

## **APPENDIX S**

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Draft Mariposa Lakes Specific Plan Project  
SB 610 Water Supply Assessment Stockton, California

**NOVEMBER 17, 2006**

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**MARIPOSA LAKES SPECIFIC PLAN PROJECT  
SB610 WATER SUPPLY ASSESSMENT  
STOCKTON, CALIFORNIA**

**Prepared for:**

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## 1. Introduction

Gerry N. Kamilos, LLC, John Vernor and others have formed PCCP Mariposa Lakes LLC which is proposing a large development project, Mariposa Lakes Specific Plan (MLSP), for an approximately 3,810 acre area located in the unincorporated area of the City of Stockton (City) east and north of Mariposa Road, South of Farmington Road (SR 4), east of the Stockton city limits and west of Kaiser Road. Figure 1 is a regional map and Figure 2 is a vicinity map for the proposed project. The proposed development area is to be annexed by the City of Stockton. The scale of development for Mariposa Lakes exceeds criteria set forth in California state law pertaining to the requirement for preparation of a Water Supply Assessment (WSA) report (Senate Bill (SB) 610, California Water Code Section 10912).

The City Community Development Department sent a letter to California Water Service Company (Cal Water) as the water service provider for approximately half of the proposed development area requesting that a WSA be prepared for the portion of the development to be served by Cal Water. Water service for the remaining half of the Mariposa Lakes Specific Plan will be provided by the City of Stockton Municipal Utilities Department (COSMUD). On October 2, 2006, COSMUD submitted a WSA for its portion of the proposed development to the Community Development Department.

The Mariposa Lakes Specific Plan is not covered in Cal Water's Stockton District 2004 Urban Water Management Plan (UWMP); therefore, its water requirements and how they would be met are addressed in this WSA. The Stockton District UWMP document provides historic and forecasted water demand and supply data and analyses and can be referenced for more detailed information on those topics. Cal Water updates its Urban Water Management Plans every three years.

Senate Bill 610 (Chapter 643, Statutes of 2001) (SB 610) amended state law, effective January 1, 2002, to improve the link between information on water supply availability and land use development decisions made by cities and counties. SB 610 requires that detailed information regarding water supply availability be provided to local public agency decision-makers prior to approval of development projects that meet or exceed any of the following criteria:

1. A residential development of more than 500 dwelling units.
2. A shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet.
3. A commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
4. A hotel or motel with more than 500 rooms.

5. An industrial, manufacturing or processing plant or industrial park planned to house more than 1,000 persons occupying more than 40 acres of land or having more than 650,000 square feet of floor area.
6. A mixed-used project that includes one or more of the projects specified above.
7. A project that would demand an amount of water equivalent to, or greater than the amount of water required by a 500 dwelling unit project.

Since the proposed Mariposa Lakes Specific Plan exceeds a number of the above criteria, a SB 610 WSA is required.

A SB 610 WSA must address the adequacy of the water supply to meet the estimated demands of the proposed project over the next 20 years in addition to those of Cal Water's existing customers and other anticipated future users under normal, single dry year and multiple dry year conditions, and determine whether there is sufficient water supply to meet those needs. (Water Code §10911(a).)

Section 5, Water Code 10910, Paragraph (c) (3) states: *"If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water supply system has no urban water management plan, the water assessment for the project shall include a discussion with regard to whether the public water supply system's total projected water supplies during normal, single dry, and multiple dry water years during a 20 year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned for future uses, including agricultural and manufacturing uses."*

SB 610 requires that the information developed to address the adequacy of water supply be included in the administrative record that serves as the evidentiary basis for an approval action by the local public agency.

Under SB 610, water assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code 10912 [a]) subject to the California Environmental Quality.

The following are covered in this WSA:

- 1) Summary of existing conditions for the proposed development area
- 2) Summary of Mariposa Lakes Specific Plan (MLSP) proposed development
- 3) MLSP projected water demands for the next 20 years,
- 4) Cal Water Stockton District projected water demands for the next 20 years
- 5) City of Stockton Metropolitan Area (COSMA) General Plan Update projected water demands for the City of Stockton Municipal Utilities District and San Joaquin County as well as Cal Water Stockton District

- 6) Description and assessment of Cal Water's proposed water supply to meet MLSP and Stockton District demands for the next 20 years
- 7) Conclusion about the sufficiency of supply to MLSP and Stockton District demands

## 2. Description of Existing Conditions at the Proposed MLSP Development Area

The proposed MLSP development area is generally flat agricultural land used for growing nut trees (mainly almonds) and vegetables. Two creeks bisect the site and currently provide site drainage: Duck Creek to the north and North Littlejohns Creek to the south. Vegetables are grown on a few parcels north and south of Duck Creek (See Figure 3). There are three small residential areas: 1) along Farmington Road, 2) along Carpenter Road and 3) north of Mariposa Road. The western half of the project site is within the Flood Control Area Drainage District but is not an aquifer recharge area. Within the site, fifteen parties own 38 recorded parcels, ranging from 3.1 acres to 466 acres in area. Existing land uses within the MLSP area that will not change include: the state highway and county rights-of-way, portions of the adjacent railroad, the three residential areas and a 5 acre parcel on the north side of Mariposa Road.

## 3. Summary of Mariposa Lakes Specific Plan Proposed Development

The MLSP proposed development covers 3,810 acres. Following is a summary of the land use plan for the **Total Development (COSMUD + Cal Water Service Area)**:

- Residential:
  - Low Density (4 dwellings units/acre): Acres: 1,108, Dwelling units: 4,520
  - Medium Density (7 dwellings units/acre): Acres: 554, Dwelling units: 3,807
  - High Density (17 dwellings units/acre): Acres: 111, Dwelling units: 1,874
  - Total (6 dwellings units/acre): Acres: 1 773, Dwelling units: 10,201
- Commercial:
  - Neighborhood: Acres: 43, Square feet of building: 463,914, Jobs: 911
  - Village: Acres: 64, Square feet of building: 698,049, Jobs: 1,369
  - Total: Acres: 107, Square feet of building: 1,161,963, Jobs: 2,280
- Industrial/Business/Professional:
  - Business/Professional: Acres: 127, Square feet of building: 2,759,526, Jobs: 11,039
  - General Industrial: Acres: 722, Square feet of building: 16,476,788, Jobs: 22,921
  - Total: 849 Acres, Square feet of building: 19,236314, Jobs: 33,960
- Educational:
  - Elementary Schools (6): Acres: 96
  - High School: Acres: 54
  - College: Acres: 20
  - Religious/Institutional: 18

Total: Acres: 188

- Parks and Open Space: Acres: 426
- Miscellaneous:
  - Amtrak Station: Acres: 8
  - Circulation (roads, bike and pedestrian pathways): Acres: 307
  - Existing residential: Acres: 146
  - Total: Acres: 461

Following is a summary of the land use plan for the **Cal Water Service Area**:

- Residential:
  - Low Density (4 dwellings units/acre): Acres: 442.2, Dwelling units: 1,739
  - Medium Density (7 dwellings units/acre): Acres: 318.6, Dwelling units: 2,107
  - High Density (17 dwellings units/acre): Acres: 24.1, Dwelling units: 434
  - Total: Acres: 784.9, Dwelling units: 4,280
- Commercial:
  - Total: Acres: 34.6, Square feet of building: 375,740, Jobs: 737
- Industrial/Business/Professional:
  - Industrial: 470.4 Acres, Square feet of building: 10,658,140, Jobs: 18,820
  - Business/Professional: 122.8 Acres, Square feet of building: 2,783,360, Jobs: 4,910
  - Total: 593.2 Acres, Square feet of building: 13,440,500, Jobs: 23,730
- Educational/Institutional:
  - Elementary Schools (2): Acres: 32
  - High School (1): Acres: 53.8
  - Religious/Institutional: Acres: 18
  - Total: Acres: 103.8
- Community Parks (irrigated): Acres: 64.5
- Miscellaneous:
  - Existing residential: Acres: 146

#### **4. Water Demand Forecasts**

##### **Cal Water Service Area within the Mariposa Lakes Specific Plan Area**

The following demand forecast is for full build-out of Cal Water's service area within Mariposa Lakes Specific Plan area.

##### Residential:

➤ Single-Family

For the five-year period from 1999 to 2003, average water consumption for single-family residences in the Cal Water Stockton District was 149,444 gallons/year/service or 409.4 gallons/day/service.

For single-family (and multi-family) residences in the Mariposa Lakes Specific Plan, it is proposed that 90% of the five year average daily water usage be used for the following reason. Water conservation measures will be incorporated into MLSP development. These will include: Xeriscape landscaping (low water consuming plantings; hence, lower irrigation demand), low flush toilets, low flow shower heads, and water conserving washing machines. While the American Water Works Association ([www.AWWA.org](http://www.AWWA.org)) indicates that conservation measures (installation of more efficient water fixtures and regular checking for water leaks) results in a 30% reduction in internal residential water use, it is also recognized that water consumption for existing residences in the Cal Water Stockton District is preponderantly for older homes with small lots. These homes are likely to have fewer water fixtures than the new homes to be constructed in Mariposa Lakes, which are likely to include front yard landscaping with automatic irrigation systems. Hence, while there will be reductions in water use due to conservation measures being incorporated into the new homes, that may be offset by higher levels of water use associated with more fixtures and automatic landscape irrigation. Consequently, 90% of the Stockton District 5-year average is used here to forecast demand for single family and multi-family residences at build out in Mariposa Lakes.

Therefore, the single-family residential water annual average day forecasted demand is:

<u>Dwelling Units</u>	<u>Gallons/day/Unit</u>	<u>Total Water Use</u>
3,846	368.5	1,417,250 gallons/day

➤ Multi-family

For the five-year period from 1999 to 2003, average water consumption for multi-family residences was 88,133 gallons/year/service or 241.5 gallons/day/service. Using a 90% factor to account for water conservation measures incorporated into these residences, results in a value of 217.4 gallons/day/service.

Therefore, the multi-family residential water annual average day forecasted demand is:

<u>Dwelling Units</u>	<u>Gallons/day/Unit</u>	<u>Total Water Use</u>
434	217.4	94,350 gallons/day

Total Residential Annual Average Day Demand at Build out: 1,511,600 gallon/day

Commercial:

Commercial land acreage is projected to be 34.6 acres with 375,740 sq ft of building space.

The County Sanitation Districts of Los Angeles (CCDLA) developed a table of estimated demand for various types of commercial activities. Since in a WSA prepared for a development project in Torrance, CA, there was good agreement between the estimate of residential water usage derived from Cal Water data and that determined by using CCDLA data, estimates of water demand for commercial activities using CCDLA factors for those activities were used. They are summarized below and are used here since there is likely very little differences in internal water use for common standardized commercial stores within California.

<b>County Sanitation Districts of Los Angeles</b>	
<b><u>Commercial Activities Water Use Factors</u></b>	
<b><u>Category</u></b>	<b><u>Average Use</u></b> <b><u>gallons/day/sq ft</u></b>
<b><u>Recreation/Entertainment:</u></b>	
Multiplex movie theater	0.138
Bowling Alley	0.165
Fitness Center	0.165
Multi-purpose Recreation Center	0.85
<b><u>Retail:</u></b>	
Shopping Center	0.358
Electronic Superstore	0.110
Home Improvement	0.110
Discount Club	0.110
Home Furnishing	0.110
Office Supp	0.110
Pet Supply	0.110
Supermarket	0.65
<b><u>Hotel:</u></b>	0.138 gallons/room
<b><u>Restaurants:</u></b>	
High turnover	1.100
Fast Food	1.100
Quality	1.100

For another reference for commercial usage, measured water use in a new small shopping center with a mix of commercial activities in Cal Water's Mid-Peninsula District, which includes San Mateo, CA was obtained in another WSA study. Cal Water calculated an average use factor of 0.2 gallons/day/square ft.

Since no specific designation of commercial activities is identified for the MLSP, it is assumed that there will be a mix with the weighting as follows:

85 % retail (0.2) + 10% restaurants (1.10) + 5% recreation/entertainment (0.19) = 0.29 gallons/day/sq ft

Therefore, annual average day commercial water use at build out is estimated to be:

375,740 sq ft x 0.29 gallons/sq ft = 109,000 gallons/day

Industrial/Business/Professional:

Business/Professional: 122.8 Acres, Square feet of building: 2,783,360, Jobs: 4,910

➤ *Industrial:*

The MLSP indicates industrial uses as: 470.4 Acres, 10,658,140 square feet of building, and 18,820 jobs. It indicates that designated industrial uses may include large assembly and storage areas, warehousing, professional and medical offices and wholesale retail outlets such as Costco and Home Depot. Prohibited uses include outside manufacturing, heavy industrial fabrication, processing, assembling and repair. Industrial uses are to be in accordance with City of Stockton's General Plan (Updated) and development codes. Buildings will be situated so that there is adequate space for parking and vehicular circulation.

Using the Urban Water Supply Handbook (McGraw-Hill 2002) in Table 5.9 (Average Rates of Non-residential Water Use from Establishment Level Data) as a reference, an estimate of water demand was developed. Water use factors vary widely in gallons per employee per day (g/e/d) depending on the type of industry. The overall average for manufacturing is 164 g/e/d based on a sample size of 2,790 manufacturing operations. Since this number includes industrial categories that are excluded from Mariposa Lakes such as chemicals and allied products, petroleum and coal products, primary metal industries, etc. and categories that are not likely for this area, which have very high water use rates, it is not considered appropriate for the MLSP. The following industries and business activities were selected and a weighted average value was calculated as follows:

MANUFACTURING (50%): Average = 125 g/e/d

Electronic and other electrical: 95 g/e/d

Instruments and related products: 66 g/e/d

Printing and publishing: 37 g/e/d

Food and kindred products: 469 g/e/d

Lumber and wood products: 49 g/e/d

Miscellaneous manufacturing: 36 g/e/d

WHOLESALE (25%): Average = 66.5 g/e/d













































































