



Yucaipa Valley Water District

12770 Second Street, Yucaipa, California 92399

Water Supply Assessment and Written  
Verification of Supply for the  
Interstate 10 Freeway Corridor Specific Plan

February 20, 2007

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## 1.0 Introduction and Purpose of Report

### 1.1 Purpose of the Water Supply Assessment

This Water Supply Assessment (WSA) describes the relationship between projected water demands on the Yucaipa Valley Water District's water supply and the availability of that supply under normal and dry years.

On October 9, 2001 Governor Gray Davis signed into law Senate Bills 610 (Costa) and 221 (Kuehl) that require a water supply assessment in conjunction with development project reviews under the California Environmental Quality Act (CEQA), and a written verification of water supply where a development is proposed for approval. This water supply assessment and written verification of supply will serve to assist the Board of Directors in making decisions related to water supply over a twenty year period and clearly communicate the water supply availability to the land use officials of the City of Yucaipa for consideration as part of an environmental evaluation.

Just like an individual's financial investment portfolio, the District implements a diversified portfolio of available water resources as a strategy to maintain a reliable water supply for existing and future customers. Specifically, the District has access to a wide variety of the water supplies to meet existing and future water demands:

- ▶ Unadjudicated Ground Water Supplies
  - Crafton Subbasin
  - Gateway Subbasin
  - Triple Falls Subbasin
  - Oak Glen Subbasin
  - Wilson Creek Subbasin
  - Calimesa Subbasin
  - Singleton Canyon Subbasin
  - San Timoteo Subbasin
  - Western Heights Subbasin
  - Wildwood Subbasin
- ▶ Adjudicated Groundwater Supplies
  - Beaumont Storage Unit
- ▶ Surface Water Supplies
  - Oak Glen Surface Water
- ▶ Supplemental Water Supplies – Direct Delivery
  - Yucaipa Valley Regional Water Filtration Facility
    - Yucaipa Source - San Bernardino Valley Municipal Water District
    - Calimesa Source - San Gorgonio Pass Water Agency
- ▶ Recycled Water Supplies
  - Henry N. Wochholz Regional Water Recycling Facility
- ▶ Non-Potable Water Supplies
  - Groundwater sources not suitable for drinking water
  - Yucaipa Source - San Bernardino Valley Municipal Water District

- Calimesa Source - San Geronio Pass Water Agency

## 1.2 Scope of Analysis

This Water Supply Assessment includes a review of the District's water supplies for existing and future development as described in the District's Master Plan which is based on the General Plans of the City of Yucaipa and the City of Calimesa. Since the projected water demands created by the Interstate 10 Freeway Corridor Specific Plan are not entirely included in the District's Water Master Plan and Urban Water Management Plan, the District extrapolated the projected water demands to determine the overall availability of our water supply to meet the project specific water demands in normal, single dry and multiple dry years.

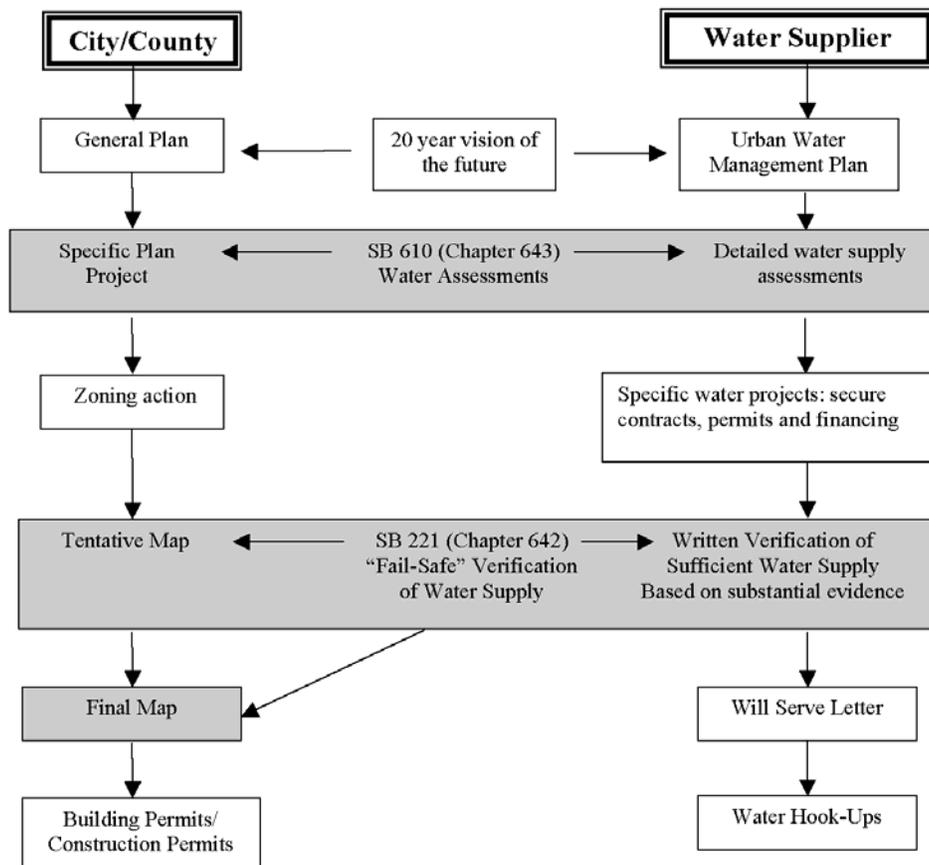
The Yucaipa Valley Water District Board of Directors are scheduled to consider this Water Supply Assessment on February 7, 2007 whereby after hearing all testimony and evidence presented, may determine whether projected water supplies will be sufficient to satisfy the demands of the proposed Interstate 10 Freeway Corridor Specific Plan, in addition to existing and planned future uses. If approved, the District staff will forward a copy of the final Water Supply Assessment to the City of Yucaipa for inclusion as part of the environmental documents prepared for the Interstate 10 Freeway Corridor Specific Plan pursuant to the California Environmental Quality Act.



## 2.0 Requirements of Senate Bill 221 and Senate Bill 610

The general intent of Senate Bill 221 and Senate Bill 610 was to create additional assurance that certain new developments could be provided a reliable supply of water and that the effect of certain new developments upon existing water users both within the service area of the public water provider and those dependent on common sources of water were informed regarding the proposed water use, its impacts and plans to maintain reliable supplies. The legislation also serves to better inform decision makers regarding the water supply implications of development addressed by the measures.

The following chart illustrates the relationship between a local land use agency and the water supplier in their planning processes. The General Plan, prepared by a city or county planning department, and the Urban Water Management Plan prepared by a water supplier are the critical source documents used to substantiate the information required by Senate Bill 221 and Senate Bill 610 at the local level.

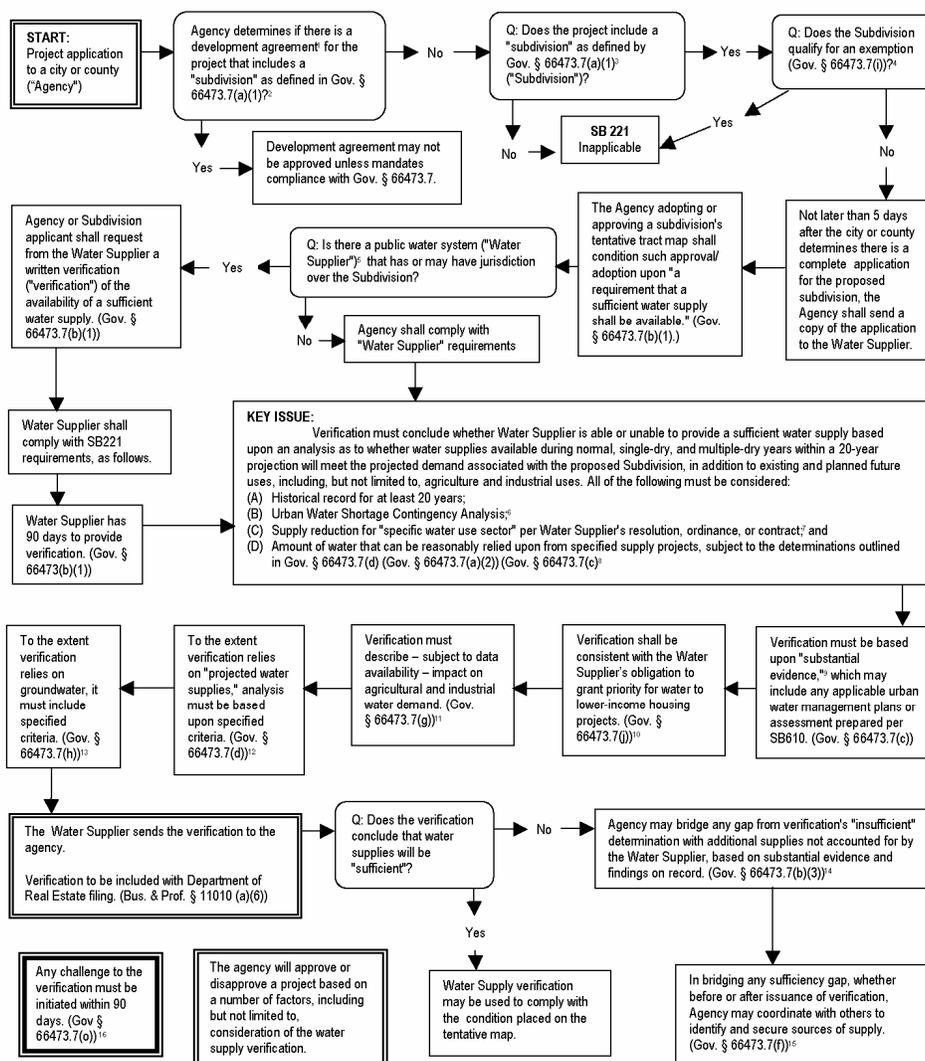


Source: Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, California Department of Water Resources, October 8, 2003, page v.

## 2.1 Senate Bill 221

Senate Bill 221 creates a specific requirement for a written verification that a sufficient supply of water exists for any residential developments of 500 or greater units as a condition of approval of a tentative tract or parcel map. Local land use approval authorities may not approve such maps if a sufficient supply cannot be demonstrated. Under the statute, a sufficient supply is defined as the total water supply available during normal, single dry and multiple dry years within a 20- year projection that will meet the water suppliers existing and planned future uses (Government Code 66473.7(a)(2). This does not mean that 100 percent of the development's unrestricted water demand must be met 100 percent of the time, nor does it mean the new development may not have any impact on the service level of existing customers. A "sufficient water supply" may be found to exist for a proposed subdivision and for existing customers, even where a drought-induced shortage will be known to occur, as long as a minimum water supply can be estimated and planned for during a record drought (ACWA, 2002).

SB 221 Flowchart

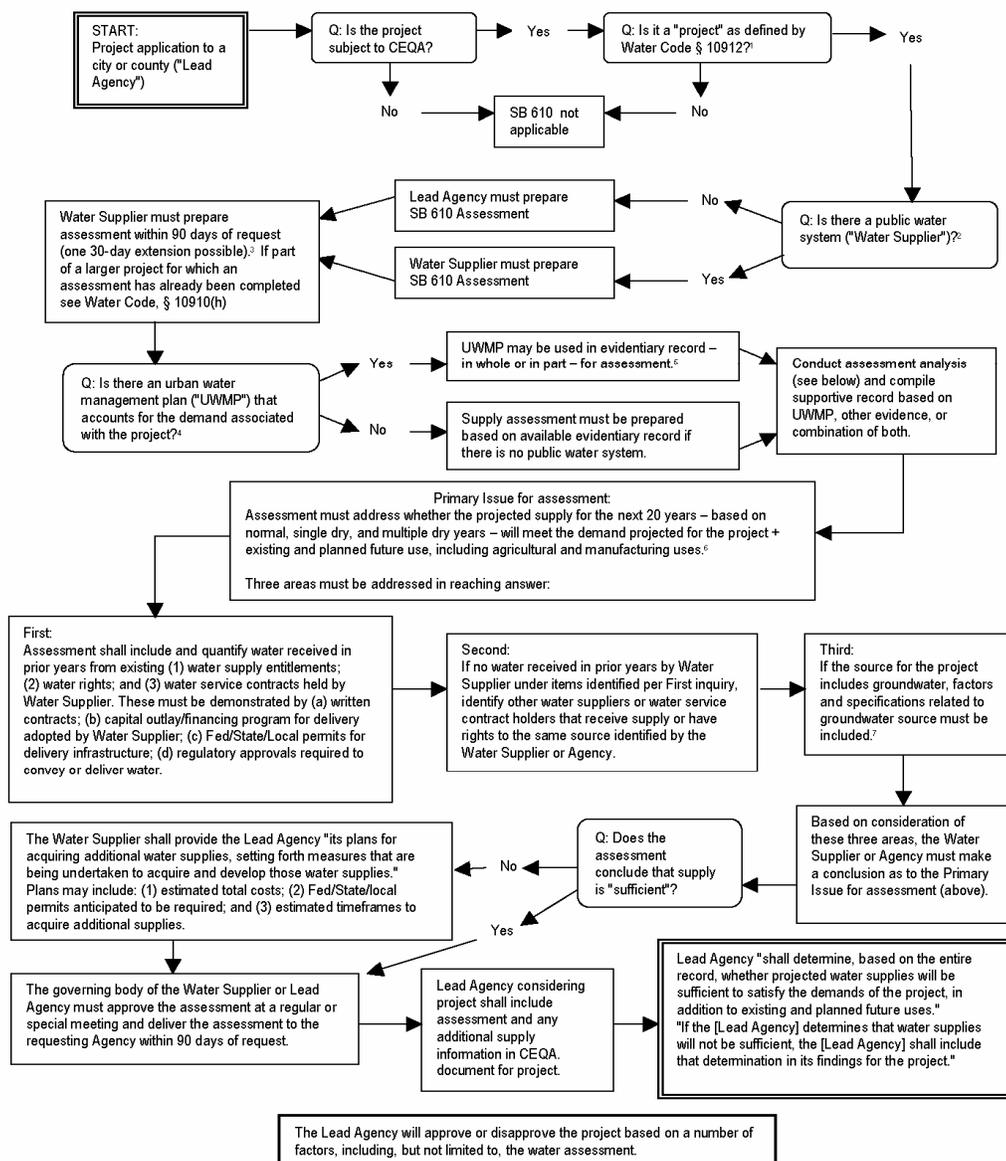


Source: Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, California Department of Water Resources, October 8, 2003, page viii (chart courtesy of the Building Industry Legal Defense Foundation).

## 2.2 Senate Bill 610

Senate Bill 610 (Costa) became effective January 1, 2002. The stated intent of SB 610 is to strengthen the process by which local agencies determine the adequacy and sufficiency of current and future water supplies to meet current and future demands. SB 610 amended the California Public Resources Code to incorporate Water Code findings within the CEQA process for certain types of project, amended the Water Code to broaden the types of information included in Urban Water Management Plans ((UWMP) – Water Code Section 10620 et. seq.) and added to Water Code Part 2.10 Water Supply Planning to Support Existing and Planned Future Uses (Section 10910 et. seq.). Part 2.10 clarifies the roles and responsibilities of the Lead Agency under CEQA and the “water supplier” with respect to describing current and future supplies compared to current and future demands.

### SB 610 Flowchart



Source: Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, California Department of Water Resources, October 8, 2003, page vi (chart courtesy of the Building Industry Legal Defense Foundation).

Overall, Senate Bill 610 requires that a water supply assessment be prepared for certain developments, including residential developments in excess of 500 units, where an environmental impact report or negative declaration is being prepared under CEQA. The requirement is one that adds a specific water supply assessment protocol for land use jurisdictions to follow and consider in evaluating the environmental impacts for a proposed project. The Water Supply Assessment must be included in any CEQA document prepared for the project. For the Interstate 10 Freeway Corridor Specific Plan, the City of Yucaipa must determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

### **3.0 The Urban Water Management Act**

The Urban Water Management Planning Act requires municipal water providers serving over 3,000 acre-feet (AF) of water (1 AF = 325,900 gallons) or having at least 3,000 service connections to prepare plans (urban water management plans) on a five-year, ongoing basis demonstrating their continued ability to provide water supplies for current and future expected development under normal, single dry and multiple dry year scenarios. These plans also require the assessment of urban water conservation measures and wastewater recycling, and a water shortage contingency plan, pursuant to Section 10632 of the California Water Code, outlining how the municipal water provider will manage water shortages of up to 50 percent of their normal supplies in a given year.

Like Senate Bill 610 and Senate Bill 221, specific levels of supply reliability are not mandated (i.e., whether a specific level of demand can be met over a designated frequency); rather, the law provides that it is a local policy decision of the water provider as part of the planning process. The Yucaipa Valley Water District's most recent Urban Water Management Plan was adopted in 2005 and describes the reliability of groundwater supplies that the District relies upon.

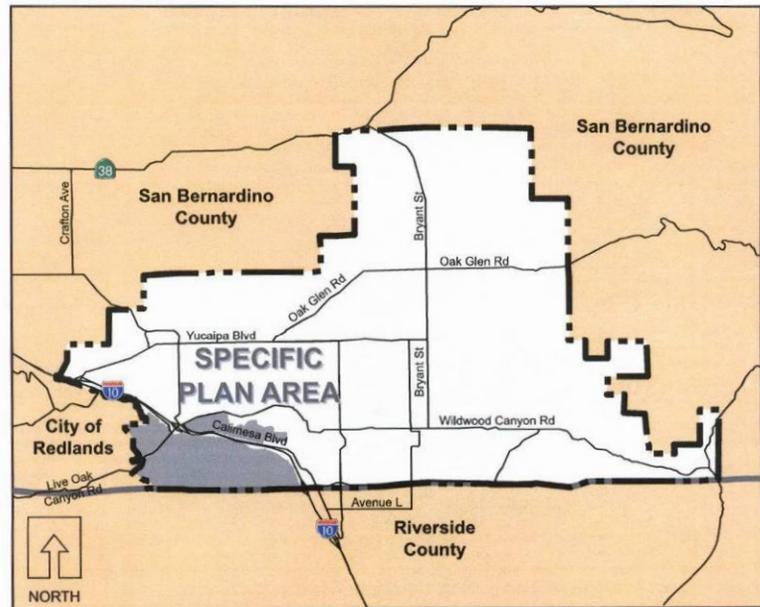
As provided for in the law, this report incorporates by reference and relies upon the planning assumptions and projections of that updated Plan in assessing the water demand of the proposed project relative to the overall increase in demands expected by the District. The Interstate 10 Freeway Corridor Specific Plan is within the District's sphere of influence and was included in the District's Urban Water Management Plan and will continue to be refined as the development process continues to proceed. Overall, the demands for the development have been refined herein based upon a specific water demand projection based upon the most recent proposed land uses of the development.

As discussed above, the Urban Water Management Planning Act requires the supplier to document water supplies available during normal, single dry, and multiple dry water years during a 20-year projection and the existing and projected future water demand during a 20-year projection. The Act requires that the projected supplies and demands be presented in 5-year increments for the 20-year projection. In order to comply with the SB 610 requirements the Water Supply Assessment is based on the information analyzed as part of the District's latest Urban Water Management Plan which, as always, is available for public review.

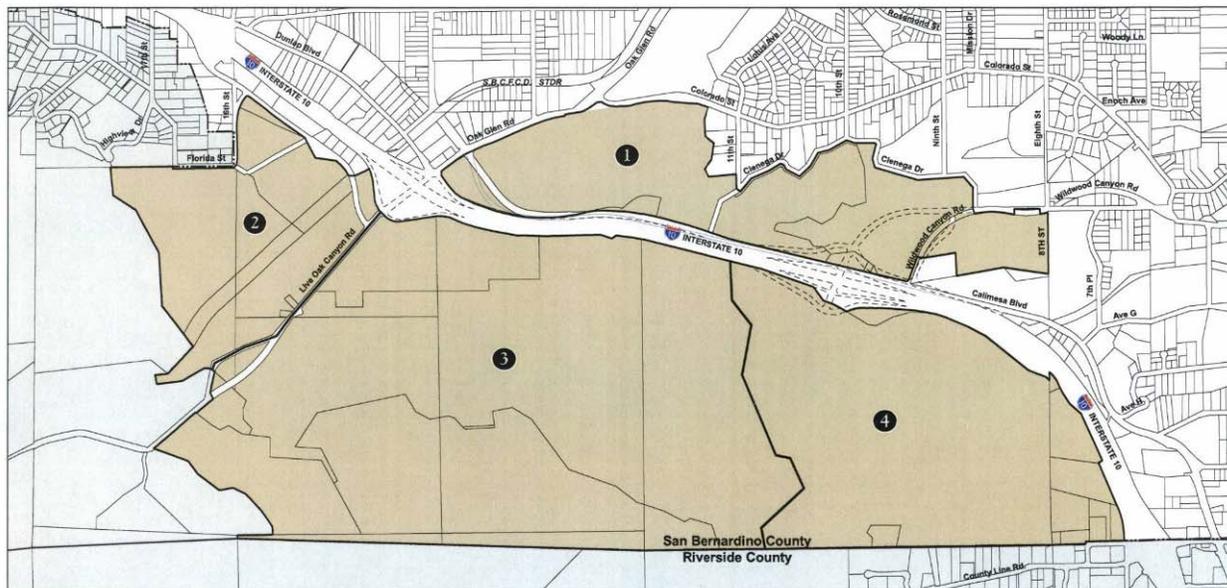
## 4.0 Description of the Interstate 10 Freeway Corridor Specific Plan

The 1,209-acre Freeway Corridor Specific Plan is located in the southwest portion of the City of Yucaipa in San Bernardino County. Currently the area is predominantly agricultural land with a limited number of residences, a wastewater treatment plant, and other minor land uses.

The Specific Plan Area was divided into four distinct areas to establish land use, urban design, and development criteria unique to each area, but integrated as a whole under the proposed specific plan. While the four planning areas do not have an impact on water supply, the following diagram is helpful to better illustrate the boundaries of the study area for this report.



SOURCE: City of Yucaipa, GIS 2005



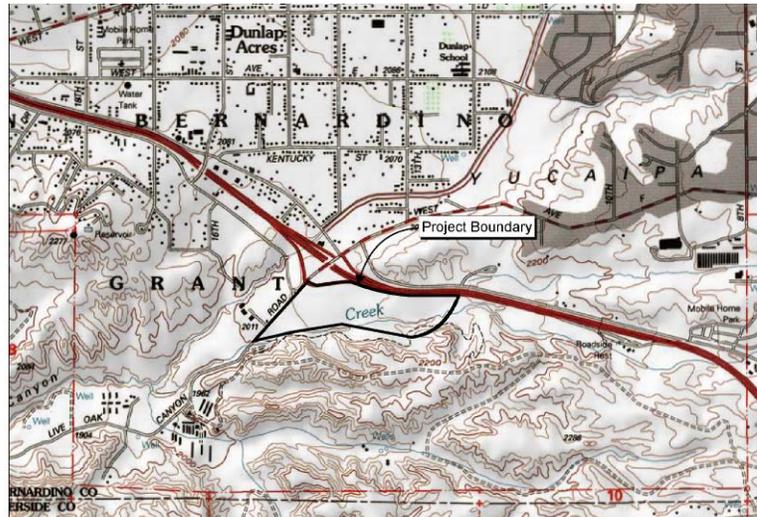
- |                           |                            |
|---------------------------|----------------------------|
| <b>Legend</b>             |                            |
| — Specific Plan Area      | ① Specific Plan District 1 |
| - - - City Boundary       | ② Specific Plan District 2 |
| — County Boundary         | ③ Specific Plan District 3 |
| — Property Lines          | ④ Specific Plan District 4 |
| — Existing Calimesa River |                            |

FIGURE 2  
 FREEWAY CORRIDOR SPECIFIC PLAN

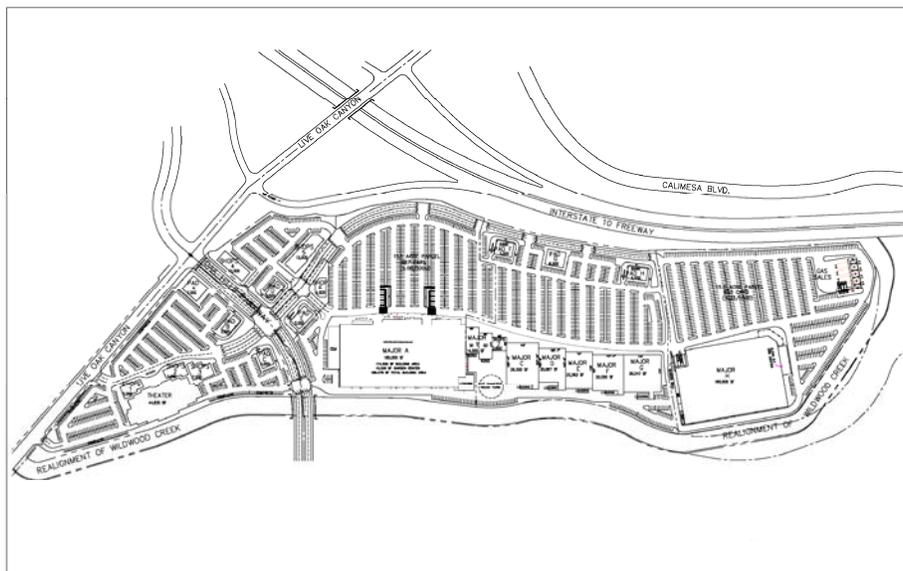
The planning area is owned by twelve different property owners with the largest landowners being the Robinson and Palmer families. The Robinson family owns approximately 46% of the land within the planning area and the Palmer family owns approximately 32% of the land.

#### 4.1 Oak Hills Marketplace

Within the I-10 Corridor Specific Plan, on the southeast corner of Interstate 10 and Live Oak Canyon Road is a proposed 61.33 acre development referred to as the Oak Hills Marketplace. This property is currently used for agricultural purposes as the Live Oak Canyon Tree Farm. The proposed Oak Hills Marketplace project includes a regional shopping center totaling up to 665,000 square feet of building space. The shopping center would include two retail anchor tenants, additional retail and miscellaneous commercial uses, restaurants and a cinema complex. The project includes onsite parking with access via Live Oak Canyon Road. The City's General Plan currently designates the site for Planned Development (commercial use). At present, the project site is used for agricultural activities and seasonal commercial sales, and contains improvements related to such use.



The Oak Hills Marketplace is included within the planning area of the Interstate 10 Specific Plan but has been approved by the City of Yucaipa to proceed independently of the entire specific plan study. Therefore, this water supply assessment has included an independent analysis for this planned development.

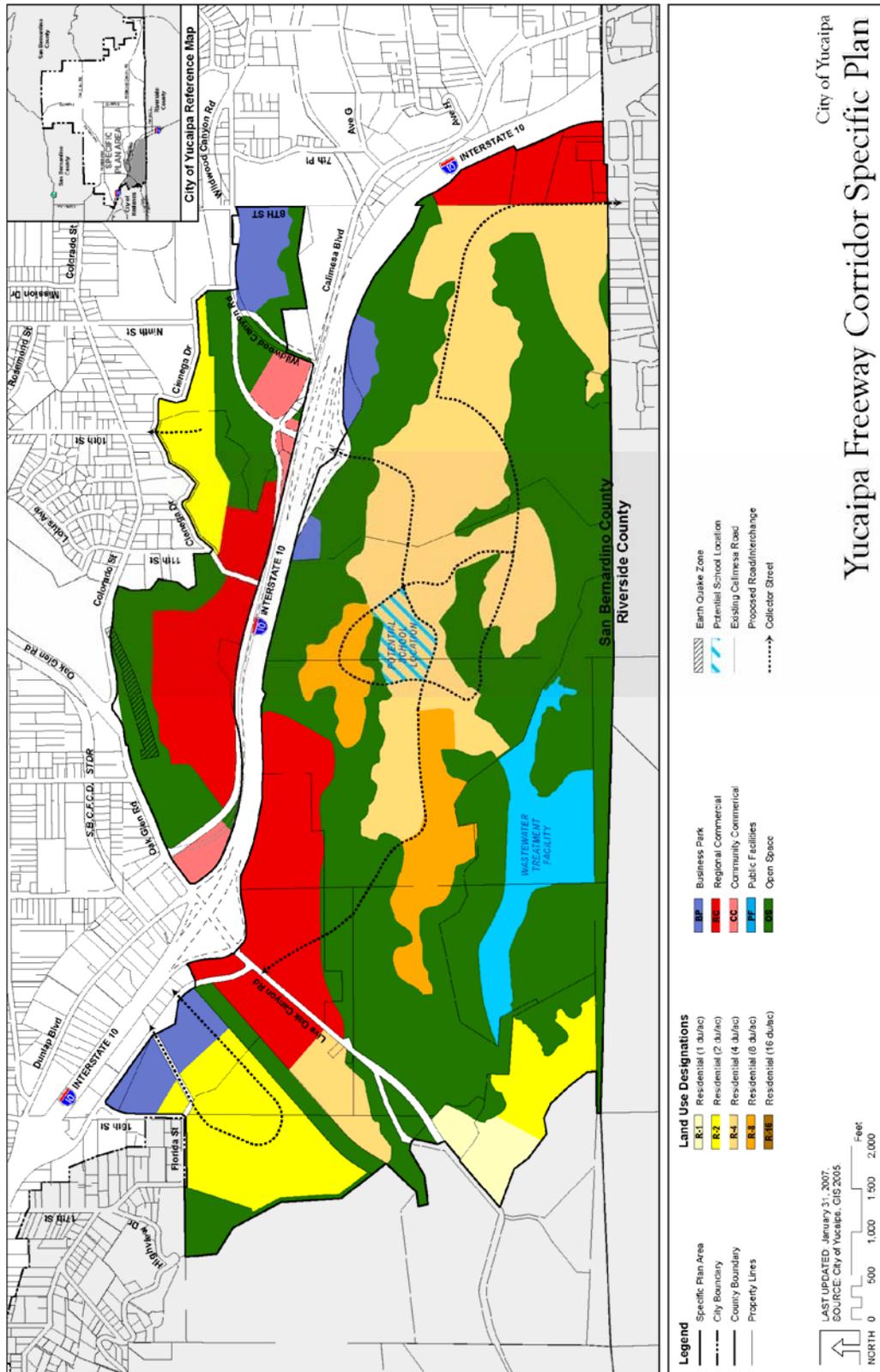


Source: Nadel Retail Architects, LLP.



Exhibit 2.3  
Conceptual Site Plan

OAK HILLS MARKETPLACE - CITY OF YUCAIPA



## 5.0 Water Demand Projections

The Yucaipa Valley Water District has analyzed the proposed project based on bundled water, wastewater and recycled water services to all new development. Bundled services are a critical component in order for the District to make a firm commitment of water over the next two decades. This requirement is further discussed in Section 13.

Overall, the District's water facilities are designed to serve single family, multi-family, commercial and industrial properties. The water required to serve each of the land uses within the proposed project is related to the water required to serve one single family residence, referred to as one Equivalent Dwelling Unit (EDU). Every service connection is assigned an EDU based on meter size and historical consumption data. When meter sizes have not yet been determined, as for the commercial developments, parks, and schools, consumption is based on acreage and historical data for water use per acre. The total consumption per parcel is then converted to EDU's.

Water demand criteria for new development was updated by the Board of Directors and included as the basis for the most recently adopted Water Master Plan. Resolution No. 32-2002 set demand requirements for facility design as follows:

- Average Day Demand (gallons) = (Number of EDU's) x (700 gallons per day per EDU)
- Maximum Day Demand = 200% of Average Day Demand
- Peak Hour Demand = 400% of Average Day Demand

A key component within the 2005 Water Master Plan is the District's commitment to utilizing non-potable water. The Board of Director's have adopted a policy stating "...recycled or other non-potable water be used, for any purpose approved for non-domestic water use, to the maximum extent possible." Use of non-potable water will have the following direct benefits:

- Reduced dependency on high quality ground water;
- Preservation of ground water supplies for potable use;
- Reduced dependency on imported water from Northern California; and
- Reduced operating cost of the Yucaipa Valley Regional Water Filtration Facility.

Based on this policy, the I-10 Corridor Freeway Specific Plan will be utilizing non-potable water (recycled water) to irrigate all greenbelt areas, commercial landscape areas, roadway medians, front yards of individual homes and rear yards of individual homes. The benefits to the development include:

- An additional highly reliable, drought tolerant water source; and
- Reduction in the Yucaipa Valley Regional Water Filtration Facility Development Impact Fees.

Based on analyses of similar dual plumbed water systems in other water agencies, the potable water demand will be reduced by approximately 60% through the use of recycled water. Therefore, potable facilities will generally be sized utilizing the District's design standard of 700 gallons per day per EDU reduced by 60% to 280 gallons per day per residential EDU.

**TABLE I-1  
 YUCAIPA FREEWAY CORRIDOR SPECIFIC PLAN  
 POTABLE WATER DEMAND ANALYSIS**

ZONE	DEVELOPMENT TYPE	AREA (AC)	EDU'S PER AC	MAX EDU'S	ADD (GPM)	MDD (GPM)	PK HR (GPM)	FIREFLOW* (GPM)
ZONE 9	R-1	15.90	1.00	16	5	10	20	1,500
	R-2	76.40	2.00	153	45	90	180	1,500
	R-4	16.80	4.00	67	13	26	52	1,500
	R-8	0.00	8.00	0	0	0	0	1,500
	School	0.00	2.85	0	0	0	0	3,000
	BP	12.00	2.85	34	13	26	52	3,000
	RC	30.20	2.85	86	33	66	132	3,000
	CC	0.00	2.85	0	0	0	0	3,000
	OS	NA						
<b>ZONE 9 TOTAL</b>		151.30		356	109	218	436	
ZONE 10	R-1	0.00	1.00	0	0	0	0	1,500
	R-2	5.50	2.00	11	3	6	12	1,500
	R-4	19.20	4.00	77	15	30	60	1,500
	R-8	27.30	8.00	218	42	84	168	1,500
	School	0.00	2.85	0	0	0	0	3,000
	BP	9.20	2.85	26	10	20	40	3,000
	RC	105.00	2.85	299	116	232	464	3,000
	CC	5.30	2.85	15	6	12	24	3,000
	OS	NA						
<b>ZONE 10 TOTAL</b>		171.50		647	192	384	768	
ZONE 11	R-1	0.00	1.00	0	0	0	0	1,500
	R-2	21.20	2.00	42	12	24	48	1,500
	R-4	152.30	4.00	609	118	236	472	1,500
	R-8	23.50	8.00	188	37	74	148	1,500
	School	12.00	2.85	34	10	20	40	3,000
	BP	15.90	2.85	45	18	36	72	3,000
	RC	3.70	2.85	11	4	8	16	3,000
	CC	10.30	2.85	29	11	22	44	3,000
	OS	NA						
<b>ZONE 11 TOTAL</b>		238.90		959	210	420	840	
ZONE 12	R-1	0.00	1.00	0	0	0	0	1,500
	R-2	0.00	2.00	0	0	0	0	1,500
	R-4	32.40	4.00	130	25	50	100	1,500
	R-8	0.00	8.00	0	0	0	0	1,500
	School	0.00	2.85	0	0	0	0	3,000
	BP	6.80	2.85	19	8	16	32	3,000
	RC	25.70	2.85	73	28	56	112	3,000
	CC	0.00	2.85	0	0	0	0	3,000
	OS	NA						
<b>ZONE 12 TOTAL</b>		64.90		222	61	122	244	
<b>YUCAIPA FREEWAY CORRIDOR TOTAL</b>				<b>2184</b>	<b>572</b>	<b>1144</b>	<b>2288</b>	

Average Day Demand for R-1, R-2, and Schools based on a total consumption rate of 1400 gallons per day per EDU with 30% being potable.  
 Average Day Demand for R-4, and R-8 based on a total consumption rate of 700 gallons per day per EDU with 40% being potable.  
 Average Day Demand for BP, RC, and CC based on a total consumption rate of 700 gallons per day per EDU with 80% being potable.

Maximum Day Demand equal to twice the Average Day Demand.  
 Peak Hour Demand equal to twice the Maximum Day Demand

\*Fireflow shown is minimum YVWD standard. Local Fire Agency may require higher.

Based on analyses of similar dual plumbed water systems in other water agencies, the non-potable water demand make up approximately 60% of the total residential water demand. Therefore, non-potable facilities will generally be sized at 420 gallons per day per residential EDU.

**TABLE II-1  
 YUCAIPA FREEWAY CORRIDOR SPECIFIC PLAN  
 NON-POTABLE WATER DEMAND ANALYSIS**

ZONE	DEVELOPMENT TYPE	AREA (AC)	EDU'S PER AC	MAX EDU'S	ADD (GPM)	MDD (GPM)	PK HR (GPM)
ZONE 9	R-1	15.90	1.00	16	11	28	66
	R-2	76.40	2.00	153	104	260	624
	R-4	16.80	4.00	67	20	50	120
	R-8	0.00	8.00	0	0	0	0
	School	0.00	2.85	0	0	0	0
	BP	12.00	2.85	34	3	8	18
	RC	30.20	2.85	86	8	20	48
	CC	0.00	2.85	0	0	0	0
	OS	NA					
<b>ZONE 9 TOTAL</b>		<b>151.30</b>		<b>356</b>	<b>146</b>	<b>365</b>	<b>876</b>
ZONE 10	R-1	0.00	1.00	0	0	0	0
	R-2	5.50	2.00	11	7	18	42
	R-4	19.20	4.00	77	22	55	132
	R-8	27.30	8.00	218	64	160	384
	School	0.00	2.85	0	0	0	0
	BP	9.20	2.85	26	3	8	18
	RC	105.00	2.85	299	29	73	174
	CC	5.30	2.85	15	1	3	6
	OS	NA					
<b>ZONE 10 TOTAL</b>		<b>171.50</b>		<b>647</b>	<b>126</b>	<b>315</b>	<b>756</b>
ZONE 11	R-1	0.00	1.00	0	0	0	0
	R-2	21.20	2.00	42	29	73	174
	R-4	152.30	4.00	609	178	445	1068
	R-8	23.50	8.00	188	55	138	330
	School	12.00	2.85	34	23	58	138
	BP	15.90	2.85	45	4	10	24
	RC	3.70	2.85	11	1	3	6
	CC	10.30	2.85	29	3	8	18
	OS	NA					
<b>ZONE 11 TOTAL</b>		<b>238.90</b>		<b>959</b>	<b>293</b>	<b>733</b>	<b>1,758</b>
ZONE 12	R-1	0.00	1.00	0	0	0	0
	R-2	0.00	2.00	0	0	0	0
	R-4	32.40	4.00	130	38	95	228
	R-8	0.00	8.00	0	0	0	0
	School	0.00	2.85	0	0	0	0
	BP	6.80	2.85	19	2	5	12
	RC	25.70	2.85	73	7	18	42
	CC	0.00	2.85	0	0	0	0
	OS	NA					
<b>ZONE 12 TOTAL</b>		<b>64.90</b>		<b>222</b>	<b>47</b>	<b>118</b>	<b>282</b>
<b>YUCAIPA FREEWAY CORRIDOR TOTAL</b>				<b>2184</b>	<b>612</b>	<b>1530</b>	<b>3672</b>

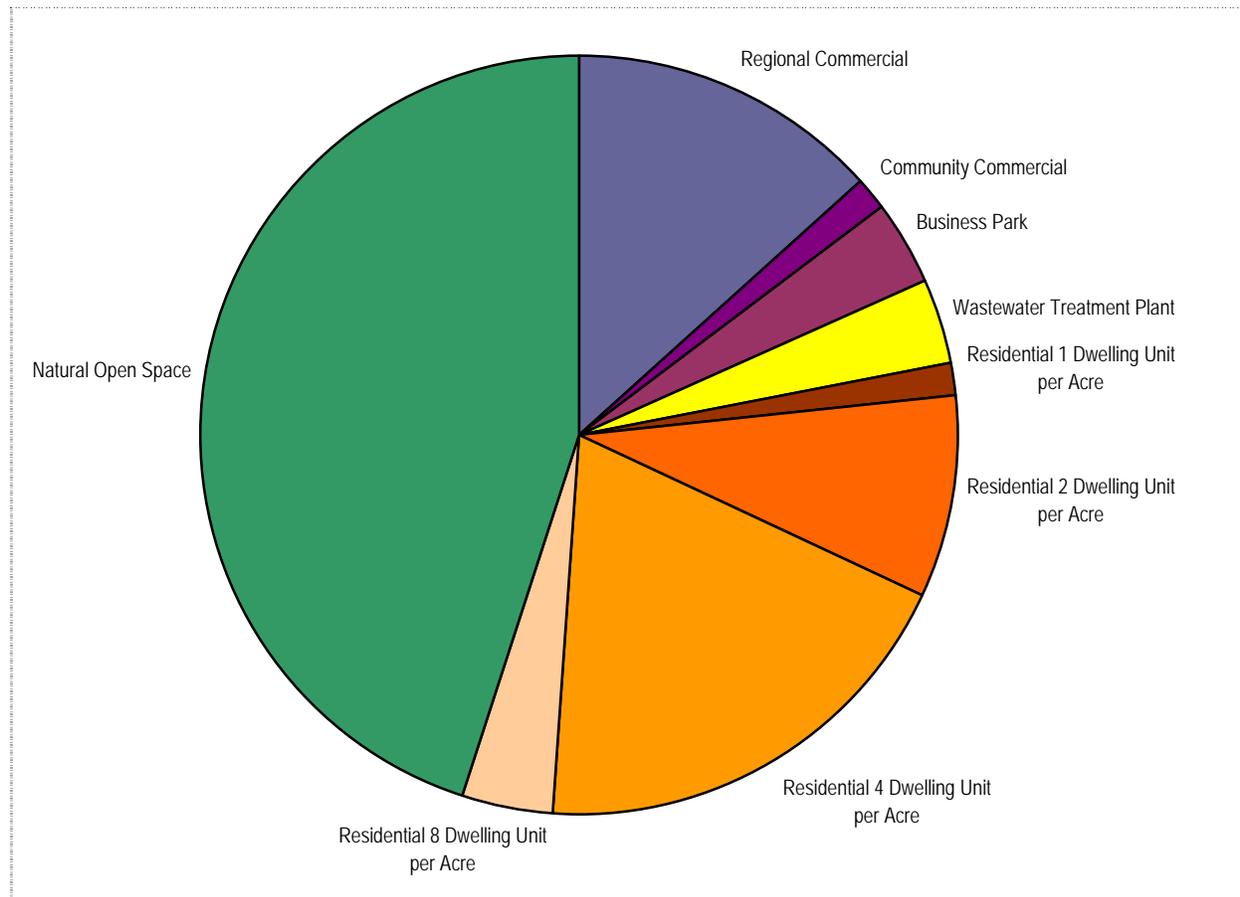
Average Day Demand for R-1, R-2, and Schools based on a total consumption rate of 1400 gallons per day per EDU with 70% being non-potable  
 Average Day Demand for R-4, and R-8 based on a total consumption rate of 700 gallons per day per EDU with 60% being non-potable.  
 Average Day Demand for BP, RC, and CC based on a total consumption rate of 700 gallons per day per EDU with 20% being non-potable.

Maximum Day Demand equal to 2.5 times the Average Day Demand.  
 Peak Hour Demand equal to 2.4 times the Maximum Day Demand

## 6.0 Water Demand Analysis

The proposed I-10 Freeway Corridor Specific Plan water demand analysis was based on the following land use distribution.

Land Use Designation	Acreage	Distribution of Acreage (%)	Equivalent Dwelling Units (EDUs)
Regional Commercial	162.0 AC	13.4%	--
Community Commercial	15.6 AC	1.3%	--
Business Park	43.9 AC	3.6%	--
<b>Commercial Total</b>	<b>221.5 AC</b>	<b>18.3%</b>	<b>--</b>
Wastewater Treatment Plant	44.8 AC	3.7%	--
<b>Institutional Total</b>	<b>44.6 AC</b>	<b>3.7%</b>	<b>--</b>
Residential 1 Dwelling Unit per Acre	15.6 AC	1.3%	16 EDUs
Residential 2 Dwelling Unit per Acre	104.3 AC	8.6%	209 EDUs
Residential 4 Dwelling Unit per Acre	230.1 AC	19.0%	921 EDUs
Residential 8 Dwelling Unit per Acre	49.9 AC	4.1%	399 EDUs
<b>Residential Total</b>	<b>399.9 AC</b>	<b>33.1%</b>	<b>1,545 EDUs</b>
Natural Open Space	542.8 AC	44.9%	2 EDUs
<b>Open Space Total</b>	<b>542.8 AC</b>	<b>44.9%</b>	<b>2 EDUs</b>
<b>TOTAL</b>	<b>1,209 AC</b>	<b>100.0%</b>	<b>1,547 EDUs</b>



The I-10 Freeway Corridor specific Plan will consist of up to 1,547 residential dwelling units with an estimated population of 3,870 residents, ultimately representing about 3.8% of the Yucaipa Valley Water District's service area population (including areas currently served by Western Heights Mutual Water Company and South Mesa Water Company). Average annual water demands for this development were projected based on water demand rates discussed in the previous section.

For potable water, the I-10 Freeway Corridor Specific Plan will result in an average daily demand of 823,680 gallons per day, a maximum daily demand of 1,647,360 gallons per day, and an annual demand of 922.8 acre feet. For non-potable water, the I-10 Freeway Corridor Specific Plan will result in an average daily demand of 881,280 gallons per day, a maximum daily demand of 2,203,200 gallons per day, and an annual demand of 987.3 acre feet

Pressure Zone	Potable Average Daily Demand (gpd)	Non-Potable Average Daily Demand (gpd)	Total Water Demand (gpd)
Zone 09	156,960	210,240	367,200
Zone 10	276,480	181,440	457,920
Zone 11	302,400	421,920	724,320
Zone 12	87,840	67,680	155,520
<b>Total</b>	<b>823,680</b>	<b>881,280</b>	<b>1,704,960</b>
<b>Annual Demand</b>	<b>922.8 Acre Feet</b>	<b>987.3 Acre Feet</b>	<b>1,910.1 Acre Feet</b>

## 7.0 Availability of Water Supply

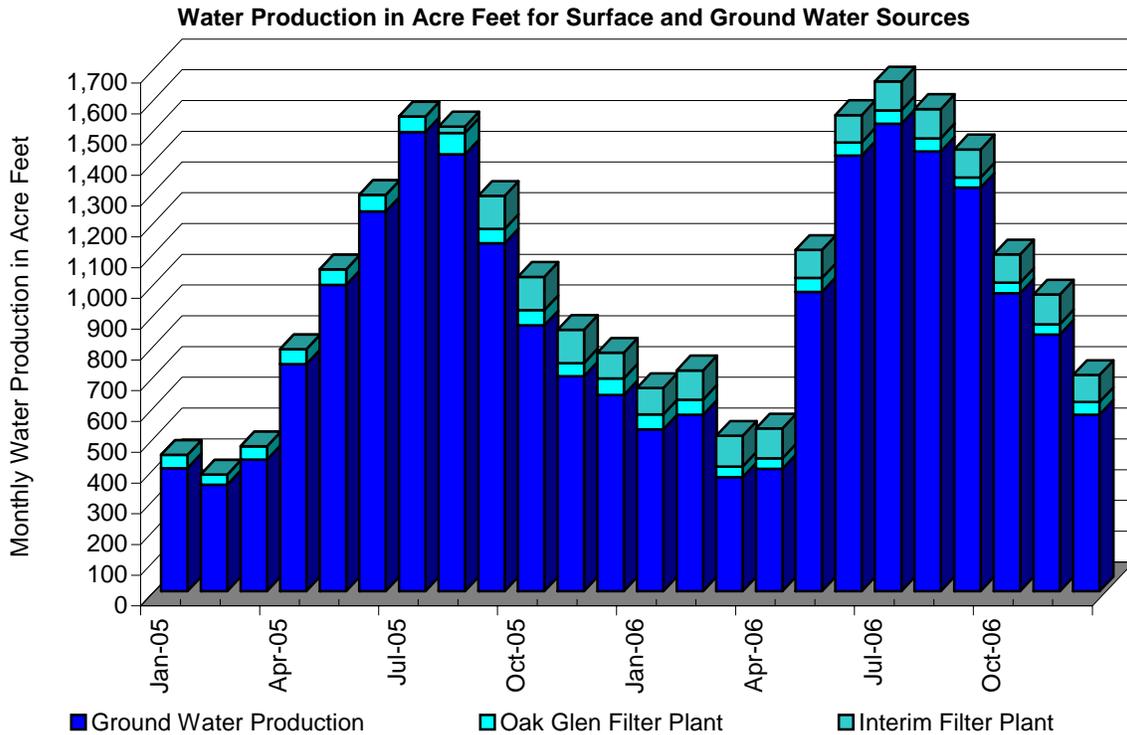
The Yucaipa Valley Water District (the “District”), a county water district and public agency, will have sufficient water supplies to serve the proposed I-10 Freeway Corridor Project and Oak Hills Marketplace.

Just like an individual’s financial investment portfolio, the District implements a diversified portfolio of available water resources as a strategy to maintain a reliable water supply for existing and future customers. The multiple water supply sources are managed together to provide a reliable supply for current and expected future demands within the District and in a manner that protects the groundwater basins from which the District pumps some of its water. Specifically, the District will be using a mixture of the following water supplies to meet existing and future water demands:

- ▶ Unadjudicated Ground Water Supplies
  - Crafton Subbasin
  - Gateway Subbasin
  - Triple Falls Subbasin
  - Oak Glen Subbasin
  - Wilson Creek Subbasin
  - Calimesa Subbasin
  - Singleton Canyon Subbasin
  - San Timoteo Subbasin
  - Western Heights Subbasin
  - Wildwood Subbasin
- ▶ Surface Water Supplies
  - Oak Glen Surface Water
- ▶ Supplemental Water Supplies – Direct Delivery
  - Yucaipa Valley Regional Water Filtration Facility
    - Yucaipa Source - San Bernardino Valley Municipal Water District
    - Calimesa Source - San Gorgonio Pass Water Agency
- ▶ Recycled Water Supplies
  - Henry N. Wochholz Regional Water Recycling Facility
- ▶ Non-Potable Water Supplies
  - Yucaipa Source - San Bernardino Valley Municipal Water District
  - Calimesa Source - San Gorgonio Pass Water Agency

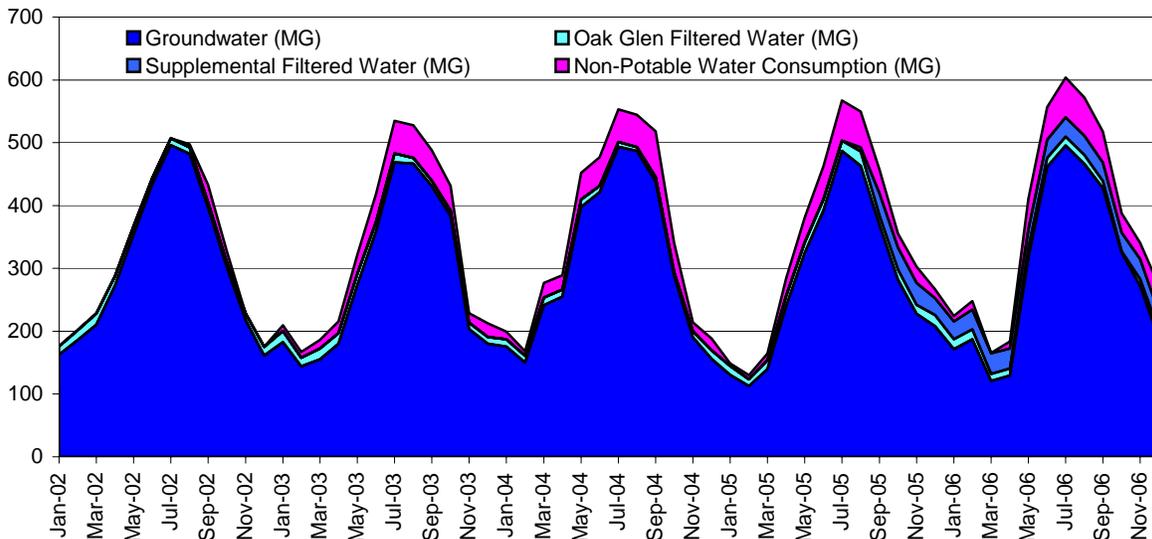
### 7.1 Existing Water Supplies

The Yucaipa Valley Water District pumps water from several subbasins in the upper Santa Ana Watershed, specifically Yucaipa Management Zone and the Beaumont Management Zone. The groundwater storage basins are currently in an overdraft situation. These basins generally function as hydrologically distinct and will be operated as a secondary supply to the Yucaipa Valley Regional Water Filtration Facility.



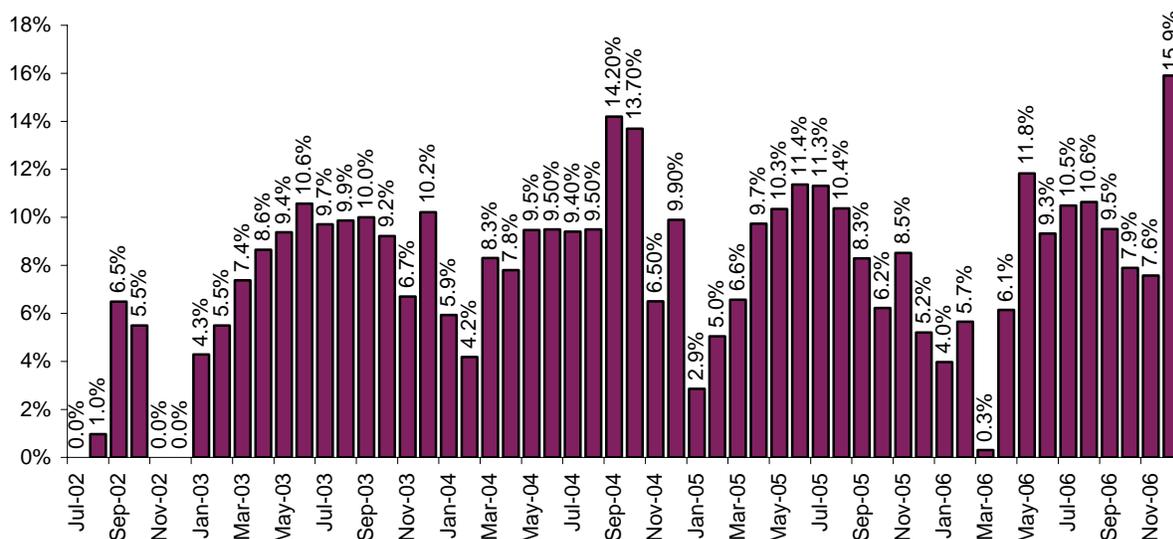
## 7.2 Non-Potable Water System Supply

The Yucaipa Valley Water District has been actively constructing a dual plumbed non-potable water system throughout the Yucaipa Valley. The chart below illustrates the type of water used by District customers on a monthly basis – both potable and non-potable water. The implementation of this dual plumbed system has significantly reduced the District’s dependency on groundwater basins in the Yucaipa Valley.



The best indication of the amount of groundwater saved with this project is shown by the summer time peaks in the graph above. In summer the District reduces groundwater production by up to 15%.

The chart below illustrates the percentage of non-potable water use as a percentage of total water demand [potable plus non-potable water demands]. Since the start of this program, the District has served a total of 1.542 billion gallons through the non-potable water system which is equivalent to banking (not pumping local groundwater supplies) 974,570 gallons of groundwater every day since the program started on Aug. 1, 2002.



Overall, the non-potable water project has reduced groundwater production by the Yucaipa Valley Water District by approximately one million gallons per day. One million gallons per day is comparable to the average daily demand of 1,428 equivalent dwelling units, or utilizing a dual plumbed analogy similar to the I-10 Freeway Corridor Specific Plan Project with a 40% potable use demand this would be comparable to the average daily demand of 3,570 equivalent dwelling units.

### 7.3 Surface Water Supplies

#### 7.3.1 Local Surface Water Sources

The District traditionally receives about 1,000 acre feet of surface water supplies from the Oak Glen watershed. Production from these sources has recently been declining to less than 500 acre feet annually. These sources are both minor and relatively unreliable due to their greater availability only in wet periods.

##### 7.3.1.1 Mill Creek Supply

Through the Santa Ana – Mill Creek Cooperative Water Project Agreement, Yucaipa Valley Water District is able to exchange up to 32 cubic feet per second (cfs) of water from the State Water Project for Mill Creek water when available. This water can be delivered by gravity to the

Wilson Creek spreading grounds and when the Yucaipa Valley Regional Water Filtration Plant is completed in 2007, this water can serve direct delivery needs. In exchange for the Mill Creek supply, the District can deliver water to the City of Redlands Hinckley or Tate water treatment plants. This source is variable, however, depending upon local hydrology. Flows in the creek can range from 10,000 to 120,000 acre feet per year with the bulk of high water flows in the winter months. This is the least expensive supplemental surface water supply for the District. However, lack of storage limits the ability to exchange this water often available in wet years, for water during dry years.

### 7.3.1.2 *Santa Ana River Supplies*

In addition to the Mill Creek surface water supply, the District will be able to receive exchange water from Santa Ana River water rights holders following the completion of the Yucaipa Valley Regional Water Filtration Plant. Phase II of the Department of Water Resources East Branch Extension project will expand transmission capacity to the Yucaipa area to 88 cfs, with 48 cfs of capacity rights held by San Gorgonio Pass Water Agency and 40 cfs by the San Bernardino Valley Municipal Water District (SBVMWD). Santa Ana River water availability to Yucaipa would be subject to availability and exchange of SWP water, which is provided under SBVMWD's exchange plan.

### 7.3.1.3 *Seven Oaks Dam Supplies*

The Seven Oaks Dam operated by the U.S. Army Corps of Engineers will operate with a conservation pool of between 10,000 and 50,000 acre feet. The precise amount is the subject of ongoing negotiations. When the East Branch extension pipeline and water filtration plant is in service in 2007, Seven Oaks water could be delivered to Yucaipa for direct delivery to consumers. The long-term average yield for the 50,000 acre foot conservation pool is about 11,700 acre feet annually. Flow from this conservation pool would be available to the SBVMWD generally from late spring through early fall, after the prime flood control obligations of the facility have ended each year.

### 7.3.2 State Water Project Supply

The San Bernardino Valley Municipal Water District is a wholesale water agency delivering water to retail purveyors such as Yucaipa Valley Water District. SBVMWD encompasses much of the District, and holds an entitlement to SWP water in the amount of 102,600 acre feet annually. The San Gorgonio Pass Water Agency serves the remainder of District's service area in Riverside County through its SWP entitlement of 17,300 acre feet per year. SWP water is now available directly or by exchange through the East Branch extension pipeline. The Yucaipa Valley Regional Water Filtration Plant will be able to provide direct delivery of State water to both cities of Yucaipa and Calimesa.

Yucaipa Valley Water District recognizes that the SWP will not be able to reliably deliver its full State Water Contractor deliveries (basic contracted amounts of water from the SWP) to the San Bernardino Valley Municipal Water District or San Gorgonio Pass Water Agency. Accordingly, the District plans to utilize SWP surface water when available in average or wetter years in gradually increasing amounts as capacity of the Yucaipa Valley Regional Water Filtration Plant is increased from its initial capacity of 12 million gallons per day (mgd) (13.4 taf) to 30 mgd (33.5 taf).

The following table reflects an assessment of State Water Project reliability by the State Department of Water Resources indicating the amount of allocation available to SWP customers in average and various drought scenarios.

State Water Project Delivery Reliability (in percent of Table A Allocation)						
Year	Average	Single Dry Year (1977)	2-Year Drought (1976-1977)	4-Year Drought (1931-1934)	6-Year Drought (1987-1992)	6-Year Drought (1929-1934)
2001	72%	19%	48%	37%	41%	40%
2006	73%	19%	47%	38%	41%	40%
2011	74%	20%	46%	38%	41%	41%
2016	74%	20%	45%	39%	41%	41%
2021	75%	20%	44%	39%	40%	41%

Source: The State Water Project Reliability Report

This analysis above indicates that even in severe drought scenarios, the District can expect some water from the State Water Project even though under its Urban Water Management Plan, the District is assuming in some dry years no State Water Project supply is available. Additionally, the State Department of Water Resources generally operates a dry year supply program where agricultural users and others in the Central Valley sell water to the State to make up shortfalls in State Water Project supply. The District would be able to participate in such purchases. In wet years, the State Water Project is able to deliver 100 percent or more of allocation, which would allow the District to maximize surface water deliveries in those years, and reducing groundwater pumping, thus reserving groundwater supplies for dryer years as necessary.

#### 7.4 Recycled Water

The Yucaipa Valley Water District has been implementing a recycled water project throughout the 1990s. Recycled water meeting Title 22 requirements is available through the Wochholz Regional Water Recycling Facility, and dual plumbing is currently being installed in new developments. Delivery amounts are expected to grow to about 6,700 acre feet by 2020, or about 24 percent of total agency water demands. Ultimately, the District expects to deliver about 8,000 acre feet per year of recycled water. The I-10 Freeway Corridor Specific Plan will receive recycled water that will be made available from a wastewater treatment facility located in the southern portion of the project's planning area.

#### 7.5 Water Conservation

Yucaipa Valley Water District conducted an analysis of implementing the Best Management Practices (BMPs) for Urban Water Conservation in California as part of its Urban Water Management Plan and found a number of the BMPs to be cost-effective. Through State grant funding under Proposition 13, the District has refined this analysis to look at the financial benefits of water conservation in deferring and lowering its need for infrastructure investments, refining the cost-effectiveness analysis in the Urban Water Management Plan. In summary, Yucaipa Valley Water District found that investments in indoor conservation have a value of \$352/acre foot, small outdoor landscape conservation \$292/acre foot, and large outdoor turf conservation, which would otherwise have availability of recycled water, has a value of \$138/acre foot. This means that the District could spend up to these amounts on the various types of conservation and have a net economic benefit.

Yucaipa Valley Water District will continue to evaluate BMP program alternatives, and consider implementing those that can be performed at costs at or below these thresholds.

## **8.0 Water Supply Reliability Strategy**

Through build-out, Yucaipa Valley Water District can provide a reliable supply to serve the community, including the proposed Project, despite rapidly growing demands. In the near term, Yucaipa Valley Water District will stabilize its demands on the groundwater basins, continue developing recycled water and utilize surface waters for direct delivery.

As new development is proposed, Yucaipa Valley Water District will require capital-funding contributions through impact fees, which will offset such development's demands for groundwater and surface water supply infrastructure. Ultimately, the District will be able to serve its customers needs entirely through groundwater or surface water, a strategy known as conjunctive use. This allows the District to insulate itself from periodic drought by utilizing available surface waters in wetter years and relying more on groundwater in dryer years when surface water is more scarce. It can switch between the two, or use both sources simultaneously, depending on hydrology and water availability.

Surface supply availability from the SWP, San Bernardino Basin Bunker Hill Pressure Zone, Seven Oaks Dam, Mill Creek and Santa Ana River can be used interchangeably, depending upon local and statewide hydrology, to supplement a stable local groundwater yield. Additionally, the District will incorporate recycled water delivery systems into new development, focusing service of new irrigation demands on recycled water. Recycled water will give the District a new local source of water of high reliability, both lessening the dependence on imported sources and increasing reliability of total supply. Overall, as noted in the District's Urban Water Management Plan, there are sufficient water resources to meet its current and projected growth in demands, including the Project and other projected development through 2030.

## 9.0 Water Supply Sufficiency Analysis

When considering the annual water supply for the I-10 Freeway Corridor Specific Plan Project, the District has included in the quantity of water saved from the implementation of the Non-Potable Water Project, but has not included available production capacity from the Yucaipa sub-basins or water held in storage as part of the Beaumont Basin adjudication.

Annual Water Supply Summary (Acre Feet)	
Supplemental Water – SBVMWD (Direct Filtration)	922.8
Recycled Water Supplies	987.3
<b>Total Potable Water Supply</b>	<b>1,910.1</b>

The table above does not consider supply sources from groundwater recharge or conjunctive use projects. The District creates reliability and full sustainability by banking water when the Yucaipa Valley Regional Water Filtration Facility is used, and reverting to banked groundwater supplies when surface water is not available.

In summary, the Yucaipa Valley Water District is well positioned to provide a safe and secure water supply to the I-10 Freeway Corridor Specific Plan Project. This will be accomplished by providing approximately 1,000 acre feet of drought tolerant recycled water to the Project from the Henry N. Wochholz Regional Water Recycling Facility.<sup>1</sup>

The following table indicates the relative amount of demand the proposed developments will have against total District demands and the relative share in growth in demands expected in the District through 2025. This table assumes the Project’s ultimate demand will not be reached until about 2015. Given the District’s wide variety of supply options, as presented in the Urban Water Management Plan, the actual operating mode in any given year and supply situation will vary according to the situational demands and operating needs and opportunities.

	I-10 Freeway Corridor Project Potable Water Demands Relative to the Total District Potable Water Demands (Acre Feet)				
	2005	2010	2015	2020	2025
Total District Potable Water Demands	17,898	21,225	24,552	27,800	31,200
I-10 Freeway Corridor Project Water Demands	0	500	422.8	0	0
Percentage of Total District Demand		2.4%	2.0%	0.0%	0.0%

As previously discussed, the District has ample water supply sources and capability to meet the increasing demands expected by the proposed development and other growth in demands within the District over the next 20 years. Specific Project requirements are included in Section 13 of this report.

<sup>1</sup> The Henry N. Wochholz Regional Water Recycling Facility currently produces 3,920 acre feet of recycled water per year.

## **10. Availability of Water Filtration and Delivery System Capacity**

### **10.1 Yucaipa Valley Regional Water Filtration Facility**

The first phase of the Yucaipa Valley Regional Water Filtration Facility is expected to be complete in summer 2007. This will give the District 12 mgd of filtration capacity in addition to the 0.8 mgd of capacity at the existing Oak Glen filtration plant. Additional increments of capacity will be constructed at the Regional facility bringing the ultimate capacity to 30 mgd as necessary to meet future demands.

### **10.2 Water Distribution System Analysis**

The District has evaluated the backbone infrastructure needed for the project. The backbone pipelines, reservoirs and related facilities will be included in a development agreement for each project.

## **11.0 Regulatory Permits Necessary for Water Supply Delivery**

Yucaipa Valley Water District's local and supplemental imported surface water supplies from the State Water Project are fully permitted. Imported supplemental supplies can be delivered in accordance with the rules and regulations of the San Bernardino Valley Municipal Water District and the San Geronio Pass Water Agency. The District is exempt from local building codes with respect to construction of water treatment and delivery facilities. However, Yucaipa Valley Water District does have to comply with State Fish and Game and U.S. Army Corps of Engineers requirements where construction will require streambed alteration agreements or placement of fill materials in waters of the United States, respectively. Generally, however, the District has some facility location flexibility, which allows infrastructure to be moved or constructed in a manner to avoid significant environmental effects.

## **12.0 Effect on Agricultural and Industrial Users Not Supplied by Yucaipa Valley Water District But Reliant on the Same Sources**

Yucaipa Valley Water District plans to begin utilization of SWP supplies to effectively manage demands on the Yucaipa and Beaumont groundwater basins, allowing for management of the basins to a safe yield. As such, any adverse effect by the District pumping in these basins upon other agricultural users of the basins will be eliminated as the current Yucaipa basin overdraft can be halted and the basin managed for sustained yield, benefiting all its users. The adjudication within the Beaumont Basin protects existing agricultural users supplies from any impacts which might be created by additional use of this basin.

Yucaipa Valley Water District's utilization of SWP water as part of the San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency's entitlements will tend to make fewer surpluses of SWP water available to others, including agricultural users. However, this outcome has been a planned event for the past 40 years since the conception of the State Water Project and agricultural users have expected gradual diminution of such surplus supplies. The fact that the SWP is not expected to ever consistently supply its maximum contractual entitlement supplies to its users has created additional stress on all SWP customers to develop alternate supplies to meet their needs.

The District's ability to begin utilization of the Yucaipa and Beaumont groundwater basins conjunctively with SWP water creates opportunities for the State or other water districts to engage in storage agreements with the District that could make additional supplies available to agricultural or urban users outside the District. Under such agreements, the District would agree to take another users surface water supplies in wet years, in effect storing additional water in groundwater basins in-lieu of surface deliveries. In dry years the District would forgo its surface water deliveries from the SWP allowing those deliveries to go to others, including agricultural users.

## 13.0 Requirements of Water Supply Sufficiency

The allocation of water in California has always long been a contentious issue. The requirement of a water supply analysis to firmly commit limited local and regional water supplies to new development is a arduous task that places a great deal of responsibility upon the District. As part of the analysis, the District has established the following requirements to make this firm water supply commitment.

### 13.1 I-10 Freeway Corridor & Oak Hills Marketplace Requirements

The long-term dedication of water resources to meet the needs of this project requires the commitment of local, regional and statewide water supplies and infrastructure. This study focuses on the commitment of water resources and not the infrastructure required to provide service to the project. While the potable water supply, non-potable water supply and wastewater demands have all been carefully evaluated as part of this project, the specific infrastructure requirements need to be evaluated on a project-by-project basis to determine the best method for providing potable water, non-potable water and wastewater. Any modification or change of the following requirements may invalidate this analysis and will require a new water supply analysis to be completed.

- 13.1.1 Bundled Services. Potable water, non-potable water, recycled water, and wastewater service shall be bundled and supplied to each parcel within the I-10 Corridor Specific Plan.
- 13.1.2 Annexation. Any parcel within the I-10 Corridor Specific Plan not currently annexed to the District shall be annexed at the sole cost of the property owner prior to entering into a service agreement with the District.
- 13.1.3 Cost of Water Supply Assessment. Each parcel shall be charged their fair share of the cost of preparing this evaluation based on an allocation of total cost divided by the acreage of each parcel (excluding the acreage of public facilities already receiving potable water, recycled water and wastewater service). Charges shall be calculated 45 days following adoption of this document by the Board, and shall be due payable prior to issuing a conditional service letter or within one year of distributing costs, whichever occurs first. At the discretion of the District, estimated costs associated with a legal challenge of this document shall be deposited in advance of providing additional services.
- 13.1.4 Dual Plumbed Community. Non-potable water shall be used to irrigate all greenbelt areas, commercial landscape areas, roadway medians, front yards of individual homes and rear yards of individual homes prior to occupancy.
- 13.1.5 Construction of Surface Water Detention Basins. The District will require the construction of soft bottom channels throughout the Project area to maintain the percolation rates currently experienced onsite. To further enhance the groundwater capture, the District will provide comments to the City of Yucaipa to require detention basins to allow for water spreading operations within or adjacent to the Project.

- 13.1.6 Construction of Infrastructure. Any water facilities construction for this project shall adhere to strict District requirements to meet functional, operational and aesthetic criteria.
- 13.1.7 Temporary Facilities. The District recognizes that temporary facilities may be constructed to allow for initial phasing of the project site. The District will provide time dependent limitations on all temporary facilities, regardless of economic conditions and phasing schedules.
- 13.1.8 Agricultural Use Conversion to Non-Potable Water. Current agricultural practices on-site for the Oak Hills Marketplace Project rely on limited groundwater sources. This report assumes the elimination of those agricultural areas, and therefore the associated water demands, with replacement of the Oak Hills Marketplace Project. This transfer in groundwater storage is an important factor to establish the reliability of the future water supply for the Oak Hills Marketplace Project. Any re-establishment of agricultural uses in the Project Area shall be designed to utilize non-potable or recycled water consistent with YVWD policies which state:

*“It shall hereafter be District policy that recycled or other non-potable water be used, for any purpose approved for non-domestic water use, to the maximum extent possible. Use of potable water for non-domestic uses shall be considered contrary to District policy, shall not be considered the most beneficial use of a natural resource and shall be avoided to the maximum extent possible.*

*It is the policy of the District that recycled or other non-potable water shall be used within the jurisdiction wherever its use is economically, financially and technically feasible, and consistent with legal requirements, preservation of public health, safety and welfare, and the environment. Uses of recycled water may include, but are not limited to, greenbelt irrigation, agricultural irrigation, industrial process and commercial uses, landscape or recreational impoundments, wildlife habitat and groundwater recharge.”*

## **14.0 Summary of Water Supply Sufficiency Determination**

Pursuant to the California Water Code and based upon the forgoing analysis, the Yucaipa Valley Water District has determined that currently available and planned sufficient supplies exist to provide the water to the proposed I-10 Freeway Corridor Specific Plan Project in addition to other planned demands expected by the District during normal, single dry and multiple dry years during the next twenty years.

Pursuant to California Government Code Section 66473.7 the Yucaipa Valley Water District has determined that based upon the foregoing analysis that it has sufficient water supplies available to meet the needs of the Project.

## 14.0 Yucaipa Valley Water District Resolution No. 06-2007

### RESOLUTION NO. 09-2007

#### RESOLUTION OF THE BOARD OF DIRECTORS OF THE YUCAIPA VALLEY WATER DISTRICT APPROVING THE WATER SUPPLY ASSESSMENT & WRITTEN VERIFICATION FOR THE INTERSTATE 10 FREEWAY CORRIDOR SPECIFIC PLAN AND OAK HILLS MARKET PLACE PROJECT

The Board of Directors of the Yucaipa Valley Water District does hereby resolve as follows:

WHEREAS, on October 9, 2001, Governor Davis signed into law Senate Bill 221 (Kuehl) and SB 610 (Costa), effective January 1, 2002 which amends the existing requirements for confirmation of a sufficient water supply as a condition to approval of some new development projects; and

WHEREAS, water suppliers, cities and counties have duties under SB 221 and SB 610 to confirm water availability and water supplies by preparing a written Water Supply Assessment; and

WHEREAS, the Yucaipa Valley Water District has implemented a wide variety of water related projects to manage, protect and conserve our valuable natural water resources.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED, that the Board of Directors of the Yucaipa Valley Water District, does hereby as follows:

1. Adopt the specific Project Requirements for Water Supply Sufficiency provided within Section 13 of the Water Supply Assessment; and
2. Adopt the attached Water Supply Assessment and Written Verification of Water Supply for the Interstate 10 Freeway Corridor Specific Plan and Oak Hills Marketplace Project

ADOPTED this 7<sup>th</sup> day of March 2007.

  
\_\_\_\_\_  
President of the Board of Directors

ATTEST:

  
\_\_\_\_\_  
Secretary of the Board of Directors

(SEAL)

