City of San Jose

Coyote Valley Specific Plan

Water Supply Evaluation

January 2007

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ACKNOWLEDGEMENTS

This document has been prepared in coordination with:

City of San José Planning Division

Santa Clara Valley Water District

HMH Engineers

David J Powers and Associates

Schaaf & Wheeler Consulting Civil Engineers

EXECUTIVE SUMMARY

The Coyote Valley is currently a rural swath of land between the cities of San José to the north and Morgan Hill to the south. The area is within the sphere of influence of the City of San José and the City has developed the *Coyote Valley Specific Plan* (CVSP) per the *San José General Plan* land use designations. The Specific Plan calls for a total of at least 26,400 residential units and 55,000 new jobs to be developed in Coyote Valley.

California Senate Bill 610 (SB610) provisions require the provision of detailed information regarding water availability to city and county decision-makers prior to approval of specified large-development projects. Per SB610 requirements, the City has requested every potential water retailer for the CVSP prepare a Water Supply Assessment (WSA). This Water Supply Evaluation of Coyote Valley has been prepared by the City of San José to:

- Establish the total water supply and demand of the CVSP;
- Evaluate the submitted retailer WSA Reports for their compliance with SB610 requirements, and their understanding of and ability to meet the water supply needs of the CVSP;
- Determine whether sufficient water will be available for the CVSP based upon the available record, including additional information as necessary; and
- Form the basis for environmental documentation on the subject.

Water Supply Assessment (WSA) Reports were submitted to the City of San José by the following Water Retailers:

- The City of San José Municipal Water System (June 2006)
- The Great Oaks Water Company (July 21, 2006)
- The San Jose Water Company (April 2006)

The Santa Clara Valley Water District (District), which manages wholesale water deliveries in Santa Clara County, has included CVSP water demands in its updated *2005 Urban Water Management Plan* (UWMP), utilizing a forecasted demand for CVSP of 18,500 acre-feet/year (afy). This value has been supported by City consultants and retailer WSA reports, and is considered the finalized CVSP projected demand.

The City of San José has worked closely with the District in the preparation of this Water Supply Evaluation since the CVSP sits above the Coyote Groundwater Sub-basin, which is managed by the District. The District has concluded that up to 8,000 acre-feet per year (afy) may be withdrawn from the groundwater sub-basin on a sustainable basis during multiple year drought conditions. There is therefore a predicted water supply deficit of 10,500 afy at Specific Plan build-out.

The District has also determined that an additional 6,000 acre-feet per year of groundwater recharge into the Coyote Sub-basin via new recharge facilities is required to safely increase groundwater withdrawal from the Sub-basin to the maximum sustainable long-term amount, which is 13,000 afy.

Each of the listed water retailers has prepared a SB610 WSA that concludes the retailer currently has, or can feasibly access, water in sufficient amounts to supply CVSP demands in normal, single dry, and multiple dry year scenarios.

Their assessments are based in large part on the District's 2005 Urban Water Management Plan (UWMP), which includes CVSP water demands and concludes that with water conservation savings and additional investments, current District supplies are adequate to meet near-future demand – to 2020 – in normal-year and dry-year scenarios. Beyond 2020, potential additional supplies have been defined generally in both the UWMP and the District's *2003 Integrated Water Resources Plan Study* (IWRP). These supply sources include: maximized water conservation, advanced treatment of recycled water for groundwater recharge, development of desalination, expanded water supply banking and a new 100,000 acre-foot reservoir. Any combination of these could reduce potential water shortages through 2030 to negligible levels.

Evaluated retailer alternatives for the delivery of new water supplies to Coyote Valley include:

- Delivery of supplemental groundwater from greater San Jose;
- Direct use of treated water from the Santa Teresa Water Treatment Plant;
- Raw water from the Cross Valley Pipeline via a new turn-out;
- Recycled water; and
- Decreased demand through increased water conservation savings.

After evaluating retailer assessments, District policies with respect to a preference for local water supplies, and the stated goal of the CVSP as a model project with innovative solutions; the City of San José recommends that the use of recycled water be maximized to the extent possible when meeting non-potable water demands and supplemental groundwater recharge requirements.

Recycled water has the advantage of being almost entirely unaffected by drought, and the use of recycled water has been identified by the District as a key component of the overall long term County-wide water supply plan.[1] There are four wastewater treatment providers in the County which also provide recycled water: the San José/Santa Clara Water Pollution Control Plant (SJ/SC WPCP), South County Regional Wastewater Authority (SCRWA), Sunnyvale Water Pollution Control Plant (SWPCP) and the Palo Alto Regional Water Quality Control Plant (RWQCP). Non-potable CVSP demands and/or indirect potable groundwater recharge demands can be met using appropriately treated wastewater from the SJ/SC WPCP and/or the SCRWA. It must be noted that the District will require any recycled water that has the potential to infiltrate into the sensitive Coyote Groundwater Sub-basin undergo full advanced treatment, consisting of reverse-osmosis membrane filtration and ultraviolet light disinfection.

(In addition to the treatment requirements set by the District, the California Department of Health Services has jurisdiction over groundwater reuse requirements. Although draft regulations for groundwater recharge reuse currently exist, actual requirements are set on an individual case by case basis. Further study will be needed to determine if these additional requirements for groundwater reuse use can be met and Health Department approval obtained. In the event that all of the projected groundwater recharge requirements in Coyote Valley cannot be met using recycled water or it is not feasible to do so, sufficient alternatives for water supply exist as described herein, including recycled recharge in the Santa Clara Valley Sub-basin.)

Maximizing the use of recycled water will require additional distribution and storage facilities, groundwater recharge facilities and additional treatment. If the use of recycled water is maximized, the amount of potable water that must be delivered to Coyote Valley for build-out demand can be reduced to 1,200 acre-feet per year. This water supply can be obtained from the greater San Jose area. Aggressive water conservation could also help minimize the need for supplemental potable water.

In summary, based on available information including Santa Clara Valley Water District planning documents and retailer Water Supply Assessments, there is enough evidence to support a finding that sufficient water supplies will be available to support CVSP build-out concurrent with 2030 County-wide demand.

[1] IWRP, 1999, I-1

PROJECT BACKGROUND

The *Coyote Valley Specific Plan* (CVSP) project area (Plan Area) comprises approximately 7,000 acres of primarily undeveloped flat land located within the Sphere of Influence of the City of San José, 12 miles south of downtown and immediately north of the City of Morgan Hill (Figure 1). Of the 7,000 total acres, the South Coyote Valley Greenbelt makes up approximately 3,600 acres, and has been included in the CVSP for the purpose of creating a Greenbelt Strategy. The 3,400-acre area proposed for development is referred to as the Development Area and is comprised of the North Coyote Campus Industrial Area and Coyote Valley Urban Reserve Area.

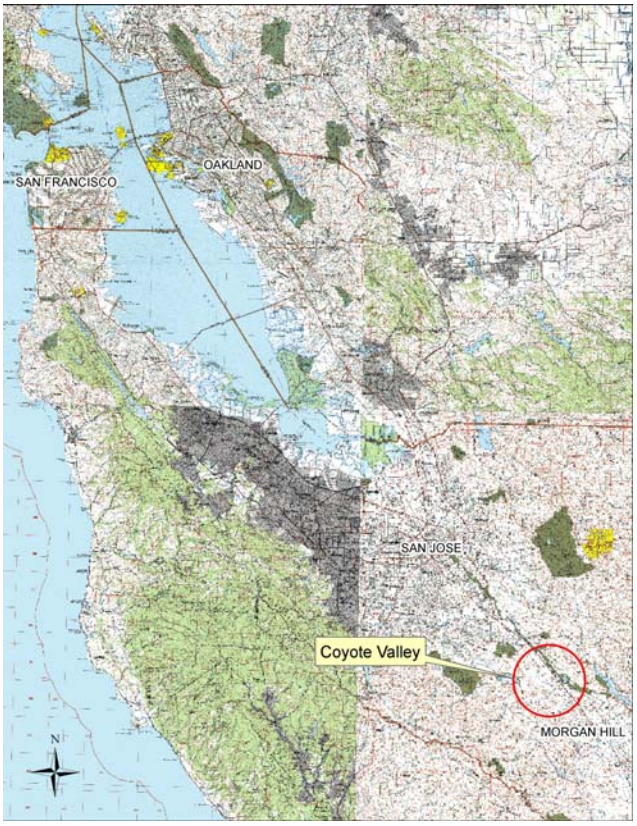

Figure 1: Coyote Valley Location

The City's *San José 2020 General Plan* currently designates Coyote Valley in terms of three distinct Land Use designations: the *North Coyote Campus Industrial* area, the *Coyote Valley Urban Reserve*, and the *Coyote Valley Greenbelt*, as described below and shown in Figure 2.

1. The northern portion of the valley (approximately 1,444 acres) is designated as the *North Coyote Campus Industrial* area;

2. The central portion of the valley (approximately 2,072 acres) is currently designated as the *Coyote Valley Urban Reserve* (also known as mid-Coyote Valley);

3. The southern portion of the valley is designated as the Coyote Valley Greenbelt (approximately 3,621 acres), which is considered to be a permanent, non-urban buffer between San José and Morgan Hill.

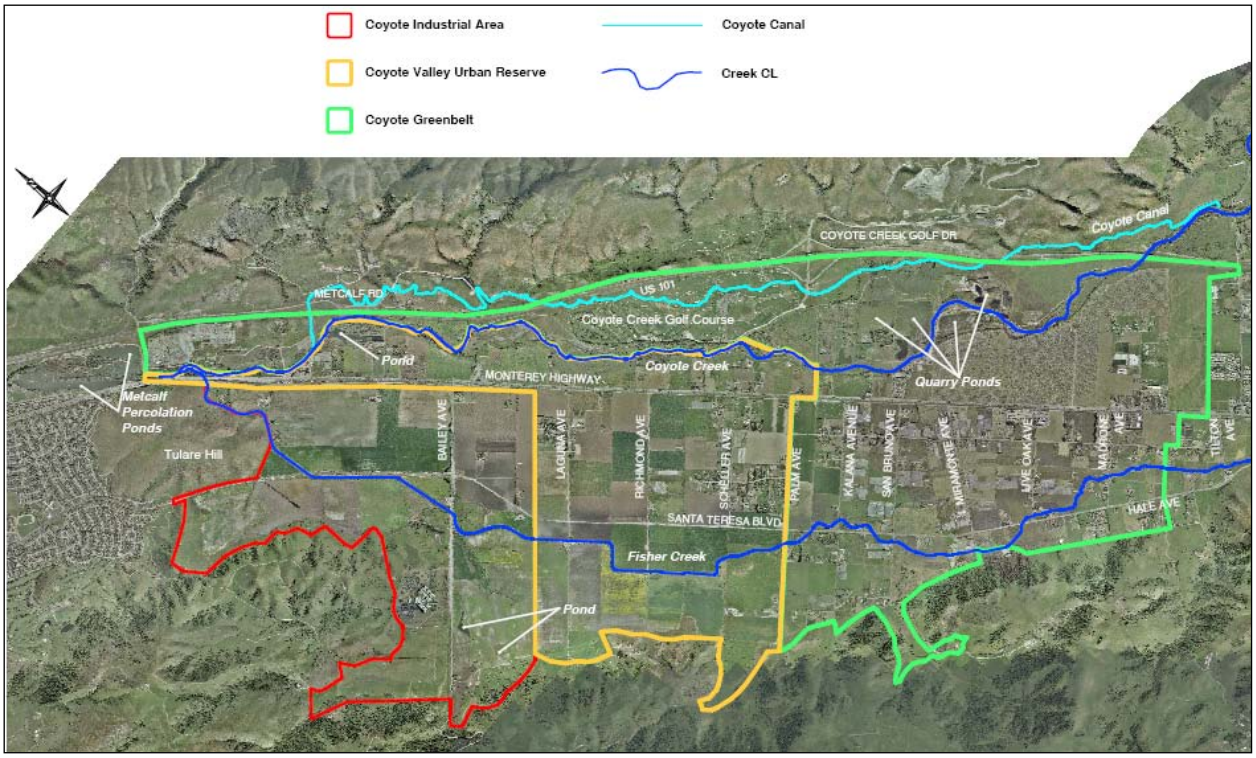

Figure 2: Coyote Valley Land Use Designations

The Metcalf Energy Center (MEC) is currently operating in the North Coyote Campus Industrial area. MEC recycled water needs are not included in this analysis, as they have been addressed by previous City and District agreements;[2] however, the increase in potable water demand by MEC as a result of the CVSP is addressed in this water supply evaluation.

Senate Bill 610 Applicability

Senate Bill 610 (SB610) requires preparation of a water supply assessment for all projects that meet certain criteria to assist local governments in making decisions regarding proposed land development projects. Those criteria (codified as California Water Code 10912) and the means by which the CVSP meets them are presented in Table 1.

SB 610 does apply to the CVSP Development and a WSA is required. Prior to the three WSAs submitted in 2006, no formal WSA have been prepared for this project or precursors to the project such as the Coyote Valley Research Park, which was entitled prior to the passage of SB610.

[2] Santa Clara Valley District Urban Water Management Plan (2005), p. 46.

Table 1:
Coyote Valley Specific Plan and Senate Bill 610 Water Supply Assessment Criteria

Proposed Land Use	Criteria	CVSP	Meets Criteria?
Residential development	More than 500 dwelling units	26,400 units	Yes
Shopping center or business establishment	More than 1,000 persons employed or more than 500,000 sq ft of floor space	Combined total of 55,000 jobs	Yes
Industrial, manufacturing, processing plant; or industrial park	More than 1,000 persons housed; more than 40 acres occupied; or more than 650,000 sq ft of floor area		Yes
Commercial office building	More than 1,000 persons employed or more than 250,000 sq ft of floor space		Yes
Hotel or motel	More than 500 rooms	Not Specified	Not applicable

Water Supply Assessment Roles and Responsibilities

The City of San José is the lead agency preparing the Environmental Impact Report for the CVSP. Water retailers have not been selected to serve the project area, nor will the City select water retailers to serve the project area; but the City of San José Municipal Water Department and the Great Oaks Water Company have facilities in the area; and San Jose Water Company has expressed an interest in supplying water to Coyote Valley, having purchased land for a potential supply well near Metcalf Road. Generally these retailers would be solely responsible for the preparation of Water Supply Assessments within their service areas.

Since service areas are not defined within the CVSP area, the City of San José, in accordance with SB 610, requested that each retailer prepare an SB 610 Water Supply Assessment for the entirety of the Plan Area. Copies of each Water Supply Assessment are included as Appendices A through C.

Since water retailer selection may occur after the CEQA process is complete, the City of San José is preparing this Water Supply Evaluation to summarize projected CVSP demands, evaluate the submitted Water Supply Assessments for their relative impacts; and based on these documents and the entire record available, make an independent conclusion regarding the availability of water for the CVSP.

The Santa Clara Valley Water District (District or SCVWD) has collaborated with the City in the preparation of this Water Supply Assessment. The SCVWD has a number of roles in the project:

- The SCVWD is the primary wholesale water supplier in the County.
- The SCVWD manages the Coyote Valley Groundwater Sub-basin.
- The SCVWD will act as a responsible agency under the California Environmental Quality Act (CEQA) for certain aspects of the CVSP project including water supply.
- The City refers proposed private and public development projects to the SCVWD for their review and comment on water supply issues.

The SCVWD will participate in selecting preferred alternatives for water supply so that the selection does not have a deleterious effect on water supply reliability in other parts of the County and is consistent with long-term planning goals. As a water wholesaler, the District will operate and maintain recharge facilities, diversions, turnouts, and pipelines to recharge facilities. For treated water, the District will have the responsibility for the pipelines up to retailer turnouts. Additionally, the District is the recycled water wholesaler for the CVSP area, and so might also deliver recycled water to CVSP from the South Bay Water Recycling Program and/or from South County Regional Wastewater Authority, if that water is used as a supply source.

Document Organization

After presenting estimated water demands for CVSP build-out, this Water Supply Evaluation examines existing potable and non-potable water supplies available in Coyote Valley. As discussed herein, local water supplies (that is, supplies already used within Coyote Valley) are insufficient to meet projected build-out demands. Each water retailer proposes various alternatives to augment local supplies to meet demand, and the alternatives are evaluated relative to feasibility.

The Santa Clara Valley Water District plays an important role as a water wholesaler to each retailer, and an important role managing water resources within Coyote Valley, so the District's concerns and issues relative to water supply augmentation strategies are highlighted. Finally, based on the evidentiary record furnished by the retailers and information obtained from the District, water supply alternatives are evaluated in light of the guiding principals set forth by the City of San Jose for the Coyote Valley Specific Plan.

PROJECTED WATER DEMANDS FOR CVSP

The District 2005 UWMP estimates total build-out demand of Coyote Valley including CVSP as 18,500 acre-feet/year (afy). This estimate is within one percent of current estimated Coyote Valley build-out demand (18,700 afy) based on the land use plan incorporated within the CEQA documents prepared for the City of San José.[3] The build-out water demand estimated by the various Retailers (excluding MEC existing demand) ranges from 13,700 afy[4] to 20,400 afy[5]. For consistency, this WSE utilizes the District UWMP total build-out demand estimate of 18,500 acre-feet per year. Disaggregated water use estimates for build-out within Coyote Valley are summarized by Table 2. A detailed estimate of water demand, including unit demand factors, may be found in Appendix A.

Table 2: Coyote Valley Water Usage Demand, In Acre-Feet per Year (AFY)

Area	Existing	Forecasted Build-Out	Demand Increase
Coyote Valley Urban Reserve & North Campus Industrial Area Residential and Employment Demands	2,800	11,900	9,100
Outside of Plan Area (Morgan Hill Sphere of Influence)	2,000	2,000	---
Coyote Valley Greenbelt	2,100	4,000	1,900
Metcalf Energy Center Potable Demand	400	600	200
TOTAL	7,300	18,500	11,200

Only the potable MEC demand is included in this water supply assessment as non-potable needs have been addressed by the Silver Creek Pipeline Agreement,[6] described in more detail in the "Existing Water Supplies" section of this report.

Table 3 presents anticipated Coyote Valley water demands in five year increments to 2030, assuming complete build-out by that time to be consistent with District water supply planning documents.[7] In actuality, Coyote Valley build-out is expected to spread over a longer period of time that is market driven.

[3]HMH, "Coyote Valley Specific Plan Water Supply Analysis," January 2006.
[4] San José Municipal WSA, Table 14
[5] San José Water Company WSA, p. 4
[6]UWMP, p. 46.
[7]UWMP Table 6-9, adjusted to include City data regarding existing and 2010 demand.

Table 3: Coyote Valley Projected Demand in Five-Year Increments

	2005	2010	2015	2020	2025	2030
Annual Demand (afy)	7,300	7,300	11,200	13,700	16,200	18,500

Water demands have been divided into potable and non-potable categories (Table 4) since infrastructure exists to deliver recycled (i.e. non-potable) water to the area.

Table 4: Coyote Valley Potable and Non-Potable Water Demands

	Total Water Demand (afy)	Non-Potable Water Demand (afy)	Potable Water Demand (afy)
Coyote Valley Urban Reserve & North Campus Industrial Area Residential and Employment Demands	11,900	2,000	9,900
Outside of Plan Area (Morgan Hill Sphere of Influence)	2,000	400	1,600
Coyote Valley Greenbelt	4,000	1,900	2,100
Metcalf Energy Center *	600	0	600
TOTAL	**18,500**	**4,300**	**14,200**

* Non-Potable water demands at the Metcalf Energy Center (up to 4,000 afy) are already supplied

It must be noted that although the recycled water currently available in Coyote Valley, and used to meet Metcalf Energy Center demands, meets all State Title 22 recycled water requirements, the Santa Clara Valley Water District Board of Directors has concluded that any recycled water used in the Plan Area which could percolate into the groundwater sub-basin (e.g. groundwater recharge, landscaping, etc.) should be fully advanced treated using reverse osmosis and ultraviolet light disinfection to protect groundwater quality within Coyote Valley. In addition, the California Department of Health Services establishes project specific requirements for groundwater recharge with recycled water.[8] These requirements address treatment, residence times, organic content, monitoring, and other factors to protect public health. Further study will be needed to determine if these additional requirements can be met.

Existing groundwater recharge of recycled water in California takes place in Orange County and Los Angeles County, so this is not an unprecedented source of water supply. Nearly one-quarter of anticipated CVSP build-out demand (excluding MEC) could be met with non-potable water.

[8] The Purple Book, P. 61

EXISTING WATER SUPPLIES

This section of the report first describes general conditions in Coyote Valley before identifying existing local (in-valley) and imported (out of valley) water supplies, and proposed alternatives for delivering existing imported water to the boundaries of the Plan Area. For the purposes of this report, an "existing" water supply is defined as a supply that is currently being used in some amount within the Plan Area, and the increased use of said supply by CVSP would have no adverse impact on any existing user inside or outside of the CVSP. Conversely a "new" water supply is one that although currently available within the County as managed by the District, is not currently in use within the Plan Area, and the use of said supply within the CVSP might impact other existing or future users.

Impacts of importing water to augment local water availability are discussed herein. However, the distribution of water within Plan Area boundaries to individual users will be addressed in subsequent detailed planning as the CVSP process moves forward.

Existing potable water demands in Coyote Valley are primarily supplied by pumping local groundwater. SB610 requires the inclusion of data that document available groundwater supplies if those supplies will be used for proposed subdivisions subject to SB221, which will be the case in Coyote Valley once development begins. Following a brief introduction of Coyote Valley's environmental setting as it relates to groundwater, existing groundwater conditions are described to provide the proper context for an understanding of future water delivery infrastructure options. A more in-depth description of the Coyote Valley groundwater sub-basin, pursuant to SB610 requirements, is included as Appendix D.

Relevant Existing Conditions in Coyote Valley

Figure 3 shows topographic features that characterize Santa Clara County. Coyote Valley is located at the center of the county, and is the smallest of three valleys between the Diablo Range to the east, Santa Cruz Mountains to the west, San Francisco Bay to the north, and the Pajaro River to the south. The Plan Area sits atop broad alluvial fans that were formed as streams emerged from the eastern Diablo Range onto the Santa Clara Valley floor and deposited unconsolidated materials as their slopes flattened. Streambed deposits and alluvial fans generally slope toward San Francisco Bay to the northwest. The slight ridge at Cochrane Road divides waters (both surface and ground) that flow to the north from those that flow to the south through Morgan Hill and Gilroy to the Pajaro River and Monterey Bay.

Figure 3: Santa Clara County Topography (from SCVWD, 2000)

Geologists believe that an ancient Coyote Creek once drained to the Pajaro River near the mouth of present-day Carnadero Creek. Figure 4 shows an oblique view of Coyote Valley itself, projected from above Tulare Hill, looking south toward Morgan Hill with the Coyote Narrows in the left foreground. The defining feature of the Coyote Valley watershed viewed in the left foreground on Figure 4 is the Coyote Creek Narrows, a geologic feature located where the Diablo Range and Santa Cruz Mountains converge to restrict the flow of water to the north toward San Francisco Bay. At the narrows, Coyote Creek and its eastern tributaries drain about 205 square miles of upland area beginning at the Diablo Range ridge that forms the border with Stanislaus County. Most of Coyote Creek's watershed to the Narrows is located in rugged, sparsely populated areas.

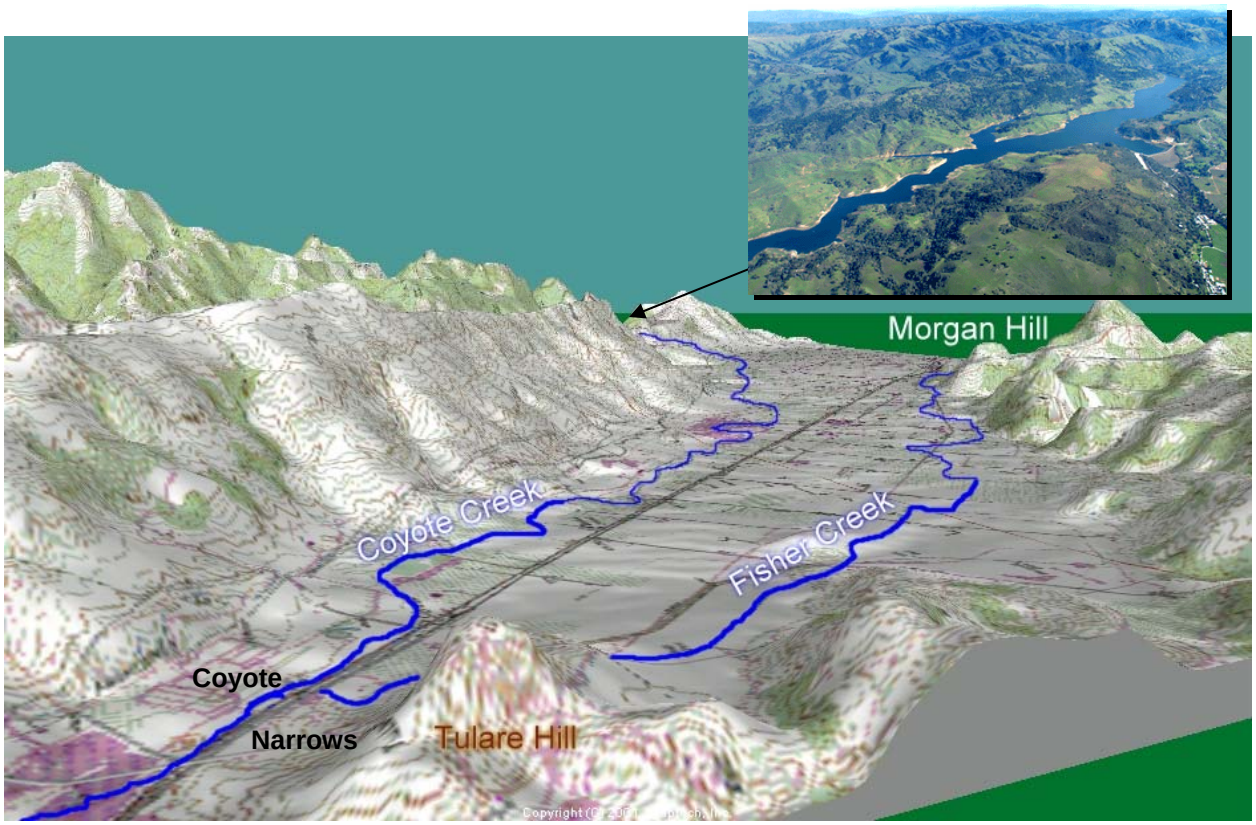

Figure 4: Oblique View of Coyote Valley Looking South from Tulare Hill (Inset: Anderson Reservoir)

Two water supply reservoirs owned and operated by the Santa Clara Valley Water District – Anderson Reservoir and Coyote Reservoir, which have a combined storage capacity of approximately 115,000 acre-feet – provide the vast majority of current groundwater recharge within Coyote Valley in addition to a significant portion of water supply to the County. Appendix D describes the use of groundwater within Coyote Valley in more detail.

Coyote Valley Climate

The Plan Area's climate is moderate with an average summertime high temperature of 82°F and an average winter low temperature of 38°F at Morgan Hill. Mean annual precipitation in the Coyote Creek watershed to the Narrows is about 24 inches, with 21 inches on the valley floor. Annual evapotranspiration over the watershed is approximately 49 inches, thereby resulting in an annual moisture deficit.[9]

Roughly 90 percent of the region's annual precipitation falls from November through March. Year-to-year rainfall varies greatly, and droughts of various durations are common. Over the period of record of 129 years for San José rainfall, Santa Clara County has had seven major droughts, and several relatively wet periods. The driest and wettest two-year cases over the period of record have been 1976-1977 and 1982-1983 respectively. Precipitation has generally been above average in the County since the 1990's. Rainfall is the predominant form of precipitation in the watershed, although the higher elevations of the Diablo Range occasionally receive measurable snowfall. Snowmelt, however, is not considered to be a hydrologic process that significantly affects runoff within the watershed.

Existing Local Water Supplies for the Coyote Valley Specific Plan

Appendices D and E describe groundwater conditions in the Coyote Valley Groundwater Sub-basin, from which all local potable water supplies are currently extracted. This subsection of the Water Supply Evaluation provides a summary of those two appendices in the context of existing and potential local groundwater availability, and non-potable water supplies currently available to be imported to Coyote Valley from the South Bay Water Recycling Program.

Potable Water Supply: Coyote Valley Groundwater Sub-basin

As described previously, the climate in Santa Clara County is semi-arid, with periods of low rainfall and drought alternating with average, above-average and wet years. Groundwater conditions in Coyote Valley are very sensitive to seasonal precipitation. Hence groundwater characteristics during any single year are not necessarily indicative of conditions in previous or subsequent years, and a longer period of record is needed to assess "existing conditions". A more in-depth discussion of the CVGSB is included as Appendix D. It is vital that this groundwater resource be protected from contamination in compliance with all local, state, and federal regulations and policies.

The District's Coyote Valley water supply availability analysis (Appendix E) concludes that with current District operations, 8,000 acre-feet per year (afy) of groundwater from the Coyote Valley groundwater basin is available to the CVSP annually, even in a multiple dry year planning scenario.

[9] Source: California Irrigation Management Information System (DWR) data.

Non-Potable Water Supply: Silver Creek Pipeline

The existing South Bay Water Recycling (SBWR) system was recently expanded with the construction of the Silver Creek Pipeline Extension to deliver water to the Metcalf Energy Center (MEC). The MEC, which is within the CVSP Plan Area, currently uses about 4,000 afy of recycled water via the Silver Creek Pipeline. As such, although this existing use has been excluded from forecasted CVSP water demands, recycled water is considered an existing water source within the Plan Area. The Silver Creek Pipeline that delivers water to the MEC has an additional 5 million gallons per day (mgd) capacity which is secured for the District's future use via an agreement between the District and the SBWR program.

This capacity could provide about 5,600 acre-feet annually, although facilities are needed in Coyote Valley to provide operational storage for seasonal and daily demand peaking and the District will require advanced treatment before any of this water can be used in such a manner as to potentially infiltrate into the groundwater basin. While the Silver Creek pipeline currently extends to the boundary of the Plan Area, and the SBWR currently has the capacity to provide the full 5,600 afy, this not considered to be an existing water source since new treatment and facilities are needed to utilize the supply.

The CVSP land use plan includes construction of a new multi-purpose lake feature which is a feasible storage option to address this onsite storage need. To deliver water from the existing Silver Creek Pipeline terminus to Coyote Lake would require the construction of a pipeline approximately 8,000 feet long.

As stated, the District will require any recycled water in Coyote Valley that could infiltrate into the sensitive Coyote Valley Groundwater Sub-basin to undergo fully advanced treatment. While the lake will be lined with an impermeable barrier to prevent infiltration; all SBWR supplies utilized for recharge or irrigation within the Plan Area would undergo reverse osmosis and UV disinfection. This process results in roughly a 30 percent loss in water supply.[10]

CVSP Water Supply Deficit

Existing groundwater supplies (8,000 afy) can meet 43 percent of the projected ultimate water demand in Coyote Valley. The unmet potable water demands at build-out total 6,200 afy and estimated direct non-potable demands total 4,300 afy. Without advanced treatment, most of that direct non-potable demand could not be met using recycled water currently available from the Silver Creek Pipeline. (With advanced treatment and Health Department approval, existing recycled water supplies could meet just over 90 percent of the identified direct non-potable water use in CVSP at build-out, beyond the water presently furnished to Metcalf Energy Center.) The total projected supply deficit is 10,500 acre-feet per year.

[10] Tracy Hemmeter, SCVWD, personal communication, November 17, 2006.

AUGMENTING COYOTE VALLEY WATER SUPPLIES

The District has determined that the sustainable extraction of water from the Coyote Valley Groundwater Basin over the long term can be maximized if recharge to the basin is increased by 6,000 afy (Appendix E). Some combination of increased Anderson Reservoir releases, percolation through Fisher Creek and/or construction of new recharge basins in the Greenbelt are potential options for delivering this supplemental supply to the Coyote Valley Groundwater Sub-basin. Numerical modeling demonstrates that a 6,000 afy recharge augmentation results in a net increase in sustainable extraction of 5,000 afy irrespective of general hydrologic conditions such as drought. (Further increases in recharge do not allow additional groundwater extractions without commensurate decreases in groundwater storage and pumping levels.) Adding this increase in extraction to the 8,000 afy sustainable existing supply increases the allowable multi-year drought extraction to 13,000 afy, which would then meet 92 percent of projected potable water demand.

Augmentation Alternatives Contained in Retailer Water Supply Assessments

Water Supply Assessments (WSA) for the CVSP Project have been written by the City of San José Municipal Water System (Muni), the Great Oaks Water Company (Great Oaks), and the San Jose Water Company (SJWC). This section of the WSE is intended to give an overview of the water sources and conclusions found in each of these WSA reports and how their conclusions might affect the water supply evaluation contained herein. These reports will be utilized by the City in making a final determination of the water supply availability for the CVSP, in conjunction with other information in the record. Although concerns with the reliability and/or sustainability of the identified water sources are discussed, this Water Supply Evaluation is in no way intended to be used as a tool by anyone for the selection of individual retailers to serve any portion of the project.

City of San José Municipal Water System

The City of San José Municipal Water System (Muni) WSA relies on an earlier referenced HMH Engineering report to calculate water demands. These values are adjusted based on Muni data to estimate a total CVSP build out demand of 18,711 afy (excluding existing MEC demand of 4,000 afy). This demand is reduced to 13,684 afy through water use coefficients adjusted to reflect greater conservation. It appears from the Muni WSA that demand values fluctuate within this range depending on the drought scenario.

Muni also relies heavily on the District Water Supply Availability Analysis, presenting various scenarios to meet the CVSP water demands which include among them groundwater from Coyote Valley Sub-basin, treated water from Santa Teresa ('District Imported Water'), recycled water and water conservation. Table 5 presents the range of the proposed annual water volumes for these various scenarios.

Table 5: San Jose Municipal's Proposed CVSP Water Supply Strategy

Source of Water	Acre-feet per year
Local Groundwater with Recharge	8,000 - 13,000
Recycled Water*	8,120
District Imported Water	5,131 - 9,520
Total	**17,261 - 26,650**

* Excluding MEC Existing Recycled Water Use

Muni identifies the need for increased groundwater recharge to maximize withdrawal from the Coyote Valley Sub-basin as described, but the indirect demand (i.e. the lost 1,000 afy) is not specifically included in CVSP water needs. The Muni WSA concludes that any of its three scenarios, all of which include capitol improvement projects, will meet water demand in normal, single year, and multi-year drought scenarios. The third scenario depends on water conservation to meet demands in single and multi year drought scenario.

The San José Municipal Water System is owned and operated by the City of San José. It is managed as an enterprise and is entirely self-supporting. As a municipal system, the City of San José is not regulated by the CPUC, but follows criteria established by the California Administrative Code. Muni is currently providing water service within Coyote Valley north of Bailey Road. There are no physical ties between this system and Muni's Evergreen or Edenvale systems, both located to the north of Silicon Valley Boulevard.

Great Oaks Water Company

The Great Oaks Water Company (Great Oaks) relies heavily on its own 2005 Urban Water Management Plan (included in the Great Oaks WSA within Appendix B). The CVSP water demand has been incorporated into Great Oaks UWMP,[11] although the demand is not disaggregated in either their WSA Report or the UWMP. Great Oaks proposes to meet all current and future demands throughout their service area with groundwater from the Santa Teresa and Coyote Groundwater Sub-basins. The Great Oaks WSA does not discuss the District's identified need for additional recharge basins within Coyote Valley, but relative pumping amounts from the two groundwater basins are not quantified, so it is possible that this need could be circumvented by limiting total annual Coyote Valley Groundwater Sub-basin extractions to 8,000 afy, taking

[11] Great Oaks WSA Report, p. 6

the remainder (10,500 afy) from the Santa Clara Sub-basin. Great Oaks asserts that the District is required to recharge both Sub-basins and maintain groundwater levels at performance levels.[12] Furthermore, the District has the authority to regulate groundwater extractions in the event of land subsidence and other "permanently injurious consequence of groundwater overdraft in periods of drought."[13]

Great Oaks does not propose to meet any of the CVSP water demand via recycled water. Although the Great Oaks UWMP does not include single and multi-year supply and demand scenarios for the build out (i.e. year 2030) conditions, it can be inferred from the District's UWMP (discussed subsequently) that there will be sufficient supply from various sources to meet demand during normal, single, and multi-year drought conditions for both current and projected (2030) demands.

Great Oaks Water Company is a privately owned utility operating under rules established by the California Public Utilities Commission (CPUC). They are certificated by the CPUC to serve water within the Specific Plan Area and have established water supply wells and distribution mains within their Coyote Valley service area that are interconnected to their water supply, storage and distribution system in Santa Teresa. Great Oaks' certificated service area extends south to Palm Avenue between Monterey Highway and (loosely) Calero Reservoir. The generalized service area is shown on Figure 5, but this figure should not be used to establish actual certificated service areas by parcel.

Figure 5: Great Oaks Water Company Service Area

[12] Great Oaks WSA Report, p.17
[13] SCVWD Ordinance No. 89-1

San José Water Company

The San Jose Water Company (SJWC) WSA Report relies in part on the District Water Supply Availability Analysis (Appendix E). As such, they recognize the need for additional recharge into the Coyote Valley Groundwater Sub-basin, however neither this need nor its source is specifically included in the water projections.

The SJWC estimates the CVSP build-out anticipated demand to be 20,400 afy, and proposes to meet this demand via groundwater (six new wells in the Coyote Groundwater Sub-basin), recycled water (only MEC demand appears to have been included), water conservation, Santa Teresa water via a water main extension, and tapping into the Cross Valley Pipeline for recharge water. Table 6 presents the proposed annual water volumes from these sources.

Table 6: SJWC's Proposed CVSP Water Supply

Source of Water	Acre-feet per year
Groundwater with Recharge	6,000 - 13,000
Recycled Water	4,000
Santa Teresa Water via SJWC System	3,400 - 10,400
Total	**20,400**

The SJWC concludes that they are able to provide sufficient water to meet all of CVSP demands in normal, single year, and multi-year drought conditions, although the conclusion for single and multi-year drought scenarios is dependant on voluntary and involuntary water conservation during drought scenarios. As further described in Appendix C, San Jose Water Company has a diversified portfolio of water supply sources included treated water bought from the SCVWD (55% of supply), local groundwater from the Santa Clara Sub-basin (36%) and local surface water (9%).

San Jose Water Company is a privately owned utility operating under rules established by the California Public Utilities Commission (CPUC). They are not certificated by the CPUC to serve water within the Specific Plan Area (Figure 6).

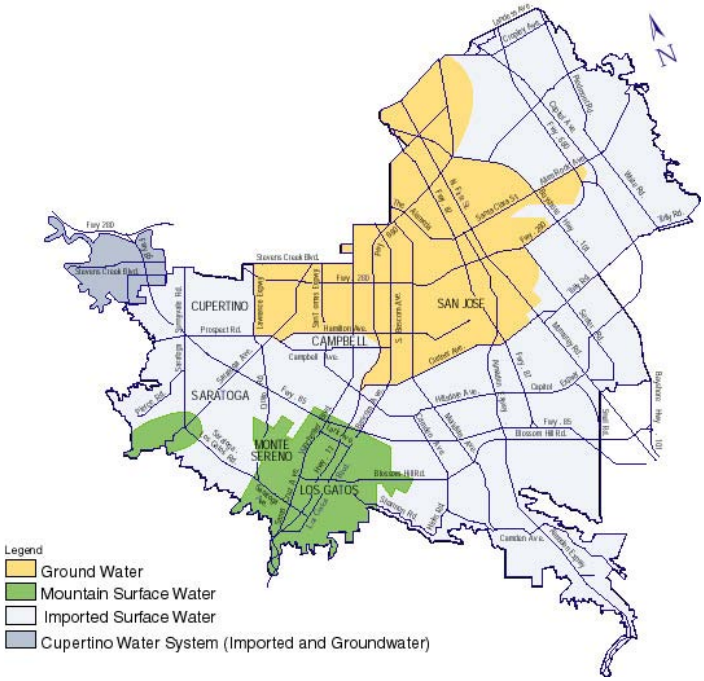

Figure 6: SJWC Service Area and Supply Sources (SJWC, 2006)

SCVWD AS A WATER WHOLESALER

Santa Clara Valley Water District (SCVWD or District) wholesales water to each of the three identified retailers. In 2005 the District updated its Urban Water Management Plan (UWMP) to "meet the requirements of the California Urban Water Management Planning Act and to present important information on water supply, water usage, recycled water and water use efficiency programs in Santa Clara County."[14] The UWMP also details anticipated water use and sustainable supplies in the County for the next 25 years. Since the 2005 UWMP specifically includes the CVSP through build-out in its forecasted water demands, this WSE relies heavily on the Urban Water Management Plan. The UWMP makes explicit assumptions in it's forecasting of future water demands and supplies. These assumptions are summarized in the UWMP and are quoted here:[15]

> "In 2002, the District developed its first stewardship plan for the Coyote Valley Watershed. In 2005, three additional plans were developed for Lower Peninsula, West Valley, and Guadalupe watershed management areas. Sponsored in part by the CALFED Bay-Delta Watershed Program, the later plans describe shared water resources interests and provide tools for better management of complex water resource issues. This includes promoting coordination among flood protection, water supply, water quality, stream restoration, and parks, trails, and open space projects. The stewardship plans translate the District's policies into specific goals and objectives at the watershed level. The integration of the IWRP process with watershed stewardship planning allows water supply planning to be economically, socially, and ecologically sound and yet responsive to changing and uncertain future conditions.
>
> "As part of the water demand update and preparation of UWMP 2005, the [Integrated Water Resources Plan] IWRP framework and portfolio options were reviewed. IWRP Study 2003 (Phase II - 2011 to 2020) outlined several possible response strategies to address various likely scenarios to meet future demand through the year 2020. Six different scenarios were analyzed in the IWRP Study 2003 process, and the response strategies that would be required to achieve a high level of reliability for each scenario to the year 2020 were presented. Based upon analyses performed for UWMP 2005 and re-evaluation of risk scenarios and assumptions, it appears that some of these strategies could be deferred. The direction that the District will pursue will reflect responses to how risks actually unfold over the next five years.
>
> "2021 to 2040 (Phase III): Because the impacts of risks 15 to 35 years out are uncertain, and because actions and decisions in the near term can significantly affect the future water supply outlook, IWRP Study 2003 does not present specific recommendations for investments beyond the year 2020. Rather, it presents general descriptions of the types of investments that may be needed to manage these risks in the more distant future. Throughout the planning horizon, other critical steps to ensure long-term water supply reliability include the following:
>
> - Monitoring for risks (including climate change), new opportunities, and technology improvements

[14] Santa Clara Valley Water District UWMP 2005.
[15] UWMP, pp 14-16.

- Investigating desalination feasibility and recycled water acceptance and marketability
- Exploring potential water management and water quality improvement alternatives
- Developing and maintaining regional and statewide partnerships
- Maximizing support for new investments through statewide and regional partnerships

"The District also periodically updates water demands. Changes in demand projections, in addition to other risks, affect water supply investment decision making under the IWRP Study 2003 planning framework.

"Long-Term Water Supply Planning Assumptions
Given the uncertainty associated with planning for future water supply needs, various assumptions regarding the future have been developed by District staff in order to formulate a water supply plan. The following section documents the water supply planning assumptions used in the UWMP 2005 which update those developed as part of the IWRP Study 2003.

"UWMP 2005 Baseline Water Supply Assumptions
New investments are built upon a foundation of the District's baseline water supply. This baseline water supply is by far the largest share of future supplies. Therefore, actions are needed to safeguard and maintain this vital water supply baseline. These actions will help ensure that the assumptions made in the District's long term water supply analysis remain valid throughout the planning horizon. The risk analysis performed under IWRP Study 2003 highlighted the importance of the planning assumptions regarding the baseline. Strategies and actions are necessary to ensure that these assumptions remain valid. Without these measures to secure the baseline, the significance of shortages under the different risk scenarios increases.

"The assumptions utilized in the UWMP 2005, which are an update to those in IWRP Study 2003 and previous planning documents, include the following:

- Local infrastructure will be reliable. (The District is currently evaluating infrastructure reliability. The level of funding necessary to ensure that infrastructure remains reliable has not been determined. The funding in the Capital Improvement Plan [CIP] and long-term water rate forecast is not sufficient to ensure infrastructure reliability.)
- The Water Treatment Improvement Project will be completed. (This project is funded and completion is expected by 2013.)
- Usable reservoir storage will decrease over time as reflected by observed siltation rates. (No funding implications are anticipated.)
- Existing water supply wells will be able to provide emergency backup supply when sufficient groundwater is available. (Funding implications not evaluated; potential to be significant.)
- The Fisheries and Aquatic Habitat Collaborative Effort settlement will be implemented. (Funding is addressed in the CIP and long-term water rate forecasts.)

- Local recharge facilities and creeks will be maintained at their current capacity. Additional "No Regrets" recharge is considered part of the baseline. (This has significant funding implications—funding for additional recharge is not in the District CIP or long-term water rate forecast.)
- The long-term viability of the groundwater sub-basins will be protected through groundwater management programs. (Some funding is addressed in long-term rate forecast—additional funding is necessary.)
- Local surface water rights will be maintained. (No significant funding implications are anticipated.)
- Contracts for imported water supplies will continue in the future. (Significant funding implications are anticipated—costs associated with maintenance of imported water infrastructure are uncertain.)
- The San Luis Reservoir low-point issue will be resolved. (Funding depends on selection of preferred solution and federal, state and water user support.)
- CALFED Stage 1 programs will be implemented. (Currently the implementation schedule for CALFED Stage I programs has been delayed and their completion is uncertain. Potential for significant increase in costs exists—funding is not identified.)
- The SFPUC contractors in Santa Clara County will extend or renew their contracts beyond the current expiration date of 2009 and SFPUC will complete its Regional Water System Improvement Program by 2015. Contract quantities will be those formally requested by the contractors in 2005. (SFPUC supplies are outside the control of the District. Retailers are expected to pump additional groundwater or request treated water from the District if SFPUC supplies are curtailed during drought—UWMP 2005 assumes additional demands from SFPUC customers during drought periods. Potential for significant increase in costs exist if District is to meet this additional demand.)
- The most recent SWP and CVP draft allocation factors1 are reasonably valid. (Allocation factors are subject to change and are outside the control of the District.)
- The District's banking capacity in the Semitropic Water Storage District will be maintained. The District is currently vested in Semitropic at approximately 283,000 af. The total storage capacity available to the District is 350,000 af. (No significant additional funding implications are anticipated.)

"UWMP 2005 Water Demand Assumptions

- Water demand was projected using data provided by the Association of Bay Area Governments (ABAG 2005) through 2030, land use agencies, and major water retail agencies.
- Information on planned developments received from local planning agency staff and contained in local city and county General Plans is reasonably valid.
- The District and its water retail agencies will continue planned water conservation commitments throughout the planning horizon. This includes baseline conservation programs and additional water conservation savings from IWRP Study 2003 "No Regrets" building blocks. By 2030, total annual water conservation savings are estimated to reach 98,500 af using 1992 as a baseline. (Funding for water

conservation efforts includes funds identified in the ten year water rate forecast together with additional grant funds.)

- Countywide recycled water projections from recycled water producers are reasonably valid (16,800 af by 2010 to 31,200 af by 2030). Additional recycled water use over and above these projections will be needed to meet District Board Ends Policies. (Funding for meeting water recycling projections or to meet District targets has not been identified.)
- Projections assume development of Coyote Valley as called for in the Coyote Valley Specific Plan (April 2005) and Vision North San José as described in the General Plan Amendment and development policy adopted by the San José City Council in June 2005. (A Water Supply Assessment for Coyote Valley has not been completed— funding for additional infrastructure and for Coyote Valley water supply has not been identified.)
- Meeting less than 95 percent of the demand (a 5 percent or greater shortage) in any given year is assumed to result in significant economic loss to Santa Clara County. Less than a 5 percent shortage in any given year can be managed by demand reduction programs and voluntary cutbacks, spot market transfers, and use of reserves. (The analysis conducted for this UWMP assumes meeting 100 percent of the demand.)"

Projected CVSP demand is included in the District's 2005 Urban Water Management Plan (UWMP). The UWMP presents projected water supply and demand for normal, single dry, and multiple dry year conditions through 2030. Although the CVSP is only a small part of projected County-wide growth in water demand, as stated in the UWMP, water resource components within the County cannot be treated as isolated: they are inextricably linked.[16] As such, it can be concluded that the necessary CVSP potable and non-potable water augmentation can be furnished by existing and future District sources without adversely affecting County-wide supply and demand projections.

District Water Supplies

The Santa Clara Valley Water District's water supply relies on groundwater, imported water from the State Water and Central Valley Projects, the SFPUC Hetch-Hetchy system, recycled water, and local surface water. Local and imported water are used to recharge the groundwater basin and delivered to treatment plants. Treated water is subsequently delivered to retailers. Figure 7 shows the average us of each of these supplies by the District water supply since 1989.[17]

[16] UWMP, p. ES-3.
[17] Based on values from UWMP, p. 19.

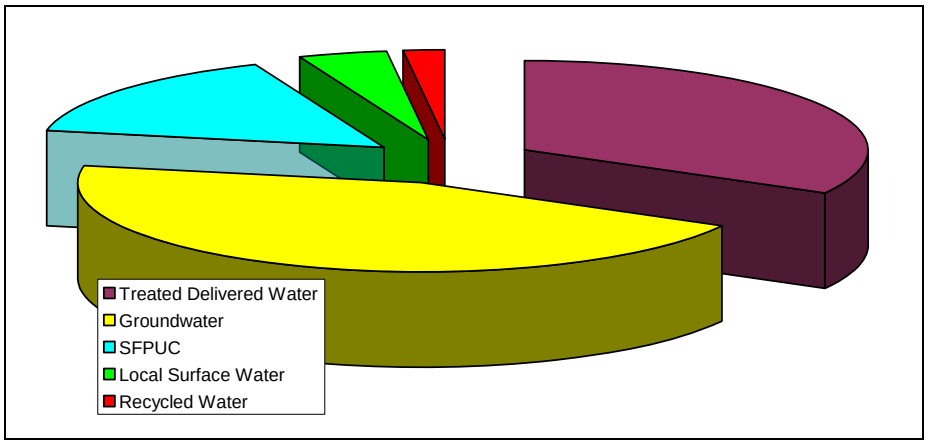

Figure 7: Relative Contribution of District Water Sources from 1989 to Present

Groundwater makes up about 45 percent of District water use. Groundwater basins are recharged naturally and through the District's managed groundwater recharge program. The relative available supply from each groundwater basin is summarized in Table 7. Since groundwater provides a substantial portion of County water supplies, and presently supplies all of the potable water used within Coyote Valley, a more comprehensive discussion of local groundwater resources is provided as Appendix D to this WSE.

Table 7: Groundwater Storage, Existing and Maximum Withdrawal for District Operated Sub-Basins[18]

	Operational Storage Capacity (afy)	Average Historic Annual Withdrawal 1999-2004 (afy)	Maximum Annual Historic Withdrawal 1999-2004 (afy)
Santa Clara Valley Sub-basin	350,000	107,000	115,000
Coyote Valley Sub-basin	23,000 - 30,000	7,300	8,000
Llagas Sub-basin	152,000 - 165,000	45,000	47,000
TOTAL	**530,000**	**159,300**	**170,000**

These values are based on data presented in the UWMP (Tables are based largely on the District groundwater model, which is described in more detail in Appendix E.) Note that the District defines operational storage capacity as the volume of groundwater that can be stored in a basin or sub-basin as a result of District management measures. Operational storage capacity is generally less than total storage capacity as it accounts for the avoidance of land subsidence and high groundwater conditions.

[18] District UWMP, Table 3-4, p. 28-30, p. 32 & p. 122

The next largest District supply is treated water, which makes up about one third of total District supplies. "Treated water" refers to water produced by one of the District's three water treatment plants. The sources of supply to the treatment plants are (untreated) imported and local surface water. Imported water comes to the county from Northern California watersheds via the Sacramento-San Joaquin Delta. This water is delivered by the State Water Project (SWP), operated and maintained by the California Department of Water Resources (DWR); and the Central Valley Project (CVP), operated and maintained by the U.S. Bureau of Reclamation. Imported water is conveyed to Santa Clara County through two main conveyance facilities: the South Bay Aqueduct, which carries SWP water from the South Bay Pumping Plant; and the Santa Clara Conduit and Pacheco Conduit, which bring CVP water from the San Luis Reservoir. The District has a contract for 100,000 acre-feet per year from the SWP. The District's contract for CVP supply is 152,500 afy, of which 130,000 afy is for municipal and industrial needs and 22,500 afy is for agricultural needs.[19]

The SFPUC is the third largest water source (about 16 percent of total County supplies) and conveys water into Santa Clara County and other counties via its own facilities. The District does not control or administer SFPUC deliveries to the county; however, it is expected that many of the SFPUC retailers would pump additional groundwater if there was a shortfall in SFPUC deliveries.

Local surface water and recycled water make up the remainder of the District's historic water supplies. Recycled water is a local water source developed by the county's four wastewater treatment plants. The District works with the wastewater authorities in the county on partnerships to promote water recycling for non-potable uses such as irrigation and industrial uses through financial incentives and technical assistance. In south Santa Clara County, the District is the recycled water wholesaler and is responsible for the recycled water distribution system.[20]

Figure 8 details the District's physical water treatment, storage and distribution facilities, which are described in the UWMP text as well:[21]

> "The District operates and maintains several local pipelines to transport imported raw water and locally conserved water to various locations for treatment and distribution or for groundwater recharge. This conveyance system consists of the Central Pipeline, the Rinconada Force Main, the Almaden Valley Pipeline, the Calero Pipeline, the Cross Valley Pipeline, the Penitencia Force Main, the Santa Teresa Force Main, the Vasona Canal, Kirk Ditch, the Anderson Force Main, the Coyote/Madrone Pipeline, Madrone Channel, the Almaden-Calero Canal, the Main Avenue Pipeline, the Greystone Pipeline, and Page Ditch. Another facility, the Stevens Creek Pipeline, taps off the Rinconada Force Main and conveys raw water to recharge facilities on the county's west side. The District is also under

[19] District UWMP, p. 57
[20] UWMP p. 22
[21] UWMP pp. 21-22

agreement with the U.S. Bureau of Reclamation to operate and maintain the Santa Clara Conduit and the Pacheco Conduit (San Felipe Unit).

"The Rinconada WTP was constructed in 1967 and can sustain a maximum flow rate of 75 mgd. Upgrades are in the planning stage to increase production at Rinconada to 100 mgd. The Penitencia WTP was constructed in 1974 and can sustain a maximum flow rate of 42 mgd. The Santa Teresa WTP was constructed in 1989 and can sustain a maximum flow rate of 100 mgd.

"Treated water pipelines that distribute water from the treatment plants to the water retail agencies include the West Pipeline, the Campbell Distributary, the Santa Clara Distributary, the Mountain View Distributary and the Sunnyvale Distributary from Rinconada WTP; the Snell Pipeline and Graystone Pipeline from Santa Teresa WTP; and the East Pipeline, Parallel East Pipeline, and Milpitas Pipeline, which can be fed from the Santa Teresa WTP or from Penitencia WTP."

Figure 8: District Water Supply Facilities Map[22]

[22] UWMP, Figure 3-3

The District also participates in various exchanges and options, including, but not limited to:[23]

- San Benito County Water District Exchanges: In the past, the District has exchanged CVP allocations with the San Benito County Water District to improve water management by taking advantage of a difference in each district's contract year. In 2004, a total of 7,000 acre-feet was exchanged.
- Pajaro Valley Water Management Agency and Westlands Water District: In 1998 the District jointly participated in the permanent assignment of 6,260 acre-feet from Mercy Springs Water District. Under the agreement, the District has an option for dry-year supplies totaling at least 20,000 acre-feet over a 20-year period.
- Banking Available Supplies for Future Use: In May, 1996 the District approved an agreement with the Semitropic Water Storage District (Semitropic) to store 45,000 acre-feet of SWP water in Semitropic's groundwater basin. In 1997, the District approved a long term agreement with Semitropic, and has banked water in years 1997-2005. The District's vesting level as of December 2005 was 283,000 acre feet and the total storage capacity available to the district is 350,000 acre-feet.[24]

District Water Supply and Demand through 2030 (including CVSP)

A supply of adequate water must be identified for single and multiple dry year conditions, as well as normal conditions. The Santa Clara Valley Water District also uses the normal, single dry and multiple dry year concepts in its planning and management approach, where water supplies are the primary concern. These scenarios are defined as:

Normal Year	A year in the historical sequence that represents median runoff levels and patterns. Hydrology for 1985 represents a near-average year for both local rainfall and imported water and is the year determined by the District to be more representative of normal year supply.
Single Dry Year	A year with the minimum usable supply. The hydrology of 1977 reflects the driest year of record, and is the basis for single dry year conditions.
Multiple Dry Years	The average annual supply available during a multi-year drought. For Santa Clara County and Coyote Valley, this period is equivalent to the 1987 through 1992 drought.

District projected water demand and supply for each of these scenarios is presented in Tables 8 through 10. To repeat, CVSP build-out demand is included in these values.

[23] UWMP, p. 58-59
[24] District Review Comments on December Draft Water Supply Evaluation

Table 8: Normal-Year Santa Clara County Water Demand and Supply[25]

	2010	2015	2020	2025	2030
Demand					
Demand without Conservation Savings	439,500	469,000	495,800	520,900	546,700
Demand With Conservation Savings	382,700	395,900	405,400	425,800	448,200
Supply					
State Water Project (SWP)	83,000	83,000	83,000	83,000	83,000
Central Valley Project (CVP)	114,400	114,400	114,400	114,400	114,400
Local Supplies	115,500	115,500	115,500	115,500	115,500
Recycled Water	16,800	21,000	25,000	28,100	31,200
San Francisco Public Utility Commission	64,600	68,900	71,000	72,600	73,000
New Supplies - Integrated Water Resources Plan Framework	----	----	----	12,200	31,100
TOTAL SUPPLY	**394,300**	**402,800**	**408,900**	**425,800**	**448,200**

Table 9: Single Dry Year Santa Clara County Water Demand and Supply[26]

	2010	2015	2020	2025	2030
Demand					
Demand without Conservation Savings	439,500	469,000	495,800	520,900	546,700
Demand with Conservation Savings	382,700	395,900	405,400	425,800	448,200
Supply					
State Water Project & Semitropic	28,200	28,200	28,200	28,200	28,200
Central Valley Project (CVP)	83,600	83,600	83,600	83,600	83,600
Local Supplies	64,300	64,300	64,300	64,300	64,300
Recycled Water	16,800	21,100	25,000	28,200	31,200
San Francisco PUC	48,500	51,100	52,200	53,400	54,700
Groundwater Reserves	141,300	147,600	152,100	168,100	186,200
TOTAL SUPPLY	382,700	395,900	405,400	425,800	448,200

[25] Based on UWMP, Table 6-2
[26] From UWMP Table 6-3 Errata; groundwater reserves (2030) adjusted for algebraic balance

Table 10: Multiple Dry Years Santa Clara County Water Demand and Supply[27]

	2010	2015	2020	2025	2030
Demand					
Demand without Conservation Savings	439,500	469,000	495,800	520,900	546,700
Demand with Conservation Savings	382,700	395,900	405,400	425,800	448,200
Supply					
State Water Project & Semitropic	69,200	69,200	69,200	69,200	69,200
Central Valley Project (CVP)	99,600	99,600	99,600	99,600	99,600
Local Supplies	100,100	100,100	100,100	100,100	100,100
Recycled Water	16,800	21,000	25,000	28,100	31,200
San Francisco PUC	51,700	54,500	55,700	57,000	58,400
Groundwater Reserves	45,300	51,500	55,800	71,800	76,000
New Supplies - Integrated Water Resources Plan Framework	----	----	----	----	13,700
TOTAL SUPPLY	382,700	395,900	405,400	425,800	448,200

Because groundwater is identified as both an existing and proposed water source by the District and for the CVSP development in particular, additional information is required pursuant to SB610 requirements (CA water code section 10910, subdivision (f)). The Coyote Valley Groundwater Sub-basin (CVGSB) is identified by the DWR as part of the Santa Clara Sub-basin (#2-9.02) in the San Francisco Bay Hydrologic Region. The CVGSB is not adjudicated, nor has it been identified as a current or projected overdrafted basin by the DWR.[28] More in-depth information regarding the Coyote Valley Groundwater Sub-basin, including historic pumping rates and groundwater quality data, is included in Appendix D.

The UWMP concludes that with water conservation savings, current District supplies are adequate to meet current and near future demand (to 2020) in normal and dry year scenarios,[29] while new investment in water supplies is needed to meet additional future demand past the year 2020. A variety of additional water supply options are presented in the District's 2003 Integrated Water Resource Plan Study (IWRP). Additionally IWRP stakeholders endorsed the District "No Regrets" investment portfolio which calls for the following three near-term investments:[30]

[27] From UWMP Table 6-4; groundwater reserves (2010-2020) adjusted for algebraic balance
[28] DWR "Hydrologic Region Sacramento River, Coyote Valley Groundwater Basin, California's Groundwater Bulletin 118", last updated 2/27/04
[29] UWMP p. 133
[30] UWMP p. 12

- 28,000 acre feet of additional annual savings from agricultural, municipal, and industrial conservation (full implementation by 2020).
- 20,000 acre feet of additional groundwater recharge capacity consisting of approximately 13,000 afy in South County and 7,000 afy in North County.
- 60,000 acre feet of additional capacity in the Semitropic Water Bank (implemented in 2005).

The District has also developed the need for the following key programs to protect existing water supplies and infrastructure and advance planning efforts:[31]

- Maintaining and expanding water conservation efforts
- Investing in additional groundwater recharge capacity
- Protecting groundwater basins through effective groundwater management programs
- Expanding water recycling to meet projections in accordance with District Board policies
- Sustaining local water supplies by maintaining local water rights
- Implementing the recommendations from the District's 2005 Water Infrastructure Reliability Project Report
- Investing in infrastructure projects identified in the Infrastructure Master Planning Process
- Meeting water quality standards through aggressive source water protection, ongoing improvements to treatment facilities and additional infrastructure
- Protecting imported water supplies by resolving contract and policy issues, supporting Bay-Delta system improvements, addressing system vulnerabilities (e.g., the San Luis Reservoir low-point problem), and supporting SFPUC efforts to implement a Capital Improvement Program (CIP)

Beyond 2020, potential additional supplies have been defined generally in both the UWMP and the IWRP. These include maximizing water conservation, advanced treatment of recycled water for groundwater recharge, development of desalination, an expanded banking participating, a new 100,000 acre-foot reservoir, any combination of which could reduce shortages through 2030

[31] UWMP p. ES-4

to negligible levels.[32] The next IWRP update is scheduled to be completed in 2008, and will define the strategy to secure supplies to 2020 and beyond.[33]

Table 11 presents the comparison between County-wide water demand and Coyote Valley water demands through 2030. Demand estimates assume water conservation savings as described herein.

Table 11: County and Coyote Valley Projected Water Demands

	2010	2015	2020	2025	2030
Santa Clara County Demand (afy)	382,700	395,900	405,400	425,800	448,200
Coyote Valley Demand (afy)	7,200	11,200	13,700	16,200	18,500
Coyote Valley's Percentage of Total Demand	2%	3%	3%	4%	4%

In summary the District UWMP concludes that water supply will be adequate to meet County-wide projected demands (including the CVSP) through 2030 with a combination of water conservation, "No Regrets" portfolio implementation, and significant investments in safeguarding existing and developing new supplies. This in turn suggests that the new water sources required to meet CVSP needs may be taken from any of the District's identified future water sources without adversely affecting District-wide water supply forecasts.

[32] UWMP p. 85
[33] UWMP, p. 135

EVALUATION OF WATER SUPPLY ALTERNATIVES

Each retailer concludes that as a sole water supplier to the CVSP, they could meet water demands during normal, single, and multi-year drought scenarios. All three retailers essentially propose to treat the Coyote Valley area as an integrated part of their systems, supplying potable water from the Coyote Valley Groundwater Sub-basin, and preventing the degradation of that sub-basin with supplemental water from their sources in the greater San Jose area. The City of San Jose Municipal Water System and private San Jose Water Company have access to similar water sources including treated water from the SCVWD and local groundwater. Great Oaks Water Company relies exclusively on groundwater pumped from the Santa Clara and Coyote Groundwater Sub-basins, and has the ability to move water between the two.

Each retailer purchases wholesale water from the SCVWD, whether as treated water or groundwater. Thus whichever retailer or retailers serve water to CVSP; the District remains responsible for water supply management to protect the County's resource. The District has identified the need for additional recharge to the Coyote Valley Sub-basin, so that groundwater pumping to support build-out demand will not destabilize the basin and lead to a long-term reduction in storage. In essence the water augmentation alternatives suggested by the water retailers are mechanisms to move existing and future water supplies into Coyote Valley to avoid basin destabilization through over extraction. It is possible and perhaps likely that more than a single water retailer will serve CVSP developments, so more than one delivery option may be feasible, and delivery alternatives are not considered to be mutually exclusive. The most prominent identified alternative sources of augmentation water are evaluated below.

Delivery of Groundwater from the Santa Clara Sub-basin

All three water retailers use groundwater from the Santa Clara Sub-basin as a source of supply. The Santa Clara Valley Sub-basin is not currently identified as adjudicated,[34] and is described more fully in Appendix D. The District estimates the long-term operational storage capacity of the Santa Clara Valley Groundwater Sub-basin (SCVSB) to be 350,000 acre-feet, and has determined groundwater withdrawal from the Santa Clara Valley Sub-basin should not exceed 200,000 acre-feet in any one year. Historic groundwater withdrawal from the SCVSB is 107,000 afy on average for 1999 through 2005.[35] Since water from the SCVSB is not currently used within the Plan Area, and this use may have an impact on other uses of SCVSB water, this is considered to be a new water supply for the CVSP.

(Great Oaks Water Company has infrastructure within their certificated service area that allows them to deliver water extracted from one groundwater sub-basin to the other, but Great Oaks is not currently supplying Santa Clara Sub-basin water to Coyote Valley.)

[34] DWR Bulletin 118
[35] UWMP p. 32

In Appendix E an inter-basin delivery from the Santa Clara Sub-basin of up to 5,600 afy is identified as technically feasible from a groundwater management perspective. This represents about 53 percent of the 10,500 afy remaining water demand after the maximum sustainable Coyote groundwater extraction is reached. This water would be pumped out of the ground in the Santa Clara Sub-basin and delivered to Coyote Valley through existing or new pipelines, depending upon the retailer. Figure 9 shows a general schematic of potential water delivery pipeline alignments, noting that Great Oaks Water Company has already installed a 20-inch diameter main along Santa Teresa Boulevard to the southwest of Tulare Hill. (Great Oaks has service lines south to Palm Avenue.) Retailers other than Great Oaks would be able to install parallel mains in Santa Teresa Boulevard, or along a Monterey Highway route as shown. (Great Oaks would also be able to install a main along Monterey Highway.)

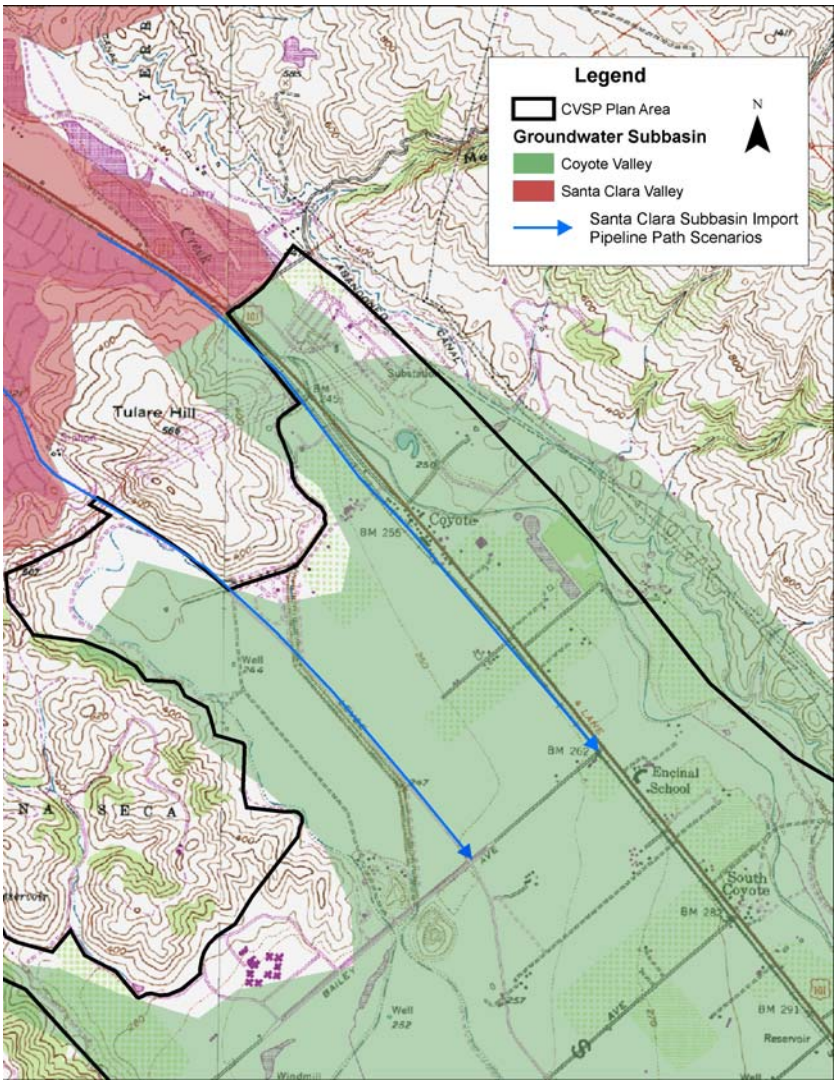

Figure 9: Delivery of Supplemental Potable Water to the Plan Area from the Santa Clara Sub-Basin

Direct Use of Treated Water from Other Sources

As an alternative to using groundwater from the Santa Clara Valley Basin, other water sources available to each retailer as outlined in their respective Water Supply Assessments could be delivered through the system pipelines just described. For instance, both the City of San Jose and San Jose Water Company have identified the direct use of water from the Santa Teresa Water Treatment Plant, which has redundant sources of water supply, as a feasible alternative. New facilities would consist of a pump station and approximately 37,000 feet of 24-inch diameter pipeline to transmit treated water from the Santa Teresa Water Treatment Plant to Coyote Valley. This alternative is shown schematically in Figure 10. The Santa Teresa Water Treatment Plant treats imported and local surface water, the sources of which were described in more detail previously.

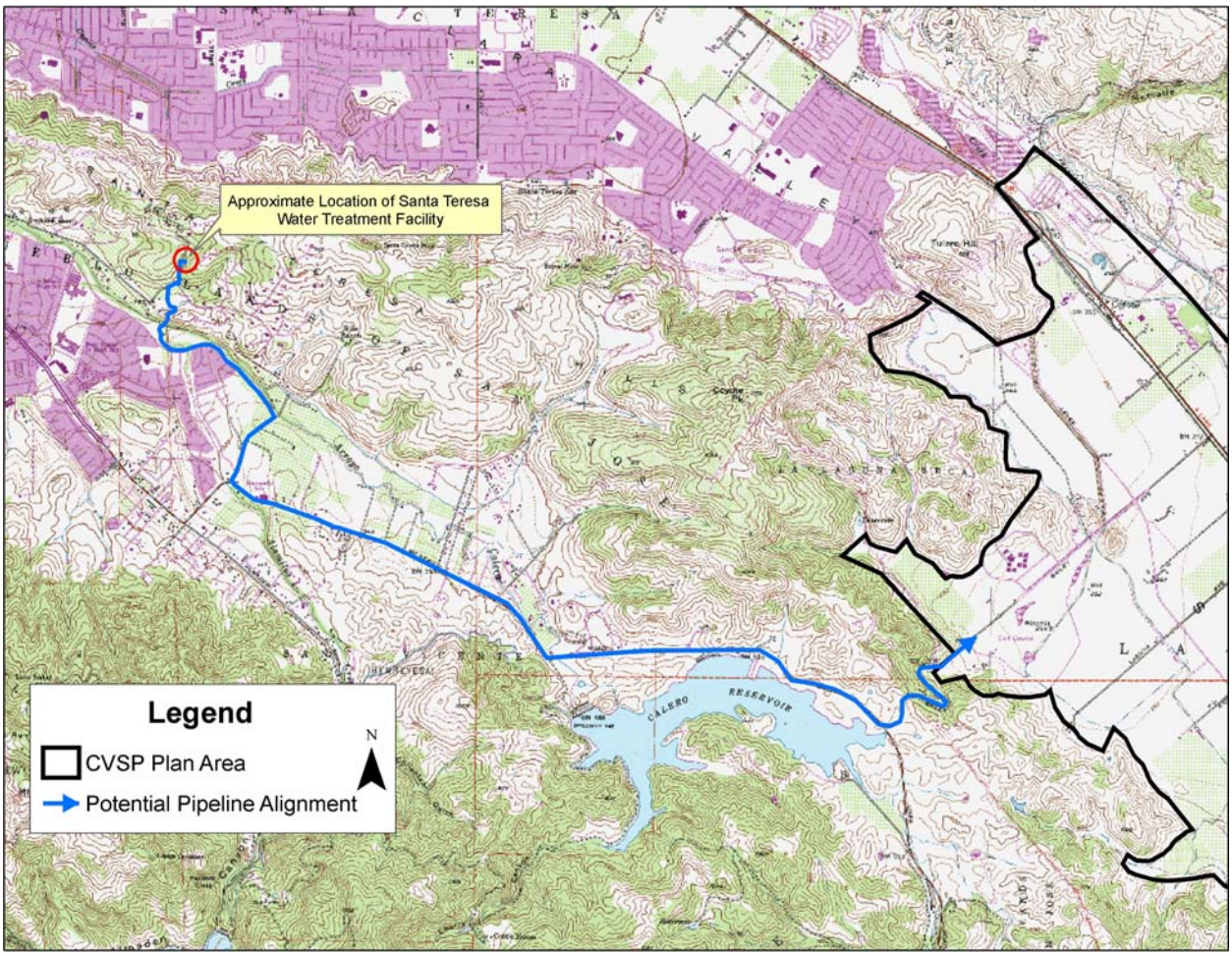

Figure 10: Schematic for Santa Teresa Water Treatment Plant Delivery to Plan Area

This alternative may also require Santa Teresa Water Treatment Plant (or other water treatment plant) expansion to accommodate CVSP demand, although (for instance) Santa Teresa currently has an excess treatment capacity of about 9,500 afy,[36] which would be sufficient to supply the additional 10,500 afy required in Coyote Valley in conjunction with up to 5,600 afy of supplemental groundwater from the Santa Clara Sub-basin. Since water retailers like San José Municipal Water System and San Jose Water Company prioritize use of the water from the Santa Teresa Water Treatment Plant to preserve groundwater reserves, however, reallocating this water to CVSP could cause the retailers to use more groundwater. As a result, this alternative might also require new infrastructure, such as turnouts, pipelines, and pumps, to deliver additional sources of supply and new sites for recharge in the Santa Clara Valley Groundwater Sub-basin to mitigate the cumulative impacts.

Recharge Water from Cross Valley Pipeline

The District's Cross Valley pipeline traverses the area, carrying water from the Central Valley Project's San Felipe Division and potentially water from Anderson Reservoir, which currently supplies Coyote Valley, to the District's water treatment plants and recharge facilities in the northern portions of the County. Although water from the pipeline would not be available during dry years, water would be available during normal and wetter than normal years, thus allowing other groundwater resources to recover. The District has quantified that up to 6,000 afy would be available during wetter than normal years such as 2000 and 2001, while less than 6,000 afy (the exact amount has not been quantified) would be available during years with similar weather patterns as 1995 and 1997. A schematic of the Cross Valley pipeline and a potential turnout location is shown in Figure 11.

Figure 11: Cross Valley Pipeline Turnout Alternative

[36] SJMWS WSA p. 13

Recommended Water Supply Strategy

After reviewing the individual water supply assessments, District Board policy with respect to a preference for relying on local water supplies rather than imported water supplies, and the City's stated desire to "create a model community based on innovative planning and design,"[37] this Water Supply Evaluation concludes that maximizing the use of local water supplies and recycled water to meet non-potable demands and indirect potable groundwater recharge uses is the most appropriate long-term approach to water supply for Coyote Valley.

Since the groundwater basin provides water storage and distribution without extensive infrastructure, the use of this resource should be maximized. To avoid basin degradation, the District has, through numerical analyses, established a maximum sustainable annual extraction of 13,000 acre-feet from the Coyote Valley Groundwater Sub-basin with 6,000 afy of additional groundwater recharge. (There is a loss of 1,000 afy in this process, which must be recognized.)

Recycled water has an advantage as a source of recharge water relative to other sources since it is largely immune to drought related shortages and is locally controlled without being affected by statewide water supply conditions. Maximizing the use of local water (including recycled water) is also a stated goal of the District, and using recycled water has other environmental benefits including a reduction in waste discharge. Using recycled water where appropriate in Coyote Valley also frees potable water sources for beneficial uses throughout Santa Clara County.

Although some recycled water could be used within homes and industries as direct non-potable consumption, and would not be subject to the advanced treatment required of recycled water that may percolate into the groundwater basin, it is assumed for this evaluation that all recycled water utilized within the Plan Area (other than existing water supplied to Metcalf Energy Center) would undergo advanced treatment primarily for economy of scale and to avoid dual infrastructure. The advance treatment process that includes reverse osmosis tends to be about 70 percent efficient in terms of treated water production.[38] Therefore projected advanced treatment losses reduce the existing Silver Creek Pipeline supply from 5,600 afy to 3,900 afy, capable of supplying about 91 percent of the identified direct non-potable demand.

Table 12 summarizes CVSP water demands, compares the demand to existing supplies, and identifies additional supplies that must be brought into the valley assuming that the maximum potential local groundwater extraction is achieved and advanced treated recycled water can be used to meet non-potable water demands, including additional groundwater recharge pending DHS approval. To supply all CVSP demands, an additional 1,200 afy of potable water and 9,100 afy of non-potable water must be imported to Coyote Valley when considering the advance treatment efficiencies necessary to use recycled water.

[37] City of San Jose, Notice of Preparation of a Draft EIR for CVSP, May 31, 2005.
[38] Tracy Hemmeter, SCVWD, personal communication, November 17, 2006.

Table 12: CVSP Water Balance with Recycled Water Use (acre-feet per year)

	Total	Non-Potable	Potable
Coyote Valley Urban Reserve & North Campus Industrial Area Residential and Employment Demands	11,900	2,000	9,900
Outside of Plan Area (Morgan Hill Sphere of Influence)	2,000	400	1,600
Coyote Valley Greenbelt	4,000	1,900	2,100
Metcalf Energy Center*	4,600	0	600
Direct Water Demands	**18,500**	**4,300**	**14,200**
Existing Supplies	(8,000)	0	(8,000)
Supplemental Recharge Demand	1,000	6,000	(5,000)
Water Available from Silver Creek Pipeline	(3,900)	(3,900)	0
Net Remaining Demand	7,600	6,400	1,200
Advanced Treatment Process Loss	2,700	2,700	0
ADDITIONAL SUPPLIES NEEDED	**10,300**	**9,100**	**1,200**

* Recycled water for Metcalf Energy Center (4,000 afy) currently supplied.

Potable Water Augmentation

Under the recommended water supply strategy a direct potable water augmentation of 1,200 afy is needed. Based on the information presented above, this annual volume of water can easily be furnished by sources within the greater San Jose area, including groundwater, regardless of the retailer.

In the event that DHS approval for groundwater reuse in Coyote Valley is not obtained, or it is not feasible to meet DHS requirements for such use, potable water taken from the Santa Clara Sub-basin to augment groundwater recharge in Coyote Valley could potentially be replenished using recycled recharge in the Santa Clara Sub-basin, which is much larger than and hydrogeologically distinct from the Coyote Valley Sub-basin, among other viable water supply sources described elsewhere in this document.

Water Conservation Measures to Reduce Potable Water Demand

The alternatives described above seek to add to the supply of water within the CVSP. Another approach is to decrease the water demand of the CVSP to minimize the need for supplemental water deliveries. Water demand projections for this project are derived with unit factors from the District and other agencies; these factors are based on water conservation measures and methods currently required by City ordinance. However, for residential and industrial indoor use, unit factors could be further reduced through additional water conservation and efficient water use such as high efficiency fixtures (e.g. high-efficiency toilets and washing machines) and metering or sub-metering for individual residential units. Outdoor water use could be reduced by measures such as high-efficiency irrigation controllers and expanded use of climate appropriate native plantings.

It is expected that water conservation and efficiency methods and devices will continue to be developed and upgraded between now and construction of the CVSP elements. The total water demand of CVSP may be decreased by utilizing the most up to date water conservation and efficiency technologies that exist at the time of detailed development design and construction. A required 1,200 afy augmentation represents about eight percent of total projected ultimate potable water demands in Coyote Valley. It is not unreasonable to believe that water conservation savings could close a significant portion of this gap.

Potential Expansion of South Bay Recycled Water Program Deliveries

The South Bay Water Recycling Program (SBWRP) delivers water from the San José/Santa Clara Water Pollution Control Plant (SJ/SC WPCP) to users of recycled water throughout the County. The District has an agreement to receive up to 5,600 afy of recycled water from the Silver Creek Pipeline in addition to recycled water already delivered to the Metcalf Energy Center (MEC). The SBWRP indicates that it could feasibly provide additional recycled water (beyond the 5,600 afy) to meet CVSP needs with the creation of infrastructure to deliver additional water to the Plan Area; i.e. additional pipelines, storage, and pumping facilities from the SBWRP system to the Plan Area. Detailed plans for new infrastructure are unavailable, as there are several alternatives for tapping into the existing SBWRP system.

Currently, the SJ/SC WPCP has a recycled water delivery capacity of about 24,000 afy (21.1 mgd)[39] serving a demand of 6,300 afy including MEC, leaving a surplus supply of 17,700 afy.[40] This capacity is limited only by delivery infrastructure as the WPCP currently treats all of its inflow (120 mgd in 2005)[41] to tertiary standards. Projected County-wide 2030 recycled water demands from the SJ/SC WPCP are 22,700 afy.[42] (The UWMP does not specify how much

[39] NPDES Discharge Permit No. CA0037842
[40] UWMP, Table 3-8, Page 43
[41] UWMP, Table 3-7, Page 41
[42] UWMP, Table 3-9, Page 48

CVSP recycled water use has been included in the 22,700 afy.) Based on existing system flows and capacities, CVSP's recycled water needs (14,700 afy) could potentially be met through existing tertiary treated wastewater from the SJ/SC WPCP, via new delivery and storage infrastructure, with no impacts to existing customers including the MEC. Since the UWMP does not specifically allocate future recycled water supplies, however, additional delivery facilities may be required to satisfy the future combined demands of CVSP and other recycled water customers. As mentioned previously, this water would need to undergo advanced treatment prior to any uses which may allow infiltration to the groundwater sub-basin.

In terms of an available water supply, however, this source is practically limitless relative to the demands on that supply. Currently 120 mgd (134,000 afy) of tertiary treated water could be made available to customers with appropriate distribution infrastructure. Even allowing for some appropriate minimum environmental discharge to San Francisco Bay, demand for this water will likely not approach the potential supply, particularly since inflows will increase with population growth. The City of San Jose has expressed a general desire to maximize the use of recycled water from the SJ/SC WPCP, with additional infrastructure if needed.[43]

Figure 12 shows a schematic of the infrastructure required to utilize this supply of non-potable augmentation water. As discussed previously, inherent to this alternative is the construction of an advanced treatment facility to treat any SBWRP supplies that are utilized for groundwater recharge, irrigation, or any use which allows infiltration of the recycled water into the Coyote Groundwater Sub-basin.

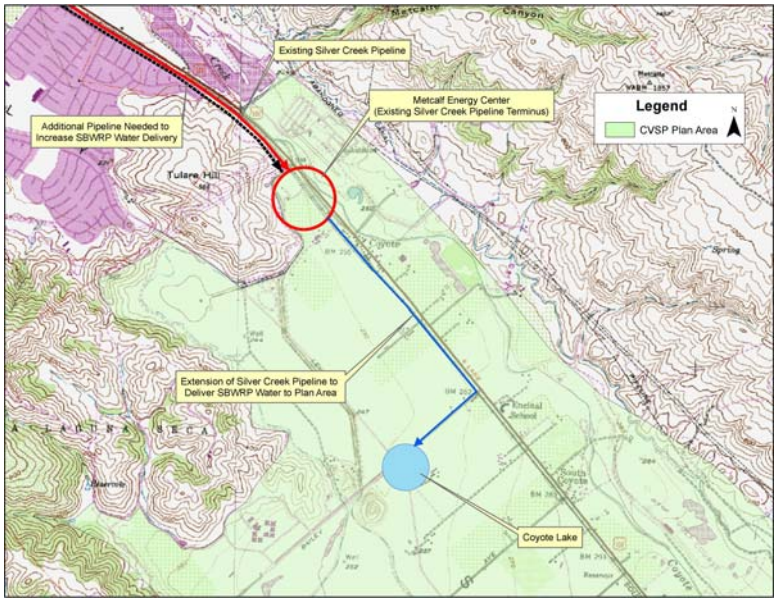

Figure 12: Expansion of SBWRP Delivery and Silver Creek Pipeline to Coyote Lake

[43] Bob Wilson, City of San Jose MWD, personal communication, November 17, 2006.

Obtaining Recycled Water from South County Regional Wastewater Authority

The South County Wastewater Treatment Plant (SCWTP) is operated by the South County Regional Wastewater Authority (SCRWA), a joint powers authority overseen by the cities of Morgan Hill and Gilroy. As of 2006, the SCWTP has a tertiary treatment capacity of about 10,000 afy, a recycled water demand to meet of 600 afy (as of 2004), and an average dry weather inflow to the SCWTP of about 7,300 afy in 2005.[44] Additional local pumping capacity, chlorination, and storage are required to fully utilize the system's tertiary treatment capacity.[45] The District acts as the wholesaler for SCRWA recycled water. The projected County-wide 2030 recycled water demand for SCRWA water is 3,200 afy.[46] Although specific users within the County are not outlined in the District UWMP, the CVSP is not identified as a potential recycled water user by the South County Recycled Water Master Plan.[47] Based on conversations with District staff, about 1,100 afy of tertiary treated water is used on-site at the SCWTP.[48]

The ultimate District and SCRWA goal is to recycle as much of the discharge from the SCWTP as possible.[49] Based on this goal and the above values, there are currently 5,600 afy of excess recycled water available from the SCRWA (dry weather inflow minus existing and onsite recycled water demand). However, it is expected that influent to the SCWTP will increase to about 14,300 afy by 2030.[50] SCRWA intends to increase tertiary treatment capacity as demand for recycled water increases,[51] so it is feasible that the SCWTP could provide up to 14,300 afy in tertiary treatment capacity, less any treatment losses.

Based on the 10,000 afy existing capacity described above, and projected wastewater treatment inflows and recycled water demands, there will be about 5,700 afy of excess recycled water available in the future (existing tertiary capacity minus existing and 2030 recycled water demands). If tertiary treatment is added to the existing capacity, this net available excess ultimate supply will be increased to up to about 10,000 afy.

In order to utilize any recycled water from the SCWRA, infrastructure connecting the existing SCWRA system to the CVSP Plan Area would need to be constructed. There are currently no pipelines from the SCWTP north of Gilroy, and the required pipe length would be about 14 miles. Additionally, construction of this new pipeline has the advantage of increasing the availability of recycled water for all users between the SCRWA plant and Coyote Valley.

[44] UWMP, Page 44
[45] South County Recycled Water Master Plan, p. 3-1
[46] UWMP, Table 3-9
[47] South County Recycled Water Master Plan, Figure 2.1A
[48] Tracy Hemmeter, SCVWD, personal communication, November 17, 2006.
[49] South County Recycled Water Master Plan, p. 1-3
[50] 12.75 mgd, Meeting with District Staff November 17th, 2006
[51] South County Recycled Water Master Plan, p. 1-5

This may present additional cost sharing opportunities. Figure 13 shows a schematic view of this alternative.

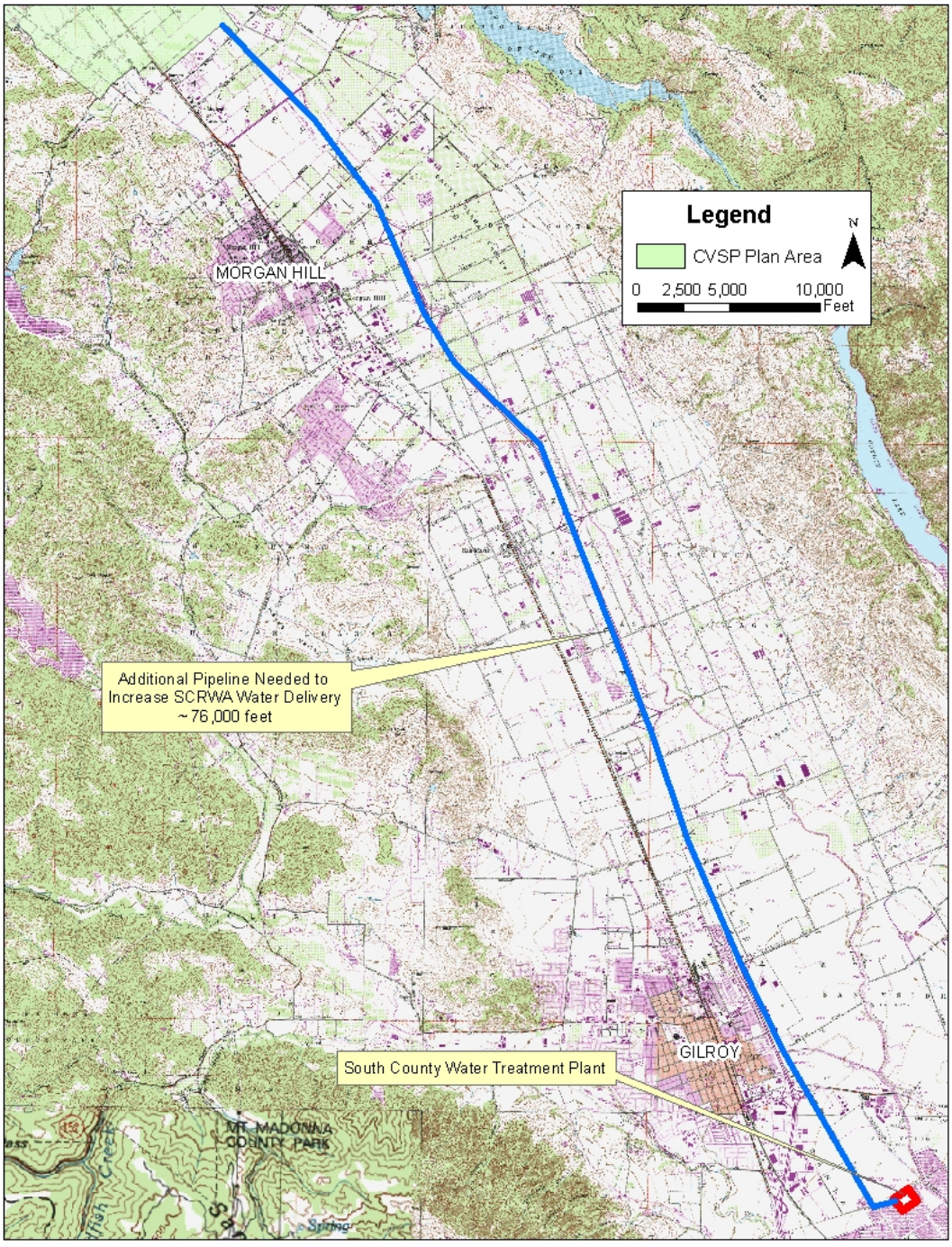

Figure 13: Conceptual Delivery Infrastructure from SCWTP to CVSP Plan Area

Summary of Recommended Water Supply Strategy

New infrastructure is needed to deliver and appropriately treat additional recycled water to the CVSP Plan Area to augment the current 8,000 afy groundwater supply with 6,000 afy of indirect potable groundwater recharge use, as well as the CVSP non-potable demand of 4,300 afy. Currently, the SBRWP has the infrastructure, capacity, and influent to deliver 24,000 afy of recycled water to its service area, including 4,000 afy for the Metcalf Energy Center in Coyote Valley, and an additional 5,600 afy at the end of the Silver Creek Pipeline through an agreement with the Santa Clara Valley Water District. Beyond this 9,600 afy of Coyote Valley delivery capacity, the system must also satisfy existing demands of 2,300 afy. The total recycled water supply available to CVSP for advanced treatment is currently 17,700 afy, realizing that the CVSP may compete with other future customers for this supply.

The SCWRA currently has the treatment capacity to produce 10,000 afy of recycled water (with some on site improvements), but the influent to produce only 7,300 afy. As of 2004, there was a recycled water demand of 600 afy for the SCWTP, as well as an on site demand of 1,100 afy. It is feasible that both the influent and tertiary treatment capacity will be increased to 14,300 afy by the year 2030. Of this, 3,200 afy is projected to be used by non-CVSP demands by 2030, not including on site demands. Thus, the existing excess recycled water supply of SCWRA is 5,600 afy, with a potential to increase to 10,000 afy by 2030.

Within five years, a total recycled water supply of roughly 28,000 afy could be available to CVSP from San Jose and Gilroy, or three times the annual amount needed to augment projected build-out water supply requirements in Coyote Valley, thereby lending credence to the assumption that other potential recycled water customers in San Jose, Morgan Hill, and Gilroy could be satisfied. Based on these projections, this Water Supply Evaluation concludes that there is sufficient existing tertiary treated water available either solely from the SBWRP, or from a combination of SCRWA and the SBWRP to meet the CVSP recycled water demand if that water is treated to the satisfaction of the SCVWD. The selection and determination of the recycled water source(s) will depend on a variety of factors, including infrastructure alternatives, cost projections and sharing opportunities, and consistency with the long-term recycled water goals and policies of the City of San Jose, Santa Clara Valley Water District, and South County Water Recycling Agency.

Through the maximum use of advanced treated recycled water, the remaining excess potable water demand is reduced to 1,200 acre-feet per year. This supply can be furnished from the Santa Clara Groundwater Sub-basin as identified previously, and is fully accounted for in the UWMP.

Figure 14 presents a schematic that illustrates this recommended supply strategy.

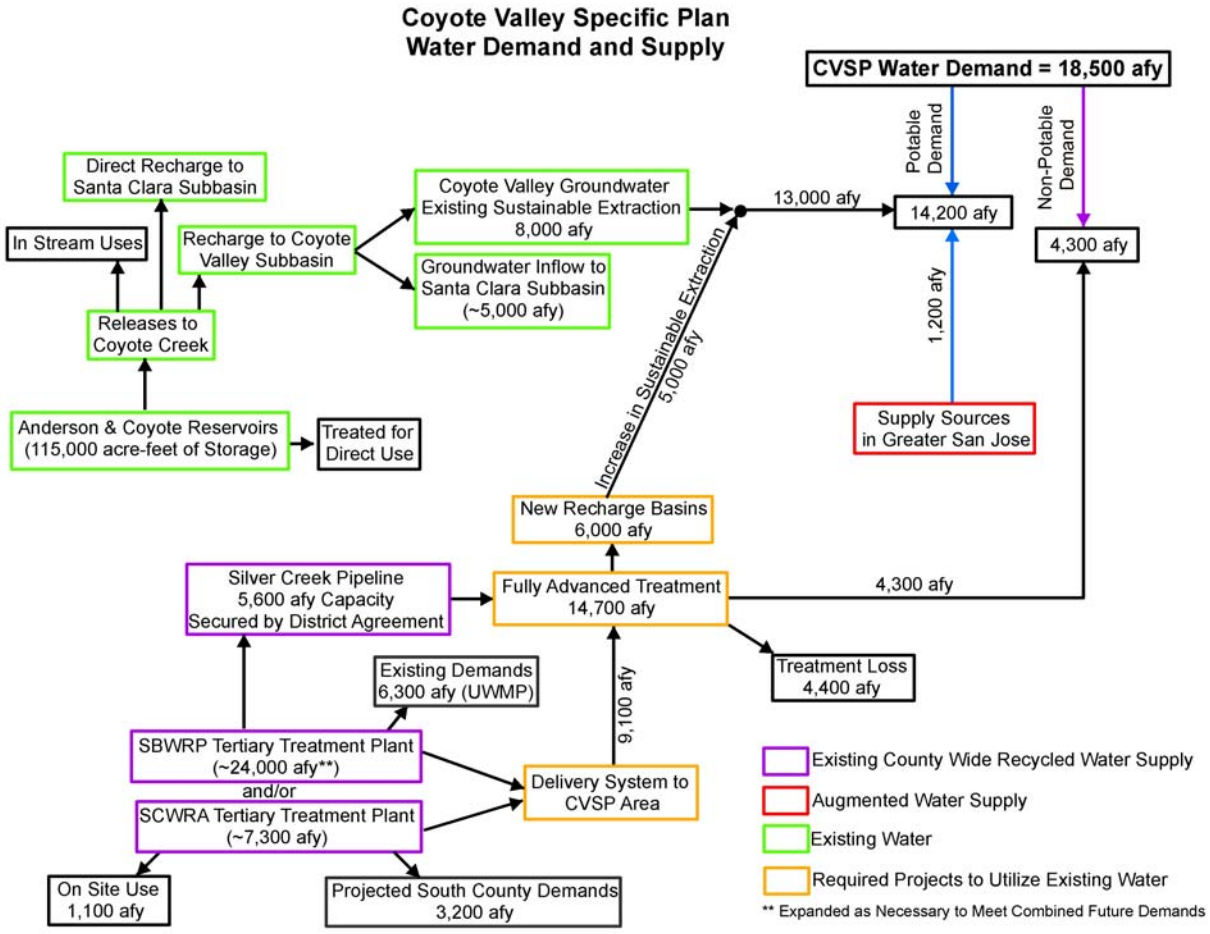

Figure 14: Recommended Water Supply Strategy for Coyote Valley

SUMMARY

Build-out water demands for the CVSP are projected to total 18,500 acre-feet per year, excluding recycled water already supplied to the Metcalf Energy Center. The Santa Clara Valley Water District's 2005 Urban Water Management Plan (UWMP) includes the build-out CVSP demand and concludes that with water conservation savings and additional infrastructure, projected County-wide demand (including Coyote Valley) can be satisfied through 2030.

Three water retailers, the City of San Jose Municipal Water System, Great Oaks Water Company, and San Jose Water Company have expressed interest in serving customers within the CVSP and have prepared SB610 Water Supply Assessments (WSA). Each of the retailers concludes that they will have access to an adequate supply of water to meet build-out demand for the entirety of CVSP in conjunction with the projected demand through 2030 from the remainder of their respective service areas. Each retailer proposes to deliver water from the greater San Jose area into Coyote Valley as necessary to make up for any shortfalls in local groundwater supplies.

Existing groundwater supplies in Coyote Valley can meet 8,000 afy of the 18,500 afy build-out demand in a sustainable fashion. To maximize this existing resource, an estimated demand of 4,300 afy has been identified as potentially non-potable, leaving a potable demand of 14,200 afy. After reviewing the UWMP and each retailer's WSA, District Board policy with respect to the preference for local water supplies over imported water supplies, and the City's stated goal of the CVSP as a model project with innovative solutions, this Water Supply Evaluation recommends the following water supply master plan for Coyote Valley through build-out:

1. With the application of 6,000 afy of supplemental groundwater recharge in Coyote Valley, up to 13,000 afy of potable water may be pumped from the Coyote Valley Groundwater Sub-basin with no adverse effects in a multi-year drought.
2. The SCVWD has an agreement with the South Bay Water Recycling Program to purchase 5,600 afy of additional recycled water at the end of the existing Silver Creek Pipeline. To account for operational peaking factors, local storage facilities will be needed to harness this complete volume, and the lake feature of the CVSP is a potential storage site. Any recycled water applied to the ground will require full advanced treatment including reverse osmosis and ultraviolet disinfection, and compliance with all state mandated regulations. (Further study is required to evaluate the feasibility of said compliance.)
3. The advanced treatment process results in a loss of roughly 30 percent of the incoming water supply. Given this loss, contracted recycled water from the Silver Creek Pipeline can furnish roughly 90 percent of ultimate direct non-potable demand from the CVSP.

4. Potable water is not required for groundwater recharge, and by supplying another 9,100 afy of recycled water for advanced treatment, the use of recycled water for direct non-potable demands and indirect potable groundwater recharge can be maximized. A remaining need for 1,200 afy of potable water to be delivered to the Plan Area can be addressed through several alternative methods including:
    a. Delivery of treated surface water or groundwater from the Santa Clara Valley Sub-basin (delivery facilities presently exist);
    b. Direct use of treated water from the Santa Teresa Water Treatment Plant and other sources in greater San Jose; and/or
    c. Aggressive water conservation to minimize the need for off-site water deliveries.

There is sufficient recycled water between the South Bay Recycled Water Program and the South County Water Recycling Agency to provide CVSP's direct non-potable and indirect potable water demands with appropriate infrastructure and treatment. The use of recycled water should be maximized, because it represents a robust supply that is locally controlled and largely uninterruptible.

However some measure of supply redundancy is desirable in case meeting State requirements for groundwater recharge reuse in Coyote Valley is not feasible. When analyzing the redundancy of water supplies, a County-wide scope is appropriate, as water supply throughout Santa Clara County is integrated, and as such the demands specific to the CVSP are also integrated into County-wide demands. The Santa Clara Valley Water District 2005 Urban Water Management Plan has included the Coyote Valley Specific Plan water demands in its future water demand projections. The UWMP concludes that water supply will be able to meet projected water demands through 2030 for normal, single dry, and multiple dry years through a combination of:

- The implementation of the District's "No Regrets" portfolio;
- Water conservation; and
- Significant investment to preserve and protect existing supplies while developing new supplies.

The District's 2003 Integrated Water Resource Plan Study is due to be updated in 2008, although the timing for the update depends on the completion of other planning efforts. The next definite planning update is the 2010 UWMP. This update will include the identification of some of the specific investments needed to protect existing and develop new water supplies. Further investigation of the associated costs and economic feasibility for the each of the proposed alternatives is underway, and working closely with the District, the City of San José will select a preferred alternative, or a combination of alternatives, as the CVSP process moves forward.

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APPENDIX A: COYOTE VALLEY WATER SUPPLY ASSESSMENT PREPARED BY CITY OF SAN JOSÉ MUNICIPAL WATER SYSTEM

APPENDIX B: COYOTE VALLEY WATER SUPPLY ASSESSMENT PREPARED BY GREAT OAKS WATER COMPANY

APPENDIX C: COYOTE VALLEY WATER SUPPLY ASSESSMENT PREPARED BY San Jose Water Company

APPENDIX D: GROUNDWATER BASIN INFORMATION

APPENDIX E: SANTA CLARA VALLEY WATER DISTRICT WATER SUPPLY AVAILABILITY ASSESSMENT FOR CVSP