3.0 ENVIRONMENTAL SETTING

3.1 CITY OF SOLVANG

The City of Solvang (City) is located in the Santa Ynez Valley in the central part of Santa Barbara County. Solvang is surrounded by the Purisima Hills to the north, the upper Santa Ynez Valley to the east, the Santa Ynez Mountains to the south, and the lower Santa Ynez Valley to the west. Solvang is situated primarily along an alluvial plain formed by the Santa Ynez River and on the southeastern edge of the Purisima Hills. It is located almost equidistant between the communities of Buellton and Santa Ynez. State Route 246 bisects Solvang and provides a key regional east-west link between U.S. Highway 101 and State Route 154.

Solvang is one of two incorporated communities located in the Santa Ynez Valley. Buellton, which was incorporated in 1991, is located along U.S. Highway 101 and serves as the westerly gateway to the upper Santa Ynez Valley, including the City of Solvang and the towns of Ballard, Los Olivos, and Santa Ynez.

The City limit is the existing boundary of the City, while the sphere of influence is the probable future boundary of the City. The sphere of influence is “a plan for the probable physical boundaries and service area of a local government agency.” Solvang’s City limits and sphere of influence boundary are shown in Figure 3.0-1, City of Solvang Jurisdictional Boundaries.

The City has a well-established identity as an authentic Danish community and relies heavily on tourism as its key economic strength. The majority of the land within City boundaries has been developed. The bulk of its land is zoned for residential use. The last of the large vacant residentially zoned areas were Skytt and Duff Mesas. Duff Mesa has been developed and Skytt Mesa is currently being developed. The City is separated from neighboring communities by a greenbelt of agricultural and open space areas.

An estimated 23,000 people live in the Santa Ynez Valley with 23 percent of the total residing in the City. According to the U.S. Census Bureau’s 2010 Census data, there were 5,245 people residing in the City. The majority of the City’s land is used for housing their residents. The bulk of the City’s residential land is in the Low Density and Medium Density Land Use categories. There were approximately 2,347 dwelling units as of 2008.¹ A total of 2,608 dwelling units are estimated at buildout. Each dwelling unit houses an average of 2.37 people according to the 2000 U.S. Census. The estimated population at buildout is 6,181 people.

¹ City of Solvang, Housing Element, Solvang General Plan, adopted July 2009, Table 4-12, p. 71-72.
The average household size of 2.37 persons remained unchanged over the past decade. The Department of Finance estimated in 2007 the average household size was 2.33 persons.²

The City of Solvang provides both water and wastewater services.

Conservation and open space issues in Solvang are multiple and diverse. Among the key issues is the availability of water resources and the ability of Solvang to meet projected demands for water.

### 3.2 TOPOGRAPHY

Topography and geography distinguish the Santa Ynez Valley area from surrounding areas. The valley itself surrounds the Santa Ynez River and is defined by mountains to the north and south, by Lake Cachuma and the Los Padres National Forest to the east, and by a series of low hills to the west.

To the west, the Santa Ynez Valley narrows, and the Santa Rita Hills separate it from the Lompoc Valley. To the north, the Purisima Hills rise from 1,200 to 1,700 feet in elevation, and separate the Santa Ynez Valley from the Los Alamos Valley. Similarly, the San Rafael Mountains separate the valley from the Santa Maria Valley. These mountains generally range in elevation from 1,400 to 2,600 feet.

The Santa Ynez Mountains on the south separate the Santa Ynez Valley from the Pacific Ocean; these mountains range in elevation from 800 to 2,500 feet. The Santa Ynez and San Rafael Mountains form an atypical coastal range that is singular within the state. It is the only east-west running valley on the Pacific coast. This allows the flow of fog and offshore breezes to temper the climate.

### 3.3 CLIMATE

The climate in Solvang is mild. There is sunshine an average of 340 days every year. The average temperature is 54 degrees Fahrenheit (F) for a low and 76 degrees F for a high. Summer highs can reach into the high 80s F and winter lows into 40s F.

The Santa Rita Hills to the west block the colder ocean air, prevalent at Lompoc, from entering the Santa Ynez Valley and act to moderate the valley’s climate. Rainfall averages 16 inches within the Santa Ynez Valley although it is variable from year to year. Fog also plays an important factor in the climate of the area.

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² City of Solvang, Housing Element, Solvang General Plan, adopted July 2009, p. 61.
Legend:
- City Limits
- Sphere of Influence

SOURCE: City of Solvang - June 2008

FIGURE 3.0-1

City of Solvang Jurisdictional Boundaries
3.4 WATER RESOURCES

3.4.1 Watershed and Hydrology

Santa Ynez Uplands Groundwater Basin

The Santa Ynez River Alluvial Basin is comprised of the deposits of unconsolidated sand and gravel located along and beneath the channel of the Santa Ynez River. These deposits are up to 150 feet thick and several hundred feet across, and extend 36 miles from Bradbury Dam to the Lompoc Plain. Storage within the upper 50 feet of the basin is about 90,000 acre-feet. Groundwater in the Alluvial Basin is in direct hydraulic communication with surface flow of the river. Inflow into this basin is from underflow from adjacent basins (Santa Ynez Uplands, Buellton Uplands, and Lompoc Basin), percolation from rainfall and infiltration of river flow.

The Santa Ynez Uplands Groundwater Basin encompasses about 130 square miles in a wedge-shaped area between the San Rafael Mountains and the Santa Ynez River. This basin is the largest single source of water in the area and underlies most of the Santa Ynez Valley. It is bounded on the northeast by faults and bedrock outcrops, on the northwest by a designated divide with the San Antonio Basin, and on the south by a ridge of bedrock that separates the basin from the Santa Ynez River and Alluvial Basin. Average rainfall within the basin varies from a maximum of about 24 inches per year in the higher elevations to a minimum of about 15 inches per year in the southern and central areas. Rainfall and stream seepage are the primary sources of recharge to the basin. The estimated available storage of the basin is 900,000 acre-feet.

The Paso Robles and Careaga formations are the major aquifers of the Santa Ynez Uplands. The Paso Robles formation is the source of ID No. 1’s upland groundwater and is comprised of poorly consolidated gravel, sand, silt and clay. The Careaga Formation underlies the Paso Robles and is comprised of fine to medium-grained sand. Wells completed in the Careaga (generally along the southern edge of the basin) can produce significant volumes of water.

Groundwater pumping meets about 85% of the water demand within the basin area. In addition, groundwater water is imported into the basin from the Cachuma Project, the State Water Project and the Santa Ynez River Alluvial Basin. Agriculture accounts for about 75% of the water demand within the basin; the remaining demand is mostly from urban consumers.

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3 County of Santa Barbara, Santa Ynez Valley Community Plan, October 2009. p. 125.
4 Santa Barbara County, Public Works Water Resources Department, 2005 Santa Barbara County Groundwater Report, April 2006.
The basin is pumped by ID No. 1, private agricultural users and domestic users.

The condition of the Santa Ynez Uplands Groundwater Basin has varied over time, and a 2001 study reported the basin as being in a state of overdraft of approximately 2,028 acre-feet per year (afy) at that time. The decline in water levels in this basin appears to have bottomed out in the 1987 to 1991 drought, however, and the basin may currently be in equilibrium. Under current extraction practices, part of the basin is used conjunctively with local and imported surface water supplies. No regional economic or water quality impacts associated with pumping have materialized.

Water quality within the basin is generally adequate for most agricultural and domestic purposes. Studies completed in 1970 indicate total dissolved solids (TDS) concentrations ranging from 400 to 700 mg/L. Although recent water quality data are limited, samples analyzed by the U.S. Geological Survey (USGS) in 1992 exhibited a TDS concentration of 507 mg/L.

**Santa Ynez River**

The City of Solvang is located in the heart of the Santa Ynez River watershed (see Figure 3.0-2, Santa Ynez River Watershed). The Santa Ynez River originates in the San Rafael Mountains in the Los Padres National Forest near the eastern border of the County. A small portion of the Santa Ynez River watershed lies in Ventura County. The river flows westerly about 90 miles to the ocean, passing through Jameson Lake, Gibraltar Reservoir, and Lake Cachuma. The Santa Ynez River basin is the largest drainage system that is wholly located in Santa Barbara County. The 621,577 acres that it drains is about 40 percent of the mainland part of the County. It is the primary source of water for about two-thirds of the Santa Barbara County residents, including the heavily populated south coastal region around Santa Barbara. Three dams have been constructed on the river to store and divert water to the South County. All of the water diversions from the dams to the south coastal region are by tunnels through the Santa Ynez Mountains to terminal reservoirs near urban areas. Approximately 260,000 acres in the watershed are public land, 215,000 of which are within the Las Padres National Forest.

Watercourses in the Solvang area that are tributaries of the Santa Ynez River are Alisal Creek, Adobe Creek, and Alamo Pintado Creek.

Protection of water quality in the Santa Ynez River watershed is managed by the Central Coastal Regional Water Quality Control Board in cooperation with the State Water Resources Control Board. The use of surface water and groundwater resources is managed by the Santa Barbara County Water Agency (SBCWA). Water resources in the lower Santa Ynez Valley, including the Solvang area, are within the

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3.0 Environmental Setting

Santa Ynez River Water Conservation District (SYRWCD). SYRWCD Improvement District No. 1 (ID No. 1) serves an approximately 16-square-mile area of the Santa Ynez Valley encompassing the communities of Solvang, Santa Ynez, and Los Olivos.

The majority of the Santa Ynez River Watershed is undeveloped and consists mostly of brushlands, rangelands, and agricultural fields. Several major tributaries downstream of Bradbury Dam contribute significant flows to the river including Santa Agueda, Zanja de Cota, Alamo Pintado, Zaca, Alisal, Salsipuedes, and Miguelito creeks. Regulation of flood flows comes primarily from Juncal, Gibraltar, and Bradbury dams on the river, and, to a lesser extent, Alisal Dam on Alisal Creek.

There are five stream gauges on the river between Bradbury Dam and the Pacific Ocean. The one with the longest period of record (since 1907) is located near Lompoc at the Narrows. The greatest discharges of record at this gauge are 120,000 cubic feet per second (cfs) and 80,000 cfs in 1907 and 1969, respectively. There have been several major flood events along the Santa Ynez River over the past 100 years. Major floods occurred in the years 1907, 1914, 1938, 1969, 1978 and 1998. Reported peak discharges for these storms ranged from 45,000 to 120,000 cfs. These floods caused significant damage to the Lompoc Valley. The most devastating flood occurred in January and February 1969. In 1996, the Bureau of Reclamation revised the peak flood estimate of 1907 and 1969 to 55,000 and 88,000, respectively.

3.4.2 Water Storage Reservoirs

Surface water diversions from the Santa Ynez River Basin are made primarily from Juncal, Gibraltar, and Bradbury dams. The largest of these is Lake Cachuma, followed by Gibraltar and Juncal Dam (Jameson Lake) reservoirs, which are located upstream. These facilities divert water from the river for agricultural, municipal, and industrial uses on the South Coast of Santa Barbara County. About 10 percent of Cachuma Project supply is also provided to ID No. 1 within the Santa Ynez Valley.

**Juncal Dam (Jameson Lake)**

Montecito Water District (MWD) owns and operates Juncal Dam, which was completed in 1930. Juncal Dam forms Jameson Lake. The original storage capacity of Jameson Lake (7,228 acre-feet) has been reduced to about 5,000 acre-feet due to siltation. Diversions of water stored in Jameson Lake are made to Montecito on the South Coast through the 2-mile-long Doulton Tunnel. Flows from Alder Creek are sporadically diverted by flume into Jameson Lake when turbidity conditions permit. The tunnel intake location also allows for minor diversions of downstream tributary inflow from Fox Creek. Normal year

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diversions from Jameson Lake, Fox and Alder creeks to Montecito are about 2,000 afy. Infiltration from the Doulton Tunnel is about 375 afy.

**Gibraltar Dam and Reservoir**

The City of Santa Barbara constructed Gibraltar Dam in 1920. Gibraltar Reservoir’s original capacity of 14,500 acre-feet had been reduced due to siltation to about 7,600 acre-feet by 1947. The City of Santa Barbara subsequently raised the dam 23 feet in 1948 to increase the capacity to 14,777 acre-feet. However, due to continuing siltation, Gibraltar Reservoir capacity has been reduced to about 5,251 acre-feet. Diversions from Gibraltar are made to the City of Santa Barbara through the 3.7-mile-long Mission Tunnel. The City also diverts water from the Devils Canyon Creek directly to the Mission Tunnel when diversions from Gibraltar Reservoir are not desirable due to turbidity. Gibraltar Reservoir is not operated on a safe yield basis. Carryover storage is not sufficient to protect against drought years. Normal year diversions from Gibraltar Reservoir and Devils Canyon to the City of Santa Barbara are about 3,612 afy. Mission Tunnel infiltration, averaging about 1,000 afy, is also delivered to the City.

In August 1928, the owners of 38 parcels of land located adjacent to the Santa Ynez River downstream of Gibraltar Dam in the lower Santa Ynez Valley brought suit against MWD and the City of Santa Barbara over the construction of Gibraltar Dam and Juncal Dam and resultant reduction in natural flow. The case resulted in the California Supreme Court decision *Gin S. Chow v. City of Santa Barbara*,

**Bradbury Dam (Lake Cachuma)**

Bradbury Dam, which is located on the Santa Ynez River approximately 25 miles northwest of Santa Barbara, was constructed by the U.S. Bureau of Reclamation (Reclamation) in 1953. It is an earth-filled structure with a structural height of 279 feet and a hydraulic height of 190 feet. The crest of the dam is at an elevation of 766 feet. The spillway crest is at an elevation of 720 feet. Four 30-foot by 50-foot radial gates, with a concrete lined chute and stilling basin, control the spillway. The gate opening is 30 vertical feet. When closed, the top of the gates are at an elevation of 753 feet with a flashboard for a 3-foot surcharge.

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7 California Supreme Court decision *Gin S. Chow v. City of Santa Barbara* (1933) 217 Cal. 673 [22 P.2d 5].
Surcharge is a term used to describe the amount of water stored above the elevation of 750 feet in the reservoir. When the gates are raised, water passes under them in a controlled manner, depending upon the height of the gate. There is an outlet at the base of the dam with a capacity of 250 cfs.

Lake Cachuma has a surface area of 3,043 acres at an elevation of 750 feet. Siltation has reduced the original 204,874 acre-foot capacity of Lake Cachuma. In 1989, Reclamation estimated capacity to be 190,409 acre-feet. A bathymetric survey conducted in 2008 indicated that the reservoir capacity has been further reduced to 186,636 acre-feet at an elevation of 750 feet. The minimum operating pool for Lake Cachuma can be as low as 12,000 acre-feet, but pumps are required for diversions to Tecolote Tunnel when lake storage is below about 30,000 acre-feet.

Diversions from Lake Cachuma are made to the four member units on the South Coast, and SYRWCD, ID No. 1 in the Santa Ynez Valley. The South Coast Member Units are served through the 6.4-mile-long Tecolote Tunnel that extends from the lake to near Glen Anne Reservoir in Goleta. Annual diversion from Cachuma Project by the five Member Units is 25,714 acre-feet.

Water was originally delivered to ID No. 1 through the Bradbury Dam outlet works into the Solvang/Santa Ynez Conduit, a pipeline that terminated near Solvang. This pipeline has been converted to a delivery pipeline to convey State Water Project (SWP) water from the Central Coast Water Authority’s (CCWA) Santa Ynez Pump Station to Lake Cachuma. Water is now delivered to ID No. 1 through an exchange agreement with the South Coast Member Units in which ID No. 1 receives SWP water in exchange for its Cachuma entitlement in the reservoir.

Cachuma Project deliveries can exceed operational yield if the reservoir is in spill condition, and Reclamation has declared that surplus water is available for diversion. Pursuant to the signing of a Memorandum of Understanding (MOU) entitled “Memorandum of Understanding Regarding the Surcharge of Cachuma Lake and the Protection of Recreational Resources at the Lake,” in February of 2004, the County, Cachuma Conservation Release Board (CCRB), and ID No. 1 implemented a phased surcharging at Cachuma Lake. Following a spill event in January 2005, Stetson Engineers conducted a survey of the vulnerability of the lake’s recreation facilities, revealing that the facilities identified earlier as being at risk of inundation were actually located at elevations higher than had been previously thought. In April of 2005, the aforementioned MOU was amended to provide for an increase in surcharge

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3.0 Environmental Setting

elevation to 752.47 feet, thereby allowing for the undertaking of emergency protective measures for facilities deemed to need them.\(^9\)

In 2008, a bathymetric survey was completed that updated information from prior surveys (2000). The 2008 survey was completed after the Zaca fire of July 2007 that burned over 240,207 acres primarily in extremely steep and rugged areas of the Los Padres National Forest and the Santa Ynez River Recreation Area.\(^10\) The 2008 survey indicated that at full lake elevation (750 feet), the total change in capacity was reduced from 188,030 acre-feet to 186,636 acre-feet, or a reduction of 0.7 percent.

In 2009, the MOU expired and Reclamation is now able to implement a 3-foot surcharge. Originally, the 3-foot surcharge would increase reservoir capacity by 9,200 acre-feet. However, the 3-foot surcharge will increase the reservoir capacity by only 8,942 acre-feet due to sedimentation from the Zaca fire as noted above to a total capacity of 195,578 acre-feet.

Currently, Reclamation is operating Bradbury Dam under water right Permits 11308 and 11310 (applications 11331 and 11332) with the SWRCB exercising continued jurisdiction over those permits. The SWRCB is currently processing an EIR in connection with its issuance of water rights order.

3.5 CITY OF SOLVANG WATER SUPPLY

The City of Solvang lies within the service area of ID No. 1 and periodically receives water from ID No. 1 which is supplied from Lake Cachuma, upland wells, the Santa Ynez River underflow and SWP. In addition, the City currently has active wells to access groundwater from the Santa Ynez Uplands Groundwater Basin and via underflow from the Santa Ynez River aquifer, as well as water from SWP.

3.5.1 Santa Ynez River Water Conservation District, Improvement District No. 1

The City purchases water from Santa Ynez River Water Conservation District, Improvement District No. 1 (ID No. 1) on an as-needed basis. Water is provided by direct connections in Zones 1 and 2 of the City’s water system. The Zone 1 interconnect is located on Old Mill Road and has a source capacity of 1,200 gallons per minute (gpm) (or 2.67 cfs). The Zone 2 interconnect is located at the crossing of Ladan Drive and Alamo Pintado Road and has a source capacity of 2,000 gpm (or 4.44 cfs). The delivered water represents a mixture of State Water Project (SWP) water purchased by ID No. 1 from its own SWP

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\(^9\) Following the completion of the proposed emergency protective measures in May of 2006, the County, CCRB, and ID No. 1 approved an “Interim Agreement Regarding the Surcharge of Cachuma Lake,” which allowed a 3.0-foot surcharge for one year after Lake Cachuma spilled in April of 2006; this agreement expired in February 2009.

3.0 Environmental Setting

entitlement or obtained in exchange for ID No. 1 Cachuma Project entitlements, and water from ID No.1 wells that extract water from Santa Ynez River underflow and from the Santa Ynez Upland Groundwater Basin. Water from ID No. 1 can also include Cachuma Project water in unusual circumstances.

The ID No. 1 has two river well fields: the 4.0 cfs and 6.0 cfs well fields. The former is located approximately 2 miles upstream of the Refugio Bridge; while the latter is located 1 mile upstream of the Alisal Bridge. In addition, ID No. 1 produces water from its Upland wells. ID No. 1 chlorinates, but does not filter the delivered water. Hence, river water production by ID No. 1 is subject to curtailment due to California Department of Public Health (DPH) regulations if surface water in the river channel is located within 150 feet of the wells. The annual amount of water the City purchases from ID No. 1 has varied greatly from a maximum of 1,055 acre-feet in 1993 to as little as 10 acre-feet in 2003.

3.5.2 Existing City Wells

As discussed in Section 2.4.1, the City operates wells located in both the Santa Ynez Uplands Groundwater Basin and Santa Ynez River channel to obtain a portion of its water supply.

Upland Wells

The City drilled two wells in the Santa Ynez Uplands Groundwater Basin, Wells 21 and 22, to determine if the quality is acceptable for municipal use. Well 21 is located outside the City of Solvang limits atop a hill just east of Chalk Hill Road, on the site of Reservoir 2; this well has a current capacity of 115 gpm. The 1996 Water System Master Plan noted that this well has problems complying with the Department of Public Health (DPH) Secondary Treatment Standards for iron (Fe), manganese (Mn) and hydrogen sulfide (H₂S). Although none of the concentrations exceed a mandatory or public health standard, the presence of these minerals in the water could cause customer complaints on occasion. This well is also equipped with a chlorine dosing system. This well has remained inactive due to those water quality concerns. Well 22 is located in the Creekside Subdivision on the east side of town. It was never equipped or used as a producing well due to its high levels of H₂S experienced during well development.

River Wells

The City currently has two active river wells (Wells 3 and 7A) and one inactive river well (Well 5 well head was destroyed), located along the Santa Ynez River channel. Under state law, potable water produced from wells within 150 feet of surface water is considered “under the influence of surface water.” Therefore, water produced by those wells under the influence of surface water must be filtered subject to the same rules applicable to surface water. The City does not currently have the filtration facility required to treat the well water (under the influence of surface water) to potable standards.
During periods of heavy runoff, the water in the river can rise to levels within 50 feet of either well. The river also periodically changes course due to flood flows and flood water releases from Bradbury Dam. Well production is curtailed whenever surface water is within 150 feet of a well.

The following is a summary of each well:

- **Well 3** is located near the Santa Ynez River channel in the floodplain. Well 3 was drilled in 1993 to a depth of 55 feet and has a capacity of about 340 gpm (which represent 0.73 cfs, or if pumped continuously, about 530 afy). The normal river flow is 210 feet from Well 3 because the river channel moved away from the well in the floods of 1998. Therefore, Well 3 is seldom considered to be under the influence of surface water because the main channel of the Santa Ynez River flow is outside 150 feet of the well. Well 3 is, however, located 100 feet from a storm channel that has water when it rains so that does curtail pumping of Well 3 for a time during most winters.

- **Well 5** is located in the river channel. The well is inactive and has not been used since the 2005 flood because the wellhead was destroyed, although its casing remains. In addition, it cannot be used since it remains within 150 feet of surface water.

- **Well 7A** is also located near the Santa Ynez River channel in the floodplain. Well 7A was constructed in 1995 to replace Well 7 that was destroyed in the El Nino conditions of the previous winter. Well 7A is drilled to a depth of 55 feet and has a capacity of about 110 gpm (which represent 0.25 cfs [about 0.49 afy] or if pumped continuously, about 179 afy). The river flow is often over 200 feet from Well 7A. Therefore, Well 7A is rarely shut down due to the proximity of surface flows within 150 feet of the well.

To achieve the maximum extraction rate of 5 cfs (or 2,250 gpm), the City proposes to install up to six new wells with a similar capacity of about 300 gpm each and install filtration facilities so that the City will be able to meet potable water standards even when some wells are under the influence of surface water.

**Other Wells**

The City does utilize one other well, Well 4, located near City Hall. This well is considered a “Central” well and it is not located near the river or the upland wells. Well 4 was drilled in 1953 to a depth of 146 feet with perforations that begin at 100 feet. This well produces about 320 gpm and is chlorinated at the wellhead. The well has good water quality; however, due to its age it requires ongoing repairs and upgrades. Historically, Well 4 provided a peak annual production of 380 acre-feet but production has declined over time. The anticipated long-term average production is approximately 100 afy.

**3.5.3 State Water Project**

The Central Coast Water Authority was formed to finance, construct, manage, and operate Santa Barbara’s State Water Project facilities. Construction of the facilities to import SWP water to the county began in 1994, including a 42-mile extension of the SWP water pipeline, pumping plants, and a regional
treatment plant to treat the water for both San Luis Obispo and Santa Barbara counties (Figure 3.0-3, State Water Project Infrastructure in Santa Barbara County). The Coastal Branch portion of the State Water Project brings water 117 miles from the California Aqueduct in Kern County, through San Luis Obispo County and the Santa Maria Valley, continuing to the northerly portion of Vandenberg Air Force Base. At Vandenberg Air Force Base, the Coastal Branch connects to the 42-mile pipeline comprising the Mission Hills and the Santa Ynez Extensions. The Santa Ynez section ends at Lake Cachuma. Water is then delivered through existing facilities to the South Coast of Santa Barbara County.

Within the Santa Ynez Valley, only ID No. 1 and the City of Buellton hold contractual allotment to SWP water. ID No. 1 has contracted for a 2,000 afy SWP allotment from the Central Coast Water Authority (CCWA). Pursuant to a Water Supply Agreement between ID No. 1 and the City of Solvang, Solvang purchases 75 percent of the amount of water that ID No. 1 is obligated to purchase from CCWA (e.g. 75 percent of 2,000 afy or 1,500 afy). ID No. 1 has an allotment of 500 afy plus 200 afy of drought buffer from the SWP.

In accordance with a water exchange agreement between ID No. 1 and CCRB, ID No. 1 obtains SWP water from the SWP line instead of its Cachuma Project water. In exchange, the CCRB purveyors receive ID No. 1’s Cachuma water in lieu of receiving SWP water. The exchange eliminates ID No. 1’s need to treat the Cachuma Project water which would otherwise require surface water treatment.

SWP water deliveries through the Coastal Branch Aqueduct to Santa Ynez Valley began in 1997. SWP water is delivered directly to the City from the (CCWA through a 12-inch connection with a capacity of 1,300 gpm (2.89 cfs). The City began SWP water deliveries in August 2002. SWP water is filtered and disinfected at the CCWA Polonio Pass water treatment plant in San Luis Obispo County. Delivery of SWP water is subject to climatic factors in Northern California which may reduce runoff into the Sacramento-San Joaquin Delta and to environmental regulations that curtail pumping from the Delta. According to the 2009 SWP Reliability Report, the long-term average reliability delivery of SWP water deliveries are expected to be about 60 percent of the City’s allocation, or about 900 acre-feet per year (afy). The City further discounts SWP water another 20 percent of the City’s allocation of 1,500 afy (to 600 afy) to plan for the single dry year and multiple dry years scenarios.

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11 County of Santa Barbara, Comprehensive Plan, Land Use Element, Adopted 1980 amended February 2011, p. 4-11.
12 County of Santa Barbara, Santa Ynez Community Plan, October 2009, p. 124.
3.6 EXISTING WATER USE AND PROJECT BASELINE

As provided for in the CEQA Guidelines Section 15125, an EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. The environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant.\textsuperscript{13}

The City has identified a baseline use of 1,053 afy for use in this EIR. The City’s baseline is supported the SWRCB inspection of the City’s water use completed in 1999.\textsuperscript{14} Under the inspection completed by SWRCB staff, Wells No. 3 and No. 7 were the only wells used under water right Permit 15878 and that all other wells is production claimed to be tapping the percolating groundwater basin and not the subterranean flow of the Santa Ynez River. Based on the records of diversion submitted to the SWRCB at the time of the inspection by the City (1999), the maximum amount diverted under Permit 15878 from Wells No’s. 3 and No. 7 was 1.8 cfs and 1,053 afy as shown on Table 3.0-1, City of Solvang Pump Records from January 1997 through June 1998. The SWRCB also determined the maximum rate of withdrawal to be 1.85 cfs.

The use of the baseline is supported by case law (Cherry Valley v. City of Beaumont) where the Court held that the choice of baseline was a discretionary decision of how existing physical conditions without project could most realistically be measured. Existing conditions are not always the baseline.\textsuperscript{15}

Based on Supply Summary Water Statistics reports submitted by the City to the Department of Water Resources, Table 3.0-2, City of Solvang Historic Water Use, presents historic water use by source in acre-feet for the past 25 years (1986 through 2010). At peak production the City withdrew 1,366 afy from the river wells. However, due to the loss of wells (Well No. 5 was damaged in the floods of 1995 and has not been used since, and Wells 3 and 7A have seen declines in production), the current production of the river wells has decreased to less than 200 afy. It should be noted as shown on Table 3.0-2 that the City’s historic demand from 1986 to 1990 was in excess of the requested 1,980 afy.

\textsuperscript{13} CEQA Guidelines 15125(a).
\textsuperscript{14} State Water Resources Control Board, correspondence to Mr. Craig Martin, City of Solvang from Mr. John O’Hagan, Chief, Compliance & Enforcement Unit, SWRCB, December 15, 1999.
\textsuperscript{15} California Court of Appeals, Cherry Valley Pass Acres and Neighbors v. City of Beaumont, November 22, 2010, 190 Cal. App 4th 316,
The City of Solvang currently has two active river wells that supply domestic water to its customers. Well Nos. 3 and 7A are located on the banks of the Santa Ynez River. These wells are both at risk of being under the influence of the Santa Ynez River because the surface water migrates across the channel. If surface water is within 150 feet of a well, the water from that well must be treated.

The level of treatment increases to full surface water requirements if the surface water is within 100 feet of the well. At present, Solvang does not have the ability to provide that level of treatment so a well must be shut down when the river flows close to it.

Well No. 3 is located just west of Alisal Road. It produces approximately 340 gpm. Water from this well is treated on-site with chloramines and discharged into 200 feet of 36 inch pipe. The large pipe serves as a chlorine contact chamber, to achieve the required contact time before water is discharged to the distribution system. Well No. 7A is located approximately 500 feet east of Well 3. Well 7A produces approximately 110 gpm. Chlorine contact time for this well is achieved in a 16-in diameter pipe before it is discharged into the distribution system.

While the current pumping capacity is approximately 450 gpm for both Well Nos. 3 and 7A, the City could improve the existing pumping rates by rehabilitating these wells. Additionally, the City could repair Well No. 5 and return it to service. To repair the damage to Well No. 5, the City would need to obtain a permit from the USACE pursuant to Section 404 of the CWA and CDFG pursuant to Section 1600 et al of the Lake and Streambed Alteration Program to complete work within the stream channel. If the City completed these activities, they could increase pumping to approximately 1,000 gpm total from the three wells which would allow the City to extract amounts at or near the prior historic peak levels.

The existing place of use is identified in water right Permit 15878 and is shown on Figure 3.0-4, Existing Place of Use per Water Right Permit 15878.

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16 The City could have completed work under a nationwide permit (NWP) regulation under Section 404 of the Clean Water Act (NWP Condition No. 3) if it had completed the repair, rehabilitation, or replacement of structures destroyed or damaged by storms, floods events, provided the repair, rehabilitation, or replacement is commenced, or was under contract to commence, within two years of the date of their destruction or damage.
### Table 3.0-1
City of Solvang Pump Records from January 1997 through June 1998
(acre-feet)

<table>
<thead>
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*Note: NA - information not provide in source data.*
### Table 3.0-2
City of Solvang Historic Water Use (acre-feet)

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<td>103</td>
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<td>33</td>
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Source: 2011 Water System Master Plan Update, April 2011, Table 2.1.
Note: NA – the City did not take SWP water in these years.
Well history: March 1993 Well Nos. 5 and 6 were taken out by flooding. September 1993 Well No. 3 comes on line. September 1995 Well No. 21 comes on line. November 1995 Well #No. 7A comes on line. August 2002 State Water comes on line, Well No. 21 becomes inactive.
State Water Project Infrastructure in Santa Barbara County

SOURCE: Santa Barbara County IRWIMP, Figure 4-3 - 2007

FIGURE 3.0-3
Points of diversion A and B were excluded from permit during 1980 petition.

LEGEND

- A POINT OF DIVERSION
- PLACE OF USE (PROPOSED)
- S.M.I.D. BOUNDARY (PRESENT PLACE OF USE)

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
APPLICATION
22423
SOLVANG MUNICIPAL IMPROVEMENT DISTRICT

SCALE
0 1/2 1 2 Mi.

DATE: 3-14-80
DRAWN: D.L.O.
CHECKED: T.M.

FIGURE 3.0-4

SOURCE: SWRCB Permit 15878 - July 1981