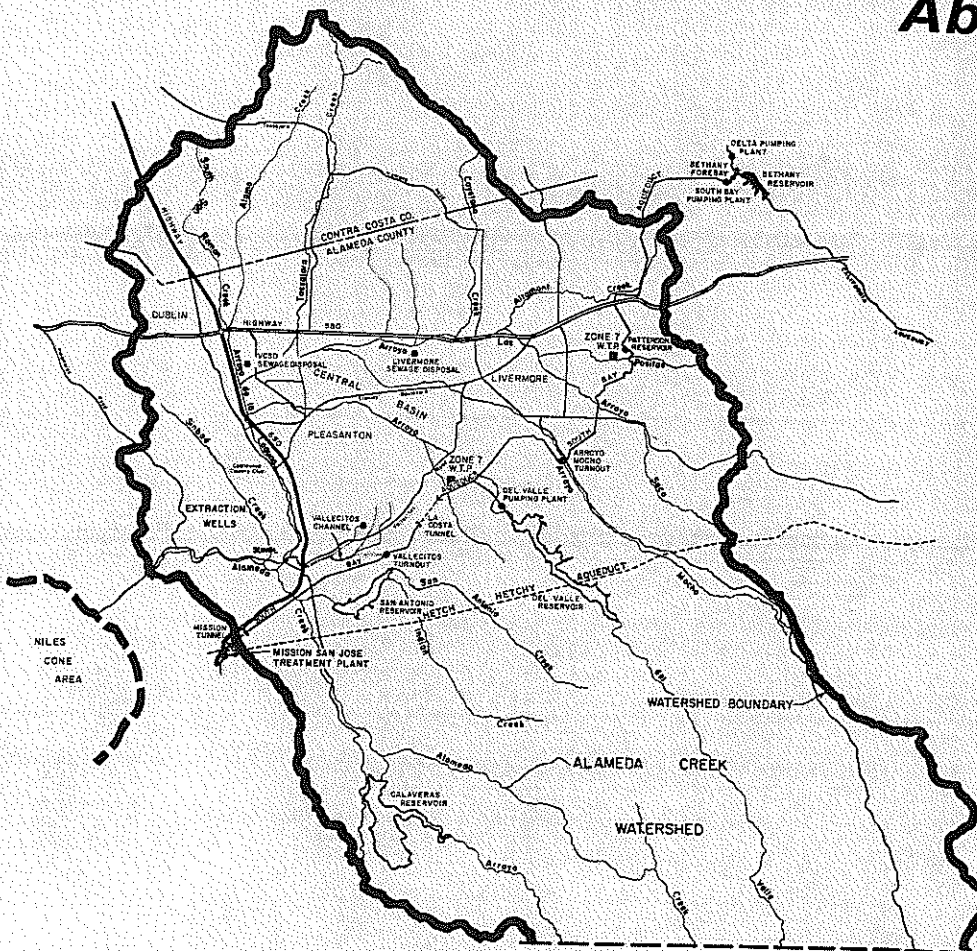


**Zone 7  
Alameda County Flood Control  
And Water Conservation District**

Clean Water Grant  
Project No. C-06-2777

***Wastewater Management Plan  
For The Unsewered, Unincorporated Area  
Of Alameda Creek Watershed  
Above Niles***



May 19, 1982

Camp Dresser & McKee Inc.

ZONE 7

ALAMEDA COUNTY FLOOD CONTROL  
AND WATER CONSERVATION DISTRICT

**WASTEWATER MANAGEMENT PLAN  
FOR THE UNSEWERED, UNINCORPORATED AREA OF  
ALAMEDA CREEK WATERSHED ABOVE NILES**

CLEAN WATER GRANT  
STEP 1  
PROJECT NO. C-06-2777

MAY 19, 1982

CAMP DRESSER & MCKEE INC.

WASTEWATER MANAGEMENT PLAN  
FOR THE UNSEWERED, UNINCORPORATED AREA OF  
ALAMEDA CREEK WATERSHED ABOVE NILES

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## ACKNOWLEDGEMENTS

This study was authorized by the Zone 7 Board of Directors in Resolution No 980, dated January 2, 1980.

The Wastewater Management Plan was developed by Zone 7 with the help of consultants, a 12-member Technical Advisory Committee, and a 5-member Public Review Group.

For Zone 7 the study was completed under Mun J. Mar, General Manager, and Harris Teshima, Chief, Water Systems Engineering Section. Jerry Killingstad, Chief, Water Resources Engineering Section, and his staff, provided valuable data and technical input. James Horen, Water Resources Engineer, coordinated all the many technical and public input activities. The Zone 7 Board patiently listened and conducted the many public meetings.

The study was conducted by Camp Dresser & McKee Inc., under the direction of Harvey O. Banks, President, Water Resources Division. The Program Manager was Larry C. Davis. Kenneth R. Henneman was the principal author and study findings presenter at the many meetings and hearings. Dodson and Young, Consulting Engineers, and Lawrence and Associates (Fritz Carlson now with CH2M-Hill) provided technical support concerning, respectively, plan formulation and cost estimates, and geohydrology.

Members of the Technical Advisory Group were:

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Bob Warnick, City of Pleasanton  
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Members of the Public Review Group were:

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A special thanks is extended to the members of these two groups for their very valuable input into the formulation of this Plan. The input is summarized in the Technical Supplement to this report.

The public input at the public meetings was very helpful and is also documented in the Supplement.

## INTRODUCTION

One of the most valuable resources in the San Francisco Bay area is the Alameda Creek Watershed. Several hundred thousand people depend upon its water yield and its water transport and storage capability.

The surface reservoirs, Del Valle, San Antonio, and Calaveras, are used to store runoff and imported water. The streams, Altamont Creek, Arroyo Las Positas, Arroyo Mocho, Arroyo del Valle, Arroyo de la Laguna, Vallecitos Creek, and Alameda Creek, are used to transport runoff and stored and imported water to Zone 7, Alameda County Water District, and City of San Francisco Water Department facilities. The ground water basins in the Livermore-Amador and Sunol Valleys, and in the Niles Cone, are invaluable, particularly during drought periods, as storage basins for domestic water. Since Spring Valley Water Company first diverted water to San Francisco in 1889 many studies have been made, many plans developed, and many dollars spent to conserve and protect these resources.

This Wastewater Management Plan (WMP) will help protect the surface and ground water resources of the watershed from degradation, if sewage effluent volumes double and triple in the years to come, by establishing policies for sewage disposal from unsewered areas that minimize the adverse effects of effluent salt loads and trace organics. This WMP was prepared under a study funded in part by EPA as a Step 1 wastewater study initiated by Zone 7. Extensive

input was received from concerned public agencies and from the public in preparation of this Plan. The Plan encompasses the unsewered, unincorporated area above Niles situated outside the sewered urban areas in the Livermore-Amador Valley served by the LAVWMA agencies. Except for a few clusters of houses on septic tanks, the area is largely rural; however, several subdivisions are being proposed.

This Plan was adopted by Zone 7 on May 19, 1982 in Resolution No. 1037 as one component of Zone 7's comprehensive integrated Water Management Plan for the Alameda Creek watershed area above Niles. It supplements the 1975 San Francisco Bay Regional Water Quality Control Board's Basin Plan, which established basic water quality objectives for the San Francisco Bay Region. Portions of this Plan will be included in the 1982 Basin Plan update.

Water quality objectives are established to protect the beneficial uses made of the surface and ground waters.

Wastewater management policies are established to maintain the water quality objectives and prevent degradation of the surface and ground waters.

Zone 7 will implement the WMP at the local level in cooperation with the Cities of Livermore and Pleasanton and the Dublin-San Ramon Services District working through mutual agreements as necessary, and with Contra Costa County.

## THE AREA

The WMP includes the unsewered, unincorporated portions of Alameda Creek Watershed above Niles as shown in Figure 1. It provides for protection of water quality in the ground water basins underlying the Livermore-Amador and Sunol Valleys and in the Niles Cone shown in Figure 1. It focuses on the area below the Calaveras, San Antonio and Del Valle Reservoirs not served by the LAVWMA (Livermore-Amador Valley Wastewater Management Agency) agencies. The major streams and water and wastewater treatment facilities, and both the Hetch Hetchy Aqueduct and the State Water Project South Bay Aqueduct water import systems are shown.

In 1974, the incorporated areas of Livermore and Pleasanton joined with the Dublin-San Ramon Services District (DSRSD) in a joint powers agreement to form LAVWMA and construct the wastewater export pipeline. The LAVWMA area and the export pipeline are shown on Figure 2. As shown, the major surface water streams flow through the LAVWMA area from the unincorporated fringe areas.

Of special concern in this WMP are areas where existing clusters of septic tanks have caused problems. Four of these areas for which policies are presented in this WMP: Central-Scenic, Buena Vista, Bess-Marina, and Happy Valley, are shown on Figure 2. Other areas of special concern, such as Las Positas Valley and the East Tesla

area, are also shown on Figure 2.

## THE WASTEWATER MANAGEMENT PLAN

The purpose of the Wastewater Management Plan study was twofold: first to identify, assess, and recommend, if needed, solutions to local septic tank problems; and, secondly, to recommend wastewater management policies to prevent degradation of the surface and ground waters if and when the unincorporated areas are subdivided and urbanized.

The study results identifying local problem areas, problems, and alternative solutions, were presented in an Interim Report\*, with technical material presented in a Draft Technical Supplement in November 1981. These results were discussed at several public meetings, and at meetings of the Technical Advisory Committee and the Public Review Group. Comments on the study findings were received from many agencies and groups. The Interim Report and an updated Supplement\*\* containing the technical material and public responses are available from Zone 7.

Based on the study, the meetings, and the review comments, conclusions were reached regarding both local septic tank problem areas and the overall WMP. Public comments on the alternatives and final WMP are presented in the Supplement.

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\*Camp Dresser & McKee Inc., "Interim Report, Wastewater Management Study for the Unsewered, Unincorporated Area of Alameda Creek Watershed above Niles," September 25, 1981.

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\*\*Camp Dresser & McKee Inc., "Supplement, Wastewater Management Study for the Unsewered, Unincorporated Area of Alameda Creek Watershed Above Niles," March 3, 1981.

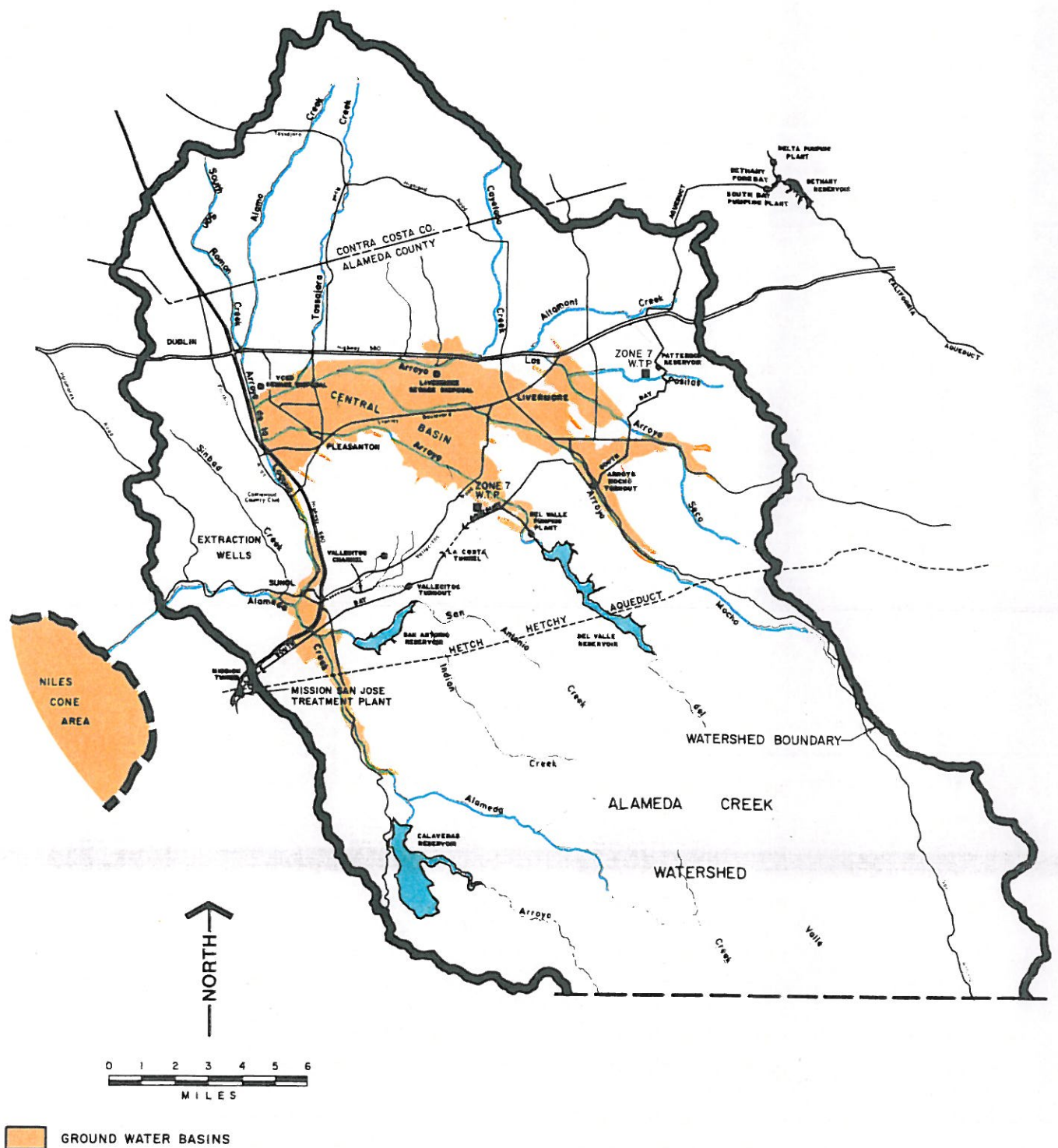


FIGURE 1  
ALAMEDA CREEK WATERSHED ABOVE NILES

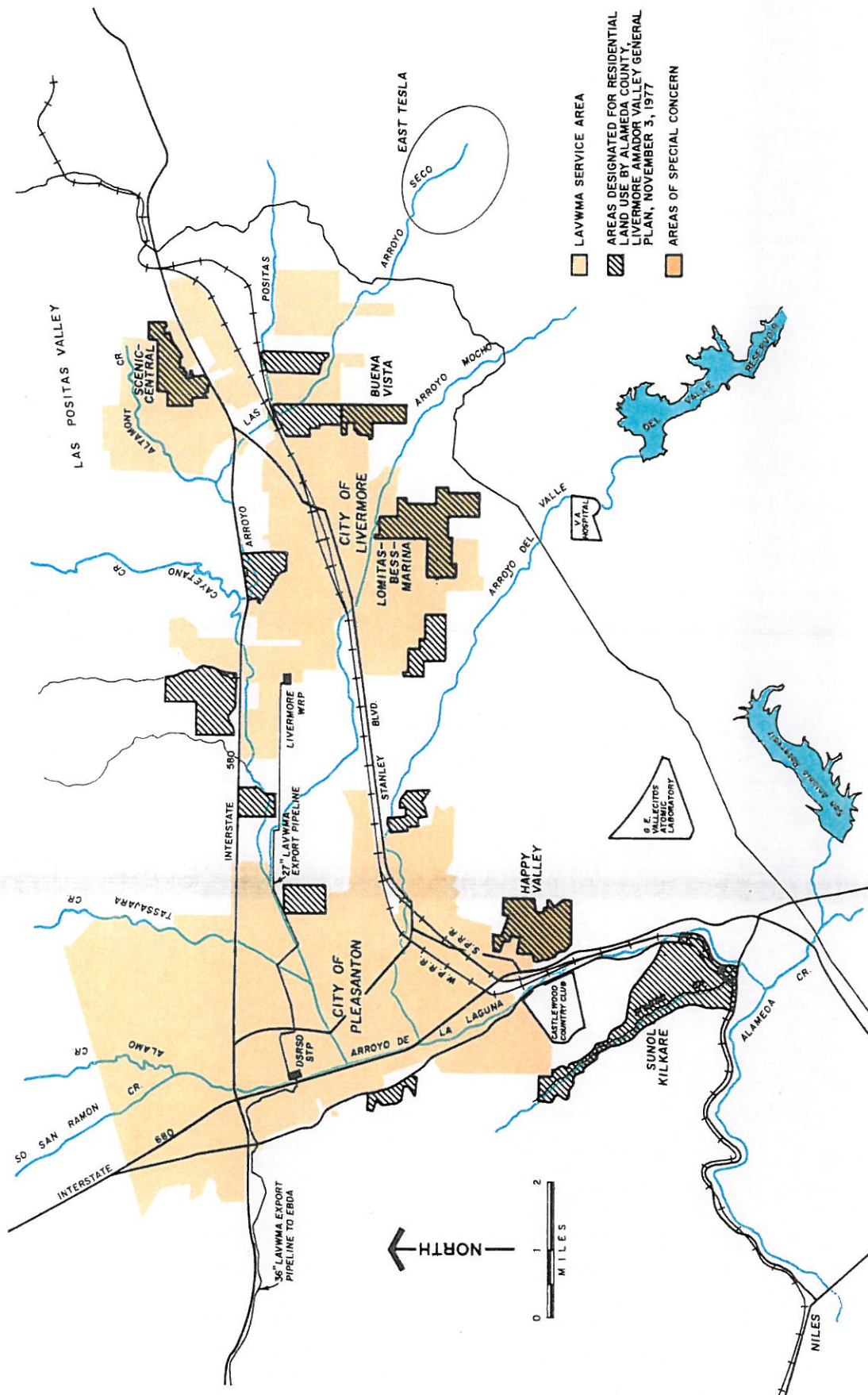


FIGURE 2  
LAVWMA AREA  
AND  
LOCAL AREAS OF SPECIAL CONCERN IN THE UPPER ALAMEDA CREEK WATERSHED

Four local septic tank areas with problems were identified. It was concluded that, providing current land use policies remain in place, expensive facilities to collect sewage from these areas are not needed at this time. There are no specific plans for further urban expansion in these areas. Accordingly a final facilities planning report, generally the product of a Step 1 study for unsewered areas, was not completed. Estimates of facility costs are presented in the Supplement. Policies regarding monitoring and further development of these areas are a part of this Plan.

This document is based on the study conclusions and presents Wastewater Management Plan objectives and policies. It was adopted by Zone 7 after the final public hearing.

#### THIS REPORT

The purpose of this WMP report is to present the relevant water quality objectives and the wastewater management policies for the unsewered area of Alameda Creek Watershed in a form that can be readily used. It is intended to provide a guide for individuals, developers and public agencies,

concerned with planning and regulating the collection, treatment and disposal of wastewater, and of individual onsite wastewater (septic tanks) systems.

This WMP supplements existing local, county and state regulations and policies. Key relevant policies in the 1975 State Basin Plan\* for the Watershed are included. The reader is referred to the Basin Plan for State policies concerning protection of water quality. The California Regional Water Quality Control Board, San Francisco Region, is updating the Basin Plan, and it is presumed that it and this WMP will be in mutual agreement. Most existing County policies are not included; however, County policies, where not consistent, should be adopted which conform to this WMP.

Material in this report is presented in seven sections as follows:

- (1) Introduction
- (2) Background
- (3) Beneficial Uses
- (4) Water Quality Objectives
- (5) Wastewater Management Policies
- (6) Implementation
- (7) Environmental Statement

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\*State Water Resources Control Board, Regional Water Quality Control Board, San Francisco Bay Region, "Water Quality Control Plan Report, San Francisco Bay Basin (2)," April, 1975.

## 2. BACKGROUND

### THE WATERSHED

Spring Valley Water Company (SVWC) began exporting water from the Alameda Creek Watershed in the 1880's. Riparian water rights along the Creek were purchased, and Calaveras Dam was built in the 1920's. San Francisco purchased SVWC in 1930, completed the Hetch Hetchy Aqueduct in 1934, and finished San Antonio Reservoir in 1966.

Ground water moving westerly from Livermore seeped out through the lowland marshes west of Pleasanton into Arroyo de la Laguna and thence into Alameda Creek. In 1889 SVWC increased dry period flows to the Sunol filter galleries by drilling artesian wells and connecting them to Arroyo de la Laguna with trenches. The seeps and marshes dried up and a well field was constructed west of Pleasanton. SVWC also proposed Calaveras Reservoir.

To protect recharge to the Niles Cone ground water basin from impairment by the proposed Calaveras Reservoir and export, Alameda County Water District (ACWD) was formed in 1914. Cyril Williams, Jr., District Engineer, made studies and in 1915 reported, "The results of these gaugings prove absolutely that the gravels are fed by the storm flows of Alameda Creek ...". Suit against SVWC was authorized immediately and finally settled by agreement. Calaveras Dam was built, but ACWD still receives water from San Francisco under the settlement agreement. Salt water intrusion became a serious problem in the late 1940's, although intrusion was first observed in 1920. Since 1914 ACWD has constantly worked to protect its water rights, to maintain ground water levels, to prevent sea water intrusion, and to protect the quality of water it receives. ACWD's current program

to protect and enhance the Niles Cone ground water basin, a basin that yields less water than the Livermore gravels, will cost over \$20 million.

Ground water exports from the Livermore-Amador Valley declined after the Hetch Hetchy Aqueduct system was built and an agreement was reached with Pleasanton to stop water exports. But local water use grew, and by 1964 ground water levels at the Cope well near the Kaiser gravel pits had dropped 100 feet.

Because of adverse ground water conditions Alameda County contracted in 1948 with the State to study the ground water resources in the watershed. The Alameda County Flood Control and Water Conservation District (ACFCWCD) was formed in 1949 after the dry period in the late 1940's, and ACFCWCD staff worked on the planning studies with the State.

These excellent studies examined the water resources and water needs in the Livermore, Sunol, and Niles Cone areas. The results were clear: more water was needed. In 1957 Zone 7 was formed with voter approval to correct the overdraft, import water, and resolve flood control and drainage problems in the watershed above Niles.

In 1961 both ACWD and Zone 7 (as part of ACFCWCD) negotiated contracts with the State Department of Water Resources (DWR) for water from the State Water Project (SWP) to be delivered through the South Bay Aqueduct. Zone 7 completed the Patterson Pass Water Treatment Plant and started delivery of SWP water in 1962. Deliveries of SWP water via Altamont Creek to ACWD also started in 1962. Deliveries

to Zone 7 from Del Valle Reservoir started when it was completed in 1968. The new Del Valle Water Treatment Plant was completed in 1975.

As often happens when one problem is solved, another arises. With an adequate water supply the volume of sewage effluent in the Livermore-Amador Valley grew along with the population. The effluent was either applied to the land (directly or for irrigation) or put into the streams.

As early as 1955 ACWD recognized that salts from the upper watershed were polluting the Niles Cone ground water. The California Regional Water Quality Control Board (RWQCB) investigated. In the RWQCB 1956 Resolution No. 226, ground water quality objectives were set for the Niles Cone: "It shall be the policy ... to control waste discharges in the Alameda Creek watershed above Niles so that the quality of ground water...will not exceed the following limits...". "These objectives will be reviewed periodically and may be modified..." "...further...it is the intent...to establish surface water quality objectives...". This is one of the first sets of water quality objectives in California.

To meet these objectives the RWQCB in the late 1960's set incremental

total dissolved solids (TDS) limits for waste discharges from the Livermore and Pleasanton sewage treatment plants. This forced elimination of some salt sources. In the 1975 Basin Plan the State Water Resources Control Board and the Regional Water Quality Control Board established a 250 mg/l TDS objective for surface water. Direct discharge of wastewater to Alameda Creek tributaries, unless otherwise permitted by the Board, is prohibited.

Most of the existing and new growth in the watershed above Niles is, and will be, in the area adjacent to the Livermore-Amador Valley. To meet the Basin Plan requirements, Livermore, Pleasanton and Dublin-San Ramon Service District formed the Livermore-Amador Valley Wastewater Management Agency (LAVWMA) under a joint exercise of powers agreement and, after considerable study, constructed the existing wastewater export pipeline system in 1979. Partly because of EPA restrictions this system was sized to accommodate only the 1995 needs of the LAVWMA area as determined in 1975; consequently it is too small to meet future needs if additional urbanization occurs in the watershed\*. Except for some small rural-residential areas, capacity was not included for the unincorporated areas in the watershed.

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\*A 1972 report by Brown and Caldwell, Consulting Engineers, for Zone 7 indicated wastewater volumes could be 30,000 acre feet annually by 1990. The export system can handle only 16,000 acre feet annually.

## WASTEWATER

There are two major wastewater treatment plants in the watershed. The DSRSD plant has a capacity of about 8.5 mgd (million gallons a day) and the Livermore plant capacity will soon be about 6.25 mgd. The Livermore plant effluent Total Dissolved Solids (TDS) concentration is about 600 mg/l, or about 300 mg/l higher than the water supply. Both plants are modern, and can be expanded to treat additional wastewater. The LAVWMA export pipeline can handle about 16 mgd from both plants. Currently about 11 mgd is being exported. The Central Contra Costa County Sanitary District serves most of the San Ramon Valley and the Blackhawk Ranch development adjacent to the Tassajara Valley.

Septic tanks are used in most of the rest of the study area, including the Kilcare Canyon and Sunol Valley areas. Castlewood and the Veterans Hospital have small sewage treatment plants and both have created water quality problems. The old Livermore and Pleasanton plants likewise created problems and were phased out in 1959 and 1980 respectively, for several reasons. The GE Vallecitos treatment plant appears to function well.

## SURFACE WATER

Local Runoff. Only limited amounts of local surface water runoff are used directly in the study area,

except for water collected in Calaveras, San Antonio and Del Valle Reservoirs. Water stored in the first two reservoirs is used as part of San Francisco's water supply. Runoff into Del Valle Reservoir is used by Zone 7 and Alameda County Water District jointly. Most of the Zone 7 local water, when available, is used to recharge the ground water basin. In wet years over 7,000 acre feet may be available; in dry years runoff is negligible.

Imported Water. Imported SWP water from the Delta is transported through the South Bay Aqueduct (SBA) to the two Zone 7 Water Treatment Plants and to the in-channel recharge areas in Arroyos Del Valle, and Mocho, and to a lesser extent, Arroyos Seco and Positas. Zone 7 has contracted for a maximum of 46,000 acre feet of SWP water annually. The average quality of SBA water has been about 250 mg/l TDS. It will improve to about 100 mg/l if the Peripheral Canal is constructed. About 13,000 acre feet annually of treated water is currently used by Livermore, Pleasanton and DSRSD. SWP water is used for agriculture and for ground water recharge. Imported Hetch Hetchy water is used in the lower Sunol area and at the Lawrence Livermore National Laboratory. Imported Mokelumne River water will probably be used in a part of the Contra Costa County area if it urbanizes.

## GROUND WATER

The current impaired yield of the ground water in the central part of the Livermore-Amador Valley is estimated to be about 10,000 acre feet annually. As water becomes short and the gravel pit lakes are developed, the Central Ground Water Basin (Central Basin) will be used to store and transmit more imported SBA water. Ground water in the Central Basin part of the Livermore-Amador and Sunol Valleys is used by municipalities.

Ground water in the "fringe" areas, which include most of the unsewered residential areas, generally is separated from the Central Basin by hills, and is not well connected geohydrologically with the Central Basin. Fringe area ground water is used only by individual home owners and for agricultural purposes. Water quality in the fringe areas generally exceeds recommended public health water quality limits. Ground water in the uplands and highlands area is very localized, very limited and is generally of poor quality. Accordingly, the hydrologic ground water subbasins defined by the California Department of Water Resources (Bulletin 118-2) were divided into two groups considering water quality and beneficial use so that different water quality objectives could be established. These two groups, as shown in Figure 3, are:

1. The "Central" ground water basin encompassing the Mocho, Amador, Bernal and Sunol non-upland areas shown in Figure 3. All municipal ground water used in Livermore and Pleasanton is pumped from this Central Basin. Through conjunctive use with imported water it will be used more and more to meet water

demands. Water quality TDS concentrations range from 250 mg/l near Arroyo del Valle to over 600 mg/l near I-580 in the north. With management and more use water quality along the recharge areas and in the gravel pits will improve to match import water quality. Since the Central Basin is used to store high quality imported water and is used extensively for municipal purposes, it must be fully protected.

2. The "Fringe" subbasins encompassing the May, Vasco, Spring, Altamont, Bishop, Dublin, Castlewood, and Camp Subbasins are shown in Figure 3. These areas generally have poor water quality with high TDS and chlorides, a low specific yield, little storage, and in some areas high ground water levels. The water is used primarily for individual household use. Wells generally yield under 100 gallons per minute. Small increases in ground water recharge might cause rising ground water levels which could force poor quality water out into the Central Basin. Northwest of the Lawrence Livermore Laboratory ground water levels have risen 40 feet in the past 15 years, and ground water is now flowing into Arroyo Las Positas as it did at the turn of the century when it supplied Livermore. The fringe subbasins must be protected primarily because of the potential adverse impacts from poor quality water in these areas reaching the surface and ground waters in the Central Basin and Niles Cone areas.



## LOCAL PROBLEM AREAS

Outside of the LAVWMA area there are few houses. These houses are on septic tanks and are clustered in the fringe subbasin and upland areas. Septic tanks in several areas caused localized public health problems in the early 1970's forcing Alameda County to take remedial action.

The word "problem" indicates that there was or is ground water containing high nitrates, TDS, chlorides or bacteria, or high ground water levels. County actions taken included requiring municipal water to be provided, prohibiting building, and rezoning to preclude further subdivision into parcels less than 100 acres. In some rural residential areas, subdivision into smaller lots was allowed considering sewage disposal and the provision of utilities. Studies show that septic tank salt loadings from these fringe areas reaching the Central Basin are not large enough to cause significant water quality problems. The problems are localized and limited because prompt action prevented septic tank proliferation.

A major reason for completing the WMP at this time was concern over septic tank waste loads and their impacts on the ground water. As discussed in the Technical Supplement, 14 septic tank areas were identified, and four had potential problems that required additional consideration be given to providing sewerage or other remedial action. These four: Scenic-Central, Buena Vista, Lomitas-Bess-Marina, and Happy Valley, are shown in Figure 2.

The Interim Report, (pages 14 & 16) indicated that for these four areas: "...under current policy waste loads would not increase sig-

nificantly, but would increase significantly under a one house per acre policy", and that "... the existing problem is primarily local; the nitrate and TDS loads reaching the Central Ground Water Basin are not significant". Since the costs to sewer the four areas would be high (over \$800 per house annually) it was concluded that as long as development is restricted to the lots of record or five acres minimum (current general policy) and adjacent lands remained agricultural, sewerage is not necessary at this time. They should be monitored to determine if nitrates build up.

A major finding (page 13) was that "...in the Livermore Valley fringe area, clusters of septic tanks have generally caused a problem. It is also apparent that the County is doing a good job of recognizing the problems and providing solutions by limiting development. The current waste loadings in most cases are not large. The problem in the fringe areas is that the soils and geology are such that local water quality problems are created.". For example, along Lomitas Avenue fewer than 15 septic tanks created problems - high ground water - because of the nature of the area.

A study of the effects of septic tank loadings (Supplement, page 7-1) from fringe area development indicates that densities of one septic tank per acre would adversely affect the Central Ground Water Basin. These considerations, together with the theoretical density that would prevent nitrate buildup (Supplement, page 6-14), are the basis for the policy on septic tank density presented in Section 5. This policy should prevent the build up of salts from septic tanks.

### 3. BENEFICIAL USES

Because surface and ground water in the fringe areas could flow into Arroyos del Valle, Mocho and Positas and the proposed gravel pit lakes, and thence into Arroyo de La Laguna and Alameda Creek and to the Niles Cone ground water basin, beneficial uses must be established for surface streams and ground water areas.

The State Water Resources Control Board identified the existing beneficial uses of some of the water bodies (Basin Plan, pages 2-2). These are shown in the Table below.

These are standard beneficial use categories used for planning purposes throughout the State by the State Water Resources Control Board. At the local level more specific beneficial uses can be established. For example, in this watershed ground water basins not only supply ground water, but transmit water from one point to another (as from Arroyo Mocho to California Water Service Company wells), and to filter storm and wastewater (e.g., Livermore STP

effluent recharged by golf course irrigation). They also provide valuable storage capacity for emergency use during surface water outages, such as a drought or failure of the SBA due to an earthquake. Imported and local water recharged to the ground water can be extracted and used without treatment, saving treatment costs.

Most of the streams are used to transmit high quality imported water from the SBA to in- and off-channel recharge basins. This is an important beneficial use of the streams. Both Zone 7 and ACWD have a right to transmit imported water without having it degraded by sewage.

Accordingly, the beneficial uses shown in Table 1 (page 13) are for both connecting and receiving water bodies in the watershed. The Central Basin and the bodies of water transmitting high quality water warrant maximum protection. The objectives were established to protect these beneficial uses.

BENEFICIAL USES IDENTIFIED IN THE BASIN PLAN

|                   | Arroyo*<br>de la<br>Laguna | Shadow<br>Cliffs | Arroyo<br>del<br>Valle | Del Valle<br>Reservoir | Alameda<br>Creek |
|-------------------|----------------------------|------------------|------------------------|------------------------|------------------|
| MUNicipal Use     |                            |                  | X                      | X                      | X                |
| AGRicultural      |                            |                  |                        |                        | X                |
| GWRecharge        | X                          |                  | X                      |                        | X                |
| RECreation        | X                          | X                |                        | X                      | X                |
| WARM water fish   | X                          | X                |                        | X                      | X                |
| COLD water fish   | X                          | X                | X                      | X                      | X                |
| WILD life habitat | X                          | X                | X                      | X                      | X                |

\*Includes Upstream Tributaries

TABLE 1  
BENEFICIAL USES OF SURFACE  
AND GROUND WATER BODIES

|                                                 | GROUND WATERS                                                                                    |                                                                         |                                                | SURFACE WATERS                   |                     |              |                    |                                              |                                                  |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------|----------------------------------|---------------------|--------------|--------------------|----------------------------------------------|--------------------------------------------------|
|                                                 | Fringe Ground Water Subbasins<br>Bishop, Dublin, Castle, Camp<br>May, Cayetano, Spring, Altamont | Central Ground Water Basin<br>Bernal, Amador, Mocho, Sunol<br>Subbasins | Niles Cone Area<br>Above & Below Hayward Fault | Arroyo del Valle & Alameda Creek | Arroyo de la Laguna | Arroyo Mocho | Arroyo Los Positas | Gravel Area Lakes, including<br>Shadow Cliff | Altamont Creek, Arroyo Seco,<br>Vallecitos Creek |
| <u>BENEFICIAL USES</u>                          |                                                                                                  |                                                                         |                                                |                                  |                     |              |                    |                                              |                                                  |
| Municipal Use                                   |                                                                                                  | •                                                                       | •                                              | •                                | •                   |              |                    | •                                            |                                                  |
| Agricultural Use                                | •                                                                                                | •                                                                       | •                                              |                                  |                     |              |                    |                                              |                                                  |
| Individual House Wells                          | •                                                                                                | •                                                                       | •                                              |                                  |                     |              |                    |                                              |                                                  |
| Ground Water Recharge                           |                                                                                                  | •                                                                       | •                                              | •                                |                     | •            | •                  | •                                            |                                                  |
| Storage Capacity &<br>Conjunctive Use Potential |                                                                                                  | •                                                                       | •                                              |                                  |                     |              |                    |                                              |                                                  |
| Purification Capability                         | •                                                                                                | •                                                                       | •                                              |                                  |                     |              |                    |                                              |                                                  |
| Transmitting Imported<br>SBA Water              |                                                                                                  | •                                                                       | •                                              | •                                | •                   | •            | •                  | •                                            | •                                                |
| Recreation<br>Boating                           |                                                                                                  |                                                                         |                                                | •                                |                     |              |                    | •                                            |                                                  |
| Fish Propagation                                |                                                                                                  |                                                                         |                                                | •                                |                     |              |                    | •                                            |                                                  |
| Fishing                                         |                                                                                                  |                                                                         |                                                | •                                |                     |              |                    | •                                            |                                                  |
| Wildlife Habitat                                |                                                                                                  |                                                                         | •                                              | •                                | •                   | •            | •                  | •                                            | •                                                |

## 4. WATER QUALITY OBJECTIVES

### BASIS

Water quality objectives are established for the protection of beneficial uses and the prevention of nuisance. They are set to prevent controllable pollution of water supplies. They are based upon the beneficial uses made of the water, and the water quality criteria necessary to maintain those beneficial uses.

State and federal policies and water quality criteria to be used for establishing Water Quality Objectives are set forth in Section 2 of the 1975 Basin Plan. These, together with consideration of the unique character of the ground water basins and the consumer costs of poor quality water were used in setting the objectives for the watershed.

In 1956 ground water quality objectives were set for the Niles Cone area by the Regional Water Quality Control Board. These prevented the ground water from being further degraded by wastewater.

In 1968 the State Water Resources Control Board adopted Resolution No. 68-16. This requires the continued maintenance of existing high quality water unless a strong case can be made that a change allowing some deterioration in quality will result in a significant benefit.

In 1975 the surface water quality objectives for Alameda Creek and its tributaries were set based on preserving the Niles Cone ground water objectives and protecting high quality import water. Special control measures prohibit the direct discharge of wastewater unless there is natural flow in the stream and an initial dilution of at least 10:1.

Establishing the Niles Cone water quality objectives in 1956 was one of the first such efforts in California. Since then ground water quality objectives have been established for the protection of many of the State's ground water basins. This WMP extends this protection to the Livermore-Amador Valley ground water.

The water quality objectives for the Alameda Creek watershed above Niles are based largely on the following considerations:

- The historic and current Basin Plan objectives.
- Public health standards which limit nitrate in drinking water to 45 mg/l (as nitrate), and recommend total dissolved solids be kept below 500 mg/l with an upper limit of 1000 mg/l.
- Alameda County requires a small demineralization unit for drinking water from new wells when TDS exceed 500 mg/l.
- Water flowing in Alameda Creek past Niles is used to recharge the Niles Cone ground water basin all year around. This water is used directly for municipal water supply.
- Summer flow in Alameda Creek is largely high quality imported water. Imported water normally contains less than 250 mg/l TDS and 60 mg/l chlorides.
- Imported water is released in Arroyo Mocho and Arroyo del Valle to recharge the Central Ground Water Basin. This is valuable, high quality water and will improve the ground water quality.

- The Central Basin, used for municipal water supply, currently has no outflow so the addition of controllable salts must be kept to a minimum. In the future outflow may be restored, in which case it would flow down Alameda Creek into the Niles Cone.
- Water from the fringe ground water subbasins can move into the surface waters and the Central Ground Water Basin.
- Consumer costs associated with poor quality water are significant.

#### OBJECTIVES

The following objectives (Tables 2 and 3) are intended to supplement the objectives in the Basin Plan.

The objectives do not preclude consideration of salt routing as a means to export wastewater as allowed in the Basin Plan. Basin Plan objectives control if there is a difference. The Basin Plan is currently (May 1982) being revised by the RWQCB.

The water quality objectives to be maintained in the surface and ground waters are presented in Tables 2 and 3.

The surface water objectives in Table 2 are taken from page 4-19 of the Basin Plan. These are supplemented with the ground water objectives in Table 3 (page 16). Wherever the limits are exceeded due to natural causes, controllable water quality factors shall not result in further degradation.

TABLE 2

#### SURFACE WATER QUALITY OBJECTIVES ALAMEDA CREEK WATERSHED ABOVE NILES

##### Alameda Creek and Tributaries

|            |          |                          |
|------------|----------|--------------------------|
| TDS:       | 250 mg/l | 90 day - arithmetic mean |
|            | 360 mg/l | 90 day - 90th percentile |
|            | 500 mg/l | daily maximum            |
| CHLORIDES: | 60 mg/l  | 90 day - arithmetic mean |
|            | 100 mg/l | 90 day - 90th percentile |
|            | 250 mg/l | daily maximum            |

TABLE 3

GROUND WATER QUALITY OBJECTIVES  
ALAMEDA CREEK WATERSHED ABOVE NILES

(Basin Areas Shown in Figure 3 - Concentrations  
Not to be Exceeded More Than 10% of the Time During One Year)

Central Basin

TDS: Ambient or 500 mg/l, whichever is lower  
Nitrate ( $\text{NO}_3$ ): 45 mg/l

Fringe Subbasins

TDS: Ambient or 1000 mg/l, whichever is lower  
Nitrate ( $\text{NO}_3$ ): 45 mg/l

Upland and Highland Areas

California domestic water quality standards set forth in  
California Administrative Code, Title 22, and current County  
standards.

Ambient water quality conditions at a proposed project area will be determined by Zone 7 at the time the project is proposed, with the cost borne by the project proponents. Ambient conditions apply to the water bearing zone with the highest quality water.

Waters designated for use as domestic or municipal water supply shall not contain concentrations of chemicals in excess of natural concentrations or the limits specified in California Administrative Code, Title 22, Chapter 15, particularly Tables 2, 3, 6 and 7.

Water quality criteria concerning viruses and trace organics in wastewater and their movement through ground water have not been established. Research is underway by the State Department of Health Services. Objectives concerning these may be established in the future if warranted.

Specific wastewater discharge requirements for treatment plants are set on a case by case basis by the RWQCB and are based, in part, upon State Department of Health Services requirements.

## 5. WASTEWATER MANAGEMENT POLICIES

### GENERAL

Alameda Creek and its tributaries are used to transport and recharge local and imported waters to and into the Livermore Valley and Niles Cone ground water basins. These basins are an extremely valuable and irreplaceable resource. They are used to collect and store local and high quality imported water for municipal use, providing water to thousands of people. The Central Ground Water Basin should receive the highest protection possible under the State nondegradation policy.

Accordingly, the principal and overriding policy of this Wastewater Management Plan is as follows:

The quality of ground water in the Central Ground Water Basin should not be allowed to be degraded by controllable factors. All wastewater treatment and disposal facilities shall be planned, located, scheduled for construction, and operated so as to maximize the export of salt, and to minimize salt and other pollutant loadings in the Central Basin.

Specific policies are also recommended for both community systems and individual onsite (septic tanks or alternative) systems. These recognize that lands rezoned for urban development will be sewered, but in a few instances individual onsite systems may be necessary.

Experience shows that soils and shallow ground water conditions in this watershed are such that septic tanks and small wastewater treatment plants with land disposal generally cause problems. The policies are intended to encourage the expansion and use of existing large community systems with the export of salts whenever possible, and to discourage small community systems and septic tanks.

Considering ultimate development the study showed (Supplement, Section 9) that export appears to be more cost effective, efficient, and reliable than land disposal after demineralization by reverse osmosis. The policies reflect this finding.

Current County, State and Federal policies, as they may be modified from time to time must be met. The Basin Plan standards are reviewed every three years. It is anticipated that this WMP will be updated, as necessary, at the same time.

For purposes of implementing this policy, the Central Basin, fringe subbasins, and upland and highland areas are as shown in Figure 3. The term export includes export via pipeline or through a "salt routing" system involving storage of wastewater with release to surface water during periods when there is flow to the Bay. The term land application includes direct disposal to land or ponds, and the use of effluent for irrigation or ground water recharge.

## COMMUNITY WASTEWATER SYSTEMS

- A1. To the extent possible and reasonable wastewater should be treated and disposed of through the existing systems with export of effluent.
- A2. Full capacity of the existing export pipeline should be used, rented on an interim basis if feasible, before new land application projects are constructed. Additional export capacity should be added when needed.
- A3. If additional export is not feasible, limited land application may be an alternative. Land application will be considered acceptable only after a feasibility study by Zone 7, or another entity, finds export not feasible. However, wastewater treatment (which may include demineralization) with land application may be permitted if one of the following conditions is met.
  - a) The percolate (at the ground water table) meets the ground water quality objectives and does not cause poor quality rising ground water to violate any water quality objectives.
  - b) The applied wastewater effluent has less than 250 mg/l TDS, does not cause any significant local problems, and does not cause rising ground water to create water quality problems in the Central Basin and Niles Cone areas.
  - c) The application point is in the fringe subbasin or upland and highland area, and it can be shown that

the project, because of its size and location, together with other possible projects in the area, will not cause adverse water quality effects either locally or in the Central Basin or Niles Cone areas. The site specific study will have to demonstrate that the percolate can not reasonably be expected over time to move, either directly or indirectly, into the Central Basin or Niles Cone and degrade or pollute the ground water. All other State and Federal standards must be met.

Policies b and c above allow some degradation only when beneficial reuse of wastewater is proposed, as permitted in the State nondegradation policy. Land application will be discouraged in the Central Basin where salts, trace organics, and viruses may cause problems.

- A4. If demineralization is proposed the effluent should, if physically, financially and institutionally feasible, be used to replace poor quality wastewater being used for irrigation.
- A5. Each proposed community system will be considered on a case-by-case basis considering the overall wastewater disposal needs within the watershed as determined by planning studies under the direction of Zone 7. Proliferation of small inefficient plants should be avoided. Adding wastewater to the ground water in a manner that would force poor quality water into the streams must be avoided. For projects proposing land application, site specific studies of the soils,

geohydrology, ground water, and of the impacts on ground water must be completed, and the disposal method approved by Zone 7 and other appropriate agencies.

- A6. Direct discharge of wastewater to streams is prohibited during dry periods when there is no natural continuous flow from the point of discharge to the Bay and the dilution is less than 10:1, except as permitted by the Regional Board in accordance with the Basin Plan.

#### INDIVIDUAL ONSITE WASTEWATER SYSTEMS

- B1. The current policy of discouraging onsite wastewater system (septic tanks or alternatives) installations should be continued.
- B2. In the Central Basin and in the fringe subbasins, where septic tanks are allowed, the minimum lot size for use of septic tanks should be five acres.
- B3. In the upland and highland areas current county policies should be continued. "Alternative" onsite wastewater systems other than septic tanks must still be approved by the Regional Water Quality Control Board.
- B4. If more intense development proposing septic tanks is to be authorized in any area, and/or when land use zoning is changed to rural residential use with septic tanks:
- a) The minimum generally acceptable lot size should be five acres.

- b) A site specific geohydrologic study may be required to determine if the wastewater would degrade the ground or surface water. Generally a detailed study will be required only if a cluster (five or more) of units is proposed. This Study will be used by Zone 7 to determine if the project is in conformance with the WMP. If it is, an On-site Wastewater Management Zone (OSWMZ) probably will be required under Chapter 3 of the Health and Safety Code. The OSWMZ would be formed under Zone 7 or Contra Costa County and an approved septic tank maintenance program and ground water monitoring program would be required. Larger lot sizes may be required in special cases.
- B5. Exceptions to policy B4 may be permitted because of unusual land forms, ground water conditions, and other special circumstances. For example, because of geohydrologic conditions, clustering five tanks on 25 acres may decrease the chance of local problems and minimize degradation of the ground water. Site specific studies should be required to demonstrate the special conditions and the improvement in water quality.
- B6. To prevent contamination of the proposed gravel pit lakes holding tanks will be required for new development within 1,000 feet of the lakes, particularly along Arroyo del Valle.

## LOCAL AREA POLICIES

The basic conclusion from the study presented in the Interim Report is that the local septic tank problems are not severe enough to require sewerage at this time. Consequently a Step II design study is not now needed. Under present zoning and policies limiting lot size the problems are not expected to become significant. However, if the areas are to be urbanized sewerage will be required. The general policy should be to require sewerage when adjacent areas are urbanized and sewerage. The areas should be monitored and if further water quality degradation occurs sewerage may be required. Policies for individual areas are discussed below.

C1. Central-Scenic. Owner construction for lots of record or over the five acre minimum policy should be permitted. Proposed new housing clusters should be sewerage and a water supply provided because of poor ground water quality, and because ground water levels may rise and interfere with septic systems when adjacent areas urbanize. This area has easy access to both water and sewerage systems, and the area should be sewerage when the adjacent area is urbanized. Two or three additional wells should be monitored by Zone 7, with water levels observed spring and fall and water quality samples taken in the spring. If monitoring results show water levels rising significantly, or deteriorating water quality, it should be sewerage to the Livermore system, or an On-Site Wastewater Management Zone (OSWMZ) formed to resolve the problems.

C2. Buena Vista. Construction under present policies, lots of record or over five acres,

should be permitted. This area has a water supply as a result of public health concerns identified in the mid-1970's. Most of the area overlies the Central Ground Water Basin, and some of the area is highly permeable. The adjacent municipal well was shut down because of high nitrates. An additional two or three wells should be monitored by Zone 7, and if nitrates become a problem the area should be sewerage or an OSWMZ should be formed. If this area remains surrounded by agricultural lands sewerage may not be required for some time unless greater density housing is allowed -- then connection to the Livermore system is essential.

C3. Lomitas-Bess-Marina. This is a large area so individual sectors must be considered. It is primarily in the Livermore upland formation, and there are not many good producing wells in the area. Shallow ground water and impermeable soils have been a problem, yet there is a deeper water bearing zone under some of the area. This is a typical fringe area. Livermore is sewerage some of the north side of this area. Water is now available along Lomitas Avenue as a result of public health problems in the mid-1970's. Owner construction for lots of record or over the five acre minimum policy should be allowed. However, if new roads or clusters of homes are proposed and water and sewer are not provided, a rigorous soils and geohydrologic study should be completed under Policy B4. The soils and geology in this area are not favorable for septic tanks. Although partially in the uplands, the area is close to Arroyo Mocho

and percolate could run into the surface and ground water. Zone 7 should monitor three to five additional wells, and if problems develop or high density housing is permitted, the area should be sewerred. This area should eventually be sewerred through the Livermore system.

- C4. Happy Valley. Happy Valley is also in the Livermore Upland Formation. It is hilly and the ground water zones are small and probably only marginally connected, either to each other or to the Pleasanton ground water supply on the north or to Arroyo de la Laguna on the west. Some of the wells are old and shallow and probably not properly sealed. During the mid 1970's a construction ban was placed on the area as a result of public health concerns. Sporadic water quality analyses since then are not conclusive regarding deterioration or improvement. However, some wells produce water with nitrate concentrations exceeding public health standards and TDS exceeding the 500 mg/l recommended standard. Accordingly, if the ban is lifted to allow construction under the lots of record or five acre policy, an OSWMZ should be formed under Zone 7 to monitor ten to fifteen wells and some septic tanks. If septic tanks appear to be failing, a septic tank inspection and maintenance program should be developed and implemented. If, over time local water quality deteriorates, Zone 7, together with the County Environmental Health and Planning Departments, should restudy the land use (zoning) policies and the septic tank situation to determine if sewerred is

needed. In any case, if high densities are permitted it should be sewerred to the Pleasanton system.

- C5. Sunol-Kilkare. Water from the Sunol ground water basin is collected by the San Francisco Water Department's (SFWD) Sunol filter gallery. SFWD operates Calaveras and San Antonio Reservoirs and owns thousands of acres of watershed in and adjacent to the reservoirs and ground water basin to protect them from degradation. Water quality data collected over the past 30 years indicate water quality is about the same as ground water along Arroyo del Valle, about 300 mg/l TDS.

Sewage disposal in the Sunol-Kilkare area is now by septic tank, and water is provided from the Hetch Hetchy Aqueduct and from Pleasanton. Local potential public health problems led to the establishment of the current general county policy (lots of record with five acre minimum). Because this is an old area most of the buildable area is used and, under current policies, most new housing is replacement. Accordingly, the current policies should be continued in this area.

SFWD samples the ground water, and the County Division of Environmental Health samples Sinbad Creek in Kilkare Canyon. These agencies and Zone 7 should consider expanding this monitoring network to include and supplement these data so that information will be readily available to determine long term water quality trends.

- C6. East Tesla. This area has a diverse array of soils and

ground water conditions and quality. It is only marginally connected to Arroyo Mocho, being topographically similar to upland areas. From the data available it appears there are no local problem areas at this time. However, several additional wells should be monitored as it is an area where existing septic tanks could fail, and where considerable development could take place. If the area is urbanized, it should be sewerred.

- C7. Las Positas Valley. Comprising the May, Spring, Vasco and parts of other subbasins, this valley is drained by Cayetano and Altamont Creeks which flow into Arroyo Las Positas. The studies show it should be sewerred if it is urbanized. As the ground water basin is essentially full, there is very little storage space for additional water. Water quality is generally poor, some of it very salty. Any significant rise in water levels could force salty water into Arroyo Las Positas, and it would flow into and through the Central Ground Water Basin and into Alameda Creek and the Niles Cone. Seepage of salty water into Arroyo Las Positas and Alameda Creek may have a significant adverse impact on the Niles Cone ground water basin. This problem must be carefully considered in connection with disposal of wastewater in this area. Pumping of ground water for landscaping and other non-high quality water uses should be encouraged in any development in this area, particularly if land disposal of wastewater is considered.

- C8. Tassajara Valley Area. Except

in the shallow alluvium along Tassajara Creek, the Tassajara upland is a non-water bearing formation with water found only occasionally under certain local conditions. Even the alluvium has little sand and gravel in it, with discontinuous water bearing strata probably only two to five feet thick. Water supply is a problem and sometimes even a minimum well yield of three gallons per minute cannot be obtained. Houses on the hills generally have both wells and septic tanks located in the valley. Much of the development is less than 10 years old, and there are not many clusters of septic tanks yet, so there have not been many septic tank failures.

Ground water is reportedly about 10 feet from the surface in places, so if imported rather than well water were used, ground water levels could conceivably rise and cause septic tank failures. Except for the unpublished study recently completed for Contra Costa County by the U.S. Geological Survey (USGS) which locates certain wells, presents water quality data collected in 1981, and proposes a monitoring network, there are almost no data available for this area. Under the existing soils and water conditions, and because of the expected pressure to develop housing in this area, a monitoring network should be established. The USGS monitoring program for the area should be reviewed and implemented as soon as adequate staff and funding is available. There is not enough data at this time to determine if rising ground water will be a significant problem.

## 6. IMPLEMENTATION

### THE SITUATION

The watershed's surface and ground water resources are a tremendous public asset. They should be appreciated, respected, and jealously protected against degradation by all who live and govern in the watershed. By nature water does not respect political boundaries; it flows under and through townships, cities, and counties. Therefore, in implementing the Wastewater Management Plan the watershed must be treated as an integrated hydrologic system, and the management of its water as a public trust by all agencies working together.

In the past, decisions regarding septic tanks and large and small sewage treatment and disposal systems, were made largely on an individual basis. With small populations and sewage volumes this approach worked. As population increased, wastewater problems surfaced and wastewater management decisions started to be made as a result of litigation, threat of litigation, and regulatory orders by the County and RWQCB -- a reactionary rather than precautionary situation. This approach requires many studies and causes unnecessary stress among individuals, developers, governing agencies, regulating agencies, and the public--with the public paying the costs.

The purpose of the WMP implementation policy is to eliminate a fragmented and reaction-based implementation approach. Economies associated with proper facility sizing, location, and scheduling can be achieved. The best available cost-effective technology can be applied to minimize controllable adverse impacts of wastewater on the water resources, i.e., to minimize salts entering the ground water.

Implementation success can be achieved through mutual agreement by the concerned agencies on the WMP objectives and policies, and on how it will be implemented. Success requires a responsible agency working in coordination and agreement with the cities of Livermore, Pleasanton, and Dublin, the counties of Alameda and Contra Costa, and with the Dublin San Ramon Services District and the Alameda County Water District.

### RESPONSIBILITY FOR IMPLEMENTATION

Under its authorizing statute Zone 7 of the Alameda County Flood Control and Water Conservation District already has the responsibility for overall water resource management in the watershed. Zone 7 encompasses the entire watershed except for Contra Costa County. To date Zone 7 has exercised this responsibility primarily with respect to providing a water supply, ground water monitoring, and major flood control projects.

Zone 7 will implement this Wastewater Management Plan in Alameda County. Implementation will be carried out, when and as necessary, with formal (joint exercise of power) and informal agreements with other County Departments, existing LAVWMA agencies and the County of Contra Costa. Contra Costa County, or an agency designated by Contra Costa County, should implement the Plan in Contra Costa County. Zone 7 should be designated as the local agency to implement RWQCB Resolution No. 78-14 in Alameda County.

Other Alameda County Departments and the Regional Water Quality Control Board and Contra Costa County will, of course, continue to exercise current authorities except as provided herein.

The primary responsibility of Zone 7 will be to implement the basic policy that "The quality of ground water in the Central Ground Water Basin should not be degraded...", and that wastewater facilities should be constructed and operated to minimize controllable salt loads entering the Central Basin.

Implementation responsibility includes planning, and, as and if necessary, construction, operation and maintenance of wastewater treatment and disposal systems. It includes establishing OSWMZ areas for septic tank areas and assessment districts as needed, and monitoring of surface water and ground water underlying land disposal systems.

#### PLANNING

Zone 7 has an excellent data base and monitoring network for the Central Basin. They are developing a ground water model (the Zone 7/DWR Model) of the Basin. Planning to meet wastewater management needs includes examining the feasibility of additional export capacity - which requires integrating the present and future needs of both the LAVWMA area and the presently unsewered, unincorporated area - and determining the benefits, costs, and impacts of the project. The model can be a valuable tool to help accomplish this planning. It needs to be modified to include: (a) surface and ground water relationships upstream and downstream from the Central Basin, (b) water quality, (c) current and future Zone 7 recharge areas including the gravel pits, and (d) potential wastewater loadings from proposed wastewater treatment plants in the Central Basin, fringe ground water subbasins and the upland and high-land areas. This tool will be useful for overall water resource

management in the watershed, as well as for implementing the WMP. It is anticipated that the model may be available, for a fee, to help determine the water quality impacts of specific projects in the Central Basin and Niles Cone areas. Wastewater disposal costs could be added to the model to evaluate alternative facility sizes and locations.

Planning to meet the wastewater needs in the unincorporated area requires working with and reaching agreement with many agencies. These, at the local level, include the County Planning Commission and the developers to determine future needs in the unincorporated area; the current LAVWMA agencies to determine the needs in the LAVWMA area; Alameda County Water District to determine surface/ground/waste water relationships in the Niles Cone area; and Contra Costa County to evaluate surface/ground/waste water relationships in the upstream area. The planning responsibility includes coordination, and possible consolidation and integration, in a cost-effective manner, of possibly several individual proposed wastewater treatment plants or treatment plant expansions.

#### OPERATION AND MAINTENANCE

Wastewater treatment plants in Alameda County above Niles not operated by LAVWMA agencies should be operated and maintained by Zone 7. Zone 7 could contract with a LAVWMA agency, or others for operation and maintenance.

Operation of a new export system should be by Zone 7, either directly or by contract. An alternative to be considered during the planning stage would be to have the system owned and operated by an

existing or new public agency capable of providing such disposal services.

#### INDIVIDUAL SYSTEMS

The current system for processing permit applications for onsite wastewater treatment systems (septic tanks or alternative systems) should be continued except as follows:

1. Zone 7 should make provision to obtain available well logs, septic tank locations, and ground water monitoring data from Contra Costa County so these data will be available for use in the model.
2. When a cluster of onsite wastewater treatment systems is proposed, the developer(s) should prepare the required geohydrological and soils report in consultation with Zone 7 regarding the scope of the study. The study will be used by Zone 7 to determine if the project meets WMP policies and if the sewage effluent will meet the water quality objectives.
3. If an OSWMZ is required, it should be formed before the effective date of any zoning change by the County, or prior to recording the subdivision maps.

#### MONITORING

Zone 7 should expand its ground water monitoring in the following

local areas:

- Central-Scenic
- Buena Vista
- Tesla-Seco
- Lomas-Bess-Marina
- Sunol

An OSWMZ should be formed in the Happy Valley Area primarily for the purpose of monitoring the ground water. If after a few years water quality deteriorates and the area is not sewered, individual septic tanks should be monitored and the problem resolved as proposed in Policy C4.

Clusters of houses developed in Alameda County above Niles using individual wastewater treatment systems must have a ground water monitoring program approved and implemented by Zone 7 or Contra Costa County.

The monitoring program proposed by the U. S. Geological Survey in the Tassajara and adjacent areas should be undertaken by Contra Costa County. The County may want to work with Zone 7 or the Geological Survey or the California Department of Water Resources, so that the measurements can be recorded and stored in accordance with standard technical procedures and be readily available. An alternative would be to have the experienced Zone 7 staff do the work under contract with Contra Costa County.

Any site proposed for direct or indirect land application of wastewater effluent should have a monitoring program approved and implemented by Zone 7 or Contra Costa County.

## SCHEDULE

A general timetable for wastewater management action is as follows:

|      |                                                                                                                                                                                                                                                                        |         |                                                                                                                                                                                                                           |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1982 | Approval of Wastewater Management Plan by concerned agencies, including Alameda and Contra Costa Counties, LAVWMA members, ACWD, and RWQCB.                                                                                                                            | 1982-83 | Work with Happy Valley residents to establish an Onsite Wastewater Management Zone and remove the building ban.                                                                                                           |
| 1982 | Adoption of Water Quality Objectives and policies by RWQCB.                                                                                                                                                                                                            | 1983    | Complete watershed model, if possible. Reconnaissance study of new wastewater treatment plants (or capacity) needed.                                                                                                      |
| 1982 | Start additional monitoring.                                                                                                                                                                                                                                           | 1983    | Conduct feasibility study of export system, including power recovery. Make agreements, if needed, regarding use of current LAVWMA export capacity for presently unsewered areas until new export system can be completed. |
| 1982 | Reconnaissance study by Zone 7 of wastewater export capacity needs, of EBDA support, and of possible financial arrangements for the export system. Review City of Livermore "Salt Routing" export proposal. Determine if ground water model can be modified as needed. | 1985-90 | Complete new export system if needed.                                                                                                                                                                                     |
|      |                                                                                                                                                                                                                                                                        | 1985-90 | Complete additional wastewater treatment systems as necessary.                                                                                                                                                            |

## ENVIRONMENTAL STATEMENT

The "Wastewater Management Plan for the Unsewered, Unincorporated Area of the Alameda Creek Watershed Above Niles" (WMP) is the wastewater management component of Zone 7's comprehensive, Integrated Water Management Plan for the Alameda Creek Watershed Above Niles. The main thrust of the study was to analyze the effect on water quality of existing discrete wastewater sources (mainly septic tanks) in the study area, and recommend solutions including but not limited to physical projects. Funding was largely provided through the Step 1 Federal Clean Water Construction Grants Program (CWG No. C-06-2777), with 75 percent from the federal government, 12-1/2 percent from the State of California, and the remaining 12-1/2 percent from Zone 7.

An agency accepting a Clean Water Grant in California has to essentially conform to three sets of environmental assessment criteria. These are: 1) environmental review responsibilities under the California Environmental Quality Act (CEQA), California Administrative Code (CAC) Title 14, Division 6; 2) environmental review procedures as outlined in the State Water Resources Control Board (SWRCB) publication, Clean Water Grant Bulletin 22A, "A-95 Notification and EIR Procedures with State and Areawide Clearinghouses"; and 3) the latest edition of the Clean Water Grant Program Guidelines Manual, section on "Wastewater Facilities Planning: Environmental Assessment Guidelines for Agencies Seeking Clean Water Grants." Criteria 2 and 3 are applicable only if Zone 7 were to apply for a Step 2 Clean Water

Grant, or in other words, if the Step 1 WMP is truly a "facilities plan". In this case, the WMP does not propose any facilities to be funded by Step 2 and Step 3 grants. Criterion 1 is inapplicable because the WMP is categorically exempt under CAC Title 14, Division 6, Article 8, Section 15107 which exempts from the EIR process any actions by regulating agencies for protecting natural resources. Construction activities are not included in this exemption. Zone 7 is not proposing any facilities for construction immediately under the Clean Water Construction Grant Program and currently proposes only actions necessary to protect the surface and ground waters of the watershed; this is exempt.

Two aspects should be recognized, however. First, the WMP would establish a monitoring program for certain local problem areas. In the future, the data from that monitoring program may indicate that a project(s) will be necessary to alleviate a water quality program. At that time, an EIR would be necessary under the requirements of CEQA. Secondly, the wastewater management policies proposed in the WMP may necessitate the construction of additional export and/or demineralization facilities. Again, at that time an EIR would be necessary.

Additionally, it should be noted that Section 7 of the Technical Supplement describes the water quality impacts of development in the fringe areas on the Central Basin water quality, and thus is an environmental assessment of projected policies based on water quality.