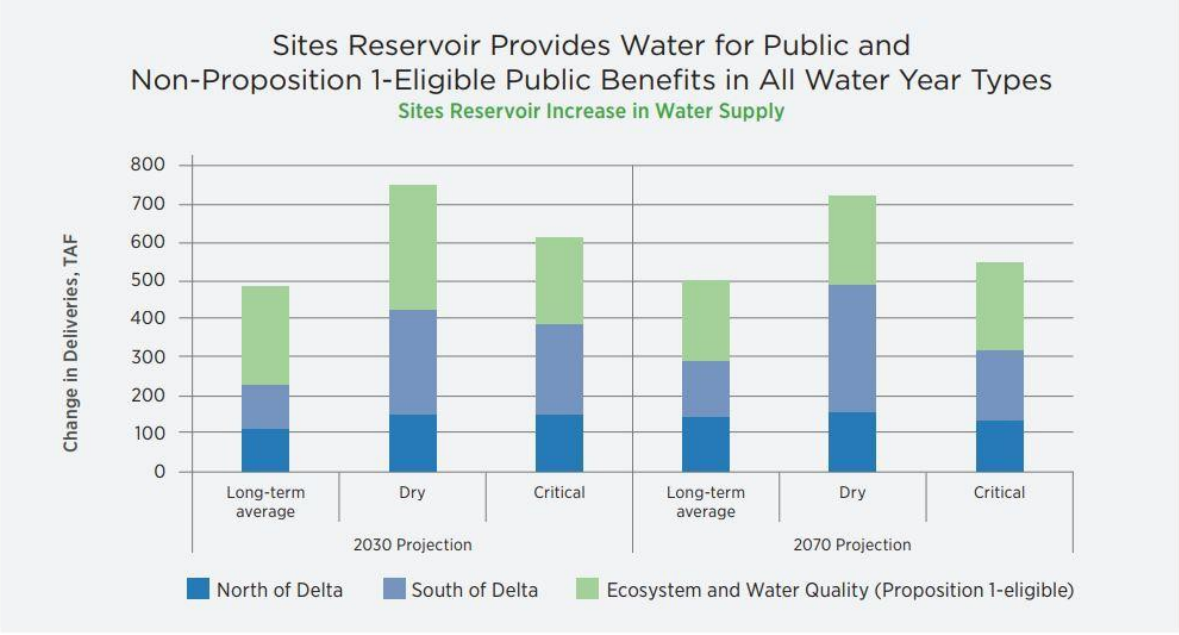

Figure 9 - Sites Reservoir Available Water 2030 and 2070

Attachment D9, prepared by the Sites Project Authority, in response to questions from the California Water Commission, February 23, 2018, provided a breakdown of the estimated amounts of Sites Project Water which would be delivered to the project participants. Table 9-5 presents a summary of the preliminary estimates of Sites Reservoir Water available to SGPWA.

[16] Sites Project Authority (2017). Sites Project Executive Summary for California's Water Storage Investment Program, August 14.

It is important to note this is a preliminary estimate developed prior to the Value Planning Analysis.

The modeling that was performed for the application was prescribed by the California Water Commission and includes the effects of climate change. For the analysis in the BP WSA, the year 2030 values will be used for 2030 through 2040. The "critical" volume will be used for all the dry period analyses to be conservative.

Table 9-5 - SGPWA Preliminary Amount of Sites Reservoir Water Available, AFY

Development Condition	82-year Simulation (Average)	Water Year Type				
		Wet	Above Normal	Below Normal	Dry	Critical
Current	8,400	2,700	2,900	5,600	19,000	13,800
2030	9,500	3,000	7,700	7,400	18,000	16,400
2070	11,400	5,400	7,300	11,500	17,900	17,200

Source: Attachment D9 of Sites Project Authority response to California Water Commission comments on Proposition 1 Application February 23, 2018.

Tables 9-6 through 9-9 present a summary of the imported water supply to the SGPWA for the single dry year, and 2, 3 and 6 consecutive year dry periods.

Table 9-6 - Regional Summary of SGPWA Imported Water Supply Single Dry Year, AFY

Source	Year				
	2020	2025	2030	2035	2040
Table A	17,300	17,300	17,300	17,300	17,300
Allocation (5%)	865	865	865	865	865
Yuba Accord (Dry Year Program)	200	200	200	200	200
AVEK Nickel (Not Affected)	1,700	1,700	1,700	1,700	1,700
Subtotal	2,765	2,765	2,765	2,765	2,765
DCP Allocation (5% of Reliability Recovery, 2080 AFY)				104	104
Sites Reservoir Critical Dry Period				16,400	16,400
Total Imported Water Supply	2,765	2,765	2,765	19,269	19,269

Table 9-7 - Regional Summary of SGPWA Imported Water Supply Two Consecutive Dry Years, AFY

Source	Year				
	2020	2025	2030	2035	2040
Table A	17,300	17,300	17,300	17,300	17,300
Allocation (12.5%)	2,163	2,163	2,163	2,163	2,163
Yuba Accord (Dry Year Program)	200	200	200	200	200
AVEK Nickel (Not Affected)	1,700	1,700	1,700	1,700	1,700
Subtotal	4,063	4,063	4,063	4,063	4,063
DCP Allocation (12.5% of Reliability Recovery, 2080 AFY)				260	260
Sites Reservoir Critical Dry Period				16,400	16,400
Total Imported Water Supply	4,063	4,063	4,063	20,723	20,723

Table 9-8 - Regional Summary of SGPWA Imported Water Supply Three Consecutive Dry Years, AFY

Source	Year				
	2020	2025	2030	2035	2040
Table A	17,300	17,300	17,300	17,300	17,300
Allocation (16%)	2,768	2,768	2,768	2,768	2,768
Yuba Accord (Dry Year Program)	200	200	200	200	200
AVEK Nickel (Not Affected)	1,700	1,700	1,700	1,700	1,700
Subtotal	4,668	4,668	4,668	4,668	4,668
DCP Allocation (16% of Reliability Recovery, 2080 AFY)				333	333
Sites Reservoir Critical Dry Period				16,400	16,400
Total Imported Water Supply	4,668	4,668	4,668	21,401	21,401

Table 9-9 - Regional Summary of SGPWA Imported Water Supply Six Consecutive Dry Years, AFY

Source	Year				
	2020	2025	2030	2035	2040
Table A	17,300	17,300	17,300	17,300	17,300
Allocation (13%)	2,249	2,249	2,249	2,249	2,249
Yuba Accord (Dry Year Program)	200	200	200	200	200
AVEK Nickel (Not Affected)	1,700	1,700	1,700	1,700	1,700
Subtotal	4,149	4,149	4,149	4,149	4,149
DCP Allocation (13% of Reliability Recovery)				270	270
Sites Reservoir Dry Period				16,400	16,400
Total Imported Water Supply	4,149	4,149	4,149	20,819	20,819

Table 9-10 presents a summary of total SGPWA regional imported water demand and the imported water supply available during the single and multiple dry years. The demand does not include the "banking" demand, since "banking" would not be occurring during years when imported water supply is reduced. Table 9-10 shows the conditions when the imported water demand exceeds the supply which will require SGPWA's member agencies, like BCVWD to withdraw water from their storage account. The supply of imported water is less than the demand until Sites Reservoir comes on-line about year 2035.

Table 9-10 - Summary of SGPWA Regional Imported Water Supply and Demand Single and Multiple Dry Years

Source	2020	2025	2030	2035	2040
Demand without Banking or drought proofing (Tables 6-8, 7-4), AFY	9,109	11,367	13,806	15,676	17,151
Total Supply					
Single Dry Year (Table 9-6), AFY	2,765	2,765	2,765	19,269	19,269
2 Consecutive Dry Years (Table 9-7), AFY	4,063	4,063	4,063	20,723	20,723
3 Consecutive Dry Years (Table 9-8), AFY	4,668	4,668	4,668	21,401	21,401
6 Consecutive Dry Years (Table 9-9), AFY	4,149	4,149	4,149	20,819	20,819

When the demand for imported water exceeds the supply, it is reasonable to assume the imported water will be allocated in proportion to the member agency's fraction of the total imported water demand without banking. Table 9-11 shows the allocation percentages.

Table 9-11 - Member Agency's Percent of Available Imported Water When Demand Exceeds Supply

Agency	Year				
	2020	2025	2030	2035	2040
City of Banning	0	0	0	0	5.8%
YVWD/Calimesa	6.7%	6.7%	7.0%	7.6%	8.4%
BCVWD	87.8%	79.2%	72.8%	67.5%	62.4%
Other Member Agencies	5.5%	14.1%	20.3%	24.9%	29.2%
Total	100%	100%	100%	100%	100%

Table 9-12 shows the estimated amount of imported water BCVWD can expect during single and multiple dry year periods based on the amount of imported water presented in Table 9-10 and the allocation percentages in Table 9-11.

Table 9-12 - BCVWD Available Imported Water During Single and Multiple Dry Year Periods

Scenario	Year				
	2020	2025	2030	2035	2040
Single Dry Year, AFY	2,428	2,189	2,012	13,011	12,029
2 Consecutive Dry Years, AFY	3,568	3,217	2,956	13,993	12,937
3 Consecutive Dry Years, AFY	4,100	3,696	3,396	14,451	13,360
6 Consecutive Dry Years, AFY	3,644	3,285	3,018	14,058	12,997

9.1.3 Recycled Water

Recycled water from the City of Beaumont is consistently available; although during droughts, consumers are more aware of water conservation and reduce their indoor water consumption somewhat. They are more aware of the need to do only full loads of laundry, full loads for the dishwasher, etc. Agencies, including the City of Beaumont, have observed a reduction in wastewater flows during the recent drought.

The average year amount of recycled water from the City of Beaumont is taken from Table 6-7. As stated in the discussion for Table 6-7, the total wastewater produced by the City is reduced by 1.8 mgd for habitat maintenance, and a capacity factor of 75% was applied to the remaining water to account for brine and other losses. For a single dry year, an estimate of 90% of the normal, average recycled water will be available. As the drought becomes more pervasive, the amount of recycled water is estimated to reduce further to 85% of normal. Table 9-13 provides an estimate of the available recycled water during extended dry periods from the City of Beaumont.

Table 9-13 - BCVWD Available Recycled Water During Single and Multiple Dry Year Periods

Agency	Year				
	2020	2025	2030	2035	2040
Average Year (Table 6-7), AFY	1,556	2,188	2,840	3,487	3,930
Single Dry Year (90%), AFY	1,400	1,970	2,555	3,135	3,535
2, 3, and 6 Consecutive Dry Years (85%), AFY	1,320	1,860	2,415	2,960	3,340

9.1.4 Storm Water and Other Local Water Resources

Storm water and Urban Runoff quantities are dependent on rainfall. Review of the rainfall record at Beaumont for the period 1888 – 2006 resulted in the data shown in Table 9-14. To determine the multiple dry year rainfall as a percent of the average rainfall, the 2-, 3-, and 6-year moving averages of the annual rainfall was determined.

Table 9-14 - Ratio of Dry Period Precipitation to Average Precipitation at Beaumont and Estimated New Water from Storm Water Capture and Local Water Resource Projects

Dry Year(s)	Single	2-year	3-year	6-year
% of Annual Average	36%	45%	45%	65%
Total Storm water Capture, beginning 2021, 250 AFY	90	110	110	160
Total Local Water Resource Projects, beginning 2025, 250 AFY	90	110	110	160

9.2 Water Demands During Critical and Multi-year Dry Periods

Table 6-7 showed the average BCVWD water demands (potable and non- potable). These demands are used in the Dry Period Reliability Analysis below for the 1, 2, and 3 consecutive year dry periods, primarily because there may not be enough time to implement water demand restrictions and see the effect of these restrictions on demand. However, for the 6 consecutive year dry period, it is assumed the water shortage contingency planning actions set forth in Section 8 of BCVWD's 2015 UWMP would be in effect and at least a 15% reduction in demand would be obtained. This is over and above the nominal water conservation efforts envisioned in the development of the average demands in Table 6-7. Water supply for single dry year, 2 consecutive dry years, 3 consecutive dry years, and 6 consecutive dry years are presented in Tables 9-15 through 9-18 respectively.

Table 9-15 - BCVWD Water Supply Summary – Critical Dry Year

Single Dry Year						
	YEAR					
	2020	2022	2025	2030	2035	2040
DEMAND						
Total Water Demand	13,668	14,498	15,188	16,584	17,772	18,337
SUPPLY						
Groundwater						
Edgar Canyon, AFY	1,117	1,117	1,117	1,117	1,117	1,117
Beaumont Basin, Allocated Overlier Pumping Rights and Forbearance Water, AFY	1,710	1,502	1,190	935	935	935
Storm Water, AFY	90	90	90	90	90	90
Other Local Water Resource Projects, AFY	90	90	90	90	90	90
Recycled Water, AFY	1,400	1,628	1,970	2,555	3,135	3,535
Imported SPW,AFY	2,428	2,332	2,189	2,012	13,011	12,029
Subtotal Supply, AFY	6,835	6,579	6,646	6,799	18,378	17,796
From Banked Beaumont Basin Storage, AF	6,833	7,739	8,542	9,785	-606	541

Table 9-16 - BCVWD Water Supply Summary – 2 Consecutive Dry Years

2 Consecutive Dry Years						
	YEAR					
	2020	2022	2025	2030	2035	2040
DEMAND						
Total Water Demand	13,668	14,498	15,188	16,584	17,772	18,337
SUPPLY						
Groundwater						
Edgar Canyon, AFY	1,173	1,173	1,173	1,173	1,173	1,173
Beaumont Basin, Allocated Overlier Pumping Rights and Forbearance Water, AFY	1,710	1,502	1,190	935	935	935
Storm Water, AFY	90	90	90	90	90	90
Other Local Water Resource Projects, AFY	90	90	90	90	90	90
Recycled Water, AFY	1,320	1,536	1,860	2,415	2,960	3,340
Imported SPW,AFY	3,568	3,428	3,217	2,956	13,993	12,937
Subtotal Supply, AFY	7,951	7,819	7,620	7,659	19,241	18,565
From Banked Beaumont Basin Storage, AF	5,717	6,679	7,568	8,925	-1,469	-228
Total Volume Withdrawn from Storage, AF	11,434	13,359	15,136	17,849	-2,937	-455

Table 9-17 - BCVWD Water Supply Summary – 3 Consecutive Dry Years

3 Consecutive Dry Years						
	YEAR					
	2020	2022	2025	2030	2035	2040
DEMAND						
Total Water Demand	13,668	14,498	15,188	16,584	17,772	18,337
SUPPLY						
Groundwater						
Edgar Canyon, AFY	1,230	1,230	1,230	1,230	1,230	1,230
Beaumont Basin, Allocated Overlier Pumping Rights and Forbearance Water, AFY	1,710	1,502	1,190	680	680	680
Storm Water, AFY	90	90	90	90	90	90
Other Local Water Resource Projects, AFY	90	90	90	90	90	90
Recycled Water, AFY	1,320	1,536	1,860	2,415	2,960	3,340
Imported SPW,AFY	4,100	3,938	3,696	3,396	14,451	13,360
Subtotal Supply, AFY	8,540	8,368	8,156	8,156	19,756	19,045
From Banked Beaumont Basin Storage, AF	5,128	6,112	7,032	8,428	-1,984	-708
Total Volume Withdrawn from Storage, AF	15,384	18,335	21,096	25,283	-5,951	-2,123

Table 9-18 - BCVWD Water Supply Summary – 6 Consecutive Dry Years

6 Consecutive Dry Years						
	YEAR					
	2020	2022	2025	2030	2035	2040
DEMAND						
Total Water Demand	11,618	12,323	12,910	14,096	15,106	15,587
SUPPLY						
Groundwater						
Edgar Canyon, AFY	1,367	1,367	1,367	1,367	1,367	1,367
Beaumont Basin, Allocated Overlier Pumping Rights and Forbearance Water, AFY	1,710	1,502	1,190	935	935	935
Storm Water, AFY	90	90	90	90	90	90
Other Local Water Resource Projects, AFY	90	90	90	90	90	90
Recycled Water, AFY	1,320	1,536	1,860	2,415	2,960	3,340
Imported SPW,AFY	3,644	3,500	3,285	3,018	14,058	12,997
Subtotal Supply, AFY	8,221	8,085	7,882	7,915	19,500	18,819
From Banked Beaumont Basin Storage, AF	3,397	4,238	5,028	6,181	-4,394	-3,232
Total Volume Withdrawn from Storage, AF	20,381	25,427	30,167	37,087	-26,361	-19,393

Table 9-15 through 9-18 demonstrate BCVWD can provide water to the planned developments listed in Table 6-6 (Section 6) which include the Beaumont Pointe development project during critical dry year and multiple dry year periods by relying on BCVWD's Beaumont Basin Groundwater Storage assuming DCP and Sites Reservoir are on-line as planned. BCVWD will need to maintain 25,713 AF of water banked in storage to meet the 6-year dry period by the time Sites Reservoir and the DCP are "on-line." This is not an unreasonable amount of storage considering BCVWD has an 80,000 AF storage account and as of the end of 2018, 34,794 AF in storage.

Table 6-7 provided BCVWD's Beaumont Basin storage account balance under the basis of average water supply conditions assuming the development projects listed in Table 6-6 were constructed. Table 6-7 shows a steady increase in projected groundwater storage from 35,794 AF in 2020-22 to approximately 77,294 AF in the year 2040. To achieve this level of storage, BCVWD will be banking additional water for drought proofing to supply water during critical and multiple dry year period.

The water banking pursuant to BCVWD's 2015 UWMP:

> *BCVWD's plan, which is shown in BCVWD's 2015 UWMP envisions banking anywhere from 1,000 AFY to 2,500 AFY to drought proof new development. This is accounted for in the spreadsheet each year. Should there be a year when the projected amount cannot be delivered by SGPWA, any deficiency will be made up in successive years when adequate supply is available*[17].

In addition to BCVWD, YVWD/Calimesa and the City of Banning have storage accounts which when combined with BCVWD's will have an estimated 117,800 AF in storage as of the end of 2021. Tables 6-2 and 6-5 (Section 6 herein) show that the storage accounts for YVWD/Calimesa and the City of Banning these agencies are projected to have 50,000 and 76,510 AF, respectively, in storage by 2040. When combined with BCVWD's projected storage account balance, on a regional basis there will be over 200,000 AF in banked storage – more than ample to meet the needs during short-term droughts.

[17] BCVWD (2015). UWMP, pg 7-4

10. CONCLUSIONS

1. The projected water demand from the Beaumont Pointe development project is 197 AFY of which 85.2 AFY is outdoor, non-potable water use. This compares to BCVWD's current demand of 13,668 AFY (estimated for 2020).
2. The Beaumont Pointe development project site was included in the list of planned development projects in BCVWD's 2015 UWMP (previously identified as Jack Rabbit Trail) which demonstrated adequate water supplies upto the year 2040. The BP project site was previously planned with a land use density of 2,000 equivalent dwelling units (EDUs). The new BP land use plan estimates a significantly reduced density by 1,640 EDUs for a new proposed Project total of 360 EDUs, representing reduced site density and water demand by 82 percent.
3. BCVWD prepared a series of White Papers which analyzed the regional (SGPWA) imported water supply requirements and funding requirements. These White Papers are referenced for the BP WSA. The basis for the White Papers was a regional spreadsheet demand model, developed by BCVWD, which was reviewed by the City of Banning and YVWD.
4. The White Papers indicate that SGPWA can obtain sufficient imported water supply to supplement local supplies to meet regional needs including BCVWD's needs. The White Papers also indicated that adequate funding is available to implement the imported water projects currently planned for the short and long terms.
5. BCVWD prepared and adopted a Potable Water Master Plan which identified water needs and facility needs to build-out. The BCVWD 2015 UWMP identified recycled water from the City of Beaumont for non-potable water irrigation with a plan for the recharge of surplus recycled water with appropriate treatment and permits. The City and BCVWD signed a Memorandum of Understanding (MOU) in 2019 which began the process of an agreement for purchase of recycled water by BCVWD. In addition, storm water capture and other local water resource projects were identified. One of these projects, MDP-Line 16, (Grand Avenue Storm Drain) is currently in design by the Riverside County Flood and Water Conservation District and BCVWD. The storm drain will be partially funded through a grant from the Santa Ana Watershed Project Authority.
6. SGPWA and BCVWD have made financial commitments to the Sites Reservoir project Phase 1 studies and will commit funds to Phase 2.
7. Adequate water supply exists, or is planned, for the Beaumont Pointe development project to 2040 and beyond as outlined in Tables 9-6 through 9-9. BCVWD can meet the Project needs as well as BCVWD's existing demands and the demands of the other planned developments within BCVWD's service area which are listed in the BP WSA.
8. Multiple dry-year reliability analysis demonstrates that BCVWD will be able to meet its existing demands and the demands of the other planned developments within its service area which were listed in the BP WSA. BCVWD will supplement its existing supply sources during these dry periods with banked water in BCVWD's Beaumont Basin Groundwater Storage Account.

9. Pursuant to §10910 of the California Water Code (SB 610) and information provided in the BP WSA, BCVWD has determined that currently available and planned supplies are sufficient to meet the water demands of the proposed BP project in addition to the existing and other planned project demands during normal, single dry and multiple dry years over the next 20 years, as outlined in Tables 9-15 through 9-18.
10. Pursuant to the California Government Code Section 66473.7, (SB 221) BCVWD has determined that it has sufficient and adequate water supply available to serve the long-term needs of the Beaumont Pointe in addition to the existing and other planned project demands during normal, single dry and multiple dry years over the next 20 years, as outlined in Table 9-15 through 9-18.

11. REFERENCES

1. TTM 31570 – Legacy Highlands WSA, Beaumont Cherry Valley Water District, revised June 2020.
2. Hidden Canyon Industrial Park WSA, Beaumont Cherry Valley Water District, February 2019.
3. Beaumont Basin Watermaster 2017 Annual Report, March 2018.
4. Beaumont Basin Watermaster 2018 Annual Report, February 2020 draft
5. 2019 DWR State Water Project Delivery Capability Report, August 2020.
6. 2015 Urban Water Management Plan, Beaumont Cherry Valley Water District, adopted January 17, 2017; acknowledged by California Department of Water Resources, March 14, 2018.