This section assesses impacts related to water supply and availability for the proposed project. The analysis of groundwater resources and hydrogeology presented in this section is based on a *Project Specific Hydrogeologic Report* prepared for the Monterey County Health Department, Environmental Health Division by Todd Engineers in September 2002 and updated July 2003. These reports summarize hydrogeologic and well data, evaluate the availability of sustainable long-term water supply for the proposed project, estimate the local water balance, and identify the potential effects the proposed project may have on surrounding groundwater resources. These reports are included in **Appendix F**.

3.6.1 ENVIRONMENTAL SETTING

SETTING

The project site has a Mediterranean climate where the summers are typically cool and dry and winters are mild and wet. Rainfall in the area averages approximately 16 inches per year. The project site is in the upper reaches of the El Toro Creek watershed, which flows from the Corral de Tierra Valley into the Salinas River to the east. Monterey County relies almost entirely on groundwater resources to meet water demands. Some of Monterey County's aquifers are experiencing localized over drafting, a condition where more water is pumped out of an aquifer than is recharged on an average yearly basis. This over drafting condition causes a decline in the water level thus requiring deeper wells. Over drafting has caused seawater intrusion in those aquifers in the northern end of Salinas Valley. When this occurs the aquifers must either be deepened, abandoned or water must be treated to dilute the salt concentration. Sufficient water resources exist within the County but the economic problems of storage and distribution make these resources unattainable.

HYDROGEOLOGY

The majority of the project site is located in the El Toro Groundwater Basin, with a small portion of the project site is located in the Salinas Valley Groundwater Basin. The El Toro Groundwater Basin is a much smaller basin than the three major basins in Monterey County (Salinas Valley, Carmel River, and North County). Groundwater flow within the aquifers is driven by the elevation of water levels with respect to sea level. Faults and dipping beds commonly impede the horizontal flow of groundwater thus creating boundaries of groundwater basins. Groundwater flow generally follows the topography and exits the *Toro Area Plan* planning area to the northeast. The Salinas Valley Groundwater Basin primarily flows to the Salinas River.

Groundwater basins are often broken up into several subareas. Subareas often have aquifers that are interconnected and laterally continuous within their respective geologic units. Therefore, water levels in subareas can influence nearby well water levels in other subareas. In the vicinity of the project site, groundwater is pumped from three water-bearing geologic units: the Aromas-Paso Robles Formation (also referred to as the Paso Robles Formation), the Santa Margarita Formation, and alluvium in local drainages.

The El Toro Groundwater Basin and the Salinas Valley Groundwater Basin are both split into five subareas based on topographic divides that control the movement of surface water and groundwater throughout the basins. As shown in **Figure 3.6-1**, **Groundwater Basin and Well Locations,** the project site lies in the El Toro Creek and San Benancio Gulch subareas of the El Toro Groundwater Basin and the Pressure subarea of the Salinas Valley Groundwater Basin.

El Toro Groundwater Basin

The five subareas of the El Toro Groundwater Basin include the El Toro Creek, San Benancio Gulch, Corral de Tierra, Watson Creek, and Calera Canyon. The El Toro Creek, Corral de Tierra, San Benancio Gulch subareas and the northern portion of Watson Creek subarea are hydraulically contiguous and hydro-geologically bound on three sides. The area is bound by the Laguna Seca Anticline to the north, by the Chupines fault to the south and by the Harper Fault to the east.

The El Toro Creek subarea of the El Toro Groundwater Basin includes approximately 408 acres with an estimated total recharge of approximately 74 acre-feet per year (AFY). The two water-bearing aquifers in the El Toro Creek subarea are the alluvial deposits flanking the creek and the Paso Robles Aquifer. A majority of the proposed residential units are located within the El Toro Creek subarea. The San Benancio Gulch subarea of the El Toro Groundwater Basin encompasses approximately 2,676 acres has an annual recharge of approximately 486 AFY. The underlying aquifers in the western portion of the San Benancio Gulch subarea are alluvial deposits, the Paso Robles Aquifer, and the Santa Margarita Aquifer. A portion of the 180-acre remainder parcel and both wells are located within the San Benancio Gulch subarea.

Salinas Valley Groundwater Basin

The five subareas of the Salinas Valley Groundwater Basin are the: Forebay, Pressure (180 and 400 Aquifer), East Side, Arroyo Seco, and Upper Valley. The northern portion of the project site and a portion of the 180-acre "Remainder parcel" along the eastern boundary lie within the Pressure subarea of the Salinas Valley Groundwater Basin. The Pressure subarea of the Salinas Valley Groundwater Basin is comprised of approximately 114,000 acres between Gonzales and the Monterey Bay. This subarea is composed mostly of confined and semi-confined aquifers separated by clay layers (aquicludes) that limit the amount of vertical recharge. The three primary water-bearing aquifers in the Pressure subarea are the 180-foot aquifer, the 400-foot aquifer, and the Deep aquifer.

Insert Figure 3.6-1 (Groundwater Basins and Subareas with Well locations)

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GROUNDWATER RESOURCES

Water Quantity

The proposed project would procure water from two existing wells within the San Benancio Gulch subarea of the El Toro Groundwater Basin, as shown in **Figure 3.6-1, Groundwater Basin and Well Locations**. The San Benancio Gulch subarea overlies two principal aquifers, the Paso Robles Aquifer and the Santa Margarita Aquifer. One of the wells was drilled within the approved Oaks Subdivision along San Benancio Road (hereinafter referred to as the "Oaks Well") and more recently a well was drilled near Harper Canyon Road (Assessor's Parcel Number 416-621-001-000) (hereinafter referred to as the "New Well"). In the vicinity of the Oaks Well, the Paso Robles Aquifer is approximately 400 feet thick and the Santa Margarita Aquifer is approximately 250 feet thick. Typical well yields and specific capacities for the two principal aquifers of the subarea are listed in **Table 3.6-1, Typical Well Yields for the Paso Robles and Santa Margarita Aquifers**.

TABLE 3.6-1
TYPICAL WELL YIELDS FOR THE PASO ROBLES AND SANTA MARGARITA AQUIFERS

Aquifer	Well Yield (GPM)	Specific Capacity (GPM/FT)
Paso Robles	Up to 200	2
Santa Margarita	Over 500	5

Notes: GPM = gallons per minute, GPM/FT = gallons per minute per foot

Source: Todd Engineers 2003

Moratorium

On November 24, 1992, the Monterey County Board of Supervisors adopted Ordinance No. 03647, which added the "B-8" Overlay Zoning District to a portion of the El Toro Groundwater Basin as show on **Figure 3.6-2, MCWRA Water Zones and Well Locations** due to water constraints identified and documented in the *Hydrogeologic Update: El Toro Area, Monterey County, California* (MCWRA 1991). The purpose of the B-8 Zoning District was to "restrict development and/or intensification of land use in areas where due to water supply, water quality, sewage disposal capabilities, traffic impacts or similar measurable public-facility type constraints, additional development and/or intensification of land use is found to be detrimental to the health, safety, and welfare of the residents of the area, or the County as a whole..."

An *Additional Hydrogeologic Update, El Toro Area Monterey County,* California (MCWRA 1996) was prepared, which evaluated the overall water supply in the B-8 zoning district and concluded, among other things, that a "Revision of the subareas would correct the 'paper deficits' that occur in subareas that are hydraulically connected. As a starting point,

it is suggested that the subareas north of the trace of the Chupines fault be aggregated into a single unit. This would combine the majority of the subareas of Corral de Tierra, Watson Creek, San Benancio Gulch, and El Toro Creek into a single Hydrogeologic unit...." The County Board of Supervisors accepted the report April 1996 but has not lifted the B-8 zoning designation from certain portions of the El Toro Groundwater Basin. Although the proposed project would procure water from within the San Benancio Gulch subarea of the El Toro Groundwater Basin, neither the wells for the proposed project nor the project site are located within a B-8 zoning designation.

The El Toro Groundwater Study, prepared by Geosyntec Consultants in July 2007 for the Monterey County Water Resource Agency determined that water bearing formations in this area dip in a northeasterly direction into the Salinas Valley. The geologic maps and cross-sections indicate that there are no barriers restricting groundwater flow from this portion of the El Toro Basin into the Salinas Valley. According to MCWRA, this portion of the El Toro Planning area, including the project site, receive benefits of sustained groundwater levels attributed to the operation of both the Nacimiento and San Antonio Reservoirs and will receive benefits of the Salinas Valley Water Project upon completion.

Groundwater Quality

Groundwater quality in the El Toro Groundwater Basin is considered fair to poor. The two principal aquifers, the Paso Robles Aquifer and the Santa Margarita Aquifer, have two different water quality characteristics. The Paso Robles Aquifer is of a calcium-bicarbonate type while the Santa Margarita Aquifer is of a sodium-chloride type.

Seawater Intrusion

Monterey County relies almost entirely on groundwater resources to meet water demands. Some of the County's aquifers experience localized over drafting, a condition where more water is pumped out of an aquifer than is recharged on an average yearly basis. This over drafting condition also causes a decline in the water level thus requiring deeper wells. Over drafting causes seawater intrusion in those aquifers in the northern end of Salinas Valley. When this occurs the aquifers must either be deepened, abandoned or water must be treated to dilute the salt concentration. Sufficient water resources exist within the County but the economic problems of storage and distribution make these resources unattainable.

Although seawater intrusion is not currently occurring the El Toro Groundwater Basin, the proposed project will procure water from within a special assessment zone "Zone 2C" established for the Salinas Valley Water Project. To help manage and protect groundwater resources, Monterey County Water Resource Agency (MCWRA) has developed the Salinas Valley Water Project (SVWP). The Salinas Valley Water Project (SVWP) addresses the water resources management issues within the Salinas Valley. It provides for the long-term management and protection of groundwater resources in the basin by meeting the following objectives: stopping seawater intrusion, and providing adequate water supplies

and flexibility to meet current and future (year 2030) needs. A special assessment zone (Zone 2C) has been established to obtain funding for the Salinas Valley Water Project and is shown in **Figure 3.6-2, MCWRA Water Zones and Well Locations**. Customers with Zone 2C are levied special assessment fees in exchange for availability of water. Portions of the El Toro Groundwater Basin are considered to be the Salinas Valley Water Project Zone 2C. The proposed project would procure water from the Oaks Well and New Well, which are both located within Zone 2C as shown in **Figure 3.6-2, MCWRA Water Zones and Well Locations**.

3.6.2 REGULATORY SETTING

SAFE DRINKING WATER ACT (SDWA)

The Safe Drinking Water Act (SDWA), originally passed by Congress in 1974 (amended 1986 & 1996), protects public health by regulating the nation's public drinking water supply. The law requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells. (SDWA does not regulate private wells that serve fewer than 25 individuals.) The US EPA is the governing authority that sets national health-based standards for drinking water in order to protect against both naturally occurring and man-made contaminants. Individual states and water systems work in conjunction with the US EPA to ensure these standards are met.

Originally, SDWA focused on treatment as the primary means of providing safe drinking water at the tap. The 1996 amendments recognized source water protection, operator training, funding for water system improvements, and public information as important components of safe drinking water. This approach helps ensure the quality of drinking water by protecting it from source to tap. (SDWA)

CALIFORNIA DEPARTMENT OF HEALTH SERVICES (CDHS)

In response to the 1996 federal Safe Drinking Water State Act requirements, Section 116540 of the California Health and Safety Code was enacted. This section states that,

> *"No public water system that was not in existence on January 1, 1998, shall be granted a permit unless the system demonstrates to the department that the water supplier possesses adequate financial, managerial, and technical capability (TMF) to assure the delivery of pure, wholesome and potable drinking water. This section shall also apply to any change of ownership of a public water system that occurs after January 1, 1998"*

Compliance with the element is required at the time of permit application.

STATE WATER RESOURCE CONTROL BOARD (SWRCB)/CENTRAL COAST REGIONAL WATER QUALITY CONTROL BOARD (RWQCB)

State Water Resources Control Board (SWRCB) was created more than 30 years ago (1967) by merging the State Water Quality Control Board and the State Water Rights Board together. This five-member board had the responsibility to protect water quality, balance competing demands on our water resources and resolve water disputes.

> *"The State Board's mission is to preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations."*

Dickey Water Pollution Act

The Dickey Act acknowledged that California's water pollution problems are primarily regional and depend on precipitation, topography, and population, as well as recreational, agricultural, and industrial development, all of which vary greatly from region to region, thus creating a need for a "State Water Pollution Control Board".

The Dickey Act established nine regional water pollution control boards located in each of the major California watersheds. Their primary responsibility is overseeing and enforcing the state's pollution abatement program. Gubernatorial appointees, representing water supply, irrigated agriculture, industry, and municipal and county government in that region, served on each Regional Water Board.

Nine Regional Water Quality Control Boards (RWQCB) representing the major watersheds of the state. These Regional Boards serve as the frontline for state and federal water pollution control efforts. The Central Coast Region spans from Santa Clara County south to northern Ventura County. The Region has 378 miles of coastline, including Santa Cruz and the Monterey Peninsula, the agricultural Salinas and Santa Maria Valleys, and the Santa Barbara coastal plain (SWRCB).

COUNTY OF MONTEREY

Monterey County Health Department, Division of Environmental Health (MCDEH)

The mission of the MCDEH is to prevent environmental hazards from occurring and to protect the public and resources from environmental hazards when they occur. They are agency responsible for water well permits for construction, destruction and modification as well as inspect placement of sanitary seal. They also conduct inspections, issue permits and monitor chemical and bacteriological water quality for small public water systems with less than 200 connections.

Monterey County General Plan

Policies

5.1.2 Land use and development shall be accomplished in a manner to minimize runoff and maintain groundwater recharge in vital water resource areas.

6.1.1 Increase uses of groundwater shall be carefully managed, especially in areas known to have groundwater overdrafting.

6.1.2 Water conservation measures for all types of land uses shall be encouraged.

53.1.3 The County shall not allow water consuming development in areas which do not have proven adequate water supplies.

53.1.5 Proliferation of wells, serving residential, commercial, and industrial uses, into common water tables shall be discouraged.

Toro Area Plan

Policies

5.1.2.1 Developments shall be designed to maintain groundwater recharge capabilities on the property.

6.1.4 New water supply wells for subdivision shall require seventy-two hour pump tests.

3.6.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines and standards used by the County of Monterey. For the purposes of this EIR, impacts are considered significant if the following could result from implementation of the proposed project:

1) Violate any water quality standards;
2) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted;
3) Otherwise substantially degrade water quality; and
4) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

Insert Figure 3.6-2 MCWRA Water Zones and Well Locations

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METHODOLOGY

A *Project Specific Hydrogeologic Report - Harper Canyon Realty, LLC Subdivision* was prepared for the Monterey County Health Department, Environmental Health Division by Todd Engineers in September 2002 and updated July 2003, in accordance with Title 19 of the Monterey County Code. These reports summarize available hydrogeologic data, examine the availability of sustainable long-term water supply for the project, identify potential effects the project may have on the quantity and quality of groundwater, and provide well testing data. These reports and letters related to groundwater are included in Appendix F.

The analysis included a review of available information pertaining to groundwater resources and hydrogeology including, but not limited to: *Monterey County General Plan* (Monterey County 1982); *Toro Area Plan* (Monterey County 1983); *Hydrogeologic Update - El Toro Area* (MCWRA 1991); and *Additional Hydrogeologic Update - El Toro Area* (MCWRA 1996).

PROJECT IMPACTS AND MITIGATION MEASURES

Long-Term Impact to Groundwater Resources

Impact 3.6-1 Implementation of the proposed project would result in an increase demand of approximately 12.75 acre feet per year, which would result in a long-term water demand increase on the El Toro Groundwater Basin. However, given project's groundwater recharge capability and the fact that water would be procured through wells located within the Salinas Valley Water Project Assessment Zone 2C, this increase in demand would be considered a **less than significant impact**.

According to the *Project Specific Hydrogeology Report – Harper Canyon Realty LLC Subdivision* (MCHD 2002, 2003), the proposed project would have a water demand of approximately 12.75 AFY based on a demand value of 0.75 AFY per residence. The proposed project would be served by two existing wells: the Oaks Well and the New Well, as shown in **Figure 3.6-1, Groundwater Basins and Subareas with Well Locations**. Both wells procure water from the Paso Robles Aquifer within the San Benancio Gulch subarea of the El Toro Groundwater Basin. According to the *Project Specific Hydrogeology Report – Harper Canyon Realty LLC Subdivision,* the San Benancio Gulch subarea is recharged by approximately 486 AFY through stormwater generation and precipitation. With buildout of approximately 542 units within the San Benancio Gulch subarea, the water demand is less than the annual recharge rate, providing a water surplus of approximately 29.9 AFY for the San Benancio Gulch subarea. According to the *Project Specific Hydrogeology Report – Harper Canyon Realty LLC Subdivision,* this water surplus would be able to accommodate the proposed project's water demand of approximately 12.75 AFY.

Water Supply

The Oaks Well would supply water to the proposed project and the approved Oaks subdivision, a nine-unit subdivision located along San Benancio Road. The Oaks Well and the New Well would be combined into one water system, which shall be operated by California-American Water Company (Cal-Am). The wells will procure water directly from the San Benancio Gulch subarea of the El Toro Groundwater Basin. Both the Oaks Well and New Well are located within the Salinas Valley Water Project Assessment Zone 2C and will not exacerbate the deficient water conditions within the El Toro Groundwater Basin. Cal-Am will operate the proposed project's water system as a satellite system to keep the water procured from wells within Zone 2C separate from water procured by Cal-Am within the B-8 zoning district and under a moratorium. The amount of water delivered to the Oaks and Harper Canyon Subdivisions must be equal to the amount pumped from the Oaks Well and New Well. Implementation of mitigation measure **MM 3.6-2b** would require monitoring of the pumping volumes to ensure that the amount of water delivered to the subdivisions is equal to the amount of water pumped. The water distribution system would be considered a state small water system and would be under the jurisdiction of Monterey County Health Department, Environmental Health Division.

As a condition of approval, the project applicant shall be required to enter into a main extension agreement with California-American Water Company for the New Well and subsequently, the existing main extension agreement for the Oaks subdivision well may be subject to revision. The main extension agreement shall identify that the water system shall be operated as a satellite water system.

Water Balance

The El Toro Creek subarea, San Benancio Gulch subarea, Corral de Tierra subarea, and the northern portion of Watson Creek subarea of the El Toro Groundwater Basin are located north of the Chupines fault and are considered to be interconnected. The predicted water demand for these four subareas upon buildout of 1,288 units is less than the recharge rate, providing a water surplus of approximately 320.7 AFY in this area of the El Toro Groundwater Basin, as shown in **Table 3.6-2, El Toro Groundwater Basin Water Balance Upon 1995 Estimated Buildout**. The proposed project's water demand of approximately 12.75 AFY would be met by the 29.9 AFY water surplus within the San Benancio subarea. According to Monterey County Health Department, Environmental Division, there is adequate source capacity for the proposed project and the proposed project should have a negligible effect on the aquifer and nearby existing wells (MCHD 2002a). Therefore, the proposed project would have a long-term water supply and the impact on regional groundwater resources would be considered **less than significant**. No mitigation measures are necessary.

TABLE 3.6-2
EL TORO GROUNDWATER BASIN WATER BALANCE UPON 1995 ESTIMATED BUILD-OUT

Subarea	Recharge (AFY)	1995			Buildout		
		Units	Demand (AFY)	Surplus (AFY)	Units	Demand (AFY)	Surplus (AFY)
San Benancio Gulch	486	413	342.2	143.8	542	456.1	29.9
El Toro Creek	74	1	1.1	72.9	175	69.3	4.7
Corral de Tierra	607	686	582.2	24.8	986	781.4	-174.4
Watson Creek	855	188	206.4	648.6	365	394.5	460.5
Totals	**2,022**	**1,288**	**1,131.9**	**890.1**	**2,068**	**1,701.3**	**320.7**

NOTES: AFY = Acre Feet per Year
1995 Demand and Buildout based on projections from Additional Hydrogeologic Update, El Toro Area (Fugro 1996).
Recharge is based on 2.18 inches per year using soil-moisture methodology (Feeney, 2000).

Source: Todd Engineers 2003

Drinking Water Quality Below Thresholds

Impact 3.6-2 Implementation of the proposed project would result in the extracting of groundwater that does not meet the California Department of Health Services Maximum Contaminate Levels (MCLs) for total dissolved solids, electrical conductivity, chloride, manganese, and arsenic. This would be considered a **potentially significant impact**.

Water extracted for the proposed project is procured from the Paso Robles Aquifer, however the water quality is consistent with the Santa Margarita Aquifer, in that it has sodium-chloride characteristics. According to the *Project Specific Hydrogeology Report – Harper Canyon Realty LLC Subdivision*, water quality tests for both wells met primary drinking water standards but exceed secondary standards. However, since the wells were tested, the primary maximum contaminate levels (MCLs) for arsenic have been lowered to 10 parts per billion (ppb). Exceeding primary maximum contaminate levels (MCLs) may pose health risks and are enforceable by law, while secondary standards are guidelines based on such criteria as taste, odor and laundry staining and are not regulated.

Water quality data from the Oaks Well was collected in 2000 and determined that the Oaks Well met current primary drinking water standards. However, the *Project Specific Hydrogeology Report – Harper Canyon Realty LLC Subdivision* did not include specific water quality data. The New Well was sampled for water quality in 2003. **Table 3.6-3**, **New Well Constituents Exceeding Primary and Secondary Drinking Water Standards** summarizes the water quality test results for the New Well. According to the *Project Specific Hydrogeology Report – Harper Canyon Realty LLC Subdivision,* the New Well

met current primary drinking water standards. It is likely that the Oaks Well will be required to treat for arsenic and based on the water quality data for the New Well, the new primary drinking standards are exceeded for arsenic with a concentration of 28 ppb.

The primary mode of exposure to arsenic is ingestion. Ingestion of inorganic arsenic can result in both cancer and non-cancer health effects. Arsenic interferes with a number of essential physiological activities, including the actions of enzymes, essential cations, and transcriptional events in cells. The U.S. EPA has classified arsenic as a Class A human carcinogen. Chronic exposure has been linked to health complications, including cancer of the skin, kidney, lung, and bladder, as well as other diseases of the skin, neurological, and cardiovascular system. To avoid or eliminate arsenic contamination, systems may need to take a number of actions, including enacting a source water protection programs to prevent contamination.

Both wells exceed secondary esthetic standards for total dissolved solids (TDS), electrical conductivity, and manganese. The New Well also exceeds the secondary MCL for Chloride and has elevated hardness and sodium although maximum contaminant levels (MCLs) have not been established for these constituents. High concentrations of secondary constituents such as TDS, chloride, electrical conductivity and manganese were found within in the water quality samples from both wells. These concentrations may adversely affect the taste, odor or appearance of drinking water. The Secondary MCLs do not pose any known health risks are only evaluated for their aesthetic affect.

TABLE 3.6-3
NEW WELL CONSTITUENTS EXCEEDING THE PRIMARY AND SECONDARY DRINKING WATER STANDARDS

Primary Constituents	Current MCL	New Well Concentration	Effect
Arsenic	10 ppb	28 ppb	Skin damage or problems with circulatory systems, and may have increased risk of getting cancer
Secondary Constituents	**Current MCL**	**Constituent Concentration**	**Effect**
Chloride	250 ppm	263 ppm	Odor, Taste, Corrosion & Staining
Manganese	50 ppb	169 ppb	Odor, Taste, Color, Corrosion & Staining
Electrical conductance	900 umhos/cm	1120 umhos/cm	
Total Dissolved Solids	500 ppm	689 ppm	Odor, Taste, Color, Corrosion & Staining

NOTES: MCL = Maximum Contaminate Level, ppm = parts per million, Ppb = parts per billion
Umhos/cm = micromhos per centimeter

Source: Todd Engineers 2003

As the maximum contaminate levels for arsenic were recently lowered to 10 ppb, the New Well does not meet primary drinking water standards for arsenic and the Oaks Well would most likely not meet the new standard. This would be considered a **potentially significant impact**. The following mitigation measures have been provided to ensure that the water system improvements meet the standards of Monterey County.

Mitigation Measures

MM 3.6-2a Prior to recording the Final Subdivision Map, Monterey County Health Department, Environmental Health Division shall require that the project applicant contract with a qualified engineer to design and install water system improvements to meet the standards as found in Chapter 15.04 and 15.08 of the Monterey County Code, Titles 17 and 22 of the California Code of Regulations, the Residential Subdivision Water Supply Standards and California Public Utility Commission Standards. Water system improvement plans shall identify the water treatment facilities and how the water treatment facilities will remove all constituents that exceed California Primary and Secondary MCLs (e.g. arsenic, coliform, TDS, iron, etc.) from drinking water. These plans shall be subject to review by the Monterey County Health Department, and Environmental Health Division, California-American Water Company.

MM 3.6-2b Prior to recording the final subdivision map, the project applicant shall provide to Monterey County written agreement between the project applicant, the owner of the Oaks Subdivision, and the water purveyor requiring: a) the project applicant to convey to the water purveyor the newly constructed well, complete with water distribution and treatment infrastructure and fire flow water supply; b) the water purveyor shall operate the system as a satellite or stand alone system providing domestic and fire flow water supply to the subdivision in accordance with *Title 22, California Code of Regulations* and California Public Utility Commission standards. The total cost of water distribution infrastructure is to be born by the project applicant and not the water purveyor or its customers. This satellite water system is prohibited to be consolidated with any other water system pumping of water solely outside of Monterey County Water Resources Agency Zone 2C.

MM 3.6-2c Within one month of completing of the water system improvements, the Monterey County Health Department, Environmental Health Division shall require that the project applicant transfer the operation and monitoring of the water system to California-American Water Company. The water system operator shall monitor the water pumping volume and water quality of the Oaks Well and New Well in accordance with Chapters 15.04 and 15.08 of the *Monterey County Municipal Code* and Section 64480 of *Title 22, California Code of Regulations*. The amount

of water delivered to the Oaks Subdivisions and Harper Canyon Subdivisions must be equal to the amount of water pumped from the Oaks Well and New Well. The water system operator shall have a qualified engineer prepare a water audit report, which shall be subject to review by the Monterey County Health Department, Environmental Health Division and Monterey County Water Resources Agency. The water audit report shall provide the water pumping volume and water quality, if the actual water pumping volume exceeds the estimated 12.75 AFY for the proposed project plus the 4.66 AFY for the Oaks Subdivision, the Monterey County Health Department, Environmental Health Division and Monterey County Water Resources Agency shall be notified immediately in writing. At that time, an evaluation of the water system may be required to determine if there is a maintenance issue or if further conservation restrictions are required.

Implementation of the above mitigation measures **MM 3.6-2a** through **MM 3.6-2c** would ensure that potable water for the proposed project meets the safe drinking water standards. Therefore, the water quality impact would be reduced to a **less than significant** level.

Adversely Affect Nearby Wells

Impact 3.6-3 Implementation of the proposed project would result in long-term groundwater pumping. However, pumping groundwater from the Oaks Well at rate of 4 GPM and from the New Well at a rate of 12 GPM for 20 years would result in a drawdown of less than two feet within 1,000 feet from neighboring wells, which is considered negligible according to Monterey County Health Department, Environmental Health Division. Therefore, this would be considered a **less than significant impact**.

Seven wells are located in the vicinity of the Oaks Well and the New Well. The San Benancio School well located approximately 1,000 feet north of the Oaks Well; the Ambler Park well is located approximately 1,500 feet west of the Oaks Well; and there are an additional five wells within 2,000 feet of the New Well. It is unknown what volume of water, if any, is pumped from the five wells within 2,000 feet of the New Well, but they are likely domestic wells with small pumping volumes. If pumping of groundwater associated with the proposed project creates drawdown in nearby wells to a point were the existing or permitted land uses can no longer be sustained, the proposed project may adversely affect nearby wells.

In accordance with Policy 6.1.4 in the *Toro Area Plan*, 72-hour pumping tests were conducted on the Oaks Well and the New Well to determine pumping rates and potential affect on other wells. The proposed project would result in a total water demand of 12.75 AFY or 8 GPM (MCHD 2002, 2003). According to the *Project Specific Hydrogeology Report – Harper Canyon Realty LLC Subdivision*, pumping groundwater from the Oaks Well at rate of 4 GPM and from the New Well at a rate of 12 GPM for 20 years would

result in a drawdown of less than two feet within 1,000 feet from the wells. Pumping groundwater from the Oaks Well at a higher rate to accommodate the proposed project would not affect neighboring wells because the cone of depression around the Oaks Well would go deeper rather than wider in radius. According to Monterey County Health Department, Environmental Health Division the proposed project is expected to have negligible effects on the nearby existing wells (MCHD 2002b). Therefore, the impact on nearby wells would be considered a **less than significant impact.**

Cumulative Impacts and Mitigation Measures

Cumulative Adversely Affect on the Surrounding Subareas.

Impact 3.6-4 Implementation of the proposed project (without septic tank systems and minimal landscaping) would reduce the amount of return flow to the El Toro Groundwater Basin by approximately 5.88 AFY. However, the four individual subareas of the Basin are considered interconnected, and combined would have net surplus of approximately 314.82 AFY. Therefore, the loss of 5.88 AFY would be considered minimal and according to Monterey County Health Department, Environmental Health Division, the proposed project would have negligible effects on the aquifer in this region. This would be considered a **less than significant cumulative impact.**

The proposed project will include minimal landscaping and will dispose of wastewater at a wastewater treatment plant and will not include septic tanks at the project site. This is not consistent with the assumptions made for the predicted water demand upon buildout of the El Toro Groundwater Basin. The water demand upon buildout of the El Toro Groundwater Basin assumed that approximately 57.6 percent of the total residential demand would be for interior water uses and 42.4 percent for exterior water use. Approximately 80 percent of the interior water demand was assumed to return to the groundwater basin through septic tank systems and 20 percent of the exterior water demand was assumed to be return to the groundwater basin through percolation. Since wastewater disposal for the proposed project will be conveyed to a wastewater treatment plant and the proposed project would have minimal landscaping, the loss of return flow to the El Toro Groundwater Basin is estimated to be approximately 5.88 AFY (12.75 AFY total water demand x 57.60 percent interior usage x 80 percent interior usage return via septic system). This reduction in water, which would recharge the groundwater basin, may affect cumulative development within some of the four interconnected subareas located north of the Chupines fault within the El Toro Groundwater Basin

As shown in **Table 3.6-4, El Toro Groundwater Basin Water Surplus Upon Buildout Minus Loss of Return Flow,** the loss 5.88 AFY of return flow lost due to the proposed project is greater than the 4.7 AFY water surplus for the El Toro Creek subarea. According to the *Project Specific Hydrogeology Report – Harper Canyon Realty LLC Subdivision* the water balance for the El Toro Creek subarea should be recalculated if future developments are

proposed within that subarea. Upon buildout of the El Toro Groundwater Basin, the Corral de Tierra subarea would not meet the estimated water demands by approximately 174.4 AFY, with or without the proposed project. According to the *Project Specific Hydrogeology Report – Harper Canyon Realty LLC Subdivision* development should be extremely rationed in the Corral de Tierra subarea.

TABLE 3.6-4
EL TORO GROUNDWATER BASIN
WATER SURPLUS UPON BUILDOUT MINUS LOSS OF RETURN FLOW

Subarea	Buildout Surplus (AFY)	Loss of Return Flow (AFY)	Remaining Surplus (AFY)
San Benancio Gulch	29.9	-5.88	**24.02**
El Toro Creek	4.7	-5.88	**-1.18**
Corral de Tierra	-174.4	-5.88	**-180.26**
Watson Creek	460.5	-5.88	**454.62**

NOTES: AFY = Acre Feet per Year
1995 Demand and Buildout based on projections from Additional Hydrogeologic Update, El Toro Area (Fugro, 1996).
Recharge is based on 2.18 inches per year using soil-moisture methodology (Fugro, 1996).

Source: Todd Engineers 2003

Although the loss of return flow associated with the proposed project may have an adverse impact on some of the individual subareas, the four subareas are considered to be interconnected and will maintain an overall water surplus of approximately 314.82 AFY. Since four interconnected areas would have net surplus of approximately 314.82 AFY, the loss of 5.88 AFY would be considered minimal. According to Monterey County Health Department, Environmental Health Division, the proposed project would have negligible effects on the aquifer in this region (MCDH 2002a). Therefore, this would be considered a **less than significant cumulative impact.**

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