

### 3A.18.5 WATER SUPPLY OPTIONS TO LONG-TERM WATER SUPPLY

The water supply analysis in a CEQA document is governed by California case law that requires the lead agency to consider both the relative certainty of new water supplies that a project would require and the impacts that could result from the use of those new water supplies. The following discussion introduces the principles governing water supply analyses in CEQA documents and distinguishes between the analysis of the certainty of supplies and the impact of providing those supplies. These principles are as follows:

1. An environmental impact report (EIR) may not assume a solution to problems of water supply, but must instead present sufficient facts to evaluate the pros and cons of supplying the required water. (*Santiago County Water District v. Orange* [1981] 118 Cal.App.3d 818, 829.)
2. The water supply analysis for large, multiphase projects may not be limited to the first few years or phases. Furthermore, the first or programmatic document for such a project may not defer analysis to future phases, but must analyze reasonably foreseeable impacts of supplying required water. The tiering principle does not allow deferral to future studies or documents. (*Santa Clarita Organization for Planning the Environment v. County of Los Angeles* [2003] 106 Cal. App. 4th 715, 723.)
3. An EIR evaluating a planned land use project must assume that all phases of the project will eventually be built and will need water. The EIR for such a project must analyze the impacts of supplying water to the entire project. (*Stanislaus Natural Heritage Project v. County of Stanislaus* [1996] 48 Cal.App.4th 182, 206.)
4. Future water supplies for a project must bear a reasonable likelihood of proving to be available. While absolute certainty is not required, water supplies must be identified with more specificity as projects progress from general to specific phases (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* [2007] 40 Cal. 4th, 412, 434). “Where, despite a full discussion, it is impossible to confidently determine that anticipated water sources will be available, CEQA requires some discussion of possible replacement sources or alternative to use of the anticipated water, and of the environmental consequences of those contingencies.” (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* [2007] 40 Cal. 4th 412, 432.)
5. Although much of the case law focuses on the issue of certainty, the ultimate issue under CEQA is not whether an EIR establishes a likely source of water, but whether the document adequately analyzes the reasonably foreseeable impacts of supplying water to the project. (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* [2007] 40 Cal. 4th, 412, 434.)

The WSA concluded that the water supply that the City would acquire from NCMWC would meet projected water demands in normal and critically dry years, and it is reasonably certain as a physical matter that the surface water supplies could be delivered to the SPA in the amounts needed to serve the Proposed Project Alternative at buildout. However, there is no similar reasonable certainty from a legal and regulatory standpoint, since additional actions by the Bureau of Reclamation and SCWA would be necessary. Therefore, in case the surface water supplies do not become available because of the required regulatory and legal approvals, an analysis of optional sources of water in addition to the City’s proposed water supply is provided below as required by the court in the case of *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova*, 40 Cal. 4th 412 (2007).

The following “Water Supply Options” have been developed and are evaluated herein:

- ▶ Option 1 – Groundwater from the Central Sacramento Groundwater Basin
- ▶ Option 2 – Other Senior Sacramento River Water Right Holders
- ▶ Option 3 – Conservation of Existing City Supplies and Water System Retrofit

The discussion and assessment of these Water Supply Options in this section follows the principles identified above. Accordingly, this analysis evaluates both the certainty of optional water supplies and provides a qualitative assessment of the impacts that could result from the use of those supplies commensurate with the requirements of CEQA. An impact is considered significant if the water supply option would result in a potential water shortage or another significant adverse physical impact on the environment. To facilitate a meaningful comparison between the water supply options and the Off-site Water Facility Alternatives, an indication is also provided as to whether the Water Supply Option would result in greater, lesser, or similar impacts to the Proposed Off-site Water Facility Alternative.

### **Option 1 - Groundwater from the Central Sacramento Groundwater Basin**

Under water supply Option 1, the City would serve potable water demands within the SPA using groundwater supplies from the South American Groundwater Sub-basin; also locally referred to as the Central Sacramento Groundwater Basin. The existing Central Sacramento County Groundwater Management Plan (CSCGMP), dated February 2006, estimates the central groundwater basin's long-term sustainable yield at 273,000 AFY (CSCGMP, 2006). This value is based on the results of the Water Forum Agreement, which is described in more detail in Sections 3B.9, "Hydrology and Water Quality - Water," and 3B.17, "Groundwater - Water." Existing documentation, including the CSCGMP, suggests that between 20,000 to 40,000 AFY of groundwater supply remains available within the basin under existing conditions without exceeding the sustainable yield.

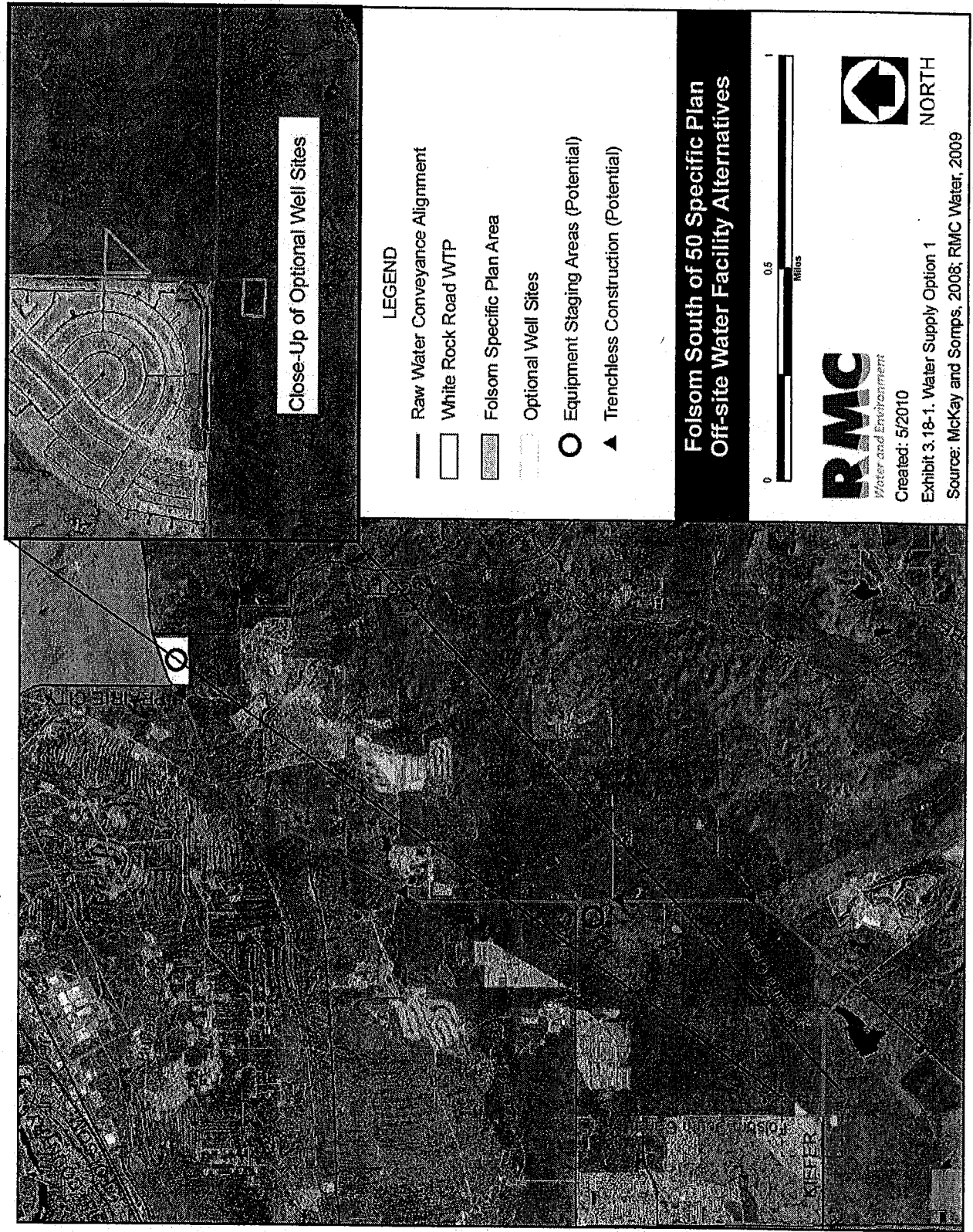
For this water supply option, up to 6.5 mgd of groundwater on average would be pumped from up to two well sites located near the intersection of Kiefer Boulevard and Jaeger Road and within the Sun creek Specific Plan area (see Exhibit 3A.18-1). The City would construct multiple 1,000-gallon-per-minute (gpm) capacity wells at one or both of the optional well sites. The two well sites are currently proposed for Public/Quasi-Public uses within the Sun creek Specific Plan area. The well field sites would be contained within an area totaling up to one acre. For the purposes of analysis, the City assumes that the wells could be drilled to depths of up to 500 feet below the ground surface (bgs). However, the actual depth of the wells has yet to be determined.

A new 30-inch, raw-water transmission pipeline would be constructed to convey the pumped groundwater approximately 9 miles from the well sites to the White Rock WTP located immediately south of the Folsom SPA. As shown in Exhibit 3A.18-1, the raw water conveyance pipeline would travel east along Kiefer Boulevard to Grant Line Road where it would then travel to the north to White Rock Road and then back to the east before arriving at the White Rock WTP. Similar to the Off-site Water Facility Alternatives, the conveyance alignment would be placed within roadway rights-of-way (ROW) for its entire length. A treated-water pipeline would extend from the White Rock WTP into the Folsom SPA.

For the purposes of this water supply option and given the complexities associated with operating a conjunctive use program, the City has not assumed the inclusion of any conjunctive use facilities, such as surface water infrastructure. Although the City would attempt to establish a conjunctive use strategy with one or more other groundwater users in the basin, as previously indicated, this water supply option would not explicitly depend on conjunctive use.

### **Water Supply Certainty**

The water supply demand for the Folsom SPA under the Proposed Project is estimated at up to 5,600 AFY and would be well within the safe yield range of the basin. The CSCGMP indicates a 2030 normal year groundwater demand of 235,060 acre-feet, and a dry-year groundwater demand of 261,784. Based on these estimates, there is sufficient groundwater yield capacity for the City to supply the entire Folsom SPA demand using groundwater as the source of potable water supply. For these reasons, this supply is considered to have a high level of certainty.



**Water Supply Option 1: Groundwater from the Central Sacramento Groundwater Basin Exhibit 3A.18-1**

## Impact Discussion

### Aesthetics

The description of the affected environment for Zone 4 of the "Water" Study Area as provided in Section 3B.1, "Aesthetics – Water," would apply for this water supply option. With implementation of mitigation recommended in Section 3B.1, potentially significant impacts related to exterior finishes and nighttime security lighting would be **similar** and minimized through mitigation identified in Section 3B.1, "Aesthetics – Water," to **less-than-significant** levels.

### Air Quality and Climate Change

Water Supply Option 1 lies within the same air quality setting as that described for the Off-site Water Facility Alternatives in Section 3B.2, "Air Quality. - Water." Each of the discussed air quality plans and policies, attainment status and existing air quality conditions for the Off-site Water Facility Alternatives will also apply to Water Supply Option 1. This option would also be located within the jurisdiction of the SMAQMD and will be subject to the SMAQMD's Rules and Regulations.

Sensitive receptors in the vicinity include planned rural and low-density residential land uses associated with the suncreek development located to the northwest of the optional well field site. Construction impacts would be similar in nature and magnitude to those estimated for Off-site Water Facility Alternative 1A. Due to the presence of sensitive receptors in close proximity to the well site(s) and conveyance alignment, construction impacts could be potentially significant. Further, these emissions in conjunction with the construction emissions resulting from installation of the WTP could contribute to exceedances of SMAQMD's standard for NO<sub>x</sub>. As a result, this water supply option could result in **similar**, but likely greater, construction impacts as Off-site Water Facility Alternative 1A. These impacts would be **significant and unavoidable** after implementation of Mitigation Measures listed in Section 3B.2, "Air Quality – Water."

### Biological Resources

The conveyance facilities for this water supply option follow a similar alignment to that of Proposed Off-site Water Facility Alternative following its crossing of the Folsom South Canal (FSC). Habitats and potentially occurring special status species identified for Proposed Off-site Water Facility Alternative could also be expected to occur in close proximity to the conveyance alignment for this water supply option. The one major exception is that this water supply option would avoid the wetland mitigation areas established west of the FSC and along the existing Freeport Project alignment, east of Eagles Nest Road.

The well fields would be constructed near the headwaters of Laguna Creek, which meanders approximately 100 to 150 yards southeast of the two possible well sites. Several seasonal tributary channels meander through each well site, thereby carrying the potential for direct impacts to wetlands and, potentially, vernal pools. Consequently, this water supply option could also have potential direct impacts on wetland and vernal pool-associated plant and animal species. Because of the proximity of the well sites from the channel, this water supply option is unlikely to result in direct biological impacts to Laguna Creek, but could result in indirect water quality impacts to the creek or adjacent wetland areas. These impacts would be **similar** to the Proposed Off-site Water Facility Alternative and would be **potentially significant**. Mitigation similar to that required for the Proposed Off-site Water Facility Alternative in Section 3B.3, "Biological Resources – Water," would be required under this alternative.

The construction of the well fields and WTP under this water supply option would result in the loss of introduced annual grassland habitat. This would not constitute a significant impact to biological resources due to this habitat type's relative abundance locally and regionally along with the degraded nature (i.e., prevalence of non-native plant species) of much of this community as a result of past land uses. This would be a **less-than-significant** impact.

Swainson's hawk and vernal pool fairy shrimp are documented within the vicinity of the well sites, WTP, and conveyance alignment and may be adversely impacted by the construction of this water supply option through the removal of suitable foraging habitat. Likewise, construction activities associated with this water supply option have the potential to cause nesting burrowing owls, bats, and other raptor species to abandon their nests. Additionally, construction on the WTP site may eliminate potential nest sites for burrowing owls. These would be considered **potentially significant** impacts and **similar** to the Proposed Off-site Water Facility Alternative. Implementation of the mitigation outlined in Section 3B.3, "Biological Resources – Water" would reduce these impact to a less-than-significant level.

Implementation of this water supply option could also result in direct impacts to vernal pool habitats through incidental fill during construction. A loss or "take" of vernal pool-associated species (vernal pool fairy shrimp, vernal pool tadpole shrimp, California linderiella, Boggs lake hedge-hyssop, slender orcutt grass, Sacramento orcutt grass, Crampton's tucktoria, Dwarf downingia, Ahart's dwarf juncus, and legenere) could also occur in this event. This impact is considered **potentially significant** and would require mitigation contained Section 3B.3, "Biological Resources – Water," **similar** to Proposed Off-site Water Facility Alternative.

Lastly, similar to Proposed Off-site Water Facility Alternative, the implementation of this water supply option could result in damage to or removal of native trees during construction activities along the conveyance alignment. This would conflict with policies of the Sacramento County General Plan and Tree Protection Ordinance and would be a potentially significant impact.

### **Climate Change**

Sources of operational emissions associated with this water supply option would be similar to the Proposed Off-site Water Facility Alternative. As a consequence, the operational analysis under this water supply option would likely be similar to those identified for Proposed Off-site Water Facility Alternative in Section 3B.4, "Climate Change - Water." However, with the additional well pumping facilities included under this water supply option, the operational emissions of GHGs would likely be higher than those associated with the Proposed Off-site Water Facility Alternative. In this context, based on the significance determination for Off-site Water Facility Alternative 1A, the contributions of GHGs to regional and global emissions would be **significant and unavoidable** even after implementation of Mitigation Measures listed in Section 3B.4, "Climate Change-Water," **similar** to the Proposed Off-site Water Facility Alternative.

### **Cultural Resources**

The cultural resource setting for water supply option 1 is similar to that of the Proposed Off-site Water Facility Alternative, which is indicative of the Sacramento Valley; a relatively flat plain with meandering rivers and creeks interspersed throughout the landscape. Throughout the prehistoric period, the Sacramento Valley would have provided a rich array of terrestrial and riverine resources for indigenous groups, namely along the nearby riverine environments of Laguna Creek and the Cosumnes River (see Section 3B.5, "Cultural Resources – Water"). However, the principal settlements were located on natural rises set above the periodic flooding of the Delta and the tributaries of the Sacramento and San Joaquin rivers, such as the American and the Cosumnes Rivers.

Artifacts or unusual amounts or types of stone, bone, or shell may be uncovered during site reconnaissance or actual construction activities **similar** to the Proposed Off-site Water Facility Alternative. This would be a **potentially significant** impact that would require mitigation similar to that described in Section 3B.5, "Cultural Resources – Water."

### **Environmental Justice**

No low-income or minority pollutions are identified along the conveyance alignment or WTP for this water supply option and therefore **no impacts** would occur; **similar** to the Proposed Off-site Water Facility Alternative.

## Geology, Soils, and Paleontological Resources

This water supply option is mapped on the same geologic formations as of that of the Off-site Water Facility Alternatives. The well sites and conveyance alignment are not mapped within an Alquist-Priolo Earthquake Fault Zone or located within 15 km of a Class A or Class B fault source (DMG Special Publication 42, 1997). Based on these factors, ground rupture at the possible well sites resulting from seismic activity is unlikely. Likewise, the corresponding potential for ground lurching, differential settlement, and/or lateral spreading to occur during or following seismic events near the possible well sites is considered very low and **similar** to the Proposed Off-site Water Facility Alternative. Provided geotechnical engineering recommendations are followed during site preparation as required by mitigation contained in Section 3B.7, "Geology, Soils, and Paleontological Resources - Water," these **potentially significant** impacts would be reduced to a less than significant level.

According to the Soil Survey for Sacramento County (Web Soil Survey 2010), soils located on the possible well and WTP sites may contain expansive clays within some portion of the profile. These soil-related impacts could be **potentially significant** and would be **similar** to the Proposed Off-site Water Facility Alternative thereby requiring mitigation.

This conveyance alignment under this water supply option would be required to cross some of the potentially sensitive paleontological **similar** to the Proposed Off-site Water Facility Alternative. With the implementation of the mitigation measures identified in Section 3B.7, "Geology, Soils, and Paleontological Resources - Water," **potentially significant** impacts related to geology, soils, and paleontological resources would be reduced to a less-than-significant level.

## Hazards and Hazardous Materials

The setting description provided for Zone 4 and the White Rock WTP in Section 3B.8, "Hazards and Hazardous Materials-Water," would generally apply to the conveyance and treatment facilities required for this water supply option. The regulatory agency database search compiled for the Off-site Water Facility Alternatives included the possible well sites and WTP and revealed no indication of preexisting hazardous materials, LUST, or UST sites on record. The potential to encounter previously undocumented hazardous materials contamination would be **similar** to the Proposed Off-site Water Facility Alternative and **potentially significant**. This impact could be mitigated through the implementation of mitigation in Section 3B.8, "Hazards and Hazardous Materials-Water."

Impacts related to wildlife hazards, risk of upset, and airport safety would be **similar** to the Off-site Water Facility Alternatives and **potentially significant**. This impact could be mitigated through the implementation of mitigation in Section 3B.8, "Hazards and Hazardous Materials-Water."

As described in more detail in Section 3B.17, "Groundwater - Water," several groundwater contaminant plumes exist within the "Water" Study Area and to the north and west of the optional well sites. These plumes are known to exist from source areas at Mather Field, Aerojet, and Boeing and are illustrated in Exhibit 3B.17-3. Although other localized plumes exist in and around Zone 4 of the "Water" Study Area, the principal plumes shown in Exhibit 3B.17-3 are the largest and have the greatest current impact on existing groundwater use. As described in Section 3B.17, "Groundwater - Water," for the Mather Field plumes, the primary contaminants of concern (COCs) are tetrachloroethylene (TCE), perchloroethylene (PCE), and carbon tetrachloride. The Mather Field plume edges represent a composite COC concentration of 0.5 mg/L, which is one-tenth of the maximum contaminant level (MCL) for these constituents. For the Aerojet and Boeing plume, the primary COCs are TCE, n-nitrosodimethylamine (NDMA), and perchlorate.

As part of this water supply option, groundwater resources in the vicinity of Kiefer Road, east of Sunrise Boulevard would be pumped via multiple 1,000 gpm wells with a rated capacity of up to 10 mgd. Under this water supply option, wells would be drilled to depths of up to 500 feet, similar to municipal wells operated by SCWA within eastern portions of SCWA's Zone 40. Table 3A.18-14 shows the water quality for groundwater wells to the north (SCWA - Mather, Anatolia) and south (Laguna, Grant Line) of the two possible well sites. As

provided in Table 3A.18-14, groundwater within the vicinity of these wells meets drinking water standards, but differs substantially between the north and south in certain instances. With an untested level of pumping at the well sites considered for this water supply option, the potential for pumping to result in the migration of these contaminant plumes in the direction optional well or other existing well sites is considered a **potentially significant** impact. This impact is **greater** than groundwater quality impacts associated with the Proposed Off-site Water Facility Alternative. Mitigation for this impact would require the use of sophisticated modeling to enable for prediction of pollutant fate and transport.

For example, wells within the Laguna area to the south of Zone 4 of the "Water" Study Area exhibit elevated levels of nitrates, arsenic, TDS, boron, chromium VI, and THMs (total). In contrast, SCWA's Mather wells to the north exhibit elevated concentrations of lead, high pH, and require mandatory sampling and monitoring for NDMA, TCE, and perchlorate. However, as provided in Table 3A.18-14, these chemical by-products were not detected in 2007 groundwater samples. Based on these results and the fact that local groundwater supplies are already used for potable uses within Zone 4 of the "Water" Study Area, the use of groundwater would not create a significant hazard to users within the Folsom SPA. In contrast to the CVP water supply from NCMWC for the Off-site Water Facility Alternatives, groundwater supplies may exhibit more issues related to taste and odor along with higher TDS levels, which would be considered a **potentially significant** impact; **greater** than the Proposed Off-site Water Facility Alternative.

### Hydrology, Water Quality, and Groundwater

The siting of well sites within the Sun creek Specific Plan area would follow the requirements of CDPH Bulletin 79, which requires minimum separation of 50 feet between a sewer line and domestic well. As part of this water supply option's design, the location of all existing utilities, including sewer lines, and registered septic systems within 75 feet of the proposed wells site and pipeline alignments would be determined. If any well is determined to be within the 50 foot separation, the relocation of the pipeline or well, depending on feasibility, will be required to achieve the minimum 50 foot separation. Compliance with these regulations would ensure that impacts to local water supply wells are **less-than significant**. These well-related impacts would be **greater** than the Proposed Off-site Water Facility Alternative.

*Groundwater Quality.* Activities associated with the construction and operation of the well facilities under this option would involve the pumping of groundwater resources from the north-eastern portion of the South American Subbasin from depths up to 500 feet bgs. Property owned by Aerojet is located approximately four miles north of the well sites and is included on the U.S. EPA's National Priority List (NPL) for contamination that resulted from the manufacturing of liquid and solid propellant rocket fuels. The use of groundwater supplies from this portion of the South American Subbasin has the potential to influence the distribution and extent of existing contamination associated with the Aerojet property to the north-northwest. The main COCs include TCE, NDMA, and perchlorate. The extent of these plumes is illustrated in Figure 3B.17-3.

Portions of the Aerojet property included within the NPL designation were divided into smaller project areas, called Operable Units (OUs), to prioritize investigation and cleanup work (EPA 2007). Two OUs, the Western Groundwater (OU3) and Perimeter Groundwater (OU5), were designated to identify areas where control mechanisms are being implemented to slow the movement of chemicals in groundwater migrating at or beyond the periphery of the Aerojet property. The Western Groundwater OU was the first such area to be investigated with cleanup actions currently being implemented (EPA, 2007). These actions include containing, treating, and discharging the contaminated groundwater on the western and northwestern sides of the property through Aerojet's GET program to prevent the continued migration of chemicals off-site in groundwater. The treatment strategy involves removal of perchlorate, nitrate, and nitrite using a biological treatment process developed by Aerojet; removal of NDMA and high level VOCs with ultraviolet light; and removal of the remaining VOCs by air stripping or carbon filtration. A total of 33 extraction wells are currently in operation, and another four wells were planned for operation by the end of 2007 (Sacramento County, 2008b).

Table 3A.18-14

Treated Groundwater Quality Data for SCWA's Eastern Service Areas

Parameter	Units	Municipal Drinking Water Standards				Treated SCWA Groundwater (2007)	
		MCL	SMCL	PHG (MCLG)	DLR	Mather, Sunrise, Anatolia - Range (Min/Max)	Laguna, Vineyard, Grant Line - Range (Min/Max)
Aluminum	Ppb	1,000		600	50	ND	*
Arsenic	Ppb	10		0.004	2	ND	ND-25
Barium	Ppm	1		2	0.1	ND	ND-0.18
Lead	Ppm	2		1	0.1	14 (max)	ND
Copper	Ppm	--	1	0.17	0.05	0.08	0.180
Nitrate as NO <sub>3</sub>	Ppm	45		45	2	ND	ND-11
Fluoride	Ppm	2		1	--	ND-0.67	ND-0.71
Gross Alpha particle activity	pCi/L	15		(0)	3	ND	ND-4.5
Perchlorate	Ppb	6		(0)	4	ND	*
NDMA	Ppb	MO		--		ND	*
Trichloroethylene (PCE)	Ppb	5		0.06	--	ND	*
Trichloroethylene (TCE)	Ppb	5		0.8	0.5	ND	*
Total coliform bacteria	% positive samples	5% per mo.		(0)		0%	0%
Trihalomethanes (total)	Ppb	80		NA	0.5	ND	ND-84
Halocetic Acids	Ppb	60		--	--	ND	NA-83
Chlorine	Ppm	4		4	--	0.65-1.16	0.01-1.10
Chromium VI	Ppb	MO			0.5	MA	ND-8.4
Iron	Ppb		300	NS	100	ND	ND-0.16
Manganese	Ppb		50	NS	20	ND	ND-0.03
pH	Units		6.5-8.5	NS		8.2-8.3	7.6-8.4
Specific Conductance	µmhos/cm		1,600	NS		148-188	100-770
Vanadium	Ppb		MO	50	0.5	*	NA-10
Total dissolved solids	Ppm		1,000	NS		152-178	76-530
Turbidity	NTU		5	NS	0.1	0.2-0.25	ND-1.5
Boron	Ppb		MO	NL-1000	100	NA	NA-580
Hardness as CaCO <sub>3</sub>	Ppm			3		54-56	ND-310

Notes: DLR – Detection Limit for purposes of reporting  
MCL – Maximum Contaminant Level  
MCLG – Maximum Contaminant Level Goal  
µmhos/cm – micromhos per centimeter  
MO – Monitored Only  
PHG – Public Health Goal  
ppb – parts per billion  
ppm – parts per million  
SMCL – Secondary Maximum Contaminant Level  
\* - note sampled or not reported

Source: City of West Sacramento, 2007 and 2008



The Perimeter Groundwater OU encompasses four additional groundwater zones along the northern, eastern, and southern boundaries of the Aerojet property. The final Perimeter Groundwater OU Remedial Investigation/Feasibility Study (RI/FS) was anticipated in 2008, but was not available for review prior to circulation of this EIR/EIS. The RI/FS will include a determination of the appropriate remedial action for the investigated areas. Given that the groundwater plume is not fully contained or remediated and may be susceptible to movement by operations of nearby wells, it is not known whether the operation of the wells under this option could contribute to effects or alter the distribution of this contaminant zone. With an untested level of pumping at the well sites considered for this water supply option, the potential for pumping to result in the migration of these contaminants in the direction well sites is considered a **potentially significant** impact that is **greater** than groundwater quality impacts associated with the Proposed Off-site Water Facility Alternative. Mitigation for this impact would require the use of sophisticated modeling to enable for prediction of pollutant fate and transport.

Kiefer Landfill is located to the south east of the well sites. A release of waste constituents from the landfill to groundwater was discovered in 1989. Since then, numerous detection and corrective action monitoring wells have been installed. Monitoring of the shallow Zone<sup>1</sup> A shows the presence of various VOCs, including, but not limited to, tetrachloroethene, trichloroethene, 1,2-dichloroethene, and vinyl chloride. The shallow VOC plume extends beyond the landfill footprint about 4,000 feet to the southwest. The source area was identified as the unlined landfill Module M1. No VOCs have been detected in the lower aquifer since 1999 when trace levels were still present.

In 1995, Sacramento County installed a groundwater extraction system, including several extraction wells and a pump and treat system. Groundwater is currently extracted from 14 wells at a combined average rate of about 1,000 gpm. The system includes two air stripper towers, a carbon absorption filter, and several extraction wells. Pump and treat remediation began in April 1995, with the objective of containing the spread of the plume and reducing VOC levels in the source area. According to the monitoring reports submitted through 2006, groundwater extraction has removed over 700 pounds of VOCs from the groundwater since 1995, and resulted in an approximate 75% reduction in mass of VOCs in the groundwater (RWQCB, Order No. R5-2007-0014, 2007).

Due to the preexisting sources of nearby contamination, this option could cause potentially significant impacts in the form of increased migration of the existing contaminated groundwater plumes. Mitigation would be required as an assurance that new pumping as part of the operation of the well facilities does not affect the migration of existing contaminants. However, even with this mitigation, the City would be unable to guarantee that this potential impact could be reduced to a less-than-significant level until pumping has commenced over time. For this reason, this impact is considered **significant** and **unavoidable** and **greater** than the Proposed Off-site Water Facility Alternative.

*Groundwater Withdrawal.* The operation of the wells under this option would require the direct pumping of groundwater at a maximum rate of up to 5,600 AFY. As indicated in the setting discussion in Section 3B.17, "Groundwater - Water," the WFA sets the sustainable yield for the South American Subbasin at 273,000 AFY. Based on information contained in the Freeport Project EIR (2003) and CSCGMP (2006), current groundwater demands (2005) within the South American Subbasin are estimated at 250,000 AFY. Of this total, SCWA currently pumps, on average, 131,000 AFY. With the completion of the Freeport Project, SCWA anticipates diverting up to 90,000 AFY<sup>2</sup> of surface water during normal years thereby reducing its groundwater pumping to 41,000 AFY. This initial reduction in groundwater demand from SCWA would reduce total groundwater demand within the South American Subbasin to 159,000 AFY. Given that the Freeport Project would be online in advance of this option's operation, total groundwater demands under a worst-case, critical dry year scenario would only be increased to 164,500 AFY. Given that this estimate is substantially lower than the South American Subbasin's sustainable yield of 273,000 AFY, the additional demands for groundwater under this option would have less-

<sup>1</sup> A-zone lies between approximately 60 and -20 feet mean sea level (MSL), with groundwater first encountered at about 60 to 190 feet below the ground surface.

<sup>2</sup> SCWA's total surface water supplies for Zone 40 are assumed to include 68,500 AFA in CVP and appropriated supplies and 12,000 AFA and 9,300 AFA from the Purveyor Specific Agreement with the City of Sacramento.

**than-significant** impacts and would not be expected to lead to overdraft of groundwater basin. This impact; however, would be **greater** than the Proposed Off-site Water Facility Alternative.

Over the long-term, total water demands within the South American Subbasin are estimated to approach approximately 255,000 AFY<sup>3,4</sup> in the year 2030 for a critically dry year (CSCGMP, 2006). Total groundwater demand becomes substantially reduced at 235,000 AFY during wet and normal years when surface water supplies are available, thereby allowing the basin to recharge. Under this option, total groundwater demands could approach 260,500 AFY<sup>5</sup> by 2030. This estimate is short of the 273,000 AFY sustainable yield estimate for the South American Subbasin based on the WFA and leaves a margin of 12,500 AFY of available capacity for other potential users under future conditions. Because groundwater pumping directly and indirectly associated with this water supply option would not exceed sustainable yield recommendations, groundwater levels within the South American Subbasin under future conditions are projected to remain at levels above those accepted by the WFA. Based on these findings, this impact is considered less than significant.

Under cumulative conditions and beyond 2030, other sources of demand are identified in the Sacramento County General Plan Update EIR in unincorporated portions of the County. These additional sources of demand combined with the Folsom SPA could lead to exceedances of the groundwater basin's safe yield and lead to a further lowering of the regional aquifer. This would be a **significant** and **unavoidable**, cumulative impact that is **greater** than groundwater impacts associated with the Proposed Off-site Water Facility Alternative.

*Drawdown in Adjacent Wells.* From a more localized perspective, the well facilities under this option would include multiple wells that would have individual capacities of 1,000 gpm and drilled to a depth of less than 500 feet bgs. With new pumping comes the potential for localized drawdown to occur and the potential for lowering of groundwater levels in adjacent wells depending on the rate aquifer recovery. Current literature suggests that the deep, water-bearing zones of the Mehrten Formation can yield between 1,000 and 1,400 gallons per minute (gpm) with a specific capacity of 46–100 gpm per foot of drawdown (ERM 2003). These yields are highest in the central portion of the valley, where well-sorted sands are predominant, and lowest along the eastern margins of the Sacramento Valley.

Without actual pump testing, the City is unable to quantify the duration of any drawdown and whether groundwater levels would return to pre-pumping levels following one or more normal to above normal precipitation cycles. In assuming a localized drawdown within a range of 20 to 40 feet and in evaluating the historical data provided in Exhibit 3A.18-2, drawdowns could exceed the historical range of groundwater level fluctuations during drought conditions. Groundwater pumped from the wells could affect existing irrigation wells and nearby wells planned by SCWA, potentially reducing pumping performance and resulting in increased energy consumption due to an increase in required pumping lift. The effects of any localized drawdown could result in localized impacts that could be **potentially significant** to adjacent groundwater uses, but less than significant in the context of the larger groundwater basin. These impacts would be **greater** than the Proposed Off-site Water Facility Alternative and would require mitigation in the form of a Well Operations Optimization Plan to determine optimal operating performance criteria to minimize drawdown in adjacent wells.

*Alteration of Surface Water Hydrology.* As part of this option, the City would rely on groundwater extracted from multiple groundwater wells to meet water demands for the Folsom SPA. The groundwater would be extracted from wells constructed to a depth of 500 feet and tap water-bearing sediments within the Mehrten Formation. No drilling investigations have been conducted at the possible well sites under evaluation and, therefore, the site-specific composition of the underlying geologic materials is not known.

<sup>3</sup> A conservation factor of 25.6 percent is applied to 2030 water demand estimates per the WFA.

<sup>4</sup> Groundwater use for 2030 assumes the inclusion of Aerojet GET extraction rates, estimated at 35,890 AFY.

<sup>5</sup> Estimate based on an average annual increase in pumping within SCWA's service area of 6.4 mgd or 7,200 AFY.

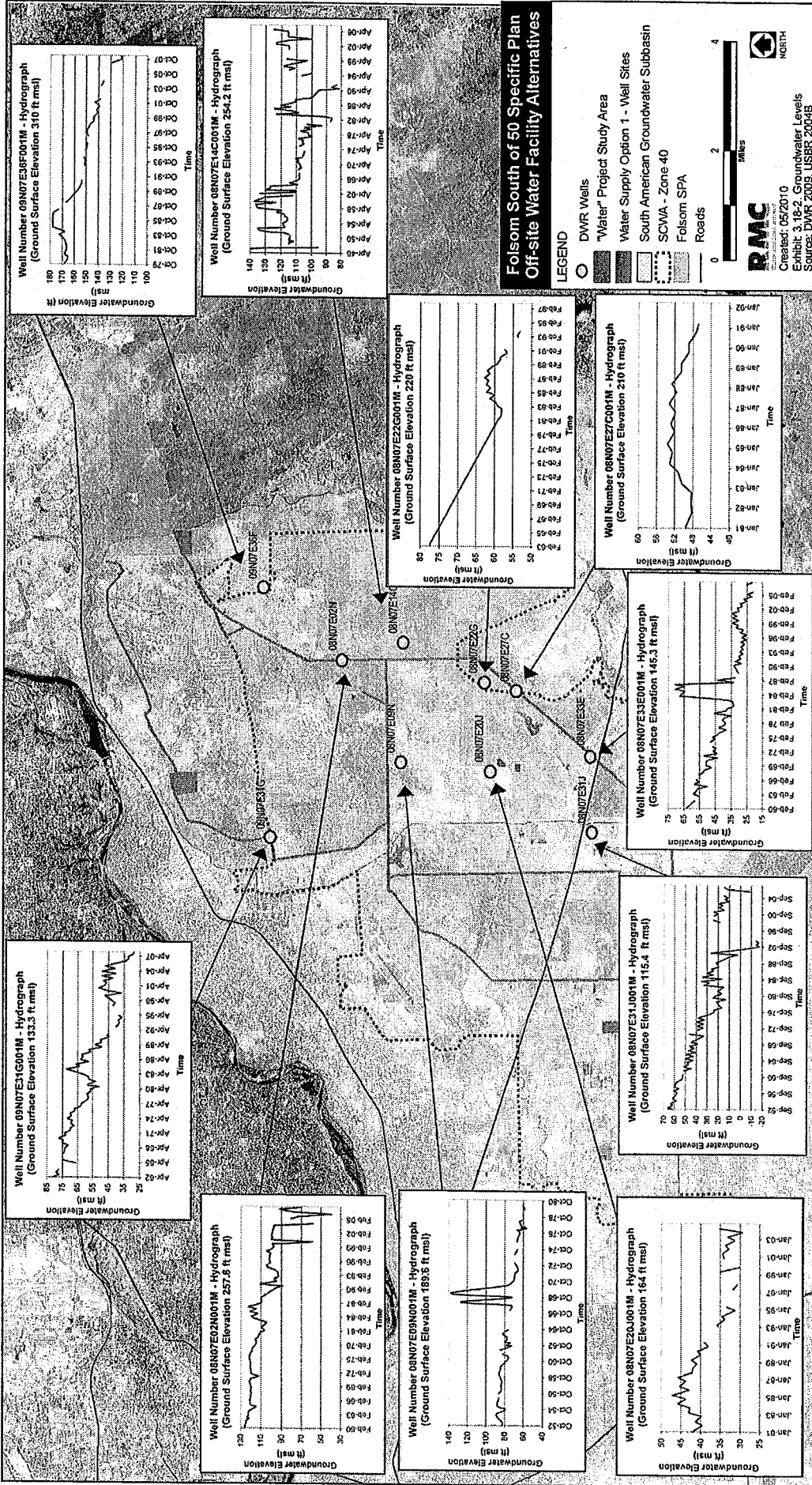


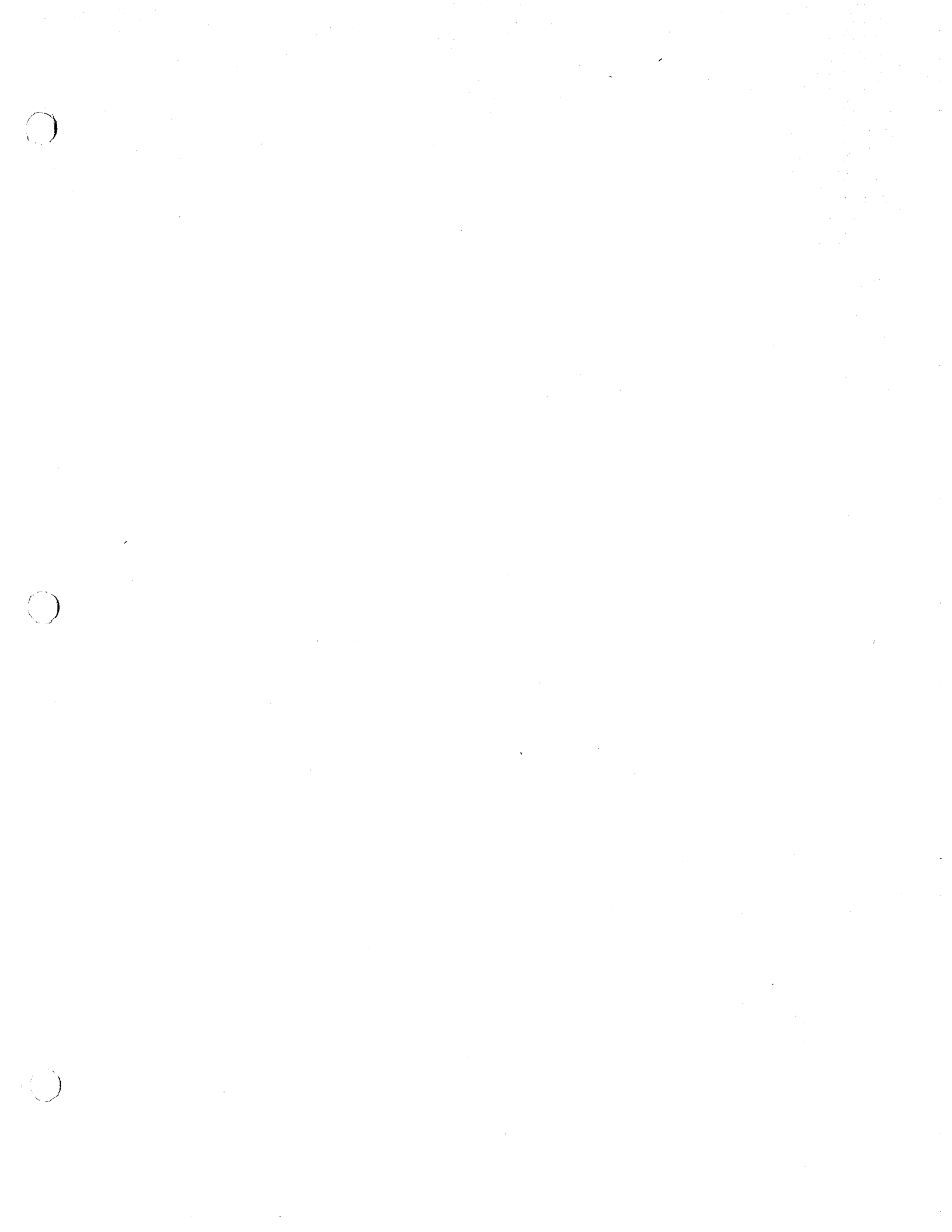
Exhibit 3A.18-2

RMC  
 Water Supply

Groundwater Hydrographs for the Eastern South American Subbasin

3A.18-33

Folsom South of U.S. Highway 50 Specific Plan DEIR/DEIS  
 City of Folsom and USAACE



The interaction between groundwater and surface water has not been extensively evaluated in the South American Basin. A recent draft decision by the SWRCB (2003) regarding the American River concluded that from Nimbus Dam to about 6,000 feet below the dam, groundwater elevations and surface water elevations were similar enough to each other that groundwater could be tributary to the American River. Beyond 6,000 feet down river from the dam, groundwater elevations are sufficiently lower than the river channel to conclude that the American River is a "losing" stream down to its confluence with the Sacramento River.

The wells constructed under this option would be at depths that would be expected to provide sufficient separation between the wells and the American River, which is more closely linked to groundwater associated with the Laguna formation. Given that these wells would tap geologic materials substantially lower than the Laguna formation and the well sites are located over five miles south of the River, this option is expected to result in **less-than-significant** impacts to surface water flows within the American River; however, any impacts could be **greater** when compared to the Proposed Off-site Water Facility Alternative.

*Surface Hydrology and Water Quality.* No impacts related to changes in flows within the Sacramento River would occur under this water supply option. Other impacts related to increases in runoff as a result of new impervious surfaces, and construction-related water quality concerns would be **similar** to the Proposed Off-site Water Facility Alternative. These impacts would be **similar** to the Proposed Off-site Water Facility Alternative and would be **potentially significant**, but reduced to a less-than-significant level through the implementation of mitigation prescribed in Section 3B.9, "Hydrology and Water Quality – Water."

#### **Land Use and Agricultural Resources**

Existing land uses surrounding the facilities described for this water supply option would be similar to those described for the Off-site Water Facility Alternatives in Section 3B.10, "Land Use and Agricultural Resources – Water." The optional wells sites are generally vacant and comprise non-native annual grassland. New low-density residential uses are currently planned for much of the surrounding area. Both well sites are located on lands designated as "Public" uses in the Sun Creek Specific Plan. The number of residences in the vicinity of the well sites affected by the operation of the pumping facilities and well fields would depend on the location, configuration of the well sites, and the proximity of new residential structures. Potential impacts resulting from this close proximity could involve nuisance-related effects that are minor and considered less-than-significant.

The construction of the well field(s), pump and conveyance facilities, and WTP under water supply Option 1 would not convert any prime farmland, unique farmland, or farmland of statewide importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses. Likewise, this area is currently planned for residential development and all Williamson Act Contracted lands are currently under cancellation or non-renewal status. However, **similar** to the Proposed Off-site Water Facility Alternative, premature cancellation of a Williamson Act Contract is considered a **significant and unavoidable** impact of Water Supply Option 1.

Typically in most areas of California, overlying land owners and groundwater appropriators may extract percolating ground water and put it to beneficial use without approval from the SWRCB. In general, overlying landowners' rights to such ground water are senior to those of appropriators, which are entities that do not use pumped water on property that they own that also overlies the relevant ground water basin. Under this water supply option, the City would be a ground water appropriator. California does not have a permit process for regulation of ground water use. In several basins, however, groundwater use is subject to regulation in accordance with court decrees adjudicating the ground water rights within the basins. There has not been, however, any adjudication of the groundwater basin that is relevant for this water supply option.

Under this water supply option, the City would be effectively appropriating up to 5,600 AFY of groundwater and conveying this water to the Folsom SPA. Sacramento County has an adopted Groundwater Ordinance that addresses the export of groundwater and surface water within the County. The ordinance requires that

groundwater not be transported from the County without a permit issued by the Sacramento County Department of Water Resources. By virtue that the pumped groundwater would remain within the County, the use of groundwater as proposed under this option is not inconsistent with State or county law, but may be subject to priorities from other overlying groundwater users in the future. This impact is considered **less-than-significant**, but **greater** than the Proposed Off-site Water Facility Alternative.

### Noise

The ambient noise environment for this water supply option is similar to that described for Off-site Water Facility Alternatives 1 and 1A. Sensitive receptors identified for Off-site Water Facility Alternative 1 would be similar to this option. Likewise, applicable noise regulations and standards for this option are the same as discussed for Off-site Water Facility Alternatives 1 and 1A.

Construction activities would result in temporary increases in noise levels in the vicinity of the conveyance alignment, well, and WTP site. Construction activities would generate noise levels **similar** to the Proposed Off-site Water Facility Alternative corresponding to the appropriate phase of construction and the noise-generating equipment used during those phases. These impacts could be **potentially significant**.

Construction-related noise levels would be comparable in magnitude with those identified for Off-site Water Facility Alternative 1. Construction noise at nearby residential locations would be substantially greater than existing noise levels and would likely increase day-night levels in close proximity to the construction areas during construction. This would be considered a temporary but significant impact. As is the case with Proposed Off-site Water Facility Alternative, **potentially significant** construction noise impacts under this option would be reduced to a less-than-significant level with the incorporation of mitigation measures identified in Section 3B.11, "Noise – Water."

The principal long-term, operational noise impacts resulting from this option would result from the pumps and generators operated at the well site, booster pump station, and the WTP. Impacts resulting from the WTP and booster pump station would be the same as those discussed in Section 3B.11, "Noise – Water." It is expected that noise generated from the well pumps would be similar to that of the other facility pumps. Based on the findings contained in Section 3B.11, "Noise – Water" for these facilities, the combined operation of the pumps and back-up generator, depending on the proximity to the nearest sensitive receptor could result in a **potentially significant** impact; **similar** to the Proposed Off-site Water Facility Alternative. Mitigation measures identified in Section 3B.11, "Noise – Water" would reduce these impacts to a less-than-significant level.

### Recreation

This option would be constructed within urbanizing portions of eastern Sacramento County and is not expected to result in substantial deterioration of existing scenic vistas or natural landscapes at the well field or WTP. This water supply option would avoid impacts to the FSC and, therefore, impacts would be **lesser** under this water supply option and **less-than-significant**.

### Traffic and Transportation

Similar to Proposed Off-site Water Facility Alternative, a majority of the conveyance pipeline under this option would be constructed within existing roadway rights of way (ROW). Traffic-related impacts associated with this option would generally be associated with construction in the form of short-term and intermittent reductions of roadway capacities associated with the movement of construction equipment. Lane blockage caused by construction traffic would also be temporary and would only affect roadway capacity within the immediate vicinity of pipeline construction. These impacts would be **potentially significant**, but could be reduced to a less-than-significant, **similar** to the Proposed Off-site Water Facility Alternative, with mitigation contained in Section 3B.15, "Traffic and Transportation-Water."

Over the longer-term, this option would generate a negligible operational vehicle trips and, therefore, is not expected to result in long-term degradation in roadway operating conditions or level of service. **Similar** to the Proposed Off-site Water Facility Alternative, this impact would be less-than-significant.

### **Utilities and Service Systems**

This option would be constructed within the same general vicinity as the Off-site Water Facility Alternatives with several municipal and private utilities located in the area, including those owned and operated by SCWA, PG&E, Sacramento Municipal Utility District (SMUD), Sacramento Regional County Sanitation District (SRCSD) and County Sanitation District (CSD)-1a. Construction activities associated with this option could potentially result in a disturbance of existing utilities or conflict with planned utility projects. This impact is considered **potentially significant**, but **similar** to the Proposed Off-site Water Facility Alternative, this impact could be reduced to a less-than significant level through mitigation contained in Section 3B.16, "Utilities and Service Systems – Water."

The solid waste generated by this option along with the energy required during its construction and long-term operation would be similar to that of Proposed Off-site Water Facility Alternative. This Option would require the implementation of mitigation contained in Section 3B.4, "Climate Change - Water," to encourage energy efficiency and minimize this option's carbon footprint. **Similar** to the Proposed Off-site Water Facility Alternative, this impact would be **less-than-significant**.

### **Water Supply Option 1 Conclusion**

Water Supply Option 1, which would use groundwater supplies from the Central Sacramento County Groundwater Basin, entails concerns related to the long-term reliability of groundwater supplies. In addition, there are also concerns related to the migration of existing groundwater contamination in eastern Sacramento County as a result of additional pumping under this water supply option.

### **Option 2 – Other Senior Sacramento River Water Right Holders**

Under Option 2, the City would acquire up to 8,000 AFY from one or more senior water rights holders on the Sacramento River to meet dry-year conditions. Supplemental water supplies could be purchased by the City from one or more of the following potential senior water rights holders: Anderson-Cottonwood Irrigation District, Conaway Preservation Group, Reclamation District 108, and River Garden Farms Company. Water assignment amounts would not exceed 8,000 AFY from any single party.

These willing water sellers would make water available to the City by substituting local groundwater for their existing surface water supplies or by implementing water conservation measures. Similar to the Off-site Water Facility Alternatives, the undiverted surface water would flow downstream to the Freeport Project intake facility where it would be diverted for use by the City. The conveyance facilities required under this water supply option could essentially include any one of the combinations analyzed for each of the Off-site Water Facility Alternatives in the "B", or "Water" sections of Chapter 3.

### **Water Supply Certainty**

The water supplies obtained under Option 2 would likely consist of CVP Water from other willing sellers within the Sacramento River Basin. These supplies would have a similar level of moderate to high certainty to that of the Off-site Water Facility Alternatives.

## Impact Analysis

### Aesthetics

The description of the affected environment for Zone 4 of the "Water" Study Area as provided in Section 3B.1, "Aesthetics – Water," would apply for this water supply option. With implementation of mitigation recommended in Section 3B.1, potentially significant impacts related to exterior finishes and nighttime security lighting would be **similar** to the Proposed Off-site Water Facility Alternative and minimized through mitigation identified in Section 3B.1, "Aesthetics – Water," to **less-than-significant** levels.

### Air Quality

Air quality impacts resulting from water supply Option 2 would be similar to those identified for the Off-site Water Facility Alternatives in Section 3B.2, "Air Quality – Water." Even with the implementation of mitigation similar to that described for the Off-site Water Facility Alternatives in the "B", or "Water" sections of Chapter 3, air quality impacts during construction would **significant; similar** to the Proposed off-site Water Facility Alternative.

Operational impacts resulting from this water supply option would be **less than significant; similar** to the Proposed Off-site Water Facility Alternative.

### Biological Resources

The conveyance facilities for this water supply option follow a similar alignment to one of the Off-site Water Facility Alternatives described in Chapter 2, "Alternatives". Habitats, wetlands, and potentially occurring special status species identified for the Proposed Off-site Water Facility Alternative could also be expected to occur in close proximity to the conveyance alignment for Water Supply Option 2. Water supply option could also result in direct impacts to vernal pool habitats through incidental fill during construction. A loss or "take" of vernal pool-associated species (vernal pool fairy shrimp, vernal pool tadpole shrimp, California linderiella, Boggs lake hedge-hyssop, slender orcutt grass, Sacramento orcutt grass, Crampton's tucktoria, Dwarf downingia, Ahart's dwarf juncus, and legenera) could also occur in this event. Impacts to riparian corridors, oak trees, and fisheries would be similar to the Proposed Off-site Water Facility Alternative. These impacts are considered **potentially significant** and would require mitigation contained Section 3B.3, "Biological Resources – Water," **similar** to the Proposed Off-site Water Facility Alternative.

Unlike the Proposed Off-site Water Facility Alternative, this water supply option could result in greater withdraw of groundwater from underlying aquifers to supplement the surface water supplies assigned to the City. Increased groundwater pumping could result in corresponding reductions in water levels within nearby surface waterways. Changes in water levels within affected surface water features could result in corresponding changes to vegetation along the banks. This change could modify existing habitat conditions thereby resulting in potential impacts to special status species, including the giant garter snake. This impact is considered **potentially significant** and would be **greater** than those associated with the Proposed Off-site Water Facility Alternative.

### Climate Change

Sources of operational emissions associated with this water supply option would be similar to the Proposed Off-site Water Facility Alternative. As a consequence, the operational analysis under this water supply option would likely be similar to those identified for Proposed Off-site Water Facility Alternative in Section 3B.4, "Climate Change - Water." In this context, based on the significance determination for Off-site Water Facility Alternative 1A, the contributions of GHGs to regional and global emissions would be **significant and unavoidable** even after implementation of Mitigation Measures listed in Section 3B.4, "Climate Change-Water," **similar** to the Proposed Off-site Water Facility Alternative.



## Cultural Resources

Impacts to cultural resources from water supply Option 2 would be **similar** to those identified for the Off-site Water Facility Alternatives and would require mitigation similar to that provided in Section 3B.5, "Cultural Resources - Water." With implementation of mitigation similar to that described for the Off-site Water Facility Alternatives in the Section 3B.5, "Cultural Resources – Water," **potentially significant** impacts to historical and archaeological resources would be reduced to a less-than-significant level.

## Environmental Justice

No low-income or minority pollutions are identified along the conveyance alignment or WTP for this water supply option and therefore **no impacts** would occur; **similar** to the Proposed Off-site Water Facility Alternative.

## Geology, Soils, and Paleontological Resources

Issues related to soils and geology under water supply Option 2 would similar to those identified for the Off-site Water Facility Alternatives in Section 3B.7, "Geology, Soils, and Paleontological Resources." Similar to the Off-site Water Facility Alternatives, this water supply option would not interfere with the availability of any locally or regionally mapped mineral resource area, but could be impacted by localized soil and geologic conditions. Additionally, the conveyance alignment under this option could encounter paleontological impacts at its eastern extent. With mitigation **similar** to that described for the Off-site Water Facility Alternatives in the "B", or "Water" sections of Chapter 3, **potentially significant** soils, geology, and paleontological impacts would be reduced to a less-than-significant level.

## Hazards and Hazardous Materials

Public health and safety impacts resulting from water supply Option 2 would be similar to those identified for the Off-site Water Facility Alternatives in Section 3B.8, "Hazards and Hazardous Materials." With mitigation similar to that described for the Off-site Water Facility Alternatives in the "B", or "Water" sections of Chapter 3, **potentially significant** impacts to public health and safety would be reduced to a less-than-significant level.

As previously indicated for the Off-site Water Facility Alternatives, the water quality within the Sacramento River meets all standards for drinking water and, therefore, this source water supply is acceptable for consumptive use and the impact would be **less-than-significant**; similar to the Proposed Off-site Water Facility Alternative.

## Hydrology, Water Quality, and Groundwater

Under water supply Option 2, surface water assigned from senior water rights holders to the City would more than likely be replaced by groundwater pumping in their respective service areas. Groundwater pumped as a result of new pumping operations could contain higher levels of salts, dissolved solids, and other constituents when compared to surface water presently used in their service areas. The substitution and use of groundwater for agricultural purposes could alter the quality of agricultural runoff or drainage.

However, substitution of groundwater for surface water in these areas is not expected to result in increased levels of boron and TDS in water applied to agricultural fields, because groundwater would be diluted with surface water. Therefore, it is not anticipated that these increased levels would substantially degrade groundwater quality or result in the exceedance of any water quality standard or discharge requirement. Therefore, the impact would be **less than significant**. This impact could be **greater** than the Proposed Off-site Water Facility Alternative as not groundwater substitution would be required.

Implementation of a water assignment and replacing surface water supplies with increased groundwater pumping within upstream senior water rights holders' service areas could result in potential groundwater drawdowns during drier water years and multiple-year drought conditions. This would be a **potentially significant** and

unavoidable impact of this water supply option that would require mitigation to minimize impacts of drawdown in adjacent wells. This impact could be **greater** than the Proposed Off-site Water Facility Alternative.

**Similar** to the Proposed Off-site Water Facility Alternative, impacts related to changes in flows within the Sacramento River would be expected to be **less-than-significant**. Other impacts related to increases in runoff as a result of new impervious surfaces, and construction-related water quality concerns would be **similar** to the Proposed Off-site Water Facility Alternative. These impacts would be **similar** to the Proposed Off-site Water Facility Alternative and would be **potentially significant**, but reduced to a less-than-significant level through the implementation of mitigation prescribed in Section 3B.9, "Hydrology and Water Quality – Water."

### **Land Use and Agricultural Resources**

Land use conflicts resulting from water supply Option 2 would be similar to those identified for the Off-site Water Facility Alternatives in Section 3B.10, "Land Use and Agricultural Resources - Water." With implementation of mitigation similar to that described for the "B", or "Water" sections of Chapter 3, land use conflicts during construction, disruption of access, and other nuisance-type effects would be minimized to a **less-than-significant** level; similar to the Proposed Off-site Water Facility Alternative.

The assignment of surface water entitlements from the senior Sacramento River water-right holders for use within the Folsom SPA would generally be consistent with the Water Forum Agreement, the State Water Plan, and the City's General Plan. This would be a **less-than-significant** impact; similar to the Proposed Off-site Water Facility Alternative

### **Noise**

Construction and operational noise impacts resulting from water supply Option 2 would be similar to those identified for Off-site Water Facility Alternatives in Section 3B.11, "Noise - Water." With the implementation of mitigation similar to that described for the Off-site Water Facility Alternatives in the "B", or "Water" sections of Chapter 3, noise impacts from construction and operation of this water supply option would be reduced to a **less-than-significant** level.

### **Recreation**

Under Option 2, impacts to recreational resources would be **similar** to that of the Proposed Off-site Water Facility Alternative. With the implementation of mitigation from Section 3B.12, "Parks and Recreation – Water," **potentially significant** impacts to access along the FSC would be minimized to a less-than-significant level.

### **Traffic and Transportation**

Impacts to traffic and alternative forms of transportation under water supply Option 2 would be **lesser** than those identified for the Off-site Water Facility Alternatives in Section 3B.15, "Traffic and Transportation - Water." The primary reason for this reduction in the level of impact is attributed to the location of the planned facilities under this water supply option, which coincide with planned roadway facilities that have yet to be constructed. Mitigation similar to that described for the Off-site Water Facility Alternatives in the "B", or "Water" sections of Chapter 3 would still be required to minimize impacts to traffic circulation along Prairie City Road to a **less-than-significant** level.

### **Utilities and Service Systems**

Impacts to public services and utilities under water supply Option 2 would be **similar** to those identified for the Proposed Off-site Water Facility Alternative in Section 3B.16, "Utilities and Service Systems - Water." With implementation of mitigation similar to that described in Section 3.16, "Utilities and Service Systems – Water," **potentially significant** impacts to public services and utilities would be reduced to a less-than-significant level.

## Option 2 Conclusion

If the City were to acquire water supplies from one or more CVP settlement contractors, the impacts would be very similar to the off-site water Facility Alternatives because the City operations and facilities would be very similar. One impact that might be greater with this option would be impacts to groundwater in the transferor's area. Because a transferor might replace the supply it transferred with groundwater pumping.

## **Water Supply Option 3 – Conservation of Existing Entitlements and Water System Retrofit**

Currently, the City implements a variety of water conservation practices. These are consistent with the best management practices (BMPs) identified in the California Urban Water Conservation Council's (CUWCC) Memorandum of Understanding and include, but are not limited to, tiered pricing, water meters, leak audits, and public education. These programs are still in the process of being fully implemented (e.g. water metering, etc.). The City's Water Management Program offers numerous programs directed towards conserving water uses for commercial, residential, and landscaping purposes.

The City currently has rights to 34,000 AFY of surface water for diversion from the American River at Folsom Reservoir or the FSC. These supplies are based on different water rights and contracts as described in the WSA and include:

- ▶ 22,000 afy pursuant to a Central Valley Project (CVP) settlement contract, which relates to a pre-1914 appropriative water right, authorizing diversions from Folsom Reservoir or the Folsom South Canal;
- ▶ 5,000 afy pursuant to a CVP settlement contract, which relates to a pre-1914 appropriative water right for diversion from Folsom Reservoir or the Folsom South Canal; and
- ▶ 7,000 afy from a CVP subcontract with SCWA, which derives from a CVP water service contract held by SCWA, which subcontract entitles the City to divert from Folsom Reservoir.

The overall intent of Water Supply Option 3 would be to retrofit the City's existing water infrastructure to reduce these existing losses and use the supplies conserved within the Folsom SPA. The actual repair/replacement requirements are unknown at this time; however, the City expects that much of this work would occur within existing easements and/or roadway ROW. The applicant(s) of the Folsom SPA would fund these improvements up to an agreed upon limit.

Beyond the implementation of a comprehensive retrofit program, the City anticipates that additional supplies may be gained through implementation of possible State conservation laws. In 2009, the California Legislature enacted new law designed to implement the Governor's preference to achieve 20% statewide urban water conservation by 2020. Under new water code section 106008.20, the City will be required to implement conservation measures to reduce its per capita daily water consumption by 2020. The new legislation recognizes that total water use might stay stable, or increase, due to population increases. (New Water Code § 10608.8 (C).) A 20% reduction in the City's demand through a comprehensive water conservation program could net up to 6,800 AFY during normal and wet years when the City receives its full allocation. During dry years and subject to conditions that have yet been satisfied, the City could reduce its diversions pursuant to the Water Forum Agreement. In addition, the City's 7,000 afy CVP subcontract would be subject to Reclamation's development of a municipal & industrial water shortage policy, which is under development. The effect of supply reductions on the yield of the City's possible conservation measures is not known as this time.

Facilities required as part of Option 3 would be similar to those described for Option 2. Conserved water initially would be retained in storage in Folsom Reservoir. Conserved water would be released from Folsom Reservoir and flow downstream to Lake Natoma where it would be diverted and then re-diverted at the City's existing turnout on the FSC; thus no net increase in diversion of stream flows would occur. Surface water would then be conveyed to the Folsom SPA through raw and treated water facilities illustrated in Exhibit 3A.18-3. Option 3 would involve



**Water Supply Option 3 – Conservation of Existing Entitlements and Water System Retrofit**

**Exhibit 3A.18-3**

construction of a new 30-inch, raw water connection pipeline from the FSC to a new WTP located south of Folsom Boulevard and east of Sunrise Boulevard (see Exhibit 3A.18-3). The raw water pump station and WTP would be constructed according to the same parameters as described for the Off-site Water Facility Alternatives in Chapter 2, "Alternatives". The 30-inch, treated-water pipeline would follow the same alignment as the proposed Off-Site Water Facility Alternative 4 along the planned Easton Valley Parkway east to the Folsom SPA.

### Water Supply Certainty

This water supply option is not the primary water supply because, among other reasons, the City has not determined the firm yield of conservation measures that it could implement and, therefore, is unable to provide confirmation as to whether the net supplies would be sufficient to accommodate the projected demand of 5,600 AFY.

### Impact Analysis

#### Aesthetics

The description of the affected environment for Zone 4 of the "Water" Study Area as provided in Section 3B.1, "Aesthetics – Water," would apply for this water supply option. With implementation of mitigation recommended in Section 3B.1, potentially significant impacts related to exterior finishes and nighttime security lighting would be **similar** to the Off-site Water Facility Alternative 4 and minimized through mitigation identified in Section 3B.1, "Aesthetics – Water," to **less-than-significant** levels.

#### Air Quality

Air quality impacts resulting from water supply Option 3 would be similar to those identified for Off-site Water Facility Alternative 4 and 4A in Section 3B.2, "Air Quality – Water" and Section 3B.4, "Climate Change - Water." This option would reduce the length of pipeline construction and the associated emissions of criteria air pollutants. However, due to the overlap in the construction of the Off-site Water Facility components, even with the implementation of mitigation similar to that described for Off-site Water Facility Alternative 4 and 4A in the "B", or "Water" sections of Chapter 3, air quality impacts during construction would be **significant and unavoidable**; **similar** to the Proposed Off-Site Water Facility Alternative.

Operational impacts resulting from this option would be **less than significant**, due to impacts **similar** to the Proposed Off-Site Water Facility Alternative.

#### Biological Resources

The conveyance facilities for this water supply option follow a similar alignment to that of Off-site Water Facility Alternative 4 and 4A following the raw water pipeline from the FSC turnout. Habitats and potentially occurring special status species identified for Off-Site Water Facility Alternatives 4 and 4A could also be expected to occur in close proximity to the conveyance alignment for Option 3. The one major exception is that this water supply option would avoid potential vernal pool impacts along Eagles Nest Road. These impacts are considered **potentially significant** and would require mitigation contained Section 3B.3, "Biological Resources – Water," **similar** to the Proposed Off-site Water Facility Alternative.

Under this option, impact to biological resources in the lower American River would be **less-than-significant** because the City's diversions from the American River would not change and the proposed water supply would be generated by reductions in the City's use of the water that it currently diverts. These changes although not significant would be **greater** than those associated with the Off-site Water Facility Alternatives 4 and 4A by virtue that no changes to flows within the lower American River would occur under the Off-site Water Facility Alternatives. Conversely, impacts to flows within the Sacramento River under this water supply option would be **lesser** when compared to the Off-site Water Facility Alternatives.

## Climate Change

Sources of operational emissions associated with this water supply option would be similar to the Off-site Water Facility Alternative 4. As a consequence, the operational analysis under this water supply option would likely be similar to those identified for Off-site Water Facility Alternative 4 in Section 3B.4, "Climate Change - Water." In this context, based on the significance determination for Off-site Water Facility Alternative 1A, the contributions of GHGs to regional and global emissions would be **significant and unavoidable** even after implementation of Mitigation Measures listed in Section 3B.4, "Climate Change-Water," **similar** to the Proposed Off-site Water Facility Alternative.

## Cultural Resources

Impacts to cultural resources from water supply Option 3 would be similar to those identified for Off-site Water Facility Alternative 4 and 4A in Section 3B.5, "Cultural Resources - Water." With implementation of mitigation **similar** to that described for Off-site Water Facility Alternative 4 and 4A in the Cultural Resources – Water," **potentially significant** impacts to historical and archaeological resources would be reduced to a less-than-significant level.

## Environmental Justice

No low-income or minority pollutions are identified along the conveyance alignment or WTP for this water supply option and therefore **no impacts** would occur; **similar** to the Proposed Off-site Water Facility Alternative.

## Geology, Soils, and Paleontological Resources

Issues related to soils and geology under water supply Option 3 would similar to those identified for Off-site Water Facility Alternative 4 and 4A in Section 3B.7, "Geology, Soils and Paleontological Resources - Water." Similar to the Off-site Water Facility Alternatives, this water supply option would not interfere with the availability of any locally or regionally mapped mineral resource area, but could be impacted by localized soil and geologic conditions. Additionally, the conveyance alignment under this option could encounter paleontological impacts at its eastern extent. With mitigation **similar** to that described for the Off-site Water Facility Alternatives in the Section 3B.7, "Geology, Soils and Paleontological Resources - Water," **potentially significant** soils, geology, and paleontological impacts would be reduced to a less-than-significant level.

## Hazards and Hazardous Materials

Public health and safety impacts resulting from Option 3 would be similar to those identified for Off-site Water Facility Alternative 4 and 4A in Section 3B.8, "Hazards and Hazardous Materials - Water." With mitigation **similar** to that described for Off-site Water Facility Alternative 4 and 4A in the Section 3B.8, "Hazards and Hazardous Materials – Water," **potentially significant** impacts to public health and safety would be reduced to a less-than-significant level.

The water quality within the Lower American River meets all standards for drinking water and, therefore, this source water supply is suitable for consumptive use, and because this option would include construction of a WTP, the impact related to potable water quality would be less-than-significant and similar to the Proposed Off-site Water Facility Alternative.

## Hydrology, Water Quality, and Groundwater

Water Supply Option 3 would result in no increase in the City's total entitlement to surface water from the American River. In addition, this option could entail minor benefits through the addition of flows to a segment of the American River between Folsom Reservoir and the FSC. Under existing conditions, the City's supplies are

diverted from an intake located at Folsom Reservoir. The environmental impacts of the City's existing diversions on American River were assessed in three previous EIRs:

- ▶ Environmental Impact Statement (EIS)/EIR for CVP Water Supply Contracts under Public Law 101-514 (Section 206) ("Fazio Water"; U.S. Bureau of Reclamation [USBR] et al. 1997; SCH# 1993042023)—available at Sacramento County Water Agency, 827 7th Street, Room 301, Sacramento, CA 95814.
- ▶ EIR for Water Forum Proposal (EDAW and SWRI 1999; SCH# 95082041)—available at Sacramento County Department of Environmental Review and Assessment (DERA) office, 827 7th Street, Room 220, Sacramento, CA 95814.
- ▶ EIR for City's Natoma Pipeline Replacement and Folsom Water Treatment Plant Expansion Project (City of Folsom 1998; SCH# 97042005)—available at Folsom Public Works Department, 50 Natomas Street, Folsom, CA 95630.

Impacts to hydrology and water quality as a result of constructing a new WTP/pump station, pipelines, and other facilities would be similar to those identified for the Off-site Water Facility Alternative 4 and 4A. As a result, the implementation of mitigation required in Section 3B.9, "hydrology and Water Quality – Water," would be required to minimize potential construction and operational effects to local water quality and local drainage.

### Land Use and Agricultural Resources

The conservation of existing surface water entitlements from the American River would generally be consistent with the Water Forum Agreement, the State's Water Plan, and the City's General Plan. Although the use of the City's existing water supplies for new growth south of U.S. 50 is generally discouraged by Section 7.04 of the City's Charter (or Measure W), there are several important distinctions to consider. First, under this water supply option, the SPA applicants would fund the retrofit improvements within the City's existing water service area and, therefore, these costs of these improvements would not be funded by existing rate payers. Secondly, the net water supplies gained under this option would come from conservation either through improvements within the City's water distribution system or as mandated by new state laws. As a result, existing residences would not be required to reduce water use or incur costs specifically to provide water for the SPA. Based on these considerations, this water supply option would not conflict with existing plans and policies adopted for the purposes of mitigating a significant environmental effect and the impact is considered **less-than-significant**. These impacts would be **lesser** when compared to the Proposed Off-site Water Facility Alternative.

This alternative would avoid impacts related to the cancellation of an existing Williamson Act Contract and would result in **no impact**; hence, impacts under this options would be **lesser** than the Proposed Off-site Water Facility Alternative.

### Noise

Construction and operational noise impacts resulting from Option 3 would be similar to those identified for Off-site Water Facility Alternative 4 and 4A in Section 3B.11, "Noise - Water." With the implementation of mitigation **similar** to that described for Off-site Water Facility Alternative 4 and 4A in Section 3B.11, "Noise - Water," **potentially significant** noise impacts from construction and operation of this option would be reduced to a less-than-significant level.

### Recreation

Under Option 3, minor additions to flows within the Lower American River, between Folsom Reservoir and the FSC, could be anticipated thereby benefiting existing rafting and boating opportunities. Compared to existing conditions, no change in surface water conditions below Nimbus Dam would be expected. These impacts would be **less-than-significant** and **similar** to the Proposed Off-site Water Facility Alternative.

## Traffic and Transportation

Impacts to traffic and alternative forms of transportation under Option 3 would be less than those identified for Off-site Water Facility Alternative 4 and 4A in Section 3B.15, "Traffic and Transportation - Water." The primary reason for this reduction in the level of impact is attributed to the location of the planned facilities under this option, which coincide with planned roadway facilities that have yet to be constructed. Mitigation similar to that described for Off-site Water Facility Alternative 4 and 4A in the "B", or "Water" sections of Chapter 3 would still be required to minimize impacts to traffic circulation along Prairie City Road to a less-than-significant level.

## Utilities and Service Systems

Impacts to public services and utilities under Option 3 would be similar to those identified for Off-site Water Facility Alternative 4 and 4A in Section 3B.16, "Utilities and Service Systems - Water." With implementation of mitigation **similar** to that described for Off-site Water Facility Alternative 4 and 4A in Section 3.16, "Utilities and Service Systems – Water," **potentially significant** impacts to public services and utilities would be reduced to a less-than-significant level.

## Option 3 Conclusion

In light of the fact that the City is currently developing its strategy for complying with 2009 water conservation legislation, the City currently cannot estimate the yield of conservation measures or identify specifically what actions it would need to take to implement those measures. The City therefore has not determined how Measure W would apply to such a program or the extent to which such a program could satisfy water demands in the Folsom SPA.

Table 3A.18-15 provides a summary comparison of the environmental impacts for each of the Water Supply Options in relation to the Proposed Off-site Water Facility Alternative.

<b>Table 3A.18-15</b>			
<b>Summary Comparison of the Water Supply Options to the Proposed Off-site Water Facility Alternative</b>			
Impact Summary	CEQA Water Supply Options		
	<i>Water Supply Option 1</i>	<i>Water Supply Option 2</i>	<i>Water Supply Option 3</i>
<b>3B.1 Aesthetics – Water</b>			
Impact 3B.1-1. Substantial Adverse Effect on a Scenic Vista. Implementation of the Off-Site Water Facility Alternatives would not result in the degradation of the visual quality of a scenic vista.	S	S	S
Impact 3B.1-2. Substantial Degradation of Existing Visual Character or Quality of the "Water" Study Area. Implementation of the Off-Site Water Facility Alternatives could substantially degrade the existing visual character or quality of the "Water" Study Area and its surroundings.	S	S	S
Impact 3B.1-3. Creation of a New Source of Substantial Light or Glare that would Adversely Affect Day or Nighttime Views in the "Water" Study Area. Implementation of the Off-Site Water Facility Alternatives would create new sources of substantial light or glare, which could adversely affect day or nighttime views in the "Water" Study Area.	S	S	S



**Table 3A.18-15  
Summary Comparison of the Water Supply Options to the Proposed Off-site Water Facility Alternative**

Impact Summary	CEQA Water Supply Options		
	Water Supply Option 1	Water Supply Option 2	Water Supply Option 3
<b>3B.2 Air Quality – Water</b>			
Impact 3B.2-1. Generation of Construction Emissions of NO <sub>x</sub> and PM <sub>10</sub> . Construction of the Off-Site Water Facility Alternatives would produce construction-generated emissions of NO <sub>x</sub> , an ozone precursor, and fugitive PM <sub>10</sub> dust would exceed SMAQMD-recommended thresholds and would substantially contribute to emissions concentrations that exceed the NAAQS and CAAQS. Thus, project-generated, construction-related emissions of criteria air pollutants and precursors could violate or contribute substantially to an existing or projected air quality violation and/or expose sensitive receptors to substantial pollutant concentrations.	S	S	S
Impact 3B.2-2. Generation of Long-Term Operational (Regional) Emissions of ROG, and NO <sub>x</sub> . Operational area- and mobile-source emissions from implementation of the Off-site Water Facility Alternatives would not exceed the SMAQMD-recommended threshold of 65 lb/day for ROG and NO <sub>x</sub> .	S	S	S
Impact 3B.2-3. Exposure of Sensitive Receptors to Short- and Long-Term Emissions of Toxic Air Contaminants. Implementation of the Off-Site Water Facility Alternatives could expose sensitive receptors to short- and long-term emissions of TACs from on-site stationary sources.	S	S	S
<b>3B.3 Biological Resources – Water</b>			
Impact 3B.3-1. Loss and Degradation of Waters of the U.S., including Wetlands, and Waters of the State. Construction of the Off-Site Water Facility Alternatives has the potential to result in substantial adverse effects to Federally and state-protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to vernal pools and seasonal wetlands) through direct fill or excavation, hydrological interruption, or other indirect impacts. Wetlands, Waters of the State, and other waters of the U.S. that would be affected by implementation of the Off-site Water Facility Alternatives include seeps, vernal pools, seasonal wetlands and seasonal wetland swales, drainage channels, ditches, and ponds.	S	S	S
Impact 3B.3-2. Loss and Degradation of Habitat for Special-Status Wildlife Species and Potential Direct Take of Individuals. The Off-Site Water Facility Alternatives have the potential to result in a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status by DFG, NMFS, and USFWS. Impacts could include loss and degradation of habitat for several special-status wildlife species or take of listed species, including vernal pool invertebrates, valley elderberry longhorn beetle, and Swainson's hawk.	S	S	S
Impact 3B.3-3. Potential Loss or Degradation of Special-Status Plant Populations and Habitat. Implementation of the Off-site Water Facility Alternatives could result in direct removal of special-status plants, if they are present, through loss of suitable habitat or degradation of suitable habitat due to site alteration.	S	S	S

<b>Table 3A.18-15</b>			
<b>Summary Comparison of the Water Supply Options to the Proposed Off-site Water Facility Alternative</b>			
Impact Summary	CEQA Water Supply Options		
	Water Supply Option 1	Water Supply Option 2	Water Supply Option 3
Impact 3B.3-4. Loss of Sensitive Natural Communities (Not Already Covered under Other Impacts). Construction and operation of the Off-site Water Facility Alternatives has the potential to have a substantial adverse effect on local riparian and woodland habitats. These are natural communities considered sensitive by state and local resource agencies and require consideration under CEQA.	S	S	S
Impact 3b.3-5. Loss Of Individual Oak Trees. Implementation of the Off-Site Water Facility Alternatives could result in the removal of oak woodland and individual oak trees meeting the criteria for protection under Folsom Municipal Code and the Sacramento County Tree Ordinance.	S	S	S
Impact 3B.5-6. Potential Interference with Wildlife or Fisheries Movement. Construction and operation of the Off-Site Water Facility Alternatives has the potential to interfere substantially with the movement of native resident or migratory fish or within established native resident or migratory wildlife corridors.	S	S	S
Impact 3B.5-7. Potential Conflict with Habitat Conservation Plans. Construction of the Off-Site Water Facilities has the potential to conflict with the provisions of an adopted Habitat Conservation Plan or Natural Community Conservation Plan.	S	S	S
<b>3B.4 Climate Change - Water</b>			
Impact 3B.4-1. Generation of Short- and Long-term Increases in Greenhouse Gases. Construction and operation of the Offsite Water Facility Alternatives would result in a net increase in greenhouse gas emissions, which would contribute considerably to cumulative GHG emissions.	S	S	S
Impact 3B.4-2. Effects of Climate Change on the Off-site Water Supply Facilities. Global climate change could result in effects on water quality or water supplies proposed as part of the Off-site Water Facility Alternatives.	S	S	S
<b>3B.5 Cultural Resources – Water</b>			
Impact 3B.5-1. Possible Destruction of or Damage to Known Prehistoric and Historic-Era Cultural Resources from Ground-Disturbance or Other Construction-Related Activities. Construction activities associated with the Off-site Water Facility Alternatives could result in the destruction of or damage to known prehistoric and historic-era cultural resources that are potentially eligible for or listed on the CRHR or NRHP.	S	S	S
Impact 3B.5-2. Possible Destruction of or Damage to Previously Undiscovered Cultural Resources from Ground-Disturbance or Other Construction-Related Activities. Construction activities during project implementation could result in the destruction of or damage to “significant” (under CEQA) undiscovered cultural resources.	S	S	S
Impact 3B.5-3. Possible Destruction of or Damage to Interred Human Remains during Construction. Ground-disturbing activities could inadvertently disinter and/or destroy buried human skeletal remains	S	S	S

**Table 3A.18-15  
Summary Comparison of the Water Supply Options to the Proposed Off-site Water Facility Alternative**

Impact Summary	CEQA Water Supply Options		
	Water Supply Option 1	Water Supply Option 2	Water Supply Option 3
<b>3B.6 Environmental Justice – Water</b>			
Impact 3B.6-1. Potential Effects on Minority Populations. Implementation of the Off-site Water Facility Alternatives would not create a disproportionate placement of adverse environmental impacts on minority communities.	S	S	S
Impact 3A.6-2. Potential Effects on Low-Income Populations. Project implementation would not create a disproportionate placement of adverse environmental impacts on low-income populations.	S	S	S
<b>3B.7 Geology, Soils, and Paleontological Resources – Water</b>			
Impact 3B.7-1. Possible Risks to People and Structures Caused by Strong Seismic Ground Shaking. Zone 4 of the “Water” Study Area is located in an area of generally low seismic activity; however, structures constructed as part of the Off-site Water Facility Alternatives could be subject to seismic ground shaking from an earthquake along active faults in the Sierra Nevada.	S	S	S
Impact 3B.7-2. Construction-Related Erosion. Construction activities during implementation of the Off-site Water Facility Alternatives would involve grading and movement of earth in soils subject to wind and water erosion hazard.	S	S	S
Impact 3B.7-3. Unstable Geologic Conditions. The Off-Site Water Facility Alternatives could be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the Off-Site Water Facilities.	S	S	S
Impact 3B.7-4. Exposure to Potential Hazards from Problematic Soils. The Off-Site Water Facility Alternatives could encounter expansive or corrosive soils thereby subjecting related structures to potential risk of failure.	S	S	S
Impact 3B.7-5. Possible Damage of or Destruction to of Previously Unknown Unique Paleontological Resources during Construction-Related Activities. Construction of the Off-Site Water Facility Alternatives could directly or indirectly destroy a unique paleontological resource or site.	S	S	S
<b>3B.8 Hazards and Hazardous Materials – Water</b>			
Impact 3B.8-1. Accidental Spill from Routine Transport, Use, or Disposal of Hazardous Materials. Accidental spills of hazardous materials could result during routine transport, use, or disposal activities as part of the implementation of the Off-Site Water Facility Alternatives.	S	S	S
Impact 3B.8-2. Create Accident Conditions Involving Potential Release of Hazardous Materials. Construction and operation of the Off-Site Water Facilities could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.	S	S	S
Impact 3B.8-3. Introduction of Drinking Water Contaminants. Operation of the Off-Site Water Facility Alternatives would not create a significant public health risk through the introduction of contaminants into a drinking water supply at concentrations with known adverse health effects.	G	S	S

**Table 3A.18-15  
Summary Comparison of the Water Supply Options to the Proposed Off-site Water Facility Alternative**

Impact Summary	CEQA Water Supply Options		
	Water Supply Option 1	Water Supply Option 2	Water Supply Option 3
Impact 3B.8-4. Use of Hazardous Materials within One-Quarter Mile of Schools. Operation of the Off-Site Water Facilities could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	S	S	S
Impact 3B.8-5. Create a Significant Hazard to the Public or the Environment. Construction of the Off-Site Water Facilities could encounter one or more sites listed as containing hazardous materials or wastes and, as a result, could create a significant hazard to the public or the environment.	S	S	S
Impact 3B.8-6. Impair or Interfere with an Adopted Emergency Response Plans or Emergency Evacuation Plans. Implementation of the Off-Site Water Facilities would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	S	S	S
Impact 3B.8-7. Exposure to Wildland Fire Hazards. Implementation of the Off-Site Water Facilities could expose people or structures to a significant risk of loss, injury or death involving wildland fires.	S	S	S
<b>3B.9 Hydrology and Water Quality – Water</b>			
Impact 3B.9-1. Potential Temporary, Short-Term Construction-Related Drainage and Water Quality Effects. Construction of the Off-Site Water Facilities could generate discharges to surface water resources that could potentially violate water quality standards or waste discharge requirements.	S	S	S
Impact 3B.9-2. Exceedance of Surface Water Quality Standards during Operation. The operation of the Off-Site Water Facilities could result in changes to the quality of surface water resources that could potentially violate water quality standards or waste discharge requests.	L	S	S
Impact 3B.9-3. Alteration of Drainage Patterns Resulting in Off-Site Flooding and/or Erosion. The Off-Site Water Facilities could result in the alteration of existing drainage patterns thereby increasing the rate or amount of surface runoff in a manner that could result in substantial flooding and/or erosion or siltation on- or off-site.	S	S	S
Impact 3B.9-4. Changes to Flow within the Sacramento River. The Off-Site Water Facilities could result in adverse effects to existing flows within the Sacramento River.	L	S	L
Impact 3B.9-5. Exceed Drainage Capacity and Contribute Sources Polluted Runoff. The Off-Site Water Facilities could create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	S	S	S
Impact 3B.9-6. Impede or Redirect Flood Flows. The Off-Site Water Facilities could place structures within a 100-year flood hazard area, which would impede or redirect flood flows	S	S	S
Impact 3B.9-7. Inundation from Flooding or Mudflows. The Offsite Water Facility Alternatives would not expose people or structures to a significant risk of loss, injury or death involving inundation by flooding, including flooding as a result of the failure of a levee or dam, seiche, or tsunami or inundation by mudflows.	S	S	S

**Table 3A.18-15  
Summary Comparison of the Water Supply Options to the Proposed Off-site Water Facility Alternative**

Impact Summary	CEQA Water Supply Options		
	Water Supply Option 1	Water Supply Option 2	Water Supply Option 3
<b>3B.10 Land Use and Agricultural Resources - Water</b>			
Impact 3B.10-1. Conflict with Applicable Agency Plans, Policies, or Regulations. Implementation of the Off-site Water Facility Alternatives could conflict with an applicable land use plan, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect.	S	S	L
Impact 3B.10-2. Conversion of Important Farmland to Nonagricultural Uses. Implementation of the Off-site Water Facility Alternatives could result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses.	S	S	S
Impact 3B.10-3. Cancellation of Existing On-Site Williamson Act Contracts. Construction of the Off-site Water Facility Alternatives could conflict with lands under Williamson Act contracts; thereby potentially resulting in cancellation of those contracts.	S	S	L
Impact 3B.10-4: Potential Temporary Disruptions to Existing Agricultural Operations. Implementation of the Off-site Water Facilities could potentially affect existing agricultural operations and result in a loss in agricultural productivity.	S	S	S
<b>3B.11 Noise – Water</b>			
Impact 3B.11-1. Temporary, Short-Term Exposure of Sensitive Receptors to Increased Equipment Noise from Project Construction. The Off-Site Water Facility Alternatives could expose persons to or generate noise levels in excess of applicable City and County standards.	S	S	S
Impact 3B.11-2 Exposure to and/or Generation of Groundborne Vibration. The Off-Site Water Facilities could expose persons to or generate excessive groundborne vibration or groundborne noise levels.	S	S	S
Impact 3B.11-3. Permanent Increase in Ambient Noise Levels. The Off-Site Water Facility Alternatives could create a substantial permanent increase in ambient noise levels in the vicinity of new pumping facilities.	S	S	S
<b>3B.12 Parks and Recreation – Water</b>			
Impact 3B.12-1. Temporary Disruptions to Existing Recreational Facilities and Opportunities. Implementation of the Off-Site Water Facility Alternatives could temporarily disrupt trail, golf course, or park facility access.	L	S	S
Impact 3B.12-2. Effects to Water-Oriented Recreational Facilities and Opportunities. Implementation of the Off-Site Water Facility Alternatives would not cause an adverse change in river flows or lake elevations that could result in substantial changes to existing recreational opportunities.	S	S	S
<b>3B.15 Traffic and Transportation – Water</b>			
Impact 3B.15-1. Temporary and Short-Term Reduction in Roadway Capacity during Construction. Off-Site Water Facility Alternatives construction could result in temporary reductions in roadway capacities, which could be substantial in relation to existing volume-to-capacity ratios on local roadways and congestion at intersections.	S	S	L

**Table 3A.18-15  
Summary Comparison of the Water Supply Options to the Proposed Off-site Water Facility Alternative**

Impact Summary	CEQA Water Supply Options		
	Water Supply Option 1	Water Supply Option 2	Water Supply Option 3
Impact 3B.15-2. Exceedance of Established Level of Service Standards for Local Roadways. The implementation of Off-Site Water Facility Alternatives could cause traffic conditions to exceed, either individually or cumulatively, a level of service standard established by the County congestion management agency for designated roads or highways.	S	S	S
Impact 3B.15-3. Increased Traffic Hazards on Local Roadways. Implementation of the Off-Site Water Facility Alternatives could substantially increase hazards on local roadways due to the presence of incompatible uses, such as construction equipment.	S	S	S
Impact 3B.15-4 Possible Inadequate Emergency Vehicle Access. Construction of the Off-Site Water Facilities could result in disruptions to emergency access.	S	S	S
<b>3B.16 Utilities and Service Systems – Water</b>			
Impact 3B.16-1. Generation of Wastewater. The operation of the Off-Site Water Facility Alternatives would generate wastewater that would require off-site conveyance and treatment.	S	S	S
Impact 3B.16-2. Changes in Operation of the Central Valley Project Water Supply Entitlement. The operation of the Off-Site Water Facility Alternatives would not infringe upon the water rights of other legal users of water.	L	S	S
Impact 3B.16-3. Potential Disruption to Existing Utilities and Infrastructure. Construction of the Off-Site Water Facilities has the potential to disrupt existing public and private utilities and infrastructure.	S	S	S
Impact 3B.16-4 Increased Generation of Solid Waste. Construction and operation of the Off-Site Water Facilities would generate solid waste, which could impact the City's ability to comply with solid waste diversion requirements of the state.	S	S	S
Impact 3B.16-5. Potential Inefficient Energy Consumption. Construction and operation of the Off-Site Water Facilities could result in the inefficient consumption of energy thereby adversely affecting current and future energy conservation efforts.	S	S	S
<b>3B.17. Groundwater Resources</b>			
B3.3-1 - The Water Project could generate discharges to and/or contribute to the depletion of groundwater resources thereby potentially directly and indirectly violating water quality standards or waste discharge requests.	G	G	L
B3.3-2 - The Water Project could 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 levels.	G	G	L
B3.3-3 - Groundwater pumping associated with Water Project operations could alter existing surface hydrology.	G	S	S

Table 3A.18-15 Summary Comparison of the Water Supply Options to the Proposed Off-site Water Facility Alternative			
Impact Summary	CEQA Water Supply Options		
	Water Supply Option 1	Water Supply Option 2	Water Supply Option 3
Notes: L – Lesser Impact when compared to the Proposed Off-site Water Facility Alternative S – Similar Impact when compared to the Proposed Off-site Water Facility Alternative G – Greater Impact when compared to the Proposed Off-site Water Facility Alternative Source: Table prepared by RMC in 2010.			

### 3A.18.6 WATER SUPPLY CURTAILMENT ANALYSIS

In its *Vineyard* decision, the California Supreme Court indicated that, in some circumstances, a CEQA lead agency should evaluate the environmental impacts that could occur if a land project's development were to be curtailed because not all of the projected water supplies ultimately were implemented. (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4<sup>th</sup> 412, 434, 444, 447.) For the reasons described below, however, the City cannot conduct such an analysis because it would be speculative to attempt to identify a reduced level to which this project's projected water supplies would be curtailed.

As shown in Tables 3A.18-6, 3A.18-8, 3A.18-10, 3A.18-12 and 3A.18-14, the water supply proposed as part of the Off-Site Water Facility Alternatives has a demonstrated reliability capable of meeting all of the potable and non-potable water demands resulting from implementation of any of the "Land" alternatives considered. That water supply consists of one source – an assignment of a portion of NCMWC's CVP settlement-contract supply – that would be implemented at one time. Accordingly, unlike the water supplies at issue in *Vineyard*, this project is not subject to the risk that initial phases of the proposed land development could be implemented based on a short-term water supply, but then full development of the project could be curtailed if a proposed long-term water supply cannot be implemented. (See *Vineyard*, 40 Cal.4<sup>th</sup> at pp. 422-424, 436, 438, 444, 447.)

This EIR/EIS has thoroughly investigated the possible environmental impacts of the City taking an assignment of a portion of the NCMWC supply and using it as the water supply for the SPA's development. (See Sections 3B.2 "Air Quality – Water," 3B.3 "Biological Resources – Water," 3B.4 "Climate Change – Water," 3B.8 "Hazards and Hazardous Materials – Water," 3B.9 "Hydrology and Water Quality – Water," 3B.10 "Land Use and Agriculture – Water," 3B.11 "Noise – Water," 3B.12 "Recreation – Water," 3B.16 "Utilities – Water," and 3B.17 "Groundwater – Water," of Chapter 3, Environmental Analysis, and Sections 4.1 "Cumulative Impacts, 4.2 "Growth Inducing Impacts," and 4.5 "Significant and Unavoidable Adverse Impacts" of Chapter 4, Other Statutory Requirements) It is possible, however, that, as a result of future regulatory actions, climate change, natural disasters or other events, the amount of assigned NCMWC water that could be delivered to the City could be reduced below the proposed 5,600 acre-feet per year minimum supply. At this time, however, the City has no information to indicate when any such reduction might occur, how large the reduction might be or how such a reduction might relate to the proposed development of the SPA. Accordingly, it would be speculative for the City to attempt to identify the environmental impacts that could result from such a water-supply reduction and the resulting curtailment of SPA development. The CEQA Guidelines indicate that a lead agency should terminate its discussion of an impact if the impact is too speculative for evaluation. (15 CCR § 15145.) Accordingly, the City has not attempted to analyze what environmental impacts might occur if SPA development were curtailed as a result of a reduction in the project water supply.

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