

# **City of Pleasanton**

---

## **Water Supply Assessment for East Pleasanton Specific Plan**

**DRAFT**

**July 2013**

**Prepared by:**

---

**WJM C&E for  
Kier & Wright Civil Engineers and Surveyors, Inc.  
2850 Collier Canyon Road Livermore CA 94551**

---

**TABLE OF CONTENTS**

---

	<b>Page No.</b>
Abbreviations and Acronyms.....	iii
Section 1. Introduction .....	1
Section 2. Project Description.....	3
2.A. East Pleasanton Specific Plan – Project Description .....	3
2.B. Project Location.....	3
Section 3. Water Supplies.....	4
3.A. Water Supplies Available to the EPSP - Recycled Water.....	4
3.B. Sources for Recycled Water .....	5
Section 4. Water Demands.....	7
4.A. Potable Residential Demands .....	8
4.B. Recycled Water Residential Demands.....	8
4.C. Non-Residential Water Demands .....	9
4.D. Recycled Water Non-Residential Demands .....	9
4. E. EPSP Water Demands.....	9
Section 5. Adequacy of Water Supply.....	10

**List of Tables**

Water Demand Factors .....	7
Table 1 – East Pleasanton Specific Plan Area Land Use Table	
Table 2 – Summary of Water Demands for Each SPESP Land Use Option	
Table 3 – Water Demands for EPSP Land Use Option 1	
Table 4 – Water Demands for EPSP Land Use Option 4	
Table 5 – Water Demands for EPSP Land Use Option 5	
Table 6 – Water Demands for EPSP Land Use Option 6	

**List of Figures**

Included in Appendix B

**Appendices**

Appendix A – City of Livermore Recycled Water Service Agreement	
Appendix B – East Pleasanton Background Report Figure 1	
East Pleasanton Background Report Figure 3	

## Abbreviations and Acronyms

AF or af	Acre Feet
AFY or afy	Acre Feet per Year
BOR	US Bureau of Reclamation
CA	California Aqueduct
CEQA	California Environmental Quality Act
COP	City of Pleasanton
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
DHS	State of California, Department of Health Services
DMC	Delta Mendota Canal
DMM	Demand Measurement Measures
DWR	State of California, Department of Water Resources
ET <sub>o</sub>	Evapotranspiration
GMP	Groundwater Management Plan
gpcd	gallons per capita per day
GPM or gpm	Gallons per Minute
gpm/ft	gallons per minute per foot (units of transmissivity)
MG	Million Gallons
MGD	Million Gallons per Day
M&I	Municipal and Industrial
mg/l	Milligrams per liter
NWS	National Weather Service
ppb	Parts per billion (identical to ug/l)
ppm	Parts per million (identical to mg/l)
RWQCB	Regional Water Quality Control Board
SWP	State Water Project
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
ug/l	Micrograms per liter
USBR	United States Bureau of Reclamation
USEPA	United States Environmental Protection Agency
UWMP	Urban Water Management Plan
WPS	City of Patterson 2006 Water Planning Study
WTP	Water Treatment Plant
WTSF	Water Treatment and Storage Facility

## Section 1. Introduction

The East Pleasanton Specific Plan (EPSP) area includes Lakes I and H and Cope Lake and the areas between these lakes. The Project consists of approximately 1,110 acres, of which up to 406 acres are potentially developable. The Project is being completed by the City of Pleasanton and is one of the specific plan areas called for by the City's 2009 General Plan.

According to California Water Code Section 10910(b), any city or county that determines a new development project is subject to the California Environmental Quality Act (CEQA) must prepare a water supply assessment (WSA) if the development qualifies as a "project" pursuant to Water Code Section 10912. The City has determined that CEQA applies to the Project, and has commenced preparation of an environmental impact report. The City has determined the Project's planned non-residential building square footage of at least 1,500,000 square feet and 1,000 units requires a water supply assessment be prepared.<sup>1</sup>

If there is a "public water system" for the Project, the water supplier shall prepare the water supply assessment.<sup>2</sup> A public water system is defined as a system that has 3,000 or more service connections and provides piped water to the public for public consumption.<sup>3</sup> Under this definition, the City is a "public water system" as it provides piped water to the public for consumption and has more than 21,000 service connections. The City's water supply consists of 3,500 ac-ft of groundwater and wholesale treated water deliveries from Zone 7 Water Agency (roughly 80% of City annual deliveries). Because the City will provide the water supply for the Project, the City is responsible for preparing the WSA for the EPSP Project.

---

<sup>1</sup> See Water Code Section 10912(a)(2). The Project is a proposed business establishment having more than 500,000 square feet and has more than 500 residential units.

<sup>2</sup> Water Code Section 10910(b), (g)(1).

<sup>3</sup> Water Code Section 10912(c).

As a threshold matter, if a proposed project has been the subject of a WSA that complies with Water Code Section 10910 et seq., no additional WSA is necessary.<sup>4</sup> The City's 2010 Urban Water Management Plan (UWMP) evaluated the City's 2009 General Plan (GP). The project area is identified within the GP as a specific plan area, so the adequacy of this Project's water supplies has been addressed. Thus, in this document, there will be a consistent reference to the 2010 UWMP and the analysis and findings within that document.

The City receives the majority of its water supplies from Zone 7 Water Agency. Both the City of Pleasanton and the Zone 7 2010 UWMPs state that current supplies cannot support increases in system demands beyond the year 2015. The City's 2010 UWMP contemplates potable water service to its new and redevelopment areas with the implementation of conservation programs and use of recycled water to meet some of the existing potable water irrigation demands. This EPSP WSA assumes the Project will fully mitigate its water supplies through the implementation of programs defined in the 2010 UWMP.

---

<sup>4</sup> Water Code Section 10910(h).

## **Section 2. Project Description**

### **2.A. East Pleasanton Specific Plan – Project Description**

The Project consists of development of between 1,000 to almost 2,154 residential units (includes single family residential to high density multi-family), and 1.7 to 2.8 million square feet of light industrial, retail, and office building space—see Table 1. Four land use options for the Project were evaluated. The land use option that creates the largest demand on either the potable (Option 6) or recycled water (Option 4) distribution systems was chosen for this evaluation.

### **2.B. Project Location**

The Project is located adjacent to the eastern-most urbanized portion of Pleasanton (see Figures 1 & 3 in Appendix B). It is situated partially within the Pleasanton city limits and partially within the unincorporated jurisdiction of Alameda County. All of the EPSP area is situated within Pleasanton’s Sphere of Influence and the GP Planning Area. Additionally, the planning area was included in the service area boundary considered in the 2010 City of Pleasanton UWMP.

## Section 3. Water Supplies

The City of Pleasanton purchases approximately 80 percent of its water from Zone 7. The remaining 20 percent is produced from three groundwater wells that are owned and operated by the City. The groundwater basin is managed by the local agencies and has limitations on annual pumping.

Zone 7's water supply reliability has decreased in recent years with the biological opinions on how the state and federal water projects can operate their pumps in the San Joaquin Delta—the major source of water for Zone 7. The change in operations has lowered the state's ability to meet its contractual demands and, thus, limited Zone 7's ability to serve increased water demands. Both Zone 7 and the City assume little to no growth in potable water demands from the City of Pleasanton over the next 20 years.

### 3.A. Water Supplies Available to the EPSP - Recycled Water

The City has implemented Best Management Practices to help find water supplies for its various development areas. The WSA (2012) for the City's Housing Element will help fund the State's required plumbing fixtures retrofit program.

The City recently completed a recycled water feasibility study. The study identified areas within the City that are viable for use of recycled water. Consistent with the City's 2010 UWMP, more than 4,000 ac-ft of irrigation demand was identified by the recycled water feasibility study. Of this, nearly 2,400 ac-ft per year of irrigation was identified as potential areas for recycled water. See the Figure 6.7 from the feasibility study done by the City of Pleasanton. The feasibility study figure shows the areas identified as potential customers for recycled water. As the recycled water system is expanded, there is an equivalent demand reduction on the potable water system. This reduction in potable water demand is a source of supply for the

City to use in support of its growth efforts, such as development within the EPSP area.

Phase 1A of the recycled water study's implementation plan will free up more than 1,400 ac-ft of annual potable water demand. The greatest potable demand associated with the Project is Land Use Option 6 at 881 ac-ft per year. According to the feasibility study, converting the Hacienda Business Park irrigation demand to recycled water would free up enough potable water to meet any of the proposed EPSP land use options. Hacienda Business Park is one of the six properties contemplated in Phase 1A of the recycled water program.

### **3.B. Sources for Recycled Water**

The City has two sources for recycled water. The first is the Dublin-San Ramon Services District (DSRSD) Recycled Water Treatment Facility (RWTF) which currently treats the City's wastewater flows. This plant will provide the majority of the City's recycled water. The City's planned upgrades to the WWTP will increase the amount of recycled water it can produce. The \$1.4 million Phase 1 modification added a filter and allows the plant to produce 1 million gallons a day (mgd) of recycled water. The \$4 million Phase 2 modifications will add an additional 2.0 mgd of recycled water production.

The second source of recycled water is the City of Livermore. The two cities have an agreement (see Appendix A) for Livermore to provide recycled water supplies to help meet the recycled water demands on the east side of Pleasanton. The Livermore deliveries will cease when the City of Pleasanton expands its recycled water distribution system out to the east and meets the demands that Livermore has been serving. The EPSP area will initially utilize the recycled water from the City of Livermore to meet its on-site irrigation demands. The City of Pleasanton will take over the deliveries when the infrastructure is in place.

## Section 4. Water Demands

Section 4 analyzes the anticipated water demands from the EPSP area. To minimize the Project's potable water demands, recycled water is assumed to be used throughout the Specific Plan Area for all irrigation needs, except in the medium and low density residential land use areas.

Water demand factors used in this report to help calculate the EPSP demands are summarized below.

Land Use	Potable Water Demand	Recycled Water Demand
<b><u>Residential</u></b>	<b>Gallons per Person per Day</b>	<b>Percent of Gross Acres Irrigated (Application rate = 3 ac-ft/yr)</b>
VHDR (30 du/acre)	100	20%
HDR (23 Du/acre)	100	20%
MDR (11 DU/acre)	125	0%
LDR (8 DU/ac)	125	0%
LDR (4 DU/ac)	125	0%
<b><u>Non- Residential</u></b>	<b>Ac-ft/Yr</b>	<b>Percent of Gross Acres Irrigated (Application rate = 3 ac-ft/yr)</b>
Parks	0	100%
Open Space	0	0%
Campus Office	1.5	15%
Land Use	Potable Water Demand	Recycled Water Demand
Continued...		
<b>Non- Residential</b>	<b>Ac-ft/Yr</b>	<b>Percent of Gross acres</b>

		<b>irrigated (Application rate = 3 ft per irrigated acre per year)</b>
<b>Industrial</b>	2.0	15%
<b>Retail</b>	1.5	15%
<b>Campus Office Retail</b>	1.5	15%
<b>Destination Use (Lake)</b>	0	0%
<b>Major Roads</b>	0	20%

#### **4.A. Potable Residential Demands**

The water use factors shown in the table above were used to project conservatively high water demands for the various land use options.

The American Water Works Association states the average water use per person is about 70 gpd. The CDM water master plan from 2004 completed for the City of Pleasanton suggests that this number may be closer to 125 gpm per person for this distribution system. 125 gallons per person per day includes outside irrigation demands. A value of 100 gpm was used in the high density housing land uses to reflect the recycled water use for irrigation in these areas. Both numbers are conservative compared to national averages.

#### **4.B. Recycled Water Residential Demands**

Recycled water will be used by the high density land uses for on-site irrigation. For these land uses, 20 percent of each acre was assumed to be irrigated. The recycled water application rate for all irrigated areas was assumed to be 3 ac-ft/yr.

#### **4.C. Non-Residential Water Demands**

A water use of 1.5 acre feet per acre per year (ac-ft/yr) was assumed for potable demand at retail and office land uses and 2.0 ac-ft/yr for industrial. This water demand is applied to the developed acres only (gross acres minus irrigation - see discussion on non-residential recycled water use below). No potable use was assumed at parks, open space areas, the lakes, or along major roadways.

#### **4.D. Recycled Water Non-Residential Demands**

One hundred percent of all park land was assumed to be irrigated with recycled water. In addition, 15 percent of retail and office land uses as well as 20% of industrial and major roadway acreage is also irrigated. No open space or areas associated with the lakes were assumed to have irrigation demands.

#### **4.E. EPSP Water Demands**

Four different land use options have been prepared. The options by land use are shown in Table 1. Table 2 summarizes each option's water demands. Tables 3 through 6 present the water demand calculations for each option. Option 6 (Table 6) has the highest overall water demand at 1,109 ac-ft per year, and the highest potable water demand of any option at 881 ac-ft annually. Option 4 (Table 4) produces the largest irrigation (recycled water) demand of any option at 266 ac-ft/yr.

## Section 5. Adequacy of Water Supply

Table 5-8 from the City's 2010 UWMP provides a supply and demand comparison for the City for normal water years; Table 5-9 shows a single dry year; Tables 10a-d show multiple dry years. Each of the tables shows that the City can meet 100% of existing and planned supplies in all water year types.

As discussed above, the recycled water feasibility study shows that Phase 1A of the recycled water system will save the City more than 1,700 ac-ft of potable water a year. The highest water using land use option for the EPSP area only uses 1,109 af-yr. When the recycled system is extended to the Hacienda Business Park the potable water saved would be greater than the entire demand from the ESPS area under any land use option.

Based on this analysis, there should be a sufficient water supply for the Project and the City's planned demands during normal, single dry, and multiple dry water years.

**Table 1 - East Pleasanton Specific Plan Area Land Use Table**

Land Use	Land Use Option											
	1			4			5			6		
	Units	Non-Residential Building Sq Ft	Acres	Units	Non-Residential Building Sq Ft	Acres	Units	Sq Ft	Acres	Units	Non-Residential Building Sq Ft	Acres
HDR (30 du/acre)	305	-	10.2	392	-	13.1	466	-	15.5	480	-	16.0
HDR (23 Du/acre)	195	-	8.5	250	-	10.9	249	-	10.8	322	-	14.0
MDR (11 DU/acre)	-	-	-	-	-	-	360	-	32.7	748	-	68.0
LDR (8 DU/ac)	-	-	-	641	-	77.1	-	-	-	504	-	63.0
LDR (4 DU/ac)	500	-	129.1	-	-	-	355	-	104.4	100	-	28.3
Parks	-	-	45.0	-	-	46.0	-	-	49.0	-	-	45.0
Open Space	-	-	34.0	-	-	40.0	-	-	35.0	-	-	26.0
Campus Office	-	442,000	29.0	-	442,000	29.0	-	442,000	29.0	-	442,000	29.0
Industrial	-	1,442,000	106.8	-	2,296,000	146.4	-	1,148,000	85.0	-	1,148,000	73.2
Retail	-	91,000	7.0	-	91,000	7.0	-	91,000	7.0	-	91,000	7.0
Campus Office	-	-	-	-	-	-	-	-	-	-	-	-
Retail	-	-	-	-	-	-	-	-	-	-	-	-
Dest. Use (Lake)	-	-	3.0	-	-	3.0	-	-	3.0	-	-	3.0
Roads	-	-	33.5	-	-	33.5	-	-	34.5	-	-	33.5
Totals	1,000	1,975,000	406.0	1,283	2,829,000	406.0	1,430	1,681,000	406.0	2,154	1,681,000	406.0

**Table 2 - Summary of Water Demands for Each EPSP Land Use Option**

Land Use	Option 1			Option 4			Option 5			Option 6		
	Average Potable Demands	Average non-Potable Demands	Total Water Demand	Average Potable Demands	Average non-Potable Demands	Total Water Demand	Average Potable Demands	Average non-Potable Demands	Total Water Demand	Average Potable Demands	Average non-Potable Demands	Total Water Demand
	Ac-ft/yr	Ac-ft/yr	Ac-ft/yr									
HDR (30 du/acre)	74	6	80	95	8	103	113	9	123	117	10	126
HDR (23 Du/acre)	47	5	52	61	7	67	61	6	67	78	8	87
MDR (11 DU/acre)	-	-	-	-	-	-	123	-	123	256	-	256
LDR (8 DU/ac)	-	-	-	251	-	251	-	-	-	198	-	198
LDR (4 DU/ac)	221	-	221	-	-	-	157	-	157	44	-	44
Parks	-	135	135	-	138	138	-	147	147	-	135	135
Open Space	-	-	-	-	-	-	-	-	-	-	-	-
Campus Office	37	13	50	37	13	50	37	13	50	37	13	50
Industrial	182	48	230	249	66	315	145	38	183	124	33	157
Retail	9	3	12	9	3	12	9	3	12	9	3	12
Campus Office Retail	-	-	-	-	-	-	-	-	-	-	-	-
Dest. Use (Lake)	-	-	-	-	-	-	-	-	-	-	-	-
Roads	-	20	20	-	20	20	-	21	21	-	20	20
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Totals</b>	570	231	801	702	255	957	644	238	882	863	222	1,085

**Table 3 - Water Demands for EPSP Land Use Option 1**

Land Use	Option 1						Potable Demand Factor (b)		Non-Potable Demand Factor (a)	Average Potable Demands	Average non-Potable Demands	Total Water Demand
	Units	Acres	FAR	Building ft^2	Person Per DU (c)	Population	GPD/per	Ac-ft/ac-yr	Ac-ft/ac-yr	Ac-ft/yr	Ac-ft/yr	Ac-ft/yr
HDR (30 du/acre)	305	10.2			2.17	661.85	100		0.60	74.14	6.10	80.24
HDR (23 Du/acre)	195	8.5			2.17	423.15	100		0.60	47.40	5.09	52.49
MDR (11 DU/acre)	0	0.0			2.44	0	125		-	-	-	-
LDR (8 DU/ac)					2.8	0	125		-	-	-	-
LDR (4 DU/ac)	500	129.1			3.16	1580	125		-	221.24	-	221.24
Parks		45.0					0		3.00	-	135.00	135.00
Open Space		34.0					-		-	-	-	-
Campus Office		29.0	0.35	442,000			1.28	0.45	0.45	36.96	13.05	50.01
Industrial		106.8	0.31	1,442,000			1.70	0.45	0.45	181.54	48.05	229.59
Retail		7.0	0.3	91,000			1.28	0.45	0.45	8.88	3.13	12.01
Campus Office Retail		0.0	0.35	-			1.28	0.45	0.45	-	-	-
Dest. Use (Lake)		3.0					-	-	-	-	-	-
Roads		33.5					0		0.60	-	20.11	20.11
<b>Totals</b>	<b>1000</b>	<b>406.0</b>		<b>1,975,000</b>		<b>2,665</b>				<b>570</b>	<b>231</b>	<b>801</b>

Peaking factor (d) 2.2 2 2.2  
 Max-day water use 1,254.37 461.07 1,761.54

- (a) CDM 2004 City of Pleasanton Master Plan assumes 3 ac-ft/ac for irrigation areas. HDR, Industrial, and Major Road land uses assume 20% of each acre is irrigated. 15% of Retail and Campus Office acreage is assumed to be irrigated.
- (b) American Water Works Association states that the average water use per person is about 70 gpd. The CDM water master plan from 2004 suggests that this number may be closer to 125 gpm per person, however this number includes outside irrigation demands. A value of 100 gpm was used high density housing. The value was increased to 125 for medium and low density housing. Both numbers are conservative compared to national averages.
- (c) Bureau of the Census, 2000 Census of Population and Housing and 2008-2010 American Community Survey 3-Year Estimates.
- (d) Peaking factor of 2.0 for recycled water based on communication with Randy Werner, City of Livermore. Peaking factor of 2.2 for potable water from City of Pleasanton water master plan, CDM 2004.

**Table 4 - Water Demands for EPSP Land Use Option 4**

Land Use	Option 4						Potable Demand Factor (b)		Non-Potable Demand Factor (a) Ac-ft/ac-yr	Average Potable Ac-ft/yr	Average non- Ac-ft/yr	Total Water Ac-ft/yr
	Units	Acres	FAR	Building ft^2	Person Per DU (c)	Population	GPD/per	Ac-ft/ac-yr				
HDR (30 du/acre)	392	13.1			2.17	850.64	100		0.60	95.29	7.84	103.13
HDR (23 Du/acre)	250	10.9			2.17	542.5	100		0.60	60.77	6.52	67.29
MDR (11 DU/acre)	0	0.0			2.44	0	125		-	-	-	-
LDR (8 DU/ac)	641	77.1			2.8	1794.8	125			251.32	-	251.32
LDR (4 DU/ac)	0	0.0			3.16	0	125		-	-	-	-
Parks		46.0					0		3.00	-	138.00	138.00
Open Space		40.0					-		-	-	-	-
Campus Office		29.0	0.35	442,000			1.28		0.45	36.96	13.05	50.01
Industrial		146.4	0.36	2,296,000			1.70		0.45	248.90	65.89	314.79
Retail		7.0	0.3	91,000			1.28		0.45	8.88	3.13	12.01
Campus Office												
Retail		0.0	0.35	-			1.28		0.45	-	-	-
Dest. Use (Lake)		3.0					-		-	-	-	-
Roads		33.5					0		0.60	-	20.11	20.11
<b>Totals</b>	<b>1283</b>	<b>406.0</b>		<b>2,829,000</b>		<b>3,188</b>				<b>702</b>	<b>255</b>	<b>957</b>

(0.04)  
77.18

Peaking factor (d) 2.2  
Max-day water use 1,544.68 509.08 2,104.67

- (a) CDM 2004 City of Pleasanton Master Plan assumes 3 ac-ft/ac for irrigation areas. HDR, Industrial, and Major Road land uses assume 20% of each acre is irrigated. 15% of Retail and Campus Office acreage is assumed to be irrigated.
- (b) American Water Works Association states that the average water use per person is about 70 gpd. The CDM water master plan from 2004 suggests that this number may be closer to 125 gpm per person, however this number includes outside irrigation demands. A value of 100 gpm was used high density housing. The value was increased to 125 for medium and low density housing. Both numbers are conservative compared to national averages.
- (c) Bureau of the Census, 2000 Census of Population and Housing and 2008-2010 American Community Survey 3-Year Estimates.
- (d) Peaking factor of 2.0 for recycled water based on communication with Randy Werner, City of Livermore. Peaking factor of 2.2 for potable water from City of Pleasanton water master plan, CDM 2004.

**Table 5 - Water Demands for EPSP Land Use Option 5**

Land Use	Option 5						Potable Demand Factor (b)		Non-Potable Demand Factor (a)	Average Potable	Average non-Potable	Total Water Demand
	Units	Acres	FAR	Building ft^2	Person Per DU (c)	Population	GPD/per	Ac-ft/ac-yr	Ac-ft/ac-yr	Ac-ft/yr	Ac-ft/yr	Ac-ft/yr
HDR (30 du/acre)	466	15.5			2.17	1011.22	100		0.60	113.28	9.32	122.60
HDR (23 Du/acre)	249	10.8			2.17	540.33	100		0.60	60.53	6.50	67.02
MDR (11 DU/acre)	360	32.7			2.44	878.4	125		-	123.00	-	123.00
LDR (8 DU/ac)	0	0.0			2.8	0	125		-	-	-	-
LDR (4 DU/ac)	355	104.41			3.16	1121.8	125		-	157.08	-	157.08
Parks		49.0						0	3.00	-	147.00	147.00
Open Space		35.0						-	-	-	-	-
Campus Office		29.0	0.35	442,000			1.28	0.45	0.45	36.96	13.05	50.01
Industrial		85.0	0.31	1,148,000			1.70	0.45	0.45	144.52	38.26	182.78
Retail		7.0	0.3	91,000			1.28	0.45	0.45	8.88	3.13	12.01
Campus Office												
Retail		0.0	0.35	-			1.28	0.45	0.45	-	-	-
Dest. Use (Lake)		3.0					-	-	-	-	-	-
Roads		34.5					0	0.60	0.60	-	20.70	20.70
<b>Totals</b>	<b>1430</b>	<b>406.0</b>		<b>1,681,000</b>		<b>3,552</b>				<b>644</b>	<b>238</b>	<b>882</b>

Peaking factor (d) 2.2 2 2.2  
 Max-day water use 1,417.37 475.90 1,940.86

- (a) CDM 2004 City of Pleasanton Master Plan assumes 3 ac-ft/ac for irrigation areas. HDR, Industrial, and Major Road land uses assume 20% of each acre is irrigated. 15% of Retail and Campus Office acreage is assumed to be irrigated.
- (b) American Water Works Association states that the average water use per person is about 70 gpd. The CDM water master plan from 2004 suggests that this number may be closer to 125 gpm per person, however this number includes outside irrigation demands. A value of 100 gpm was used high density housing. The value was increased to 125 for medium and low density housing. Both numbers are conservative compared to national averages.
- (c) Bureau of the Census, 2000 Census of Population and Housing and 2008-2010 American Community Survey 3-Year Estimates.
- (d) Peaking factor of 2.0 for recycled water based on communication with Randy Werner, City of Livermore. Peaking factor of 2.2 for potable water from City of Pleasanton water master plan, CDM 2004.

**Table 6 - Water Demands for EPSP Land Use Option 6**

Land Use	Option 6						Potable Demand Factor (b)		Non-Potable Demand Factor (a)	Average Potable Demands	Average non-Potable Demands	Total Water Demand
	Units	Acres	FAR	Building ft^2	Person Per DU (c)	Population	GPD/per	Ac-ft/ac-yr	Ac-ft/ac-yr	Ac-ft/yr	Ac-ft/yr	Ac-ft/yr
HDR (30 du/acre)	480	16			2.17	1041.6	100		0.60	116.68	9.60	126.28
HDR (23 Du/acre)	322	14			2.17	698.74	100		0.60	78.27	8.40	86.67
MDR (11 DU/acre)	748	68			2.44	1825.12	125		-	255.57	-	255.57
LDR (8 DU/ac)	504	63			2.8	1411.2	125		-	197.61	-	197.61
LDR (4 DU/ac)	100	28.3			3.16	316	125		-	44.25	-	44.25
Parks		45						0	3.00	-	135.00	135.00
Open Space		26						-	-	-	-	-
Campus Office		29.0	0.35	442,000				1.28	0.45	36.96	13.05	50.01
Industrial		73.2	0.36	1,148,000				1.70	0.45	124.45	32.94	157.39
Retail		7.0	0.3	91,000				1.28	0.45	8.88	3.13	12.01
Campus Office Retail		0	0.35	-				1.28	0.45	-	-	-
Dest. Use (Lake)		3						-	-	-	-	-
Roads		33.5						0	0.60	-	20.11	20.11
<b>Totals</b>	<b>2154</b>	<b>406.0</b>		<b>1,681,000</b>		<b>5,293</b>				<b>863</b>	<b>222</b>	<b>1,085</b>

Peaking factor (d) 2.2 2 2.2  
 Max-day water use 1,897.88 444.47 2,386.80

- (a) CDM 2004 City of Pleasanton Master Plan assumes 3 ac-ft/ac for irrigation areas. HDR, Industrial, and Major Road land uses assume 20% of each acre is irrigated. 15% of Retail and Campus Office acreage is assumed to be irrigated.
- (b) American Water Works Association states that the average water use per person is about 70 gpd. The CDM water master plan from 2004 suggests that this number may be closer to 125 gpm per person, however this number includes outside irrigation demands. A value of 100 gpm was used high density housing. The value was increased to 125 for medium and low density housing. Both numbers are conservative compared to national averages.
- (c) Bureau of the Census, 2000 Census of Population and Housing and 2008-2010 American Community Survey 3-Year Estimates.
- (d) Peaking factor of 2.0 for recycled water based on communication with Randy Werner, City of Livermore. Peaking factor of 2.2 for potable water from City of Pleasanton water master plan, CDM 2004.



May 9, 2013

Mr. Nelson Fialho  
City Manager  
City of Pleasanton  
P.O. Box 520  
Pleasanton, CA 94566

**Subject: Recycled Water Service through El Charro Pipeline**

Dear Mr. Fialho,

Expanding the use of recycled water is very important to the long term viability of the Tri-Valley water supply and benefits all residents of the Tri-Valley. It is the stated intention of both the City of Livermore ("Livermore") and the City of Pleasanton ("Pleasanton") to negotiate and execute a long-term agreement whereby Livermore will provide recycled water to Pleasanton for distribution by Pleasanton to its recycled water customers in the Pleasanton service area. While Livermore and Pleasanton both anticipate it may take some time to complete those negotiations, Pleasanton has an immediate need for recycled water from Livermore to serve its recycled water customers. Livermore is pleased to provide Pleasanton with recycled water on an interim basis for distribution and use within the vicinity of El Charro Road ("El Charro Area") as set forth in this letter agreement which we have negotiated.

1. Livermore will supply Pleasanton with up to 100 acre-feet per year of recycled water (Recycled Water Supply) through the El Charro Transmission Pipeline for Pleasanton to then distribute to its recycled water customers in the El Charro Area through the Pleasanton distribution system, as described in Attachment A. To serve the daily needs of Pleasanton recycled water customers, Livermore will provide the Recycled Water Supply at a rate of up to 330,000 gallons of recycled water per day, at a maximum hourly flow rate of 700 gallons per minute. The recycled water in the El Charro Transmission Pipeline will be delivered to Pleasanton at a pressure between 130 and 170 psi.
2. The Recycled Water Supply will meet Title 22, Division 4 of the California Code of Regulations, and will be comparable in quality to that distributed by Livermore to recycled water customers in its service area.
3. Pleasanton will supply the Recycled Water Supply to its recycled water customers under the authority of the Livermore General Permit (96-011). Pleasanton will ensure that recycled water customers in the El Charro Area are appropriately permitted and trained to use the

potable water used to supplement recycled water supplied to Pleasanton through the El Charro Transmission Pipeline.

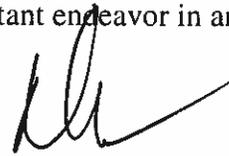
10. Pleasanton will pay Livermore a wholesale recycled water rate, as specified in Exhibit B, based on the quantity of the Recycled Water Supply delivered to Pleasanton as measured by the flowmeter located upstream of the point of connection of the El Charro Transmission Pipeline to the Pleasanton Distribution System. The initial rate for recycled water for the 2013 calendar year is \$470 per acre foot, which includes of all fees and charges except as noted in Exhibit B. Livermore will invoice Pleasanton bimonthly for the amount of recycled water recorded by that meter, and Pleasanton will provide payment within 60 days of receipt of invoice. Proposed increases in the recycled water rate during the one (1) year initial term and potential three (3) year extensions of this agreement shall not exceed annual increases in the Consumer Price Index for the San Francisco-Oakland-San Jose area.
11. This agreement will remain in effect for a period of one (1) year from the date of execution. It may be amended at any time by mutual agreement and may be extended upon mutual consent for up to a total of three (3) years, providing that all such amendments and extensions are agreed to in writing by both parties.
12. Insofar as both parties intend to negotiate and execute a long-term agreement whereby Livermore will provide recycled water to Pleasanton for Pleasanton to distribute to its recycled water customers in the Pleasanton service area, Livermore will not charge Pleasanton either a capacity or connection fee or a meter service charge prior to delivering the Recycled Water Supply to the El Charro Area at this time. In the event that such a long-term agreement is not executed within three years of the date of this agreement, Livermore will invoice Pleasanton for capacity or connection fees and meter charges for those customers that have connected to the recycled water system during the term of this interim agreement, commensurate with fees and charges paid by other Livermore recycled water customers as of the execution date of this agreement and which Livermore determines are adequate to ensure that they can fully recover the cost of supplying recycled water to Pleasanton on a long-term basis. In lieu of a lump-sum capacity or connection fee, Livermore may instead choose to increase the recycled water rate as necessary to recover such appropriate fees and charges over a period of time.

Please execute this letter agreement and return the original to Livermore. Livermore looks forward to providing further assistance to Pleasanton in this important endeavor in any way that we can.



MARC ROBERTS  
City Manager, City of Livermore

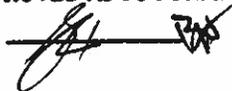
5/31/13  
Date



NELSON FIALHO  
City Manager, City of Pleasanton

5/21/13  
Date

APPROVED AS TO FORM:



Recycled Water Service through El Charro Pipeline  
Attachment A - El Charro Area



Interim Agreement for  
Recycled Water Service through El Charro Pipeline

EXHIBIT B

Wholesale Recycled Water Rate

The Wholesale Recycled Water Rate for the City of Livermore to provide recycled water through the El Charro Pipeline to the City of Pleasanton for distribution to its recycled water customers shall be \$470 per acre/foot.

Consumption shall be measured and billed based on the 12-inch water meter located at the connection point between the El Charro Pipeline and the Pleasanton distribution system.

Initial Rate - May 9, 2013



# 2005 PLEASANTON PLAN 2025

