

## **6. CEQA-REQUIRED SECTIONS**

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## 6 CEQA-REQUIRED SECTIONS

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### ALTERNATIVES CONSIDERED AND REJECTED

During development of alternatives, many options were considered for providing approximately 500 MG of additional recycled water storage capacity for the Subregional System. The selected alternatives include Kelly Farm 1 and 2 Brown Farm 1 and 2, Alpha Farm, and the No Project alternative required under CEQA. In developing the alternatives considered in the EIR, an intensive screening of other potential alternatives was performed. The results of this screening were presented in the *Incremental Recycled Water Program – Seasonal Storage Project Revised Final Screening Report* (see Appendix B).

### Evaluation Criteria for Screening of Alternatives and Components

A primary consideration in the screening of alternatives was the ability to accomplish the purpose and need of the Project. Once an alternative was determined to achieve the Project's purpose and need, practicability and logistics were the primary considerations in the development of alternatives. The following factors were considered in the evaluation of potential Project alternatives and components.

#### ***Program Objectives***

The Board of Public Utilities and the City Council have adopted a Purpose and Need Statement for the Seasonal Storage Project (SSP) that includes primary and supporting Project Objectives. The Project must accomplish all of the primary and most of the supporting Project Objectives. Because the City anticipates that alternatives may be combined to meet the Project objectives, an alternative must make a meaningful contribution toward fulfillment of the objectives, but need not, by itself, solve the whole problem. The Project Objectives are contained in Chapter 1 of this EIR.

#### ***Feasibility***

##### ***Technology***

Technology criteria include constructability (i.e., potential changed conditions or unforeseen events during construction) and reliability (i.e., potential modes of disrupted operation, upgrades, or extended maintenance).

Constructability concerns include hydrological issues such size of the watershed; geological issues such as soil stability, high groundwater and active faults; and other physical constraints such as existing facilities (e.g., buried utilities.) and ingress and egress.

Reliability represents long-term ability of an alternative to consistently perform as designed. Reliability can be defined in terms such as:

- Frequency of compliance with existing and future regulatory standards without incurring unplanned upgrade or maintenance cost.
- Ability of facilities to withstand natural factors such as earthquakes, wind, erosion, flooding, etc, without incurring additional maintenance or repair cost.

Alternatives must be considered constructible and provide a high level of reliability to be evaluated in the EIR.

### *Logistics*

Logistical considerations include legal considerations and the ability to obtain the approvals or rights necessary for construction and ongoing operation of the alternative; and to do so within the allotted schedule. The Subregional System may need to construct a storage project that complies with regulations for the Regional Board to act favorably on the next NPDES permit application in 2010, approximately two years from now.

### *Cost*

The cost impact of an alternative can be represented by the following types of information:

- **Total Cost.** The total cost of constructing and operating a project to all project participants. Costs can include interest on bonds or loans, actual fees paid to design and construction firms, City staff costs for administration and operation, and other operating costs like electrical power.
- **Net Cost.** Some of the costs associated with constructing and operating projects (described in the Total Cost item above) may be borne by parties other than the Subregional System, which would reduce the cost to the Subregional System.
- **User Fees.** The Subregional System is funded by a combination of connection fees and monthly user rates. These fees are based on the net cost of a project to the Subregional System.

Estimated total costs are available for all of the alternatives, but net costs and user fees are not yet available for any of the alternatives. Therefore, qualitative judgment about the relationship between the current estimate of total cost and affordability of alternatives was used to screen alternatives for inclusion in the EIR.

## **Alternatives Not Carried Forward**

Based upon the evaluation in the Screening Report, the following alternatives were not carried forward as alternatives to be analyzed in the SSP EIR. More detailed discussions of these alternatives and the reasons for their exclusion from consideration in the EIR are contained in the Revised Final Screening Report provided as Appendix B to this EIR.

## **Storage Pond Locations**

### ***Alexander Valley Road Site***

Two storage ponds could be sited at the Alexander Valley Road site with a combined storage capacity of approximately 290 MG. Geologic reconnaissance mapping and limited subsurface exploration (four borings) were undertaken as part of the EIR preparation. Based on the results of this work, potential landslide and fault rupture hazards were identified that would substantially constrain or preclude development of storage ponds at the site. Detailed trenching investigations would be needed to confirm fault locations and evaluate the ages of most recent movement. Severe landslides are present at both sites which would require detailed investigation. Such trenching is very costly and involves significant surface disturbance, both with respect to the trench itself and with respect to providing heavy machinery with access to the testing locations. Botanical surveys have determined that the area contains a number of populations of sensitive plant species, and that geotechnical investigations would likely result in disturbance of these populations. Given the substantial magnitude, cost and complexity of the geotechnical investigations required, the disturbance caused by such investigations, and the extent to which such disturbance may affect sensitive plant species, the sites have been eliminated from further analysis, because they are not feasible.

### ***West College Site***

An additional 190 MG of storage capacity could be obtained by enlarging and combining two existing ponds into one pond. Geologic reconnaissance mapping and limited subsurface exploration (six borings) were undertaken as part of the EIR preparation. Based on the results of this work, potential liquefaction, lateral spreading, and seismically induced slope instability hazard have been identified at the site. Results of preliminary, site-specific liquefaction susceptibility analyses indicate the presence of relatively widespread, potentially liquefiable deposits beneath the West College site. As a result, extensive and detailed subsurface exploration and liquefaction analyses would be needed to characterize better the continuity and extent of potentially liquefiable materials and evaluate the potential for ground failure due to liquefaction. Potential hazards related to fault surface rupture, slope instability, and shallow groundwater would also require additional detailed study. Ground improvement or other methods may be able to mitigate liquefaction and liquefaction-related hazards at the site. However, the mitigation is likely to prove very costly in light of the number of residences close to this site. Due to the substantial magnitude, cost, and complexity of the investigations required and the uncertainty regarding the effectiveness and cost of mitigating such hazards, the site has been eliminated from further analysis because it is not feasible.

### ***Petaluma Hill Road Site***

Up to two storage ponds could be constructed at this site, with a combined storage capacity of approximately 80 MG. Initial engineering analysis indicates that potential

landslide and fault hazards are present that could limit the size or constrain development of storage ponds at this site. Further detailed geotechnical investigations would be needed to confirm the feasibility of this site for storage facilities. In addition, initial groundwater studies indicate that regional groundwater is near the surface during portions of the year, requiring that fill be imported to build embankments. While the site is still considered potentially feasible relative to constructability, these characteristics increase the cost of storage on the site, to the extent that present value costs for the Petaluma Hill Road site (\$880,000 present value cost per million gallons for both ponds combined) are estimated to be four times greater than the other five sites on a per million gallon basis (\$207,500 present value cost per million gallons on a weighted average of the five alternative sites). The substantially increased costs make it doubtful that the project could be successfully financed or that it is economically feasible for the City to implement at this time, particularly in relation to the economics of other alternatives that appear to be feasible. For this reason, the Petaluma Hill Road sites would not meet the Project's basic Project Objectives.

### ***Locate Storage Ponds in the Geysers Steamfield***

This alternative would locate a storage pond in the Geysers steamfield and bring recycled water back to urban reuse or discharge points of delivery. This alternative would also require three new pump stations and a new pipeline and pump station to pump the water out of the steamfield basin over the ridge and back down to urban reuse areas. Because of numerous salmonid streams in the canyons, the only possible storage locations would be on ridge tops. Storage in this area would be extremely expensive due to the rocky nature of the geology and lack of soils appropriate for the pond liner and embankments. This storage would cost some 30 times as much on a unit basis as the alternatives recommended for further study. On this basis, storage ponds in the Geysers could not be successfully financed and are economically infeasible.

### ***Locate Storage Ponds in the Stemple Creek Watershed or the Southern Portion of the County***

This alternative would locate storage ponds in the Stemple Creek watershed or the southern portion of the County. It would require extensive new pipelines and large pump stations because of the lower elevation of these areas and the distance from the urban reuse and discharge locations. Approximately 17 of the 115 potential storage sites considered in the alternatives selection process are within the Stemple Creek Watershed and approximately 8 of these sites are south of Petaluma. Because of constructability, logistical and cost issues, sites in the Stemple Creek watershed and southern Sonoma County are infeasible, particularly in relation to the economics of other alternatives that appear to be feasible, and do not meet the project objective for economic feasibility.

### ***Locate Smaller Storage Ponds near Points of Delivery***

This alternative would locate smaller storage ponds near points of delivery. Points of delivery are located near areas where urban reuse or discharge could occur, that is, in or near Santa Rosa, Rohnert Park or Cotati; or near points of existing or proposed discharge at Delta Pond, west of Forestville, south of Healdsburg, or east of Soda Rock Lane. Small ponds, from 5 to 50 MG each could be located near these sites. Approximately 10 to 100 ponds would be required to achieve 500 MG of storage for the system. Ponds with storage capacity less than 50 MG are less efficient in use of space and impact a greater area per unit of storage provided: all ponds regardless of size need access roads and embankments and 5 feet of freeboard to allow for rainfall. Managing the filling and emptying of many ponds is difficult. A large number of small ponds are more costly to maintain than a small number of large ponds. Ponds under 50 MG of capacity are therefore not considered reliable or feasible. One hundred ponds of about 5 MG capacity would cost approximately ten times as much as the ponds being recommended for further study and would not be capable of being successfully financed and so would not meet the primary Project Objectives.

### ***Eliminate or Add Certain Sites***

A number of commentors requested that storage ponds be eliminated from Alexander Valley or the Santa Rosa Plain. Other commentors requested that storage ponds be located only within the Santa Rosa Plain or within the jurisdiction of the Subregional System partners. Under California Environmental Quality Act Guidelines (section 15126.6), an EIR should address a reasonable range of alternatives to the Project, or to the location of the Project, which would feasibly attain most of the basic objectives of the Project but would avoid or substantially lessen any of the significant effects of the Project. Therefore, inclusion or elimination of specific sites must adhere to the CEQA Guidelines and not be based solely on the jurisdiction or region in which the alternatives are located.

### ***Locate Storage Completely outside Floodplains***

Under this alternative, only seasonal storage sites completely out of the floodplain would be evaluated in the EIR. Location of storage ponds outside of the floodplain would be consistent with Project Objectives and feasible, however, the Program EIR identifies Mitigation Measure 3.3.8, Flood Storage Management, whereby facilities sited in floodplains can reduce impacts to a level below significant through a variety of measures, including compensatory measures such as creating flood storage capacity in the same sub-watershed. CEQA does not provide for elimination of alternatives because of significant impacts, where feasible mitigation can reduce impacts to less than significant. Because mitigation measures are available to address the impact of siting a facility within 100-year floodplains, the EIR will consider alternative sites that are not located entirely outside 100-year floodplains.

### ***Eliminate Kelly Farm as a Storage Site***

The commenter states that given the visual impacts from State Route 12, ponds on Kelly Farm should be eliminated. Project Objectives could be met without a storage site on Kelly Farm, and other feasible sites exist that could provide sufficient capacity. However, the site screening process determined that siting storage at the Kelly Farm would also meet Project Objectives and is potentially feasible. The Program EIR identified Mitigation Measure 3.4.4, Landscape and Architectural Screening, whereby the embankments of storage ponds could be screened from view with landscaping, depending upon the difference in elevation of the viewer and viewshed, distance between them, and height of the embankment. It may be possible to meet Project Objectives and build a feasible project even though the Kelly Farm site would be eliminated from consideration. However, CEQA does not provide for elimination of alternatives because of significant impacts, where feasible mitigation could reduce impacts to less than significant. Because according to the Program EIR, mitigation measures are available to address the impact of siting a facility on Kelly Farm, the EIR will consider such a site.

### ***Locate Many Storage Ponds throughout Santa Rosa and the County***

This alternative would use many sites for storage throughout Santa Rosa and County instead of centralizing the sites. This suggestion is similar to the alternative above entitled: Locate smaller ponds near points of delivery. Please refer to the discussion of that alternative.

## **Storage Pond Design**

### ***Design Ponds for Maximum Wildlife Habitat Value***

Under this alternative, storage ponds would be designed for maximum wildlife habitat value, including designs with more rounded edges and plantings on embankments and varied depths. Two alternatives to design storage ponds for maximum habitat value were considered in the Program EIR Screening Report (September 2002): 1) build storage reservoirs to include wetlands habitat features, and 2) keep the reservoirs full to increase habitat value. The first alternative would require restricting the depth of all or part of each storage pond to a range that promotes wetland habitat values. This would either eliminate their value as storage or substantially increase their size. Increasing the size of the reservoirs would also increase impacts to the ecosystem they are built on.

The second alternative, keeping the reservoirs full or nearly full to increase habitat value, was found not to meet Program Objectives with feasibility being doubtful. The purpose of storage reservoirs is to store water during the winter for reuse during the summer. If reservoirs are kept full throughout the summer, the reservoirs will have little capacity to store recycled water during the winter months which would limit their use and decrease the reliability of the system. Pond designs with more rounded edges and plantings on embankments. Rounded edges would not necessarily increase

wildlife habitat. The current pond design includes planting the embankment sides to reduce erosion of the embankments. However, the tops of the embankments are needed for maintenance vehicle access to the storage ponds; replacing pond access with plantings is not feasible.

### ***Locate Storage on Sites that Provide Land for Tree Farms***

Under this alternative, storage sites would be limited to those lands where sufficient additional acreage and appropriate soils and ecology exist around the storage facility that tree farms could be planted. Although seasonal storage may be used in connection with new agricultural irrigation, such as tree farms, such uses are considered secondary; the primary focus of the Seasonal Storage Project is providing storage capacity to serve the urban reuse and discharge needs. However, the City would consider any requests for recycled water for agricultural irrigation, including for tree farms. The Program EIR reports that additional agricultural reuse in the Santa Rosa plain is not included in the IRWP, because the existing agricultural irrigation system is operating there, and little additional unirrigated acreage remains.

## **GROWTH-INDUCING IMPACTS**

Section 15126.2(d) of the CEQA Guidelines states that an EIR should discuss

“ . . . the ways in which the proposed project could foster economic or population growth, or the construction of additional housing either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increase in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristics of some of projects which may encourage and facilitate other activities that could significantly affect the environment whether individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.”

Section 15168(d)92) of the CEQA Guidelines states that where an EIR has been prepared for a program, that EIR can be used for later parts of the program, to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole. The SSP is one of the components of the IRWP Master Plan for which a Program EIR was prepared and certified (in 2004.) Consistent with the CEQA Guidelines, the evaluation of growth-inducing impacts from the IRWP as a whole evaluated in the Program EIR is hereby incorporated by reference and summarized below.

General Plans adopted by a city or county identify the expected future populations of the region and the lands that will be allowed to be developed. These Plans set forth goals, objectives, and policies to guide decisions about future growth of local jurisdictions. The policies must, by law, take account of existing and projected economic and social conditions, as well as the desires of the community. Once a General Plan is adopted and the allowable growth patterns of an area are identified, then the expansion or updating of the various

infrastructure systems can be scheduled to maintain adequate services throughout the planning horizons of the General Plan.

Projects are considered growth-inducing if they provide new housing, new employment, or expand existing infrastructure. The IRWP is an expansion of existing infrastructure, and is therefore considered growth-inducing. The IRWP has been designed to provide the capacity necessary to accommodate growth consistent with population growth projections of the Santa Rosa, Rohnert Park, Sebastopol, and Cotati general plans as of July 2002. The impacts of its growth have been identified in the General Plan EIRs certified for each of the subregional partners.

The projected needs for wastewater disposal within the Subregional System are based upon general plan population, housing, and employment growth projections. The amount of growth allowed by the IRWP is shown in Table 6-1. It depicts the population as of January 2002 as reported in the IRWP Program EIR, the current population (as of January 2007) (California Department of Finance 2007; SSU 2007) and the projected buildout populations for cities of Santa Rosa, Rohnert Park, Sebastopol and Cotati as reported in the IRWP Program EIR. As the table shows, the current (2007) population has not exceeded the amount of growth allowed by the IRWP.

**TABLE 6-1**  
**Growth Allowed by IRWP**

City	2002 Population <sup>a</sup>	2007 Population <sup>b</sup>	Projected Population <sup>c</sup>	Difference in 2002	Difference in 2007
Santa Rosa	152,900	157,145	195,300	42,400	38,155
Rohnert Park					
Rohnert Park	42,450	43,027	50,400	7,950	7,373
Sonoma State Univ.	6,450	9,961	10,000	3,550	39
Sebastopol	7,850	7,753	10,417	2,567	2,664
Cotati	6,850	7,381	9,109	2,259	1,728
Total	216,500	225,267	275,226	58,726	49,959

Notes:

- a. Department of Finance population figures through January 2002 as presented in the IRWP Program EIR.
- b. Department of Finance Population figures as of January 1, 2007 and Sonoma State University Population figures as of March 2007.
- c. Projected buildout populations from the Subregional members' General Plans as presented in the IRWP Program EIR.

Each general plan or master plan within the Subregional System has an associated environmental impact report (EIR) that identifies and analyzes the potential environmental impacts associated with adopting the general plan and the projected growth the general plan accommodates. Because the growth that would be induced by the IRWP is consistent with the growth projected in the cities' General Plans and the SSU Master Plan, the impacts of that growth are addressed in the General Plan EIRs. A summary of the growth-related

impacts identified in the EIRs for the General Plans of Santa Rosa, Rohnert Park, Cotati and Sebastopol has been provided in IRWP Program EIR; these documents also may be reviewed in their entirety at the City of Santa Rosa’s Laguna Plant Library at 4300 Llano Road, Santa Rosa.

**SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACTS**

Section 21100(b)(2)(A) of CEQA requires that an EIR identify any significant adverse impacts that cannot be avoided if the project were implemented. Significant unavoidable impacts are identified in Section 4 of this EIR, as those impacts that remain significant after implementation of mitigation measures. Although the SSP has the potential to result in a number of significant environmental impacts, most can be avoided through the adoption of appropriate mitigation measures that would reduce those effects to a less than significant level. However, there are significant unavoidable impacts of the SSP, which are listed below in Table 6-2. This table also lists the significant and unavoidable impacts identified in the IRWP Program EIR for Storage and Pump Station components. On March 4, 2004, The City and BPU issued statements of overriding considerations in accordance with Public Resources Code section 21081(b) for the identified significant and unavoidable impacts as part of their certification of the IRWP Program EIR and Addendum and approval of the Preferred Program (BPU Resolution 791 and City Council Resolution 25910).

**TABLE 6-2**  
**Summary of Significant and Unavoidable Impacts from SSP Storage and Pump Stations Components and IRWP Storage and Pump Stations<sup>1</sup> Components**

Impact	Seasonal Storage Project EIR (by Alternative)						IRWP Program EIR
	KF1	KF2	BF1	BF2	AF	NP	
<b>Agriculture</b>							
2.1. The Storage component may cause loss of Farmland.	●	●	●	●	●		●
2.1. The Pump Station component may cause loss of Farmland.	●	●	●				●
<b>Surface Water Quality</b>							
6.1, 6.2, and 6.4. Will the No Project alternative cause surface water quality impacts based on evaluation criteria 1, 2, and 4?						●	●
<b>Transportation</b>							
10.1 Storage component construction traffic may cause congestion on local roadways.			●	●	●		●

<sup>1</sup> The Program EIR refers to this component and the Pump Stations and Tanks Component

**TABLE 6-2**

**Summary of Significant and Unavoidable Impacts from SSP Storage and Pump Stations Components and IRWP Storage and Pump Stations<sup>1</sup> Components**

Impact	Seasonal Storage Project EIR (by Alternative)						IRWP Program EIR
	KF1	KF2	BF1	BF2	AF	NP	
10.1 Pump Station component construction traffic may cause congestion on local roadways.			●	●	●		●
10.1C. The SSP plus cumulative projects may cause congestion on local roadways.	●	●	●	●	●		●
<b>Air Quality</b>							
11.6. The Pump Station component would increase greenhouse gas emissions.	●	●	●	●	●		●
11.6C. The Pump Station component plus cumulative projects have the potential to increase greenhouse gas emissions.	●	●	●	●	●		
<b>Noise</b>							
12.1 Construction of the Storage component may generate noise levels in excess of standards.	●	●	●	●	●		●
12.1 Construction of the Pump Station component may generate noise levels in excess of standards.					●		●
12.4 Construction activities and traffic required for the storage component may result in a substantial temporary increase in ambient noise levels.	●	●	●	●	●		●
12.4 Construction activities and traffic required for the Pump Station component may result in a substantial temporary increase in ambient noise levels.					●		●
12.1C. Construction of the SSP and cumulative projects could generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	●	●	●	●	●		●
12.4C. Construction activities and traffic required for the SSP and cumulative projects could result in a substantial temporary or periodic increase in ambient noise levels above existing levels in the vicinity.	●	●	●	●	●		●

**TABLE 6-2**

**Summary of Significant and Unavoidable Impacts from SSP Storage and Pump Stations Components and IRWP Storage and Pump Stations<sup>1</sup> Components**

Impact	Seasonal Storage Project EIR (by Alternative)						IRWP Program EIR
	KF1	KF2	BF1	BF2	AF	NP	
<b>Cultural Resources</b>							
13.3 and 13.4 The Storage component may disturb human remains or associated grave goods, or items of cultural patrimony.	•	•	•	•	•		•
13.3 and 13.4 The Pump Station Component may disturb human remains or associated grave goods, or items of cultural patrimony.	•	•	•	•	•		•
13.3C and 13.4C. The SSP plus cumulative projects could impact cultural resources based on evaluation criteria 3 and 4.	•	•	•	•	•		•
<b>Visual Resources</b>							
14.1 and 14.2 The Storage component may have a substantial adverse effect on scenic vistas, substantially damage scenic resources, or substantially degrade the existing character of the site.	•	•					•
14.1 and 14.2. The Pump Station Component may have a substantial adverse effect on scenic vistas, substantially damage scenic resources, or substantially degrade the existing character of the Site.					•		•
14.1C and 14.2C. The SSP and cumulative projects could impact visual resources based on evaluation criteria 1 and 2.	•	•	•	•	•		•
<b>Public Services, Utilities and Recreation</b>							
15.1. The No Project Alternative may impact public services, utilities, and recreation based on evaluation criteria 1.						•	•

**IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

The SSP involves an irreversible and irretrievable commitment of natural resources and energy resources. These resources include the land required for the storage facilities (from 41 to 74 acres per storage pond) and the electricity needed to operate the pump stations and provide lighting for maintenance. Other resources include building materials (such as

concrete, steel and wood,) and the fuel needed for construction vehicles and machinery operation (gasoline and diesel fuel).

### **No Project Alternative**

The No Project Alternative would have no irreversible and irretrievable commitment of resources. The Alternative would maintain the storage capacity within the system at its current level.

### **ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

CEQA requires identification of an environmentally superior alternative. CEQA does not define the meaning of the term “environmentally superior alternative.” The City interprets this term to mean the alternative that has no significant effect or, if there is no such alternative, the alternative that has the fewest or least severe significant effects on the environment. If the environmentally superior alternative is the "no project" alternative, the EIR also must identify an environmentally superior alternative among the other alternatives. For reference, significance is determined based on substantial or potentially substantial adverse changes to the physical environment due to the Project. The degree of change is evaluated against the environmental setting as of the date the City released the Notice of Preparation (January 2007) (CEQA Guidelines, §§ 15125 and 15126.6).

Based upon the analysis provided in Chapter 4 Environmental Analysis and Table 6-2 above, the environmental superior alternative is the No Project Alternative. The No Project Alternative requires no construction or operation and so does not have direct effects. However, without additional seasonal storage capacity, indirect effects may occur to the Subregional System’s ability to comply with discharge regulations (Surface Water Quality Impacts 6.1, 6.2, and 6.4) and continue successful wastewater treatment (Public Services and Utilities Impact 15.1). As described under the No Project Alternative’s analysis in Section 4.15 Public Services and Utilities, the determination of whether or not such indirect effects will occur is largely speculative and depends upon future decisions by the North Coast Regional Water Quality Control Board and future decisions by the City of Santa Rosa about which Discharge Compliance Project alternative to select.

The environmentally superior alternative among the other alternatives is the BF2 Alternative. This alternative is identified as environmentally superior, because it would have fewer significant and unavoidable impacts than identified for the KF1, KF2 and AF alternatives, and although it would have the same number of significant and avoidable impacts identified for the BF1 alternative (specifically loss of status farmland, energy use and greenhouse gas emissions, construction traffic congestion and noise, and potential for impacts to cultural resources), in most cases the impacts would be less severe. This decreased severity is due in large part to the pond’s size: it is the smallest of the five alternatives with a storage capacity of 105 MG, its facilities would cover 51 acres of land, and its embankments would rise only 13 to 26 feet above the surrounding grade. Less land disturbance causes less impact on status farmland and potentially less impact to cultural resources. The BF2 pond’s smaller size and its location in relation to Pump Station E cause less energy use and greenhouse gas emissions. The BF2 alternative also would be the least visually intrusive of the ponds and

would have the least number of conflicts with the Conservation Deed and Agreement with the Sonoma County Agricultural Preservation and Open Space District.

Based upon the analysis in Chapter 5 Impacts of Combinations of Alternatives, the combination of the BF1 and BF2 alternatives would have the least number of significant unavoidable environmental impacts after mitigation, but their combined storage capacity is only 331 MG. Therefore, the BF1 and BF2 combination would also need to include the next least damaging alternative, which is KF1. However, the combination of BF1 and KF1 can achieve the project objectives of approximately 500 MG of storage with just two ponds, rather than three. Therefore, the environmentally superior combination of alternatives is found to be BF1 and KF1.

## **PREPARERS AND REFERENCES**

### **Preparers**

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### **References**

Department of Finance. 2007. E-1 City/County Population Estimates, with Annual Percent Change, January 1, 2001 and 2002. May.