FINAL

OFF-CHANNEL MINING PLAN

for LOWER CACHE CREEK

Yolo County

Adopted
July 30, 1996

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CHAPTER 1.0 INTRODUCTION

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On June 14, 1994, the Yolo County Board of Supervisors adopted goals and objectives for the Off-Channel Mining Plan (OCMP) and Cache Creek Resources Management Plan (CCRMP). In doing so, the Board recognized that although mining is an important consideration, the creek is integrally bound to the environmental and social resources of the County, including drainage/flood protection, water supply and conveyance, wildlife habitat, recreation, and agricultural productivity. As such, development of these plans is based on the key assumption that the creek must be viewed as an integrated system, with an emphasis on the management of all of Cache Creek's resources, rather than a singular focus on the issue of mining. The OCMP and CCRMP establish a number of goals to assist in this overall management, balancing issues and concerns within the overriding vision of enhancing the variety of resource needs for the region.

The OCMP presents a comprehensive and integrated planning framework for regulating and protecting the Cache Creek area, based on fact and science. The plan assumes that there is a place in Yolo County for gravel mining, while placing emphasis on habitat restoration. Commercial in-stream mining would be stopped, and the foundation would be laid for creating public recreation opportunities along the creek. It also allows for a future groundwater recharge and storage program that will help to reverse the historic overdraft of the aquifer by agricultural and urban uses. The OCMP provides a balanced approach to managing the environment of Cache Creek, and generates the resources necessary to make this vision a reality.

1.1 HISTORY AND BACKGROUND

Cache Creek has long served as a regional source for aggregate. Mining within the creek dates back to at least the turn of the century, when sand and gravel were removed and shipped by rail to be used in the reconstruction of San Francisco after the devastating 1906 earthquake. Many of the early excavations were small and scattered along a wide expanse, meeting both local needs as well as large public projects such as the Golden Gate Bridge. With the post-World War II economic boom in the 1950s, however, the scale and intensity of mining began to increase. The building of airports, schools, hospitals, highways, dams, and residential suburbs created a strong need for concrete and other construction materials. The production of sand and gravel in Cache Creek has continued to escalate over the past several decades, responding to the robust growth of both California and the Sacramento metropolitan region.

Aggregate Resources Advisory Committee

Yolo County has been actively involved in studying and attempting to resolve surface mining issues along Cache Creek for over two decades. Concerns over the environmental impacts of in-stream mining led to the formation by the Board of Supervisors of the Aggregate Resources Advisory Committee (ARAC) in 1975. The ARAC commissioned Woodward-Clyde Consultants to prepare a report, analyzing the potential relationships between adverse environmental conditions and the aggregate excavations operating along Cache Creek. The study was released in 1977, and made several suggestions regarding future management of the creek, including: require use permits for all mines operating at the time; establish a maximum depth of excavation; encourage the development of off-channel mining; allow for the channel to be widened in appropriate areas; emphasize erosion control measures; and improve monitoring. It was recommended that these issues be evaluated in the context of County adopted aggregate resources management policies.

In response to the recommendations made by the ARAC, and as required by the State Surface Mining and Reclamation Act (SMARA) enacted in 1976, the Board of Supervisors adopted in-channel mining and reclamation ordinances. The ordinances, adopted in 1979, required all surface mining operations to apply for use permits and reclamation plans. This was accomplished the following year, with the approval of eight permits/reclamation plans and certification of an Environmental Impact Report (EIR) (prepared by Environ) which analyzed the impacts of mining along the stream. The EIR concurred with the ARAC's recommendation for the development of a broad-based aggregate resource management program. In addition, Environ made several other suggestions, including: allow for the development of off-channel mining; protect mineral resources against encroachment; permit mining within the A-P (Agricultural Preserve) Zone; consider reclaimed uses other than agriculture in the A-P Zone, such as groundwater storage and/or recharge; revise the interim ordinances; and gather more data about the creek.

Aggregate Technical Advisory Committee

The Aggregate Technical Advisory Committee (AgTAC) was formed by the Board of Supervisors in 1979 to develop a Resource Management Plan (RMP) for the Cache Creek area. A draft RMP was submitted in 1984, containing eleven alternative scenarios for the future of the creek. The recommended plan outlined the creation of an engineered floodway to ensure that there would be sufficient capacity to safely accommodate 100-year flood events. In-stream mining would be minimized to maintenance levels, while aggregate mining would take place in deep, off-channel pits. Improvements and maintenance of the creek were to be managed by a separate public or private agency. Finally, AgTAC reiterated support for revising the mining and reclamation ordinances, as well as a review of the compatibility of the A-P Zone requirements with off-channel mining.

A draft Program Environmental Impact Report was prepared by Dames and Moore in 1989, examining the alternatives discussed in the draft AgTAC plan. Before any recommendations could be adopted, however, the draft EIR was subjected to significant controversy regarding the adequacy of its analysis. As a result, the document was abandoned by the County in 1991. Over the next two years, a series of public workshops

were held by the Community Development Agency in order to develop a specific project description to form the basis of a Resource Management Plan. This effort was later taken up by a subcommittee of the Board of Supervisors, who made their findings in March of 1994.

Cache Creek Resources Management Plan

In June of 1994, the Board of Supervisors adopted a conceptual framework of goals and objectives for the Off-Channel Mining Plan (OCMP) and Cache Creek Resources Management Plan (CCRMP). A work schedule was also approved, describing four primary tasks: (1) adoption of a resource management plan to protect and restore the creek; (2) adoption of an off-channel mining plan and implementing ordinances; (3) processing of long-term off-channel mining and reclamation applications; and (4) processing of temporary off-channel mining and reclamation applications to allow operations to continue while the necessary plans are being developed.

In addition to adopting the conceptual framework, the Board also directed the preparation of the "*Technical Studies and Recommendations for the Lower Cache Creek Resource Management Plan*" (Technical Studies). The Technical Studies provide baseline and historical information about the streamway fluvial morphology, groundwater resources, and riparian habitat, so that an accurate assessment can be made of the creek's present condition. Constraints and opportunities for activities such as mining, flood control, channel stabilization, groundwater management, and habitat restoration were also identified in the report. The Technical Studies include an extensive list of recommendations on improving the natural resources of Cache Creek. On October 24, 1995, the Board of Supervisors accepted the Technical Studies and directed staff to utilize them as the basis for preparing both the OCMP and the CCRMP.

1.2 PLANNING AREA

Over the past several decades, California's supply of aggregate has become increasingly limited. The highways and roads, universities, public transit systems, dams, and homes that have been built throughout the state have generated a strong demand for construction materials over the past several decades. At the same time, however, increasing urbanization in other areas of the state has also threatened the continued extraction of sand and gravel. In some instances, neighborhoods, industries, and parks have been built over valuable mineral deposits. More frequently, urban development has moved closer to existing mine sites, forcing them to shut down or curtail their operations due to the nuisances and environmental impacts associated with the resulting land use conflicts.

SMARA includes provisions to encourage the production and conservation of minerals to ensure that a sufficient supply will be available for the state's future growth. In order to assist local jurisdictions in the identification of significant aggregate resources near urbanizing areas, the State Geologist is assigned the responsibility of classifying the extent and quality of mineral deposits within metropolitan regions around the state. As a part of this program, the State Department of Conservation issued Special Report 156, "Mineral

Land Classification: Portland Cement Concrete-Grade Aggregate in the Sacramento-Fairfield Production-Consumption Region" in 1988. Included within this report is an analysis of the sand and gravel resources located along Cache Creek.

The planning area for the OCMP is defined as the area contained within the Mineral Resource Zones (MRZs) delineated by the Department of Conservation as potentially containing mineral aggregate resources, minus the in-channel area to be regulated under the Cache Creek Resource Management Plan. The planning area for the CCRMP is equal to the in-channel area of the creek system, as defined by the present channel bank line or the 100-year flood elevation described in the Westside Tributaries Study prepared by the U.S. Army Corps of Engineers, whichever is wider. The in-channel area encompasses approximately 4,956 acres. Subtracting this area from the 28,130 acres included in the State MRZs (see following section), leaves a total of approximately 23,174 acres within the planning area of the OCMP. The area requested for permitting over the next 30 years accounts for 2,123 acres of the total. Since the mineral resource zones classified in Special Report 156 form the basis for planning area of the OCMP, it is important to describe how these boundaries were developed, and the extent of the aggregate resources that they contain.

Mineral Resource Classification

The aggregate deposits within the Sacramento-Fairfield region were formed through the deposition of large volumes of sand, gravels, and cobbles from mountain streams. As these streams enter the flat Sacramento Valley from the adjoining mountain ranges, the abrupt change in slope causes the heavy aggregate to fall out and form alluvial fan deposits. The extent of these deposits were determined using a wide range of information, including: geologic maps, engineering test results, aerial photos, data from the mining industry, interviews, well and drilling records, and field investigations. From this information, the areas along Cache Creek were divided by the Department of Conservation into one of four Mineral Resource Zones (MRZ). These zones are used by the State to define areas containing valuable deposits. Once all Mineral Resource Zones have been identified, then the local jurisdiction must take each of the mineral resource zones into account when making land use decisions, including the discouragement of uses that would inhibit harvesting, and consideration of the importance of the mineral to the market region as a whole. The guidelines for establishing these MRZs are as follows:

MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. This zone is applied where, based upon economic principles and geologic data, it is determined that the likelihood for the occurrence of significant mineral deposits is slight or nonexistent.

MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is determined that a high likelihood for their presence exists. In addition, there are two economic requirements that must be met if land is to be classified as MRZ-2: (1) the deposit must be composed of material that is suitable as a marketable commodity; and (2) the deposit must meet a threshold value (gross selling price) equal to at least

$5,000,000 (1978 dollars).

MRZ-3: Areas containing mineral deposits, the significance of which cannot be evaluated from available data.

MRZ-4: Areas where available information is inadequate for assignment to any other Mineral Resource Zone.

Mineral Resource Zones within the OCMP plan area are as follows: the MRZ-1 is 1,458 acres; the MRZ-2 is 18,452 acres; and the MRZ-3 is 8,220 acres.

The aggregate resources along Cache Creek contain large concentrations of a high grade sand and gravel called "Portland Cement Concrete" or PCC. Much of this material has not been identified as PCC-grade (Portland Cement Concrete) through formal engineering tests. Where MRZ-2 mineral resources have not been tested, they are believed to be of PCC quality because the materials are of a similar age and composition, and were deposited under similar geologic conditions as those aggregates which have been proved to be of PCC-grade. The use of extrapolation was done only when the unproven deposit extended from a formation where PCC-grade aggregate has been produced.

The Sacramento-Fairfield Production-Consumption Region

Aggregate is a low-value, high-bulk commodity. The relatively inexpensive cost of production, combined with the heavy weight and bulk of the material, means that transportation represents a major component in the price charged for sand and gravel. The shipping costs of aggregate can account for as much as 50 percent of the price of the delivered product. Because transportation costs are critical in determining the price of sand and gravel, the economic feasibility of developing deposits is evaluated on a regional basis.

The Sacramento-Fairfield Production-Consumption Region encompasses portions of El Dorado, Placer, Sacramento, Solano, and Yolo Counties; the greater Sacramento metropolitan area; the Cities of Fairfield, Vacaville, Davis, and Woodland; and the Cache Creek aggregate resource area (see Figure 1). The classification study originally focussed on the Sacramento metropolitan region. It was assumed that the Sacramento market was largely self-sufficient, relying on the extensive deposits located along the American River. As information became available, however, it was determined that a significant portion of Sacramento's aggregate needs (about 8 percent) were being met by the deposits along Cache Creek. As a result, Cache Creek and the American River were designated as the two primary production districts in the region. The market distribution patterns were then analyzed, in order to determine the extent of the area in which sand and gravel from these two production districts were being sold. Finally, the production-consumption (P-C) boundary was established, defining the extent of the local market, including all existing and projected urban areas with populations over 10,000 people within the region.

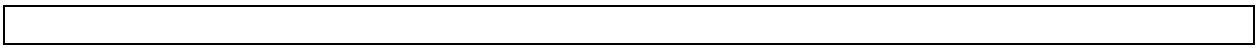

Figure 1 Sacramento-Fairfield Production Consumption Region

Estimated Cache Creek Aggregate Resources

The 1988 classification study provided an estimate of the amount of sand and gravel deposited along Cache Creek. This estimate was based on information collected in 1982, which focussed on the MRZ-2 area. The Yolo County MRZ-2 area extends along Cache Creek from upstream of the Capay Dam to the town of Yolo (see Figure 2). For the purposes of the classification study, this area was divided into four sectors and sixteen subsectors, in order to make the ensuing calculations easier to manage and more accurate. The mineral resource zone was further defined by excluding setbacks from roads, canals, pipelines, etc. The resulting MRZ-2 area encompasses approximately 17,200 acres (a little under 27 square miles).

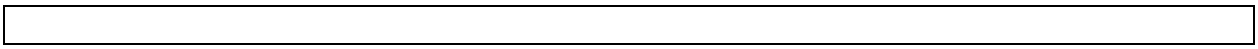

Figure 2 Yolo County MRZ Area

As of November 1982, the total PCC aggregate resources located within the mineral resource zone along Cache Creek were estimated at 838 million tons. Since in-stream excavation below the theoretical thalweg has not been permitted within Cache Creek, an additional 111 million tons within the 1979 channel boundary that lie below the theoretical thalweg were not included in the estimate. Since 1982, approximately 31 million tons have been excavated from local mining operations, leaving resources of nearly 807 million tons (918 million tons including those deposits located below the theoretical thalweg). Although portions of this 807 million tons may not be economical to mine at the present time, markets and technologies change. Thus, SMARA encourages the protection of these deposits to ensure their future availability.

Alternative Sources of Aggregate

In comparison to Cache Creek, the deposits along the American River and Morrison Creek are much smaller, comprising about 6,300 acres (roughly 10 square miles), with 1982 estimated aggregate resources of some 257 million tons lying along the two watercourses. Another 4,000 acres containing 136 million tons (1982 estimate) lie within lands dedicated to the American River Parkway and were therefore excluded.

Other sources may also be located within the P-C region, in areas designated as MRZ-3. These potential deposits were not tested or evaluated by the Department of Conservation and their utility is not known at this time. No estimates of the mineral reserves in these other aggregate sources were made by the State in its 1988 classification report. Such other sources of aggregate material include:

1. Dredger tailings found east of Yuba City and Marysville.

2. Alluvium underlying Mather Air Force Base in Sacramento.

3. Sand and gravel beneath downtown and southern Sacramento.

4. Alluvial deposits and tailings found within and surrounding Folsom.

5. Future in-channel deposits.

The Yuba City/Marysville area is located 40 miles north of Woodland. As discussed earlier, transportation costs account for much of the price of sand and gravel. In this region, hauling the product such a distance results in a 57 percent increase in cost, thus making this source economically infeasible for local use. The Mather Air Force Base, South Sacramento, and Folsom sources are located within areas that are already urbanized or are expected to develop in the near future. The Folsom Dam has restricted the amount of aggregate that reaches the American River, and mining within the American River Parkway is restricted to existing operations. In-channel deposits, therefore, within the parkway are not expected to provide a significant amount of aggregates in the future. As discussed in the CCRMP, future commercial mining within Cache Creek will be prohibited, and marketable aggregate that is derived from excavation performed for channel stability

purposes will not be sufficient to meet regional needs.

As an alternative to sand and gravel, it is possible to take hard rock and crush it to PCC-grade specifications. Suitable deposits of rock may be found in two places within the P-C region: (1) a wide band in the foothills extending from Folsom to Placerville, east of Sacramento; and (2) smaller pockets located in the hills to the north and west of Fairfield. It should be noted, however, that the additional expenses involved in crushing rock prevent it from being economically competitive with PCC-grade alluvial deposits at this time. Furthermore, none of the alternative sources mentioned above are located within Yolo County.

The Cache Creek Resources Management Plan

The planning area for the OCMP is defined as the area contained within the Mineral Resource Zones, minus the in-channel area regulated under the CCRMP. The planning area for the CCRMP is equal to the in-channel area of the creek system, as defined by the present channel bank line or the 100-year flood elevation described in the Westside Tributaries Study prepared by the U.S. Army Corps of Engineers, whichever is wider (see Figure 3). The in-channel area encompasses around 4,956 acres, including 1,600 acres within the present channel boundary, plus several thousand acres located in the floodplain north of the City of Woodland. Subtracting this acreage from the 28,130 acres included in the State MRZs, leaves a total of approximately 23,174 acres within the planning area of the Off-Channel Mining Plan. As described in the following section, however, only 2,887 acres of the plan area are proposed to be rezoned to allow for off-channel mining over the next fifty years, or about 12 percent of the OCMP planning area.

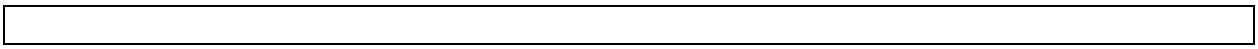

Figure 3 Lower Cache Creek Channel Boundary

Off-Channel Mining and Future Regional Aggregate Demand

The State Mining and Geology Board requires that classification reports include an estimate of the quantity of aggregate needed to supply the production consumption region over the next fifty years. In order to obtain this estimate of total future demand, the State Geologist calculated an average consumption of 10.2 tons/person/year of aggregate within the region for the years 1960-1980. Approximately forty percent of the total aggregate during this time period was used in projects requiring PCC-grade materials. The per capita consumption rate is somewhat higher than normal, but is typical for metropolitan regions with low population density and extensive urban development. It should be noted that the per-capita consumption rate could change significantly in the future, either decreasing as urban area infrastructure systems mature and stabilize or increasing in times of disaster reconstruction and economic growth.

Next, population forecasts were obtained from the California Department of Finance, which assumed an average 1.25 percent annual growth. Using the per capita consumption demand and population projections, the State Geologist was able to estimate that total aggregate demand between 1983 and 2033 would total 888.6 million tons, of which 40 percent (355.2 million tons) would need to be PCC-grade quality.

The County's Off-Channel Mining Plan is also based on a fifty year horizon, from 1997-2046 . By extrapolating the population projections contained in the State's classification study and assuming that aggregate production from Cache Creek remains steady at approximately 26 percent of the total regional production, it is estimated that 308 million tons mined (271 million tons sold) of aggregate will be required over the next fifty years. This averages out to approximately 6.2 million tons mined (5.4 million tons sold) per year. Under the OCMP, surface mining permits be granted for a maximum of 30 years. Based on the above calculations, about 173 million tons mined (152 million tons sold) will be required to meet aggregate demand over the next three decades. To meet estimated demand production over this period would have to average approximately 5.8 million tons mined (5.1 million tons sold) per year.

The County has received five applications for off-channel surface mining operations, from the following companies: Cache Creek Aggregates, Solano Concrete, Syar Industries, and Teichert Aggregates (two applications). A fifth company, Schwarzgruber and Son, has not submitted an application at this time, but intends to apply within the next five years or so. As a reasonably foreseeable outcome of this process, Schwarzgruber's tentative plans have been included in the analysis of the Off-Channel Mining Plan. All together, the five operators propose to mine a total of some 180 million tons over the next thirty years, which will be sufficient to meet regional demand. Mining during this initial phase would take place over 2,123 acres within the planning area (see Figure 4).

The five applications, plus the two existing aggregate operators (Granite Construction and Schwarzgruber and Sons), and the areas proposed for rezoning to add the SGR overlay, comprise the OCMP boundary. The OCMP boundary, which includes 3,073 acres, represents those areas where mining is reasonably foreseeable over the next 50 years (see Figure 4).

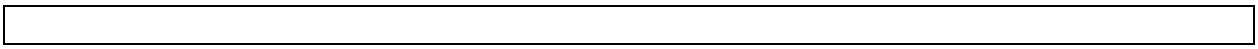

Figure 4 OCMP Boundary

For CEQA purposes, the analysis in the OCMP looks at the maximum tonnage requested by the applicants, plus assumptions regarding other extraction that might occur over the next 30 years. The maximum production expected is 8.59 million mined tons per year. Calculating this seemingly simple number is greatly complicated by variables such as assumed annual extraction, assumed total reserves, aggregate extracted under the CCIP, and whether tons mined or tons sold is used as the criteria.
The issues with the most relevance to this discussion are the historic high production, estimates regarding future market demand, the maximum volume that emerged from the consensus group process, and equity and fairness between the producers. The historic high was 3.41 million tons mined in 1989. It should be pointed out, however, that some producers have approached or reached their individual allocations in recent years. As mentioned above, the staff estimate of future demand is an average of 5.4 million tons sold (6.2 million tons mined) annually over a 50-year period, or 5.1 million tons sold (5.8 million tons mined) annually on average over a 30-year period. The number that emerged from the citizen "consensus group" meetings in 1994 was 5.5 million tons sold per year. Regarding the issue of fairness and equity, the existing allocation is an arbitrary number that represents the average for each producer of their recorded extraction during the three-year period of 1976 through 1978. As such, other methods may be used that more accurately reflects the market demand and environmental impacts of aggregate production.

The maximum cumulative allocation under the OCMP is 5.97 million tons sold per year (6.78 million tons mined). This number represents the existing allocations for Granite Construction and Schwarzgruber and Sons (0.42 and 0.11 million tons mined respectively, less a 12 percent waste factor from each, for a total of 0.37 and 0.10 million tons sold), plus 5.5 million tons sold to be allocated to off-channel mining operations as permits are granted.

The reason for this recommendation is to maintain consistency with the approach used in formulating the OCMP itself, which was to build on the work that has already been done. In this case, the 5.5 million "new" tons represent the outcome of the 1994 consensus group process. The consensus group had also agreed on a variation of up to 20 percent per operator per year to account for changing market conditions, so long as the ten year average did not exceed the maximum allocation. This concept has not been included. It would be difficult to monitor and regulate this feature, and the total tonnage in and of itself is 17 percent over the market projection, which should adequately allow for such economic variation.

In addition, the County has also received requests to designate certain lands with the SGR (Sand and Gravel Reserve) overlay zone, indicating that the property is appropriate for off-channel mining over the next fifty years. This would occur over 686 acres, in addition to the area proposed to be mined. It is estimated that these rezoned lands contain 38 million tons of aggregate, in addition to the 180 proposed to be mined initially, for a total of 218 million tons available during the fifty year plan horizon. This will be insufficient to meet the projected demand of 289 million tons.

1.3 RELATIONSHIP TO OTHER REGULATIONS AND PLANS

The Surface Mining and Reclamation Act

Yolo County's regulatory efforts are complemented and directed by the California Surface Mining and Reclamation Act (SMARA), which was enacted in 1976. The act created a regulatory framework for the mining industry, requiring all new excavations to obtain approval of a reclamation plan describing the methods to be employed in ensuring that the site could be beneficially used once operations had been completed. Over the past five years, substantial amendments have been added to address problems not covered in the original legislation. Lead agencies are required to annually inspect each mine located within their jurisdiction to monitor permit compliance. Each operator is required to put up financial assurances, as a guarantee that money will be available to properly reclaim the property should the mining company abandon the site. In addition, the State Mining and Geology Board has adopted standards, in order to ensure that reclamation work is consistently implemented. The requirements of SMARA must be followed by all lead agencies as a minimum, however, the County may adopt stricter measures where it deems appropriate.

One of the primary problems that SMARA was designed to address concerned the loss of regionally significant aggregate deposits to land uses, such as urban growth, that preclude mining. Included within SMARA is a requirement for the State Geologist to map out areas of the state which are subject to urban expansion, in order to determine the presence or absence of significant mineral resources. This information is then transmitted to the lead agency, so that policies can be incorporated into the General Plan to protect identified significant mineral deposits from inappropriate uses, so that they may be harvested in the future.

As discussed earlier, the State Department of Conservation released Special Report 156 in 1988, which classified the sand and gravel deposits along Cache Creek as being significant mineral resources. Section 2762.(a) of SMARA requires that the lead agency (Yolo County) incorporate mineral resource management policies into its general plan within twelve months after receiving a mineral land classification report prepared by the State Geologist. These policies must accomplish the following:

1. Acknowledge the information provided by the State Geologist regarding the extent of mineral resources within the jurisdiction.

2. Coordinate the management of land uses within and surrounding areas of statewide and regional significance to restrict the encroachment of incompatible uses.

3. Emphasize the conservation and development of identified mineral deposits.

In addition, Section 3676 of the State Mining and Geology Board Reclamation Regulations requires that mineral resource management policies incorporate, but not be limited to, the

following:

1. A summary of the information provided by the classification study, including, or incorporated by reference, maps of the identified mineral deposits as provided by the State Geologist; and a discussion of state policy as it pertains to mineral resources.

2. Statements of policy as required in Section 2762.(a) of SMARA.

3. Implementation measures that:

    a. Discuss the location of identified mineral deposits and distinguish within those areas between resources which are designated for conservation and those which may be permitted for future extraction.

    b. Provide appropriate maps to clearly define the extent of identified mineral deposits, including those resources designated for conservation and those which may be permitted for future extraction.

    c. Include at least one of the following:

        i. Adopt appropriate zoning that identifies the presence of identified mineral deposits and restricts the encroachment of incompatible land uses in those resource areas that are to be conserved.

        ii. Require that a notice describing the presence of identified mineral deposits be recorded on property titles within the affected area.

        iii. Impose conditions of approval upon incompatible land uses in and around areas which contain identified mineral deposits, in order to mitigate any significant land use conflicts.

Section 2774 of SMARA requires that every lead agency adopt ordinances that establish procedures for the review and approval of reclamation plans, financial assurances, and surface mining permits. Regulations must be periodically reviewed and revised, as necessary to ensure that they remain in accordance with State policy. Implementing the Off-Channel Mining Plan are new and revised ordinances to the Yolo County Code governing off-channel surface mining and reclamation. The ordinances include performance standards to carry out the policies of the OCMP, as well as providing procedures for ensuring compliance with the requirements mandated in recent SMARA amendments.

Prior to adoption of the Off-Channel Mining Plan, State Mining and Geology Board review and comment is required under Section 2762.(a) of SMARA. Any future proposed amendments to the OCMP and its policies must also be sent to the Mining and Geology Board for review and comment, prior to their adoption. Similarly, Section 2774.3 of

SMARA requires the off-channel surface mining and reclamation ordinances be reviewed by the State Mining and Geology Board, and certified as being in accordance with State policy if it meets or exceeds the requirements of SMARA and the Reclamation Regulations.

The Yolo County Off-Channel Mining Plan has been prepared in accordance with Sections 2761-2764 of Division 2, Chapter 9, of the Public Resources Code (SMARA). This plan is also in conformance with Article 9, Sections 3675-3676 of Division 2, Chapter 9, of the Code of Regulations (the Reclamation Regulations of the State Mining and Geology Board).

The Yolo County General Plan

In its final report in 1977, the Aggregate Resources Committee (ARC) stressed the need for a coordinated approach to resource management, stating that "the adoption of a Countywide (resource) management policy and plan should maximize the benefits of an aggregate industry in the County." This recommendation lead to the adoption of Conservation Policies 34 and 35 of the General Plan, as follows:

CON 34 Mineral Resources
Yolo County shall adopt a Mining Ordinance to implement these policies as they apply to mineral resources, including sand and gravel.

CON 35 Cache Creek
Yolo County shall adopt a Cache Creek Management Program for the carefully managed use and conservation of Cache Creek and its sand and gravel resource, its riverside environment, its relationship to ground and surface water characteristics and its value as a fishery and recreation resource.

The Off-Channel Mining Plan, together with the Cache Creek Resources Management Plan, will provide the necessary structure and policies for implementing a program to manage the wide variety of resources associated with the creek, including habitat, water resources, aggregate, agriculture, and recreation. One of the means for implementing this program is the adoption of new off-channel surface mining and reclamation ordinances, as well as a new in-stream ordinance. These ordinances will include specific performance standards for ensuring that the goals and objectives spelled out in the OCMP and CCRMP are achieved. Provisions are also made in the CCRMP for establishing an ongoing Technical Advisory Committee, to continue monitoring and studying Cache Creek, as it responds to the programs carried out within the plans and ordinances. The Committee will make recommendations, as appropriate, to ensure that management is responsive to the dynamic nature of the creek. Although each plan has been prepared as a stand-alone document, it is intended that the final OCMP and CCRMP will be joined together after adoption, as one printed document entitled the Cache Creek Area Plan.

Cache Creek Area Plan

An "area plan" is a focused planning policy document that is part of a general plan. The OCMP meets all the requirements of State land use law to function as an area plan for the MRZ planning area defined herein. It addresses all of the elements specified in Section 65302 of the California Code of Regulations, to the extent that the subject of the element exists in the planning area. As allowed by State law, the degree of specificity and level of detail of the discussion of each such element reflects local conditions and circumstances. A brief summary of how all the General Plan requirements are satisfied is provided below.

Planning Area

By taking in the entire Mineral Resource Zone area as designated by the State, the OCMP addresses all land and resources which bear a relationship to mineral resource planning along Cache Creek.

Time Horizon

The Plan contains projections of conditions over a 30- and 50-year horizon, and provides for accommodating those conditions over the long term.

Diagrams and Implementation Programs

The Plan contains appropriate diagrams and specific discussion regarding implementation.

Consistency

The Plan has been examined for consistency, and found to be both internal consistent and consistent with appropriate federal and State policies and regulations.

Land Use Element Issues

The Plan contains data, analysis, policies, and programs related to the density, intensity, location, and distribution of mineral resources and aggregate production in the planning area. The Plan clearly specifies where mineral resource extraction is allowed, the circumstances under which it is allowed, how it shall be extracted, and the maximum intensity with which it can be extracted.

It examines the distribution of open space and agricultural land both before and after mining. The availability of mineral resources is assessed. It also addresses recreational facilities and opportunities as a result of mining reclamation.

Other typical Land Use Element issues such as educational facilities, public buildings and grounds, solid and liquid waste facilities, and areas subject to flooding are addressed only in the context of having relevance to the mining of off-channel terrace deposits.

Consistency with the Airport Land Use Plan has been addressed in the environmental

analysis, and found not to be an issue.

Circulation Element Issues

The Plan identifies the location and extent of major thoroughfares, transportation routes, and other local public utilities and facilities in the planning area. Haul routes and trip generation as related to maximum projected aggregate production is examined, and participation is required in a program to maintain levels of service and safety.

Housing Element Issues

The Plan identifies nearby housing for purposes of assessing the potential for impact from mining activities. It indirectly addresses new construction needs by ensuring the provision of aggregate resources sufficient to meet future demands. It discusses in detail existing and planned regulation of the production of aggregate, which has relevance in terms of creation or removal of constraints to the production of housing. Opportunities for energy conservation are addressed in relation to increased transportation costs for imported aggregate under scenarios of increased or decreased regulation (supply).

Conservation Element Issues

The Plan addresses conservation, development, and utilization of natural resources in the Cache Creek MRZ, including the Creek and its hydraulic forces, soils within the planning area, tributaries and other waters that affect the planning area, biological resources, and mineral resources.

Open Space Element Issues

The Plan includes identification of areas required for the preservation of plant and animal life, including sensitive habitat. The areas of proposed mining and other components of the Streamway Influence Zone are identified as requiring ongoing monitoring and study. A detailed program for stabilizing and restoring Cache Creek is included as an adjunct to the OCMP (please refer to the CCRMP).

The managed production of mineral resources under the OCMP is a focus of the Plan. General opportunities for recharge of the groundwater basin are identified.

Scenic resources and cultural resources have been identified in the planning area and policies and programs for preservation or mitigation are included in the Plan. Future recreation nodes that would provide access to areas targeted for future open space and passive recreation are identified. Buffers between mining and the Creek, and between various activities associated with mining are required.

Noise Element Issues

Existing noise sources and noise associated with mining activities have been identified and are regulated in the Plan. Methods for noise control and attenuation are provided.

Safety Element Issues

The effects of seismically induced surface rupture, ground shaking, ground failure, and dam failure are addressed. Policies and specific regulations to address these concerns are provided. Slope instability issues, general geologic hazards, and flooding are given extensive treatment as related to appropriate controls during mining and after reclamation.

Other

Coastal issues and timber harvesting issues are not relevant to the OCMP planning area, and have not been addressed in the Plan.

Yolo County Mining and Reclamation Ordinances

In-stream surface mining is presently governed by Chapter 3 of Title 10 of the County Code. "The Interim In-Channel Surface Mining Regulations of Yolo County" apply only to in-stream mining within Cache Creek. They were intended to be a temporary three-year set of regulations, to be revised by the Resource Management Plan being drafted by the Aggregate Technical Advisory Committee in the early 1980s. As subsequent planning efforts resulted in stalemate, however, the interim regulations were never revised. They continue to remain the standards by which in-stream mining is regulated. A new in-stream ordinance will be developed and brought before the Board of Supervisors for adoption after the OCMP, CCRMP, and long-term off-channel mining applications have been considered, in accordance with work schedule adopted by the Board in June of 1994.

Mining areas located outside of the Cache Creek channel are governed by Chapter 2 of Title 8 of the Yolo County Code, which provides procedures for the processing of use permits, including off-channel mining permits. Chapter 2 provides sufficient authorization to process off-channel mining permits and, when supplemented by the California Environmental Quality Act (CEQA), ensures that adverse environmental effects are minimized or eliminated. As both the scale and intensity of off-channel mining increases, there is a need for performance standards specific to off-channel mining. The off-channel mining ordinance will become Chapter 4 of Title 10 of the County Code.

Chapter 5 of Title 10 is designated the "Yolo County Surface Mining Reclamation Law" and currently applies to all surface mines located within the unincorporated areas of the County, both in-channel and off-channel. Like the in-stream regulations, the Reclamation Ordinance has not been substantially updated since the early 1980s and was intended to be revised by the AgTAC Resource Management Plan. The Reclamation Ordinance is now long overdue for change. Over the past five years, SMARA has been extensively amended, especially in the area of reclamation plans. Minimum reclamation standards, interim management plans, annual reporting, and financial assurances have all been added to the state legislation and need to be addressed in the County's regulations.

The Board of Supervisors adopted Minute Order 94-73 in June of 1994, approving the development of an Off-Channel Mining Ordinance, in recognition of the need to

accommodate the potential shift of emphasis from mining within the creek to off-channel terrace-pit mining. The Minute Order also provided for the submittal of long-term, off-channel mining permit applications. An Off-Channel Surface Mining Ordinance has been adopted to provide implementation of the OCMP. The Ordinance contains application requirements different from those specified in Minute Order 94-73. As a result, the Minute Order is superceded by the new Ordinance.

The Cache Creek Resources Management Plan

The Off-Channel Mining Plan is being prepared as a companion to the Cache Creek Resources Management Plan (CCRMP), which is a river management plan that governs land use activities and environmental restoration within the present channel banks and 100-year floodplain (as determined by the U.S. Army Corps of Engineers). The two plans, which together will comprise the Cache Creek Area Plan of the County General Plan, recognize that in-channel and off-channel environments are different and require unique approaches that address their varying needs. At the same time, however, the County also recognizes that Cache Creek and its surrounding areas form an integrated system, and that activities which occur in one area affect the other. The Streamway Influence Boundary (see Figure 5) described in the Technical Studies' recommendations shows the approximate area subject to these interrelationships, based on the historical extent of the channel. Thus, although the planning areas for the two plans are mutually exclusive, both plans include integrated goals and policies that maximize the positive interrelationships between in-channel and off-channel concerns.

Figure 5 Streamway Influence Boundary

1.4 REQUIRED APPROVALS

Certification of the Program EIR

Section 15168 of the Guidelines for the California Environmental Quality Act (CEQA) provides for the preparation of a Program EIR. A Program EIR may serve as an environmental document for a series of individual projects that are located within the same geographical area, or are sequentially related, or have similar environmental effects. There are several advantages to a Program EIR. It provides a more thorough consideration of potential environmental impacts, especially cumulative effects, and encourages a broader discussion of project alternatives. Program EIRs also reduce redundancies in the environmental review process, as well as allow for greater County flexibility in dealing with policy issues.

Subsequent projects approved pursuant to a Program EIR still require additional environmental documents. However, Program EIRs allow subsequent environmental documents to focus on issues unique to the site, that were not specifically addressed in the Program EIR. This allows decision makers and interested parties to concentrate on the primary concerns associated with a particular project, without revisiting other issues on which there is general agreement. Although they help to streamline the process, Program EIRs and any subsequent focussed project-level EIRs do not restrict public participation. They still require circulation of the documents and a comment period, notification of interested parties, and public hearings.

A Program EIR has been prepared for the Off-Channel Mining Plan. The Draft EIR was made available for public comment on March 26, 1996. The Response to Comments document was released on June 14, 1996. Together, these two volumes constitute the Final EIR for the OCMP. Focussed project-level EIRs will be prepared for each long-term, off-channel surface mining permit and reclamation plan application submitted for sites located within the planning area. The Program EIR identifies twelve general areas of potential environmental impact including: land use, geology and soils, hydrology and water quality, agriculture, biological resources, air quality, traffic and circulation, noise, aesthetics, cultural resources, hazards, and public services. Site-specific issues, such as aesthetics, groundwater effects, drainage, slope stability, flood protection, and noise will be dealt with in the project-level EIRs.

Adoption of the Off-Channel Mining Plan

Both the Off-Channel Mining Plan and the companion Cache Creek Resources Management Plan are intended to be evolutionary documents, that adjust and change in response to new creek conditions. Adoption of the OCMP will allow the County to begin taking the first steps in managing the resources along Cache Creek, however, the plan should not be seen as a static vision of what the ultimate disposition of the creek will be in the future. As such, it is expected that the OCMP will undergo periodic review and updating, as additional data is gathered through monitoring and the success of habitat

restoration projects and channel stabilization are known. The OCMP shall be updated every ten years to respond to new regulatory requirements. This will allow sufficient time for trends to become evident, yet still be early enough to change any policies that are having an unexpectedly adverse effect on resource management before significant harm is done. Future amendments to the OCMP will be appropriately processed under CEQA.

Adoption of the Surface Mining and Reclamation Ordinances

In order to simplify the administration of managing the resources along Cache Creek, in-channel management requirements and off-channel mining regulations have been given separate chapters within the County Code (Chapters 3 and 4 respectively of Title 10). If the programs proposed under the CCRMP are determined to fall under the provisions of SMARA, then Chapter 3 would remain the in-channel mining ordinance, and the reclamation ordinance (Chapter 5 of Title 10) will govern both in-channel and off-channel mining. The off-channel mining and reclamation ordinances have been revised to include recent changes in SMARA and the State Reclamation Regulations, as well as policy directives issued by the State Department of Conservation. Specific performance standards for both mining and reclamation have been included, in addition to those already mandated by the State. These standards have been developed through the recommendations of the Technical Studies prepared for Cache Creek, the studies and recommendations of past advisory groups, public and industry input obtained through the consensus group process, public workshops and hearings, as well as the experience and practices of other jurisdictions in the regulation of mining.

Approval of Zone Changes

Surface mining operations within Yolo County may only occur within the S-G (Sand and Gravel) Zone. The S-G Zone may be combined with either the A-1 (General Agriculture) or A-P (Agricultural Preserve) Zones, within the Cache Creek channel boundary, and may only be combined with the A-1 Zone outside of the creek channel. The Off-Channel Mining Plan has designated an area for future surface mining to meet the fifty-year aggregate needs of Yolo County and the surrounding region. Those areas permitted for mining over the next thirty years will be rezoned with the S-G Zone in order to identify the land as being appropriate for mining in the decades to come. Those areas where mining would occur in 30 to 50 years will have a new overlay zone applied to them: the SGR (Sand and Gravel Reserve) Zone. This designation would indicate that gravel mining is appropriate for the site at a future date. The SGR Zone will also serve to notify existing and future property owners, as well as land use decision-making bodies, that mining will likely occur in these areas. Potentially incompatible uses that are proposed to be located on sites adjoining SGR Zoned properties should take the likelihood of future mining into account and be designed accordingly.

Amendment of the County Code

A substantial portion of the lands proposed for mining are located within the A-P (Agricultural Preserve) Zone (see Figure 6). Currently, the only aggregate extraction permitted in the A-P Zone must have creek bank protection and/or erosion control as its

primary purpose. Since future mining will be predominantly characterized by off-channel excavations, commercial aggregate extraction is essentially prohibited in the A-P Zone. Furthermore, under the present ordinance, privately owned reservoirs and/or water retention basins are not permitted if they were created through the reclamation of lands mined for rock, sand, and/or gravel.

Figure 6 A-1 and A-P Zoning Within the Planning Area

The California Land Conservation (Williamson) Act, which governs the administration of agricultural preserves, was amended in 1994 to restrict the types of uses allowed on contracted land. All new uses must meet all of the findings described in Section 51238.1 to protect agricultural activities and agricultural land. Compatible uses may include permitted uses on prime agricultural land which contain conditions or mitigations that ensure the long-term productive capability. Specific criteria for permitted uses on non-prime agricultural land are also provided. In general, the use must be consistent with the intent of the Williamson Act to conserve agricultural land, open-space uses, and/or natural resources. To meet this finding, the use of mineral resources must also comply with Section 51238.2.

Section 51238.2 was added to the California Land Conservation Act in 1994, specifically addressing surface mining within contracted land. It states that any mineral extraction operation which is unable to meet the findings described above may still be approved as a compatible use, as long as there is the commitment to preserve prime land for agricultural purposes and non-prime land for open-space use are not significantly impaired. All such mining operations must include conditions that comply with the State Reclamation Regulations.

All aggregate surface mining operations within Yolo County must be located within the S-G (Sand and Gravel) Zone. For lands located outside of the In-Channel Boundary, the S-G Zone may only be combined with the A-1 Zone. However, nearly two-thirds of the land proposed for mining over the next thirty years is currently located within the A-P Zone. Rather than require that this acreage be taken out of agricultural preserve, the A-P Zone shall be amended to allow off-channel mining, as long as it is consistent with the Williamson Act. Off-channel mining on contracted land would only be permitted within the OCMP boundary. A new section will be added to the A-P Zone to require that all conditional uses meet the findings required in the Williamson Act. The A-P Zone would also be amended to allow for the creation of privately owned reservoirs, developed through sand and gravel mining, that will be reclaimed for the purpose of wildlife habitat or other beneficial uses.

Revision of the A-P Zone would not only further the goal of the County to retain contracted land, but would also bring the County into conformance with State law and minimize potential regulatory conflict.

The A-1 (Agricultural General) Zone will be amended to require that off-channel mining conform to the mining and reclamation ordinances, as well as the OCMP. The creation of privately owned reservoirs would also be permitted in the A-1 Zone, under the same provisions as those discussed for the A-P Zone above.

The SG (Special Sand and Gravel Combining) Zone will also be amended to allow it to be combined with either the A-1 or the A-P Zone for off-channel mining, within the boundaries of the OCMP. In addition, a new zoning category will be created. The SGR (Special Sand and Gravel Reserve Combining Zone) will designate those lands that have been identified in the OCMP as appropriate for mining in the future. It would function as a holding zone, to

allow long-range planning for those uses located near the designated property. In order for mining to occur on a parcel zoned SGR, the applicant would have to obtain approval of a mining use permit and reclamation plan, go through appropriate environmental review, and obtain approval of a rezoning to the SG Zone.

CHAPTER 2.0 AGGREGATE RESOURCES ELEMENT

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2.1 INTRODUCTION

Present Conditions

Off-channel mining is currently defined as being outside of the 1979 In-Channel Mining Boundary established for Cache Creek (see Figure 7). In general, the boundary was determined by taking the outer limits of the area subject to erosion and deposition, excluding the agricultural areas, and giving consideration to the desires of the property owners affected by the designation. Using this definition, there are currently four mining areas considered to be off-channel, as follows: (1) a 17 acre pit operated by Schwarzgruber and Son, at the northern extension of Road 96; (2) two pits totalling 92 acres operated by Teichert Aggregates, just east of Road 94B (Haller-Muller); (3) a 57 acre pit operated by Teichert Aggregates, just north of Road 19A (Reiff-Esparto); and (4) a pit of approximately 135 acres operated by Solano Concrete, north of State Highway 16 and east of Interstate 505. All together, there are about 268 acres permitted for off-channel mining at present.

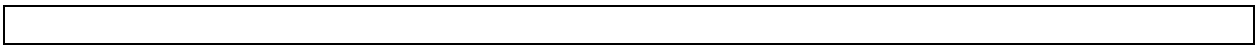

Figure 7 1979 Regulatory In-Channel Boundary

Off-channel mining is currently regulated under Chapter 2 of Title 8 of the Yolo County Code, which governs use permits as they pertain to the zoning ordinance. Chapter 2 does not provide any specific performance standards for off-channel mining, nor does it describe the procedures necessary for such required items as annual inspections or reporting. Yolo County recently approved three off-channel mining permits for terms of three years each. The short-term permits were granted to mining operators who were running out of available reserves. The permits provide additional material until such time as the Off-Channel Mining Plan and Cache Creek Resources Management Plan are adopted and new long-term permit applications may be considered. In order to supplement the regulation of off-channel mining provided in Chapter 2 of the County Code, the Board of Supervisors passed Minute Order No. 94-306 which established specific standards and application requirements for the short-term off-channel applications.

In November of 1982, total permitted aggregate reserves for the Cache Creek production area were estimated by the State Geologist at 40 million tons. It was projected that these reserves would run out in 1994. Approximately 31 million tons have been mined since 1982, which leaves 9 million permitted tons available for future use. This number was confirmed by a report conducted in 1994 by the firm of CH2M Hill, on behalf of Yolo County, in a report entitled "Final Cache Creek Aggregate Resource Inventory." The report was amended later by the Yolano Engineers report (1994). The aggregate resource inventory estimated that the permitted remaining reserves among the four largest mining operations was about 7.4 million tons. The inventory study further noted that existing permitted reserves would be depleted by 1997. In 1995, three additional permits were approved that added three years' production capacity to the Teichert Woodland and Esparto sites, as well as Solano Concrete. Similarly, Cache Creek Aggregates was granted approval to process an existing stockpile of aggregate estimated at some 800,000 tons. Regardless of the limited recent additions to the total permitted reserves, however, the present permitted reserve capacity is insufficient to meet the 173 million ton (mined) projected demand for Cache Creek over the next 30 years.

OCMP Vision

As is stated in SMARA, the extraction of sand and gravel is essential to the continued economic well-being of the state and to the needs of society. However, mining must also be balanced against other valuable considerations, including water resources, agriculture, wildlife, aesthetics, and recreation. Due to concerns about the impacts of in-stream mining to structures, property, and riparian habitat, commercial in-stream mining will be prohibited under the CCRMP. The OCMP and CCRMP together provide for a redirection of the focus of the gravel industry from in-channel to off-channel operations. Mining facilities and operations within Cache Creek currently may be considered "vested." This means that the County can not adversely affect those rights without compensation. By providing what is, in effect, a sort of transfer of property rights, the gravel mining in the creek channel would be discontinued, and exchanged for rights to mine in the off-channel areas.

The Off-Channel Mining Plan seeks to allow for the development of a sufficient supply of aggregate to meet the future needs of society, while increasing the level of environmental

protection and monitoring. In order to provide a sufficient source of sand and gravel over the next thirty years, approximately 2,211 acres will be designated for off-channel surface mining. An additional 676 acres will have an SGR (Sand and Gravel Reserve) Zone overlay applied. This overlay will clearly delineate where the County will encourage future mining over the next 30 to 50 years, so that land use decisions can be planned accordingly. It also ensures that additional reserves will be available for development once the mining applications processed under the OCMP are completed. Those areas within the MRZ areas that do not have the SGR overlay will be conserved for mining beyond the year 2047 or into perpetuity. In addition to the use of overlay zones, the OCMP contains a commitment to maintain the existing agricultural zoning within the planning area. This not only reinforces the County's general policy of encouraging the agricultural industry, but will ensure that mining is buffered from residential and other sensitive land uses.

Although the County recognizes that mining is important to the regional economy, it also acknowledges that mining is an activity that carries with it the potential for adverse environmental impacts. The OCMP includes several provisions to regulate surface mining more effectively to reduce or prevent adverse effects. Specific performance standards have been incorporated into the revised off-channel mining and reclamation ordinances, based on the Technical Studies prepared for Cache Creek, as well as standard procedures used in the industry and other jurisdictions. These standards complement the requirements already mandated by SMARA and the State Reclamation Regulations. The OCMP also imposes a 30 year maximum term for any off-channel mining permit, as well as 10-year reviews that allow for the addition of new environmental regulations to the permit, if appropriate. In addition, a 15-year review may be held, at the discretion of the Planning Commission. A 20-year extension to the mining permit may be granted, if approved aggregate reserves have not yet been exhausted. Existing and new aggregate processing facilities will be linked to off-channel mining permits. All plants and facilities will sunset when permits to mine expire, thereby precluding the future "unregulated" processing of imported material. Similarly, the requirements for annual reporting have been substantially expanded, to provide staff with better information to monitor both mining operations and reclamation efforts.

Off-channel aggregate deposits are essentially non-renewable resources. While new sand and gravel deposits are laid down by Cache Creek, the geological processes involved in replenishment take centuries to occur. By placing a cap on the amount of aggregate that can be mined in any one year, the use of a non-renewable resource can be regulated to ensure its continuing availability. In addition, by restricting production, the potential environmental impacts that vary with the amount of aggregate extracted (e.g., traffic, air quality, noise) can be effectively limited. Setting a maximum annual production level must balance a variety of factors, including: the environmental impacts that result from mining, the regional market demand for sand and gravel, the direct and indirect costs/benefits of aggregate production, and the economic interests of the mine operators.

2.2 GOALS

2.2-1 Protect lands containing identified mineral deposits from the encroachment

of incompatible land uses so that aggregate resources remain available for future use, as needed.

2.2-2 Encourage the production and conservation of mineral resources, balanced by the consideration of important social values, including recreation, watershed, wildlife, agriculture, aesthetics, flood control, and other environmental factors.

2.2-3 Prevent or minimize the adverse environmental effects of surface mining.

2.2-4 Eliminate or minimize hazards to the public health and safety that are associated with surface mining operations and reclamation.

2.2-5 Ensure that mined areas are reclaimed to a usable condition which are readily adaptable for alternative land uses, such as agriculture, wildlife habitat, recreation, and groundwater management facilities.

2.2-6 Provide a responsive process to consider future changes in environmental and regulatory conditions.

2.2-7 Maintain an economically viable and competitive local aggregate industry that provides a stable job base and tax revenue to Yolo County and contributes to other resource enhancements through the investments in improved technology and reclamation planning.

2.3 OBJECTIVES

2.3-1 Recognize that the aggregate deposits along Cache Creek are significant to the economy of Yolo County, as well as surrounding jurisdictions.

2.3-2 Discourage the encroachment of incompatible land uses into areas designated for future off-channel surface mining operations.

2.3-3 Provide standards and procedures for regulating surface mining operations and reclamation so that hazards are eliminated or minimized and potential adverse environmental effects are reduced or prevented.

2.3-4 Coordinate individual surface mining reclamation plans so that the development of an expanded riparian corridor may be achieved.

2.3-5 Create regular opportunities to incorporate new information into the OCMP.

2.3-6 Structure mining so that the disturbance of the existing landscape is minimized and will be reclaimed so that the property can be used and enjoyed in perpetuity by current and future generations.

2.3-7 Avoid damage to important cultural resources, in order to document and/or

preserve the historic and prehistoric record.

2.4 ACTIONS

2.4-1 Provide an open space buffer around the community boundaries of Capay, Madison, Esparto, Woodland, and Yolo to reduce potential conflicts between urban areas and nearby surface mining operations. Commercial mining shall not take place east of County Road 96.

2.4-2 Hazardous materials business plans must be submitted biennially, as required by the California Health and Safety Code, unless the types of hazardous materials used change, in which case revised business plans must be submitted within thirty (30) days of the change.

2.4-3 Establish a "sunset clause" for each surface mining permit. This would set defined length of time during which mining may occur. Any extensions beyond the permit expiration would require further environmental review and discretionary approval. The term of mining should be balanced so as to allow sufficient time for the operator to amortize investments, without sacrificing regulatory effectiveness. The maximum length of time for which any surface mining permit may be approved is thirty (30) years, with ten (10) year reviews to examine actual environmental impacts and to apply any relevant environmental regulations or statutory changes promulgated by a responsible or trustee agency with authority over a particular environmental resource (such as air, water, habitat, state lands, etc.), including Yolo County. An additional review may be held fifteen (15) years after permit approval, at the discretion of the Planning Commission. The reviews will also be used to verify whether per-ton fees are sufficient to meet actual costs. The mining permit may be extended for a maximum period of twenty (20) years, if necessary, subject to the same ten- and optional fifteen-year review requirements.

2.4-4 Revise the existing mining and reclamation ordinances contained in the Yolo County Code to incorporate recent amendments to SMARA; performance standards to prevent hazards and reduce potential environmental impacts; and programs to carry out the policies included within the Off-Channel Mining Plan.

2.4-5 Rezone those lands necessary to meet aggregate needs for the next thirty years with the S-G (Sand and Gravel) Zone. Those lands designated for mining within the next 30 to 50 years shall be rezoned with the SGR (Sand and Gravel Reserve) Zone. The S-G and SGR Zones will serve to notify existing and future property owners that mining operations may occur within these properties, in order to discourage the encroachment of incompatible uses. The final OCMP boundaries shall be defined as including only those 3,073 acres (off-channel areas within the planning area) that are presently

under consideration for rezoning or are a part of established aggregate operations.

2.4-6 Update the Off-Channel Mining Plan every ten years. This will allow the plan to be amended so that the results of monitoring programs and reclamation efforts can be taken into account.

2.4-7 Require that all surface mining applications within the OCMP plan area include a proposal for providing a "net gain" to the County, as determined by the following criteria:

a. reclamation to multiple or conjunctive uses;

b. enhancement and enrichment of existing resources; and/or

c. restoration of past sites where the requirements of reclamation at the time no longer meet community expectations in terms of good stewardship of the land.

2.4-8 Monitor and regulate aggregate extraction in a manner that supports the ability of mining operations to perform long-range business planning and helps ensure that they will carry out their project responsibilities. The costs to the County of administering and monitoring the aggregate industry shall be borne by the mining operators.

2.4-9 Reduce the amount of sand and gravel mined, by not including any waste concrete and asphalt processed as recycled materials for use in construction, as part of an operation's maximum annual production.

2.4-10 Encourage off-channel excavation operations to access additional aggregate reserves through the use of wet pits, in order to increase mining efficiency and to minimize the surface land area disturbed by mining.

2.4-11 Define the OCMP boundaries to include 3,073 acres, including the long-term off-channel mining and rezoning applications analyzed in the EIR, as well as the existing Granite Construction and Schwarzgruber and Sons operations. The provisions of the OCMP do not apply to those existing operations that have not requested additional discretionary permit approvals.

2.4-12 Establish a maximum annual production level for off-channel mining of 5.97 million tons sold. This total production limit applies to all off-channel mining included within the plan area. Individual producers may exceed their maximum annual allocation in order to meet temporary market demand. Aggregate sold in excess of the maximum annual production shall be subject to additional surcharges, which shall be used to benefit the Cache `Creek area.

2.4-13 Sunset the aggregate processing plants and facilities at the greater of thirty (30) years following the commencement of mining under the approved permit, unless extended under subsequent permits to mine additional aggregate deposits.

2.4-14 Recognize the funding provided by Cache Creek Aggregates, Solano Concrete, Syar Industries, and Teichert Aggregates in preparing the OCMP and related documents. Prior to the approval of any new surface mining permits within the OCMP boundary, the County shall adopt a fee ordinance that requires new surface mining applicants to pay their proportionate fair-share cost of preparing the OCMP, implementing ordinances, and the Program EIR.

2.4-15 Establish a mechanism for compensating property owners who may have vested in-channel mining rights without having yet received reasonable financial consideration resulting from the mining associated with said permits, and who do not own land within the OCMP plan area.

2.4-16 Execute development agreements between the County and mining operators in order to document in a contractual setting the transfer of mining rights in Cache Creek, whereby in-channel mining will be discontinued in exchange for rights to mine off-channel. The development agreements will also provide a mechanism for documenting the linkage of the plants to the mining permits; the payment of a per-ton fee for implementation of the OCMP and CCRMP; funding of the Cache Creek Conservancy; implementation of approved net gain projects; dedication of reclaimed lands; and compensation of property owners who would not otherwise receive consideration.

2.4-17 Withhold the granting of each surface mining permit applied for under the OCMP, until the CCRMP has been adopted and in-channel mining rights have been relinquished by the applicant.

2.4-18 Institute an exchange of property rights, whereby existing in-channel mining permits and allocations are discontinued, and exchanged for rights to mine off-channel aggregate deposits.

2.4-19 Establish that both surface mining permits and the production allocations associated with the permits apply only to the subject lands for which they are approved and may not be transferred.

2.4-20 Create a fund to ensure that money is available to address unforeseen environmental concerns and problems once mining and reclamation activities have been completed. The aggregate industry shall be fully responsible for subsidizing the fund.

CHAPTER 3.0 WATER RESOURCES ELEMENT

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3.1 INTRODUCTION

Present Conditions

Cache Creek is located within a groundwater basin that is generally defined by the Coast Range to the west, the Sacramento River to the east, the Colusa Basin watershed to the north, and the Putah Creek watershed to the south (see Figure 8). The Groundwater Technical Study (Todd, 1995) estimates that the basin has a storage capacity of approximately 5 million acre feet. Groundwater quality is hard to very hard in this area, due to above average concentrations of constituents such as calcium, and magnesium. Boron is the constituent of most concern, brought down by tributaries of Cache Creek from saline springs in the Rumsey Hills.

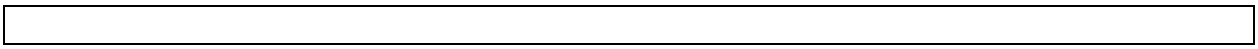

Figure 8 Lower Cache Creek Groundwater Basin

The single most significant factor affecting groundwater storage is rainfall. Groundwater levels drop rapidly due to increased pumping and decreased recharge during times of drought, and rise back up again after wet periods. Secondarily, the most important change has been the development of irrigated agriculture. The diversion of surface water has reduced in-channel recharge and increased the levels of total dissolved salts in the aquifer, while the widespread use of well pumping has altered groundwater flow patterns and cycled the water through the aquifer more rapidly. Both activities have significantly increased the consumption of water for crops, which has resulted in an overall lowering of the water table from levels seen at the turn of the century. Nevertheless, the basin has a substantial capacity for recovery.

OCMP Vision

In order to make the best use of the recovery capacity of the groundwater basin, the Yolo County Flood Control and Water Conservation District (YCFC&WCD) is currently preparing a plan to establish a series of water recharge, storage, and conveyance facilities. It is expected that this plan will utilize some of the off-channel excavations proposed pursuant to the OCMP as recovery facilities. By doing so, the YCFC&WCD intends to place more water into the aquifer to increase the availability of groundwater. The potential environmental impacts of these activities will be addressed by the YCFC&WCD as a part of their planning process. Given the interrelated goals of both agencies, the County will continue to work with the YCFC&WCD in coordinating our efforts to protect both the quantity and quality of groundwater supplies.

The Technical Studies noted that the availability of groundwater data, especially with regards to water quality, is poorly developed and unorganized. Having a sufficient body of information is crucial when monitoring development that extends into the groundwater table, such as off-channel excavations. The OCMP addresses this deficiency by requiring that each off-channel mining operation maintain a detailed monitoring program, to include both groundwater level measurements and water quality tests the number and extent of which vary as mining and reclamation activities progress. In addition, the County will designate appropriate staff to assemble and analyze the data that is generated, so that long-term trends and influences can be identified and necessary responses implemented. It is anticipated that this effort could serve as the basis for creating specific recommendations for inclusion in the County's overall water resource management policies.

Although water is a vitally important issue to both agriculture and urban areas, the OCMP acknowledges that other resources have a need for water that must be accommodated. Open bodies of water, such as those that may result from wet pit mining allowed under the OCMP, would lose an estimated 2,341 acre feet of water annually due to evapotranspiration. This amount can be substantially reduced through the avoidance of shallow water depths of less than ten feet. However, these same shallow depths provide the necessary conditions for recreational uses and wetland habitat. The OCMP encourages the balanced use of wet pits, so that they may serve the variety of goals expressed for Cache Creek.

Other areas around the state use permanent lakes reclaimed from mined lands in a number of diverse ways in order to benefit the local economy and/or the environment. Recreational parks have been established at Oak Lake in Stanislaus County and at Shadow Cliffs Park, near Livermore in Alameda County. Also near Livermore, is the "Chain of Lakes" which links several former mine pits into a groundwater storage and recharge facility. Surface water is conveyed through a series of gravel excavations that have been converted into sealed settling basins, before it is introduced into a permanent lake for recharge into the aquifer. The Chain of Lakes is operated by the Alameda County Water District. Sand and gravel operators along the San Joaquin River, near Fresno, have reclaimed their mines into permanent lakes and wetland habitat. These lands have been dedicated to the Department of Fish and Game, which operates them as wildlife areas, with limited tours in the springtime for bird watchers and other enthusiasts. The habitat areas are located immediately next to the San Joaquin River Parkway and serve to increase the amount of open space along the riparian corridor. Through careful management, permanent lakes created through mining can be used in a variety of beneficial ways.

There is a tremendous potential for off-channel excavations to provide a range of opportunities for Cache Creek, including the groundwater management, recreation, and habitat uses discussed above. It is important, however, to ensure that proposed mining pits are designed so as not to adversely affect the existing aquifer flow patterns, water table levels, or groundwater quality for the surrounding area. Backfilled pits can create localized obstructions to groundwater flow, while pits located too close to nearby wells may serve as a conduit for potential contamination. In order to address these issues, the

OCMP includes specific performance standards for protecting both groundwater and surface water quality and quantity. These standards apply both to the off-channel mining operations, as well as their reclaimed uses.

3.2 GOALS

3.2-1 Promote the conjunctive use of surface and groundwater to maximize the availability of water for a range of uses, including habitat, recreation, agriculture, water storage, flood control, and urban development.

3.2-2 Maintain the quality of surface and groundwater so that nearby agricultural productivity and available drinking water supplies are not diminished.

3.2-3 Improve the gathering and coordination of information about water resources so that effective policy decisions can be made.

3.3 OBJECTIVES

3.3-1 Encourage the development of a Countywide water management program, including the participation of the YCFCWCD and other relevant agencies, to coordinate the monitoring and analysis of both surface and groundwater supplies.

3.3-2 Ensure that off-channel surface mines are operated such that surface and groundwater supplies are not adversely affected by sedimentation, lowering of the water table, and/or contamination during mining and reclamation.

3.4 ACTIONS

3.4-1 Consider evaporation losses as an acceptable result of exposed groundwater, when reclaimed wet pit areas are included as a part of proposed riparian habitat or recreational facilities.

3.4-2 Coordinate with the Yolo County Flood Control and Water Conservation District in developing an integrated groundwater recharge plan for Cache Creek, in order to increase the available groundwater supply for municipal and agricultural uses.

3.4-3 Include a groundwater monitoring program as a condition of approval for any surface mining and reclamation operation that proposes off-channel excavations that extend below the groundwater level. The monitoring program shall require regular groundwater level data, as well as a water quality monitoring program based on a set of developed standards.

3.4-4 The Yolo County Community Development Agency shall designate staff and resources to coordinate with City, County, regional, State, and Federal agencies that may wish to receive copies of data generated from the off-channel mining operations regarding water resource issues, including the towns of Capay, Esparto, Yolo, and Madison, the City of Woodland, the Yolo County Flood Control and Water Conservation District, the Water Resources Agency, the Central Valley Regional Water Quality Control Board, and the California Department of Water Resources. The data base shall be expanded to include other relevant sources of information, so that it can be used as reference material for regional water planning efforts.

3.4-5 Require that surface mining operations demonstrate that proposed off-channel excavations extending below the groundwater level will not adversely affect the producing capacity or water quality of local active wells.

CHAPTER 4.0 FLOODWAY AND CHANNEL STABILITY ELEMENT

CHAPTER 4.0 FLOODWAY AND CHANNEL STABILITY ELEMENT

4.1 INTRODUCTION

Present Conditions

Cache Creek has changed extensively over the past 100 years. Generally speaking, that portion of the creek within the planning area has become narrower, faster, deeper, and carries more water than it did a century ago. Some reaches of the creek are less than a third as wide as they once were, in some cases a difference of nearly a half-mile. Overall, the area of Cache Creek has decreased by over two-thirds, from 5,000 acres in 1905 to just under 1,600 acres today. As the creek narrows, the speed of the water becomes faster, increasing the capacity for erosion. The increased stress within the channel has stripped riparian vegetation from the streambed, which has led to further destabilization. As a result, the streambed has lowered 25 feet in some reaches. Not surprisingly, the structure of Cache Creek is out of balance with the flows and sediment loads that it presently carries.

A complex series of factors have led to this condition. In the mid 1800s, extensive grazing and forest clearing removed large areas of the native riparian vegetation, and allowed for the expansion of farmland onto former floodplains. At the same time, canals began diverting water from the creek for irrigation, preventing regular flows from gradually reshaping the creek. At the turn of the century, levees were constructed to protect farms and residents along the creek, thus narrowing the channel. Bridges were built to allow for the transportation of goods and people, creating severe bottlenecks in the creek. Gravel mining increased around bridge construction sites, to provide the necessary concrete. After World War II, additional levees were constructed to protect the gravel mining operations, further restricting the creek. Agriculture expanded out further to fill in the lands opened up by the new levees. Similarly, gravel mining also expanded significantly, both in depth and in the area mined. Throughout the last several decades, in-stream mining quickly outstripped the annual sand and gravel replenishment of Cache Creek, leading to a severe sediment deficit and intensifying the scour created by other factors.

If all in-stream mining was prohibited and the creek was left to its own devices, long-term simulations in the Technical Studies indicate that a more balanced condition would likely be achieved over the next 100 years. However, the continued diversion of surface water during the irrigation season would inhibit the development of a stable low-flow channel that would encourage stabilization of the creek. In addition, Cache Creek is a violent watercourse, subject to severe flood events, that make the establishment of a natural equilibrium under these circumstances difficult. As a result, it is likely not possible to return the stream to its condition of 100 years ago. There may be an opportunity, however, through careful management, to help the river repair itself and achieve a more stable existence.

OCMP Vision

The assumptions used by the County to regulate in-channel and off-channel mining have become obsolete over the past fifteen years. The In-Channel Boundary, theoretical thalweg, and other such concepts need to be replaced by more thorough and accurate measures that reflect the nature of Cache Creek as it currently exists. Therefore, one of the primary recommendations is to adopt new designations that will allow the County to regulate the creek in a more systematic and responsive manner. These designations include a new in-channel/off-channel delineation, based on the present channel bank and 100-year floodplain, and a Streamway Influence Boundary (see Figure 5), which depicts the extent that the creek affects off-channel land uses. In addition, the OCMP includes a conceptual configuration for the reshaping of Cache Creek, to increase flood capacity and decrease channel instability. The boundaries of this new configuration are described in the Technical Studies as the Test 3 Run, which were created from the results of a HEC-6 sediment transport computer model (see Figure 9). The model assumed that the banks of Cache Creek would be smoothed to remove abrupt width and slope changes, and that the channel sections upstream and downstream from the bridges along Cache Creek would be modified to allow smooth flow transitions into and out of the narrow bridge openings.

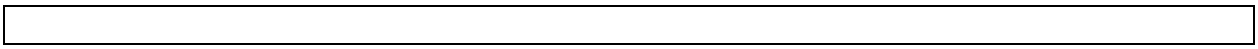

Figure 9 Test 3 Mobile Sediment Modeling Results

As the Off-Channel Mining Plan and CCRMP are amended every ten years, the concepts outlined above will also be updated, based on the information provided by recommended monitoring programs. These updates will account for the habitat restoration and channel stabilization efforts expected to occur, as well as for property owners who do not wish to participate in the reconfiguration of Cache Creek. Thus, the in-channel boundary and the Test 3 Run will likely shift in the future as a result of constantly changing channel conditions. Limited amounts of flooding and erosion are beneficial, in that healthy riparian systems require a dynamic balance between erosion, deposition, and periodic inundation to maintain plant regeneration and succession. Subsequently, the OCMP is not intended to be a static document, but a fluid one, evolving to meet the dynamic needs of the creek in the future. Nevertheless, the in-channel boundary and Test 3 Run provides initial starting points for repairing the creek, and the design of any off-channel excavations must take this effort into account.

Channel stability issues are more thoroughly discussed in the Cache Creek Resources Management Plan, which deals specifically with the regulation of in-channel uses. However, the two plans overlap within the Streamway Influence Boundary. The Technical Studies estimate that Cache Creek may meander as much as 700 feet in a single flood event, threatening to erode levees and significantly changing the geomorphology of the creek through uncontrolled pit capture. In recognition of the interrelationships between off-channel and in-channel uses within this area, the OCMP requires that off-channel excavations be set back a minimum of 700 feet, unless an engineering analysis can demonstrate that measures incorporated into the project can ensure that a lesser setback will provide similar protection against channel destabilization. The minimum setback is 200 feet from the existing channel bank.

While measures can be included as a part of individual mining applications to provide protection against pit capture and channel instability, the presence of mining and other land use activities within the historical floodplain (as defined by the streamway influence boundary) affect the creek's configuration. In order to offset these effects and as a further means of ensuring that there is a continuing effort to protect off-channel mining areas from 100-year floods, each mine operator shall participate in channel maintenance and reshaping activities and shall contribute to the funding of the CCIP.

The OCMP contains provisions for requiring that mining operations be protected from the 100-year flood, and ensuring that other land use activities are also designed to be protected from floods. More importantly, the channel capacity of Cache Creek through the planning area has increased significantly over the past fifty years. While this has partially relieved the surrounding lands from flooding, especially the Hungry Hollow area, it has also increased the amount of water being sent downstream, thus creating new problems for the community of Yolo and the City of Woodland. In response to this concern, the OCMP does provide for engineered features that allow for the controlled flooding of off-channel mining pits during events which exceed the 100-year flood. Although such measures would reduce flow volume in the early stages of a flood, they would not be sufficient to resolve flooding downstream. According to the Technical Studies, the creek is severely restricted by the bridges and levees located at Interstate 5 and eastward. The OCMP is not able to

address flooding issues outside of the planning area, due to a lack of jurisdiction. Solutions must be developed on a regional basis, taking the entire riparian system of Cache Creek into consideration. The County strongly supports the inter-agency approach to resolve flooding and other regional issues related to Cache Creek.

4.2 GOALS

4.2-1 Recognize that Cache Creek is a dynamic stream system that naturally undergoes gradual and sometimes sudden changes during high flow events.

4.2-2 Coordinate land uses and improvements along Cache Creek so that the adverse effects of flooding and erosion are minimized.

4.2-3 Establish a more natural channel floodway capable of conveying floodwaters without damaging essential structures, causing excessive erosion, or adversely affecting adjoining land uses.

4.3 OBJECTIVES

4.3-1 Provide flood management as required to protect the public health and safety.

4.3-2 Determine an appropriate flood capacity standard for Cache Creek, so that the extent of a more stable channel configuration may be designed.

4.3-3 Ensure no measurable increase in downstream flood impacts on communities such as Yolo and Woodland.

4.4 ACTIONS

4.4-1 Recognize that mining activities located within the streamway influence boundary, as described in the Technical Studies, have a potential to influence the flow characteristics of the creek. In response, mine operators shall be required to participate in funding the Cache Creek Improvement Program, as outlined in the CCRMP. Funding may be provided through a per ton surcharge or other mechanism to support activities that stabilize the creek channel.

4.4-2 Evaluation of proposed significant modifications to the floodplain, including off-channel mining areas, shall be made with reference to the channel improvement strategy and guidelines presented in the Cache Creek Resource Management Plan. This will ensure a consistent frame of reference and allow consideration of such modifications in the context of an integrated creek management program.

4.4-3 Work with other agencies having jurisdiction over Cache Creek including, but not limited to, the Yolo County Flood Control and Water Conservation District, the U.S. Army Corps of Engineers, the State Reclamation Board, and the Federal Emergency Management Agency in developing a coordinated solution for managing flood events throughout the watershed of Cache Creek.

4.4-4 Manage activities and development within the floodplain to avoid hazards and adverse impacts on surrounding properties. This shall be accomplished through enforcement of the County Flood Damage Ordinance and ensuring that new development complies with the requirements of the State Reclamation Board.

4.4-5 Allow for the design of spillways or other engineered features that provide controlled flooding of off-channel mining pits during events which exceed the 100-year flood.

4.4-6 Enter into a Memorandum of Understanding with the Yolo County Flood Control and Water Conservation District to provide a regular source of

surface water flow in Cache Creek throughout the year, when annual precipitation is sufficient. The timing and volume of flows should be established consistent with the Technical Studies, in order to create a stable low-flow channel and allow for the natural revegetation of in-channel areas along the creek, where appropriate.

4.4-7 Update the Flood Insurance Rate Maps affected by channel maintenance activities and levee improvements within the planning area every ten (10) years. The County Floodplain Administrator shall file for a Letter of Map Revision with the Flood Emergency Management Agency in order to initiate the update.

4.4-8 Establish a setback from the banks of Cache Creek outside of which off-channel mining project must remain. The setback fulfills the following policy objectives:

- Sufficient buffer to protect off-channel mining areas from lateral river adjustments;
- Additional buffer against failure for unengineered levees and natural streambanks;
- Adequate area in which to maneuver heavy equipment during an emergency;
- Access for continuing maintenance activities;
- Flexibility for future channel sculpting during implementation of the CCIP; and
- Available space for revegetation and habitat restoration efforts along the creek.

CHAPTER 5.0 AGRICULTURAL RESOURCES ELEMENT

CHAPTER 5.0 AGRICULTURAL RESOURCES ELEMENT

5.1 INTRODUCTION

Present Conditions

As described in Chapter 2, the planning area largely consists of lands zoned A-1 (General Agriculture) and A-P (Agricultural Preserve) (see Figure 6). Agricultural uses are an allowed use in these zones and are not subject to any discretionary approval by the Community Development Agency, except where building permits or property adjustments and divisions are required.

The off-channel mining applications being processed under the OCMP contain a total of 2,123 acres, of which some 1,523 acres is currently under a Williamson Act contract. Approximately 988 acres of area mined is expected to be reclaimed to agriculture, the majority of which (542 acres) would be to row crops. Tree crops, such as poplars, which would provide bio-mass fuel, paper pulp, and lumber are proposed on 401 acres, while 45 acres would be reclaimed to pasture. Another 3,427 acres owned or controlled by the aggregate producers would not be disturbed and would remain in farming. The tree crops would also serve as a buffer between the mined and/or agricultural areas, to protect riparian habitat from pesticide spraying, noise, dust, and activity.

OCMP Vision

The OCMP acknowledges Yolo County's continued commitment to the preservation of agricultural land and farming activities. Strict performance standards governing the reclamation of farmland and maintenance of the A-1 and A-P Zones throughout the planning area have been included to further protect agricultural uses. However, the goal of the OCMP is to balance the various resources that coexist along Cache Creek. In order to expand opportunities for habitat, recreation, and groundwater recovery, some agricultural land will be lost.

This approach is consistent with the intent of the Williamson Act, which not only includes the preservation of agricultural land, but applies to the preservation of wildlife habitat, recreation space, and open space as well. The Off-Channel Mining Plan is intended to provide for the full range of land uses along Cache Creek, of which agriculture is a component. In fact, in terms of acreage, agriculture will remain the primary activity within the 23,174 acre planning area.

As discussed elsewhere, the OCMP contains provisions for revising the A-P (Agricultural Preserve) Zone to allow for commercial surface mining. In order to maintain as much land as possible within agricultural preserves, the Williamson Act contract may continue through both the mining and reclamation phases, as long as the proposed project is consistent with

the applicable Williamson Act findings. This would especially apply to projects which plan to mine the majority of a parcel under contract, but plan to continuously reclaim as mining occurs so that a portion of the parcel is in agricultural production. Temporary conservation easements on undisturbed farmland may offset the impacts of mining on contracted land, until successful reclamation is achieved.

In accordance with both the Williamson Act and the State Reclamation Regulations, the OCMP requires that any surface mining operation on contracted property that includes prime farmland, which proposes agricultural uses in its proposed reclamation plan, must return the land to a agricultural productive capacity similar to that before mining commenced. Non-prime agricultural land shall be reclaimed so it is capable of producing crops commonly grown in the area at an economically sustainable rate.

5.2 GOALS

5.2-1 Improve soil and water resources so that a diverse agricultural economy, supporting a variety of crops and products, is maintained.

5.2-2 Ensure the compatibility of land uses adjacent to agricultural operations, so that productivity is not adversely affected.

5.2-3 Recognize that although multiple uses are encouraged along Cache Creek, agriculture remains the primary economic activity in the region.

5.3 OBJECTIVES

5.3-1 Encourage the preservation of prime and important farmland along Cache Creek, while giving consideration to other compatible beneficial uses, such as groundwater storage and recharge facilities, surface mining operations, riparian habitat, and public recreation. Reclamation of agricultural lands to other uses, however, is discouraged wherever agricultural reclamation is feasible.

5.3-2 Ensure the use of appropriate agricultural management practices in reclaiming mined areas to productive farmland.

5.4 ACTIONS

5.4-1 Maintain the existing A-1 (General Agriculture) or A-P (Agricultural Preserve) Zoning within the off-channel planning area, except where it serves as a holding area for growth within the communities spheres of Capay, Madison, Esparto, and Yolo, so as to preserve the agricultural character of the region.

5.4-2 Revise the A-P (Agricultural Preserve) Zone to allow for the operation of surface mining on contracted land, in accordance with the provisions of the California Land Conservation (Williamson) Act. The primary purpose of the Williamson Act is to preserve open space, including agriculture, scenic areas, wildlife habitat, and recreational uses.

5.4-3 Provide for the protection of farmland within the planning area, including mined and reclaimed farmland, through the use of agricultural preserves and/or conservation easements.

5.4-4 Ensure that all proposed surface mining operations that include reclamation to agricultural uses comply with the requirements of the Land Conservation (Williamson) Act and the State Mining and Geology Board Reclamation Regulations.

5.4-5 Assess property taxes on permitted mineral reserves within contracted land, in order to account for the increased value of the property and ensure that the tax incentives associated with agricultural preserves are not misapplied.

5.4-6 Encourage off-channel excavation operations to access additional aggregate reserves through the use of wet pits, in order to minimize the amount of agricultural land disturbed by mining.

5.4-7 Ensure maximum public benefit from reclaimed uses by establishing the following priority to be used to assess the adequacy of proposed reclamation plans:

1. Reclamation to viable agricultural uses;
2. Reclamation to native habitat;
3. Reclamation to recreation/open space uses;
4. Reclamation to other uses.

CHAPTER 6.0 BIOLOGICAL RESOURCES ELEMENT

CHAPTER 6.0 BIOLOGICAL RESOURCES ELEMENT

6.1 INTRODUCTION

Present Conditions

Prior to the 1850s, Cache Creek was likely a riparian forest composed of willows and oaks, covering a broad floodplain. Many of the trees were eliminated in the early part of this century, largely as the result of cattle grazing, timber harvesting, field clearing for agriculture, and water diversion. As a result, only 200 acres of riparian forest remain and those are threatened by a number of factors, including: the narrow stream channel, lack of surface water, lowered groundwater levels, and in-stream mining. The narrow width of the channel increases the velocity of the streamflow, making it difficult for young plants to keep from being washed away. The diversion of surface water often occurs during the growing season for riparian vegetation and removes the primary source of water in losing reaches of the creek. Lowered groundwater levels leave tap roots withered, while in-stream mining directly removes the vegetation in order to remove the gravel underneath. In addition, the invasion of aggressive non-native species, such as the giant reed and tamarisk, has inhibited the recovery of diverse native habitat.

The most extensive riparian habitat is located at the western end of the planning area, upstream of Road 85, between the community of Capay and the Capay Dam. This reach still contains large areas of oak woodlands and mixed forest, as well as long stands of willow scrub. A lesser, though still significant concentration of riparian habitat is located between Interstate 505 and Road 94B. This reach is characterized by small areas of alternating willow thickets and riparian forest, in close proximity to the creek. Much of the remaining off-channel riparian habitat consists of scattered segments of "orphaned" forest, small clusters of oak trees left by agriculture, and willow scrub growing along the canals and ditches that run through the area.

OCMP Vision

Primary restoration efforts should be focussed on area generally located between Interstate 505 and Road 94B, which is a fairly stable and gaining reach of the creek. A gaining reach is one where the streambed is lower than the surrounding groundwater elevation, which allows water to seep from the aquifer and collect in the channel, thus providing a consistent source of surface water. The Moore Dam Sanctuary, owned and managed by the YCFC&WCD, represents a prime example of the natural recovery potential on this portion of Cache Creek, and supports an impressive array of wildlife species. A second area of emphasis is Zone 1, located downstream of Road 94B. This stretch of the creek has several reclaimed off-channel mining excavations that have not revegetated. In addition, although the reach upstream of Road 85 is heavily vegetated, much of the plant cover consists of tamarisk which is preventing the establishment of more

diverse native species. Initial efforts at eradicating this specie should be concentrated in this reach.

It is anticipated that much of the habitat restoration work along Cache Creek would be undertaken by volunteer organizations, such as the HAWK (Habitat Alliance and Wildlife Keepers) program, Americorps, and the Cache Creek Conservancy. In addition, reclamation plans for off-channel mining along Cache Creek call for 273 acres of habitat to be created, largely consisting of wetland areas adjoining permanent ponds and lakes. Perhaps the most critical component in ensuring the success of these efforts is the maintenance of a year-round flow in Cache Creek. The availability of water is presently driven by the demands of irrigated agriculture, leaving little surface water for habitat restoration. Much of the water that flows down Cache Creek, however, is not retained within the County. The Yolo County Flood Control and Water Conservation District has plans for utilizing this unclaimed portion and is currently in the process of applying for additional allocation rights for water from Cache Creek. As part of a separate program, the district intends to create conditions to percolate the additional water into the aquifer, thereby making more groundwater available. A portion of this increased water supply could be reserved for maintaining a summer surface flow in Cache Creek, thus enhancing the potential for riparian habitat restoration.

In addition to riparian habitat, provisions should be made for wildlife species along the creek, especially species of concern, such as the Swainsons hawk, the Valley Elderberry Longhorn Beetle, burrowing owls, the tri-colored blackbird, and the bank swallow. Where populations of these species already exist, mitigation measures must be incorporated into approved project to ensure that their habitat is maintained. Mitigation measures should be developed in conjunction with the State Department of Fish and Game, and/or the U.S. Fish and Wildlife Service, and should be consistent complement the goals of the County's Habitat Management Plan. Wherever possible, restoration and reclamation projects should also incorporate features to encourage the establishment of new populations.

6.2 GOALS

6.2-1 Provide for a diverse, natural ecosystem within the off-channel planning area along Cache Creek, that is self-sustaining and capable of supporting wildlife.

6.2-2 Create a continuous corridor of riparian, woodland, and wetland vegetation to link the foothill habitats of the upper watershed with those of the settling basin.

6.3 OBJECTIVES

6.3-1 Conserve and protect existing wildlife habitat within the off-channel planning area.

6.3-2 Establish conditions to encourage the development of a variety of natural habitat types in the off-channel areas along the Cache Creek channel.

6.4 ACTIONS

6.4-1 Coordinate with appropriate entities, such as the California Department of Fish and Game, U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers to ensure that proposed habitat restoration projects are consistent with or complement the Off-Channel Mining Plan.

6.4-2 Provide for the development of shallow areas along reclaimed off-channel excavations that extend below the groundwater level, to create wetland and riparian habitat.

6.4-3 Require that all proposed off-channel surface mining operations that will result in the short-term loss of row crop agricultural lands and/or grasslands, obtain a 2081 Permit from the California Department of Fish and Game. The 2081 Permit will provide mitigation for the temporary effects of mining on Swainson's hawk habitat.

6.4-4 Promote the eradication of invasive species, such as the giant reed and tamarisk, in areas where they inhibit the growth and development of native riparian vegetation, especially in the area upstream of the Capay Bridge (County Road 85).

6.4-5 Include provisions to enhance habitat for special-status species in restoration components of reclamation plans, where feasible.

6.4-6 Encourage cooperative agreements and voluntary conservation easements with private landowners to preserve, protect, and enhance the biological resources of Cache Creek, and to implement provisions of the OCMP.

6.4-7 Restore riparian habitat throughout the planning area, wherever appropriate. However, revegetative efforts should be primarily focussed on implementing recommendations described in the Technical Studies and the subsequent Restoration Recommendations incorporated into the CCRMP.

6.4-8 Include vegetated buffers between restored habitat areas and adjoining farmland, in order to minimize the potential for riparian areas to serve as harbors for predators and insect pests. Said buffers will also reduce the noise, dust, and spraying generated by agricultural operations.

CHAPTER 7.0 OPEN SPACE AND RECREATION ELEMENT

CHAPTER 7.0 OPEN SPACE AND RECREATION ELEMENT

7.1 INTRODUCTION

Present Conditions

Currently, there are no public recreational facilities located within the planning area along Cache Creek. Although there is a County park near Guinda and several campgrounds and whitewater rafting areas near Bear Creek, the lower portions of the creek are predominantly characterized by agricultural and mining uses. Due to the high proportion of land in private ownership, access to the creek is severely limited. In-stream mining has compounded the problem, often creating an unattractive landscape where the use of heavy equipment generates noise and hazards for visitors to the creekbed.

Existing recreational areas within the planning area include: the Esparto Community Park, the Madison Community Park, and the Flier's Club (a private golf course and clubhouse). None of these facilities provide direct access to the creek or the adjoining environs.

OCMP Vision

The OCMP and the CCRMP, which together comprise the Cache Creek Area Plan, deal with the "first phase" of creek management - restabilizing and creek channel and restoring the riparian habitat. The "second phase" should involve a more detailed analysis of the recreational needs of Yolo County and the resulting environmental effects that recreation would have on surrounding properties. It is recommended that the County pursue an integrated system of trails and recreational areas along Cache Creek, similar to efforts occurring along the San Joaquin and American Rivers, as part of the subsequent interactions in planning for Cache Creek. Future development of a Cache Creek Parkway Plan would allow for community involvement and provide specific proposals as well as projected costs for developing and maintaining a park system. It would also be valuable for addressing creek ownership and access issues more directly, as these issues become more relevant over time.

The Off-Channel Mining Plan has designated six areas for recreational use (see Figure 10). These areas are conceptual in nature and will serve to set aside land for future consideration as recreational areas. Sites were located at regular intervals of approximately two miles along Cache Creek, in order to function as trailheads or staging areas for a possible future system of bicycle, pedestrian, and/or horse paths. Recreational areas were also sited on lands included for mining, where proposed reclamation is to permanent ponds. This ensures that no additional farmland would be lost, while taking advantage of the amenities associated with the bodies of water to be reclaimed through mining. Frontage to County roads and State highways was an important consideration, to ensure that the public would have adequate access. Also, a variety of sites were included

in order to provide a range of potential recreational uses. The three easternmost areas would be located near reaches proposed for habitat restoration, and may be suitable for passive activities, such as hiking, birdwatching, horseback riding, and educational exhibits. The three westernmost sites will be located in areas of the creek that contain more open space and may be appropriate for intensive activities, including non-motorized boating, catch and release fishing, bicycle riding, and picnic grounds. Active recreational uses in the western sites, would directly benefit the nearby communities of Madison, Esparto, and Capay, and could serve as a future basis for expanded tourism opportunities and economic benefits.

Figure 10 Preliminary Recreation Nodes

7.2 GOALS

7.2-1 Preserve scenic resources within the off-channel planning area.

7.2-2 Establish a variety of outdoor recreational and educational opportunities along Cache Creek for use by the public.

7.2-3 Ensure the compatibility of recreational facilities with surrounding land uses, in order to minimize adverse impacts.

7.3 OBJECTIVES

7.3-1 Include use of the "Open Space" zoning designation for the area located within the creek's existing banks and other areas where resource management and habitat protection is warranted.

7.3-2 Create a continuous corridor of natural open space along the Creek and provide for limited access, at specific locations, to recreational and educational uses.

7.3-3 Discourage the encroachment of incompatible uses into areas surrounding designated recreation sites.

7.3-4 Design recreational facilities to maintain the privacy and security of surrounding property owners.

7.4 ACTIONS

7.4-1 Solicit the dedication of restored habitat areas and/or recreational areas to the County or to an appropriate land trust, in order to provide continuous open space along the creek.

7.4-2 Develop a future Open Space and Recreation plan for Cache Creek, in consultation with the County Parks Administrator, to provide a range of public activities and uses. Suggested recreational uses may include, but are not limited to: hiking, horseback riding, fishing, picnic grounds, boating, educational exhibits, and birdwatching.

7.4-3 Identify specific locations for future recreational and educational uses along Cache Creek. Sites shall be located at regular intervals throughout the planning area, with access to a County Road or State Highway. The location and operation of such facilities shall be compatible with surrounding residences, agriculture, mining, and wildlife habitat.

7.4-4 Designate dedicated recreational areas as "Open Space" in the Off-Channel Mining Plan.

7.4-5 Coordinate with the U.S. Bureau of Land Management to investigate the eventual linkage of recreational uses located along the upper watershed of Cache Creek to the designated recreational sites located within the planning area.

7.4-6 Ensure that active surface mining operations are located away from public areas, such as County roads, residences, and sites reclaimed to recreational uses, unless adequate mitigation is provided.

7.4-7 Design and manage recreational sites so that trespassing, vandalism, and other undesirable activities are discouraged. Suggested options include controlled and gated access, day-use fees, and volunteer docents to patrol the site.

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For the last twenty years countless hours have been spent by elected officials, citizens, landowners, aggregate operators, farmers, agency representatives, staff members, and consultants trying to agree on an appropriate balance between the use of natural resources and the sustainability of the riparian environment. From those efforts a mountain of studies have been produced, providing a ready source of technical data upon which policy and planning may be based. We will have foregone an opportunity and failed as stewards of the land if we do not translate this knowledge into a plan of action. The past debate concerning Cache Creek has been vital in assuring the investigation of a wide variety of alternatives, but there is a general feeling that the coordinated management and planning for the creek must begin now. Further delays would not appreciably improve our understanding of the creek. Continued inaction, however, will allow the existing degraded conditions to worsen. It is time to concentrate less upon our differences and to devote our energies towards achieving the goals that we have in common. Through these efforts, and the tremendous resiliency of our natural resources, Cache Creek will once again achieve the vitality that makes it one of the County's unique treasures.

Yolo County Board of Supervisors

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Kent Lang ..... At Large

Key Members of Staff

Roy Pederson..... County Administrative Officer
David Morrison..... Resource Management Coordinator

Project management was provided by Heidi Tschudin of TSCHUDIN CONSULTING GROUP, under contract to the County as an extension of staff.

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To find out more about this Plan, or the process through which it was developed, please contact:

David Morrison, Resource Management Coordinator
YOLO COUNTY COMMUNITY DEVELOPMENT AGENCY
292 West Beamer Street
Woodland, CA 95695
(916) 666-8041

-or-

Heidi Tschudin, Principal
TSCHUDIN CONSULTING GROUP
710 21st Street
Sacramento, CA 95814
(916) 447-1809

APPENDIX A: Yolo County Off-Channel Surface Mining Ordinance

APPENDIX B: Yolo County Surface Mining Reclamation Ordinance

APPENDIX C: Surface Mining and Reclamation Act