Section 4: Potential Water Supply Alternatives

The following potential water supply alternatives have been compiled from discussions with CCSD staff, as well as a collection of studies conducted in the last twenty years identifying and evaluating potential sources of additional potable water for CCSD. A brief summary of each of the alternatives is provided below. In addition to the individual supply alternatives, combinations of these concepts to ultimately provide a long-term water solution for CCSD may also be feasible. For example, recycled water and demand management are not mutually exclusive. Section 5 describes the storage and conjunctive use alternatives. Section 7 describes the criteria used to evaluate the more viable alternatives described in this section as well the alternatives described in Section 5.

4.1 Additional Water Supply Alternatives

Depending upon the development scenario and percent quality of life increase pursued by CCSD as well as other factors outlined in Section 2, approximately 306 to 994 AF of a supplemental water source may be required to meet projected dry season water demand. However, for purposes of comparing alternatives within this report, a range of 602 to 717 AF of supplemental dry season production will be considered sufficient to meet CCSD's projected water supply requirements, as discussed in Section 2.4. Potential supplemental supplies, as determined from previous studies, would develop additional new water supplies and include:

- Seawater Desalination
- Surface Water from Lake Nacimiento
- Additional Santa Rosa Creek Groundwater Wells
- Arroyo De La Cruz Groundwater Wells
- Hard Rock Drilling
- Recycled Water
- Demand Management
- Basin Management

Each of these alternatives is briefly discussed in the following subsections.

4.2 Seawater Desalination

This alternative was evaluated in the 1998 report entitled, "Desalination Project Management Services" (1998 report) by Kennedy/Jenks Consultants followed by an update in 2000 (2000 report) and a 2002 letter report. Following development of the 1998 report, CCSD staff recommended further consideration of the following:

- Use of more energy efficient pumps and pressure exchanger technology.
- Development of a dual use facility concept to allow for centralized water softening within the same facility.
- Use of alternate energy to offset power needs.

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Legend

- Highway Brine Discharge
- State Park Brine Discharge
- Highway Pipeline Route
- State Park Pipeline Route
- Directional Drilled Intake
- Slant Drilled Intake

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Cambria Community Services District
Assessment of Long-Term Water Supply Alternatives

Seawater Desalination Pipeline Routes

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Figure 4-1

K/J File: g:/projects/2002/024602.10/arcview/Figure 5-1.mxd

- Further geotechnical study to assess the feasibility of using a collector well intake.

Evaluation of the geotechnical feasibility of a collector well intake at Leffingwell Beach identified an earlier 1998 geotechnical investigation conducted by Earth Systems Pacific. The four exploratory borings conducted as part of this investigation found that much of the subsurface stratum was clay with qualities that may not be conducive to collector wells. Besides the Leffingwell Beach area, CCSD performed a geo-physical study along the beach at San Simeon Creek during November 1997.[16] This past geo-physical study found the subsurface alluvium deposits in the area along the beach near the creek outlet to vary with depths to bedrock at approximately 60 to 70 ft deep, and a maximum depth of approximately 112 ft. However, no follow up borings were ever completed in this area to confirm whether or not a suitable stratum exists that would be conducive to a beach well. Therefore, the same offshore, subsurface intake developed for the 1998 report is assumed for cost estimating purposes.

In response to electrical cost increases following deregulation of the power industry in California, further emphasis was placed on investigating means to improve energy efficiency of the proposed desalination project. A draft report was developed for CCSD by Source California Energy Services that included conceptual alternatives for a solar photo-voltaic area to help offset annual electrical costs. Additionally, Kennedy/Jenks Consultants developed further information on the use of positive displacement feed pumps and a newer, pressure-exchanger technology to make the desalination process more energy efficient. A letter report entitled "Update of Cambria Desalination Project Costs," dated July 10, 2002, by Kennedy/Jenks Consultants summarized the use of alternative energy as well as more efficient energy recovery equipment for cost estimating purposes. This report evaluated alternatives that provided 300 gpm, 600 gpm, or 900 gpm of permeate flow (product water), with and without the use of solar power arrays. During the critical dry season, the amount of water produced depended upon the number of reverse osmosis (RO) units, the hours of operation, and number of days operated during the year. Costs for pumping and pipeline facilities to transport seawater into the desalination plant and brine discharge back to the exfiltration gallery were assumed to be similar to those summarized in the 30 percent design report by Kennedy/Jenks Consultants (dated April 13, 2000).

Based on the 2000 report, the desalination treatment process relies upon RO units to remove salinity. Sodium hypochlorite is planned for disinfection. The RO permeate could also be blended with groundwater. Carbon dioxide stripping would be used before distribution to the system. The brine concentrate would be pumped back along a pipeline route similar to the intake route. Brine discharge would be subsurface and diluted to acceptable levels prior to mixing with ocean water. The overall costs would depend on the number of RO units installed, hours of operation, as well as the outcome of the alternative energy study CCSD is currently completing. Figure 4-1 shows the proposed pipeline routes and intake locations.

Depending upon the output of the system, the connected power load of the desalination facility would be approximately 320 horsepower (hp) for one RO train (300 gpm, 300 AFY), 620 hp for two RO trains (600 gpm, 520 AFY), and 910 hp for three RO trains (900 gpm, 820 AFY). These loads include the power needed to pump treated water into the distribution system (i.e., distribution system pressure). The estimated annual fixed cost (2002 dollars) ranged from $583,000 to $944,000 per year and the estimated variable cost (2002 dollars) ranged from $680

[16] "Microgravity and Electrical Resistively Survey of Depth to Bedrock at Beach Sites Near Cambria, California," John P. Maas and Stephen K. Dickey, February 11, 1998.

to $900 per AF, not including any grant funding that may be available. Seawater Desalination is discussed in more detail in Section 8.2.

4.3 Surface Water from Lake Nacimiento

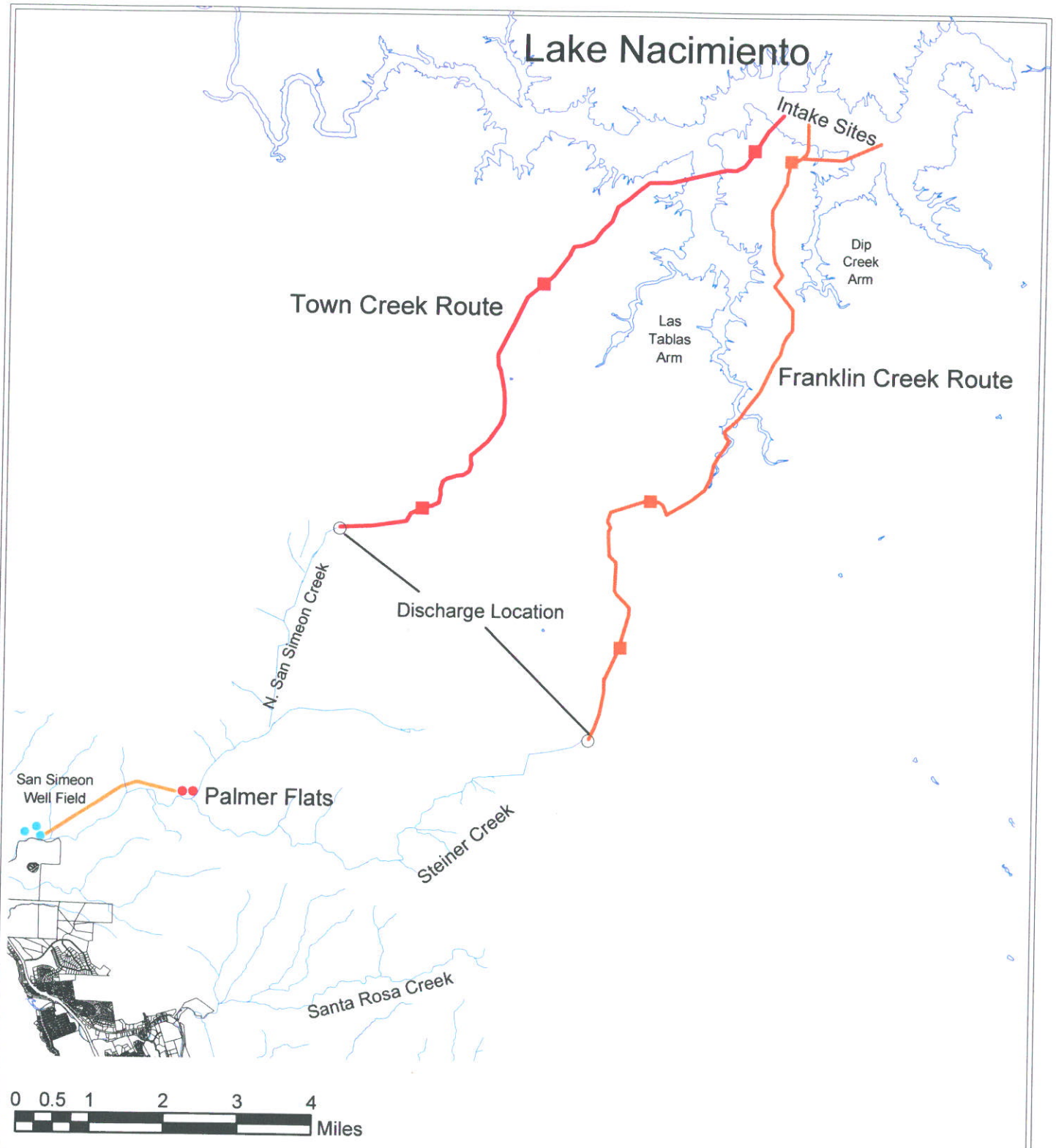
The Nacimiento Water Supply alternative would involve the use of surface water from Lake Nacimiento. Sources of the lake water include run-off from the surrounding watershed and water from the State Water Project. Although the Nacimiento Reservoir is located within San Luis Obispo (SLO) County, the dam and reservoir project was completed by Monterey County in 1957 as a means to recharge groundwater basins in the Salinas Valley. The Monterey County Water Resources Agency (MCWRA) controls operation of the reservoir and has annual rights to approximately 180,000 AF of stored water. SLO County has retained an annual right to approximately 17,500 AF of water within the reservoir. However, outside of communities adjacent to the reservoir (e.g., Heritage Ranch), little of the 17,500 AF has been used within SLO County. Additionally, there are recreational interests involved with the Nacimiento Reservoir and a desire to maintain minimum lake levels to allow for continuing recreational use.

To date of this report, there are two projects in various stages of planning and completion associated with the Nacimiento reservoir. The first of these projects is the Salinas Valley Water Project that has the Monterey County Water Resources Agency as lead agency.

The purpose of the proposed Salinas Valley Water Project (SVWP) is to prevent seawater intrusion into the Salinas groundwater basin. As part of that project, a re-operation of the lake is proposed, along with spillway modifications. The re-operation element could lower the reservoir further than what had been assumed in a 1993 CCSD study by Penfield and Smith (P&S) entitled "Preliminary Analysis, Long Term Water Supply Project, Pre-Final Design – Phase 1 Report." (1993 report) Therefore, further evaluation will be necessary in order to assess the impact of the proposed SVWP on the selection of the intake sites identified within the earlier 1993 report. Should the SVWP lower the reservoir levels further than the levels assumed in the 1993 report, both capital costs and annual operating costs will increase beyond the projections presented in this report.

Efforts to make use of SLO County's 17,500 AF Nacimiento entitlement have had a long and arduous history. During the early to mid-1990s, SLO County developed a regional pipeline concept that would serve Paso Robles, Templeton, Atascadero, the City of SLO, as well as SLO County. Existing pipelines between the City of SLO and Whale Rock reservoir would have allowed wheeling of Nacimiento water as far as Cayucos. During development of the 1990s project, CCSD requested a reservation of approximately 2,000 AF for an independent Nacimiento pipeline supply project.

In recent years, SLO County resurrected the Nacimiento pipeline project with an alternative alignment. SLO County has recently completed the revised project's Environmental Impact Report and is in the process of obtaining commitments from various agencies along that project's alignment. The City of SLO is the largest user to commit to the new pipeline project that would be past the Cuesta grade. Recently, the SLO City Council expressed their support for the project. For purposes of this report, any connection to a regional pipeline assumes the City of SLO remains part of the regional pipeline project and would therefore ensure the pipeline would extend up the Cuesta Grade.



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Nacimiento Water Supply Pipeline Routes

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Figure 4-2

To date, there are at least two basic options for CCSD to obtain Nacimiento water: an independent CCSD pipeline system, discussed below; and, use of the proposed SLO County project in addition to an independent CCSD pipeline from the regional system, discussed in Section 4.3.

An independent CCSD Nacimiento pipeline project would pump water from Nacimiento westerly and over the Santa Lucia mountain range. Once over the ridgeline, water would be discharged into one of the drainage basins supplying water to CCSD. Several independent pipeline alternatives were evaluated in the 1993 report. Screening of numerous pipeline alternatives resulted in a Town Creek alignment and a Franklin Creek alignment. The Town Creek alignment discharge enters the upper reach of San Simeon Creek after being pumped approximately 1,900 ft in elevation from Nacimiento Reservoir. The Franklin Creek alignment discharges into the upper reach of Steiner Creek after being pumped approximately 1,760 ft. After discharge to San Simeon Creek, the water would be pumped from Palmer Flats by two new extraction wells, to the production facility at San Simeon well field, where it would enter the distribution system.

For each alternative, a need for a new intake site with fish screens and filters, construction of a holding tank near the intake facility, 8 to 10 miles of pipeline, two new wells, and pumping facilities was identified. After exploring several options, including changes in pumping rates and energy alternatives, a 24-hour pumping schedule with one booster pumping station for either of the selected pipeline alternative routes was recommended. The recommended alignments would result in approximately 860 to 1160 pounds per square inch (psi) discharge pressure at the main booster pump station. Approximately 800 connected hp would be required at the booster pump station. The proposed pipeline routes and location of relevant facilities are provided on Figure 4-2.

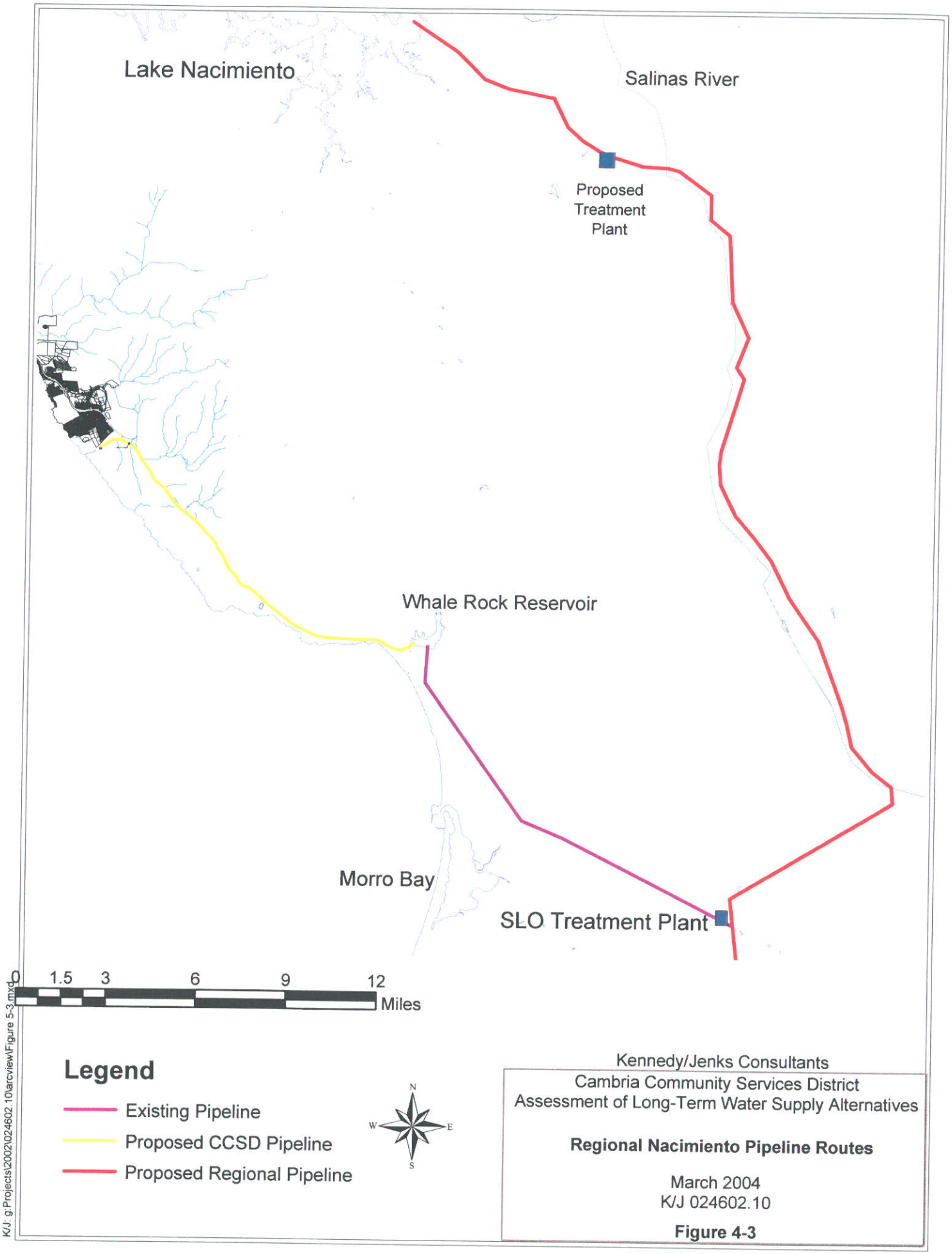
Since completion of the 1993 report, the MCWRA has announced their intention to modify the Nacimiento dam spillway. Because this may result in lowering the water surface by approximately 28 ft, further review of the intake placement is needed to assess potential cost impacts to the independent pipeline alternative. The estimated annual fixed cost (2002 dollars) ranged from $1,183,000 to $1,241,000 and the estimated variable cost (2002 dollars) ranged from $580 to $560 per AF for the Town Creek and Franklin Creek pipeline routes, respectively. The Nacimiento Water Supply is discussed in more detail in Section 8.3.

4.4 Whale Rock Exchange

The Whale Rock Exchange would involve an exchange of Nacimiento water for water from Whale Rock Reservoir and would utilize the regional Nacimiento pipeline discussed in the previous section. The source of the Whale Rock water is run-off from Santa Rita and Cottontail Creeks that is captured by the Whale Rock Dam. The water would require treatment prior to distribution, because CCSD intends to use the water directly in its distribution system.

Two exchange capacities have been evaluated in previous studies, either 700 AFY or 1,000 AFY. It would consist of the regional Nacimiento pipeline, 13.1 miles of pipeline from Whale Rock to CCSD, a treatment facility, and pumping station; the size and number of each of these structures is dependent upon the supply capability. The pipeline construction from Whale Rock to CCSD would involve extensive pavement replacement along Highway 1.

The regional Nacimiento pipeline, as it originally pertained to CCSD, consisted of either utilizing an existing Exxon/Mobil oil pipeline from San Ardo Field to Estero Bay or constructing a new



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Assessment of Long-Term Water Supply Alternatives

Regional Nacimiento Pipeline Routes

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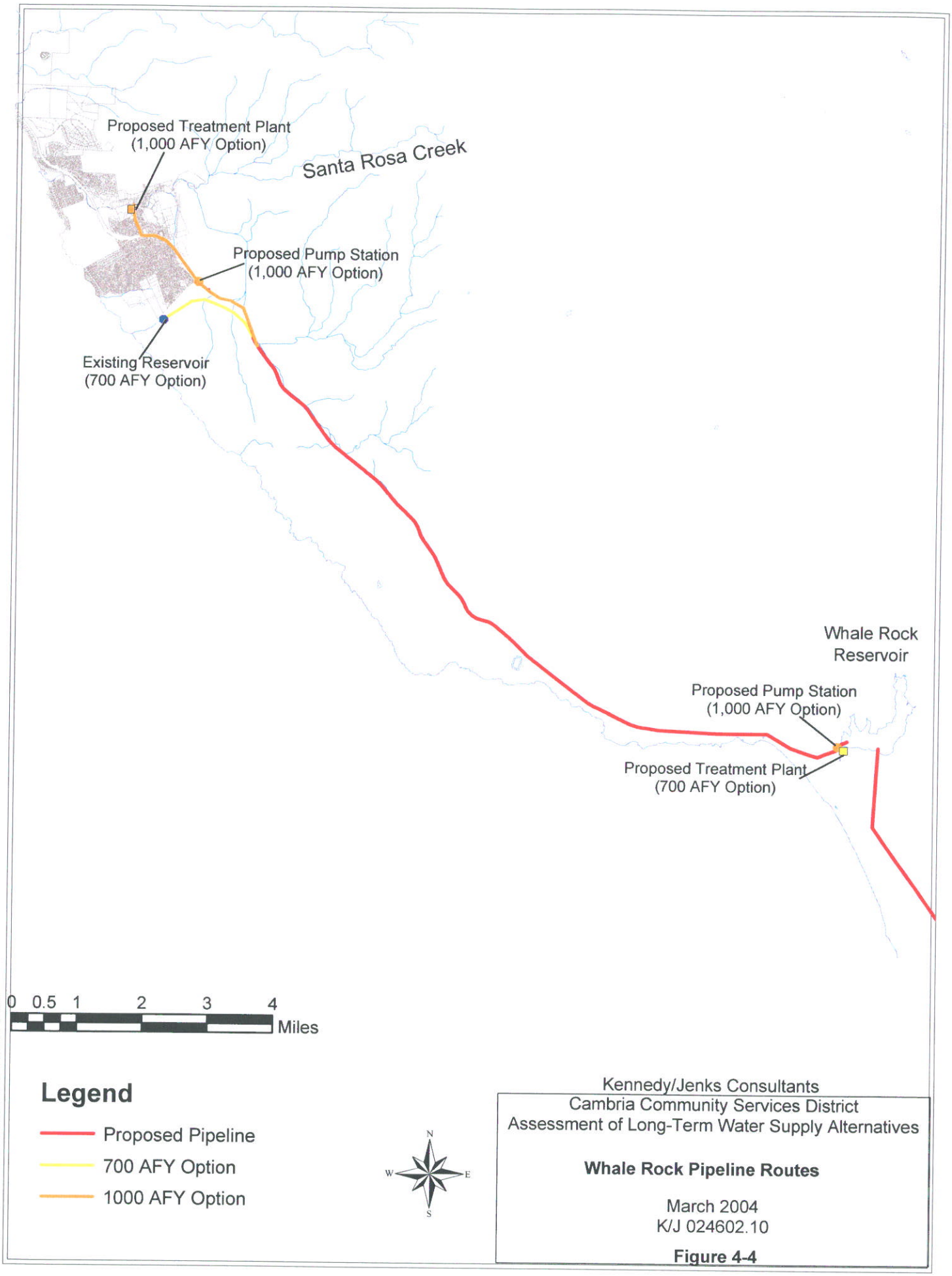
Figure 4-3



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Whale Rock Pipeline Routes

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Figure 4-4

pipeline along the oil easement. CCSD would receive water from a new 4-mile pipeline along Highway 46, which would discharge into Santa Rosa Creek. Additional groundwater wells with iron and manganese treatment at the wellhead would be required. After a feasibility study prepared by Boyle Engineering in a 1998 letter report entitled "Nacimiento Alignment Alternative: San Ardo to Estero Bay Oil Easement," utilizing the existing oil pipeline and easement was not recommended due to hydraulic limitations, high costs, and the possible environmental issues associated with the potential for oil spills. It was determined that the existing oil pipeline (10 cfs) could only sustain approximately 40 percent of the necessary capacity (27 cfs). Additionally, line pressures may reach 500 psi and it was not anticipated that the existing pipeline could withstand this pressure. Construction of a new pipeline within the oil easement, although hydraulically feasible, was not recommended due to the high costs and environmental impacts. Although exact costs were not determined, high costs were anticipated to result from the operation and installation of the necessary high horsepower pump stations and the use and size (18 inches) of high pressure rating pipe material. As such, a revised regional pipeline route was considered. Accordingly, for purposes of this report, use of the existing oil pipeline and oil easement is not included in this alternative.

The revised regional Nacimiento pipeline route would transport water from Lake Nacimiento to the City of SLO. Using the existing Chorro Valley pipeline, the water would be transported to Cayucos through the Whale Rock Reservoir. The pipeline route begins at an intake near the dam and continues in a southeastern direction. After crossing the Salinas River, it would turn south and parallel the river to Atascadero. From there, it would re-cross the Salinas River and head southwest to the City of SLO Water Treatment Plant through the Cuesta Tunnel. From the Cuesta Tunnel, it would also connect with an existing pipeline leading to Whale Rock Reservoir. Figure 4-3 shows the proposed regional pipeline route.

The City of SLO, the State of California Men's Colony, and California Polytechnic State University currently receive water from Whale Rock. The entities that would be involved in the exchange are SLO County and the City of SLO.

The primary challenge of this alternative is the lack of any apparent benefit to the City of SLO to agree to the exchange. The estimated annual fixed cost (2002 dollars) ranged from $287,000 to $1,703,000 and the estimated variable cost (2002 dollars) ranged from $1,920 to $2,210 per AF for the 700 AFY and 1,000 AFY supply options, respectively. This latter amount may be reduced if other coastal communities agree to share the set-up costs for the treatment plant, which was designed to handle more flow than required by CCSD. Figure 4-4 shows the proposed pipeline route and the structures required from Whale Rock Reservoir to CCSD. This alternative is discussed in more detail in Section 8.4.

4.5 Additional Santa Rosa Creek Groundwater Wells

This alternative, as evaluated in the Engineering Science report entitled, "Comparative Analysis of Potential Long-Term Water Supply Projects for the District," dated 1991 (1991 report), consists of the construction of two new extraction wells located in the lower part of the Upper Santa Rosa Basin. Water quality of the upper basin is significantly better than that in the lower basin and treatment other than filtration and disinfection is not likely. This alternative would require the purchase of 350 acres of irrigated farmland, which would be fallowed and its rights transferred to CCSD. The CCSD would also need to modify its appropriative water rights permit. In order to ensure this alternative would yield long-term benefits, an adjudication of the aquifer may also be needed to precede such an approach. Otherwise, intensification of use by remaining riparian

water consumers could ultimately limit the long-term benefit of purchasing riparian water rights from specific properties. In concept, the purchase of irrigated farmland and addition of wells, could introduce an additional 700 AFY of extraction rights to CCSD. However, the amount available during the dry period would still need to be assessed along with potential habitat needs. Furthermore, pumping may be further reduced during drought periods.

The environmental impacts of additional Santa Rosa Creek groundwater wells are not anticipated to be as major as those associated with alternatives involving construction of a dam or reservoir. However, there could be secondary cost impacts to agriculture if crops are taken out of production. In certain cases, a benefit towards the environment could result if farmland were fallowed (e.g., conversion to a conservation easement, wetlands restoration, etc.). Negotiations for land purchase on this alternative are expected to be difficult, reducing the feasibility of this alternative. Additionally, an adjudication process could take many years and incur significant costs in legal fees and supporting studies. Not including adjudication costs and assuming riparian rights could eventually be converted to appropriative rights, the estimated annual fixed cost (2002 dollars) was $252,000 and the estimated variable cost (2002 dollars) was $20 per AF. Due to the difficulty in negotiations for the water rights transfer, the potential environmental impacts, potential habitat needs, as well as lengthy and costly legal adjudication process, this alternative is not considered for further evaluation.

4.6 Arroyo De La Cruz Groundwater Wells

This alternative, as evaluated in the 1991 report, would involve the construction of groundwater wells in Arroyo de la Cruz and approximately 14 miles of 8-inch pipe to transport the water to the existing well field at San Simeon Creek. The Arroyo de la Cruz Basin spans a 36.5 square mile area and has an average of 31-inches of rain a year. The basin supports several endangered and threatened plants and animals. The Hearst Corporation has riparian rights and an appropriative permit for Arroyo de la Cruz. Associates of the Hearst Corporation have stated that they will vigorously oppose this alternative, which could be a significant obstacle because a majority of the right-of-way agreements would need to be made with the Hearst Corporation. More recently, the Hearst Corporation and American Land Conservancy have tentatively agreed to enter into a conservation easement that would further preclude the appropriation of water from the area. Of environmental concern is the abundance of rare species and habitat found in the area. Seven-hundred (700) AFY is the expected yield for this alternative. A minimum of five years of monitoring could be required to determine the impact to groundwater levels in the aquifer. The estimated annual fixed cost (2002 dollars) is $287,000 and the estimated variable cost (2002 dollars) is $100 per AF. Due to the difficulty in negotiations to obtain right-of-way and the potential environmental impacts, this alternative is not considered for further evaluation.

4.7 Hard Rock Drilling

Hard rock drilling would involve developing groundwater supplies from fractured bedrock, which has typically not been explored for potential water supplies. Typically, developing groundwater supplies from fractured bedrock consists of three phases of development. Phase 1 involves reviewing the subsurface geology, evaluating yield, identifying potential locations for exploration, acquiring permits for test bores, and drilling test bores to predict actual production capacity. Phase 2 includes test pumping and evaluating water quality of test bores to predict actual production capacity. Phase 3 includes drilling of production wells and delivery of water to the customer's distribution system. A key concern in using fractured bedrock is whether the initial

supply of water is mined water, or truly a long-term supply. If the fracture were not adequately recharged, the initial production of mined water would diminish with time. Fractured bedrock may also be hydraulically connected to either the San Simeon or Santa Rosa aquifers. Accordingly, the water rights could be subject to an appropriative permitting process.

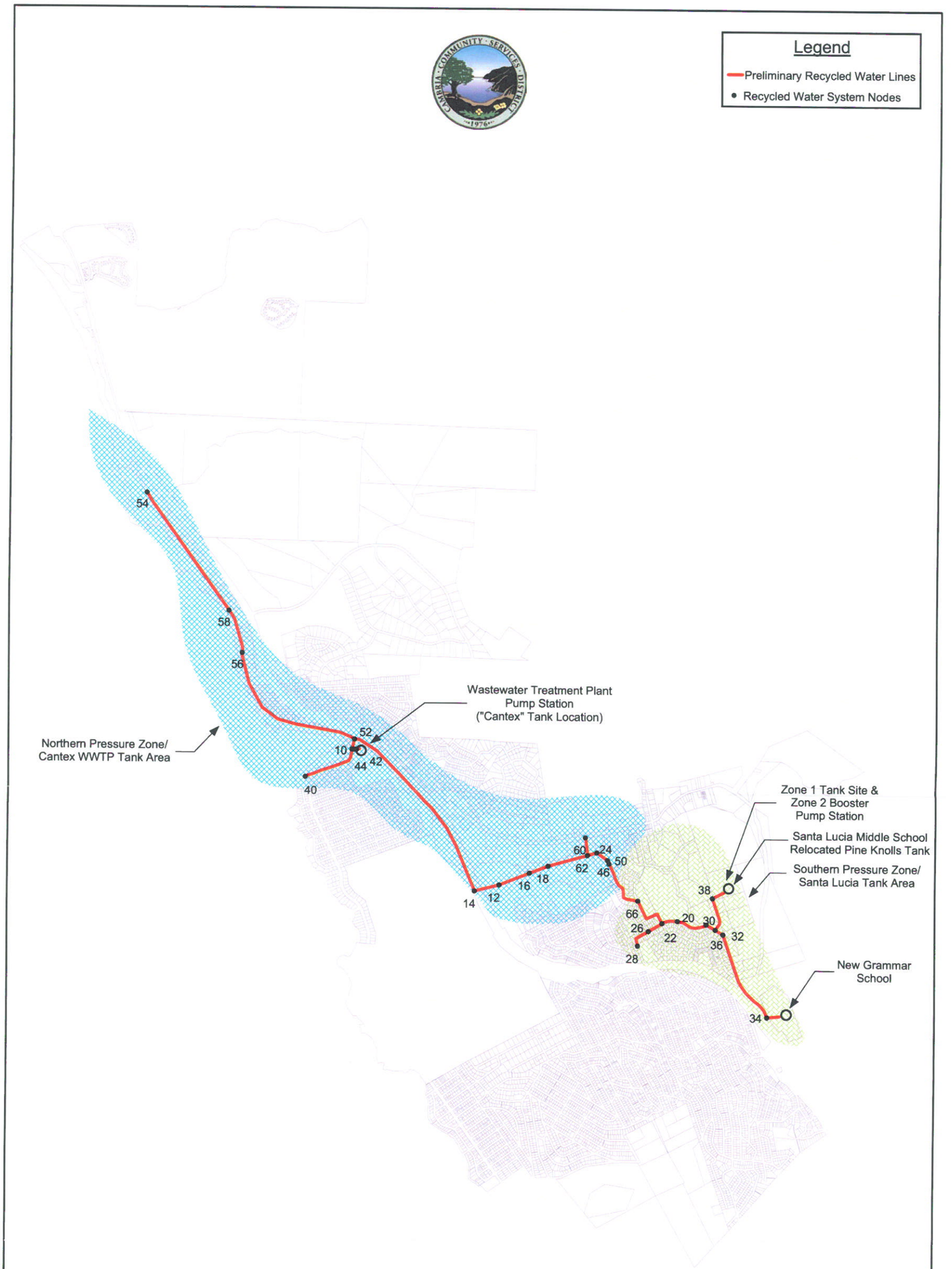
In 1993, Samda, Inc. started Phase 1 activities to evaluate potential fractured bedrock supplies in the Cambria area. An agreement with CT Ranch and CCSD was made whereby exploratory holes would be drilled and any sources found and developed would be used by CCSD. Any new development of groundwater from CT Ranch thereafter would then be subject to a separate agreement among the three entities. In June 1993, several wells were drilled, however, the location did not appear to have sufficient potential to provide a viable source of groundwater and exploration activities were stopped. Before exploration activities ceased, an area near a sandstone ridge was found to yield 100 to 200 gpm. This area was not on CT Ranch property, but located to the south.

This alternative would involve pursuing a new hard rock drilling location by exploring the four square mile area just north of Santa Rosa Creek westward to the coast. Amendments to the existing SWRCB permit may be required to obtain the additional appropriative water rights. The current viability of Samda, Inc. as a water developer could not be verified. Typical costs for groundwater produced by hard rock drilling is approximately $1,000 per AF. However, this cost is dependent upon the costs for other local water sources. This alternative is discussed in more detail in Section 8.5.

4.8 Recycled Water

This alternative would involve utilizing recycled water for irrigation purposes at various locations within Cambria. The use of recycled water to meet non-potable demands would enable CCSD to reduce its potable water demand. CCSD operates a 1.0 million gallon per day (MGD) extended aeration wastewater treatment plant (WWTP), which provides treatment to wastewater from Cambria and the San Simeon State campgrounds. Currently, the treated wastewater effluent is percolated into the ground between the San Simeon well field and the Pacific Ocean to provide a “mound” of fresh water that prevents the San Simeon Creek aquifer from flowing into the sea.

The amount of water required to perform this function varies seasonally. During the dry months, the water level within the San Simeon well field is drawn down by pumping to supply the potable water system. In order to maintain a minimum of 0.9 ft of hydraulic head between the upstream well field and the downstream percolation ponds, groundwater at the percolation ponds is lowered by pumping. This ensures CCSD is abiding by the requirements of its waste discharge permit that are directed towards preventing potential cross contamination. The pumped water from the percolation pond area ultimately flows towards the San Simeon Creek lagoon. The lagoon also serves as habitat for the endangered Tidewater Goby and may have young-of-the-year steelhead fry as well as smolt-sized steelhead during the dry season. Therefore, further hydrologic study would be needed in order to determine how much of the pumped percolation pond groundwater could be diverted into a recycled water system. In some cases, the creation of an artificial habitat from wastewater effluent has prevented or restricted its use elsewhere (e.g., the City of San Luis Obispo). Because of this, recycled water projects may need to be phased into two categories; those that merely replace an existing potable use with recycled water (and would therefore not effect the net aquifer balance); and, recycled water projects intended to supply future demands (e.g., the new community park being planned in the currently non-irrigated East Ranch property). The latter group of projects may need to follow the outcome



Kennedy/Jenks Consultants

Engineers & **Scientists**

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Assessment of Long-Term Water Supply Alternatives

Preliminary Recycled Water Distribution System

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Figure 4-5

of further hydrologic study in order to fully address regulatory agency concerns. Alternatively, seasonal storage of recycled water during the wet periods in areas that are not subject to the same habitat concerns as the lagoon could avoid potential environmental impacts. During the dry months, it has been estimated by CCSD operations department[17] that 250,000 gallons per day (gpd) is required to be percolated into the ground between the well field and ocean in order to maintain an adequate hydraulic mound between the fresh water in CCSD's upstream potable well field and the ocean. Assuming a minimum dry weather flow of 650,0000 gpd out of the WWTP, approximately 400,000 gpd of recycled water could conceivably be available.

The WWTP currently provides secondary treatment. If the effluent were used for unrestricted irrigation, disinfected tertiary treatment would be required as a minimum in order to meet current Department of Health Services Title 22 requirements. In order to offset concerns related to potential groundwater degradation from higher TDS as well as emerging contaminants of concern, further polishing of the effluent above disinfected tertiary treatment could be required. For example, nanofiltration and advanced oxidation systems could be employed that may currently go beyond the requirements of Title 22. The list of potential users for such highly treated recycled water and demand associated with its use is relatively small, approximately 161 to 184 AFY. However, demands during the peak irrigation months and peak day need to be compared against whatever flow is deemed to be available after further hydrologic analysis of the aquifer-percolation mound, and lagoon habitat requirements. A detailed analysis of the recycled water distribution system, including system improvements, pipes, pumps, and reservoirs is presented in the report entitled, "Task 3: Recycled Water System Modeling" dated March 2004 by Kennedy/Jenks Consultants. Based on this report, a total of 308 gpm (approximately 444,000 gpd) is estimated as a maximum daily demand. Of this amount, approximately 221 gpm is from new projects that are not already irrigated by potable water. The estimated annual fixed cost (2002 dollars) is $369,000 and the estimated variable cost (2002 dollars) is $810 per AF. Figure 4-5 shows the proposed recycled water distribution system. A more detailed discussion of this alternative is provided in Section 8.6.

4.9 Water Demand Management

Although CCSD's current conservation practices have already reduced the average CCSD per capita water consumption well below the state average, more efficient water demand management practices were investigated for further reduction in water consumption. CCSD currently requires any new water connections into its system to achieve twice the new connection's estimated water demand through conservation measures. The 2 to 1 conservation goal relies upon the CCSD's Retrofit Program and a Water Conservation Program. Under the Retrofit Program, construction of a new home requires a given number of retrofit points be obtained by performing water-saving retrofits to older homes and businesses or in lieu fees ($550 per point) paid. The Water Conservation Program defines stages of water shortage and their corresponding restrictions.

An evaluation of the existing Retrofit Program was prepared in a 1999 report entitled, "Water Conservation and Reuse Study," by Boyle Engineering. Proposed modifications included the promotion of front load washers, meter replacement, and the addition of landscape moisture sensors to the Retrofit Program. Furthermore, a modification of the Water Conservation Program to include promotion of a reduction in landscape irrigation was recommended. More recently, CCC has expressed concerns over reducing landscaping demands in the development

[17] Personal communication with Mr. Brian Bode, CCSD Operations Manager

of recommendations as part of its periodic review of San Luis Obispo County's Local Coastal Program (Recommendation 2.15). Additionally, the Coast Unified School District has been developing plans oriented towards on-site storage and root zone irrigation of its playing fields in order to further reduce their existing irrigation demands at the Santa Lucia Middle School as well as their future elementary school (currently under construction). Demand management is described in more detail in Section 8.7.

4.10 Basin Management

In order to provide long-term protection of its existing water rights from the San Simeon aquifer, CCSD recently investigated an adjudication of the San Simeon aquifer. The adjudication process could take several years to complete and may involve a lengthy legal process, various supporting studies, as well as negotiations and mediations with the area's riparian users and environmental community. One outcome of an adjudication process could be the appointment of a watermaster that will administer and manage future use of the basin. One of the major uncertainties associated with this process is how much of the aquifer capacity will ultimately need to be reserved for habitat needs. Most likely, a balanced use for the aquifer will be shared between CCSD customers, agricultural users, and habitat needs. To date, it is also not certain how the Coastal Act will relate to the adjudication process. In view of the various unknowns related to adjudication, it is not being pursued as a means to secure any additional water capacity by CCSD. However, without adjudication, CCSD's ability to withdraw water during the summer months could be placed in peril by the propagation of more water-intensive agricultural practices within the basin.

Additionally, there could be some potential for additional water marketing within the basin through future fallowing agreements between CCSD and agricultural irrigators. One such agreement was entered into during 2001. Other possibilities may also arise should future agricultural property owners decide to no longer plant irrigable crops. Options such as habitat and conservation easements could further reduce demands within the basin. Because of the significant level of uncertainties related to potential costs, habitat needs, a potentially lengthy legal process, and coordination with Coastal Act priorities, basin management via adjudication was not considered further as a long-term supply alternative.