

Appendix A

WSA for Water Supply Option A
(Municipal Connection)

MEMORANDUM

September 18, 2009

TO: Community Development Department

FROM: Richard L. Wood, Assistant Public Works Director

SUBJ: Hypothetical SB 610 Water Supply Assessment and SB 221 Verification of Sufficient Water Supply – Middle Green Valley Development

The following is a hypothetical "SB 610/SB 211 analysis" should the City of Fairfield be the selected water supplier for a proposed Middle Green Valley development that uses 140 acre-feet of City water per year. This memorandum is not intended to express any opinion regarding the advisability of the development or the legal or policy decisions that would be necessary for the City to become the development's water supplier.

This memorandum documents the City of Fairfield's compliance with SB 610 (Chapter 643, Statutes of 2001, codified primarily in §10631 and §10910, et seq. of the California Water Code, relating to water supply planning) and SB 221 (Chapter 642, Statutes of 2001, codified in §11010 of the California Business and Professions Code and §§65867.5, 66455.3, and 66473.7 of the California Government Code, relating to land use) for the Middle Green Valley Development (proposed development).

Both SB 610 and SB 221 became effective January 1, 2002. The two statutes were written to ensure water demand in an area does not outstrip water supplies. Specifically, growth should not proceed without adequate water supplies available under some defined, reasonable "worst case" scenario. This position is also the long-standing policy of the City of Fairfield.

The City has historically taken a conservative view of its water supplies and demands, consistent with the letter and intent of SB 610 and SB 221. In fact, the City is perhaps even more conservative than SB 610 or SB 221 require, as discussed further below.

General Information

The City meets its water supply planning requirements by normalizing all water supplies to a common "90% reliable" figure—i.e., the supply that can be depended upon in at least 9 years out of 10, on average, sometimes also referred to as the "90% exceedence" standard—for meeting expected demands. For the 1 year out of 10 in which supplies may be inadequate to meet demand, the City has both demand reduction and temporary supply options.

SB 610 requires a 20-year water supply assessment for "normal," "single dry year," and "multiple dry year" scenarios, and this analysis is also included in the City's Urban Water Management Plan (UWMP). Although there is some debate about the intent of specifying two different "worse than normal" scenarios, we believe the intent was for the multiple dry year scenario to be the worst case for planning purposes, and demand must not exceed that supply. The City's 90% reliable scenario, used for this analysis, is slightly more conservative than the UWMP's multiple dry year scenario.

SB 610 Analysis for Proposed Development

The City's General Plan land use development projections serve as the basis for water demand projections in the City's 2005 Urban Water Management Plan (UWMP), last revised and adopted in December 2006, hereby incorporated by reference, which contains information required by Water Code Section 10910. This memorandum provides all of the required supplemental information to include the proposed development in the water demands of the General Plan and the UWMP, including updated water supply and demand figures up to and including the proposed development.

The proposed development will create a 136 acre-foot per year demand on the City water supply that is not presently in the City's General Plan or present water supply planning. This memorandum assesses and verifies the sufficiency of City water supplies to serve this change.

The City of Fairfield's water supplies are the Solano Project, the State Water Project, Settlement Water, and recycled water, described in greater detail in the City's UWMP and General Plan. Solano Project supplies come to the City through several different agreements. The City utilizes no groundwater supply. As required by SB 610, attached hereto as Table 1 is a summary of water supply reliability over the past 21 years, 1989 through 2009, for the Solano Project and State Water Project.

The attached Table 2 and 3 show the presently forecasted water supplies and demands for the City of Fairfield without the proposed development (Table 2) and with the proposed development (Table 3). (To ensure consideration of cumulative impacts, these tables include other forecasted developments that have gone through a water supply assessment such as this one prior to this analysis.)

Table 3 shows the City can serve all projected growth, through ultimate development (not just 20 years), including the proposed development. Consequently we conclude that the City has a sufficient water supply for the proposed development, and the requirements of SB 610 are met.¹

¹ SB 610 and SB 221 apply only to certain classes of large projects. The most applicable to the City of Fairfield are residential developments of more than 500 dwelling units. However, City policy is to provide water supply assurance for all developments served regardless of size.

SB 221 Analysis for Proposed Development

SB 221 requires, at the tentative map stage, a written verification of sufficient water supply. This memorandum provides substantial evidence that that requirement is or will be met for all projects to be served by the City through ultimate development, including the proposed development. This memorandum, as a supplement to the City's current UWMP, which includes development projections consistent with the General Plan absent the increased water supply required by subsequent proposed development included in this analysis, therefore provides the written verification of sufficient water supply for the proposed development.

SB 221 also requires imposition of a condition of approval on the tentative subdivision map for this project that sufficient water supply shall be available, and such a condition should be incorporated into any approval of this project. (Govt. Code Sec. 66473.7(b)(1)).

Changing Assumptions

The California Courts have decided an important case that we believe will have a major positive effect on City water supply projections. The case (consolidated State Water Resources Control Board Cases, C044714), commonly referred to now as "the Robie Decision" (after the 3rd District California Court of Appeal Judge Ronald B. Robie, who authored the decision) held that the state's watershed protection statutes apply to water supply contracts, not just to water supplies obtained directly by permit or license. In May 2006, the California Supreme Court refused to hear petitions for review, so the Robie Decision is final.

We believe the Robie Decision provides strong support for the contention that the state Department of Water Resources must recognize the City's watershed priority (per Water Code Section 11460 et seq.) to State Water Project water (for which the City holds a contract via Solano County Water Agency). If we are correct, this means the City's State Water Project water supply shown in the Urban Water Management Plan should not be discounted due to unreliability in dry years, but rather should be "counted" at the maximum contract amount of 14,678 acre-feet per year. This represents a dry-year (90% exceedence) gain of nearly 9,000 acre-feet per year from what is shown now in the Urban Water Management Plan. The Solano County Water Agency and other State Water Project contractors within areas covered by the watershed protection statutes, at our urging, have filed a lawsuit against the state Department of Water Resources asserting these rights. The trial is pending.

cc: Gene S. Cortright, Public Works Director

RLW:hs

Table 1

**City of Fairfield
Historical Imported Project Water Deficiencies/Supplies, 1989-2009**

Year*	State Water Project		Solano Project	
	Deficiency	Table A	Deficiency	Entitlement
1989	-	100%	-	100%
1990 **	-	100%	-	100%
1991	-70%	30%	-16.9%	83.1%
1992	-55%	45%	-21.5%	78.5%
1993	-	100%	-	100%
1994	-50%	50%	-13.0%	87.0%
1995	-	100%	-	100%
1996	-	100%	-	100%
1997	-	100%	-	100%
1998	-	100%	-	100%
1999	-	100%	-	100%
2000	-10%	90%	-	100%
2001	-61%	39%	-	100%
2002	-30%	70%	-	100%
2003	-10%	90%	-	100%
2004	-35%	65%	-	100%
2005	-10%	90%	-	100%
2006	-	100%	-	100%
2007	-40%	60%	-	100%
2008	-65%	35%	-	100%
2009	-60%	40%	-	100%

* Calendar year for State Water Project. Water Year, beginning March of year shown, for Solano Project.

** First year of State Water Project deliveries to City.

TABLE 2 - FAIRFIELD WATER SUPPLY AND DEMAND FORECAST - 90% EXCEEDENCE DRY YEAR WITHOUT PROPOSED GREEN VALLEY DEVELOPMENT
(excludes Travis AFB, which has separate water system)

SECTION 1: FAIRFIELD AVAILABLE WATER SUPPLIES, Acre-Feet (AF)

	Actual		Forecast (90% Reliable Supplies, i.e., available 9 years out of 10; except "Now," which is estimated actual)							Ultimate	Median Year (50% Reliable) Supply, Ultimate
	2005	2008	Now (2009)	2010	2015	2020	2025	2030	2035		
Potable Supplies											
Solano Project Entitlement	9,200	9,200	9,200	8,700	8,700	8,700	8,700	8,700	8,700	8,700	19,300
State Water Project Entitlement	13,200	5,100	5,200	4,800	4,800	4,600	4,600	4,600	4,600	4,600	10,700
DWR Settlement (1)	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800
Solano Irrigation District Contracts											
Second Amended Agreement Exchange	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	4,700
2009 Amended Agreement Purchase Option	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	0
2009 Supplemental Purchase	0	0	0	0	0	0	0	0	0	0	0
1987 JPA (est)	0	500	500	700	800	800	800	800	900	1,000	2,000
Rancho Solano Irrigation (from Solano Project entitlement)	(1,000)	(700)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	1,000
Total Potable Supplies	49,700	41,900	44,400	43,400	42,200	42,100	42,200	42,300	42,300	42,400	49,700
Nonpotable Supplies											
Solano Irrigation District (87 JPA & Other)	700	700	700	700	700	700	700	700	700	700	700
Paradise Valley Golf Course	800	800	800	1,000	1,000	1,800	2,400	2,400	2,400	2,400	2,400
Other	1,500	1,500	1,500	1,700	2,100	2,500	2,900	3,100	3,100	3,100	3,100
Solano Irrigation District Subtotal											
Recycled	100	0	100	100	100	600	600	600	600	600	600
Central Fairfield Phase I	0	0	0	0	0	0	0	0	0	0	0
Central Fairfield Phase II	0	0	0	0	0	0	0	0	0	0	0
Central Fairfield Phase III+	0	0	0	0	0	0	0	0	0	0	0
Recycled Subtotal	1,000	700	1,000	1,000	1,000	1,200	2,400	3,000	3,000	3,000	3,000
Rancho Solano Irrigation	2,600	2,200	2,600	2,800	3,200	1,000	1,000	1,000	1,000	1,000	1,000
Total Nonpotable Supplies	52,300	44,100	47,000	46,200	45,400	46,800	48,500	49,300	49,400	49,500	56,800

(1) Accounts for both Settlement Water and Article 21 water.

SECTION 2: FAIRFIELD WATER DEMANDS FORECASTED ASSUMING WATER SUPPLY IS NOT A CONSTRAINT ON GROWTH

	Actual		Forecast (90% Reliable Supplies, i.e., available 9 years out of 10; except "Now," which is estimated actual)							Ultimate	Median Year (50% Reliable) Supply, Ultimate
	2005	2008	Now (2009)	2010	2015	2020	2025	2030	2035		
Assume:											
AF/yr per housing unit =	0.37	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
AF/yr per job =	330	320	320	320	320	320	320	320	320	320	320
Water-intensive industries (additional water) =	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
AF/yr non-golf irrigation associated with housing (60% est) =	2,000	1,900	1,700	2,900	4,000	5,000	6,500	8,000	9,000	10,000	10,000
AF/yr non-golf irrigation associated with jobs (20% est) =	0.10	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
AF/yr golf course irrigation	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Unaccounted =	1,700	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Housing units =	8%	4%	8%	8%	8%	8%	8%	8%	8%	8%	8%
AF/yr per housing unit =	38,317	38,317	38,317	42,947	46,180	49,629	51,731	53,031	53,841	53,841	53,841
AF/yr per job =	35,868	35,868	35,868	40,587	43,800	47,240	49,351	50,651	51,461	51,461	51,461
Increase =	2,693	2,693	2,693	4,357	3,233	3,440	2,111	1,300	810	0	0
Residential Demand, w/o Travis AFB	15,900	16,988	15,900	19,100	20,600	22,200	23,800	23,800	24,200	24,200	24,200
Jobs =	49,940	52,462	53,302	54,143	59,045	67,174	70,314	72,612	72,612	72,612	72,612
w/o Travis AFB (2) =	35,040	37,562	38,402	39,243	44,145	48,453	52,772	55,414	57,712	57,712	57,712
Increase =	2,522	2,522	2,522	841	4,902	4,308	3,821	3,140	2,298	0	0
Nonresidential Demand, w/o Travis AFB	6,100	6,200	6,700	7,600	9,700	11,300	13,300	15,200	16,500	17,500	17,500
Golf Course Irrigation	1,700	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Unaccounted	2,100	1,100	2,200	2,400	2,800	3,000	3,300	3,500	3,700	3,700	3,700
Total Demands, AF = (w/o Travis AFB)	25,800	25,600	27,200	30,500	34,500	37,900	41,200	43,900	45,800	46,800	46,800
Reserve/(Deficiency), AF	26,500	18,500	19,800	15,700	10,900	8,900	7,300	5,400	3,600	2,700	10,000

(1) Travis AFB = 2,380 housing units
(2) Travis AFB = 14,900 jobs

TABLE 3 - FAIRFIELD WATER SUPPLY AND DEMAND FORECAST - 90% EXCEEDENCE DRY YEAR WITH PROPOSED GREEN VALLEY DEVELOPMENT, 140 ACRE-FEET PER YEAR BEGINNING IN 2015
(excludes Travis AFB, which has separate water system)

SECTION 1: FAIRFIELD AVAILABLE WATER SUPPLIES, Acre-Feet (AF)

	Forecast (90% Reliable Supplies; i.e., available 9 years out of 10, except "Now," which is estimated actual)										Median Year (50% Reliable) Supply, Ultimate	
	2005	Actual	2008	New (2009)	2010	2015	2020	2025	2030	2035		Ultimate
Potable Supplies												
Reported Entitlement	9,200	9,200	9,200	9,200	9,200	8,700	8,700	8,700	8,700	8,700	19,300	20,300
State Water Project Entitlement	13,500	5,000	5,000	3,900	4,800	4,800	4,800	4,600	4,600	4,600	4,600	10,700
DWR Settlement (1)	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800
Solano Irrigation District Contracts	7,000	7,000	7,000	7,000	7,000	6,700	6,700	6,700	6,700	6,700	4,700	4,900
Second Amended Agreement Exchange	9,000	9,000	9,000	9,000	9,000	8,600	8,600	8,600	8,600	8,600	0	0
2009 Supplemental Purchase	0	0	0	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
1997 JPA (est)	500	500	500	500	600	700	800	800	800	900	8,100	1,000
Rancho Solano Irrigation (from Solano Project entitlement)	(1,000)	(1,000)	(700)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)
Total Potable Supplies	49,700	41,900	44,400	44,400	43,400	42,200	42,200	42,200	42,200	42,300	42,400	49,700
Nonpotable Supplies												
Solano Irrigation District (87 JPA & Other)	700	700	700	700	700	700	700	700	700	700	700	700
Paradise Valley Golf Course	800	800	800	800	1,000	1,000	1,000	1,000	1,000	1,000	2,400	2,400
Other	1,500	1,500	1,500	1,500	1,700	2,100	2,500	2,900	3,100	3,100	3,100	3,100
Solano Irrigation District Subtotal	100	0	0	0	100	100	600	600	600	600	600	600
Central Fairfield Phase I	0	0	0	0	0	0	600	1,200	1,200	1,200	1,200	1,200
Central Fairfield Phase II	0	0	0	0	0	0	600	1,200	1,200	1,200	1,200	1,200
Central Fairfield Phase III*	100	0	0	100	100	1,200	1,200	1,200	1,200	1,200	3,000	3,000
Recycled Subtotal	1,000	700	1,000	1,000	1,000	1,000	2,400	3,000	3,000	3,000	3,000	3,000
Rancho Solano Irrigation	2,600	2,200	2,600	2,600	2,800	3,200	4,700	6,300	7,100	7,100	7,100	7,100
Total Nonpotable Supplies	52,300	44,100	47,000	47,000	46,200	45,400	48,500	49,300	49,400	49,400	49,500	56,800

(1) Accounts for both Settlement Water and Article 21 water.

SECTION 2: FAIRFIELD WATER DEMANDS FORECASTED ASSUMING WATER SUPPLY IS NOT A CONSTRAINT ON GROWTH

	Forecast (90% Reliable Supplies; i.e., available 9 years out of 10, except "Now," which is estimated actual)										Median Year (50% Reliable) Supply, Ultimate	
	2005	2008	New (2009)	2010	2015	2020	2025	2030	2035	Ultimate		
Assume:												
AF/yr per housing unit = (gpd *) =	0.37	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
AF/yr per job =	330	320	320	320	320	320	320	320	320	320	320	320
Water-intensive industries (additional water) =	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
AF/yr non-golf irrigation associated with housing (90% est) =	2,200	1,700	1,700	2,500	4,000	5,000	6,500	8,000	9,000	10,000	10,000	10,000
AF/yr non-golf irrigation associated with jobs (20% est) =	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
AF/yr golf course irrigation	1,700	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Unaccounted =	8%	4%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Housing units =	36,248	38,317	38,399	42,947	48,160	49,620	51,731	53,031	53,841	53,841	53,841	53,841
w/o Travis AFB (1) =	33,868	35,937	36,010	40,567	43,800	44,240	49,351	51,461	51,461	51,461	51,461	51,461
Residential Demand, w/o Travis AFB	16,900	16,900	16,900	19,100	3,233	3,440	2,111	1,300	810	810	0	0
Jobs =	49,840	52,462	53,302	54,143	59,045	63,553	67,174	70,314	72,612	72,612	72,612	72,612
w/o Travis AFB (2) =	35,040	37,562	38,402	39,243	44,145	48,453	52,274	55,414	57,712	57,712	57,712	57,712
Nonresidential Demand, w/o Travis AFB	6,100	6,200	6,700	7,600	9,700	11,300	13,300	15,200	16,500	16,500	17,500	17,500
Golf Course Irrigation	1,700	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
PROPOSED GREEN VALLEY DEVELOPMENT	0	0	0	0	0	140	140	140	140	140	140	140
Unaccounted	2,100	1,100	2,200	2,400	2,900	3,200	3,400	3,700	3,800	3,800	3,900	47,000
Total Demands, AF = (w/o Travis AFB)	25,800	25,600	27,200	30,500	34,600	38,100	41,300	44,100	45,900	45,900	47,000	47,000
Reserve/(Deficiency), AF	26,500	18,500	19,800	15,700	10,800	8,700	7,200	5,200	3,500	3,500	2,500	9,800

(1) Travis AFB = 2,380 housing units
(2) Travis AFB = 14,900 jobs

CITY OF FAIRFIELD

RESOLUTION NO. 2012 - 271

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FAIRFIELD CERTIFYING THE SB 610 WATER SUPPLY ASSESSMENT AND SB 221 VERIFICATION OF SUFFICIENT WATER SUPPLY FOR THE MIDDLE GREEN VALLEY PROJECT

WHEREAS, Solano County is preparing a Specific Plan for the Middle Green Valley Project; and

WHEREAS, Solano County may seek to acquire up to 190 acre-feet of treated water from the City to serve development in the Specific Plan area; and

WHEREAS, water suppliers have duties under Senate Bill 610 and Senate Bill 221 to evaluate water supplies and verify the ability to provide water for new development; and

WHEREAS, Solano County has requested that the City prepare a Water Supply Assessment and Verification of Sufficient Water Supply as required by these laws; and

WHEREAS, the City has prepared the requested documentation, which verifies that sufficient water supply exists to serve the project.

NOW, THEREFORE, THE COUNCIL OF THE CITY OF FAIRFIELD HEREBY RESOLVES:

Section 1. The SB 610 Water Supply Assessment and SB 221 Verification of Sufficient Water Supply for the Middle Green Valley Project, as contained in the attached Exhibit "A", is Certified.

PASSED AND ADOPTED this 18th day of December, 2012, by the following vote:

AYES: COUNCILMEMBERS: Price/Vaccaro/Bertani/Moy/Mraz

NOES: COUNCILMEMBERS: None

ABSENT: COUNCILMEMBERS: None

ABSTAIN: COUNCILMEMBERS: None

Lance T. Price
MAYOR

ATTEST:
Janette Bellinder
CITY CLERK

EXHIBIT A



Memorandum

Public Works Department

Date: December 4, 2012

To: George R. Hicks, Director of Public Works
Erin L. Beavers, Director of Community Development

From: Felix Riesenbergs, Assistant Public Works Director/Utilities *FR*

Subject: SB 610 Water Supply Assessment and SB 221 Verification of Sufficient Water Supply – Middle Green Valley Project

This memorandum provides information to assist the City of Fairfield in documenting compliance with SB 610 (Chapter 643, Statutes of 2001, codified primarily in §10631 and §10910, et seq. of the California Water Code, relating to water supply planning) and SB 221 (Chapter 642, Statutes of 2001, codified in §11010 of the California Business and Professions Code and §§65867.5, 66455.3, and 66473.7 of the California Government Code, relating to land use) for the **Middle Green Valley Project** (proposed development). The proposed development is located in Solano County outside the Fairfield City limits and as such, has not been included in recent Water Supply Assessments (WSA) performed by the City. Solano County has inquired about the availability of City water to be provided to the County which would then serve the proposed development via an inter-agency water supply agreement, so this new WSA has been prepared to verify the adequacy of the City's water supply should the County make a more formal request for water service from the City in the future.

Both SB 610 and SB 221 became effective January 1, 2002. The two statutes were written to ensure water demand in an area does not outstrip water supplies. Specifically, growth should not proceed without adequate water supplies available under some defined, reasonable "worst case" scenario. This position is also the long-standing policy of the City of Fairfield.

The City has historically taken a conservative view of its water supplies and demands, consistent with the letter and intent of SB 610 and SB 221. In fact, the City is perhaps even more conservative than SB 610 or SB 221 require, as discussed further below.

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SB 610 Analysis for Proposed Development

The City's General Plan land use development projections serve as the basis for water demand projections in the City's 2010 Urban Water Management Plan (UWMP), last revised and adopted in June 2011, hereby incorporated by reference, which contains information required by Water Code Section 10910. This memorandum provides all of the required supplemental information to include the proposed development in the water demands of the General Plan and the UWMP, including updated water supply and demand figures up to and including the proposed development. In 2009, the State of California passed several statutes that will mandate greater levels of urban water conservation in Fairfield. The impact of these statutes has been assessed and included in the attached analysis. Water supply reliability figures are based on state and local data and assumptions from 2010.

Based on information provided by Solano County, the proposed development's anticipated water demands will create a **190 acre-foot per year increased demand** on the City water supply that is not presently in the City's General Plan or present water supply planning. This memorandum assesses and verifies the sufficiency of City water supplies to serve this change along with all other projected water demands.

The City of Fairfield's water supplies are the Solano Project, the State Water Project, Settlement Water, and recycled water, described in greater detail in the City's UWMP and General Plan. Solano Project supplies come to the City through several different agreements. The City utilizes no groundwater supply. As required by SB 610, attached hereto as Table 1 is a summary of water supply reliability over the past 22 years, 1990 through 2011, for the Solano Project and State Water Project.

The attached Tables 2, 3 and 4 show the presently forecasted water supplies and demands for the City of Fairfield with the proposed development under "normal", "single

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dry”, and “multiple dry” year hydrologic conditions. (To ensure consideration of cumulative impacts, these tables include other forecasted developments and related revisions, or proposed revisions, to the City’s General Plan that have gone through a water supply assessment – e.g., Hawthorne Mill and the Train Station Specific Plan.)

Tables 2, 3 and 4 show the City can serve all projected growth, through ultimate development (not just 20 years), including the proposed development. Consequently we conclude that the City has a sufficient water supply for the proposed development, and the requirements of SB 610 are met.

In addition, the City has reserved 10,000 acre-feet per year of water on its “demand side” for “water intensive industry” that effectively serves as a contingency (the City has only one industry considered water-intensive today, an Anheuser-Busch brewery). Future projected deficiencies may be taken from this contingency supply. This alternative use of the water intensive industry reserve implies that City growth in the water intensive industry sector is less certain than other sectors and planned water intensive industry projects will receive a high level of scrutiny before being approved.

SB 221 Analysis for Proposed Development

SB 221 requires, at the tentative map stage, a written verification of sufficient water supply. This memorandum provides substantial evidence that that requirement is or will be met for all projects to be served by the City through ultimate development, including the proposed development, and therefore provides the written verification of sufficient water supply for the proposed development.

SB 221 also requires imposition of a condition of approval on the tentative subdivision map for this project that sufficient water supply shall be available, and such a condition should be incorporated into any approval of this project. (Govt. Code Sec. 66473.7(b)(1)).

Changing Assumptions

The California Courts have decided an important case that the City believes will have a major positive effect on City water supply projections. The case (consolidated State Water Resources Control Board Cases, C044714), commonly referred to now as “the Robie Decision” (after the 3rd District California Court of Appeal Judge Ronald B. Robie, who authored the decision) held that the state’s area of (water) origin protection statutes apply to water supply contracts, not just to water supplies obtained directly by permit or license. In May 2006, the California Supreme Court refused to hear petitions for review, so the Robie Decision is final.

Memorandum to George R. Hicks
Re: SB 610 and SB 221 Compliance, Middle Green Valley Project
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The City believes the Robie Decision provides strong support for the contention that the state Department of Water Resources must recognize the City's watershed priority (per Water Code Section 11460 et seq.) to State Water Project water (for which the City holds a contract via Solano County Water Agency). If the City is correct, this means the City's State Water Project water supply shown in the Urban Water Management Plan should not be discounted due to unreliability in dry years, but rather should be "counted" at the maximum contract amount of 14,678 acre-feet per year. This represents a dry-year (90% exceedence) gain of over 9,000 acre-feet per year from what is shown now in the Urban Water Management Plan and this memorandum. The Solano County Water Agency and other State Water Project contractors within areas covered by the area of origin protection statutes, at the City's urging, have filed a lawsuit against the state Department of Water Resources asserting these rights. Settlement negotiations have been on-going with a tentative agreement reached. Several procedural steps still need to take place before the settlement can be finalized. If finalized, the effective water supply available to the City will be increased significantly, although not to the full 9,000 acre-feet per year level noted above.

cc: Steve Hartwig, Assistant Public Works Director/City Engineer

TABLE 1

City of Fairfield Historical Imported Project Water Deficiencies/Supplies, 1990-2011

Year*	State Water Project		Solano Project	
	Deficiency	Table A	Deficiency	Entitlement
1990 **	-	100%	-	100%
1991	-70%	30%	-16.9%	83.1%
1992	-55%	45%	-21.5%	78.5%
1993	-	100%	-	100%
1994	-50%	50%	-13.0%	87.0%
1995	-	100%	-	100%
1996	-	100%	-	100%
1997	-	100%	-	100%
1998	-	100%	-	100%
1999	-	100%	-	100%
2000	-10%	90%	-	100%
2001	-61%	39%	-	100%
2002	-30%	70%	-	100%
2003	-10%	90%	-	100%
2004	-35%	65%	-	100%
2005	-10%	90%	-	100%
2006	-	100%	-	100%
2007	-40%	60%	-	100%
2008	-65%	35%	-	100%
2009	-60%	40%	-	100%
2010	-50%	50%	-	100%
2011	-35%	65%	-	100%

* Calendar year for State Water Project. Water Year, beginning March of year shown, for Solano Project.

** First year of State Water Project deliveries to City.

**TABLE 2 - FAIRFIELD WATER SUPPLY AND DEMAND FORECAST - "NORMAL YEAR"
WITH FAIRFIELD TRAIN STATION SPECIFIC PLAN AND MIDDLE GREEN VALLEY**
(excludes Travis AFB, which has separate water system)

SECTION 1: FAIRFIELD AVAILABLE WATER SUPPLIES, Acre-Feet (AF)

	Actual		Forecast (Average "Normal Year" except "Now," which is estimated actual)					Median Year Supply (50% Reliable)	
	2005	2008	Now (2010)	2015	2020	2025	2030	2035	Ultimate
Potable Supplies									
Soleno Project Entitlement	9,200	9,200	9,200	9,100	9,100	9,100	9,100	9,100	20,000
State Water Project Entitlement	13,230	5,150	7,340	9,400	9,400	9,400	9,400	9,400	8,600
DWR Settlement (1)	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800
Soleno Irrigation District Contracts	0	0	0	0	0	0	0	0	0
Second Amended Agreement Exchange	7,000	7,000	7,000	6,900	6,900	6,900	6,900	6,900	5,200
2009 Supplemental Purchase Option	9,000	9,000	9,020	8,900	8,900	8,900	8,900	8,900	0
1987 JPA (est)	0	0	2,000	2,000	2,000	2,000	2,000	2,000	2,000
1987 JPA (est)	500	500	500	600	700	800	800	900	1,000
Rancho Solano Irrigation (from Solano Project entitlement)	(1,000)	(700)	(700)	(650)	(650)	(650)	(650)	(650)	(650)
Total Potable Supplies	48,730	41,950	48,160	48,000	48,250	48,250	48,250	48,350	47,950
Nonpotable Supplies									
Soleno Irrigation District (87 JPA & Other)	700	700	700	700	650	650	650	650	650
Paradise Valley Golf Course	800	800	1,000	1,400	1,800	2,200	2,400	2,400	2,400
Other	1,500	1,500	1,700	2,100	2,450	2,850	3,050	3,050	3,050
Soleno Irrigation District Subtotal									
Recycled	100	0	0	0	0	0	0	0	0
Central Fairfield Phase I	0	0	0	0	0	0	0	0	0
Central Fairfield Phase II	0	0	0	0	0	0	0	0	0
Central Fairfield Phase III+	0	0	0	0	0	0	0	0	0
Recycled Subtotal	100	0	0	0	0	0	0	0	0
Rancho Solano Irrigation	1,000	700	700	700	650	650	650	650	650
Total Nonpotable Supplies	2,800	2,200	2,400	2,800	3,100	4,100	4,900	5,500	5,500
Total Supplies	52,330	44,150	48,560	50,800	51,250	52,350	53,150	53,850	53,450

(1) Accounts for both Settlement Water and Article 21 water

SECTION 2: FAIRFIELD WATER DEMANDS FORECASTED ASSUMING WATER SUPPLY IS NOT A CONSTRAINT ON GROWTH

	Actual		Forecast (Average "Normal Year" except "Now," which is estimated actual)					Median Year Supply (50% Reliable)	
	2005	2008	Now (2010)	2015	2020	2025	2030	2035	Ultimate
Assume:									
AFYr per housing unit =	0.366	0.356	0.356	0.345	0.335	0.335	0.335	0.335	0.335
(gpd *) =	327	318	318	310	300	300	300	300	300
AFYr per job =	0.094	0.085	0.085	0.082	0.081	0.080	0.078	0.077	0.077
Water-intensive industries (additional water) =	2,200	1,700	1,700	4,000	5,000	6,500	8,000	9,000	10,000
AFYr non-golf irrigation associated with housing (80% est) =	0.102	0.114	0.114	0.110	0.106	0.106	0.106	0.106	0.106
AFYr non-golf irrigation associated with jobs (20% est) =	0.025	0.027	0.027	0.026	0.025	0.025	0.025	0.025	0.025
AFYr golf course irrigation	1,700	1,400	1,400	1,400	1,300	1,300	1,300	1,300	1,300
Unaccounted =	8%	4%	8%	8%	8%	8%	8%	8%	8%
Housing units =	36,246	38,317	38,537	41,537	44,537	47,537	50,537	53,537	58,779
w/o Travis AFB (1) =	33,958	36,937	36,157	39,157	42,157	45,157	48,157	51,157	57,399
increase =	-	2,069	2,220	3,000	3,000	3,000	3,000	3,000	6,242
Residential Demand, w/o Travis AFB	15,850	16,850	16,990	17,830	18,580	19,900	21,220	22,540	25,290
Jobs =	49,940	52,462	54,143	59,045	63,303	67,049	70,109	72,302	72,302
w/o Travis AFB (2) =	35,040	37,562	39,243	44,145	48,403	52,149	55,209	57,402	57,402
increase =	-	2,522	1,681	4,902	4,258	3,746	3,060	2,183	0
Nonresidential Demand, w/o Travis AFB	6,370	5,910	6,100	8,790	10,120	11,980	13,730	14,880	15,880
Golf Course Irrigation	1,700	1,400	1,400	1,300	1,300	1,300	1,300	1,300	1,300
Unaccounted	2,060	1,100	2,130	2,440	2,510	2,890	3,190	3,370	3,690
Total Demands, AF =	26,000	25,300	26,620	30,460	32,510	35,070	38,400	42,090	46,160
(w/o Travis AFB)									
Middle Green Valley Demands, AF =				190	190	190	190	190	190
Reserve/(Deficiency), AF	26,330	18,850	21,940	20,150	18,450	16,090	13,560	11,570	7,600

(1) Travis AFB = 2,380 housing units
(2) Travis AFB = 14,900 jobs

TABLE 3 - FAIRFIELD WATER SUPPLY AND DEMAND FORECAST - "SINGLE DRY YEAR"
WITH FAIRFIELD TRAIN STATION SPECIFIC PLAN AND MIDDLE GREEN VALLEY
(excludes Travis AFB, which has separate water system)

SECTION 1: FAIRFIELD AVAILABLE WATER SUPPLIES, Acre-Feet (AF)

	Actual		Forecast (Average "Single Dry Year" except "Now," which is estimated actual)							Median Year (30% Reliable) Supply, Ultimate
	2005	2008	Now (2010)	2015	2020	2025	2030	2035	Ultimate	
Potable Supplies										
Solano Project Entitlement	9,200	9,200	9,200	9,000	9,000	9,000	9,000	9,000	19,800	20,000
State Water Project Entitlement	13,230	5,150	7,340	9,200	9,200	9,200	9,200	9,200	9,200	6,600
DWR Settlement (1)	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800
Solano Irrigation District Contracts	0	0	0	0	0	0	0	0	0	0
Second Amended Agreement Exchange	7,000	7,000	7,000	6,900	6,900	6,900	6,900	6,900	4,900	5,200
Second Amended Agreement Purchase Option	9,000	9,000	9,020	8,800	8,800	8,800	8,800	8,800	0	0
2009 Supplemental Purchase	0	0	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
1987 JPA (est)	500	500	500	700	700	800	800	900	1,000	1,000
Rancho Solano Irrigation (from Solano Project entitlement)	(1,000)	(700)	(700)	(650)	(650)	(650)	(650)	(650)	(650)	(650)
Total Potable Supplies	48,730	41,950	46,150	47,800	47,750	47,850	47,850	47,950	48,050	47,950
Nonpotable Supplies										
Solano Irrigation District (87 JPA & Other)	700	700	700	700	650	650	650	650	650	650
Paradise Valley Golf Course	800	800	1,000	1,400	1,800	2,200	2,400	2,400	2,400	2,400
Other	1,500	1,500	1,700	2,100	2,450	2,850	3,050	3,050	3,050	3,050
Recycled										
Central Fairfield Phase I	100	0	0	0	0	600	600	600	600	600
Central Fairfield Phase II	0	0	0	0	0	0	0	1,200	1,200	1,200
Central Fairfield Phase III+	0	0	0	0	0	0	0	0	0	0
Recycled Subtotal	100	0	0	0	0	600	600	1,800	1,800	1,800
Rancho Solano Irrigation	1,000	700	700	650	650	650	650	650	650	650
Total Nonpotable Supplies	2,800	2,200	2,400	2,800	3,100	4,100	4,900	5,500	5,500	5,500
Total Supplies	52,330	44,150	48,550	50,600	50,850	51,950	52,750	53,450	53,550	53,450

(1) Accounts for both Settlement Water and Article 21 water.

SECTION 2: FAIRFIELD WATER DEMANDS FORECASTED ASSUMING WATER SUPPLY IS NOT A CONSTRAINT ON GROWTH

	Actual		Forecast (Average "Single Dry Year" except "Now," which is estimated actual)							Median Year (30% Reliable) Supply, Ultimate
	2005	2008	Now (2010)	2015	2020	2025	2030	2035	Ultimate	
Assume:										
AF/yr per housing unit =	0.366	0.356	0.356	0.345	0.335	0.335	0.335	0.335	0.335	0.335
(gpd *) =	327	318	318	310	300	300	300	300	300	300
AF/yr per job =	0.094	0.085	0.085	0.082	0.081	0.080	0.079	0.077	0.077	0.077
Water-intensive industries (additional water) =	2,200	1,700	1,700	4,000	5,000	6,500	8,000	9,000	10,000	10,000
AF/yr non-golf irrigation associated with housing (80% est) =	0.102	0.114	0.114	0.110	0.106	0.106	0.106	0.106	0.106	0.106
AF/yr non-golf irrigation associated with jobs (20% est) =	0.025	0.027	0.027	0.025	0.025	0.025	0.025	0.025	0.025	0.025
AF/yr golf course irrigation	1,700	1,400	1,400	1,400	1,300	1,300	1,300	1,300	1,300	1,300
Unaccounted =	8%	4%	8%	8%	6%	8%	8%	8%	8%	8%
Housing units =	36,248	36,317	38,537	41,537	44,537	47,537	50,537	53,537	56,537	59,537
w/o Travis AFB (1) =	33,868	33,937	36,157	39,157	42,157	45,157	48,157	51,157	54,157	57,157
Increase =	*	2,069	2,380	2,380	2,380	2,380	2,380	2,380	2,380	2,380
Residential Demand, w/o Travis AFB	15,850	16,890	16,990	17,830	18,580	19,900	21,220	22,540	23,860	25,180
Jobs =	46,940	52,462	54,143	59,045	63,303	67,049	70,109	72,302	74,500	76,700
w/o Travis AFB (2) =	35,040	37,562	39,243	44,145	48,403	52,149	55,209	57,402	59,600	61,800
Increase =	*	2,522	2,522	2,522	2,522	2,522	2,522	2,522	2,522	2,522
Nonresidential Demand, w/o Travis AFB	6,370	5,910	6,100	8,780	10,120	11,980	13,730	14,880	15,880	16,880
Golf Course Irrigation	1,700	1,400	1,400	1,400	1,300	1,300	1,300	1,300	1,300	1,300
Unaccounted	2,080	1,100	2,130	2,440	2,610	2,890	3,150	3,370	3,690	3,980
Total Demands, AF =	26,000	25,300	26,620	30,460	32,610	36,070	39,400	42,090	46,160	46,160
(w/o Travis AFB)										
Middle Green Valley Demands, AF =			190	190	190	190	190	190	190	190
Reserve/(Deficiency), AF	26,330	18,850	21,940	19,750	18,050	15,690	13,160	11,170	7,200	7,200

(1) Travis AFB = 2,380 housing units
(2) Travis AFB = 14,900 jobs

**TABLE 4 - FAIRFIELD WATER SUPPLY AND DEMAND FORECAST - "MULTIPLE DRY YEAR"
WITH FAIRFIELD TRAIN STATION SPECIFIC PLAN AND MIDDLE GREEN VALLEY**
(excludes Travis AFB, which has separate water system)

SECTION 1: FAIRFIELD AVAILABLE WATER SUPPLIES, Acre-Feet (AF)

	Actual		Forecast (Average "Multiple Dry Year" except "Now," which is estimated actual)					Median Year (50% Reliable) Supply Ultimate	
	2005	2008	Now (2010)	2015	2020	2025	2030		2035
Potable Supplies									
Solano Project Entitlement	9,200	9,200	9,200	8,190	8,190	6,190	6,190	8,190	18,200
State Water Project Entitlement	13,230	5,150	7,340	4,840	4,840	4,840	4,840	4,840	8,600
DWR Settlement (1)	11,000	11,800	11,800	11,800	11,800	11,800	11,800	11,800	11,800
Solano Irrigation District Contracts	0	0	0	6,230	6,230	6,230	6,230	6,230	4,500
Second Amended Agreement Exchange	7,000	7,000	7,000	8,010	8,010	8,010	8,010	8,010	0
2008 Amended Agreement Purchase Option	9,000	9,000	9,020	8,010	8,010	8,010	8,010	8,010	0
2009 Supplemental Purchase	0	0	2,000	1,780	1,780	1,780	1,780	1,780	2,000
1987 JPA (est)	500	500	500	700	700	800	800	900	1,000
Rancho Solano Irrigation (from Solano Project entitlement)	(1,000)	(700)	(700)	(650)	(650)	(650)	(650)	(650)	(650)
Total Potable Supplies	49,730	41,950	48,760	40,900	41,000	41,000	41,000	41,100	47,950
Nonpotable Supplies									
Solano Irrigation District (87 JPA & Other)	700	700	700	650	650	650	650	650	650
Paradise Valley Golf Course	800	800	1,000	1,400	1,800	2,200	2,400	2,400	2,400
Other	1,500	1,500	1,700	2,100	2,450	2,850	3,050	3,050	3,050
Solano Irrigation District Subtotal	3,000	3,000	3,400	4,150	4,900	5,650	6,450	6,500	6,500
Recycled	100	0	0	0	0	0	0	0	0
Central Fairfield Phase I	0	0	0	0	0	0	0	0	0
Central Fairfield Phase II	0	0	0	0	0	0	0	0	0
Central Fairfield Phase III	0	0	0	0	0	0	0	0	0
Recycled Subtotal	100	0	0	0	0	0	0	0	0
Rancho Solano Irrigation	1,000	700	700	700	650	650	650	650	650
Total Nonpotable Supplies	2,600	2,200	2,400	2,900	3,100	4,100	4,900	5,500	5,500
Total Supplies	52,330	44,150	49,860	43,550	44,000	45,100	45,900	46,600	53,450

(1) Accounts for both Settlement Water and Article 21 water.

SECTION 2: FAIRFIELD WATER DEMANDS FORECASTED ASSUMING WATER SUPPLY IS NOT A CONSTRAINT ON GROWTH

	Actual		Forecast (Average "Multiple Dry Year" except "Now," which is estimated actual)					Median Year (50% Reliable) Supply Ultimate	
	2005	2008	Now (2010)	2015	2020	2025	2030		2035
Assume:									
AF/Yr per housing unit =	0.366	0.356	0.356	0.345	0.335	0.335	0.335	0.335	0.335
(gpd " ") =	327	318	318	310	300	300	300	300	300
AF/Yr per job =	0.094	0.085	0.085	0.082	0.081	0.080	0.079	0.077	0.077
Water-intensive industries (additional water) =	2,200	1,700	1,700	4,000	5,000	6,500	8,000	9,000	10,000
AF/Yr non-golf irrigation associated with housing (80% est) =	0.102	0.114	0.114	0.110	0.106	0.106	0.106	0.106	0.106
AF/Yr non-golf irrigation associated with jobs (20% est) =	0.025	0.027	0.027	0.026	0.025	0.025	0.025	0.025	0.025
AF/Yr golf course irrigation	1,700	1,400	1,400	1,400	1,300	1,300	1,300	1,300	1,300
Unaccounted =	8%	4%	8%	8%	8%	8%	8%	8%	8%
Housing units =	36,248	38,317	38,637	41,537	44,537	47,537	50,537	53,537	59,779
w/o Travis AFB (1) =	33,668	35,937	36,157	39,157	42,157	45,157	48,157	51,157	57,999
Increase =	-	2,069	2,220	3,000	3,000	3,000	3,000	3,000	6,242
Residential Demand, w/o Travis AFB	15,850	16,890	16,990	17,830	18,580	19,900	21,220	22,540	25,290
Jobs =	49,940	52,462	54,143	59,045	63,303	67,049	70,109	72,302	72,302
w/o Travis AFB (2) =	35,040	37,562	38,243	44,145	48,403	52,149	55,209	57,402	57,402
Increase =	-	2,522	1,681	4,902	4,258	3,746	3,050	2,193	0
Nonresidential Demand, w/o Travis AFB	6,370	5,910	6,100	8,790	10,120	11,980	13,730	14,880	15,880
Golf Course Irrigation	1,700	1,400	1,400	1,400	1,300	1,300	1,300	1,300	1,300
Unaccounted	2,080	2,130	2,130	2,440	2,610	2,890	3,150	3,370	3,690
Total Demands, AF =	26,000	25,300	26,620	30,480	32,610	35,070	38,400	42,090	46,160
(w/o Travis AFB)									
Middle Green Valley Demands, AF =									
Reserve/(Deficiency), AF	26,330	18,650	21,940	12,900	11,200	8,840	6,310	4,320	350
				190	190	190	190	190	190
									7,290

(1) Travis AFB = 2,360 housing units

(2) Travis AFB = 14,900 jobs